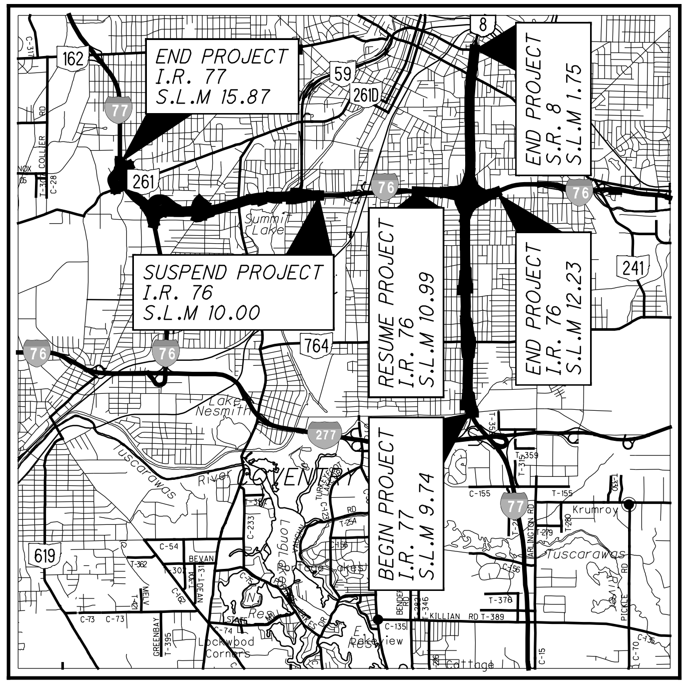
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-76-8.24
SUM-77-9.74
SUM-8-0.00

CITY OF AKRON

SUMMIT COUNTY



LOCATION MAP

LATITUDE: N 41° 03′ 43″ LONGITUDE: W 81° 30′ 17″

SCALE IN MILES

0 1 2 3 4

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

DESIGN DESIGNATION

MAINTENANCE OF TRAFFIC PLANS:
SEE BU-7
ROADWAY PLANS:
SEE BU-28B

DESIGN EXCEPTIONS

N/A

INDEX OF SHEETS:

TITLE SHEET	1
STRUCTURES OF 20′	
SUM-77-1181	2-17

ATTACHMENTS:

FINAL GEOTECHNICAL REPORT
MANUFACTURER'S TRUSS PLANS

PROJECT DESCRIPTION

THE AKRON CENTRAL INTERCHANGE PROJECT (PID 102329) INCLUDES RECONSTRUCTION OF IR-76 EB/WB PAVEMENT FROM SLM 11.05 (IR-76) TO SLM (IR-76) FOR APPROX. 1.16 MILES OF MAINLINE WORK. THIS PROJECT ALSO INCLUDES REPLACEMENT OF TWO FREEWAY STRUCTURES (RAMP N AND RAMP Q) ON NEW ALIGNMENTS, WIDENING OF TWO EXISTING BRIDGES (IR-76 EB OVER BROWN STREET AND IR-76 WB OVER INMAN STREET), CONSTRUCTION OF A NEW PEDESTRIAN/MULTI-USE OVERPASS SPANNING SR-8, AND CONSTRUCTION OF NOISE BARRIERS AT THE PERIMETER OF THE INTERCHANGE. PORTIONS OF SR-8, LANE O AND LANE S ARE TO BE RESURFACED. THE EXISTING IR-76 WB TO INMAN STREET AND IR-77 SB TO LOVERS LANE WILL BE REMOVED PERMANENTLY, AS WELL AS THE EXISTING LAFOLLETTE STREET BRIDGE OVER SR-8 (SUM-77-1184).

BUILDABLE UNIT 12 DESCRIPTION

THIS BUILDABLE UNIT COVERS THE REMOVAL OF THE EXISTING LAFOLLETTE ST. BRIDGE OVER IR-77/SR-8 AND CONSTRUCTION OF THE RUBBER CITY HERITAGE TRAIL PEDESTRIAN BRIDGE OVER RAMP N, LANE M, SR-8 AND LANE O.

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.

2019 SPECIFICATIONS

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

FEDERAL PROJECT NO. **E180(428)**

PID NO. **102329**

CONSTRUCTION PROJECT NO. **21-3000**

RAILROAD INVOLVEMENT **NONE**

ISSUE RECORD:

NO.	DATE	DESCRIPTION

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
PRIME AE

ENGINEERS SEAL:
FOR STRUCTURES OVER 20′
STATE OF OHIO — KELLY D. CHRISMAN 68020 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: [signature]
DATE: 9-16-2021

STANDARD CONSTRUCTION DRAWINGS							SUPPLEMENTAL SPECIFICATIONS	
RM-4.3	7/8/14						800-2019	10/16/20
RM-4.4	7/19/19							
BP-5.1	1/18/19							

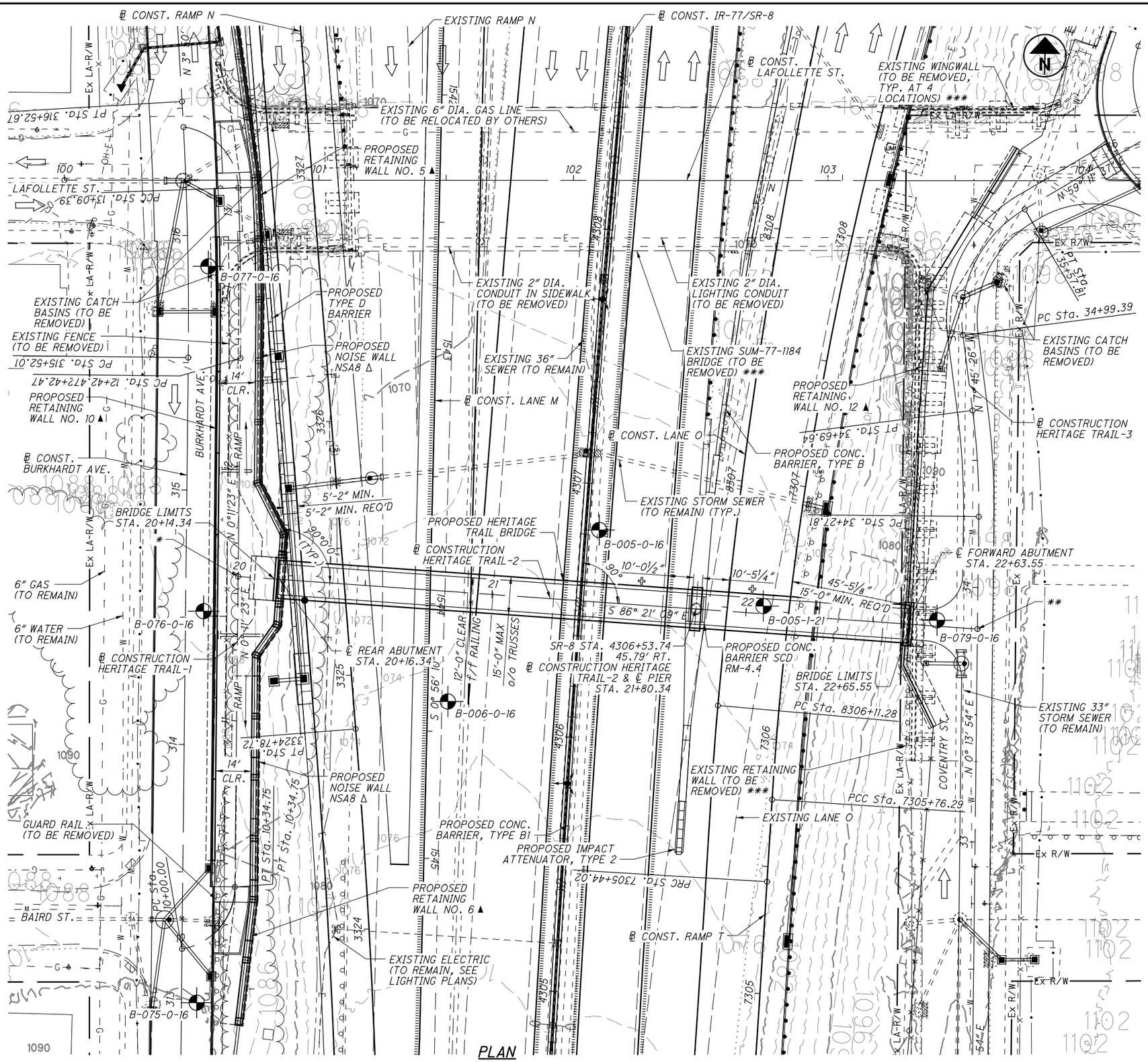
SPECIAL PROVISIONS

AKRON BELTWAY JV (ruhlin / SHELLY & SANDS)

BU-12
STRUCTURES
RUBBER CITY HERITAGE TRAIL PEDESTRIAN BRIDGE (SUM-77-1181)
RELEASED FOR CONSTRUCTION SEPTEMBER 16, 2021

2021-09-16_BU 12 - RFC PLANS

SUM-76/77/8-8.24/9.74/0.00



BENCHMARK DATA

BM #5 STA.105+06.46, ELEV. 1082.764, OFFSET 462.82' RT., CMON
BM #200 STA.108+40.94, ELEV. 1087.538, OFFSET 695.05' LT., IPIN

NOTES

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

SEE SHEET 2 / 16 FOR PROFILE, BORING LOCTIONS AND TOP OF ROCK ELEVATIONS.

LEGEND

- PROJECT BORING LOCATION
- ● LOCATION OF MINIMUM VERTICAL CLEARANCE
- ▲ SEE SUM-76/77/8-10.99/11.54/0.00 (ATTACHMENT C) RETAINING WALL PLANS FOR DETAILS AND PAYMENT
- Δ SEE SUM-76/77/8-10.99/11.54/0.00 (ATTACHMENT C) NOISE WALL PLANS, FOR DETAILS AND PAYMENT
- * = ℄ CONSTRUCTION HERITAGE TRAIL-1 STA. 11+56.70 = ℄ CONSTRUCTION HERITAGE TRAIL-2 STA. 20+00.00
- ** = ℄ CONSTRUCTION HERITAGE TRAIL-2 STA. 22+91.19 = ℄ CONSTRUCTION HERITAGE TRAIL-3 STA. 33+83.66
- *** = SEE BRIDGE REMOVAL PLAN SHEETS 6 / 16 THROUGH 8 / 16 .
- ✣ = MEASURED TO THE FACE OF COLUMN

EXISTING STRUCTURE

TYPE: FOUR SPAN CONTINUOUS ROLLED BEAM WITH REINFORCED CONCRETE DECK ON CONCRETE PIERS AND ABUTMENTS
SPANS: 53.00'±, 51.15'±, 59.85'±, 49.50'±, C/C BEARINGS
ROADWAY: 44'-0"± †/† CURB, 4'-9"± SIDEWALKS (LT. & RT.)
LOADING: CF-400
SKEW: VARIES (1°06'30"± TO 13°22'00"±)
APPROACH SLABS: 25'-0"± (REAR AND FORWARD)
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
STRUCTURAL FILE NUMBER: 7702949
DATE BUILT: 1958
WEARING SURFACE: MONOLITHIC CONCRETE
DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: PREFABRICATED STEEL TRUSS (ASTM A709 GRADE 50W, PAINTED) WITH REINFORCED CONCRETE ABUTMENTS ON SPREAD FOOTINGS AND A REINFORCED CONCRETE PIER ON A DRILLED SHAFT.

SPANS: 164'-0" (℄ REAR ABUTMENT TO ℄ PIER)
83'-2½" (℄ PIER TO ℄ FORWARD ABUTMENT)

BIKEWAY: 13'-0" FACE-TO-FACE OF TRUSSES
12'-0" FACE-TO-FACE OF BRIDGE RAILINGS

LOADING: AASHTO PEDESTRIAN LIVE LOAD (0.09 KSF) OR H10-44 TRUCK

SKEW: 0°
ALIGNMENT: TANGENT
WEARING SURFACE: CONCRETE
APPROACH SLABS: NONE
CROWN: NONE
COORDINATES: LATITUDE: N 41°03'31.15"
LONGITUDE: W 81°30'17.41"
DECK AREA = 3224 SQ. FT.
STRUCTURE FILE NUMBER: 7702950

2021-09-16_BU 12 - RFC PLANS

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED		STRUCTURE FILE NUMBER
JAT			7702950

SUMMIT COUNTY
STA. 20+14.34
STA. 22+65.55

SITE PLAN
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

1 / 16

2 / 17

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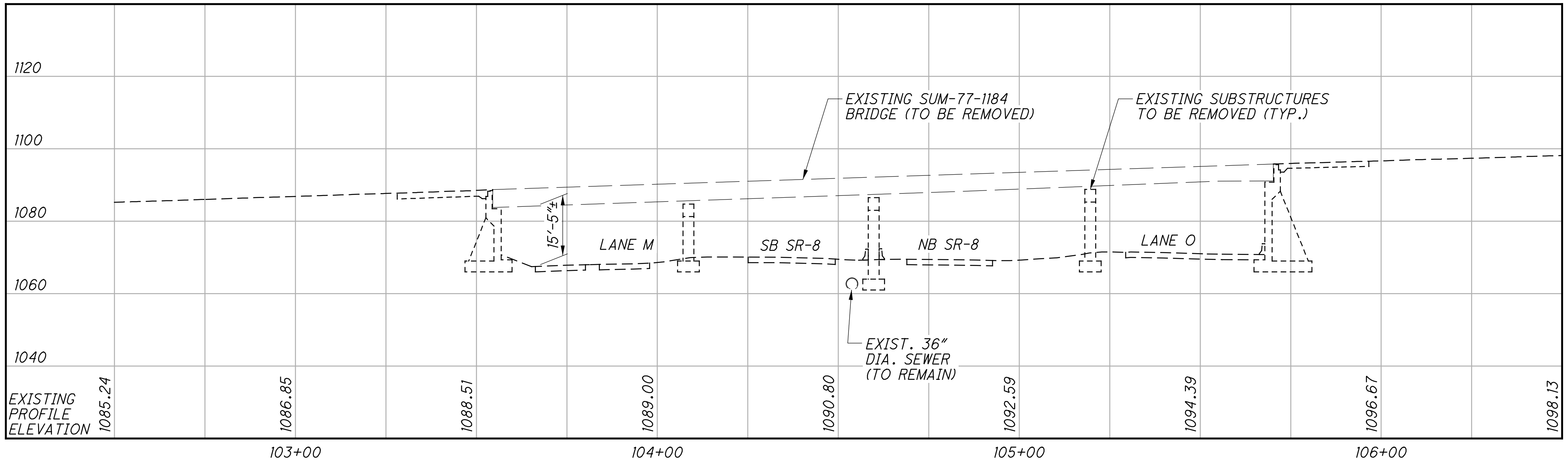
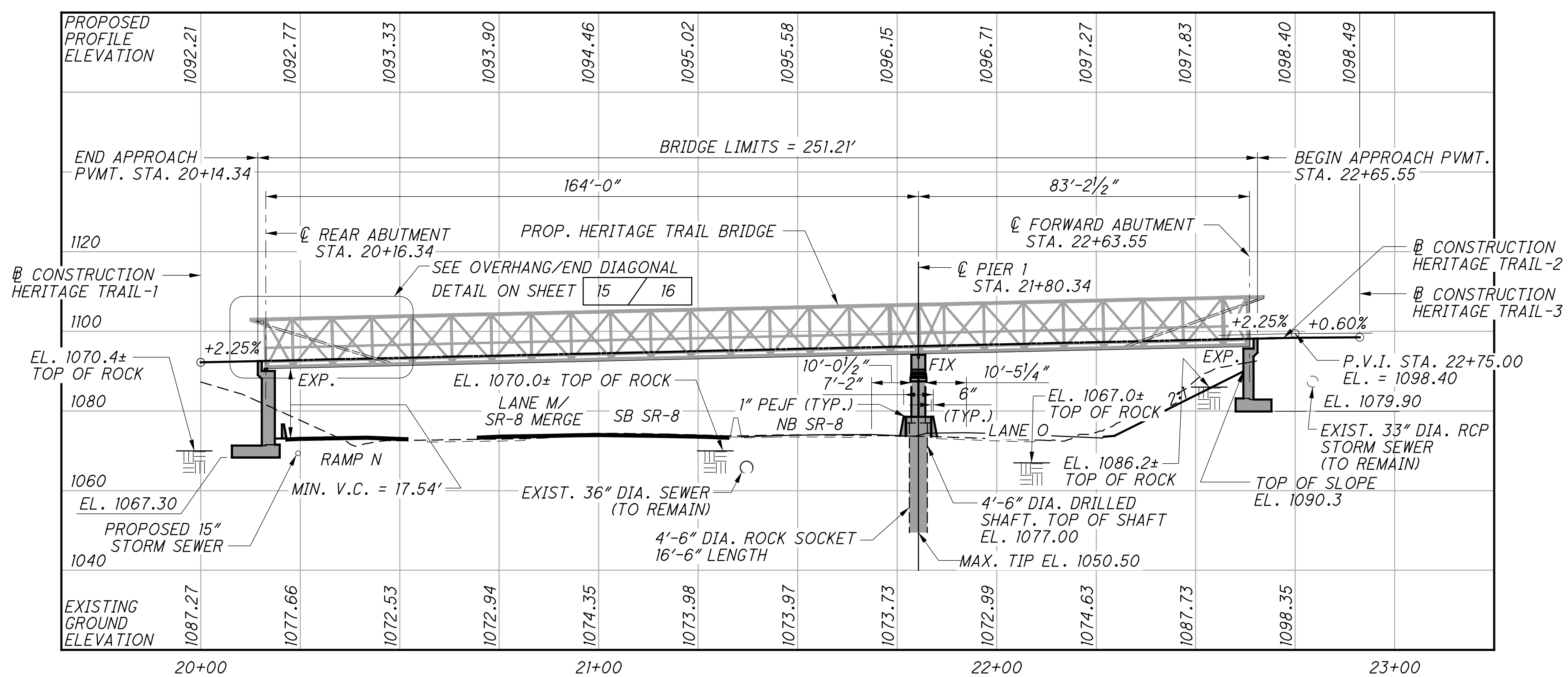


PROFILE - EXISTING LAFOLLETTE STREET BRIDGE

SEE SHEETS 6/16 THROUGH 8/16 FOR REMOVAL DETAILS

PROJECT BORING LOCATIONS AND TOP OF ROCK ELEVATIONS

BORING	ALIGNMENT	STATION	OFFSET	T.O.R. ELEVATION
B-005-0-16	SR-8	4306+82	6' RT.	1070.0
B-006-0-16	RAMP N	3324+87	37' RT.	1069.9
B-075-0-16	RAMP N	3323+74	69' LT.	1069.6
B-076-0-16	BURKHARDT AVE.	314+52	7' RT.	1070.4
B-077-0-16	RAMP N	3326+64	43' LT.	1069.3
B-079-0-16	RAMP T	7306+54	58' RT.	1086.2
B-005-1-21	RAMP O	8306+52	14' RT.	1067.0



PROFILE - PROPOSED HERITAGE TRAIL BRIDGE

ISSUE RECORD:		
NO.	DATE	DESCRIPTION

DESIGN AGENCY: PRIME AE, 8415 Pulsar Place Suite 300, Columbus Ohio 43240

REVIEWED SAN	DATE 6/11/21
STRUCTURE FILE NUMBER	7702950
DRAWN JAT	REVISED
DESIGNED JAT	CHECKED KDC

SUMMIT COUNTY
STA. 20+14.34
STA. 22+65.55

SITE PLAN - PROFILES
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

2021-09-16_BU 12 - RFC PLANS

GENERAL NOTES:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

NONE

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

NONE

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 8TH EDITION, 2017, THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 WITH CURRENT INTERIMS AND THE ODOT BRIDGE DESIGN MANUAL, 2007 EDITION WITH REVISIONS THROUGH JULY 2018, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

REDUNDANCY: THE PIER COLUMN WAS CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDES A LOAD MODIFIER EQUAL TO 1.05 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.4.

REDUNDANCY: THE DRILLED SHAFT SUPPORTING THE PIER COLUMN WAS CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDES A MODIFIED RESISTANCE FACTOR FOR TIP RESISTANCE EQUAL TO 0.40 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 10.5.5.2.4.

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING: THE BRIDGE DESIGN SHALL BE BASED ON A COMBINATION OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES:

ONE AASHTO H10-44 TRUCK. CONSIDERATION OF DYNAMIC LOADING IS NOT REQUIRED.

A PEDESTRIAN LIVE LOAD OF 90 PSF NOT TO BE USED IN CONJUNCTION WITH THE H10-44 TRUCK LOADING.

64.3 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED (SEE NOTE BELOW).

20 PSF VERTICAL WIND FORCE APPLIED TO THE WIDTH OF THE BRIDGE.

NOTE: Pz = (0.00256)(0.90)(0.85)(1.14)(120)² (2.0) = 64.3 PSF (PER 3.4 OF AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES AND 3.8.1 OF AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS).

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE) (DECK)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE) (ABUTMENTS AND PIER)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT AT PIER)
EPOXY COATED REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - SHAPES AND PLATES - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI
TUBES - ASTM A847 GRADE 50W - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2" CONCRETE COVER
CLASS QC2 CONCRETE

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

FOUNDATION BEARING RESISTANCE: ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 11.46 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 16.02 KIPS PER SQUARE FOOT AT THE REAR ABUTMENT AND PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 6.99 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 9.24 KIPS PER SQUARE FOOT AT THE FORWARD ABUTMENT. THE FACTORED BEARING RESISTANCE IS 18.0 KIPS PER SQUARE FOOT AT THE REAR ABUTMENT AND 36.0 KIPS PER SQUARE FOOT AT THE FORWARD ABUTMENT.

FOOTINGS AT THE ABUTMENTS SHALL EXTEND A MINIMUM OF 3" INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

DRILLED SHAFTS:

THE FOLLOWING TABLE SUMMARIZES THE DRILLED SHAFT FACTORED LOADS AND FACTORED RESISTANCES PROVIDED AT EACH SUBSTRUCTURE. THE MAXIMUM FACTORED LOAD IS FULLY SUPPORTED BY THE DRILLED SHAFT IN TIP RESISTANCE, IGNORING ANY CONTRIBUTION FROM SIDE RESISTANCE. ALL INFORMATION IN THE TABLE IS GIVEN PER EACH DRILLED SHAFT.

LOCATION	MAXIMUM FACTORED LOAD (KIPS)	FACTORED TIP RESISTANCE (KIPS)	TOTAL FACTORED RESISTANCE (KIPS)
PIER 1	797	916	916

DRILLED SHAFT ROCK SOCKET LENGTHS AND TIP ELEVATIONS:

AT PIER 1, IN THE EVENT THAT THE TOP OF ROCK ELEVATION ENCOUNTERED IN THE FIELD IS LOWER THAN SPECIFIED ON THE PLANS, THE TIP ELEVATION SHOWN ON THE PLANS SHALL BE LOWERED BY AN AMOUNT EQUAL TO THE DIFFERENCE BETWEEN THE SPECIFIED ELEVATION IN THE PLANS AND THE TOP OF ROCK ELEVATION ENCOUNTERED IN THE FIELD.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

SEE AESTHETIC PLANS FOR SEALING REQUIREMENTS. SEAL THE RETAINING WALLS AND REAR ABUTMENT WITH AN EPOXY-URETHANE SEALER MATCHING FEDERAL COLOR STANDARD 27769, GENERAL/LIGHT NEUTRAL. SEAL THE FORWARD ABUTMENT WITH AN EPOXY-URETHANE SEALER MATCHING FEDERAL COLOR STANDARD 23522, GENERAL/TAN. IN ADDITION TO THE LIMITS OF SEALING SHOWN ON THE PLANS, SEAL ALL EXPOSED CONCRETE SURFACES OF THE PROPOSED PIER, INCLUDING THE TOP HORIZONTAL SURFACES OF THE PIER CAP. REFER TO CMS 516.07 FOR SEALING REQUIREMENTS AT BEARING AREAS.

ITEM 516 - PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN:

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREFORMED ELASTOMERIC COMPRESSION JOINT SEALS AT THE SUPERSTRUCTURE DECK SLAB EXPANSION JOINTS LOCATED AT THE REAR ABUTMENT AND FORWARD ABUTMENT. THE MULTI-CELLULAR, ADHESIVE BONDED SEALS SHALL BE CAPABLE OF FLEXING IN RESPONSE TO JOINT MOVEMENT AND SEAL AGAINST THE INTRUSION OF DECK DRAINAGE. ALL WORK SHALL CONFORM TO ITEM 516, THE DETAILS SHOWN ON THE PLANS AND THE COMPRESSION SEAL MANUFACTURER'S REQUIREMENTS.

THE JOINT MANUFACTURER AND TYPE SHALL BE ONE OF THE FOLLOWING OR AN ENGINEER APPROVED EQUAL:

THE D.S. BROWN COMPANY (TYPE JP SERIES SEALING SYSTEM)
300 EAST CHERRY STREET
NORTH BALTIMORE, OHIO 45872
PHONE: 419-257-3561
www.dsbrown.com

WATSON BOWMAN ACME CORPORATION (JEENE BRIDGE SERIES TYPE FW PROFILE)
95 PINEVIEW DRIVE
AMHERST, NEW YORK 14228
PHONE: 716-691-7566
www.wbacorp.com

ERIE METAL SPECIALTIES (TYPE JP SERIES SEALING SYSTEM)
13311 MAIN ROAD
AKRON, NEW YORK 14001
PHONE: 716-542-3991
www.eriemetal.com

THE TOP SURFACE OF THE SEAL SHALL BE NON-SLIP AND COMPLY WITH ADA GUIDELINES WHEN INSTALLED. FIELD OR SHOP FABRICATE THE JOINT SEAL, AS REQUIRED BY THE EXPANSION JOINT MANUFACTURER, TO CONFORM TO THE DIRECTIONAL CHANGES. UPTURNS ARE REQUIRED AT THE CURBS TO PROVIDE A WATERTIGHT GUTTER SEAL.

THE NEOPRENE SEALS SHALL BE BONDED TO THE CONCRETE SURFACES WITH AN EPOXY BASED STRUCTURAL ADHESIVE ACCORDING THE MANUFACTURER'S REQUIREMENTS.

PREPARE ALL SURFACES AND INSTALL THE SEAL ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND UNDER THE DIRECTION OF THE MANUFACTURER'S RECOMMENDATIONS.

THE DEPARTMENT WILL MEASURE THE EXPANSION JOINT FOR PAYMENT PURPOSES BY THE NUMBER OF FEET HORIZONTALLY ALONG THE JOINT CENTERLINE FROM EDGE OF DECK TO EDGE OF DECK.

ITEM	UNIT	DESCRIPTION
516	FOOT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN

ITEM 524 - DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK, AS PER PLAN:

THE AGGREGATE SHALL BE ⅜" NOMINAL MAXIMUM SIZE.

ITEM 524 - DRILLED SHAFTS, 54" DIAMETER, INTO BEDROCK, AS PER PLAN:

THE AGGREGATE SHALL BE ⅜" NOMINAL MAXIMUM SIZE.

ITEM 524 - DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS:

PERFORM INTEGRITY TESTING ON THE DRILLED SHAFT SUPPORTING THE SINGLE-COLUMN PIER BY THERMAL INTEGRITY PROFILING (T.I.P.). PERFORM TIP TESTING PER ASTM D7949 "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS", METHOD B, AND PER THE PROJECT SPECIAL PROVISIONS.

ITEM SPECIAL - STRUCTURE MISC.: PREFABRICATED PAINTED STEEL SUPERSTRUCTURE:

GENERAL:

THIS WORK INCLUDES THE COMPLETE DESIGN, FABRICATION AND ERECTION OF A PAINTED, WELDED STEEL TRUSS PEDESTRIAN BRIDGE SUPERSTRUCTURE AS NOTED HEREIN AND SHOWN ON THE PLANS. ANY NOTES OR SPECIFICATIONS LISTED HEREIN OR SHOWN ON THE PLANS SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND CONSTRUCTION. THE BRIDGE SHALL BE MANUFACTURED BY ONE OF THE FOLLOWING:

U.S. BRIDGE
201 WHEELING AVENUE
P.O. BOX 757
CAMBRIDGE, OHIO 43725
PHONE: 888-USBRIDGE (872-7434)
www.usbridge.com

DESIGN:

MAIN TRUSSES SHALL BE DESIGNED AS PARALLEL CHORD PRATT STYLE TRUSSES WITH VERTICAL END POSTS, TWO DIAGONALS PER BAY, UPPER LATERAL BRACING AND STRUTS AS SHOWN ON THE PLANS. OVERALL SECTION GEOMETRY SHALL FOLLOW THE DIMENSIONS SHOWN ON THE TYPICAL SECTION ON SHEET OF . SUPERSTRUCTURE DESIGN SHALL CONFORM TO THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES WITH CURRENT INTERIMS. STRUCTURAL DESIGN SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO AND DONE WITH RECOGNIZED ENGINEERING PRACTICES AND PRINCIPLES. DESIGN LIVE LOAD SHALL BE AS STIPULATED IN THE NOTE TITLED "DESIGN LOADING". THE PROJECTED AREA FOR WIND FORCES ACTING ON THE MESH PANELS SHALL NOT BE LESS THAN 20% OF THE GROSS AREA OF THE MESH PANEL. MAIN LOAD CARRYING TENSION MEMBERS SHALL MEET THE CHARPY-V NOTCH TOUGHNESS REQUIREMENTS OF C&MS 711.01. THE WELDED CONNECTIONS BETWEEN THE BOTTOM CHORDS AND THE FLOOR BEAMS SHALL BE DESIGNED AS FIXED CONNECTIONS (NOT PINNED). THE BRIDGE SPANS SHALL BE DESIGNED WITH A VERTICAL CAMBER AT MIDSPAN EQUAL TO 100% OF THE FULL DEAD LOAD DEFLECTION, INCLUDING THE WEIGHT OF THE DECK, SO THAT THE BRIDGE CONFORMS TO THE PROPOSED PROFILE GRADE LINE IN ITS FINAL DEFLECTED POSITION. EACH SPAN SHALL BE DESIGNED TO ACCOMMODATE A TEMPERATURE DIFFERENTIAL OF 150 DEGREES FAHRENHEIT (FROM -30 DEGREES TO 120 DEGREES). THE NEUTRAL TEMPERATURE SHALL BE 60 DEGREES FAHRENHEIT.

SUBSTRUCTURE DESIGN AND ELEVATIONS ARE BASED ON ASSUMED VERTICAL DIMENSIONS (DECK THICKNESS, FLOOR BEAM/BOTTOM CHORD THICKNESS AND BEARING HEIGHT) FROM THE FINISHED DECK AT THE CENTERLINE OF TRAIL TO THE CONCRETE BEARING SEATS. THE CONTRACTOR SHALL ADJUST THE SUBSTRUCTURE BEARING SEAT ELEVATIONS SHOWN ON THE PLANS BASED ON THE ACTUAL VERTICAL DIMENSIONS FROM THE FINISHED DECK AT THE CENTERLINE OF THE TRAIL TO THE BOTTOM OF THE END FLOORBEAM PLUS BEARING THICKNESS. SEE SUBSTRUCTURE SHEETS FOR REINFORCING STEEL ADJUSTMENT NOTES. THE BRIDGE MANUFACTURER SHALL DETERMINE THE LOCATION, QUANTITY, DIAMETER, GRADE, FINISH (CORROSION RESISTANT HOT DIP GALVANIZED STEEL OR STAINLESS STEEL) AND EMBEDMENT OF BEARING ANCHOR BOLTS DESIGNED TO RESIST ALL HORIZONTAL AND UPLIFT FORCES TO BE TRANSFERRED FROM THE SUPERSTRUCTURE TO THE SUBSTRUCTURE. IN ADDITION TO LATERAL WIND LOADS, THE CONNECTION BETWEEN THE SUPERSTRUCTURE AND THE SUBSTRUCTURE SHALL BE DESIGNED TO RESIST A LATERAL SEISMIC LOAD IN THE RESTRAINED DIRECTION (NORMAL TO THE BRIDGE) EQUAL TO 20% OF THE SUPERSTRUCTURE DEAD LOAD. WIND LOADS AND SEISMIC LOADS SHALL NOT BE APPLIED IN CONJUNCTION.

MATERIALS:

ALL MEMBERS OF THE MAIN TRUSSES AND BRACING SYSTEM SHALL BE FABRICATED FROM SQUARE AND/OR RECTANGULAR STRUCTURAL STEEL TUBING. ALTERNATIVELY, FLOOR BEAMS MAY BE WIDE FLANGE OR CHANNEL SHAPES AS REQUIRED BY DESIGN OR SPECIFIC DETAIL. ALL STRUCTURAL STEEL MEMBERS SHALL HAVE A MINIMUM THICKNESS OF MATERIAL OF AT LEAST ¼- INCH. FIELD SPLICES AND CONNECTIONS SHALL BE BOLTED TYPE WITH HIGH STRENGTH ASTM A325 TYPE I BOLTS, HEAVY HEX NUTS AND WASHERS. SEE NOTE TITLED "DESIGN DATA" FOR ADDITIONAL STEEL MEMBER SPECIFICATIONS.

VERTICAL MESH PANELS MUST BE DESIGNED TO FIT WITHIN THE TRUSS HORIZONTAL, VERTICAL AND DIAGONAL MEMBERS AND BE LOCATED BEHIND THE RUB RAILS AND WITHIN THE VARIOUS MEMBERS ON EACH SIDE OF THE TRUSS SO AS TO NOT PROTRUDE BEYOND THE VERTICAL FACES OF THE TRUSS MEMBERS. HORIZONTAL MESH PANELS OR FENCING AT THE TOP OF THE TRUSS CAN BE LOCATED ON THE TOP OF THE UPPER CHORDS, LATERAL BRACING AND STRUT MEMBERS.

THE MESH SHALL BE 1-INCH X 1-INCH ON CENTER SQUARE OPENINGS, 0.192-INCH THICK (6 GAUGE) WIRE DIAMETER WELDED WIRE MESH AS PROVIDED BY BANKER WIRE OR AN ENGINEER APPROVED EQUAL. THE MESH SHALL BE ZINC CHROMATE PLATED WITH A ZINC RICH PRIMER POWDER COAT AND A POLYESTER POWDER TOP COAT. TOP COAT COLORS ARE INDICATED BELOW. THE TYPICAL MESH ENCLOSURES SHALL CONSIST OF FOUR SEPARATE PANELS IN EACH TRUSS BAY AND SHALL INFILL THE ENTIRE AREA FROM THE BOTTOM CHORD TO THE TOP CHORD, LEAVING A ½-INCH MAXIMUM GAP BETWEEN PANELS AND TRUSS MEMBERS. SINGLE PANELS WITH SUPPLEMENTAL MID-BAY VERTICAL MEMBERS WILL NOT BE PERMITTED. THE MESH SHALL BE SANDWICHED BETWEEN TWO ¼-INCH X 2-INCH PLATES AROUND THE PERIMETER TO FORM PANELS AND SHALL BE BOLTED WITH STAINLESS STEEL BOLTS, NUTS, WASHERS AND OTHER FASTENERS TO CLIP ANGLES SHOP WELDED BY THE PRE-ENGINEERED BRIDGE MANUFACTURER TO THE TRUSS MEMBERS. PANELS FABRICATED WITH PERIMETER 1¼" WIDE BY ½" DEEP BY ⅛" THICK STEEL U-CHANNELS WITH THE MESH WELDED TO THE U-CHANNELS MAY BE USED INSTEAD OF THE MESH SANDWICHED BETWEEN TWO PLATES. SPECIFIC DETAILS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL. TYPE 1 PANELS SHALL HAVE THE MESH GRID ORIENTED PARALLEL AND PERPENDICULAR TO THE TRUSS VERTICAL MEMBERS. TYPE 1 PANELS SHALL BE POWDER COAT PAINTED RED SAE AMS-STD-595 #11350 PRIOR TO ATTACHING TO THE TRUSS. TYPE 2 PANELS SHALL HAVE THE MESH GRID ORIENTED AT 45 DEGREE ANGLES TO THE TRUSS VERTICAL MEMBERS. TYPE 2 PANELS SHALL BE POWDER COAT PAINTED GRAY SAE AMS-STD-595 #16515 PRIOR TO ATTACHING TO THE TRUSS.

ADDITIONAL MESH PANELS, LOCATED AT EACH TRUSS ABUTMENT END POST, PERPENDICULAR TO THE CENTERLINE OF THE TRUSS SHALL BE INCLUDED WITH THE TRUSS TO FILL THE GAP BETWEEN THE TRUSS END POSTS AND THE ADJACENT RETAINING WALL/NOISE WALL END POSTS AT THE REAR ABUTMENT AND THE RETAINING WALL/CHAIN LINK FENCE END POSTS AT THE FORWARD ABUTMENT. MESH PANELS WITH MESH SANDWICHED BETWEEN TWO PLATES OR A PLATE AND AN ANGLE AND ATTACHED TO THE TRUSS END POSTS WITH BOLTS AND CLIP ANGLES SHALL BE FABRICATED AS INDICATED IN THE PREVIOUS PARAGRAPH. THE PANEL'S GRID ORIENTATION AND COLOR SHALL BE THE SAME AS TYPE 2 PANELS. PANELS SHALL NOT BE ATTACHED TO THE NOISE WALL END POSTS OR CHAIN LINK FENCE END POSTS. PROVIDE A ½-INCH GAP MINIMUM BETWEEN THE MESH PANELS AND THE NOISE WALL END POSTS OR CHAIN LINK FENCE END POSTS. VERTICALLY THE MESH PANELS SHALL FILL THE GAP FROM THE TOP OF THE DECK TO THE TOP OF THE TRUSS. ALL PANEL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION TO ENSURE THE PANEL FITS THE ACTUAL GAP DIMENSIONS. SEE SHEET 14 OF 16 FOR ADDITIONAL INFORMATION.

THE TRUSS TOP CHORDS SHALL BE EXTENDED AND BRACED TO PROVIDE DECORATIVE OVERHANGS AT THE ABUTMENTS. SEE SHEET 15 OF 16 FOR DETAILS. DECORATIVE NON-LOAD CARRYING END DIAGONALS SHALL BE PROVIDED ON EACH SIDE OF THE TRUSS AT THE ABUTMENTS. SEE SHEET 15 OF 16 FOR DETAILS.

FENCE FABRIC (LOCATED AT THE TOP OF THE TRUSS ONLY, NOT SIDES) SHALL CONSIST OF 1-INCH DIAMOND MESH USING 0.120-INCH THICK (11 GAUGE) WIRE DIAMETER CONFORMING TO ASTM F668 CLASS 2A. THE PVC COATING SHALL BE RED SAE AMS-STD-595 #11350. SELVAGES SHALL BE KNUCKLED AT BOTH ENDS. FABRIC TIES SHALL BE PVC COATED THE SAME AS THE FENCE FABRIC. FENCE COMPONENT ATTACHMENTS TO THE TRUSS MEMBERS SHALL BE MADE WITH CONNECTIONS THAT DO NOT ALLOW WATER INFILTRATION INTO THE STRUCTURAL TUBES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM077_1181\Sheets\077_1181_SN001.dgn Sheet 10/1/2021 10:02:42 AM KChrisman

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21

CHECKED	REVISED	STRUCTURE FILE NUMBER
KDC		7702950

GENERAL NOTES - 1

BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-
8.24/9.74/0.00
PID No. 101402

3 / 16

4 / 17

2021-09-16_BU 12 - REC PLANS

GENERAL NOTES (CONTINUED):

STEEL RUB RAILS SHALL BE HOLLOW STRUCTURAL SECTIONS (HSS) PER ASTM 1085 AND AS INDICATED ON THE PLANS. RUB RAILS SHALL BE PAINTED WITH THE SAME SYSTEM USED TO PAINT THE TRUSS. RUB RAILS SHALL BE WELDED TO THE TRUSS VERTICALS AS INDICATED ON THE PLANS.

FABRICATION:

THE FABRICATOR SHALL MEET LEVEL 6 QUALIFICATIONS PER C&MS 513.03.

WELDERS SHALL BE PROPERLY ACCREDITED EXPERIENCED OPERATORS, EACH OF WHOM SHALL SUBMIT CERTIFICATION OF SATISFACTORILY PASSING AWS STANDARD QUALIFICATION TESTS FOR ALL POSITIONS WITH UNLIMITED BASE METAL THICKNESS AND HAVE AT LEAST 6 MONTHS EXPERIENCE IN WELDING TUBULAR AND OTHER STRUCTURES AND WHO HAVE DEMONSTRATED THE ABILITY TO MAKE UNIFORM GOOD WELDS MEETING THE SIZE AND TYPE OF WELD REQUIRED.

SPECIAL ATTENTION SHALL BE GIVEN TO DEVELOPING SUFFICIENT WELD THROATS ON TUBULAR MEMBERS. WELD DETAILS SHALL BE IN ACCORDANCE WITH AWS D1.1. FILLET WELDS WHICH RUN ONTO THE RADIUS OF A TUBE SHALL BE BUILT-UP TO OBTAIN THE FULL THROAT THICKNESS.

THE BRIDGE SHALL BE INSPECTED BY A CERTIFIED WELD INSPECTOR (CWI) THAT IS QUALIFIED UNDER THE AWS QC-1 PROGRAM. THIS INSPECTION SHALL INCLUDE AS A MINIMUM REQUIREMENT THE FOLLOWING: REVIEW OF SHOP DRAWINGS, WELD PROCEDURES, WELDER QUALIFICATIONS AND WELD TEST REPORTS, VISUAL INSPECTION OF WELDS AND VERIFICATION OF OVERALL DIMENSIONS AND GEOMETRY OF BRIDGE. A REPORT SHALL BE PRODUCED INDICATING THE ABOVE ITEMS WERE REVIEWED. THE REPORT SHALL BE SIGNED BY THE CWI, SIGNIFYING COMPLIANCE WITH AWS D1.1 CODES.

WEEP HOLES:

THE FOLLOWING PROCEDURES ARE FOR INSTALLATION OF WEEP HOLES IN SPLICED TRUSSES OR OTHER STRUCTURAL MEMBERS TO PROVIDE POSITIVE DRAINAGE FOR ANY MEMBER THAT COULD HOLD WATER EITHER DURING CONSTRUCTION OR DURING SERVICE. WEEP HOLES SHALL BE PROVIDED AT THE LOWEST POINT OF THE MEMBER.

WHEN A WEEP HOLE IS REQUIRED IN THE TOP CHORD (AT AN END PORTAL OR IF THE END VERTICAL IS EXTENDED UP WITH CAP AND/OR STIFFENER PLATES), A 7/16-INCH DIAMETER WEEP HOLE SHALL BE PLACED AS CLOSE TO THE WELD AS POSSIBLE. EITHER BURNING THROUGH OR DRILLING IS ACCEPTABLE. REMOVE BURRS WITH A GRINDER AS REQUIRED.

IF THERE IS NOT SUFFICIENT CLEARANCE ON THE BOTTOM TUBE FACE NEAR THE WELD FOR THE HOLE, IT MAY BE PUT IN FRONT OF THE END DIAGONAL.

WHERE THE FLOOR BEAMS DO NOT HAVE OPEN ENDS AND ANY HOLE OR SCREW IS PUT IN THE FLOOR BEAM, A 7/16-INCH DIAMETER WEEP HOLE WILL BE DRILLED IN EACH END OF THE FLOOR BEAM.

THESE HOLES SHALL BE DRILLED PRIOR TO INSTALLING THE FLOOR BEAMS.

FOR THE BOTTOM CHORD AND END VERTICALS WHERE WEEP HOLES ARE REQUIRED, TORCH OR GRIND A 1/2-INCH HALF CIRCLE AT THE END OF THE MEMBER. THIS HOLE SHOULD BE TOUCHED UP WITH A DIE GRINDER SO THAT THERE ARE NO SHARP EDGES. THIS HOLE SHOULD BE AS CLOSE TO THE CENTER OF THE TUBE FACE AS POSSIBLE. DO NOT WELD AT THE HOLE.

FOR SPLICED VERTICAL DIAGONALS, DRILL A 7/16-INCH DIAMETER HOLE AS CLOSE TO THE BASE OF THE DIAGONAL AS POSSIBLE ON THE OUTSIDE FACE OF THE MEMBER, THEN GRIND REMAINING MATERIAL OUT TO CHORD FACE AND INSTALL WITHOUT WELDING AT THE HOLE. THIS HOLE SHOULD BE DRILLED ON A PRESS PRIOR TO INSTALLING THE DIAGONAL IN THE BRIDGE.

BEARING DEVICES:

BEARING DEVICES SHALL BE DESIGNED AND SUPPLIED BY THE BRIDGE FABRICATOR. BEARINGS SHALL MEET THE REQUIREMENTS OF C&MS 516. BRIDGE EXPANSION BEARINGS SHALL INCLUDE STAINLESS STEEL/TEFLON SLIDING SURFACES/ELASTOMERIC BEARINGS OR LAMINATED ELASTOMERIC BEARINGS AND BE DESIGNED TO ACCOMMODATE THE FULL MOVEMENT REQUIREMENTS. STAINLESS STEEL, TEFLON AND ELASTOMERIC SURFACES SHALL NOT BE PAINTED. BEARINGS SHALL BE FIXED AT THE PIER AND DESIGNED TO ALLOW MOVEMENT UNDER THERMAL EXPANSION OR CONTRACTION AT THE ABUTMENTS.

THE FOLLOWING ASSUMED UNFACTORED BEARING REACTIONS WERE USED FOR THE DESIGN OF THE ABUTMENTS AND PIER:

	R.A.		F.A.
DEAD LOAD	66.4 KIPS	DEAD LOAD	13.0 KIPS
LIVE LOAD	11.1 KIPS	LIVE LOAD	11.0 KIPS
PEDESTRIAN	36.4 KIPS	PEDESTRIAN	7.0 KIPS
WIND (TRANS.)	28.1 KIPS	WIND (TRANS.)	6.3 KIPS

PIER: DEAD LOAD - 163.3 KIPS
LIVE LOAD - 12.2 KIPS
PEDESTRIAN - 90.1 KIPS
WIND (TRANS.) - 66.8 KIPS

NAMEPLATE:

THE BRIDGE MANUFACTURE SHALL SECURE A NAMEPLATE TO THE STRUCTURE WITH THE MANUFACTURER'S NAME, MAXIMUM LOAD LIMITS AND SERIAL NUMBER.

FINISH/COATING SYSTEM:

A COMPLETE SHOP APPLIED 3-COAT IZEU PAINT SYSTEM ACCORDING TO C&MS 514 SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE STEEL TRUSSES. FIELD TOUCH-UP SHALL BE PERFORMED ACCORDING TO C&MS 514.17.C. THE FINISH COAT COLOR SHALL BE RED SAE AMS-STD-595 #11350 FOR THE END VERTICALS, EXTENDED TOP CHORDS, CANOPY BRACES, AESTHETIC END DIAGONALS AND END TOP BRACES. FINISH COAT COLOR SHALL BE GRAY SAE AMS-STD-595 #16515 FOR ALL OTHER TRUSS MEMBERS. ALL COSTS ASSOCIATED WITH FIELD TOUCH-UPS SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THIS ITEM.

SUBMITTALS:

SUBMIT SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS FOR THE STEEL STRUCTURE, BEARINGS AND THE ASSOCIATED REINFORCED CONCRETE DECK SLAB ACCORDING TO C&MS 501.04, 501.05 AND 513.06.

THE BRIDGE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND STRUCTURAL CALCULATIONS TO THE OHIO DEPARTMENT OF TRANSPORTATION (BRIDGE OWNER) AND CONTRACTOR FOR ACCEPTANCE PRIOR TO BEGINNING FABRICATION.

SHOP DRAWINGS SHALL BE UNIQUE DRAWINGS PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE WORK TO BE DONE. ALL RELATIVE DESIGN INFORMATION INCLUDING BUT NOT LIMITED TO GOVERNING CODES, DESIGN PARAMETERS, MEMBER SIZES, MATERIAL PROPERTIES, BRIDGE REACTIONS, SHOP AND FIELD CONNECTION DETAILS, DECK DETAILS, DIMENSIONS RELATED TO SUBSTRUCTURES AND GENERAL NOTES SHALL BE CLEARLY SPECIFIED ON THE DRAWINGS. SHOP DRAWINGS SHALL BE ACCURATELY PREPARED BY SKILLED DRAFTERS TO BE COMPLETE IN EVERY RESPECT. DRAWINGS SHALL HAVE CROSS-REFERENCED DETAILS AND SHEET NUMBERS.

THE OWNER MUST PROVIDE A WRITTEN ACCEPTANCE LETTER OF SHOP DRAWINGS TO CONFIRM TYPE, STYLE AND GENERAL APPEARANCE OF PREFABRICATED STRUCTURE IN ACCORDANCE WITH CONTRACT DOCUMENTS.

WRITTEN ACCEPTANCE FROM BOTH CONTRACTOR AND OWNER MUST BE PROVIDED PRIOR TO INITIATING FABRICATION
MILL TEST REPORTS:

CONTRACTOR MUST PROVIDE WRITTEN ACCEPTANCE OF MILL TEST REPORTS FROM SUPPLIER SHOWING COMPLIANCE WITH C&MS 711.01.

DELIVERY AND ERECTION:

THE CONTRACTOR SHALL COORDINATE WITH THE BRIDGE MANUFACTURER, THE DEPARTMENT AND OVERHEAD UTILITY OWNERS REGARDING THE DELIVERY AND ERECTION SCHEDULE. HAULING PERMITS AND FREIGHT CHARGES SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.

DELIVERY TO THE JOB SITE WILL BE BY TRUCKS BY MEANS OF GOOD HAUL ROADS UNLESS SPECIFIED OTHERWISE. THE BRIDGE MANUFACTURER SHALL PROVIDE DETAILED, WRITTEN INSTRUCTION PROCEDURES FOR PROPER LIFTING AND SPLICING OF BRIDGE COMPONENTS. THE CONTRACTOR SHALL PROVIDE A DETAILED WRITTEN ERECTION PLAN TO THE ENGINEER. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY THAT THE PROPOSED SUBSTRUCTURE DIMENSIONS, WIDTHS AND ELEVATIONS WILL ACCOMMODATE THE PROPOSED PREFABRICATED BRIDGE, AND ADJUST ACCORDINGLY IF NEEDED. ANY ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION, UNLESS SPECIFICALLY STATED OTHERWISE IN THESE PLANS.

THE CONTRACTOR SHALL COORDINATE WITH THE BRIDGE FABRICATOR TO OBTAIN ADEQUATE EQUIPMENT TO ERECT, LIFT AND INSTALL THE BRIDGE SPANS. THIS INCLUDES SPREADER BEAMS ETC. AS REQUIRED TO ENSURE THAT NO PORTION OF THE BRIDGE IS OVERSTRESSED DURING INSTALLATION OF THE STRUCTURE.

THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT AND LOCAL LAW ENFORCEMENT REGARDING ERECTION OF THE BRIDGE SPANS OVER S.R. 8. ERECTION OVER THE HIGHWAY SHALL OCCUR AT NIGHT ONLY BETWEEN THE HOURS OF 9:00 PM TO 5:00 AM TO ENSURE MINIMAL DISTURBANCE TO THE TRAVELING PUBLIC. ADVANCED WARNING SIGNAGE SHALL ALERT THE PUBLIC OF TEMPORARY NIGHTLY LANE CLOSURES AT LEAST FOURTEEN DAYS PRIOR TO THE START OF CONSTRUCTION.

THE BRIDGE MANUFACTURER SHALL PROVIDE WRITTEN INSPECTION AND MAINTENANCE PROCEDURES TO BE FOLLOWED TO THE BRIDGE OWNER.

WARRANTY:

THE BRIDGE MANUFACTURER SHALL PROVIDE THE BRIDGE OWNER WITH A WRITTEN WARRANTY AGAINST DEFECTS IN DESIGN, MATERIAL AND WORKMANSHIP OF THE PREFABRICATED BRIDGE SUPERSTRUCTURE FOR A PERIOD OF TEN YEARS FROM THE DATE OF DELIVERY TO THE SITE. PAINT AND OTHER SPECIAL COATINGS SHALL BE WARRANTED BY THE COATING MANUFACTURER. REPAIR OR REPLACEMENT OF THE SUPERSTRUCTURE BY THE MANUFACTURER SHALL BE THE SPECIFIC REMEDY FOR DEFECTS UNDER THE WARRANTY. AS PART OF THE WARRANTY COVERAGE, THE BRIDGE OWNER WILL KEEP RECORDS OF ROUTINE INSPECTIONS AND MAINTENANCE OF THE BRIDGE. YEARLY BRIDGE INSPECTIONS WILL BE PERFORMED BY THE OWNER.

PAYMENT:

PAYMENT FOR THE PREFABRICATED/PAINTED STEEL SUPERSTRUCTURE SHALL BE MADE AT A LUMP SUM BID PRICE AND SHALL INCLUDE ALL ITEMS LISTED ABOVE AND SHOWN ON THE PLANS, MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE REQUIRED WORK. NOTE THAT THE DESIGN OF THE DECK AND THE DESIGN AND MATERIAL FOR THE STAY-IN-PLACE FORM SYSTEM SHALL BE PROVIDED BY THE BRIDGE MANUFACTURER AND ARE INCLUDED IN ANOTHER PAY ITEM.

THE OWNER SHALL NOT BE RESPONSIBLE FOR ADDED EXPENSE DUE TO UNAVOIDABLE DELAYS SUCH AS INCLEMENT WEATHER, DELAYS IN PERMITS, RE-ROUTING BY PUBLIC AGENCIES, ETC.

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP	STRUCTURE MISC.: PREFABRICATED PAINTED STEEL SUPERSTRUCTURE

ITEM SPECIAL - STRUCTURE MISC.: CLASS QC2 CONCRETE BRIDGE DECK:

THIS WORK SHALL CONSIST OF THE COMPLETE STRUCTURAL DESIGN OF THE DECK AND FORM SYSTEM BY THE PREFABRICATED BRIDGE DESIGNER AND MANUFACTURER. THE WORK SHALL INCLUDE BUT NOT BE LIMITED TO: PROVIDING HOT DIP GALVANIZED STAY-IN-PLACE FORM PANS (MATERIAL SHALL BE IN ACCORDANCE WITH ASTM A653, GALVANIZED TO A MINIMUM G165 COATING WEIGHT, 20-GAUGE MINIMUM THICKNESS) AND ALL OTHER NECESSARY FORMING; FURNISHING AND PLACING EPOXY COATED REINFORCING STEEL; AND FURNISHING, PLACING, CONSOLIDATING, FINISHING AND CURING A PORTLAND CEMENT CONCRETE DECK SLAB WITH INTEGRAL TYPE 2-A CURBS ON THE PREFABRICATED PAINTED STEEL TRUSS SUPERSTRUCTURE. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE PREFABRICATED BRIDGE MANUFACTURER AND C&MS 508, 509 AND 511, UNLESS OTHERWISE NOTED. FOR THE PURPOSES OF DECK SLAB STRUCTURAL DESIGN, THE GALVANIZED STAY-IN-PLACE FORM SYSTEM SHALL NOT BE CONSIDERED AS A STRUCTURAL REINFORCEMENT OF THE HARDENED CONCRETE DECK. FOAM OR OTHER FILLERS WITHIN THE TROUGHS OF THE FORM PANS WILL NOT BE PERMITTED.

CONCRETE MATERIALS SHALL CONFORM TO C&MS 499.02 AND 499.03 USING CLASS QC2 CONCRETE MIX. PROVIDE A BROOM FINISH ON THE CONCRETE DECK IN THE TRANSVERSE DIRECTION. BRIDGE DECK GROOVING OF THE CURED DECK PER C&MS 511.17 IS NOT REQUIRED.

DESIGN LOADING FOR THE DECK SLAB SHALL BE THE SAME AS REQUIRED FOR THE PREFABRICATED BRIDGE. UPPER AND LOWER LAYERS OF LONGITUDINAL REINFORCEMENT ARE REQUIRED. AT LEAST ONE LAYER OF TRANSVERSE REINFORCEMENT SHALL BE PROVIDED WHEN THE DECK THICKNESS ABOVE THE FORM PAN RIBS IS LESS THAN 7 1/2-INCHES. UPPER AND LOWER LAYERS OF TRANSVERSE REINFORCEMENT SHALL BE PROVIDED WHEN THE DECK THICKNESS ABOVE THE FORM PAN RIBS IS 7 1/2-INCHES OR GREATER. LONGITUDINAL REINFORCEMENT PLACED WITHIN FORM PAN TROUGHS MAY BE CONSIDERED AS CONTRIBUTING TO THE STRENGTH OF THE DECK WHEN THE DESIGNER CAN SHOW THIS ASSUMPTION IS VALID. REINFORCING BARS SHALL BE PLACED 2-INCHES MINIMUM CLEAR TO TOP AND SIDE SURFACES AND 1 1/2-INCHES MINIMUM CLEAR TO THE BOTTOM SURFACE OF THE SLAB. AS PART OF THE PREFABRICATED BRIDGE SHOP DRAWING SUBMITTAL, SUBMIT STRUCTURAL DESIGN CALCULATIONS FOR THE DECK AND FORM SYSTEM. CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO.

THE DEPARTMENT WILL PAY FOR THE DECK ON A LUMP SUM BASIS FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP	STRUCTURE MISC.: CLASS QC2 CONCRETE BRIDGE DECK

ITEM SPECIAL - FORM LINER:

USE FORM LINERS AT THE REAR AND FORWARD ABUTMENTS AS SHOWN ON THE PLANS. FORM LINERS SHALL BE ARCHITECTURAL POLYMERS #9110, LARGE STONE OHIO DRY STACK OR EQUAL AS APPROVED BY THE ENGINEER. THE STONE FORM LINER PATTERN SHALL MATCH OTHER PARTS OF THE PROJECT (RETAINING WALLS AND ROADWAY SIDE OF NOISE WALLS) TO ENSURE UNIFORM SURFACE TREATMENTS THROUGHOUT, AS DETERMINED BY THE ENGINEER.

FORM LINERS SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED CONCRETE POUR PRESSURES WITHOUT LEAKAGE OR CAUSING PHYSICAL DEFECTS. FORM LINERS SHALL BE REMOVABLE WITHOUT CAUSING CONCRETE SURFACE DAMAGE. USE A FORM RELEASE PRODUCT AS RECOMMENDED BY THE FORM LINER MANUFACTURER. USE MANUFACTURER'S APPLICATION RATES AND ALL OTHER MANUFACTURER'S INSTRUCTIONS. FORM RELEASE PRODUCTS SHALL BE FULLY COMPATIBLE WITH THE FORM LINER MATERIAL AND THE EPOXY-URETHANE SEALER TO BE APPLIED TO THE FINISHED SURFACES.

ALIGN THE FORM LINER PATTERNS ACROSS ALL EXPANSION, CONTRACTION, AND CONSTRUCTION JOINTS.

FORM LINERS SHALL EXTEND A MINIMUM OF 1'-0" BELOW THE PROPOSED GROUND LINE AT THE FRONT FACE OF THE WALL. FORM LINERS MAY EXTEND MORE THAN 1'-0" BELOW THE PROPOSED GROUND LINE BUT THE PAY LIMITS SHALL BE 1'-0" BELOW THE PROPOSED GROUND LINE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED ABOVE AND IN A SATISFACTORY AND WORKMANLIKE MANNER.

STRUCTURE GROUNDING:

THE STRUCTURE SHALL BE GROUNDED ACCORDING TO C&MS 625.16. SEE ODOT STANDARD CONSTRUCTION DRAWING HL-50.21 FOR DETAILS. SEE LIGHTING PLANS FOR PAYMENT.

ASBESTOS NOTIFICATION:

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST INSPECTED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE STRUCTURE.

THE DEPARTMENT HAS PROVIDED A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM (PARTIALLY COMPLETED) AND THE ASBESTOS INSPECTION REPORT IN THE REFERENCE FILES FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO THE OEPA AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. ONLINE SUBMISSION IS AVAILABLE AT:

http://www.epa.ohio.gov/asbestos

AND IS ENCOURAGED OR, THE CONTRACTOR SHALL SUBMIT IT TO ONE OF THE FOLLOWING ADDRESSES BELOW:

ASBESTOS PROGRAM
OHIO EPA, DAPC
P.O. BOX 1049
COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM
OHIO EPA, DAPC
50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43215

THIS FORM SHALL INCLUDE:

1. THE CONTRACTOR'S NAME AND ADDRESS
2. THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE STRUCTURE DEMOLITION AND/OR RENOVATION
3. DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHODS TO BE USED
4. ALL NECESSARY FEES

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED NOTIFICATION OF DEMOLITION AND RENOVATION FORM TO THE PROJECT ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIALS NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

2021-0916_BU 12 - RFC PLANS

ISSUE RECORD:		
NO.	DATE	DESCRIPTION

Released for Construction
Thomas J Powell, PE
10/06/2021

ESTIMATED QUANTITIES

CALC.	DATE	CHECKED	DATE
CAS	08/21/2019	ODW	8/29/2019

ITEM	ITEM EXT.	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	TOTAL	PARTICIPATION 11/IMS/BR	SHEET REF.
			OPTION A							
202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LS	LS	6 / 16
202	22900	SY	APPROACH SLAB REMOVED				250	250	250	
503	21100	CY	UNCLASSIFIED EXCAVATION	168				168	168	
503	31100	CY	ROCK EXCAVATION	44				44	44	
503	31120	CY	SHALE EXCAVATION	24				24	24	
509	10000	LB	EPOXY COATED REINFORCING STEEL	8474	8398			16872	16872	
511	41010	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		15			15	15	
511	43510	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	92				92	92	
512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	69	50			119	119	
512	33000	SY	TYPE 2 WATERPROOFING	24				24	24	
516	10001	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN	26				26	26	3 / 16
516	13200	SF	1/2" PREFORMED EXPANSION JOINT FILLER	101				101	101	
516	13600	SF	1" PREFORMED EXPANSION JOINT FILLER	45				45	45	
518	21200	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	44				44	44	
518	40000	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	34				34	34	
524	94907	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK, AS PER PLAN		10			10	10	3 / 16
524	94909	FT	DRILLED SHAFTS, 54" DIAMETER, INTO BEDROCK, AS PER PLAN		17			17	17	3 / 16
524	95100	EACH	DRILLED SHAFT, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS		1			1	1	
SPECIAL	53000200	LS	STRUCTURE, MISC.: PREFABRICATED PAINTED STEEL SUPERSTRUCTURE					LS	LS	3 - 4 / 16
SPECIAL	53000200	LS	STRUCTURE, MISC.: CLASS QC2 CONCRETE BRIDGE DECK					LS	LS	4 / 16
SPECIAL	53013000	SF	FORM LINER	341				341	341	4 / 16
SPECIAL	69098400	LS	MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS					LS	LS	4 / 16
			OPTION B: ATC							
SPECIAL	20299000	LS	STRUCTURE REMOVED				LS	LS	LS	
SPECIAL	51299000	LS	SEALING OF CONCRETE	LS	LS			LS	LS	
SPECIAL	53099010	LS	SUBSTRUCTURE	LS	LS			LS	LS	
SPECIAL	53099020	LS	SUPERSTRUCTURE			LS		LS	LS	

STANDARD ABBREVIATIONS LIST:

BOT. = BOTTOM
BRG. = BEARINGS
BRGS. = BEARINGS
B.S. = BOTH SIDES
c/c = CENTER-TO-CENTER
C.J. = CONSTRUCTION JOINT
CJP = COMPLETE JOINT PENETRATION
CLR. = CLEAR
C&MS = CONSTRUCTION AND MATERIALS SPECIFICATIONS
CONST. = CONSTRUCTION
DIA. = DIAMETER
E.F. = EACH FACE
EL. = ELEVATION
EMBED. = EMBEDMENT
EQ. = EQUAL
EXP. = EXPANSION
F.A. = FORWARD ABUTMENT
f/f = FACE-TO-FACE
F.F. = FAR FACE
FWD = FORWARD
LT. = LEFT
MAX. = MAXIMUM
M.E. = MATCH EXISTING
MIN. = MINIMUM
NB = NORTHBOUND
N.F. = NEAR FACE
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
o/o = OUT-TO-OUT
PCB = PORTABLE CONCRETE BARRIER
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
PEJF = PREFORMED EXPANSION JOINT FILLER
P.G. = PROFILE GRADE
R.A. = REAR ABUTMENT
RAD. = RADIUS
RT. = RIGHT
SB = SOUTHBOUND
SHLD. = SHOULDER
S.O. = SERIES OF
SPA. = SPACES
STA. = STATION
SYMM. = SYMMETRICAL
T&B = TOP AND BOTTOM
T/R = TOP OF ROCK
t/t = TOE-TO-TOE
U.N.O. = UNLESS NOTED OTHERWISE

FOR INFORMATION ONLY

DESCRIPTION

ISSUE RECORD:

NO.	DATE

DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		7702950	

2021-09-16_BU 12 - RFC PLANS

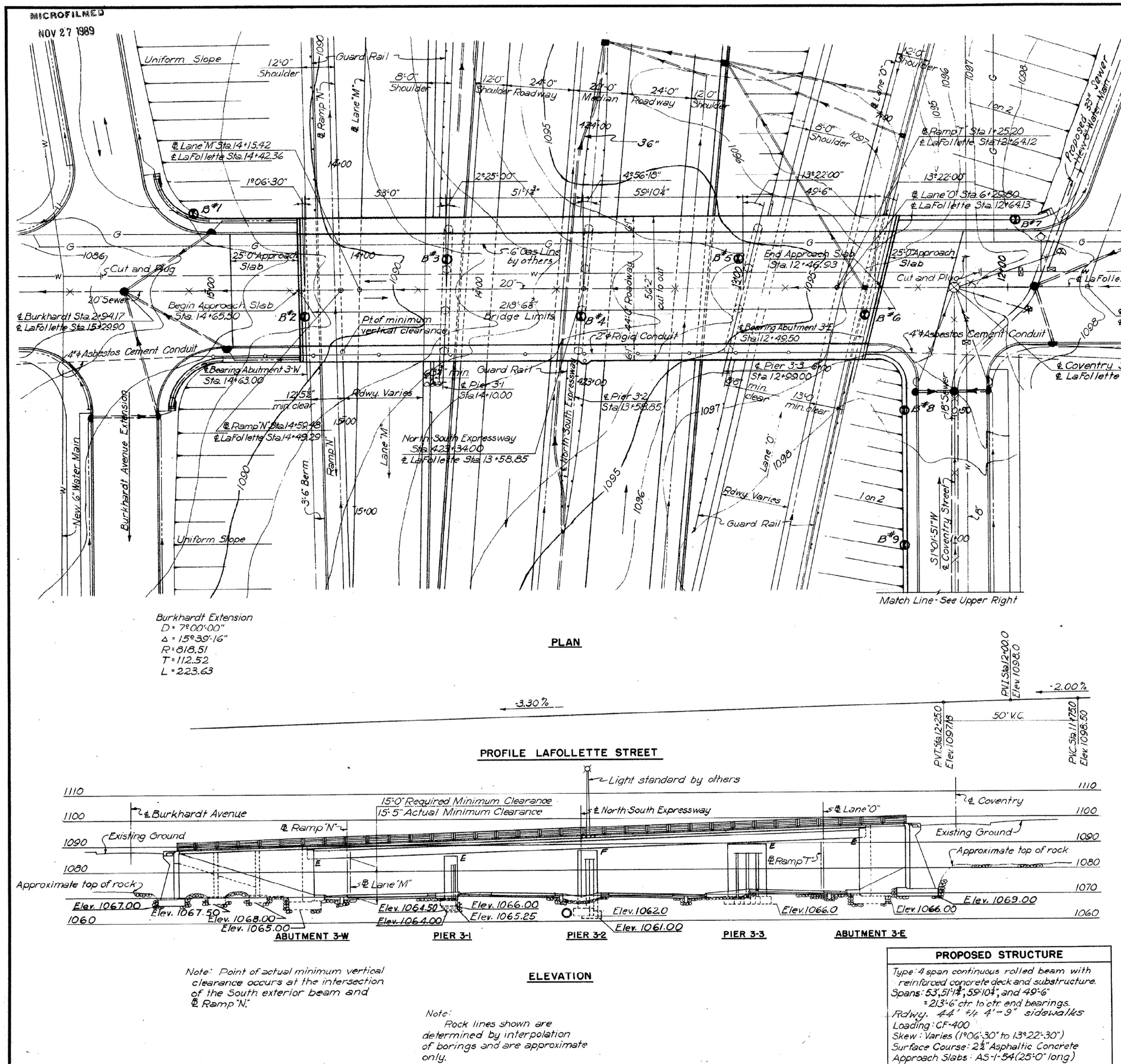
ESTIMATED QUANTITIES AND STANDARD ABBREVIATIONS LIST
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

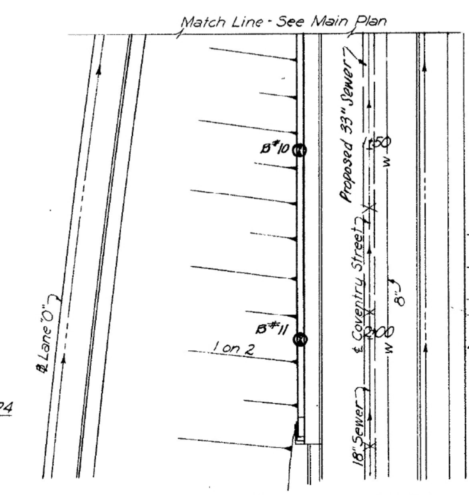
SUM-76/77/8-
8.24/9.74/0.00
PID No. 101402

5 / 16

6
17

Released for Construction
Thomas J Powell, PE
10/06/2021





PART PLAN SHOWING SOUTHEAST WINGWALL

FED. ROADS DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		116 / 176

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
SUM-8-11.65

LEGEND

- Manhole to be abandoned or removed
- New Manhole
- Existing Inlet
- New Inlet
- Existing Gas Lines
- Existing Hydrant or Valve
- Water Lines to be abandoned or removed
- Existing Water Mains
- Sewer Lines to be abandoned or removed
- New Sewer Lines
- New Underdrains
- Boring

ESTIMATED QUANTITIES

Item	Description	Unit	Abutments	Wingwalls	Piers	Superstructure	General	Total
E-2	Cofferdams, Cribs and Sheeting	Lump Sum						Lump Sum
E-2	Excavation for Structures (Unclassified)	Cu. Yd.	55	761	44			860
E-2	Excavation for Structures (Rock or Shale)	Cu. Yd.	235	300	65			600
S-1	Class "C" Concrete (Superstructure)	Cu. Yd.				330		330
S-1	Class "C" Concrete (Abutment, Walls, End Post and Approach Sidewalks and Curbs)	Cu. Yd.	305	400			45*	750
S-1	Class "C" Concrete (Pier Caps and Columns)	Cu. Yd.			115			115
S-1	Class "E" Concrete (Footings)	Cu. Yd.	105	175	50			330
S-3	Waterproofing, Premolded Sealing Strip	Lin. Ft.		165				165
S-3	Type "C" Waterproofing	Sq. Yd.				1,050		1,050
S-4	Reinforcing Steel	Lbs.	39,640	57,290	27,030	95,170	7,570*	226,700
S-7	Structural Steel	Lbs.				300,000		300,000
S-8	Field Painting Structural Steel	Lbs.				300,000		300,000
S-9	½" Preformed Gray Rubber Expansion Joint Filler	Sq. Ft.		290				290
S-14	Steel Handrail	Lin. Ft.		362		434		796
S-25	2"ϕ Rigid Metal Conduit	Lin. Ft.		275		225		500
S-25	Electrical Equipment	Lump Sum						Lump Sum
S-29	Porous Backfill	Cu. Yd.	168	202				370
S-29	Subdrainage for Wearing Surface Course	Lin. Ft.				440		440
T-35	2½" Asphaltic Wearing Surface Course (Type C (60-70))	Cu. Yd.				72		72

* Includes Approach Sidewalks and Curbs

Notes:

The following items are not included in the bridge plans. See Roadway Plans for details.

Removal of existing pavements, etc.
Relocation or removal of existing utilities.
Approach grading, pavements, and slabs.
Guard rails.

Boring information, logs and samples of materials encountered may be examined at the Division Office at Ravenna, Ohio, and at the Bridge Bureau Office at Columbus, Ohio, but the State does not guarantee these borings to present a complete picture of subsurface conditions to be encountered.

Foundation design and foundation quantities are based on a study of the borings.

PROPOSED STRUCTURE

Type: 4 span continuous rolled beam with reinforced concrete deck and substructure.
Spans: 53', 51'-1¾", 59'-10¼", and 49'-6" = 213'-6" ctr. to ctr. end bearings.
Rdwy. 44' f/f 4'-9" sidewalks
Loading: CF-400
Skew: Varies (1°06'30" to 13°22'30")
Surface Course: 2½" Asphaltic Concrete
Approach Slabs: AS-1-54 (25'-0" long)

H.N.T.B. BR. NO. 3 — PART 10

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY — CLEVELAND — NEW YORK

SITE PLAN
NO.-SO. EXPRESSWAY UNDER LAFOLLETTE ST.
BR. NO. SUM-8-1235 — STA. 12+46.93
SCALE: 1" = 20' — STA. 14+65.50
AKRON EXPRESSWAY SYSTEM
AKRON — SUMMIT COUNTY — OHIO

DRAWN W.R.K.	TRACED	CHECKED L.W.L.	REVIEWED J.T.	REVISED
DATE 3-5-58	DATE	DATE 9-6-58	DATE 9-8-58	1018 SHEET 116

ORIGINAL CONSTRUCTION PLANS SHOWN FOR INFORMATION ONLY

NOTES:

1. THE EXISTING BRIDGE AND WINGWALLS AT ALL FOUR QUADRANTS ARE TO BE REMOVED AS PER ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN AS PER PLAN. EXISTING FOOTINGS NEED TO BE REMOVED AT WALL NO. 12. SEE WALL PLAN AND PROFILE WALL NO. 12.
2. THE EXISTING APPROACH SLABS ARE TO BE REMOVED AS PER ITEM 202 - APPROACH SLAB REMOVED.
3. SUM-8-1235 IS THE HISTORIC BRIDGE NUMBER. CURRENT BRIDGE NUMBER IS SUM-77-1184 AND THE STRUCTURE FILE NUMBER IS 7702949. THE STRUCTURE WAS REHABILITATED IN 1987.

ISSUE RECORD:		
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED JAT	DRAWN JAT	REVIEWED SAN	DATE 6/11/21
CHECKED KDC	REVISED	STRUCTURE FILE NUMBER 7702950	

BRIDGE REMOVAL DETAILS - 1
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

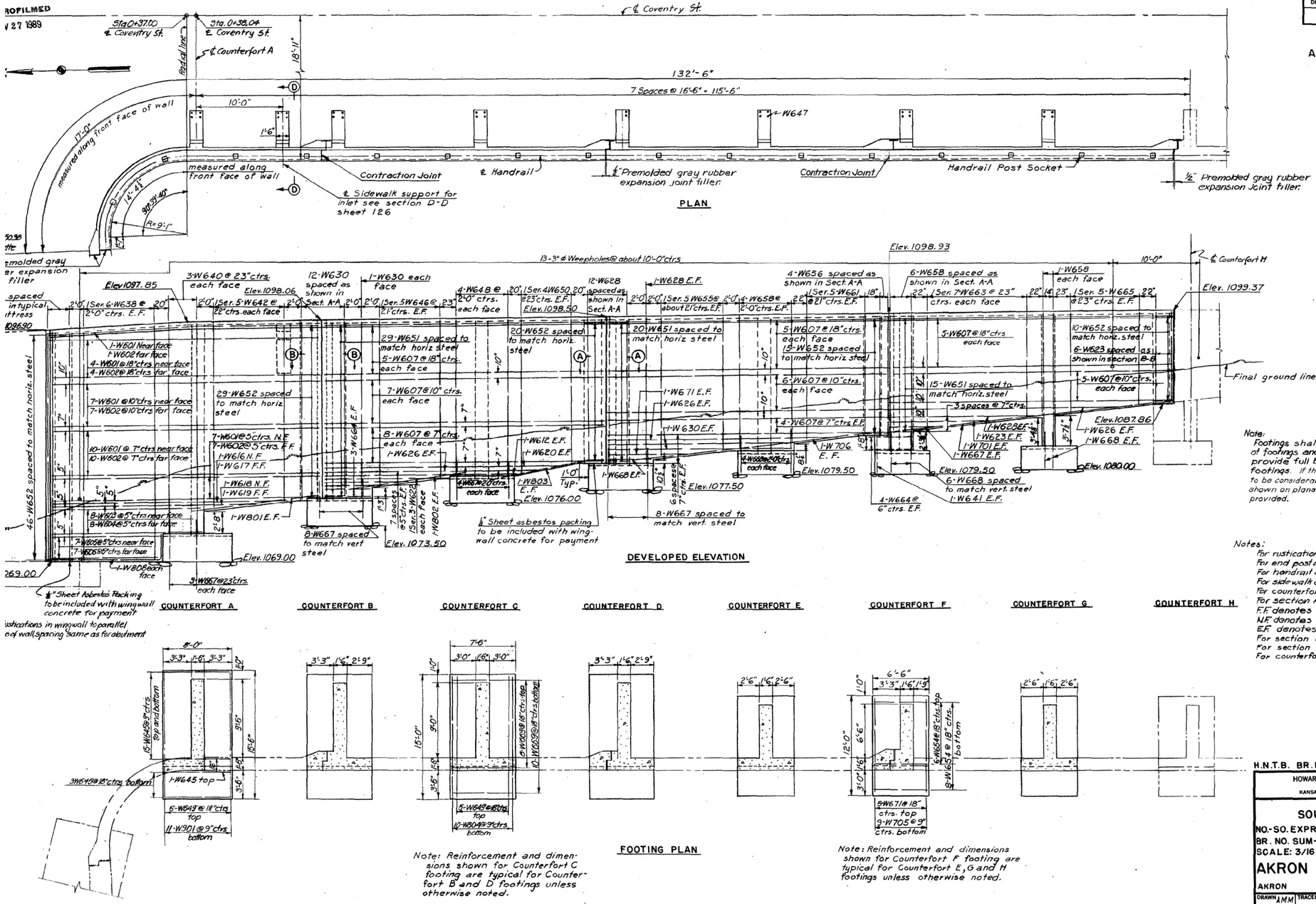
SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

2021-09-16_BU 12 - RFC PLANS

FED. ROADS DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		

124 / 176

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
SUM-8-11.65



H.N.T.B. BR. NO. 3 PART 10

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

SOUTHEAST WINGWALL
NO.-SO. EXPRESSWAY UNDER LAFOLLETTE ST.
BR. NO. SUM- 8-1235 STA. 12 + 46.93
SCALE: 3/16" = 1'-0" STA. 14 + 65.50

AKRON EXPRESSWAY SYSTEM
AKRON SUMMIT COUNTY OHIO

DRAWN AMM	TRACED	CHECKED W.R.K.	REVIEWED J.F.	REVISED
DATE 5-27-58	DATE	DATE 8-18-58	DATE 9-8-58	1018 SHEET 124

ORIGINAL CONSTRUCTION PLANS SHOWN FOR INFORMATION ONLY

NOTES:

SEE NOTES ON SHEET 6 / 16 .

DESCRIPTION

ISSUE RECORD:

NO.	DATE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		7702950	

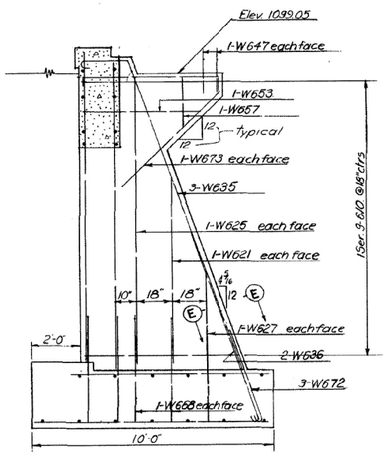
BRIDGE REMOVAL DETAILS - 2
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

2021-09-16_BU 12 - RFC PLANS

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

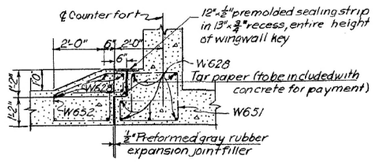
7 / 16

8 / 17

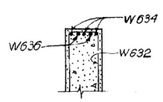


COUNTERFORT M
3/8"=1'-0"

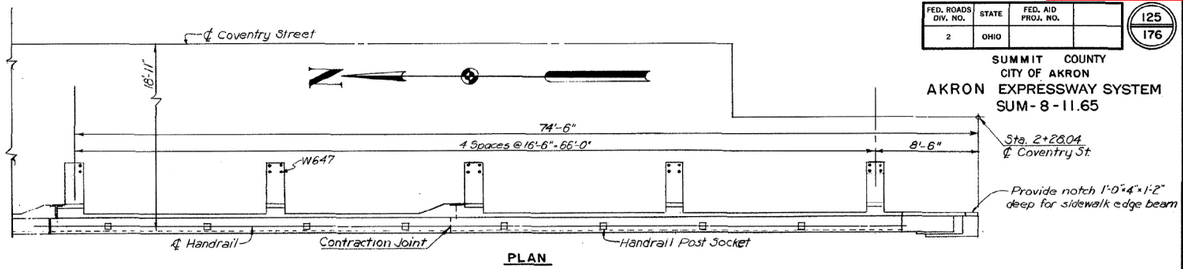
Note:
Dimensions shown on Cft. F are typical for Cfts. E, G, H, J, K, L, and M unless otherwise shown.



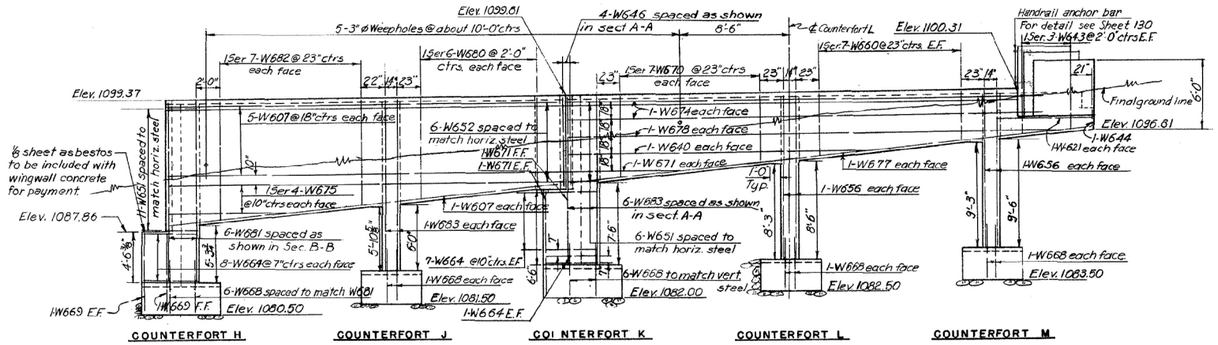
SECTION A-A
3/8"=1'-0"
Sec. B-B similar to Sec. A-A except expansion joint filler will be omitted at contraction joints and for bar marks.



SECTION C-C
3/8"=1'-0"
Sections D-D and E-E similar to Section C-C except for bar marks.



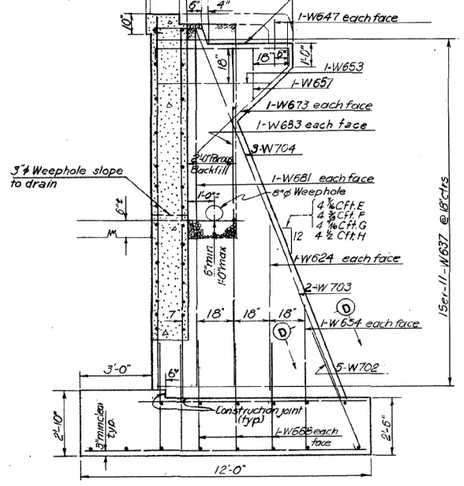
PLAN



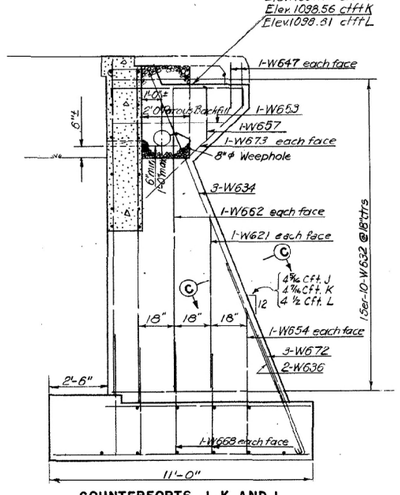
COUNTERFORT H **COUNTERFORT J** **COUNTERFORT K** **COUNTERFORT L** **COUNTERFORT M**

Note:
Footings shall extend into rock the full depth of footings and special care shall be taken to provide full bearing of rock against toe of footings. If the elevation of top of rock is found to be considerably lower, after excavation, than shown on plans, a new wingwall design will be provided.

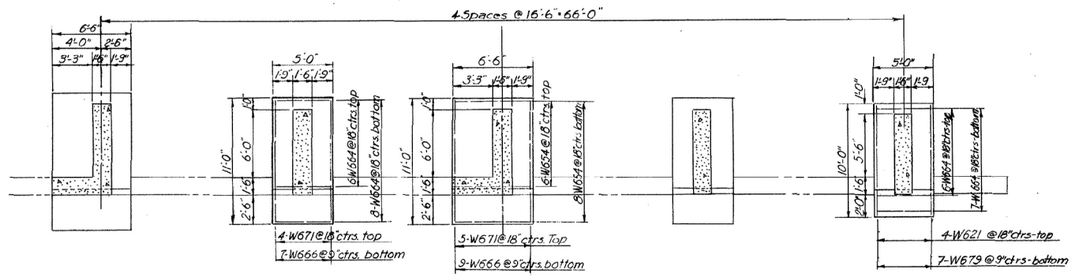
DEVELOPED ELEVATION



COUNTERFORTS E, F, G AND H
3/8"=1'-0"
Counterfort F shown. Counterforts E, G and H similar except as shown.



COUNTERFORTS J, K AND L
3/8"=1'-0"
Counterfort K shown. Counterforts J and L similar except as shown.



Note:
For Counterfort H reinforcement and dimensions see Counterfort F, sheet 124.

Note: Footing reinforcement and dimensions shown for Counterfort I are typical for Counterfort L.

FOOTING PLAN

Note:
For additional notes see sheets 124 and 126.

H.N.T.B. BR. NO. 3 PART 10
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

SOUTHEAST WINGWALL
NO.- SO. EXPRESSWAY UNDER LAFOLLETTE ST.
BR. NO. SUM- 8-1235 STA. 12+46.93
SCALE: 3/16" =1'-0" STA. 14+65.50

AKRON EXPRESSWAY SYSTEM
AKRON SUMMIT COUNTY OHIO

DRAWN	TRACED	CHECKED	REVIEWED	REVISED
AMM		M.R.K	J.T.	
DATE 5-27-58	DATE	DATE 8-18-58	DATE 9-8-58	10-8 SHEET 125

FED. ROADS DIV. NO.	STATE	FED. AID PROJ. NO.		125 / 176
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
SUM-8-11.65

ORIGINAL CONSTRUCTION PLANS SHOWN FOR INFORMATION ONLY

NOTES:
SEE NOTES ON SHEET 6 / 16 .

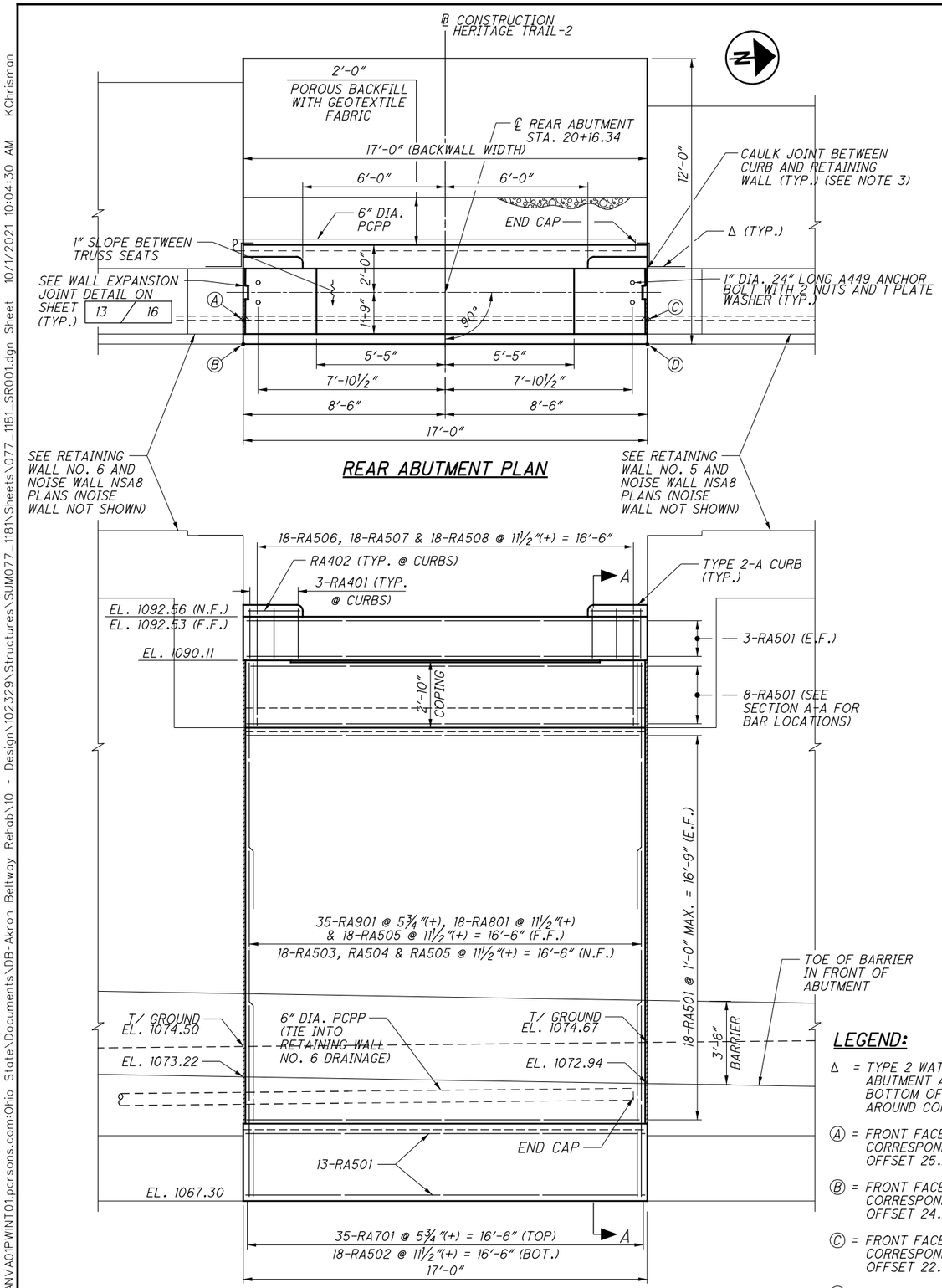
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

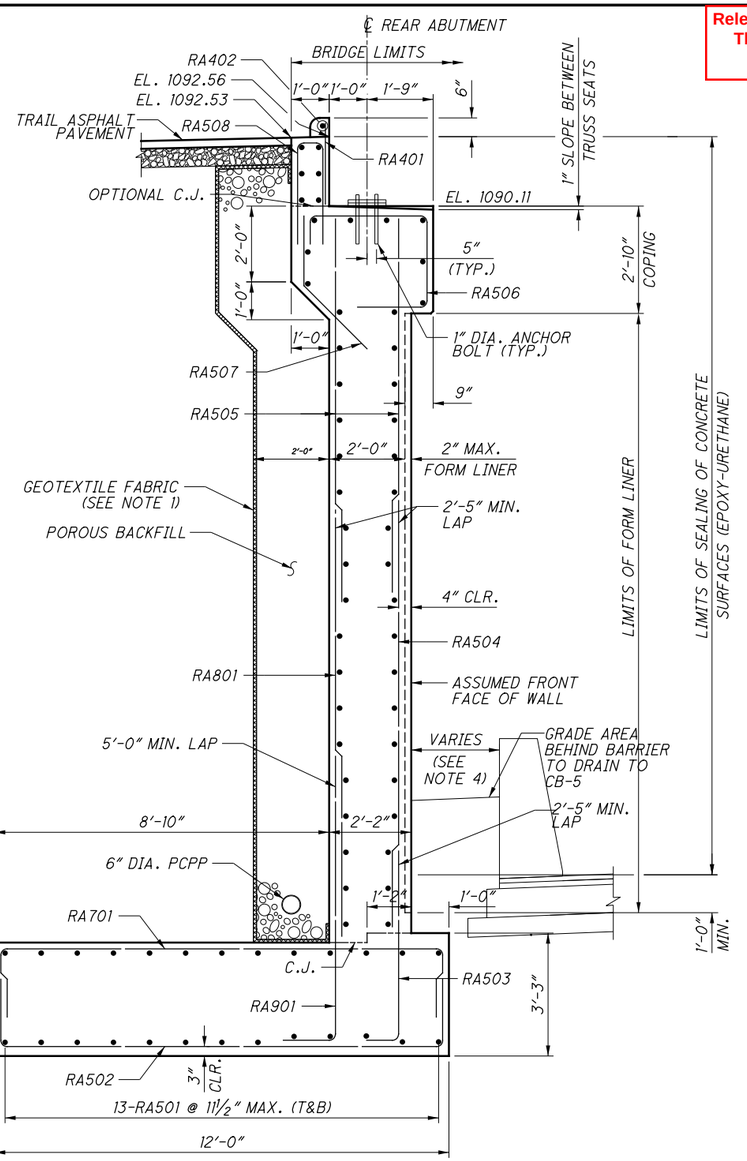
DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		7702950	

BRIDGE REMOVAL DETAILS - 3
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

8 / 16
9 / 17





SECTION A-A

(ALL BARS NORMAL TO THE SECTION ARE RA501 BARS UNLESS NOTED OTHERWISE)

LEGEND:

Δ = TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT BETWEEN ABUTMENT AND RETAINING WALL, FROM TOP OF FOOTING TO BOTTOM OF TRAIL ASPHALT PAVEMENT. WRAP WATERPROOFING AROUND CORBEL AND BACKWALL AS SHOWN.

Ⓐ = FRONT FACE OF WALL STA. 20+17.51, OFFSET 8.5' RT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP N, STA. 3325+31.05, OFFSET 25.27' LT. (SEE WALL 6 PLANS).

Ⓑ = FRONT FACE OF FOOTING STA. 20+18.51, OFFSET 8.5' RT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP N, STA. 3325+30.90, OFFSET 24.29' LT. (SEE WALL 6 PLANS).

Ⓒ = FRONT FACE OF WALL STA. 20+17.51, OFFSET 8.5' LT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP N, STA. 3325+47.86, OFFSET 22.74' LT. (SEE WALL 5 PLANS).

Ⓓ = FRONT FACE OF FOOTING STA. 20+18.51, OFFSET 8.5' LT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP N, STA. 3325+47.71, OFFSET 21.75' LT. (SEE WALL 5 PLANS).

NOTES:

1. TURN GEOTEXTILE FABRIC UP 6" AT BASE OF WALL AND DOWN 6" AT TOP OF WALL.
2. FOR FORMLINER NOTES AND DETAILS, SEE SUM-76/77/8-10.99/11.54/0.00 (ATTACHMENT C) PLANS AND SHEET 4/16.
3. CAULK SHALL BE A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. PAYMENT SHALL BE INCLUDED WITH CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING.
4. DIMENSION FROM THE FACE OF THE FORM LINER TO THE BACK SIDE OF THE BARRIER VARIES FROM 6" AT THE NORTH END ABUTMENT/WALL EXPANSION JOINT TO 3'-0⅜" AT THE SOUTH END.
5. FOR LIGHTING PLANS, SEE SUM-76/77/8-10.99/11.54/0.00 (ATTACHMENT C).

Released for Construction
Thomas J Powell, PE
10/06/2021

2021-09-16_BU 12 - RFC PLANS

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

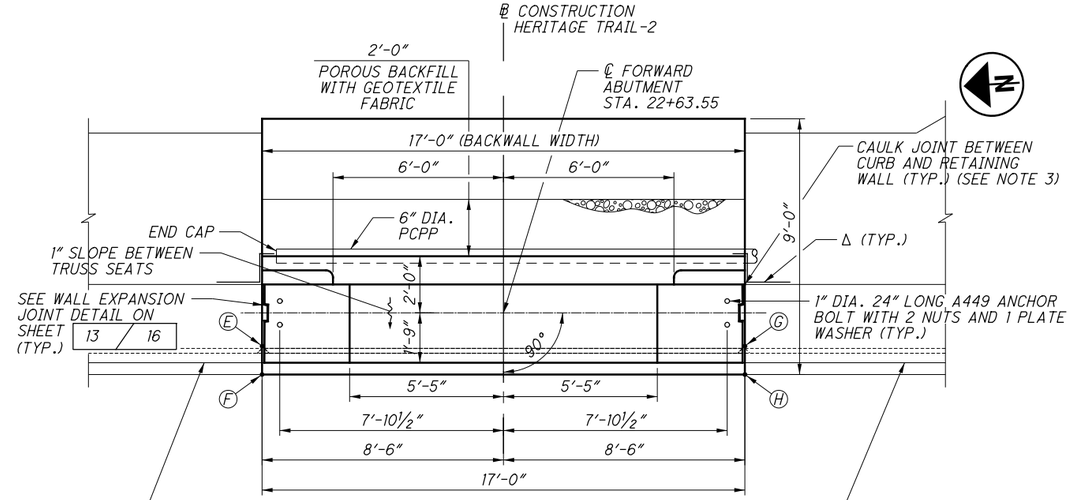
DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		7702950	

REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

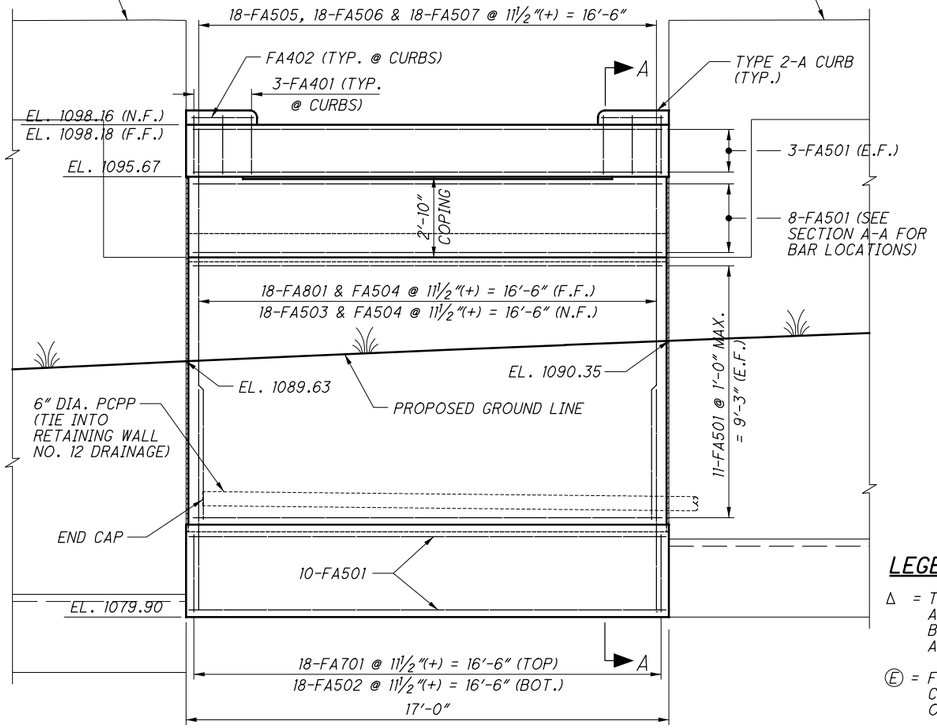
SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

9 / 16
10 / 17

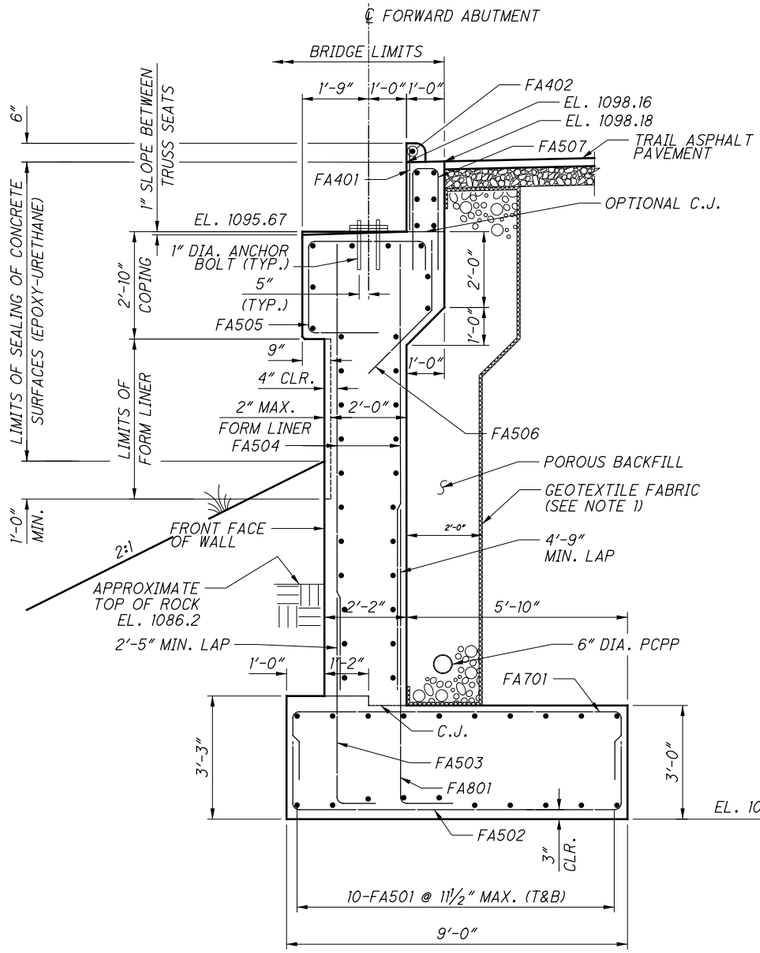
pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM077_1181\Sheets\077_1181_SR001.dgn Sheet 10/1/2021 10:04:30 AM KChrisman



FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION



SECTION A-A

(ALL BARS NORMAL TO THE SECTION ARE FA501 BARS UNLESS NOTED OTHERWISE)

LEGEND:

Δ = TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT BETWEEN ABUTMENT AND RETAINING WALL, FROM TOP OF FOOTING TO BOTTOM OF TRAIL ASPHALT PAVEMENT. WRAP WATERPROOFING AROUND CORBEL AND BACKWALL AS SHOWN.

Ⓔ = FRONT FACE OF WALL STA. 22+62.38, OFFSET 8.5' LT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP T, STA. 7306+59.69, OFFSET 45.21' RT. (SEE WALL 12 PLANS).

Ⓕ = FRONT FACE OF FOOTING STA. 22+61.38, OFFSET 8.5' LT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP T, STA. 7306+59.64, OFFSET 44.21' RT. (SEE WALL 12 PLANS).

Ⓖ = FRONT FACE OF WALL STA. 22+62.38, OFFSET 8.5' RT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP T, STA. 7306+42.15, OFFSET 45.97' RT. (SEE WALL 12 PLANS).

Ⓗ = FRONT FACE OF FOOTING STA. 22+61.38, OFFSET 8.5' RT. POINT CORRESPONDS TO ℄ CONSTRUCTION RAMP T, STA. 7306+42.11, OFFSET 44.97' RT. (SEE WALL 12 PLANS).

NOTES:

1. TURN GEOTEXTILE FABRIC UP 6" AT BASE OF WALL AND DOWN 6" AT TOP OF WALL.
2. FOR FORMLINER NOTES AND DETAILS, SEE SUM-76/77/8-10.99/11.54/0.00 (ATTACHMENT C) PLANS AND SHEET 4/16.
3. CAULK SHALL BE A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. PAYMENT SHALL BE INCLUDED WITH CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING.
4. FOR LIGHTING PLANS, SEE SUM-76/77/8-10.99/11.54/0.00 (ATTACHMENT C).

DESCRIPTION

ISSUE RECORD:

NO.	DATE

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		7702950	

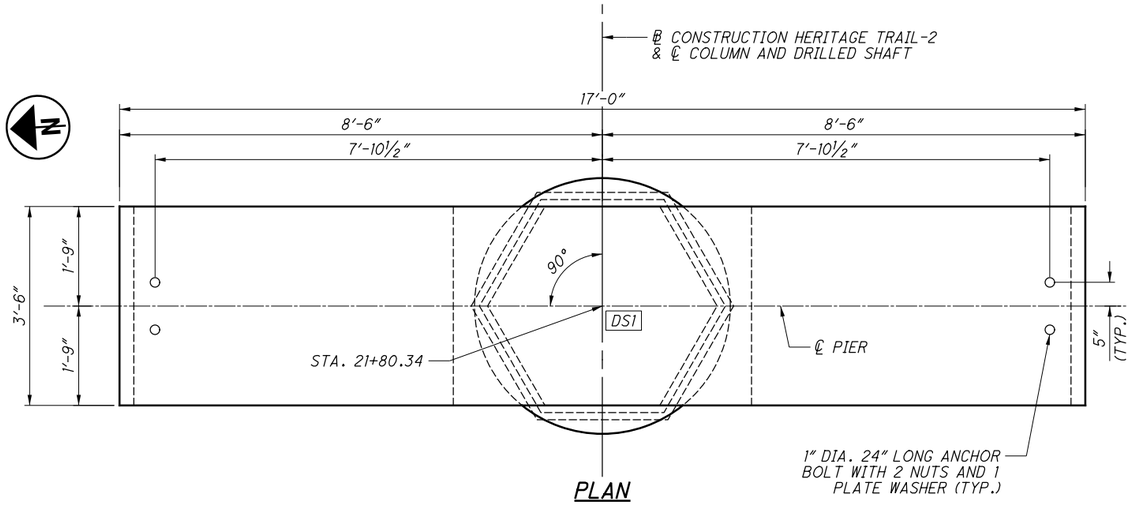
FORWARD ABUTMENT PLAN AND ELEVATION
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

2021-09-16_BU 12 - RFC PLANS

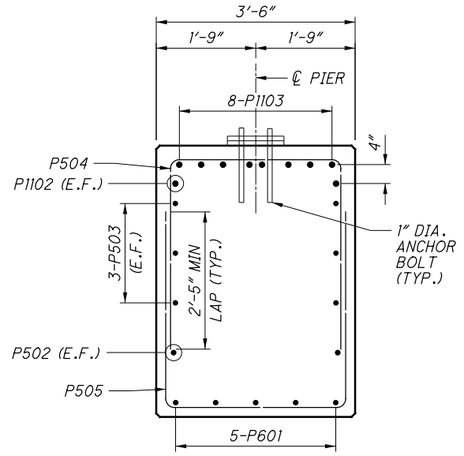
SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

10 / 16

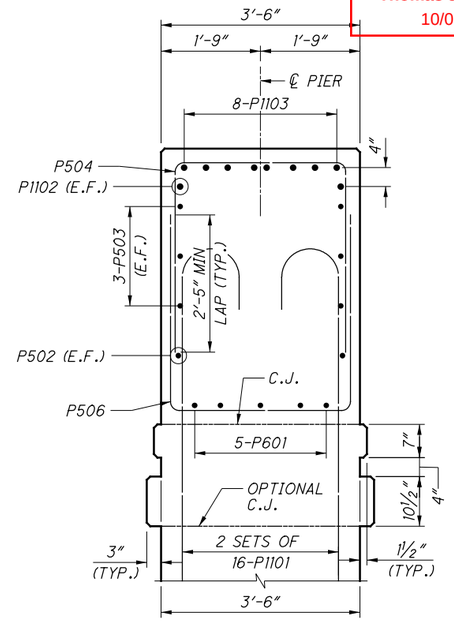
11 / 17



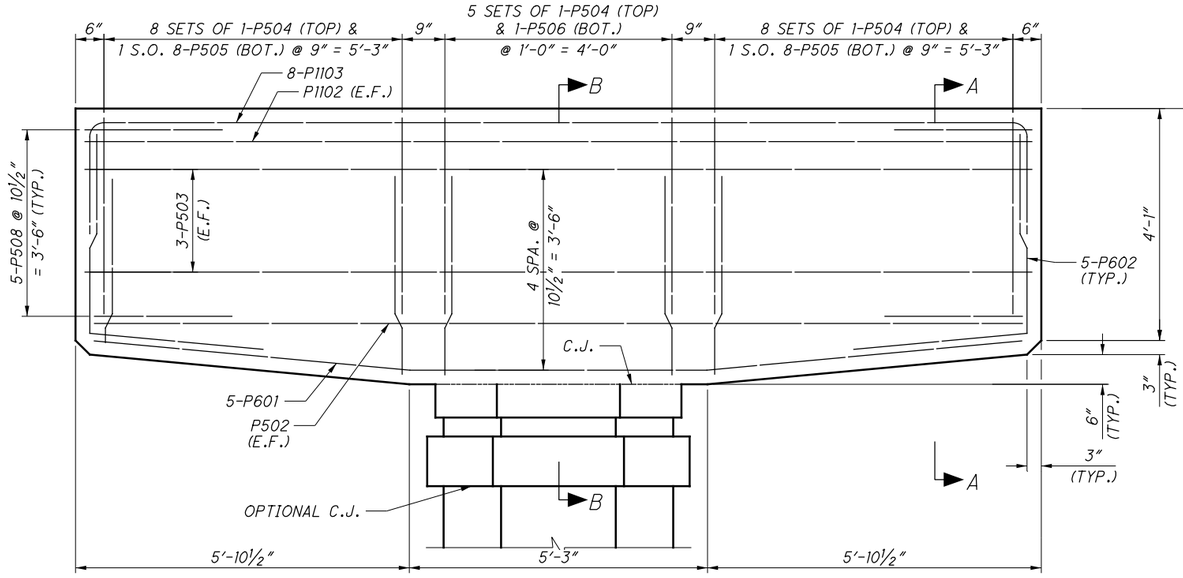
PLAN



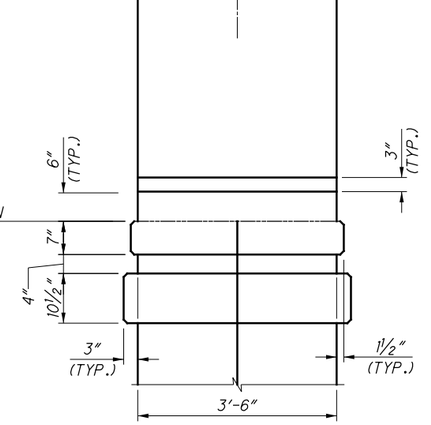
SECTION A-A



SECTION B-B



CAP ELEVATION



END ELEVATION

LEGEND:

DS1 = DRILLED SHAFT NUMBER

NOTES:

1. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
2. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS
   #6 BARS: 2'-10"
3. SEE SHEET 12 / 16 FOR COLUMN DETAILS.

2021-09-16_BU 12 - RFC PLANS

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

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KDC		7702950	

PIER PLAN AND CAP ELEVATION

BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

11 / 16

12 / 17

ISSUE RECORD:

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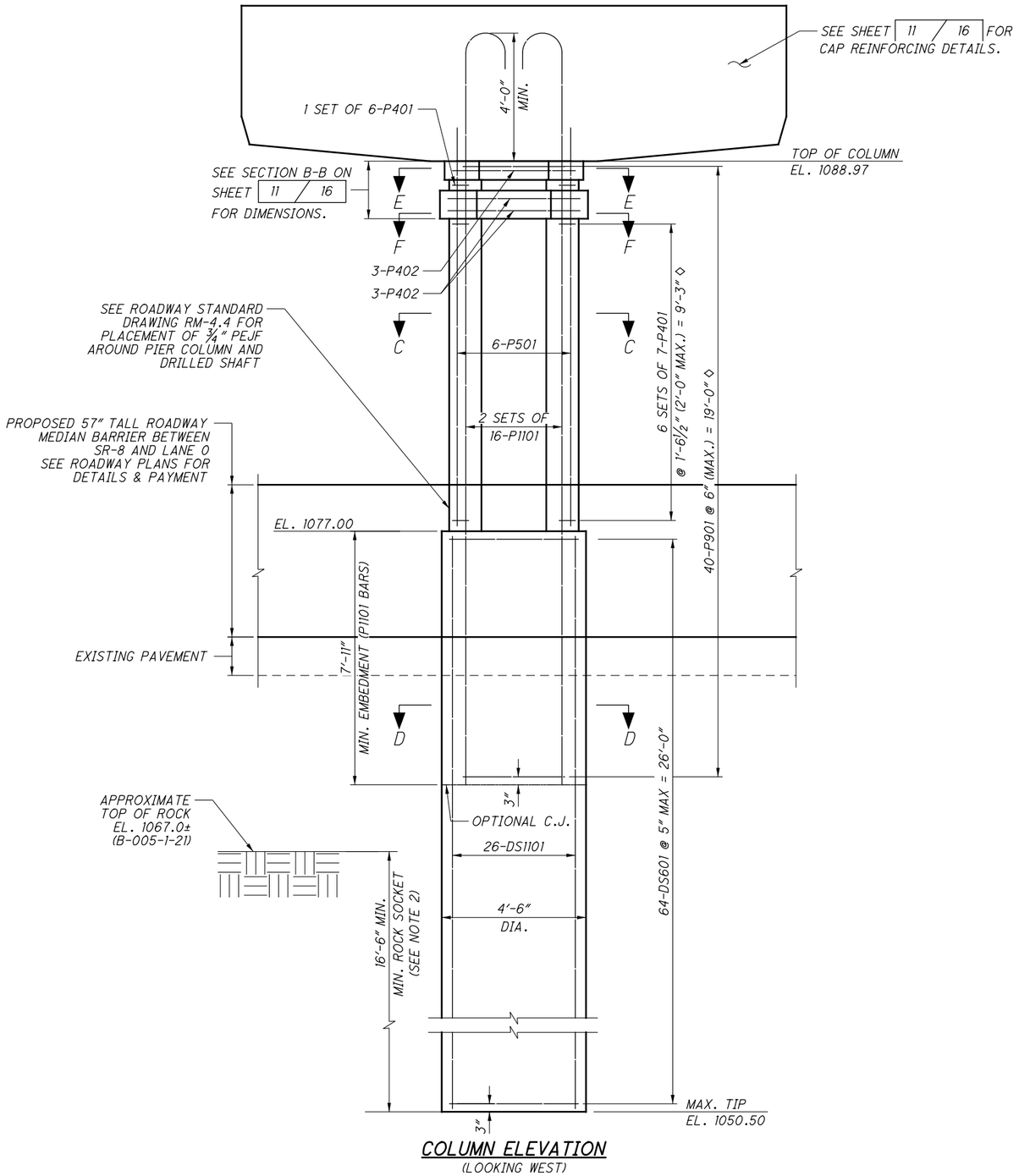
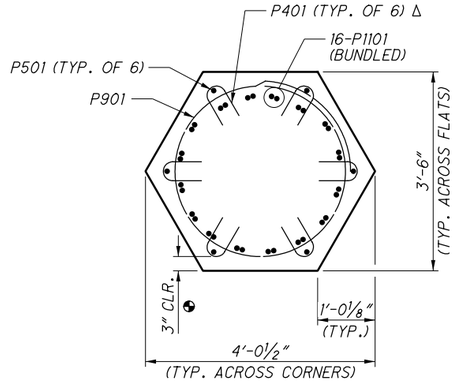
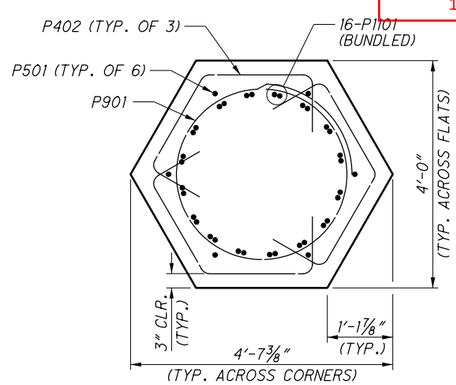


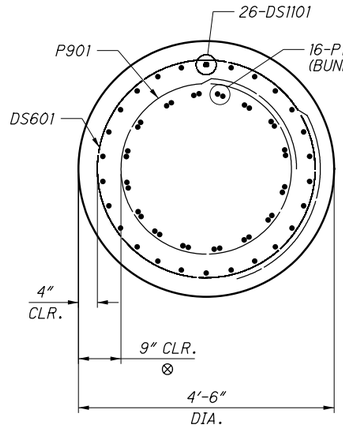
COLUMN ELEVATION
(LOOKING WEST)



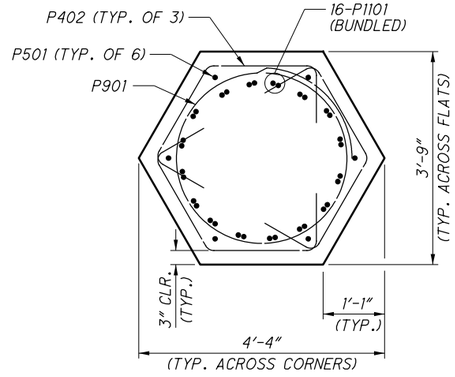
SECTION C-C



SECTION F-F



SECTION D-D



SECTION E-E

LEGEND:

◇ = DIMENSIONS AND REINFORCING STEEL SPACING SHOWN ARE FOR THE TOP OF COLUMN ELEVATION SHOWN. IF THE TOP OF COLUMN ELEVATION IS ADJUSTED, ADJUST THESE DIMENSIONS AS NECESSARY. REINFORCING STEEL SPACING SHALL NOT EXCEED THE MAXIMUM SPACING GIVEN.

◕ = TYP. FOR MAIN TIE BARS AND SUPPLEMENTAL CORNER BARS

Δ = ROTATE BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

⊗ = ADJUST CLEAR COVER FOR COLUMN CAGE AS NEEDED TO ENSURE THAT COLUMN CAGE IS CENTERED ON COLUMN

NOTES:

1. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
2. ROCK ELEVATION MAY VARY GREATLY IN THE VICINITY OF THE PIER. THE DRILLED SHAFT LENGTH INTO BEDROCK IS ASSUMED TO BE FROM THE HIGHEST ANTICIPATED ROCK ELEVATION AS DETERMINED FROM A GEOTECHNICAL EXPLORATION.

DESCRIPTION

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PIER COLUMN AND DRILLED SHAFT DETAILS

BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/ 8-
8.24/ 9.74/ 0.00
PID No. 101402

12 / 16

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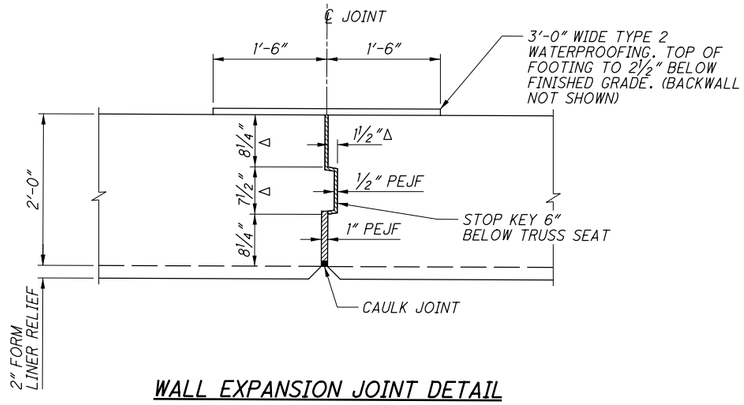
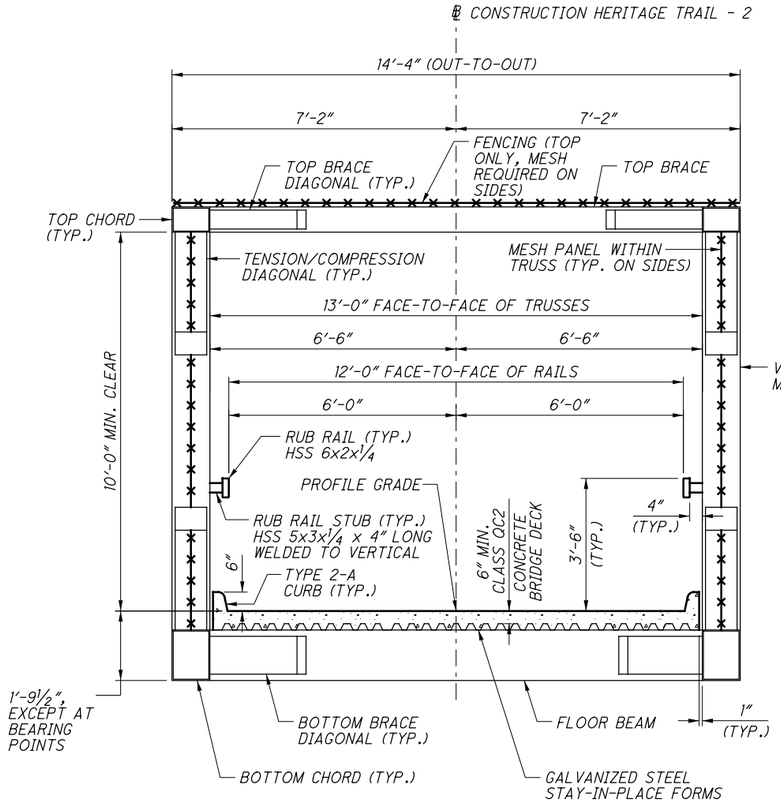
2021-09-16_BU 12 - RFC PLANS



WALL EXPANSION JOINT DETAIL

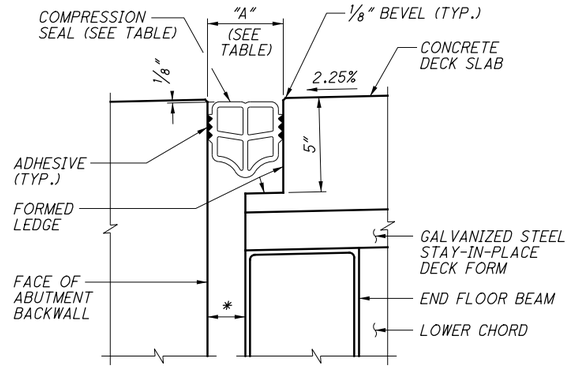
PLACE PEJF FROM TOP OF FOOTING TO BEARING SEAT
(COPING NOT SHOWN)



NOTE: CLASS QC2 CONCRETE BRIDGE DECK REINFORCEMENT PER TRUSS BRIDGE MANUFACTURER'S APPROVED SHOP DRAWINGS

TRANSVERSE SECTION

(PRE-FABRICATED STEEL SUPERSTRUCTURE)



DECK EXPANSION JOINT DETAIL AT ABUTMENT

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND)

NOTES:

1. COMPRESSION JOINT SEALS SHALL HAVE UPTURNS AT THE CURBS TO PROVIDE WATER TIGHT GUTTER SEALS.
2. FOR LIGHTING NOTES AND DETAILS, SEE SUM-76/77/8-10.99/11.54/0.00. (ATTACHMENT C) PLANS.

LEGEND:

* = DIMENSION DETERMINED BY TRUSS MANUFACTURER

Δ = MAINTAIN THESE DIMENSIONS THROUGH COPING

DSB = D.S. BROWN COMPANY

EMS = ERIE METAL SPECIALTIES INC.

WBA = WATSON BOWMAN ACME CORPORATION

AMBIENT TEMPERATURE	DIMENSION "A"		
	MANUFACTURER/SEAL TYPE		
	DSB/JP-350	WBA/100FW	EMS/JP-400
30°F	3 11/16"	4 3/16"	4 3/16"
40°F	3 9/16"	4 1/16"	4 1/16"
50°F	3 1/2"	3 15/16"	3 15/16"
60°F	3 3/8"	3 13/16"	3 13/16"
70°F	3 1/4"	3 11/16"	3 11/16"
80°F	3 1/8"	3 9/16"	3 9/16"
90°F	3"	3 1/16"	3 7/16"

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Columbus Ohio 43240

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MISCELLANEOUS DETAILS - 1
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

2021-09-16_BU 12 - RFC PLANS

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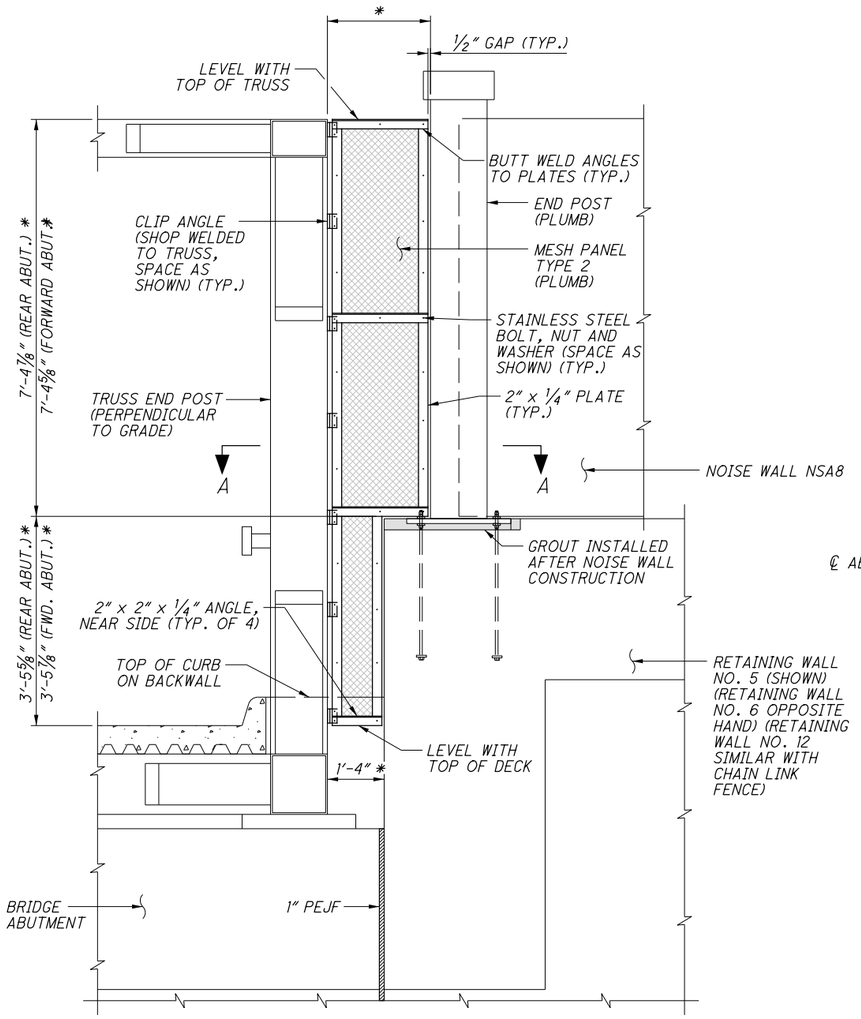
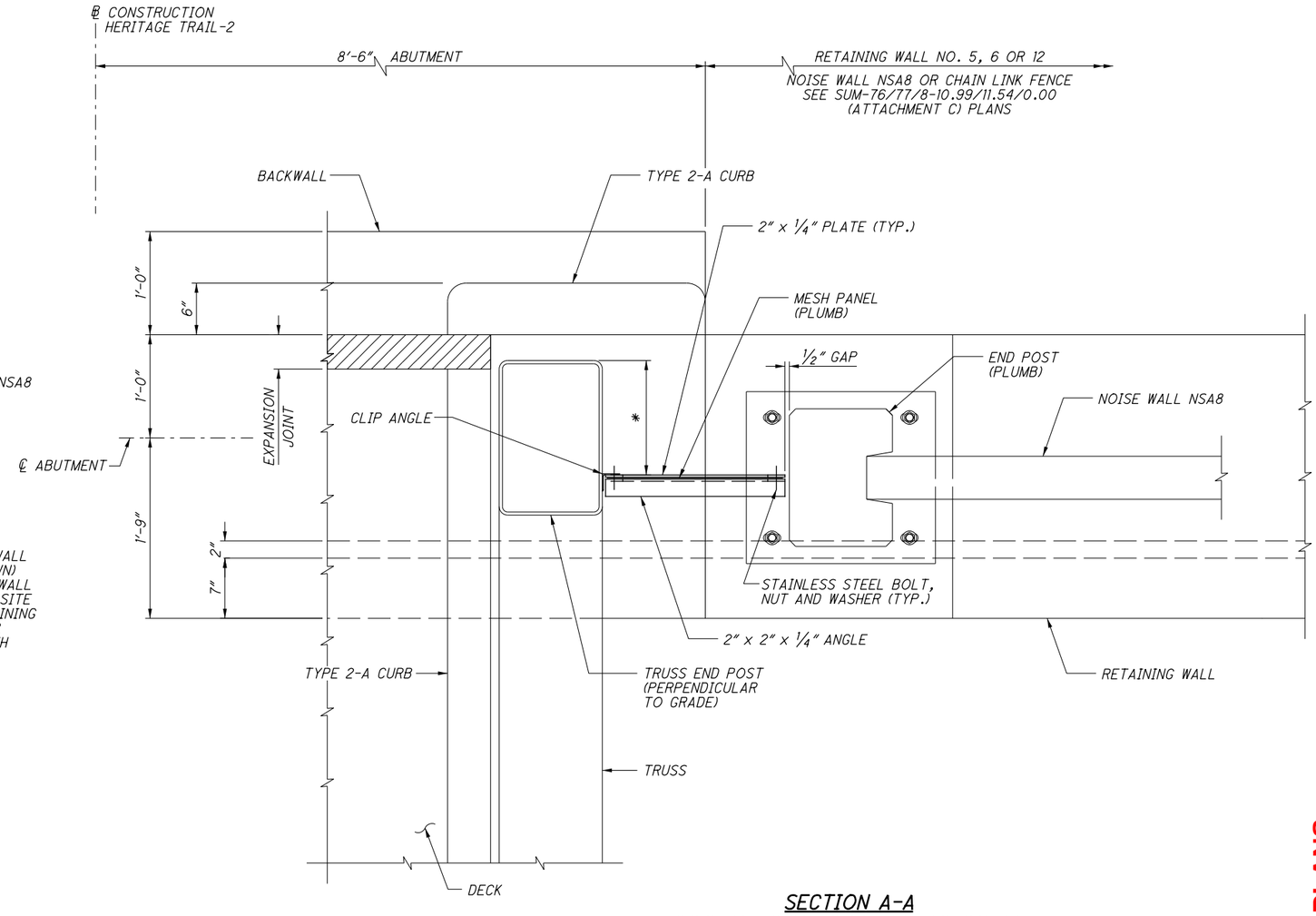


MESH PANEL AT END POST

(NOISE WALL SHOWN, CHAIN LINK FENCE SIMILAR)



SECTION A-A

(NOISE WALL SHOWN, CHAIN LINK FENCE SIMILAR)

LEGEND:

* = DIMENSION TO BE FIELD VERIFIED BEFORE INSTALLATION OF THE MESH PANEL

ISSUE RECORD:

NO.	DESCRIPTION	DATE

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BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

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CAS	AAA	JCS	4/29/19
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JMK		7702950	

MISCELLANEOUS DETAILS - 2
BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-8.24/9.74/0.00
PID No. 101402

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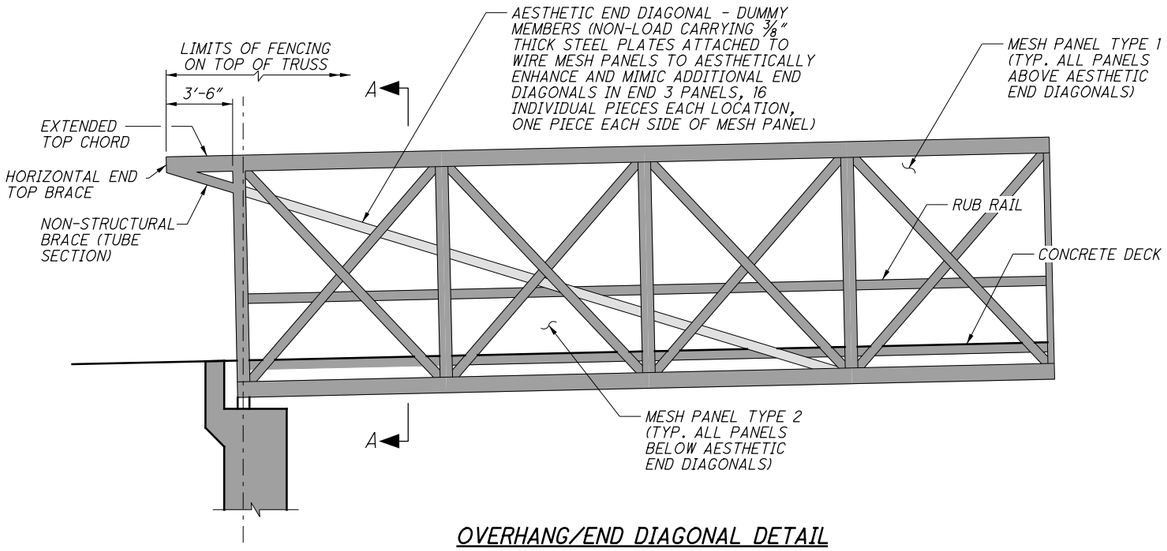
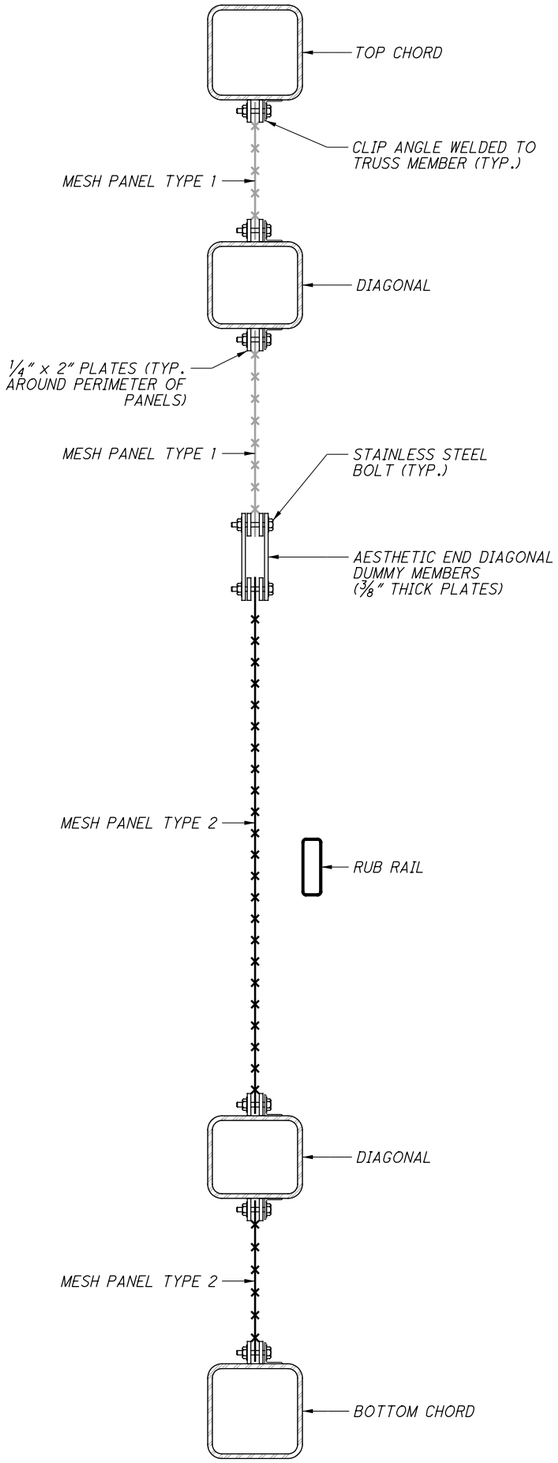


OVERHANG/END DIAGONAL DETAIL

(RIGHT REAR SHOWN, LEFT REAR, RIGHT FORWARD AND LEFT FORWARD SIMILAR)
(MESH PANELS NOT SHOWN)

(FOR COLORS OF TRUSS MEMBERS, MESH PANELS AND TOP FENCING SEE ITEM SPECIAL - SUPERSTRUCTURE MISC.: PREFABRICATED PAINTED STEEL SUPERSTRUCTURE NOTE ON SHEETS 3 / 16 AND 4 / 16)



SECTION A-A

(DECK, FLOOR BEAM AND BRACING NOT SHOWN)

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
CAS	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMK		7702950	

MISCELLANEOUS DETAILS - 3

BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-
8.24/9.74/0.00
PID No. 101402

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2021-09-16_BU 12 - RFC PLANS

REAR ABUTMENT REINFORCING STEEL LIST

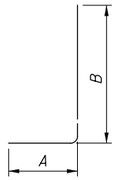
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
RA401	6	1'-4"	5	STR						
RA402	2	2'-0"	3	STR						
RA501	76	16'-6"	1308	STR						
RA502	18	15'-1"	283	18	11'-8"	1'-10"	1'-10"			
RA503	18	6'-4"	119	1	0'-10"	5'-7"				
RA504	18	11'-3"	211	STR						
RA505	36	10'-5"	391	STR						
RA506	18	8'-3"	155	25	1'-10"	2'-6"	3'-5"			
RA507	18	5'-3"	99	20	1'-10"	2'-4"	2'-4"			
RA508	18	7'-1"	133	18	0'-8"	3'-4"	3'-4"			
RA701	35	15'-0"	1073	18	11'-8"	1'-10"	1'-10"			
RA801	18	11'-6"	553	STR						
RA901	35	9'-3"	1101	1	1'-7"	7'-11"				
		TOTAL	5434							

FORWARD ABUTMENT REINFORCING STEEL LIST

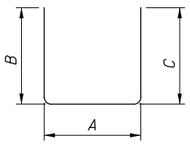
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
FA401	6	1'-4"	5	STR						
FA402	2	2'-0"	3	STR						
FA501	56	16'-6"	964	STR						
FA502	18	12'-1"	227	18	8'-8"	1'-10"	1'-10"			
FA503	18	6'-4"	119	1	0'-10"	5'-7"				
FA504	36	12'-3"	460	STR						
FA505	18	8'-3"	155	25	1'-10"	2'-6"	3'-5"			
FA506	18	5'-3"	99	20	1'-10"	2'-4"	2'-4"			
FA507	18	7'-1"	133	18	0'-8"	3'-4"	3'-4"			
FA701	18	12'-0"	442	18	8'-8"	1'-10"	1'-10"			
FA801	18	9'-0"	433	1	1'-4"	7'-11"				
		TOTAL	3040							

PIER REINFORCING STEEL LIST

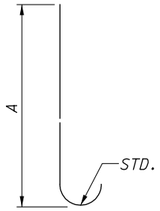
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
P401	42	1'-6"	42	21	4"	8"				
P402	9	5'-8"	34	41	1'-0"	1'-8"	11"	1'-11"		
P501	6	12'-8"	79	STR						
P502	2	16'-4"	34	STR						
P503	6	16'-8"	104	STR						
P504	21	9'-7"	210	18	3'-2"	3'-4"	3'-4"			
	2	9'-1"				3'-1"	3'-1"			
P505	S.O.	TO	160	18	3'-2"	TO	TO			1/8"
	8	10'-1"				3'-7"	3'-7"			
P506	5	10'-1"	53	18	3'-2"	3'-7"	3'-7"			
P507	NOT USED									
P508	10	9'-1"	95	18	3'-8"	2'-10"	2'-10"			
P601	5	16'-4"	123	26	0'-6"	5'-6"	5'-3"	5'-6"	0'-6"	
P602	10	6'-5"	96	20	3'-1"	3"	3'-6"			
P901	40	14'-9"	2006	40	3'-0"	5'-4"				
P1101	32	25'-6"	4335	19	23'-11"					
P1102	2	16'-8"	177	STR						
P1103	8	20'-0"	850	18	16'-8"	2'-0"	2'-0"			
		TOTAL	8398							
DS601**	64	15'-8"	1506	40	3'-10"	3'-7"				
DS1101**	26	26'-0"	3592	STR						
		TOTAL	5098							



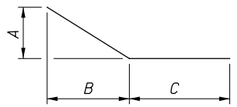
TYPE 1



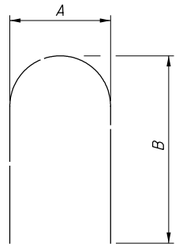
TYPE 18



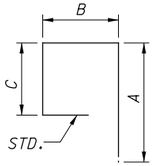
TYPE 19



TYPE 20



TYPE 21



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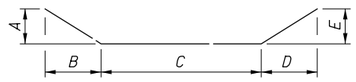
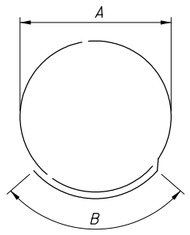
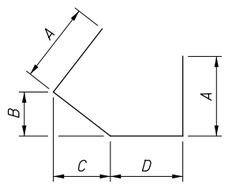


TYPE 26



TYPE 40



TYPE 41

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD. INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.

LEGEND:

** = DRILLED SHAFT REINFORCING STEEL WEIGHTS ARE GIVEN FOR INFORMATION ONLY. COST OF DRILLED SHAFT REINFORCMENT IS INCLUDED IN DRILLED SHAFT ITEMS FOR PAYMENT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/11/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		7702950	

REINFORCING STEEL LIST

BRIDGE NO. SUM-77-1181 RUBBER CITY HERITAGE TRAIL
BRIDGE OVER RAMP N, LANE M, S.R. 8, AND LANE O

SUM-76/77/8-
8.24/9.74/0.00
PID No. 101402

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2021-09-16_BU 12 - RFC PLANS