

BRIDGE REPLACEMENT - CCS
BRS-C017(123)--60-17

CERRO GORDO COUNTY

Letting Date: 6/16/2026

BRIDGE STANDARDS		
THE FOLLOWING BRIDGE STANDARDS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT.		
STANDARD	DATE	REVISION DATE
J30-01-06	NOV 2006	SEP 2020
J30-01A-06	NOV 2006	SEP 2020
J30-08B-06	NOV 2006	SEP 2020
J30-08E-06	NOV 2006	SEP 2020
J30-09B-06	NOV 2006	SEP 2020
J30-09E-06	NOV 2006	SEP 2020
J30-20-06	NOV 2006	SEP 2020
J30-21-06	NOV 2006	SEP 2020
J30-23-06	NOV 2006	SEP 2020
J30-24-06	NOV 2006	SEP 2020
J30-34-06	NOV 2006	SEP 2020
J30-39-06	NOV 2006	SEP 2020
J30-42-06	NOV 2006	SEP 2020
J30-43-06	NOV 2006	SEP 2020
J30-44-06	NOV 2006	SEP 2020
J30-45-06	NOV 2006	SEP 2020
J30-46-06	NOV 2006	SEP 2020
J30-47-06	DEC 2008	SEP 2020
P10L		06-2025

IOWA DEPARTMENT OF TRANSPORTATION
Highway Division
PLANS OF PROPOSED IMPROVEMENT ON THE
FARM-TO-MARKET SYSTEM
CERRO GORDO COUNTY
BRIDGE REPLACEMENT - CCS
PROJECT NUMBER: BRS-C017(123)--60-17
ON B60, OVER BEAVER DAM CREEK,
S12 T94 R21

REFER TO PROPOSAL FORM FOR A LIST OF APPLICABLE SPECIFICATIONS

Scales: As Noted

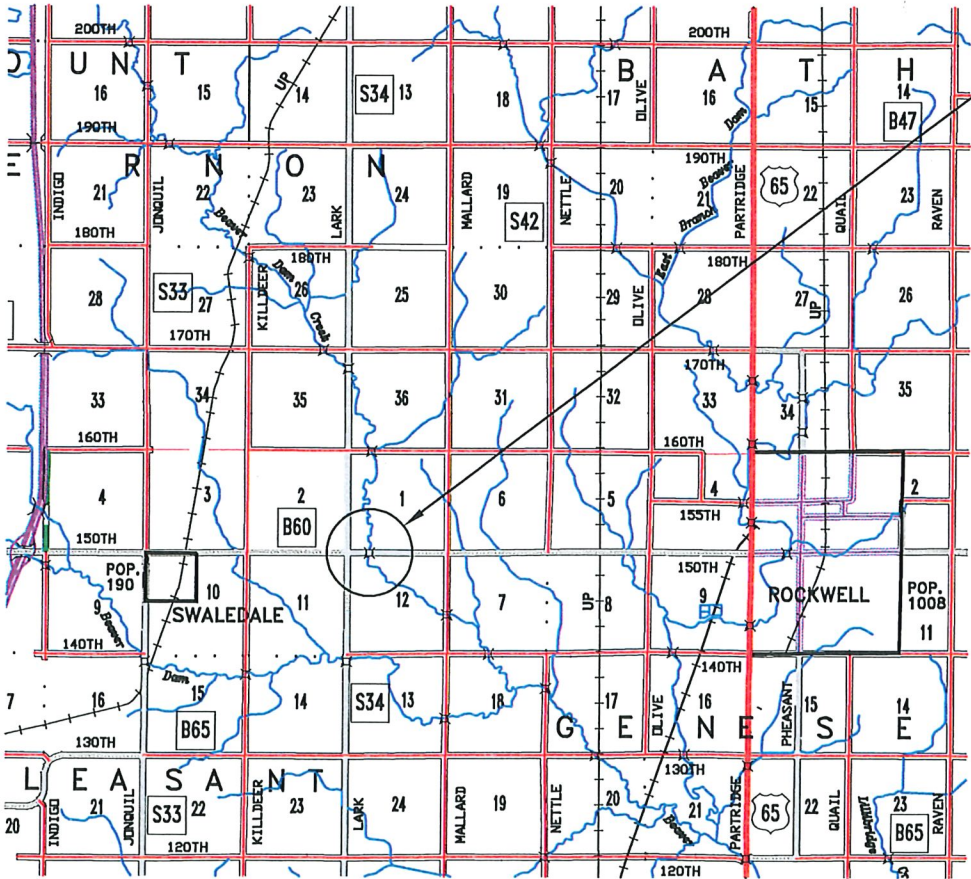
281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

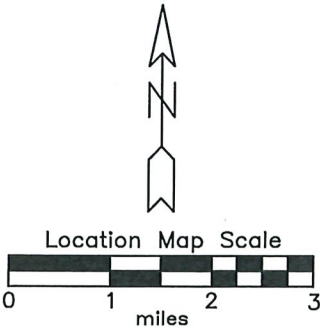
Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit No. 14, Permit No. CEMVR-RD-2024-1142. A copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

DRAWING APPROVAL
ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE APPROVED BY THE CONTRACTOR, THEN ACCEPTED BY THE CERRO GORDO COUNTY ENGINEER.
BRANDON BILLINGS P.E. 641-424-9037

THESE SHOP DRAWINGS SHALL NOT BE SENT TO I.D.O.T. OFFICE OF BRIDGES AND STRUCTURES.



PROJECT LOCATION
BOP STA 8+57
EOP STA 14+57
FHWA# 105420
PROPOSED 100' x 30'-0"
CONTINUOUS CONCRETE
SLAB BRIDGE
0° SKEW



APPROVED ON _____

Carl Ginapp

Casey Callanan

Chris Watts

Approved Board of Supervisors

Project No. BRS-C017(123)--60-17	
INDEX OF SHEETS	
No.	Description
A1	TITLE SHEET
B1	TYPICAL CROSS SECTIONS
C1	ESTIMATE OF QUANTITIES AND GENERAL NOTES
C2	NOTES
C3	TABULATIONS
D1	PLAN AND PROFILE SHEET
D2	PLAN AND PROFILE (EXCAVATION)
H1	RIGHT-OF-WAY SHEET
Q1	SOUNDING INFORMATION
RR1	EROSION CONTROL PLAN
V1	BRIDGE SITUATION PLAN
W1	CROSS SECTIONS, CLASS 10 TABULATION

MILEAGE SUMMARY			
Div.	Location	Lin.Ft.	Miles
	STATION 8+57 to STATION 14+57	600	0.11

NO EFFORT HAS BEEN MADE TO LOCATE UTILITIES. PLANS MAY NOT REPRESENT ALL UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ANY NEEDED UTILITIES PRIOR TO ANY WORK.

ROCKWELL COOPERATIVE
TELEPHONE
DAVID SEVERIN
641-822-3211
ROCKWELL@NETINS.NET

IOWA ONE CALL

FRANKLIN RURAL ELECTRIC COOP
SCOTT HAGENSON
641-590-0240
SHAGENSON@FRANKLINREC.COOP

STANDARD ROAD PLANS ON SHEET C3

THIS PROJECT WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN SECTION 1107.08 OF THE CURRENT STANDARD SPECIFICATIONS. DEVICES, PROCEDURES AND LAYOUTS SHALL BE AS PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE(IAC) CHAPTER 130.

THE COUNTY WILL SET UP TC-252 CLOSURE, ADVANCED WARNING SIGNS FOR ROAD CLOSURE AND DETOUR. CONTRACTOR WILL BE RESPONSIBLE FOR SAFETY CLOSURES AND ENSURING DISPLACED CLOSURE BARRICADES AND SAFETY CLOSURES ARE IN PLACE AT THE END OF THE WORKING DAY.

ARCHAEOLOGICAL NOTE

IF ARCHAEOLOGICAL MATERIALS ARE ENCOUNTERED DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE OFFICE OF PROJECT PLANNING AND/OR THE OFFICE OF LOCAL SYSTEMS (I.D.O.T.) MUST BE CONTACTED IMMEDIATELY SO THE PROPER AUTHORITIES CAN BE NOTIFIED ACCORDING TO THE EXISTING FEDERAL REGULATIONS AND STATE PROCEDURES. ADDITIONALLY, IT SHOULD BE NOTED THAT FINDINGS AND RECOMMENDATIONS FOR CLEARANCE FOR FURTHER TESTING CANNOT BE CONSIDERED FINAL UNTIL CONCURRENCE IS RECEIVED FROM THE OFFICE OF THE STATE HISTORIC PRESERVATION OFFICER.

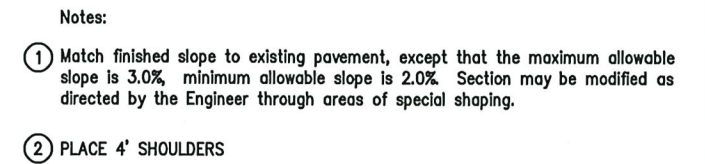
LOCATION AND ENVIRONMENT BUREAU 515-239-1798
OFFICE OF LOCAL SYSTEMS 515-239-1528

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.

Brandon Billings, P.E. License No. 23464 Date 3-5-26

My license renewal date is December 31, 2025

Pages or sheets covered by this seal:
Sheets Nos. ALL



TYPICAL CROSS SECTION HMA RESURFACING

REMOVAL OF PAVEMENT									
Refer to Tabulation 102-5									
*Not a Bid Item									
This Data Entry Sheet fills Tab 110-1 effective 04-16-13									
Begin Station	End Station	Side	Pavement Type	Length	Width	Depth	Area	Saw Cut*	Remarks
				FT	FT	IN	SY	LF	
11+07	11+57	BOTH	HMA	50	24	9.5	133	24	
12+55	13+05	BOTH	HMA	50	24	9.5	133	24	

ESTIMATE OF QUANTITIES				
ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	TOTAL
1	2101-0850002	CLEARING AND GRUBBING	UNIT	152.9
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	802
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	716
4	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	111
5	2115-0100000	MODIFIED SUBBASE	CY	34
6	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	16
7	2303-1031500	HMA STANDARD TRAFFIC, BASE COURSE, 1/2 IN. MIX	TON	37
8	2303-1032500	HMA STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	19
9	2303-1033500	HMA STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIRED	TON	19
10	2303-1258283	ASPHALT BINDER PG 58-28S, STANDARD TRAFFIC	TON	4.5
11	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1
12	2402-2720000	EXCAVATION, CLASS 20	CY	494
13	2402-2721000	EXCAVATION, CLASS 21	CY	40
14	2403-0100010	STRUCTURAL CONCRETE, BRIDGE	CY	205.4
15	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	54,245
16	2414-6424124	CONCRETE OPEN RAILING, TL-4	LF	222.0
17	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	1
18	2501-0201042	PILES, STEEL, HP 10 X 42	LF	1630
19	2501-5478042	CONCRETE ENCASEMENT OF STEEL H PILES, HP 10X42 (P10L, TYPE 3)	LF	288
20	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	240
21	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	LF	4
22	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4
23	2505-4021711	STEEL BEAM GUARDRAIL FLARED END TERMINAL, LS-626	EACH	4
24	2507-3250005	ENGINEERING FABRIC	SY	423
25	2507-6800061	REVETMENT, CLASS E	TON	193
26	2507-8029000	EROSION STONE	TON	3
27	2510-6745850	REMOVAL OF PAVEMENT	SY	266
28	2526-8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY	LS	1
29	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1
30	2527-9263209	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT BASED	STA	3.02
31	2528-2518000	SAFETY CLOSURE	EACH	2
32	2528-8445110	TRAFFIC CONTROL	LS	1
33	2533-4980005	MOBILIZATION	LS	1
34	2601-2634100	MULCHING	ACRE	0.1
35	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.1
36	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF	280

1 CLEARING AND GRUBBING
FOR 3 TREES ON SOUTH SIDE OF BRIDGE SIZES 7", 30" AND 42"

2 EMBANKMENT-IN-PLACE
MATERIAL TO BE USED FROM CLASS 10 AND CLASS 20. ADDITIONAL MATERIAL TO BE PROVIDED BY THE CONTRACTOR.

3 EXCAVATION, CLASS 10, ROADWAY AND BORROW
SEE SHEET W1 FOR TABULATION

4 EXCAVATION, CLASS 10 CHANNEL

5 MODIFIED SUBBASE

6 GRANULAR SHOULDERS, TYPE B
ASSUMED DEPTH OF 4 INCHES

7 HMA STANDARD TRAFFIC, BASE COURSE, 1/2 IN. MIX. CERTIFIED PLANT INSPECTION SHALL NOT APPLY. SMOOTHNESS SHALL NOT APPLY.

8 HMA STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX. CERTIFIED PLANT INSPECTION SHALL NOT APPLY. SMOOTHNESS SHALL NOT APPLY

9 HMA STANDARD TRAFFIC, SURFACE COURSE 1/2 IN. MIX. CERTIFIED PLANT INSPECTION SHALL NOT APPLY. SMOOTHNESS SHALL NOT APPLY

10 ASPHALT BINDER PG 58-28S, STANDARD TRAFFIC

11 REMOVAL OF EXISTING BRIDGE
100' X 30' CONTINUOUS CONCRETE SLAB BRIDGE, CAST IN PLACE CONCRETE DECK, ABUTMENT AND PIERS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES THE REQUIRED WORK IN ORDER TO AVOID UNNECESSARY DELAYS TO CONSTRUCTION. EXISTING BRIDGE AND ITS COMPONENTS TO BECOME THE PROPERTY OF THE CONTRACTOR.

12 EXCAVATION, CLASS 20
SUITABLE MATERIAL MAY BE USED FOR CLASS 10 OR WASTED ALONG FORESLOPES.

13 EXCAVATION, CLASS 21
SUITABLE MATERIAL MAY BE USED FOR EMBANKMENT OR WASTED ALONG FORESLOPES.

14 STRUCTURAL CONCRETE, BRIDGE
CERTIFIED PLANT INSPECTION SHALL BE REQUIRED

15 REINFORCING STEEL, EPOXY COATED

16 CONCRETE OPEN RAILING, TL-4
CERTIFIED PLANT INSPECTION SHALL BE REQUIRED

17 TEMPORARY STREAM DIVERSION
AS NEEDED

18 PILES, STEEL, HP 10 X 42
PILE POINTS WILL BE CERTIFIED WELDED TO ALL PILE

19 CONCRETE ENCASEMENT OF STEEL H PILES, HP 10X42 (P10L, TYP 3)
THE PIER PILE ENCASEMENTS ARE TO BE AS DETAILED AND NOTED ON IOWA D.O.T. STANDARD P10L.
CERTIFIED PLANT INSPECTION SHALL BE REQUIRED.

20 REMOVAL OF STEEL BEAM GUARDRAIL
EXISTING GUARDRAIL AND COMPONENTS TO BECOME THE PROPERTY OF THE CONTRACTOR.

21 STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201
TO BE INSTALLED PER IDOT SPECIFICATIONS PER SHEET C3

22 STEEL BEAM GUARDRAIL END ANCHOR, BOTLED
TO BE INSTALLED PER IDOT SPECIFICATIONS PER SHEET C3

23 STEEL BEAM GUARDRAIL FLARED END TERMINAL, LS-626
TO BE INSTALLED PER IDOT SPECIFICATIONS PER SHEET C3

24 ENGINEERING FABRIC
TO BE PLACED UNDER ALL REVETMENT AND EROSION STONE

25 REVETMENT, CLASS E
BROKEN CONCRETE MAY BE AS REVETMENT IF SIZED AND REBAR CUT FLUSH

26 EROSION STONE
SPEC 4130.04 TO BE FOLLOWED FOR GRADATION

27 REMOVAL OF PAVEMENT

28 CONSTRUCTION SURVEY, CONTROL POINT SURVEY
SEE SHEET C3 FOR COUNTY COORDINATES OF SECTION CORNERS. COUNTY POINTS ARE LOCAL SURVEY ONLY. CONTRACTOR/SURVEYOR TO CALIBRATE TO THEIR OWN COORDINATE SYSTEM AND CONTROL POINTS

29 CONSTRUCTION SURVEY, LOCATION SURVEY
FOR ALL STAKING REQUIRED FOR BRIDGE, ROADWAY AND GRADING. RIGHT-OF-WAY TO BE MARKED BY COUNTY.

30 PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT BASED
SEE TABLE ON SHEET C3

31 SAFETY CLOSURE
TO INCLUDE HAZARD CLOSURES PER TABLE ON SHEET C3.

32 TRAFFIC CONTROL

33 MOBILIZATION

34 MULCHING

35 SEEDING AND FERTILIZING (RURAL)

36 MOBILIZATION, EROSION CONTROL

GENERAL NOTES:

THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. CONTRACTOR TO BE RESPONSIBLE TO PROTECT THE UTILITIES AND ALL DAMAGES TO THE SAME. ALL UTILITY LOCATIONS INDICATED ON THIS PLAN SET ARE APPROXIMATE AND ARE NOT TO BE USED IN LIEU OF IOWA ONE CALL OR PROPER EXCAVATION SAFETY PRACTICES.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL OFF SITE FOR EXCESS MATERIAL WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT. NO OVERHAUL PAYMENTS WILL BE ALLOWED FOR MATERIAL HAULED OFF SITE.

THE CONTRACTOR SHALL VISIT THE CONSTRUCTION SITE TO ENSURE THAT THEY ARE FAMILIAR WITH THE EXISTING SITE CONDITIONS.

IF ARCHAEOLOGICAL MATERIAL IS ENCOUNTERED DURING THE CONSTRUCTION PHASE OF THIS PROJECT, WORK MUST STOP AND THE ENGINEER'S OFFICE MUST BE NOTIFIED.

STANDARD ROAD PLANS ARE AVAILABLE ELECTRONICALLY FROM THE IOWA DEPARTMENT OF TRANSPORTATION WEBSITE AT WWW.IOWADOT.GOV.

CONTRACTOR WILL PROVIDE JOB MIX FORMULA FOR APPROVAL. ANY CHANGES TO JOB MIX SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.

CONTRACTOR SHALL CONFINE ALL WORK TO THE CONTRUCTION LIMITS AND RIGHT-OF-WAY. IF THE CONTRACTOR OBTAINS ADDITIONAL EASEMENTS FOR THE STORAGE OF EQUIPMENT AND MATERIALS, COPIES OF AGREEMENTS WITH THE PROPERTY OWNERS SHALL BE PROVIDED TO THE CONTRACTING AUTHORITY.

PROJECT NOTES:

A SCRAPE SAMPLE WAS TAKEN FROM AN AREA OF THE BRIDGE RAIL TO GET AN INDICATION OF THE EXISTENCE OF AN D LEVEL OF TOTAL LEAD AND TOTAL CHROMIUM. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WAS 363 MG/KG. ANALYSIS OF TOTAL CHROMIUM ON THIS SAMPLE WAS 57.7 MG/KG. THESE ANALYSES SHOWN THE EXISTENCE OF THESE TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTED 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 AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

LABRATORY ANALYSIS HAS DETERMINED ASBESTOS IS PRESENT ON THE TAR PAPER ON THE SOUTHWEST POSTS AND MUST BE REMOVED PRIOR TO DEMOLITION. THE OTHER CORNERS OF THE BRIDGE TESTED NEGATIVE FOR ASBESTOS. ASBESTOS REMOVAL TO BE DONE PRIOR TO START OF PROJECT BY BERGO ENVIRONMENTAL 641-420-4859

ABUTMENT NOTES:

THE CONTRACT LENGTH OF 50 FEET FOR THE ABUTMENT PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 91 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.6. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR ABUTMENT PILES IS 83 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A MODIFIED IOWA DOT ENR FORMULA.

PILE POINTS ARE REQUIRED FOR ABUTMENT PILE.

EAST PIER NOTES:

THE CONTRACT LENGTH OF 55 FEET FOR THE EAST PIER PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 100 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.6. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING. DESIGN SCOUR (200-YEAR) WAS ASSUMED TO AFFECT THE UPPER 4 FEET OF EMBEDDED PILE LENGTH AND CAUSE 7 KIPS OF DRIVING RESISTANCE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR EAST PIER PILES IS 94 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A MODIFIED IOWA DOT ENR FORMULA.

PILE POINTS ARE REQUIRED FOR PIER PILE.

WEST PIER NOTES:

THE CONTRACT LENGTH OF 55 FEET FOR THE WEST PIER PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 100 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.6. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING. DESIGN SCOUR (200-YEAR) WAS ASSUMED TO AFFECT THE UPPER 4 FEET OF EMBEDDED PILE LENGTH AND CAUSE 3 KIPS OF DRIVING RESISTANCE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR WEST PIER PILES IS 92 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A MODIFIED IOWA DOT ENR FORMULA.

PILE POINTS ARE REQUIRED FOR PIER PILE.

All Piles Shall be HP 10x42

STANDARDS			105-4
			04-16-24
THE FOLLOWING STANDARD ROAD PLANS APPLY TO CONSTRUCTION WORK ON THIS PROJECT			
NUMBER	DATE	TITLE	
BA-200	04-21-26	STEEL BEAM GUARDRAIL COMPONENTS	
BA-201	10-18-22	STEEL BEAM GUARDRAIL BARRIER END SECTION (MASH TL-3)	
BA-202	04-15-25	STEEL BEAM GUARDRAIL BOLTED END ANCHOR	
BA-260	10-21-25	STEEL BEAM GUARDRAIL INSTALLATION AT BRIDGE RAIL END SECTION	
DR-302	04-18-23	SUBDRAINS STANDARD (FARM TILE REPLACEMENT)	
EC-204	10-19-21	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	
EC-301	10-18-22	ROCK EROSION CONTROL (REC)	
EW-301	04-16-24	GUARDRAIL GRADING	
EW-402	04-18-17	TEMPORARY STREAM DIVERSION	
LS-626	10-19-21	STEEL BEAM GUARDRAIL FLARED END SECTION (NCHRP 350 TL-3)	
LS-630	10-19-21	STEEL BEAM GUARDRAIL INSTALLATION AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	
PM-110	10-15-24	LINE TYPES	
TC-252	10-21-25	ROUTES CLOSED TO TRAFFIC	
TC-273	10-15-19	CONSTRUCTION SITE ENTRANCE	

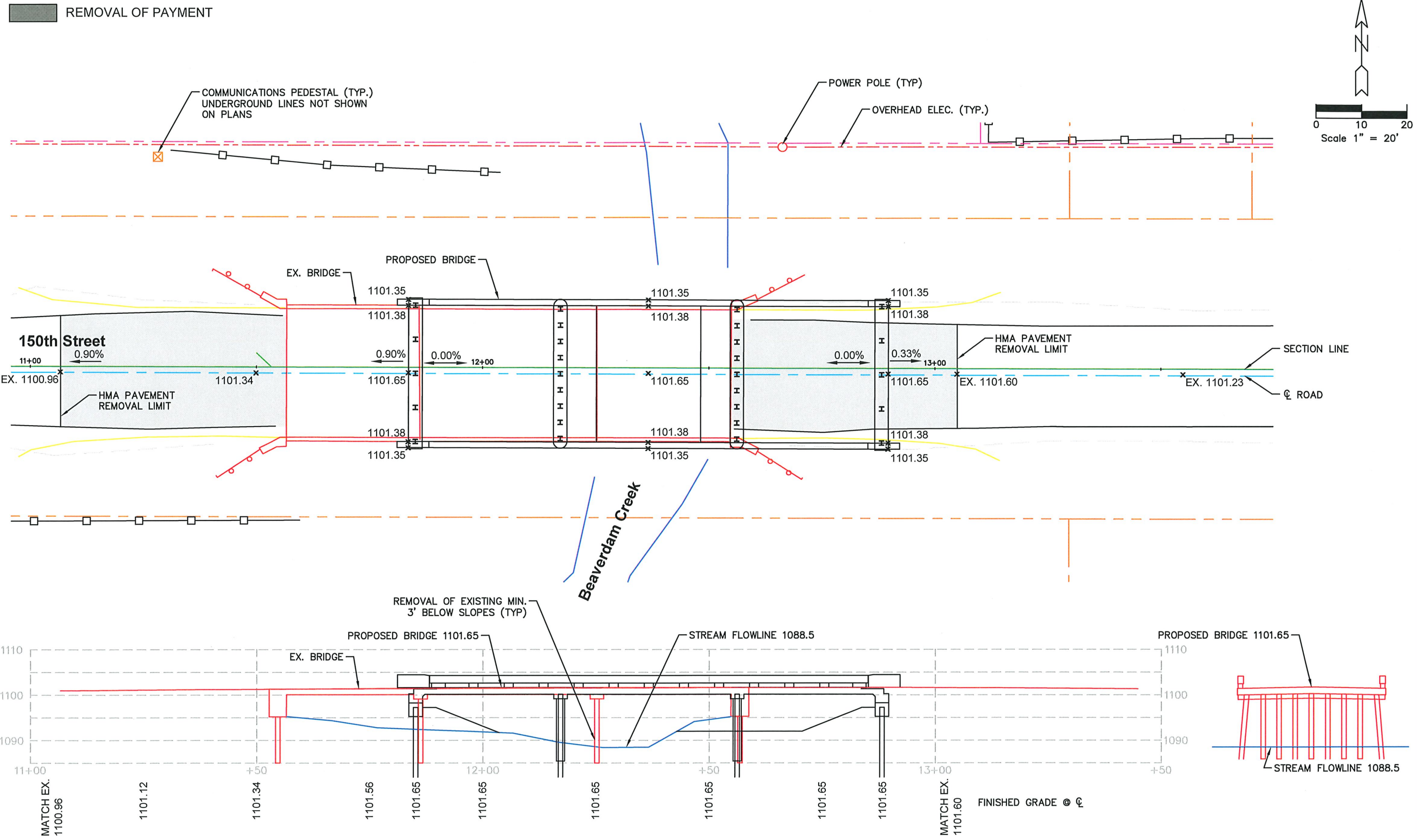
SAFETY CLOSURES				108-13A
Refer to Station 2528 of the Standard Specifications				10-18-22
Station	Closure Type		Remarks	
	Road Qty.	Hazard Qty.		
0+40	1		Intersection at Lark Avenue (by county)	
9+00		1	BOP	
16+00		1	EOP	
52+50	1		Intersection at Mallard Avenue (by county)	

PAVEMENT MARKING LINE TYPES											108-22
SEE PM-110											MODIFIED
*BCY4 - Place on the same side of the roadway to match existing markings near the project.											
BCY6: Broken Centerline (Yellow) ● 0.17 NPY6: No Passing Zone Line (Yellow) ● 0.84 ELW6: Edge Line Right (White) ● 0.67 SLW2: Stop Bar (White) ● 4.00											
LOCATION											
Length by Line Type (Unfactored)											
ROAD ID	STATION TO STATION	DIR. OF TRAVEL	MARKING TYPE	SIDE			BCY4	NPY4	ELW4	SLW2	REMARKS
				L	C	R					
150TH ST.	11+05 to 13+05	E-W	Waterbourne/Solvent Paint		X		2.00				
150TH ST.	11+05 to 13+05	E-W	Waterbourne/Solvent Paint			X			2.00		
150TH ST.	11+05 to 13+05	E-W	Waterbourne/Solvent Paint	X					2.00		
	LENGTH SUBTOTALS						2.00		4.00		
	QUANTITY FACTOR						0.17		0.67		
	TOTALS						0.34		2.68		TOTAL QTY IN STA = 3.02

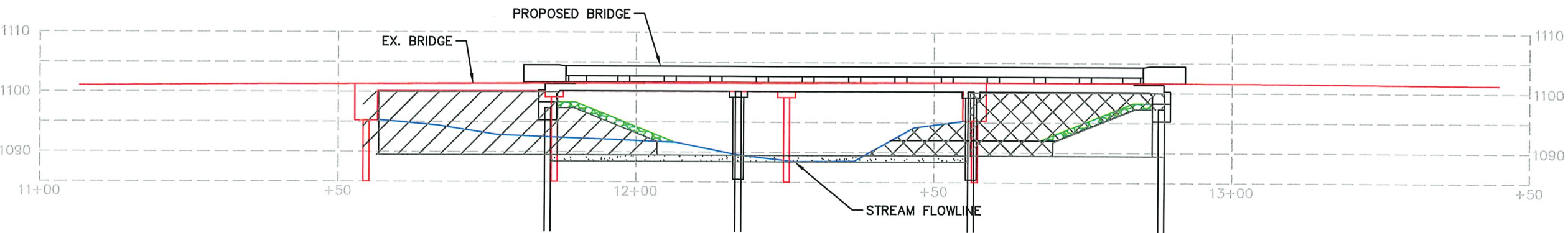
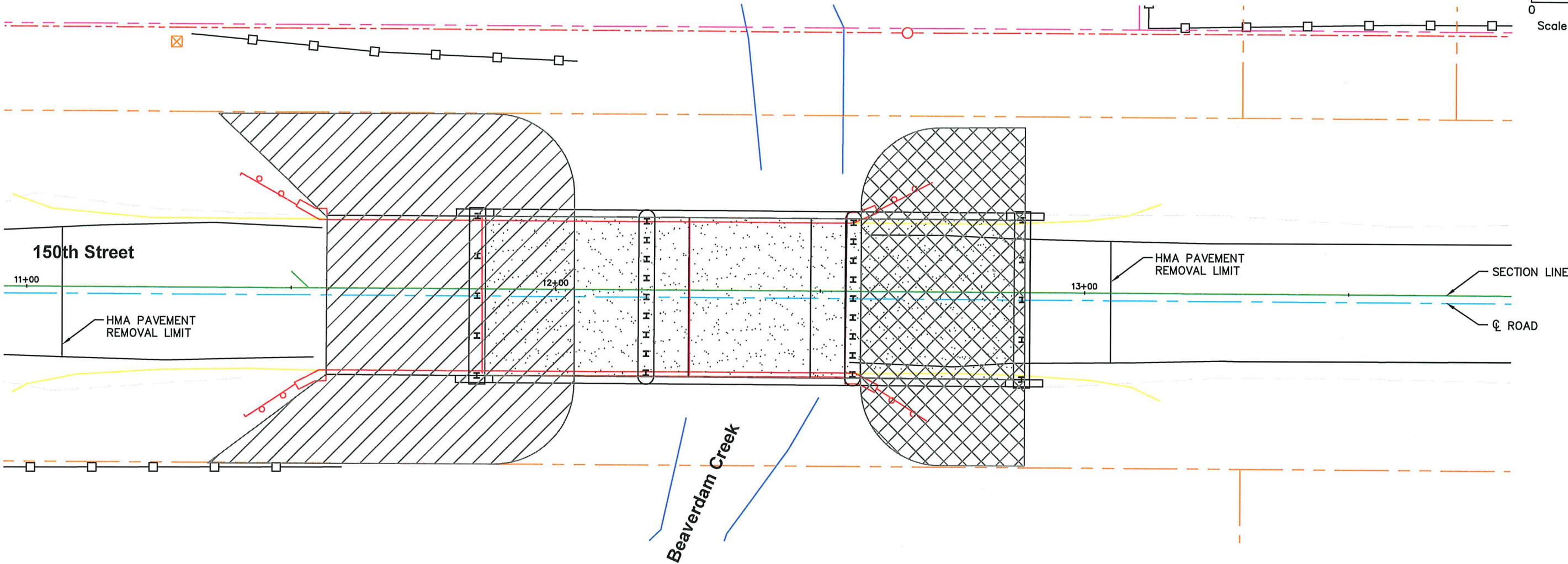
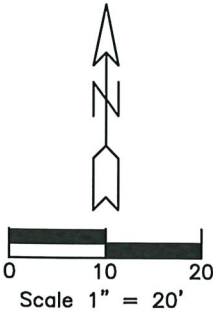
ROCK EROSION CONTROL											100-23
Refer to EC-301 and Detial 570-8											8/15/22
Line No.	Road Identification	Station From	Station To	Side	Length (FT)	Width (FT)	Rock Erosion Control Type	Engineering Fabric (SY)	Class E Revetment (TON)	Erosion Stone (TON)	Remarks
19	B60	11+79	11+88	BOTH	VARIES	VARIES		219	103		
19	B60	12+58	12+85	BOTH	VARIES	VARIES		192	90		
20	B60	11+79	11+88	LT	9	3		3		0.27	
20	B60	11+79	11+88	RT	9	3		3		0.27	
20	B60	12+85.2	12+94.2	LT	9	3		3		0.27	
20	B60	12+85.2	12+94.2	RT	9	3		3		0.27	

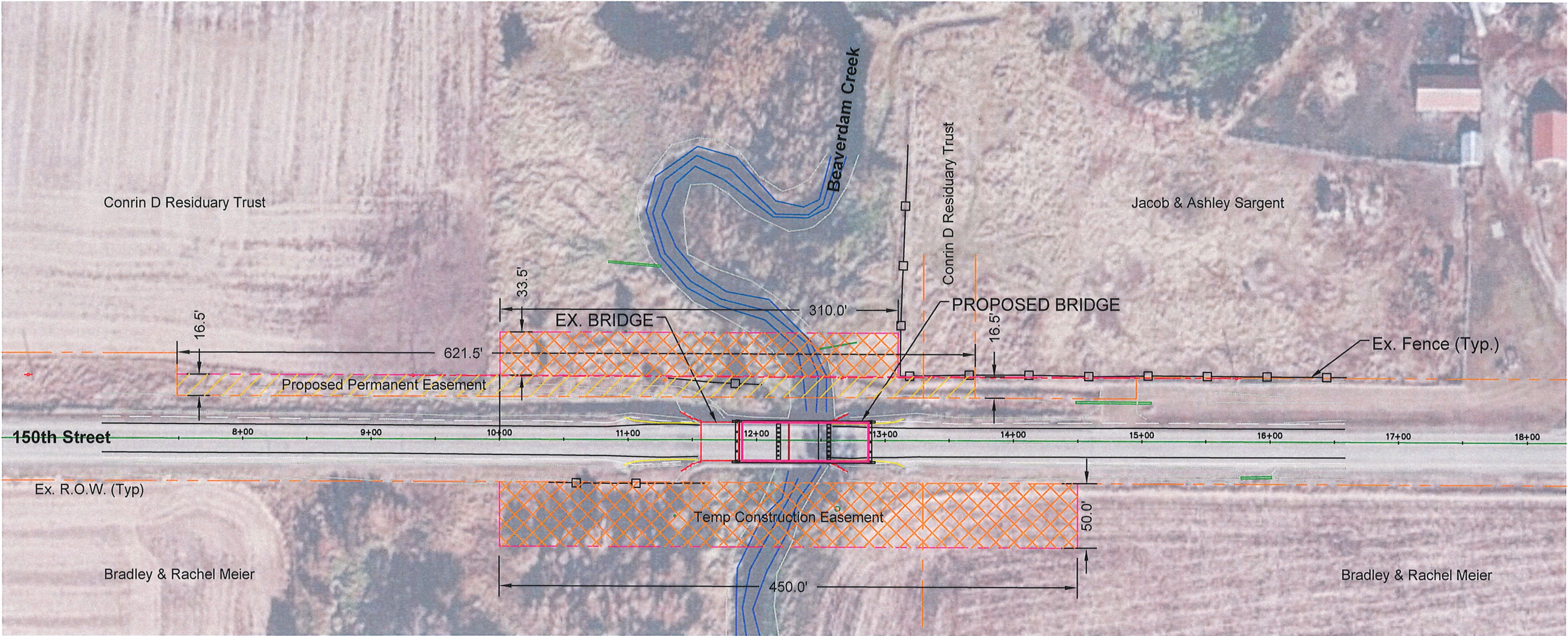
PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE							100-19
Possible Standards: EC-204							10/15/24
Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size (IN)	Length (FT)	Remarks
31	11+33	11+88	LT	STRAW WADDLE	9	60	SEE SHEET RR1
31	11+33	11+88	RT	STRAW WADDLE	9	60	
31	12+00		LT	STRAW WADDLE	9	40	
31	12+00		RT	STRAW WADDLE	9	40	
31	12+60		LT	STRAW WADDLE	9	40	
31	12+60		RT	STRAW WADDLE	9	40	

CONTROL POINTS				
POINT	TYPE	NORTHING	EASTING	ELEVATION
100 NW CORNER SECTION 12-94-21	DIVIT	3820295.63	4979869.93	1110.89
101 N 1/4 COR. 12-94-21	MAG NAIL	3820287.02	4982529.34	1103.01
102 SEE SHEET H1	1/2" REBAR	3820339.34	4981336.88	1097.50
103	1/2" REBAR	3820311.29	4980810.83	1098.17

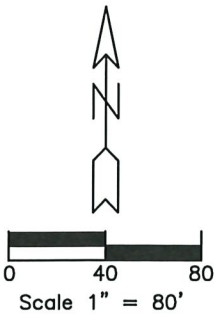


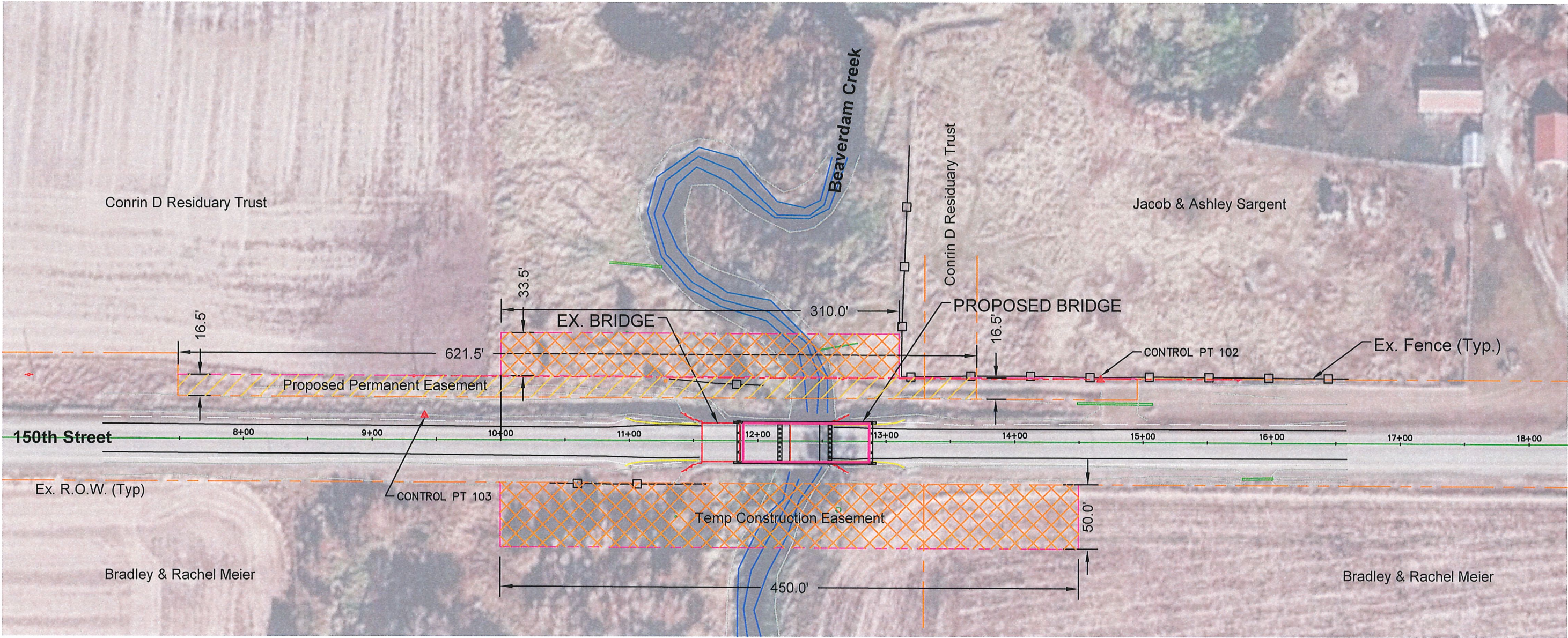
- EMBANKMENT-IN-PLACE
- EXCAVATION, CLASS 10, ROADWAY AND BORROW
- EXCAVATION, CLASS 10, CHANNEL



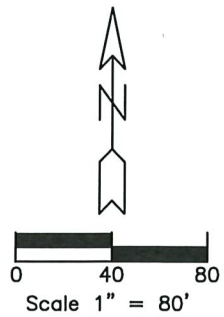


- PROPOSED PERMANENT EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT

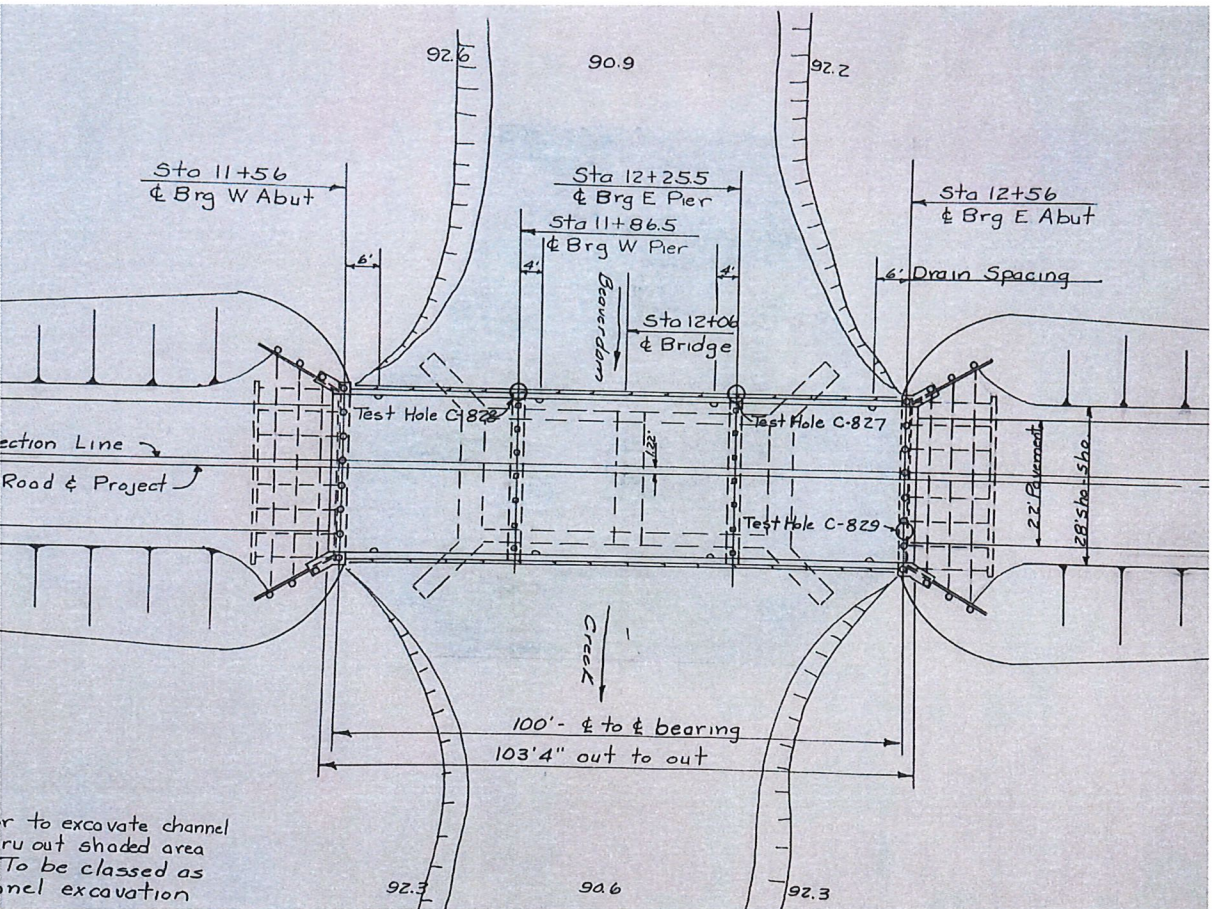




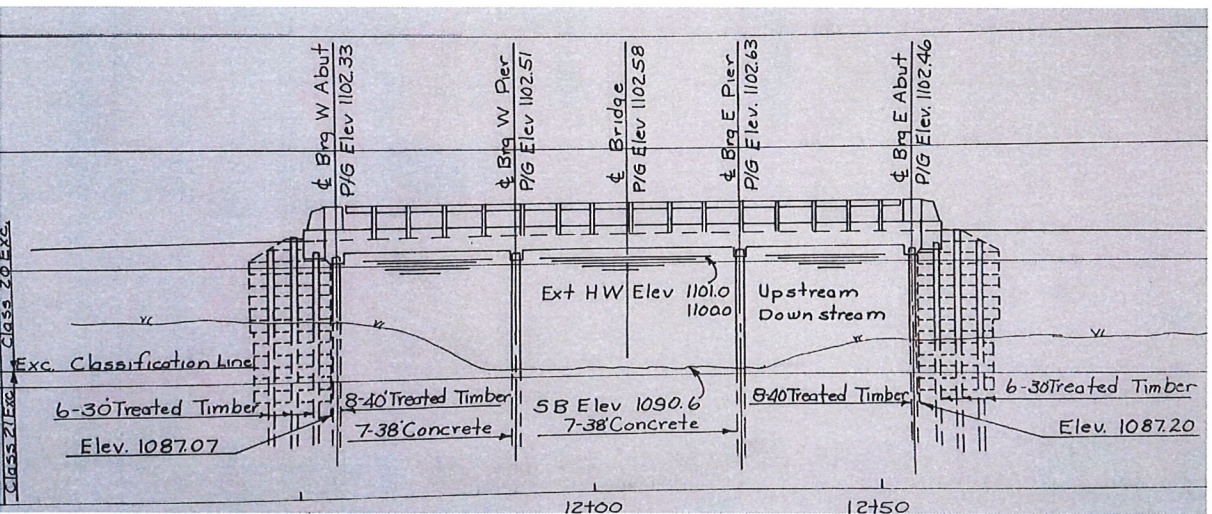
- PROPOSED PERMANENT EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT



NOTE: BRIDGE SOUNDING LOCATIONS SHOWN ON SHEET V1

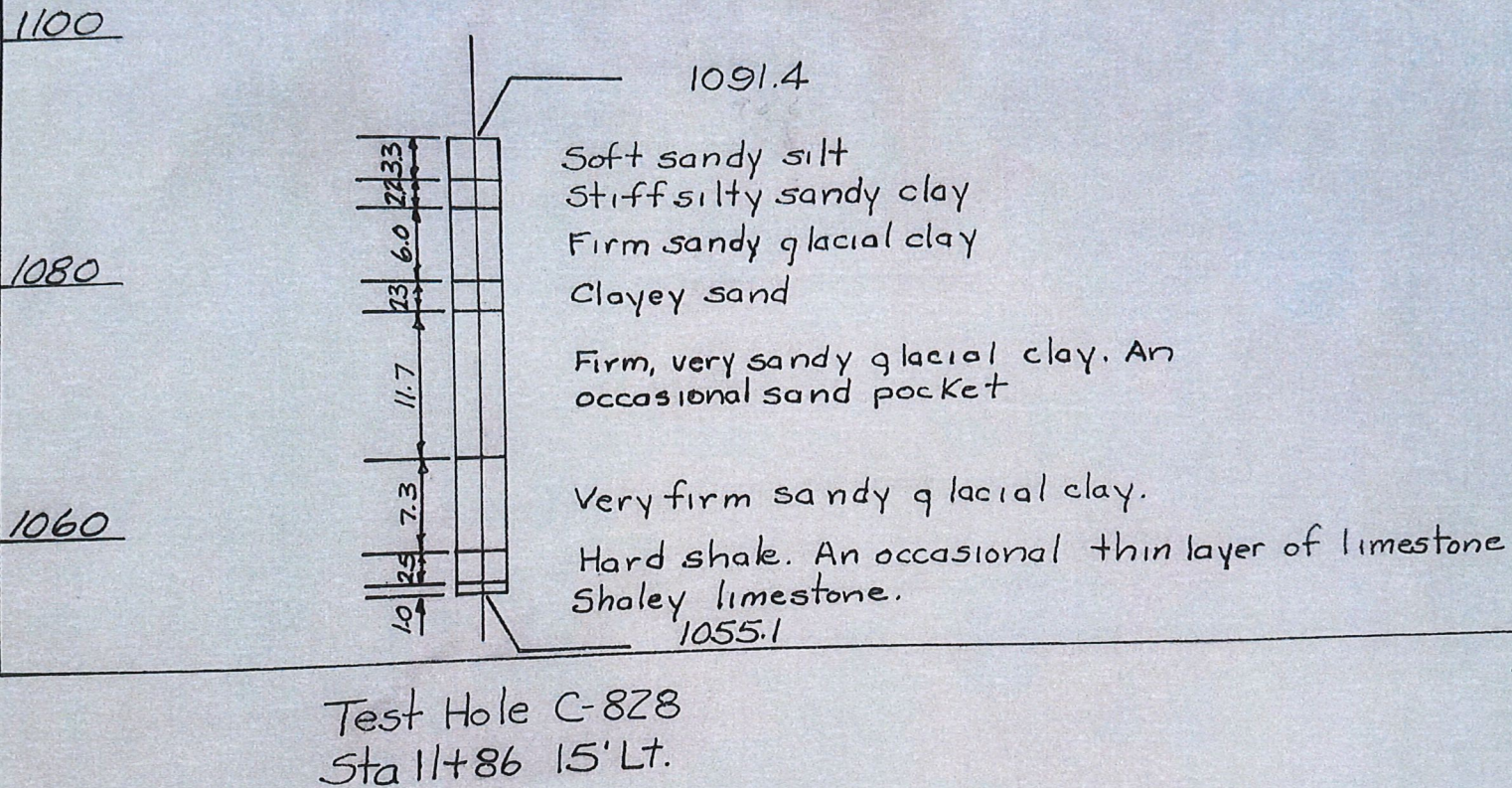


EXISTING BRIDGE PLAN VIEW

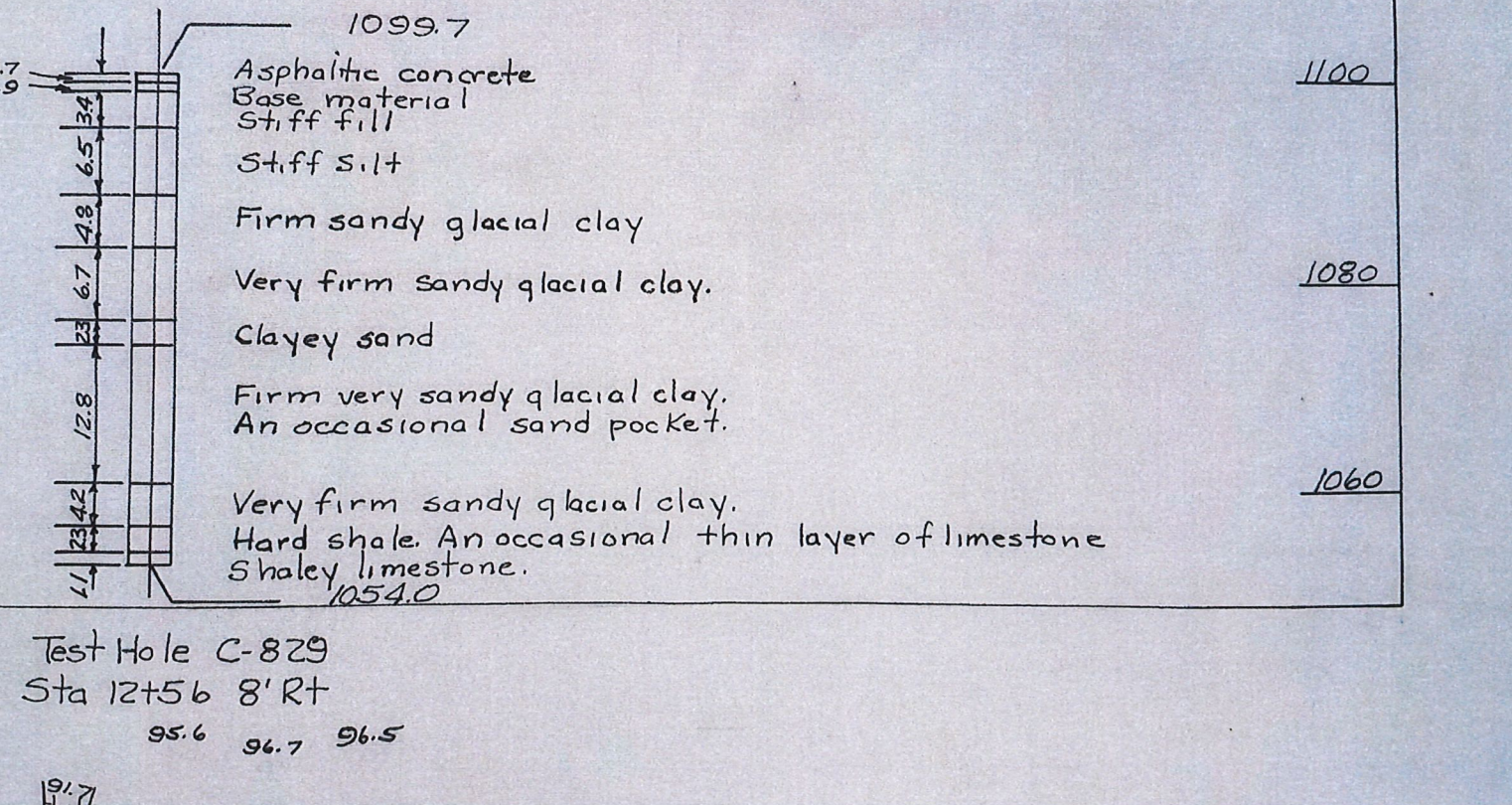


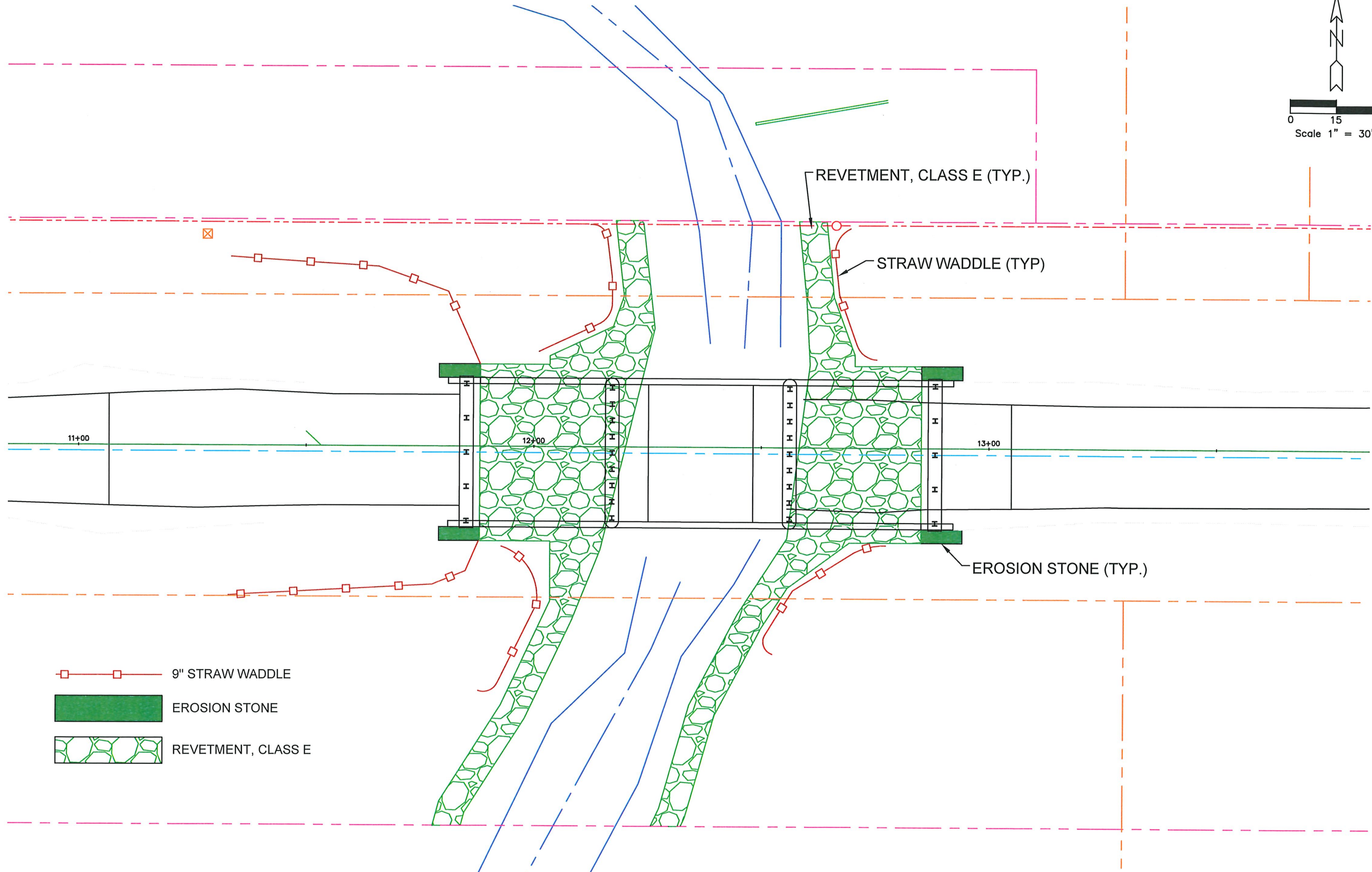
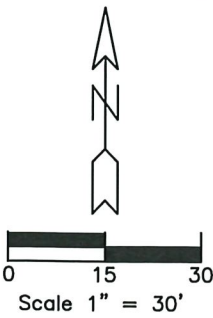
EXISTING BRIDGE PROFILE VIEW




SOUNDING C-828



SOUNDING C-829





-  9" STRAW WADDLE
-  EROSION STONE
-  REVETMENT, CLASS E

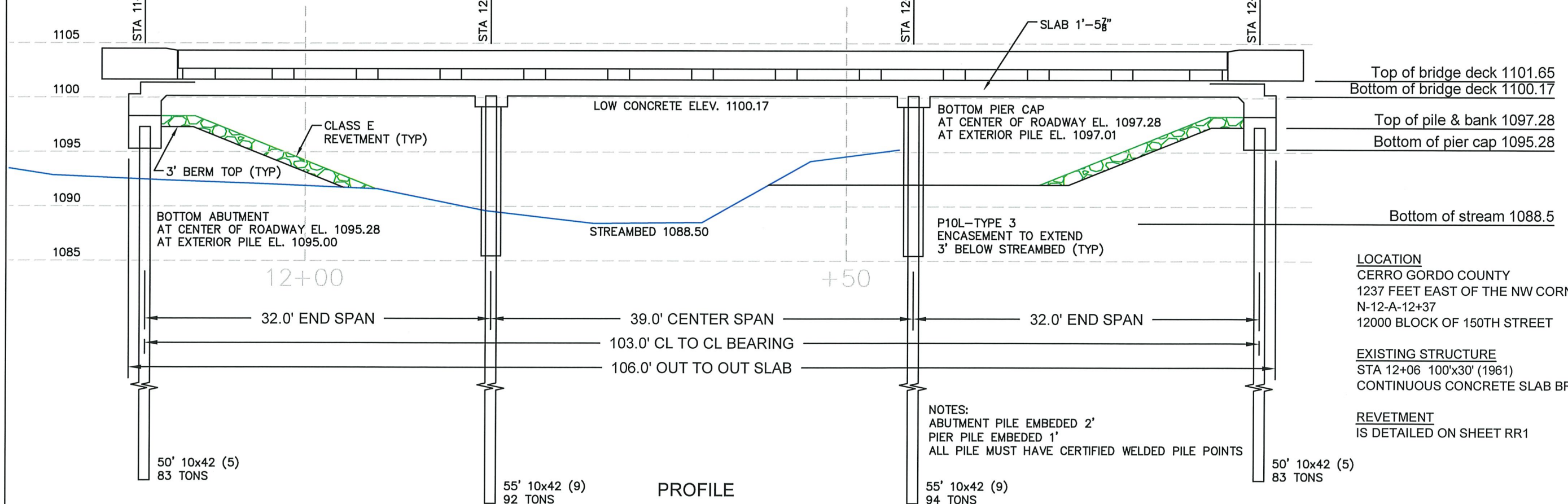
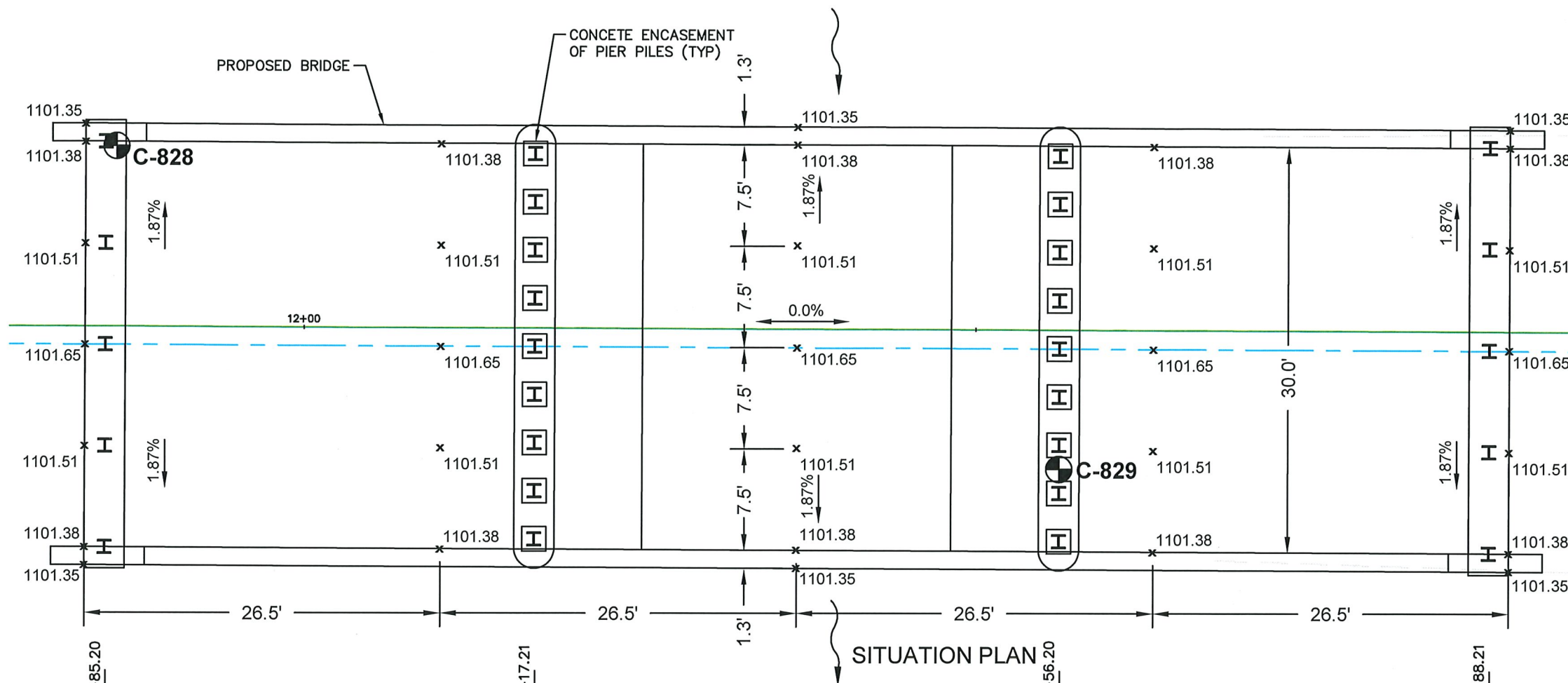
REVETMENT, CLASS E (TYP.)

STRAW WADDLE (TYP.)

EROSION STONE (TYP.)

HYDRAULIC DESIGN DATA

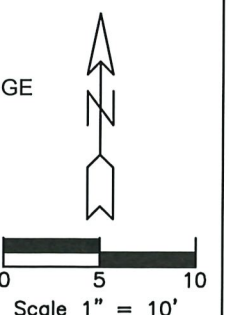
STREAM	BEAVERDAM CREEK
DRAINAGE AREA	48.6 SQ. MI.
DESIGN DISCHARGE	3320 cfs
DESIGN HIGHWATER	1098.33
MANNING SLOPE	0.030
BRIDGE WATERWAY AREA	1075.56 SF
DESIGN VELOCITY	5.74 ft/sec
Q DESIGN	Q50
EXISTING HIGH WATER ELEV	1098.5
ANTICIPATED SCOUR DES. FLD.	Q200
ANTICIPATED SCOUR DES. CHK.	Q200
APPROPRIATE STREAM SLOPE	7.53 ft/mi
REPORT USED	13-5086 REGION 1
DES MOINES LOBE	92.8%
PROPOSED LOW BEAM	1100.17
CHANNEL BOTTOM	1088.50
APPROXIMATE TOP OF BANK	1100.63
SKEW ANGLE	0°
RECORD HIGH FLOOD	1098.5± (2018)
OVERTOPPING FLOOD	>Q100
EXISTING OPENING	798 SF
DESIGN DISCHARGE (CFS)	3320
NATURAL STAGE (FT)	1089.5
BRIDGE STAGE (FT)	1096.76
BACKWATER (FT)	0.76
FREEBOARD (FT)	3.24
AVERAGE VELOCITY (FT/SEC)	9.82

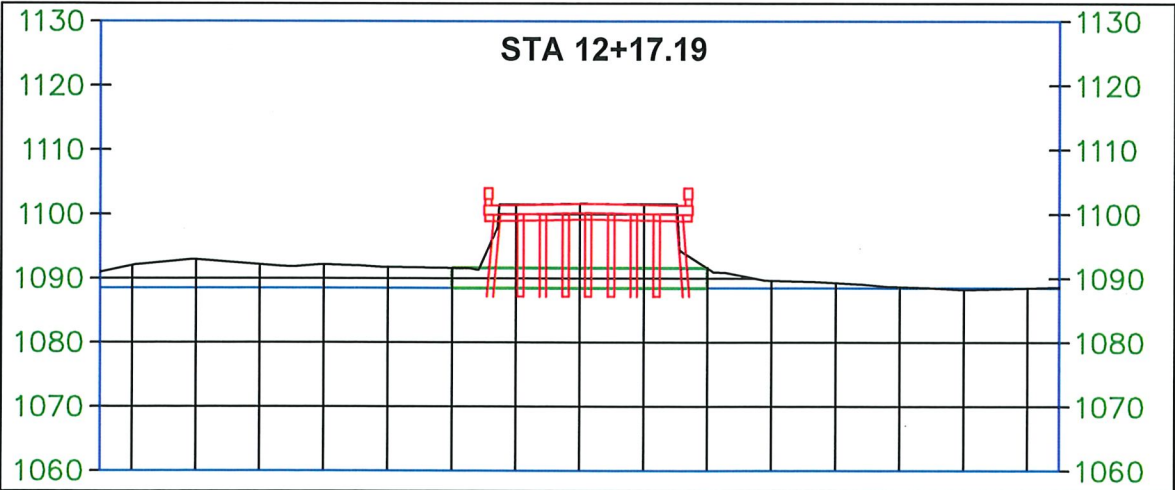
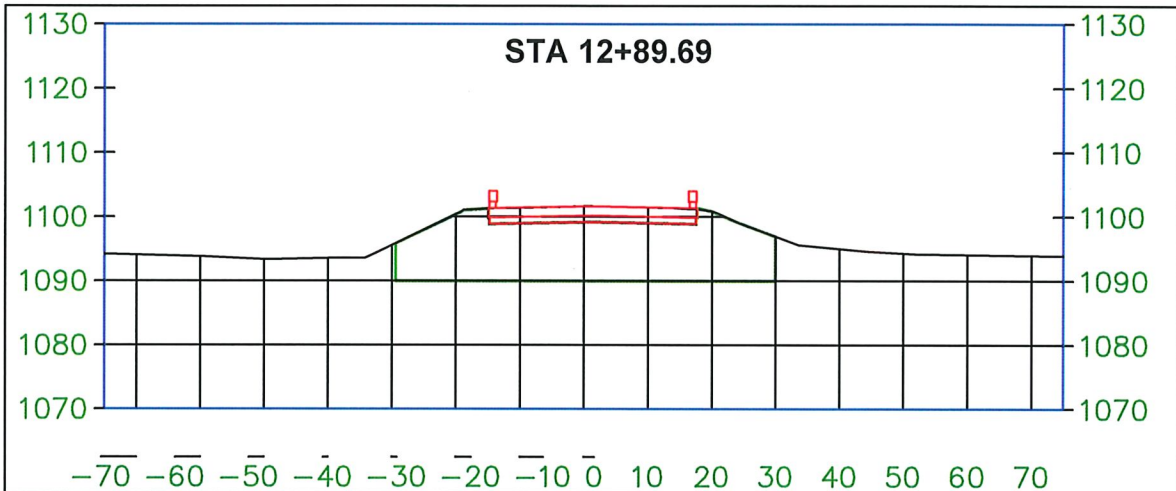
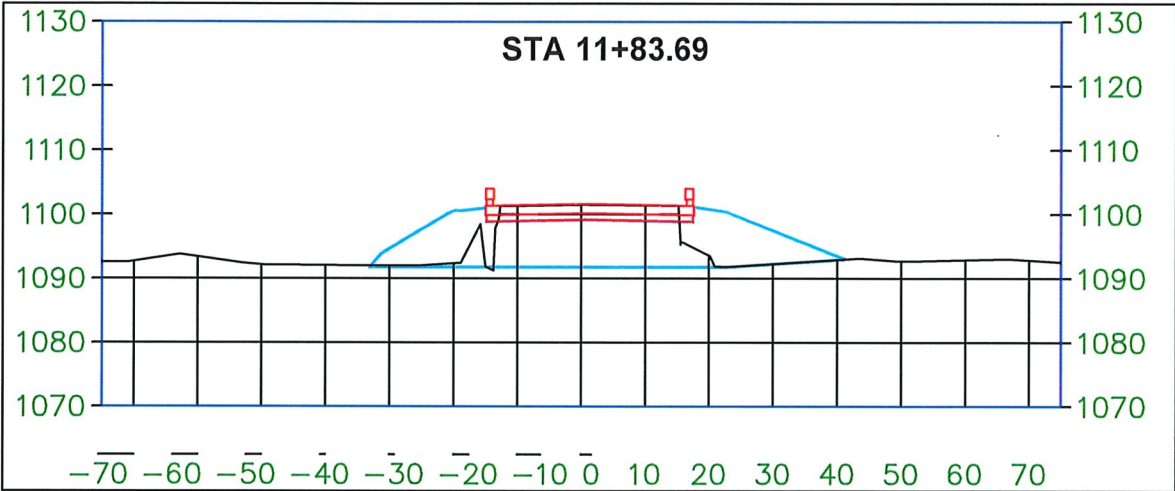
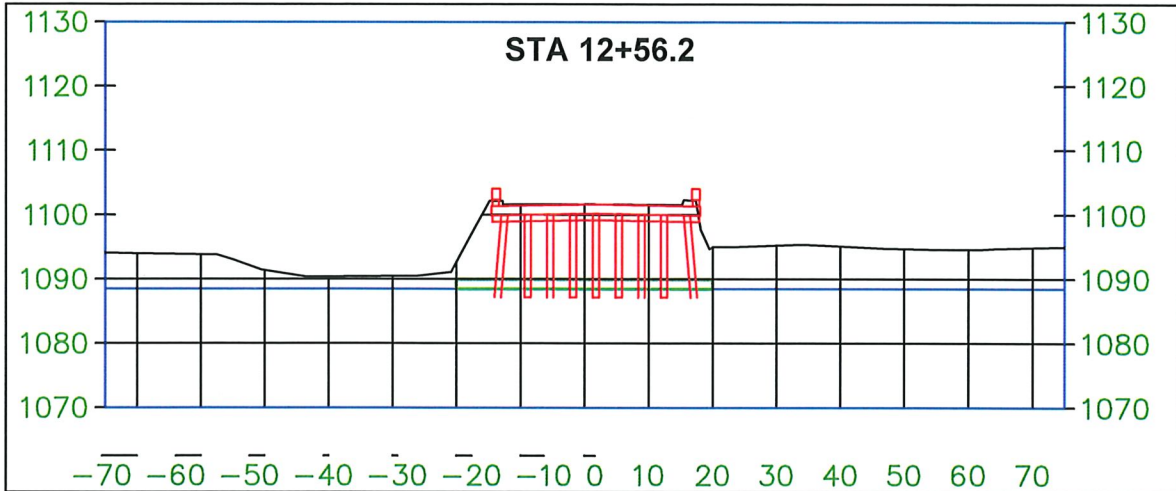
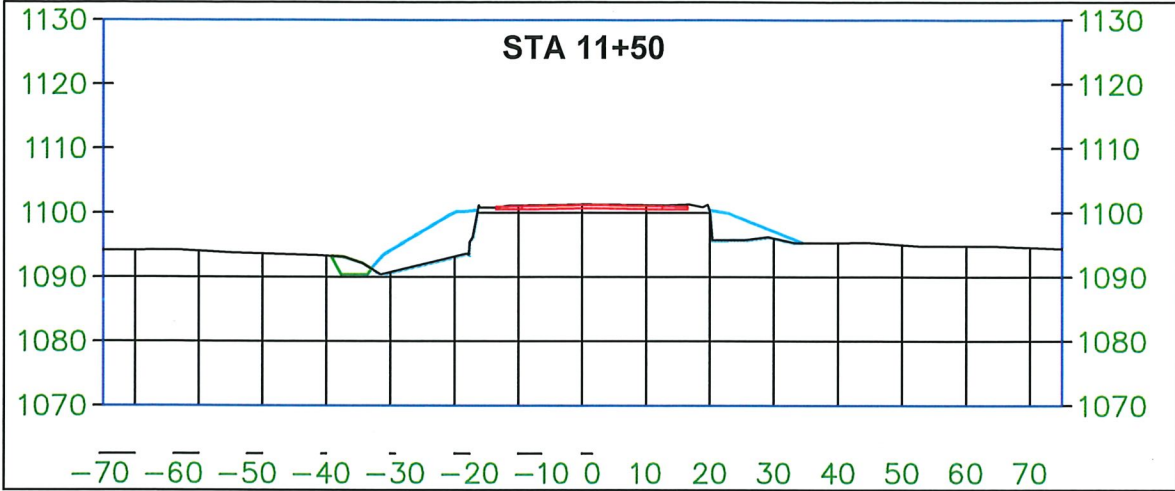


LOCATION
CERRO GORDO COUNTY
1237 FEET EAST OF THE NW CORNER OF SEC. 12-94-21
N-12-A-12+37
12000 BLOCK OF 150TH STREET

EXISTING STRUCTURE
STA 12+06 100'x30' (1961)
CONTINUOUS CONCRETE SLAB BRIDGE

REVTMENT
IS DETAILED ON SHEET RR1





FILL
CUT

CLASS 10 ROADWAY						
STATION	CLASS 10 FILL (EMBANKMENT)		CLASS 10 CUT		CLASS 10 CUT (CHANNEL)	
	SF	CY	SF	CY	SF	CY
11+00	0		0			
		57.0		5.9		
11+50	113.0		11.6			
		437.4		7.1		
11+83	470.9		0			
		148.2		0		
12+00	0		0			
		22.2				78.5
12+17	0				124.6	
		0				93.3
12+56	0				60	
		137.2		681.4		
12+90	92.6		541.1		541.1	
		0		57.0		
13+00	0		0			
		0		0		
13+50	0		0			
TOTAL		802.0		751.4		172.0