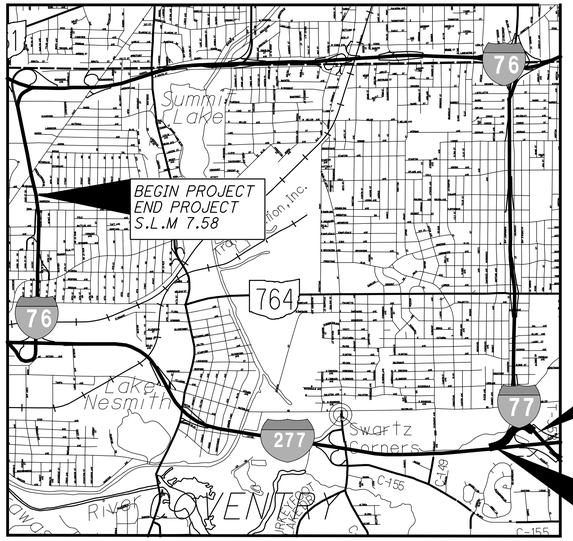
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

SUM-76/77-7.58/9.59

CITY OF AKRON

SUMMIT COUNTY



LOCATION MAP

LATITUDE: 41°01'32.00" LONGITUDE: 81°30'04.30"

SCALE IN MILES

0 1/2 1 1-1/2 2

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

	IR-76	RAMP B-2 (IR-77/IR-277 INTRCHG)
CURRENT ADT (2015)	59,000	12,800
DESIGN YEAR ADT (2035)	60,000	15,500
DESIGN HOURLY VOLUME (2035)	5,400	1,485
DIRECTIONAL DISTRIBUTION	57%	1.0%
TRUCKS (24 HOUR B&C)	14%	9%
DESIGN SPEED	65 M.P.H.	VARIES, MIN 35 M.P.H.
LEGAL SPEED	55 M.P.H.	-
DESIGN FUNCTIONAL CLASSIFICATION:	FREEWAY	FREEWAY
NHS PROJECT	YES	YES

DESIGN EXCEPTIONS — NONE REQUIRED

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REPLACEMENT OF THE BRIDGE DECK FOR SUM-76-0758. IT ALSO CONSISTS OF THE REPLACEMENT OF THE BRIDGE DECK AND WIDENING OF SUM 77-0959. RAMPS B2 AND B AT THE IR 277- IR 77 INTERCHANGE ARE BEING WIDENED AND RESURFACED AS PART OF THE PROJECT.

EARTH DISTURBED AREA

PROJECT EARTH DISTURBED AREA:	2.41 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.20 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.90 ACRES

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.

AS BUILT SHEETS

2

BU5 - APPROVED FOR CONSTRUCTION
SUM-77-0959 SUBSTRUCTURE
JULY 27, 2015

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:
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

ENGINEERS SEAL:

STATE OF OHIO
JOSEPH L. MELLMAN
E-71911
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Joe Mellman
DATE: 07/27/2015

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
A-1-69	07/19/02	800	10/17/14	
AS-1-15	07/17/15	821	4/20/12	
EXJ-4-87	07/19/02	832	01/17/14	
GSD-1-96	07/19/02			
RB-1-55	07/19/13			
SBR-1-13	01/17/14			

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED IN BUILDABLE UNIT 2.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

BU5 - AS-BUILT DRAWINGS - 09/12/2016

FEDERAL PROJECT NO. E140 (478)
PID NO. 98061
CONSTRUCTION PROJECT NO. 15-3000
RAILROAD INVOLVEMENT NONE
SUM 76/77-7.58/9.59
1/14

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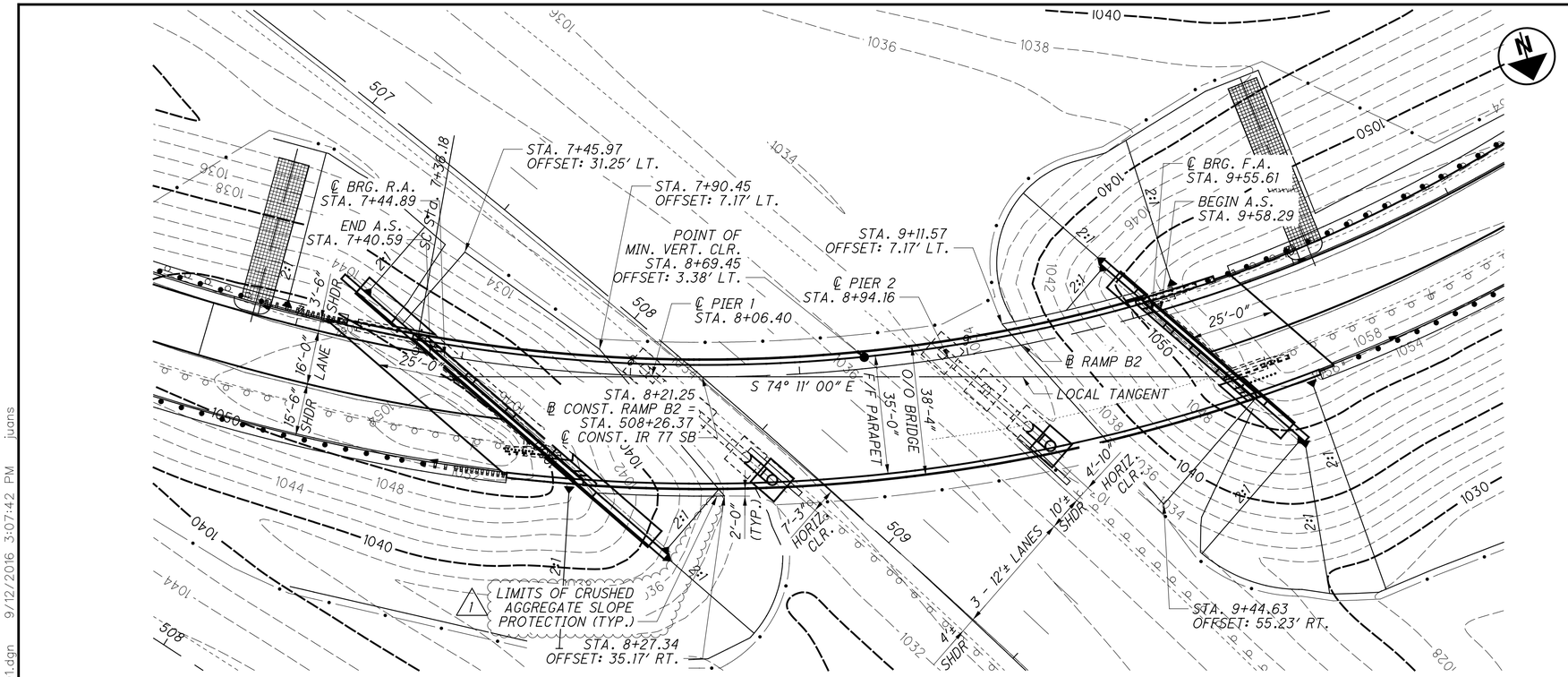
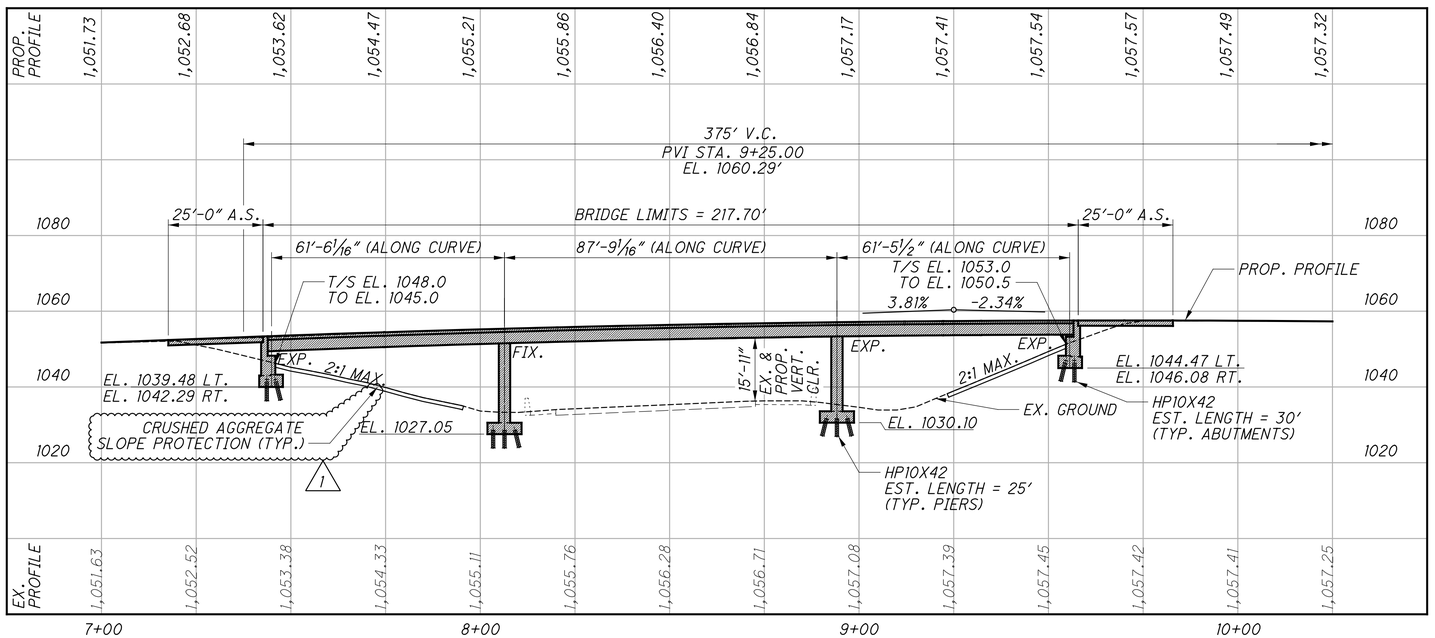


PLAN

CURVE C8
P.I. STA. 10+65.43
Δ = 69°10'46.21" (LT)
Dc = 12°00'00.44"
R = 477.46
T = 329.25'
L = 576.49'
E = 102.52'
PC = 7+36.18
PT = 13+12.67

	DATE	DESCRIPTION
1	9/12/16	AS BUILT



PROFILE

BENCHMARK DATA

BM 5000 STA. 16+94.71, ELEV. 1037.38, OFFSET 92.94', LT.
BM 2000 STA. 4+72.10, ELEV. 1037.38, OFFSET 31.55', RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLANS IN BUILDABLE UNIT 4.

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2015 ADT = 12,800 2015 ADTT = 1,152
2035 ADT = 16,500 2035 ADTT = 1,485
DIRECTIONAL DISTRIBUTION = 1.0

LEGEND

- BORING LOCATION
- 15'-11" ACTUAL MINIMUM VERTICAL CLEARANCE

PROPOSED WORK

1. REMOVE EXISTING DECK.
2. WIDEN EXISTING ABUTMENT AND PIERS.
3. PATCH SUBSTRUCTURE.
4. CONSTRUCT NEW STEEL BEAM ON NEW ROCKER/ BOLSTER BEARINGS.
5. REPLACE CORRODED CROSSFRAMES AND FATIGUE RETROFIT EXISTING MOMENT PLATES.
6. CONSTRUCT COMPOSITE DECK AND APPROACH SLABS.
7. SEAL CONCRETE SURFACES WITH EPOXY-URETHANE SEALER.
8. INSTALL A POLYMER MODIFED EXPANSION JOINT BETWEEN THE APPROACH SLABS AND THE APPROACH PAVEMENT.
9. REGRADE THE SLOPES AND PLACE NEW SLOPE PROTECTION.
10. INSTALL STRUCTURE IDENTIFICATON SIGN.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 61'-6"±, 88'-0"±, 61'-6"± C/C BEARINGS
ROADWAY: 28'-0"± F/F PARAPET
LOADING: CF 2000 ADEQUATE FOR AASHTO ALTERNATE LOADING
SKEW: 49° 10' 19" R.F. TO LOCAL TANGENT
APPROACH SLABS: 25' LONG (AS-1-54)
WEARING SURFACE: 1" CONCRETE OVERLAY
ALIGNMENT: 12° 00' 00.44" CURVE LEFT
SUPERELEVATION: 0.0833
STRUCTURAL FILE NUMBER: 7702671
DATE BUILT: 1966
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH COMPOSITE REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 61'-6", 88'-0", 61'-6" C/C BEARINGS
ROADWAY: 35'-0" TOE/TOE PARAPET
LOADING: HS-25 CASE II AND ALTERNATE MILITARY
EX. SUBSTRUCTURE: CF 2000 ADEQUATE FOR AASHTO ALTERNATE LOADING AND HS-25-44
FUTURE WEARING SURFACE: 60 PSF
SKEW: 49° 10' 19" TO LOCAL TANGENT
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: 12° 00' 00.44" CURVE LEFT
SUPERELEVATION: 0.0833
COORDINATES: LATITUDE 41° 01' 38"
LONGITUDE 81° 30' 14"

BU5 - AS-BUILT DRAWINGS - 09/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DRAWN	REVIEWED	DATE
JGM	SSK	7/2015
DESIGNED	CHECKED	REVISED
JGM	NCK	—

STRUCTURE FILE NUMBER 7702671

SUMMIT COUNTY
STA. 7+40.59
STA. 9+58.29

SITE PLAN
BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

SUM 76/77-7.58/9.59
PID No. 98061

1 / 13

2 / 14

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

A-1-69	REVISED	07-19-02
AS-1-81	REVISED	01-18-13
EXJ-4-87	REVISED	07-19-02
GSD-1-96	REVISED	07-19-02
RB-1-55	REVISED	07-19-13
SBR-1-13	REVISED	01-17-14

DESIGN SPECIFICATIONS:

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

DESIGN LOADING:

HS-25-44 CASE II AND ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 PSF

EX. SUBSTRUCTURE: CF 2000 ADEQUATE FOR AASHTO ALTERNATE LOADING AND HS-25-44

DESIGN DATA:

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 KSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

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

EXISTING STRUCTURE REMOVAL NOTES:

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 REBUILT STRUCTURE.

CONCRETE DECK REMOVAL PROJECTS:

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING, PARAPETS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (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 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 BOTTOM LAYER 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 POINTED OR BLUNTED CHISEL TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL GIRDER), 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 (EG., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DEMAGED 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.

REHABILITATION OF EXISTING STRUCTURES:

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.

REINFORCING STEEL REPLACEMENT:

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

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

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

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT:

THE FINISH COAT OF PAINT ON THE STRUCTURAL STEEL IS TO BE FEDERAL COLOR - BUFF (#13522).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN:

THE COLOR OF SEALER SHALL CONFORM TO FEDERAL COLOR NUMBER 17778 (LIGHT NEUTRAL).

ITEM 513 - CROSSFRAMES

REMOVE AND REPLACE CROSSFRAMES AS DIRECTED BY THE PROJECT ENGINEER. THE DBT WILL INCLUDE IN THE BID AN ESTIMATED QUANTITY OF 10 CROSSFRAMES (DEFINED AS THE ENTIRE CROSSFRAME INCLUDING ALL THREE ANGLES) TO BE REMOVED AND REPLACED.

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 LOAD OF 2.6 KIPS FOR A TOTAL MACHINE LOAD OF 21 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".

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHEIVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 40 KIPS PER PILE FOR THE ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 72 KIPS PER PILE FOR THE PIER PILES.

PILE SPLICES:

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN: THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN EXISTING PIER BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER.

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

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

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN CONTINUED:

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

INSPECTION OF EXISTING STRUCTURAL STEEL

INSPECTION OF EXISTING STRUCTURAL STEEL: THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE. WORK ALSO INCLUDES REMOVING AND REPLACING CORRODED CROSSFRAMES AS DIRECTED BY THE PROJECT ENGINEER. AN ESTIMATED QUANTITY OF TEN (10) CROSSFRAMES IS PROVIDED.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF THE SUM-077-0959 BRIDGE WAS 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 IT TO:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
BOB HASENYAGER, ACTING ADMIN.
(330) 375-2480
FAX: (330) 375-2402

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: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORMS IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON, AKRON, OHIO 44306.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

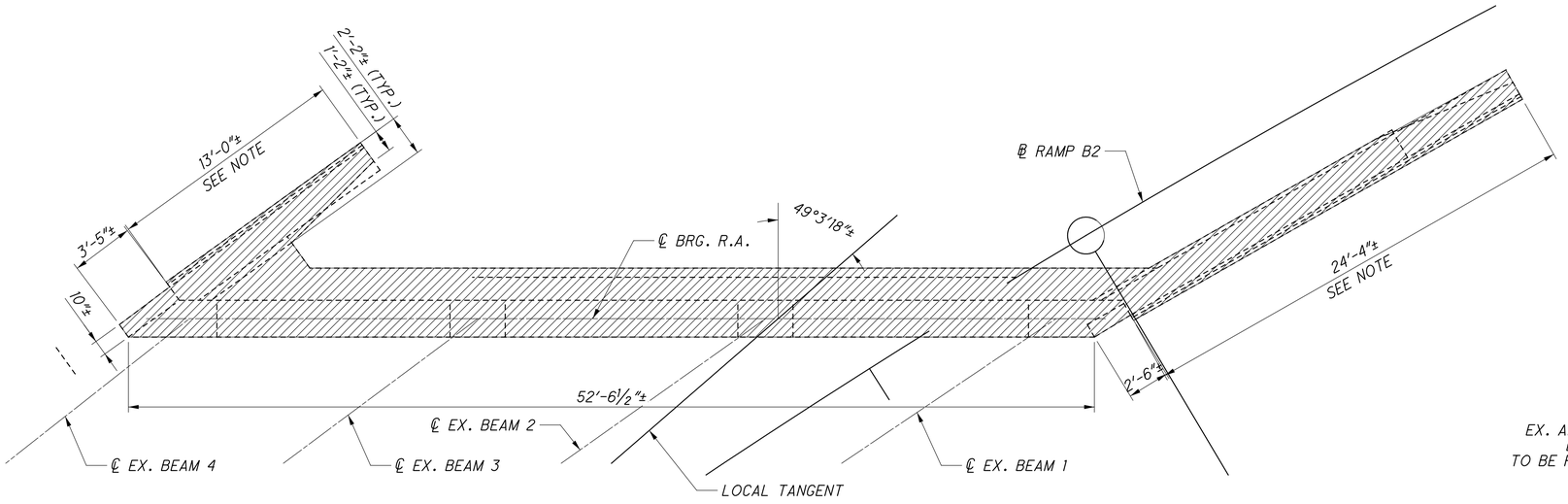
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
FTB	FTB	NCK	7/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM	—	7702671	

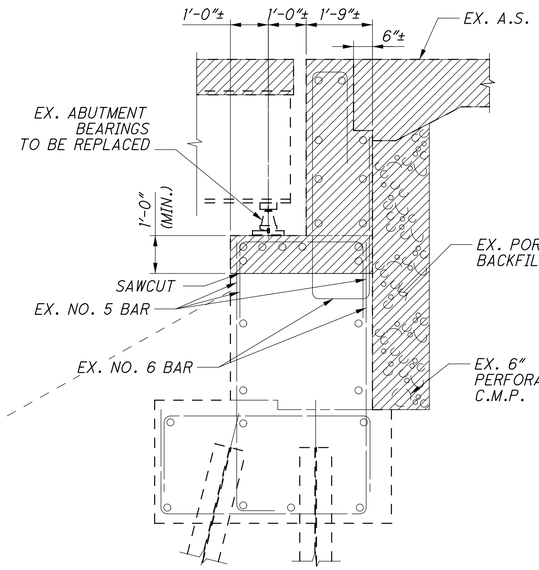
GENERAL NOTES

BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

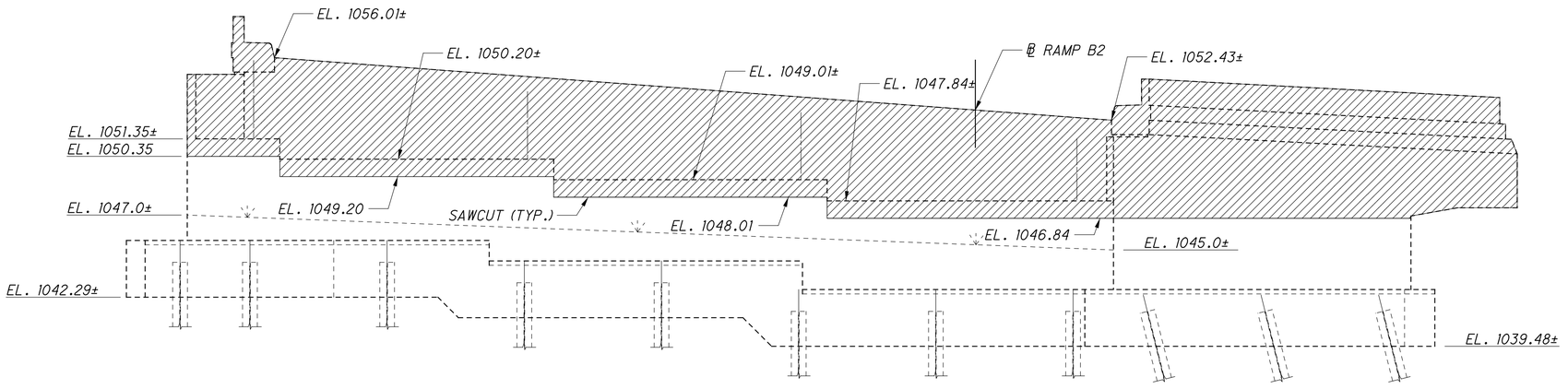
SUM 76/77-7.58/9.59 PID No. 98061



REAR ABUTMENT - PLAN



SECTION A-A



REAR ABUTMENT - ELEVATION

LEGEND:

- ITEM 202 PORTIONS OF STRUCTURE REMOVED

NOTE:

CONTRACTOR TO DETERMINE ACTUAL REMOVAL LIMITS IN THE FIELD AS APPROVED BY THE ENGINEER.

BU5 - AS-BUILT DRAWINGS - 08/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	7/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	—	7702671	

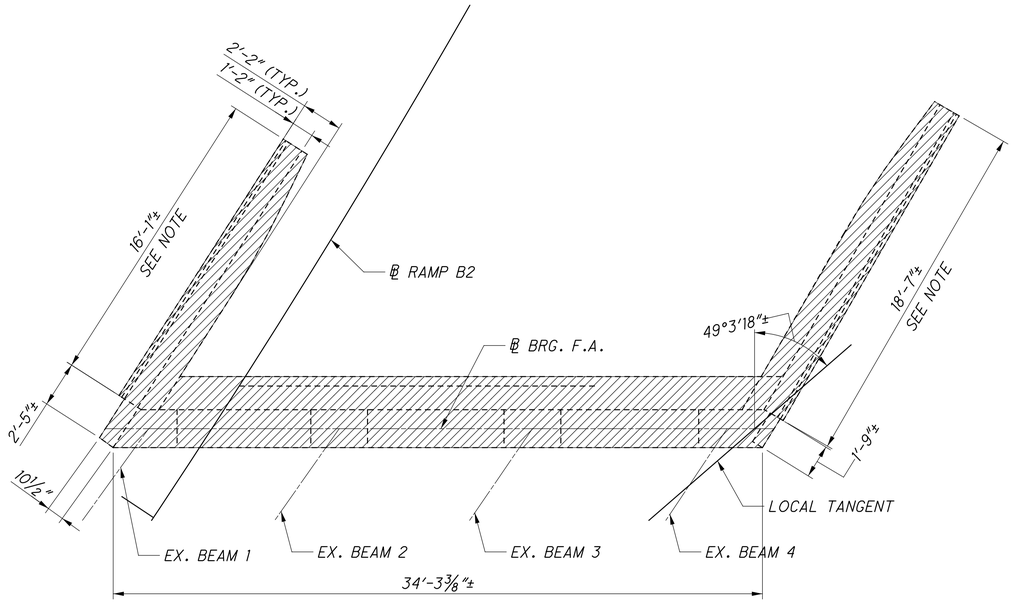
REAR ABUTMENT REMOVAL DETAILS

BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

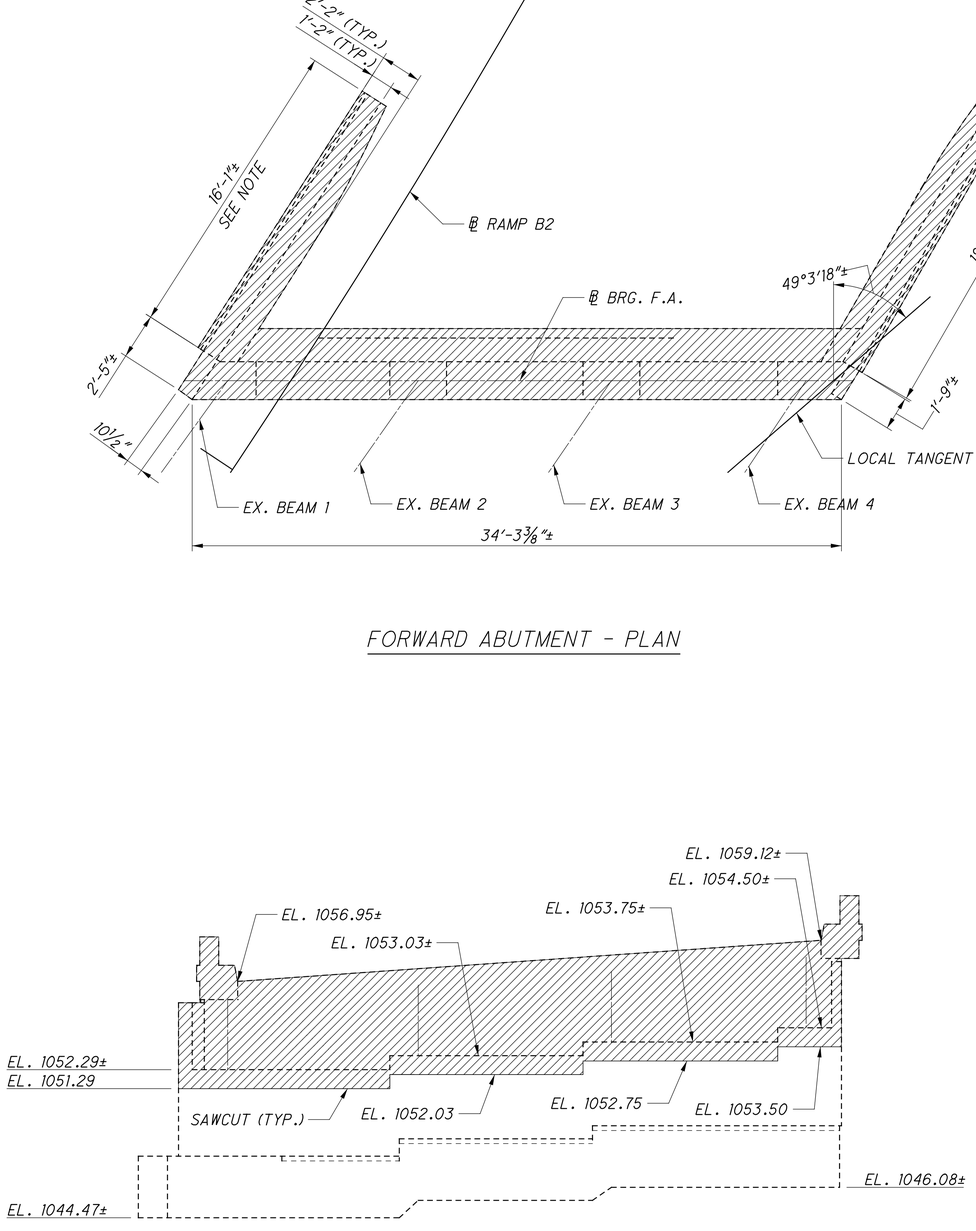
SUM 76/77-7.58/9.59
PID No. 98061

3 / 13

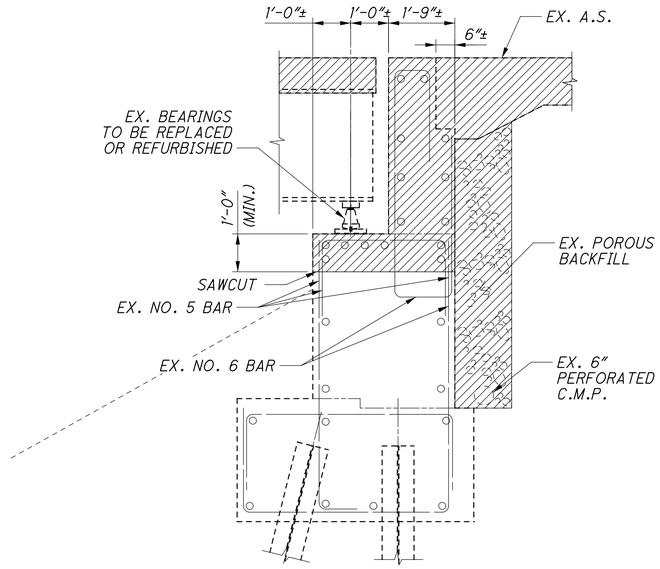
4 / 14



FORWARD ABUTMENT - PLAN



FORWARD ABUTMENT - ELEVATION



SECTION A-A

LEGEND:

- ITEM 202 PORTIONS OF STRUCTURE REMOVED

NOTE:

CONTRACTOR TO DETERMINE ACTUAL REMOVAL LIMITS IN THE FIELD AS APPROVED BY THE ENGINEER.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

FORWARD ABUTMENT REMOVAL DETAILS

BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

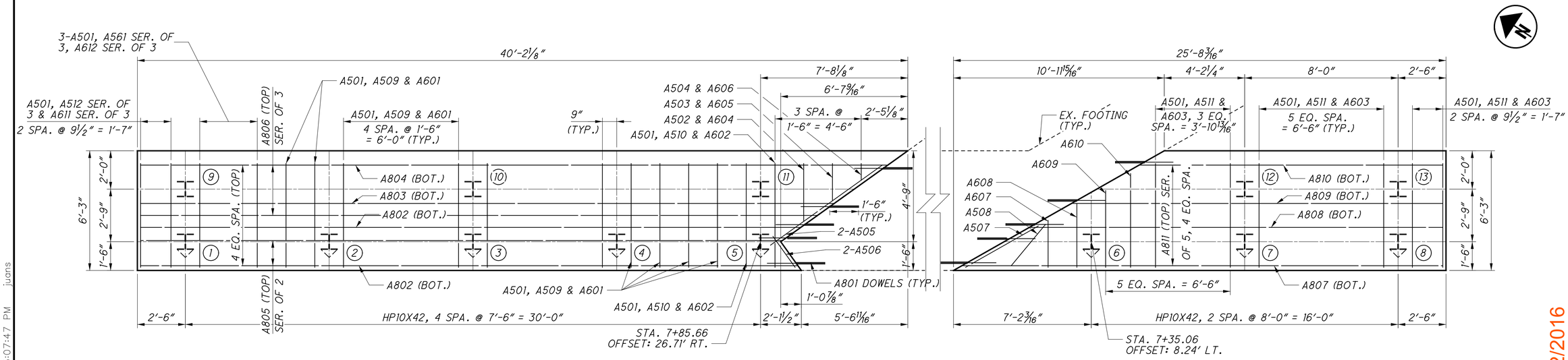
SUM 76/77-7.58/9.59
PID No. 98061

4 / 13

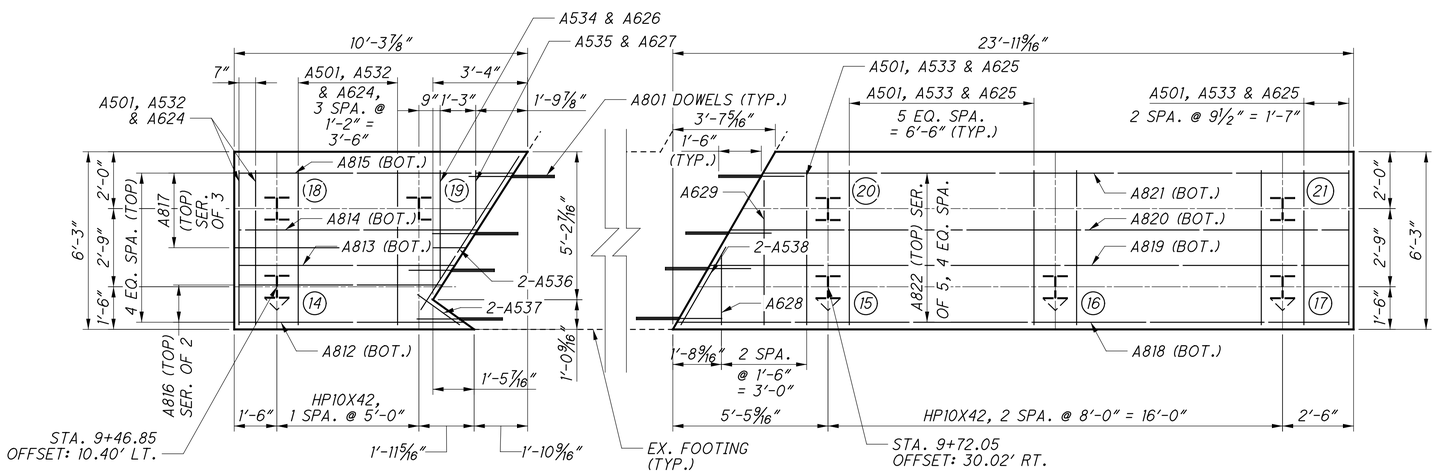
5
14

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	7/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	—	7702671	



REAR ABUTMENT - PLAN



FORWARD ABUTMENT - PLAN

LEGEND:

(X) - PILE MARK

- PROPOSED PILES, HP10X42

- PROPOSED BATTERED PILES (1:4), HP10X42

BU5 - AS-BUILT DRAWINGS - 09/12/2016

FOOTING DETAILS

BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

SUM 76/77-7.58/9.59
PID No. 98061

5 / 13

6 / 14

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
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DESIGNED	DRAWN	REVIEWED	DATE
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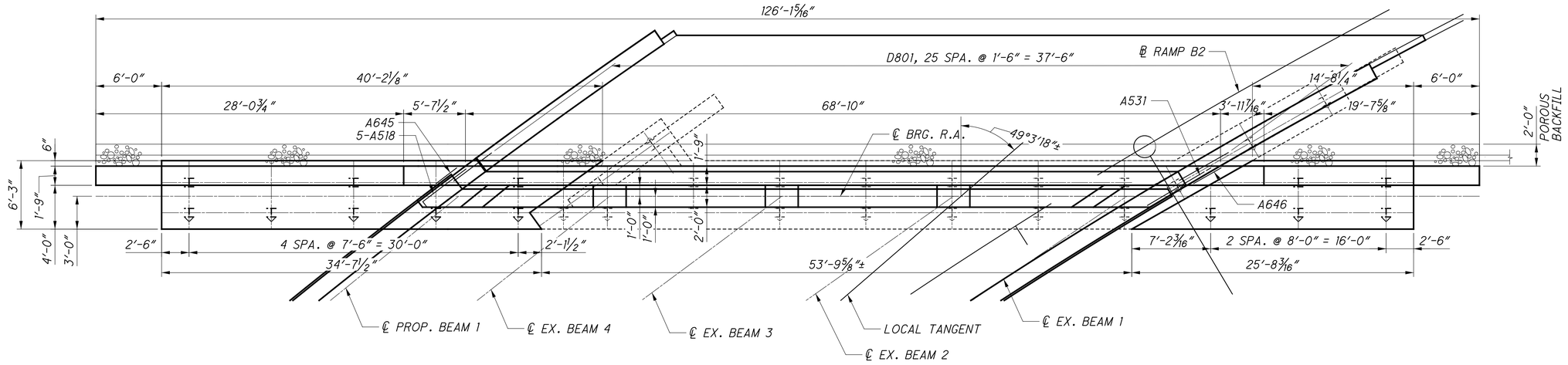
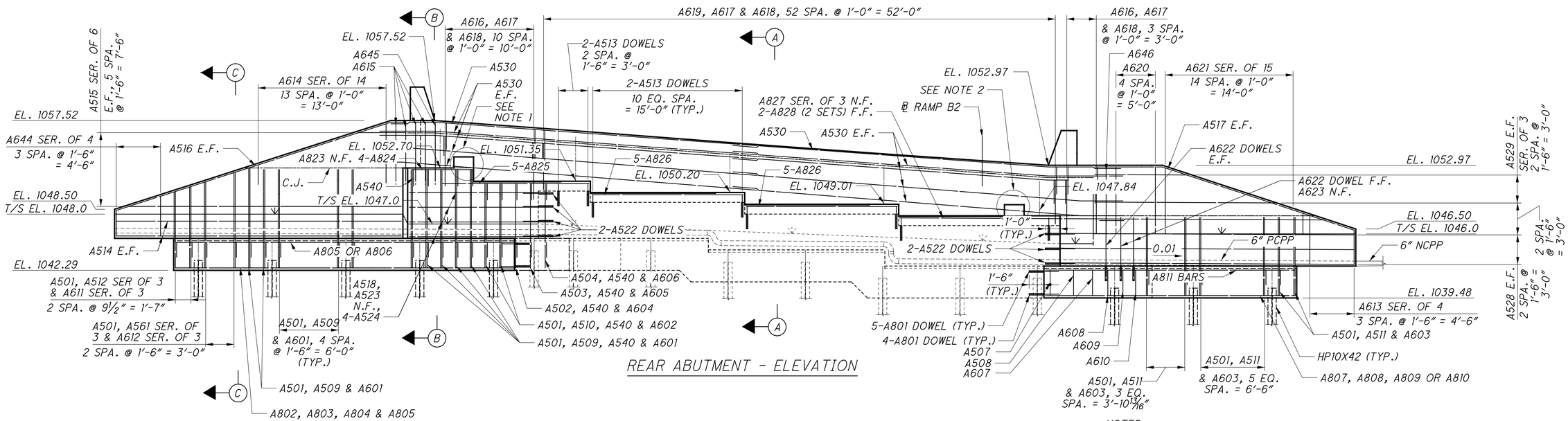
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	—	7702671	



REAR ABUTMENT - PLAN



REAR ABUTMENT - ELEVATION

NOTES:

1. SEE DETAIL B ON SHEET 7/13
2. SEE DETAIL A ON SHEET 7/13
3. LAP NO. 5 BAR: 2′-5″ MIN.
4. SEE SHEET 8/13 FOR SECTION A-A, B-B & C-C.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

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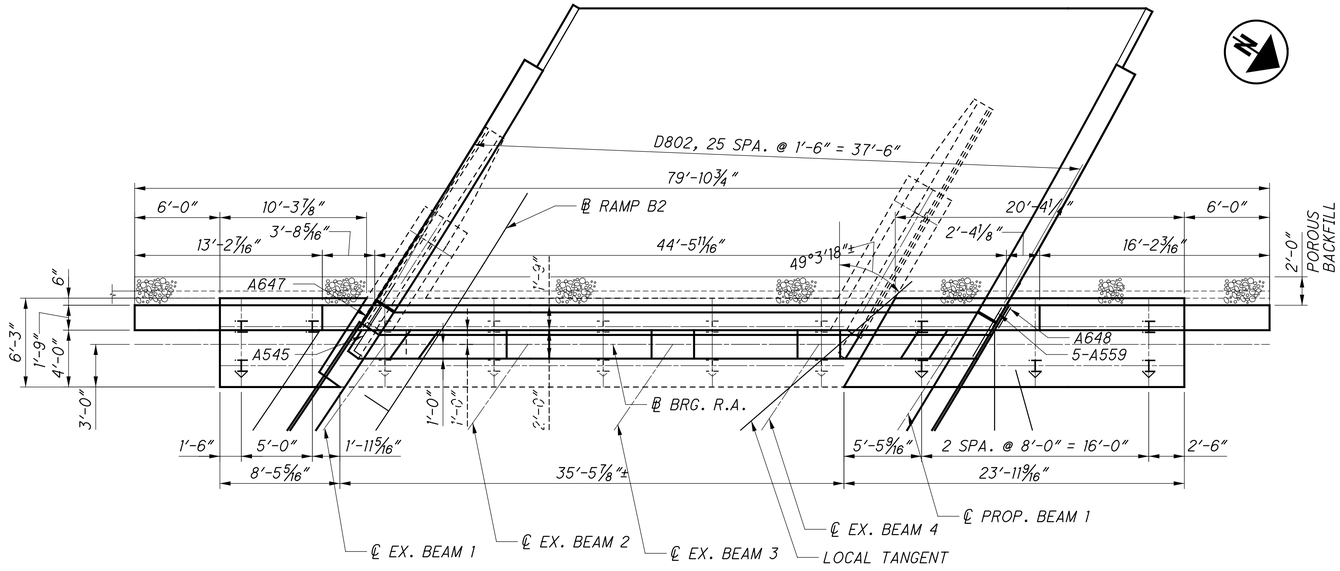
REAR ABUTMENT DETAILS

BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

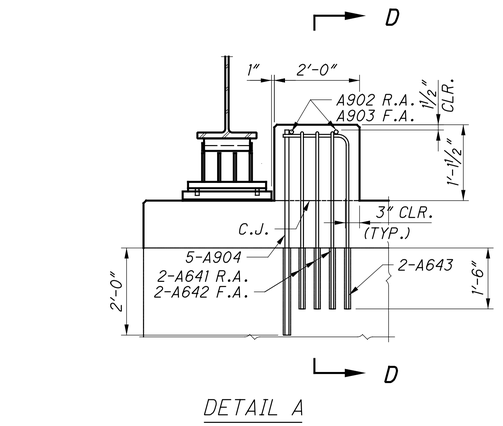
SUM 76/77-7.58/9.59
PID No. 98061

6 / 13

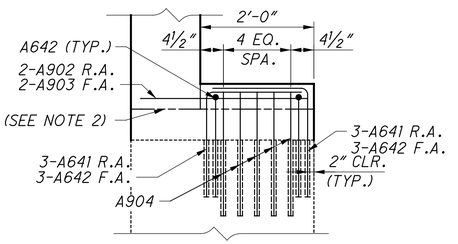
7 / 14



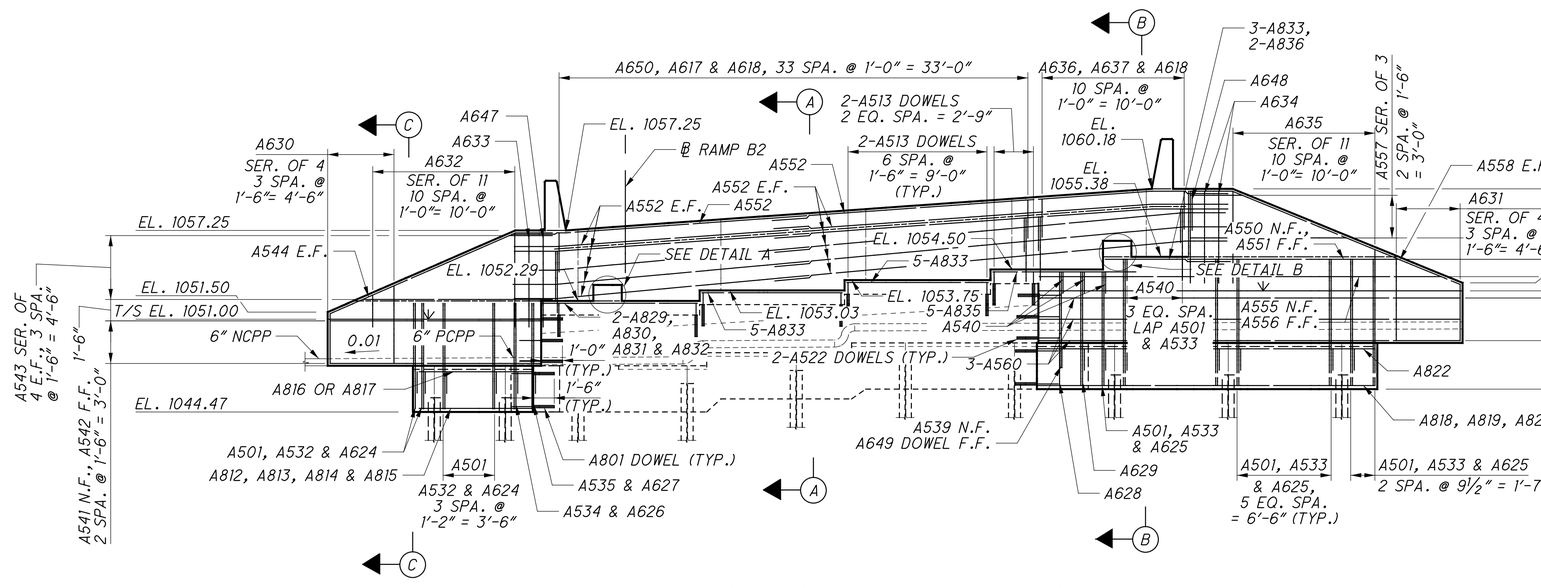
FORWARD ABUTMENT - PLAN



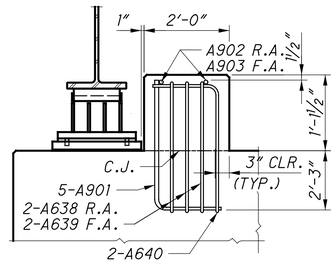
DETAIL A



SECTION D-D



FORWARD ABUTMENT - ELEVATION



DETAIL B

NOTES:

1. THE A638 BARS SHALL BE PLACED PARALLEL TO THE BEAM. THE A639 & A902 BARS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF BEARING.
2. THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.
3. SEE SHEET 8/13 FOR SECTION A-A, B-B & C-C.
4. LAP NO. 5 BAR: 2'-5" MIN.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	8/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	—	7702671	

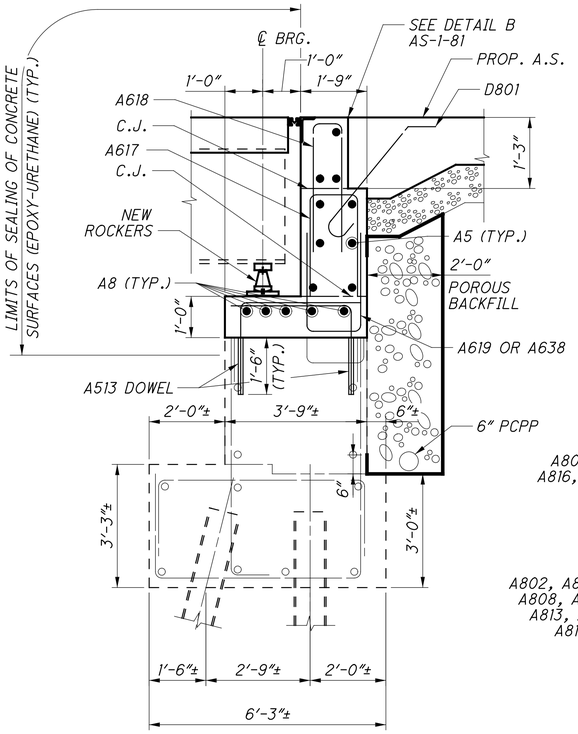
FORWARD ABUTMENT DETAILS

BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

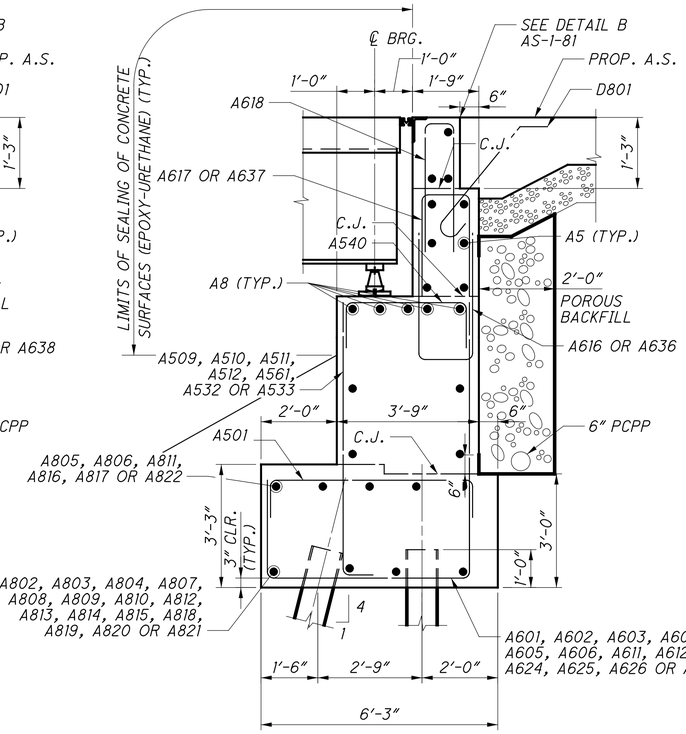
SUM 76/77-7.58/9.59
PID No. 98061

7 / 13

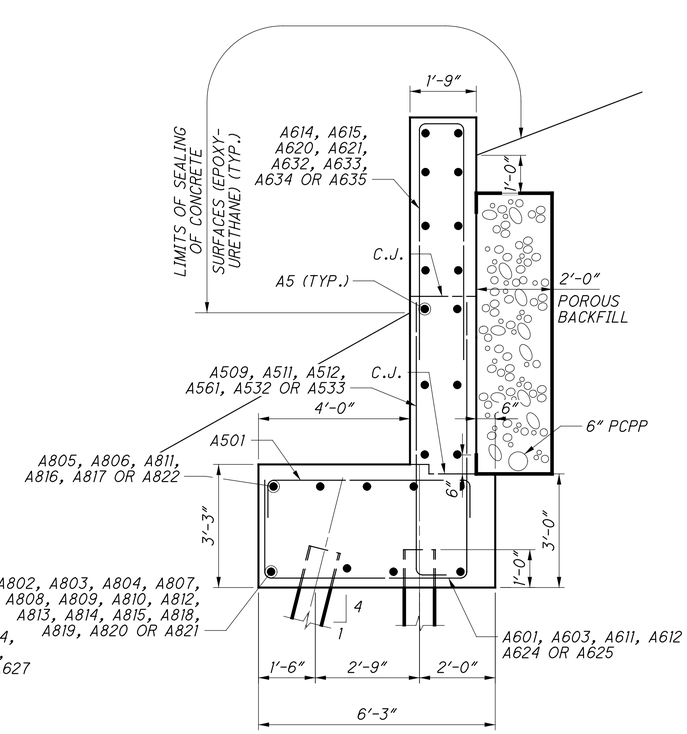
8 / 14



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

1. FOR ADDITIONAL DETAILS, SEE STD. DWG. A-1-69.
2. SEE SHEETS 6/13 & 7/13 FOR LOCATION OF SECTIONS A-A, B-B & C-C.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
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ABUTMENT DETAILS
BRIDGE NO. SUM-077-0959
RAMP B2 OVER IR-77 S.B.

SUM 76/77-7.58/9.59
PID No. 98061

8 / 13

9
14

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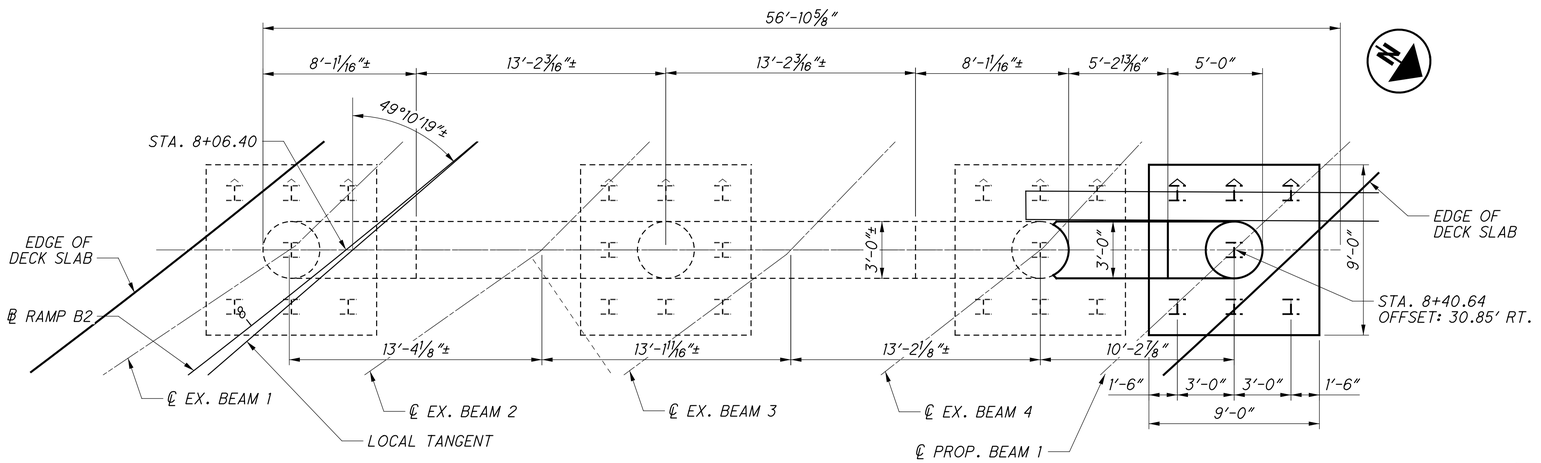
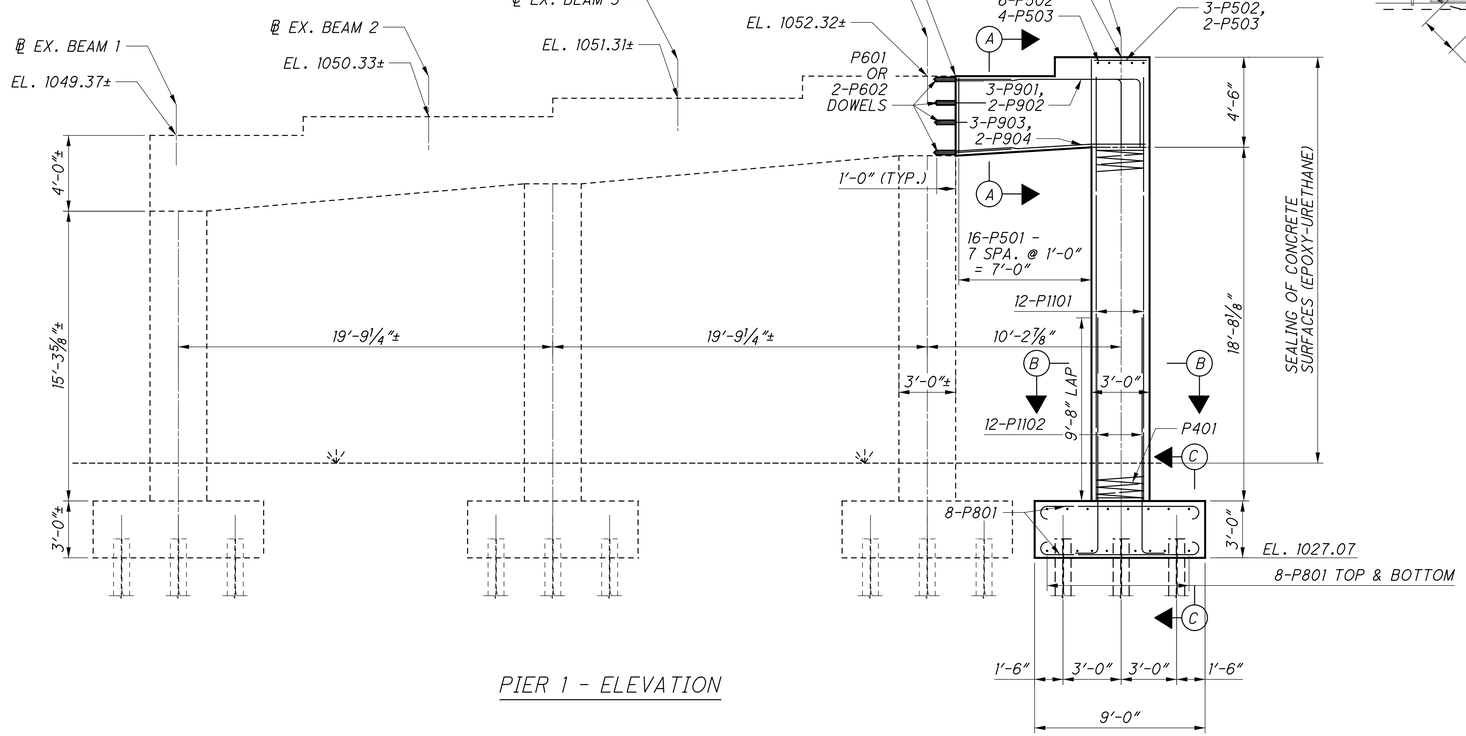
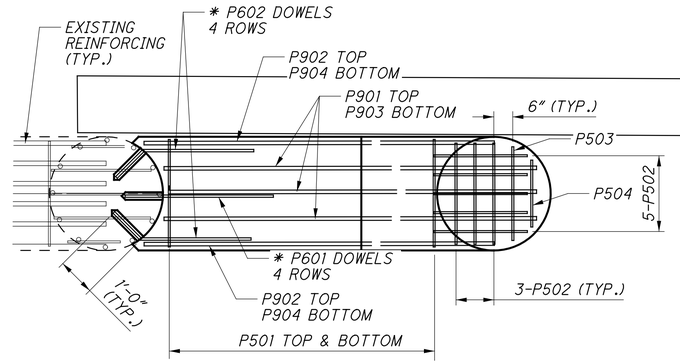


PIER 1 - PLAN



PIER 1 - ELEVATION

* ADJUST LOCATIONS OF DOWELS AS NECESSARY TO PROVIDE REQUIRED CLEARANCE AND AVOID EXISTING REINFORCING



REBAR - CAP

MINIMUM LAP LENGTHS:

#5 BAR = 2′-5″
#6 BAR = 2′-11″
#8 BAR = 4′-11″
#9 BAR = 6′-2″
#11 BAR = 9′-8″

NOTES:

1.) ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.

2.) SEE FOOTING PLAN ON SHEET 11 /13 .

3.) ROUGHEN THE SURFACE OF THE NEW INTERFACE BETWEEN THE EXTENDED PIER CAP AND THE EXISTING PIER CAP.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	NCK	7/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM	—	7702671	

PIER WIDENING DETAILS

BRIDGE NO. SUM-77-0959
RAMP B2 OVER IR-77 S.B.

SUM 76/77-7.58/9.59
PID No. 98061

9 / 13

10 / 14

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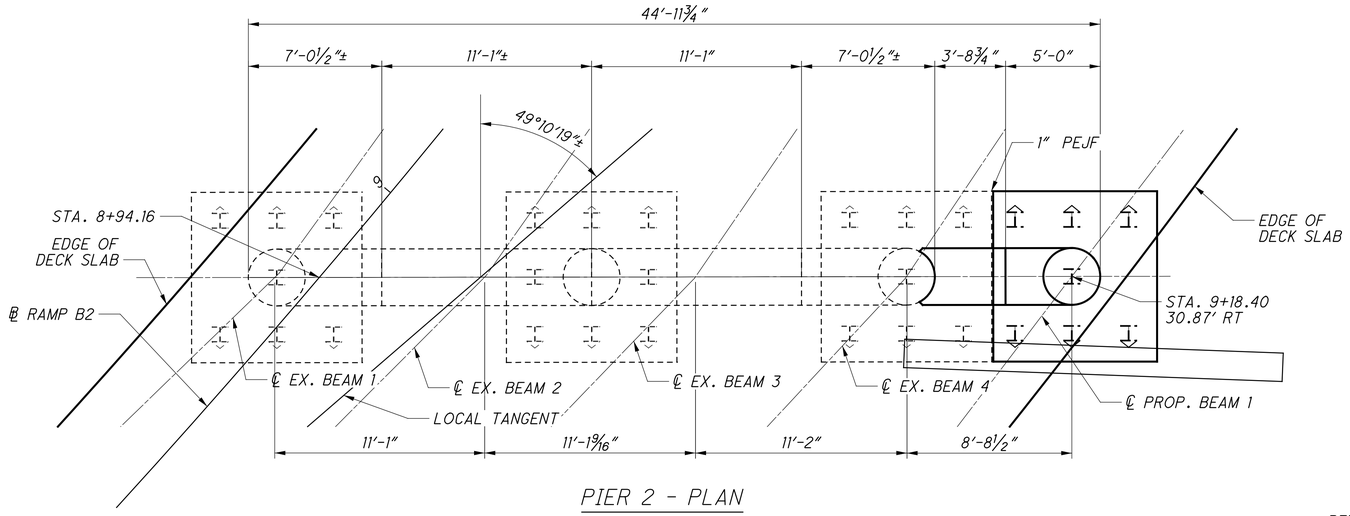
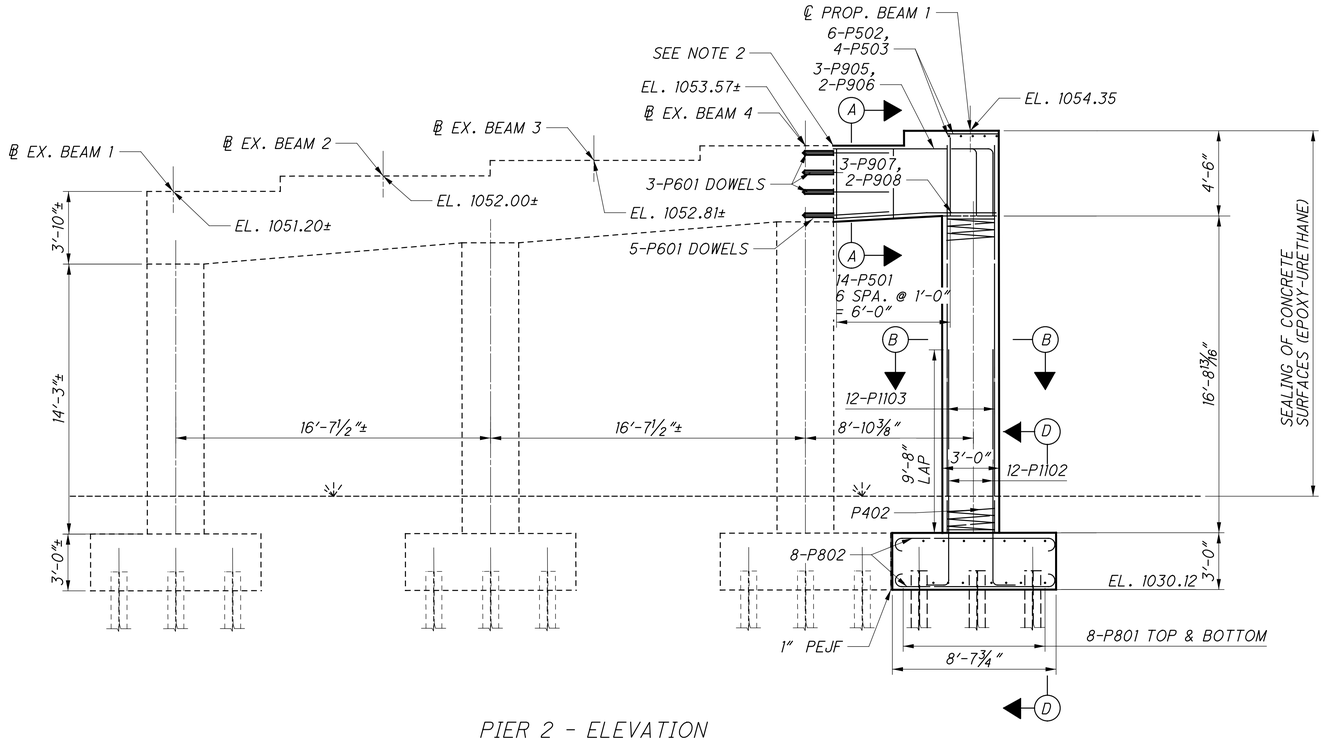
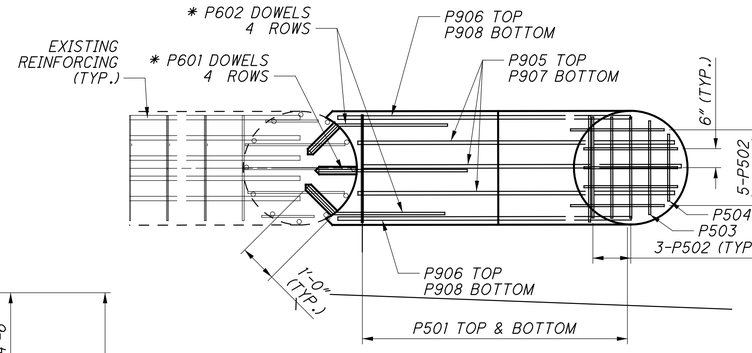


PIER 2 - PLAN



PIER 2 - ELEVATION



REBAR - CAP

MINIMUM LAP LENGTHS:

#5 BAR = 2'-5"
#6 BAR = 2'-11"
#8 BAR = 4'-11"
#9 BAR = 6'-2"
#11 BAR = 9'-8"

NOTES:

1.) SEE FOOTING PLAN ON SHEET 11 / 13 .

2.) ROUGHEN THE SURFACE OF THE NEW INTERFACE BETWEEN THE EXTENDED PIER CAP AND THE EXISTING PIER CAP.

BU5 - AS-BUILT DRAWINGS - 09/12/2016

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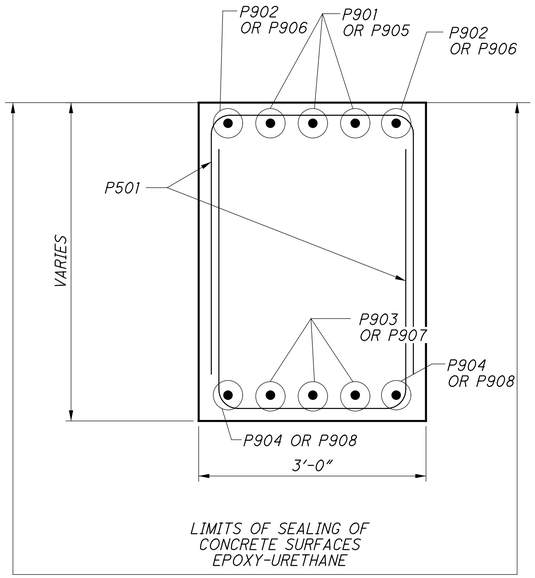
PIER WIDENING DETAILS

BRIDGE NO. SUM-77-0959
RAMP B2 OVER IR-77 S.B.

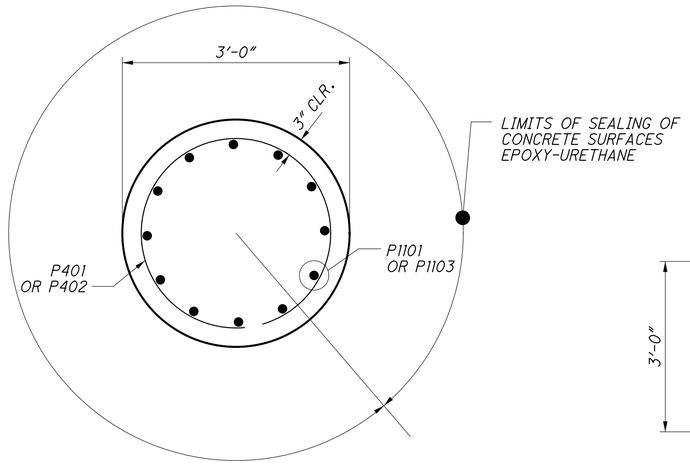
SUM 76/77-7.58/9.59
PID No. 98061

10 / 13

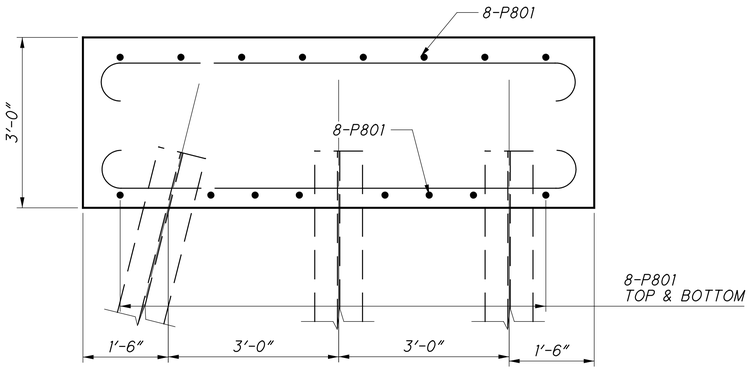
11 / 14



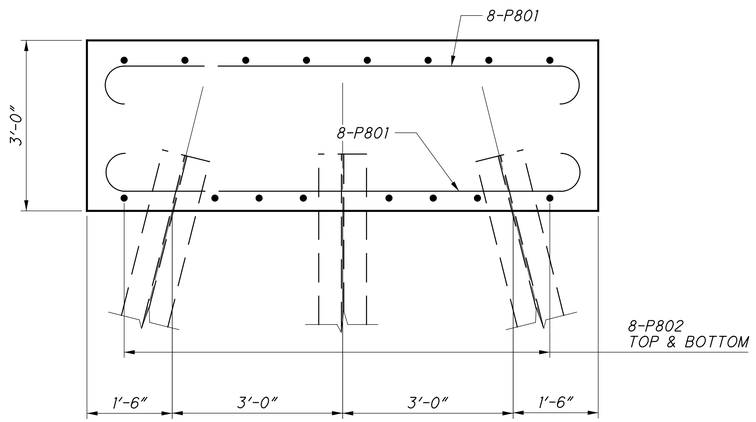
SECTION A-A



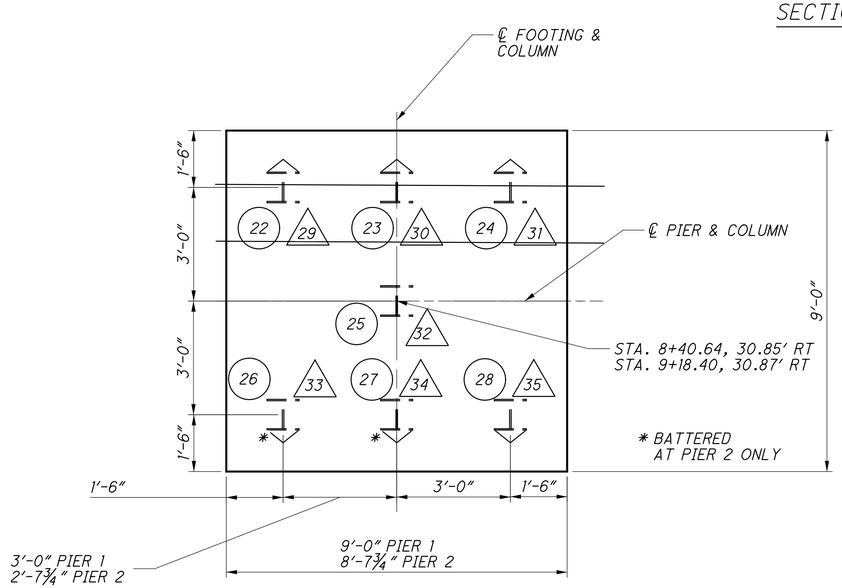
SECTION B-B



SECTION C-C



SECTION D-D



FOOTING PLAN

LEGEND

- X — PILE MARK - PIER 1
- X — PILE MARK - PIER 2
- PROPOSED PILE, HP 10X42
- PROPOSED BATTERED PILES (1:4), HP 10X42

BU5 - AS-BUILT DRAWINGS - 09/12/2016

PIER WIDENING DETAILS

BRIDGE NO. SUM-77-0959
RAMP B2 OVER IR-77 S.B.

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JLM	JLM	NCK	7/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM	—	7702671	

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MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
	R.A	F.A	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A501	37	22	59	9'-2"	564	2	2'-0"	5'-5"	2'-0"				
A502	1		1	6'-9"	7	2	2'-0"	3'-0"	2'-0"				
A503	1		1	5'-8"	6	2	2'-0"	1'-11"	2'-0"				
A504	1		1	4'-7"	5	2	2'-0"	10"	2'-0"				
A505	2		2	7'-6"	16	ST							
A506	2		2	2'-0"	4	ST							
A507	1		1	14'-9"	15	3	4'-4"	2'-7"					
A508	1		1	11'-7"	12	3	2'-9"	2'-7"					
A509	16		16	10'-10"	181	1	1'-0"	10'-0"					
A510	2		2	9'-5"	20	1	1'-0"	8'-7"					
A511	13		13	8'-9"	119	1	1'-0"	7'-11"					
A512	1 SER OF 3		1 SER OF 3	8'-7" TO 9'-1"	28	1	1'-0"	7'-9" TO 8'-3"					3"
*A513	72	48	120	5'-6"	688	1	3'-4"	2'-4"					
A514	4		4	33'-6"	140	ST							
A515	2 SER OF 6		2 SER OF 6	8'-10" TO 32'-3"	257	ST							4'-8 1/4"
A516	2		2	35'-0"	73	19	29'-4"	5'-5"	1'-9"				
A517	2		2	27'-5"	57	19	20'-6"	6'-7"	2'-2"				
A518	5		5	5'-3"	27	1	6"	4'-11"	0				
A519	NOT	USED											
A520	NOT	USED											
A521	NOT	USED											
*A522	14	12	26	3'-0"	81	ST							
A523	4		4	13'-4"	56	ST							
A524	16		16	13'-2"	220	ST							
A525	NOT	USED											
A526	NOT	USED											
A527	NOT	USED											
A528	6		6	29'-10"	187	ST							
A529	2 SER OF 3		2 SER OF 3	9'-4" TO 18'-7"	87	ST							4'-7 1/2"
A530	18		18	39'-0"	732	ST							
A531	1		1	1'-3"	1	ST							
A532		6	6	8'-2"	51	1	1'-0"	7'-4"					
A533		16	16	9'-8"	161	1	1'-0"	8'-10"					
A534		1	1	7'-7"	8	2	2'-0"	3'-10"	2'-0"				
A535	NOT	USED											
A536		2	2	6'-4"	13	ST							
A537		2	2	1'-10"	4	ST							
A538		2	2	3'-2"	7	ST							
A539		1	1	8'-10"	9	1	1'-0"	8'-0"					
A540	10	7	17	6'-6"	115	2	1'-8"	3'-5"	1'-8"				
A541		3	3	15'-11"	50	ST							
A542		3	3	16'-10"	53	ST							
A543		2 SER OF 4	2 SER OF 4	5'-10" TO 16'-10"	95	ST							3'-8"
A544		2	2	18'-5"	38	19	14'-3"	3'-10"	1'-8"				
A545		1	1	4'-1"	4	1	8"	3'-7"					
A546	NOT	USED											
A547	NOT	USED											
A548	NOT	USED											
A549	NOT	USED											
A550		1	1	14'-6"	15	ST							
A551		1	1	13'-8"	14	ST							
A552		18	18	26'-6"	498	ST							
A553		3	3	28'-4"	89	ST							
A554		3	3	27'-6"	86	ST							
A555		1	1	16'-8"	17	ST							
A556		1	1	17'-6"	18	ST							

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
	R.A	F.A	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A557		1 SER OF 3	1 SER OF 3	5'-3" TO 12'-7"	28	ST							3'-8"
A558		2	2	21'-10"	46	19	17'-4"	4'-2"	1'-8"				
A559		5	5	3'-11"	20	ST							
A560		9	9	9'-1"	85	ST							
A561	1 SER OF 3		1 SER OF 3	9'-7" TO 10'-6"	31	1	1'-0"	8'-9" TO 9'-8"					5 1/2"
A601	16		16	17'-11"	431	2	2'-10"	5'-5"	10'-0"				
A602	2		2	16'-6"	50	2	2'-10"	5'-5"	8'-7"				
A603	13		13	15'-10"	309	2	2'-10"	5'-5"	7'-11"				
A604	1		1	14'-1"	21	2	2'-10"	3'-0"	8'-7"				
A605	1		1	13'-1"	20	2	2'-10"	2'-0"	8'-7"				
A606	1		1	11'-11"	18	2	2'-10"	10"	8'-7"				
A607	1		1	11'-1"	17	3	2'-5"	2'-7"					
A608	1		1	12'-9"	19	3	3'-3"	2'-7"					
A609	1		1	14'-5"	22	3	4'-1"	2'-7"					
A610	1		1	15'-11"	24	3	4'-10"	2'-7"					
A611	1 SER OF 3		1 SER OF 3	15'-8" TO 16'-2"	72	2	2'-10"	5'-5"	7'-9" TO 8'-3"				3"
A612	1 SER OF 3		1 SER OF 3	16'-8" TO 17'-7"	77	2	2'-10"	5'-5"	8'-9" TO 9'-8"				5 1/2"
A613	1 SER OF 4		1 SER OF 4	10'-8" TO 13'-8"	73	3	1'-5"	3'-6" TO 5'-0"					6"
A614	1 SER OF 14		1 SER OF 14	5'-1" TO 13'-6"	195	2	2'-0" TO 6'-2 3/8"	1'-5"	2'-0" TO 6'-2 3/8"				3 7/8"
A615	4		4	13'-9"	83	2	6'-4"	1'-5"	6'-4"				
A616	15		15	10'-9"	242	2	4'-8"	1'-5"	4'-8"				
A617	68	34	102	7'-1"	1085	2	3'-0"	1'-5"	3'-0"				
A618	68	45	113	6'-1"	1032	2	2'-9"	11"	2'-9"				
A619	53		53	10'-3"	856	2	4'-10"	1'-5"	4'-10"				
A620	5		5	14'-7"	109	2	6'-9"	1'-5"	6'-9"				
A621	1 SER OF 15		1 SER OF 15	5'-3" TO 14'-7"	223	2	2'-1" TO 6'-9"	1'-5"	2'-1" TO 6'-9"				4"
*A622	4		4	6'-5"	39	ST							
*A623	2		2	7'-11"	24	1	1'-0"	7'-1"					
A624		6	6	15'-3"	137	2	2'-10"	5'-5"	7'-4"				
A625		16	16	16'-9"	403	2	2'-10"	5'-5"	8'-10"				
A626		1	1	13'-8"	21	2	2'-10"	3'-10"	7'-4"				
A627		1	1	11'-8"	18	2	2'-10"	1'-10"	7'-4"				
A628		1	1	10'-10"	16	3	2'-5"	2'-7"					
A629		1	1	16'-0"	24	3	5'-0"	2'-7"					
A630		1 SER OF 4	1 SER OF 4	10'-8" TO 14'-7"	76	3	1'-5"	3'-6" TO 5'-5"					7 11/16"
A631		1 SER OF 4	1 SER OF 4	5'-9" TO 11'-7"	80	3	1'-5"	3'-11" TO 5'-9"					7 5/16"
A632		1 SER OF 11	1 SER OF 11	5'-7" TO 14'-3"	164	2	2'-3" TO 6'-7"	1'-5"	2'-3" TO 6'-7"				5 3/16"
A633		1	1	14'-3"	21	2	6'-7"	1'-5"	6'-7"				
A634		2	2	13'-11"	42	2	6'-5"	1'-5"	6'-5"				
A635		1 SER OF 11	1 SER OF 11	5'-9" TO 13'-11"	162	2	2'-4" TO 6'-4 3/4"	1'-5"	2'-4" TO 6'-4 3/4"				4 7/8"
A636		11	11	5'-1"	84	2	2'-0"	1'-5"	2'-0"				
A637		11	11	6'-1"	100	2	2'-6"	1'-5"	2'-6"				
A638	6		6	13'-2"	119	33	2'-9"	3'-3"					
A639		6	6	11'-8"	105	33	2'-0"	3'-3"					

BU5 - AS-BUILT DRAWINGS - 09/12/2016

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JLM | DRAWN JLM | REVIEWED NCK | DATE 7/2015
CHECKED JGM | REVISED --- | STRUCTURE FILE NUMBER 77026671

REINFORCING STEEL LIST

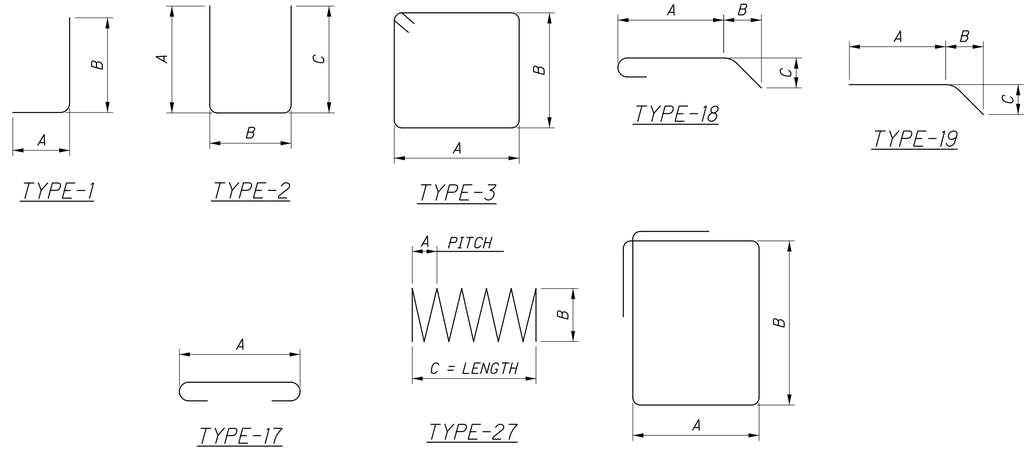
BRIDGE NO. SUM-77-0959
RAMP B2 OVER IR-77 S.B.

SUM 76/77 7.58/9.59
PID No. 98061

MARK	NUMBER R.A	NUMBER F.A	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS													
A640	2	2	4	4'-8"	28	1	1'-7"	3'-3"					
*A641	6		6	6'-1"	55	1	2'-9"	3'-6"					
*A642		6	6	5'-4"	48	1	2'-0"	3'-6"					
A643	2	2	4	4'-11"	30	1	1'-7"	3'-6"					
A644	1 SER OF 4		1 SER OF 4	8'-8" TO 11'-8"	61	3	1'-5"	2'-6" TO 4'-0"					6"
A645	1		1	14'-8"	22	2	6'-4"	2'-4"	6'-4"				
A646	1		1	16'-0"	24	2	6'-9"	2'-10"	6'-9"				
A647		1	1	14'-6"	22	2	6'-7"	1'-8"	6'-7"				
A648		1	1	14'-1"	21	2	6'-5"	1'-7"	6'-5"				
*A649		1	1	6'-9"	10	ST							
A650		34	34	8'-1"	413	2	3'-6"	1'-5"	3'-6"				
*A801	20	16	36	3'-6"	336	ST							
A802	2		2	34'-3"	183	ST							
A803	1		1	36'-0"	96	ST							
A804	1		1	38'-10"	104	ST							
A805	1 SER. OF 2		1 SER. OF 2	33'-4" TO 34'-3"	180	ST							11"
A806	1 SER. OF 3		1 SER. OF 3	35'-2" TO 38'-10"	296	ST							1'-10"
A807	1		1	25'-1"	67	ST							
A808	1		1	21'-6"	57	ST							
A809	1		1	19'-4"	52	ST							
A810	1		1	15'-10"	42	ST							
A811	1 SER. OF 5		1 SER. OF 5	15'-10" TO 25'-1"	273	ST							2'-3 3/4"
A812		1	1	7'-11"	21	ST							
A813		1	1	7'-7"	20	ST							
A814		1	1	8'-4"	22	ST							
A815		1	1	9'-8"	26	ST							
A816		1 SER. OF 2	1 SER. OF 2	7'-2" TO 7'-11"	40	ST							9"
A817		1 SER. OF 3	1 SER. OF 3	8'-2" TO 9'-8"	71	ST							9"
A818		1	1	23'-7"	63	ST							
A819		1	1	22'-6"	60	ST							
A820		1	1	21'-9"	58	ST							
A821		1	1	20'-7"	55	ST							
A822		1 SER. OF 5	1 SER. OF 5	20'-7" TO 23'-7"	295	ST							9"
A823	1		1	5'-3"	14	ST							
A824	4		4	6'-1"	65	ST							
A825	5		5	14'-0"	187	ST							
A826	10		10	15'-4"	409	ST							
A827	1 SER OF 3		1 SER OF 3	16'-3" TO 18'-5"	139	ST							1'-1"
A828	4		4	24'-4"	260	ST							
A829		2	2	10'-2"	54	ST							
A830		1	1	10'-7"	28	ST							
A831		1	1	9'-9"	26	ST							
A832		1	1	8'-10"	24	ST							
A833		8	8	5'-0"	107	ST							
A834		5	5	7'-0"	93	ST							
A835		5	5	11'-3"	150	ST							
A836		2	2	8'-0"	43	ST							
A901	5	5	10	4'-7"	156	1	1'-7"	3'-3"					
A902	4		4	6'-1"	83	ST							
A903		4	4	4'-0"	54	ST							
*A904	5	5	10	4'-0"	136	ST							
D801	26		26	6'-6"	451	18	4'-4"	1'-0"	1'-0"				
D802		26	26	5'-4"	370	18	3'-2"	1'-0"	1'-0"				
SUB-TOTAL 17753													

MARK	PIER 1	PIER 2	TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIERS													
P401	1			18'-7"	271	27	4 1/2'	2'-6"	18'-7"				
P402	1			16'-8"	245	27	4 1/2'	2'-6"	16'-8"				
P501	18	16	34	9'-3"	328	2	3'-5"	2'-8"	3'-5"				
P502	8	8	16	6'-5"	107	2	2'-0"	2'-8"	2'-0"				
P503	1	1	2	6'-2"	13	2	2'-0"	2'-5"	2'-0"				
P504	1	1	2	5'-6"	11	2	2'-0"	1'-9"	2'-0"				
*P601	4	4	8	3'-11"	47	ST.							
*P602	8	8	8	3'-11"	47	19	2'-11"	8 1/2"	8 1/2"				
P801	32	16	48	10'-4"	1324	17	8'-8"						
P802		16	16	9'-1"	388	17	8'-3"						
P901	3		3	13'-0"	133	1	9'-10"	3'-5"					
P902	2		2	12'-4"	84	1	9'-2"	3'-5"					
P903	3		3	9'-10"	100	ST.							
P904	2		2	9'-2"	62	ST.							
P905		3	3	11'-5"	116	1	8'-4"	3'-4"					
P906		2	2	10'-9"	73	1	7'-8"	3'-4"					
P907		3	3	8'-4"	85	ST.							
P908		2	2	7'-8"	52	ST.							
P1101	12		12	21'-8"	1381	ST.							
P1102	12	12	24	14'-2"	1806	1	12'-4"	2'-0"					
P1103		12	12	19'-9"	1259	ST.							
				SubTotal	7935								

BENDING DIAGRAMS



LEGEND:

* - DOWEL BAR

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE 3 DIGITS ARE USED, AND THE FIRST 2 DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. ALL REINFORCING STEEL TO BE EPOXY COATED, UNLESS NOTED OTHERWISE.

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13 / 13

14 / 14