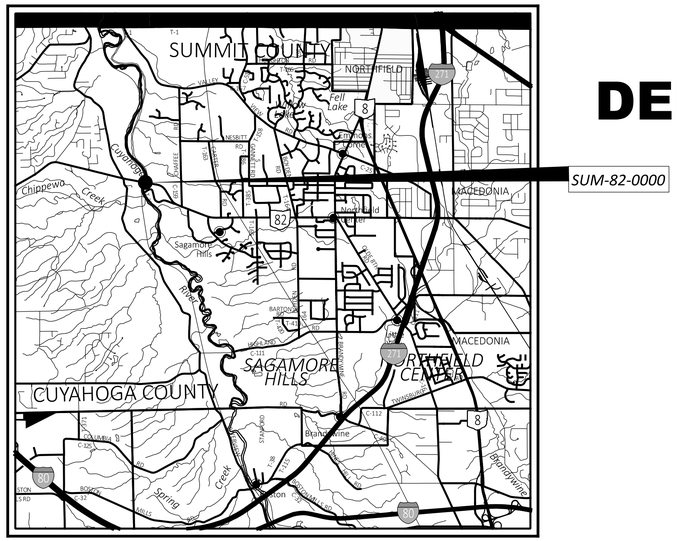
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: 41°19'16" LONGITUDE: 81°35'13"

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

SUM-82-00.00

SAGAMORE HILLS TOWNSHIP

SUMMIT COUNTY

INDEX OF SHEETS:

FEDERAL PROJECT NUMBER

E230(277)

RAILROAD INVOLVEMENT

CUYAHOGA VALLEY SCENIC RAILROAD

PROJECT DESCRIPTION

REHABILITATION OF BRIDGE
SUM-82-0.000 IN SUMMIT COUNTY
(SR-82 OVER THE CUYAHOGA RIVER
AND CUYAHOGA VALLEY NATIONAL PARK
AT THE SUM/CUY COUNTY LINE).

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.3 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES (NOI NOT REQUIRED)

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Arthur G. Noirot Jr., P.E.
District 04 Deputy Director

Pamela Boratyn
Director, Department of Transportation

DESIGN DESIGNATION (FROM MS2, FOR INFORMATION ONLY)

CURRENT ADT (2022)	11,350
TRUCKS (24 HOUR B&C)	184
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN MINOR ARTERIAL	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

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:
ODOT DISTRICT 4 - CAPITAL PLANNING
2088 S. ARLINGTON RD.
AKRON, OH 44306

updated

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
DM-4.1	7/17/20	800-2023	1/17/25	ASBESTOS REPORT	6/26/23
DM-4.3	1/15/16	832	7/19/24	WPC	1/16/25
DM-4.4	1/15/16	844	4/20/18		
		961	4/17/20		
EXJ-3-82	1/18/13				
EXJ-5-93	7/21/23				
MT-96.11	7/21/23				
MT-96.20	7/21/23				
MT-97.10	4/19/19				
MT-101.60	4/26/23				
MT-105.10	1/17/20				
MT-110.10	7/19/13				

ENGINEER'S SEAL
STATE OF OHIO
MARK ANDRASIK
E-80194
REGISTERED
PROFESSIONAL ENGINEER

ENGINEER'S SEAL
PLAN PAGES 6A & 8A, PIER REPAIR DETAILS & NOTES
STATE OF OHIO
HUSAM HUSSEIN
E-86135
REGISTERED
PROFESSIONAL ENGINEER

added

SHEET TITLE

DESIGN AGENCY

DESIGNER MJA
REVIEWER TJP 10-03-23
PROJECT ID 107247
SHEET P.1 TOTAL 34

SUM-82-0.00

MODEL: Sheet_SurvFt PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:09:09 AM USER: mandrasi
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 04\Summit\107247\400-Engineering\Roadway\Sheets\107247_GT001.dgn

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

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

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-3-82 DATED (REVISED) 1/18/13
EXJ-5-93 DATED (REVISED) 7/21/23

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

844 DATED 4/20/18

PROPOSED WORK

- PATCH ALL UNSOUND AREAS OF THE EXISTING CONCRETE WEARING SURFACE AT SPANS 4 AND AT THE EXPANSION JOINTS
- PATCH ALL UNSOUND AREAS OF THE ABUTMENTS, BACKWALLS, PIERS, ARCHES, AND OTHER SUBSTRUCTURE AREAS AND SEAL WITH EPOXY-URETHANE.
- REPLACE ALL END AND INTERMEDIATE EXPANSION JOINT GLANDS
- CLEAN OUT EXISTING SCUPPERS
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN (OPTION B)

ALL DECORATIVE CONCRETE FINISHING SHALL BE RESTORED AS APPROVED BY THE PROJECT ENGINEER. ALL LABOR, MATERIALS, AND INCIDENTALS INVOLVED WITH THIS WORK SHALL BE INCLUDED IN ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

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 REINFORCING STEEL OF THE SAME SIZE AND COATING AT NO COST TO THE DEPARTMENT.

ITEM 518 - SCUPPER MISC.: CLEANOUT

THIS WORK WILL CONSIST OF REMOVING ALL DEBRIS FROM ON TOP AND INSIDE OF THE SCUPPERS AND INSIDE THE DOWNSPOUTS. SCUPPER CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 518, SCUPPER MISC.: CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS

ALTHOUGH NO TREES OR STUMPS ARE SPECIFICALLY MARKED FOR REMOVAL WITHIN THE PLANS, A LUMP SUM QUANTITY IS INCLUDED IN THE STRUCTURE GENERAL SUMMARY FOR ITEM 201 – CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS. SCALPING IS NOT REQUIRED FOR THIS ITEM OF WORK. ALL VEGETATION SHALL BE REMOVED WITHIN 15 FEET OF THE HEADWALLS, ABUTMENTS, AND/OR PIERS.

ALL OTHER PROVISIONS AS SET FORTH IN THE CMS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201 – CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL CONCRETE PATCHES SHALL BE SEALED WITH EPOXY-URETHANE AS PER CMS 512. THE COLOR OF THE EPOXY-URETHANE SHALL MATCH THE COLOR OF THE EXISTING CONCRETE ON SUM-82-0000, AND SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO APPLICATION.

DECK REPAIR AROUND JOINTS

THE CONTRACTOR SHALL USE ITEM 519 - PATCHING CONCRETE BRIDGE DECK - TYPE C AND ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS DIRECTED BY THE PROJECT ENGINEER, TO REPAIR THE CONCRETE DECK AND PREVENT LEAKING AROUND ALL INTERMEDIATE AND END EXPANSION JOINTS. ITEM 519 - PATCHING CONCRETE BRIDGE DECK - TYPE C SHALL ALSO BE USED TO REPAIR SPAN 4 OF THE CONCRETE DECK AS DIRECTED BY THE PROJECT ENGINEER.

SPECIAL - COMPOSITE FIBER WRAP SYSTEM

FIBER WRAP SYSTEM SHALL BE USED ON ALL AREAS OF ITEM 520 (OPTION A) OR ITEM 844 (OPTION B). USE OF FIBER WRAP SHALL BE AS DIRECTED BY THE PROJECT ENGINEER. FOR DETAILS, SEE PROPOSAL NOTE 519 - COMPOSITE FIBER WRAP SYSTEM.

ITEM 520 - PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN (OPTION A)

THIS WORK CONSISTS OF REMOVING ALL LOOSE AND DISENTEAGRATED CONCRETE, PREPARING THE SURFACE, FINISHING AND PLACING REINFORCING STEEL, PLACING FORMS, INSTALLING EMBEDDED GALVANIC ANODES, AND PLACING CONCRETE PATCHING, INCLUDING CURING OF SAME. PERFORM WORK ACCORDING TO CMS 520 EXCEPT AS NOTED.

MATERIAL:
FURNISH PRE-MANUFACTURED GALVANIC ANODES DESIGNED FOR CATHODIC PROTECTION WHEN EMBEDDED IN CONCRETE AND TIED TO STEEL REINFORCING. THE CORE OF THE ANODE SHALL CONSIST OF A MINIMUM OF 100 GRAMS OF ELECTROLYTIC HIGH GRADE ZINC IN COMPLIANCE WITH ASTM B 418 TYPE II CAST AROUND A PAIR OF STEEL TIE WIRES AND ENCASED IN A HIGHLY ALKALINE CEMENTITIOUS SHELL WITH A PH OF 14, OR ENCASED IN A MATERIAL THAT USES ACTIVATION METHODS TO ASSURE PERFORMANCE. THE ANODES SHALL HAVE ONE SIDE THAT IS LESS THAN 1.5" IN HEIGHT.

FURNISH GALVANIC ANODES ACCORDING TO THE DEPARTMENT'S APPROVED LIST. SUPPLY A CERTIFICATION OF COMPLIANCE TO THE ENGINEER BEFORE STARTING WORK. DELIVER, STORE, AND HANDLE ALL MATERIALS ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

REPAIR CONCRETE SHALL BE HYDRAULIC CEMENT-BASED MATERIAL WITH A 28-DAY MOIST CURED ELECTRICAL RESISTIVITY LESS THAN 15,000 OHM-CM ACCORDING TO ASTM C 1760. DO NOT USE NON-CONDUCTIVE REPAIR MATERIALS SUCH AS MAGNESIUM AMMONIUM PHOSPHATE CONCRETE AND EPOXY MORTARS OR BONDING AGENTS. CONCRETE MIXES CONTAINING HIGH LEVELS OF SUPPLEMENTARY CEMENTITIOUS MATERIALS SUCH AS SILICA FUME, GROUND-GRANULATED BLAST FURNACE SLAG, FLY ASH, OR METAKAOLIN MAY NOT MEET THE RESISTIVITY REQUIREMENT.

CLEANING AND REPAIR OF REINFORCING STEEL:
CLEAN EXPOSED REINFORCING STEEL OF RUST, MORTAR, ETC. TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND MECHANICAL BOND. IF SIGNIFICANT REDUCTION IN THE CROSS SECTION OF THE REINFORCING STEEL HAS OCCURRED, REPLACE OR INSTALL SUPPLEMENTAL REINFORCEMENT AS DIRECTED BY THE ENGINEER. SECURE LOOSE REINFORCEMENT STEEL BY TYING TIGHTLY TO OTHER BARS WITH STEEL TIE WIRE.

GALVANIC ANODE INSTALLATION:
INSTALL EMBEDDED GALVANIC ANODES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AS SHOWN ON THE PLANS, AND AS FOLLOWS:

A. INSTALL GALVANIC ANODES TO EXISTING REINFORCEMENT ALONG THE PERIMETER OF THE REPAIR AT 30" C/C SPACING OR AS DIRECTED BY THE PROJECT ENGINEER. IN NO CASE SHALL THE DISTANCE BETWEN ANODES EXCEED 30" NOR SHALL THE DISTANCE BETWEEN THE ANODE AND EDGE OF THE REPAIR EXCEED 6".

B. PROVIDE A 1" CLEARANCE BETWEEN ANODES AND SUBSTRATE TO ALLOW REPAIR MATERIAL TO ENCASE ANODE. IF NECESSARY, INCREASE THE SIZE OF THE REPAIR CAVITY TO ACCOMODATE THE ANODES.

C. SECURE THE GALVANIC ANODES AS CLOSE AS POSSIBLE TO THE PATCH EDGE USING THE ANODE TIE WIRES. WRAP TIE WIRES AROUND THE CLEANED AND UNCOATED REINFORCING STEEL AT LEAST ONE FULL TURN IN OPPOSITE DIRECTIONS AND THEN TIGHTEN THE TIE WIRES TO ALLOW LITTLE OR NO FREE MOVEMENT. IF THE ANODE IS TO BE TIED ONTO A SINGLE BAR, OR IF LESS THAN 1.5" OF CONCRETE COVER IS EXPECTED, PLACE ANODE BENEATH THE UNCOATED BAR AND SECURE TO THE REINFORCING STEEL. IF 1.5" CONCRETE COVER WILL EXIST OVER THE ANODE, THE ANODE MAY BE PLACED AT THE INTERSECTION BETWEEN TWO BARS AND SECURED TO EACH BAR.

ELECTRICAL CONTINUITY:
CONFIRM ELECTRICAL CONNECTION BETWEEN EVERY ANODE TIE WIRE AND UNCOATED REINFORCEING STEEL WITH A MULTI-METER. THE MAXIMUM DC RESISTANCE SHALL BE 1 OHM. CONFIRM ELECTRICAL CONTINUITY OF EVERY EXPOSED UNCOATED REINFORCING STEEL WITH THE REPAIR AREA. STEEL REINFORCEMENT SHALL BE CONSIDERED CONTINUOUS WHEN THE DC RESISTANCE IS 1 OHM OR LESS. IF NECESSARY, ESTABLISH THE ELECTRICAL CONTINUITY WITH UNCOATED STEEL TIE WIRE.

QUALITY CONTROL:
PROVIDE THE ENGINEER A REPORT DOCUMENTING THE RESISTANCE MEASUREMENT FOR EVERY REINFORCING BAR IN EACH REPAIR AREA. THE REPORT SHALL BE SIGNED BY THE CONTRACTOR'S EMPLOYEE RESPONSIBLE FOR SUPERVISION OF THE REPAIR WORK.

DECORATIVE FINISHING:
ALL DECORATIVE CONCRETE FINISHING SHALL BE RESTORED AS APPROVED BY THE PROJECT ENGINEER. ALL LABOR, MATERIALS, AND INCIDENTALS INVOLVED WITH THIS WORK SHALL BE INCLUDED IN ITEM 520 - PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN.

METHOD OF MEASUREMENT AND PAYMENT:
THE DEPARTMENT WILL MEASURE THE PNEUMATICALLY PLACED CONCRETE SHOTCRETE IN ACCORDANCE WITH CMS 520. PAYMENT FOR THE ACCEPTED QUANTITIES SHALL BE AT THE CONTRACT PRICE UNDER ITEM 520 - PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN.

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 I 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 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

THE 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 METHODS BE USED
4. ALL NECESSARY FEES

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED NOTICATION 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 520 - PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN OR ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN.

STRUCTURE REPAIRS

THE STRUCTURE REPAIRS SHOWN ON PLAN PAGES 9 TO 34 SHOW THE LOCATIONS REPAIRS ARE NEEDED.

corrected

STRUCTURE GENERAL NOTES
SUM-82-0.00
OVER CUYAHOGA RIVER, CVSR RAILROAD, BIKE PATHS

SFN	7706871
DESIGN AGENCY	
DESIGNER	MJA
CHECKER	TJP
REVIEWER	TJP 10-03-23
PROJECT ID	107247
SUBSET	1
TOTAL	29
SHEET	P.6
TOTAL	34

ITEM SPECIAL – STRUCTURES: STRUCTURAL CFRP

THIS WORK CONSISTS OF PREPARING EXISTING SOUND CONCRETE SURFACES, DESIGNING THE SYSTEM TO MEET THE REQUIREMENTS IN THE PLANS, AND FURNISHING AND INSTALLING A STRUCTURAL CARBON FIBER REINFORCED POLYMER (CFRP) COMPOSITE WRAP SYSTEM ON THE EXISTING PIER COLUMNS WHERE INDICATED IN THE PLANS. THIS WORK ALSO INCLUDES PROVIDING THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO ACCESS THE REPAIR LOCATIONS. THE STRUCTURAL CFRP SYSTEM SHALL BE CAPABLE OF PROVIDING A CONFINING STRESS OF 300 PSI FOR THE ENTIRE AREA OF THE REPAIR PERFORMED. REMOVAL OF UNSOUND AND DETERIORATED EXISTING CONCRETE AND CONCRETE PATCH MATERIAL AND INSTALLATION OF A SOUND SHOTCRETE SUBSTRATE SHALL BE PAID FOR SEPARATELY.

WORK SHALL BE PERFORMED IN ACCORDANCE WITH PROPOSAL NOTE 519 – COMPOSITE FIBER WRAP SYSTEM AND THE PROVISIONS OF THIS NOTE. THE CFRP WRAP SYSTEM SHALL BE APPLIED TO THE ENTIRE PERIMETER OF THE PREPARED CONCRETE SURFACE OF EACH PIER COLUMN FOR THE HEIGHT INDICATED IN THE PLANS. THE ESTIMATED QUANTITY PROVIDED IN THE PLANS WAS CALCULATED USING A PERIMETER EQUAL TO TWO TIMES THE ORIGINAL BASIC LENGTH AND WIDTH DIMENSIONS OF THE COLUMN EXTENDED BY AN ADDITIONAL 2.5" OF SHOTCRETE APPLIED TO EACH FACE OF THE COLUMN.

METHOD OF MEASUREMENT.
THE DEPARTMENT WILL MEASURE THE STRUCTURAL CFRP COMPOSITE WRAP SYSTEM BY THE NUMBER OF SQUARE FEET OF CONCRETE SURFACE WRAPPED TO A CONFINING STRESS OF 300 PSI.

BASIS OF PAYMENT. THE DEPARTMENT WILL PAY FOR REPAIR OF UNSOUND, CRACKED, OR SPALLED CONCRETE SUBSTRATE SEPARATELY. THE DEPARTMENT WILL CONSIDER THE COST FOR FILLING SURFACE IRREGULARITIES IN SOUND CONCRETE SUBSTRATE IN ORDER TO PROVIDE A SMOOTH AND CONTINUOUS SURFACE AS INCIDENTAL TO THIS WORK. THE DEPARTMENT WILL CONSIDER THE REMOVAL OF OBSTRUCTIONS AS INCIDENTAL TO THIS WORK, BUT THE DEPARTMENT WILL PAY FOR REINSTALLATION OR RELOCATION OF OBSTRUCTIONS SEPARATELY. THE DEPARTMENT WILL CONSIDER LAP SPLICES IN THE CFRP WRAP SYSTEM AS INCIDENTAL TO THIS WORK. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF THE COMPLETED CFRP COMPOSITE WRAP SYSTEM INCLUDING PREPARATION OF THE CONCRETE SUBSTRATE SURFACES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
530E00600 SPECIAL	SQUARE FOOT	STRUCTURES: STRUCTURAL CFRP

ITEM SPECIAL – STRUCTURES: STRUCTURAL PNEUMATICALLY PLACED CONCRETE (SHOTCRETE)

IN ADDITION TO THE REQUIREMENTS OF ITEM 520, THIS WORK CONSISTS OF FURNISHING AND PLACING EMBEDDED GALVANIC ANODES AND PNEUMATICALLY APPLIED CONCRETE (SHOTCRETE) ON THE EXISTING PIER COLUMNS WHERE INDICATED IN THE PLANS. THIS WORK ALSO INCLUDES PROVIDING THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO ACCESS THE REPAIR LOCATIONS.

ALL UNSOUND CONCRETE (INCLUDING PREVIOUSLY PATCHED AREAS) WHERE INDICATED IN THE PLANS SHALL BE REMOVED AS PER CMS 520.08. AT NO TIME SHALL CONCRETE REMOVAL EXTEND MORE THAN 1" CLEAR BEHIND THE VERTICAL COLUMN REINFORCING STEEL. AFTER REMOVING ALL LOOSE, SOFT, HONEYCOMBED, AND DISINTEGRATED CONCRETE, FURNISH, INSTALL, AND TEST PRE-MANUFACTURED GALVANIC ANODES DESIGNED FOR CATHODIC PROTECTION AS PER THE NOTE FOR ITEM 520 – PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN (OPTION A) ON SHEET 1/29.

FURNISH HYDRAULIC CEMENT-BASED MATERIAL FOR THE PNEUMATICALLY APPLIED CONCRETE (SHOTCRETE) AS PER THE NOTE FOR ITEM 520 – PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN (OPTION A) ON SHEET 1/29.

THE PNEUMATICALLY APPLIED CONCRETE SHALL BE INSTALLED TO PROVIDE A FLAT, RECTANGULAR COLUMN SECTION WITH CHAMFERED CORNERS AND MEET THE SMOOTHNESS REQUIREMENTS OF THE STRUCTURAL CFRP INSTALLATION (SEE PROPOSAL NOTE 519). EXISTING COLUMN REINFORCING SHALL HAVE AT LEAST 1.5" OF SHOTCRETE COVER AT THE COMPLETION OF THE WORK. THE EXISTING ARCHITECTURAL RELIEF OF THE COLUMNS SHALL BE FILLED IN TO PROVIDE A FLAT, RECTANGULAR SECTION. AT THE CONTRACTOR'S OPTION, THE FULL COLUMN MAY BE ENCASED BY WIDENING THE COLUMN DIMENSIONS BY NO MORE THAN 2.5" IN EACH DIRECTION TO ALLOW A FULL SHOTCRETE SUBSTRATE TO ENCOMPASS THE ENTIRE EXISTING PIER COLUMN.

FOR EACH ITEM 513E95030 – STRUCTURAL STEEL, MISC: STEEL PLATE CONFINEMENT ASSEMBLY INSTALLATION, 58 SQUARE FEET OF STRUCTURAL PNEUMATICALLY PLACED CONCRETE HAS BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM SPECIAL, STRUCTURES: STRUCTURAL PNEUMATICALLY PLACED CONCRETE (SHOTCRETE). THE SHOTCRETE IN THESE AREAS SHALL BE APPLIED TO THE EAST AND WEST COLUMN FACES AND TO THE END FACE RECEIVING THE STEEL PLATE CONFINEMENT ASSEMBLY INSTALLATION FOR THE ENTIRE HEIGHT OF THE SECOND COLUMN SEGMENT AS INDICATED IN THE PLANS, AND COVER ALL EXPOSED EXISTING REINFORCING AND THE OUTER THREADED BARS OF THE STEEL PLATE CONFINEMENT ASSEMBLY. THE SHOTCRETE SHALL ONLY BE PLACED IN THESE AREAS AFTER INSTALLATION OF THE STEEL PLATE CONFINEMENT ASSEMBLIES HAS BEEN ACCEPTED.

METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE THE STRUCTURAL PNEUMATICALLY APPLIED CONCRETE BY THE NUMBER OF SQUARE FEET OF PIER COLUMN REPAIRED. THE DEPARTMENT WILL MEASURE ALL COMPLETED, TESTED, AND APPROVED PATCHES, IRRESPECTIVE OF DEPTH OR THICKNESS OF THE PATCH. THE DEPARTMENT WILL NOT SEPARATELY MEASURE FURNISHING AND INSTALLING GALVANIC ANODES FOR PAYMENT BUT CONSIDER IT AS INCIDENTAL TO THIS WORK.

THE CONTRACTOR IS RESPONSIBLE FOR ALL TEST PANELS, CORING REPAIR OF CORE HOLES, INDEPENDENT LABORATORY TESTING OF THE CORES, REPLACEMENT OF REJECTED AREAS, AND ALL PREVIOUSLY MENTIONED WORK UNDER ITEM 520 AND THIS NOTE.

BASIS OF PAYMENT. THE DEPARTMENT WILL CONSIDER FURNISHING AND INSTALLING GALVANIC ANODES AS INCIDENTAL TO THIS WORK. THE DEPARTMENT WILL NOT PAY FOR ADDITIONAL REINFORCEMENT TO REPLACE THAT DAMAGED BY THE CONTRACTOR'S OPERATIONS. THE DEPARTMENT WILL NOT PAY FOR REMOVING, REPLACING, AND RE-INSPECTING OF DEFECTIVE PATCHED SHOTCRETE AS DETERMINED BY SOUNDING, VISIBLE CRACKS, OR UNACCEPTABLE CORES. THE DEPARTMENT WILL SEPARATELY PAY FOR FURNISHING AND INSTALLING REINFORCING STEEL THAT IS USED TO REPLACE EXISTING REINFORCING DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS AND IN ACCORDANCE WITH CMS TABLE 520.16-1, SHOTCRETE 28 DAY COMPRESSIVE STRENGTH PAY FACTOR:

ITEM	UNIT	DESCRIPTION
530E0600 SPECIAL	SQUARE FOOT	STRUCTURES: STRUCTURAL PNEUMATICALLY PLACED CONCRETE (SHOTCRETE)

ITEM 513 – STRUCTURAL STEEL, MISC.: STEEL PLATE CONFINEMENT ASSEMBLY

IN ADDITION TO THE REQUIREMENTS OF ITEM 513, THIS WORK CONSISTS OF FURNISHING AND FABRICATING STEEL PLATES, FURNISHING AND INSTALLING THREADED RODS AND ASSOCIATED NUTS AND WASHERS, PREPARING THE EXISTING CONCRETE SURFACES, LOCATING THE EXISTING PIER COLUMN REINFORCING, DRILLING HOLES THROUGH THE EXISTING PIER COLUMNS, AND COMPLETING THE INSTALLATION OF ALL STEEL CONFINEMENT COMPONENTS. THIS WORK ALSO INCLUDES PROVIDING THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO ACCESS THE REPAIR LOCATIONS.

STEEL FABRICATION AND MATERIALS SHALL BE PER CMS 513 (LEVEL UF).

THE EXISTING ARCHITECTURAL REVEAL/EXTENSION AT THE COLUMN CORNERS SHALL BE REMOVED TO PROVIDE A UNIFORM BEARING SURFACE FOR THE STEEL CONFINEMENT PLATE. ALL SOUND AND UNSOUND CONCRETE SHALL BE REMOVED TO PROVIDE A UNIFORM BEARING SURFACE FOR THE STEEL PLATES. REMOVAL SHALL BE INCLUDED IN THE COST OF THIS REPAIR AND SHALL BE PERFORMED AS PER CMS 520.08. AS DIRECTED BY THE ENGINEER, USE A BUSHHAMMER OR GRINDER FOLLOWED BY A THIN FILM OF PORTLAND CEMENT MORTAR OR PASTE TO PROVIDE A LEVEL, EVEN BEARING SURFACE.

FURNISH THREADED RODS, NUTS, AND WASHERS PER CMS 711.09. THREADED RODS, WITH A HEAVY DUTY WASHER AND TWO NUTS ON EACH END, MAY BE REPLACED BY ASTM F3125, GRADE A325, BOLTS AND A DOUBLE NUT ON ONLY ONE END.

ALL STEEL PLATES, THREADED RODS, NUTS, WASHERS, AND OTHER STEEL COMPONENTS SHALL BE GALVANIZED PER CMS 711.02, INCLUDING ANY REQUIRED FIELD TOUCH-UP.

FABRICATE THE STEEL PLATES WITH OVERSIZED HOLES FOR THE THREADED RODS.

PRIOR TO FIELD DRILLING HOLES THROUGH THE PIER COLUMNS AND FABRICATING THE STEEL PLATES, LOCATE THE EXISTING REINFORCING STEEL IN THE VICINITY OF THE PROPOSED HOLES TO VERIFY THE DRILLING OPERATION WILL NOT DAMAGE THE EXISTING REINFORCING. IF EXISTING REINFORCING STEEL INTERFERES WITH A PROPOSED HOLE LOCATION AND FIELD-FABRICATING HORIZONTAL, LONG SLOTTED HOLES PER AISC TABLE J3.3 IN THE PLATE WILL NOT ACHIEVE A PROPER FIT, A NEW GALVANIZED STEEL PLATE SHALL BE FURNISHED TO FIT THE REVISED HOLE PATTERN AT NO COST TO THE DEPARTMENT. THE FIELD-DRILLED HOLES THROUGH THE PIER COLUMN SHALL NOT BE MORE THAN 1/8" LARGER IN DIAMETER THAN THE THREADED ROD.

AFTER INSTALLATION OF THE STEEL PLATE CONFINEMENT ASSEMBLIES HAS BEEN COMPLETED AND ACCEPTED, APPLY PNEUMATICALLY PLACED CONCRETE (SHOTCRETE) IN THESE AREAS TO COVER ALL EXPOSED EXISTING REINFORCING STEEL AND THE OUTER THREADED RODS OF THE STEEL PLATE CONFINEMENT ASSEMBLY. FIFTY-EIGHT (58) SQUARE FEET OF STRUCTURAL PNEUMATICALLY PLACED CONCRETE HAS BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM SPECIAL – STRUCTURES: STRUCTURAL PNEUMATICALLY PLACED CONCRETE (SHOTCRETE) FOR EACH STEEL PLATE CONFINEMENT ASSEMBLY.

METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE THE STEEL PLATE CONFINEMENT ASSEMBLIES BY THE NUMBER OF EACH. EACH ASSEMBLY INCLUDES 2 STEEL PLATES, 4 THREADED RODS, 16 NUTS, AND 8 WASHERS.

BASIS OF PAYMENT. THE DEPARTMENT WILL CONSIDER THE COSTS FOR REMOVING EXISTING CONCRETE AND PROVIDING A UNIFORM BEARING SURFACE FOR THE STEEL CONFINEMENT PLATE AS INCIDENTAL TO THIS WORK. THE DEPARTMENT WILL CONSIDER THE COSTS FOR DRILLING THREADED ROD HOLES THROUGH THE EXISTING CONCRETE AS INCIDENTAL TO THIS WORK. THE DEPARTMENT WILL NOT PAY FOR FURNISHING NEW STEEL PLATES SO THE THREADED ROD HOLE LOCATIONS DO NOT INTERFERE WITH EXISTING REINFORCING STEEL, IF THE EXISTING REINFORCING WAS NOT PROPERLY LOCATED PRIOR TO FABRICATING THE PLATES. THE DEPARTMENT WILL PAY FOR APPLYING PNEUMATICALLY PLACED CONCRETE (SHOTCRETE) SEPARATELY. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF STEEL PLATE CONFINEMENT ASSEMBLIES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
513E95030	EACH	STRUCTURAL STEEL, MISC: STEEL PLATE CONFINEMENT ASSEMBLY

added plansheet

STRUCTURE GENERAL NOTES
BRIDGE NO. SUM-00082-00.000
OVER CUYAHOGA RIVER, CVSR RAILROAD, BIKE PATHS

SFN 7706871
DESIGN AGENCY: GANNETT FLEMING TRANSYSTEMS
DESIGNER: MTO | CHECKER: HHH
REVIEWER: EFD
PROJECT ID: 107247
SUBSET: 1A | TOTAL: 29
SHEET: P.6A | TOTAL: 34

CALC:	MJA	DATE:	9/19/2023
CHECKED:	TJP	DATE:	10/3/2023

ESTIMATED QUANTITIES (01/S>2/47)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
201	11001	LS	LS	CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS					1/29
509	20001	1500	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				1500	1/29
512	10100	480	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				480	
512	10600	440	FT	CONCRETE REPAIR BY EPOXY INJECTION			440		
516	10900	320	FT	ELASTOMERIC COMPRESSION SEAL			320		
518	12500	10	EACH	SCUPPER, MISC.: CLEANOUT			10		1/29
SPECIAL	51900100	4270	SF	COMPOSITE FIBER WRAP SYSTEM				4270	
519	12304	50	SY	PATCHING CONCRETE BRIDGE DECK - TYPE C			50		
520	10001	2294	SF	PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN (OPTION A)				2294	1/29
844	10001	2294	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN (OPTION B)				2294	1/29
513	95030	32	EACH	STRUCTURAL STEEL, MISC.: STEEL PLATE CONFINEMENT ASSEMBLY			32		1A/29
SPECIAL	53000600	5994	SF	STRUCTURES STRUCTURAL CFRP			5994		1A/29
SPECIAL	53000600	7846	SF	STRUCTURES STRUCTURAL PNEUMATICALLY PLACED CONCRETE (SHOTCRETE)			7846		1A/29

updated

added

STRUCTURE ESTIMATED QUANTITIES
SUM-82-0000
OVER CUYAHOGA RIVER, CVSR RAILROAD, BIKE PATHS

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID 107247

SUBSET	TOTAL
2	29

SHEET	TOTAL
P.7	34

SUM-82-0.00

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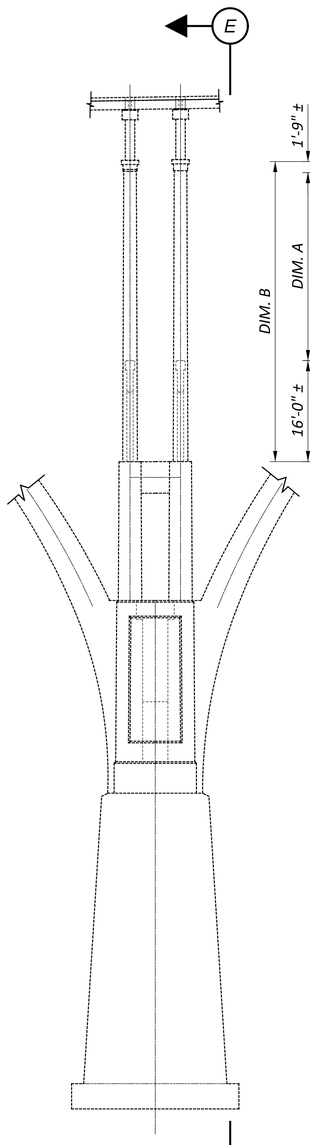
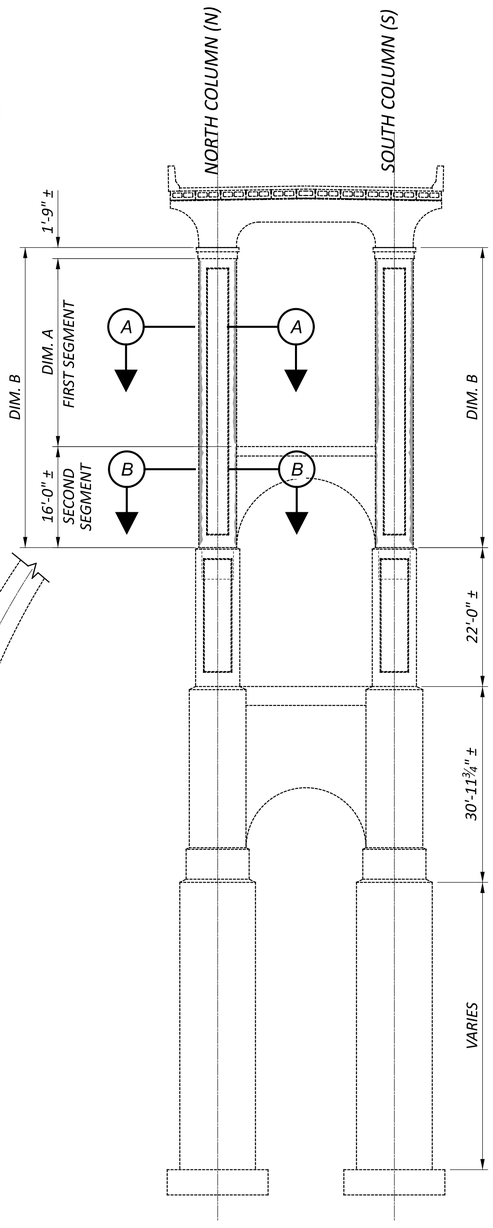


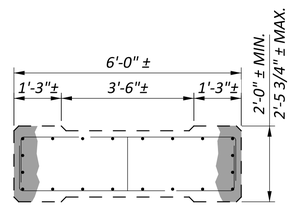
PIER ELEVATION



SECTION E-E

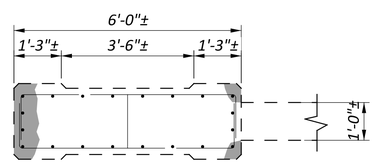
DETERIORATED PIER

LOOKING EAST



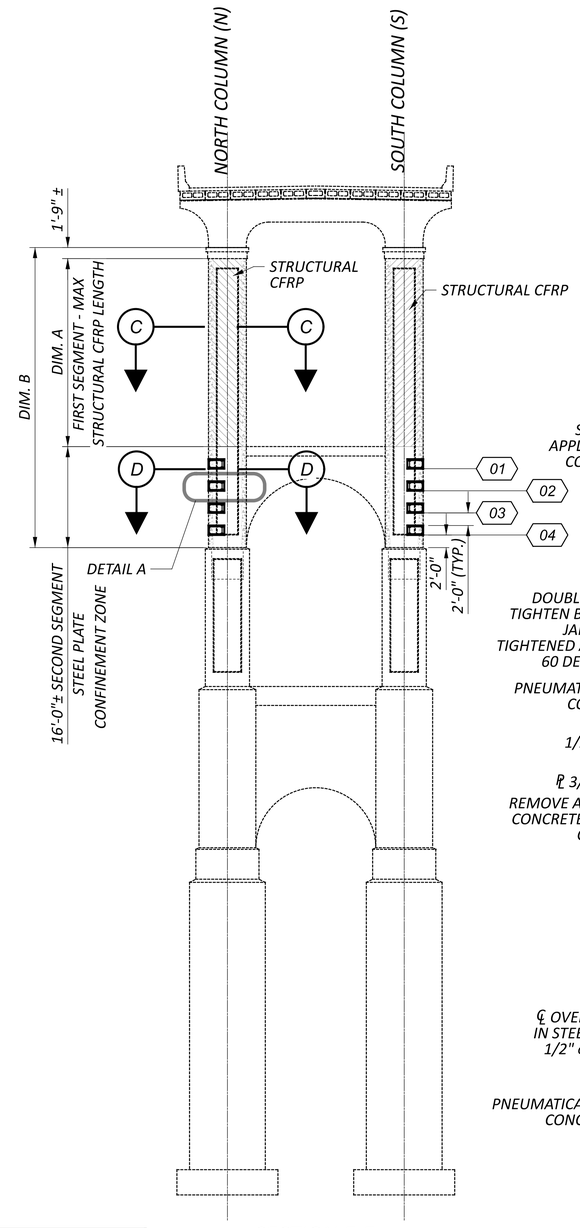
SECTION A-A

DETERIORATED SECTION



SECTION B-B

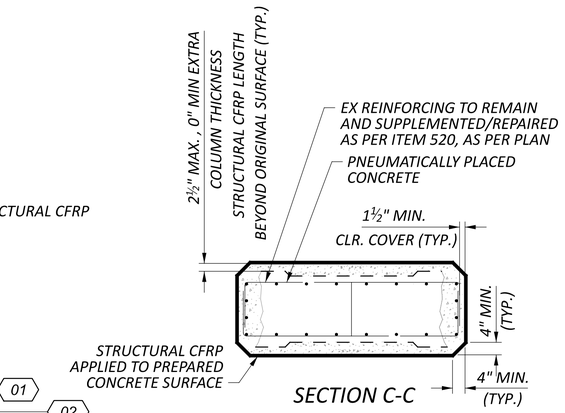
DETERIORATED SECTION



SECTION E-E

REHAB PIER

LOOKING EAST



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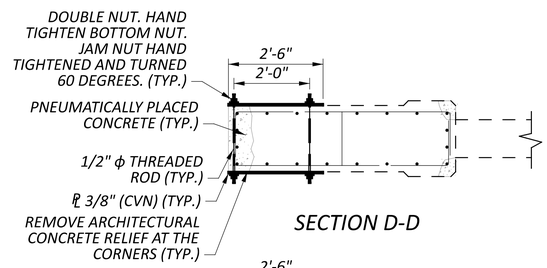

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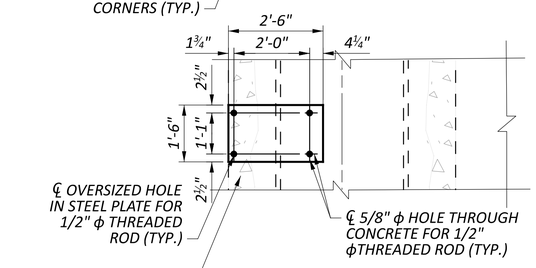

DETAIL A

COLUMN NUMBER	DIM. A	DIM. B
COLUMN 07 (N) AND (S)	22'-3½" ±	40'-0½" ±
COLUMN 17 (N) AND (S)	29'-9½" ±	47'-6½" ±
COLUMN 27 (N) AND (S)	29'-9½" ±	47'-6½" ±
COLUMN 38 (N) AND (S)	29'-11" ±	47'-8" ±
COLUMN 48 (N) AND (S)	29'-11" ±	47'-8" ±
COLUMN 58 (N) AND (S)	29'-11" ±	47'-8" ±

added plansheet

NOTE:

1. SEE SHEET 3/XX FOR COLUMN LOCATIONS.

LEGEND:

- XX — PLATE DESIGNATION
- PNEUMATICALLY PLACED CONCRETE
- DETERIORATED CONCRETE
- STRUCTURAL CFRP

PIER REPAIR DETAILS
BRIDGE NO. SUM-00082-00.000
OVER CUYAHOGA RIVER, CVSR RAILROAD, BIKE PATHS

SFN 7706871

DESIGN AGENCY: GANNETT FLEMING TRANSYSTEMS

DESIGNER: PH | CHECKER: HHH

REVIEWER: EFD

PROJECT ID: 107247

SUBSET: 3A | TOTAL: 29

SHEET: P.8A | TOTAL: 34

SUM-82-00.00

PENTABLE SUBSET: 1 | SUBMITTAL: SUB_STG | PLOT DRIVER: $PLTDRVS$ | PENTABLE: $PENTBLS$

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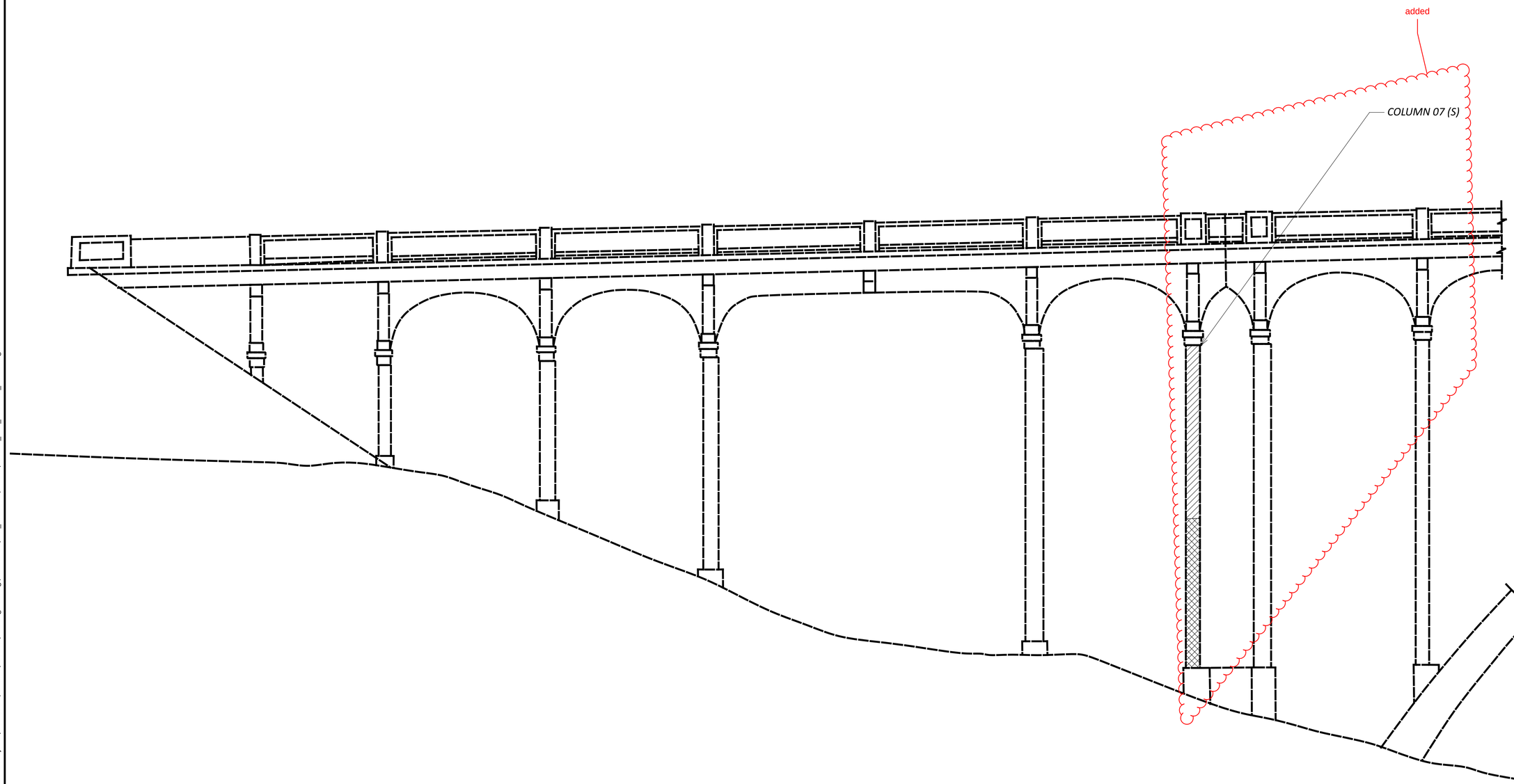

added

COLUMN 07 DESCRIPTION	UNIT	NORTH COLUMN (N)	SOUTH COLUMN (S)	TOTAL
STEEL PLATE CONFINEMENT ASSEMBLY FOR SECOND SEGMENT	EACH	01,02,03,04	01,02,03,04	8
STRUCTURAL CFRP FOR FIRST SEGMENT	SF	397	397	794
SHOTCRETE FOR FIRST AND SECOND SEGMENTS	SF	627	627	1254

added

= OPTION A OR OPTION B

= FIRST SEGMENT (SEE SHEET 8A)

= SECOND SEGMENT (SEE SHEET 8A)

SUM-82-0000
STRUCTURE DETAILS
SPAN 1 (LOOKING NORTH)

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER: TJP 10-03-23

PROJECT ID: 107247

SUBSET	TOTAL
4	29

SHEET	TOTAL
P.9	34

SUM-82-0.00

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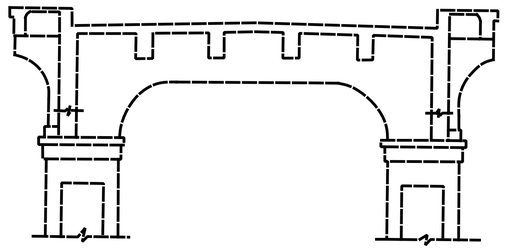

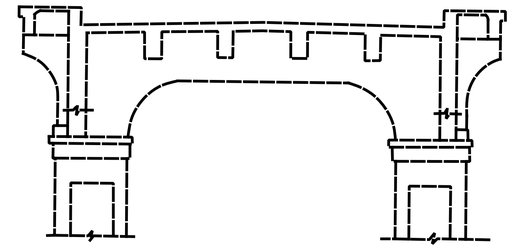

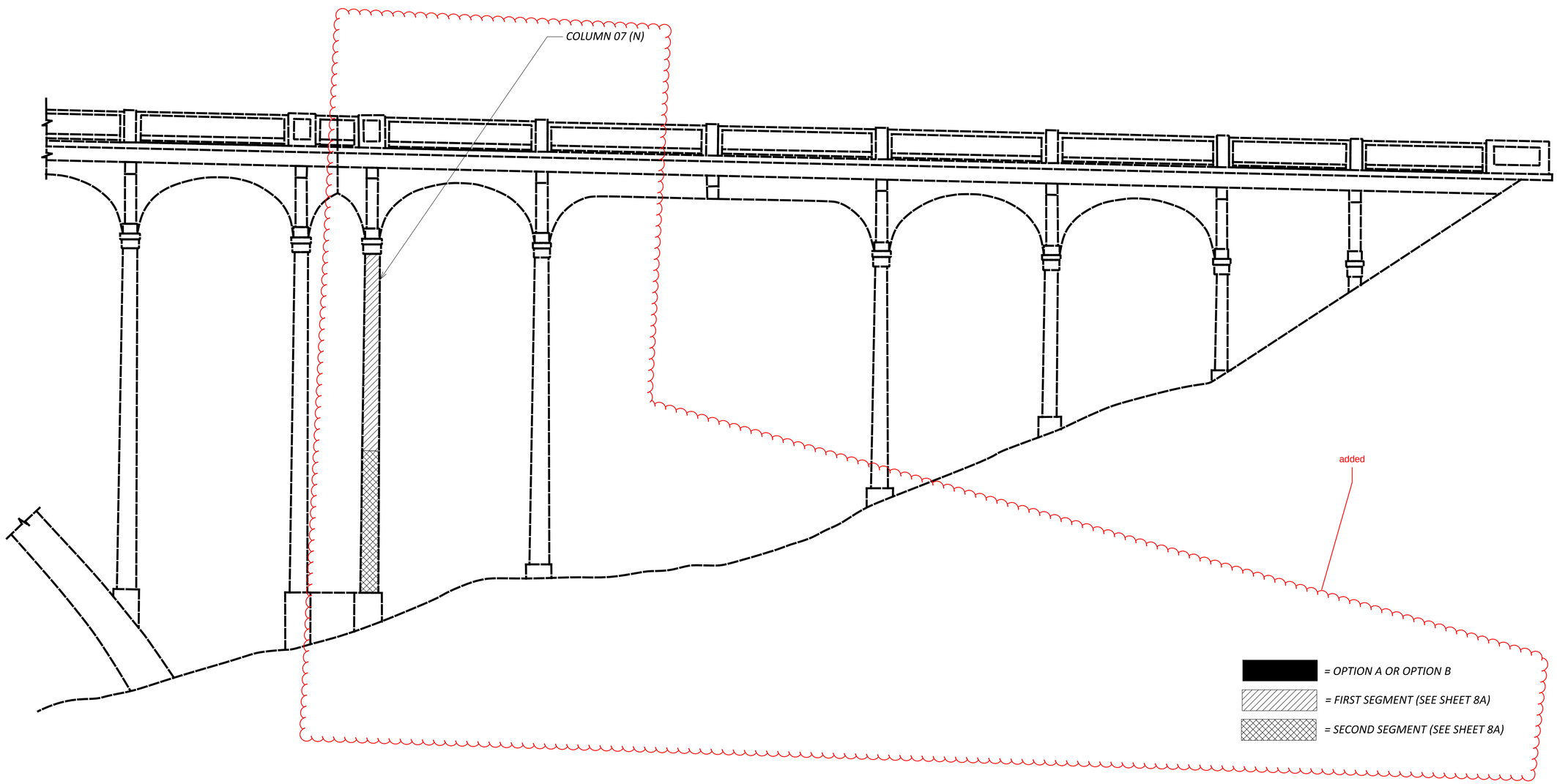

SUM-82-0000
STRUCTURE DETAILS
SPAN 1 (LOOKING SOUTH)

SFN
7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID
107247

SUBSET	TOTAL
5	29

SHEET	TOTAL
P.10	34

SUM-82-0.00

MODEL: Sheet 3 - Span 1 North Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:06 AM USER: mandrasi
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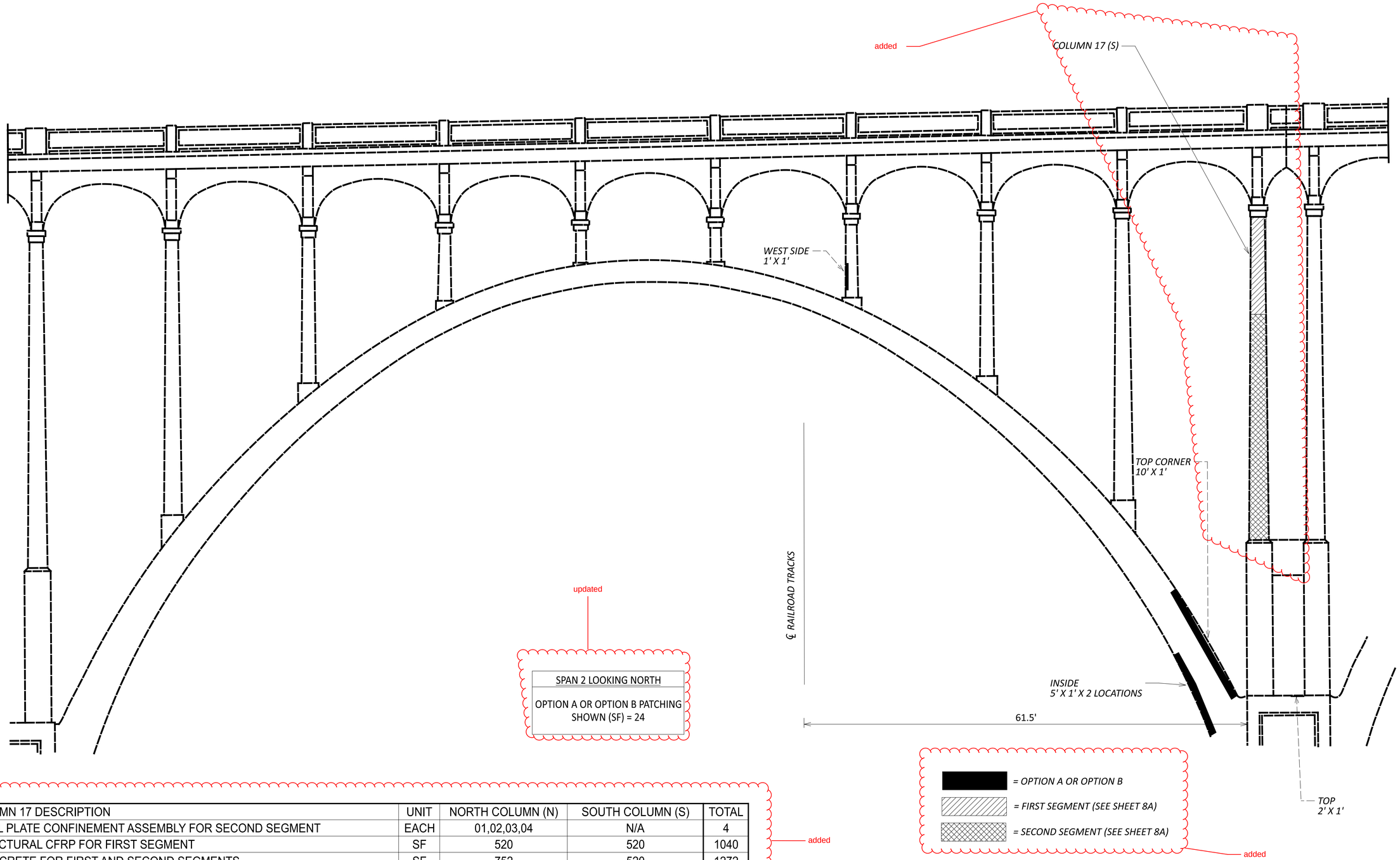

COLUMN 17 DESCRIPTION	UNIT	NORTH COLUMN (N)	SOUTH COLUMN (S)	TOTAL
STEEL PLATE CONFINEMENT ASSEMBLY FOR SECOND SEGMENT	EACH	01,02,03,04	N/A	4
STRUCTURAL CFRP FOR FIRST SEGMENT	SF	520	520	1040
SHOTCRETE FOR FIRST AND SECOND SEGMENTS	SF	752	520	1272

added

SUM-82-0000
STRUCTURE DETAILS
SPAN 2 (LOOKING NORTH)

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID
107247

SUBSET	TOTAL
6	29

SHEET	TOTAL
P.11	34

SUM-82-0.00

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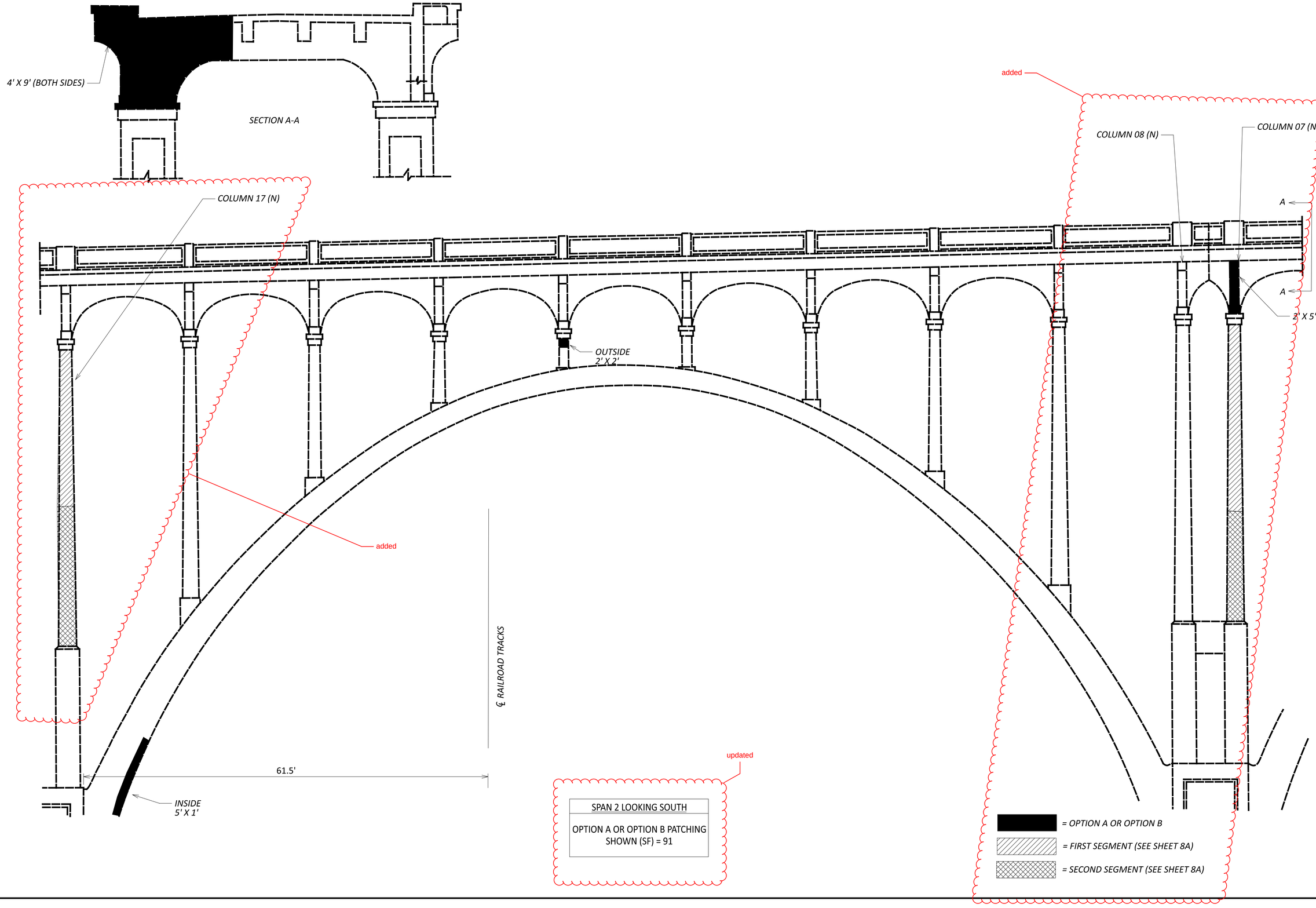

SUM-82-0000
STRUCTURE DETAILS
SPAN 2 (LOOKING SOUTH)

SFN	7706871
DESIGN AGENCY	
DESIGNER	MJA
CHECKER	TJP
REVIEWER	TJP 10-03-23
PROJECT ID	107247
SUBSET	7
TOTAL	29
SHEET	P.12
TOTAL	34

SUM-82-0.00

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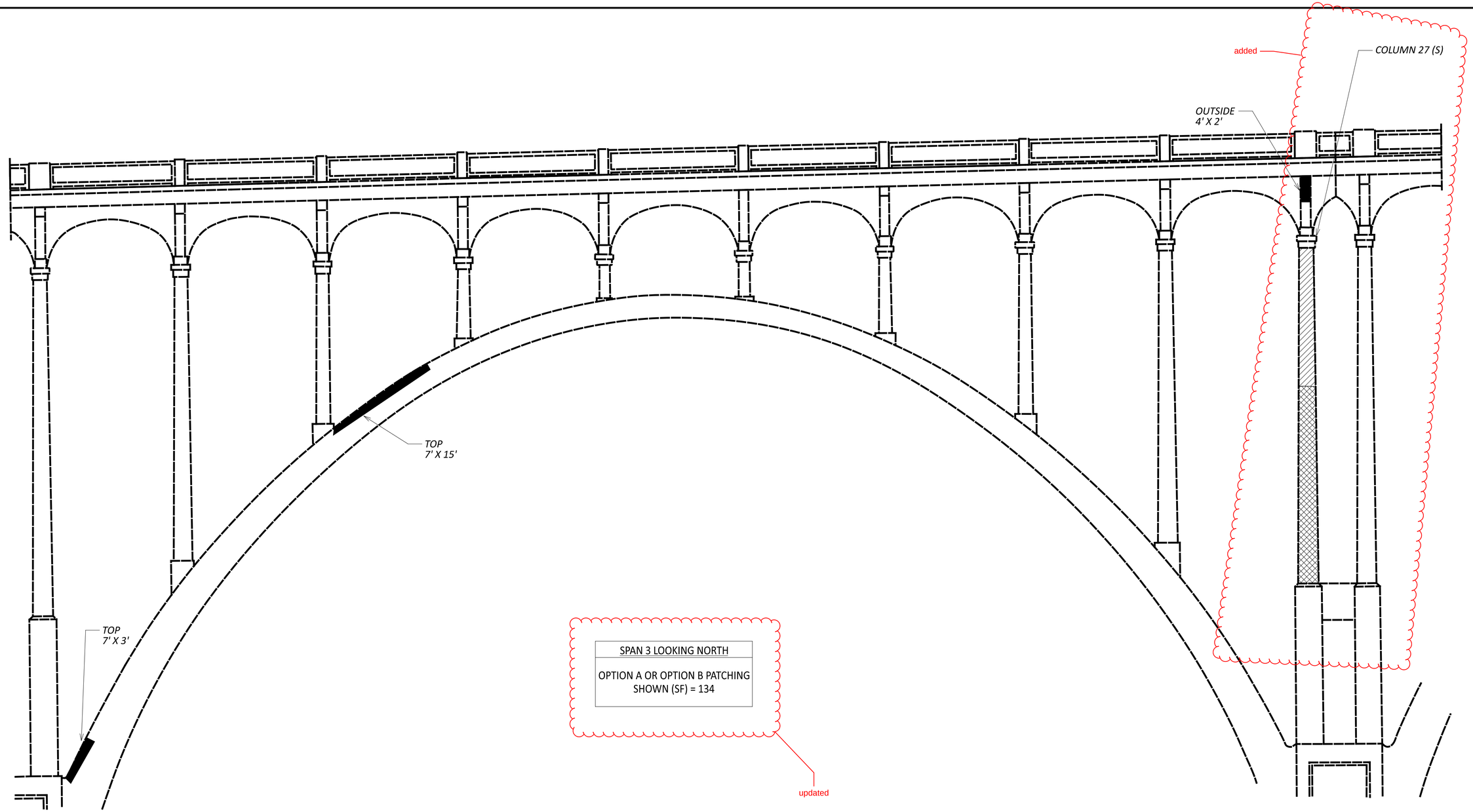

SPAN 3 LOOKING NORTH

OPTION A OR OPTION B PATCHING SHOWN (SF) = 134

updated

added

= OPTION A OR OPTION B

= FIRST SEGMENT (SEE SHEET 8A)

= SECOND SEGMENT (SEE SHEET 8A)

COLUMN 27 DESCRIPTION	UNIT	NORTH COLUMN (N)	SOUTH COLUMN (S)	TOTAL
STEEL PLATE CONFINEMENT ASSEMBLY FOR SECOND SEGMENT	EACH	N/A	N/A	
STRUCTURAL CFRP FOR FIRST SEGMENT	SF	520	520	1040
SHOTCRETE FOR FIRST AND SECOND SEGMENTS	SF	520	520	1040

SUM-82-0000
STRUCTURE DETAILS
SPAN 3 (LOOKING NORTH)

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID 107247

SUBSET	TOTAL
8	29

SHEET	TOTAL
P.13	34

SUM-82-0.00

MODEL: Sheet 6 - Span 3 South Elev.) PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:07 AM USER: mandrasi
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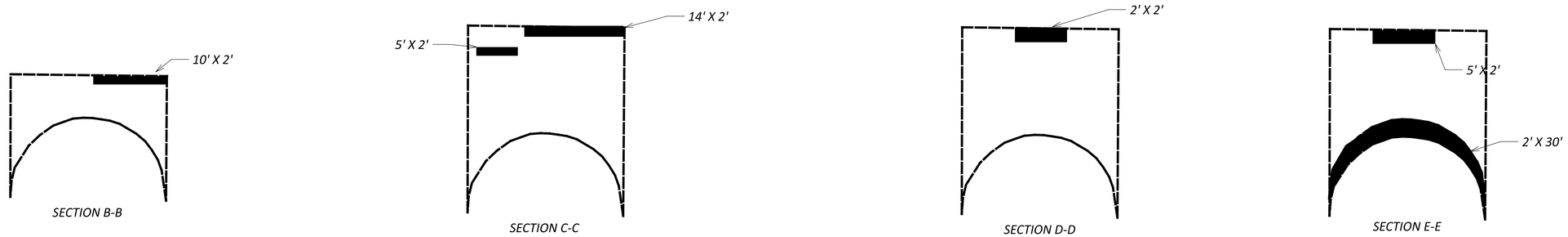

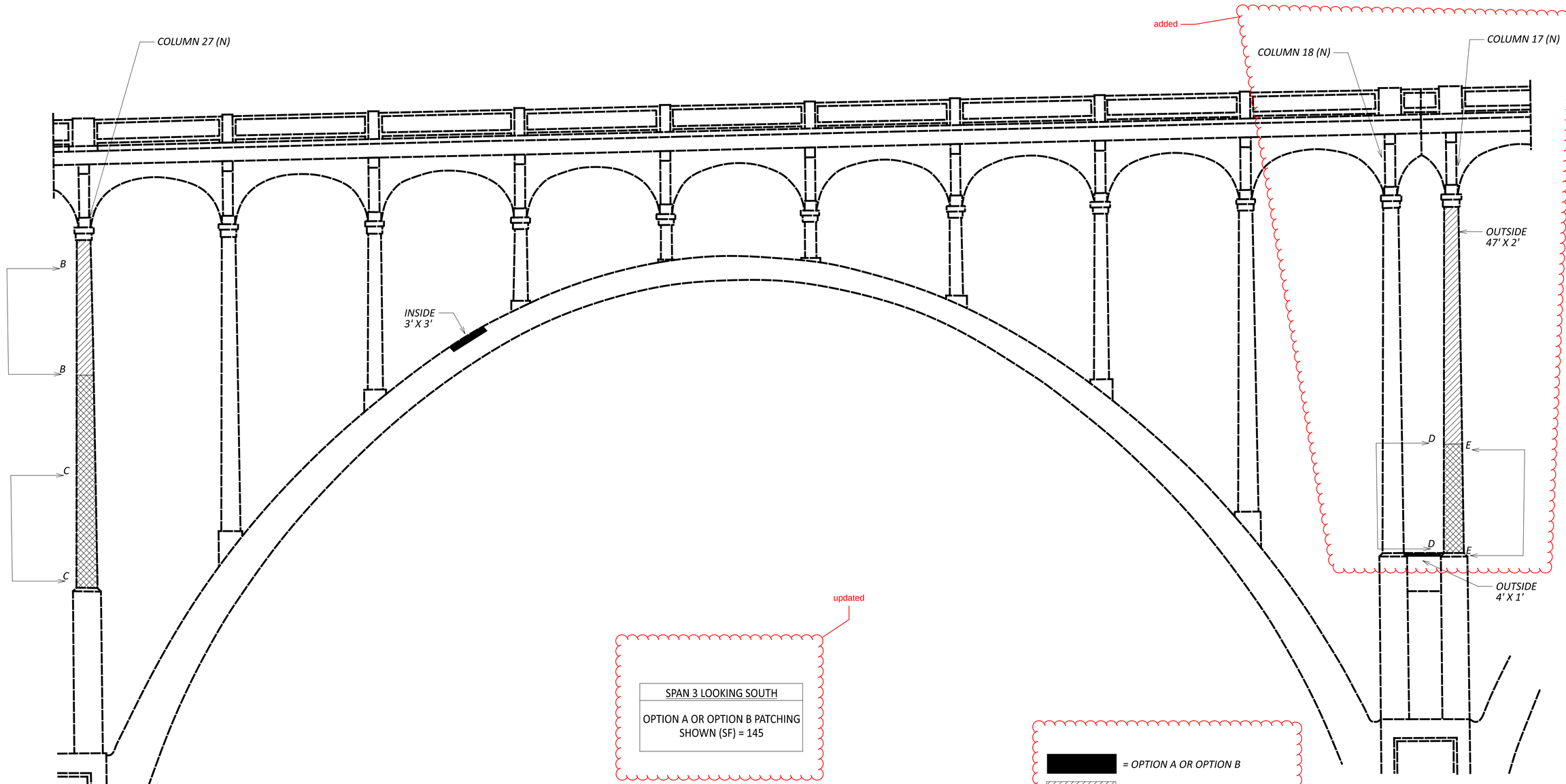

SUM-82-0000
STRUCTURE DETAILS
SPAN 3 (LOOKING SOUTH)

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID 107247

SUBSET	TOTAL
9	29

SHEET	TOTAL
P.14	34

SUM-82-0.00

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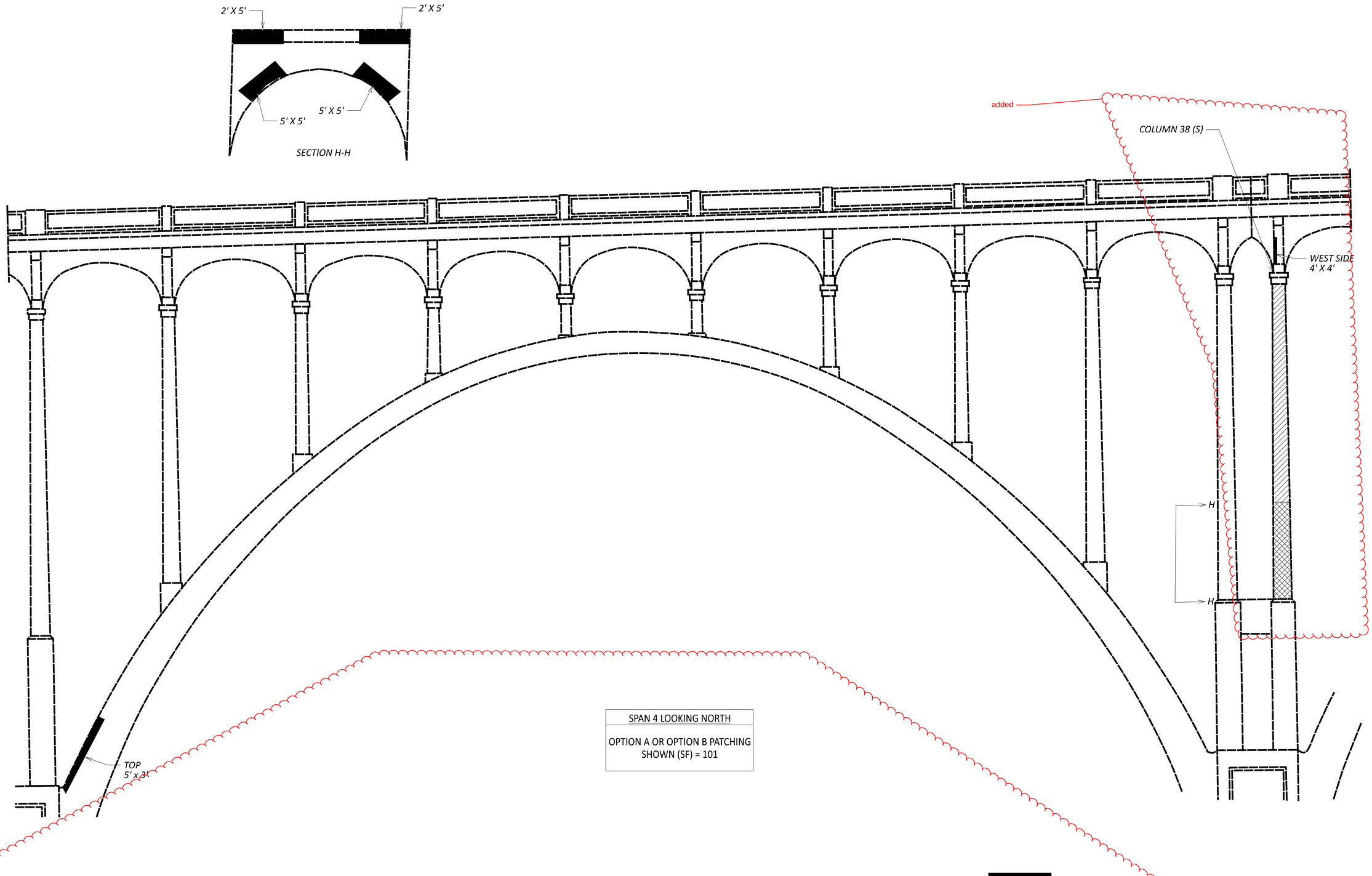

SPAN 4 LOOKING NORTH

OPTION A OR OPTION B PATCHING SHOWN (SF) = 101

= OPTION A OR OPTION B

= FIRST SEGMENT (SEE SHEET 8A)

= SECOND SEGMENT (SEE SHEET 8A)

added

COLUMN 38 DESCRIPTION	UNIT	NORTH COLUMN (N)	SOUTH COLUMN (S)	TOTAL
STEEL PLATE CONFINEMENT ASSEMBLY FOR SECOND SEGMENT	EACH	01,02,03,04	01,02,03,04	8
STRUCTURAL CFRP FOR FIRST SEGMENT	SF	520	520	1040
SHOTCRETE FOR FIRST AND SECOND SEGMENTS	SF	752	752	1504

SUM-82-0000
STRUCTURE DETAILS
SPAN 4 (LOOKING NORTH)

SFN 7706871

DESIGN AGENCY

DESIGNER MJA | CHECKER TJP

REVIEWER TJP 10-03-23

PROJECT ID 107247

SUBSET 10 | TOTAL 29

SHEET P.15 | TOTAL 34

SUM-82-0.00

MODEL: Sheet 8 - Span 4 South Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:08 AM USER: mandrasi
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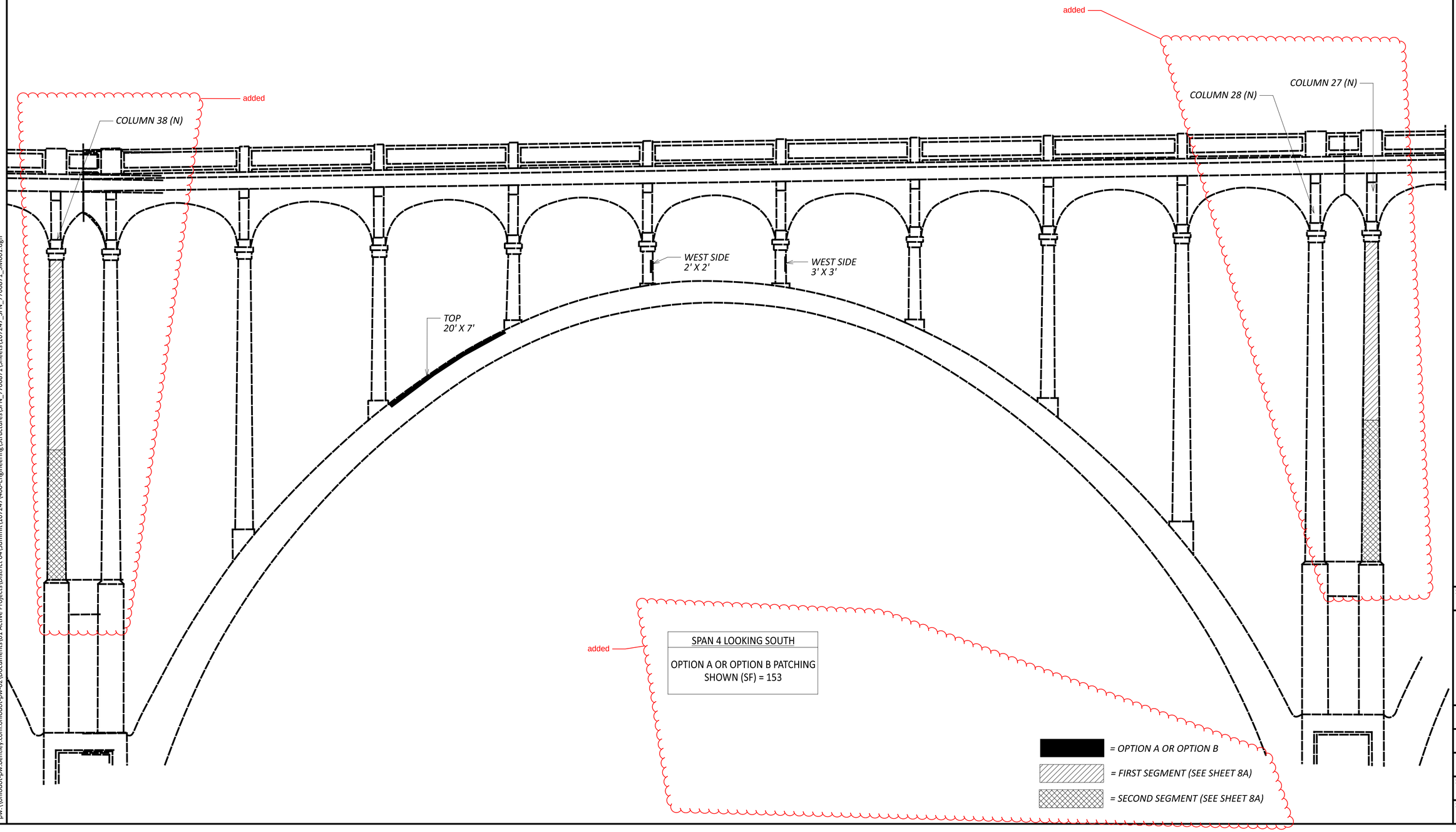

SUM-82-0000
STRUCTURE DETAILS
SPAN 4 (LOOKING SOUTH)

SFN	7706871
DESIGN AGENCY	
DESIGNER	MJA
CHECKER	TJP
REVIEWER	TJP 10-03-23
PROJECT ID	107247
SUBSET	11
TOTAL	29
SHEET	P.16
TOTAL	34

SUM-82-0.00

MODEL: Sheet 9 - Span 4 North Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:08 AM USER: mandrasi
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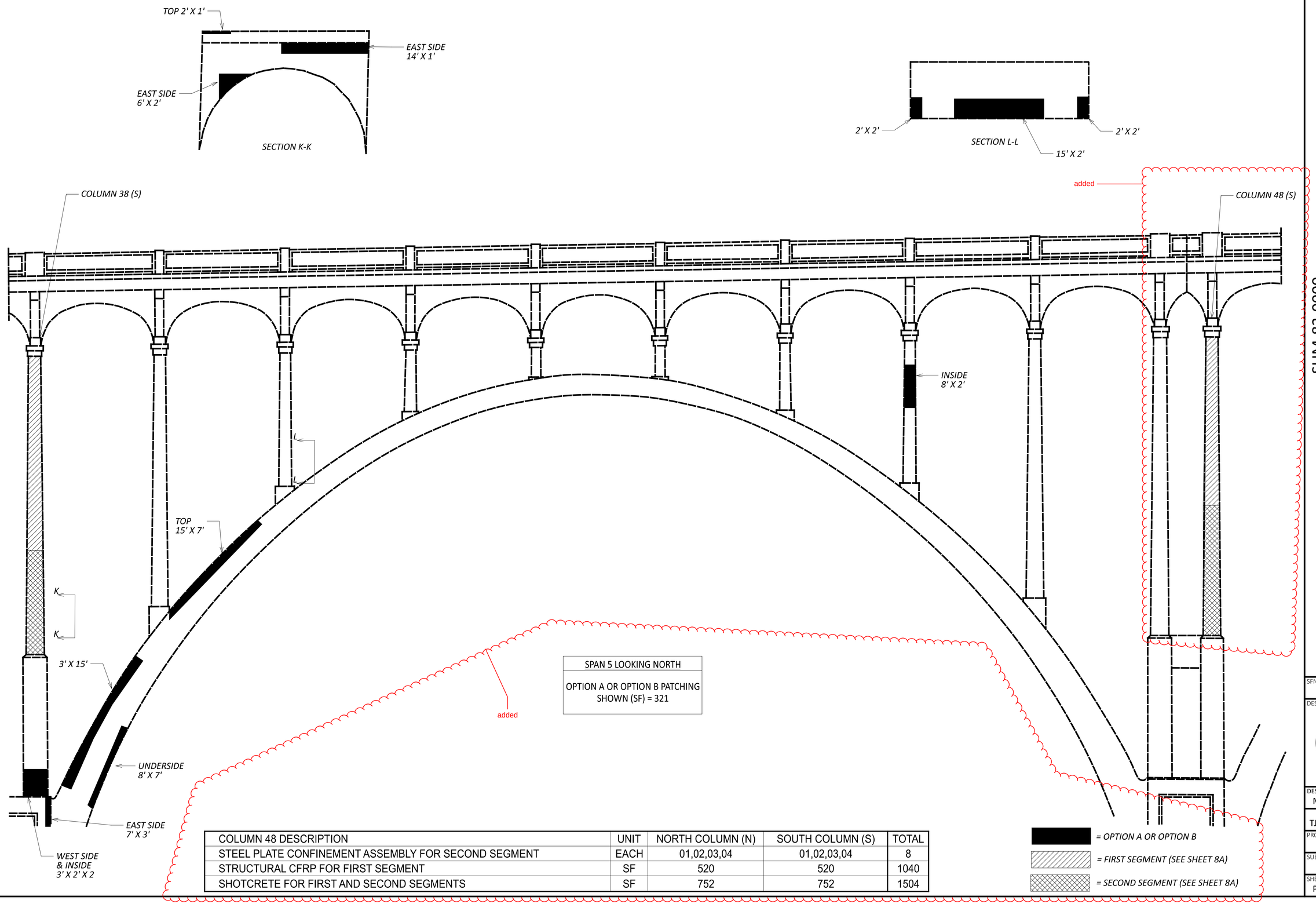

COLUMN 48 DESCRIPTION	UNIT	NORTH COLUMN (N)	SOUTH COLUMN (S)	TOTAL
STEEL PLATE CONFINEMENT ASSEMBLY FOR SECOND SEGMENT	EACH	01,02,03,04	01,02,03,04	8
STRUCTURAL CFRP FOR FIRST SEGMENT	SF	520	520	1040
SHOTCRETE FOR FIRST AND SECOND SEGMENTS	SF	752	752	1504

SUM-82-0.00

MODEL: Sheet 10 - Span 5 South Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:08 AM USER: mandrasi
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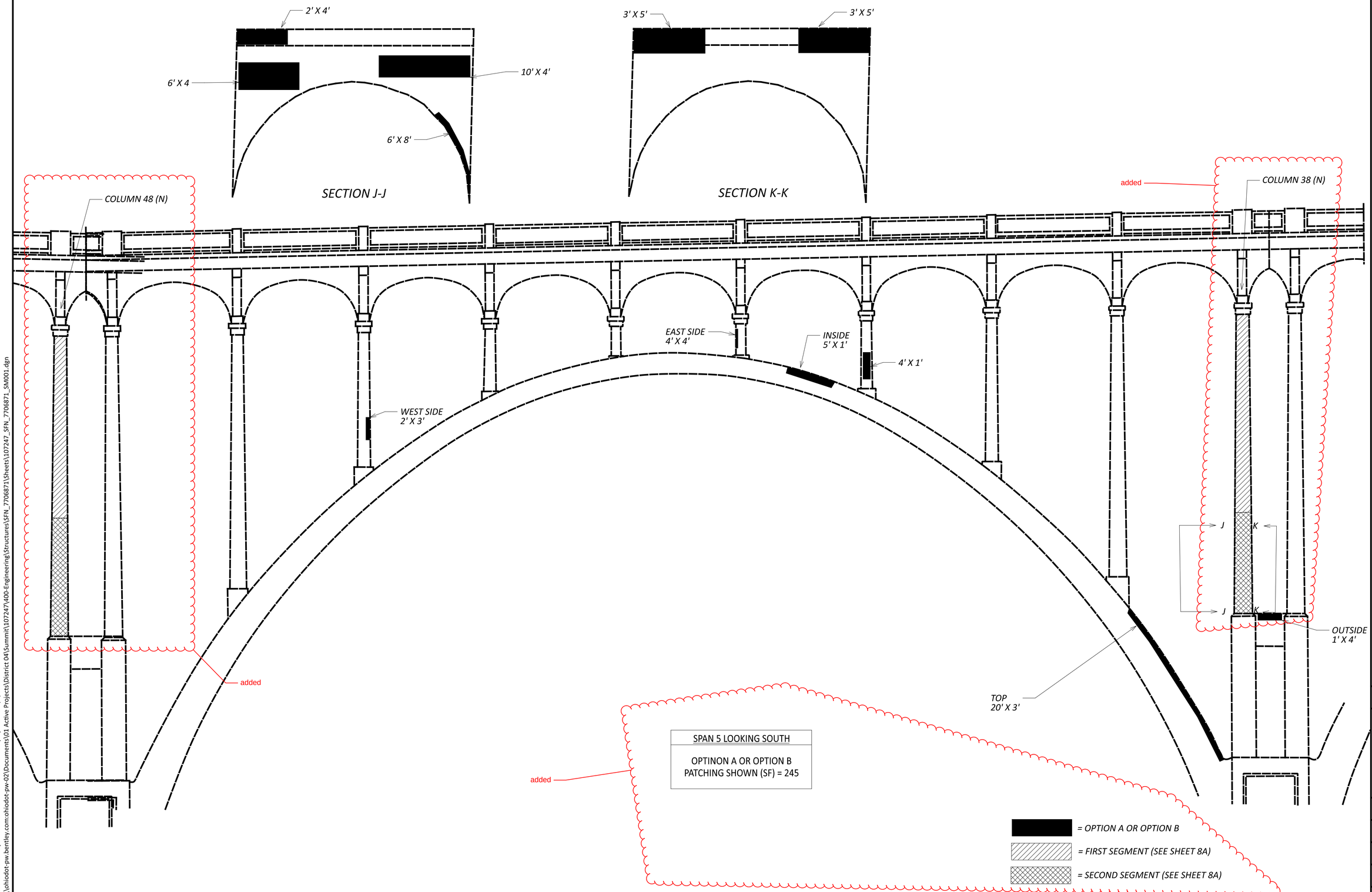
SUM-82-0000
STRUCTURE DETAILS
SPAN 5 (LOOKING NORTH)

SFN	7706871
DESIGN AGENCY	
DESIGNER	MJA
CHECKER	TJP
REVIEWER	TJP 10-03-23
PROJECT ID	107247
SUBSET	12
TOTAL	29
SHEET	P.17
TOTAL	34

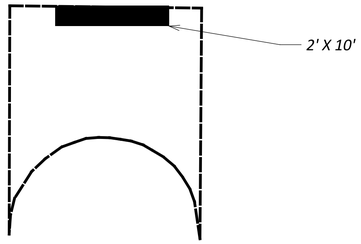


SUM-82-0000
STRUCTURE DETAILS
SPAN 5 (LOOKING SOUTH)

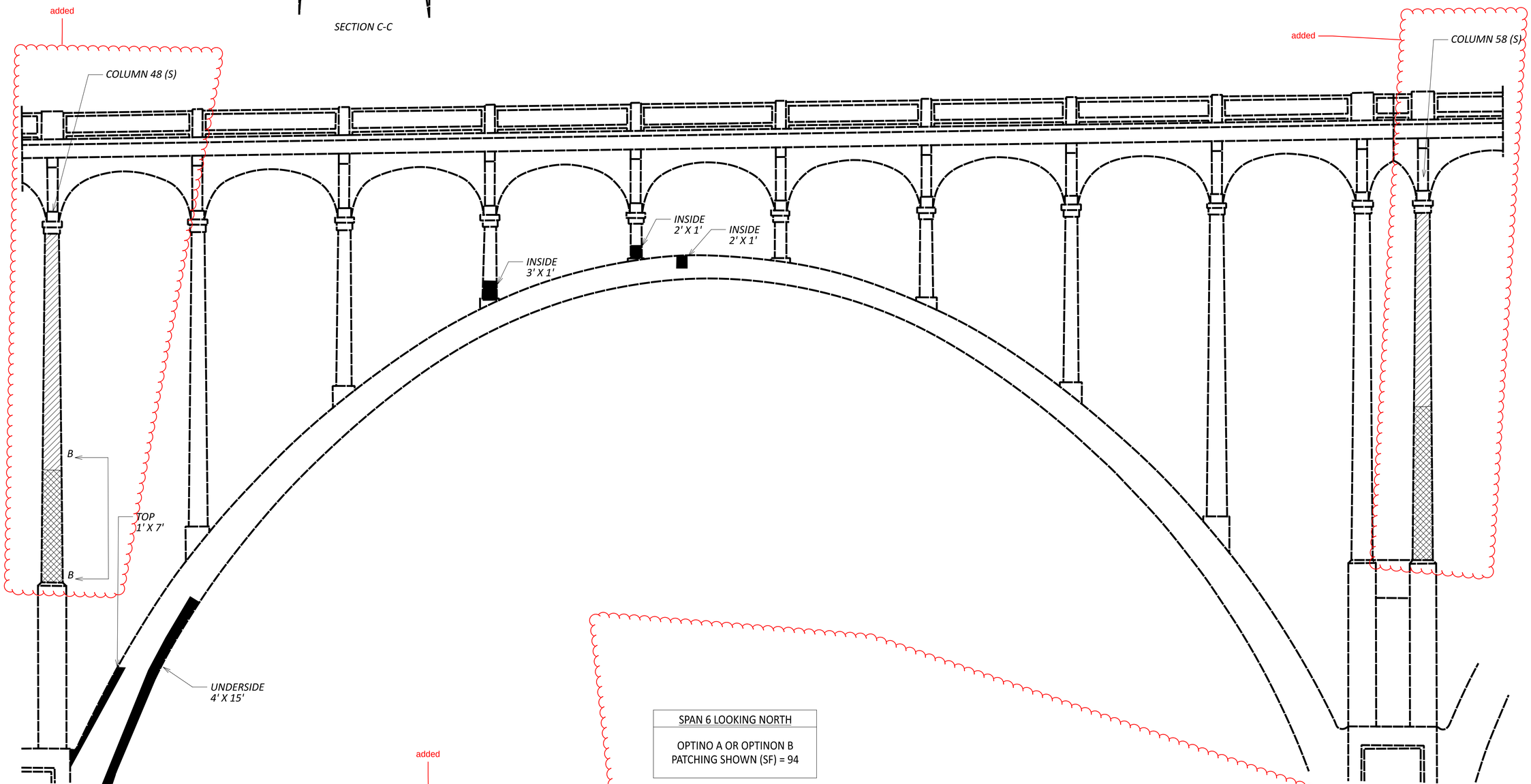
SFN	7706871
DESIGN AGENCY	
DESIGNER	MJA
CHECKER	TJP
REVIEWER	TJP 10-03-23
PROJECT ID	107247
SUBSET	13
TOTAL	29
SHEET	P.18
TOTAL	34

SUM-82-0.00

MODEL: Sheet 11 - Span 5 North Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:08 AM USER: mandrasi
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 04\Summit\107247\400-Engineering\Structures\SFN_7706871\Sheets\107247_SFN_7706871_SM001.dgn



SECTION C-C



SPAN 6 LOOKING NORTH
OPTINO A OR OPTINON B PATCHING SHOWN (SF) = 94

= OPTION A OR OPTION B

= FIRST SEGMENT (SEE SHEET 8A)

= SECOND SEGMENT (SEE SHEET 8A)

COLUMN 58 DESCRIPTION	UNIT	NORTH COLUMN (N)	SOUTH COLUMN (S)	TOTAL
STEEL PLATE CONFINEMENT ASSEMBLY FOR SECOND SEGMENT	EACH	N/A	01,02,03,04	4
STRUCTURAL CFRP FOR FIRST SEGMENT	SF	520	520	1040
SHOTCRETE FOR FIRST AND SECOND SEGMENTS	SF	520	752	1272

SUM-82-0000
STRUCTURE DETAILS
SPAN 6 (LOOKING NORTH)

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID
107247

SUBSET	TOTAL
14	29

SHEET	TOTAL
P.19	34

SUM-82-0.00

MODEL: Sheet 12 - Span 6 South Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:09 AM USER: mandrasi
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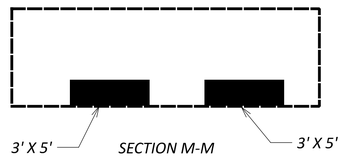
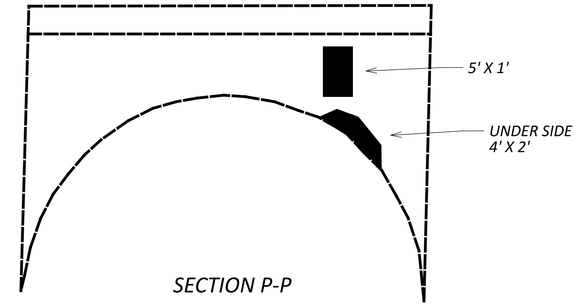
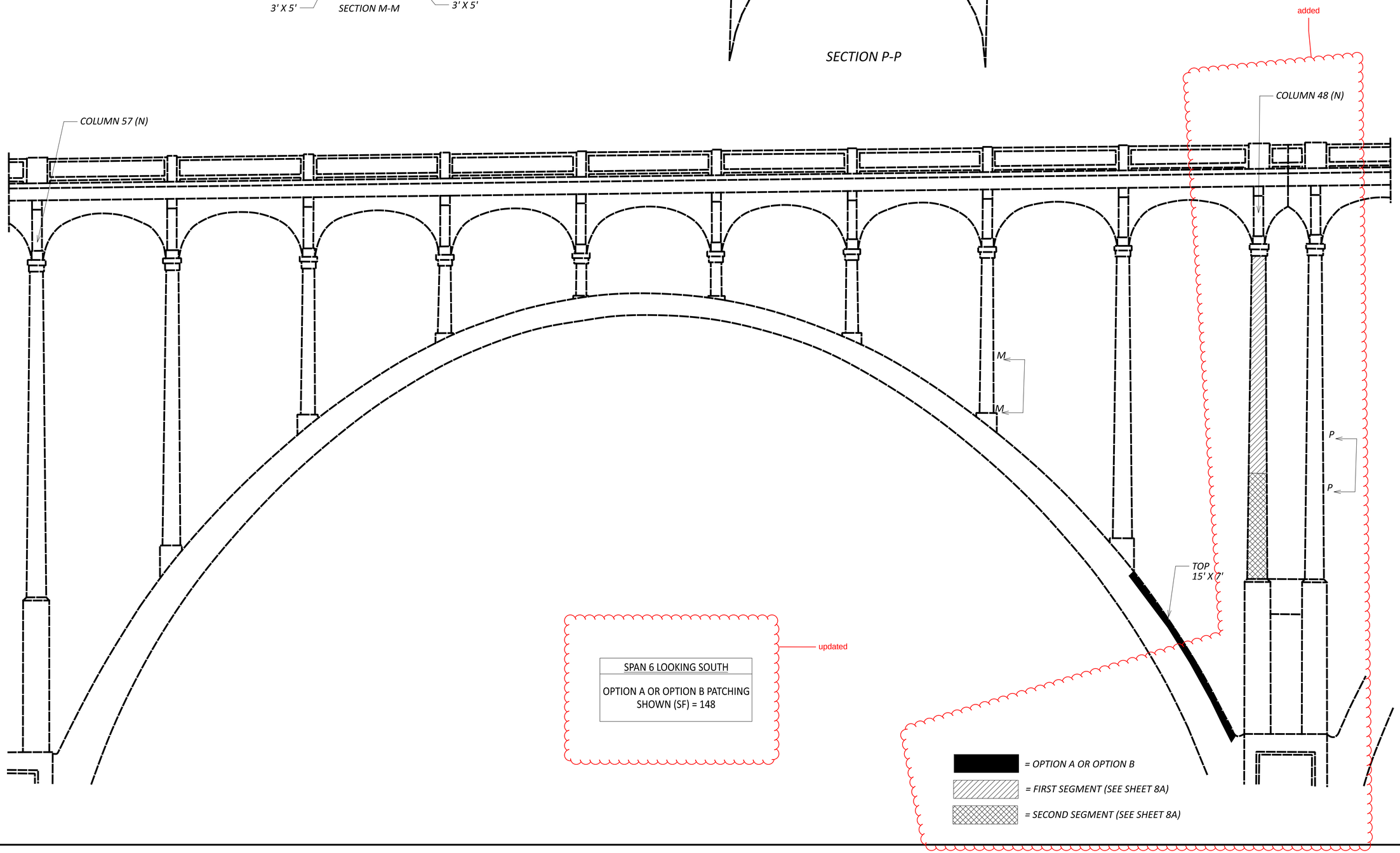




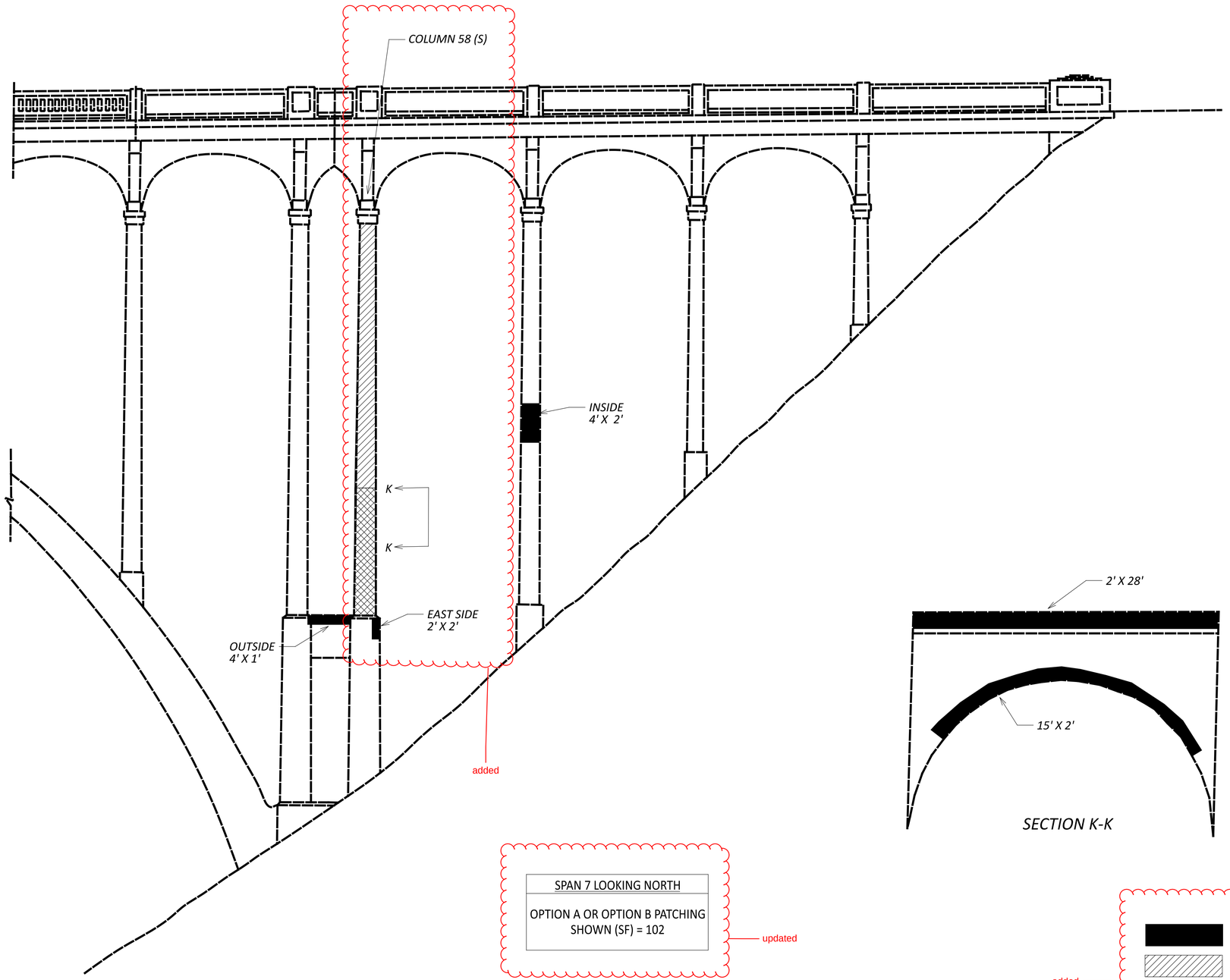


SUM-82-0000
STRUCTURE DETAILS
SPAN 6 (LOOKING SOUTH)

SFN	7706871
DESIGN AGENCY	
DESIGNER	MJA
CHECKER	TJP
REVIEWER	TJP 10-03-23
PROJECT ID	107247
SUBSET	15
TOTAL	29
SHEET	P.20
TOTAL	34

SUM-82-0.00

MODEL: Sheet 13 - Span 6 North Elev. PAPERSIZE: 34x22 (in.) DATE: 4/7/2025 TIME: 10:50:00 AM USER: mandrasi
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 04\Summit\107247\400-Engineering\Structures\SFN_7706871\Sheets\107247_SFN_7706871_SM001.dgn



SUM-82-0000
STRUCTURE DETAILS
SPAN 7 (LOOKING NORTH)

SFN 7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER TJP 10-03-23

PROJECT ID 107247

SUBSET	TOTAL
16	29

SHEET	TOTAL
P.21	34

SUM-82-0.00

MODEL: Sheet 14 - Span 7 South Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:09 AM USER: mandrasi
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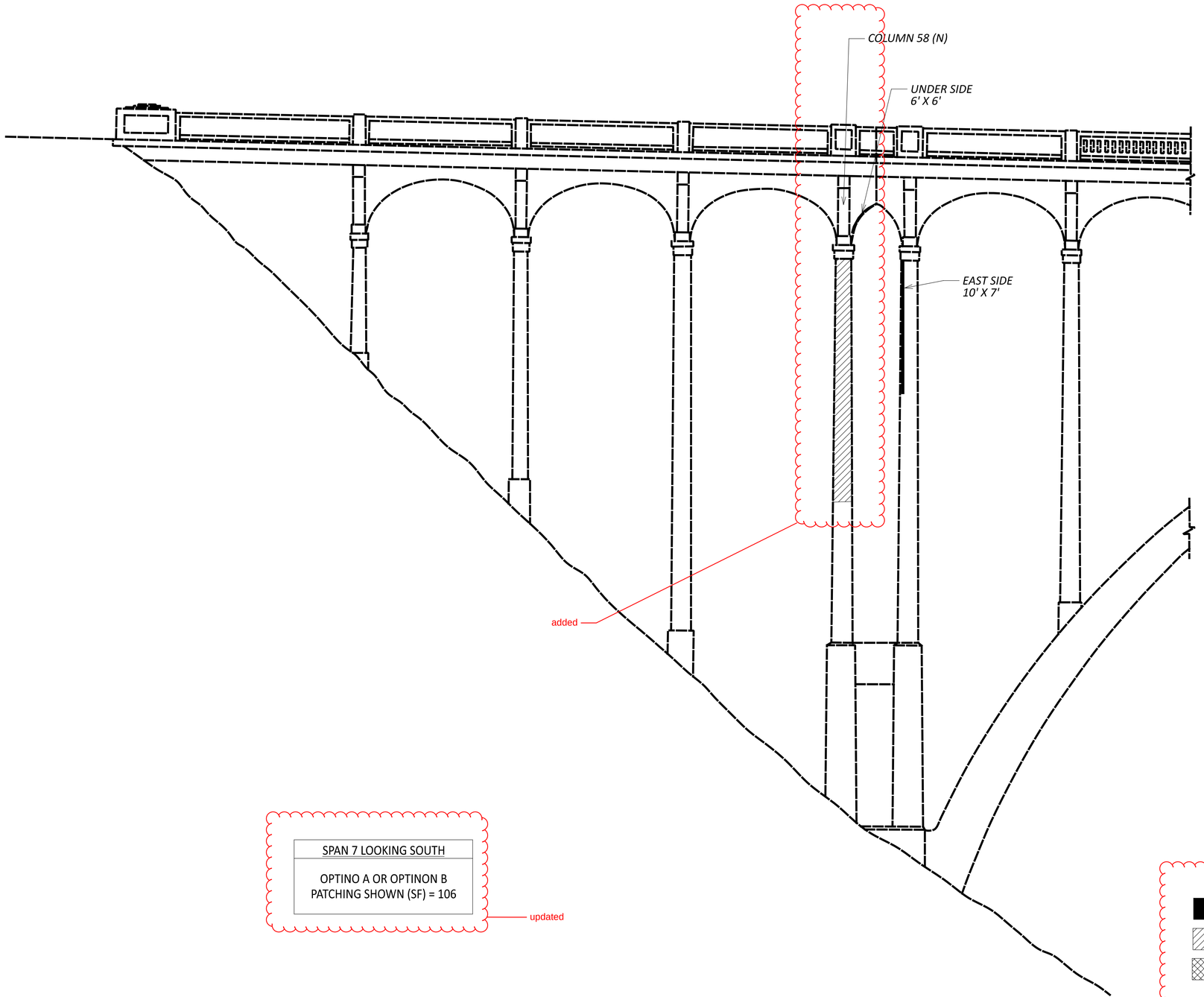

SPAN 7 LOOKING SOUTH

OPTINO A OR OPTINON B
PATCHING SHOWN (SF) = 106

updated

added

= OPTION A OR OPTION B

= FIRST SEGMENT (SEE SHEET 8A)

= SECOND SEGMENT (SEE SHEET 8A)

SUM-82-0000
STRUCTURE DETAILS
SPAN 7 (LOOKING SOUTH)

SFN
7706871

DESIGN AGENCY

DESIGNER	CHECKER
MJA	TJP

REVIEWER
TJP 10-03-23

PROJECT ID
107247

SUBSET	TOTAL
17	29

SHEET	TOTAL
P.22	34

SUM-82-0.00

MODEL: Sheet 15 - Span 7 North Elev. PAPERSIZE: 34x22 (in.) DATE: 4/4/2025 TIME: 11:10:09 AM USER: mandrasi
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 04\Summit\107247\400-Engineering\Structures\SFN_7706871\Sheets\107247_SFN_7706871_SM001.dgn