Resolution No. 18-77

RESOLUTION OF FINAL PLAN SUBMITAL FOR
PROJECT NUMBERS BRS-SWAP-C050(120)—FF-50
And BRS-SWAP-C050(121)—FF-50

Moved by, Cupples seconded by, Carpenter

To sign and approve Final Plans for submittal to DOT for a February 19, 2019 Letting on Projects BRS-SWAP-C050(120)—FF-50, Bridge replacement on F48 over Prairie Creek in Sherman Township and BRS-SWAP-C050(121)—FF-50, Bridge replacement on F48 over Cherry Creek in Newton Township.

AYES: Carpenter, Cupples

NAYS: _____

Approved this 27th day of November, 2018.

Doug Cupples
Chairman Board of Supervisors

Joseph Brock
Board of Supervisors

Dennis Carpenter
Board of Supervisors

ATTEST: Dennis Parrott
Dennis Parrott
Jasper County Auditor

RECORDED IN BOARD OF SUPERVISORS MINUTES
BOOK 21 11/27/18 PAGE 256

PROJECT NUMBER: BRS-SWAP-CO50(120)--FF-50 LETTING DATE: FEBRUARY 19, 2019

BRIDGE REPLACEMENT

JASPER COUNTY

LEGEND

DIVIDED HIGHWAY
PAVED ROAD
BITUMINOUS ROAD
GRAVEL ROAD
EARTH ROAD

INTERSTATE HIGHWAY
UNITED STATES HIGHWAY
STATE HIGHWAY
COUNTY HIGHWAY

RAILROAD
AIRPORT
HYDROLOGY
BRIDGE

STATE BOUNDARY
COUNTY BOUNDARY
CORPORATE LIMIT LINE
TOWNSHIP LINE
SECTION LINE

IOWA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLANS OF PROPOSED IMPROVEMENT ON THE

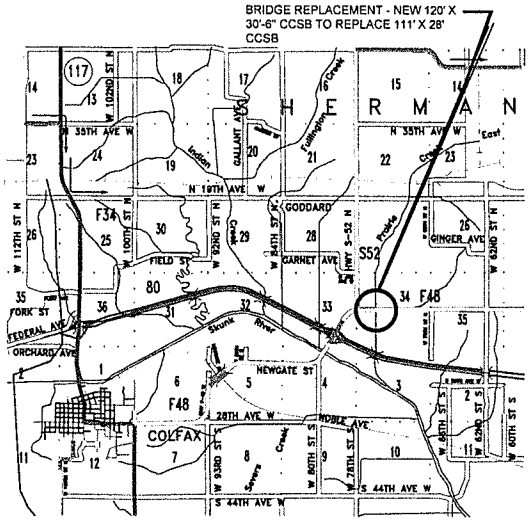
FARM TO MARKET SYSTEM

JASPER COUNTY

BRS-SWAP-CO50(120)--FF-50

BRIDGE REPLACEMENT - CCSB

ON HWY. F-48 OVER PRAIRIE CREEK IN SEC. 34 T-80N, R-20W
FHWA BRIDGE NO. 030430



PROJECT LOCATION

SCALES: AS NOTED

2014 AADT 2320 V.P.D.

50

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS

THIS PROJECT IS NOT COVERED BY AN IOWA DEPARTMENT OF NATURAL RESOURCES NPDES PERMIT. THE AREA WITHIN THE PERMANENT AND TEMPORARY RIGHT OF WAY IS LESS THAN 1 ACRE. THE CONTRACTOR SHALL LIMIT THE AMOUNT OF AREA DISTURBED BY CONSTRUCTION ACTIVITIES TO WITHIN THE RIGHT OF WAY.

THE CONTRACTOR IS REQUIRED TO CONTACT "ONE CALL" AT (800) 292-8989 TO OBTAIN LOCATIONS FOR ALL EXISTING UTILITIES

WORKING DRAWINGS AND FALSEWORK PLANS AND CALCULATIONS SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF IOWA. FALSEWORK PLANS SHALL INCLUDE AN ESTIMATE FOR SETTLEMENT OF FORMS. PLANS, DRAWINGS AND CALCULATIONS ARE TO BE SENT TO: JASPER COUNTY ENGINEER
911 NORTH 11TH AVE EAST
NEWTON, IOWA 50208

Denny Carpenter

Approved Board of Supervisors — Date: AUGUST

LICENSED PROFESSIONAL ENGINEER
RUSSELL A. STUTT
18165
IOWA

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.

BY:_____ DATE:_____

RUSSELL A. STUTT, P.E. 18165
MY LICENSE RENEWAL DATE IS DEC. 31, 2018

SHEETS COVERED BY THIS SEAL: 1 TO 13

INDEX OF SHEETS

MILEAGE SUMMARY

LOCATION		LIN. FT.	MILES
B.O.P. BGN. STA. 10+69.65	E.O.P. END STA. 15+94.65	525	0.0994

STANDARD BRIDGE PLANS

THE FOLLOWING STANDARD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT

STANDARD	DATE	STANDARD	DATE	STANDARD	DATE
J30-01-06	06-13	J30-34-06	06-13		
J30-01A-06	06-13	J30-39-06	07-09		
J30-16E-06	07-16	J30-43-06	12-08		
J30-17E-06	07-09	J30-44-06	07-16		
J30-20-06	06-12	J30-45-06	12-08		
J30-21-06	07-09	J30-46-06	09-14		
J30-23-06	05-14	J30-47-06	07-16		
J30-24-06	07-09	P10L	11-15		

STANDARD ROAD PLANS

THE FOLLOWING STANDARD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT

STANDARD	DATE	STANDARD	DATE	STANDARD	DATE
BA-200	04-19-16	LS-625	04-19-16		
BA-201	04-18-17	LS-630	10-18-16		
BA-202	10-20-15	PV-101	10-16-18		
BR-101	04-21-15	SI-173	04-19-16		
BR-102	10-17-17	SI-211	10-18-16		
EC-201	10-16-18	TC-252	04-19-16		
EC-204	04-18-17				
EW-301	10-20-15				

UTILITY CONTACT INFORMATION

UTILITY COMPANY NAME	ADDRESS	PHONE
Alliant Energy	4902 North Biltmore, Madison, WI 53707-1007	608-458-4871
Black Hills Energy	110 N 4th Ave W., Newton, IA 50208	641-792-1548
Central Iowa Water Assn.	3801 Iowa Speedway Dr., Newton, IA 50208	641-792-7011
Windstream Communications	P.O. Box 10481 Des Moines, IA 50306	877-901-4692
Iowa Network Services	4201 Corporate Drive, West Des Moines, IA	800-205-1110

SECTION 404 PERMIT AND CONDITIONS

281-1
10-18-16

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 14, PERMIT NO. CEMVR-OD-P-2018-1025. A COPY OF THIS PERMIT IS AVAILABLE FROM THE DOT OFFICE OF CONTRACTS UPON REQUEST. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SIGHT WITHOUT PRIOR NOTICE.

Full Size Plans filed in Auditors office

ESTIMATED PROJECT QUANTITIES

NO.	ITEM-CODE	ITEM	UNIT	QUANTITY
1	2101-0850001	CLEARING AND GRUBBING	ACRE	.1
2	2102-2710070	EXCAVATION, CLASS 10 ROADWAY AND BORROW	CY	461
3	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	1508
4	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	65
5	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	2
6	2301-0690220	BRIDGE APPROACH, TWO LANE	SY	400
7	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1
8	2402-2720000	EXCAVATION, CLASS 20	CY	122
9	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	293.6
10	2404-7775000	REINFORCING STEEL, EPOXY COATED	LB	72520
11	2414-6424120	CONCRETE OPEN RAILING	LF	262.0
12	2417-1040048	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 48 IN. DIA.	LF	180
13	2501-0201042	PILES, STEEL HP10x42	LF	1930
14	2501-5478042	CONCRETE ENCASEMENT OF STEEL H PILES, HP 10x42(P10L TYPE 3)	LF	272
15	2503-3775048	GATE, OUTLET CONTROL, FLAP, 48 IN.	EACH	3
16	2505-4008300	STEEL BEAM GUARDRAIL	LF	150
17	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANS SECTION BA-201	EACH	4
18	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4
19	2505-4021720	STEEL BEAM GUARDRAIL END TERMINAL, LS-625	EACH	4
20	2507-3250005	ENGINEER FABRIC	SY	1100
21	2507-6800061	REVETMENT, CLASS E	TON	892
22	2510-6745850	REMOVAL OF PAVEMENT	SY	416
23	2518-6910000	SAFETY CLOSURE	LS	1
24	2526-8285000	CONSTRUCTION SURVEY	LS	1
25	2528-8445110	TRAFFIC CONTROL	LS	1
26	2529-8201000	JOINT ASSEMBLY, EF	EACH	2
27	2533-4980005	MOBILIZATION	LS	1
28	2536-6745045	REMOVAL OF ASBESTOS	LS	1
29	2601-2634100	MULCHING	ACRE	3.8
30	2601-2636043	SEED AND FERTILIZE (RURAL)	ACRE	1.9
31	2601-2636043	STABALIZING CROP- SEEDING AND FERTILIZING	ACRE	1.9
32	2602-0000020	SILT FENCE	LF	600
33	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	180
34	2602-0000101	MAINTAINANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	780
35	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. LF STD	LF	600
36	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1
37	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1

NO. BID ITEM NOTES

1 THE CONTRACTING AUTHORITY HAS CUT DOWN TREES GREATER THAN 9" IN DIAMETER DUE TO THE POTENTIAL FOR THESE TREES BEING INHABITATED BY THE INDIANA BAT (MYOTIS SODALIS). THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE DOWN TREES, GRUB THE STUMPS AND CLEAR AND GRUB THE REMAINING TREES.
DISPOSE OF ALL WOOD MATERIAL GENERATED AS A RESULT OF CLEARING AND/OR GRUBBING ACCORDING TO THE IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP'S EMERALD ASH BORER (EAB) QUARANTINE ORDER.
FOR MORE INFORMATION REFER TO HTTP://WWW.IOWATREEPESTS.COM/EAB_REGULATIONS.HTML

2 INCLUDES EARTHWORK QUANTITY NEEDED TO CONSTRUCT ABUTMENT BERMS AND GUARDRAIL BLISTERS. UNSUITABLE PORTIONS OF THE CUT MATERIAL SHALL NOT BE INCORPORATED INTO THE SHOULDER EMBANKMENTS. UNSUITABLE MATERIAL CAN BE WASTED IN THE BACKSLOPES OR HAULED OFF SITE AT THE CONTRACTORS EXPENSE.

3 INCLUDES COSTS TO EXCAVATE CHANNEL AND SHAPE TO EXTENTS SHOWN ON LONGITUDINAL SECTION ALONG CENTERLINE OF ROADWAY AND THE LIMITS SHOWN ON THE SITUATION PLAN. SUITABLE MATERIAL MAY BE USED TO CONSTRUCT ABUTMENT BERMS, GUARDRAIL BLISTERS OR BE WASTED ON APPROACH ROADWAY FORESLOPES AS DIRECTED BY THE ENGINEER.

4 SEE TYPICAL SECTION AND TABULATION SHEET 9 .

5 INCLUDES ALL WORK AND FILL MATERIAL NECESSARY TO CONSTRUCT AND SHAPE SHOULDER AREAS. SEE TYPICAL SECTION SHEET 9.

6 SEE TABULATION SHEET 9 AND STANDARD ROAD PLANS BR-102. COARSE AGGREGATE DURABILITY SHALL BE CLASS 3 OR BETTER. METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE PER SECTION 2301 OF THE STANDARD SPECIFICATION. CERTIFIED PLANT INSPECTION IS REQUIRED.

7 REMOVE EXISTING 119'x28 ' BRIDGE W / CONCRETE DECK, CONCRETESUPERSTRUCTURE AND CONCRETE SUBSTRUCTURE . ALL MATERIAL TO BE REMOVED FROM SITE BY CONTRACTOR AND BECOME PROPERTY OF CONTRACTOR. SCRAPE SAMPLES WERE TAKEN OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF AND LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. THE ANALYSIS OF TOTAL CHROMIUM IN THE SAMPLE WAS 6,620 MG/KG. THE ANALYSIS OF TOTAL LEAD IN THE SAMPLE WAS 158,000 MG/KG. THE ANALYSIS SHOWS THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. THE LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH SAFETY REQUIREMENTS. NO OTHER SUBSTANCES WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE CONTRACTING AUTHORITIES TESTING FOR ANY PURPOSE OTHER THAN THE INDICATION OF THE EXISTENCE OF THESE TWO CONSTITUENTS.

8 CLASS 20 EXCAVATION MAY BE USED TO CONSTRUCT THE ABUTMENT BERM, OR BE WASTED ON THE APPROACH ROADWAY FORESLOPES AS DIRECTED BY THE ENGINEER. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02.D.2 OF THE STANDARD SPECIFICATIONS. UNSUITABLE SOIL SHALL BE WASTED OFF SITE.

9 ALL STRUCTURAL CONCRETE IS CLASS "C". CERTIFIED PLANT INSPECTION IS REQUIRED AND IS INCLUDED IN THIS ITEM. INCLUDES FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), GRANULAR BACKFILL, POROUS BACKFILL, AND SUBDRAIN OUTLETS AT ABUTMENTS. INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED. NO ADDITIONAL PAYMENT FOR HEATING AND PROTECTION OF CONCRETE WILL BE ALLOWED, IF NECESSARY.

10 ALL REINFORCING STEEL SHALL BE GRADE 60.

11 ALL STRUCTURAL CONCRETE FOR THE RAIL IS CLASS "C". CERTIFIED PLANT INSPECTION IS REQUIRED AND IS INCLUDED IN THIS ITEM. NO ADDITIONAL PAYMENT FOR HEATING AND PROTECTION OF CONCRETE WILL BE ALLOWED, IF NECESSARY.

12 ALL PIPE SHALL BE STANDARD CORRUGATIONS, NO HELICALLY CORRUGATED PIPE WILL BE ALLOWED. ALL CONNECTION BANDS SHALL BE 24" WIDE.

13 EACH ABUTMENT 6 HP10X42X60, EACH PIER 11 HP10X42X55, SEE PILE NOTES ON SHEET 5. PILE POINTS SHALL NOT BE USED

14 CERTIFIED PLANT INSPECTION IS REQUIRED AND IS INCLUDED IN THIS ITEM.

15 SEE SPECIFICATIONS ON SHEET 5.

16-19 SEE TABULATION SHEET 9 AND STANDARD ROAD PLANS.

20 EXTENTS SHOWN ON SHEET 4

21 EXTENTS SHOWN ON SHEET 4. REVETMENT TO BE PLACED AT A THICKNESS OF 1'-6".

22 SEE TABULATION SHEET 9. EXISTING PAVEMENT CONSISTS OF 12" PCC WITH A 2" HMA OVERLAY. IN ORDER TO AVOID ANY UNNECESSARY SURFACE BREAKS OR PREMATURE SPALLING, THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE WHEN PERFORMING ANY OF THE NECESSARY SAW CUTTING OPERATIONS FOR THE PROPOSED PAVEMENT REMOVAL. SAW CUTS ARE TO BE MADE AT THE STATION INDICATED OR AT THE NEAREST TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.

24 THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTANDING THE PLACEMENT AND INTENT OF THE STAKES. THE CONTRACTING AUTHORITY WILL PROVIDE FIELD TIES TO THE SITE SURVEY AT THE TIME OF CONSTRUCTION.

25 ROAD WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION SEE SHEET 9 FOR DETAILS.

26 PER STANDARD ROAD PLANS BR-102.

28 AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIAL WAS COMPLETED. THE EXPANSION JOINT MATERIAL WAS FOUND TO CONTAIN ASBESTOS. ASBESTOS MATERIAL SHALL BE REMOVED PRIOR TO BRIDGE DEMOLITION OPERATIONS. THE LUMP SUM BID FOR "REMOVAL OF ASBESTOS" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL. A COMPLETE REPORT OF MATERIALS TESTED CAN BE OBTAINED FROM THE OFFICE OF CONTRACTS. IF ADDITIONAL MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE , WORK SHALL BE STOPPED IMMEDIATLY AND THE CONTRACTING AUTHORITY NOTIFIED.

29-31 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 FOR "SEEDING AND FERTILIZING (RURAL).

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

MONOLITHIC PIERS
47'-0" CENTER SPAN

QUANTITIES

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

SPECIFICATIONS
DESIGN: AASHTO LRFD SERIES OF 2004, WITH INTERIMS 2015.
CONSTRUCTION: THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION SERIES 2015, 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 SERIESN OF 2004.
REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.
STRUCTURAL STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 6, ASTM A709 GRADE 36 (AASHTO M270 GRADE 36) OR ASTM A36.
CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, F,C=4,000 PSI EXCEPT PRESTRESSED BEAM CONCRETE AS NOTED.

GENERAL NOTES
THIS DESIGN IS FOR A 100'-0" x 24'-0" CONTINUOUS CONCRETE SLAB BRIDGE ON HIGHWAY F-48 WEST OVER PRAIRIE CREEK IN JASPER 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.
THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS PERMIT 14, PERMIT #CEMVR-OD-P-2018-1025. A COPY OF THIS PERMIT IS AVAILABLE FROM THE DOT OFFICE OF CONTRACTS UPON REQUEST. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SIGHT WITHOUT PRIOR NOTICE.
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 PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION WEBSITE: http://www.iowadot.gov/erl/index.html.

UTILITY NOTES
IN THE AREA OF CONTRUCTION THE FOLLOWING UTILITIES ARE KNOWN; RURAL WATER LINE OVERHEAD ELECTRIC AND TELEPHONE. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATES. 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 CONTRACTORS 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
A SCRAPE SAMPLE OF THE EXISTING PAINT WAS TAKEN FROM THE RAILING 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 158000 mg/kg. ANALYSIS TOTAL CHROMIUM ON THIS SAMPLE WAS 6620 mg/kg. 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 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."

STREAM CROSSING NOTES
THE CONTRACTOR IS ENCOURAGED TO CONDUCT CONSTRUCTION ACTIVITIES DURING A PERIOD OF LOW FLOW. ANY TEMPORARY CROSSINGS SHALL INCLUDE ENOUGH CULVERTS TO ACCOMMODATE LOW FLOWS AND MUST BE REMOVED AFTER COMPLETION OF WORK ON THIS PROJECT. TEMPORARY STREAM CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD ROAD PLAN EW-401. THE COST OF INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY CROSSINGS INCLUDING CULVERTS, SHALL BE INCLUDED IN THE PRICE BID FOR "MOBILIZATION."
EQUIPMENT FOR HANDLING AND CONVEYING MATERIALS DURING CONSTRUCTION SHALL BE OPERATED TO PREVENT DUMPING OR SPILLING THE MATERIAL INTO WATERBODIES, STREAMS OR WETLANDS.
CARE SHALL BE TAKEN TO PREVENT ANY PETROLEUM PRODUCTS, CHEMICALS OR OTHER DELETERIOUS MATERIALS FROM ENTERING WATERBODIES, STREAMS OR WETLANDS.
CONSTRUCTION EQUIPMENT, ACTIVITIES AND MATERIALS SHALL BE KEPT OUT OF THE STREAMS , WATERBODIES AND WETLANDS TO THE MAXIMUM EXTENT POSSIBLE.

CONCRETE AND REINFORCING STEEL NOTES
ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED. BAR CHAIRS SPACED AT NOT N THAN 3'-0" CENTERS IN EITHER DIRECTION SHALL BE USED TO SUPPORT ALL REINFORCING IN ACCORDANCE WITH THE SECTION 2404 OF STANDARD SPECIFICATIONS.
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, BEVEL. USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM THE VERTICAL.

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.

PILING NOTES
SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE PROVIDED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR INCLUSION IN THE PLANS 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. NOMINAL AXIAL BEARING RESISTANCES WILL BE LARGER THAN BEARING VALUES IN THE PAST, BUT CONSTRUCTION CONTROL BLOW COUNTS WILL BE APPROXIMATELY THE SAME. A WEAP ANALYSIS AND BEARING GRAPH WILL BE PREPARED BY THE CONTRACTING AUTHORITY THAT GIVES THE RELATIONSHIP BETWEEN REQUIRED NOMINAL AXIAL BEARING RESISTANCE AND BLOW COUNT.
ABUTMENT PILES, LRFD CONTRACT LENGTH AND RESISTENCE
THE CONTRACT LENGTH OF 60 FEET FOR THE ABUTMENT PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 87 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.77.

ABUTMENT PILES, DRIVING AND CONSTRUCTION
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR ABUTMENT PILES IS 67 TONS AT END OF DRIVE. IF RETAPS ARE NECESSARY TO ACHIEVE BEARING, THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE IS 67 TONS AT ONE-DAY 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 PILES, LRFD CONTRACT LENGTH AND RESISTANCE
THE CONTRACT LENGTH OF 55 FEET FOR THE PIER PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 95 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.77. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

PIER PILES, DRIVING AND CONSTRUCTION CONTROL
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR PIER PILES IS 73 TONS AT END OF DRIVE. IF RETAPS ARE NECESSARY TO ACHIEVE BEARING, THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE IS 73 TONS AT ONE-DAY RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

TYPICAL SPECIFICATION- LIGHT DUTY AUTOMATIC DRAINAGE FLAPGATES. THE DRAINAGE GATE SHALL BE DESIGNED TO ALLOW FREE OUTFLOW AND PREVENT BACKFLOW FOR MAXIMUM SEATING HEADS OF 10 FEET. THE FRAME SHALL BE CAST IRON OF FLATBACK OR SPIGOTBACK DESIGN (OR OTHER SPECIFIED DESIGN CONFIGURATION AS REQUIRED) WITH SEATING SURFACE INCLINED FROM VERTICAL AT A MINIMUM OF 2½ DEGREES TO ASSURE POSITIVE CLOSURE. THE CAST IRON COVER WITH DOMED CONSTRUCTION TOWITHSTAND MAXIMUM SEATING HEAD, SHALL HAVE MACHINED SEATS AND BE ATTACHED TO THE FRAME TO ALLOW PROPER SEATING AND FULL OPENING COVER. BUILT IN STOPS SHALL BE PROVIDED TO PREVENT THE COVER PROM ROTATING SUFFICIENTLY TO BECOME WEDGED IN THE OPEN POSITION. THE LINKAGE SYSTEM SHALL BE OF THE DOUBLE PIVOTED TYPE, ATTACHED TO FIXED, BRONZE BRUSHED, PIVOT POINTS ON COVER AND FRAME. HINGE LINKS SHALL BE STRUCTURAL STEEL, WHICH ALONG WITH ASSEMBLY HARDWARE SHALL BE GALVANIZED. FINISH
CAST IRON FRAME AND COVER SHALL BE COATED WITH MANUFACTURERS STANDARD SHOPCOAT PAINT. GALVANIZED STEEL DOES NOT REQUIRE ADDITIONAL FINISH.
MATERIALS
FRAME AND COVER CAST IRON PER ASTM A-126, CLASS B.
HINGE LINK STRUCTURAL STEEL PER ASTM A-36, GALVANIZED PER ASTM A-123
ASSEMBLY HARDWARE STEEL PER ASTM A-307, GALVANIZED PER ASTM A-153.
BRONZE BUSHINGS COMMERCIAL BRONZE.

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

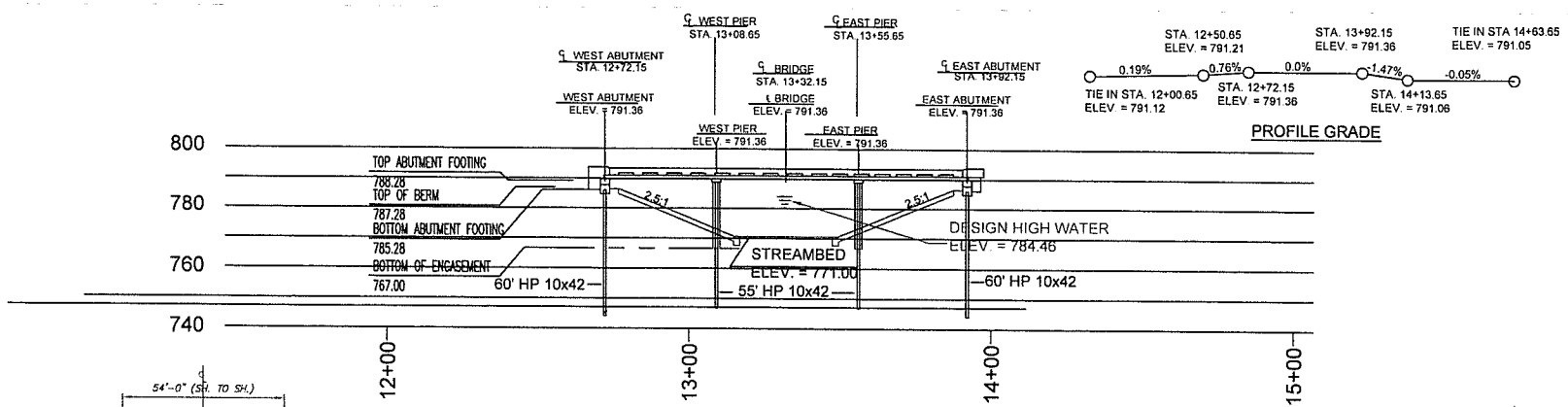
INTEGRAL ABUTMENTS 36'-6" END SPANS
MONOLITHIC PIERS 47'-0" CENTER SPAN

GENERAL NOTES

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

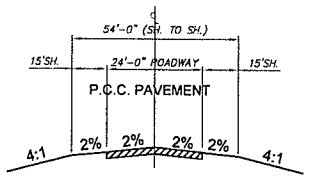


PROFILE GRADE

HYDRAULICS

DRAINAGE AREA	21.1 SQ. MI.
STREAM SLOPE	0.00076 FT./
BRIDGE WATERWAY AREA	970.6 S.F.
DESIGN VELOCITY	4.16 FPS
DESIGN HIGH WATER ELEV.	784.46
Q50	4970 CFS
FREEBOARD	5.42FT.
MAX BACKWATER DEPTH	0.91 FT.
STAGE ELEV.	784.38
Q100	6010 CFS
FREEBOARD	4.90 FT.
MAX BACKWATER DEPTH	1.31 FT.
STAGE ELEV.	784.90
Q200	7070 CFS
Q500	8500 CFS
CALCULATED SCOUR DEPTH	803.7 FT.

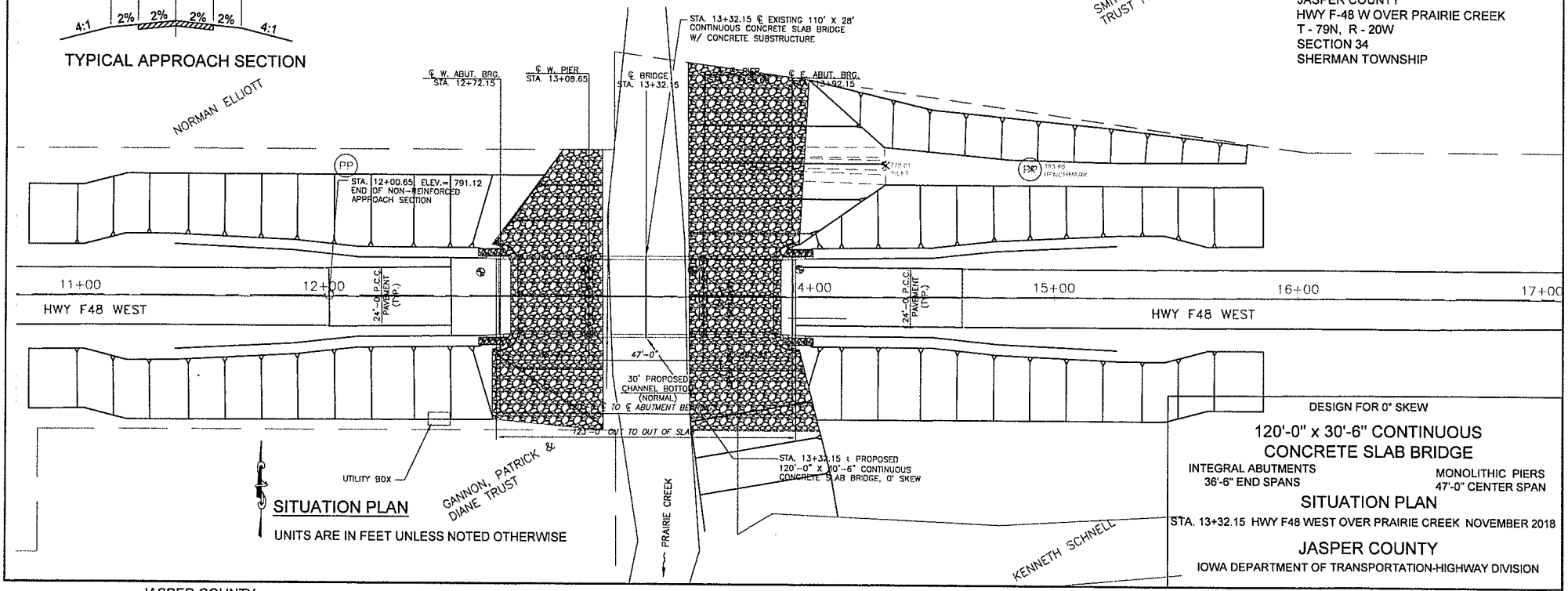
LONGITUDINAL SECTION NEAR ℄ ROADWAY



TYPICAL APPROACH SECTION

LOCATION

JASPER COUNTY
HWY F-48 W OVER PRAIRIE CREEK
T - 79N, R - 20W
SECTION 34
SHERMAN TOWNSHIP



SITUATION PLAN

UNITS ARE IN FEET UNLESS NOTED OTHERWISE

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

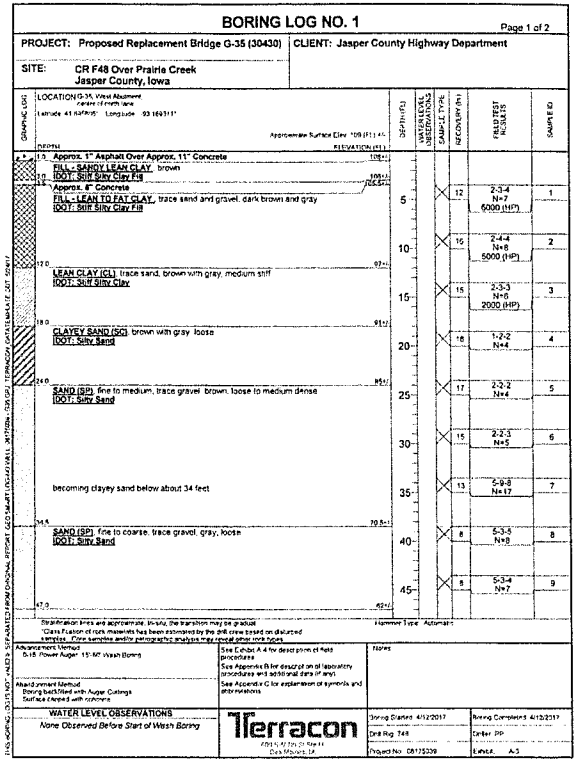
MONOLITHIC PIERS
47'-0" CENTER SPAN

SITUATION PLAN

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



BORING LOG NO. 1

Page 1 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) | CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek, Jasper County, Iowa

LOCATION G-35, West Abutment, center of north lane. Latitude 41.695405° Longitude -93.169311°. Approximate Surface Elev: 109 (Ft) +/-

DEPTH	ELEVATION (Ft)	Description	Depth (Ft)	Water Level Observations	Sample Type	Recovery (In)	Field Test Results	Sample ID
0.0	109+/-	Approx. 1" Asphalt Over Approx. 11" Concrete						
1.5	107.5+/-	FILL - SANDY LEAN CLAY, brown; IDOT: Stiff Silty Clay Fill						
2.0	107.0+/-	Approx. 8" Concrete						
		FILL - LEAN TO FAT CLAY, trace sand and gravel, dark brown and gray; IDOT: Stiff Silty Clay Fill						
12.0	97+/-	LEAN CLAY (CL) trace sand, brown with gray, medium stiff; IDOT: Stiff Silty Clay				12	2-3-4 N=7 5000 (HP)	1
						15	2-4-4 N=8 5000 (HP)	2
						15	2-3-3 N=6 2000 (HP)	3
19.0	91+/-	CLAYEY SAND (SC) brown with gray, loose; IDOT: Silty Sand				18	1-2-2 N=4	4
24.0	86+/-	SAND (SP) fine to medium, trace gravel, brown, loose to medium dense; IDOT: Silty Sand				17	2-2-2 N=4	5
						15	2-2-3 N=5	6
		becoming clayey sand below about 34 feet				13	5-9-8 N=17	7
34.5	70.5+/-	SAND (SP) fine to coarse, trace gravel, gray, loose; IDOT: Silty Sand				8	5-3-5 N=8	8
						8	5-3-4 N=7	9
47.0	62+/-							

Stratification lines are approximate. In situ, the transition may be gradual. *Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Hammer Type: Automatic

Advancement Method: 6.5" Power Auger, 15" AC Wash Boring

Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with concrete.

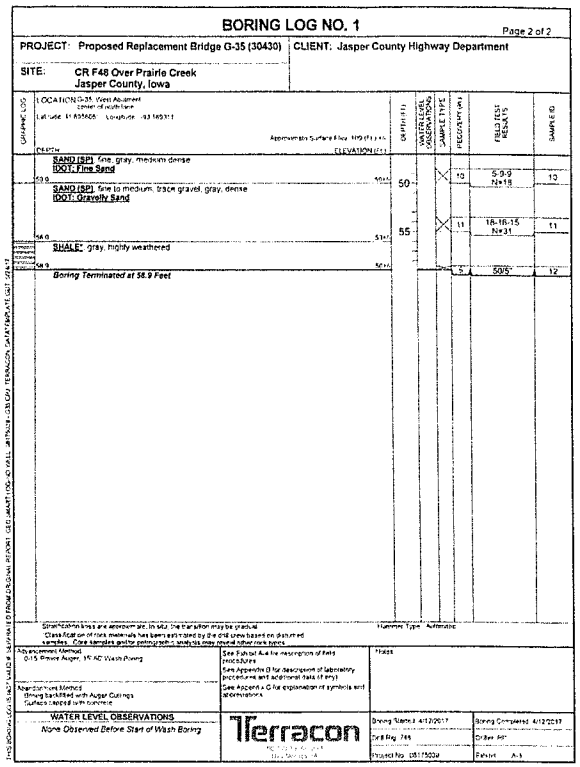
See Exhibit A-4 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/12/2017 | Boring Completed: 4/12/2017 | Drill Rig: 748 | Driller: PP | Project No: 08175039 | Exhibit: A-3



BORING LOG NO. 1

Page 2 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) | CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek, Jasper County, Iowa

LOCATION G-35, West Abutment, center of north lane. Latitude 41.695405° Longitude -93.169311°. Approximate Surface Elev: 109 (Ft) +/-

DEPTH	ELEVATION (Ft)	Description	Depth (Ft)	Water Level Observations	Sample Type	Recovery (In)	Field Test Results	Sample ID
		SAND (SP) fine, gray, medium dense; IDOT: Fine Sand				10	5-9-9 N=18	10
50.0	59+/-	SAND (SP) fine to medium, trace gravel, gray, dense; IDOT: Gravelly Sand	50			11	18-16-15 N=31	11
54.0	55+/-	SHALE, gray, highly weathered	55			5	50/5"	12
58.9	50+/-	*Boring Terminated at 58.9 Feet*						

Stratification lines are approximate. In situ, the transition may be gradual. *Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Hammer Type: Automatic

Advancement Method: 6.5" Power Auger, 15" AC Wash Boring

Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with concrete.

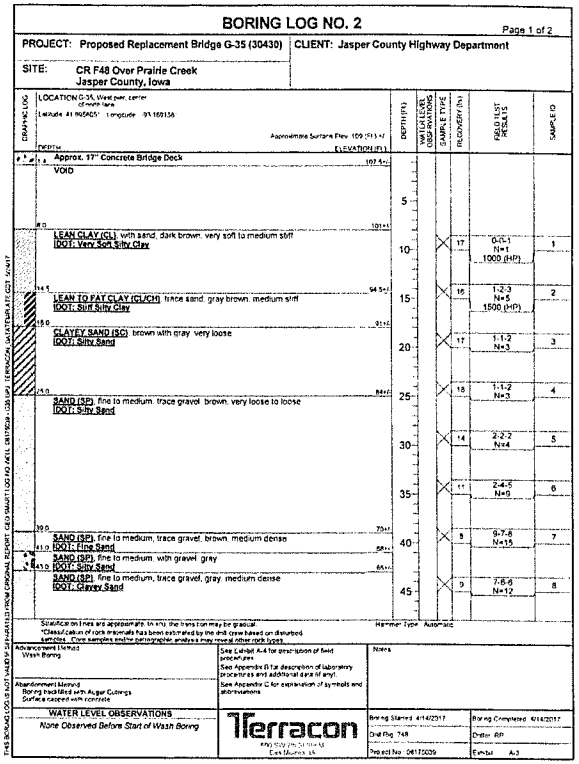
See Exhibit A-4 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/12/2017 | Boring Completed: 4/12/2017 | Drill Rig: 748 | Driller: PP | Project No: 08175039 | Exhibit: A-3



BORING LOG NO. 2

Page 1 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) | CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek, Jasper County, Iowa

LOCATION G-35, West per. center of north lane. Latitude 41.695405° Longitude -93.169156°. Approximate Surface Elev: 109 (Ft) +/-

DEPTH	ELEVATION (Ft)	Description	Depth (Ft)	Water Level Observations	Sample Type	Recovery (In)	Field Test Results	Sample ID
0.0	107.5+/-	Approx. 17" Concrete Bridge Deck						
		VOID						
4.0	103.5+/-	LEAN CLAY (CL) with sand, dark brown, very soft to medium stiff; IDOT: Very Soft Silty Clay				17	0-0-1 N=1 1000 (HP)	1
14.5	94.5+/-	LEAN TO FAT CLAY (CL/CH) trace sand, gray brown, medium stiff; IDOT: Stiff Silty Clay				16	1-2-3 N=5 1500 (HP)	2
18.0	91+/-	CLAYEY SAND (SC) brown with gray, very loose; IDOT: Silty Sand				17	1-1-2 N=3	3
24.0	84+/-	SAND (SP) fine to medium, trace gravel, brown, very loose to loose; IDOT: Silty Sand				18	1-1-2 N=3	4
						14	2-2-2 N=4	5
						11	2-4-5 N=9	6
39.0	73+/-					8	9-7-8 N=15	7
41.0	68+/-	SAND (SP), fine to medium, trace gravel, brown, medium dense; IDOT: Fine Sand				9	7-6-6 N=12	8
44.0	65+/-	SAND (SP), fine to medium, with gravel, gray; IDOT: Silty Sand						
		SAND (SP) fine to medium, trace gravel, gray, medium dense; IDOT: Clayey Sand						

Stratification lines are approximate. In situ, the transition may be gradual. *Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Hammer Type: Automatic

Advancement Method: Wash Boring

Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with concrete.

See Exhibit A-4 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/14/2017 | Boring Completed: 4/14/2017 | Drill Rig: 748 | Driller: BP | Project No: 08175039 | Exhibit: A-3

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

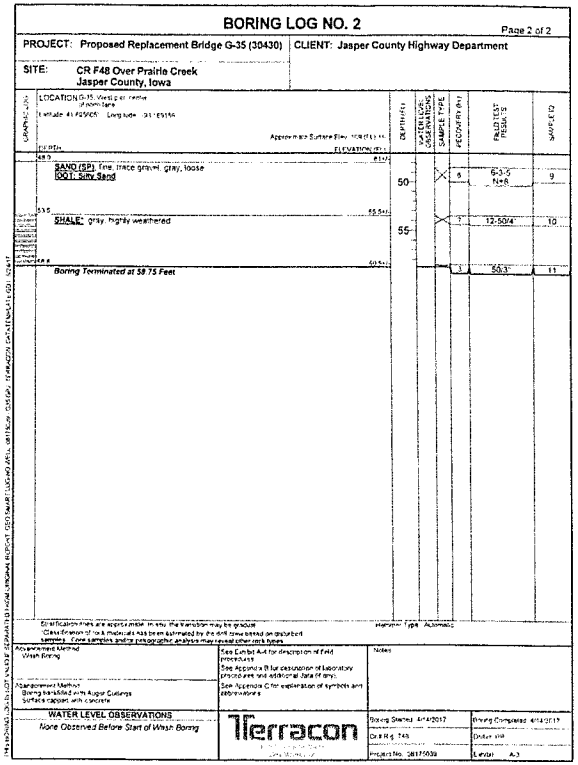
MONOLITHIC PIERS
47'-0" CENTER SPAN

BORINGS

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



BORING LOG NO. 2 Page 2 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) | CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek, Jasper County, Iowa

LOCATION G-35, West pier centerline of north bank. Latitude 41.629405° Longitude -93.165156° Approximate Surface Elev. 103.0 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE ID
48.0	55+/-					
SAND (SP) fine, trace gravel, gray, loose IDOT: Silty Sand				6	6-3-5 N=8	9
53.0	50+/-					
SHALE: gray, highly weathered				7	12-50/4"	10
Boring Terminated at 59.75 Feet	43+/-			3	50/3"	11

Stratification lines are approximate. In situ, the transition may be gradual. Hammer Type: Automatic

*Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method: Wash Boring

Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with concrete

See Exhibit A-4 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data (if any).

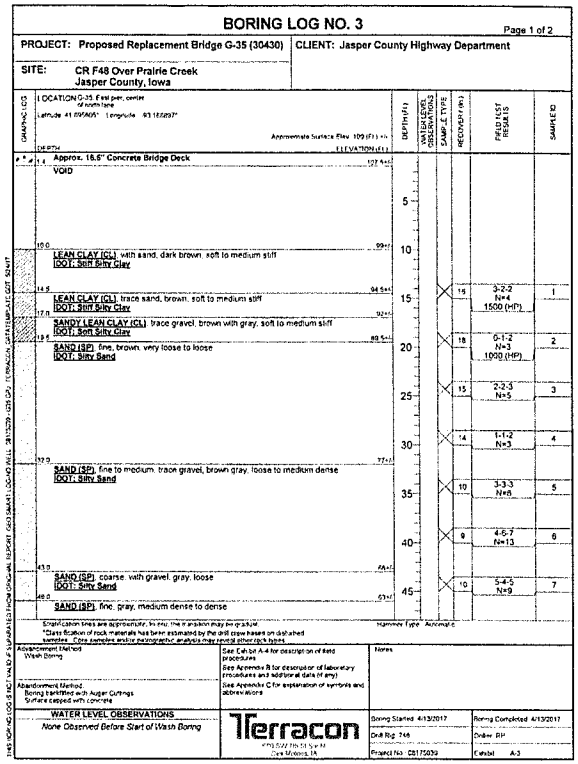
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon, 2790 76th St, Suite M, Des Moines, IA

Boring Started: 4/14/2017 | Boring Completed: 4/14/2017 | Drill Rig: 749 | Driller: BP | Project No. 08175039 | Exhibit: A-3



BORING LOG NO. 3 Page 1 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) | CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek, Jasper County, Iowa

LOCATION G-35, East pier, centerline of north bank. Latitude 41.629405° Longitude -93.165297° Approximate Surface Elev. 109 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE ID
0.4	107.6+/-					
Approx. 16.5" Concrete Bridge Deck VOID						
10.0	99+/-					
LEAN CLAY (CL) with sand, dark brown, soft to medium stiff IDOT: Soft Silty Clay						
14.5	94.5+/-			16	3-2-2 N=4 1500 (HP)	1
LEAN CLAY (CL) trace sand, brown, soft to medium stiff IDOT: Soft Silty Clay						
17.0	92+/-					
SANDY LEAN CLAY (CL) trace gravel, brown with gray, soft to medium stiff IDOT: Soft Silty Clay				18	0-1-2 N=3 1000 (HP)	2
19.5	89.5+/-					
SAND (SP) fine, brown, very loose to loose IDOT: Silty Sand				15	2-2-3 N=5	3
				14	1-1-2 N=3	4
32.0	77+/-					
SAND (SP) fine to medium, trace gravel, brown gray, loose to medium dense IDOT: Silty Sand				10	3-3-3 N=6	5
				9	4-5-7 N=13	6
43.0	66+/-					
SAND (SP) coarse, with gravel, gray, loose IDOT: Silty Sand				10	5-4-5 N=9	7
48.0	61+/-					
SAND (SP) fine, gray, medium dense to dense						

Stratification lines are approximate. In situ, the transition may be gradual. Hammer Type: Automatic

*Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method: Wash Boring

Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with concrete

See Exhibit A-4 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data (if any).

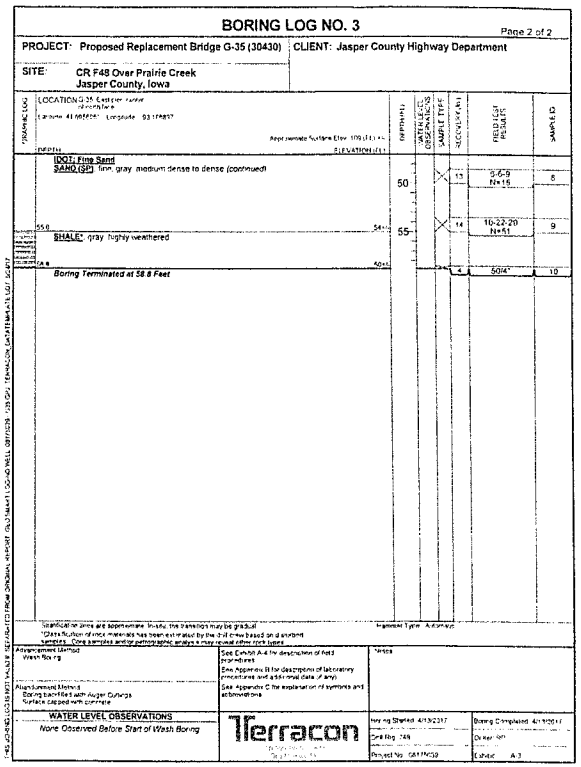
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/13/2017 | Boring Completed: 4/13/2017 | Drill Rig: 749 | Driller: BP | Project No. 08175039 | Exhibit: A-3



BORING LOG NO. 3 Page 2 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) | CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek, Jasper County, Iowa

LOCATION G-35, Eastpier, centerline of north bank. Latitude 41.629405° Longitude -93.165297° Approximate Surface Elev. 109 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE ID
IDOT: Fine Sand SAND (SP) fine, gray, medium dense to dense (continued)				13	9-6-9 N=15	8
55.0	54+/-			14	10-22-29 N=51	9
SHALE: gray, highly weathered						
Boring Terminated at 58.8 Feet	50+/-			4	50/4"	10

Stratification lines are approximate. In situ, the transition may be gradual. Hammer Type: Automatic

*Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method: Wash Boring

Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with concrete

See Exhibit A-4 for description of field procedures.

See Appendix B for descriptions of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/13/2017 | Boring Completed: 4/13/2017 | Drill Rig: 749 | Driller: BP | Project No. 08175039 | Exhibit: A-3

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

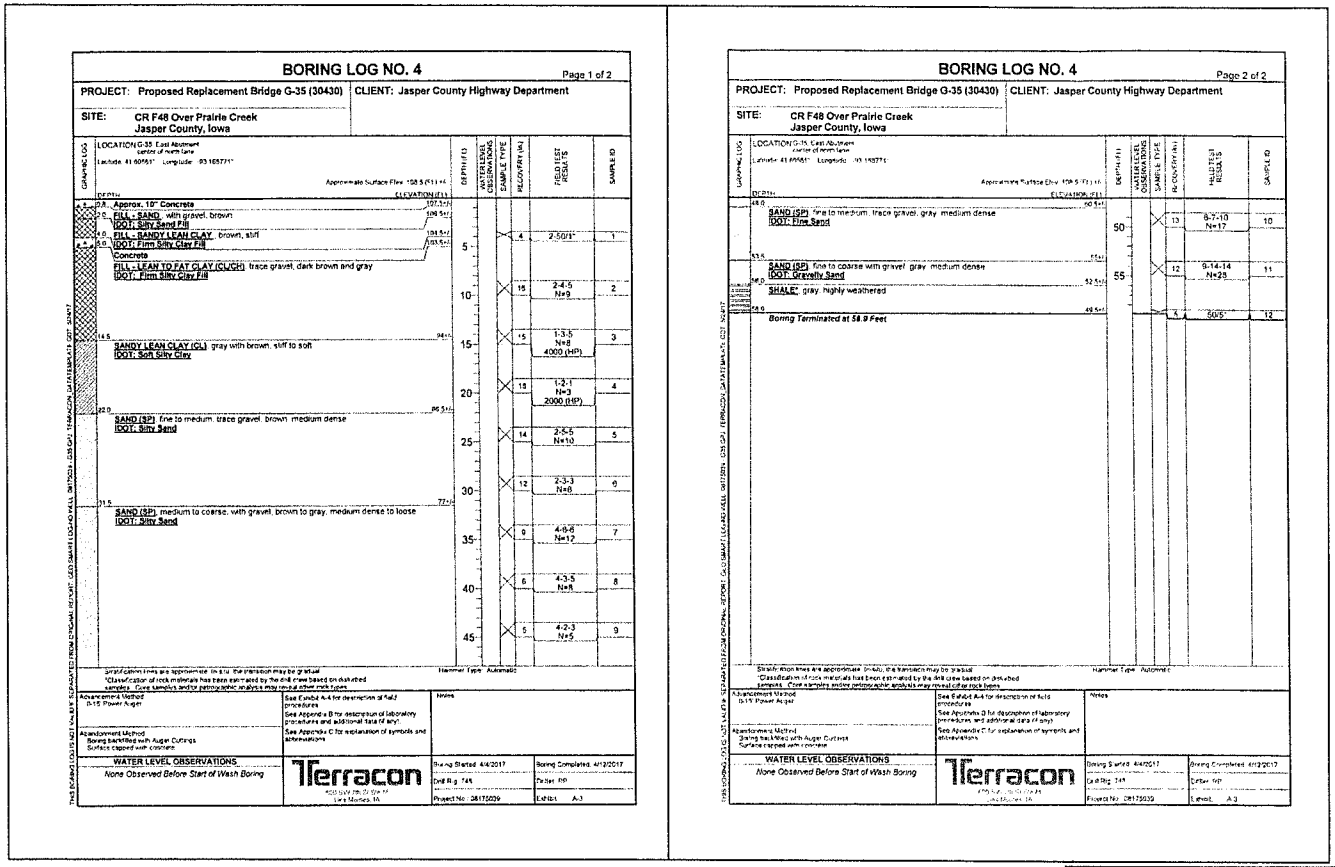
MONOLITHIC PIERS
47'-0" CENTER SPAN

BORINGS

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



BORING LOG NO. 4 Page 1 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek
Jasper County, Iowa

LOCATION G-35 East Abutment
center of north lane
Latitude: 41.60561° Longitude: -93.165771°
Approximate Surface Elev: 158.5 (ft) +/-

DEPTH (ft)	ELEVATION (ft)	DRILLING OBSERVATIONS	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
0.0	158.5+/-					
0.8	Approx. 10" Concrete 157.7+/-					
1.0	FILL - SAND, with gravel, brown 156.5+/-					
	(DOT: Silty Sand Fill)					
4.0	FILL - SANDY LEAN CLAY, brown, stiff 154.5+/-					
4.5	(DOT: Firm Silty Clay Fill) 154.0+/-					
	Concrete					
	FILL - LEAN TO FAT CLAY (CL/CH), trace gravel, dark brown and gray					
	(DOT: Firm Silty Clay Fill)					
14.5	144+/-					
	SANDY LEAN CLAY (CL), gray with brown, stiff to soft					
	(DOT: Soft Silty Clay					
22.0	136.5+/-					
	SAND (SP), fine to medium, trace gravel, brown, medium dense					
	(DOT: Silty Sand					
31.5	127+/-					
	SAND (SP), medium to coarse, with gravel, brown to gray, medium dense to loose					
	(DOT: Silty Sand					
5				4	2-50/1"	1
10				16	2-4-5 N=9	2
15				15	1-3-5 N=8 4000 (HP)	3
20				18	1-2-1 N=3 2000 (HP)	4
25				14	2-5-5 N=10	5
30				12	2-3-3 N=6	6
35				9	4-8-9 N=17	7
40				6	4-3-5 N=8	8
45				5	4-2-3 N=5	9

Stratification lines are approximate. In situ, the transition may be gradual.
Hammer Type: Automatic

"Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method
6.75" Power Auger

Abandonment Method
Boring backfilled with Auger Cuttings
Surface capped with concrete

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any)
See Appendix C for explanation of symbols and abbreviations

Notes

WATER LEVEL OBSERVATIONS
None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/4/2017 Boring Completed: 4/4/2017
Drill Rig: 749 Driller: RP
Project No.: 28175039 Exhibit: A-3

BORING LOG NO. 4 Page 2 of 2

PROJECT: Proposed Replacement Bridge G-35 (30430) CLIENT: Jasper County Highway Department

SITE: CR F48 Over Prairie Creek
Jasper County, Iowa

LOCATION G-35 East Abutment
center of north lane
Latitude: 41.60561° Longitude: -93.165771°
Approximate Surface Elev: 158.5 (ft) +/-

DEPTH (ft)	ELEVATION (ft)	DRILLING OBSERVATIONS	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
48.0	110.5+/-					
	SAND (SP), fine to medium, trace gravel, gray, medium dense					
	(DOT: Fine Sand					
53.5	105+/-					
	SAND (SP), fine to coarse with gravel, gray, medium dense					
	(DOT: Gravelly Sand					
58.0	52.5+/-					
	SHALE*, gray, highly weathered					
58.9	49.5+/-					
	Boring Terminated at 58.9 Feet					
50				13	6-7-10 N=17	10
55				12	9-14-14 N=28	11
				4	50/5"	12

Stratification lines are approximate. In situ, the transition may be gradual.
Hammer Type: Automatic

"Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method
6.75" Power Auger

Abandonment Method
Boring backfilled with Auger Cuttings
Surface capped with concrete

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any)
See Appendix C for explanation of symbols and abbreviations

Notes

WATER LEVEL OBSERVATIONS
None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/4/2017 Boring Completed: 4/4/2017
Drill Rig: 749 Driller: RP
Project No.: 28175039 Exhibit: A-3

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

MONOLITHIC PIERS
47'-0" CENTER SPAN

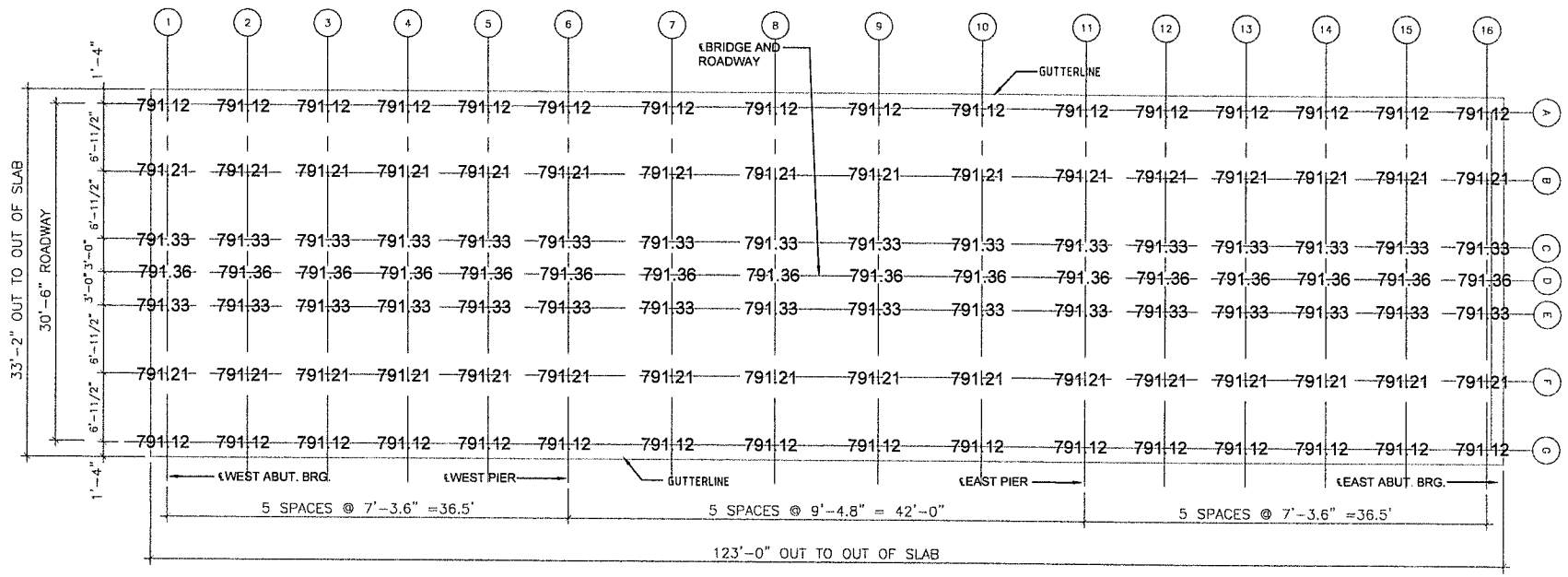
BORINGS

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

TOP OF SLAB ELEVATIONS													
LOCATION	C.L. w. ABUT. BRG.				C.L. PIER #1				C.L. PIER #2				C.L. . ABUT BRG.
	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8	LINE 9	LINE 10	LINE 11	LINE 12	LINE 13
WEST GUTTER LINE	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12
INTERMEDIATE LINE A	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21
CROWN LINE B	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33
C.L. APPROACH ROADWAY	791.36	791.36	791.36	791.36	791.36	791.36	791.36	791.36	791.36	791.36	791.36	791.36	791.36
CROWN LINE C	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33	791.33
INTERMEDIATE LINE D	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21	791.21
EAST GUTTER LINE	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12	791.12



DECK ELEVATIONS

NOTE: REFER TO STANDARD BRIDGE PLANS FOR FORM CAMBER REQUIREMENTS TO COMPENSATE FOR THE ANTICIPATED ULTIMATE DEAD LOAD DEFLECTION.

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

MONOLITHIC PIERS
47'-0" CENTER SPAN

GENERAL NOTES

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Refer to BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-250, SI-172, SI-173 and SI-211.

Lane(s) to which the obstacle is adjacent.

Location					Layout Lengths BA-250				Long-Span System		Delineators and Object Markers				Bid Items						Remarks
No.	Direction of Traffic	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET	BA-211		SI-211	Delineator SI-172 Type 1	Object Marker SI-173 Type 2	Object Marker SI-173 Type 3	Bolted End Anchor	Barrier Transition Section	Steel Beam Guardrail	End Terminal Standard	End Terminal Flared	Post Adapter	
									STATION	TYPE	TYPE	White	CM2-2	CM3-L / CM3-R	TYPE		BA-201	BA-200	LS-625	BA-206	BA-210
				FT	LF	LF	LF	LF				EACH	EACH	EACH / EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH
1	EB	O	12+63.65	15.79	53.125	25.00	0.00	50.0			2		4	1	A	1	1	37.5	1		
2	WB	O	12+63.65	15.79	53.125	25.00	0.00	50.0			2		4	1	A	1	1	37.5	1		
3	EB	O	14+00.65	15.79	53.125	25.00	0.00	50.0			2		4	1	A	1	1	37.5	1		
4	WB	O	14+00.65	15.79	53.125	25.00	0.00	50.0			2		4	1	A	1	1	37.5	1		

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

This Data Entry Sheet fills Tab 108-13A effective 08-01-08

Station	Closure Type Road Qty.	Closure Type Hazard Qty.	Remarks
10+69.65	1	0	WEST END
15+04.65	1	0	EAST END

GRADING FOR GUARDRAIL INSTALLATIONS

Lane(s) to which the installation is adjacent.

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
1	N	12+63.65	LT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			
2	S	12+63.65	RT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			
3	N	14+00.65	LT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			
4	S	14+00.65	RT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			

GRANULAR SHOULDER

Begin Station	End Station	Side	WIDTH FT	DEPTH INCHES	DESIGN QUANTITY RATE EARTH SHOULDER MATERIAL PER SHOULDER PER STATION
12+00.65	12+50.65	BOTH	10	6	12.8 RT.
14+13.65	14+63.65	BOTH	10	6	12.8 LT.

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item

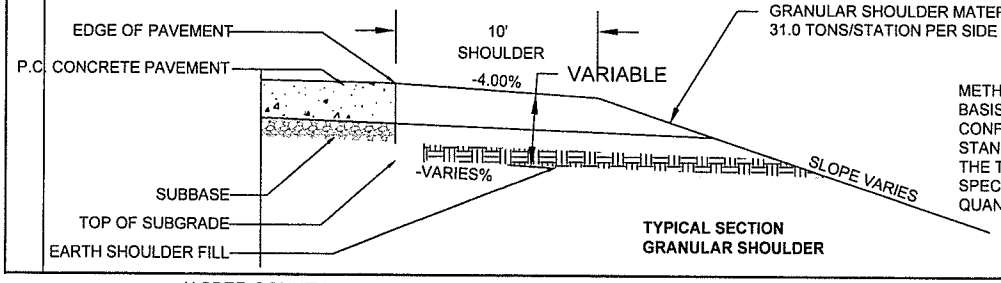
Location				Approach Pavement					Standard Road Plans BR Series			Subdrain						Remarks
Bridge Station	End	Skew Ahead Degrees LEFT	Skew Ahead Degrees RIGHT	Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4" *	Subdrain Outlet * STA	Subdrain Outlet * Side	Porous Backfill * CY	Class 'A' Crushed Stone Backfill CY	Modified Subbase * TON	Polymer Grid * SY	
				Inches	FT	SY	SY	SY				LF							
13+32.15	E	0	0	10	70	133.3	71.8	-	BR-102	MOVEABLE	HMA/PCC	0			0	0	218	240	
13+32.15	E	0	0	10	70	133.3	71.8	-	BR-102	MOVEABLE	HMA/PCC	0			0	0	218	240	

OUT TO OUT OF REINFORCED SECTION IS 33'-1"

REMOVAL OF PAVEMENT

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area FT	Area SY	Saw Cut* LF	Remarks
12+00.65	12+77.15	BOTH	HMA/PCC	1800	200	24.0	
13+87.15	14+63.65	BOTH	HMA/PCC	1916	213	24.0	



TYPICAL SECTION GRANULAR SHOULDER

METHODS OF CONSTRUCTION AND BASIS FOR PAYMENT SHALL BE IN CONFORMANCE WITH CURRENT STANDARD SPECIFICATIONS FOR THE TYPE OF SHOULDER WORK SPECIFIED IN ESTIMATE AND QUANTITIES FOR THE PROJECT

DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS 36'-6" END SPANS

MONOLITHIC PIERS 47'-0" CENTER SPAN

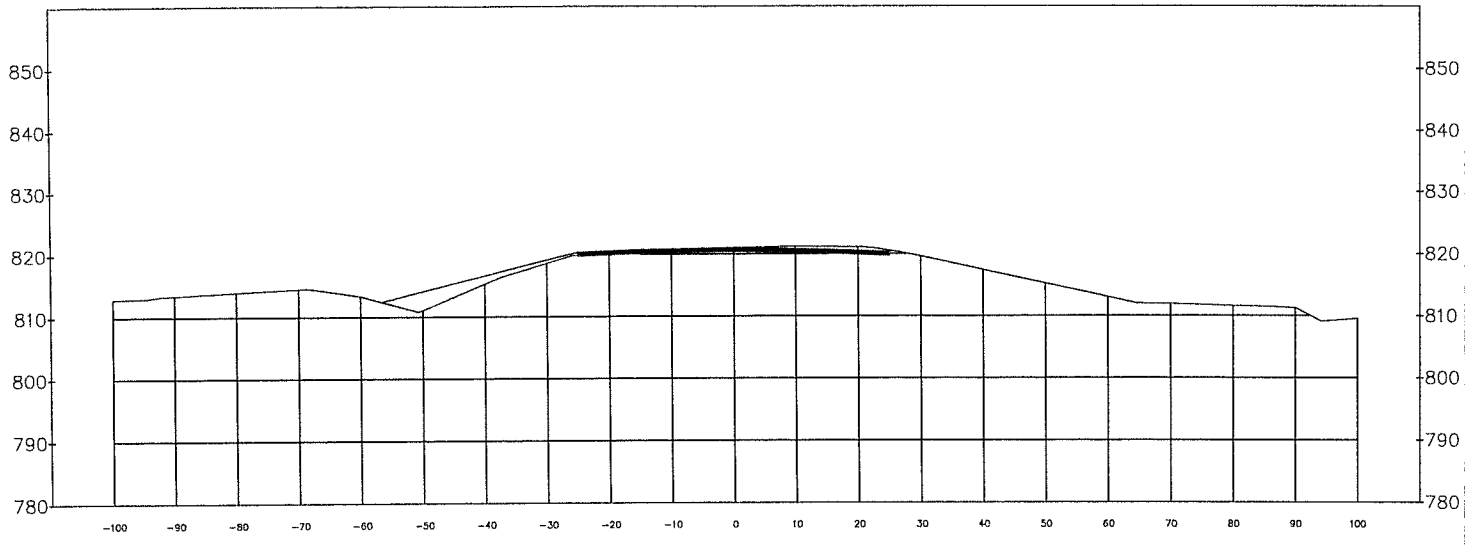
TABULATIONS

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

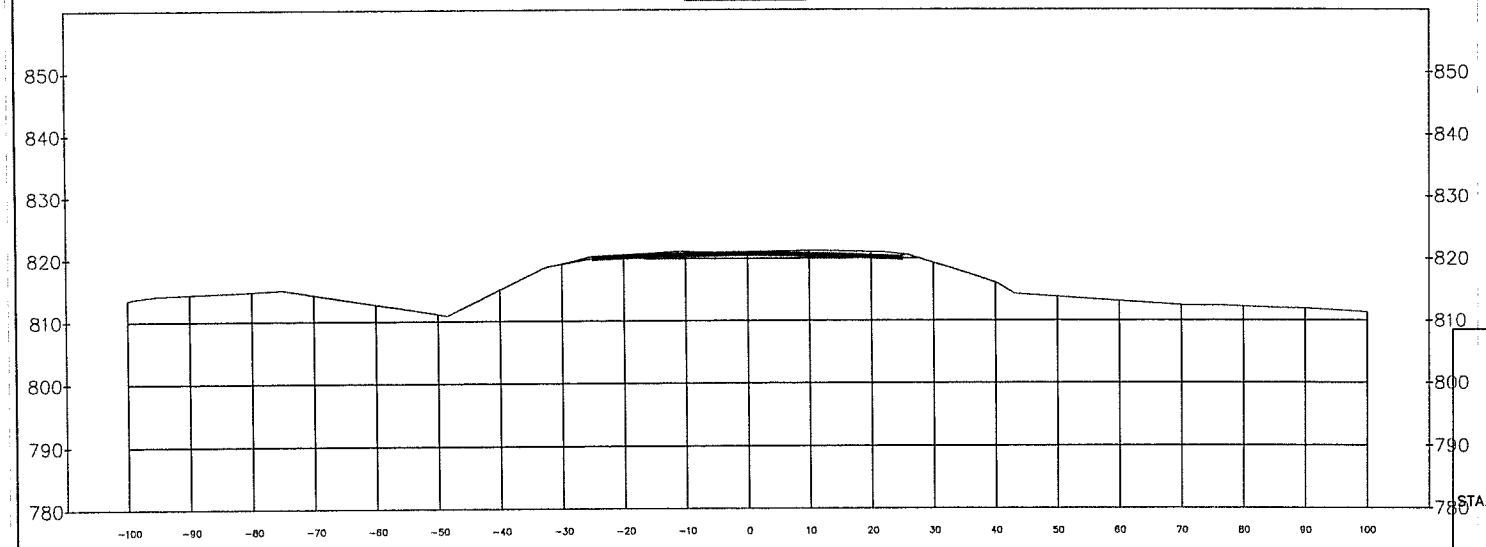
JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

4+16.92



4+40.52



DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

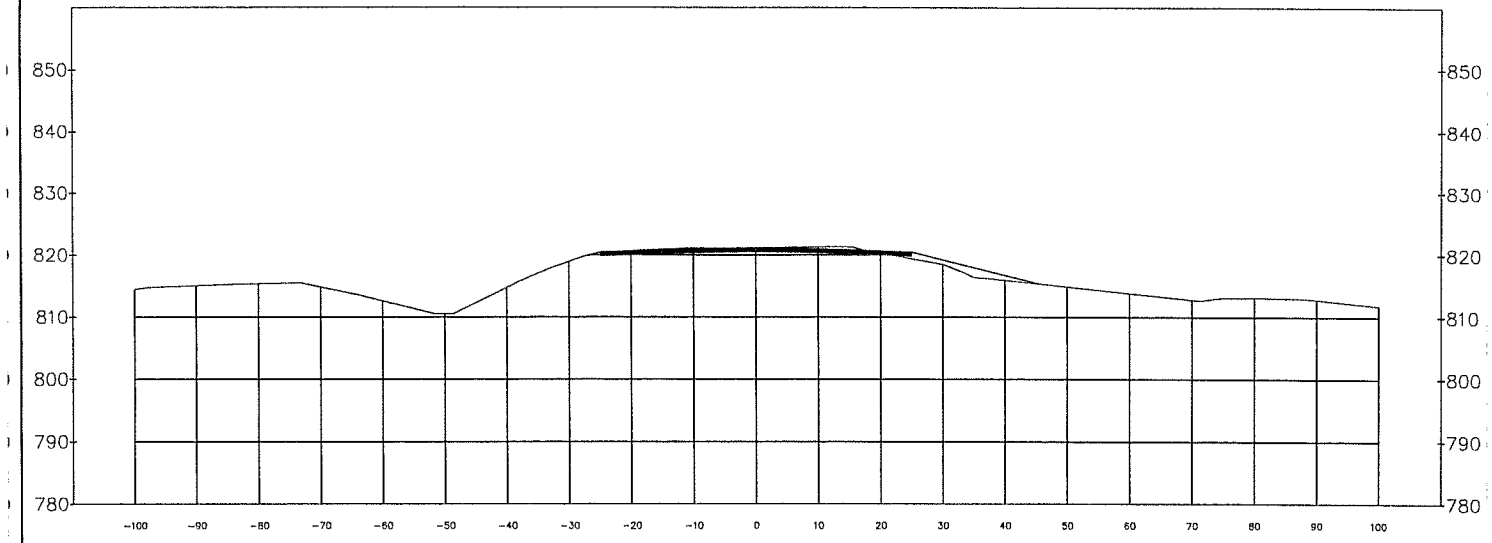
INTEGRAL ABUTMENTS — MONOLITHIC PIERS
42'-6" END SPANS — 55'-0" CENTER SPAN

SITUATION PLAN

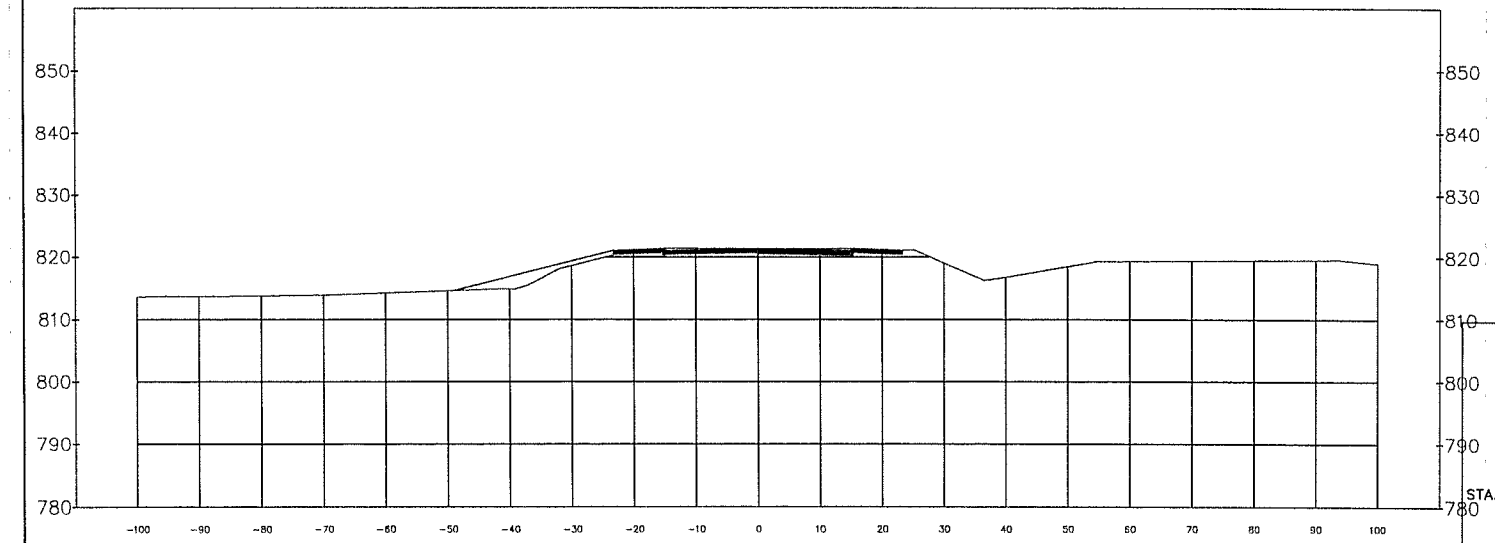
STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

4+58.09



6+29.34



DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS 42'-6" END SPANS

MONOLITHIC PIERS 55'-0" CENTER SPAN

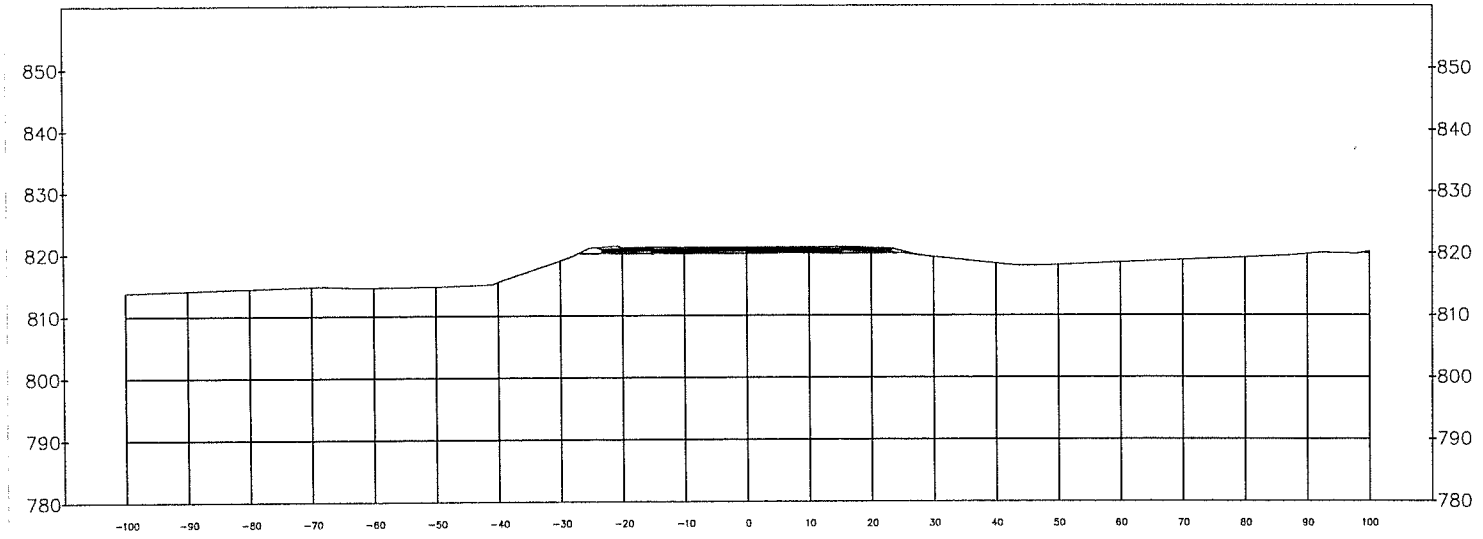
SITUATION PLAN

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

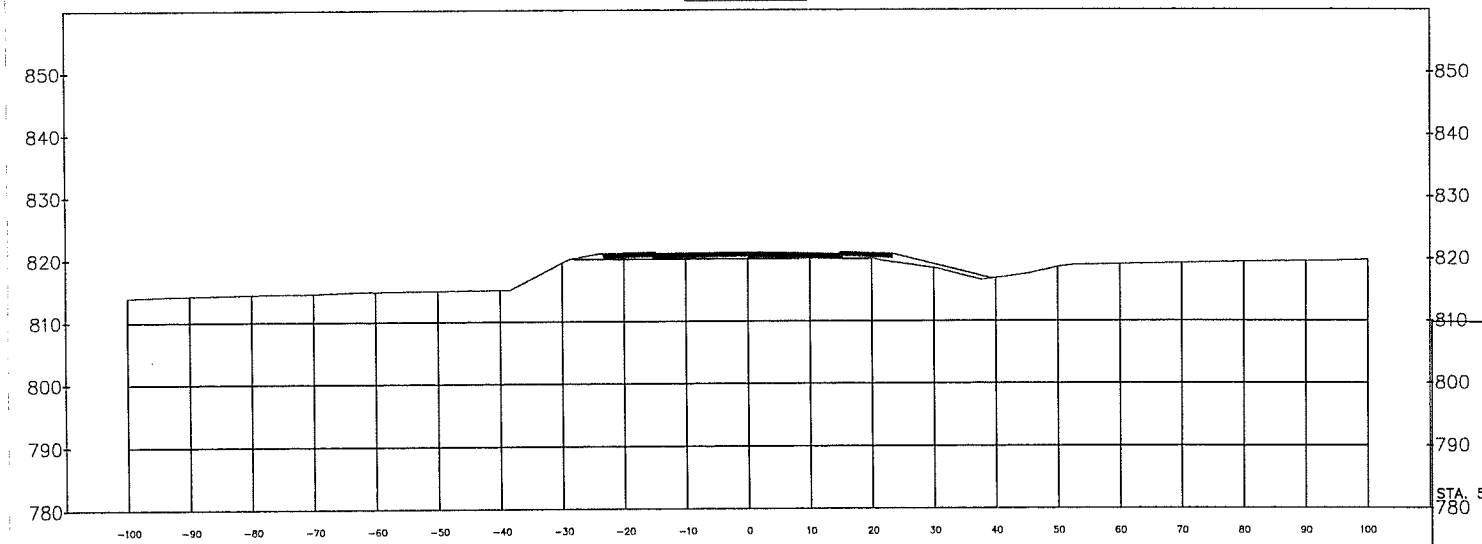
JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

6+72.44



6+54.30



DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

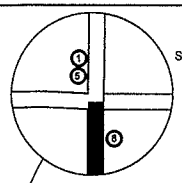
INTEGRAL ABUTMENTS MONOLITHIC PIERS
42'-6" END SPANS 55'-0" CENTER SPAN

SITUATION PLAN

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

DETAIL A
SCALE: NOT TO SCALE



DETAIL B
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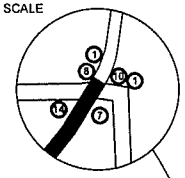
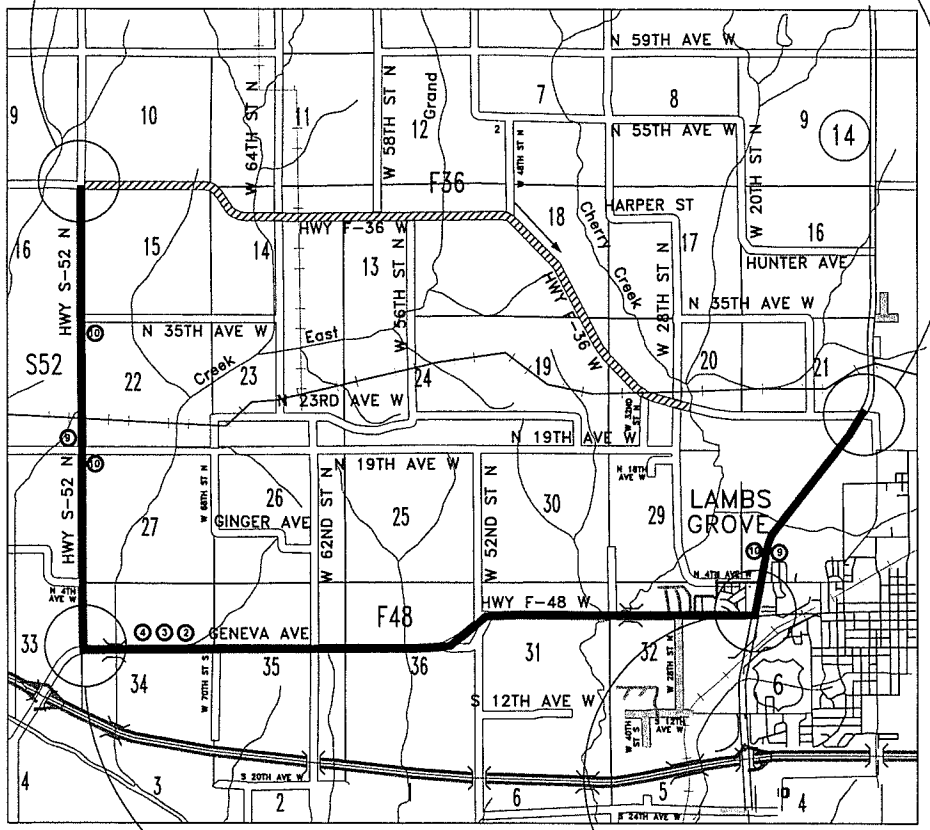
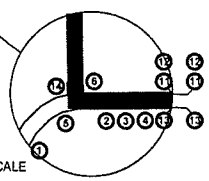


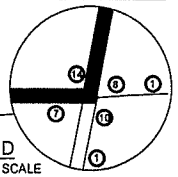


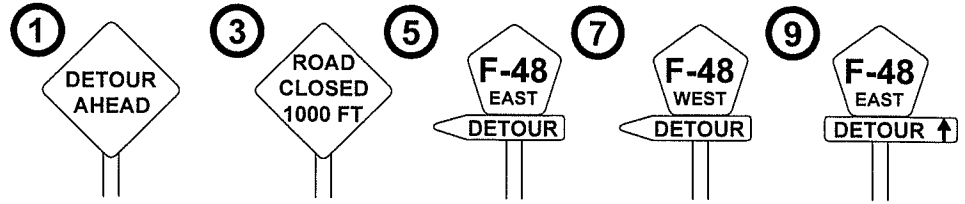
DETOUR ROUTE
SCALE: NOT TO SCALE

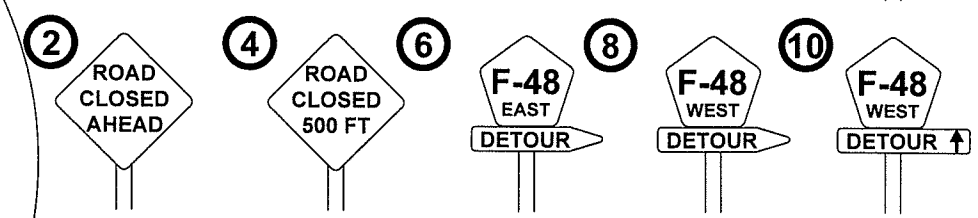
DETAIL C
SCALE: NOT TO SCALE



DETAIL D
SCALE: NOT TO SCALE





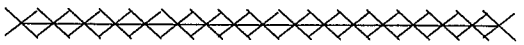


DETOUR ROUTE SIGNS
SCALE: NOT TO SCALE

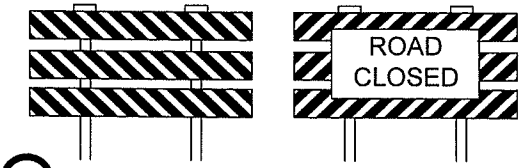
TABULATION

1	5 EACH
2	2 EACH
3	2 EACH
4	2 EACH
5	2 EACH
6	1 EACH
7	2 EACH
8	3 EACH
9	2 EACH
10	4 EACH
11	3 EACH
12	2 EACH
13	2 EACH
14	3 EACH

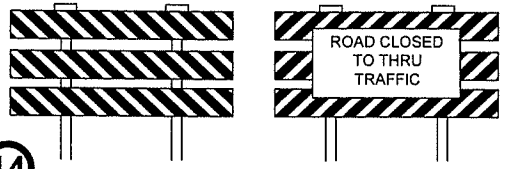
11 REFLECTIVE ORANGE SNOW FENCE SHOULDER TO SHOULDER



12 TYPE III BARRICADE PAIR



13 TYPE III BARRICADE PAIR



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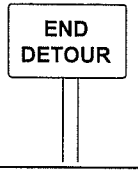


DESIGN FOR 0° SKEW

120'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
36'-6" END SPANS

MONOLITHIC PIERS
47'-0" CENTER SPAN

TRAFFIC CONTROL PLAN

STA. 13+32.15 HWY F48 WEST OVER PRAIRIE CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

PROJECT NUMBER: BRS-SWAP-CO50(121)--FF-50 LETTING DATE: FEBRUARY 19, 2019

JASPER COUNTY BRIDGE REPLACEMENT

LEGEND

DIVIDED HIGHWAY
PAVED ROAD
BITUMINOUS ROAD
GRAVEL ROAD
EARTH ROAD

INTERSTATE HIGHWAY
UNITED STATES HIGHWAY
STATE HIGHWAY
COUNTY HIGHWAY

RAILROAD
AIRPORT
HYDROLOGY
BRIDGE

STATE BOUNDARY
COUNTY BOUNDARY
CORPORATE LIMIT LINE
TOWNSHIP LINE
SECTION LINE

IOWA DEPARTMENT OF TRANSPORTATION

HIGHWAY DIVISION

PLANS OF PROPOSED IMPROVEMENT ON THE

FARM TO MARKET SYSTEM

JASPER COUNTY

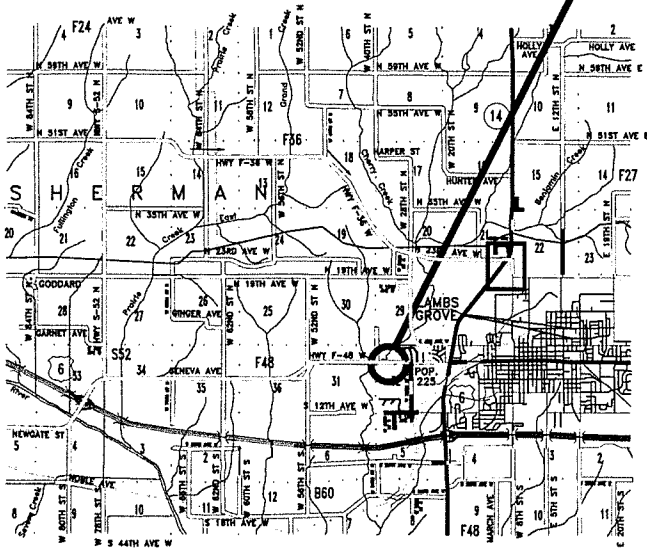
BRS-SWAP-CO50(121)--FF-50

BRIDGE REPLACEMENT - CCSB

ON F48 WEST OVER CHERRY CREEK IN SEC. 30 T-80N, R-19W

FHWA NO. 030450

EXISTING 134' X 29.8' CONCRETE DECK W/ STEEL SUPERSTRUCTURE AND CONCRETE SUBSTRUCTURE REPLACE WITH 140' X 30'-6" CCSB BRIDGE



PROJECT LOCATION

SCALES: AS NOTED

2014 AADT 2520 V.P.D.

50

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS

THIS PROJECT IS NOT COVERED BY AN IOWA DEPARTMENT OF NATURAL RESOURCES NPDES PERMIT. THE AREA WITHIN THE PERMANENT AND TEMPORARY RIGHT OF WAY IS LESS THAN 1 ACRE. THE CONTRACTOR SHALL LIMIT THE AMOUNT OF AREA DISTURBED BY CONSTRUCTION ACTIVITIES TO WITHIN THE RIGHT OF WAY.

THE CONTRACTOR IS REQUIRED TO CONTACT "ONE CALL" AT (800) 292-8989 TO OBTAIN LOCATIONS FOR ALL EXISTING UTILITIES.

WORKING DRAWINGS AND FALSEWORK PLANS AND CALCULATIONS SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF IOWA. FALSEWORK PLANS SHALL INCLUDE AN ESTIMATE FOR SETTLEMENT OF FORMS. PLANS, DRAWINGS AND CALCULATIONS ARE TO BE SENT TO: JASPER COUNTY ENGINEER
911 NORTH 11TH AVE EAST
NEWTON, IOWA 50208

Approved
Board of Supervisors

Date

LICENSED PROFESSIONAL ENGINEER
RUSSELL A. STUTT
18165
IOWA

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.

BY:_____DATE:_____

RUSSELL A. STUTT, P.E. 18165
MY LICENSE RENEWAL DATE IS DEC. 31, 2018

SHEETS COVERED BY THIS SEAL: 1 TO 14

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	QUANTITIES
3	GENERAL NOTES
4	SITUATION PLAN, LONGITUDINAL SECTION, AND HYDRAULIC DATA
5,6,7	SOUNDING DATA
8	SUPERSTRUCTURE DETAILS, TYPICAL SECTIONS
9	TABULATIONS
10,11,12	CROSS SECTIONS
13	EXISTING PLANS FOR REFERENCE ONLY
14	TRAFFIC CONTROL PLAN

MILEAGE SUMMARY

LOCATION		LIN. FT.	MILES
B.O.P. BGN. STA. 2+80.82	E.O.P. END STA. 8+05.82	525	0.0994

STANDARD BRIDGE PLANS

THE FOLLOWING STANDARD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT

STANDARD	DATE	STANDARD	DATE	STANDARD	DATE
J30-01-06	06-13	J30-34-06	06-13		
J30-01A-06	06-13	J30-39-06	07-09		
J30-12E-06	07-16	J30-43-06	12-08		
J30-13E-06	07-09	J30-44-06	07-16		
J30-20-06	06-12	J30-45-06	12-08		
J30-21-06	07-09	J30-46-06	09-14		
J30-23-06	05-14	J30-47-06	07-16		
J30-24-06	07-09	P10L	11-15		

STANDARD ROAD PLANS

THE FOLLOWING STANDARD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT

STANDARD	DATE	STANDARD	DATE	STANDARD	DATE
BA-200	10-18-16	LS-625	04-19-18		
BA-201	04-18-17	LS-630	10-18-18		
BA-202	10-20-15	PV-101	10-16-18		
BR-101	04-21-15	SI-173	04-19-16		
BR-102	10-17-17	SI-211	10-18-16		
EC-201	10-16-18	TC-252	04-19-18		
EC-204	04-18-17				
EW-301	10-20-15				

UTILITY CONTACT INFORMATION

UTILITY COMPANY NAME	ADDRESS	PHONE
Alliant Energy	4902 North Biltmore, Madison, WI 53707-1007	608-458-4871
Black Hills Energy	110 N 4th Ave W., Newton, IA 50208	641-792-1548
Central Iowa Water Assn.	3801 Iowa Speedway Dr., Newton, IA 50208	641-792-7011
Windstream Communications	P.O. Box 10481 Des Moines, IA 50306	877-901-4692
Iowa Network Services	4201 Corporate Drive, West Des Moines, IA	800-205-1110

SECTION 404 PERMIT AND CONDITIONS

281-1
10-18-16

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 14, PERMIT NO. CEMVR-OD-P-2018-1024. A COPY OF THIS PERMIT IS AVAILABLE FROM THE DOT OFFICE OF CONTRACTS UPON REQUEST. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SIGHT WITHOUT PRIOR NOTICE.

ESTIMATED PROJECT QUANTITIES

NO.	ITEM-CODE	ITEM	UNIT	QUANTITY
1	2101-0850001	CLEARING AND GRUBBING	ACRE	1
2	2102-2710070	EXCAVATION, CLASS 10 ROADWAY AND BORROW	CY	380
3	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	1969
4	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	65
5	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	2
6	2301-0690220	BRIDGE APPROACH, TWO LANE	SY	410.3
7	2314-8257000	DUST CONTROL SURFACE TREATMENT	STA	68
8	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	20
9	2401-6745625	REMOVAL OF EXISTING BRIDGE	EACH	1
10	2401-7207040	REMOVAL OF CONCRETE	LS	1
11	2402-2720000	EXCAVATION, CLASS 20	CY	122
12	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	370.9
13	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	87438
14	2414-6424120	CONCRETE OPEN RAILING	LF	302.2
15	2417-0330024	APRONS, SAFETY SLOPE, 24 IN. DIA.	EACH	2
16	2417-1040024	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 24 IN. DIA.	LF	30
17	2501-0201042	PILES, STEEL HP10x42	LF	2210
18	2501-5478042	CONCRETE ENCASEMENT OF STEEL H PILES, HP 10x42(P10L TYPE 3)	LF	528
19	2501-6335010	PREBORED HOLES 12 @ 10' ABUTMENTS	LF	120
20	2505-4008300	STEEL BEAM GUARDRAIL	LF	150
21	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANS SECTION BA-201	EACH	4
22	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4
23	2505-4021720	STEEL BEAM GUARDRAIL END TERMINAL, LS-625	EACH	4
24	2507-3250005	ENGINEER FABRIC	SY	1100
25	2507-6800061	REVETMENT, CLASS E	TON	892
26	2510-6745850	REMOVAL OF PAVEMENT	SY	416
27	2512-1859000	CURB, SPECIAL, AS PER PLAN	LF	100
28	2518-6910000	SAFETY CLOSURE	LS	1
29	2526-8285000	CONSTRUCTION SURVEY	LS	1
30	2528-8445110	TRAFFIC CONTROL	LS	1
31	2533-4980005	MOBILIZATION	LS	1
32	2601-2634100	MULCHING	ACRE	3.8
33	2601-2636043	SEED AND FERTILIZE (RURAL)	ACRE	1.9
34	2601-2636043	STABALIZING CROP- SEEDING AND FERTILIZING	ACRE	1.9
35	2602-0000020	SILT FENCE	LF	1100
36	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	180
37	2602-0000101	MAINTAINANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	1280
38	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. LF STD	LF	600
39	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1
40	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1

NO. BID ITEM NOTES

1 THE CONTRACTING AUTHORITY HAS CUT DOWN TREES GREATER THAN 9" IN DIAMETER DUE TO THE POTENTIAL FOR THESE TREES BEING INHABITATED BY THE INDIANA BAT (MYOTIS SODALIS). THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE DOWN TREES, GRUB THE STUMPS AND CLEAR AND GRUB THE REMAINING TREES.
DISPOSE OF ALL WOOD MATERIAL GENERATED AS A RESULT OF CLEARING AND/OR GRUBBING ACCORDING TO THE IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP'S EMERALD ASH BORER (EAB) QUARANTINE ORDER. FOR MORE INFORMATION REFER TO HTTP://WWW.IOWATREEPESTS.COM/EAB_REGULATIONS.HTML

2 INCLUDES EARTHWORK QUANTITY NEEDED TO CONSTRUCT ABUTMENT BERMS AND GUARDRAIL BLISTERS. UNSUITABLE PORTIONS OF THE CUT MATERIAL SHALL NOT BE INCORPORATED INTO THE SHOULDER EMBANKMENTS. UNSUITABLE MATERIAL CAN BE WASTED IN THE BACKSLOPES OR HAULED OFF SITE AT THE CONTRACTORS EXPENSE.

3 INCLUDES COSTS TO EXCAVATE CHANNEL AND SHAPE TO EXTENTS SHOWN ON LONGITUDINAL SECTION ALONG CENTERLINE OF ROADWAY AND THE LIMITS SHOWN ON THE SITUATION PLAN. SUITABLE MATERIAL MAY BE USED TO CONSTRUCT ABUTMENT BERMS, GUARDRAIL BLISTERS OR BE WASTED ON APPROACH ROADWAY FORESLOPES AS DIRECTED BY THE ENGINEER.

4 SEE TYPICAL SECTION AND TABULATION SHEET 9 .

5 INCLUDES ALL WORK AND FILL MATERIAL NECESSARY TO CONSTRUCT AND SHAPE SHOULDER AREAS. SEE TYPICAL SECTION SHEET 9.

6 SEE TABULATION SHEET 9 AND STANDARD ROAD PLANS BR-102. COARSE AGGREGATE DURABILITY SHALL BE CLASS 3 OR BETTER. METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE PER SECTION 2301 OF THE STANDARD SPECIFICATION. CERTIFIED PLANT INSPECTION IS REQUIRED.

7 CONTRACTOR TO PROVIDE DUST CONTROL ON WEST 52ND STREET NORTH

8 SEE SITUATION PLAN SHEET 4 FOR LOCATION OF RELOCATE ENTRANCES. GRANULAR MATERIAL TO BE PLACED AT A THICKNESS OF 4".

9 REMOVE EXISTING 134'x29.8 ' BRIDGE W / CONCRETE DECK, STEEL SUPERSTRUCTURE AND CONCRETE SUBSTRUCTURE . ALL MATERIAL TO BE REMOVED FROM SITE BY CONTRACTOR AND BECOME PROPERTY OF CONTRACTOR.
SCRAPE SAMPLES WERE TAKEN OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF AND LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. THE ANALYSIS OF TOTAL CHROMIUM IN THE SAMPLE WAS 307 MG/KG. THE ANALYSIS OF TOTAL LEAD IN THE SAMPLE WAS 95,400 MG/KG. THE ANALYSIS SHOWS THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. THE LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH SAFETY REQUIREMENTS. NO OTHER SUBSTANCES WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE CONTRACTING AUTHORITIES TESTING FOR ANY PURPOSE OTHER THAN THE INDICATION OF THE EXISTENCE OF THESE TWO CONSTITUENTS.

10 REMOVAL OF 9,000 S.F. EXISTING CONCRETE SLOPE PROTECTION.

11 CLASS 20 EXCAVATION MAY BE USED TO CONSTRUCT THE ABUTMENT BERM, OR BE WASTED ON THE APPROACH ROADWAY FORESLOPES AS DIRECTED BY THE ENGINEER. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02.D.2 OF THE STANDARD SPECIFICATIONS. UNSUITABLE SOIL SHALL BE WASTED OFF SITE.

12 ALL STRUCTURAL CONCRETE IS CLASS "C". CERTIFIED PLANT INSPECTION IS REQUIRED AND IS INCLUDED IN THIS ITEM. INCLUDES FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), GRANULAR BACKFILL, POROUS BACKFILL, AND SUBDRAIN OUTLETS AT ABUTMENTS. INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED. NO ADDITIONAL PAYMENT FOR HEATING AND PROTECTION OF CONCRETE WILL BE ALLOWED, IF NECESSARY.

13 ALL REINFORCING STEEL SHALL BE GRADE 60.

14 ALL STRUCTURAL CONCRETE FOR THE RAIL IS CLASS "C". CERTIFIED PLANT INSPECTION IS REQUIRED AND IS INCLUDED IN THIS ITEM. NO ADDITIONAL PAYMENT FOR HEATING AND PROTECTION OF CONCRETE WILL BE ALLOWED, IF NECESSARY.

16 ALL PIPE SHALL BE STANDARD CORRUGATIONS, NO HELICALLY CORRUGATED PIPE WILL BE ALLOWED. ALL CONNECTION BANDS SHALL BE 24" WIDE.

17 EACH ABUTMENT 6 HP10X42X65, EACH PIER 11 HP10X42X65, SEE PILE NOTES ON SHEET 5. PILE POINTS SHALL NOT BE USED

18 CERTIFIED PLANT INSPECTION IS REQUIRED AND IS INCLUDED IN THIS ITEM.

20-23 SEE TABULATION SHEET 9 AND STANDARD ROAD PLANS.

24 EXTENTS SHOWN ON SHEET 4

25 EXTENTS SHOWN ON SHEET 4. REVETMENT TO BE PLACED AT A THICKNESS OF 1'-6".

26 SEE TABULATION SHEET 9. EXISTING PAVEMENT CONSISTS OF 12" PCC WITH A 2" HMA OVERLAY. IN ORDER TO AVOID ANY UNNECESSARY SURFACE BREAKS OR PREMATURE SPALLING, THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE WHEN PERFORMING ANY OF THE NECESSARY SAW CUTTING OPERATIONS FOR THE PROPOSED PAVEMENT REMOVAL. SAW CUTS ARE TO BE MADE AT THE STATION INDICATED OR AT THE NEAREST TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.

27 EAST SIDE OF BRIDGE ONLY BOTH SIDES OF NEW APPROACH PAVEMENT.

28 SEE TABULATION SHEET 9

29 THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTANDING THE PLACEMENT AND INTENT OF THE STAKES. THE CONTRACTING AUTHORITY WILL PROVIDE FIELD TIES TO THE SITE SURVEY AT THE TIME OF CONSTRUCTION.

30 ROAD WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION SEE SHEET 9 FOR DETAILS.

32-34 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 FOR "SEEDING AND FERTILIZING (RURAL).

DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

QUANTITIES

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

SPECIFICATIONS
DESIGN: AASHTO LRFD SERIES OF 2004, WITH INTERIMS 2015.
CONSTRUCTION: THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION SERIES 2015, 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 SERIESN OF 2004.
REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.
STRUCTURAL STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 6, ASTM A709 GRADE 36 (AASHTO M270 GRADE 36) OR ASTM A36.
CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, F,C=4,000 PSI EXCEPT PRESTRESSED BEAM CONCRETE AS NOTED.

GENERAL NOTES
THIS DESIGN IS FOR A 100'-0" x 24'-0" CONTINUOUS CONCRETE SLAB BRIDGE ON HIGHWAY F-48 WEST OVER CHERRY CREEK IN JASPER 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.
THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS PERMIT 14, PERMIT #CEMVR-OD-P-2018-1024. A COPY OF THIS PERMIT IS AVAILABLE FROM THE DOT OFFICE OF CONTRACTS UPON REQUEST. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SIGHT WITHOUT PRIOR NOTICE.
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 PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION WEBSITE: http://www.iowadot.gov/erl/index.html.

UTILITY NOTES
IN THE AREA OF CONTRUCTION THE FOLLOWING UTILITIES ARE KNOWN; RURAL WATER LINE OVERHEAD ELECTRIC AND TELEPHONE. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATES. 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 CONTRACTORS 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
A SCRAPE SAMPLE OF THE EXISTING PAINT WAS TAKEN FROM A STEEL BEAM 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 95400 mg/kg. ANALYSIS TOTAL CHROMIUM ON THIS SAMPLE WAS 307 mg/kg. 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 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."

STREAM CROSSING NOTES
THE CONTRACTOR IS ENCOURAGED TO CONDUCT CONSTRUCTION ACTIVITIES DURING A PERIOD OF LOW FLOW. ANY TEMPORARY CROSSINGS SHALL INCLUDE ENOUGH CULVERTS TO ACCOMMODATE LOW FLOWS AND MUST BE REMOVED AFTER COMPLETION OF WORK ON THIS PROJECT. TEMPORARY STREAM CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD ROAD PLAN EW-401. THE COST OF INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY CROSSINGS INCLUDING CULVERTS, SHALL BE INCLUDED IN THE PRICE BID FOR "MOBILIZATION."
EQUIPMENT FOR HANDLING AND CONVEYING MATERIALS DURING CONSTRUCTION SHALL BE OPERATED TO PREVENT DUMPING OR SPILLING THE MATERIAL INTO WATERBODIES, STREAMS OR WETLANDS
CARE SHALL BE TAKEN TO PREVENT ANY PETROLEUM PRODUCTS, CHEMICALS OR OTHER DELETERIOUS MATERIALS FROM ENTERING WATERBODIES, STREAMS OR WETLANDS.
CONSTRUCTION EQUIPMENT, ACTIVITIES AND MATERIALS SHALL BE KEPT OUT OF THE STREAMS , WATERBODIES AND WETLANDS TO THE MAXIMUM EXTENT POSSIBLE.

CONCRETE AND REINFORCING STEEL NOTES
ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED. BAR CHAIRS SPACED AT NOT N THAN 3'-0" CENTERS IN EITHER DIRECTION SHALL BE USED TO SUPPORT ALL REINFORCING IN ACCORDANCE WITH THE SECTION 2404 OF STANDARD SPECIFICATIONS.
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, BEVEL. USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM THE VERTICAL.

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.

PILING NOTES
THIS PROJECT USES THE LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODOLOGY FOR DETERMINING PILE CONTRACT LENGTH AND NOMINAL AXIAL BEARING RESISTANCE. NOMINAL AXIAL BEARING RESISTANCES WILL BE LARGER THAN BEARING VALUES IN THE PAST, BUT CONSTRUCTION CONTROL BLOW COUNTS WILL BE APPROXIMATELY THE SAME.
A WEAP ANALYSIS AND BEARING GRAPH WILL BE PREPARED BY THE CONTRACTING AUTHORITY THAT GIVES THE RELATIONSHIP BETWEEN REQUIRED NOMINAL AXIAL BEARING RESISTANCE AND BLOW COUNT.
FOR THE CONTRACTOR'S BIDDING PURPOSES, PARTICULARLY FOR THE SIZING OF THE PILE DRIVING HAMMER, THE APPROXIMATE PREVIOUS DESIGN METHODOLOGY BEARING VALUES AT END OF DRIVE (EOD) ARE GIVEN BELOW. THESE VALUES SHALL NOT BE USED FOR CONSTRUCTION CONTROL AND ARE GIVEN ONLY FOR COMPARATIVE PURPOSES.

ABUTMENT PILES, LRFD CONTRACT LENGTH AND RESISTENCE
THE CONTRACT LENGTH OF 65 FEET FOR THE ABUTMENT PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 93 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.77.

ABUTMENT PILES, DRIVING AND CONSTRUCTION
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR ABUTMENT PILES IS 72 TONS AT END OF DRIVE. IF RETAPS ARE NECESSARY TO ACHIEVE BEARING, THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE IS 72 TONS AT ONE-DAY. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

PIER PILES, LRFD CONTRACT LENGTH AND RESISTANCE
THE CONTRACT LENGTH OF 65 FEET FOR THE PIER PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 103 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.77. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

PIER PILES, DRIVING AND CONSTRUCTION CONTROL
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR PIER PILES IS 80 TONS AT END OF DRIVE. IF RETAPS ARE NECESSARY TO ACHIEVE BEARING, THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE IS 80 TONS AT ONE-DAY. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

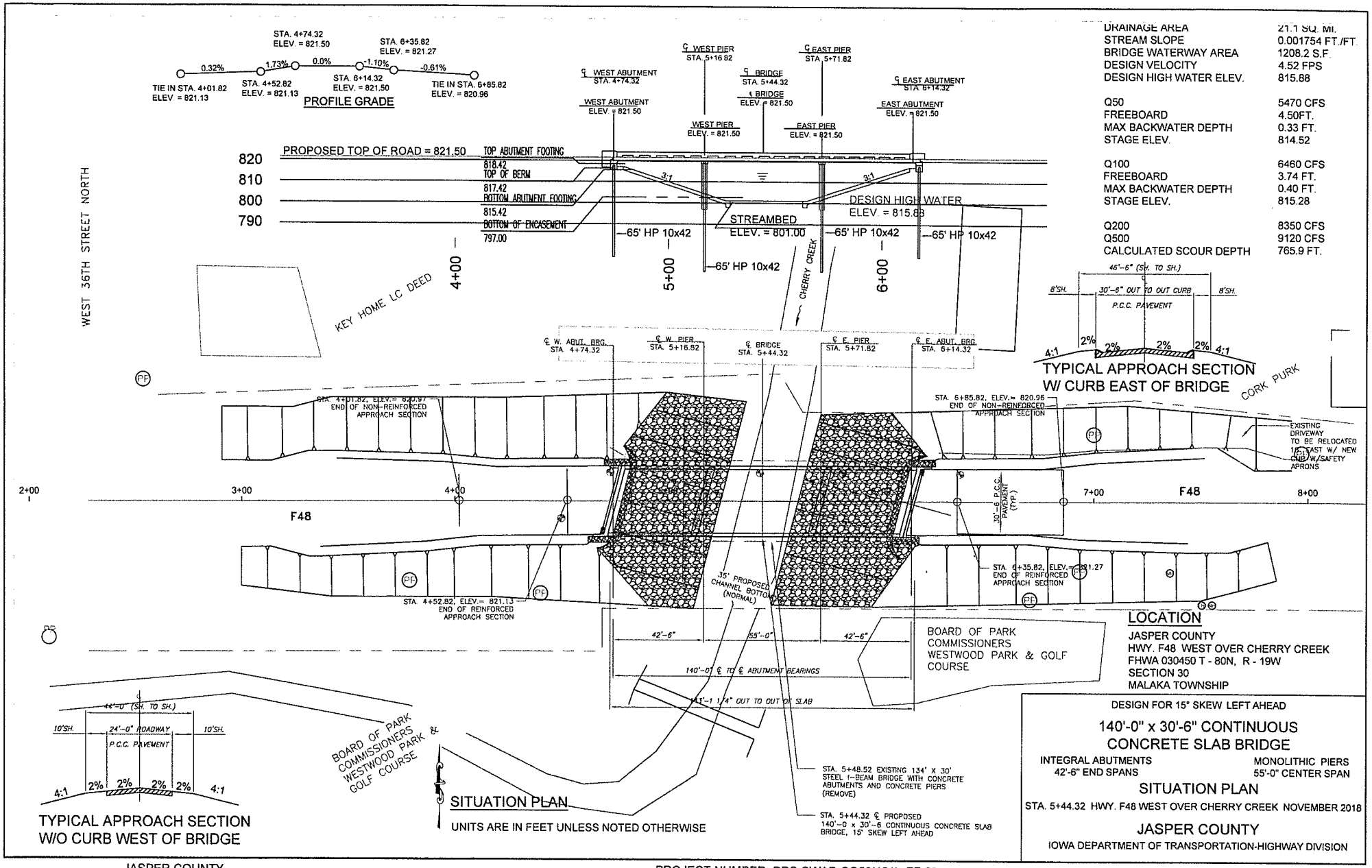
MONOLITHIC PIERS
55'-0" CENTER SPAN

GENERAL NOTES

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK JULY 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



DRAINAGE AREA	21.1 SQ. MI.
STREAM SLOPE	0.001754 FT./FT.
BRIDGE WATERWAY AREA	1208.2 S.F.
DESIGN VELOCITY	4.52 FPS
DESIGN HIGH WATER ELEV.	815.88
Q50	5470 CFS
FREEBOARD	4.50FT.
MAX BACKWATER DEPTH	0.33 FT.
STAGE ELEV.	814.52
Q100	6460 CFS
FREEBOARD	3.74 FT.
MAX BACKWATER DEPTH	0.40 FT.
STAGE ELEV.	815.28
Q200	8350 CFS
Q500	9120 CFS
CALCULATED SCOUR DEPTH	765.9 FT.

LOCATION

JASPER COUNTY
HWY. F48 WEST OVER CHERRY CREEK
FHWA 030450 T - 80N, R - 19W
SECTION 30
MALAKA TOWNSHIP

DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

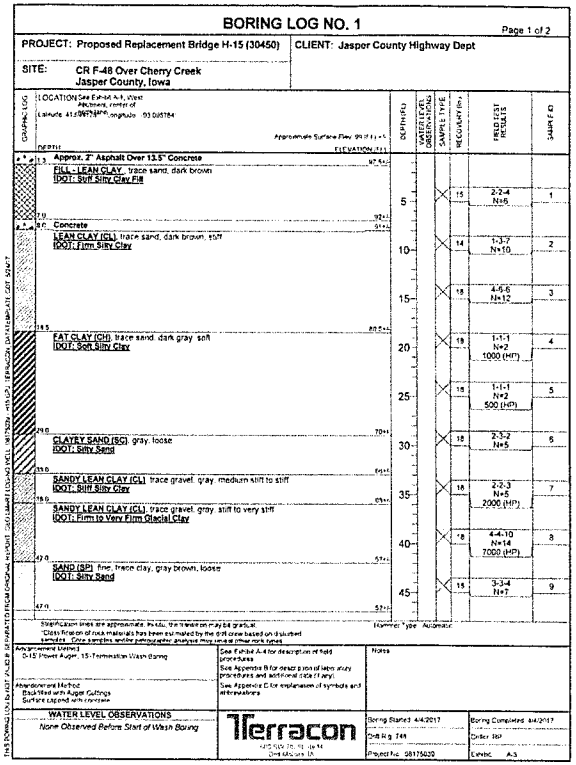
MONOLITHIC PIERS
55'-0" CENTER SPAN

SITUATION PLAN

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



BORING LOG NO. 1 Page 1 of 2

PROJECT: Proposed Replacement Bridge H-15 (30450) CLIENT: Jasper County Highway Dept

SITE: CR F-48 Over Cherry Creek Jasper County, Iowa

LOCATION See Exhibit A-1, West Abutment, center of Latitude 41.896183° Longitude -93.065784°

Approximate Surface Elev: 99.5 (ft) +/-

DEPTH	ELEVATION (ft)	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
Approx. 2" Asphalt Over 13.5" Concrete	97.5+/-						
FILL - LEAN CLAY: trace sand, dark brown IDOT: Stiff Silty Clay Fill	97.0+/-				15	2-2-4 N=6	1
P.C. Concrete	92+/-						
LEAN CLAY (CL): trace sand, dark brown, stiff IDOT: Firm Silty Clay	91+/-	5			14	1-3-7 N=10	2
		10			18	4-5-6 N=12	3
FAT CLAY (CH): trace sand, dark gray, soft IDOT: Soft Silty Clay	80.5+/-	15			19	1-1-1 N=2 1000 (HP)	4
		20			18	1-1-1 N=2 500 (HP)	5
CLAYEY SAND (SC): gray, loose IDOT: Silty Sand	70+/-	25			18	2-3-2 N=5	6
SANDY LEAN CLAY (CL): trace gravel, gray, medium stiff to stiff IDOT: Stiff Silty Clay	64+/-	30			18	2-2-3 N=5 2000 (HP)	7
SANDY LEAN CLAY (CL): trace gravel, gray, stiff to very stiff IDOT: Firm to Very Firm Glacial Clay	57+/-	35			*8	4-4-10 N=14 7000 (HP)	8
SAND (SP): fine, trace clay, gray brown, loose IDOT: Silty Sand	52+/-	40			15	3-3-4 N=7	9
		45					

Stratification lines are approximate. In-situ, the transition may be gradual.
*Classification of rock matrix material has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Hammer Type: Automatic

Advancement Method: 6-1/2 Power Auger, 15-Termination Wash Boring

Abandonment Method: Backfilled with Auger Cuttings. Surface capped with concrete

See Exhibit A-4 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations.

Notes:

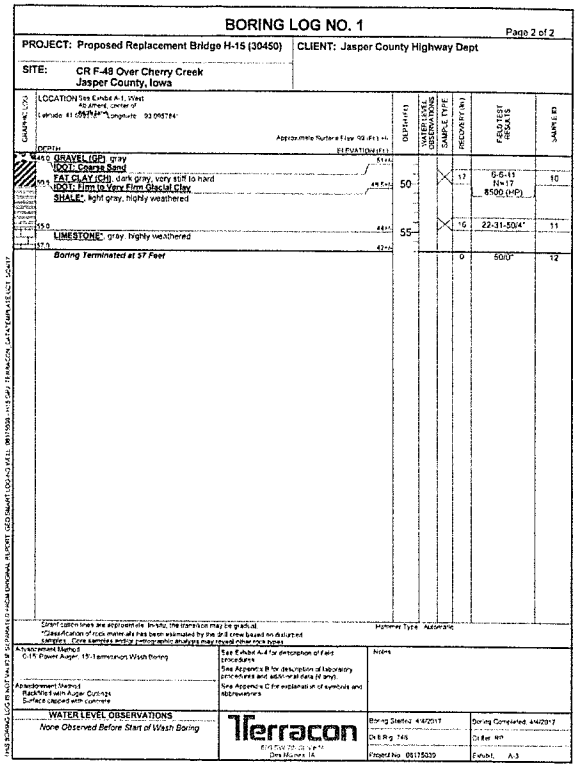
WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/4/2017 Boring Completed: 4/4/2017

Drill Rig: 748 Driller: RP

Project No.: 08175039 Exhibit: A-3



BORING LOG NO. 1 Page 2 of 2

PROJECT: Proposed Replacement Bridge H-15 (30450) CLIENT: Jasper County Highway Dept

SITE: CR F-48 Over Cherry Creek Jasper County, Iowa

LOCATION See Exhibit A-1, West Abutment, center of Latitude 41.896183° Longitude -93.065784°

Approximate Surface Elev: 99.5 (ft) +/-

DEPTH	ELEVATION (ft)	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
GRAVEL (GP): gray IDOT: Coarse Sand	81.5+/-						
FAT CLAY (CH): dark gray, very stiff to hard IDOT: Firm to Very Firm Glacial Clay	49.5+/-	50			17	6-6-11 N=17 8500 (HP)	10
SHALE*: light gray, highly weathered	44+/-	55			16	22-31-50/4"	11
LIMESTONE*: gray, highly weathered	42+/-				0	50/0"	12
Boring Terminated at 57 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.
*Classification of rock matrix material has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Hammer Type: Automatic

Advancement Method: 6-1/2 Power Auger, 15-Termination Wash Boring

Abandonment Method: Backfilled with Auger Cuttings. Surface capped with concrete

See Exhibit A-4 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations.

Notes:

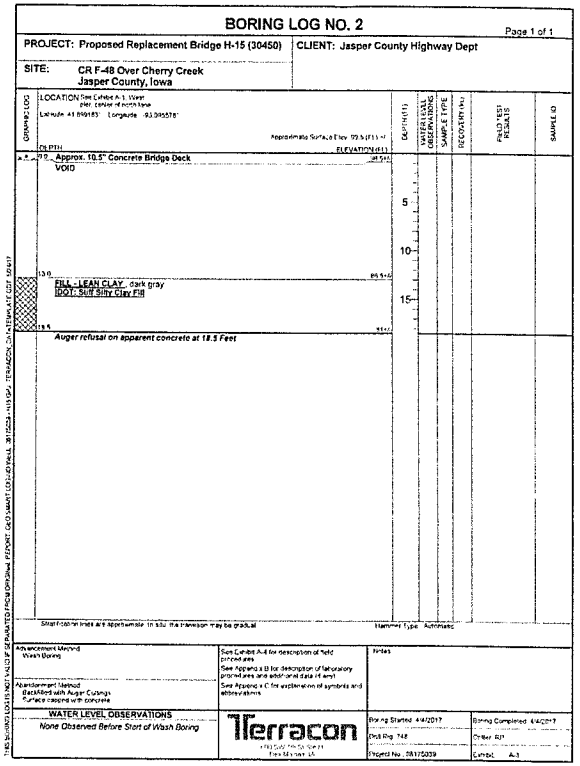
WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/4/2017 Boring Completed: 4/4/2017

Drill Rig: 748 Driller: RP

Project No.: 08175039 Exhibit: A-3



BORING LOG NO. 2 Page 1 of 1

PROJECT: Proposed Replacement Bridge H-15 (30450) CLIENT: Jasper County Highway Dept

SITE: CR F-48 Over Cherry Creek Jasper County, Iowa

LOCATION See Exhibit A-1, West Abutment, center of north face. Latitude 41.896183° Longitude -93.065578°

Approximate Surface Elev: 99.5 (ft) +/-

DEPTH	ELEVATION (ft)	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
Approx. 10.5" Concrete Bridge Deck	99.5+/-						
VOID		5					
	89.5+/-	10					
FILL - LEAN CLAY: dark gray IDOT: Stiff Silty Clay Fill	84+/-	15					
Auger refusal on apparent concrete at 18.5 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method: Wash Boring

Abandonment Method: Backfilled with Auger Cuttings. Surface capped with concrete

See Exhibit A-4 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS: None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/4/2017 Boring Completed: 4/4/2017

Drill Rig: 748 Driller: RP

Project No.: 08175039 Exhibit: A-3

DESIGN FOR 14° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

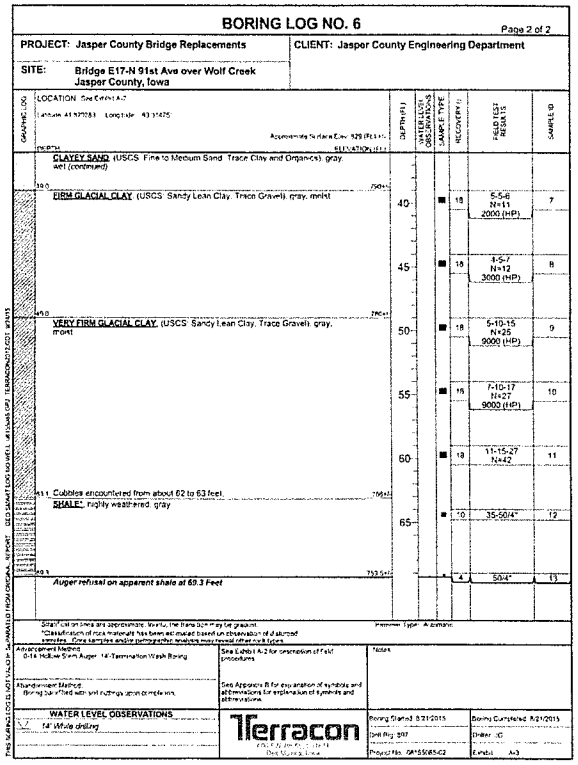
MONOLITHIC PIERS
55'-0" CENTER SPAN

BORINGS

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



BORING LOG NO. 6

Page 2 of 2

PROJECT: Jasper County Bridge Replacements

CLIENT: Jasper County Engineering Department

SITE: Bridge E17-N 91st Ave over Wolf Creek
Jaspor County, Iowa

LOCATION See Exhibit A-2

Latitude 41.937083 Longitude -93.31475

Approximate Surface Elev: 929 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE ID
39.0	790+/-	CLAYEY SAND (USCS: Fine to Medium Sand, Trace Clay and Organics), gray, wet (continued)						
49.0	780+/-	FIRM GLACIAL CLAY (USCS: Sandy Lean Clay, Trace Gravel), gray, moist	40		■	18	5-5-6 N=11 2000 (HP)	7
			45		■	18	4-5-7 N=12 3000 (HP)	8
69.0	760+/-	VERY FIRM GLACIAL CLAY (USCS: Sandy Lean Clay, Trace Gravel), gray, moist	50		■	18	5-10-15 N=25 9000 (HP)	9
			55		■	15	7-10-17 N=27 9000 (HP)	10
69.1	759+/-	Cobbles encountered from about 62 to 63 feet.	60		■	18	11-15-27 N=42	11
69.3	759.5+/-	SHALE: highly weathered, gray	65		■	10	35-50/4"	12
		Auger refusal on apparent shale at 69.3 Feet			■	4	50/4"	13

Stratification lines are approximate. In-situ, the transition may be gradual.
Classification of rock materials has been based upon observation of disturbed samples. Rock samples and/or borings may reveal other rock types.

Hammer Type: A: Automatic

Advancement Method:
6.0 in Hollow Stem Auger 14'-Termination Wash Boring

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-2 for description of field procedures.

See Appendix B for explanation of symbols and abbreviations for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

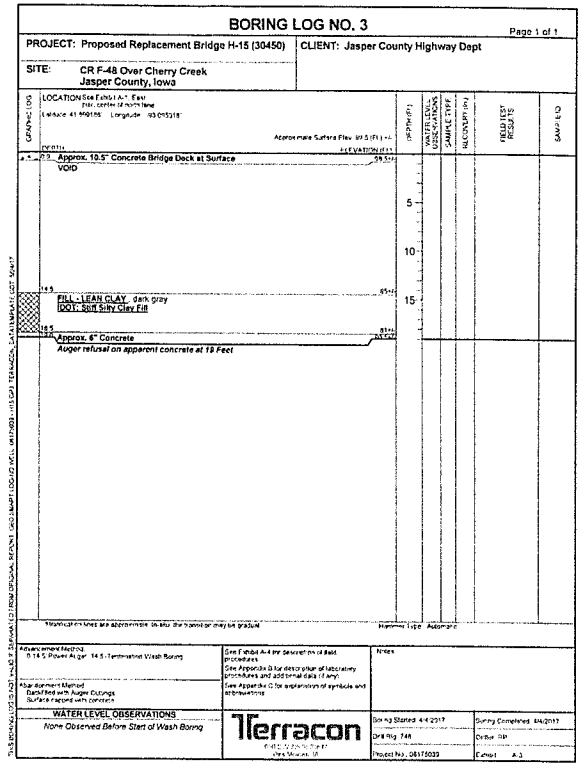
14' While drilling

Terracon

Boring Started: 8/21/2015 | Boring Completed: 8/21/2015

Drill Rig: 597 | Driller: JC

Project No.: 08155085-02 | Exhibit: A-3



BORING LOG NO. 3

Page 1 of 1

PROJECT: Proposed Replacement Bridge H-15 (30450)

CLIENT: Jasper County Highway Dept

SITE: CR F-48 Over Cherry Creek
Jasper County, Iowa

LOCATION See Exhibit A-1 East
Pier, center of north end

Latitude: 41.990156 Longitude: -93.015318

Approximate Surface Elev: 99.5 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE ID
0.3	99.5+/-	Approx. 10.5" Concrete Bridge Deck at Surface						
		VOID	5					
14.5	85+/-	FILL: LEAN CLAY, dark gray	10					
		DOT: SUIT Silty Clay Fill	15					
15.5	83+/-	Approx. 6" Concrete						
16.0	83.5+/-	*Auger refusal on apparent concrete at 16 Feet*						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
6.14.5 Rotary Auger 14.5-Termination Wash Boring

Abandonment Method:
Backfilled with Auger Cuttings
Surface capped with concrete

See Exhibit A-4 for Description of Field procedures

See Appendix B for description of laboratory procedures and additional data (if any)

See Appendix C for explanations of symbols and abbreviations

Notes:

WATER LEVEL OBSERVATIONS

None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/4/2017 | Boring Completed: 4/4/2017

Drill Rig: 748 | Driller: BR

Project No.: 08175039 | Exhibit: A-3

DESIGN FOR 14° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

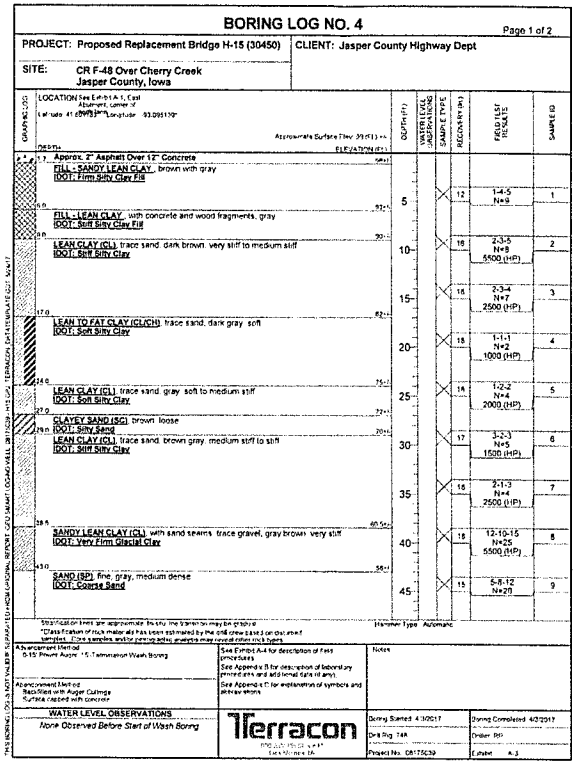
MONOLITHIC PIERS
55'-0" CENTER SPAN

BORINGS

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



BORING LOG NO. 4 — Page 1 of 2

PROJECT: Proposed Replacement Bridge H-15 (30450) | CLIENT: Jasper County Highway Dept

SITE: CR F-48 Over Cherry Creek, Jasper County, Iowa

LOCATION See Exhibit A-1, East Abutment, center of
Latitude: 41.6[illegible]° Longitude: 93.0951[illegible]°
Approximate Surface Elev: 99.0 (ft) +/-

DEPTH	ELEVATION (ft)	DESCRIPTION	DEPTH (ft)	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
0.7	98+/-	Approx. 2" Asphalt Over 12" Concrete					
		FILL - SANDY LEAN CLAY, brown with gray (DOT: Firm Silty Clay Fill					
6.0	93+/-						
		FILL - LEAN CLAY, with concrete and wood fragments, gray (DOT: Soft Silty Clay Fill					
8.0	91+/-						
		LEAN CLAY (CL), trace sand, dark brown, very stiff to medium stiff (DOT: Stiff Silty Clay					
17.0	82+/-						
		LEAN TO FAT CLAY (CL/CH), trace sand, dark gray, soft (DOT: Soft Silty Clay					
24.5	74+/-						
		LEAN CLAY (CL), trace sand, gray, soft to medium stiff (DOT: Soft Silty Clay					
27.0	72+/-						
29.0	70+/-	CLAYEY SAND (SC), brown, loose (DOT: Silty Sand					
		LEAN CLAY (CL), trace sand, brown gray, medium stiff to stiff (DOT: Stiff Silty Clay					
38.5	60.5+/-						
		SANDY LEAN CLAY (CL), with sand seams, trace gravel, gray brown, very stiff (DOT: Very Firm Glacial Clay					
43.0	56+/-						
		SAND (SP), fine, gray, medium dense (DOT: Coarse Sand					

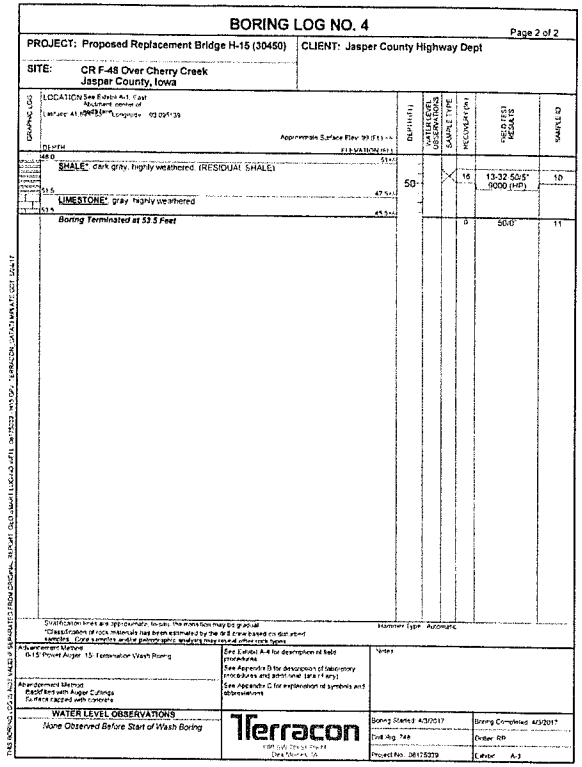
Stratification lines are approximate. In-situ, the transition may be gradual.
Hammer Type: Automatic
*Classification of rock material has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method: 6-15" Power Auger, 15" Termination Wash Boring
Abandonment Method: Backfilled with Auger Cuttings, Surface capped with concrete
See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional tests (if any).
See Appendix C for explanation of symbols and abbreviations.
Notes:

WATER LEVEL OBSERVATIONS
None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/3/2017 | Boring Completed: 4/3/2017
Drill Rig: 74R | Driller: RP
Project No.: 08175039 | Exhibit: A-3



BORING LOG NO. 4 — Page 2 of 2

PROJECT: Proposed Replacement Bridge H-15 (30450) | CLIENT: Jasper County Highway Dept

SITE: CR F-48 Over Cherry Creek, Jasper County, Iowa

LOCATION See Exhibit A-1, East Abutment, center of
Latitude: 41.6[illegible]° Longitude: 93.095[illegible]°
Approximate Surface Elev: 99.0 (ft) +/-

DEPTH	ELEVATION (ft)	DESCRIPTION	DEPTH (ft)	SAMPLE TYPE	RECOVERY (in)	FIELD TEST RESULTS	SAMPLE ID
48.0	51+/-	SHALE, dark gray, highly weathered (RESIDUAL SHALE)	50		16	13-32 50/5" 9000 (HP)	10
51.5	47.5+/-	LIMESTONE, gray, highly weathered					
53.5	45.5+/-	Boring Terminated at 53.5 Feet			0	50/0	11

Stratification lines are approximate. In-situ, the transition may be gradual.
Hammer Type: Automatic
*Classification of rock materials has been estimated by the drill crew based on disturbed samples. Core samples and/or petrographic analysis may reveal other rock types.

Advancement Method: 6-15" Power Auger, 15" Termination Wash Boring
Abandonment Method: Backfilled with Auger Cuttings, Surface capped with concrete
See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional tests (if any).
See Appendix C for explanation of symbols and abbreviations.
Notes:

WATER LEVEL OBSERVATIONS
None Observed Before Start of Wash Boring

Terracon

Boring Started: 4/3/2017 | Boring Completed: 4/3/2017
Drill Rig: 74R | Driller: RP
Project No.: 08175039 | Exhibit: A-3

DESIGN FOR 14° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

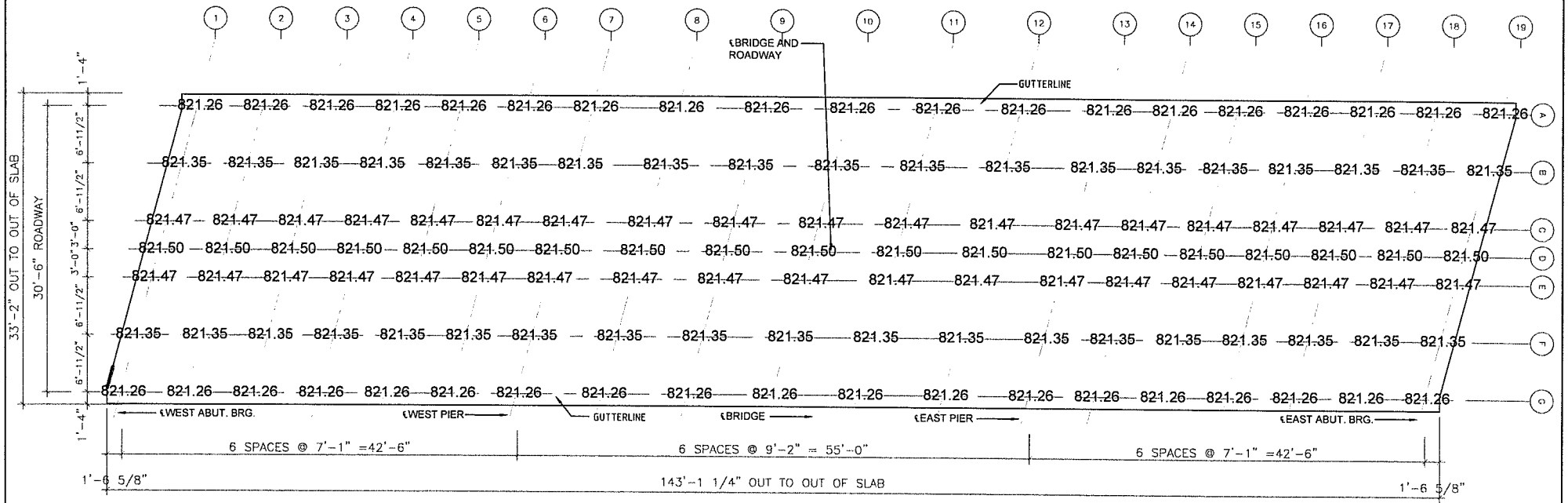
BORINGS

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

TOP OF SLAB ELEVATIONS													
LOCATION	C.L. w. ABUT. BRG.				C.L. PIER #1				C.L. PIER #2				C.L. . ABUT. BRG.
	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8	LINE 9	LINE 10	LINE 11	LINE 12	LINE 13
WEST GUTTER LINE	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26
INTERMEDIATE LINE A	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35
CROWN LINE B	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47
C.L. APPROACH ROADWAY	821.50	821.50	821.50	821.50	821.50	821.50	821.50	821.50	821.50	821.50	821.50	821.50	821.50
CROWN LINE C	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47	821.47
INTERMEDIATE LINE D	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35	821.35
EAST GUTTER LINE	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26	821.26



DECK ELEVATIONS

NOTE: REFER TO STANDARD BRIDGE PLANS FOR FORM CAMBER REQUIREMENTS TO COMPENSATE FOR THE ANTICIPATED ULTIMATE DEAD LOAD DEFLECTION.

DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

SUPERSTRUCTURE DETAILS, TYP. SECTIONS

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Refer to BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-250, SI-172, SI-173 and SI-211.

Lane(s) to which the obstacle is adjacent.

Location No.	Direction of Traffic	Location Side (O = Outside, M = Median)	Location Station	Location Offset	Layout Lengths BA-250 VT1	VF	VT2	ET	Long-Span System BA-211 STATION	BA-211 TYPE	Delineators and Object Markers SI-211 TYPE	Delineator SI-172 Type 1 White	Object Marker SI-173 Type 2 OM2-2	Type 3 OM3-L	Type 3 OM3-R	Bid Items Bolted End Anchor BA-202 TYPE	BA-202 EACH	Barrier Transition Section BA-201 EACH	Steel Beam Guardrail BA-200 LF	End Terminal Standard LS-625 EACH	End Terminal Flared BA-206 EACH	Post Adapter BA-210 EACH	Remarks
				FT	LF	LF	LF	LF	STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	LF	EACH	EACH	EACH	
1	WB	O	4+69.8	15.79	53.125	25.00	0.00	50.0			2		4		1	A	1	1	37.5	1			
2	EB	O	5+61.75	15.79	53.125	25.00	0.00	50.0			2		4	1		A	1	1	37.5	1			
3	WB	O	6+26.89	15.79	53.125	25.00	0.00	50.0			2		4	1		A	1	1	37.5	1			
4	EB	O	6+18.85	15.79	53.125	25.00	0.00	50.0			2		4		1	A	1	1	37.5	1			

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

This Data Entry Sheet fills Tab 108-13A effective 08-01-08

Station	Closure Type Road Qty.	Hazard Qty.	Remarks
2+80.82	1	0	WEST END
8+05.82	1	0	EAST END

GRADING FOR GUARDRAIL INSTALLATIONS

Lane(s) to which the installation is adjacent.

Location No.	Direction of Traffic	Location Station	Location Side	Foreslope at Guardrail	Dimensions (Feet) X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Earthwork Excavation Class 10 CY	Embankment In Place CY	Remarks
1	WB	4+69.8	LT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			
2	EB	5+61.75	RT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			
3	WB	6+26.89	LT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			
4	EB	6+18.85	RT	3:1	52.5	0.3	77.4	2.8	77.4	2.8	127.4	4.8	38.0			

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item

Location Bridge Station	End	Skew Ahead Degrees LEFT	Skew Ahead Degrees RIGHT	Approach Pavement Thickness Inches	Pay Length FT	Non-Reinf. Pavement Area SY	Single-Reinf. Pavement Area SY	Double-Reinf. Pavement Area SY	Standard Road Plans BR Series Approach	Fixed or Movable Abutment	Abutting Pavement	Subdrain * Perforated Subdrain 4" LF	Subdrain Outlet STA	Subdrain Outlet Side	Porous Backfill CY	Class 'A' Crushed Stone Backfill CY	Modified Subbase TON	Polymer Grid SY	Remarks
5+44.32	W	15	0	10	70	133.3	71.8	-	BR-102	MOVEABLE	HMA/PCC	0			0	0	218	240	
5+44.32	E	15	0	10	70	133.3	71.8	-	BR-102	MOVEABLE	HMA/PCC	0			0	0	218	240	

OUT TO OUT OF REINFORCED SECTION IS 33'-1"

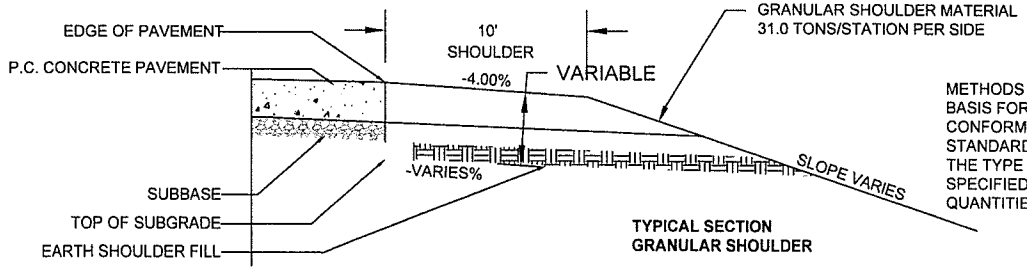
GRANULAR SHOULDER

Begin Station	End Station	Side	WIDTH FT	DEPTH INCHES	DESIGN QUANTITY RATE EARTH SHOULDER MATERIAL PER SHOULDER PER STATION
4+01.82	4+52.82	BOTH	10	6	12.8 RT.

REMOVAL OF PAVEMENT

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area FT	Area SY	Saw Cut* LF	Remarks
4+01.82	4+81.52	BOTH	HMA/PCC	2194	244	26.0	
6+15.52	6+85.82	BOTH	HMA/PCC	2144	238	30.6	INCLUDING 4" CURB EACH SIDE



TYPICAL SECTION
GRANULAR SHOULDER

METHODS OF CONSTRUCTION AND BASIS FOR PAYMENT SHALL BE IN CONFORMANCE WITH CURRENT STANDARD SPECIFICATIONS FOR THE TYPE OF SHOULDER WORK SPECIFIED IN ESTIMATE AND QUANTITIES FOR THE PROJECT

DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

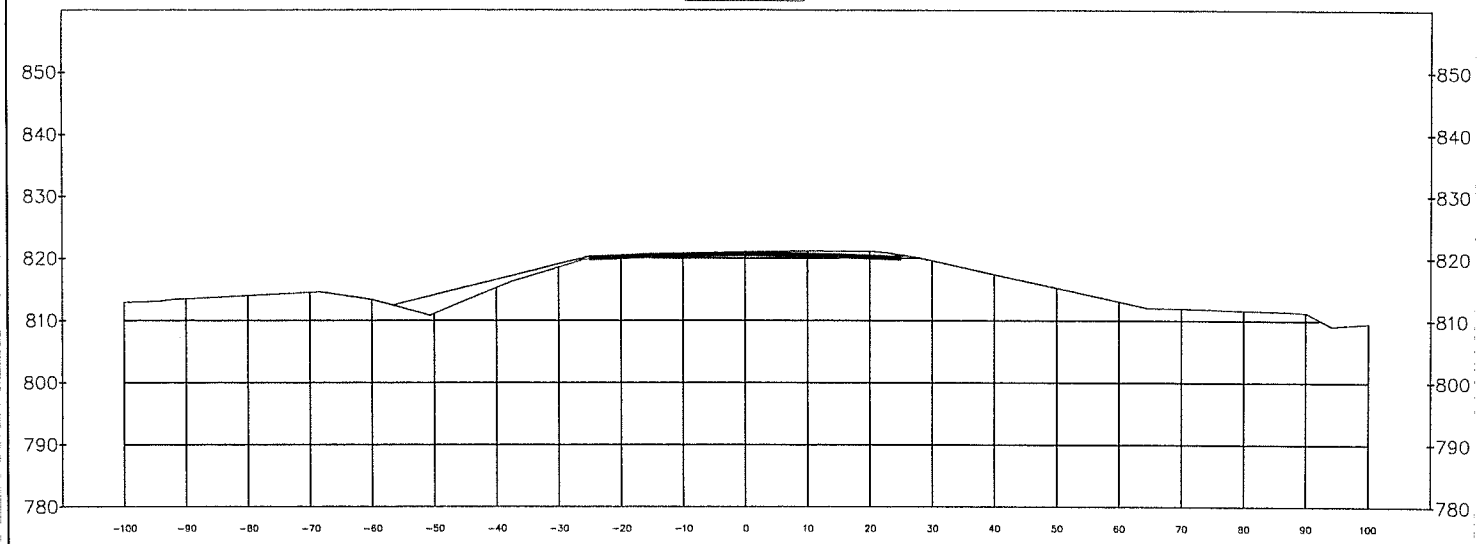
TABULATIONS

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

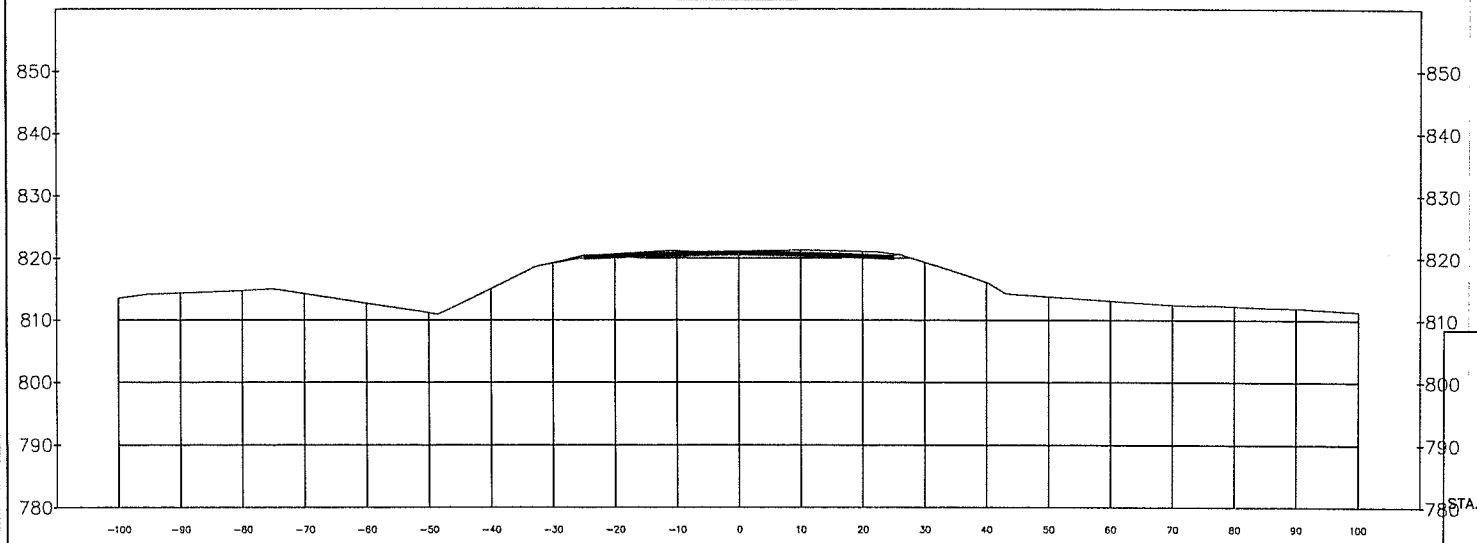
JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

4+16.92



4+40.52



DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

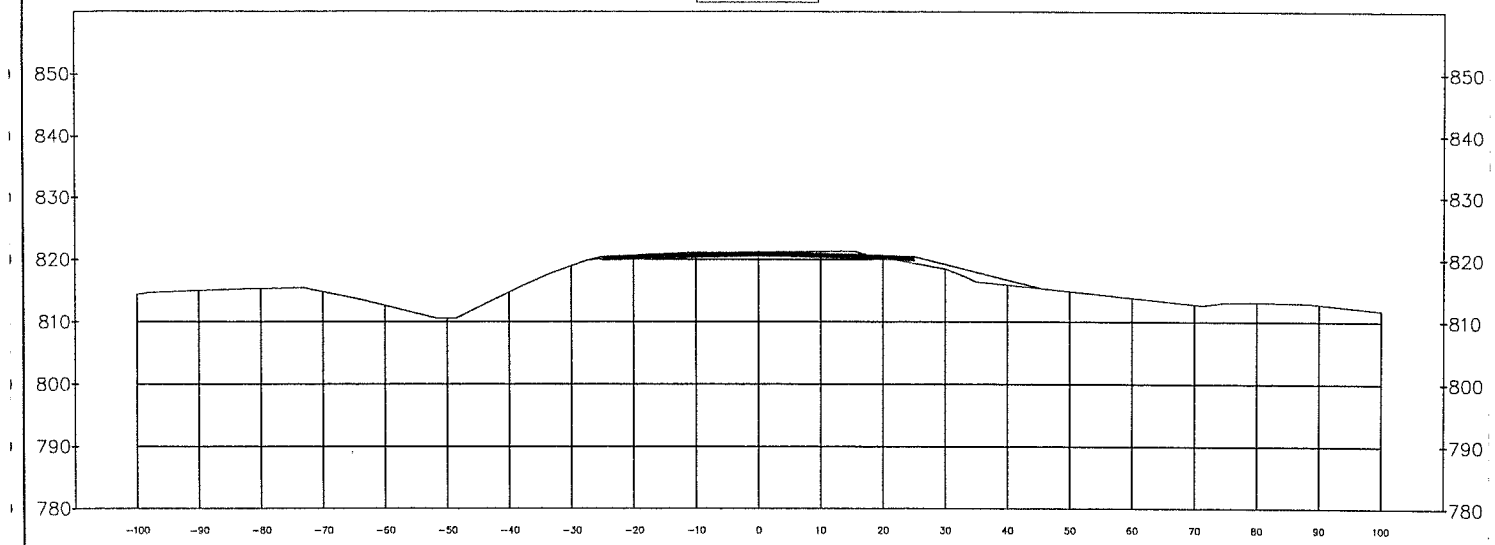
SITUATION PLAN

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

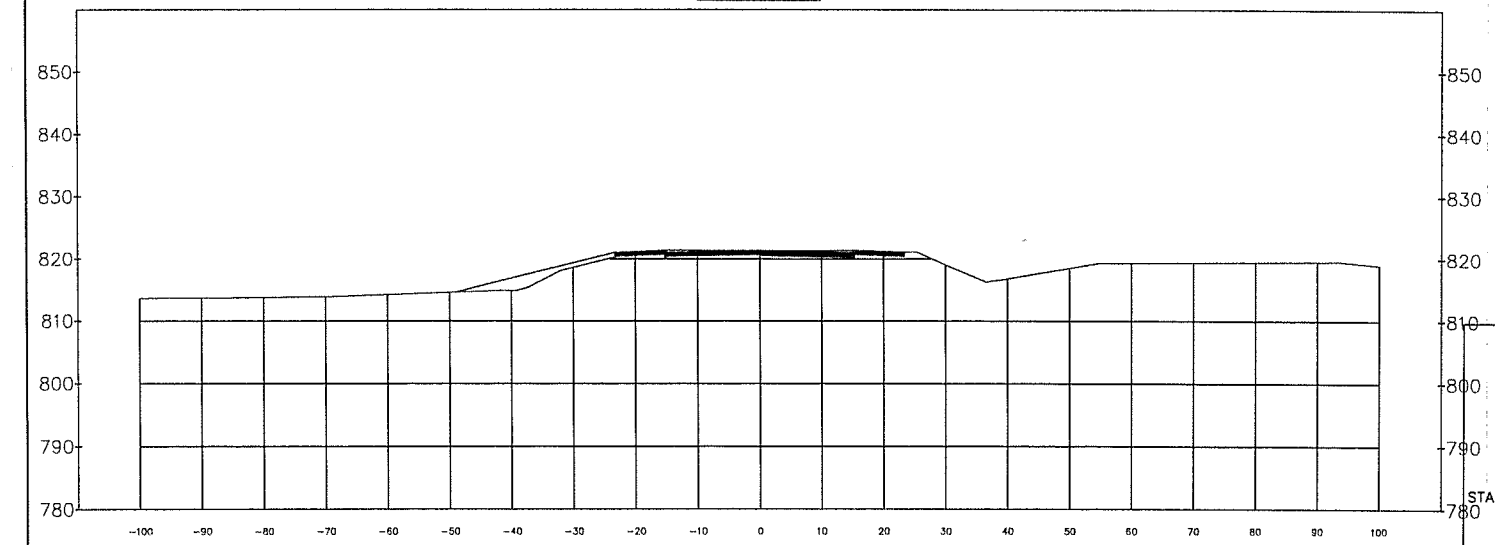
JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

4+58.09



6+29.34



DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

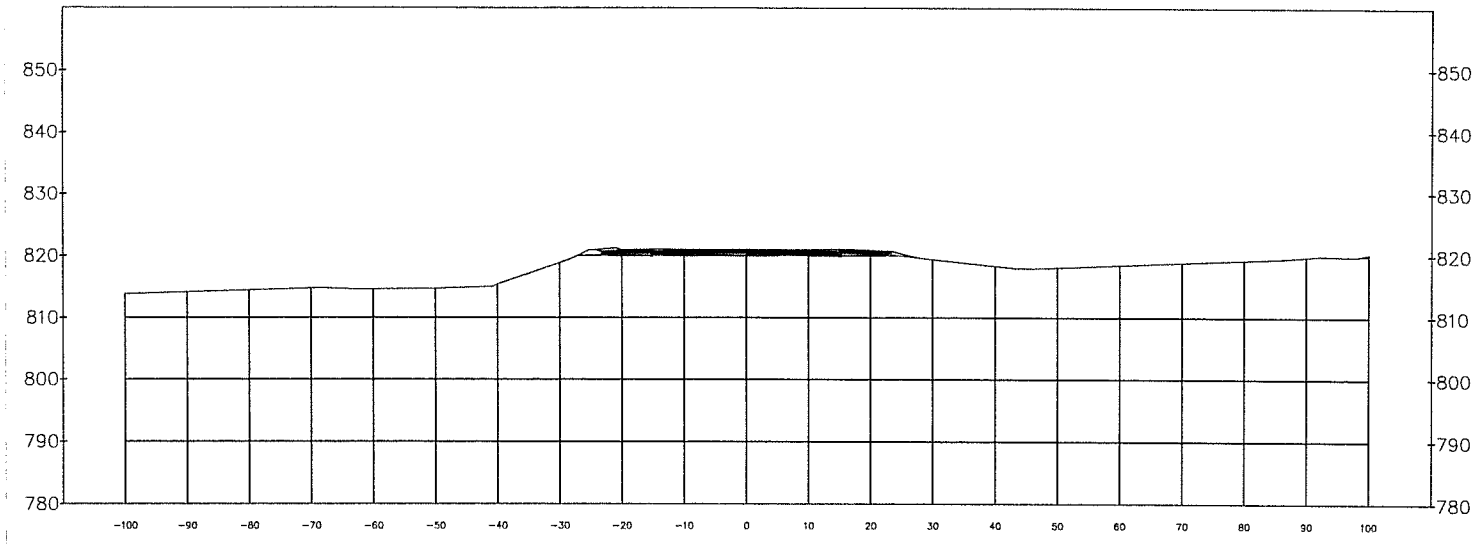
SITUATION PLAN

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

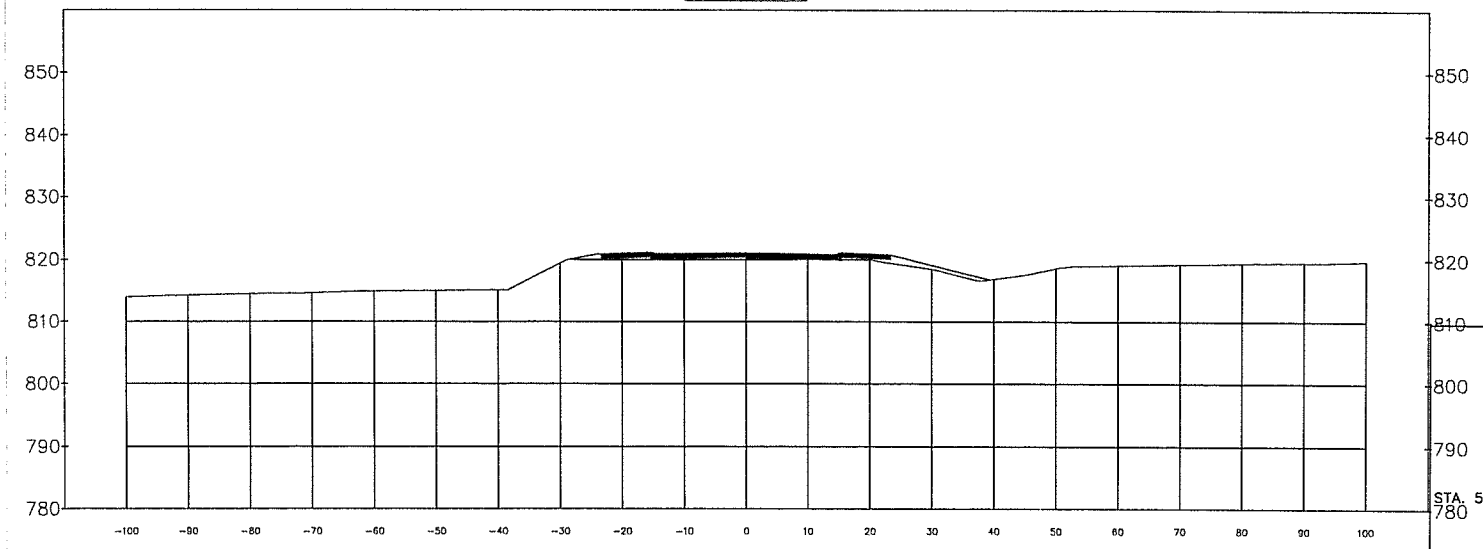
JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

6+72.44



6+54.30



DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

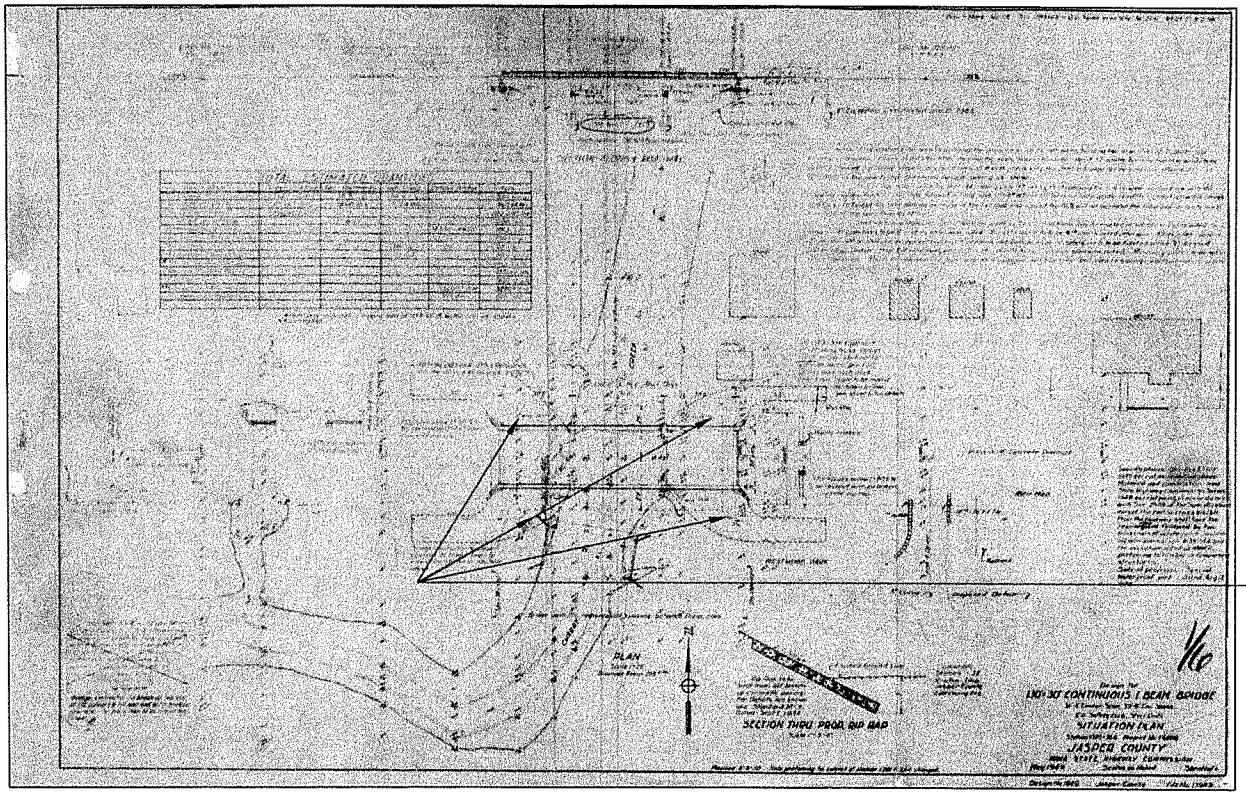
MONOLITHIC PIERS
55'-0" CENTER SPAN

SITUATION PLAN

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION



EXISTING CONCRETE SLOPE PROTECTION TO BE REMOVED

NOTE: EXISTING DRAWINGS-FOR REFERENCE ONLY

DESIGN FOR 15° SKEW LEFT AHEAD

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

EXISTING DRAWINGS

STA. 5+44.32 HWY. F48 WEST OVER CHERRY CREEK NOVEMBER 2018

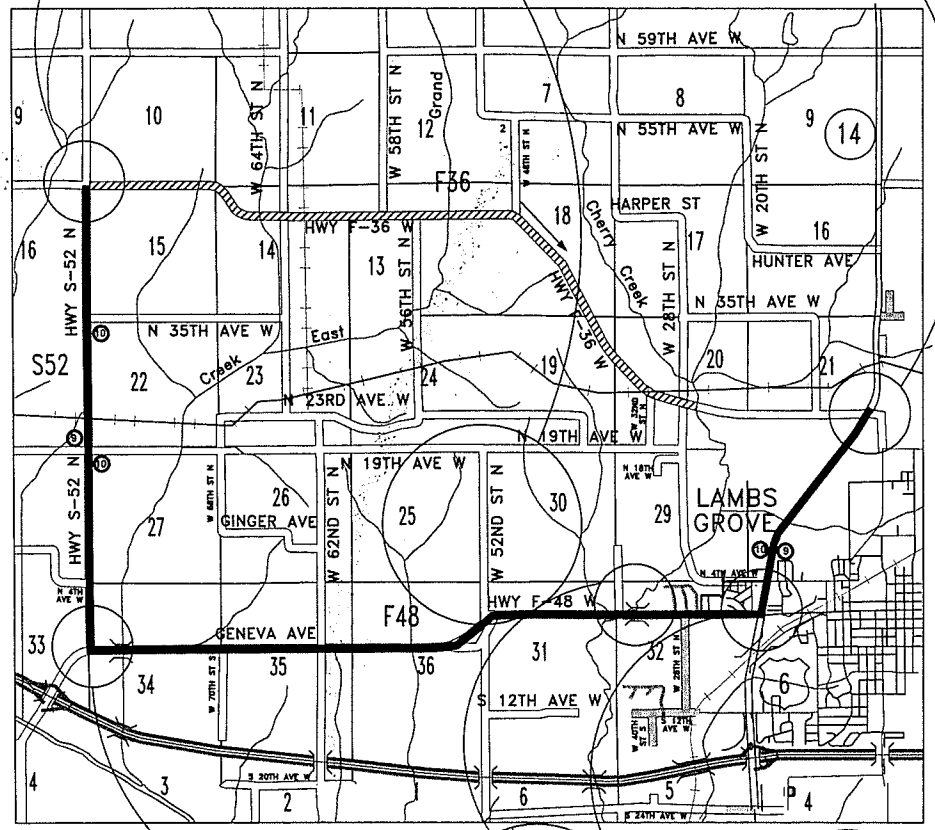
JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

DETAIL A
SCALE: NOT TO SCALE

DETAIL B
SCALE: NOT TO SCALE

NOTE: CONTRACTOR TO MAINTAIN DUST CONTROL ON WEST 52ND STREET NORTH

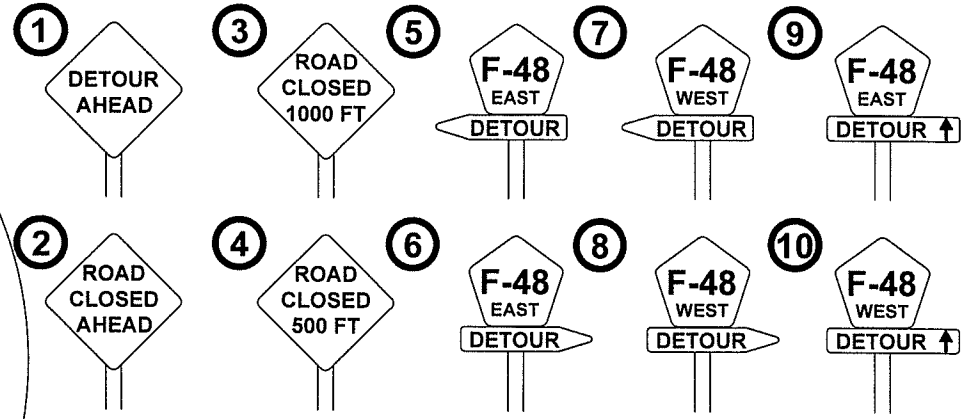


DETOUR ROUTE
SCALE: NOT TO SCALE

DETAIL C
SCALE: NOT TO SCALE

DETAIL D
SCALE: NOT TO SCALE

DETAIL E
SCALE: NOT TO SCALE

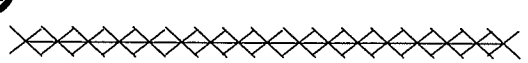


DETOUR ROUTE SIGNS
SCALE: NOT TO SCALE

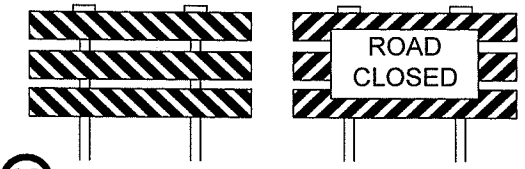
TABULATION

1	5 EACH
2	2 EACH
3	2 EACH
4	2 EACH
5	2 EACH
6	1 EACH
7	2 EACH
8	3 EACH
9	2 EACH
10	4 EACH
11	3 EACH
12	2 EACH
13	2 EACH
14	3 EACH

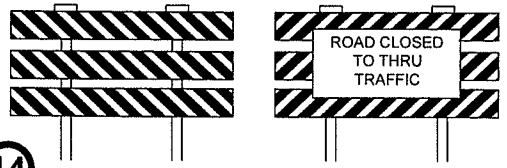
11 REFLECTIVE ORANGE SNOW FENCE SHOULDER TO SHOULDER



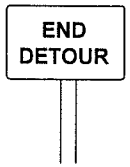
12 TYPE III BARRICADE PAIR



13 TYPE III BARRICADE PAIR



14



DESIGN FOR 15° LEFT AHEAD SKEW

140'-0" x 30'-6" CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
42'-6" END SPANS

MONOLITHIC PIERS
55'-0" CENTER SPAN

TRAFFIC CONTROL PLAN

STA 5+44.32 HWY F48 WEST OVER CHERRY CREEK NOVEMBER 2018

JASPER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

JASPER COUNTY

PROJECT NUMBER: BRS-SWAP-CO50(120)--FF-50

SHEET 14 OF 14