ADDENDUM NO. 1

for

SANITARY SEWER MANHOLE REHABILITATION; PROJECT NO. 2023-S-10

SEPTEMBER 2021

TO: All Bidders

RE: Addendum to Contractor's Bid Documents

LETTING DATE: January 30, 2023 @ 2:00 pm, Local Time

TO ALL WHO HAVE RECEIVED PLANS AND SPECIFICATIONS FOR THE REFERENCED PROJECT.

SCOPE

This Addendum covers the following additions, modifications, and clarifications to the Bid Manual and Drawings for the above-mentioned project scheduled to close 2:00 pm CST, Thursday, January 30, 2024.

FRONT-END DOCUMENTS

1. Updated Bid Form.

SPECIFICATIONS

- 1. Refer to Specification Section 01005 ADMINISTRATIVE PROVISIONS.
 - a. Refer to Part 1. Add in 1.18 PERMITS paragraph (attached).
- 2. Refer to Specification Section 01800 MEASUREMENT AND PAYMENT.
 - a. Refer to Part 1.1.6 DEFECT ASSESSMENT. Add paragraph E (attached).
 - b. Refer to Part 1.1.8 SCHEDULE OF UNIT PRICES. Add paragraph O (attached).
- 3. Refer to Specification Section 09960 HIGH-PERFORMANCE COATINGS.
 - a. Refer to Part 2.2.1.A. Add in SpectraShield as an approved equal.
 - b. Refer to Part 3.3.4. Add in Paragraph C for adhesion testing (attached).

DRAWINGS

- 1. Remove and replace sheet 2 of 26 GENERAL NOTES with the attached.
- Remove and replace sheet 7 of 26 MANHOLE REHABILITATION PLAN with the attached.
- 3. Remove and replace sheet 9 of 26 MANHOLE REHABILITATION PLAN with the attached.
- 4. Remove and replace sheet 13 of 26 MANHOLE REHABILITATION PLAN with the attached.
- 5. Remove and replace sheet 17 of 26 MANHOLE REHABILITATION PLAN with the attached.
- 6. Remove and replace sheet 23 of 26 MANHOLE REHABILITATION PLAN with the attached.

OTHER INFORMATION

1. Not Used

Each Bidder must acknowledge receipt of all addenda in the space provided on the Bid Form.

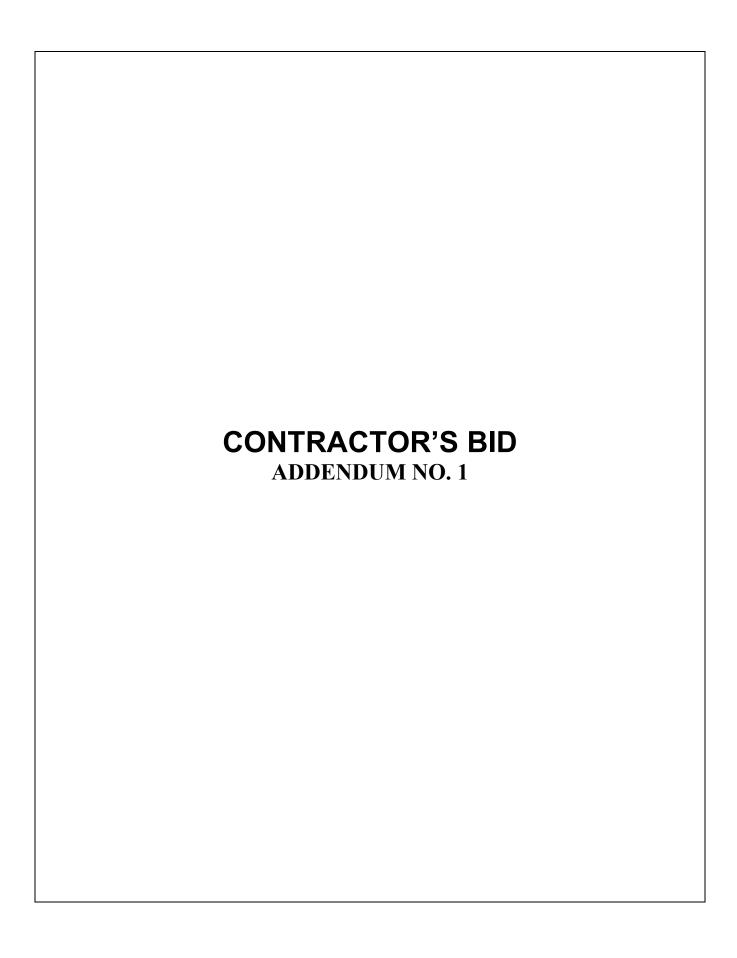
END OF ADDITIONS/CLARIFICATIONS PER ADDENDUM NO. 1

Brian Friedrichsen, P.E. Project Manager

Keith Kurz, P.E. Public Works Director



Acknowledged by_		
	Signature of Bidder	



SANITARY SEWER MANHOLE REHABILITATION; PROJECT NO. 2023-S-10

CITY OF GRAND ISLAND, NEBRASKA CONTRACTOR'S BID- ADDENDUM NO. 1

TO THE MEMBERS OF THE COUNCIL CITY OF GRAND ISLAND GRAND ISLAND, NEBRASKA

THE UNDERSIGNED BIDDER, having examined the plans, specifications, general and special conditions, and other proposed contract documents, and all addenda thereto and being acquainted with and fully understanding (a) the extent and character of the work covered by this Bid, (b) the location, arrangement, and specified requirements for the proposed work, (c) the location, character, and condition of existing streets, roads, highways, railroad, pavements, surfacing, walks, driveways, curbs, gutters, trees, sewers, utilities, drainage courses and structures, and other installations, both surface and underground which may affect or be affected by the proposed work, (d) the nature and extent of the excavations to be made and the handling and re-handling of excavated materials, (e) the location and extent of necessary or probable dewatering requirements, (f) the difficulties and hazards to the work which might be caused by storm and flood water, (g) local conditions relative to labor, transportation, hauling and rail delivery facilities, and (h) all other factors and conditions affecting or which may be affected by the work.

HEREBY PROPOSES to furnish all required materials, supplies, equipment, tools and plans, to perform all necessary labor and supervision, and to construct, install, erect, equip and complete all work stipulated in, required by and in accordance with the contract documents and the plans, specifications and other documents referred to therein (as altered, amended or modified by all addenda thereto) for and in consideration of the following prices:

BASE BID SECTION

Item		Est.			
No.	Item	Quantity	Unit	Unit Price	Extended Price
1	Mobilization / Demobilization	1.00	LS	\$	\$
	Remove & Replace Ex. Manhole				
2	Frame & Cover	1.00	EA	\$	\$
	Install Poly Ring Infiltration				
3	Barrier	1.00	EA	\$	\$
	Install Elastomeric Chimney				
4	Infiltration Barrier	1.00	EA	\$	\$
5	Remove Manhole Step	464.00	EA	\$	\$
6	Infiltration Leak MH Sidewall	3.00	EA	\$	\$
7	Bench & Invert Replacement	1.00	EA	\$	\$
8	Manhole Repair Patching	11.00	EA	\$	\$

9	Remove & Replace Inside Drop Piping	3.00	EA	\$ \$
10	Bypass Pumping	2.00	EA	\$ \$
11	Traffic Control	1.00	LS	\$ \$
12	Liner Testing Repair	8.00	EA	\$ \$

BASE BID TOTAL= \$_____

ALTERNATE BID SECTION NO. 1

Item		Est.			
No.	Item	Quantity	Unit	Unit Price	Extended Price
ALT 1-1	1/2" Cementitious Concrete Lining (48" Dia. MH)	754.40	VF	\$	\$
ALT 1-2	1/2" Cementitious Concrete Lining (54" Dia. MH)	320.28	VF	\$	\$
ALT 1-3	1/2" Cementitious Concrete Lining (60" Dia. MH)	66.05	VF	\$	\$
ALT 1-4	Epoxy Lining (48" Dia. MH)	646.77	VF	\$	\$
ALT 1-5	Epoxy Lining (54" Dia. MH)	245.78	VF	\$	\$
ALT 1-6	Epoxy Lining (60" Dia. MH)	66.05	VF	\$	\$

ALTERNATE NO. 1	TOTAL=\$	

ALTERNATE BID SECTION NO. 2

	Est.			
Item	Quantity	Unit	Unit Price	Extended Price
Manhole Rehabilitation (48" Dia.				
MH)	646.77	VF	\$	\$
Manhole Rehabilitation (54" Dia.				
MH)	245.78	VF	\$	\$
Manhole Rehabilitation (60" Dia.				
MH)	66.05	VF	\$	\$
	Manhole Rehabilitation (48" Dia. MH) Manhole Rehabilitation (54" Dia. MH) Manhole Rehabilitation (60" Dia.	ItemQuantityManhole Rehabilitation (48" Dia. MH)646.77Manhole Rehabilitation (54" Dia. MH)245.78Manhole Rehabilitation (60" Dia.	ItemQuantityUnitManhole Rehabilitation (48" Dia. MH)646.77VFManhole Rehabilitation (54" Dia. MH)245.78VFManhole Rehabilitation (60" Dia.	ItemQuantityUnitUnit PriceManhole Rehabilitation (48" Dia. MH)646.77VF\$Manhole Rehabilitation (54" Dia. MH)245.78VF\$Manhole Rehabilitation (60" Dia.VF\$

/			
		ALTERNATE NO. 2	TOTAL= \$
	BASE BID +	+ ALTERNATE BID NO.	1 Total= \$
	BASE BID + A	ALTERNATE BID NO. 2 1	ГОТAL= \$
EXPERIENCE DATA: Each bidder shall supply		·	
			Completion Date
Additional Data:			
			iance with the attached insur

INSURANCE: Bidder acknowledges that bid includes compliance with the attached insurance requirements.

ADDENDA: Bidder acknowledges that the follow	ing Addendums w	vere received a	ınd considere	d in Bid pr	eparation.
ADDENDUM NO.	<u>DATE</u>		SIGNATURE	<u> </u>	
Exceptions shall be listed in the explanation, please reference and attachments for exceptions and sup stated herein will require the succe between the bid and these specifical listed by the bidder.	attach a letter plementary terms ssful bidder to co	to bid. Refe s. Failure to o emply with the	erence <u>shall</u> utline such ex se specification	not be m xceptions a ons. In ca	ade to other as specifically ase of conflict
Exceptions to specifications, pages					
The undersigned bidder agrees to full a contract within fifteen (15) days a covered by the foregoing bid in accuntil the Certificate of Insurance contract is executed. The propose bond is approved.	ifter acceptance of cordance with spand bonds (wh	of this Bid, and ecified require en required)	I further agre ments. No v are approve	es to com work shal d by the	plete all work Il commence City and the
<u>Completion</u> : All contract work shafor the whole project by August 15 , west side of US Highway 281 and lot These manholes are shown as B18-	, 2024 . The section cated within row	on of manhole crop ground a	es south of G re to be comp	uenther Ro	oad along the
<u>Liquidated Damages</u> : It is underston Contractor fail to perform all of the Agreement, the Contractor shall paper calendar day of default unless waiving of liquidated damages.	e work within the y to the City, as	e overall perio liquidated dam	d of time stip pages and no	pulated in t as a pen	the Contract nalty, \$500.00
The City shall have the right to deduce, or to become due, to the Contract performance of this contract within the	ractor, or to use f	or and recover			
Enclosed herewith is the	e required	bid guara Dolla	ntee in irs (\$	the a	amount of)
which the undersigned bidder agree Island, Nebraska, as liquidated dam and they fail to enter into a contract (15) days, but otherwise the afores	ages should this I in the form preso	ed to and beco Bid be accepte ribed and to fu	me the prope d and a contr Irnish the req	ract be awa	arded to them I within fifteen

delivering the approved bond.

In submitting the bid it is understood that the right is reserved by the City to reject any and all bids; to waive irregularities therein and to accept whichever bid that may be in the best interest of the City. It is understood that this bid may not be withdrawn by the bidder until after forty-five (45) days from bid opening.

In submitting the bid, the bidder states that bidder fully complies with, and will continue to comply with, applicable State fair labor standards as required by section 73-102 RRS, 1943 and also complies with, and will continue to comply with, section 48-657 RRS, 1943 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska.

The undersigned bidder hereby certifies (a) that this bid is genuine and is not made in the interest of or in the behalf of any undisclosed person, firm or corporation, and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation, (b) that they have not directly or indirectly induced or solicited any person, firm or corporation to refrain from bidding, (c) that they have not sought, by collusion or otherwise, to obtain for themselves an advantage over any other bidder or over the City of Grand Island, and (d) that they have not directly or indirectly induced or solicited any other bidder to put in a false or sham bid.

DATED		
SIGNATURE OF BIDDER:		
If an Individual:		doing business
as		
If a Partnership:		
by		
If a Corporation:		
byTitle		(Seal)
BUSINESS ADDRESS OF BIDDER		
TELEPHONE NUMBER OF BIDDER	EMAIL	

- F. Restore Work with new Products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest I. intersection; for an assembly, refinish entire unit.
- J. Identify hazardous substances or conditions exposed during the Work to the Engineer for decision or remedy.

1.16 **CORRECTION PERIOD**

- Correct all defective work for one year after final acceptance of the project. Α.
- Promptly repair or replace at no cost to the Owner all defects in material or workmanship В. which may appear during the correction period.

UNFAVORABLE CONSTRUCTION CONDITIONS 1.17

During unfavorable weather, wet ground, or other unsuitable construction conditions, the A. Contractor shall confine his operations to work which will not be affected adversely by such conditions. No portion of the work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by the Contractor to perform the work in a proper and satisfactory manner.

1.18 **PERMITS**

- The contractor shall pay the cost of all required permits and fees. The contractor Α. shall coordinate all permits with the City of Grand Island Public Works Department. Expected permits include a ROW Construction Permit & Use of **Public ROW Permit.**
 - Contractor can work and isolate areas in the City ROW without a permit as long as it is daily work.
 - Contractor shall obtain a ROW Construction Permit if they dig, modify, 2. remove, and/or replace ROW infrastructure.
 - Contractor shall obtain a Use of Public ROW Permit if they plan on 3. container(s) type item being in ROW longer than a daily activity.
 - Traffic control devises, and Cone Zone compliance shall be strictly enforced 4. within the City ROW.

PART 2 **PRODUCTS**

Not Used.

E. A defect shall mean that any portion of the product or Work does not meet the requirements as provided by the specific product manufacturer.

1.7 NON-PAYMENT FOR REJECTED PRODUCTS

- A. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from the transporting vehicle.
 - 4. Products placed beyond the lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected Products.

1.8 SCHEDULE OF UNIT PRICES

The unit prices shall encompass all work required to complete the Work in accordance with the drawings and specifications and the limits on quantities of certain items of work as follows:

- A. <u>Mobilization/Demobilization</u>. This bid item shall include all costs for bonds, insurance, establishing temporary facilities, moving construction equipment to and from the job site, and all appurtenances related to the work not otherwise specifically called out. The <u>pay item is one (1) lump sum</u>, with an equitable amount (25%) to be withheld until demobilization after final completion of the work.
- B. Remove and Replace Existing Manhole Frame and Cover. This bid item shall include all labor, materials, equipment, excavation, demolition, disposal, furnishing and installing new cast iron manhole ring and cover, backfill, compaction, cleanup, and incidental work for the removal of the existing manhole ring and cover and installation of a new cast iron manhole ring and cover in accordance with the plans and specifications. The pay item is one (1) each.
- C. <u>Poly Ring Infiltration Barrier</u>. This bid item shall include all labor, materials, equipment, excavation, furnishing and installing new poly ring infiltration barrier, backfill, compaction, cleanup, and incidental work for installing a poly ring infiltration barrier in accordance with the plans and specifications. The <u>pay item is one (1) each.</u>
- D. <u>Elastomeric Chimney Infiltration Barrier</u>. This bid item shall include all labor, materials, equipment, excavation, furnishing and installing new elastomeric chimney infiltration barrier, backfill, compaction, cleanup, and incidental work for installing an

applicable), site restoration, and other items and incidental work for installing, maintaining, and removing bypass pumping for the repair of a manhole flowline in accordance with the plans and specifications. The pay item is one (1) each for each manhole in which the flowline is repaired. If the Contractor is able to plug the manhole with a solid plug or pass through plug and not have to operate pumps for bypassing than the pay item for that particular manhole will be 0.5 each.

- N. <u>Traffic Control</u>. This pay item shall include all labor, materials, equipment, signs, flashers, barricades, temporary access, traffic control plan, and other items and incidental work for developing a traffic control plan, and installing, and maintain the traffic control plan in accordance with the plans and specifications. The <u>pay item is one</u> (1) lump sum.
- O. <u>Liner Testing Repair.</u> This pay item shall include all labor, materials, equipment, removals, surface preparation, rehabilitation coating, cleanup, and all incidental items in accordance with the plans and specifications to repair the selected liner after the City of Grand Island performs adhesion testing as detailed in ASTM D4541-22 and D7234-22. The pay item is one (1) each.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

- D. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- E. Store paint materials at minimum ambient temperature of 45° F and a maximum of 90° F, in well ventilated area, unless required otherwise by manufacturer's instructions.
- F. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.7 FIELD CONDITIONS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 50° F from 24 hours before, through 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the manufacturer.
- C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. <u>Manufacturers</u>: Subject to compliance with requirements, provide products by one of the following:
 - 1. Polibrid Coatings, Inc.
 - 2. OBIC, LLC.
 - 3. Raven Lining Systems.
 - 4. The Strong Company, Inc.
 - 5. Five Star Products.
 - 6. International Protective Coatings.
 - 7. Tnemec
 - 8. DuraSeal
 - 9. SpectraShield

- 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.
- C. Adhesion Testing: Owner shall randomly select at a minimum 8 manholes to preform adhesion testing on. Owner shall complete the testing per ASTM D4541-22 and D7234-22. If any of the adhesion tests fail the adhesion recommendations found in the manufacturers data sheets, additional testing may be completed at the cost of the contractor. Any failed adhesion test may result in a deduct of costs for the failed manhole.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.6 HIGH-PERFORMANCE COATING SCHEDULE

A. Concrete Substrates:

1. Raven System:

- a. Surface Prep: 5,000 psi @ 3.5 gpm power wash to an ICRI CSP5 minimum profile. Remove all visible coatings and contaminants by abrasive blasting or power washing to achieve minimum CSP5 profile.
- b. Repair Mortar: Raven 405T applied to areas deeper than ½", material thickness shall rebuild wall to original profile not to exceed 2" of material, rebuild 2" of profile in areas where deterioration exceeds 2". Follow Raven "Epoxy Mortars Technical Bulletin" Appendix "C" for addition of aggregate to Raven 405T for all applications greater than 1" depth.

CONTRACTOR SHALL PRESERVE ALL PROPERTY CORNER MONUMENTS OR RE-ESTABLISH THEM IF THEY ARE DISTURBED DURING CONSTRUCTION.

THE CONTRACTOR SHALL PAY THE COST OF ALL REQUIRED PERMITS AND FEES. THE CONTRACTOR SHALL COORDINATE ALL PERMITS WITH THE CITY OF GRAND ISLAND PUBLIC WORKS DEPARTMENT. EXPECTED PERMITS INCLUDE A ROW CONSTRUCTION PERMIT AND USE OF PUBLIC ROW PERMIT

CONTRACTOR CAN WORK AND ISOLATE AREAS IN THE CITY ROW WITHOUT A PERMIT

AS LONG AS IT IS DAILY WORK. CONTRACTOR SHALL OBTAIN A ROW CONSTRUCTION PERMIT IF THEY DIG, MODIFY,

REMOVE, AND/OR REPLACE ROW INFRASTRUCTURE. CONTRACTOR SHALL OBTAIN A USE OF PUBLIC ROW PERMIT IF THEY PLAN ON

CONTAINER(S) TYPE ITEM BEING IN ROW LONGER THAN A DAILY ACTIVITY. TRAFFIC CONTROL DEVICES, AND CONE ZONE COMPLIANCE SHALL BE STRICTLY ENFORCED WITHIN THE CITY ROW.

THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE AREA OF EXISTING MANHOLES, POWER POLES, AND EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR DAMAGES.

SUBGRADE SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY. MOISTURE CONTENT SHALL BE ±3% OF OPTIMUM.

SAW CUTTING PAVEMENT FOR REMOVAL SHALL BE SUBSIDIARY. PAVEMENT THAT IS REMOVED SHALL BE FULL PANELS.

THE CONTRACTOR SHALL REPAIR ALL SPRINKLER SYSTEMS DAMAGED DURING CONSTRUCTION.

TESTING OF SUBGRADE COMPACTION AND MOISTURE AS WELL AS CONCRETE TESTING SHALL BE COMPLETED PER GRAND ISLAND CITY SPECIFICATIONS.

THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED ON THESE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES.

10. UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES.

11. CONTRACTOR TO PROVIDE ALL INCIDENTAL FITTINGS AND ITEMS NECESSARY TO COMPLETE

12. PRIOR TO MOVING OFF SITE THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING REQUESTING A FINAL WALK-THROUGH OF THE PROJECT.

13. THE CONTRACTOR WILL NOT BE ALLOWED TO PERIODICALLY WORK ON THE PROJECT. ONCE THE CONTRACTOR MOBILIZES TO THE SITE, THEY ARE TO REMAIN ONSITE WORKING ON THE PROJECT UNTIL ALL WORK IS COMPLETED. THE ONLY EXCEPTION IS FOR THE SECTION OF MANHOLES ON HIGHWAY 281 SOUTH OF GUENTHER ROAD. THESE SHALL BE COMPLETED BY MAY 24TH 2024.

CONCRETE AND GROUT IS TO BE TESTED BY CITY AND LINER TESTING TO BE DONE BY CONTRACTOR WITH OLSSON INSPECTION.

15. CONTRACTOR IS ALLOWED TO USE WASTEWATER TREATMENT PLANT AS A STAGING AREA FOR PRODUCTS AND EQUIPMENT.

16. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH THE CITY CONE ZONE SYSTEM TO KEEP THE PUBLIC NOTIFIED. CONTRACTOR TO PROVIDE ALL UPDATES TO CITY OF GRAND ISLAND PUBLIC WORKS DEPARTMENT AT 308-385-5444 EXT. 260. UPDATES TO BE PROVIDED ON A WEEKLY BASIS.

CONTRACTOR TO NOTIFY ALL BUSINESSES AND/OR HOMEOWNERS IF THERE WILL BE ANY SANITARY SEWER OUTAGES DURING THE PROJECT. NOTIFICATIONS ARE TO BE PROVIDED A MINIMUM OF 48 HOURS IN ADVANCE.

CONTRACTOR SHALL FOLLOW ALL CONFINED SPACE REQUIREMENTS SET BY THE MOST RECENT OSHA GUIDELINES.

CONTRACTOR SHALL NOT ALLOW ANY DEBRIS TO ENTER THE SANITARY SEWER SYSTEM AND SHALL HAVE IT REMOVED FROM THE MANHOLE AND DISPOSED OF.

20. CONTRACTOR SHALL BE REGISTERED TO DO BUSINESS IN THE STATE OF NEBRASKA.

21. ANY MANHOLES THAT HAVE BEEN PREVIOUSLY EPOXY LINED SHALL HAVE THE EPOXY LINER REMOVED PER THE MANUFACTURER'S RECOMMENDATIONS. THIS WORK SHALL BE SUBSIDIARY TO MANHOLE REHABILITATION.

CONSTRUCTION PHASING, BYPASS PUMPING, AND TRAFFIC CONTROL:

THE CONTRACTOR IS TO SUBMIT A CONSTRUCTION PHASING PLAN IDENTIFYING THE SCHEDULE FOR COMPLETING THE MANHOLE REHABILITATION. THE SCHEDULE IS TO BE REVIEWED AND APPROVED PRIOR TO BEGINNING WORK. THE PLAN IS TO DETAIL THE CONTRACTOR'S PLANNED PROGRESSION THROUGH THE PROJECT AND THE ESTIMATED TIME FRAME IN WHICH THE PROJECT WILL BE COMPLETED.

THE CONTRACTOR IS TO SUBMIT A BYPASS PUMPING PLAN FOR REVIEW AND APPROVAL PRIOR TO BEGINNING OPERATIONS. DURING BYPASS PUMPING OPERATIONS, THE CONTRACTOR IS TO CONTINUOUSLY MONITOR THE SYSTEM TO ENSURE THAT NO DISCHARGES OUTSIDE OF THE SYSTEM OR SEWER BACKUPS OCCUR.

CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL. THE TRAFFIC CONTROL PLAN SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MANUAL UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED AND APPROVED BY THE CITY PRIOR TO IMPLEMENTATION.

PRODUCT NOTES:

MANHOLE RING AND COVER IS TO BE DEETER NO. 1030 OR EQUAL WITH MACHINED EDGES & MINIMUM WEIGHT OF 450 LBS.

CONCRETE GROUT FOR MANHOLE FLOWLINE REPAIR AND MANHOLE BENCH REPAIR IS TO BE A PRODUCT THAT IS SUITABLE FOR WASTEWATER ENVIRONMENTS.

MANHOLE ADJUSTMENT RINGS ARE TO BE PRO-RING BY CRETEX

MISCELLANEOUS NOTES:

1. THE CONTRACTOR IS TO COORDINATE WITH THE CITY WATER DEPARTMENT (CONTACT RUBEN SANCHEZ, 308-385-5436) TO OBTAIN A TEMPORARY WATER METER FOR WATER USE DURING (CONSTRUCTION. THE CITY HAS LIMITED TEMPORARY WATER METERS SO IT IS RECOMMENDED THAT ONE BE RESERVED IN ADVANCE OF CONSTRUCTION.

2. THE CONTRACTOR IS TO COORDINATE WITH THE CITY WASTEWATER TREATMENT PLANT FOR THE DISCHARGE OF GRIT AND OTHER MATERIAL REMOVED FROM THE SEWER LINES DURING CLEANING. THE COST OF DISCHARGE AT THE WASTEWATER TREATMENT PLANT FOR THESE MATERIALS WILL BE FREE.

3. ALL WORK SHALL BE CONDUCTED WITHIN STREET R.O.W., ALLEY R.O.W., OR CITY UTILITY EASEMENTS.

SEWER FLOW LINE ELEVATIONS ARE BASED OFF OF CITY GIS INFORMATION AND MAY NOT BE 100% ACCURATE.

5. THE CITY SHALL PROVIDE THE NEW RING AND COVER TO THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR ITS INSTALLATION. THE CONTRACTOR IS TO SALVAGE THE MANHOLE RING AND COVERS TO THE CITY.

THE 4'x4' CONCRETE SQUARE FOR THE MANHOLE RING AND COVER IS TO BE IN A DIAMOND PATTERN AS PER CITY OF GRAND ISLAND STANDARD DETAIL 114 (SHEET 2 OF 2).

PAVEMENT REPLACEMENT IS TO BE DONE WITH 3600 PSI NDOT 47-B HI-EARLY STRENGTH CONCRETE. PAVEMENT TO BE OPEN TO TRAFFIC IN 72 HOURS.

CONSTRUCTION NOTES:

CEMENTITIOUS CONCRETE LINING IS TO INCLUDE CONCRETE LINING THE MANHOLE TO THE THICKNESS INDICATED FROM THE RING AND COVER TO THE MANHOLE BENCH AFTER THE MANHOLE HAS BEEN THOROUGHLY CLEANED. THE VERTICAL FOOTAGE WILL BE BASED ON RIM OF MANHOLE TO CENTERLINE OF PIPE. ANY INSIDE DROP MANHOLES WILL NEED PIPING REMOVED BEFORE APPLYING LINING AND REINSTALLED AFTER. THIS WORK IS SUBSIDIARY AND NO EXTRA PAYMENT WILL BE MADE. CONTRACTOR TO VERIFY ALL REINSTALLED PIPING IS PROPERLY SUPPORTED. MAXIMUM THICKNESS OF CEMENTITIOUS LINING PER LIFT SHALL BE 0.5". THE ""0.5" CEMENTITIOUS CONCRETE LINING" PAY ITEM IS BASED ON THE NUMBER OF 0.5" LIFTS THAT ARE APPLIED TO THE MANHOLES. FOR EXAMPLE, IF A MANHOLE REQUIRES 12.50 V.F. OF 1" CEMENTITIOUS CONCRETE LINING, THE CONTRACTOR WILL BE PAID FOR 25.0 V.F. UNDER THE ""0.5" CEMENTITIOUS CONCRETE LINING" PAY ITEM.

EPOXY LINING IS TO INCLUDE LINING THE MANHOLE FROM THE RING AND COVER TO CENTERLINE OF PIPE AND INCLUDING THE MANHOLE BENCH AFTER THE MANHOLE HAS BEEN THOROUGHLY CLEANED. THE VERTICAL FOOTAGE WILL BE BASED ON RIM OF MANHOLE TO CENTERLINE OF PIPE.

REMOVE MANHOLE STEP IS TO INCLUDE CUTTING OR GRINDING THE MANHOLE STEP SO THAT IT IS FLUSH WITH THE EDGE OF THE MANHOLE. THE PAY ITEM WILL BE FOR EACH MANHOLE STEP REMOVED.

PLACE MANHOLE ADJUSTMENT RING IS TO INCLUDE THE REMOVAL OF THE RING AND COVER, CLEANING AND PREPARING THE TOP OF THE MANHOLE, FURNISHING AND INSTALLING PLASTIC MANHOLE ADJUSTMENT RINGS, AND REPLACEMENT OF MANHOLE RING AND COVER. THE PAY ITEM WILL BE FOR EACH MANHOLE IN WHICH ADJUSTMENT RINGS ARE PLACED REGARDLESS OF NUMBER AND/OR THICKNESS OF ADJUSTMENT RINGS REQUIRED TO GET THE RING AND COVER TO GRADE.

REMOVE AND REPLACE MANHOLE RING AND COVER IS TO INCLUDE THE REMOVAL AND SALVAGING OF THE EXISTING RING AND COVER TO THE CITY, PLACEMENT OF NEW RING AND COVER THAT HAS BEEN PROVIDED TO THE CONTRACTOR BY THE CITY AND REMOVAL AND REPLACEMENT OF THE CONCRETE PAD AROUND THE RING AND COVER. THE PAY ITEM WILL BE FOR EACH MANHOLE RING AND COVER REMOVED AND REPLACED.

REPAIR MANHOLE IS TO INCLUDE REPLACING OR REPAIRING ALL BRICK IN THE MANHOLE AND PATCHING ALL VOIDS AROUND THE PIPE PENETRATIONS INTO THE MANHOLE TO THE POINT TO WHERE THE MANHOLE CAN BE CEMENTITIOUS COATED WITHOUT ANY DIPS IN THE COATING/ GREATER THAN 1". THE PAY ITEM IS ONE EACH WHICH IS TO INCLUDE ALL NEEDED REPAIRS IN THE MANHOLE

REPAIR MANHOLE INFILTRATION LEAK WILL BE FOR FURNISHING MATERIALS NECESSARY TO STOP THE INFILTRATION LEAK AT THE MANHOLE. THE PAY ITEM IS FOR EACH MANHOLE INFILTRATION LEAK THAT IS REPAIRED TO WHERE IT IS NO LONGER LEAKING INTO THE MANHOLE.

REPAIR MANHOLE BENCH WILL BE FOR REMOVAL OF ANY LOOSE MATERIALS IN THE MANHOLE/ BENCHES. SURFACE PREPARATION, AND CONCRETE GROUT PLACEMENT FOR REPAIRING THE MANHOLE BENCHES SO THAT A SMOOTH AND UNIFORM BENCH EXISTS IN THE MANHOLE. THE PAY ITEM IS FOR EACH MANHOLE IN WHICH THE BENCHES ARE REPAIRED.

TRAFFIC CONTROL IS FOR FURNISHING AND INSTALLING THE NEEDED TRAFFIC CONTROL SIGNAGE. BARRICADES. FLAGMAN. AND CONES FOR PROPER TRAFFIC CONTROL NECESSARY FOR WORK IN WHICH TRAFFIC FLOW IS IMPACTED DURING COMPLETION OF THE PROJECT. THE PAY IS A LUMP SUM AMOUNT TO COMPLETE THE NEEDED TRAFFIC CONTROL FOR THE ENTIRE

REPAIR MANHOLE FLOWLINE WILL BE FOR REMOVAL OF ANY LOOSE MATERIALS IN THE MANHOLE FLOWLINE, SURFACE PREPARATION, AND CONCRETE GROUT PLACEMENT FOR REPAIRING THE MANHOLE FLOWLINE SO THAT A SMOOTH AND UNIFORM FLOWLINE EXIST IN THE MANHOLE. THE PAY ITEM IS FOR EACH MANHOLE IN WHICH THE FLOWLINE IS REPAIRED

BYPASS PUMPING IS FOR FURNISHING AND INSTALLING THE NEEDED BYPASS PUMPING TO PROPERLY BYPASS MANHOLES IN ORDER TO COMPLETE THE REQUIRED WORK IN THE MANHOLES WHICH COULD NOT BE COMPLETED IF BYPASS PUMPING WAS NOT DONE. THE PAY IS PER EACH MANHOLE THAT BYPASS PUMPING IS REQUIRED FOR IN ORDER TO COMPLETE THE WORK. TRAFFIC CONTROL NECESSARY FOR BYPASS PUMPING INCLUDING SIGNS, CONES, FLAGMEN IS SUBSIDIARY TO BYPASS PUMPING. THE CONTRACTOR IS NOT ABLE TO BLOCK STREETS OR ALLEYS WITH DISCHARGE PIPING DURING BYPASS PUMPING OPERATIONS. IF THE CONTRACTOR IS ABLE TO PLUG THE MANHOLE AND NOT OPERATE ANY PUMPS FOR BYPASSING THAN THE PAY ITEM FOR THAT PARTICULAR MANHOLE WILL 0.5 EA. FLOW THROUGH PLUGS ARE ACCEPTABLE.

MANHOLE REHABILITATION SHALL INCLUDE USING A PRE-APPROVED LINER SYSTEM TO FILL THE VOIDS IN THE PROPOSED MANHOLES, PROVIDE A CONSISTENT SMOOTH SURFACE, AND PROTECT AGAINST SANITARY SEWER GASES. TO BE PRE-APPROVED, A PRODUCT MUST BE SUBMITTED TO THE ENGINEER BY JANUARY 22, 2024 AND SHALL INCLUDE COMPANIES AND MANUFACTURER'S YEARS OF EXPERIENCE, REFERENCE CONTACTS (3 MINIMUM), PREVIOUS PROJECT LIST INCLUDING V.F. OF PRODUCT INSTALLED, AND PRODUCT SPECIFICATIONS.

REMOVE AND REPLACE INSIDE DROP PIPING SHALL INCLUDE REMOVING AND SALVAGING THE EXISTING PIPING TO BE REINSTALLED AFTER THE MANHOLE HAS BEEN COMPLETED. THE PIPE SUPPORTS ARE TO INCLUDE A UNI-STRUT BASE ATTACHED TO THE MANHOLE WALL, SHORT SECTION OF UNI-STRUT CONNECTED TO THE BASE AND PIPE BRACKET. PIPE BRACKET SHALL BE RELINER (OR APPROVED EQUAL). ALL MATERIALS, HARDWARE, AND BRACKETS SHALL BE 304 STAINLESS STEEL.

21	1040.54	1020.50	15.50	TRECAST CONCRETE	00
84	1868.17	1852.05	16.12	BRICK	48
188	1837.35	1826.43	10.92	PRECAST CONCRETE	54
189	1839.59	1826.89	12.7	PRECAST CONCRETE	54
191	15.60	0.00	15.6	PRECAST CONCRETE	54
192	1842.40	1827.87	14.53	PRECAST CONCRETE	54
193	1844.50	1828.35	16.15	PRECAST CONCRETE	48
194	1845.40	1828.38	17.02	PRECAST CONCRETE	48
			10.91	PRECAST CONCRETE	48
198	1842.83	1831.92	9.45	PRECAST CONCRETE	48
199	1842.04	1832.59			
200	1842.08	1833.07	9.01	PRECAST CONCRETE	54
201	1843.91	1833.26	10.65	PRECAST CONCRETE	54
462	1842.42	1831.28	11.14	PRECAST CONCRETE	48
463	1841.56	1832.54	9.02	PRECAST CONCRETE	48
601	1866.99	1847.18	19.81	PRECAST CONCRETE	48
604	1867.57	1847.58	19.99	PRECAST CONCRETE	48
605	1869.02	1849.08	19.94	PRECAST CONCRETE	48
606	1869.27	1849.60	19.67	PRECAST CONCRETE	48
607	1868.48	1850.24	18.24	PRECAST CONCRETE	48
611	1870.10	1852.49	17.61	PRECAST CONCRETE	48
612	1870.93	1852.99	17.94	PRECAST CONCRETE	48
613	1871.96	1853.51	18.45	PRECAST CONCRETE	48
616	1871.86	1855.58	16.28	PRECAST CONCRETE	48
617	1872.10	1856.55	15.55	PRECAST CONCRETE	48
620	1874.37	1858.94	15.43	PRECAST CONCRETE	48
622	1874.20	1860.15	14.05	PRECAST CONCRETE	48
203-1	1848.15	1836.70	11.45	PRECAST CONCRETE	60
608-1	1870.25	1851.15	19.1	PRECAST CONCRETE	48
613-1	1872.87	1853.92	18.95	PRECAST CONCRETE	48
618-2	1873.94	1864.61	9.33	PRECAST CONCRETE	48
81-A	1859.49	1850.73	8.76	PRECAST CONCRETE	48
A4-5	1868.49	1848.42	20.07	PRECAST CONCRETE	60
			12.49	PRECAST CONCRETE	54
B18-1	1874.70	1862.21			54
B18-2	1873.27	1862.45	10.82	PRECAST CONCRETE	
B18-3	1874.22	1863.05	11.17	PRECAST CONCRETE	54
B18-4	1874.47	1863.47	11	PRECAST CONCRETE	54
B18-5	1878.45	1863.73	14.72	PRECAST CONCRETE	54
B18-6	1878.07	1863.84	14.23	PRECAST CONCRETE	54
B18-7	1877.82	1864.59	13.23	PRECAST CONCRETE	54
B18-8	1875.81	1865.06	10.75	PRECAST CONCRETE	54
B18-9	1875.13	1865.55	9.58	PRECAST CONCRETE	54
B19-1	1874.78	1865.91	8.87	PRECAST CONCRETE	54
B19-2	1876.20	1866.38	9.82	PRECAST CONCRETE	54
B19-3	1877.63	1866.89	10.74	PRECAST CONCRETE	54
B19-4	1877.54	1867.42	10.12	PRECAST CONCRETE	54
B19-5	1877.23	1867.74	9.49	PRECAST CONCRETE	54
B19-6	1883.96	1868.62	15.34	PRECAST CONCRETE	54
B4-2	1868.11	1847.54	20.57	PRECAST CONCRETE	60
B4-3	1870.11	1852.77	17.34	PRECAST CONCRETE	48
B4-7	1866.96	1856.69	10.27	PRECAST CONCRETE	48
B5-1	1869.87	1852.56	17.31	PRECAST CONCRETE	48
B6-113	1870.30	1861.25	9.05	PRECAST CONCRETE	48
B6-114	1870.18	1861.78	8.4	PRECAST CONCRETE	48
B6-115	1869.62	1862.81	6.81	PRECAST CONCRETE	48
B6-116	1871.83	1863.89	7.94	PRECAST CONCRETE	48
B6-117	1871.83	1864.32	6.56	PRECAST CONCRETE	48
B6-117 B6-118	1870.84	1864.64	6.2	PRECAST CONCRETE	48
			7.52	PRECAST CONCRETE PRECAST CONCRETE	48
B6-120	1872.57	1865.05		PRECAST CONCRETE PRECAST CONCRETE	48
B6-121	1871.38	1865.66	5.72		
B6-122	1871.32	1866.06	5.26	PRECAST CONCRETE	48
B6-123	1872 75	1867 49	5.26	PRECAST CONCRETE	48

MANHOLE

21

RIM ELEV | F.L. ELEV | DEPTH

1840.54 | 1826.58 | 13.96

MANHOLE ID	RIM ELEV	F.L. ELEV	DEPTH	WALL MATERIAL	BARREL DIA.
B6-6	1874.30	1865.05	9.25	PRECAST CONCRETE	48
B6-8	1873.34	1867.39	5.95	PRECAST CONCRETE	48
B7-321	1881.34	1868.69	12.65	PRECAST CONCRETE	48
B7-322	1881.90	1869.65	12.25	PRECAST CONCRETE	48
B7-323	1880.05	1870.82	9.23	PRECAST CONCRETE	48
H6-3	1842.00	1830.46	11.54	PRECAST CONCRETE	48
H6-4	1841.40	1831.20	10.2	PRECAST CONCRETE	48
H6-5	1841.13	1832.13	9	PRECAST CONCRETE	48
H6-6	1841.99	1832.64	9.35	PRECAST CONCRETE	48
H6-6714	8.49	0.00	8.49	PRECAST CONCRETE	48
618	1871.72	1857.40	14.32	PRECAST CONCRETE	48

BARREL

DIA.

60

WALL MATERIAL

| PRECAST CONCRETE

	BASE BID		
ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY
1	MOBILIZATION / DEMOBILIZATION	L.S.	1
2	REMOVE & REPLACE EX. MANHOLE FRAME & COVER	EA.	1
3	INSTALL POLY RING INFILTRATION BARRIER	EA.	1
4	INSTALL ELASTOMERIC CHIMNEY INFILTRATION BARRIER	EA.	1
5	REMOVE MANHOLE STEP	EA.	464
6	INFILTRATION LEAK MH SIDEWALL	EA.	3
7	BENCH & INVERT REPLACEMENT	EA.	1
8	MANHOLE REPAIR PATCHING	EA.	11
9	REMOVE AND REPLACE INSIDE DROP PIPING	EA.	3
10	1/2" CEMENTITIOUS CONCRETE LINING (48" DIA. MH)	V.F.	754.4
11	1/2" CEMENTITIOUS CONCRETE LINING (54" DIA. MH)	V.F.	320.28
12	1/2" CEMENTITIOUS CONCRETE LINING (60" DIA. MH)	V.F.	66.05
13	EPOXY LINING (48" DIA. MH)	V.F.	646.77
14	EPOXY LINING (54" DIA. MH)	V.F.	245.78
15	EPOXY LINING (60" DIA MH)	V.F.	66.05
16	BYPASS PUMPING	EA.	2
17	TRAFFIC CONTROL	L.S.	1
18	LINER TESTING REPAIR	EA.	8

	ALTERNATE BID		
ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY
1	MOBILIZATION / DEMOBILIZATION	L.S.	1
2	REMOVE & REPLACE EX. MANHOLE FRAME & COVER	EA.	1
3	INSTALL POLY RING INFILTRATION BARRIER	EA.	1
4	INSTALL ELASTOMERIC CHIMNEY INFILTRATION BARRIER	EA.	1
5	REMOVE MANHOLE STEP	EA.	464
6	INFILTRATION LEAK MH SIDEWALL	EA.	3
7	BENCH & INVERT REPLACEMENT	EA.	1
8	MANHOLE REPAIR PATCHING	EA.	11
9	REMOVE AND REPLACE INSIDE DROP PIPING	EA.	3
10	MANHOLE REHABILITATION (48" DIA. MH)	V.F.	646.77
11	MANHOLE REHABLIITATION (54" DIA. MH)	V.F.	245.78
12	MANHOLE REHABILITATION (60" DIA. MH)	V.F.	66.05
13	BYPASS PUMPING	EA.	2
14	TRAFFIC CONTROL	L.S.	1
15	LINER TESTING REPAIR	EA.	8

LINER TESTING REPAIR SHALL INCLUDE ALL REMOVALS, SUBSURFACE PREPARATION, AND INSTALLATION OF LINER AFTER THE CITY OF GRAND ISLAND HAS PERFORMED ADHESION TESTING AS DETAILED IN ASTM D4541-22 & D7234-22. AT LEAST 8 MANHOLES WILL BE SELECTED AT RANDOM TO BE TESTED. ANY FAILED TEST WILL REQUIRE ADDITIONAL TESTING AT THE COST OF THE CONTRACTOR. A FAILED TEST WILL BE DETERMINED BY THE PRODUCT MANUFACTURERS ADHESION RECOMMENDATIONS. ANY FAILED TEST MAY BE SUBJECT TO A COST DEDUCTION FOR THAT MANHOLE.

6.28 | PRECAST CONCRETE

7.53 | PRECAST CONCRETE

8.6 | PRECAST CONCRETE

5.69 | PRECAST CONCRETE

5.79 | PRECAST CONCRETE

9.7 | PRECAST CONCRETE

PRECAST CONCRETE

PRECAST CONCRETE

48

48

48

48

48

48

48

B6-123 | 1872.75 | 1867.49 | 5.26 | PRECAST CONCRETE

8.66

9.72

 \wedge

1874.13 | 1867.85 |

1872.27 | 1864.74 |

1871.41 | 1877.10 |

1872.22 | 1866.43 |

1874.97 | 1866.31

1873.95 | 1864.25 |

1865.45

1875.17

1871.75 | 1863.15

B6-132

B6-132-2

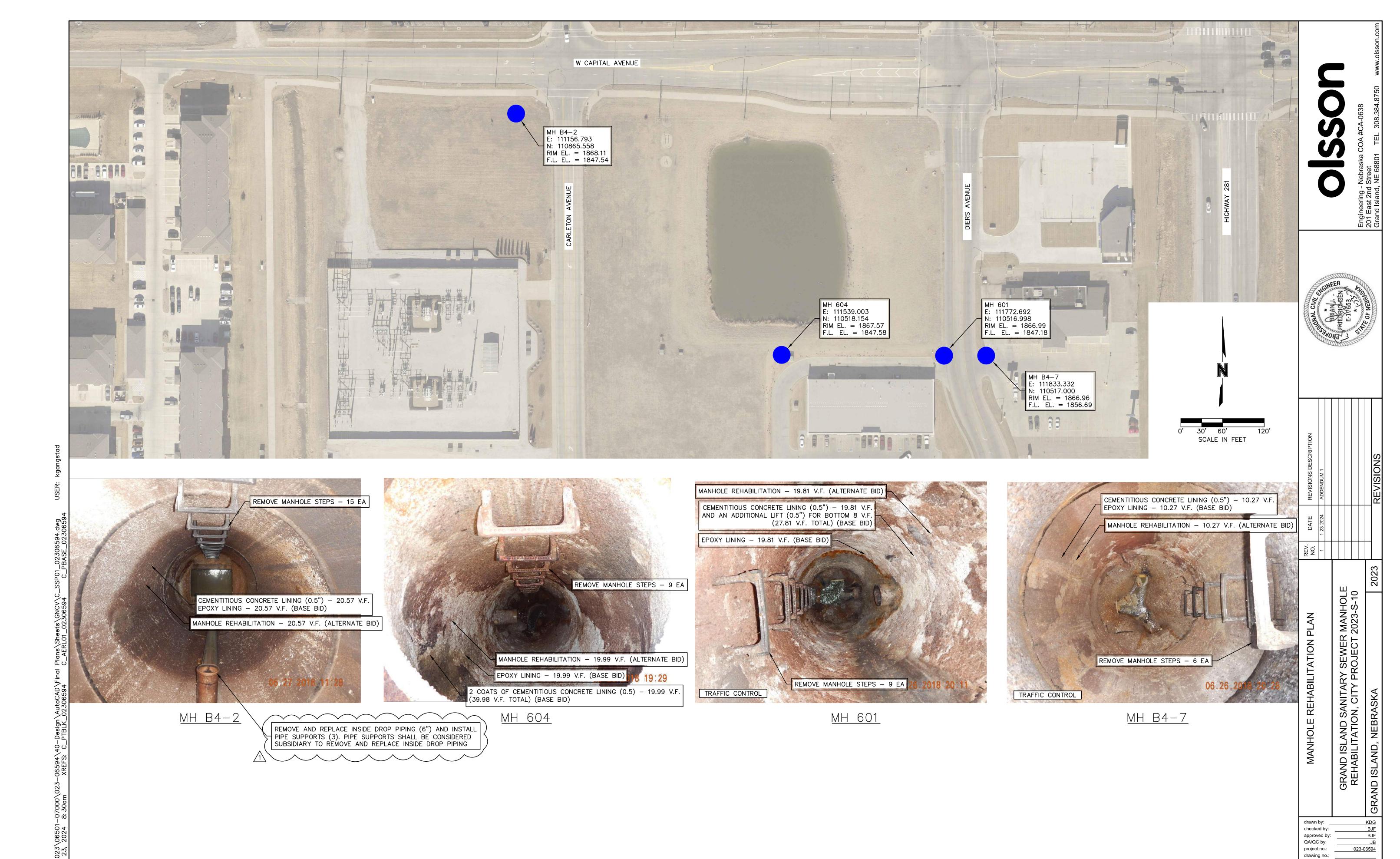
WER RY SEV PROJI $\dot{S} \leq$ ISLAND SILITATION

drawn by: checked by QA/QC by: project no.: 023-06594 drawing no.

GRAND I REHABI

DECEMBER 2023 SHEET

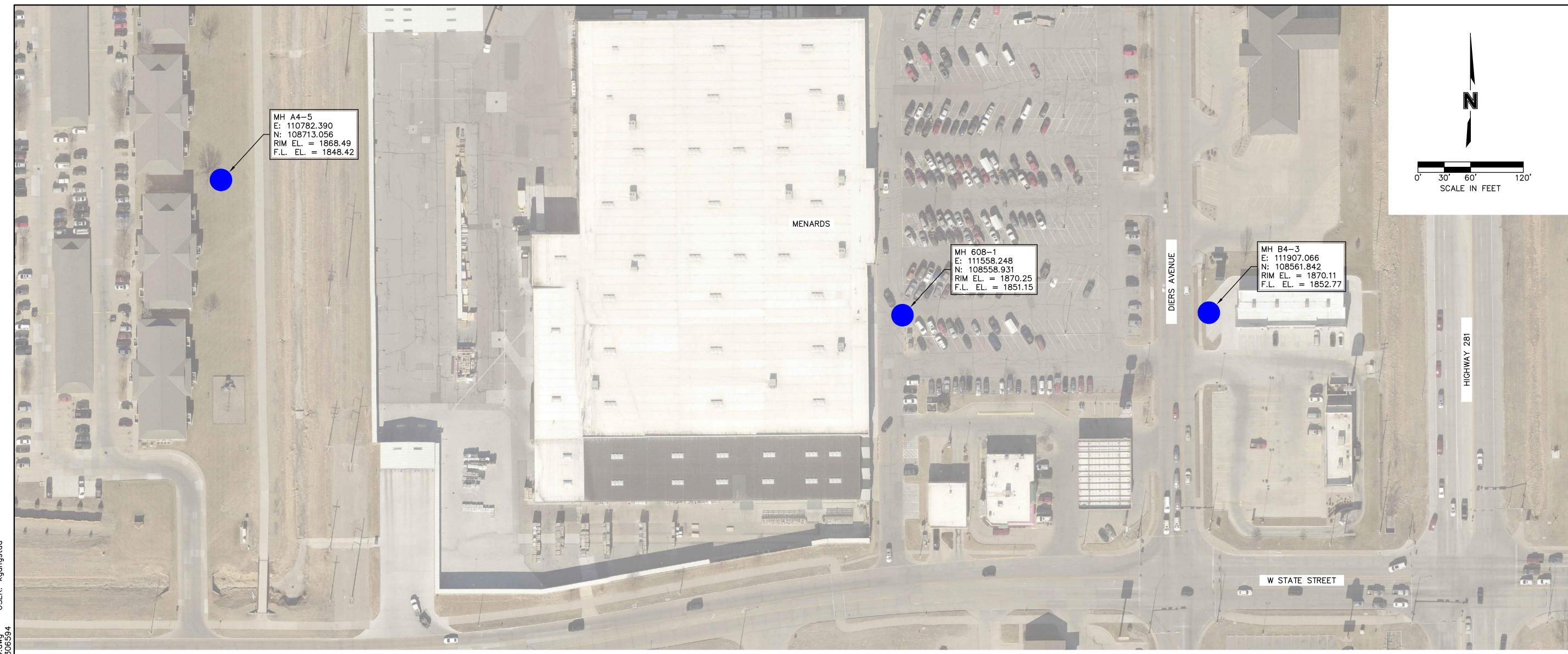
of 26



NOTE: THE MANHOLE PHOTOS MAY BE SEVERAL YEARS OLD.
MANHOLE DETERIORATION MAY BE WORSE THAN WHAT IS DEPICTED.

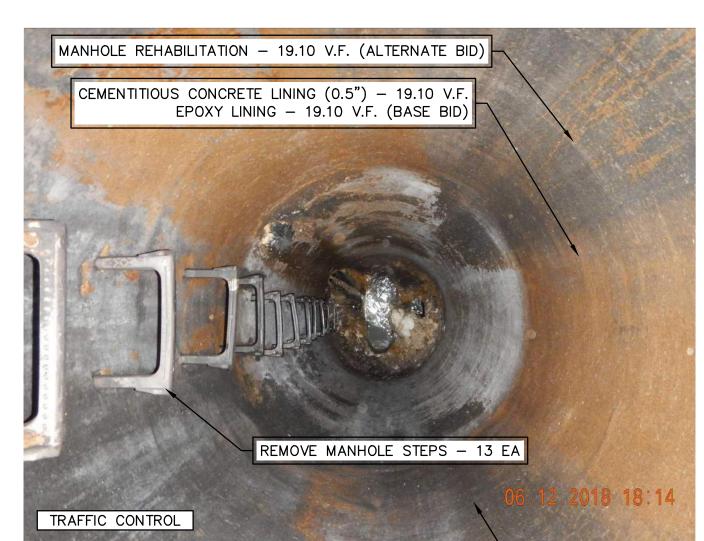
SHEET 7 of 26

date: DECEMBER 2023

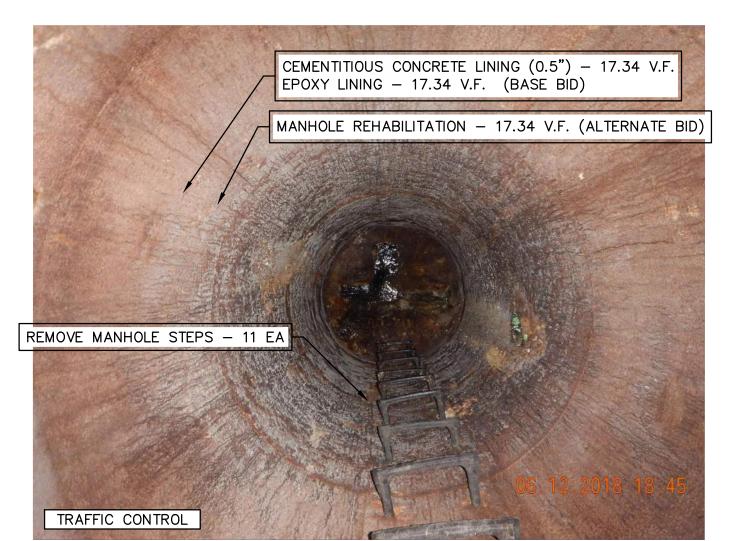


MANHOLE REHABILITATION — 20.07 V.F. (ALTERNATE BID) CEMENTITIOUS CONCRETE LINING (0.5") — 20.07 V.F. EPOXY LINING — 20.07 V.F. (BASE BID) REMOVE MANHOLE STEPS - 10 EA

MH A4-5



<u>MH 608-1</u>



MH B4-3

PREVIOUS EPOXY LINER
PRODUCT TO BE REMOVED
WAS RAVEN LINING SYSYTEM

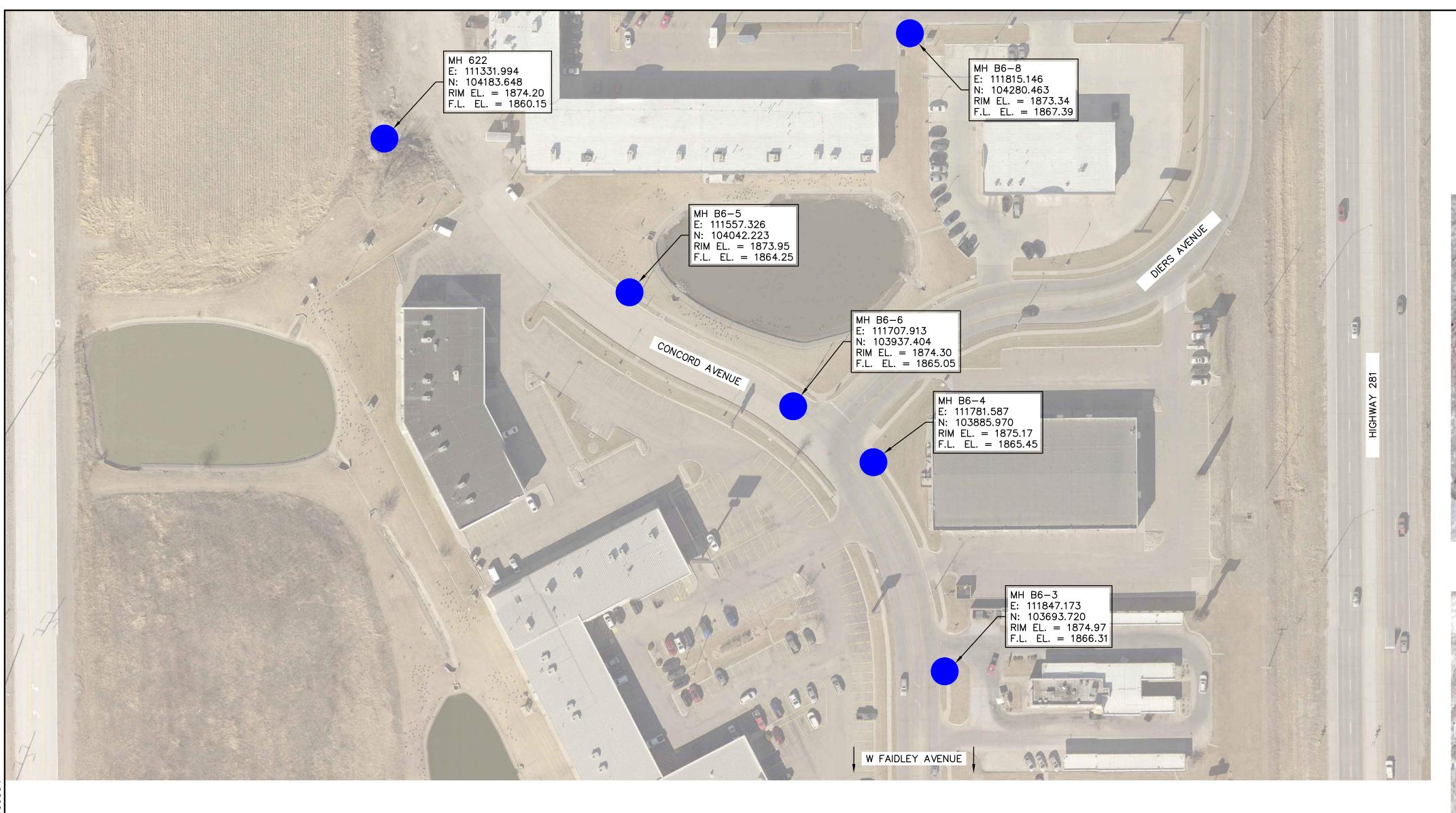
drawn by: checked by: QA/QC by: project no.: 023-06594 drawing no.: date: DECEMBER 2023

REHABILITATION PL

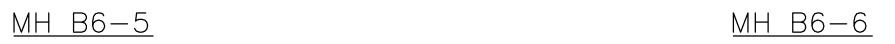
NOTE: THE MANHOLE PHOTOS MAY BE SEVERAL YEARS OLD. MANHOLE DETERIORATION MAY BE WORSE THAN WHAT IS DEPICTED.

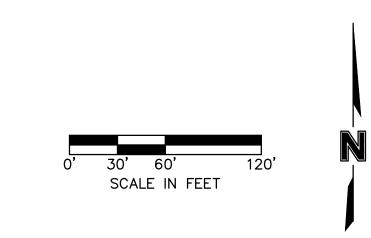
SHEET of 26

GRAND ISLAND SANITARY SEWER MANHOLE REHABILITATION, CITY PROJECT 2023-S-10









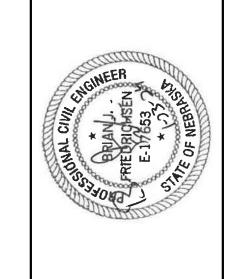


<u>MH B6-8</u>



MH B6-4





MANHOLE REHABILITATION PLAN REV. DATE REVISIONS DESCRIPTION	1 1-23-2024 ADDENDUM 1		SRAND ISLAND SANITARY SEWER MANHOLF	REHABILITATION, CITY PROJECT 2023-S-10		ND, NEBRASKA 2023 TOTAL REVISIONS
MANHOLE			GRAND ISLAND	REHABILITATIO		GRAND ISLAND, NEBRASKA

drawn by:

checked by:

approved by: QA/QC by: project no.:

drawing no.:

KDG

023-06594

date: DECEMBER 2023

SHEET

13 of 26

NOTE: THE MANHOLE PHOTOS MAY BE SEVERAL YEARS OLD. MANHOLE DETERIORATION MAY BE WORSE THAN WHAT IS DEPICTED.

CEMENTITIOUS CONCRETE LINING (0.5") - 14.05 V.F.

MANHOLE REHABILITATION - 14.05 V.F. (ALTERNATE BID)

EPOXY LINING - 14.05 V.F. (BASE BID)

REMOVE MANHOLE STEPS - 8 EA

<u>MH 622</u>

REMOVE AND REPLACE INSIDE DROP PIPING (8") AND INSTALL PIPE SUPPORTS (3). PIPE SUPPORTS SHALL BE CONSIDERED SUBSIDIARY TO REMOVE AND REPLACE INSIDE DROP PIPING

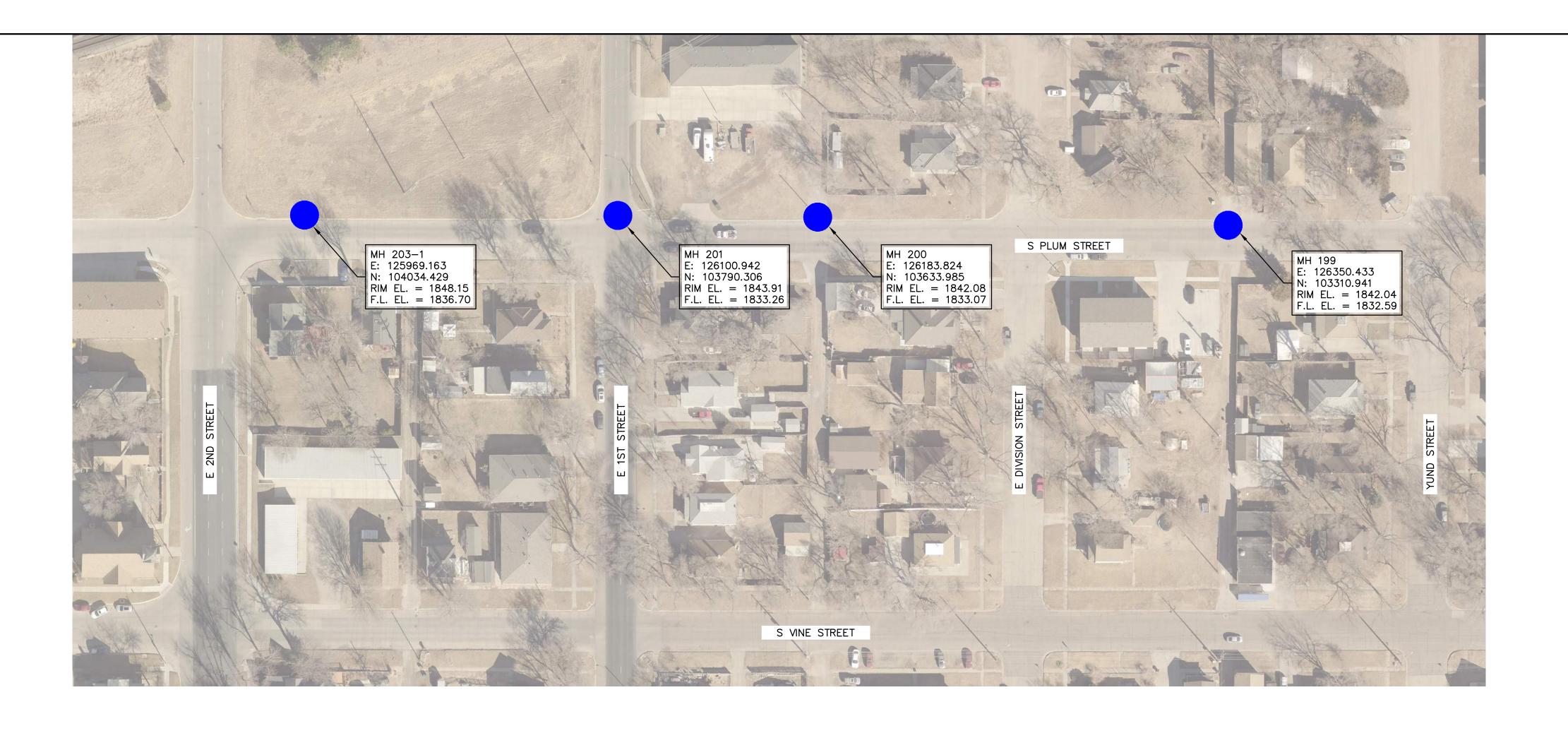
MANHOLE REHABILITATION - 9.70 V.F. (ALTERNATE BID)

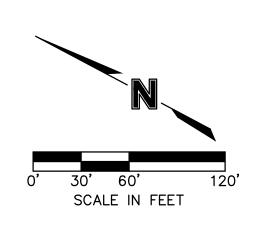
CEMENTITIOUS CONCRETE LINING (0.5") - 9.70 V.F. EPOXY LINING - 9.70 V.F. (BASE BID)

REMOVE MANHOLE STEPS - 5 EA

TRAFFIC CONTROL

MH B6-3





CEMENTITIOUS CONCRETE LINING (0.5") — 9.45 V.F. EPOXY LINING — 9.45 V.F. (BASE BID)

MANHOLE REHABILITATION - 9.45 V.F. (ALTERNATE BID)

TRAFFIC CONTROL

REMOVE MANHOLE STEPS - 4 EA

<u>MH 199</u>

REHABILITATION

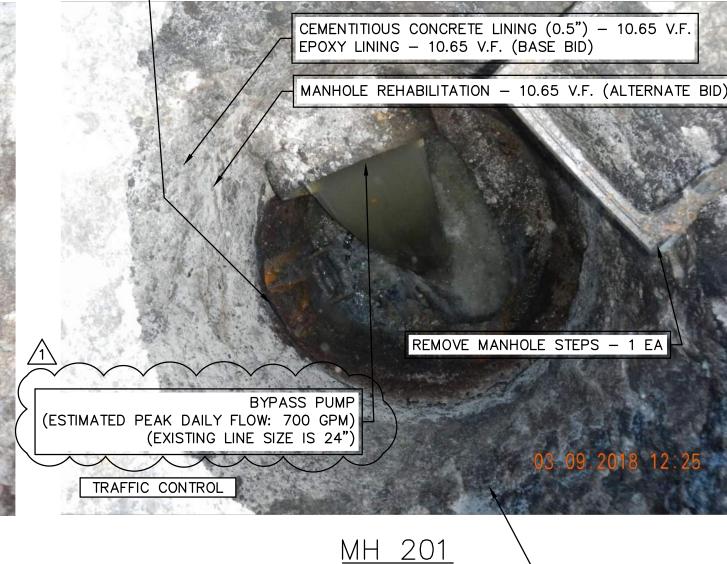
GRAND ISLAND SANITARY SEWER REHABILITATION, CITY PROJECT 2

drawn by: checked by: QA/QC by: project no.: drawing no.:

023-06594 date: DECEMBER 2023 SHEET

17 of 26

ADDITIONAL PIPE NOT IN USE TO BE PLUGGED/CAPPED AND LINED OVER.
THIS WORK SHALL BE SUBSIDIARY TO THE MANHOLE LINER/REHABILITATION



MANHOLE REHABILITATION - 9.01 V.F. (ALTERNATE BID) CEMENTITIOUS CONCRETE LINING (0.5") — 9.01 V.F. EPOXY LINING — 9.01 V.F. (BASE BID)

MH 200

CONTRACTOR WILL BE REQUIRED TO USE A FLOW THROUGH PLUG AT THIS MANHOLE DUE TO THE VERTICAL OFFSET OF THE INLET AND OUTLET PIPE. PIPE SIZE IS 24".

TRAFFIC CONTROL

MH 203-1

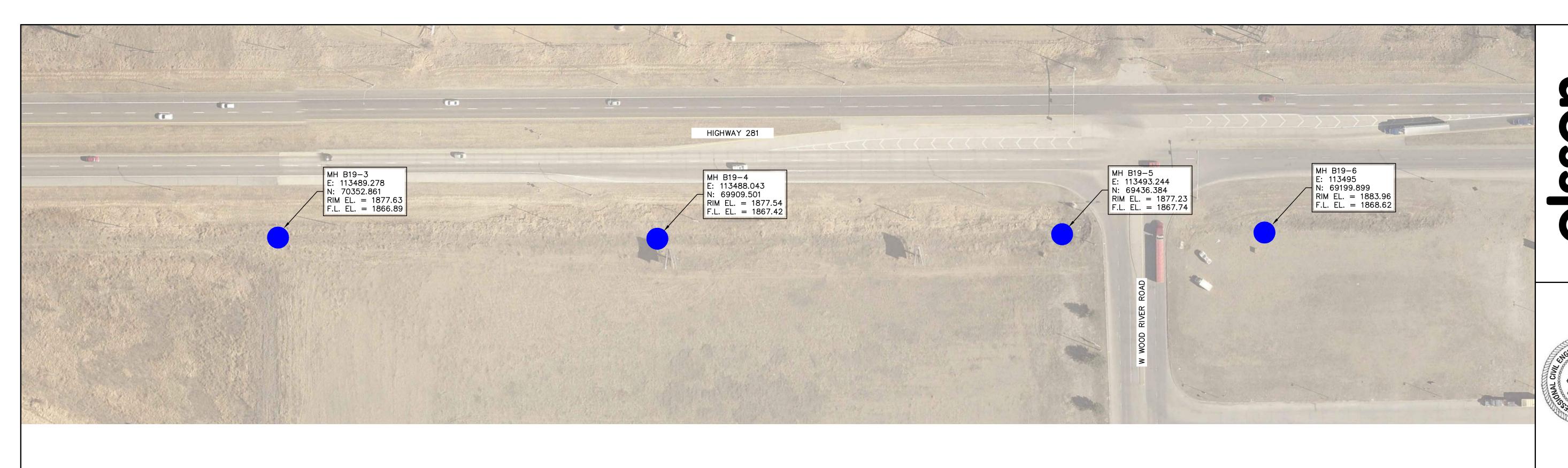
REMOVE MANHOLE STEPS - 5 EA

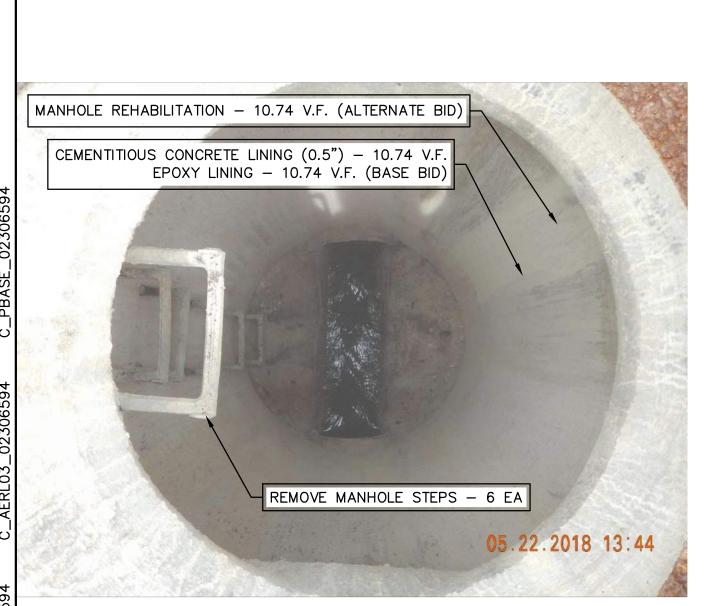
NOTE: THE MANHOLE PHOTOS MAY BE SEVERAL YEARS OLD. MANHOLE DETERIORATION MAY BE WORSE THAN WHAT IS DEPICTED.

CEMENTITIOUS CONCRETE LINING (0.5") — 11.45 V.F. EPOXY LINING — 11.45 V.F. (BASE BID)

MANHOLE REHABILITATION - 11.45 V.F. (ALTERNATE BID)

TRAFFIC CONTROL





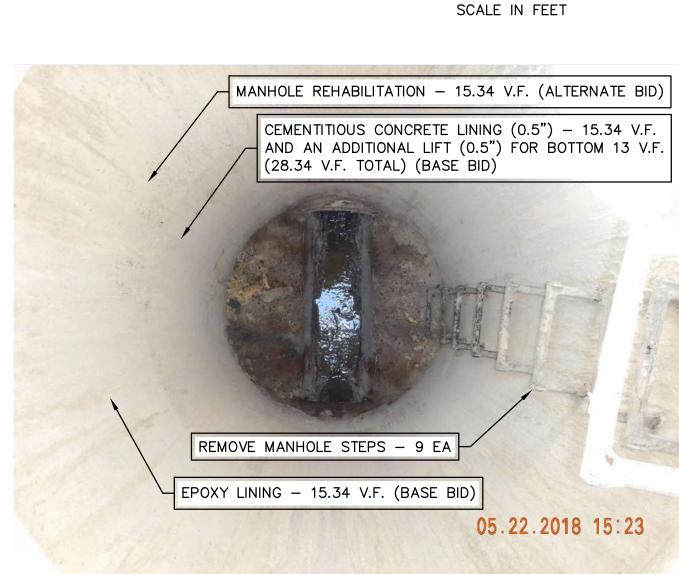




INSTALL ELASTOMERIC CHIMNEY INFILTRATION BARRIER — 1 EA.

MANHOLE REHABILITATION — 9.49 V.F. (ALTERNATE BID) CEMENTITIOUS CONCRETE LINING (0.5") — 9.49 V.F. AND AN ADDITIONAL LIFT (0.5") FOR BOTTOM 8 V.F. (17.49 V.F. TOTAL) (BASE BID) EPOXY LINING - 9.49 V.F. (BASE BID) REMOVE MANHOLE STEPS - 7 EA .13.2018 10:49

<u>MH B19-5</u>



<u>MH B19-6</u>

	REV. DATE	1 1-23-202								
<u>.</u>		<u> </u>		ш	j ,	$\overline{}$		0000	2023	
5:23	MANHOLE REHABILITATION PLAN			ISI AND SANITARY SEWER MANHOLE		REHABILITATION, CITY PROJECT 2023-S-10			GKAND ISLAND, NEBRASKA	
	drawn checke approv QA/QC project drawin date:	ed by: red by by: no.:	-	DE	CEI		3-0 ≣R	659	JE JE JB JA	
	2	S 23	H	E of			26)		

NOTE: THE MANHOLE PHOTOS MAY BE SEVERAL YEARS OLD. MANHOLE DETERIORATION MAY BE WORSE THAN WHAT IS DEPICTED.