

BRIDGE REPLACEMENT - CCS
LETTING DATE: SEPTEMBER 15, 2026
PROJECT NO. BROS-C059(76)--5F-59
LUCAS COUNTY

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEET 8.

SECTION 404 PERMIT AND CONDITIONS

281-1
MODIFIED

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 14. NATIONWIDE PERMIT 14 CONDITIONS CAN BE FOUND AT <http://www.mvr.usace.army.mil/Missions/Regulatory/Permits/>. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.

IOWA | DOT

PLANS OF PROPOSED IMPROVEMENT ON THE
FARM TO MARKET SYSTEM

LUCAS COUNTY

PROJECT NO. BROS-C059(76)--5F-59
BRIDGE REPLACEMENT - CCS
ON 480TH LANE, OVER BRANCH TO WHITE BREAST CREEK, S20 T72 R22

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

THIS PROJECT IS COVERED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF GENERAL PERMIT NO. 2 AND THE STORM WATER POLLUTION PREVENTION PLAN WHICH IS A PART OF THESE CONTRACT DOCUMENTS. REFER TO SECTION 2602 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

MILEAGE SUMMARY

STA. 10+85.00 TO STA. 14+65.00 = 380.00 LIN. FT. = 0.0720 MILES

2022, TRAFFIC COUNT = 90 V.P.D.

UTILITY CONTACTS				
COMPANY	UTILITY	CONTACT	PHONE #	EMAIL
ALLIANT ENERGY	ELECTRIC	FIELD ENGINEER	800-855-4268	LOCATE_IPL@ALLIANTENERGY.COM
WINDSTREAM COMMUNICATIONS	COMMUNICATIONS	LOCATE DESK	800-289-1901	LOCATE.DESK@WINDSTREAM.COM

PROJECT NO. BROS-C059(76)--5F-59
FHWA NO. 226480
COUNTY BR. NO. 222950

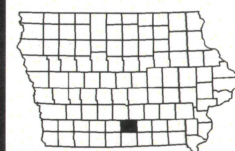
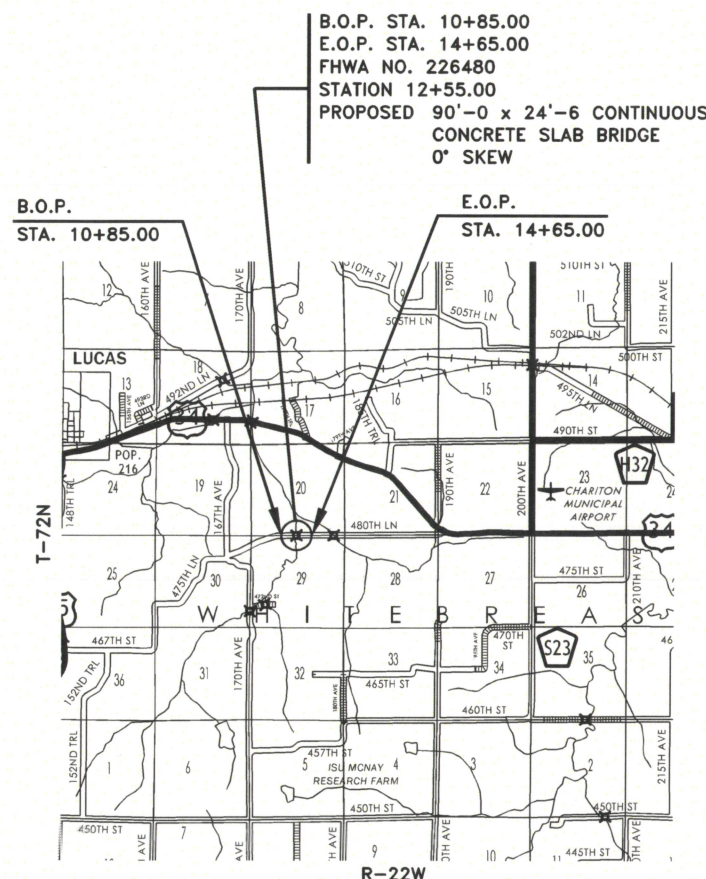
INDEX OF SHEETS

- TITLE SHEET
- QUANTITY SUMMARY
- SITUATION PLAN
- GENERAL NOTES
- POLLUTION PREVENTION PLAN
- SOUNDING DATA
- SUPERSTRUCTURE DETAILS
- TABULATIONS
- CROSS SECTIONS

IOWA DEPARTMENT OF TRANSPORTATION STANDARDS REQUIRED	
STANDARD	LATEST REVISION
J24-01-06	08-22
J24-06-06	08-22
J24-07-06	08-22
J24-20-06	08-22
J24-21-06	08-22
J24-23-06	08-22
J24-24-06	08-22
J24-34-06	08-22
J24-39-06	08-22
J24-40-06	08-22
J24-41-06	08-22
J24-43-06	08-22
P10L	06-25

THESE SHEETS MAY BE OBTAINED AT THE ELECTRONIC REFERENCE LIBRARY WEBSITE. <http://www.iowadot.gov/erl/index.html>

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
J24 STANDARDS	JAMES S. NELSON	STRUCTURAL DESIGN
P10L	JAMES S. NELSON	STRUCTURAL DESIGN
6	DAVID LOGEMANN	SOILS



PROJECT LOCATION
1 MI. 0 1 MI. 2 MI.



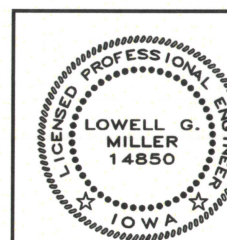
DRAWING APPROVAL

ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTOR, WHO SHALL STAMP, CERTIFY OR PROVIDE OTHER SUCH EVIDENCE ON THE DRAWINGS THAT THEY HAVE RECEIVED CONTRACTOR APPROVAL. THE APPROVED DRAWINGS SHALL THEN BE SUBMITTED TO CALHOUN-BURNS AND ASSOCIATES, FOR REVIEW AND APPROVAL.

ADDRESS : 6775 VISTA DRIVE
WEST DES MOINES, IOWA 50266
TELEPHONE : (515) 224-4344
FAX : (515) 224-1385

SHOP DRAWINGS SHALL BE INDEPENDENT DRAWINGS WITH ADEQUATE DIMENSIONING FOR FABRICATION OF INDIVIDUAL PIECES OF EACH COMPONENT. PHOTOCOPIES OF PLAN DRAWINGS AND NON-CONTRACTOR APPROVED PLANS WILL BE REJECTED.

THESE DRAWINGS SHALL NOT BE SENT TO IOWA D.O.T. BRIDGES AND STRUCTURES BUREAU.



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.
DATE: 6-10-2026
LOWELL G. MILLER, P.E.
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026.
PAGES OR SHEETS COVERED BY THIS SEAL:
1-5 and 7-12 of 12

APPROVED
Lucas W. Foltz
LUCAS COUNTY ENGINEER
DATE 6/15/26

Cathy Reece
Lan Davis
Lumin Smith
BOARD OF SUPERVISORS
DATE 6/15/26

TOTAL ESTIMATED QUANTITIES: 90'-0 x 24'-6 C.C.S. BRIDGE							
REF. NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPER	TOTAL
1	2101-0850001	CLEARING AND GRUBBING	ACRE	-	-	-	0.4
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	-	-	-	2,029
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	-	-	-	567
4	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	-	-	-	600
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	-	-	-	840
6	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	-	-	-	50
7	2312-8260081	GRANULAR SURFACING ON ROAD, CLASS D CRUSHED STONE	TON	-	-	-	50
8	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	-	-	-	1
9	2402-2720000	EXCAVATION, CLASS 20	CY	130	-	-	130
10	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	18.2	-	144.8	163.0
11	2404-7775000	REINFORCING STEEL	LB	2,614	-	40,631	43,245
12	2414-6424124	CONCRETE OPEN RAILING, TL-4	LF	-	-	202.0	202.0
13	2501-0201042	PILES, STEEL, HP 10 X 42; 22 @ 65'	LF	520	910	-	1,430
14	2501-5478042	CONCRETE ENCASEMENT OF STEEL H PILES, HP 10 X 42 (P10L TYPE 3); 14 @ 20'	LF	-	280	-	280
15	2505-4008300	STEEL BEAM GUARDRAIL	LF	-	-	-	50
16	2505-4008420	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-221	EACH	-	-	-	4
17	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	-	-	-	4
18	2505-4021722	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-225	EACH	-	-	-	4
19	2507-6800061	REVTMENT, CLASS E	TON	-	-	-	825
20	2526-8285010	CONSTRUCTION SURVEY, MONUMENT PRESERVATION	LS	-	-	-	1
21	2526-8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY	LS	-	-	-	1
22	2526-8285030	CONSTRUCTION SURVEY, RIGHT OF WAY	LS	-	-	-	1
23	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	-	-	-	1
24	2528-2518000	SAFETY CLOSURE	EACH	-	-	-	2
25	2528-8445110	TRAFFIC CONTROL	LS	-	-	-	1
26	2533-4980005	MOBILIZATION	LS	-	-	-	1
27	2601-2634100	MULCHING	ACRE	-	-	-	2.2
28	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	-	-	-	1.1
29	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	-	-	-	1.1
30	2602-0000020	SILT FENCE	LF	-	-	-	655
31	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	-	-	-	151
32	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	-	-	-	806
33	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	-	-	-	380
34	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	-	-	-	1
35	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	-	-	-	1

REF. NO. ESTIMATE REFERENCE INFORMATION

1. SEE SITUATION PLAN, SHEET 3, FOR LIMITS.
2. SEE TABULATION CBA-101 ON SHEET 8 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
TYPE "A" COMPACTION WILL BE REQUIRED. QUANTITY DOES NOT COMPENSATE FOR SHRINKAGE.
AFTER ALL AVAILABLE ON SITE MATERIAL HAS BEEN DEPLETED, THE CONTRACTOR SHALL FURNISH ALL REMAINING MATERIAL REQUIRED.
THE CONTRACTOR SHALL FURNISH HIS OWN BORROW MATERIAL FOR "EMBANKMENT-IN-PLACE". THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH PROVISIONS OF IOWA LAW AS IT APPLIES TO REMOVAL AND REPLACEMENT OF TOPSOIL ON BORROW AREAS.
3. SEE TABULATION AND CBA-101 ON SHEET 8 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
TYPE "A" COMPACTION WILL BE REQUIRED
4. SEE TABULATION CBA-101 ON SHEET 8 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
INCLUDES COSTS TO CLEAR THE CHANNEL TO THE SHAPE, DEPTH, AND EXTENT SHOWN IN THE "LONGITUDINAL SECTION ALONG CENTERLINE OF ROADWAY" AND THE LIMITS SHOWN ON THE SITUATION PLAN, SHEET 3.
INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS.
5. IN ORDER TO MEET NPDES PERMIT REQUIREMENTS TOPSOIL STRIP, SALVAGE AND SPREAD SHALL BE REQUIRED ON THIS PROJECT. QUANTITY PERTAINS TO WORK WITHIN THE PROJECT LIMITS. SIX INCHES OF TOPSOIL SHALL BE STRIPPED FROM WITHIN THE PROJECT LIMITS AND SPREAD UNIFORMLY (6" TARGET WITH 4" MIN. DEPTH) OVER ALL AREAS THAT ARE NOT COVERED BY PAVEMENT OR GRANULAR MATERIAL. AREAS SHALL BE UNDERCUT PRIOR TO PLACING TOPSOIL. CROSS-SECTIONS SHOW FINISHED GRADELINE.
6. – 7. SURFACING TO BE FURNISHED AND PLACED BY THE CONTRACTOR IN TWO PASSES (700 AND 700 TONS PER MILE). THE FIRST PASS SHALL BE CLASS "D" CRUSHED STONE. CLASS "D" CRUSHED STONE SHALL MEET THE REQUIREMENTS OF CLASS "A" CRUSHED STONE, SEE SPECIFICATIONS 4120.04, EXCEPT THE GRADATION SHALL BE AS FOLLOWS:
100% PASSING 1 ¼" SIEVE
80-90% PASSING ¾" SIEVE
20-75% PASSING #4 SIEVE
10-30% PASSING #8 SIEVE
THE SECOND PASS SHALL BE 700 TONS/MILE OF CLASS "A" CRUSHED STONE.

8. THE EXISTING BRIDGE AT STATION 12+60 IS A 97' x 20' STEEL I-BEAM BRIDGE WITH HIGH TIMBER ABUTMENTS, TIMBER TRESTLE PIERS AND A TIMBER DECK BUILT IN 1958.
AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. IF ADDITIONAL MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPED IMMEDIATELY AND THE ENGINEER NOTIFIED.
THE LUMP SUM BID FOR "REMOVAL OF EXISTING BRIDGE" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE. THE STEEL I-BEAMS AND TIMBER DECKING SHALL REMAIN THE PROPERTY OF THE COUNTY AND THE CONTRACTOR SHALL CAREFULLY REMOVE AND NEATLY STACK THESE ITEMS WITHIN THE RIGHT-OF -WAY, SEE TABULATION 110-13 ON SHEET 8. ANY TIMBER PLANKING THAT IS NOT SALVAGEABLE SHALL BE DISPOSED OF BY THE CONTRACTOR. ALL REMAINING SALVAGEABLE MATERIAL AND UNSALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. THE EXISTING STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 1 FOOT BELOW FINISHED GROUNDLINE AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION. EAST ABUTMENT SHALL BE REMOVED TO A MINIMUM OF 5 FEET BELOW FINISHED ROAD SURFACE.
SEE HAZARDOUS MATERIAL NOTES ON SHEET 4 FOR PAINT SCRAPE SAMPLE RESULTS.
9. QUANTITY IS BASED ON THE ASSUMPTION THAT CHANNEL EXCAVATION AND NECESSARY BERM CONSTRUCTION HAVE BEEN COMPLETED.
INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS.
10. INCLUDES COST OF TAR PAPER.
THE SUBDRAIN SHOWN ON THE WING ARMORING DETAILS IN THE J STANDARDS SHALL BE OMITTED.
THE MACADAM STONE SHOWN ON THE WING ARMORING DETAILS IN THE J STANDARDS SHALL EXTEND ACROSS THE BERM AS SHOWN IN DETAIL 'B' ON THE SITUATION PLAN, SHEET 3. THE COST OF MACADAM STONE ON THE BERMS AND FOR WING ARMORING SHALL BE INCIDENTAL TO STRUCTURAL CONCRETE.
NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
CERTIFIED PLANT INSPECTION IS REQUIRED.
ARTICLE 2428 REGARDING BRIDGE DECK SMOOTHNESS DOES NOT APPLY TO THIS PROJECT.
11. ALL REINFORCING SHALL BE GRADE 60.
12. CERTIFIED PLANT INSPECTION IS REQUIRED.
ALL STRUCTURAL CONCRETE FOR THE RAIL IS TO BE CLASS C; SUBSTITUTION OF CLASS D CONCRETE IS NOT ALLOWED.
NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
13. SEE PILE NOTES ON SHEET 4.
PILE POINTS SHALL NOT BE USED ON THIS PROJECT.
14. CERTIFIED PLANT INSPECTION IS REQUIRED.
NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
CAP STEEL IS REQUIRED.
15. – 18. SEE TABULATIONS 108-8A AND 107-23 ON SHEET 8.
19. REVETMENT IS TO BE PLACED AT A THICKNESS OF 1'-6. SEE SITUATION PLAN, SHEET 3, FOR LIMITS.
20. – 23. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTAND THE PLACEMENT AND INTENT OF THE STAKES.
SEE TABULATION CBA-300 ON SHEET 8 FOR FIELD TIES TO THE SITE SURVEY.
SURVEY BASIS OF BEARINGS: IOWA REGIONAL COORDINATE SYSTEM, ZONE 12.
24. SEE TABULATION 108-13A ON SHEET 9.
25. SEE TRAFFIC CONTROL PLAN ON SHEET 8.
27. – 29. THE CONTRACTOR IS TO RESHAPE, FERTILIZE, SEED AND MULCH ANY AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION. THIS SHALL BE INCLUDED IN THE PRICES BID FOR "MULCHING" AND "SEEDING AND FERTILIZING (RURAL)". SEE POLLUTION PREVENTION PLAN, SHEET 5 FOR STABILIZING CROP REQUIREMENT.
30. – 35. SEE POLLUTION PREVENTION PLAN, SHEET 5, AND TABULATIONS 100-17, 100-18 AND 100-19 ON SHEET 9.

90'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

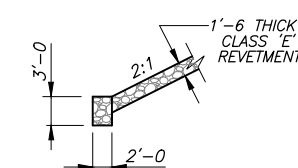
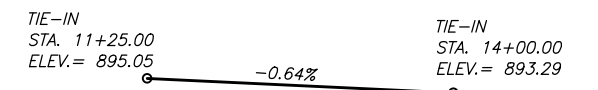
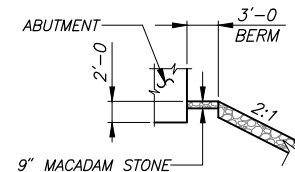
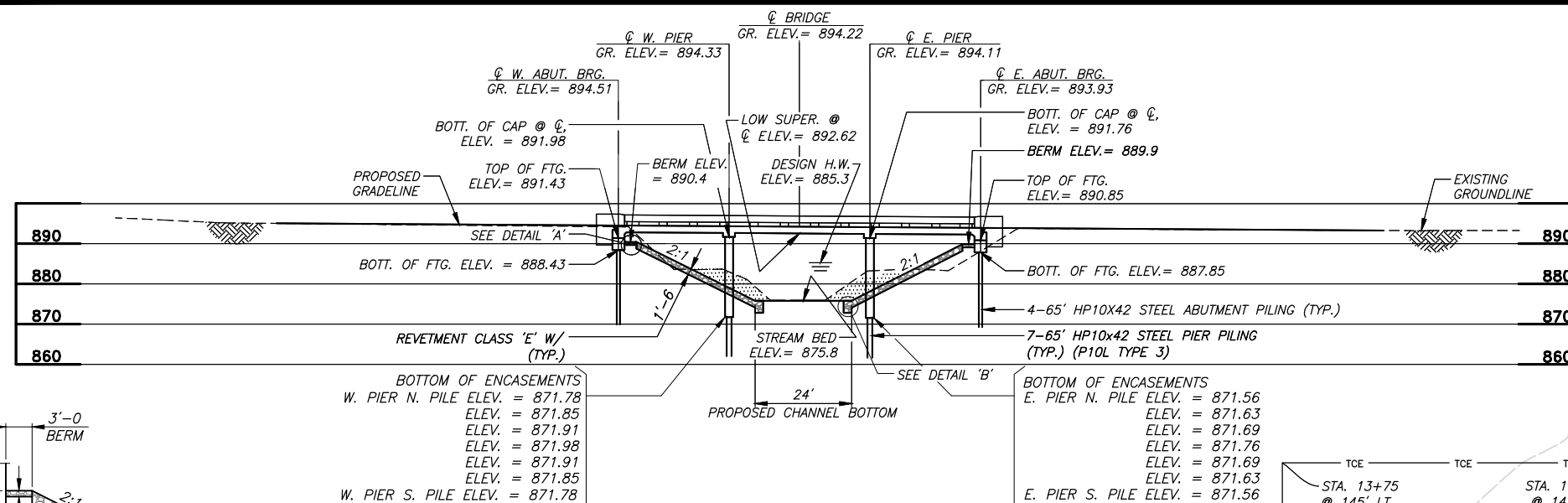
INTEGRAL ABUTMENTS
27'-6 END SPANS

P10L PIERS
35'-0 INTERIOR SPAN

QUANTITY SUMMARY

STATION 12+55.00
LUCAS COUNTY,

0' SKEW
IOWA

**LOCATION**

LUCAS COUNTY
T-72N, R-22W
SECTION 29
WHITEBREAST TOWNSHIP
OVER BRANCH OF WHITEBREAST CREEK

HYDRAULIC DATA

DRAINAGE AREA = 5.7 SQ. MI.
DESIGN DISCHARGE = 2,100 C.F.S.
DESIGN HIGH WATER ELEV. = 885.3
MANNING SLOPE = 0.00310 FT./FT.
BRIDGE WATERWAY AREA = 386 SQ. FT.
DESIGN VELOCITY = 5.4 F.P.S.
Q25 = 2,100 C.F.S. STAGE ELEV. = 885.3 (DESIGN)
Q50 = 2,600 C.F.S. STAGE ELEV. = 885.3
Q100 = 3,100 C.F.S. STAGE ELEV. = 885.3
Q200 = 3,400 C.F.S. STAGE ELEV. = 885.3
Q500 = 4,200 C.F.S. STAGE ELEV. = 885.4
EXT. H.W. ELEV. = UNKNOWN
ANTICIPATED Q50 SCOUR ELEVATION = 867.5
ANTICIPATED Q100 SCOUR ELEVATION = 866.4

**90'-0" x 24'-6" CONTINUOUS CONCRETE
SLAB BRIDGE**

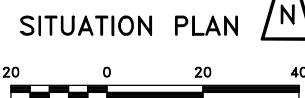
INTEGRAL ABUTMENTS
27'-6" END SPANS

P10L PIERS
35'-0" INTERIOR SPAN

SITUATION PLAN

STATION 12+55.00
LUCAS COUNTY,

0° SKEW
IOWA



*DENOTES LIMITS OF CLASS 10 (CHANNEL) EXCAVATION.
**DENOTES LIMITS OF CLASS 'E' REVETMENT.

SPECIFICATIONS

DESIGN: AASHTO LRFD 3rd EDITION, SERIES OF 2004, WITH INTERIM 2005.
CONSTRUCTION: THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, PLUS GENERAL SUPPLEMENTAL SPECIFICATIONS; AND APPLICABLE SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS, SHALL APPLY TO THE CONSTRUCTION ON THIS PROJECT.

DESIGN STRESSES

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 3rd EDITION, SERIES 2004, WITH INTERIM 2005.
REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.
CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, F'C=3,500 PSI.

GENERAL NOTES

THIS DESIGN IS FOR A 90'-0 x 24'-6 REINFORCED CONCRETE SLAB BRIDGE ON 480th LANE OVER A BRANCH OF WHITE BREAST CREEK IN LUCAS COUNTY, IOWA.
THIS BRIDGE IS DESIGNED FOR HL-93 LOADING PLUS 20 LBS. PER SQ. FT. OF ROADWAY FOR FUTURE WEARING SURFACE.
ACCESS SHALL BE MAINTAINED TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
THE PRIME CONTRACTOR SHALL EMPLOY CONTROLS TO REDUCE THE EROSIVENESS OF LAND ADJACENT TO SURFACE WATERS AND WETLANDS, INCLUDING ESTABLISHMENT AND MAINTENANCE OF EROSION CONTROL DURING AND AFTER CONSTRUCTION AND REVEGETATION OF ALL DISTURBED AREAS UPON PROJECT COMPLETION. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL EROSION CONTROL MEASURES.
STANDARD ROAD PLAN EW-401 IS LISTED IN TABULATION 105-4; HOWEVER, IT IS INCLUDED FOR INFORMATION PURPOSES ONLY SINCE IT IS AN OPTION. NO QUANTITIES ASSOCIATED WITH CONSTRUCTING EW-401 ARE INCLUDED IN ANY BID ITEMS.
STANDARD ROAD PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION WEBSITE: <http://www.iowadot.gov/erl/index.html>.

UTILITY NOTES

SEE SECTION 1107.15 OF THE STANDARD SPECIFICATION REGARDING UTILITY COORDINATION.

WASTE AND DISPOSAL NOTES

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT AREAS (INCLUDING HAUL ROADS) SELECTED FOR WASTE OR DISPOSAL NOT IMPACT 1) CULTURALLY SENSITIVE SITES OR GRAVES OR 2) WETLANDS OR "WATERS OF THE U.S.", INCLUDING STREAMS OR STREAM BANKS BELOW THE "ORDINARY HIGH WATER MARK", WITHOUT AN APPROVED U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE ENGINEER.

HAZARDOUS MATERIALS NOTES

AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED BY:
SCOTT BROWN OF IOWA ENVIRONMENTAL SERVICES
IA LICENSE NUMBER: 23-110451
DATE INSPECTED: 12/29/2023
PHONE: 515-279-8042

A SCRAPE SAMPLE OF THE EXISTING PAINT WAS TAKEN FROM AN AREA OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE AND OF THE LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WAS 144,000 PART PER MILLION (PPM). ANALYSIS OF TOTAL CHROMIUM ON THIS SAMPLE WAS 1,940 PPM. THESE ANALYSES SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE COUNTY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.
THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER THAT ANY PAINT REMOVED DURING REMOVAL IS CONTAINED, COLLECTED, AND DISPOSED OF IN ACCORDANCE WITH SECTION 2508 OF THE STANDARD SPECIFICATIONS.
BEFORE DELIVERY OF ANY SCRAP STEEL THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE RECEIVING FACILITY. THIS NOTICE SHALL AT A MINIMUM INCLUDE:
1. A NOTICE THAT THE SCRAP STEEL IS COATED WITH PAINT THAT HAS REGULATED MATERIALS AT LEVELS THAT COULD BE HAZARDOUS TO EMPLOYEES OR THE ENVIRONMENT.
2. A COPY OF THE SCRAPE SAMPLE PROVIDED IN THE CONTRACT DOCUMENTS.
3. A SIGNATURE BLOCK FOR THE RECEIVING FACILITY TO CONFIRM THEIR RECEIPT OF THIS INFORMATION.
A COPY OF THIS NOTICE, SIGNED BY THE RECEIVING FACILITY, SHALL BE RETURNED TO THE ENGINEER BEFORE ANY SCRAP STEEL IS REMOVED FROM THE PROJECT.
ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THE ABOVE REMOVAL AND DISPOSAL REQUIREMENTS WILL BE INCIDENTAL TO "REMOVAL OF EXISTING BRIDGE."

PILE NOTES

SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE ACCUMULATED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR APPEARANCE ON THE PLAN DOES NOT CONSTITUTE A GUARANTEE THAT CONDITIONS OTHER THAN THOSE INDICATED WILL NOT BE ENCOUNTERED.
THIS PROJECT USES THE LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODOLOGY FOR DETERMINING PILE CONTRACT LENGTH AND NOMINAL AXIAL BEARING RESISTANCE. A WEAP ANALYSIS AND BEARING GRAPH WILL BE PROVIDED BY THE ENGINEER THAT GIVES THE RELATIONSHIP BETWEEN REQUIRED NOMINAL AXIAL BEARING RESISTANCE AND BLOW COUNT.

ABUTMENT PILE

THE CONTRACT LENGTH OF 65 FEET FOR THE ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 97 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING.
THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE ABUTMENT PILES IS 71 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

PIER PILE

THE CONTRACT LENGTH OF 65 FEET FOR THE PIER PILES IS BASED ON A NON-COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 108 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55 FOR SOIL AND 0.70 FOR ROCK END BEARING.
THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A NON-COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF ENCASEMENT. DESIGN SCOUR (50-YEAR) WAS ASSUMED TO AFFECT THE UPPER 4 FEET OF EMBEDDED PILE LENGTH AND CAUSE 4 KIPS OF DRIVING RESISTANCE.
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE PIER PILES IS 83 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

CONCRETE AND REINFORCING STEEL NOTES

ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED. BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS IN EITHER DIRECTION SHALL BE USED TO SUPPORT ALL REINFORCING IN ACCORDANCE WITH THE SECTION 2404 OF THE STANDARD SPECIFICATIONS.
TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED AS NOTED ON STANDARD J24-06-06 AND J24-20-06.
CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
ALL EXPOSED CORNERS 90 DEGREES OR SHARPER ARE TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.
ALL REINFORCING BARS AND BARS NOTED AS DOWELS SUPPLIED FOR THIS STRUCTURE SHALL BE DEFORMED REINFORCEMENT UNLESS OTHERWISE NOTED OR SHOWN.
KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM THE VERTICAL.
CONCRETE PAVING BLOCKS ARE REQUIRED AND ARE TO REMAIN IN PLACE AFTER CONSTRUCTION.

CONTRACTOR'S WORK AREA

THE CONTRACTOR'S WORK AND MATERIAL STORAGE AREA SHALL BE DEFINED BY THE CONTRACTOR AND NOTED TO THE ENGINEER. THE CONTRACTOR SHALL SHAPE, FERTILIZE, AND SEED THIS CONTRACTOR'S AREA IN ORDER TO RETURN IT TO ITS ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR "SEEDING AND FERTILIZING (RURAL)" AND "MULCHING" BID ITEMS. AREAS OUTSIDE THE CONTRACTOR'S AREA DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION, AS DETERMINED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE AUTHORIZED FOR THIS WORK.

90'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

INTEGRAL ABUTMENTS
27'-6 END SPANS

P10L PIERS
35'-0 INTERIOR SPAN

GENERAL NOTES

STATION 12+55.00
LUCAS COUNTY,

0' SKEW
IOWA

POLLUTION PREVENTION PLAN

THIS PROJECT IS REGULATED BY THE REQUIREMENTS OF THE IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. 2 OR AN IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL STORM WATER PERMIT. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF THIS PERMIT AND THE POLLUTION PREVENTION PLAN (PPP).

THIS BASE PPP INCLUDES INFORMATION ON ROLES AND RESPONSIBILITIES, PROJECT SITE DESCRIPTION, CONTROLS, MAINTENANCE PROCEDURES, INSPECTION REQUIREMENTS, NON-STORM WATER CONTROLS, POTENTIAL SOURCES OF OFF RIGHT-OF-WAY POLLUTION, AND DEFINITIONS. THIS PLAN REFERENCES OTHER DOCUMENTS RATHER THAN REPEATING THE INFORMATION CONTAINED IN THE DOCUMENTS. A COPY OF THIS BASE POLLUTION PREVENTION PLAN, AMENDED AS NEEDED DURING CONSTRUCTION, WILL BE READILY AVAILABLE FOR REVIEW.

ALL CONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT CONTROLS POLLUTANTS, MINIMIZE EROSION, AND PREVENTS SEDIMENTS FROM ENTERING WATERS OF THE STATE AND LEAVING THE HIGHWAY RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND IMPLEMENTATION OF THE PPP FOR THEIR ENTIRE CONTRACT. THIS RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP.

I. ROLES AND RESPONSIBILITIES

A. DESIGNER:

1. PREPARES BASE PPP INCLUDED IN THE PROJECT PLAN.

B. OWNER

1. PREPARES NOTICE OF INTENT (NOI) SUBMITTED TO IOWA DNR.
2. IS SIGNATURE AUTHORITY ON THE BASE PPP.

C. CONTRACTOR:

1. SIGNS A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP. ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
2. DESIGNATES A WATER POLLUTION CONTROL MANAGER (WPCM), WHO HAS THE DUTIES AND RESPONSIBILITIES AS DEFINED IN SPECIFICATIONS SECTION 2602 OF THE STANDARD SPECIFICATIONS.
3. SUBMITS AN EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND ECIP UPDATES ACCORDING TO SPECIFICATIONS SECTION 2602 OF THE STANDARD SPECIFICATIONS.
4. INSTALLS AND MAINTAINS APPROPRIATE CONTROLS. THIS WORK MAY BE SUBCONTRACTED AS DOCUMENTED THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
5. SUPERVISES AND IMPLEMENTS GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.
6. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH INSPECTION STAFF. WHEN CONTRACTOR IS NOT MOBILIZED ON SITE, CONTRACTOR MAY DELEGATE THIS RESPONSIBILITY TO A TRAINED OR CERTIFIED SUBCONTRACTOR. CONTRACTING AUTHORITY ALSO MAY WAIVE JOINT INSPECTION REQUIREMENT DURING WINTER SHUTDOWN. IN BOTH CIRCUMSTANCES, WPCM (OR TRAINED OR CERTIFIED DELEGATE FROM THE CONTRACTOR) IS STILL RESPONSIBLE TO REVIEW AND SIGN INSPECTION REPORTS.
7. COMPLIES WITH TRAINING AND CERTIFICATION REQUIREMENTS OF SECTION 2602 OF THE STANDARD SPECIFICATIONS.
8. SUBMITS AMENDED PPP SITE MAP ACCORDING TO SECTION 2602 OF THE STANDARD SPECIFICATIONS.

D. SUBCONTRACTORS:

1. SIGN A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP IF RESPONSIBLE FOR SEDIMENT OR EROSION CONTROLS; INVOLVED IN LAND DISTURBING ACTIVITIES; OR PERFORMING WORK THAT IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP. SUBCONTRACTED WORK ITEMS ARE IDENTIFIED IN SUBCONTRACTOR REQUEST FORMS (FORM 830231). ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
2. IMPLEMENT GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.

E. RCE/PROJECT ENGINEER:

1. IS PROJECT STORM WATER MANAGER.
2. TAKES ACTIONS NECESSARY TO ENSURE COMPLIANCE WITH STORM WATER REQUIREMENTS INCLUDING, WHERE APPROPRIATE, ISSUING STOP WORK ORDERS, AND DIRECTING ADDITIONAL INSPECTIONS AT CONSTRUCTION PROJECT SITES THAT ARE EXPERIENCING PROBLEMS WITH ACHIEVING PERMIT COMPLIANCE.
3. ORDERS THE TAKING OF MEASURES TO CEASE, CORRECT, PREVENT, OR MINIMIZE THE CONSEQUENCES OF NON-COMPLIANCE WITH THE STORM WATER REQUIREMENTS OF THE APPLICABLE PERMIT.
4. SUPERVISES ALL WORK NECESSARY TO MEET STORM WATER REQUIREMENTS AT THE PROJECT, INCLUDING WORK PERFORMED BY CONTRACTORS AND SUBCONTRACTORS.
5. REQUIRES EMPLOYEES, CONTRACTORS, AND SUBCONTRACTORS TO TAKE APPROPRIATE RESPONSIVE ACTION TO COMPLY WITH STORM WATER REQUIREMENTS, INCLUDING REQUIRING ANY SUCH PERSON TO CEASE OR CORRECT A VIOLATION OF STORM WATER REQUIREMENTS, AND TO ORDER OR RECOMMEND SUCH OTHER ACTIONS AS NECESSARY TO MEET STORM WATER REQUIREMENTS.
6. IS FAMILIAR WITH THE PROJECT PPP AND STORM WATER SITE MAP.
7. IS THE POINT OF CONTACT FOR THE PROJECT FOR REGULATORY OFFICIALS, INSPECTOR, CONTRACTORS, AND SUBCONTRACTORS REGARDING STORM WATER REQUIREMENTS.
8. IS SIGNATURE AUTHORITY ON NOTICE OF DISCONTINUATION.
9. MAINTAINS AN UP-TO-DATE RECORD OF CONTRACTORS, SUBCONTRACTORS, AND SUBCONTRACTED WORK ITEMS THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
10. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.

F. INSPECTOR:

1. UPDATES PPP THROUGH FIELDBOOK ENTRIES AND STORM WATER SITE INSPECTION REPORTS IF THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE WHICH HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS FROM THE PROJECT.
2. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.
3. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH THE CONTRACTOR/SUBCONTRACTOR.
4. COMPLETES AN INSPECTION REPORT AFTER EACH INSPECTION.
5. IS SIGNATURE AUTHORITY ON STORM WATER INSPECTION REPORTS.

II. PROJECT SITE DESCRIPTION

- A. THIS POLLUTION PREVENTION PLAN (PPP) IS FOR THE CONSTRUCTION OF A 90'-0" X 24'-6" CONTINUOUS CONCRETE SLAB BRIDGE ON 480TH LANE OVER BRANCH OF WHITE BREAST CREEK IN LUCAS COUNTY, IOWA.
B. THIS PPP COVERS APPROXIMATELY 1.4 ACRES WITH AN ESTIMATED 1.4 ACRES BEING DISTURBED. THE PORTION OF THE PPP COVERED BY THIS CONTRACT HAS 1.4 ACRES DISTURBED.
C. THE PPP IS LOCATED IN AN AREA OF ONE SOIL ASSOCIATION(S) (GRUNDY - HAIG - ARISPE - GARA). THE ESTIMATED WEIGHTED AVERAGE RUNOFF COEFFICIENT NUMBER FOR THIS PPP AFTER COMPLETION WILL BE 0.32.
D. STORM WATER SITE MAP - MULTIPLE SOURCES OF INFORMATION COMPRISE THE BASE STORM WATER SITE MAP INCLUDING:
1. DRAINAGE PATTERNS - SITUATION PLAN.
2. PROPOSED SLOPES - CROSS SECTIONS.
3. AREAS OF SOIL DISTURBANCE - CONSTRUCTION LIMITS SHOWN ON SITUATION PLAN.
4. LOCATION OF STRUCTURAL CONTROLS - TABULATIONS.
5. LOCATIONS OF NON-STRUCTURAL CONTROLS - TABULATIONS.
6. LOCATIONS OF STABILIZATION PRACTICES - GENERALLY WITHIN CONSTRUCTION LIMITS SHOWN ON SITUATION PLAN.

7. SURFACE WATERS (INCLUDING WETLANDS) - PROJECT LOCATION MAP AND SITUATION PLAN
8. LOCATIONS WHERE STORM WATER IS DISCHARGED - SITUATION PLAN.
E. THE BASE STORM WATER SITE MAP IS AMENDED BY CONTRACT MODIFICATIONS AND PROGRESS PAYMENTS (FIELDBOOK ENTRIES) OF COMPLETED EROSION CONTROL WORK. ALSO, DUE TO PROJECT PHASING, EROSION AND SEDIMENT CONTROLS SHOWN ON PROJECT PLANS MAY NOT BE INSTALLED UNTIL NEEDED, BASED ON SITE CONDITIONS. FOR EXAMPLE, SILT FENCE DITCH CHECKS WILL TYPICALLY NOT BE INSTALLED UNTIL THE DITCH HAS BEEN INSTALLED. INSTALLED LOCATIONS WILL BE DOCUMENTED BY FIELDBOOK ENTRIES AND AMENDED PPP SITE MAP.
F. RUNOFF FROM THIS WORK WILL FLOW INTO BRANCH OF WHITE BREAST CREEK.

III. CONTROLS

- A. THE CONTRACTOR'S ECIP SPECIFIED IN ARTICLE 2602.03 OF THE STANDARD SPECIFICATIONS FOR ACCOMPLISHMENT OF STORM WATER CONTROLS SHOULD CLEARLY DESCRIBE THE INTENDED SEQUENCE OF MAJOR ACTIVITIES AND FOR EACH ACTIVITY DEFINE THE CONTROL MEASURE AND THE TIMING DURING THE CONSTRUCTION PROCESS THAT THE MEASURE WILL BE IMPLEMENTED.
B. PRESERVE VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.
C. SECTIONS 2601 AND 2602 OF THE STANDARD SPECIFICATIONS DEFINE REQUIREMENTS TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES. ACTUAL QUANTITIES USED AND INSTALLED LOCATIONS MAY VARY FROM THE BASE PPP AND AMENDMENT OF THE PLAN WILL BE DOCUMENTED VIA FIELDBOOK ENTRIES, AMENDED PPP SITE MAP, OR BY CONTRACT MODIFICATION. ADDITIONAL EROSION AND SEDIMENT CONTROL ITEMS MAY BE REQUIRED AS DETERMINED BY THE INSPECTOR AND/OR CONTRACTOR DURING STORM WATER SITE INSPECTIONS. IF THE WORK INVOLVED IS NOT APPLICABLE TO ANY CONTRACT ITEMS, THE WORK WILL BE PAID FOR ACCORDING TO ARTICLE 1109.03 PARAGRAPH B OF THE STANDARD SPECIFICATIONS.
1. EROSION AND SEDIMENT CONTROLS
a. STABILIZATION PRACTICES
1) SITE PLANS WILL ENSURE THAT EXISTING VEGETATION OR NATURAL BUFFERS ARE PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED.
2) INITIALIZE STABILIZATION OF DISTURBED AREAS IMMEDIATELY AFTER CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE:
a) PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR
b) TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
3) STAGED PERMANENT AND/OR TEMPORARY STABILIZING SEEDING AND MULCHING SHALL BE COMPLETED AS THE DISTURBED AREAS ARE COMPLETED. INCOMPLETE AREAS SHALL BE STABILIZED ACCORDING TO PARAGRAPH III, C, 1, a, 2, b ABOVE.
4) PERMANENT AND TEMPORARY STABILIZATION PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION LOCATED IN THE PLANS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION.
5) PRESERVATION OF EXISTING VEGETATION WITHIN RIGHT-OF-WAY OR EASEMENTS WILL ACT AS VEGETATIVE BUFFER STRIPS.
6) PRESERVATION OF TOPSOIL: BID ITEMS TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION LOCATED IN THE PLANS. ADDITIONAL INFORMATION MAY BE FOUND IN TABULATIONS OF THE PLANS OR IS REFERENCED IN STANDARD SECTION 2105 OF THE STANDARD SPECIFICATIONS.
b. STRUCTURAL PRACTICES
1) STRUCTURAL PRACTICES WILL BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS AND DETAIN OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. ADDITIONALLY, STRUCTURAL PRACTICES MAY INCLUDE: SILT BASINS THAT PROVIDE 3600 CUBIC FEET OF STORAGE PER ACRE DRAINED OR EQUIVALENT SEDIMENT CONTROLS, OUTLET STRUCTURES THAT WITHDRAW WATER FROM SURFACE WHEN DISCHARGING BASINS, AND CONTROLS TO DIRECT STORM WATER TO VEGETATED AREAS.
2) STRUCTURAL PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE DEVICES TO BE USED ON THIS PROJECT CAN BE FOUND IN THE PLANS OR ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION.
c. STORM WATER MANAGEMENT
1) MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THIS MAY INCLUDE VELOCITY DISSIPATION DEVICES AT DISCHARGE LOCATIONS AND ALONG LENGTH OF OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSION VELOCITY FLOW FROM STRUCTURE TO WATER COURSE. IF INCLUDED WITH THIS PROJECT, THESE ITEMS ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.
2. OTHER CONTROLS
a. CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND CONSTRUCTION MATERIAL WASTES SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. IN THE EVENT OF A CONFLICT WITH OTHER GOVERNMENTAL LAWS, RULES AND REGULATIONS, THE MORE RESTRICTIVE APPLICABLE LAWS, RULES OR REGULATIONS SHALL APPLY.
1) VEHICLE ENTRANCES AND EXITS - CONSTRUCT AND MAINTAIN ENTRANCES AND EXITS TO PREVENT TRACKING OF SEDIMENTS ONTO ROADWAYS.
2) MATERIAL DELIVERY, STORAGE AND USE - IMPLEMENT PRACTICES TO PREVENT DISCHARGE OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE.
3) STOCKPILE MANAGEMENT - INSTALL CONTROLS TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING.
4) WASTE DISPOSAL - DO NOT DISCHARGE ANY MATERIALS, INCLUDING BUILDING MATERIALS, INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
5) SPILL PREVENTION AND CONTROL - IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES TO CONTAIN AND CLEAN-UP SPILLS AND PREVENT MATERIAL DISCHARGES TO THE STORM DRAIN SYSTEM AND WATERS OF THE STATE.
6) CONCRETE RESIDUALS AND WASHOUT WASTES - WASTE SHALL NOT BE DISCHARGED TO A SURFACE WATER AND IS NOT ALLOWED TO ADVERSELY AFFECT A WATER OF THE STATE. DESIGNATE TEMPORARY CONCRETE WASHOUT FACILITIES FOR RINSING OUT CONCRETE TRUCKS. PROVIDE DIRECTIONS TO TRUCK DRIVERS WHERE DESIGNATED WASHOUT FACILITIES ARE LOCATED. DESIGNATED WASHOUT AREAS SHOULD BE LOCATED AT LEAST 50 FEET AWAY FROM STORM DRAINS, STREAMS OR OTHER WATER BODIES. CARE SHOULD BE TAKEN TO ENSURE THESE FACILITIES DO NOT OVERFLOW DURING STORM EVENTS.
7) CONCRETE GROOVING/GRINDING SLURRY - DO NOT DISCHARGE SLURRY TO A WATERBODY OR STORM DRAIN. SLURRY MAY BE APPLIED ON FORESLOPES OR REMOVED FROM THE PROJECT.
8) VEHICLE AND EQUIPMENT STORAGE AND MAINTENANCE AREAS - PERFORM ON SITE FUELING AND MAINTENANCE IN ACCORDANCE WITH ALL ENVIRONMENT LAWS SUCH AS PROPER STORAGE OF ONSITE FUELS AND PROPER DISPOSAL OF USED ENGINE OIL OR OTHER FLUIDS ON SITE. EMPLOY WASHING PRACTICES THAT PREVENT CONTAMINATION OF SURFACE AND GROUND WATER FROM WASH WATER. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
9) LITTER MANAGEMENT - ENSURE EMPLOYEES PROPERLY DISPOSE OF LITTER. MINIMIZE EXPOSURE OF TRASH IF EXPOSURE TO PRECIPITATION OR STORM WATER WOULD RESULT IN A DISCHARGE OF POLLUTANTS.

- 10) DEWATERING - PROPERLY TREAT WATER TO REMOVE SUSPENDED SEDIMENT BEFORE IT RE-ENTERS A WATERBODY OR DISCHARGES OFF-SITE. MEASURES ARE ALSO TO BE TAKEN TO PREVENT SCOUR EROSION AT DEWATERING DISCHARGE POINT.
3. APPROVED STATE OR LOCAL PLANS
DURING THE COURSE OF THIS CONSTRUCTION, IT IS POSSIBLE THAT SITUATIONS WILL ARISE WHERE UNKNOWN MATERIALS WILL BE ENCOUNTERED. WHEN SUCH SITUATIONS ARE ENCOUNTERED, THEY WILL BE HANDLED ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS IN EFFECT AT THE TIME.

IV. MAINTENANCE PROCEDURES

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN PROPER WORKING ORDER, INCLUDING CLEANING, REPAIRING, OR REPLACING THEM THROUGHOUT THE CONTRACT PERIOD. THIS SHALL BEGIN WHEN THE FEATURES HAVE LOST 50% OF THEIR CAPACITY.

V. INSPECTION REQUIREMENTS

- A. INSPECTIONS SHALL BE MADE JOINTLY BY THE CONTRACTOR AND THE CONTRACTING AUTHORITY AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. STORM WATER SITE INSPECTIONS WILL INCLUDE:
1. DATE OF THE INSPECTION.
2. SUMMARY OF THE SCOPE OF THE INSPECTION.
3. NAME AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION.
4. REVIEW OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN DISTURBED AREAS FOR THE EFFECTIVENESS IN PREVENTING IMPACTS TO RECEIVING WATERS.
5. MAJOR OBSERVATIONS RELATED TO THE IMPLEMENTATION OF THE PPP.
6. IDENTIFICATION OF CORRECTIVE ACTIONS REQUIRED TO MAINTAIN OR MODIFY EROSION AND SEDIMENT CONTROL MEASURES.
B. INCLUDE STORM WATER SITE INSPECTION REPORTS IN THE AMENDED PPP. INCORPORATE ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DETERMINED AS A RESULT OF THE INSPECTION. IMMEDIATELY BEGIN CORRECTIVE ACTIONS ON ALL DEFICIENCIES FOUND WITHIN 3 CALENDAR DAYS OF THE INSPECTION AND COMPLETE WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. IF IT IS DETERMINED THAT MAKING THE CORRECTIONS LESS THAN 72 HOURS AFTER THE INSPECTION IS IMPRACTICABLE, IT SHOULD BE DOCUMENTED WHY IT IS IMPRACTICABLE AND INDICATE AN ESTIMATED DATE BY WHICH THE CORRECTIONS WILL BE MADE.

VI. NON-STORM WATER DISCHARGES

THIS INCLUDES SUBSURFACE DRAINS (I.E. LONGITUDINAL AND STANDARD SUBDRAINS) AND SLOPE DRAINS. THE VELOCITY OF THE DISCHARGE FROM THESE FEATURES MAY BE CONTROLLED BY THE USE OF HEADWALLS OR BLOCKS, CLASS A STONE, EROSION STONE OR OTHER APPROPRIATE MATERIALS. THIS ALSO INCLUDES UNCONTAMINATED GROUNDWATER FROM DEWATERING OPERATIONS, WHICH WILL BE CONTROLLED AS DISCUSSED IN SECTION III OF THE PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

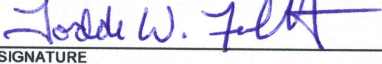
SILTS, SEDIMENT, AND OTHER FORMS OF POLLUTION MAY BE TRANSPORTED ONTO HIGHWAY RIGHT-OF-WAY (ROW) AS A RESULT OF A STORM EVENT. POTENTIAL SOURCES OF POLLUTION LOCATED OUTSIDE HIGHWAY ROW ARE BEYOND THE CONTROL OF THIS PPP. POLLUTION WITHIN HIGHWAY ROW WILL BE CONVEYED AND CONTROLLED PER THIS PPP.

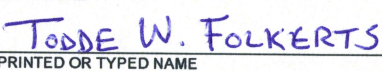
VIII. DEFINITIONS

- A. BASE PPP - INITIAL POLLUTION PREVENTION PLAN.
B. AMENDED PPP - BASE PPP AMENDED DURING CONSTRUCTION. MAY INCLUDE PLAN REVISIONS OR CONTRACT MODIFICATIONS FOR NEW ITEMS, STORM WATER SITE INSPECTION REPORTS, FIELDBOOK ENTRIES MADE BY THE INSPECTOR, AMENDED PPP SITE MAP BY THE CONTRACTOR, ECIP, NOI, CO-PERMITTEE CERTIFICATIONS, AND SUBCONTRACTOR REQUEST FORMS. ITEMS AMENDING THE PPP ARE STORED ELECTRONICALLY AND ARE READILY AVAILABLE UPON REQUEST.
C. FIELDBOOK ENTRIES - THIS CONTAINS THE INSPECTOR'S DAILY DIARY AND BID ITEM POSTINGS.
D. CONTROLS - METHODS, PRACTICES, OR MEASURES TO MINIMIZE OR PREVENT EROSION, CONTROL SEDIMENTATION, CONTROL STORM WATER, OR MINIMIZE CONTAMINANTS FROM OTHER TYPES OF WASTE OR MATERIALS. ALSO CALLED BEST MANAGEMENT PRACTICES (BMPs).
E. SIGNATURE AUTHORITY - REPRESENTATIVE AUTHORIZED TO SIGN VARIOUS STORM WATER DOCUMENTS.

CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.


SIGNATURE


PRINTED OR TYPED NAME

POLLUTION PREVENTION PLAN

LUCAS COUNTY,



CALHOUN-BURNS & ASSOCIATES, CONSULTING ENGINEERS
WEST DES MOINES, IOWA 50266 (515) 224-4344

JOB NO. 2023222

DESIGNED BY: DJD
DRAWN BY: LFF
CHECKED BY: LGM

LUCAS COUNTY

PROJECT NO. BROS-C059(76)--5F-59

SHEET 5 OF 12

BORING LOG NO. 2		STATION 12+05, 4'RT		CBA Job No.: 2023222		Project No.: 251103							
Project: 480th Lane Bridge over Branch of White Breast Creek Sec. 29, White Breast Twp., Lucas Co, IA				Client: Calhoun-Burns & Associates 1500 30th Street West Des Moines, IA 50266									
Surface Elevation: 894.5' Datum: CL Road Elev. at W Abut = 894.32'				Date Drilled: 1/29/2025 Drilling Depth, ft.: 70		Drilling Method: HSA Page: 1 of 1							
Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description *	Graphic Log	USCS	Water Level	Depth	Elevation ft.
0								Crushed Rock (1.5'±)				1.5	
888		1	ST		12.8	95	4000**	Brown-gray sandy lean clay, trace gravel, moist		CL		893	
		2	ST		15.7	96	4000**	FILL Dark brown after 11'					
12		3	ST		13.8	101	2740	Dark gray sandy lean clay, moist		CL		15.5	
876		4	ST		35.0	88	710	Moisture seepage near 18.5' COHESIVE ALLUVIUM (Soft Silty Clay)				879	
24		5	ST		26.2	94	2000**	Dark gray silty fine to medium sand, saturated		SM		24	
864								GRANULAR ALLUVIUM (Silty Sand)					
36								Dark gray sandy lean clay, trace gravel, very moist GLACIAL TILL (Firm Sandy Glacial Clay)		CL		45	
852								Dark gray shale, damp				54	
48								BEDROCK Gray after 63'				840.5	
840								End of Boring **Estimated using calibrated hand penetrometer				70	
828												824.5	
72													
816													
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.													
Water Level Observation Time: at completion hrs. days Depth to water: 20 ft. ft. ft.													
ALLENDER BUTZKE ENGINEERS, INC. Geotechnical - Environmental - Construction Q.C.													

BORING LOG NO. 3				STATION 12+36, 1'LT				CBA Job No.: 2023222				Project No.: 251103				
Project: 480th Lane Bridge over Branch of White Breast Creek Sec. 29, White Breast Twp., Lucas Co, IA								Client: Calhoun-Burns & Associates 1500 30th Street West Des Moines, IA 50266								
Surface Elevation: 894.4'				Date Drilled: 1/30/2025				Drilling Method: HSA								
Datum: CL Road Elev. at W Abut = 894.32'				Drilling Depth, ft.: 70.3				Page: 1 of 1								
Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*				Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.
0								Wooden Bridge Deck (3"±)							0.3	
888								Air							894.1	
12															11.3	
876		1	SSA	27	27.0			Rip Rap							883.1	
		2	SSA	2	36.7			Dark gray sandy lean clay, moist to very moist COHESIVE ALLUVIUM (Soft Silty Clay)					CL		17.5	876.9
24		3	SSA	3				Dark gray silty fine to medium sand, trace gravel, saturated					SM		24.5	869.9
864		4	SSA	3												
36		5	SSA	7												
852		6	SSA	4				GRANULAR ALLUVIUM (Silty Sand)								
48		7	SSA	4												
		8	SSA	11												
840		9	SSA	43	22.4	18.4		Dark gray shale, moist							55	839.4
		10	SSA	50/	35.1	2.5"		Coal seam near 59.5'								
828		11	SSA	50/	12.8	2.5"		BEDROCK								
		12	SSA	171	16.9										70.3	
72								End of Boring							824.1	
816																
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.																
Water Level Observation																
Time: at completion hrs. days																
Depth to water: 20 ft. ft. ft.																
ALLENDER BUTZKE ENGINEERS, INC.																
Geotechnical - Environmental - Construction Q.C.																

BORING LOG NO. <u>1</u>		STATION <u>13+01, 1'RT</u>		CBA Job No.: <u>2023222</u>		Project No.: <u>251103</u>	
Project: <u>480th Lane Bridge over</u> <u>Branch of White Breast Creek</u> <u>Sec. 29, White Breast Twp., Lucas Co, IA</u>				Client: <u>Calhoun-Burns & Associates</u> <u>1500 30th Street</u> <u>West Des Moines, IA 50266</u>			
Surface Elevation: <u>894.3'</u> Datum: <u>CL Road Elev. at W Abut = 894.32'</u>				Date Drilled: <u>1/29/2025</u> Drilling Depth, ft.: <u>71</u>		Drilling Method: <u>HSA</u> Page: <u>1</u> of <u>1</u>	

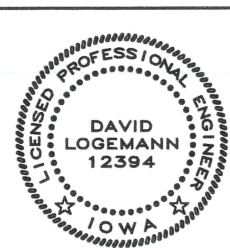
Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psi	Material Description*	Graphic Log	USCS	Water Level	Depth Elevation ft.
	0							Wooden Bridge Deck (3"±)				0.3
								Air				894
888		1	ST		20.2	98	3000**	Dark gray-brown sandy lean clay, moist to very moist		CL		7.7
	12	2	ST		27.1	89	2000**					886.6
876		3	ST		27.0	90	600	COHESIVE ALLUVIUM (Soft Silty Clay) Dark gray lean clay, very moist after 19.5' Moisture seepage near 20'				
	24	4	ST		25.7	97	590					
864		5	SSA	4				Dark gray-brown clayey fine sand, saturated GRANULAR ALLUVIUM (Silty Sand) Dark gray lean clay, very moist		SC		29.5
	36	6	SSA	3	28.8							864.8
		7	SSA	7	34.0			COHESIVE ALLUVIUM (Soft Silty Clay)				34.5
852		8	SSA	3	35.4							859.8
848		9	SSA	10				Dark gray silty fine to medium sand, saturated Mixed with coarse sand and trace gravel after 50.5' GRANULAR ALLUVIUM (Silty Sand)		SM		49.5
840		10	SSA	32	14.7							844.8
	60	11	SSA	63	21.2	18.4		Gray shale, moist Coal seam near 60.5' BEDROCK				55.5
		12	SSA	103	29.3	15.1						838.8
828		13	SSA	107	9.9							71
	72											823.3
816								End of Boring **Estimated using calibrated hand penetrometer				

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation Time: at completion ____ hrs. ____ days Depth to water: <u>29.5</u> ft. ____ ft. ____ ft.		ALLENDER BUTZKE ENGINEERS, INC. Geotechnical - Environmental - Construction Q.C.
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SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 3, FOR BORING LOCATIONS)



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.



DAVID LOGEMANN, P.E.

DATE: 6/5/25

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2025.

PAGES OR SHEETS COVERED BY THIS SEAL:
6 OF 12

90'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

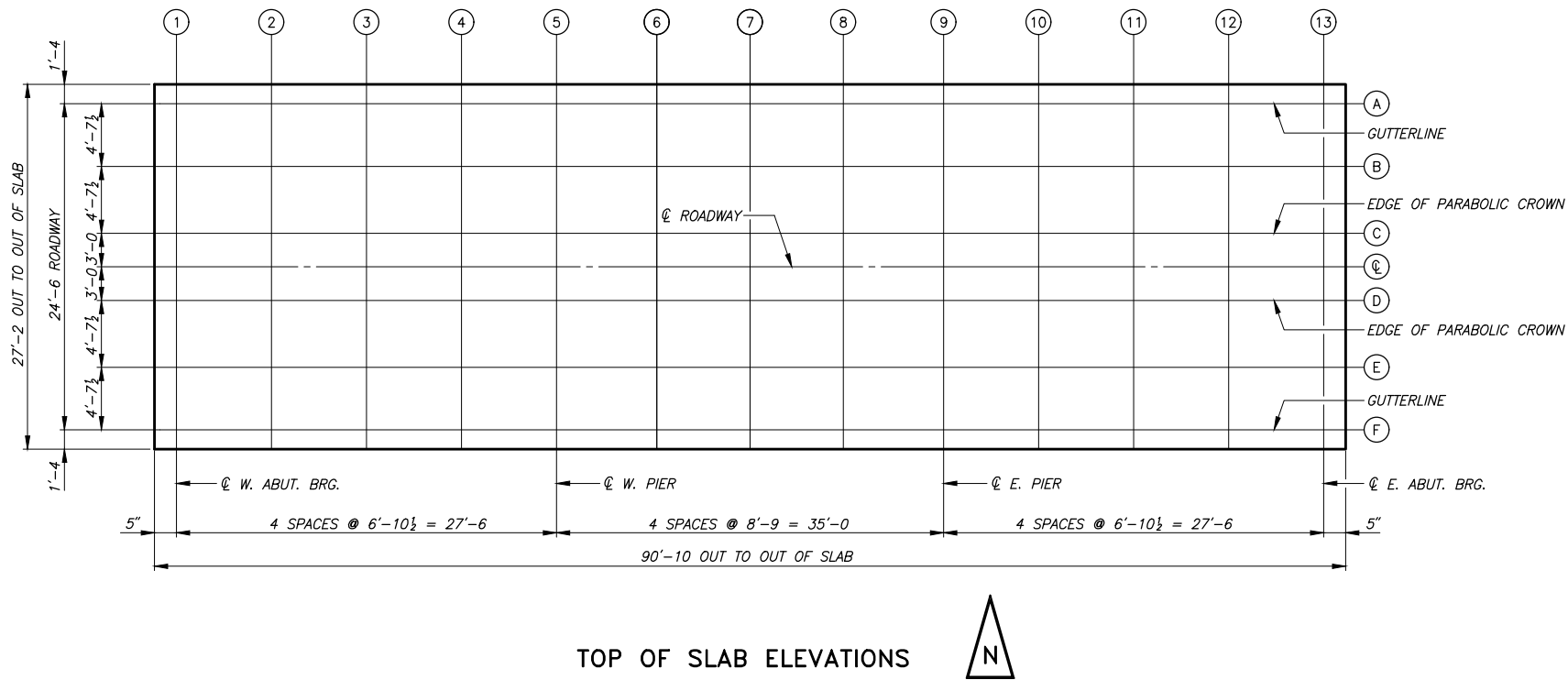
INTEGRAL ABUTMENTS
27'-6" END SPANS

P10L PIERS
35'-0" INTERIOR SPAN

SOUNDING DATA

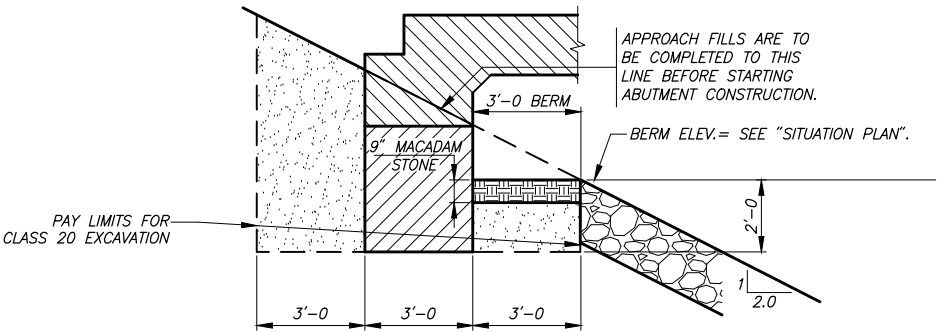
STATION 12+55.00
LUCAS COUNTY,

0° SKEW
IOWA



	CL W. ABUT. BRG.				CL BEARING W. PIER				CL BEARING E. PIER				CL E. ABUT. BRG.		
LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	LOCATION	
A	894.29	894.24	894.20	894.15	894.11	894.05	894.00	893.94	893.89	893.84	893.80	893.75	893.71	A	
B	894.39	894.34	894.30	894.25	894.21	894.15	894.10	894.04	893.99	893.94	893.90	893.85	893.81	B	
C	894.48	894.43	894.39	894.34	894.30	894.24	894.19	894.13	894.08	894.03	893.99	893.94	893.90	C	
CL	894.51	894.46	894.42	894.37	894.33	894.27	894.22	894.16	894.11	894.06	894.02	893.97	893.93	CL	
D	894.48	894.43	894.39	894.34	894.30	894.24	894.19	894.13	894.08	894.03	893.99	893.94	893.90	D	
E	894.39	894.34	894.30	894.25	894.21	894.15	894.10	894.04	893.99	893.94	893.90	893.85	893.81	E	
F	894.29	894.24	894.20	894.15	894.11	894.05	894.00	893.94	893.89	893.84	893.80	893.75	893.71	F	

BRIDGE COORDINATES			
LOCATION	NORTH EDGE OF DECK	C.L. APPROACH ROADWAY	SOUTH EDGE OF DECK
WEST ABUTMENT	N = 6235678.86	N = 6235665.28	N = 6235651.70
	E = 22592799.22	E = 22592799.41	E = 22592799.60
WEST PIER	N = 6235679.24	N = 6235665.66	N = 6235652.08
	E = 22592826.72	E = 22592826.91	E = 22592827.10
EAST PIER	N = 6235679.73	N = 6235666.15	N = 6235652.57
	E = 22592861.71	E = 22592861.90	E = 22592862.09
EAST ABUTMENT	N = 6235680.11	N = 6235666.53	N = 6235652.95
	E = 22592889.21	E = 22592889.40	E = 22592889.59



ABUTMENT EXCAVATION DETAIL

90'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

INTEGRAL ABUTMENTS
27'-6 END SPANS

P10L PIERS
35'-0 INTERIOR SPAN

SUPERSTRUCTURE DETAILS

STATION 12+55.00
LUCAS COUNTY,

0° SKEW
IOWA

105_04
10/21/25

STANDARDS		
The following Standards apply to construction work on this project.		
Number	Date	Title
BA-200	10-20-26	Steel Beam Guardrail Components
BA-202	10-20-26	Steel Beam Guardrail Bolted End Anchor
BA-221	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-2)
BA-225	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-2)
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EW-301	10-20-26	Guardrail Grading
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
EW-501	10-17-23	Rural Entrance
LS-635	10-18-22	Steel Beam Guardrail Installation At Concrete Barrier Or Bridge Rail End Section (MASH TL-2)
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
TC-252	10-20-26	Routes Closed to Traffic

TRAFFIC CONTROL PLAN
1. ROUTE WILL BE CLOSED TO VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION.
2. TRAFFIC CONTROL ON THE PROJECT SHALL BE IN ACCORDANCE WITH STANDARD ROAD PLAN TC-252.
3. TRAFFIC WILL BE MAINTAINED ON A DETOUR ROUTE. LUCAS COUNTY WILL PROVIDE, MAINTAIN AND REMOVE DETOUR ROUTE.
4. LUCAS COUNTY MAINTENANCE SHALL SALVAGE EXISTING ROAD MARKERS AFTER THE ROAD IS CLOSED.

SURVEY CONTROL POINTS						CBA-300
Description	Northing	Easting	Approx. Station	Approx. Offset	Elevation	
BENCHMARK #2	6235643.87	22592560.28	9+71	18' RT.	902.16	
BENCHMARK #104	6235653.22	22592981.28	13+92	15' RT.	892.96	
BENCHMARK #3	6235653.75	22593209.42	16+20	17' RT.	894.27	

NOTE: SURVEY BASIS OF BEARINGS: IOWA REGIONAL COORDINATE SYSTEM, ZONE 12

110_13 8/15/22							DELIVERY AND STOCKPILING
Line No.	Item Description	Quantity	Quantity Units	Delivery Location	Contact Name	Contact Number	Remarks
1.0	STEEL BRIDGE BEAMS	1067	LF	STOCKPILE NEATLY ON SITE	TODDE FOLKERTS, PE & PLS	641-774-4013	
2.0	TIMBER BRIDGE PLANKS	1940	SF	STOCKPILE NEATLY ON SITE	TODDE FOLKERTS, PE & PLS	641-774-4013	

108 08A

4/25/25

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.

(2) Not a bid item. Incidental to guardrail installation.

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	EB	Right	12+04.50	12.8	BA-221	1	BA-225	1	37.500			35.17			1		2		1	A	1		12.5	LS-635, SW CORNER
2.0	WB	Left	12+04.50	12.8	BA-221	1	BA-225	1	37.500			35.17			1		2	1		A	1		12.5	LS-635, NW CORNER
3.0	EB	Right	13+05.50	12.8	BA-221	1	BA-225	1	37.500			35.17			1		2	1		A	1		12.5	LS-635, SE CORNER
4.0	WB	Left	13+05.50	12.8	BA-221	1	BA-225	1	37.500			35.17			1		2		1	A	1		12.5	LS-635, NE CORNER
Total:						4		4												4			50	

107_23

8/15/22

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

(1) Lane(s) to which the installation is adjacent.

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY)	Embankment-in-Place (CY)	Remarks
1.0	EB	12+04.50	Right	3:1	36.9	3.3					72.0	4.3	36.2		110.0	SW CORNER
2.0	WB	12+04.50	Left	3:1	36.9	3.3					72.0	4.3	36.2		110.0	NW CORNER
3.0	EB	13+05.50	Right	3:1	36.9	3.3					72.0	4.3	36.2		110.0	SE CORNER
4.0	WB	13+05.50	Left	3:1	36.9	3.3					72.0	4.3	36.2		110.0	NE CORNER

CBA-101										SUMMARY OF EARTHWORK QUANTITIES
EXCAVATION TYPE	RAW CUT CY	RAW FILL CY	WASTE ** CY	USABLE CUT CY	SHRINKAGE FACTOR	FILL +35% SHRINKAGE CY	PAYMENT QUANTITY CY			
CLASS 10, ROADWAY AND BORROW	567	2,513	0	567	35%	3,393	567			
CLASS 10, CHANNEL	600	269	150	450	35%	363	600			
TOTALS			150	1,017		3,756				
EMBANKMENT IN PLACE (EIP)	EIP = (3756 - 1017) / 1.35 SHRINK =						2,029			

** ASSUMES SOME MATERIAL WILL BE UNSUITABLE AND WILL NEED TO BE WASTED ON SITE.

90'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

INTEGRAL ABUTMENTS
27'-6 END SPANS

P10L PIERS
35'-0 INTERIOR SPAN

TABULATIONS

STATION 12+55.00
LUCAS COUNTY,

0' SKEW
IOWA

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201

Storage Volume

Ditch Width

Effective Height

Functional Height

Cross Section View

Storage Volume

Average Percent Ditch Grade

Length

Upstream Device for Ground

Longitudinal Profile View

* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.

* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Line No.	Basin No.	Type	Station	Side	Installation (LF)	Maintenance (LF)	Removal (LF)	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avg. % Slope Ditch Grade	Volume (CF)	Remarks
1.0	1	Type 3	11+05.00	Left	19.0	19.0		3.0	3.0	7.0	2.5	444.30	NW DITCH
2.0	1	Type 3	11+55.00	Left	22.0	22.0		3.0	3.0	10.0	2.5	565.20	NW DITCH
3.0	1	Type 3	12+05.00	Left	22.0	22.0		3.0	3.0	10.0	2.5	565.20	NW DITCH
4.0	2	Type 3	12+90.00	Right	22.0	22.0		3.0	3.0	10.0	2.5	565.20	SE DITCH
5.0	2	Type 3	13+30.00	Right	22.0	22.0		3.0	3.0	10.0	2.5	565.20	SE DITCH
6.0	2	Type 3	13+80.00	Right	22.0	22.0		3.0	3.0	10.0	2.5	565.20	SE DITCH
7.0	2	Type 3	14+30.00	Right	22.0	22.0		3.0	3.0	10.0	2.5	565.20	SE DITCH
Total:					151	151							

100_18

8/15/22

TABULATION OF SILT FENCES					
Refer to EC-201					
Line No.	Station From	Station To	Side	Length (FT)	Remarks
0.5	10+65.00	12+20.00	Right	175.00	TOE OF FORESLOPE
1.0	11+95.00	12+10.00	Left	30.00	TOP OF NW BANK
2.0	12+30.00	12+45.00	Right	70.00	TOP OF NW BANK
3.0	12+50.00	12+85.00	Left	80.00	TOP OF NE BANK
4.0	12+90.00	12+90.00	Right	20.00	TOP OF SE BANK
5.0	12+80.00	13+75.00	Left	175.00	NE ROW LINE
6.0	14+40.00	14+65.00	Left	105.00	TOE OF FORESLOPE AND DRIVE
Total:				655	

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.
(1) Refer to MI-210.
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Line No.	Station	Side	Access Type	Descriptor	Case	Curb Type	Curb Length (1) (LF)	Width (FT)	PR (1) (2) (FT)	SR (2) (FT)	Pipe Culvert (H) (3) (FT)	Pipe Culvert Size (3) (IN)	Culvert Length (3) (LF)	Pipe Culvert Lt. (3) (LF)	Pipe Culvert Rt. (3) (LF)	Culvert Aprons (3) (No.)	Driveway Surface Type	Driveway Surface Area (SY)	Driveway Surfacing Material (TON)	Remarks
1.0	14+20.00	Left	D					30.0		20.0							Other			DRY FILL

102_03

10/15/24

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
1.0	12+20.00	12+55.00		Perimeter and Slope	12 inch	190.00	TOE W STREAM BANK
2.0	12+35.00	12+75.00		Perimeter and Slope	12 inch	190.00	TOE E STREAM BANK
Total:						380	

SAFETY CLOSURES

Refer to Section 2528 of the Standard Specifications

Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
10+00.00	1		WEST END
16+00.00	1		EAST END
Total:		2	

100_19

10/15/24

108_13A

3/27/25

90'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

INTEGRAL ABUTMENTS
27'-6 END SPANS

P10L PIERS
35'-0 INTERIOR SPAN

TABULATIONS

STATION 12+55.00
LUCAS COUNTY,

0' SKEW
IOWA

CBA

CALHOUN-BURNS & ASSOCIATES, CONSULTING ENGINEERS
WEST DES MOINES, IOWA 50266

(515) 224-4344

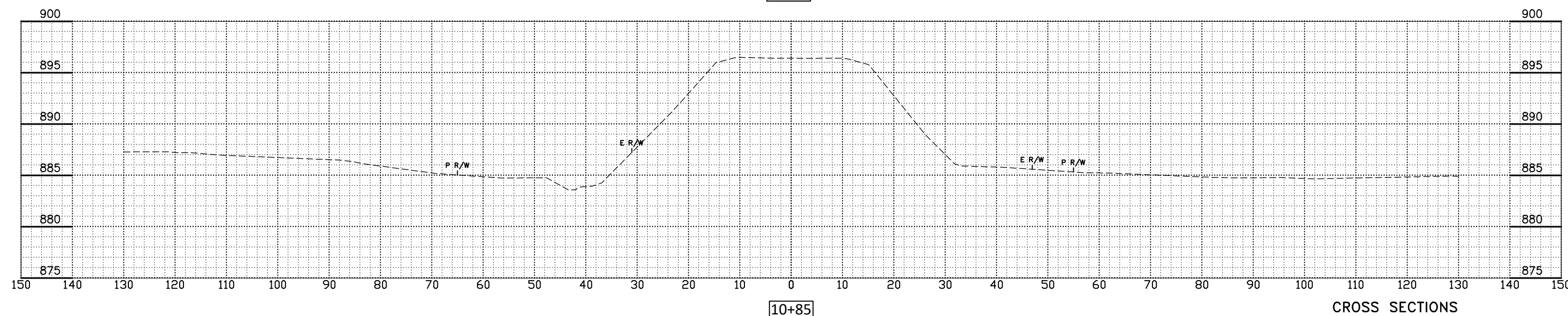
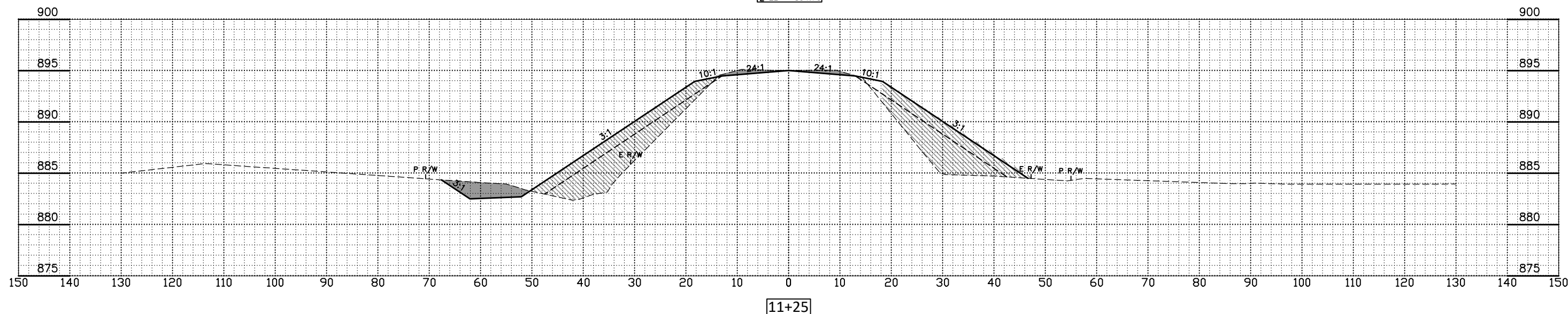
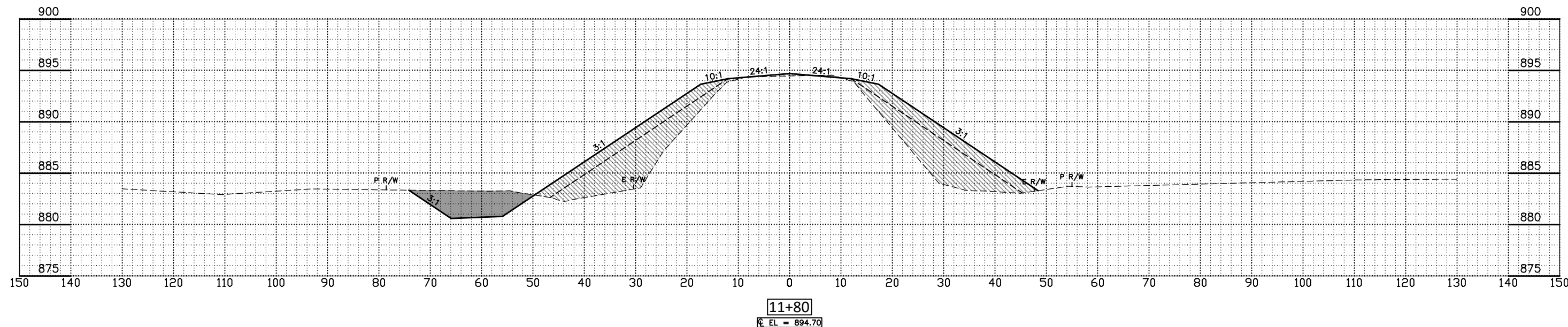
JOB NO. 2023222

DESIGNED BY : DJD
DRAWN BY : LLF
CHECKED BY : LGM

LUCAS COUNTY

PROJECT NO. BROS-C059(76)--5F-59

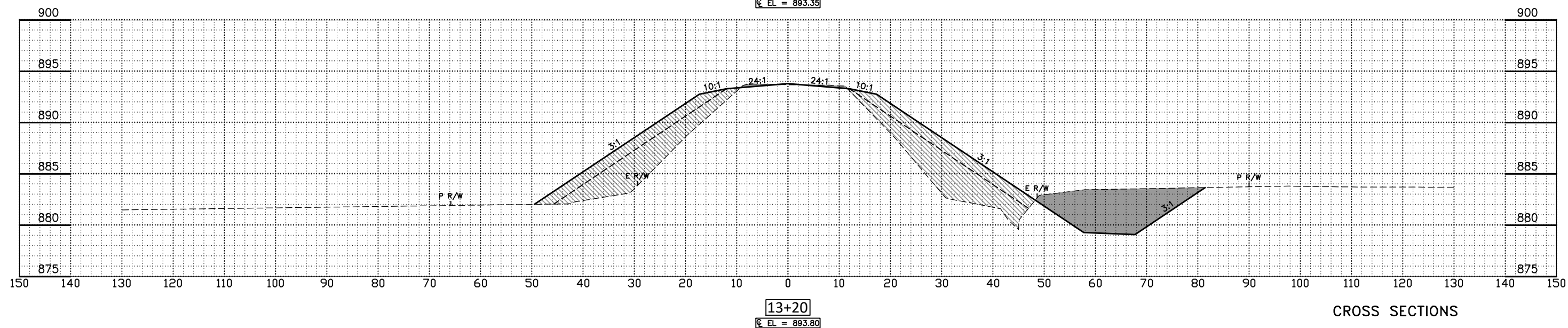
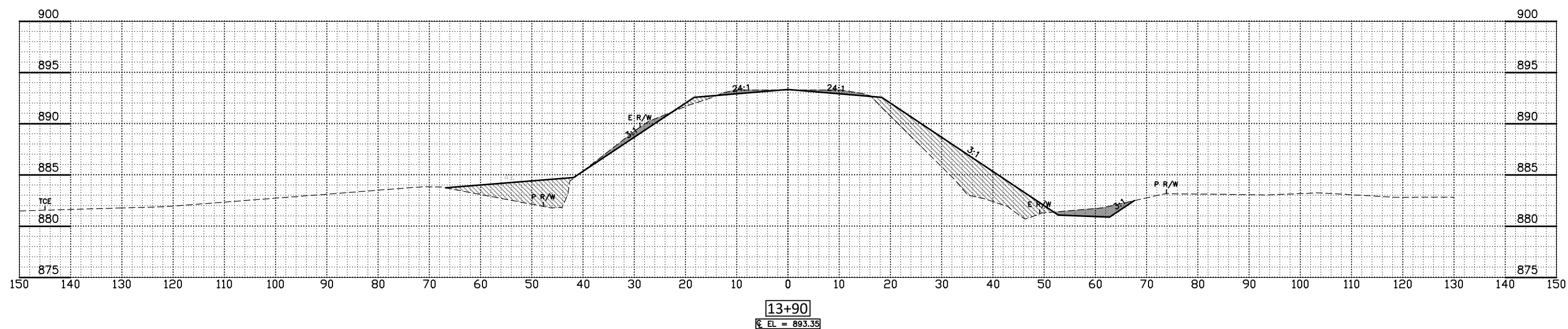
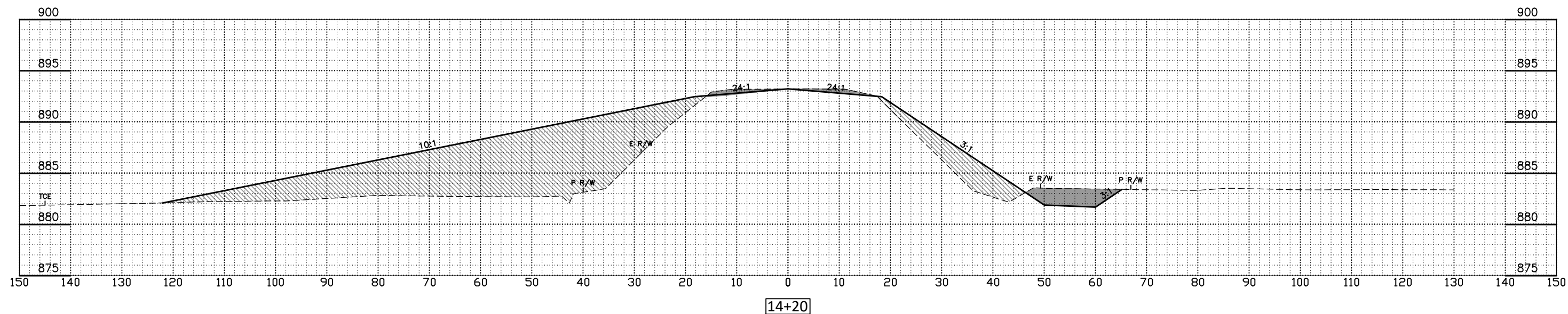
SHEET 9 OF 12



CROSS SECTIONS

LUCAS COUNTY,

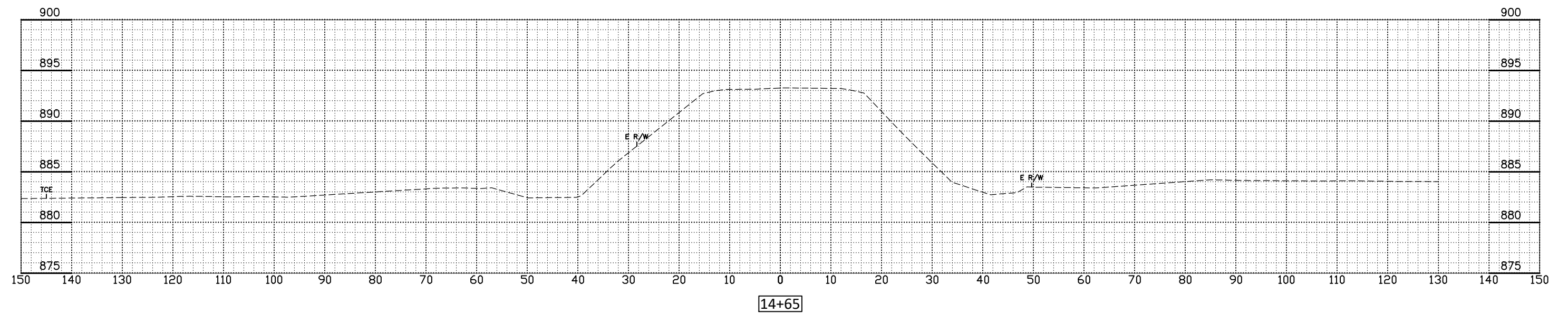
IOWA



CROSS SECTIONS

LUCAS COUNTY,

IOWA



CROSS SECTIONS

LUCAS COUNTY,

IOWA