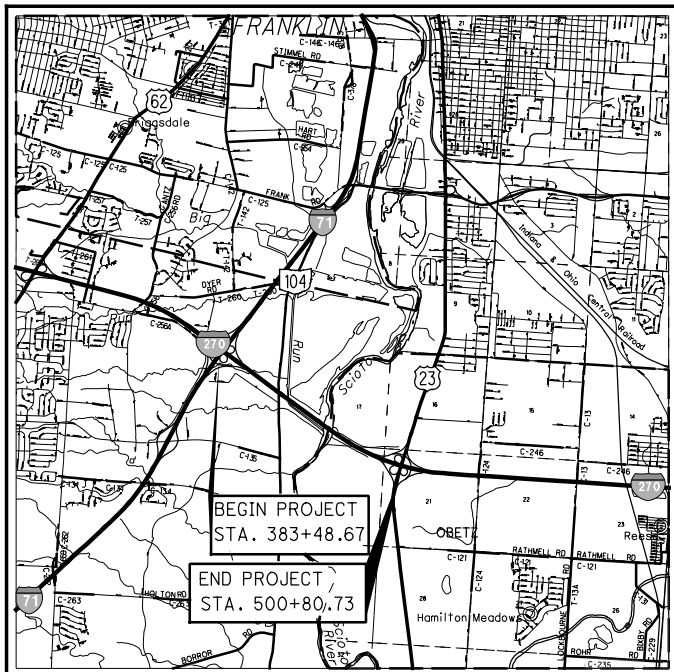


STATE OF OHIO DEPARTMENT OF TRANSPORTATION **FRA-270-52.72**

JACKSON TOWNSHIP FRANKLIN COUNTY



LOCATION MAP

LATITUDE: N39°53'13" LONGITUDE: W83°01'45"



PORTION TO BE IMPROVED	
INTERSTATE HIGHWAY	
FEDERAL ROUTES	
STATE ROUTES	
COUNTY & TOWNSHIP ROADS	
OTHER ROADS	

DESIGN DESIGNATION

FRA-270-52.72 FRA-270-52.96 FRA-270-53.60 FRA-270-54.97

CURRENT ADT (2012)	83,560	80,180	110,720	83,310
DESIGN YEAR ADT (2032)	103,520	99,130	140,730	109,160
DESIGN HOURLY VOLUME (2032)	10,350	9,910	14,080	10,920
DIRECTIONAL DISTRIBUTION	.53	.53	.53	.53
TRUCKS (24 HOUR B&C)	.19	.19	.19	.19
DESIGN SPEED	70	70	70	70
LEGAL SPEED	65	65	65	65
DESIGN FUNCTIONAL CLASSIFICATION:				
INTERSTATE	INTERSTATE	INTERSTATE	INTERSTATE	INTERSTATE
NHS PROJECT	YES	YES	YES	YES

DESIGN EXCEPTIONS

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS UNDERGROUND
PROTECTION SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

ENGINEERS SEAL:

SIGNED: _____
DATE: _____

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
AS-1-81	1-18-13		
DM-4.1	7-19-13		
GSD-1-96	7-19-02		
HL-30.32	1-18-13		
MGS-3.1	1-18-13		
PCB-91	1-18-13		
SBR-1-99	7-19-02		
SICD-1-96	7-19-02		

PROJECT DESCRIPTION

IMPROVEMENT OF 2.25 MILES OF FRA-270 WITH AN ADDITIONAL THROUGH LANE AND ONE AUXILIARY LANE. WORK INCLUDES REHABILITATING AND WIDENING THE TWIN STRUCTURES OVER SCIOTO BIG RUN, REMOVING THE TWIN STRUCTURES OVER ACCESS ROAD AND REPLACING WITH ROADWAY FILL, RECONSTRUCTION OF INTERCHANGE RAMP, REPLACEMENT OF FULL DEPTH PAVEMENT AND SHOULDERS, GUARDRAIL REPLACEMENT, INSTALLATION OF CABLE BARRIER, ROADSIDE GRADING, TRAFFIC CONTROL, AND THE REPLACING THE STORM SEWER SYSTEM.

PROJECT EARTH DISTURBED AREA: ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2013 SPECIFICATIONS

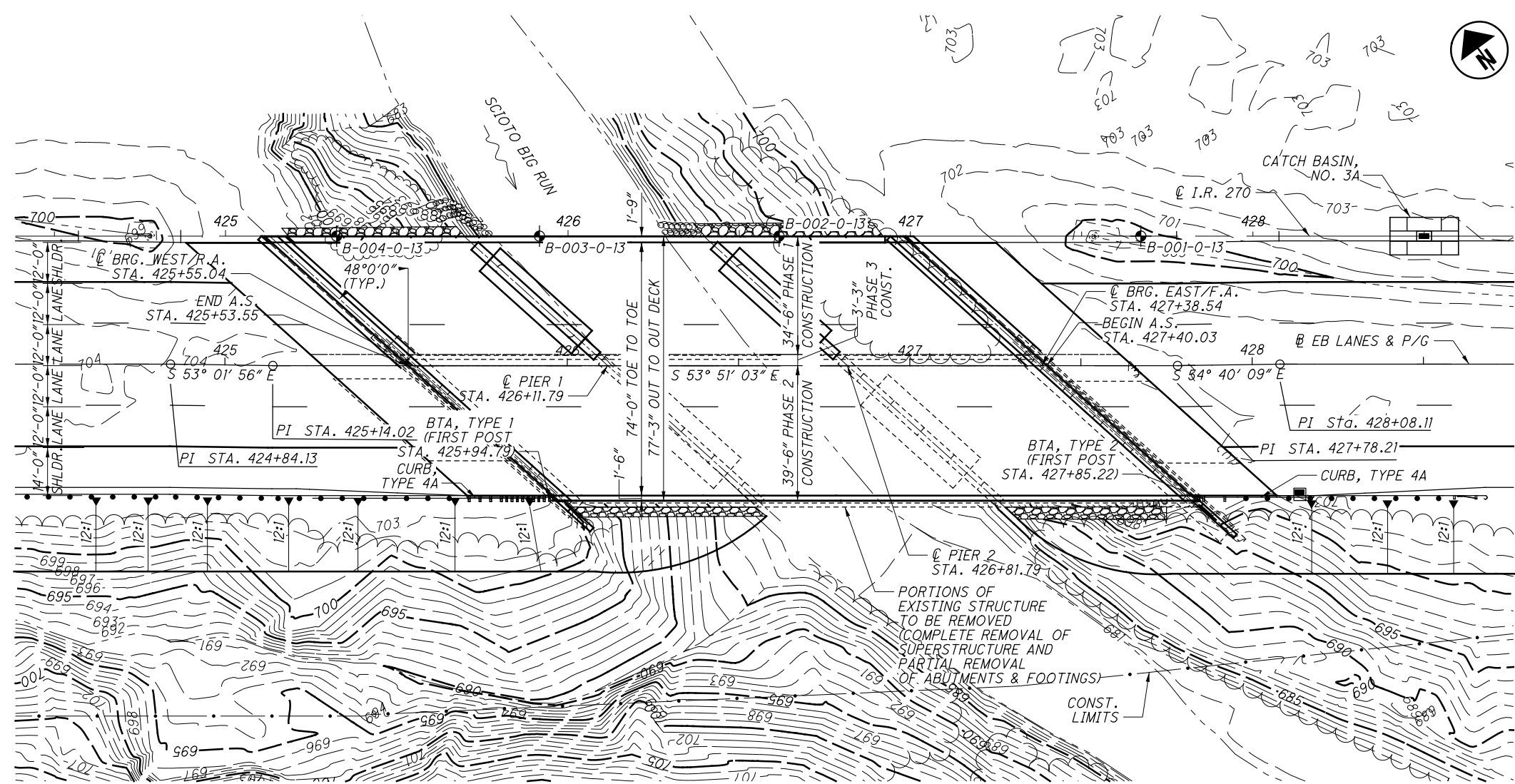
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OF LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

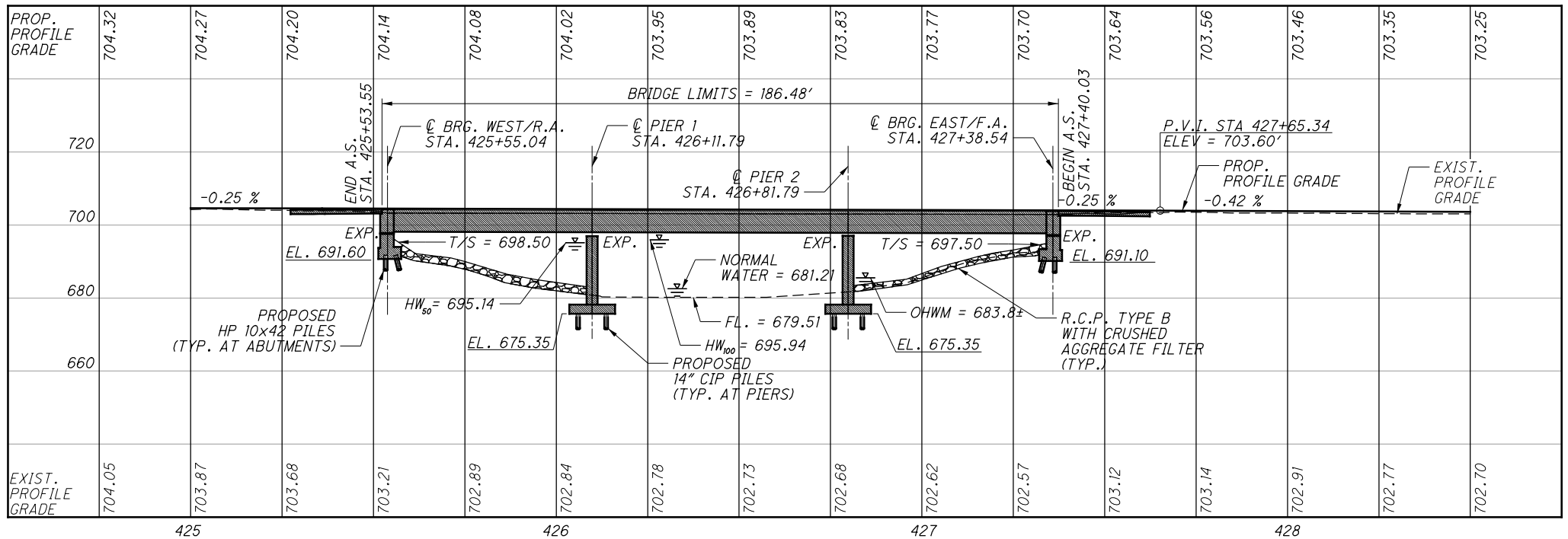
APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

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PLAN



PROFILE ALONG EB LANES & P/G

BENCHMARK DATA			
BM #1 STA. 498+64.23	ELEV. 696.27	OFFSET 433.17' RT.	
BM #2 STA. 499+11.46	ELEV. 694.52	OFFSET 85.07' RT.	
BM #3 STA. 499+23.96	ELEV. 696.90	OFFSET 208.14' LT.	
BM #4 STA. 499+33.39	ELEV. 696.29	OFFSET 63.28' LT.	

* - ALL OFFSETS OFF @ I.R. 270

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- RIGHT BRIDGE NOT SHOWN FOR CLARITY.

DESIGN TRAFFIC:

2012 ADT = 83,310 2012 ADTT = 15,829
 2032 ADT = 109,160 2032 ADTT = 20,741
 DIRECTIONAL DISTRIBUTION = 53%

LEGEND

◆ BORING LOCATION

ESTIMATED PILE LENGTHS:

ABUTMENTS: 40'-0"
 PIERS 1 & 2: 25'-0"

HYDRAULIC DATA

DRAINAGE AREA = 25.1 SQ. MILES
 Q (50) = 3870 CFS V (50) = 2.81 FT/S
 Q (100) = 4440 CFS V (100) = 2.98 FT/S
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.95 FEET.

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 56'-0", 70'-0", 56'-0" @ BRG. TO @ BRG.
 ROADWAY: 42'-0" F/F OF PARAPETS
 LOADING: CF- 2000 (1957)
 SKEW: 48°00'00" R.F.
 APPROACH SLABS: 25'-0" LONG (AS-1-54)
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 ALIGNMENT: TANGENT
 CROWN: 3/16" PER FOOT
 STRUCTURE FILE NUMBER: 2513293
 DATE BUILT: 1962
 DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

PROPOSED WORK: REHABILITATE SUPERSTRUCTURE AND SUBSTRUCTURE, WIDEN PIER & ABUTMENT SUBSTRUCTURE AND CHANGE ABUTMENTS TO SEMI-INTEGRAL
 TYPE: 3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SEMI-INTEGRAL ABUTMENTS
 SPANS: 56'-9", 70'-0", 56'-9" @ BRG. TO @ BRG.
 ROADWAY: 74'-0" TOE/TOE PARAPET
 LOADING: HS20 CASE I AND ALTERNATE MILITARY
 SKEW: 48°00'00" R.F.
 FWS LOADING: 60 PSF
 APPROACH SLABS: 25'-0" LONG (AS-1-81)
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 ALIGNMENT: TANGENT
 CROWN: 0.016 FT/FT
 COORDINATES: LATITUDE N 39°53'13"
 LONGITUDE W 83°01'45"

BU 7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGN AGENCY
 BARR & PREVOST
 2800 CORPORATE EXCHANGE DR., STE 240
 COLUMBUS, OH 43231
 (614) 714-0270 FAX (614) 714-0333

DATE
 10/20/13

REVIEWED
 NCM
 STRUCTURE FILE NUMBER
 2513293

DRAWN
 PPA
 CHECKED
 JEP

FRANKLIN COUNTY
 STA. 425+53.55
 STA. 427+40.03

SITE PLAN

BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

FRA-270-52.72
 PID No. 92610



STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	REVISED	01-18-13
DM-4.1	REVISED	07-19-13
GSD-1-96	REVISED	07-19-02
HL-30.32	REVISED	01-18-13
MGS-3.1	REVISED	01-18-13
PCB-91	REVISED	01-18-13
SBR-1-99	REVISED	07-19-02
SICD-1-96	REVISED	07-19-02

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS, 2002 - 17th EDITION AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING:

SUPERSTRUCTURE - HS20 CASE I AND THE ALTERNATE MILITARY LOADING
SUBSTRUCTURE - PROPOSED ABUTMENTS AND PIERS, HS 20 CASE I AND THE ALTERNATE MILITARY LOADING. EXISTING PIERS CF 2000 (1957)
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN STRESSES:

CONCRETE CLASS QC2 - 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.
STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50,000 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.

CONCRETE PARAPETS:

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. FOR THE MEDIAN BARRIER, 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 PLYMERIC 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.

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 1.37 KIPS FOR A TOTAL MACHINE LOAD OF 10.94 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

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

ITEM 202. PORTIONS OF STRUCTURE REMOVED. AS PER PLAN DESCRIPTION:

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING PARAPETS, RAILINGS, DECK JOINTS, ABUTMENTS, AND 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. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. 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 [50 MM] OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES [50MM] OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES[50 MM] 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 [16 KILOGRAMS] BUT NOT TO EXCEED 90 POUNDS [41 KILOGRAMS] UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

CUT LINE CONSTRUCTION JOINT PREPARATION FOR SUBSTRUCTURES:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE DIRECTED IN THE PLANS LEAVE EXISTING REINFORCING STEEL IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING 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 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.

ITEM 503. COFFERDAMS AND EXCAVATION BRACING. AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

SUPERSTRUCTURE CONCRETE REMOVAL:
REMOVE DECK CONCRETE BY LIFT METHODS ONLY.

ITEM 203. EMBANKMENT. AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

PILE DESIGN LOADS:

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 138.1 TONS PER PILE FOR THE HP 10 X 42 ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 140 TONS PER PILE FOR THE 14" DIAMETER PIER PILES.

ABUTMENT PILES:

18 PILES 40 FEET LONG, ESTIMATED LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER PILES:

28 PILES 25 FEET LONG, ESTIMATED LENGTH
1 DYNAMIC LOAD TESTING ITEM

ITEM 519 - PATCHING CONCRETE STRUCTURES. AS PER PLAN:

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

ABBREVIATIONS:

BRG. - BEARING	I.R. - INTERSTATE ROUTE	STA. - STATION
BOT. - BOTTOM	KSI - KIPS PER SQUARE INCH	STD. - STANDARD
BTW. - BETWEEN	LT. - LEFT	TYP. - TYPICAL
CLR. - CLEAR	MIN. - MINIMUM	WB - WESTBOUND
CONN. - CONNECT	MAX. - MAXIMUM	
CVN - CHARPY V-NOTCH	NO. - NUMBER	
DIA. - DIAMETER	N.C.P.P. - NON PERFORATED CORRUGATED PLASTIC PIPE	
DL - DEAD LOAD	OHWM - ORDINARY HIGH WATER MARK	
DWG. - DRAWING	P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE	
EB - EASTBOUND	PEJF - PREFORMED EXPANSION JOINT FILLER	
E.F. - EACH FACE	PROP. - PROPOSED	
EL. OR ELEV. - ELEVATION	PSI - POUNDS PER SQUARE INCH	
EQ. - EQUAL	RT. - RIGHT	
EXIST. - EXISTING	SHLDR. - SHOULDER	
EXP. - EXPANSION	SER. - SERIES	
	SPA. - SPACE OR SPACES	

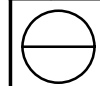
BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

GENERAL NOTES

BRIDGE NO. FRA-270 5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

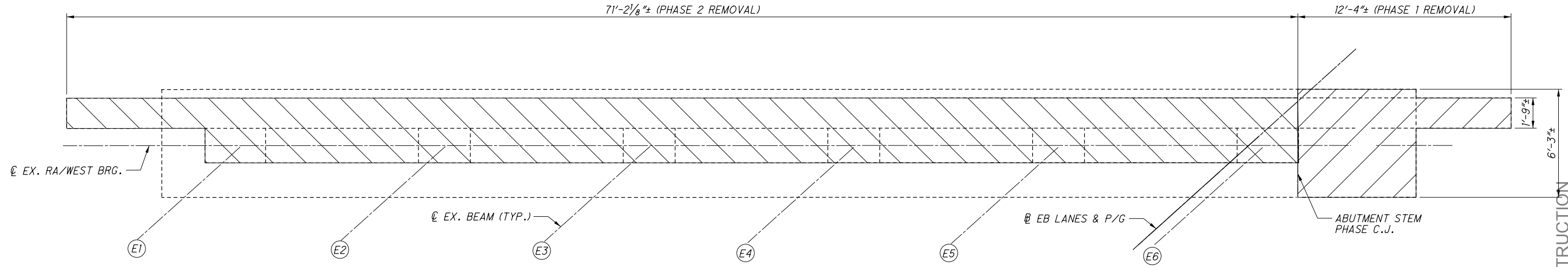
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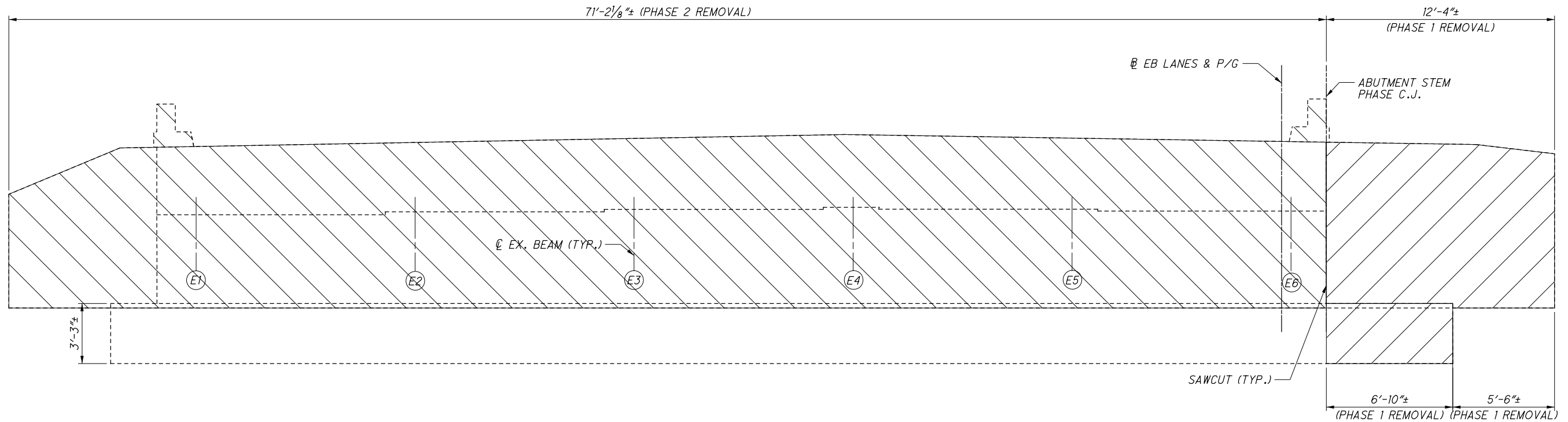
DESIGN AGENCY:
BARR & PREYOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0223

DATE: 10/7/2013
REVIEWED: JEP
DRAWN: CSW
DESIGNED: JAD
CHECKED: NCM
STRUCTURE FILE NUMBER: 2513293

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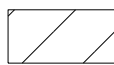
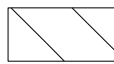



WEST/REAR ABUTMENT REMOVAL PLAN
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)




WEST/REAR ABUTMENT REMOVAL ELEVATION
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)

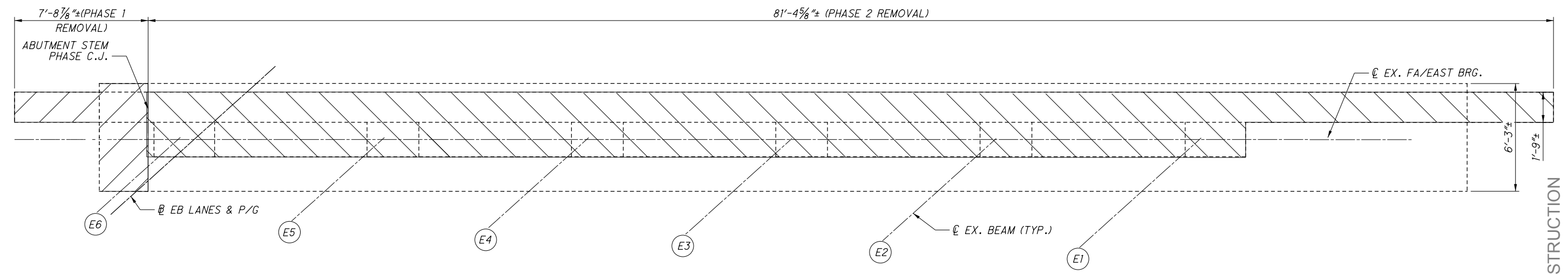
LEGEND:

-  PHASE 1 PORTIONS OF STRUCTURE TO BE REMOVED
-  PHASE 2 PORTIONS OF STRUCTURE TO BE REMOVED
-  EXISTING BEAM DESIGNATION

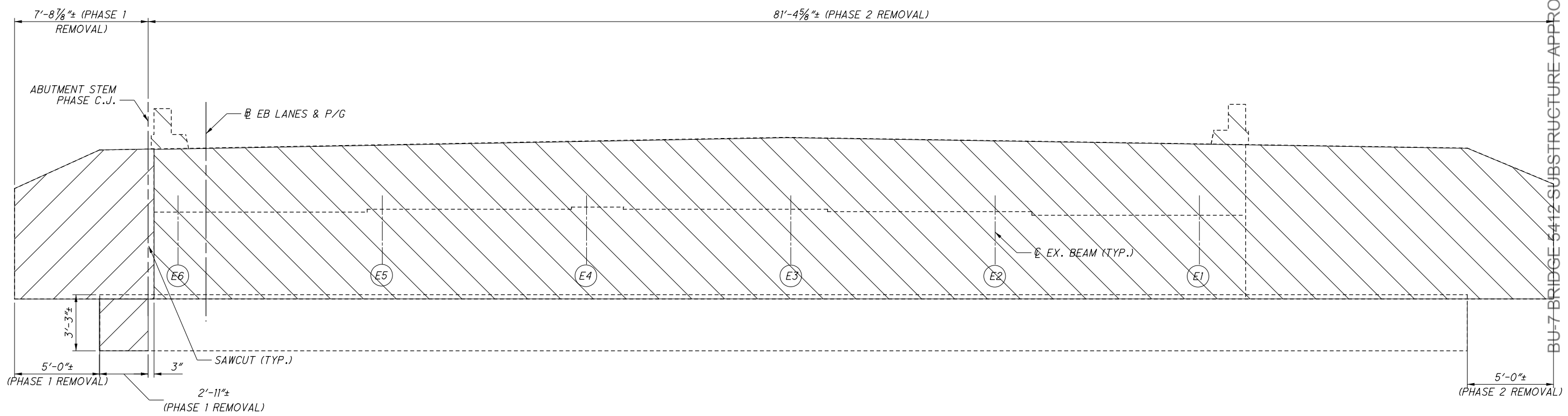
NOTES:
1. SEE SHEET 10/26 FOR EXISTING SECTION REMOVAL.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGNED PPA	DRAWN CSW	REVIEWED JEP	DATE 10/2013
CHECKED NCM	REVISED	STRUCTURE FILE NUMBER 2513293	DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323
WEST/REAR ABUTMENT REMOVAL DETAILS			
BRIDGE NO. FRA-270-5412 L OVER SCIOTO BIG RUN			
FRA - 270-52.72		PID No. 92610	
4 / 26			



EAST/FORWARD ABUTMENT REMOVAL PLAN
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)



EAST/FORWARD ABUTMENT REMOVAL ELEVATION
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)

- LEGEND:**
- PHASE 1 PORTIONS OF STRUCTURE TO BE REMOVED
 - PHASE 2 PORTIONS OF STRUCTURE TO BE REMOVED
 - EXISTING BEAM DESIGNATION

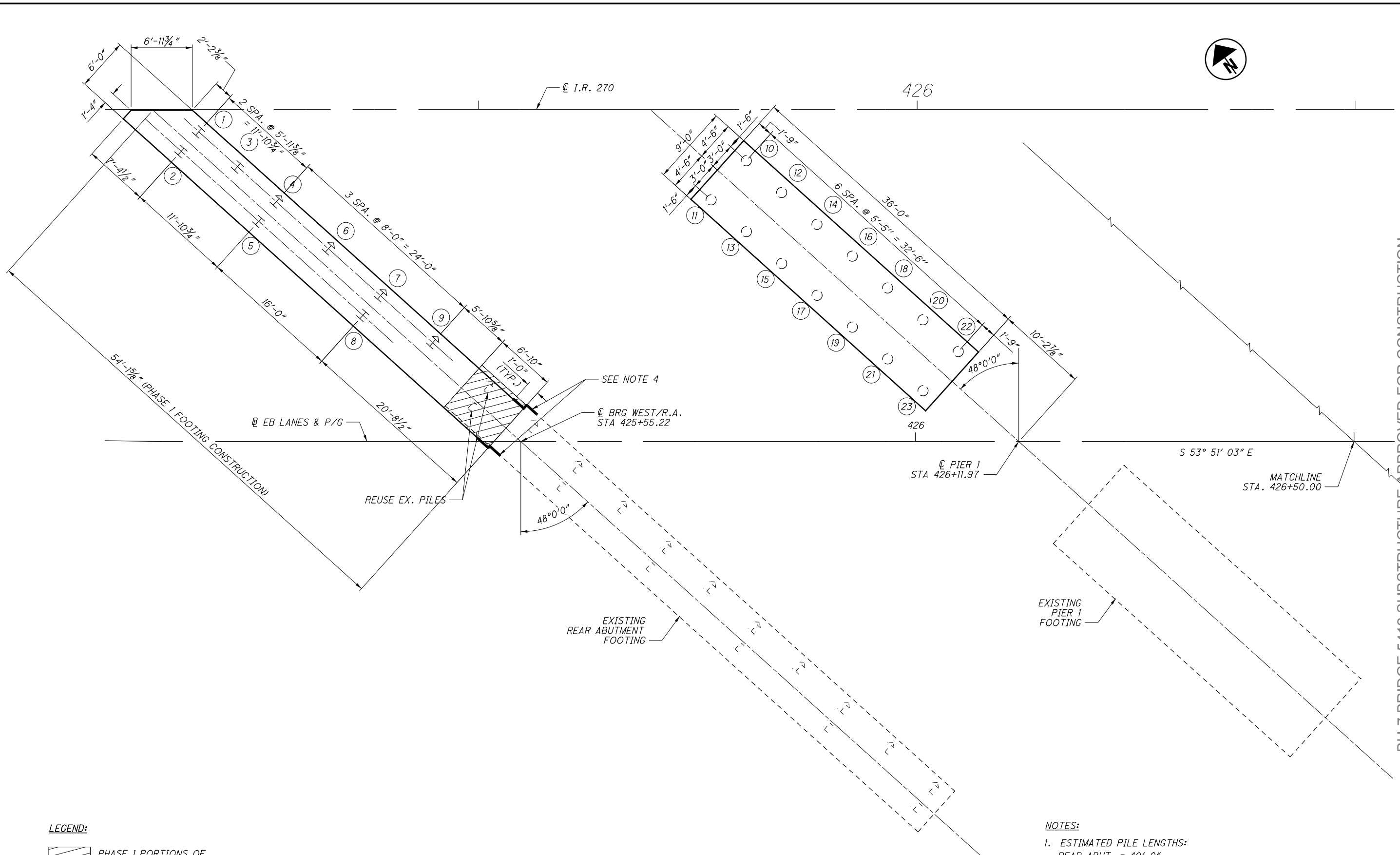
NOTES:
1. SEE SHEET 10/26 FOR EXISTING SECTION REMOVAL.

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
BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

FRA - 270-52.72	PID No. 92610	5 / 26	EAST/FORWARD ABUTMENT REMOVAL DETAILS BRIDGE NO. FRA-270-5412 L OVER SCIOTO BIG RUN
DESIGNED PPA	CHECKED NCM	DRAWN CSW	DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323
REVIEWED JEP	DATE 10/2013	STRUCTURE FILE NUMBER 2513293	

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LEGEND:

-  PHASE 1 PORTIONS OF STRUCTURE REMOVED
-  PROPOSED PILE NUMBER
-  PROPOSED PLUMB HP 10X42 PILE
-  PROPOSED BATTERED HP 10X42 PILE
-  PROPOSED 14" CAST-IN-PLACE PILE

NOTES:

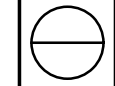
1. ESTIMATED PILE LENGTHS:
 REAR ABUT. = 40'-0"
 PIER 1 = 25'-0"
 PIER 2 = 25'-0"
 FWD. ABUT. = 40'-0"
2. ALL EXISTING PILES WERE LOCATED FROM ORIGINAL CONSTRUCTION PLANS.
3. BATTER PILES TO 4:1.
4. APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ALONG JOINTS.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

FOUNDATION PLAN - 1 OF 2
 BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

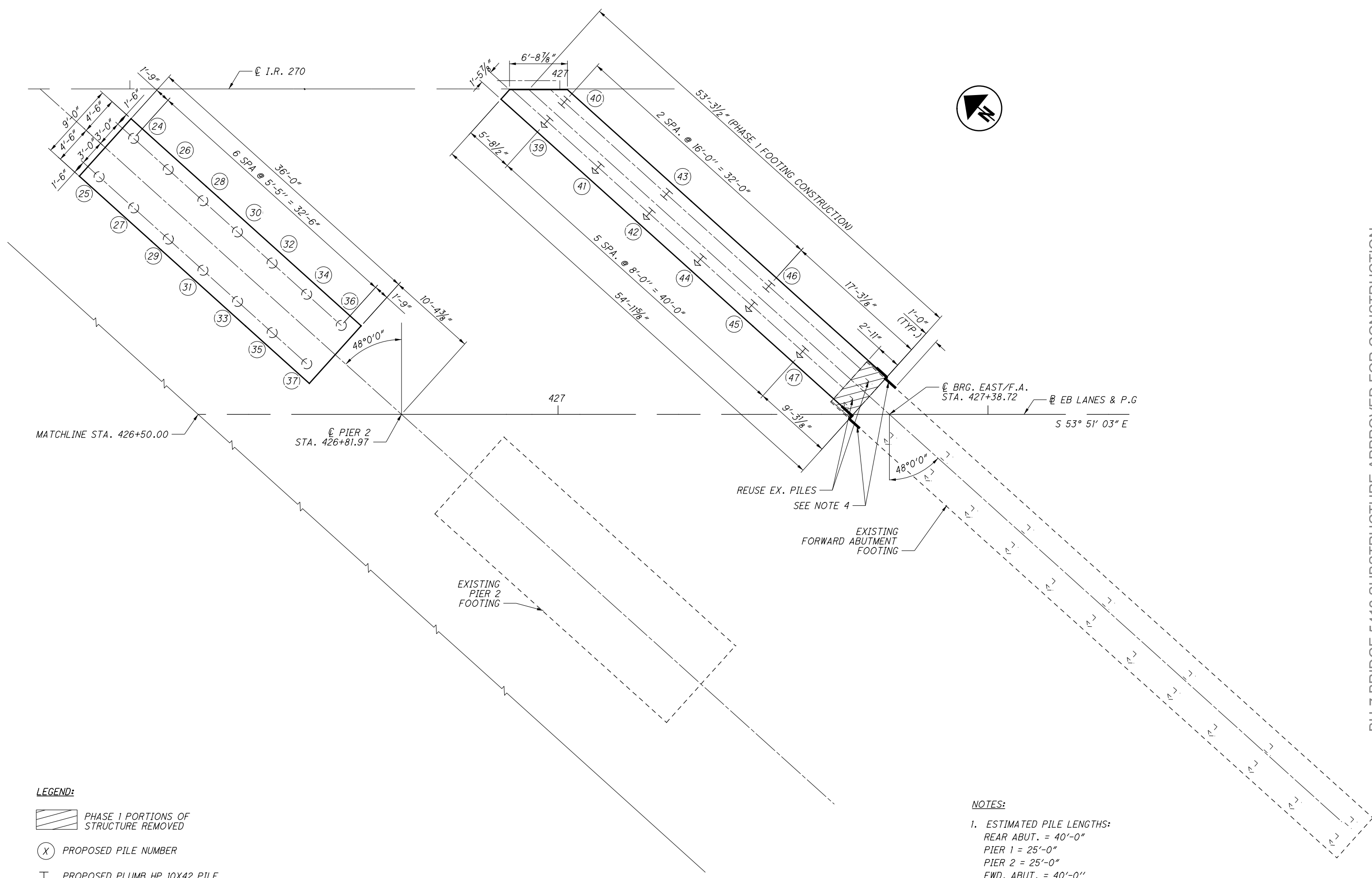
FRA-270-52.72
 PID No. 92610

6 / 26








DESIGNED: PPA
 CHECKED: NCM
 DRAWN: RT
 REVISED:
 REVIEWED: JEP
 DATE: 10/2013
 STRUCTURE FILE NUMBER: 2513293
 DESIGN AGENCY: BARR & PREVOST
 2800 CORPORATE EXCHANGE DR., STE 240
 COLUMBUS, OH 43231
 (614) 714-0270 FAX (614) 714-0323

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LEGEND:

-  PHASE 1 PORTIONS OF STRUCTURE REMOVED
-  PROPOSED PILE NUMBER
-  PROPOSED PLUMB HP 10X42 PILE
-  PROPOSED BATTERED HP 10X42 PILE
-  PROPOSED 14" CAST-IN-PLACE PILE

NOTES:

1. ESTIMATED PILE LENGTHS:
 REAR ABUT. = 40'-0"
 PIER 1 = 25'-0"
 PIER 2 = 25'-0"
 FWD. ABUT. = 40'-0"
2. ALL EXISTING PILES WERE LOCATED FROM ORIGINAL CONSTRUCTION PLANS.
3. BATTER PILES TO 4:1.
4. APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ALONG JOINTS.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

FOUNDATION PLAN - 2 OF 2
 BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

FRA-270-52.72
 PID No. 92610

DESIGN AGENCY
 BARR & PREVOST
 2800 CORPORATE EXCHANGE DR., STE 240
 COLUMBUS, OH 43231
 (614) 714-0270 FAX (614) 714-0323

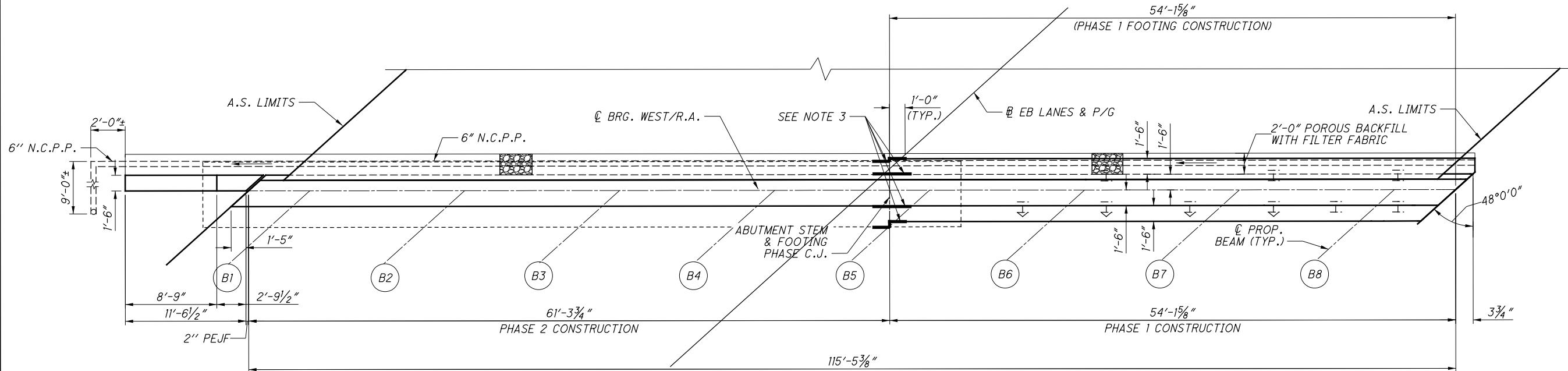
REVIEWED DATE
 JEP 10/2013
 STRUCTURE FILE NUMBER
 2513293

DRAWN
 RT
 CHECKED
 NCM

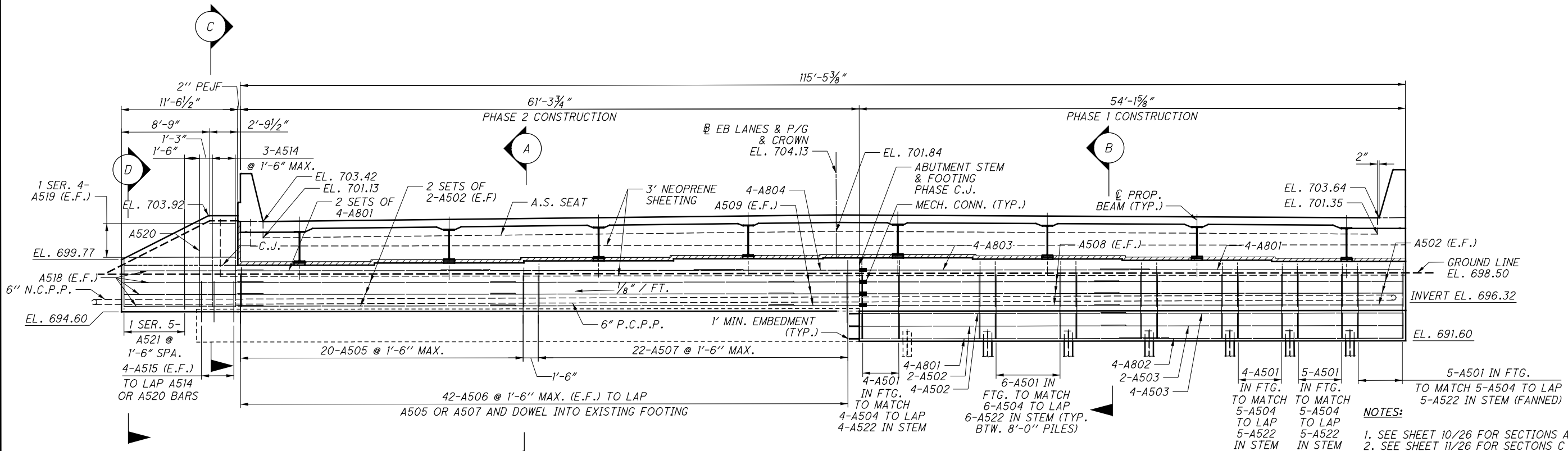
DESIGNED
 PPA



BEAM	1	2	3	4	5	6	7	8
ELEVATION	699.21	699.39	699.58	699.77	699.82	699.69	699.56	699.43



WEST/REAR ABUTMENT PLAN
(EXISTING PILES NOT SHOWN FOR CLARITY)



LEGEND:

(BX) PROPOSED BEAM DESIGNATION

WEST/REAR ABUTMENT ELEVATION
(EXISTING PILES IN EXISTING FOOTING NOT SHOWN FOR CLARITY)
(ELEVATIONS SHOWN AT CL OF BRG.)

MIN. LAP LENGTH	
#5	2'-5"
#8	4'-11"

- NOTES:
- SEE SHEET 10/26 FOR SECTIONS A AND B.
 - SEE SHEET 11/26 FOR SECTIONS C & D.
 - APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ON JOINTS.
 - P.C.P.P RUNS WITHIN THE LIMITS OF POROUS BACKFILL AND N.C.P.P. RUNS OUTSIDE THOSE LIMITS.

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BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

WEST/REAR ABUTMENT PLAN & ELEVATION

FRA-270-52.72

8 / 26



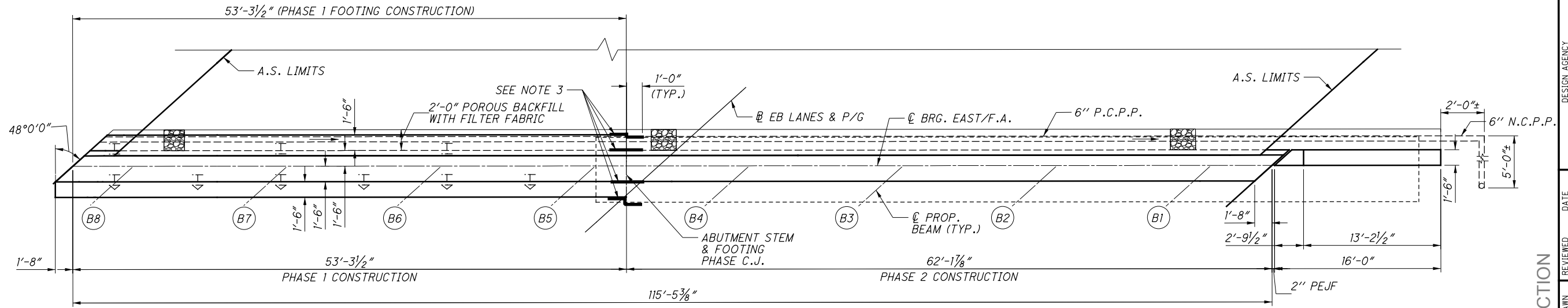
BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

PID No. 92610

DESIGNED	DRAWN	REVIEWED	DATE
PPA	RTF	JEP	10/2013

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

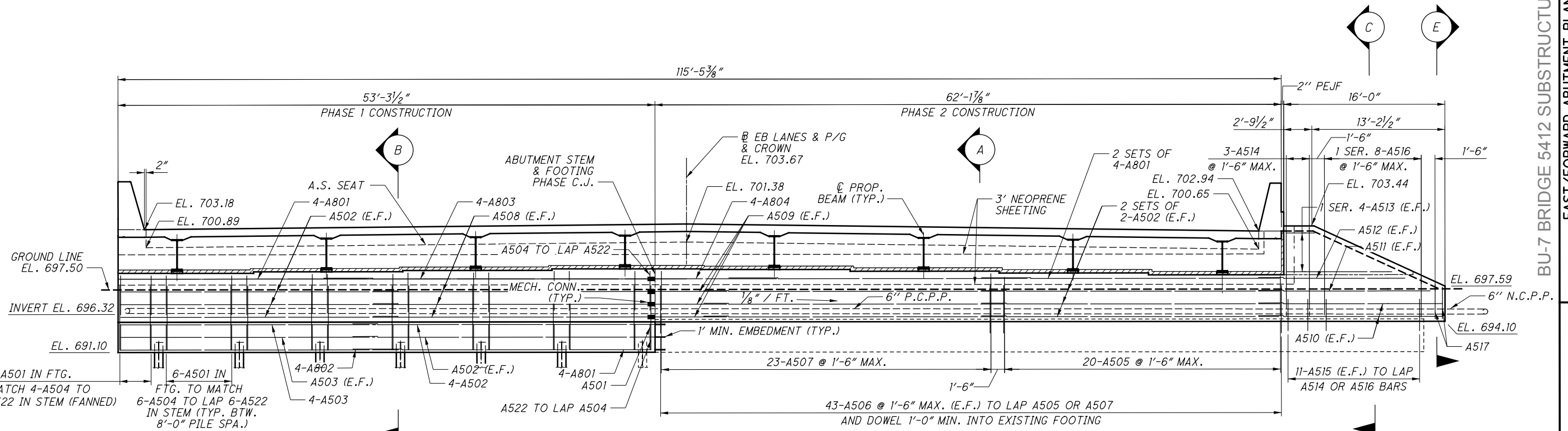
CHECKED	STRUCTURE FILE NUMBER
NCM	2513293



EAST/FORWARD ABUTMENT PLAN
(EXISTING PILES NOT SHOWN FOR CLARITY)

LEGEND:

(BX) PROPOSED BEAM DESIGNATION



EAST/FORWARD ABUTMENT ELEVATION
(EXISTING PILES IN EXISTING FOOTING NOT SHOWN FOR CLARITY)
(ELEVATIONS SHOWN AT C.B.R.G.)

BEAM	1	2	3	4	5	6	7	8
ELEVATION	698.73	698.93	699.12	699.31	699.36	699.23	699.10	698.97

MIN. LAP LENGTH	
#5	2'-5"
#8	4'-11"

NOTES:

- SEE SHEET 10/26 FOR SECTIONS A AND B.
- SEE SHEET 11/26 FOR SECTIONS C & D.
- APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ON JOINTS.
- P.C.P.P. RUNS WITHIN THE LIMITS OF POROUS BACKFILL AND N.C.P.P. RUNS OUTSIDE THOSE LIMITS.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

EAST/FORWARD ABUTMENT PLAN & ELEVATION

FRA-270-52.72
PID No. 92610

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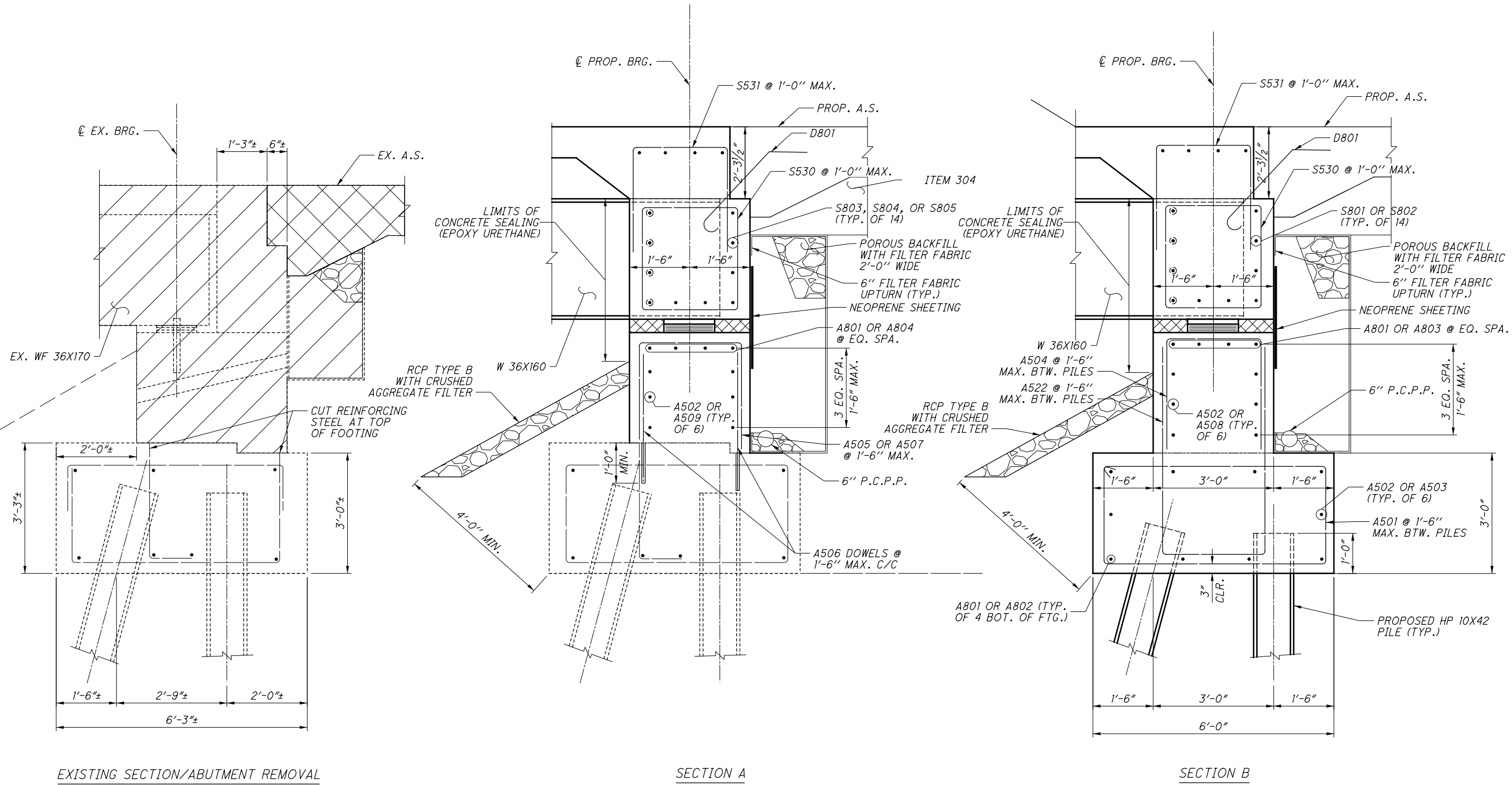
DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0273

DATE
10/2013
REVIEWED
JEP
STRUCTURE FILE NUMBER
2513293
DESIGNED
PPA
CHECKED
NCM
DRAWN
RTF
REVISED



BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

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LEGEND:

-  PORTIONS OF STRUCTURE REMOVED
-  APPROACH SLAB REMOVED

NOTES:

1. SEE SHEET 8/26 & 9/26 FOR LOCATION OF SECTIONS A & B.
2. SEE SHEETS 8/26 AND 9/26 FOR ABUTMENT PLAN AND ELEVATION.
3. SEE STD. DWG. SICD-1-96 FOR ADDITIONAL DETAILS NOT SHOWN.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

ABUTMENT SECTIONS
BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

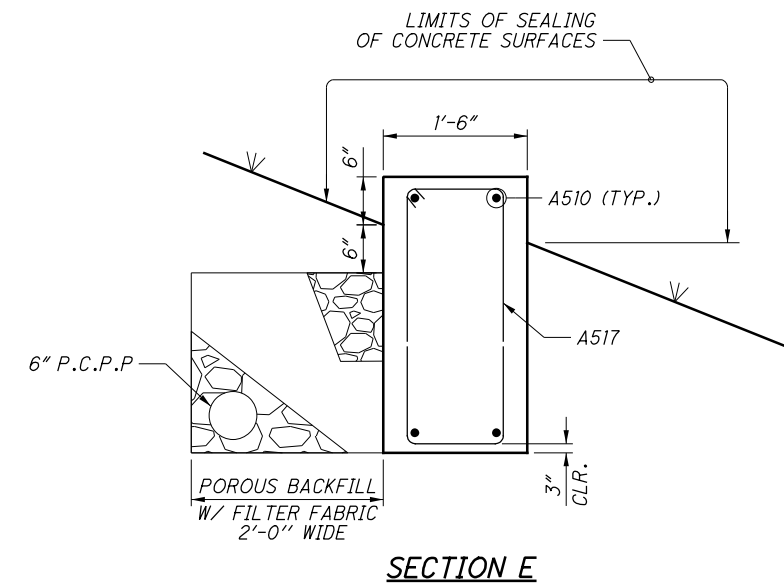
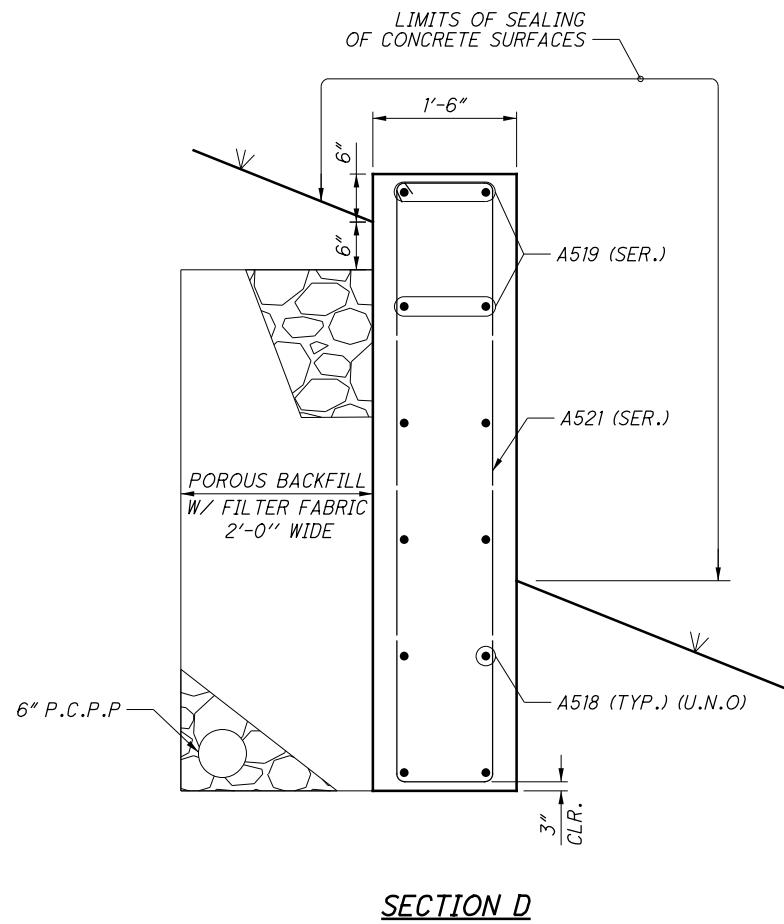
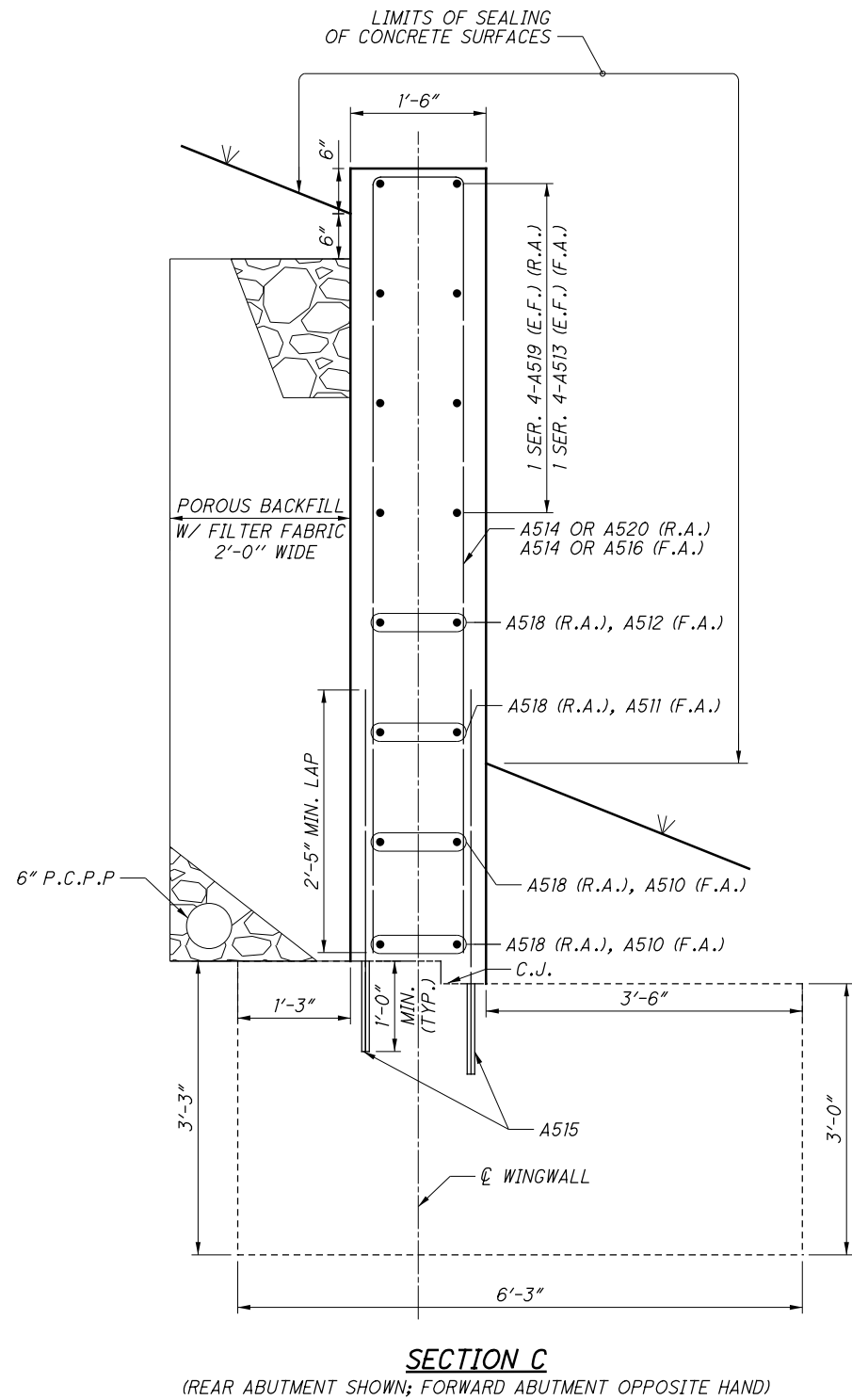
FRA-270-52.72
PID No. 92610

10/26

DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVISED	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513293
DATE	10/2013		

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

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NOTES:

1. SEE SHEET 8/26 & 9/26 FOR LOCATION OF SECTION C.
2. SEE SHEET 8/26 FOR LOCATION OF SECTION D.
3. SEE SHEET 9/26 FOR LOCATION OF SECTION E.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

WINGWALL DETAILS

BRIDGE NO. FRA-2705412 L
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

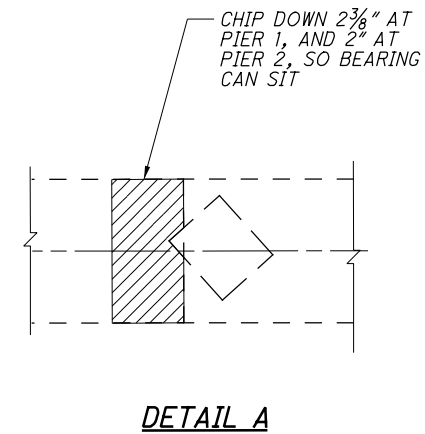
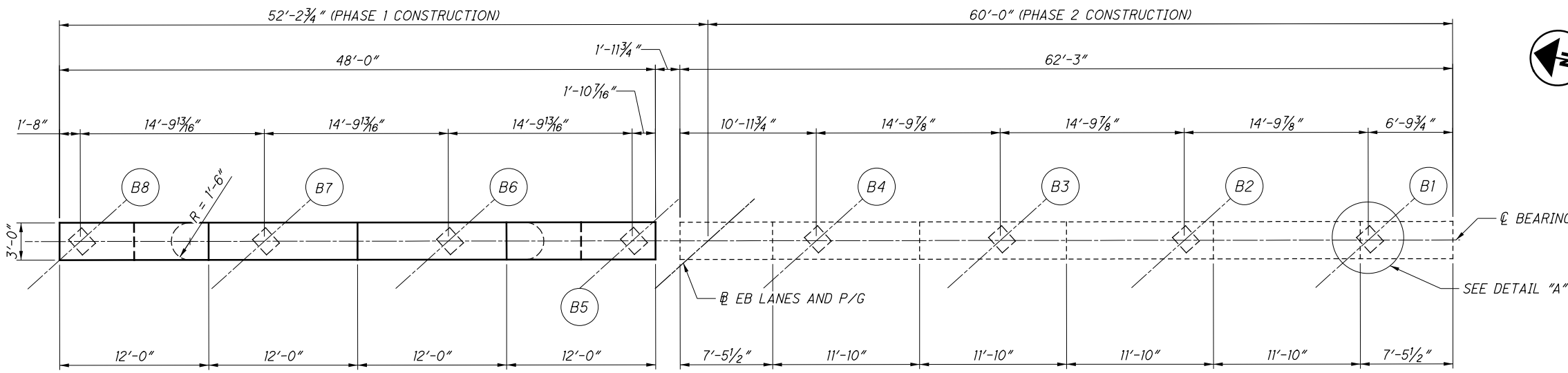
11/26



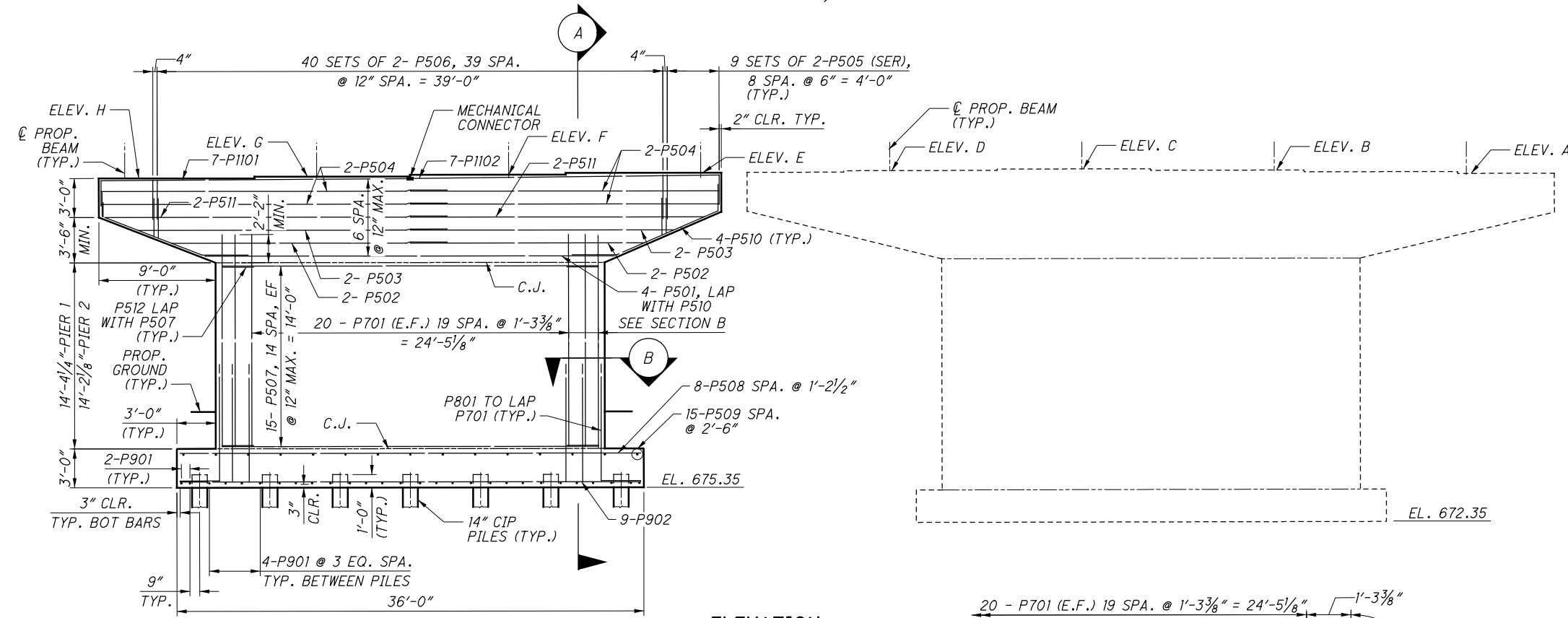
DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVISER	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513293
DATE	10/2013		

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

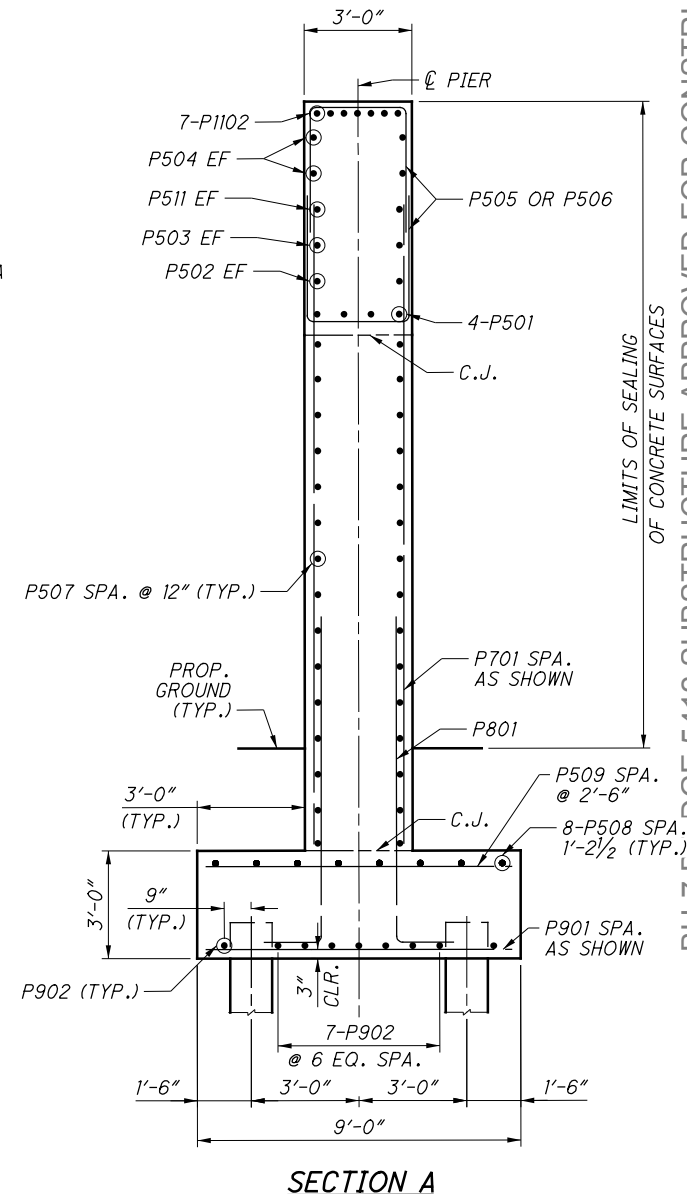
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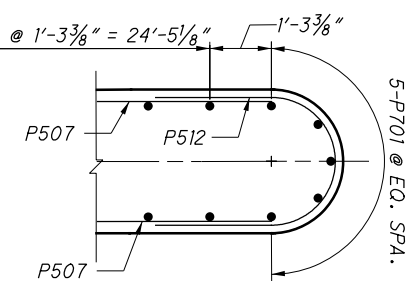
PLAN
(PIER 1 SHOWN, PIER 2 SIMILAR)



ELEVATION
(PIER 1 SHOWN, PIER 2 SIMILAR)



SECTION A



SECTION B

LEGEND:
BX = BEAM NUMBER

ELEVATION	A	B	C	D	E	F	G	H
PIER 1	698.74	699.11	699.25	699.21	699.60	699.47	699.33	699.20
PIER 2	698.64	698.96	699.03	699.08	699.42	699.29	699.16	699.03

MIN. LAP LENGTH	
#5	2'-5"
#8	6'-4"

NOTES:
1. PARTIAL REMOVAL OF PIER CAP AT PIERS 1 & 2 FOR BEAM 1, SEE DETAIL A.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

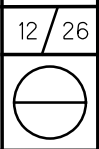
DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

DATE
10/2013
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JEP
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CHECKED
NCM

STRUCTURE FILE NUMBER
2513293
PIER DETAILS
BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

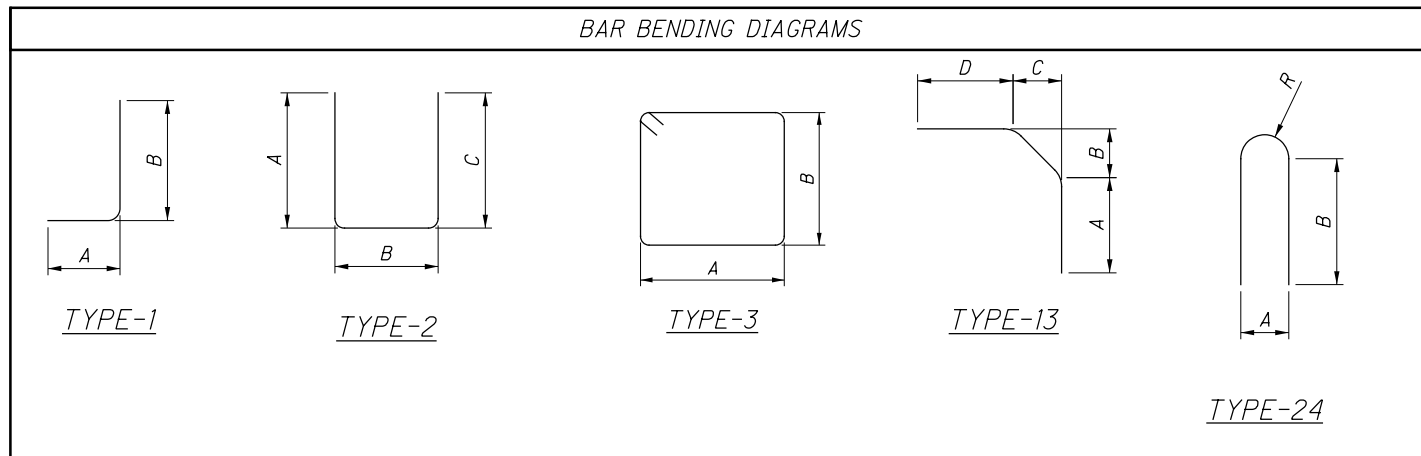
FRA-270-52.72
PID No. 92610

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ABUTMENTS								
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS			
					A	B	C	INC.
A501	83	16'-8"	1443	3	5'-6"	2'-6"		
A502	48	30'-0"	1502	ST.				
A503	12	28'-11"	362	ST.				
A504	83	10'-1"	873	2	3'-11"	2'-6"	3'-11"	
A505	40	10'-7"	442	2	4'-1"	2'-8"	4'-1"	
A506	170	4'-0"	709	ST.				
A507	45	11'-5"	536	2	4'-6"	2'-8"	4'-6"	
* A508	12	27'-10"	348	ST.				
** A509	12	8'-9"	110	ST.				
A510	4	18'-2"	76	ST.				
A511	2	16'-11"	35	ST.				
A512	2	14'-5"	30	ST.				
	2	2'-9"						
A513	SER OF	TO	55	ST.				2'-7"
	4	10'-6"						
A514	6	18'-3"	114	2	8'-8"	1'-2"	8'-8"	
A515	30	3'-5"	107	ST.				
	1	7'-5"			3'-3"		3'-3"	
A516	SER OF	TO	101	2	TO	1'-2"	TO	8"
	8	16'-9"			7'-11"		7'-11"	
A517	2	7'-4"	15	3	1'-2"	2'-2"		
A518	8	13'-9"	115	ST.				
	2	2'-6"						
A519	SER OF	TO	54	ST.				2'-8"
	4	10'-6"						
A520	1	17'-1"	18	2	8'-1"	1'-2"	8'-1"	
	1	12'-2"				4'-7"		
A521	SER OF	TO	79	3	1'-2"	TO		9"
	5	18'-2"				7'-7"		
A522	83	13'-9"	1190	2	5'-9"	2'-6"	5'-9"	
A801	32	30'-0"	2563	ST.				
A802	8	30'-8"	655	ST.				
* A803	8	30'-4"	648	ST.				
** A804	8	18'-8"	399	ST.				
SUBTOTAL =			12579					

PIER										
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	R	INC.
P501	8	31'-6"	263	ST.						
P502	8	19'-6"	163	ST.						
P503	8	21'-11"	183	ST.						
P504	16	25'-5"	425	ST.						
	4	7'-1"			2'-4"		2'-4"			
P505	SER. OF	TO	298	2	TO	2'-8"	TO			3"
	9	8'-9"			3'-2"		3'-2"			
P506	160	10'-5"	1739	2	4'-0"	2'-8"	4'-0"			
P507	60	27'-0"	1690	ST.						
P508	16	35'-6"	593	ST.						
P509	30	8'-6"	266	ST.						
P510	16	15'-10"	265	13	3'-2"	7'-11"	3'-5 1/2"	1'-7"		
P511	8	24'-4"	204	ST.						
P512	60	9'-2"	574	24	2'-7"	2'-5"			1'-2 5/8"	
P701	100	16'-5"	3356	ST.						
P801	100	10'-7"	2826	1	1'-7"	9'-2"				
P901	56	8'-6"	1619	ST.						
P902	18	35'-6"	2173	ST.						
P1101	14	25'-6"	1897	1	2'-0"	23'-10"				
** P1102	14	25'-6"	1897	1	2'-0"	23'-10"				
TOTAL =			20431							



LEGEND:
 * - MECHANICAL CONNECTOR
 ** - CONNECTS TO MECH. CONNECTOR

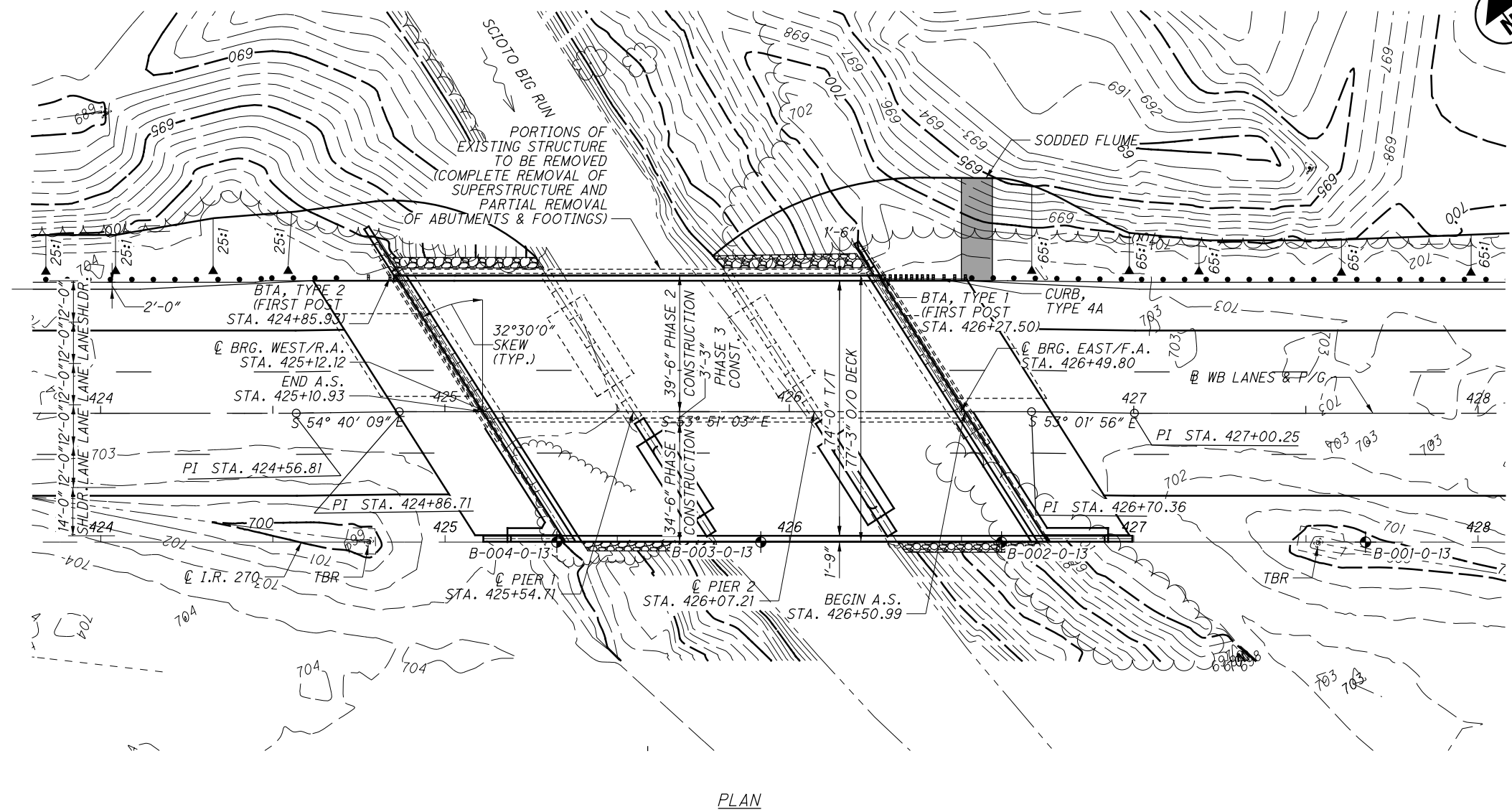
NOTES:

- THE BAR SIZE NUMBER IS SPECIFIED AS THE FIRST DIGIT FOLLOWING THE LETTER ON THE PLANS IN THE BAR MARK COLUMN. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL IS TO BE EPOXY COATED. "ST" INDICATES STRAIGHT BARS. "SER. OF" INDICATES A SERIES BAR. "R" INDICATES A RADIUS. "INC" INDICATES A LENGTH INCREMENT FOR A SERIES BAR. THE LETTER(S) FOLLOWING THE FIRST DIGIT IS SPECIFIED AS FOLLOWS:

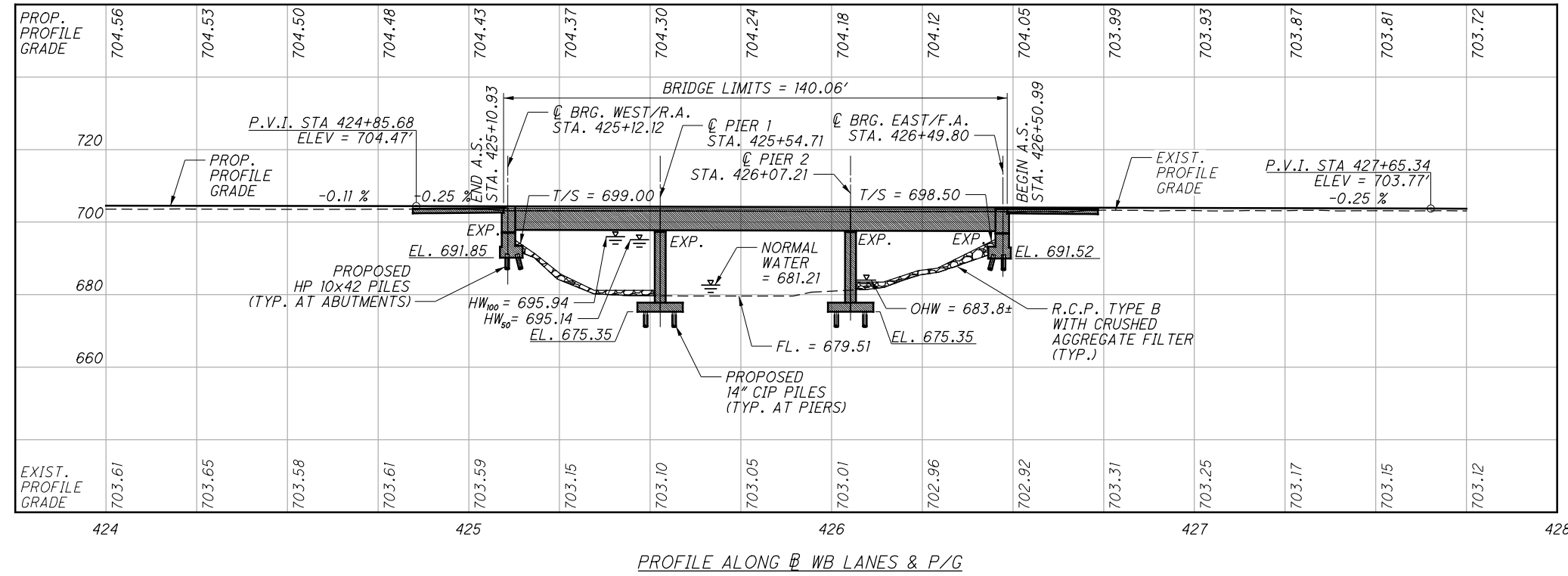
S: LOCATION OF THE BARS IN THE SUPERSTRUCTURE (DECK OR DIAPHRAGM)
 R: LOCATION OF THE BARS IN THE PARAPET
 A: LOCATION OF THE BARS IN THE ABUTMENTS
 AS: LOCATION OF THE BARS IN THE APPROACH SLAB
 P: LOCATION OF THE BARS IN THE PIERS



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PLAN



PROFILE ALONG WB LANES & P/G

BENCHMARK DATA			
BM #1 STA. 498+64.23	ELEV. 696.27	OFFSET 433.17' RT.	
BM #2 STA. 499+11.46	ELEV. 694.52	OFFSET 85.07' RT.	
BM #3 STA. 499+23.96	ELEV. 696.90	OFFSET 208.14' LT.	
BM #4 STA. 499+33.39	ELEV. 696.29	OFFSET 63.28' LT.	

* - ALL OFFSETS OFF @ I.R. 270

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- LEFT BRIDGE NOT SHOWN FOR CLARITY.

DESIGN TRAFFIC:

2012 ADT = 83,310 2012 ADTT = 15,829
 2032 ADT = 109,160 2032 ADTT = 20,741
 DIRECTIONAL DISTRIBUTION = 53%

LEGEND

◆ BORING LOCATION

ESTIMATED PILE LENGTHS:

ABUTMENTS: 40'-0"
 PIERS 1 & 2: 25'-0"

HYDRAULIC DATA

DRAINAGE AREA = 25.1 SQ. MILES
 Q (50) = 3870 CFS V (50) = 2.81 FT/S
 Q (100) = 4440 CFS V (100) = 2.98 FT/S
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 4.43 FEET.

EXISTING STRUCTURE	
TYPE:	3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS:	42'-0", 52'-6", 42'-0" @ BRG. TO @ BRG.
ROADWAY:	42'-0" F/F OF PARAPETS
LOADING:	CF- 2000 (1957)
SKEW:	32°30'00" R.F.
APPROACH SLABS:	25'-0" LONG (AS-1-54)
WEARING SURFACE:	1" MONOLITHIC CONCRETE
ALIGNMENT:	TANGENT
CROWN:	3/16" PER FOOT
STRUCTURE FILE NUMBER:	2513269
DATE BUILT:	1962
DISPOSITION:	TO BE REHABILITATED

PROPOSED STRUCTURE	
PROPOSED WORK:	REHABILITATE SUPERSTRUCTURE AND SUBSTRUCTURE, WIDEN PIER & ABUTMENT SUBSTRUCTURE AND CHANGE ABUTMENTS TO SEMI-INTEGRAL
TYPE:	3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SEMI-INTEGRAL ABUTMENTS
SPANS:	42'-7 1/8", 52'-6", 42'-7 1/8" @ BRG. TO @ BRG.
ROADWAY:	74'-0" TOE/TOE PARAPET
LOADING:	HS20 CASE I AND ALTERNATE MILITARY
SKEW:	32°30'00" R.F.
FWS LOADING:	60 PSF
APPROACH SLABS:	25'-0" LONG (AS-1-81)
WEARING SURFACE:	1" MONOLITHIC CONCRETE
ALIGNMENT:	TANGENT
CROWN:	0.016 FT/FT
COORDINATES:	LATITUDE N 39°53'13" LONGITUDE W 83°01'45"

BUL7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323	DATE 10/2013	FRANKLIN COUNTY STA. 425+10.93 STA. 426+50.99
REVIEWED NCM	STRUCTURE FILE NUMBER 2513269	SITE PLAN BRIDGE NO. FRA-270-5412 R OVER SCOTO BIG RUN
DRAWN PPA	CHECKED JEP	FRA-270-52.72 PID No. 92610
14 / 26		

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	REVISED	01-18-13
DM-4.1	REVISED	07-19-13
GSD-1-96	REVISED	07-19-02
MGS-3.1	REVISED	01-18-13
PCB-91	REVISED	01-18-13
SBR-1-99	REVISED	07-19-02
SICD-1-96	REVISED	07-19-02

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS, 2002 - 17th EDITION AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING:

SUPERSTRUCTURE - HS20 CASE I AND THE ALTERNATE MILITARY LOADING
SUBSTRUCTURE - PROPOSED ABUTMENTS AND PIERS, HS 20 CASE I AND THE ALTERNATE MILITARY LOADING. EXISTING PIERS CF 2000 (1957)
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN STRESSES:

CONCRETE CLASS QC2 - 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.
STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50,000 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.

CONCRETE PARAPETS:

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. FOR THE MEDIAN BARRIER, 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 PLYMERIC 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.

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 1.18 KIPS FOR A TOTAL MACHINE LOAD OF 9.42 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

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

ITEM 202. PORTIONS OF STRUCTURE REMOVED. AS PER PLAN DESCRIPTION:

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING PARAPETS, RAILINGS, DECK JOINTS, ABUTMENTS, AND 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. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. 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 [50 MM] OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES [50MM] OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES[50 MM] 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 [16 KILOGRAMS] BUT NOT TO EXCEED 90 POUNDS [41 KILOGRAMS] UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

CUT LINE CONSTRUCTION JOINT PREPARATION FOR SUBSTRUCTURES:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE DIRECTED IN THE PLANS LEAVE EXISTING REINFORCING STEEL IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING 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 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.

ITEM 503. COFFERDAMS AND EXCAVATION BRACING. AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

SUPERSTRUCTURE CONCRETE REMOVAL:
REMOVE DECK CONCRETE BY LIFT METHODS ONLY.

ITEM 203. EMBANKMENT. AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

PILE DESIGN LOADS:

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 138.1 TONS PER PILE FOR THE HP 10 X 42 ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 125.1 TONS PER PILE FOR THE 14" DIAMETER PIER PILES.

ABUTMENT PILES:

21 PILES 40 FEET LONG, ESTIMATED LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER PILES:

24 PILES 25 FEET LONG, ESTIMATED LENGTH
1 DYNAMIC LOAD TESTING ITEM

ITEM 519 - PATCHING CONCRETE STRUCTURES. AS PER PLAN:

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

ABBREVIATIONS:

BRG. - BEARING	I.R. - INTERSTATE ROUTE	STA. - STATION
BOT. - BOTTOM	KSI - KIPS PER SQUARE INCH	STD. - STANDARD
BTW. - BETWEEN	LT. - LEFT	TYP. - TYPICAL
CLR. - CLEAR	MIN. - MINIMUM	WB - WESTBOUND
CONN. - CONNECT	MAX. - MAXIMUM	
CVN - CHARPY V-NOTCH	NO. - NUMBER	
DIA. - DIAMETER	N.C.P.P. - NON PERFORATED CORRUGATED PLASTIC PIPE	
DL - DEAD LOAD	OHWM - ORDINARY HIGH WATER MARK	
DWG. - DRAWING	P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE	
EB - EASTBOUND	PEJF - PREFORMED EXPANSION JOINT FILLER	
E.F. - EACH FACE	PROP. - PROPOSED	
EL. OR ELEV. - ELEVATION	PSI - POUNDS PER SQUARE INCH	
EQ. - EQUAL	RT. - RIGHT	
EXIST. - EXISTING	SHLDR. - SHOULDER	
EXP. - EXPANSION	SER. - SERIES	
	SPA. - SPACE OR SPACES	

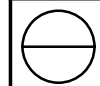
BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

GENERAL NOTES

BRIDGE NO. FRA-270 5412 R
OVER SCIOTO BIG RUN

FRA - 270-52.72
PID No. 92610

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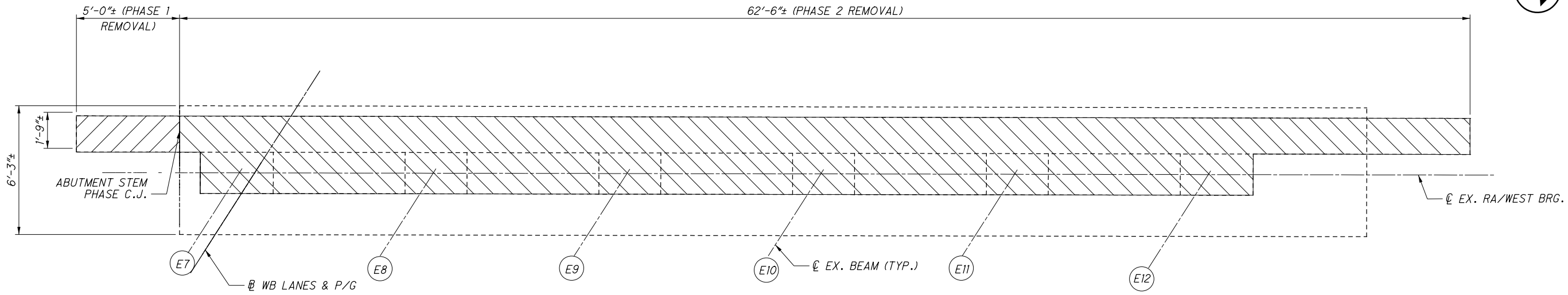


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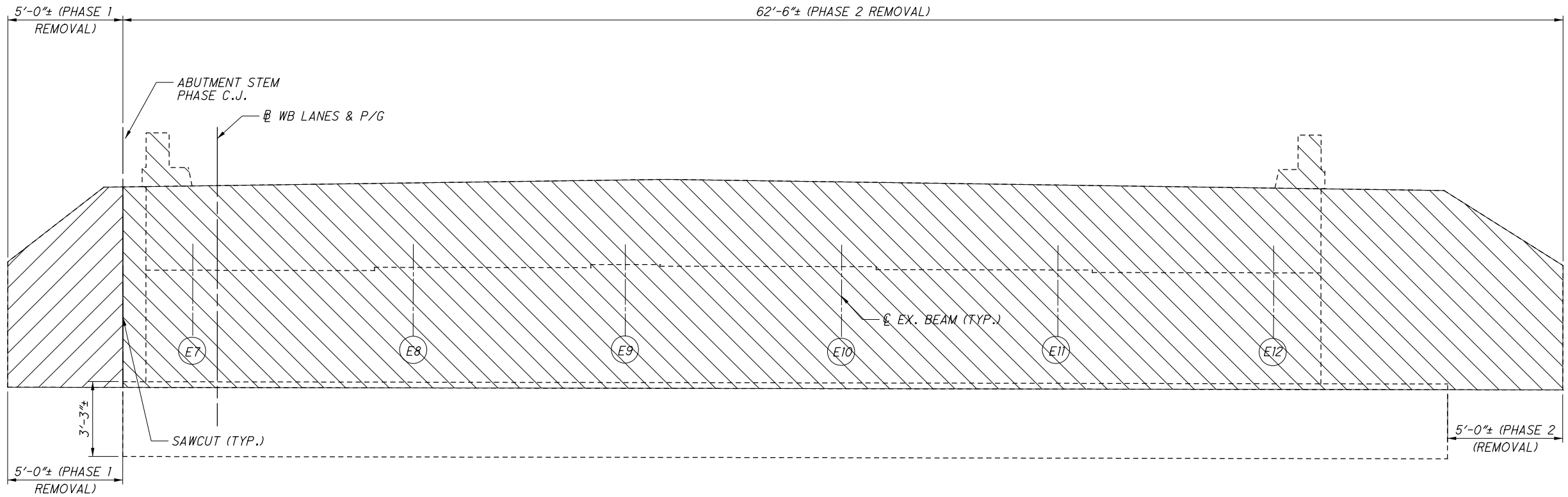
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REVIEWED: JEP
STRUCTURE FILE NUMBER: 2513269

DRAWN: CSW
CHECKED: NCM
DESIGNED: JAD

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WEST/REAR ABUTMENT REMOVAL PLAN
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)



WEST/REAR ABUTMENT REMOVAL ELEVATION
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)

- LEGEND:**
- PHASE 1 PORTIONS OF STRUCTURE TO BE REMOVED
 - PHASE 2 PORTIONS OF STRUCTURE TO BE REMOVED
 - EXISTING BEAM DESIGNATION

NOTES:
1. SEE SHEET 22/26 FOR EXISTING SECTION REMOVAL.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

WEST/REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA - 270-52.72
PID No. 92610

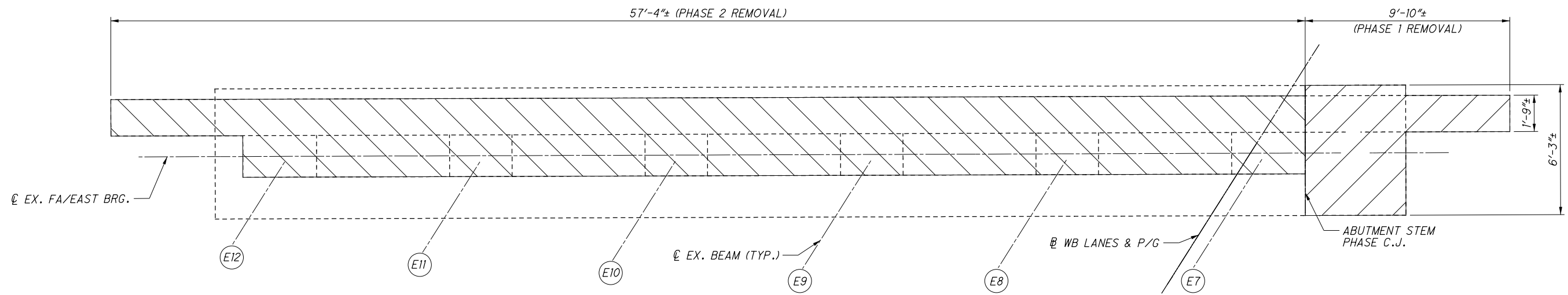
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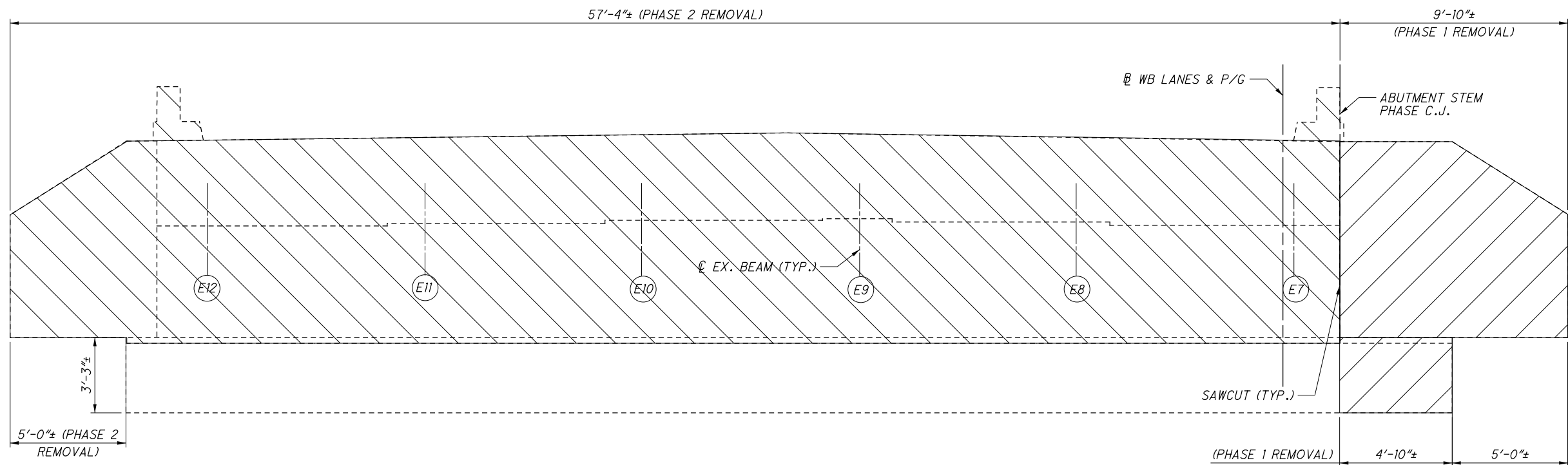
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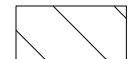



EAST/FORWARD ABUTMENT REMOVAL PLAN
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)



EAST/FORWARD ABUTMENT REMOVAL ELEVATION
(EXISTING PILES TO REMAIN & NOT SHOWN FOR CLARITY)

LEGEND:

-  PHASE 1 PORTIONS OF STRUCTURE TO BE REMOVED
-  PHASE 2 PORTIONS OF STRUCTURE TO BE REMOVED
-  EXISTING BEAM DESIGNATION

NOTES:

1. SEE SHEET 22/26 FOR EXISTING SECTION REMOVAL.

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BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

EAST/FORWARD ABUTMENT REMOVAL DETAILS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA - 270-52.72
PID No. 92610

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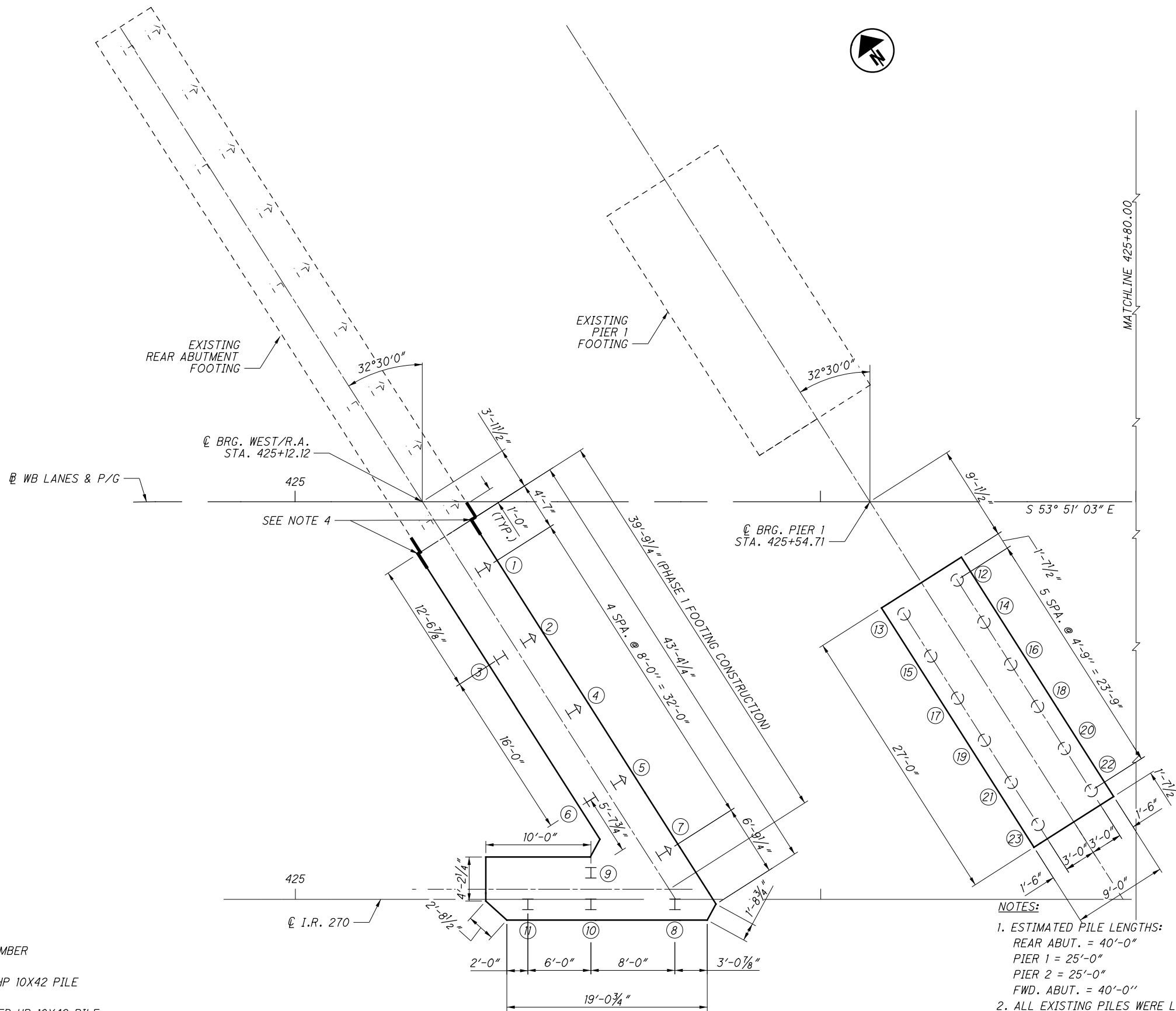
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10/2013

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LEGEND:

- (X) PROPOSED PILE NUMBER
- I PROPOSED PLUMB HP 10X42 PILE
- ↑ PROPOSED BATTERED HP 10X42 PILE
- (O) PROPOSED 14" CAST-IN-PLACE PILE

NOTES:

1. ESTIMATED PILE LENGTHS:
 REAR ABUT. = 40'-0"
 PIER 1 = 25'-0"
 PIER 2 = 25'-0"
 FWD. ABUT. = 40'-0"
2. ALL EXISTING PILES WERE LOCATED FROM ORIGINAL CONSTRUCTION PLANS.
3. BATTER PILES TO 4:1.
4. APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ALONG JOINTS.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

FOUNDATION PLAN - 1 OF 2






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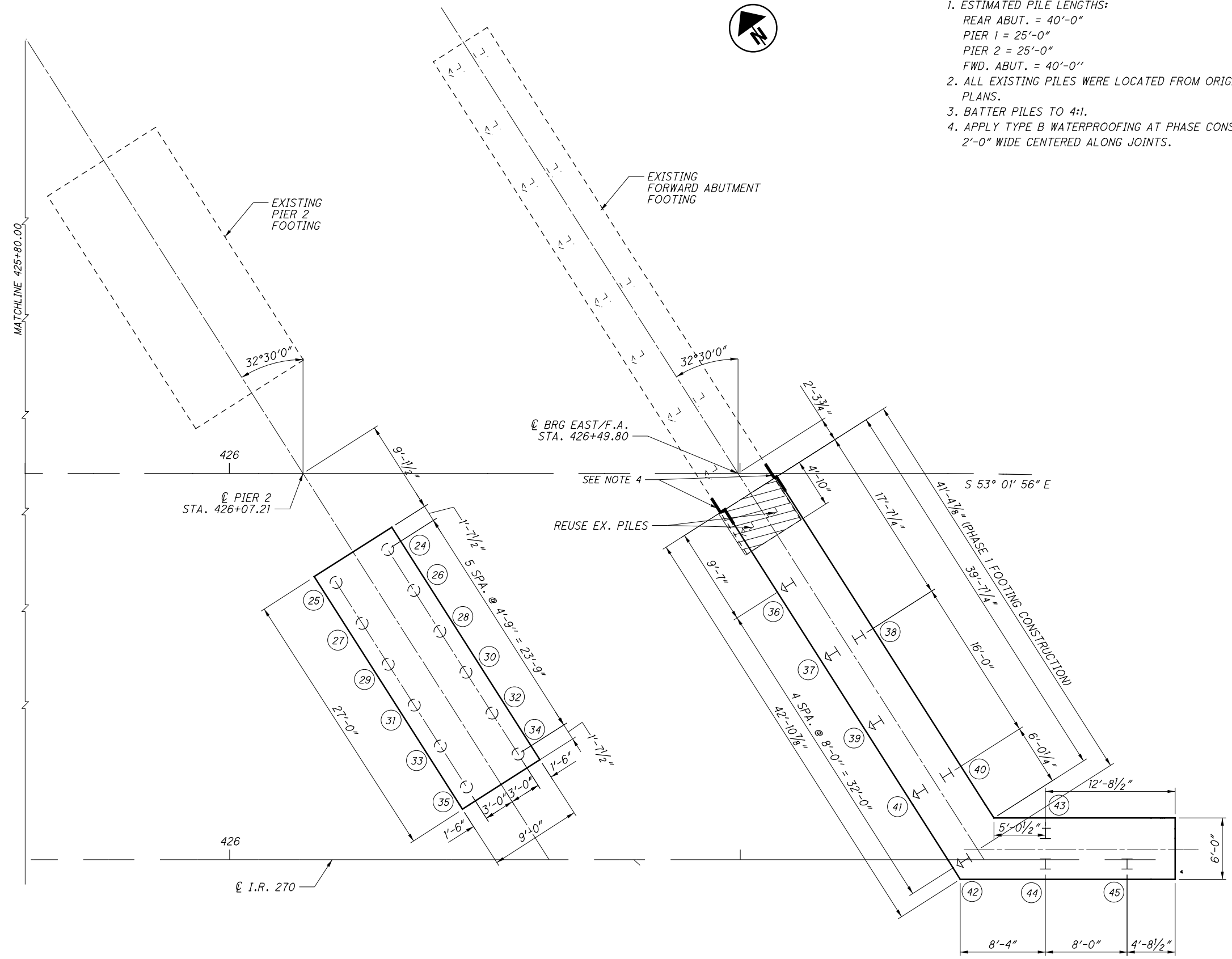
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 PID No. 92610



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LEGEND:

-  PHASE 1 PORTIONS OF STRUCTURE REMOVED
-  PROPOSED PILE NUMBER
-  PROPOSED PLUMB HP 10X42 PILE
-  PROPOSED BATTERED HP 10X42 PILE
-  PROPOSED 14" CAST-IN-PLACE PILE



NOTES:

1. ESTIMATED PILE LENGTHS:
 REAR ABUT. = 40'-0"
 PIER 1 = 25'-0"
 PIER 2 = 25'-0"
 FWD. ABUT. = 40'-0"
2. ALL EXISTING PILES WERE LOCATED FROM ORIGINAL CONSTRUCTION PLANS.
3. BATTER PILES TO 4:1.
4. APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ALONG JOINTS.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

FOUNDATION PLAN - 2 OF 2
 BIDGE NO. FRA-270-5412 R
 OVER SCIOTO BIG RIVER

FRA-270-52.72
 PID No. 92610

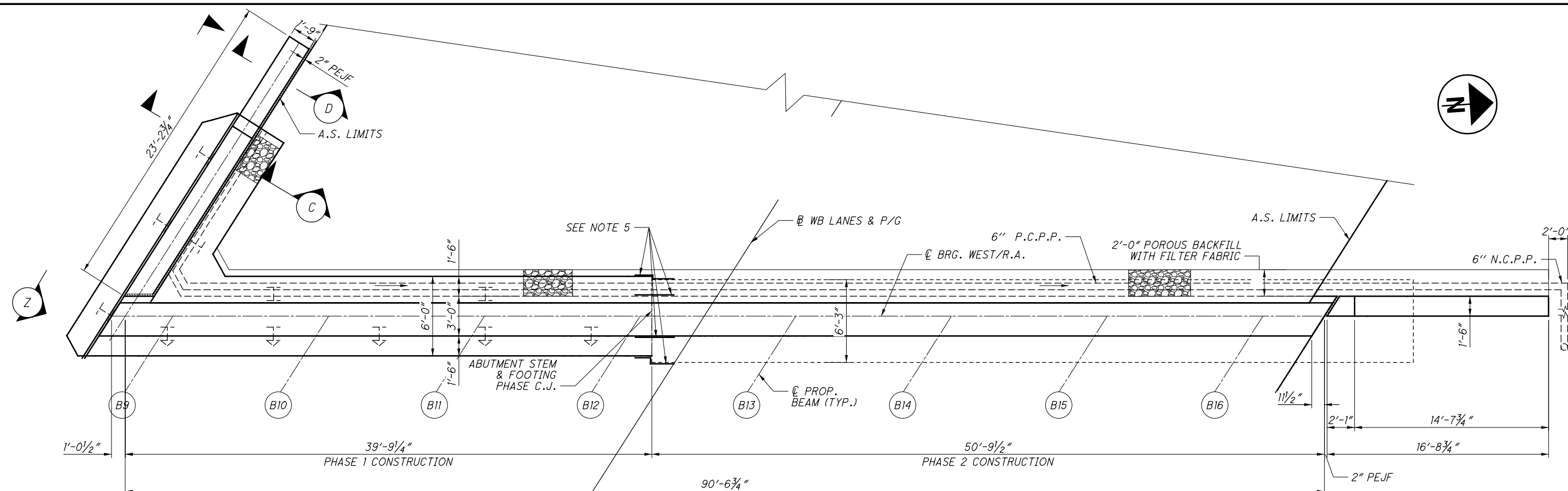
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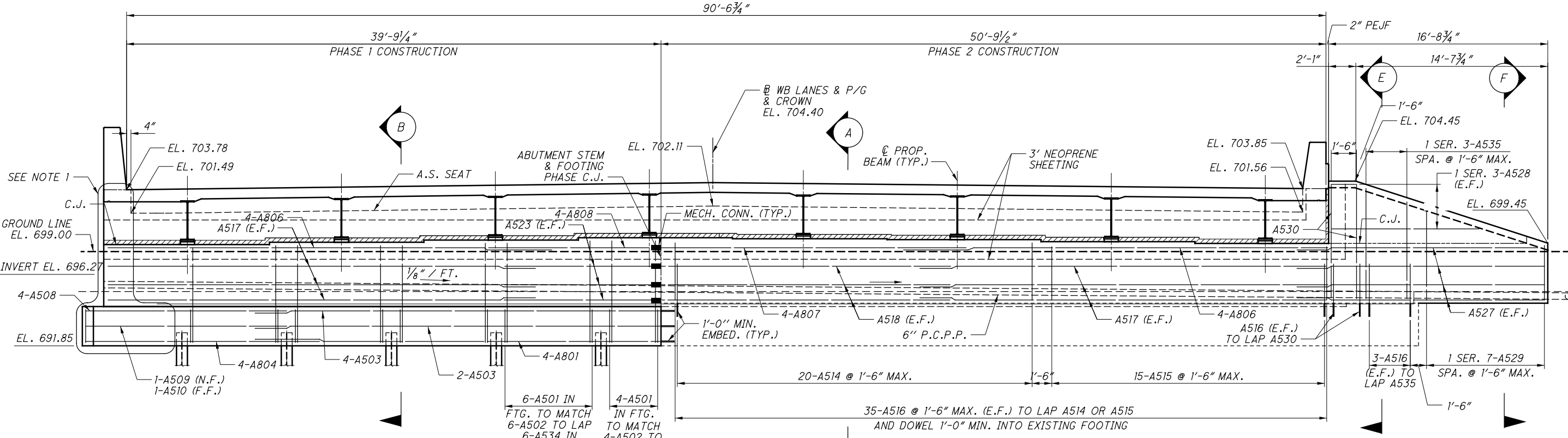
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WEST/REAR ABUTMENT PLAN
(EXISTING PILES NOT SHOWN FOR CLARITY)



WEST/REAR ABUTMENT ELEVATION
(EXISTING PILES NOT SHOWN FOR CLARITY)
(ELEVATIONS SHOWN AT C.B.R.G.)

LEGEND:

(BX) PROPOSED BEAM DESIGNATION

MIN. LAP LENGTH	
#5	2'-5"
#8	4'-11"

BEAM	9	10	11	12	13	14	15	16
ELEVATION	699.59	699.76	699.94	700.11	700.10	699.96	699.81	699.67

NOTES:

- SEE SHEET 23/26 FOR VIEW Z AND SECTIONS C & D.
- SEE SHEET 22/26 FOR SECTIONS A & B.
- FIELD CUT A531 BARS AS NEEDED.
- SEE SHEET 24/26 FOR SECTIONS E & F.
- APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ON JOINTS.
- P.C.P.P. RUNS WITHIN THE LIMITS OF POROUS BACKFILL AND N.C.P.P. RUNS OUTSIDE THOSE LIMITS.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVIEWED	JEP
DATE	10/2013	DESIGN AGENCY	BARR & PREVOST
STRUCTURE FILE NUMBER	2513269	2800 CORPORATE EXCHANGE DR., STE 240	COLUMBUS, OH 43231
PHONE	(614) 714-0270	FAX	(614) 714-0323

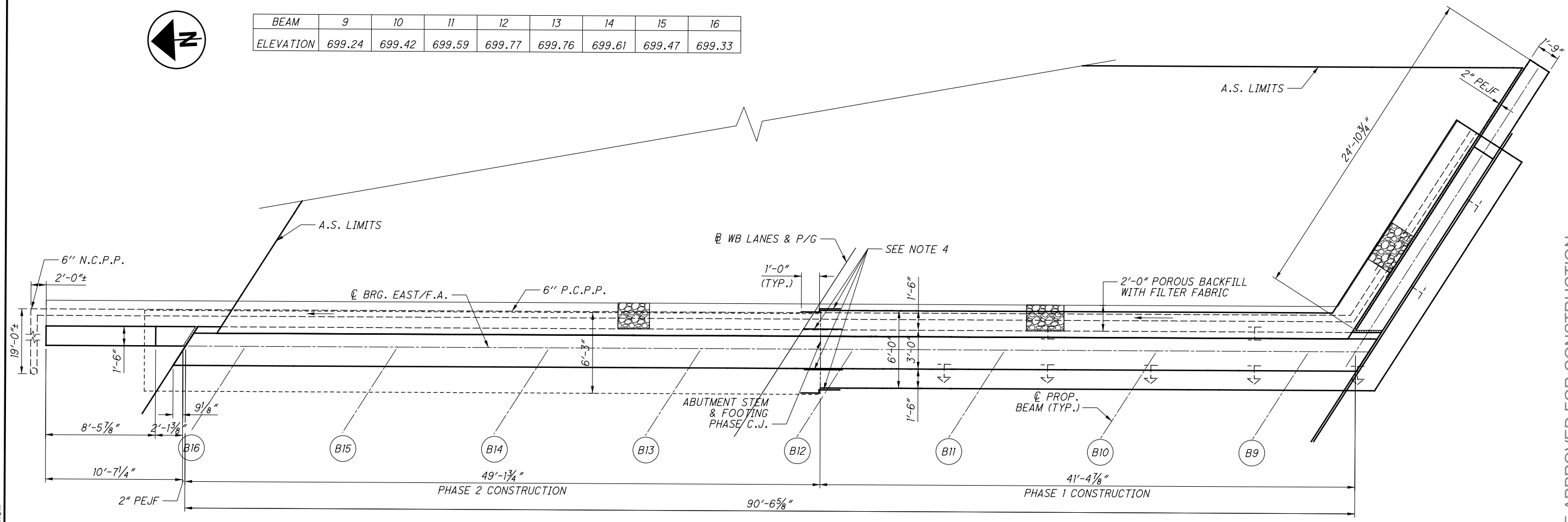
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

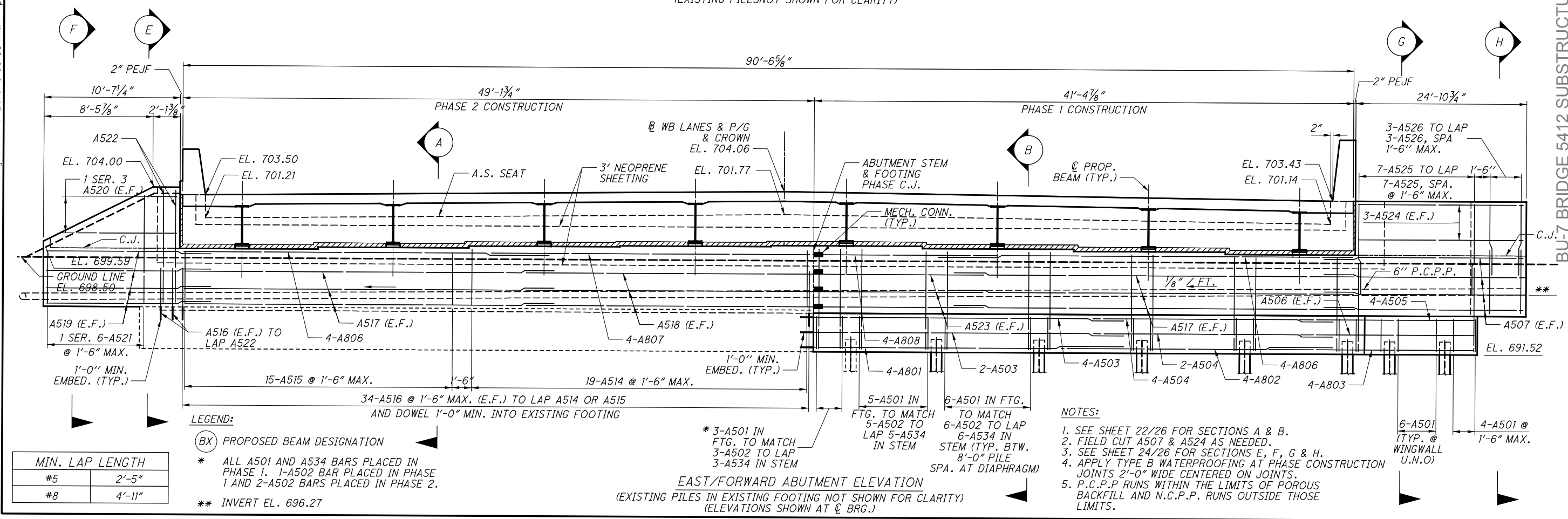
20/26



BEAM	9	10	11	12	13	14	15	16
ELEVATION	699.24	699.42	699.59	699.77	699.76	699.61	699.47	699.33



EAST/FORWARD ABUTMENT PLAN
(EXISTING PILESNOT SHOWN FOR CLARITY)



EAST/FORWARD ABUTMENT ELEVATION
(EXISTING PILES IN EXISTING FOOTING NOT SHOWN FOR CLARITY)
(ELEVATIONS SHOWN AT CL BRG.)

MIN. LAP LENGTH	
#5	2'-5"
#8	4'-11"

LEGEND:
 (BX) PROPOSED BEAM DESIGNATION
 * ALL A501 AND A534 BARS PLACED IN PHASE 1. 1-A502 BAR PLACED IN PHASE 1 AND 2-A502 BARS PLACED IN PHASE 2.
 ** INVERT EL. 696.27

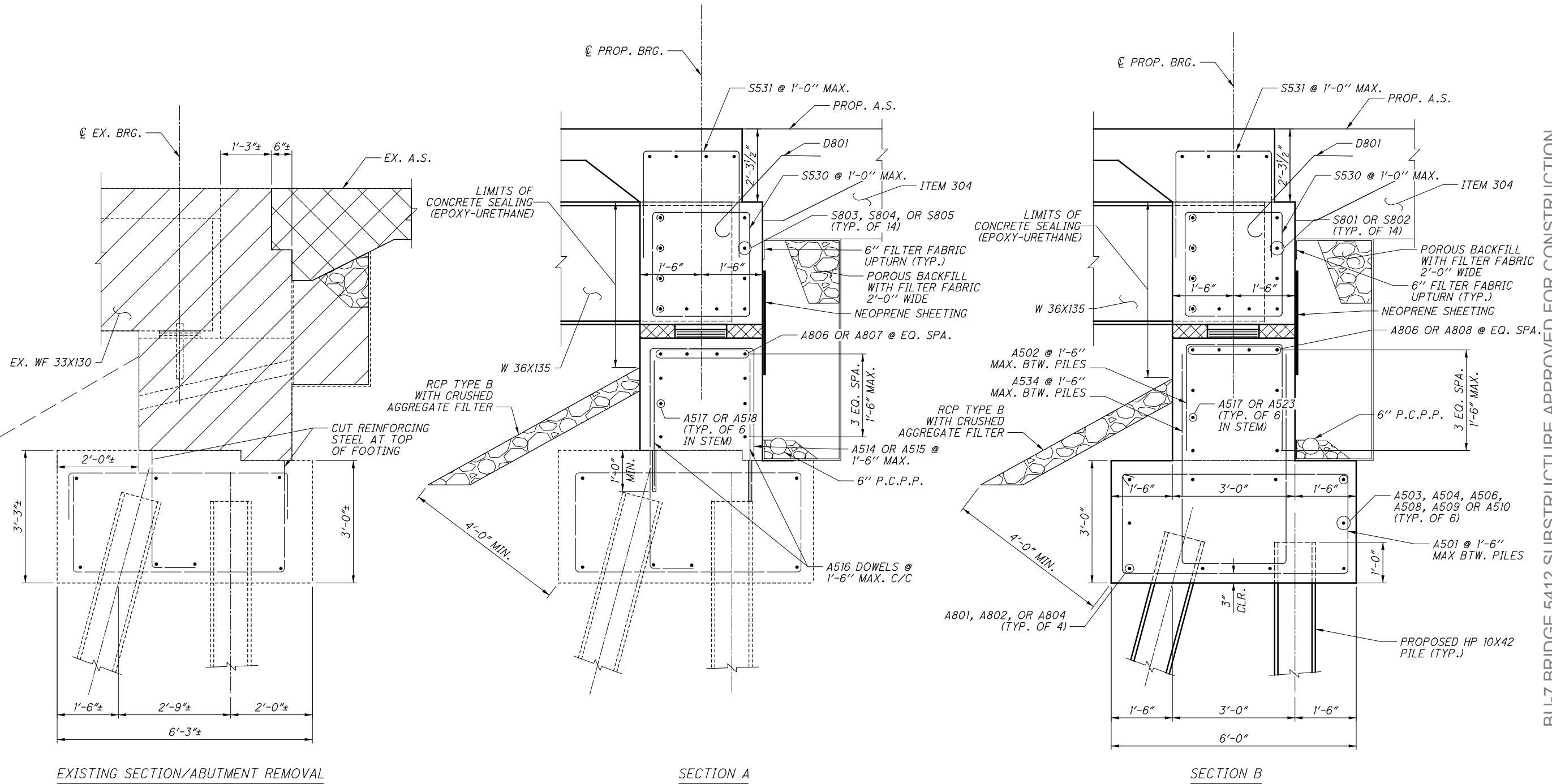
NOTES:
 1. SEE SHEET 22/26 FOR SECTIONS A & B.
 2. FIELD CUT A507 & A524 AS NEEDED.
 3. SEE SHEET 24/26 FOR SECTIONS E, F, G & H.
 4. APPLY TYPE B WATERPROOFING AT PHASE CONSTRUCTION JOINTS 2'-0" WIDE CENTERED ON JOINTS.
 5. P.C.P.P RUNS WITHIN THE LIMITS OF POROUS BACKFILL AND N.C.P.P. RUNS OUTSIDE THOSE LIMITS.

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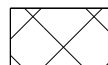
BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION
 EAST/FORWARD ABUTMENT PLAN & ELEVATION
 BRIDGE NO. FRA-270-5412 R
 OVER SCIOTO BIG RUN

DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVIEWED	JEP
DATE	10/2013	STRUCTURE FILE NUMBER	2513269
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FRA - 270 - 52.72		PID No. 92610	
21/26			

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LEGEND:

-  PORTIONS OF STRUCTURE REMOVED
-  APPROACH SLAB REMOVED

NOTES:

1. SEE SHEET 20/26 & 21/26 FOR LOCATION OF SECTIONS A & B.
2. SEE SHEETS 20/26 AND 21/26 FOR ABUTMENT PLAN AND ELEVATION.
3. SEE STD. DWG. SICD-1-96 FOR ADDITIONAL DETAILS NOT SHOWN.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

ABUTMENT SECTIONS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

22/26

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10/2013

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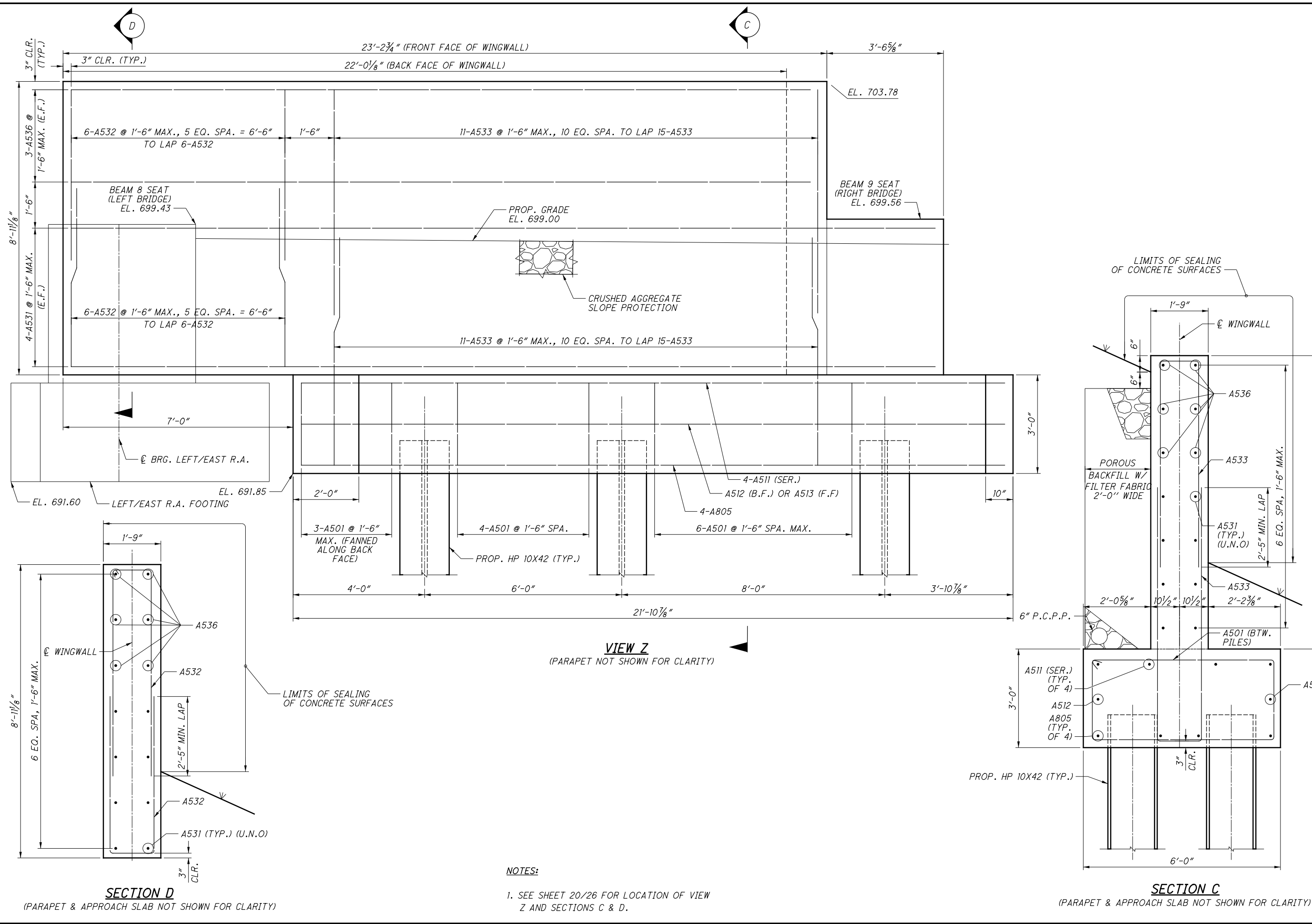
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
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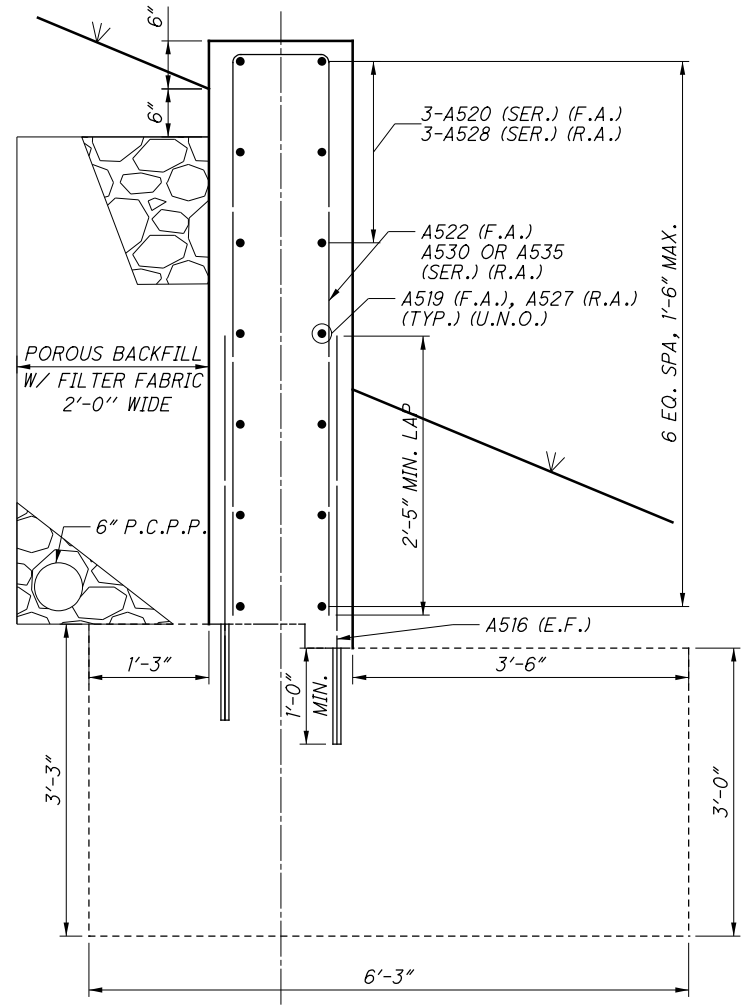
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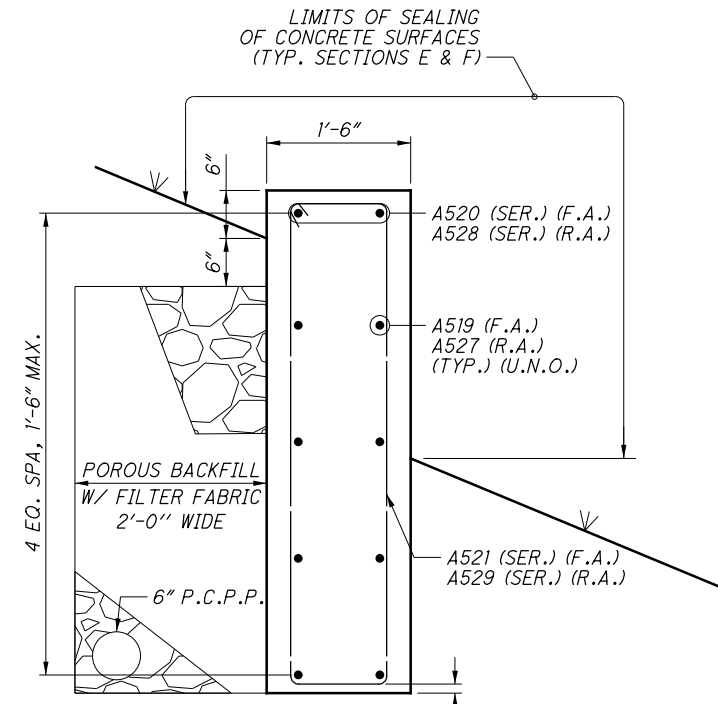


DESIGNED		DRAWN		REVIEWED		DATE		DESIGN AGENCY	
PPA	CSW	JEP	CSW	JEP	CSW	10/2013	10/2013	BARR & PREVOST	
CHECKED	REVIS	FILE NUMBER	STRUCTURE	FILE NUMBER	STRUCTURE	2513269	2513269	2800 CORPORATE EXCHANGE DR., STE 240	
NCM	NCM							COLUMBUS, OH 43231	
								(614) 714-0270 FAX (614) 714-0323	
BU7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION									
WINGWALL DETAILS - 1									
BRIDGE NO. FRA-270-5412 R OVER SCIOTO BIG RUN									
FRA-270-52.72					PID No. 92610				
23/26									



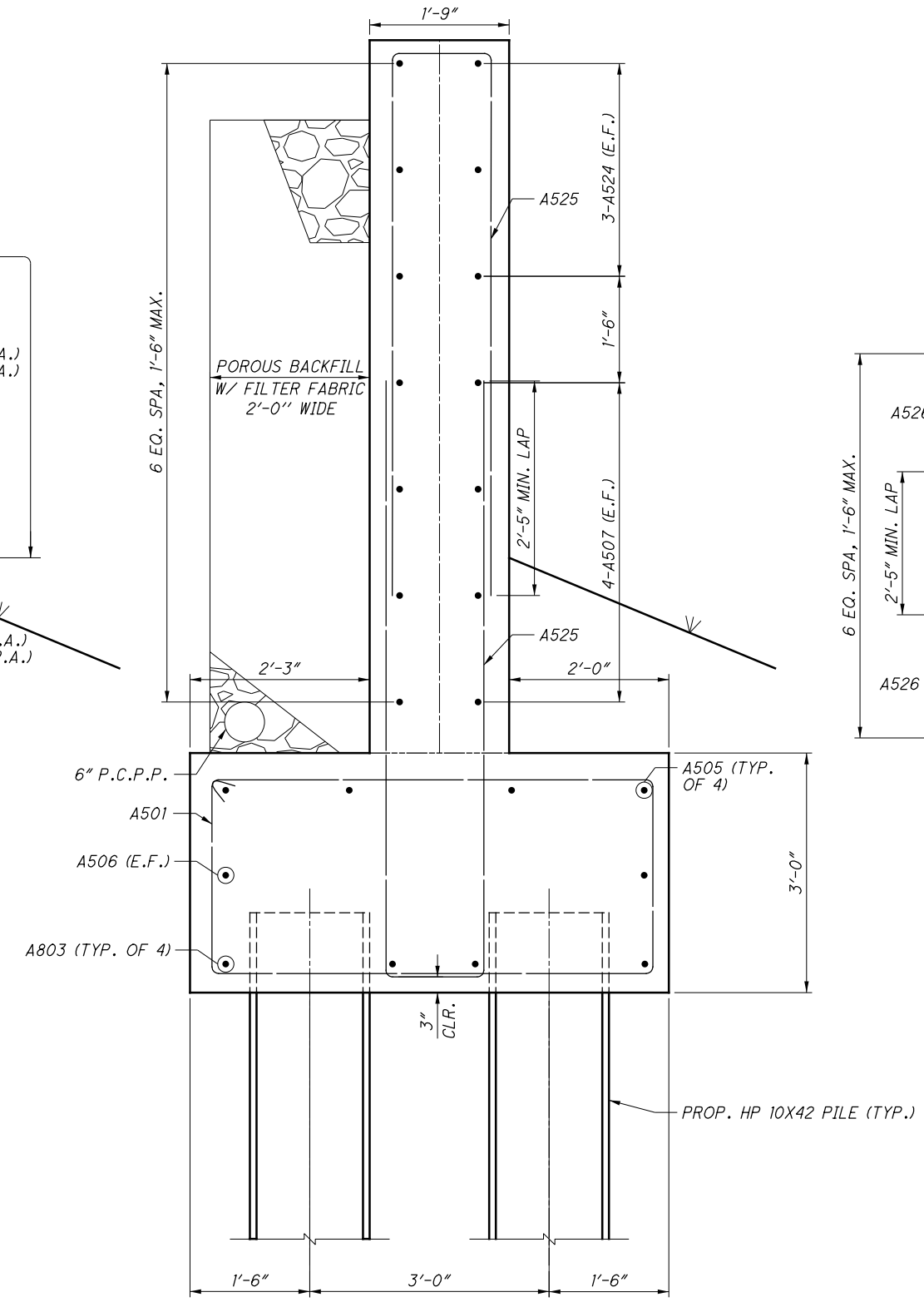
SECTION E

(FORWARD ABUTMENT SHOWN; REAR ABUTMENT OPPOSITE HAND)



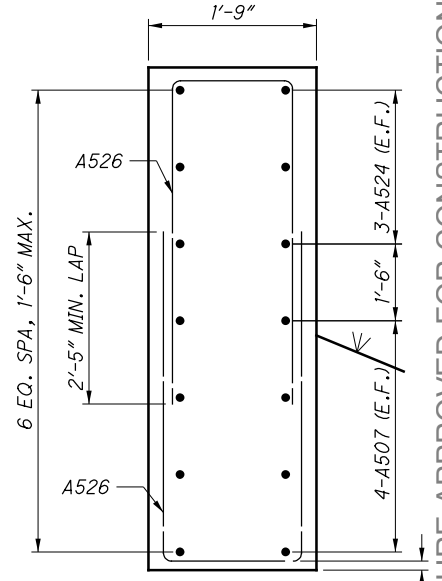
SECTION F

LIMITS OF SEALING OF CONCRETE SURFACES (TYP. SECTIONS E & F)



SECTION G

(APPROACH SLAB NOT SHOWN FOR CLARITY)



SECTION H

NOTES:

1. SEE SHEETS 20/26 & 21/26 FOR LOCATIONS OF SECTIONS E & F.
2. SEE SHEET 21/26 FOR LOCATIONS OF SECTIONS G & H.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

WINGWALL DETAILS - 2
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

24/26

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

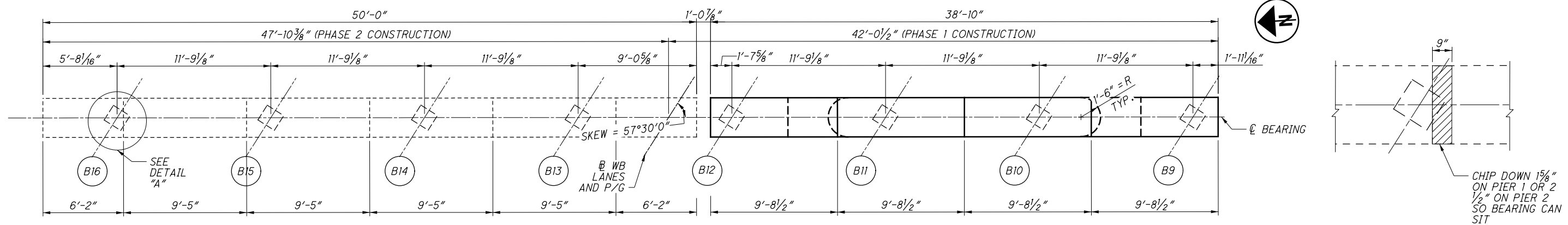
REVIEWED
JEP
DATE
10/2013

DRAWN
CSW
CHECKED
PPA
DESIGNED
NMC

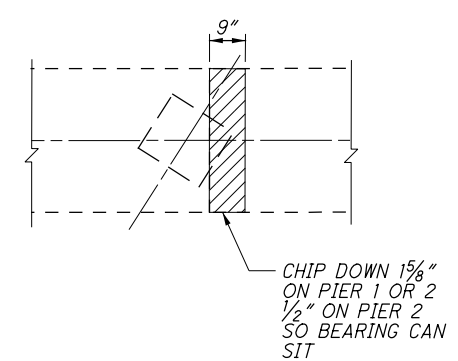
STRUCTURE FILE NUMBER
2513269

REVISED

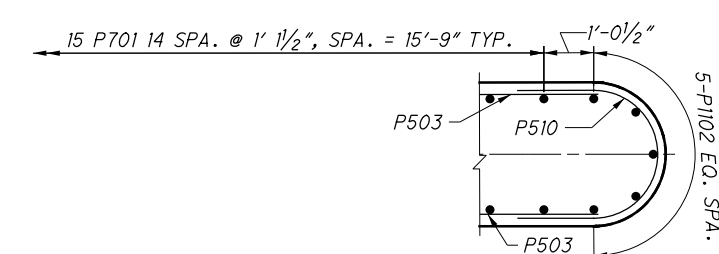
F:\FRA\92610\structures\FRA270_5412R\sheets\270_5412RPI001.dgn 11/8/2013 6:03:12 PM pantonelli



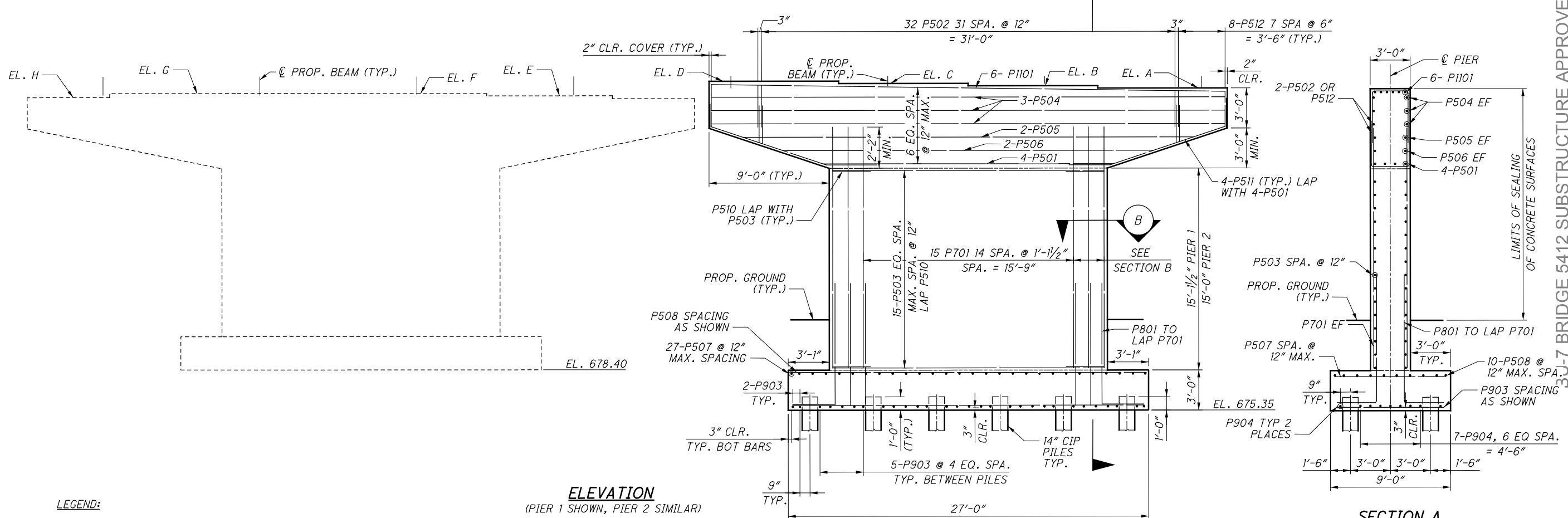
PLAN
(PIER 1 SHOWN, PIER 2 SIMILAR)



DETAIL A



SECTION B



ELEVATION
(PIER 1 SHOWN, PIER 2 SIMILAR)

SECTION A

LEGEND:

(BX) = BEAM NUMBER

ELEVATION	A	B	C	D	E	F	G	H
PIER 1	699.48	699.66	699.83	700.01	699.64	699.67	699.60	699.47
PIER 2	699.35	699.52	699.70	699.87	699.43	699.64	699.56	699.35

MIN. LAP LENGTH	
#5	2'-5"
#8	6'-4"

NOTES:

1. PARTIAL REMOVAL OF PIER CAP AT PIERS 1 & 2 FOR BEAM 16, SEE DETAIL A.

3U-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

PIER DETAILS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

25 / 26

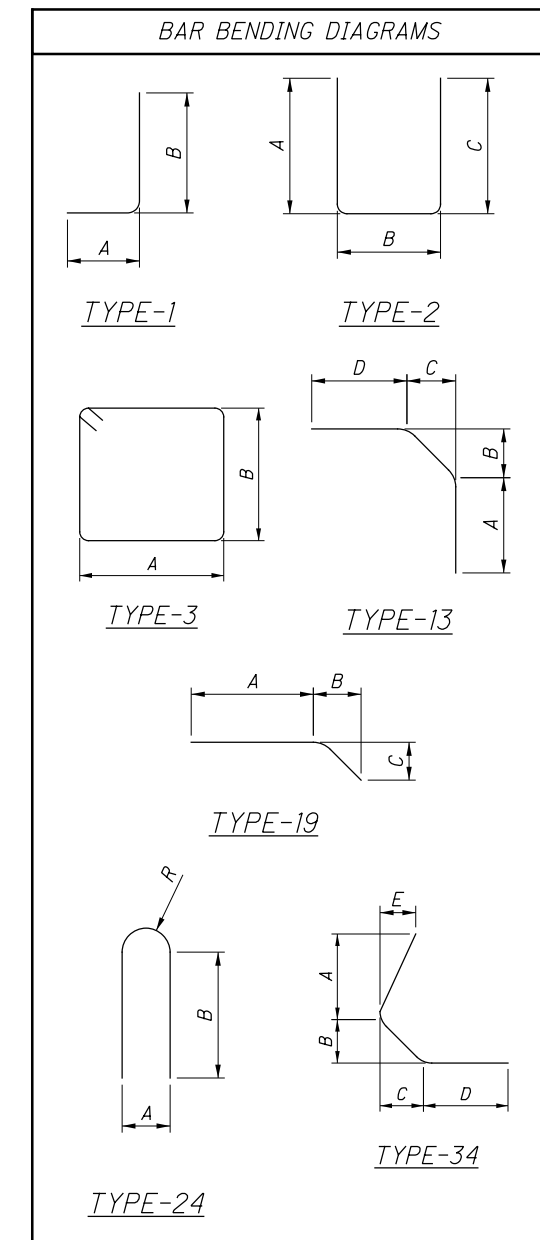


DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 749-0210 FAX (614) 749-0323

DATE
10/2013
REVIEWED
JEP
DRAWN
RT
CHECKED
JAD
DESIGNED
NCM
STRUCTURE FILE NUMBER
2513269

ABUTMENTS										
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
A501	94	16'-8"	1634	3	5'-6"	2'-6"				
A502	60	9'-11"	621	2	3'-10"	2'-6"	3'-10"			
A503	12	30'-0"	375	ST.						
A504	6	22'-1"	138	19	19'-7"	1'-4"	2'-2"			
A505	SER OF 4	TO 20'-9"	204	ST.						1'-1"
A506	2	17'-6"	37	ST.						
A507	8	29'-8"	248	19	27'-4"	1'-4"	2'-0"			
A508	SER OF 4	TO 24'-8"	84	34	2'-2"	1'-3"	8"	TO 15'-9"	1'-5"	3'-0"
A509	1	18'-7"	19	34	2'-2"	1'-3"	8"	14'-9"	1'-5"	
A510	1	9'-7"	10	34	2'-2"	1'-3"	8"	5'-9"	1'-5"	
A511	SER OF 4	TO 18'-8"	63	ST.						2'-4"
A512	1	18'-8"	19	ST.						
A513	1	11'-8"	12	ST.						
A514	39	11'-5"	464	2	4'-6"	2'-8"				
A515	30	10'-9"	336	2	4'-2"	2'-8"				
A516	152	4'-0"	634	ST.						
A517	24	30'-0"	751	ST.						
** A518	12	24'-1"	301	ST.						
A519	8	12'-9"	106	ST.						
A520	SER OF 3	TO 7'-8"	30	ST.						2'-10"
A521	SER OF 6	TO 18'-2"	94	3	1'-0"	TO 7'-9"				7 1/2"
A522	2	18'-11"	39	2	9'-1"	1'-0"	9'-1"			
* A523	12	15'-7"	195	ST.						
A524	6	24'-5"	153	ST.						
A525	14	23'-8"	346	2	11'-4"	1'-3"	11'-4"			
A526	6	17'-8"	111	2	8'-4"	1'-3"	8'-4"			
A527	8	18'-11"	158	ST.						
A528	SER OF 3	TO 11'-3"	42	ST.						4'-6"
A529	SER OF 7	TO 16'-6"	99	3	1'-0"	TO 6'-11"				6"
A530	2	18'-1"	38	2	8'-4"	1'-0"	8'-8"			
A531	8	26'-4"	220	ST.						
A532	12	11'-10"	148	2	5'-5"	1'-3"	5'-5"			
A533	30	14'-10"	464	2	6'-11"	1'-3"	6'-11"			
A534	60	14'-1"	881	2	5'-11"	2'-6"	5'-11"			
A535	SER OF 3	TO 17'-5"	51	2	TO 8'-0"	1'-0"	TO 8'-4"			6"
A536	6	21'-6"	135	ST.						
A801	8	30'-0"	641	ST.						
A802	4	23'-10"	255	19	18'-10"	2'-8"	4'-3"			
A803	SER OF 4	TO 20'-9"	204	ST.						1'-1"
A804	SER OF 4	TO 24'-8"	215	34	4'-4"	1'-3"	8"	TO 18'-3"	2'-9"	3'-0"
A805	SER OF 4	TO 18'-8"	162	ST.						2'-4"
A806	16	30'-0"	1282	ST.						
** A807	8	26'-7"	568	ST.						
* A808	8	18'-1"	386	ST.						
SUBTOTAL =			12975							

PIER										
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	R	
P501	8	21'-0"	176	ST.						
P502	128	9'-7"	1280	2	3'-7"	2'-8"	3'-7"			
P503	60	18'-0"	1127	ST.						
P504	12	38'-6"	482	ST.						
P505	4	33'-0"	138	ST.						
P506	4	27'-0"	113	ST.						
P507	54	8'-6"	479	ST.						
P508	20	26'-6"	553	ST.						
P510	60	8'-8"	543	24	2'-7"	2'-5"				1'-2 5/8"
P511	16	16'-3"	272	13	3'-4"	8'-8"	2'-11"	1'-7"		
P512	64	7'-11"	529	2	2'-9"	2'-8"	2'-9"			
P701	80	17'-2"	2808	ST.						
P801	80	10'-7"	2261	1	1'-7"	9'-2"				
P903	58	8'-6"	1677	ST.						
P904	18	26'-6"	1622	ST.						
P1101	12	41'-10"	2668	2	2'-0"	38'-6"	2'-0"			
TOTAL =			16728							



LEGEND:

* - MECHANICAL CONNECTOR

** - CONNECTS TO MECH. CONNECTOR

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED AS THE FIRST DIGIT FOLLOWING THE LETTER ON THE PLANS IN THE BAR MARK COLUMN. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL IS TO BE EPOXY COATED. "ST" INDICATES STRAIGHT BARS. "SER. OF" INDICATES A SERIES BAR. "R" INDICATES A RADIUS. "INC" INDICATES A LENGTH INCREMENT FOR A SERIES BAR. THE LETTER(S) FOLLOWING THE FIRST DIGIT IS SPECIFIED AS FOLLOWS:

S: LOCATION OF THE BARS IN THE SUPERSTRUCTURE (DECK OR DIAPHRAGM)
 R: LOCATION OF THE BARS IN THE PARAPET
 A: LOCATION OF THE BARS IN THE ABUTMENTS
 AS: LOCATION OF THE BARS IN THE APPROACH SLAB
 P: LOCATION OF THE BARS IN THE PIERS

2. FIELD CUT A507 AND A531 AS NEEDED.

3. P509 NOT USED.

BU-7 BRIDGE 5412 SUBSTRUCTURE APPROVED FOR CONSTRUCTION

REINFORCING SCHEDULE - 1

BRIDGE NO. FRA-270-5412 R
 OVER SCIOTO BIG RUN

FRA - 270-52.72
 PID No. 92610

