

# CONSTRUCTION PLANS FOR AG DRAIN WELL CLOSURE WRIGHT COUNTY, IOWA IOWA AGRICULTURAL MITIGATION, INC

SECTION 15 & 16, TOWNSHIP 92N, RANGE 24W  
JEO PROJECT NO. 181939.00

**ENGINEER:**

JACOB T. MIRIOVSKY, PE


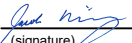
**CONTACT INFO:**

COMPANY: JEO CONSULTING GROUP  
PHONE: 402.474.8771  
EMAIL: JMIRIOVSKY@JEO.COM

JUAN A. ARELLANES, EI

COMPANY: JEO CONSULTING GROUP  
PHONE: 402.853.2774  
EMAIL: JARELLANES@JEO.COM

**NRCS ENGINEER JOB CLASS III**

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. To the best of my professional knowledge, judgment, and belief, these plans meet applicable NRCS standards.	
		1/9/2024 (date)
	Printed or typed name: Jacob T. Miriovsky	
	License Number: 24242	
	My license renewal date is December 31, 2024.	
Pages or sheets covered by this seal:		

I HAVE REVIEWED AND AGREE WITH THE CONTENT OF THE PLAN AND SPECIFICATIONS AS PREPARED:	
CLIENT REPRESENTATIVE:	
NAME	DATE

CONTRACTOR IS RESPONSIBLE FOR CALLING IOWA ONE CALL
ONE CALL TICKET NO.:

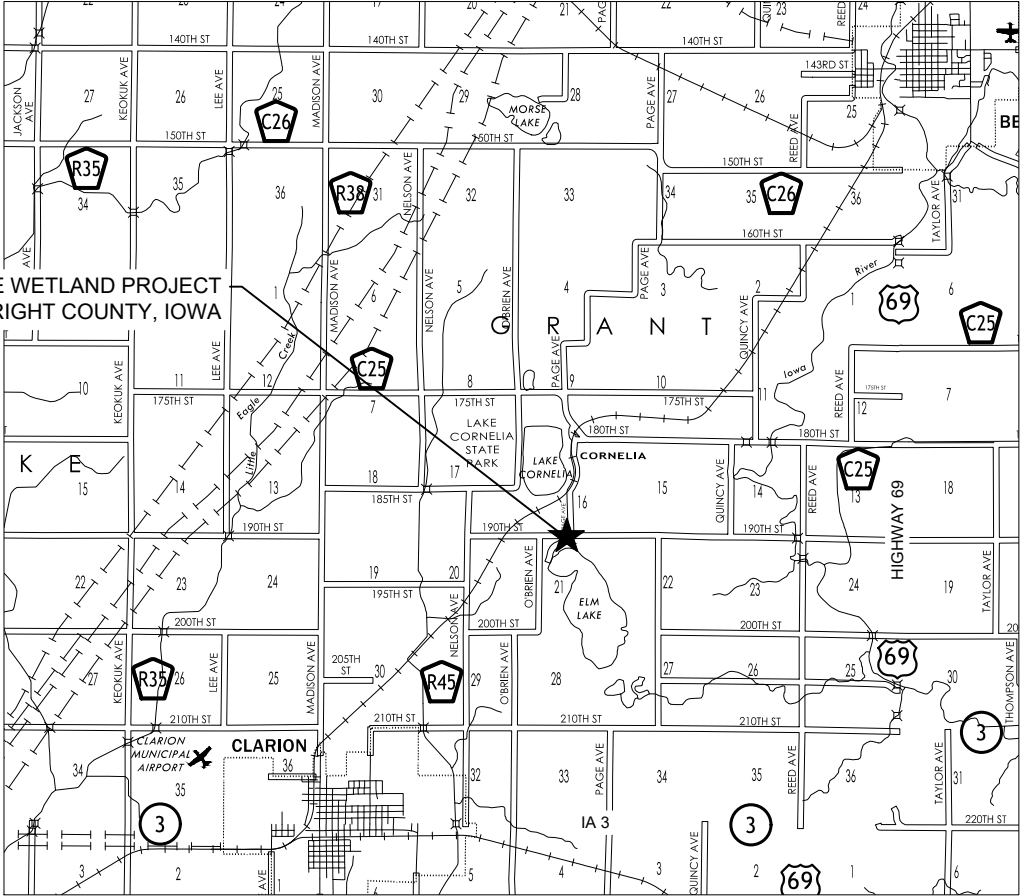
IF A CULTURAL RESOURCE IS IDENTIFIED DURING CONSTRUCTION, ALL WORK SHALL HALT, AND THE NRCS ARCHEOLOGIST SHALL BE NOTIFIED IMMEDIATELY. 515.284.4370
--



CONTRACTOR RESPONSIBLE FOR CALLING IOWA ONE CALL AT 1-800-292-8989 AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF ANY EXCAVATION

**NOTE:**  
NEITHER THE OWNER (CLIENT) NOR JEO CONSULTING GROUP, INC. ASSUMES ANY RESPONSIBILITY FOR UTILITY LOCATIONS BEING ACCURATELY SHOWN OR NOT SHOWN ON THE PLANS. A REQUEST FOR UTILITY DESIGN LOCATES WAS MADE FOR THIS LOCATION AS PER THE ONE-CALL NOTIFICATION SYSTEM ACT. (DATE: 09/24/2019, TICKET NO.: 551906734).  
UTILITIES SHOWN ARE FROM FIELD MARKINGS PROVIDED IN THE FIELD BY THE UTILITY PROVIDERS.  
THE EXACT LOCATION AND/OR SIZE OF UNDERGROUND FEATURES MAY NOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. FIELD VERIFICATION OF UTILITIES MAY BE REQUIRED. CONTRACTOR(S) SHALL NOTIFY THE RESPECTIVE UTILITY COMPANIES BEFORE COMMENCING ANY WORK.

ADW CLOSURE WETLAND PROJECT  
WRIGHT COUNTY, IOWA



**LOCATION MAP**

SCALE: 1" = 5,280'

SURVEY & DATUM - SEE SHEET G0.1

**INDEX OF SHEETS:**

SHEET NO:	SHEET NAME:
A0.1	COVER SHEET
A0.2	SYMBOLS SHEET
A0.3	SITE OVERVIEW
B0.1	DETAILS - TYPICAL CROSS SECTIONS
B0.2	DETAILS - TILES
B0.3	DETAILS - WATER LEVEL CONTROL SYSTEM
B0.4	DETAILS - WATER LEVEL CONTROL SYSTEM
B0.5	DETAILS - SW-513 STRUCTURE
B0.6	DETAILS - WATER TIGHT CMP PIPE COUPLINGS
C0.1	GENERAL NOTES & ESTIMATED QUANTITIES
D0.1	EXISTING SITE PLAN
D0.2	DEMOLITION PLAN
D1.0	PROPOSED SITE AND GRADING PLAN WEST ADW
D1.1	PLAN & PROFILE - 190TH ST
D1.2	PLAN & PROFILE - 190TH ST
D1.3	PLAN & PROFILE - O'BRIEN AVE
D2.0	PROPOSED SITE AND GRADING PLAN EAST ADW
D2.1	PLAN & PROFILE - EAST ADW OUTLET
G0.1	SURVEY CONTROL
G0.2	HORIZONTAL ALIGNMENT CONTROL
J0.1	TRAFFIC CONTROL PLAN
R0.1	SEEDING & EROSION CONTROL PLAN
W1.1	ROADWAY CROSS SECTIONS - 190TH STREET

**PROJECT SPONSOR:**



**CONTACT INFO:**  
KIM PERLSTEIN  
P: 515.298.4974



CONSTRUCTION PLANS FOR  
AG DRAIN WELL CLOSURE  
WRIGHT COUNTY, IOWA  
IOWA AGRICULTURAL MITIGATION, INC

COVER SHEET

PROJECT NO.	181939.00
DATE	1/9/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-ABC.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	CDR
INITIALS	8/1/2022
DATE	
70 PERCENT REVIEW	JJS
INITIALS	03/24/2022
DATE	
95 PERCENT REVIEW	CDR
INITIALS	11/01/2022
DATE	
REVISIONS	

P:\Engineering\181939-00 - JAA\3 Wright County ADOT\Drawn\DWG\181939-00-A02.dwg on 10/20/24 3:42 PM

LINESTYLES

ITEM	SYMBOL
BREAK LINE	
CABLE TELEVISION	
CENTERLINE OF ROAD	
CONTOUR MINOR (EX)	
CONTOUR MAJOR (EX)	
CONTOUR MINOR (EX SCREENED)	
CONTOUR MAJOR (EX SCREENED)	
CONTOUR MINOR (PR)	
CONTOUR MAJOR (PR)	
LIMITS OF CONSTRUCTION	
CULVERT	
ELECTRIC (OVERHEAD)	
ELECTRIC (UNDERGROUND)	
FENCE (WOODEN)	
FENCE (WIRE OR UNKNOWN)	
FENCE (CHAINLINK)	
FENCE (SECURITY)	
FIBER OPTIC LINE	
FLOWLINE (BREAKLINE)	
GAS LINE	
GUARDRAIL	
PROPERTY BOUNDARY	
PROPERTY LOT LINES (PR)	
RIGHT-OF-WAY LINE	
RAILROAD RIGHT-OF-WAY	
RAILROAD TRACKS	
RETAINING WALL	
SANITARY SEWER (EXIST)	
SANITARY SEWER (PROP)	
SAN SEWER FORCE MAIN (EX)	
SAN SEWER FORCE MAIN (PR)	
STORM SEWER (EXIST)	
(OFFSET TO PIPE SIZE)	
STORM SEWER (PROP)	
(OFFSET TO PIPE SIZE)	
TELEPHONE LINE (UGND)	
TELEPHONE LINE (OVERHEAD)	
TERRACE	
CROPLINE	
TRAVELED WAY	
WATER (EXIST)	
WATER (PROP)	
FIRE SERVICE	

SWPPP

ITEM	SYMBOL
SILT FENCE	
INLET PROTECTION	
STRAW WATTLE CHECK	
STRAW BALE CHECK	
FLOW ARROW (PLAN)	
AREA INLET FILTER PROTECTION	
RIP RAP	
SEEDING	
MATTING	

PAVING FEATURES

ITEM	SYMBOL
EXISTING PAVEMENT JOINT	
TRANSVERSE JOINT	
LONGITUDINAL JOINT	
EXPANSION/KEYED JOINT	
PAVEMENT MARKING	
PAVEMENT REBAR	
HANDICAP SYMBOL	

UTILITIES

ITEM	SYMBOL
STORM SEWER	
CURB INLET	
GRATE INLET	
CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY	
CLEANOUT	
SEPTIC TANK	
SANITARY MANHOLE	
POWER, ELECTRICAL, LIGHT, AND TRAFFIC	
AIR CONDITIONING UNIT	
ANTENNA	
ANCHOR POLE/POST	
GUY POLE	
GUY WIRE ANCHOR	
ELECTRICAL HIGHLINE TOWER (METAL OR CONCRETE)	
POWER POLE (EXISTING)	
POWER POLE (PROPOSED)	
POWER (ELEC) PEDESTAL	
POWER (ELEC) PULL BOX OR MANHOLE	
POWER (ELEC) METER	
LIGHT POLE	
TRAFFIC SIGNAL	
TRAFFIC SIGNAL BOX	
TELEVISION PEDESTAL	
TELEVISION MANHOLE	
WATER	
WATER MANHOLE	
WATER VALVE	
WATER SHUT OFF OR CURB STOP	
WELL	
WATER METER	
WATER METER PIT	
YARD HYDRANT	
WATER ELEVATION	
WATER TOWER	
FIRE HYDRANT (EXISTING)	
FIRE HYDRANT (PROPOSED)	
FIRE HYDRANT IN PROFILE	
WATER FITTINGS	
11- 1/4"	
22- 1/2"	
45"	
90"	
CROSS	
PLUG	
REDUCER	
TEE	
GAS	
GAS METER	
GAS MANHOLE	
GAS FILL PIPE	
GAS PUMP	
GAS VALVE	
GAS VENT	
TELEPHONE	
FIBER OPTICS PULL BOX	
TELEPHONE POLE	
TELEPHONE PULL BOX OR MANHOLE	
TELEPHONE PEDESTAL	
MANHOLE (NON-SPECIFIC)	
CISTERN	
LATRINE	
OIL WELL	
VALVE (NON-SPECIFIC)	

VEGETATION

ITEM	SYMBOL
BUSH	
CONIFEROUS TREE	
DECIDUOUS TREE	
MARSH/WETLAND	
TREE MASS LINE	
TREE STUMP	

SITE & SIGNAGE

ITEM	SYMBOL
SIGN	
BARRICADE	
ROAD SIGNS	
COUNTY ROAD	
INTERSTATE HIGHWAY	
STATE HIGHWAY	
U.S. HIGHWAY	
MILE MARKER POST	
RIGHT OF WAY MARKER	
RAILROAD CROSSING SIGNAL	
RAILROAD SWITCH	
FLAG POLE	
MAILBOX	
PROPANE TANK	
SATELLITE TV DISH	
WINDMILL	

CONTROL & ELEVATION

ITEM	SYMBOL
BENCHMARK	
CONTROL POINT (NON-PROPERTY)	
MONUMENT FOUND (PROPERTY)	
MONUMENT SET	
TEMPORARY POINT	
TEST BORING	
POINT ELEVATION (EXISTING)	
POINT ELEVATION (PROPOSED)	
TOP OF PAVEMENT	
TOP OF CURB	
GROUND	
TOP OF WALL	
BOTTOM OF WALL	
FLOWLINE	
GRID TICK	

MISC FEATURES

ITEM	SYMBOL
CENTER PIVOT	
CEMETERY	
GRAVE	
CHURCH	
CAVE	
CISTERN	
LATRINE	
OIL WELL	
GUARD POST	

PAVEMENT SYMBOLS AND HATCH

ITEM	SYMBOL	HATCH
ASPHALT PAVEMENT (EX.)		
CONCRETE PAVEMENT (EX.)		
GRAVEL (EX.)		
BRICK PAVEMENT (EX.)		
ASPHALT PAVEMENT (PR.)		
CONCRETE PAVEMENT (PR.)		
CONCRETE SIDEWALK (PR)		
GRAVEL (PR.)		
GRAVEL (PR.)		
BRICK PAVEMENT (PR.)		

GENERAL

ITEM	SYMBOL
PLAN REVISION	
NORTH ARROW	
GRAPHIC SCALE	

ARCHITECTURAL MATERIALS

ITEM	SYMBOL	ITEM	SYMBOL	ITEM	SYMBOL
UNDISTURBED EARTH		CONCRETE BLOCK		LVL - GLU-LAM	
EARTH		METAL		GYPSON BOARD (DBL LINE OMITTED AT SMALL SCALE)	
GRANULAR FILL		WOOD, FINISH		INSULATION, BATT	
SAND MORTAR, PLASTER		WOOD, FRAMING		GLASS - ELEVATION	
CONCRETE		WOOD, FRAMING INTERRUPTED MEMBER		INSULATION, RIGID	
BRICK		PLYWOOD			

ARCHITECTURAL SYMBOLS

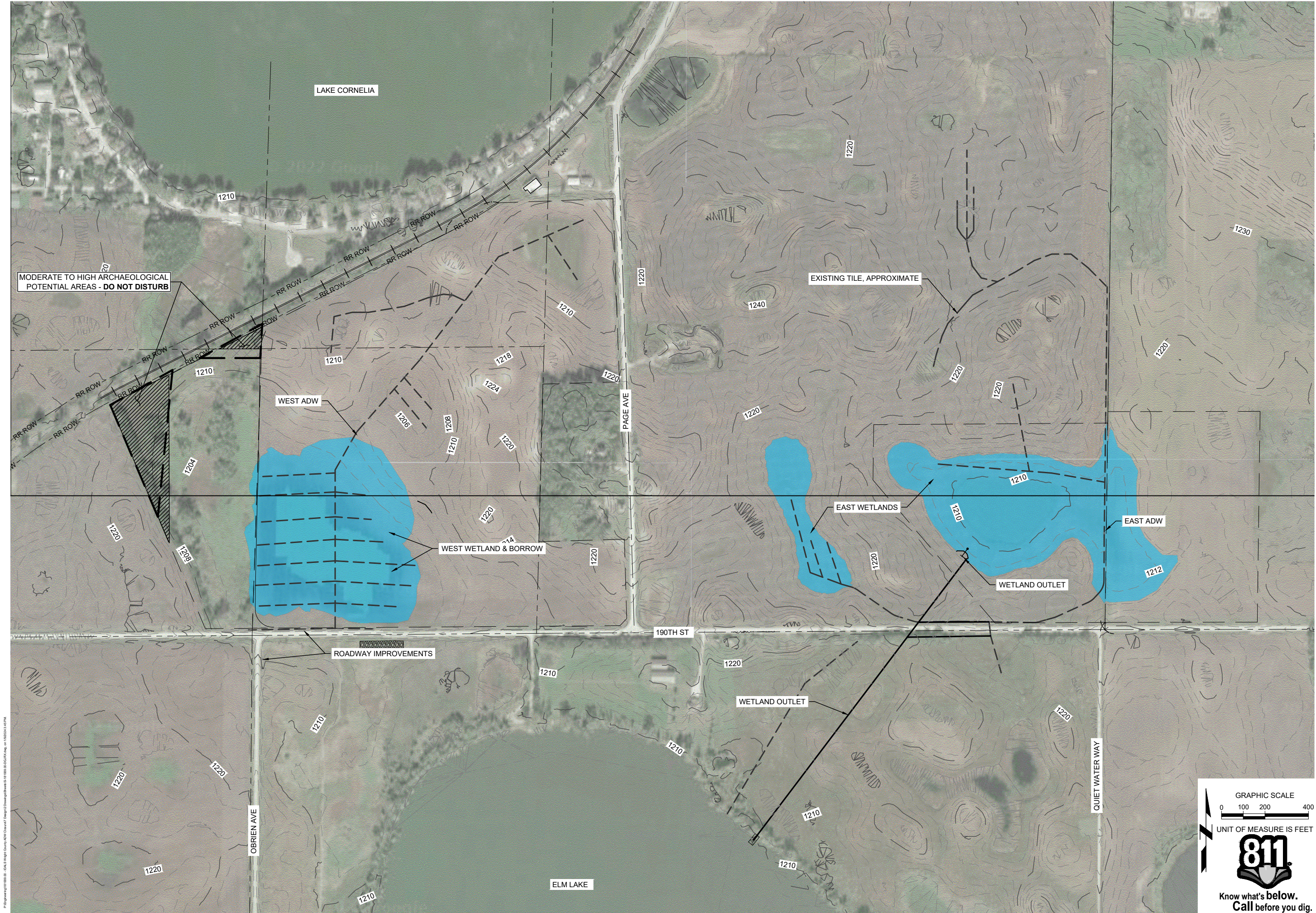
ITEM	SYMBOL	ITEM	SYMBOL
DATUM POINT		REFERENCED NOTE	
EXISTING COLUMN LINE		ELEVATION	
REFERENCED DEMOLITION NOTE		BUILDING SECTION	
REFERENCED PHOTOGRAPH TAG		WALL SECTION	
COLUMN REFERENCE GRID LINES		DETAIL	
ROOM NAME & NO.		INTERIOR ELEVATION(S)	
DOOR NO.		ENLARGED DETAIL	
WINDOW NO.		REVISION	
WALL TYPE			
EQUIPMENT OR FIXTURE			



CONSTRUCTION PLANS FOR  
AG DRAIN WELL CLOSURE  
WRIGHT COUNTY, IOWA  
IOWA AGRICULTURAL MITIGATION, INC

SYMBOLS SHEET

PROJECT NO. 181939.00  
DATE 1/9/2024  
DRAWN BY JAA  
FILE NAME S-181939.00-ABC.dwg  
FIELD BOOK 115 MISC  
FIELD CREW DJJ  
SURVEY FILE NO. SV-181939.00-Topo  
PLAN IN HAND CDR  
DATE 8/1/2022  
70 PERCENT REVIEW JJS  
DATE 03/24/2022  
95 PERCENT REVIEW CDR  
DATE 11/01/2022  
REVISIONS



P:\Engineering\181939.00 - DAA Wright County ADW Closure\DWG\DWG\181939.00-DGJRX.dwg, on 1/6/2024 4:45 PM

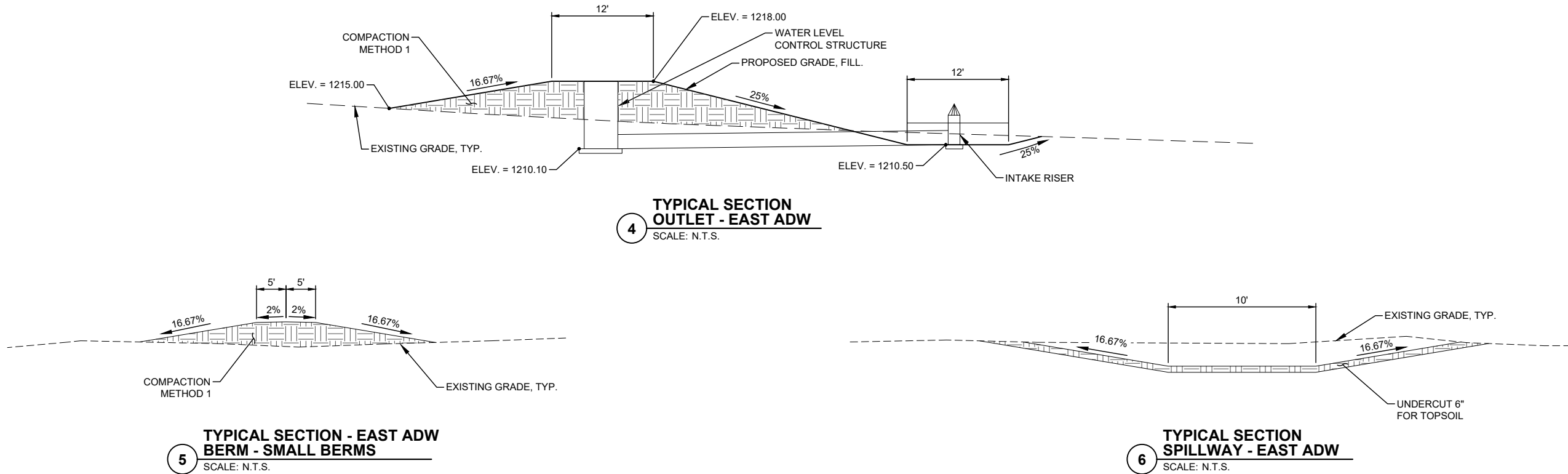
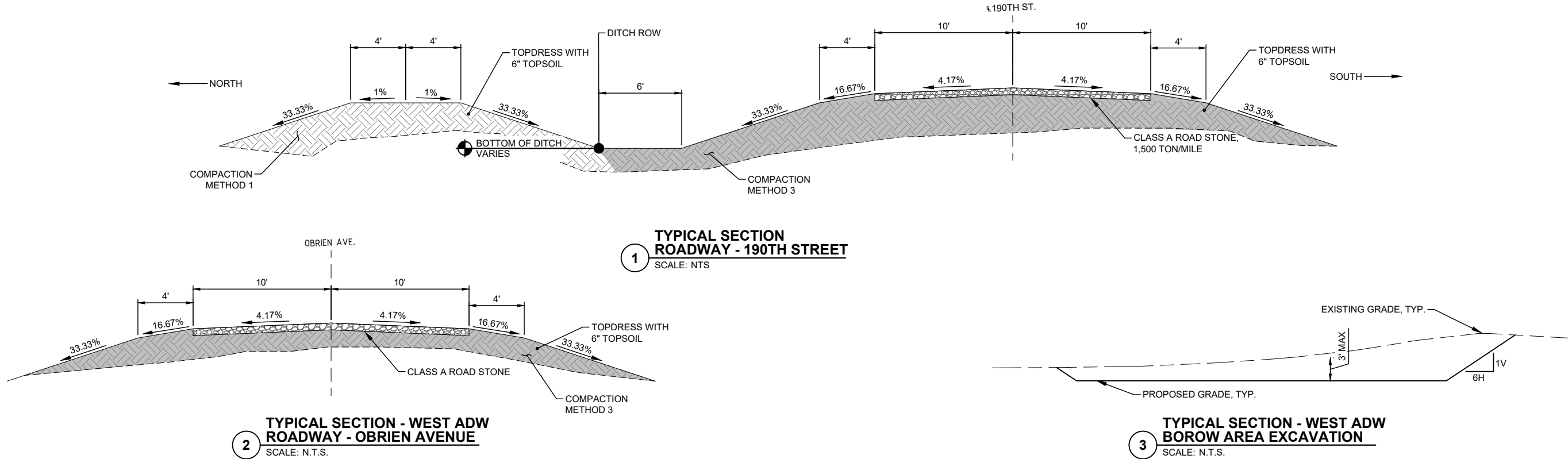


CONSTRUCTION PLANS FOR  
AG DRAIN WELL CLOSURE  
WRIGHT COUNTY, IOWA  
IOWA AGRICULTURAL MITIGATION, INC

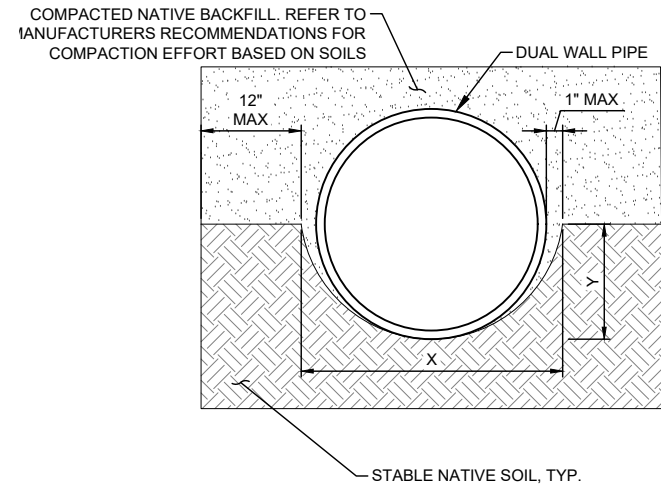
SITE OVERVIEW

PROJECT NO.	181939.00
DATE	1/9/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-DGJRX.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	CDR
DATE	8/1/2022
70 PERCENT REVIEW	JJS
DATE	03/24/2022
95 PERCENT REVIEW	CDR
DATE	11/01/2022
REVISIONS	

GRAPHIC SCALE  
0 100 200 400  
UNIT OF MEASURE IS FEET  
**811**  
Know what's below.  
Call before you dig.



PROJECT NO.	181939.00
DATE	1/9/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-ABC.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	CDR
INITIALS	8/1/2022
DATE	
70 PERCENT REVIEW	JJS
INITIALS	03/24/2022
DATE	
95 PERCENT REVIEW	CDR
INITIALS	11/01/2022
DATE	
REVISIONS	

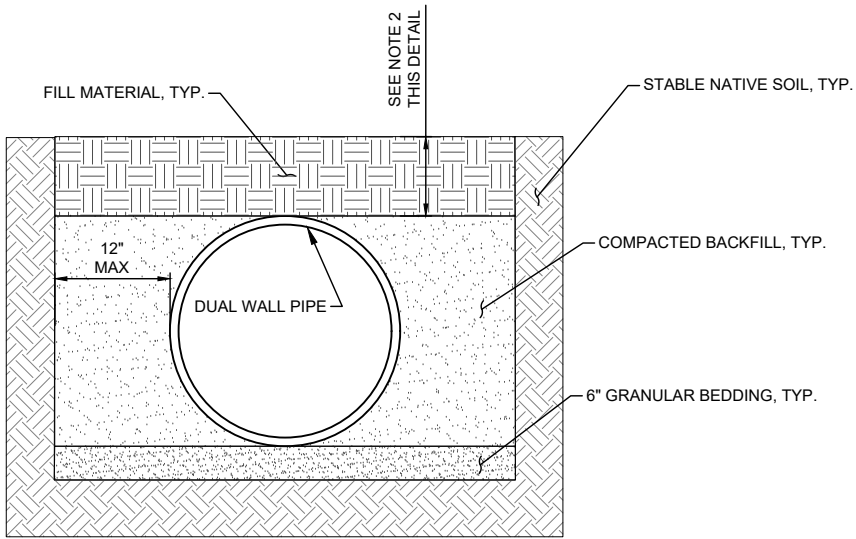


HALF SPOON PIPE TRENCH TABLE			
PIPE DIA.	MAX WIDTH (X)	DEPTH (Y)	MIN. PIPE COVER
10"	13.5"	5.7"	12"
12"	16.5"	7.3"	
15"	19.6"	8.8"	
18"	23.3"	10.6"	18"
24"	29.9"	14.0"	
30"	37.2"	17.6"	

- NOTES:
- BACK FILL PIPE WITH CLASS I MATERIAL WHERE COVER IS LESS THAN 2.5'. CRUSHED CONCRETE IS NOT PERMITTED.
  - MAXIMUM WIDTH BASED ON MAX 1" GAP ON EITHER SIDE OF PIPE AT THE SPRINGLINE. WIDER TRENCH WIDTHS MAY ADVERSELY AFFECT PIPE PERFORMANCE

### 1 HALF SPOON TILE TRENCH

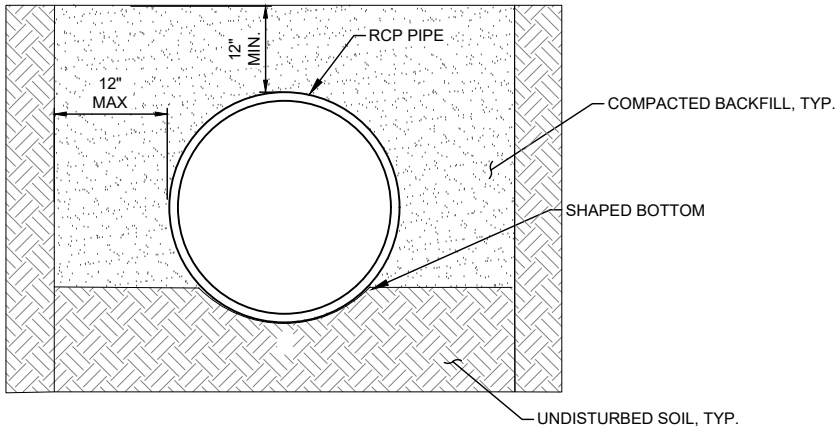
SCALE: N.T.S.



### 2 DUAL WALL HDPE BEDDED PIPE TRENCH

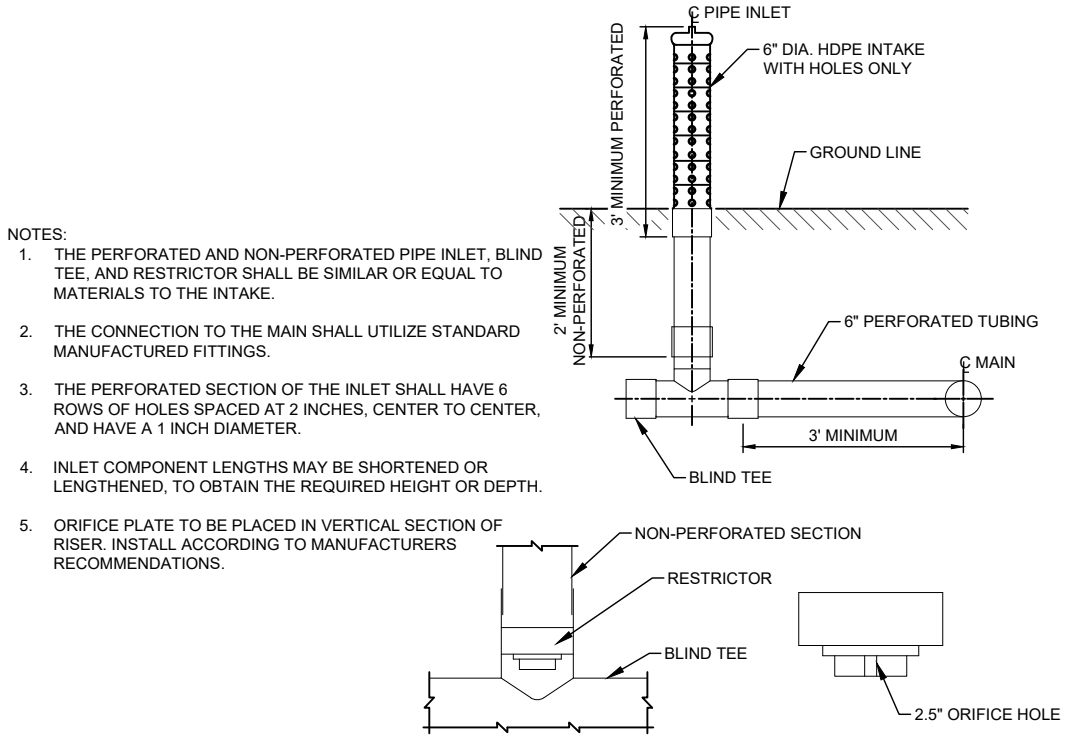
SCALE: N.T.S.

- NOTES:
- FOR USE UNDER GRAVEL ROADS OR AREAS WHERE COVER EXCEEDS 10 FT.
  - REFER TO HALF SPOON PIPE TRENCH TABLE IN DETAIL 1 FOR MINIMUM PIPE COVER.



### 3 RCP TRENCH IN NATIVE SOILS

SCALE: N.T.S.



### ORIFICE (RESTRICTOR) PLACEMENT DETAIL

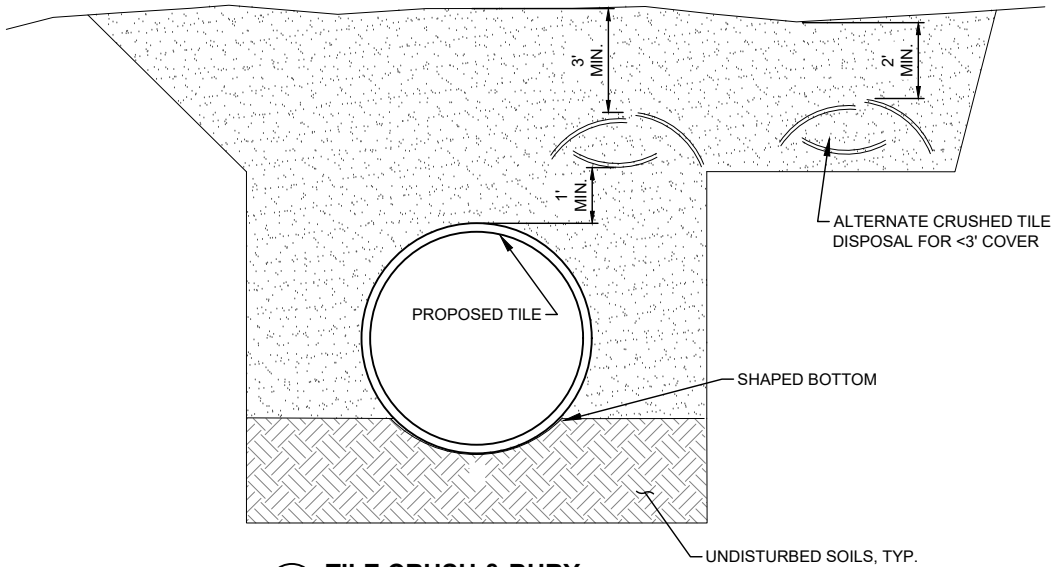
SCALE: N.T.S.

### RESTRICTOR DETAIL

SCALE: N.T.S.

### 4 6" DIA. POLYETHYLENE PIPE SURFACE INLET FOR TILE

SCALE: N.T.S.

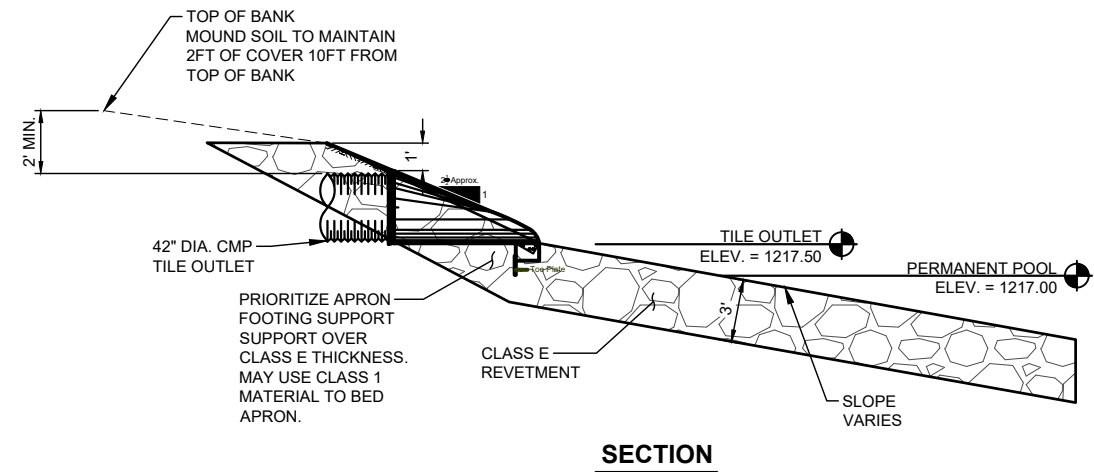
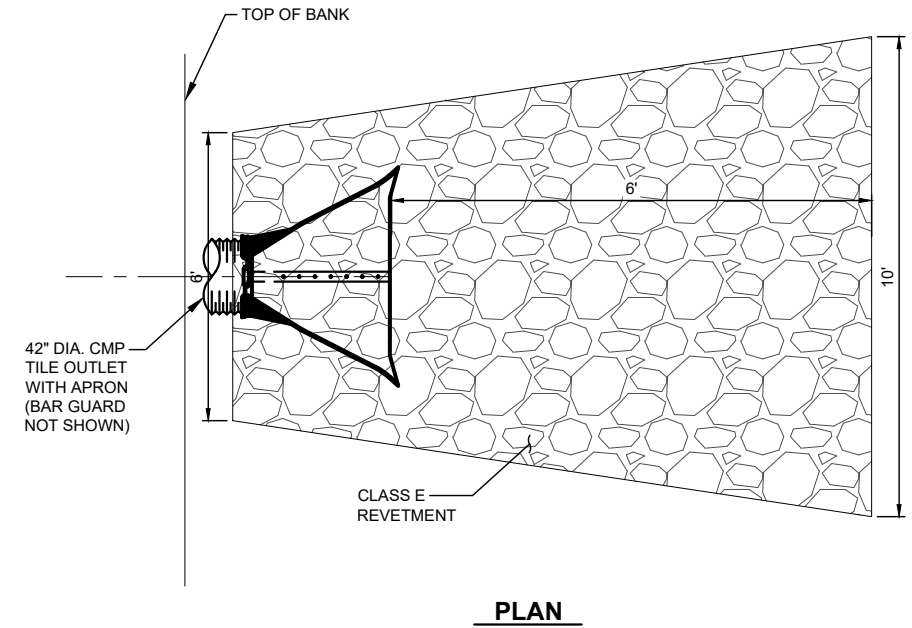
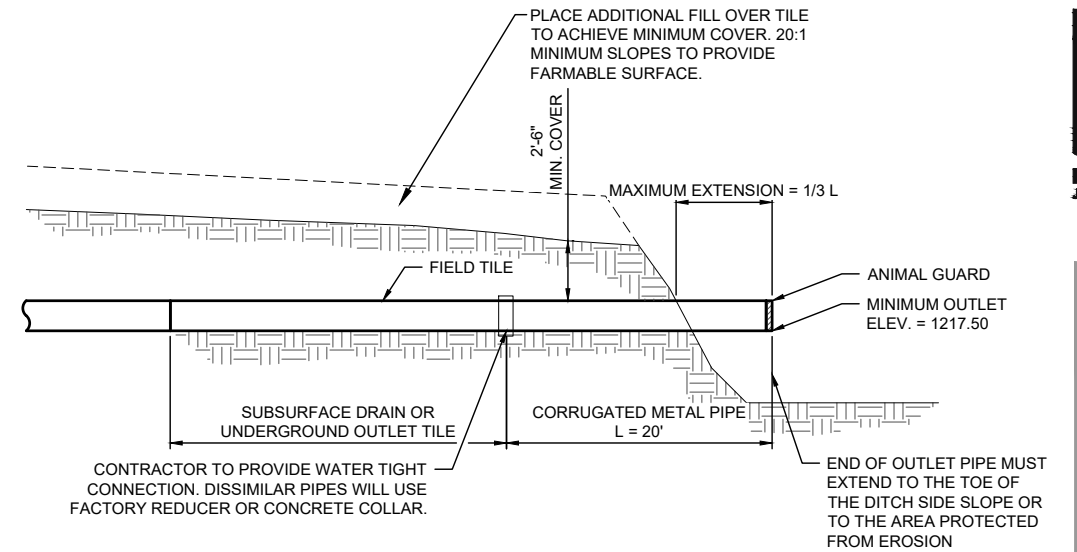
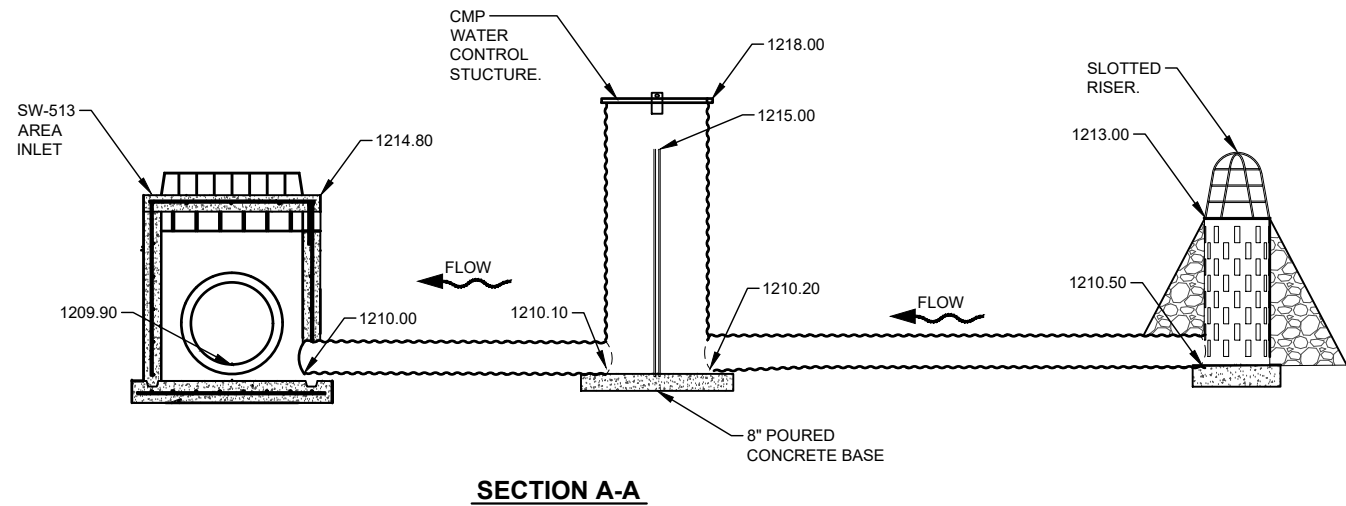
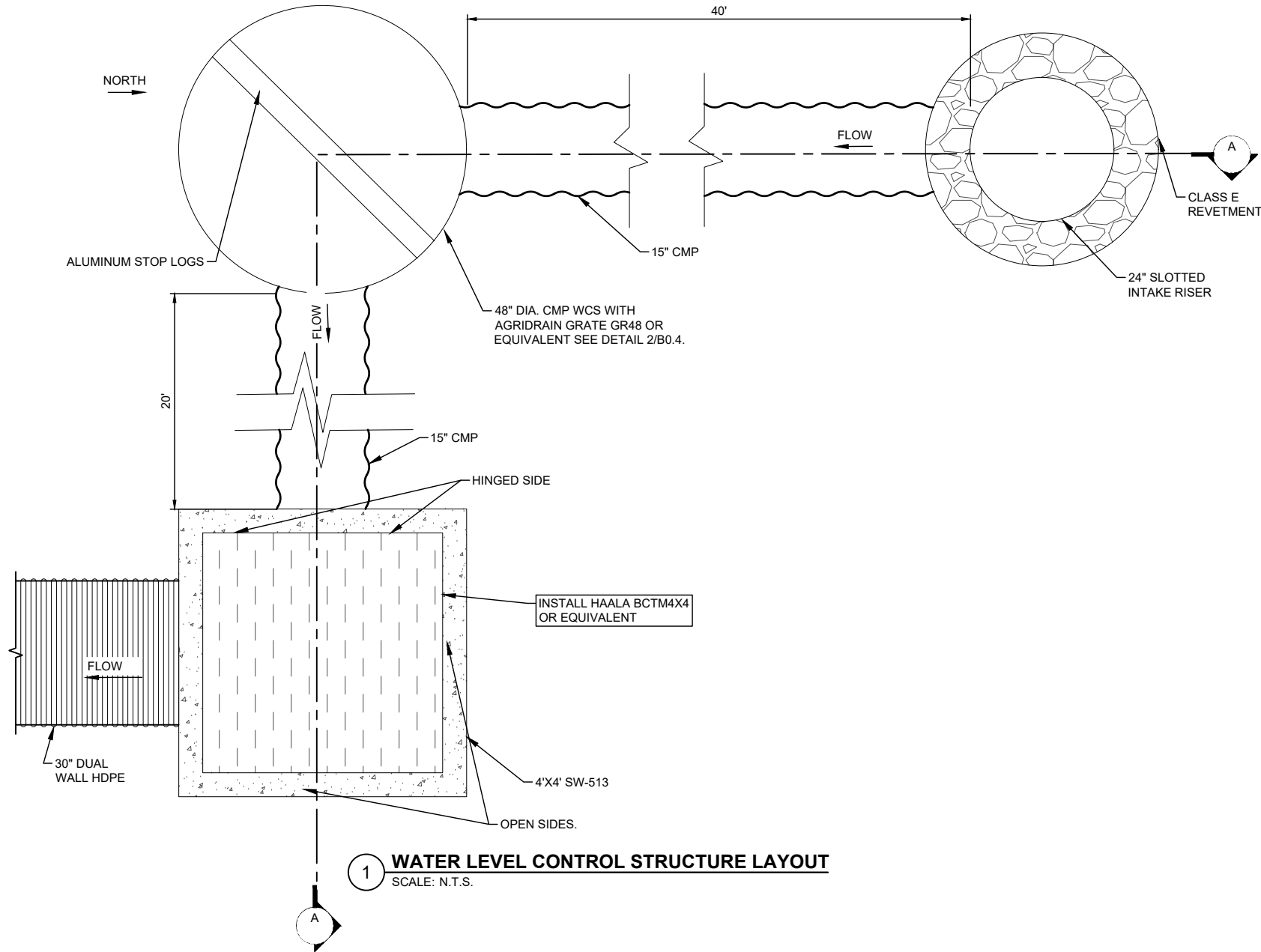


### 5 TILE CRUSH & BURY

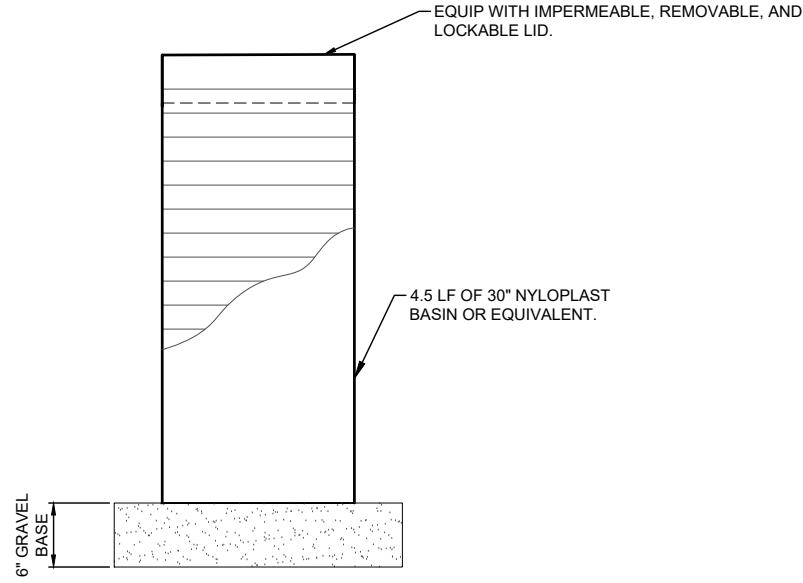
SCALE: N.T.S.

NOTE: DO NOT BURY CRUSHED TILE IN ROADWAYS OR STRUCTURAL FILL AREAS

P:\Engineering\181939.00 - DAA's Wright County AGRW Closure.dwg 1/9/2024 3:42 PM



3 TILE OUTLET LOOSE RIPRAP PROTECTION  
SCALE: N.T.S.



**NOTE:**  
THE FOLLOWING DESIGNATION FOR PIPE CLASSIFICATION, CORRUGATIONS AND COATINGS WHEN REFERRED TO ON THE DRAWINGS ARE IN ACCORDANCE WITH CURRENT ASTM'S:

A760 STANDARD SPECIFICATION FOR CORRUGATED STEEL PIPE, METALLIC-COATED.

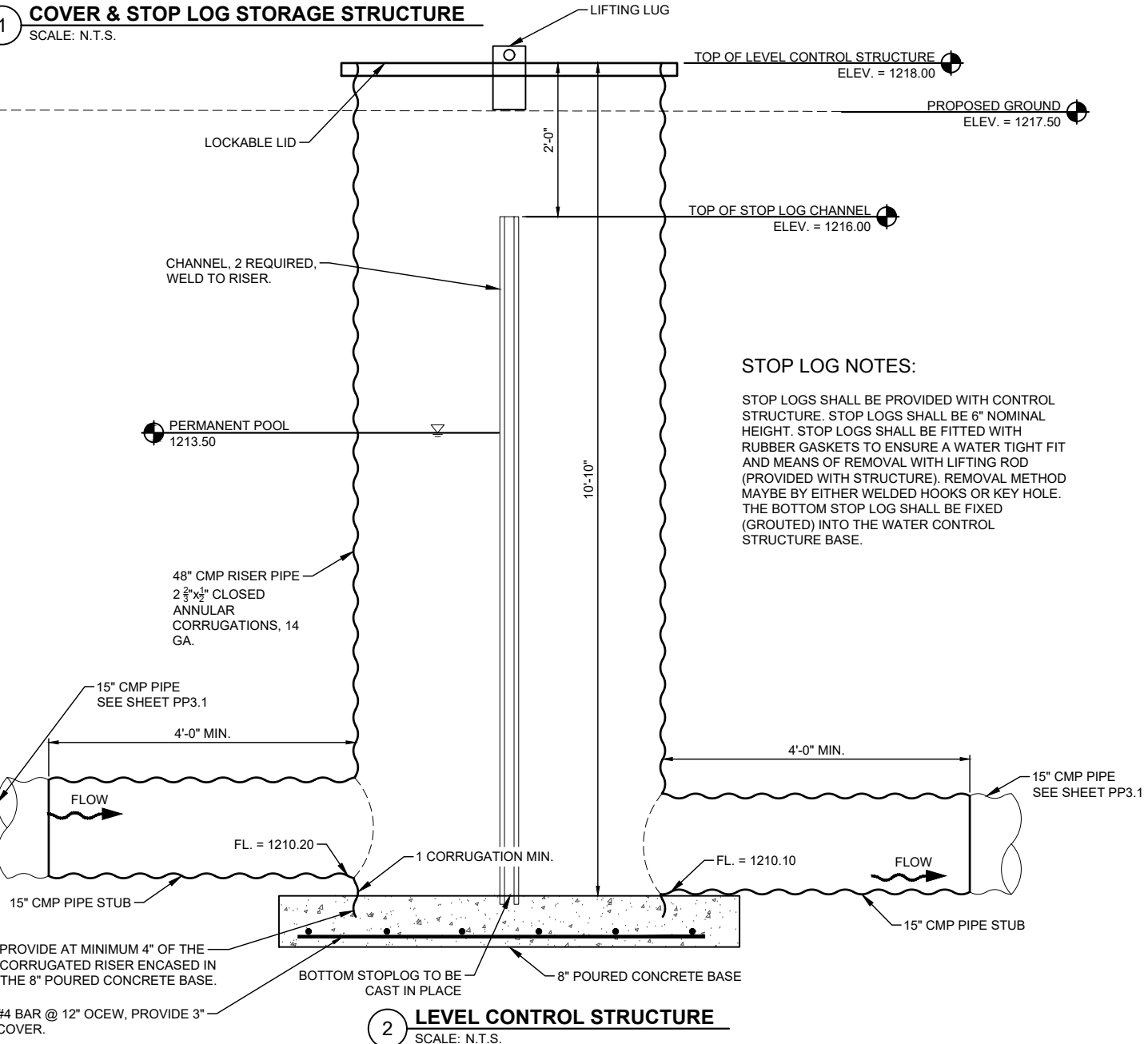
A761 STANDARD SPECIFICATION FOR STEEL, GALVANIZED CORRUGATED STRUCTURAL PLATES AND FASTENERS.

A849 STANDARD SPECIFICATION FOR POST-COATED AND LINED CORRUGATED STEEL SEWER AND DRAINAGE PIPE (BITUMINOUS OR CONCRETE)

A885 STANDARD SPECIFICATION OF STEEL SHEET, ZINC AND ARIMID FIBER COMPOSITE-COATED FOR CORRUGATED STEEL SEWER, CULVERT AND UNDERDRAIN PIPE.

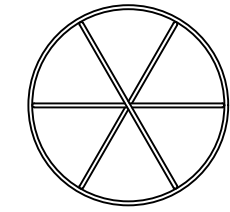
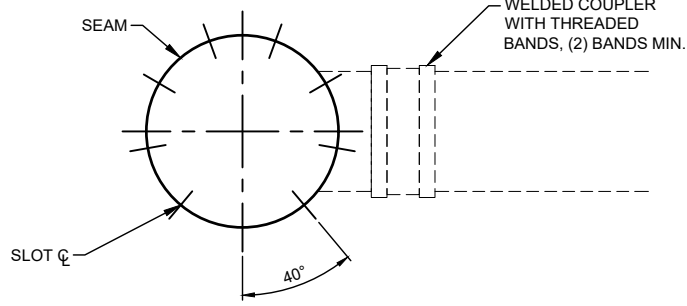
TAR MASTIC ON ALL JOINTS FOR RISER AND PIPE TEE'S.

**1 COVER & STOP LOG STORAGE STRUCTURE**  
SCALE: N.T.S.



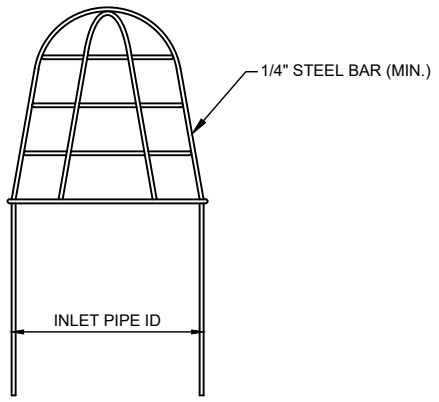
**STOP LOG NOTES:**

STOP LOGS SHALL BE PROVIDED WITH CONTROL STRUCTURE. STOP LOGS SHALL BE 6" NOMINAL HEIGHT. STOP LOGS SHALL BE FITTED WITH RUBBER GASKETS TO ENSURE A WATER TIGHT FIT AND MEANS OF REMOVAL WITH LIFTING ROD (PROVIDED WITH STRUCTURE). REMOVAL METHOD MAYBE BY EITHER WELDED HOOKS OR KEY HOLE. THE BOTTOM STOP LOG SHALL BE FIXED (GROUTED) INTO THE WATER CONTROL STRUCTURE BASE.



**BEEHIVE NOTES:**

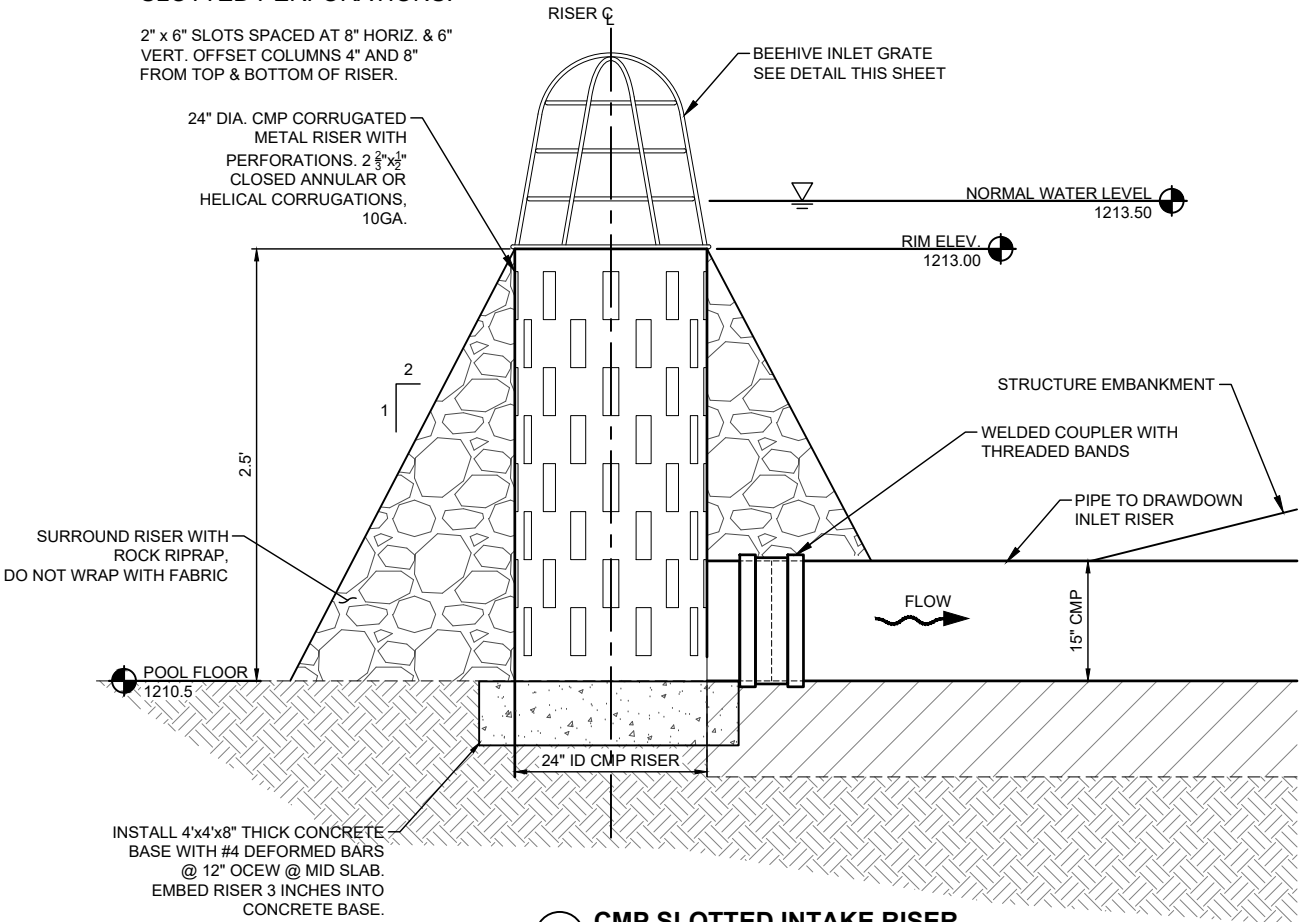
NUMBER OF BARS AND SIZE OF GRATE VARIES WITH SIZE OF TILE INTAKES. PAINT WITH (2) COATS RUST INHIBITING PAINT FOLLOWING FABRICATION.



**3 BEEHIVE INLET GRATE (STEEL BARS)**  
SCALE: N.T.S.

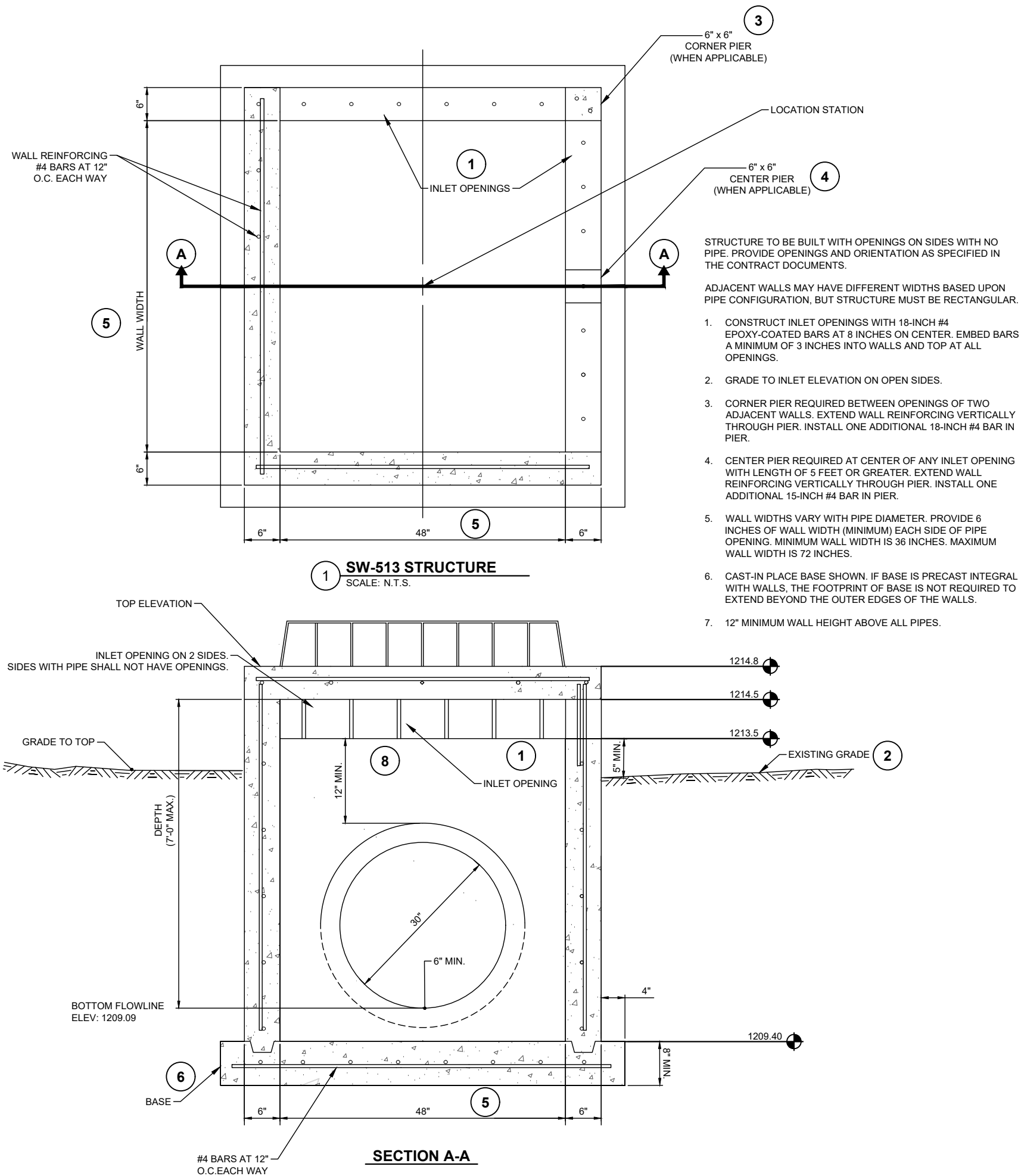
**SLOTTED PERFORATIONS:**

2" x 6" SLOTS SPACED AT 8" HORIZ. & 6" VERT. OFFSET COLUMNS 4" AND 8" FROM TOP & BOTTOM OF RISER.

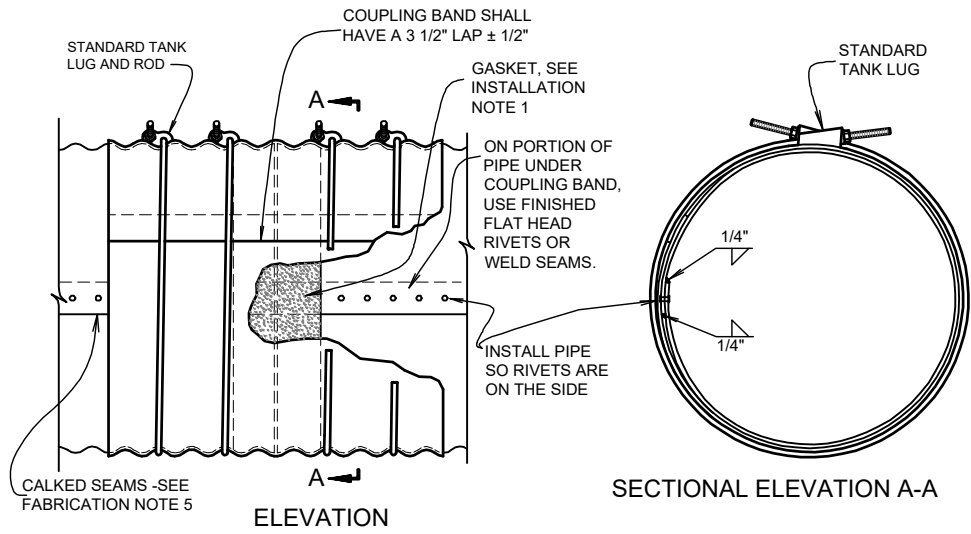


**4 CMP SLOTTED INTAKE RISER**  
SCALE: N.T.S.

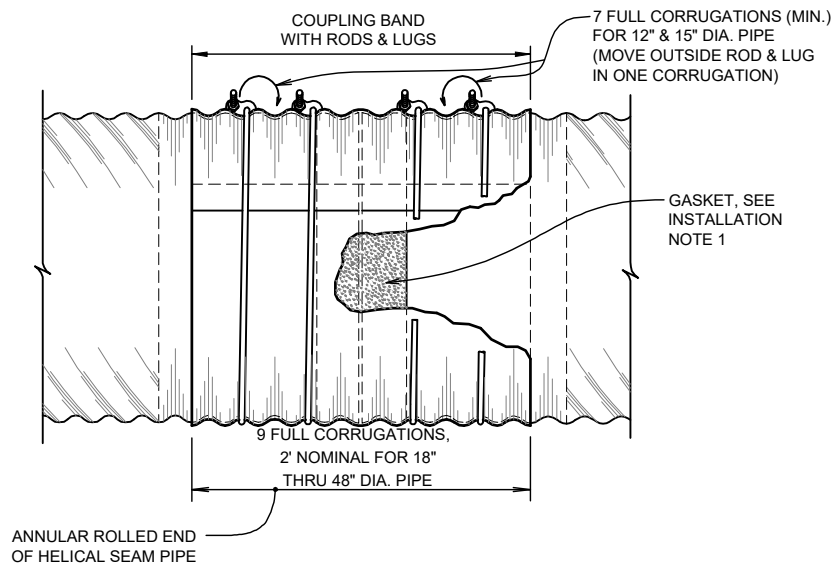
PROJECT NO.	181939.00
DATE	1/9/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-ABC.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	
INITIALS	CDR
DATE	8/1/2022
70 PERCENT REVIEW	
INITIALS	JJS
DATE	03/24/2022
95 PERCENT REVIEW	
INITIALS	CDR
DATE	11/01/2022
REVISIONS	



P:\Engineering\181939.00 - IOWA Wright County AWWA CDR\Drawings\Drawings\181939.00-ABC.dwg on 10/20/24 3:43 PM



**A**  
D1.5 **WATERTIGHT COUPLING BAND FOR ANNULAR PIPE**  
SCALE: N.T.S



**B**  
D1.5 **WATERTIGHT COUPLING BAND FOR HELICAL PIPE**  
SCALE: N.T.S

#### FABRICATION NOTES:

- 1) WHEN SEVERAL DIFFERENT COATINGS OR CORRUGATIONS ARE CHECKED IN THE COLUMN BOXES, EACH TYPE IS ACCEPTABLE, BUT ONLY ONE TYPE SHALL BE USED IN EACH INSTALLATION.
- 2) COUPLING BANDS PER DETAIL "A" SHALL HAVE THE SAME CORRUGATION REQUIREMENT AND THE SAME COATING AS THE DESIGNATED PIPE.
- 3) ALL WELDS AND ALL HEAT AFFECTED AREAS ON COATED STEEL SHALL BE THOROUGHLY CLEANED AND TREATED IN ACCORDANCE WITH ASTM'S.
- 4) FOR PIPE LARGER THAN 15" DIAMETER, THE ROD SHALL BE 1/2" DIAMETER. DIAMETER HOLES IN THE LUGS SHALL BE 1/8" LARGER THAN THE DIAMETER OF THE ROD USED.
- 5) DURING FABRICATION, WHEN ASPHALT COATING IS NOT USED, RIVETED SEAMS SHALL BE CAULKED WITH AS ASPHALT OR TAR BASED MATERIAL MEETING ASTM A849 TO PROVIDE A WATERTIGHT SEAM. ALL CIRCUMFERENTIAL AND LONGITUDINAL SEAMS SHALL BE CAULKED BEFORE RIVETING. THIS SHALL BE ACCOMPLISHED BY APPLYING A UNIFORM BEAD OF THE ASPHALT OR TAR BASED COMPOUND TO THE INNER LAP SURFACE BEFORE RIVETING SUCH THAT WHEN THE RIVETS ARE IN PLACE ALL VOIDS ARE FILLED.
- 6) CLOSE RIVETED PIPE SHALL BE FABRICATED SO THAT THE RIVET SPACING IN THE CIRCUMFERENTIAL SEAMS SHALL NOT EXCEED 3 INCHES.

#### INSTALLATION NOTES:

- 1) THE SLEEVE TYPE NEOPRENE GASKET SIZE SHALL BE 3/8" THICK WITH A MINIMUM WIDTH OF 7" CENTERED ON THE PIPE JOINT AND FASTENED AT ENDS TO FORM A FULL CIRCLE. IN LIEU OF A NEOPRENE GASKET, ASPHALT OR TAR BASED MASTIC MAY BE USED FOR DETAIL "A" AND "B". (SEE NOTE 5)
- 2) IN CONNECTING THE PIPE SECTIONS, THE COUPLING BANDS WILL BE CENTERED ON THE PIPE JOINT AND ALIGNED FOR COMPLETE AND TIGHT NESTING OF CORRUGATIONS BETWEEN COUPLING BAND AND EACH PIPE SECTION. RODS AND LUGS ON COUPLING BANDS WILL BE INSTALLED ACCORDING TO THE DRAWINGS. THE NUTS ON THE RODS WILL BE TIGHTENED WITHOUT OVER STRESS AND WILL BE RETIGHTENED AT LEAST TWICE AFTER INITIAL INSTALLATION, AT INTERVALS OF APPROXIMATELY 1/2 HOUR. THE FINAL TENSION ON THE RODS SHALL BE DETERMINED BY THE ENGINEER. BACKFILLING AROUND THE PIPE, EXCEPT AT COUPLING BANDS, MAY PROCEED DURING THE INTERVALS REQUIRED FOR TIGHTENING BANDS.
- 3) BEFORE COUPLING BANDS ARE INSTALLED ON RIVETED PIPE, THE PIPE SECTIONS THAT ARE TO BE CONNECTED SHALL BE ROTATED SO RIVETS ON THE PIPE ARE ON THE SIDE OF THE PIPE (SEE DETAIL "A") AND THE INSIDE LAPS ARE POINTED DOWNSTREAM.
- 4) ON BITUMINOUS COATED PIPE, REMOVE EXCESS BITUMINOUS COATING FROM CORRUGATIONS WHERE BANDS AND PIPE JOIN.
- 5) THE ENDS OF THE TWO PIPE SECTIONS AND THE LAP SEAM WILL BE COATED WITH 1/4" OF ASPHALT OR TAR BASED MASTIC (ASTM A849, TROWEL GRADE) FOR DETAIL "A" COUPLING BANDS. THE MASTIC COATED AREAS SHOULD BE KEPT FREE OF ALL DIRT, GRAVEL, AND OTHER FOREIGN MATERIAL UNTIL BANDS ARE IN PLACE AND TIGHTENED. WHEN AIR TEMPERATURE IN 50°F OR LOWER, HEAT WILL BE APPLIED TO SOFTEN, BUT NOT BURN OR MELT, THE MASTIC.
- 6) FLANGE COUPLING BANDS SHALL BE ALIGNED WITH THE MATCHING SLOTS, AND NUTS ON THE BOLTS TIGHTENED SECURELY. NEOPRENE GASKET OR MASTIC SHALL BE USED BETWEEN FLANGES, AND NUTS WILL BE RETIGHTENED AFTER COMPLETE ASSEMBLY.

#### METAL PIPE REQUIREMENTS:

NOTE: THE FOLLOWING DESIGNATIONS FOR PIPE CLASSIFICATIONS, CORRUGATIONS AND COATINGS WHEN REFERRED TO ON THE DRAWINGS ARE IN ACCORDANCE WITH CURRENT ASTM'S:

A760	STANDARD SPECIFICATION FOR CORRUGATED STEEL PIPE, METALLIC-COATED FOR SEWERS AND DRAINS.
A761	STANDARD SPECIFICATION FOR CORRUGATED STEEL STRUCTURAL PLATE, ZINC-COATED, FOR FIELD BOLTED PIPE, PIPE ANCHORS, AND ARCHES.
A762	STANDARD SPECIFICATION FOR CORRUGATED STEEL PIPE, POLYMER PRECOATED FOR SEWERS AND DRAINS.
A849	STANDARD SPECIFICATION FOR POST APPLIED COATINGS, PAVINGS, AND LININGS FOR CORRUGATED STEEL SEWER AND DRAINAGE PIPE.
A885	STANDARD SPECIFICATION FOR STEEL SHEET, ZINC AND ARAMID FIBER COMPOSITE-COATED FOR CORRUGATED STEEL SEWER, CULVERT AND UNDERDRAIN PIPE.

#### PIPE CLASSIFICATION:

- ☒ TYPE I FULL CIRCULAR CROSS-SECTION
- ☐ TYPE II, THIS IS TYPE I PIPE WHICH HAS BEEN REFORMED INTO A PIPE ARCH HAVING APPROXIMATELY A FLAT BOTTOM

#### CORRUGATION REQUIREMENTS FOR TYPE I AND II PIPE:

NOMINAL SIZE (INCH):

- ☐ 1 1/2 x 1/4 (AVAILABLE ONLY IN HELICALLY CORRUGATED PIPE)
- ☒ 2 2/3 x 1/2
- ☐ 3 x 1

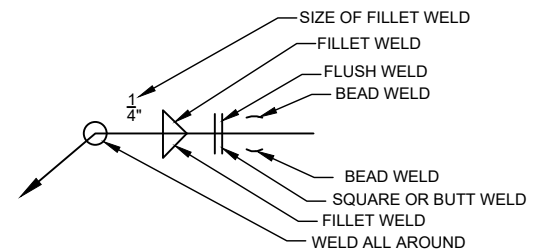
#### COATINGS - SEE FABRICATION NOTE No.1:

- ☐ ALUMINUM COATED STEEL - SEE FABRICATION NOTE NO. 5
- ☒ ZINC COATED STEEL - SEE FABRICATION NOTE NO. 5
- ☐ POLYMER PRECOATED - SEE FABRICATION NOTE NO. 5
- ☐ ARAMID FIBER COMPOSITE, BITUMINOUS COATED
- ☐ FULLY BITUMINOUS COATED

#### CORRUGATION TYPES - SEE FABRICATION NOTE No.1:

- ☒ ANNULAR, CLOSE RIVETED
- ☒ HELICAL

COUPLING BAND REQUIREMENTS							
GAGE	BAND TYPE AND NUMBER OF RODS REQUIRED			NUMBER BANDS REQUIRED	SEE DETAIL		
14	<input checked="" type="checkbox"/>	2 FT. WITH 4 RODS FOR 36" DIA. PIPE		AS REQUIRED	<input checked="" type="checkbox"/>	A	<input checked="" type="checkbox"/> B
-		4 FT. WITH 6 RODS FOR 54" DIA. PIPE		-		A	B



NOTE:  
WELD SYMBOL ABOVE LINE INDICATES WELD IS ON OPPOSITE SIDE OF JOINT TO WHICH ARROWS POINTS.  
WELD SYMBOL BELOW LINE INDICATES WELD IS ON SIDE OF JOINT TO WHICH ARROW POINTS.

**1**  
D1.5 **WELD SYMBOLS**  
SCALE: N.T.S

PROJECT NO.	181939.00
DATE	1/9/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-ABC.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	CDR
INITIALS	8/1/2022
70 PERCENT REVIEW	JJS
INITIALS	03/24/2022
95 PERCENT REVIEW	CDR
INITIALS	11/01/2022
REVISIONS	

P:\Engineering\181939.00 - IOWA Wright County ADW\Drawings\Drawings\181939.00-ABC.dwg on 11/02/22 2:28 PM

GENERAL NOTES

1	THE MOST RECENT EDITIONS OF THE IOWA NRCS CONSTRUCTION SPECIFICATIONS SHALL APPLY TO ALL WORK PERFORMED ON THIS PROJECT UNLESS OTHERWISE NOTED.
2	WHEN REFERENCED, REFER TO THE MOST RECENT EDITION OF SUDAS STANDARD SPECIFICATIONS AND IOWA DOT MATERIALS I.M.'S. FOR SUPPLEMENTAL DETAILS AND STANDARDS.
3	ACCESS AND STAGING AREAS SHALL BE COORDINATED WITH THE LANDOWNER PRIOR TO MOBILIZATION.
4	WORK LIMITS SHALL BE CONFINED TO THE EASEMENT AREAS, WITHIN THE ROAD RIGHT-OF-WAY OF 190TH ST & OBRIEN AVE, WITHIN 50FT EACH SIDE OF ANY TILE INSTALLATION, OR AS OTHERWISE IDENTIFIED ON THE PLANS.
5	THERE ARE KNOWN UTILITIES IN THE WORK AREA. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION EFFORTS WITH UTILITY WORK TO BE DONE AS PART OF THE PROJECT.
6	EXISTING ROADWAY SIGNAGE TO BE REMOVED & SALVAGED BY WRIGHT CO. SECONDARY ROADS.
7	DEWATERING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR MAINTAINING REASONABLY DRY WORKING CONDITIONS. ANY PUMPING SHALL BE CONSIDERED INCIDENTAL TO THE WORK.
8	AT LEAST ONE MEANS OF ACCESS SHALL BE MAINTAINED TO PRIVATE RESIDENCES DURING THE DURATION OF THE WORK PERIOD.
9	TRAFFIC CONTROL SIGNAGE SHALL BE IN CONFORMANCE WITH IDOT SDR TC-252.
10	A PHASE 1A ARCHAEOLOGICAL REPORT WAS COMPLETED BY THE UNIVERSITY OF IOWA - OFFICE OF THE STATE ARCHAEOLOGIST DATED JANUARY 6, 2022. NO SITES WERE LOCATED WITHIN THE WORK AREA. HOWEVER, TWO SMALL AREAS ON THE NORTH SIDE OF THE FAR WEST PORTION OF THE SITE HAD TALL GRASS AND POOR VISIBILITY. INTENSIVE PHASE I AUGER TESTING WAS RECOMMENDED FOR THESE AREAS. SINCE NO WORK IS PLANNED CLOSE TO THIS AREA, THE PHASE I INVESTIGATION WAS NOT COMPLETED. DO NOT DISTURB THESE AREAS.
11	OVER HEAD POWER LINES ARE PRESENT IN THE WORK AREA THAT ARE OWNED BY PRAIRIE ENERGY COOP. ALL WORK COMPLETED IN THE RIGHT-OF-WAY OF 190TH STREET SHALL BE COORDINATED WITH THEM. CONTRACTOR SHALL INCLUDE ALL COSTS FOR COORDINATION, AS WELL AS THE LABOR AND MATERIAL FOR RELOCATION OF ELECTRICAL SERVICE IN THE 'ELECTRICAL SERVICE RELOCATION' BID ITEM.

EROSION & SEDIMENT CONTROL NOTES

12	ELM LAKE IS A DESIGNATED WETLAND. CONTRACTOR SHALL MAKE DILIGENT EFFORT TO CONTROL SEDIMENT AND POLLUTION FROM ENTERING ELM LAKE FROM ALL CONSTRUCTION RELATED ACTIVITIES.
13	FINAL SEEDING AREA TO BE NEGOTIATED BY OWNER.
14	REFER TO IOWA DOT SRP EC-204 FOR STRAW WATTLE DETAIL.

EARTHWORK & ROADWAY NOTES

15	AREAS SUBJECT TO EXCAVATION SHALL BE STRIPPED OF 9" OF TOPSOIL OR AS OTHERWISE DIRECTED BY THE ENGINEER. AREAS SUBJECT TO FILL OUTSIDE OF THE ROAD RIGHT-OF-WAY SHALL BE STRIPPED OF 12" OF TOPSOIL OR AS OTHERWISE DIRECTED BY THE ENGINEER. TOPSOIL SHALL BE STOCKPILED AND RESPREAD AT MINIMUM DEPTH OF 6".
16	ROADWAY AREAS SHALL BE STRIPPED OF ROCK SURFACING, VEGETATION, AND TOPSOIL AND SCARIFIED TO A DEPTH A 6" BEFORE FILL IS PLACED.
17	AREAS OF OPEN TRENCH DRAIN TILE INSTALLATION SHALL BE STRIPPED OF 6" TOPSOIL AND STOCKPILED SEGREGATED FROM OTHER SOILS.
18	COMPACTION IS TO BE PERFORMED IN CONFORMANCE WITH NRCS SPECIFICATION IA-23. FILL PLACED INSIDE THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED PER METHOD 2. ALL OTHER AREAS SHALL BE COMPACTED PER METHOD 1. CONTRACTOR IS RESPONSIBLE FOR PROVIDING WATER TO ENSURE PROPER MOISTURE CONDITIONING.
19	FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 9". ENGINEERING MAY DIRECT THINNER LIFTS BASED ON AVAILABLE COMPACTION EQUIPMENT.

TILE AND CULVERT NOTES

20	THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING TILE LOCATION AND ELEVATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES OR NEWLY DISCOVERED TILE SHALL BE LEFT UNCOVERED AND REPORTED TO THE ENGINEER FOR REVIEW.
21	DUAL WALL PIPE SHALL BE NON-PERFORATED WITH WATER TIGHT GASKETS.
22	ANIMAL GUARDS SHALL BE AGRIDRAIN RG48 AND RG12 OR EQUIVALENT.
23	ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO DUAL WALL HDPE INSTALLATION. DUAL WALL STICKS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. EACH PIPE SECTION SHALL BE SECURELY PUSHED TOGETHER BEFORE THE PLACEMENT OF THE NEXT SUBSEQUENT SECTION.
24	COMPACTION EFFORTS FOR HAUNCH AND BACKFILL SHALL BE SO THE INSTALLED JOINT IS IN COMPRESSION.
25	CRUSH AND BURY TILE SHALL INVOLVE EXPOSING FULL LENGTH OF TILE AND RENDERING EXISTING TILE INOPERABLE BY CRUSHING, REMOVING, OR PLUGGING AT 50FT INTERVALS ALONG PIPES. TILE SHALL NOT BE BURIED IN ROADWAY OR STRUCTURAL FILL AREAS.
26	ABANDON TILE AND RISERS SHALL INCLUDE REMOVAL OF TILE INTAKE RISERS WITHIN THE NOTED EASEMENT AREA. TILES SHALL BE CAPPED WHERE INTAKE RISERS ARE REMOVED.
27	DISSIMILAR PIPE CONNECTIONS, LESS THAN 12" DIA., ARE TO BE MADE WITH A CONTINUOUS 6"x12" PORTLAND CEMENT CONCRETE COLLAR CENTERED ON THE JOINT. THE CONTRACTOR MAY MAKE THE JOINT WITH A PREFABRICATED FITTING WITH PRIOR APPROVAL FROM THE ENGINEER. COLLAR IS INCIDENTAL TO PIPE INSTALLATION.
28	DISSIMILAR PIPE CONNECTIONS GREATER THAN 24" DIA (D), ARE TO BE MADE WITH A CONTINUOUS 8"x½D" PORTLAND CEMENT CONCRETE COLLAR WITH 3x3 W0.5x0.5 WELDED WIRE FABRIC REINFORCEMENT. AN ALTERNATIVE CONNECTION MAY BE USED WITH PRIOR APPROVAL FROM THE ENGINEER. COLLAR IS INCIDENTAL TO PIPE INSTALLATION.
29	IF ABLE FOR DISSIMILAR PIPE CONNECTIONS, INSERT THE SMALLER DIAMETER PIPE INSIDE LARGER PIPE AS ALLOWED, BUT NOT MORE THAN 1 TIMES THE DIAMETER OF THE LARGEST PIPE.
30	RCP CULVERT AND APRON INSTALLATION AND JOINTS SHALL BE IN CONFROMANCE WITH IOWA DOT STANDARD ROAD PLAN DR 103, DR-121 TYPE 3, DR-201, AND DR-203
31	CMP APRONS AND APRON GUARD SHALL BE IN CONFORMANCE WITH SUDAS STANDARD SPEC. 4030.225
32	CONCRETE PIPE APRONS TO BE INSTALLED ON THE DOWNSTREAM END OF CULVERTS ONLY WHERE INDICATED ON THE PLANS. APRONS SHALL CONFORM TO IOWA DOT STANDARD ROAD PLAN DR-201, TYPE 2.

ITEMS OF WORK

No.	DESCRIPTION	UNIT	QUANTITY	SPECIFICATION	SHOP DRAWING	AS-BUILT QTY.
1.	Clearing & Grubbing	LS	1	IA-1		
2.	Strip, Stockpile, & Respread, Road Surfacing	TON	585	IA-1		
3.	Remove & Dispose Pipe Culverts	LF	122	IA-1		
4.	Fence Removal	LF	885	IA-1		
5.	Straw Wattles, 12" Dia.	LF	1,725	IA-5		
6.	Seeding and Mulching, Buffer Mix	ACRE	84.6	IA-6	X	
7.	Hydroseeding and Mulching, IDOT Type 3 Seed Mixture	ACRE	2.8	IA-6	X	
8.	Mobilization	LS	1	CS-8		
9.	Traffic Control	LS	1	CS-8		
10.	Tile Exploration	HR	2	IA-9		
11.	Crush and Bury Tile	LF	1,133	IA-9		
12.	Abandon Tile & Risers	LS	1	IA-9		
13.	Excavation, East ADW Auxiliary Spillway	CY	1,678	IA-21		
14.	Excavation, West ADW Borrow	CY	25,898	IA-21		
15.	Earthfill, East ADW Berms	CY	865	IA-23		
16.	Earthfill, East ADW Outlet	CY	150	IA-23		
17.	Earthfill, WEST ADW Roadway	CY	21,362	IA-23		
18.	Coarse Drainfill, Granular Bedding	TON	25.0	IA-24	X	
19.	Topsoil, Strip, Stockpile, Respread, 9"	CY	14,152	IA-26		
20.	SW-513 Intake Structure w/ SW-604 Type 6 Inlet	EA	1	IA-31	X	
21.	RCP Culvert, 30" Dia.	LF	240	IA-31	X	
22.	Concrete Pipe Apron, 30" Dia.	EA	3	IA-31	X	
23.	Perforated CPT, 6" Dia.	LF	700	IA-45	X	
24.	Dual Wall HDPE Pipe, 18" Dia.	LF	60	IA-45	X	
25.	Dual Wall HDPE Pipe, 30" Dia.	LF	1,624	IA-45	X	
26.	HPDE Surface Inlet, 6" Dia.	EA	2	IA-45	X	
27.	CMP Tile Extension, 20'x42" Dia.	EA	1	IA-51	X	
28.	CMP Apron w/ Apron Guard, 42" Dia.	EA	1	IA-51	X	
29.	CMP Pipe Culvert, 15" Dia.	LF	60	IA-51	X	
30.	CMP Perforated Riser w/ Bar Guard, 24" Dia.	EA	1	IA-51	X	
31.	CMP Water Control Structure w/Grate & Storage Structure	LS	1	IA-51	X	
32.	Revetment, IDOT Class E	TON	765.0	IA-61	X	
33.	Road Surfacing, IDOT Class A Crushed Stone	TON	560.0	IA-61	X	
34.	Geotextile Fabric	SY	712	IA-95	X	
35.	Electrical Service Relocation	LS	1	IA-01		



CONSTRUCTION PLANS FOR  
AG DRAIN WELL CLOSURE  
WRIGHT COUNTY, IOWA  
IOWA AGRICULTURAL MITIGATION, INC

GENERAL NOTES & ESTIMATED QUANTITIES

PROJECT NO.	181939.00
DATE	1/10/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-ABC.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	
INITIALS	CDR
DATE	8/1/2022
70 PERCENT REVIEW	
INITIALS	JJS
DATE	03/24/2022
95 PERCENT REVIEW	
INITIALS	CDR
DATE	11/01/2022
REVISIONS	

NOTE: PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE. (TAKEN FROM GIS). WORK SHOULD BE CONTAINED TO THE OWNERS PROPERTY. IF CROPS OR NATIVE GRASS PRESENT, WORKED SHALL BE CONTAINED TO THE LIMITS OF CONSTRUCTION (LOC).



CONSTRUCTION PLANS FOR  
AG DRAIN WELL CLOSURE  
WRIGHT COUNTY, IOWA  
IOWA AGRICULTURAL MITIGATION, INC

EXISTING SITE PLAN

PROJECT NO.	181939.00
DATE	1/9/2024
DRAWN BY	JAA
FILE NAME	S-181939.00-DGJRX.dwg
FIELD BOOK	115 MISC
FIELD CREW	DJJ
SURVEY FILE NO.	SV-181939.00-Topo
PLAN IN HAND	CDR
DATE	8/1/2022
70 PERCENT REVIEW	JJS
DATE	03/24/2022
95 PERCENT REVIEW	CDR
DATE	11/01/2022
REVISIONS	

- NOTE:
1. PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE. (TAKEN FROM COUNTY GIS 04/2020).
  2. REFER TO SUPPORTING DOCUMENT OF TILE INLETS ASSOCIATED WITH THE AG DRAIN WELLS.

