ADDENDUM NO. 3

DATE: February 28, 2022
Job No. E180104

METRO EAST SANITARY DISTRICT
Lansdowne Sewer Project

Specifications Dated MAY 2019
(Bids Due Wednesday, **March 9, 2022,** before 10:00 a.m.)
Bid date changed with this Addendum

The following additions, deletions, changes, and/or clarifications shall be made a part of the plans and specifications.

SPECIFICATIONS

1. Page 17a of 70. Revise Bid Schedule as follows.
   Delete Section 3.02.B Manhole Cleaning.

   a) Revise Item 20 to read "**20A**".
   b) Revise Amount of Item 20A from *10* to **18**.
   c) Add the following Item 20B. ***Contractor is to bid EITHER Item 20A or 20B, not both.***

NO	ITEM	UNIT	UNIT PRICE	AMOUNT	TOTAL PRICE
20B	Geopolymer Lining of 66"/60" Sewer	Lin. Ft.		100	

   d) Add bid Alternate 1 as follows:

Alternate 1

NO	ITEM	UNIT	UNIT PRICE	AMOUNT	TOTAL PRICE
A-1	Triple Box Access Manhole	Each		2	

   A revised Page 17a of 70 is included as part of this addendum.

2. Page 6 of 70. Revise bid date from *March 3, 2022* to **March 9, 2022.**

3. Page 7 of 70.
   Revise the 3rd line to read as follows:

   .....until 1**0:00 a.m., March 9**, 20**22**, and then at said office publicly opened and read aloud.

4. Page 01 22 13 - 3.

   a) Revise Contract Item 20 to read "**Contract Item 20A**".

   b) Add the following before PART 2 – PRODUCTS.

Contract Item 20B
GEOPOLYMER LINING OF 66"/60" SEWER

Payment for this contract item shall be at the contract unit price per linear foot. Unit price shall be furnishing and applying a geopolymer coating (minimum 2" thick) on the 60" and 66" located between MH 99 and 100. The geopolymer lining material shall be a factory blended, one-component (just add water), eco-friendly, fiber reinforced, ultra-dense geopolymer mortar synthesized from reactive SiO_2 and Al_2O from industrial byproducts, enhanced with monocrystalline quartz aggregate. This material shall be formulated to restore structural integrity while eliminating the infiltration of groundwater, provide enhanced corrosion resistance and shall be specifically formulated for ease of mechanical pumping, spraying and spin casting. The by pass pumping necessary to install this lining shall be considered incidental to this contract item.

Contract Item A-1
TRIPLE BOX ACCESS MANHOLE

Payment for this contract item shall be at contract unit price per each. The location of the access manholes shall be located on the triple box culvert between manholes 100 and 99. The access manholes shall be constructed approximately 525' upstream of MH 100 and approximately 525' downstream of MH 99. When removing the concrete/rebar for in the top of the existing triple box, contractor shall take care to prevent the concrete from falling and damaging the existing structure. Construction shall include excavation, removal of the existing top, constructing the manhole extension, providing access ladder, and all other items as shown on the detail for complete construction. All joints shall be watertight. Unit price shall include all labor, equipment, and material for complete installation.

5. Page 33 01 30.83 – 2
   Add the following sentence to the end of paragraph 2.01.A.

   "If a manufacturer cannot meet the 10-year experience requirement, they shall provide a maintenance bond of five (5) years on the completed installation. This maintenance bond shall be secured and provided by the contractor issuing an annually renewable basis."

6. Add the following sections/details in reference to Contract Item A-1 (Alternate).

   A. Section 03 48 01 – PRECAST CONCRETE VAULTS, MANHOLES AND STRUCTURES

   B. Details (Pages S1 through S4) TRIPLE BOX CULVERT ESCAPE ACCESS MANHOLES

CLARIFICATION

7. Basis of Award shall be the total of the BASE BID. Award of the alternate will be based on the decision of the Owner.

8. Several bidders requested flow information. The only flow information available is at the Lansdowne Station (downstream end of this project). Per MESD, the average flow is about 2 million gallons per day. During heavy rain events, flow can be up to 6 to 8 million gallons per day.

9. The work described in Contract Item 16 refers to Manholes 79, 80, and 94 – 102.

END OF ADDENDUM NO. 3

This addendum consists of three (3) pages and the following attachments.

Attachments: Revised Page 17a of 70 (1 page)
Section 03 48 01 – Precast Concrete Vaults, Manholes and Structures (5 pages)
Details S1 through S4 (4 pages)

Please sign and return this page by fax (618/452-5541) as acknowledgment of receipt of this addendum.

By: _____ Company: _____

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices:

BID SCHEDULE

Note: BIDS shall include sales tax and all other applicable taxes and fees.

NO.	ITEM	UNIT	UNIT PRICE	AMOUNT	TOTAL PRICE
1	Heavy Sewer Cleaning / CCTV Inspection of 21" - 30" Sanitary Sewer	Lin. Ft.		6,249	
2	Heavy Sewer Cleaning / CCTV Inspection of 42" - 48" Sanitary Sewer	Lin. Ft.		4,393	
3	Heavy Sewer Cleaning / CCTV Inspection of 54" - 66" Sanitary Sewer	Lin. Ft.		16,095	
4	Furnish & Install 21" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		1,488	
5	Furnish & Install 24" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		1,033	
6	Furnish & Install 27" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		907	
7	Furnish & Install 30" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		2,837	
8	Furnish & Install 42" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		1,355	
9	Furnish & Install 45" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		2,722	
10	Furnish & Install 48" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		531	
11	Furnish & Install 54" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		12,934	
12	Furnish & Install 60" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		1,594	
13	Furnish & Install 66" Cured-in-Place Pipe (CIPP) Lining	Lin. Ft.		1,215	
14	Manhole 19 Modification	L. Sum		1	
15	Slip Lined Manhole Modifications	Each		8	
16	Raised Manhole Modification	Each		12	
17	Sanitary Manhole Lining (Circular Sections)	Vert. Ft.		414.7	
18	Sanitary Manhole Lining (Rectangular Sections)	Sq. Ft.		11,017	
19	Manhole Frame & Lid	Each		85	
20A	Concrete Encasement of Joints on 66"/60" Sewer	Each		***18***	
	Bid EITHER 20A or 20B (not both)				
20B	**Geopolymer Lining of 66" / 60" Sewer**	***Lin. Ft.***		***100***	

TOTAL OF BASE BID……..……..……..……..……..……..…….$ _____

LUMP SUM BID (if applicable) …….....…….……..…….$ _____

ALTERNATE 1

NO.	ITEM	UNIT	UNIT PRICE	AMOUNT	TOTAL PRICE
A-1	***Triple Box Access Manhole***	***Each***		***2***	

Revised 2/25/2022
Per Addendum #3

PART 1 – GENERAL

1.01 DESCRIPTION

A. The work covered by this section consists of furnishing all labor, materials and equipment required for the manufacture furnished and install pre-cast concrete structures as detailed on the plans.

B. Section Includes:

1. 36” X 36” Square Precast Manhole providing a clear 36” X 36” opening.

1.02 RELATED SECTIONS

A. Section 01 33 23 – Shop Drawings, Product Data & Samples

1.03 REFERENCES

A. ASTM International:

1. ASTM A48 – Standard Specification for Gray Iron Castings.
2. ASTM A536 – Standard Specification for Ductile Iron Castings.
3. ASTM C478 – Standard Specification for Precast Reinforced Concrete Manhole Sections.
4. ASTM C497– Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
5. ASTM C890 – Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures.
6. ASTM C891 – Standard Practice for Installation of Underground Precast Utility Structures.
7. ASTM C913 – Standard Specification for Precast Concrete Water and Wastewater Structures.
8. ASTM C990 – Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joints Sealants.

B. Standard Specifications:

1. IDOT Standard Specifications for Road and Bridge Construction, Adopted Jan. 1, 2022.
2. IEPA Standard Specifications for Water and Sewer Construction in Illinois, 8th Edition.

1.04 DESIGN LOADS

A. The 36” X 36” Square Precast Manhole shall be designed and detailed to support a horizontal earth and hydrostatic load of 808 POUNDS PER SQUARE FOOT, unfactored.

1.05 SUBMITTALS

A. Shop Drawing: Indicate plan, location and inverts of connecting piping.

B. Shop Drawing: Indicate location, plans, and details of the 36” X 36” Square Precast Manhole.

C. Product Data: Submit data on vaults and manholes.

D. Calculations and Certifications: Calculations and a certification shall be submitted for review and approval, signed and sealed by a Structural Engineer holding current registration in the State of Illinois, stating that the 36” X 36” Square Precast Manhole is designed and detailed to withstand the required design loads and forces.

E. Manufacturer's Certificates: Submit Statement of Compliance and supporting data from materials suppliers attesting that precast concrete valve vaults and meter boxes provided they meet or exceed ASTM Standards and specification requirements.

F. Manufacturer's Installation Instructions: Submit special procedures for precast concrete valve vaults and meter boxes installation.

1.06 CLOSEOUT SUBMITTALS

A. Project Record Documents: Accurately record actual locations and inverts of buried pipe, components and connections.

1.07 QUALITY ASSURANCE

A. Perform Work in accord with IDOT Standard Specifications.

B. Maintain one copy of document on site.

1.08 DELIVERY, STORAGE AND HANDLING

A. Transport and handle precast concrete units with equipment designed to protect units from damage.

B. Do not place concrete units in position to cause overstress, warp or twist.

PART 2 – PRODUCTS

2.01 PRECAST CONCRETE VALVES, MANHOLES AND LIFT STATION WET WELL

A. Precast Sections: Reinforced precast concrete in accordance with ASTM C478.

1. Joints: O-ring rubber gaskets in accordance with ASTM C443.
2. Joints: Butyl rubber gaskets in accordance with ASTM C990.

2.02 FRAMES AND COVERS

A. Product Description:

1. Grey cast iron ASTM A48/A48M, Class 30B; size and shape as indicated on Drawings. Live load rating of HS 20 in paved areas.
2. Aluminum Access Hatches of the size and type shown on the plans and specified.

2.03 CONFIGURATION

A. Provide size and shape as indicated on Drawings.

B. Foundation Slab: Cast-in-place or precast reinforced concrete integral with bottom section, level top surface.

2.04 ACCESSORIES

A. Strap Anchors: Stainless steel capable of supporting pipe or accessories indicated on Drawings, minimum 1 inch wide x 1/8 inch thick.

B. Geotextile Filter Fabric: Type 1 Engineering fabric in accordance with IDOT Standard Specifications; non-woven, needle punched, non-biodegradable, and rot-proof.

2.05 BEDDING AND BACKFILL MATERIALS

A. Bedding: Clean course aggregate Gradation CA-7 conforming to the IDOT Standard Specifications.

B. Backfill around Structures: Compacted in 12" lifts.

PART 3 – EXECUTION

3.01 INSPECTIONS

A. Verify items provided by other Sections of Work are properly sized and located.

B. Verify build-in items are in proper location and ready for roughing into Work.

C. Verify correct size of manhole and structure exaction.

3.02 PREPARATION

A. Coordinate placement of inlet and outlet pipe.

B. Do not install vaults and structures where site conditions induce loads exceeding structural capacity of vaults.

C. Inspect precast concrete vaults immediately prior to placement in excavation to verify structures are internally clean and free from damage. Remove and replace damaged units.

3.03 INSTALLATION

A. Excavation and Backfill:

1. Excavate and backfill for vaults, manholes and structures in accordance with Standard Specifications in location and to depth shown. Provide clearance around sidewalls of structure for construction operations, backfill, and placement of geotextile filter fabric if required.
2. When groundwater is encountered, prevent accumulation of water in excavations. Place structures in dry trench.
3. Where possibility exists of watertight structure becoming buoyant in flooded excavation, anchor manhole or structure to avoid floatation.

B. Place bedding and foundation slab; trowel top surface level if cast-in-place.

C. Install underground precast utility structures in accordance with ASTM C891.

D. Lift precast vaults and structures at lifting points designated by manufacturer.

E. When lowering vaults and structures into excavations and joining pipe to units, take precautions to ensure interior of pipeline and manhole or structure remains clean.

F. Set precast vaults and structures bearing firmly and fully on stone bedding, 8-inch minimum thickness, compacted to 95 percent maximum density.

G. Assemble multi-section vaults and structures by lowering each section into excavation. Install rubber gasket joints between precast sections in accordance with manufacturer's recommendations. Lower, set level, and firmly position base section before placing additional sections.

H. Remove foreign materials from joint surfaces and verify sealing materials are placed properly. Maintain alignment between sections by using guide devices affixed to lower section.

I. Joint sealing materials may be installed on site or at manufacturer's plant.

J. Verify vaults and structures installed satisfy required alignment and grade.

K. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe. Fill annular space with non-shrink grout.

3.04 CASTINGS INSTALLATION

A. Set frames using mortar and masonry as indicated on Drawings. Install radially laid concrete brick with ¼ inch thick vertical joints at inside perimeter. Lay concrete brick in full bed of mortar and completely fill joints. Where more than one course of concrete brick is required, stagger vertical joints.
B. Do not install more than 3 courses of brick or more than 12 inches of masonry.

3.05 FIELD QUALITY CONTROL

A. Perform soil compaction tests in accordance with Section 31 00 00.

1. Notify A/E 72 hours in advance of test and have witness test.

B. Vertical Adjustment of Existing Structures.

1. Where required, adjust top elevation of existing vaults and structures to finished grades shown on Drawings.
2. Reset existing frames, grates and covers, carefully removed, cleaned of mortar fragments, to required elevation in accordance with requirements specified for installation of castings.
3. Remove concrete without damaging existing vertical reinforcing bars when removal of existing concrete wall is required. Clean vertical bars of concrete and bend into new concrete top slab or splice to required vertical reinforcement, as indicated on Drawings.
4. Clean and apply sand-cement bonding compound on existing concrete surfaces to receive cast-in-place concrete.

END OF SECTION 03 48 01

GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE DRAWINGS AND REPORT ANY DISCREPANCY TO THE ENGINEER.

2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL FOR APPROVAL PRIOR TO THE ORDERING MATERIALS.

CODES AND STANDARD

1. AISC "STEEL CONSTRUCTION MANUAL "- LATEST EDITION.

2. ACI 318 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

3. CONCRETE DETAILS - DESIGN, DETAILING, FABRICATION AND ERECTION SHALL COMPLY WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE" AND "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS".

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE LATEST AISC MANUAL OF STEEL CONSTRUCTION.

2. STRUCTURAL STEEL CHANNELS SHALL BE ASTM A992, GRADE 50 (FY=50 KSI)
STRUCTURAL STEEL PLATES & THREADED RODS SHALL BE A36 (FY= 36 KSI)
STRUCTURAL BOLTS - ASTM A325
NUTS - ASTM A563
WASHERS - ASTM F436
WELD RODS - E70XX ELECTRODES

3. BOLTED CONNECTIONS:

   A. MINIMUM BOLT DIAMETER = ½".

4. ALL BOLTED CONNECTIONS SHALL BE BEARING TYPE USING A325N OR A490 BOLTS. ALL NUTS SHALL BE UNIFORM TO ASTM A563. ALL WASHERS SHALL CONFORM TO ASTM F436.

5. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM F2329.

6. WELDING QUALIFICATION OF WELDERS SHALL BE IN ACCORDANCE WITH THE LATEST AWS STRUCTURAL WELDING CODE - STEEL AWS D1.1.

7. WELDS ARE CONTINUOUS UNLESS NOTED.

8. ALL FILLET WELDS: A.I.S.C. MINIMUM BUT NOT LESS THAN ¼" UNLESS NOTED OTHERWISE.

9. ALL STEEL SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.

10. ANY DAMAGED OR UNCOATED AREA OF THE EXISTING AND NEW HOT DIPPED GALVANIZED STRUCTURAL STEEL SHALL BE REPAIRED USING A ZINC-RICH PAINT IN ACCORDANCE WITH ASTM A780.

11. NO CHANGE IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE AND HOLES, SLOTS, CUTS, ETC., ARE NOT PERMITTED THROUGH ANY MEMBERS UNLESS THEY ARE DETAILED.

CONCRETE AND REINFORCING

1. REINFORCED CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.

2. ALL REINFORCING STEEL SHALL BE GRADE 60, 60,000 PSI YIELD POINT DEFORMED BARS IN ACCORDANCE WITH THE LATEST ASTM SPECIFICATIONS.

3. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED, IN ACCORDANCE WITH THE ACI DETAILING MANUAL - LATEST EDITION

4. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

5. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. WHERE CLASSES ARE NOT CALLED OUT ON THE DRAWINGS, USE CLASS B TENSION SPLICES.

SPLICES f'c = 4,000 P.S.I., FY = 60,000 P.S.I.

TENSION LAP SPLICE FOR ALL OTHER BARS, GRADE 60													
CLASS A, B, LAP SPLICE LENGTH (INCHES)													
		f'c = 3,000 P.S.I.				f'c = 4,000 P.S.I.				f'c = 5,000 P.S.I.			
BAR	CLASS	A		B		A		B		A		B	
SIZE	CATEGORY	4	6	4	6	4	6	4	6	4	6	4	6
#3	-	15		16		12		16		12		16	
#4	-	17		22		15		19		13		17	
#5	-	21		27		18		25		16		21	
#6	-	25		32		22		28		19		25	
#7	-	30	**29**	39	38	26	25	33	33	25	25	30	29
#8	-	39	**35**	31	45	34	29	44	37	30	26	39	35
#9	-	49	**37**	64	48	45	32	56	42	38	29	50	38
#10	-	65	**45**	81	58	54	39	70	50	49	35	65	45
#11	-	77	**55**	100	71	67	48	86	62	60	43	77	55

NOTE:
1. TABLES ARE BASED ON C.R.S.I. CATEGORIES 4 & 6. WHERE MINIMUM SPACING IS 6 BAR DIAMETERS CENTER TO CENTER AND WHERE MINIMUM CONCRETE COVER IS ONE BAR DIAMETER USE CATEGORY 6 FOR LONGITUDINAL BARS IN BEAM, COLUMNS AND INNER LAYER OF WALL OR SLABS, USE CATEGORY 4 FOR ALL OTHER BARS.

2. ALL SPLICES TO BE CLASS "B" TENSION SPLICE UNLESS OTHERWISE NOTED.

3. SPLICE PLAIN WELDED WIRE FABRIC BY LAPPING ON FULL MESH SPACE PLUS 2 INCHES.

4. FOR LIGHT WEIGHT CONCRETE, MULTIPLY LENGTHS IN TABLE BY 1.3

5. FOR EPOXY COATED REINFORCEMENT, MULTIPLY LENGTHS IN TABLE BY 1.5

RESIN ANCHOR SYSTEM

1. REINFORCING BARS

   A. ALL RESIN ANCHORS IN CONCRETE SHALL BE EPOXY COATED REBAR WITH HILTI HIT-HY 200R ADHESIVE ANCHORING SYSTEM. REBAR SIZE AND EMBEDMENT SHALL BE AS CALLED OUT ON THE DRAWINGS, OR APPROVED EQUAL.

   B. THE CONTRACTOR SHALL FURNISH AND INSTALL ANCHORS AS RECOMMENDED BY THE RESIN ANCHOR MANUFACTURER.

   C. THE RESIN ANCHOR CONNECTION IS DESIGNED ASSUMING NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF THE EXISTING CONCRETE TO BE F'C= 4000PSI AND THE CONCRETE IS CRACKED.

   D. ALL RESIN ANCHORS ARE DESIGNED BASED ON THE HILTI ANCHOR FASTENING TECHNICAL GUIDE, EDITION 19.

2. ANCHOR RODS

   A. ALL HILTI ANCHOR RODS SHALL BE ½" Ø HIT-Z-R STAINLESS STEEL, MANUFACTURED FROM AISI TYPE 316 STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 75 KSI AND A MINIMUM YIELD STRENGTH OF 36 KSI.

   B. ALL NUTS SHALL CONFORM TO ASTM F594 MANUFACTURED FROM AISI TYPE 316 STAINLESS STEEL.

   C. ALL WASHERS SHALL CONFORM TO ASTM A240 AND ANSI B18.22.1 TYPE A PLAIN AND MANUFACTURED FROM AISI TYPE 316 STAINLESS STEEL.

   D. ADHESIVE FOR THE ANCHOR RODS SHALL BE HILTI HIT-HY 200R WITH THE DIAMETER OF THE ANCHOR RODS AND EFFECTIVE EMBEDMENT DEPTHS AS SHOWN ON THE PLANS.

   E. THE RESIN ANCHOR CONNECTION IS DESIGNED ASSUMING NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.

NON-SHRINK GROUT

1. NON-SHRINK GROUT AND ANCHORING CEMENT SHALL BE FACTORY PACKAGED NON-SHRINK, NONMETALLIC GROUT COMPLYING WITH ASTM C-1107 OR WATER RESISTANT, NON-SHRINK ANCHORING CEMENT, RECOMMENDED BY THE MANUFACTURER FOR EXTERIOR USE.

MISCELLANEOUS

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CHANGE.

2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE AT ALL TIMES AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN THE STABILITY AND SAFETY OF THE EXISTING STRUCTURE AT THE CONTRACTOR'S COST.

3. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS.

4. ALL ITEMS WHICH IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. PLANS AND/ OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY. OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE AFFECTED WORK PROGRESSES.

5. DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS.

6. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

REVISIONS

2100 State Street, P.O. Box 1325
Granite City, IL 62040-4725

100 North Research Drive
Edwardsville, IL 62025-3638

330 N. Fourth Street, Suite 200
St. Louis, MO 63102-2007

1111 Burlington Avenue, Suite 100
Lisle, IL 60532-5503

JUNEAU ASSOCIATES, INC., P.C.
ENGINEERING & LAND SURVEYING
Professional Design Firm License No. 184.003389

MESD - CAHOKIA CANAL
TRIPLE BOX CULVERT ESCAPE ACCESS MANHOLES

GENERAL NOTES

DESIGNED BY RS	JOB NUMBER E180104
DRAWN BY EER	SHEET NO. S1
CHECKED BY WWH	
DATE 02/22/2022	1 OF 4

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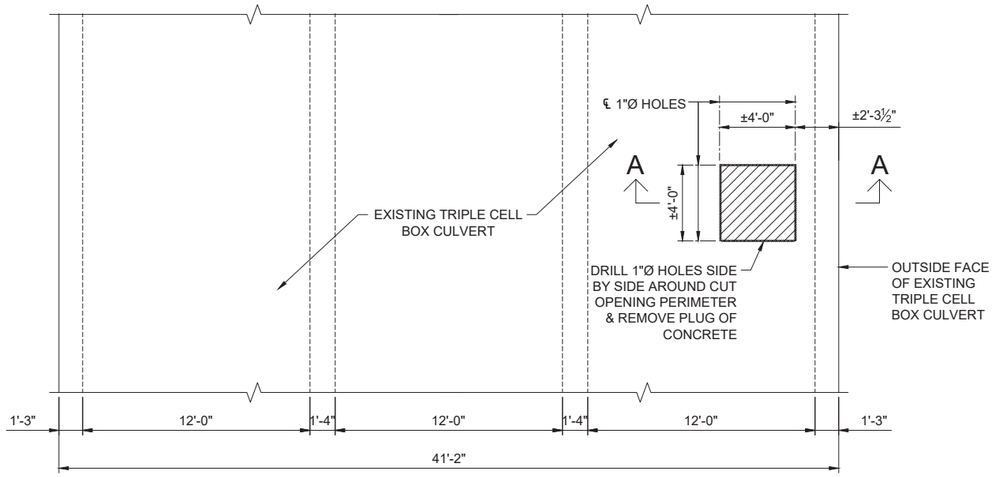
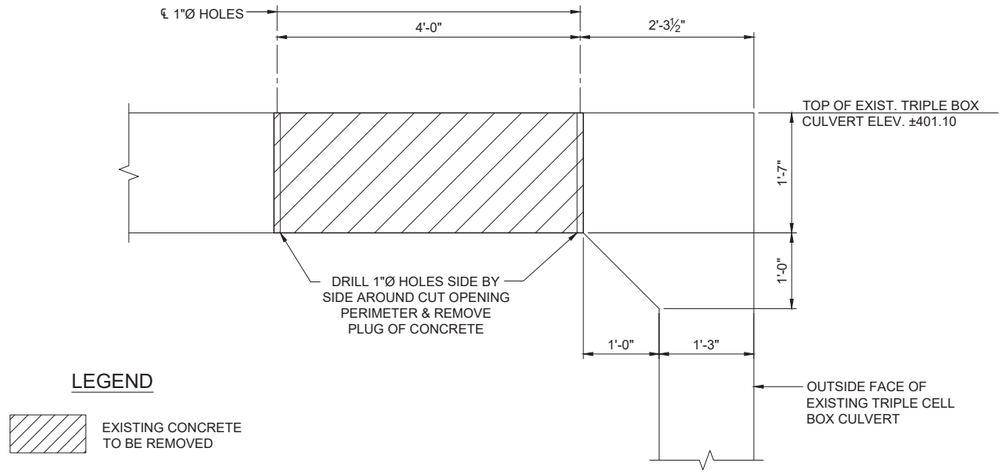
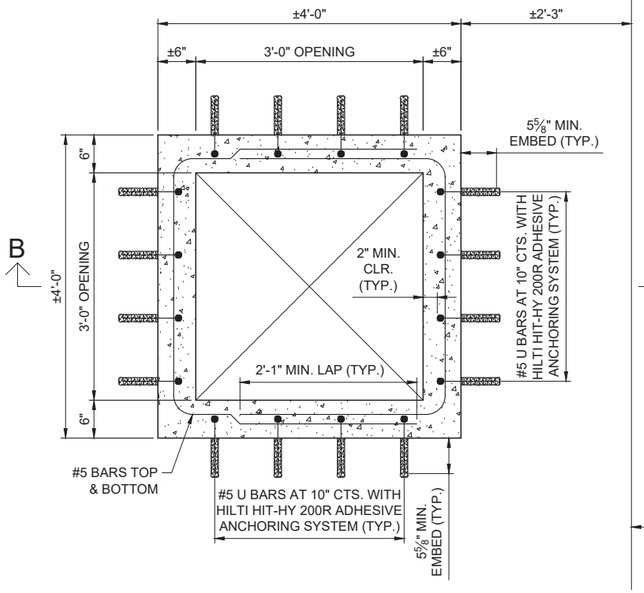


PLAN SHOWING REMOVAL

VERIFY EXACT LOCATION WITH CIVIL

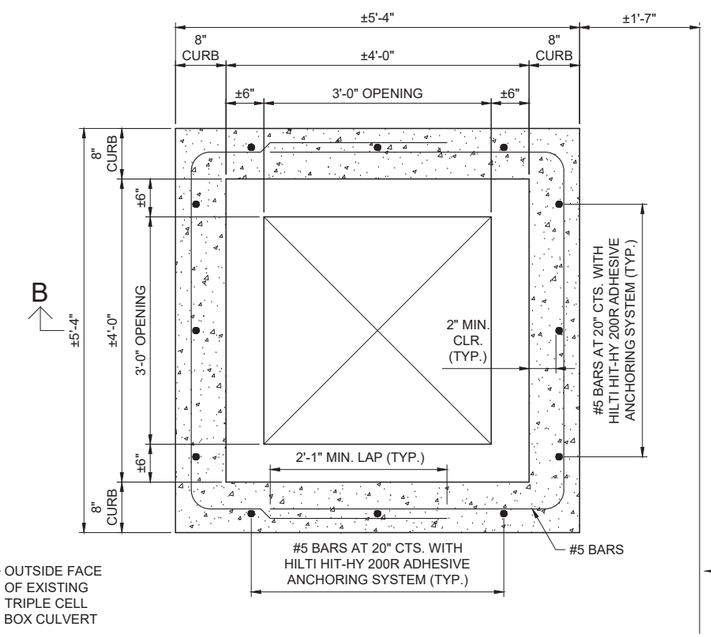


SECTION A-A SHOWING REMOVAL

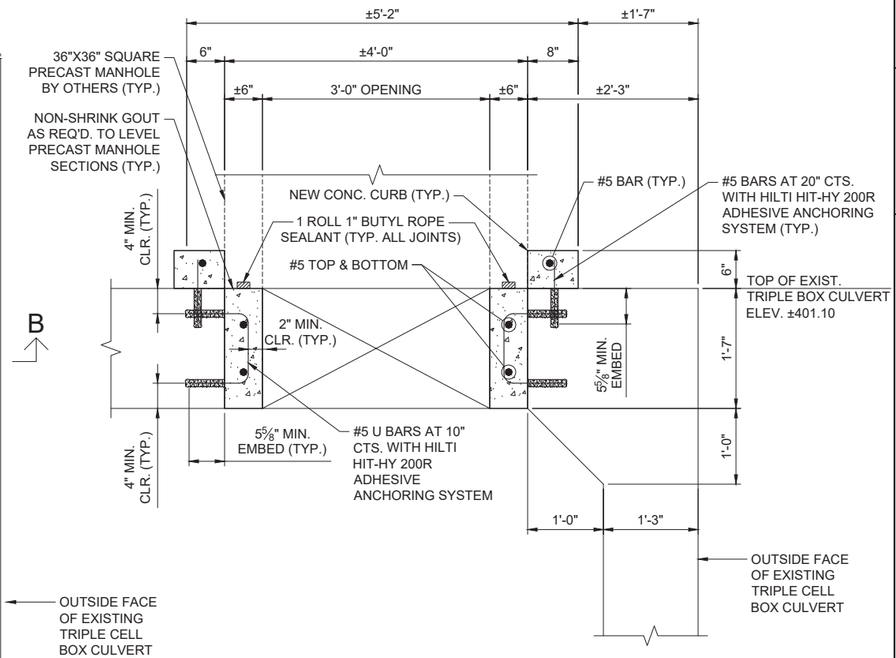


PLAN SHOWING NEW CONCRETE OPENING

VERIFY EXACT LOCATION WITH CIVIL



PLAN SHOWING NEW CONCRETE CURB



SECTION B-B

REVISIONS

2100 State Street, P.O. Box 1325
Granite City, IL 62040-4725

100 North Research Drive
Edwardsville, IL 62025-3638

330 N. Fourth Street, Suite 200
St. Louis, MO 63102-2007

1111 Burlington Avenue, Suite 100
Lisle, IL 60532-5503

JUNEAU ASSOCIATES, INC., P.C.
ENGINEERING & LAND SURVEYING
Professional Design Firm License No. 184.003389

MESD - CAHOKIA CANAL
TRIPLE BOX CULVERT ESCAPE ACCESS MANHOLES

PLAN & SECTIONS SHOWING REMOVAL & PROPOSED OPENING

DESIGNED BY RS	JOB NUMBER E180104
DRAWN BY EER	SHEET NO. S2
CHECKED BY WWH	
DATE 02/22/2022	2 OF 4

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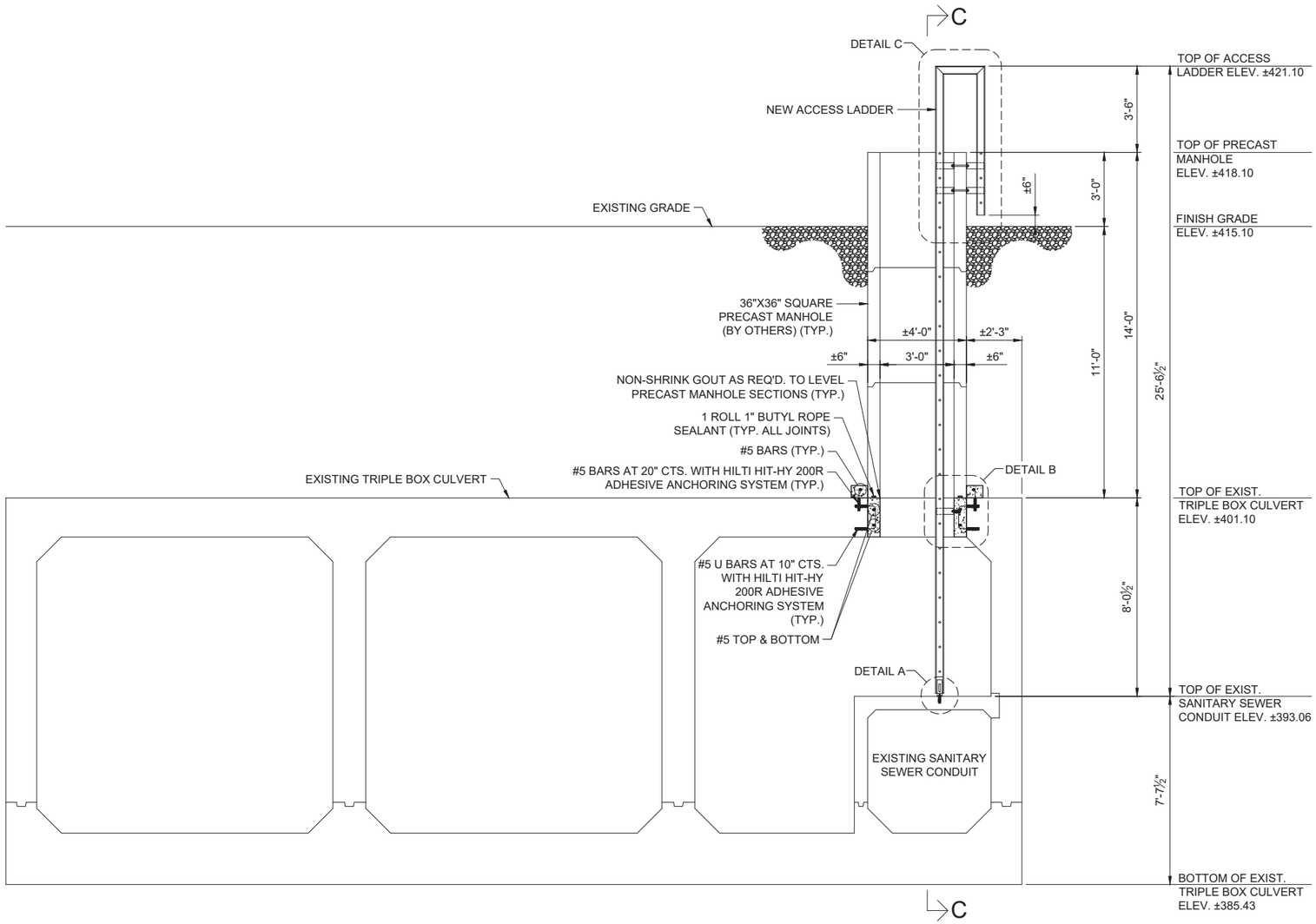
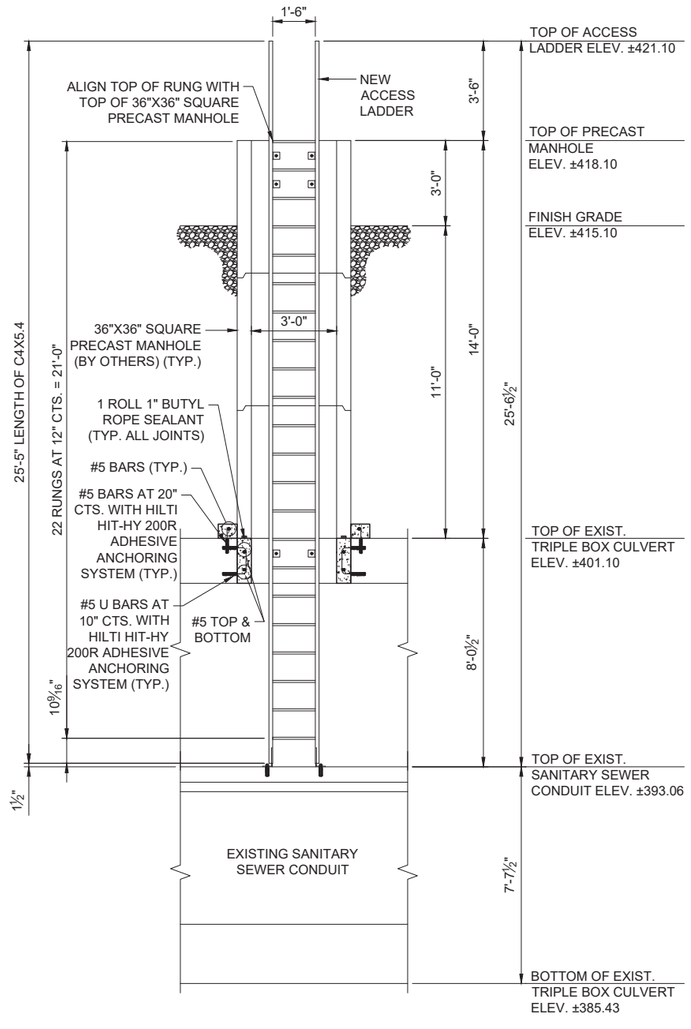


TYPICAL SECTION THRU TRIPLE CELL BOX CULVERT



SECTION C-C

NOTES:

1. FOR CONCRETE OPENING AND CURB DETAILS, SEE SHEET S2.
2. FOR DETAIL A, DETAIL B, DETAIL C & OTHER MISCELLANEOUS LADDER DETAILS, SEE SHEET S4.

REVISIONS

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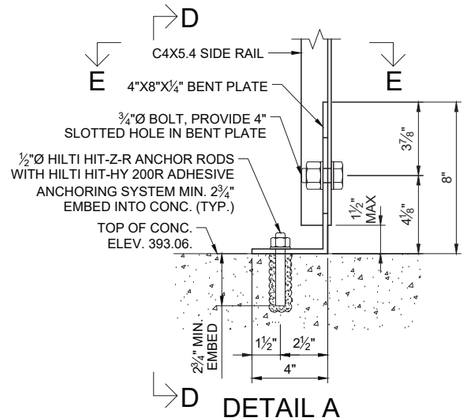
JUNEAU ASSOCIATES, INC., P.C.
ENGINEERING & LAND SURVEYING

Professional Design Firm License No. 184.003389

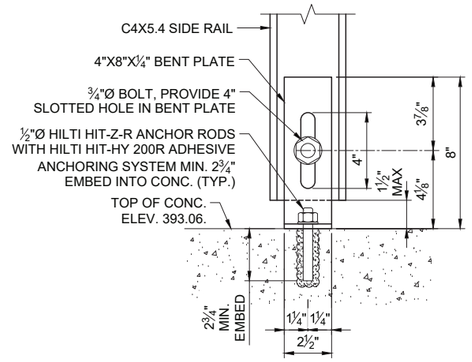
MESD - CAHOKIA CANAL
TRIPLE BOX CULVERT ESCAPE ACCESS MANHOLES

ELEVATION & SECTION THRU CULVERT

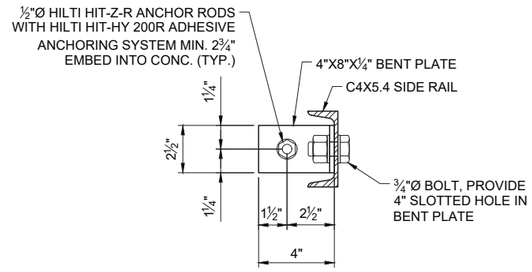
DESIGNED BY RS	JOB NUMBER E180104
DRAWN BY EER	SHEET NO. S3
CHECKED BY WWH	
DATE 02/22/2022	3 OF 4



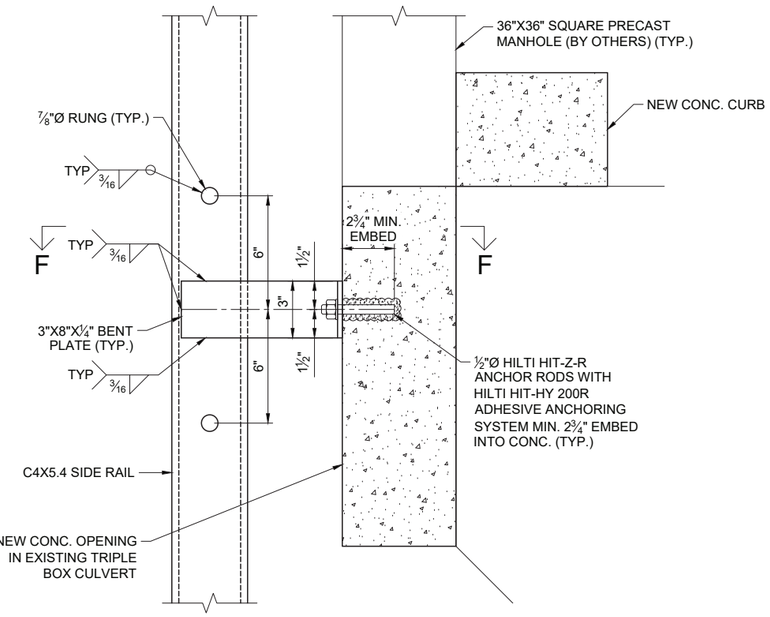
DETAIL A



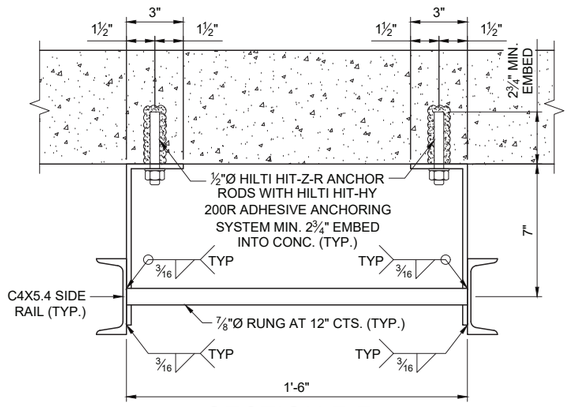
SECTION D-D



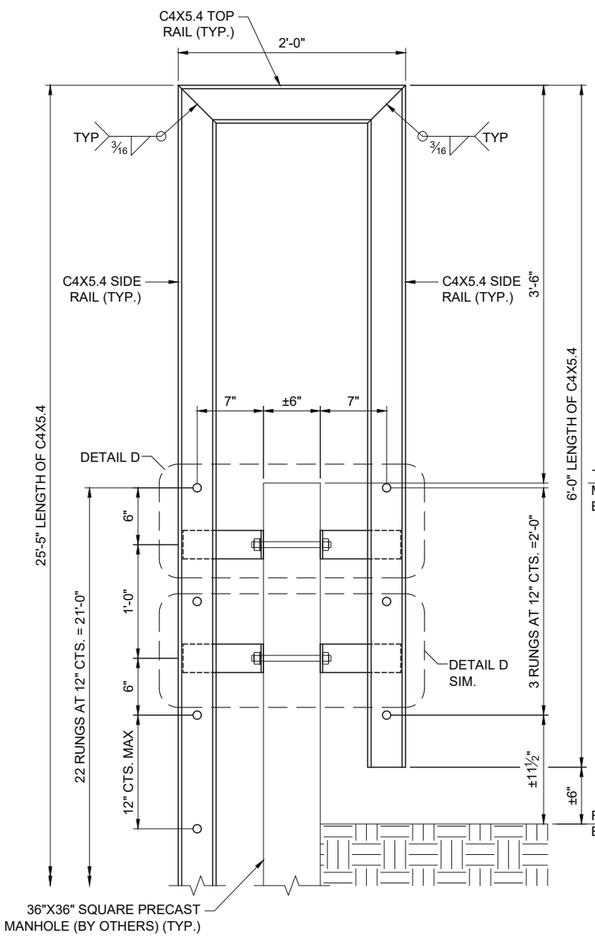
SECTION E-E



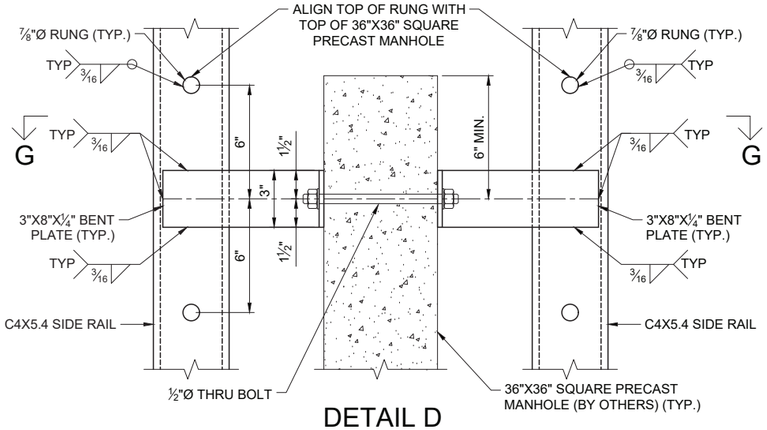
DETAIL B



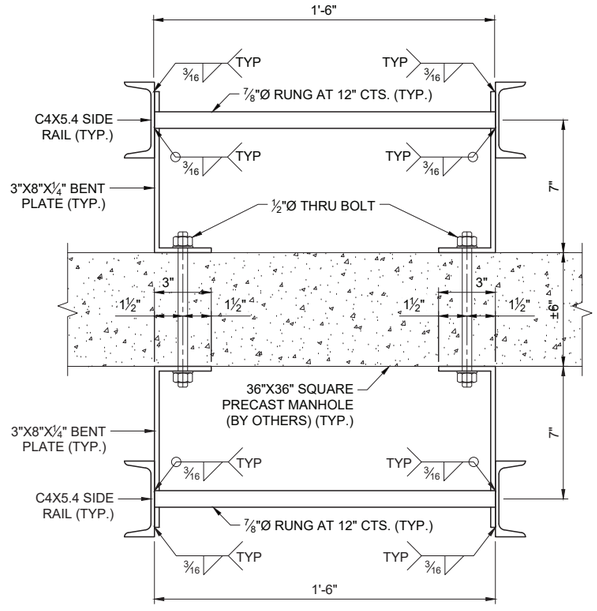
SECTION F-F



DETAIL C



DETAIL D



SECTION G-G

REVISIONS

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MESD - CAHOKIA CANAL
TRIPLE BOX CULVERT ESCAPE ACCESS MANHOLES

TYPICAL ACCESS LADDER DETAILS

DESIGNED BY	JOB NUMBER
RS	E180104
DRAWN BY	SHEET NO.
EER	S4
CHECKED BY	
WWH	
DATE	
02/22/2022	4 OF 4

PLOTTED: 2/22/2022 2:22 PM FILE: S:\PROJECTS\STRUCT\E180104 MESD - LANDOVNE INTERCEPTOR IMPROVEMENT\SHEETS\DRAWINGS\LADDER ACCESS.DWG