BRIDGE REPLACEMENT - CCS

CEDAR COUNTY

PROJECT NUMBER: BRS-4555(606)--60-16 LETTING DATE: DECEMBER 15, 2026

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. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.

PERMIT

This project is covered by the Iowa Department of Natural Resources NPDES General Permit #2. The contractor shall carry out the terms and conditions of general permit #2 and the storm water pollution prevention plan which is part of these contract documents. Refer to section 2602 of the standard specifications for additional information.

This project is covered by Iowa DNR Floodplain Construction Permit No 2026-0924FP-0

Standard Road Plan Tabulation found on sheet C2.

IOWA ONE CALL℠
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

TABULATION OF UTILITIES

UTILITY COMPANY	CONTACT PERSON	PHONE NO.	CONTACT EMAIL
KINETIC/WINDSTREAM	DAVE CHESTER	800-289-1901	DAVE.CHESTER@GOKINETIC.COM
F&B COMMUNICATIONS	SCOTT BUTT	563-374-1236	SCOTT@FBC-TELE.COM
ALLIANT ENERGY (OHE)	ANDREW CHRIST	319-786-4158	ANDREWCHRIST@ALLIANTENERGY.COM

IOWADOT

HIGHWAY DIVISION

PLANS OF PROPOSED IMPROVEMENT ON THE

FARM TO MARKET ROAD SYSTEM

CEDAR COUNTY, IOWA

BRIDGE REPLACEMENT - CCS

BRS-4555(606)--60-16

IN THE CITY OF LOWDEN, ON Y14-HOOVER HWY, OVER YANKEE RUN CREEK

SPRINGFIELD TOWNSHIP

140'-0"X30'6" CONTINUOUS CONCRETE SLAB BRIDGE – 15° SKEW R.A.

Refer to the Proposal Form for List of Applicable Specifications

Scales: As Noted

108-23A
08-15-22

TRAFFIC CONTROL PLAN

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 2023 STANDARD SPECIFICATIONS PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS, SIGNING AND PAVEMENT MARKINGS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO 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.

PROJECT NO. BRS-4555(606)--60-16 — 23 SHEETS

INDEX OF SHEETS

SHEET	DESCRIPTION
A.1	TITLE SHEET
B.1	TYPICAL CROSS SECTIONS
C.1–C.7	ESTIMATED PROJECT QUANTITIES, BID NOTES, STANDARD ROAD PLAN TABULATIONS, CLEARING & GRUBBING, GENERAL TABULATION, AND POLLUTION PREVENTION PLAN
D.1	PLAN & PROFILE
J.1–J.3	TRAFFIC CONTROL AND DETOUR LAYOUT
V.1	HYDRAULIC DATA, BRIDGE CROSS-SECTION
V.2–V.4	BRIDGE/DECK ELEV. & PILE NOTES, BORING LOGS
W.1–W6	CROSS SECTIONS

MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
	STA. 4+00 TO STA. 9+83.1	583.1	0.11

DRAWING APPROVAL

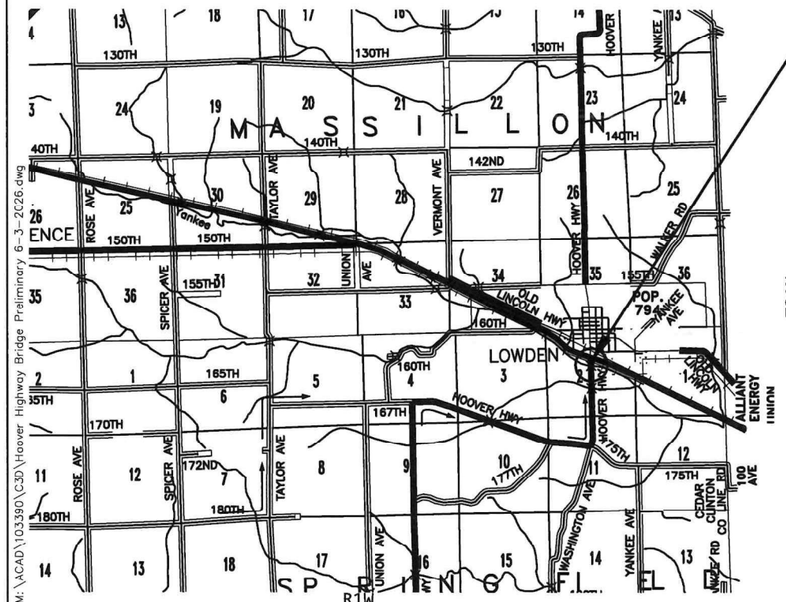
ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTOR, WHO SHALL THEN SUBMIT THEM TO THE CEDAR COUNTY ENGINEER'S OFFICE FOR REVIEW AND APPROVAL.

CONTACT: County Engineer
400 CEDAR STREET
TIPTON, IA 52772
PH: 563-886-6102

BRIDGE STANDARDS

(May be obtained at Bridge Design Services)

Standard	Date Issued	Latest Revision	Standard	Date Issued	Latest Revision
J30-01-06	11-06	09-2020	J30-39-06	11-06	09-2020
J30-16E-06	11-06	09-2020	J30-43-06	11-06	09-2020
J30-17E-06	11-06	09-2020	J30-44-06	11-06	09-2020
J30-1A-06	11-06	09-2020	J30-45-06	11-06	09-2020
J30-20-06	11-06	09-2020	J30-48-06	11-06	09-2020
J30-21-06	11-06	09-2020	LRFD TRESTLE PILE BENTS – P10L		06-2025
J30-23-06	11-06	09-2020			
J30-24-06	11-06	09-2020			
J30-35-06	11-06	09-2020			



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B.O.P STA 4+00
E.O.P STA 9+83.1
140'0"X30'6"–CCS BRIDGE
STATION 6+08.67 15° SKEW
FHWA NO. 103390

NOT TO SCALE

04-30-02	101-4
DESIGN DATA RURAL	
2022 AADT	740 V.P.D.
2042 AADT	888 V.P.D.
2042 DHV	-- V.P.H.
TRUCKS	7 %
Total Design ESALs	NA

JON BELL, CHAIRPERSON	9/8/2026 DATE
MIKE BIXLER	9-8-2026 DATE
JEFF KAUFMANN	DATE
BRAD GAUL	Sept 8 2026 DATE
BRUCE BARNHART	DATE
Approved Cedar County Board of Supervisors	

LICENSED PROFESSIONAL ENGINEER
ROBERT D. FANGMANN
16299
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.

Robert D. Fangmann — 9-8-2026 date

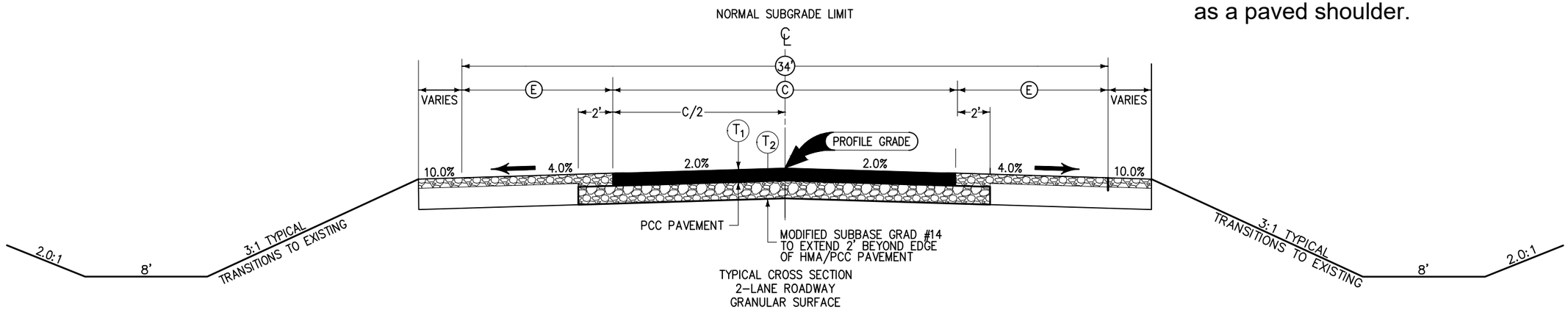
Robert D. Fangmann

License number 16299

My license renewal date is December 31, 2027

Pages or sheets covered by this seal:
A.1, B.1, C.1-C.7, D.1, J.1-J.3, V.1, V.2-V.4, W.1-W.6

*Note: The outside 2' of mainline pavement shall be considered as a paved shoulder.



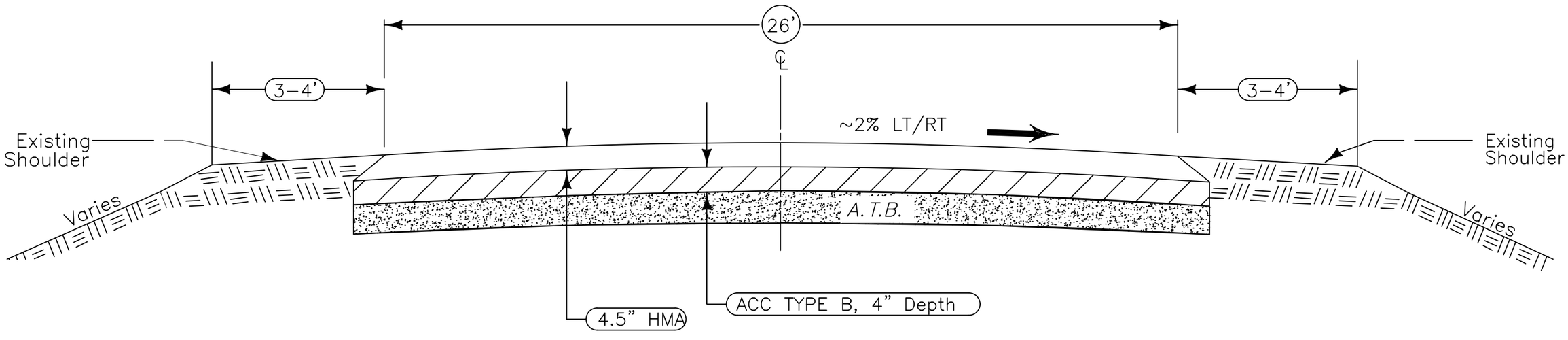
TYPICAL CROSS SECTION
2–LANE ROADWAY
GRANULAR SURFACE

NOTE:
NORMAL SECTIONS SHOWN MAY BE APPROPRIATELY MODIFIED FOR AREAS SPECIFICALLY DESIGNATED BY THE ENGINEER SUCH AS INTERSECTIONS OR SUPERELEVATED CURVES.

LOCATION ALONG CENTERLINE			(C)	(T1)	(T2)	(E*)	*SHOULDER TYPE	REMARKS
ROAD IDENTIFICATION	STATION TO STATION		Feet	Inches	Inches	Feet		
HOOVER HWY	4+20	4+77.10	26	10	8	6	HMA/GRAN.	SEE STD. RD PLAN EW–301 FOR G'RAIL BLISTERS
HOOVER HWY	4+77.10	5+17.10	26	10	**VARIES	6	HMA/GRAN.	UNREINFORCED BRIDGE APPROACH SECTION
HOOVER HWY	5+17.10	BRIDGE	33'3"	10	**VARIES	6	GRANULAR	**REINFORCED PAVEMENT SECTION.
HOOVER HWY	BRIDGE	7+00.23	33'3"	10	**VARIES	6	GRANULAR	**REINFORCED PAVEMENT SECTION.
HOOVER HWY	7+00.23	7+40.23	26	10	**VARIES	6	HMA/GRAN.	UNREINFORCED BRIDGE APPROACH SECTION
HOOVER HWY	7+40.23	7+80.23	26	10	**VARIES	6	HMA/GRAN.	SEE STD. RD PLAN EW–301 FOR G'RAIL BLISTERS
HOOVER HWY	7+80.23	7+96.50	26	10	8	6	GRANULAR	SEE STD. RD PLAN EW–301 FOR G'RAIL BLISTERS
HOOVER HWY	7+96.50	9+83.10	26	10	8	6	GRANULAR	TYPICAL RDWY SECTION

**SEE STANDARD ROAD PLAN BR–101 & BR–105 – INCIDENTAL TO BRIDGE APPROACH ITEM.
HMA SHOULDERS: SEE DETAIL 7156 ON C.4

SEE TABULATION "GRADING FOR GUARDRAIL INSTALLATIONS" ON SHEET C2 AND CROSS SECTIONS ON W SHEETS FOR ADDITIONAL INFO. DITCH BOTTOMS SHALL BE 8 FT UNLESS SHOWN OTHERWISE.



EXISTING CROSS SECTION

9/8/2026 8:34 AM

ESTIMATED PROJECT QUANTITIES

10.0

Item No.	Item Code	Item	Unit	Quantities Estimated Division 1
1	2101-0850001	CLEARING & GRUBBING	ACRE	0.4
2	2102-2710070	EXCAVATION, CL 10, RDWY+BORROW	CY	2498.0
3	2104-2710020	EXCAVATION, CL 10, CHANNEL	CY	3239.0
4	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	492.0
5	2115-0100000	MODIFIED SUBBASE	CY	271.0
6	2121-7425020	GRANULAR SHLD, TYPE B	TON	118.0
7	2122-5500090	PAVED SHOULDER, HMA, 9"	SY	146.4
8	2301-0690210	BRIDGE APPROACH, TWO LANE	SY	378.9
9	2301-1033100	STD/S-F PCC PAV'T, CL. C. CL. 3, 10"	SY	866.6
10	2314-8257000	DUST CONTROL SURFACE TREATMENT	STA	132.0
11	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	30.0
12	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1.0
13	2401-6750001	REMOVALS AS PER PLAN	LS	1.0
14	2402-2720000	EXCAVATION, CL 20	CY	156.0
15	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	369.5
16	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	96521.0
17	2414-6424124	CONCRETE OPEN RAILING TL-4	LF	302.0
18	2501-0201042	PILE, STEEL, HP 10X42	LF	2280.0
19	2501-5478042	CONC ENCASE STEEL H PILE, HP 10X42(P10L)	LF	433.4
20	2501-6335010	PREBORED HOLE	LF	140.0
21	2505-4008300	STEEL BEAM GUARDRAIL	LF	50.0
22	2505-4008420	STEEL BEAM G'RAIL BARRIER TRANSITION SECTION, BA-221	EACH	4.0
23	2505-4021010	STEEL BEAM G'RAIL END ANCHOR, BOLTED	EACH	4.0
24	2505-4021722	STEEL BEAM G'RAIL TNGNT END TERM, BA-225	EACH	4.0
25	2507-3250005	ENGINEERING FABRIC	SY	391.8
26	2507-6800061	REVETMENT, CLASS E	TON	2101.9
27	2507-8029000	EROSION STONE	TON	495.0
28	2510-6745850	PAVEMENT REMOVAL	SY	1429.4
29	2527-9263209	PAINTED PAV'T MARK, WATERBORNE/SOLVENT	STA	12.3
30	2528-2518000	SAFETY CLOSURE	EACH	4.0
31	2528-8445110	TRAFFIC CONTROL	LS	1.0
32	2533-4980005	MOBILIZATION	LS	1.0
33	2601-2634100	MULCHING	ACRE	2.6
34	2601-2636043	SEED+FERTILIZE (RURAL)	ACRE	1.3
35	2601-2642100	STABILIZE CROP - SEED+FERTLIZE	ACRE	1.3
36	2602-0000050	SILT BASIN	EACH	4.0
37	2602-0000080	REMOVAL OF SILT BASINS	EACH	4.0
38	2602-0000312	PERIMETER & SLOPE SEDIMENT CNTRL DEVIC, 12"	LF	840.0
39	2602-0000351	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	500.0
40	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	3.0
41	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1.0

ESTIMATE REFERENCE INFORMATION

10.1

Item No.	DESCRIPTION
1	SEE SHEET C4 FOR LOCATIONS.
2	A 30% SHRINKAGE FACTOR HAS BEEN APPLIED TO FILL VOLUMES. TYPE "A" COMPACTION WILL BE REQUIRED ON ALL EMBANKMENTS. CONTRACTOR IS TO WASTE EXCESS MATERIAL UNSUITABLE TO BE INCORPORATED INTO THE PROJECT OFFSITE AT A LOCATION APPROVED BY THE ENGINEER. ITEM SHALL INCLUDE COST OF WASTING UNSUITABLE SOIL OFFSITE. SEE SHEET D.1 FOR DETAILS. THE CONTRACTOR SHALL FAMILIARIZE THEMSELF WITH PROVISIONS OF IOWA LAW AS IT APPLIES TO REMOVAL AND REPLACEMENT OF TOPSOIL IN BORROW AREAS. INCLUDES ALL NECESSARY EXCAVATION TO REMOVE AND REINSTALL ENTRANCE AT STATION 4+29 RT.
3	SEE TABULATION ON SHEET D.1 FOR BREAKDOWN OF EXCAVATION QUANTITIES. INCLUDES COST TO CLEAR THE CHANNEL TO THE SHAPE, DEPTH AND EXTENT SHOWN ON SHEETS V.1 AND D.1. INCLUDES COST OF UTILIZING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02,D,2 OF THE STANDARD SPECIFICATIONS. CONTRACTOR IS TO WASTE EXCESS MATERIAL OFFSITE AT A LOCATION APPROVED BY THE ENGINEER.
4	IN ORDER TO MEET NPDES REQUIREMENTS TOPSOIL STRIP, SALVAGE, AND SPREAD SHALL BE REQUIRED ON THIS PROJECT. QUANTITY PERTAINS TO WORK WITHIN THE PROJECT LIMITS. TOPSOIL SHALL BE STRIPPED FROM WITHIN THE PROJECT LIMITS AND SPREAD UNIFORMLY (MIN. 4" DEPTH) OVER ALL AREAS THAT ARE NOT COVERED BY PAVEMENT OR GRANULAR MATERIAL. AREAS SHALL BE UNDERCUT PRIOR TO PLACING TOPSOIL. CROSS-SECTIONS SHOW FINISHED GRADELINE. THE CONTRACTOR IS TO FAMILIARIZE THEMSELF WITH THE IOWA LAW AS IT PERTAINS TO REMOVAL AND REPLACEMENT OF TOPSOIL WITHIN THE PROJECT AREA.
5	MATERIAL SHALL MEET GRADATION 14 (MODIFIED SUBBASE). FOR USE AS PART OF PAVEMENT SUBBASE AS INDICATED IN THE TYPICAL SECTIONS ON SHEET B.1. INCLUDES AREA BENEATH PAVED HMA SHOULDERS. MODIFIED SUBBASE SHALL BE PLACED IN LIFTS NO MORE THAN 6 INCHES THICK MODIFIED SUBBASE SHALL BE COMPACTED WITH A SMOOTH DRUM ROLLER.
6	SEE SHEET B.1 FOR LOCATIONS. INCLUDES GRANULAR SURFACING FOR NON-PAVED PORTION OF GUARDRAIL BLISTERS.
7	SEE SHEET C.4 FOR DESIGN DETAIL 7156 AND TABULATION 21.0. SEE SHEET D1 FOR LIMITS. MIX SHALL BE STANDARD TRAFFIC (ST) BASE MIX WITH PG 58-28S BINDER ACCORDING TO SECTION 2303 OF THE SPECIFICATIONS. ITEM SHALL INCLUDE ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO COMPLETE THE WORK.
8	SEE TABULATION 20.9 ON SHEET C4 AND SHEET D.1 FOR DETAILS. OMIT CURB FROM APPROACH SECTION. NO "F" FLY ASH WILL BE ALLOWED. CONTRACTOR SHALL COORDINATE WITH GUARDRAIL CONTRACTOR TO ENSURE GUARDRAIL POSTS LOCATIONS ARE FREE OF PAVEMENT. CERTIFIED PLANT INSPECTION IS REQUIRED.
9	SEE SHEET B.1 FOR DETAILS. NO CLASS "F" FLY ASH WILL BE ALLOWED. TRANSVERSE CONTRACTION JOINTS SHALL BE "CD" PLACED ON 15' SPACING UNLESS OTHERWISE NOTED. ALL PAVEMENT LONGITUDINAL CONTRACTION JOINTS SHALL BE "L-2" AS DETAILED ON SRP PV-101 AND SHALL BE SAWED AND SEALED IN THE SAME MANNER AS TRANSVERSE JOINTS. CERTIFIED PLANT INSPECTION IS REQUIRED.
10	CALCIUM CHLORIDE IN LIQUID FORM SHALL BE UTILIZED ON 167TH ST. AND 160TH ST. SEE TABULATION 21.2 ON SHEET C.2 FOR DETAILS. ITEM SHALL INCLUDE ALL EQUIPMENT, MATERIALS, AND LABOR NECESSARY TO COMPLETE THE REQUIRED DUST CONTROL AND SHALL BE MEASURED AND PAID BY THE STATION TO THE NEARTEST HUNDRETH.
11	TO BE UTILIZED FOR NEW ENTRANCE AT STATION 4+29 RT. SEE SHEET D1 FOR DETAILS AND LOCATION.
12	STA. 6+11 - 76'X26', 3 SPAN CONTINUOUS CONCRETE SLAB BRIDGE WITH TIMBER ABUTMENTS AND STEEL PIPE PIER PILES. EACH ABUTMENT WILL ALSO REQUIRE THE REMOVAL OF EXISTING STEEL H-PILE SISTER ABUTMENTS. SEE SHEET C.5 FOR SISTER ABUTMENT DETAILS. CONTRACTOR TO REMOVE STRUCTURE INCLUDING ANY DEADMEN. UNLESS OTHERWISE NOTED, THE STRUCTURE SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE MOVED OFFSITE. SEE SHEET C2 FOR DETAILS. AN INPSECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. IF MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPPED IMMEDIATELY AND THE ENGINEER NOTIFIED. STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 2 FEET BELOW FINISHED CHANNEL GRADE OR 6 FEET BENEATH FINISHED ROADWAY AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION. CONTRACTOR TO SALVAGE AND STOCKPILE SIGNS TO BE PICKED UP BY COUNTY CREWS.
13	REMOVAL OF EXISTING 58'X24" CMP AT STATION 5+51 LT. SEE SHEET D.1 FOR LOCATION. EXISTING PIPE SHALL BE SALVAGED AND STOCKPILED ONSITE FOR REMOVAL BY COUNTY FORCES.
14	SEE SHEET D.1 FOR BREAKDOWN OF EXCAVATION QUANTITIES. INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02,D,2 OF THE STANDARD SPECIFICATIONS. MATERIAL NOT SUITABLE TO BE INCORPORATED INTO THE PROJECT SHALL BE WASTED OFFSITE AT A LOCATION APPROVED BY THE ENGINEER. SEE SHEET C2 FOR DISPOSAL OF CLASS 20 EXCAVATION AND SHEET V1 FOR LIMITS.
15	INCLUDES THE COST OF FURNISHING AND PLACING SUBDRAINS PER STANDARD J30-45-06 AND J30-46-06 INCLUDING EXCAVATION AND BACKFILL MATERIAL AT ABUTMENTS. BACKFILL BEHIND ABUTMENTS IS TO BE AS PER BRIDGE STANDARD J30-48-06. NO ADDITONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE IF NECESSARY. CERTIFIED PLANT INSPECTON IS REQUIRED. ARCTICLE 2428 REGARDING BRIDGE DECK SMOOTHNESS DOES NOT APPLY. CLASS F FLY ASH WILL NOT BE ALLOWED. EXCLUDES 1.4 CY FOR TEMPORARY PAVING BLOCKS.
16	ALL REINFORCING STEEL SHALL BE GRADE 60 AND EPOXY COATED. THE PILE SPIRALS AND PILE SPACERS AT THE ABUTMENTS MAY BE UNCOATED AT THE CONTRACTOR'S OPTION.
17	CERTIFIED PLANT INSPECTION REQUIRED. ALL STRUCTURAL CONCRETE FOR THE RAIL IS TO BE CLASS C. SUBSTITUTION OF CLASS D CONCRETE IS NOT ALLOWED. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY. ALL FALSEWORK SHALL BE REMOVED PRIOR TO POURING THE OPEN RAILING.
18	INCLUDES: 7-HP10X42 @ 55' NORTH ABUTMENT, 7-HP10x42 @65' SOUTH ABUTMENT, 12 - HP10X42 @55 ' NORTH PIER, 12 - HP10X42 @65' SOUTH PIER . SEE SHEETS V.1 - V.4 FOR PILING DETAILS. INCLUDES DRIVING POINTS ON ALL PILES.
19	SEE STANDARD LRFD TRESTLE PILE BENTS -P10L. ENCASE PILING 3' BELOW STREAMBED. CERTIFIED PLAN INSPECTION REQUIRED. NO "F" FLYASH WILL BE ALLOWED.
20	ALL ABUTMENT PILES SHALL BE PREBORED 10' BELOW THE BOTTOM OF ABUTMENT FOOTING AS PER BRIDGE STANDARD J30-01A-06.
21-24	SEE TABULATION 20.3, SHEET C2 AND STANDARD ROAD PLANS.
25	PLACED UNDER THE REVETMENT AS SHOWN ON SHEET V.1 ONLY IN AREA UNDER BRIDGE. FABRIC UNDER REVETMENT SHALL BE INSTALLED AS SOON AS BERM GRADING IS COMPLETE AS AN EROSION CONTROL MEASURE. LAPS SHALL BE A MINIMUM OF TWO FEET IN LENGTH. SHINGLE FASHION WITH UP SLOPE LAP PIECE ON TOP. THE CONTRACTOR SHALL PROVIDE A MEANS TO SECURE THE LAP DURING THE PLACEMENT OF REVETMENT. IF ENGINEERING FABRIC IS NOT IMMEDIATELY INSTALLED, PERIMETER AND SLOPE CONTROL DEVICE SHALL BE INSTALLED TO PREVENT EROSION INTO THE STREAM.
26	REVETMENT IS TO BE PLACED AT A THICKNESS OF 2 FEET. SEE TABULATION 100-23 ON SHEET C.3. AND SHEET V1 FOR REVETMENT PLACEMENT LIMITS. BROKEN CONCRETE MAY NOT BE SUBSTITUTED. INCLUDES ARMORING WINGS. ITEM SHALL INCLUDE THE NECESSARY SHAPING/EXCAVATION FOR KEYING IN REVETMENT AS SHOWN IN PLAN AND PROFILE VIEWS.
27	SEE TABULATION 21.4 ON SHEET C4 AND SHEET D.1 FOR LOCATION AND DETAILS
28	SEE SHEET B.1 AND TABULATION 21.1 ON SHEET C3 FOR DETAILS AND LOCATIONS.
29	SEE TABULATION 21.3 ON SHEET C3 FOR DETAILS.
30	SEE TABULATION 100-13A ON SHEET C.2
31	SEE STANDARD ROAD PLAN TC-252 SITUATION PLAN 1 (RURAL) AND GENERAL NOTES SHEET C.2 FOR DETAILS. SEE SHEETS J.1 - J.3 FOR DETOUR DETAILS AND SIGNING
33-35	THE CONTRACTOR IS TO RESHAPE, FERTILIZE, SEED, AND MULCH AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION.
36-37	SEE TABULATION 20.8 ON SHEET C.3.
38-39	SEE TABULATION 20.7 ON SHEET C.3 AND POLLUTION PREVENTION PLAN ON SHEETS C.6-C.7. PERIMETER AND SLOPE SEDIMENT CONTROL DEVICES 12 IN. TO BE UTILIZED AROUND CLASS 10/CLASS 20 STOCKPILES, 500 LF TO BE UTILIZED ALONG CHANNEL SLOPES ON NORTH AND SOUTH SIDE OF BRIDGE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. 340 LF TO BE UTILIZED AS DITCH CHECKS.

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GENERAL NOTES:

CONTRACTOR TO GAIN ENGINEER'S APPROVAL OF CHANNEL WORK PRIOR TO PLACING REVETMENT.

CONTRACTOR TO CAREFULLY REMOVE AND STOCKPILE ALL EXISTING SIGNS TO BE PICKED UP BY THE COUNTY.

TRAFFIC CONTROL

CONTRACTOR SHALL FURNISH, ERECT, OPERATE, MAINTAIN, MOVE AND REMOVE ALL NECESSARY TRAFFIC CONTROL DEVICES REQUIRED BY CURRENT SPECIFICATIONS AND CONFORM TO 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. ALL SIGNS SHALL BE MAINTAINED ON A 24 HOUR, 7 DAY PER WEEK BASIS DURING THE CONSTRUCTION OF THE PROJECT. CONSTRUCTION WILL BE SUSPENDED IN THE EVENT THAT ANY OF THE REQUIRED LEGIBLE TRAFFIC CONTROL SIGNS ARE NOT IN PLACE AND WILL REMAIN SUSPENDED UNTIL SUCH DEFICIENCY IS CORRECTED. ALL INTERSECTIONS SHALL BE SIGNED WITH THE APPROPRIATE SITUATION AS SHOWN ON STANDARD TC-252. ALL TYPE 3 BARRICADES SHALL HAVE A MINIMUM OF 4 SANDBAGS. EXACT LOCATIONS OF SIGNS MAY BE FIELD ADJUSTED, PER CEDAR COUNTY ENGINEER'S APPROVAL TO FIT CONDITIONS. NO SIGNS SHALL BE LOCATED THAT WOULD CAUSE ANY RESTRICTION FOR THE MOTORISTS VIEW OF PERMANENT SIGNING OR ANY VEHICLE TRAVELING, ENTERING OR EXITING THE ROADWAY.

IF TILE IS ENCOUNTERED ON THIS PROJECT, IT SHALL BE TIED OUT TO REFERENCE POINTS AND AN EXTRA WORK ORDER WILL BE MADE OUT TO COVER THE PLACEMENT OF NEW TILE OUTLETS AND/OR EXTENSIONS.

ALL SUITABLE CLASS 10 (CHANNEL) AND CLASS 20 EXCAVATION TO BE USED TO BUILD GUARDRAIL BLISTERS. UNSUITABLE CLASS 10 (CHANNEL) AND CLASS 20 EXCAVATION TO BE DISPOSED OF BY THE CONTRACTOR.

STANDARD ROAD PLANS 20.6

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	10/20/2026	STEEL BEAM GUARDRAIL COMPONENTS
BA-202	10/20/2026	STEEL BEAM GUARDRAIL BOLTED END ANCHOR
BA-221	10/18/2022	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION (MASH TL-2)
BA-225	10/17/2023	STEEL BEAM GUARDRAIL TANGENT END TERMINAL (MASH TL-2)
BR-101	10/20/2026	BRIDGE APPROACH SECTION (GENERAL DETAILS)
BR-105	10/20/2026	BRIDGE APPROACH SECTION (TWO-LANE, HMA PAVEMENT)
EC-204	10/19/2021	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES
EC-301	10/18/2022	ROCK EROSION CONTROL (REC)
EW-101	10/17/2017	EMBANKMENT AND REBUILDING EMBANKMENTS
EW-301	10/20/2026	GUARDRAIL GRADING
EW-401	10/20/2015	TEMPORARY STREAM CROSSING, CAUSEWAY, OR EQUIPMENT PAD
EW-403	4/18/2017	TEMPORARY EROSION CONTROL MEASURES
LS-635	10/18/2022	STEEL BEAM GUARDRAIL INSTALLATION AT CONCRETE BARRIER OR BR. RAIL END SEC. MASH TL-2
SI-101	4/19/2016	LOCATIONS-TYPE 'A' SIGNS
SI-173	4/19/2016	OBJECT MARKERS
SI-211	10/18/2022	OBJECT MARKER AND DELINEATOR PLACEMENT WITH GUARDRAIL
TC-252	10/20/2026	ROUTES CLOSED TO TRAFFIC

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION 20.3

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

Location		Layout Lengths				Delineators And Object Markers					Bid Items					Remarks
No.	Station	VT1	VF	VT2	ET	Type	Type 1	Type 2	Type 3		Bolted End Anchor		Steel Beam Guardrail	Barrier Transition Section	End Terminal	
						SI-211	White	OM2-2	OM3-L	OM3-R	BA-202		BA-200	BA-221	BA-225	
		LF	LF	LF	LF		EACH	EACH	EACH	EACH	TYPE	EACH	LF	EACH	EACH	
1	5+30	37.5			35.17	2	-	2	1		A	1	12.5	1	1	SOUTH END LEFT
2	5+38	37.5			35.17	2	-	2		1	A	1	12.5	1	1	SOUTH END RIGHT
3	6+79	37.5			35.17	2	-	2		1	A	1	12.5	1	1	NORTH END LEFT
4	6+87	37.5			35.17	2	-	2	1		A	1	12.5	1	1	NORTH END RIGHT

GRADING FOR GUARDRAIL INSTALLATIONS 20.4

Refer To EW-301

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	NB	4+20	L	3:1	32	5					72	6	37			SOUTH END, LEFT
2	NB	4+28	R	3:1	32	5					72	6	37			SOUTH END, RIGHT
3	SB	7+89	L	3:1	32	5					72	6	37			NORTH END, LEFT
4	SB	7+96	R	3:1	32	5					72	6	37			NORTH END, RIGHT

REMOVAL OF EXISTING STRUCTURES 110-2 08-15-22

Location	Description	Remarks
6+11	76'x26' CONTINUOUS CONCRETE SLAB, TIMBER ABUTMENT PILE. STEEL PIPE PIER PILES. HPX10X42 SISTER BENT PILES (4 EACH ABUTMENT)	SEE DETAIL ON SHEET C5 FOR SISTER ABUTMENT DETAILS.

DIESEL HAMMER NOTES

A DIESEL HAMMER IS REQUIRED FOR ALL STEEL BEARING PILE. WAVE EQUATION ANALYSIS WILL BE USED AT THE TIME OF PILE DRIVING TO DETERMINE PILE BEARING. THE CONTRACTOR SHALL SUBMIT ADEQUATE HAMMER INFORMATION SO THAT THE PROPER ANALYSIS CAN BE PERFORMED. THIS INFORMATION SHALL BE SUBMITTED AT LEAST 20 DAYS PRIOR TO ANY PILE DRIVING.

IOWA ONE CALL SM
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

DEMOLITION (BRIDGE REMOVAL) 271-9 09-28-22

A scrape sample was taken from the guardrail posts and the steel pipe piles of this bridge to get an indication of the existence of the level of total Chromium and total Lead. Analysis of total Lead was 790 parts per million (PPM) on the rail posts. Analysis of total Chromium was <100 PPM on rail posts. Analysis of total Lead was 2500 parts per million (PPM) on the steel pipe piles. Analysis of total Chromium was 55000 PPM on steel pipe piles. 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 Department's testing and analysis for any purpose other than as an indication of the existence of these two toxic constituents. Removal of schedules items shall be in accordance with Section 2401 of the Standard Specifications.

SAFETY CLOSURES 108-13A 10-04-23

refer to section 2528 of the standard specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
2+50	1		Hoover Hwy.
3+50		1	Hoover Hwy.
8+50		1	Hoover Hwy.
9+85	1		Hoover Hwy.
TOTAL	2	2	

DUST CONTROL 21.2

REFER TO SECTION 2314 OF THE SPECIFICATIONS

ROAD			STATIONS
	BEGIN	END	
167TH ST	Y14/167TH	160TH ST.	13
160TH ST.	160TH/167TH	HWY 30.	119
		TOTAL	132

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9/8/2026 8:35 AM

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE — 20.7

Possible Standards: EC - 204

Location			Ditch Check Length of Installation 12 Inch Dia. LF	Remarks
Road Identification	Station	Side		
HOOVER HWY.	4+00	RT	20	
HOOVER HWY.	4+20	LT	20	
HOOVER HWY.	4+81	LT/RT	40	
HOOVER HWY.	5+30	LT/RT	40	
HOOVER HWY.	6+82	LT	20	
HOOVER HWY.	7+30	LT	20	
HOOVER HWY.	7+80	LT/RT	40	
HOOVER HWY.	8+30	LT/RT	40	
HOOVER HWY.	8+80	LT/RT	40	
HOOVER HWY.	9+35	LT/RT	40	
HOOVER HWY.	9+60	LT	20	
STREAM BANKS		LT/RT.	500	
		TOTAL	840	

SILT BASINS — 20.8

Basin No.	Location		Remarks
	Station	Side	
1-2	5+25	LT/RT	
3-4	6+85	LT/RT	
TOTAL: 4 EACH			

REMOVAL OF PAVEMENT — 21.1

* Not a Bid Item

"Begin Station"	"End Station"	Side	"Pavement Type"	Length FT	Width FT	Area FT	Area SY	Saw Cut* LF	Remarks
4+20	5+73.2	BOTH	HMA	153.2	26	3983	442.6	26	Y14/Hoover Hwy.
6+49.7	9+83.1	BOTH	HMA	333.4	26	8668.4	963.2	26	Y14/Hoover Hwy.
4+47	4+86	RT	HMA			212	23.6		
						TOTAL	1429.4		

ROCK EROSION CONTROL — 100-23, 08-15-22

Refer To EC-301

Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
						Type 1	Type 2	Type 3	Type 4	Type 5	"Erosion Stone"	Class E Revetment	"Engineering Fabric"	
Road Identification	Begin Station	End Station	Side			Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	TON	TON	SY	
			Lt./Rt.	Feet	Feet									
HOOVER HWY.	5+31	6+41	LT/RT							X		1170.6	195.9	SOUTH STREAMBANK
HOOVER HWY.	6+00	6+87	LT/RT							X		931.3	195.9	NORTH STREAMBANK
											TOTAL:	2101.9	391.8	

PAVEMENT MARKING LINE TYPES — 21.3

See PM–110

*BCY4 - Place on the same side of the roadway to match existings markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

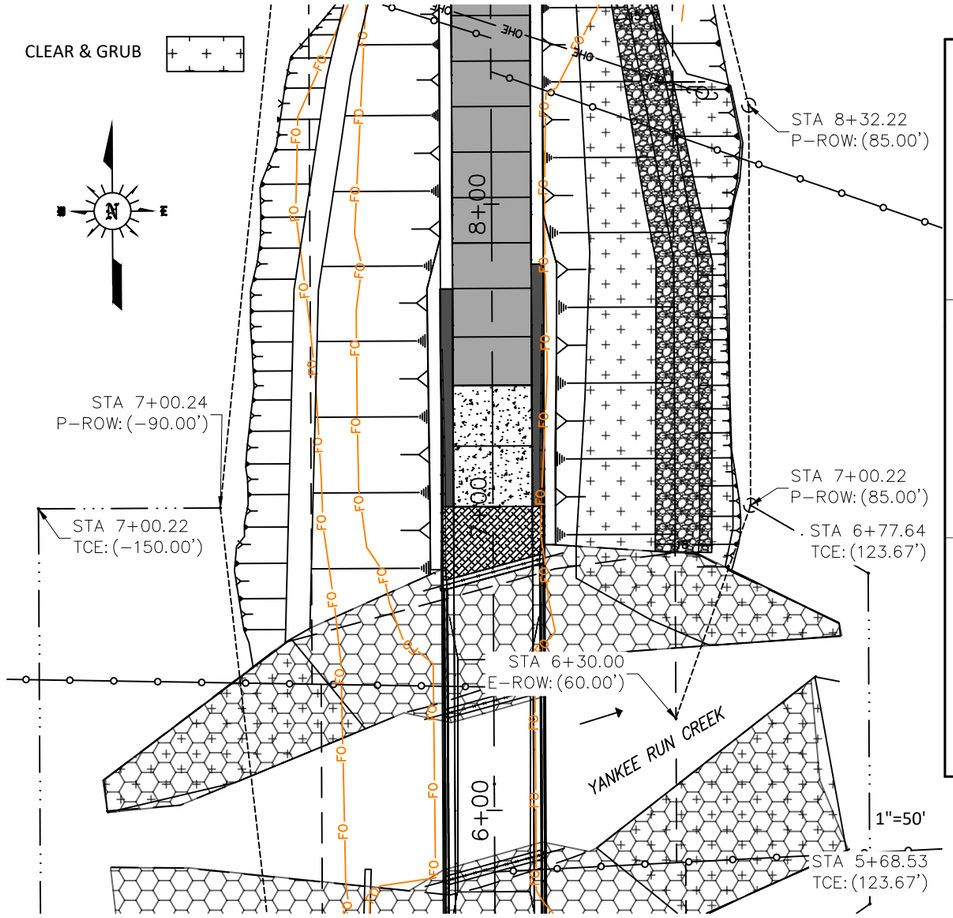
BCY4: Broken Centerline (Yellow) @ 0.17
DCY4: Double Centerline (Yellow) @ 1.34
NPY4: No Passing Zone Line (Yellow) @ 0.84
ELW4: Edge Line Right (White) @ 0.67
SLW2: Stop Line (White) @ 4.00
DLW4: Dotted Line (White) @ 0.22

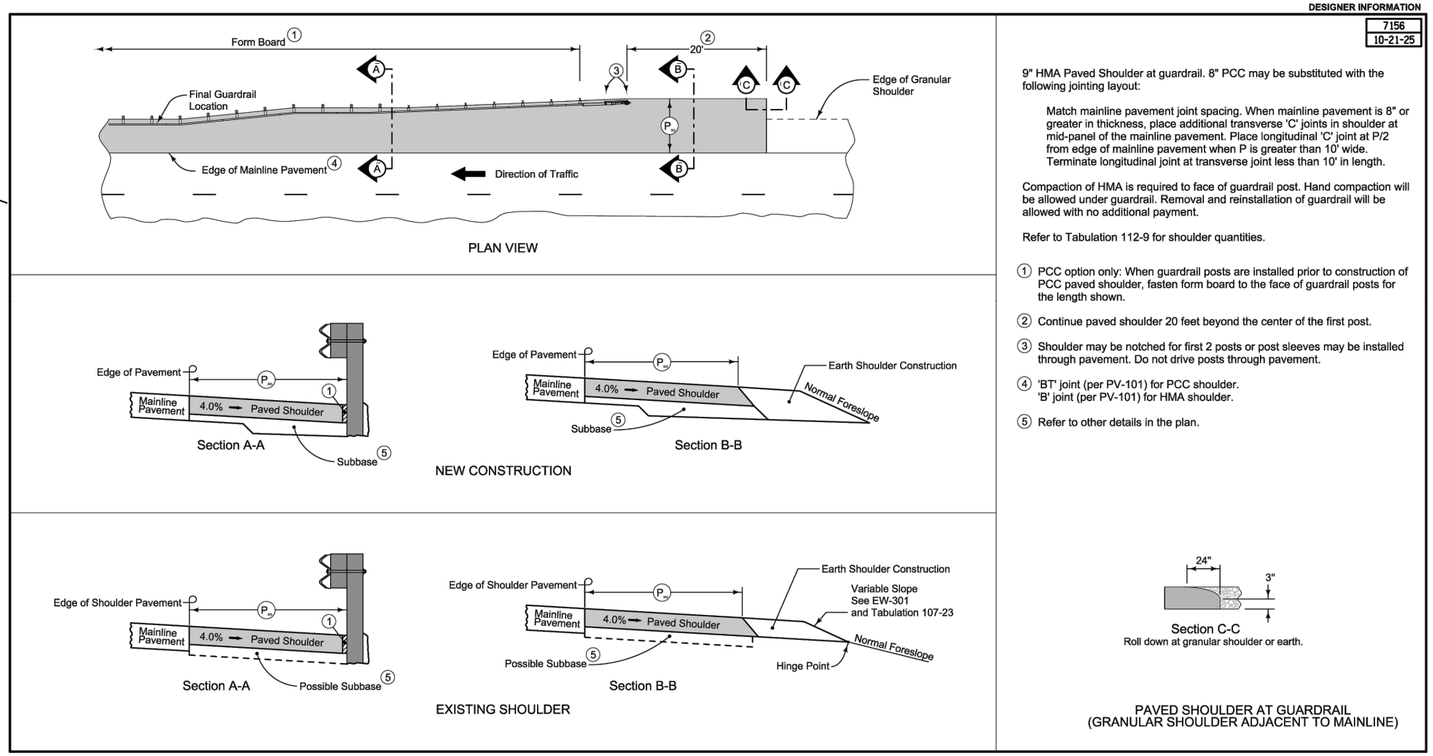
Location							Length by Line Type (Unfactored)						Remarks
Road ID	Station to Station		Dir. of Travel	Side L	Side C	Side R	BCY4 STA	DCY4 STA	NPY4 STA	ELW4 STA	SLW2 STA	DLW4 STA	
Y14	4+20	9+83	N		X		–	–	5.63	–	–	–	
Y14	4+20	9+83	N			X	–	–	–	5.63	–	–	
Y14	4+20	9+83	S	X			–	–	–	5.63	–	–	
						Subtotals			5.63	11.26			
						Quantity Factors	0.17	1.34	0.84	0.67			
						Totals	–	–	4.75	7.55	-	-	

TABULATION LOCATIONS — 111–25, 10–20–26

Tabulation	Tabulation Title	Sheet No.
20.0	Typical Cross Section Granular Resurfacing	B.1
10.0	Estimated Project Quantities	C.1
10.1	Estimate Reference Notes	C.1
20.3	Steel Beam G'Rail at Concrete Barrier or Bridge Rail End Section	C.2
20.4	Grading for Guardrail Installations	C.2
110-2	Removal of Existing Structures	C.2
108-13A	Safety Closures	C.2
271-9	Demolition (Bridge Removal)	C.2
20.6	Standard Road Plans	C.2
21.2	Dust Control Surface Treatment	C.2
20.7	Perimeter and Slope Sediment Control	C.3
20.8	Silt Basins	C.3
20.9	Bridge Approach Sections	C.4
100-23	Rock Erosion Control	C.3
21.1	Pavement Removal	C.3
21.3	Pavement Marking Linetypes	C.3
21.0	Asphalt Shoulders	C.4
21.4	Rock Check Dams	C.4
	Clearing & Grubbing	C.4

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DESIGNER INFORMATION

7156
10-21-25

9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

1. PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
2. Continue paved shoulder 20 feet beyond the center of the first post.
3. Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
4. 'BT' joint (per PV-101) for PCC shoulder.
   'B' joint (per PV-101) for HMA shoulder.
5. Refer to other details in the plan.

Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

EROSION STONE ROCK DITCH 21.4

Road Identification	Station	Station	Side	Placed at a depth of 2' Installation Width (LF)	Maintenance (EA)	Removal	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avg. % Slope	Tons	Remarks
				FT	FT	FT						
Y14/Hoover Hwy.	6+85	9+37	RT	VARIES, 18 TYPICAL			Varies	~2:1	6-8	0.65	495	Placed at 2' depth
										Total	495	

ASPHALT SHOULDERS 21.0

LOCATION Road Identification	"Direction Of Traffic"	Station to Station		Side	Start Width	End Width	Length	HMA Thickness	Modified Subbase Thickness	Paved Shoulder	HMA	PCC	Remarks
					FT	FT	FT	IN	IN	SY	CY	CY	
Y14 (HOOVER HWY.)	NB	4+20	5+17	RT	4	3.7	97	9	8-10	41.5	10.40		
Y14 (HOOVER HWY.)	SB	4+20	5+17	LT	4	3.6	97	9	8-10	41	10.20		
Y14 (HOOVER HWY.)	SB	7+00	7+72	LT	3.6	4	72	9	8-10	30.6	7.60		
Y14 (HOOVER HWY.)	NB	7+00	7+80	RT	3.6	4	80	9	8-10	33.3	8.40		

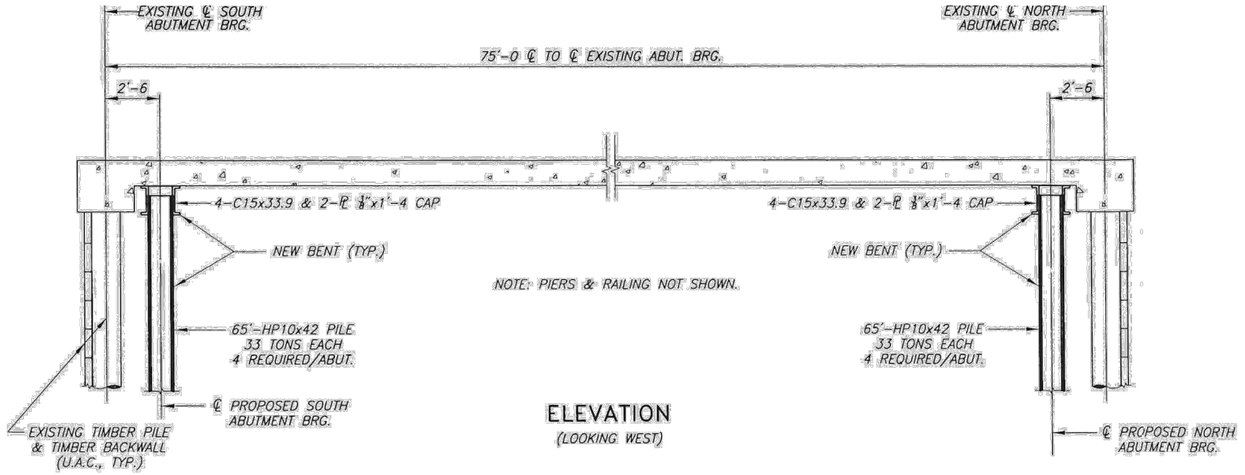
BRIDGE APPROACH SECTION 20.9

Refer to the BR Series.

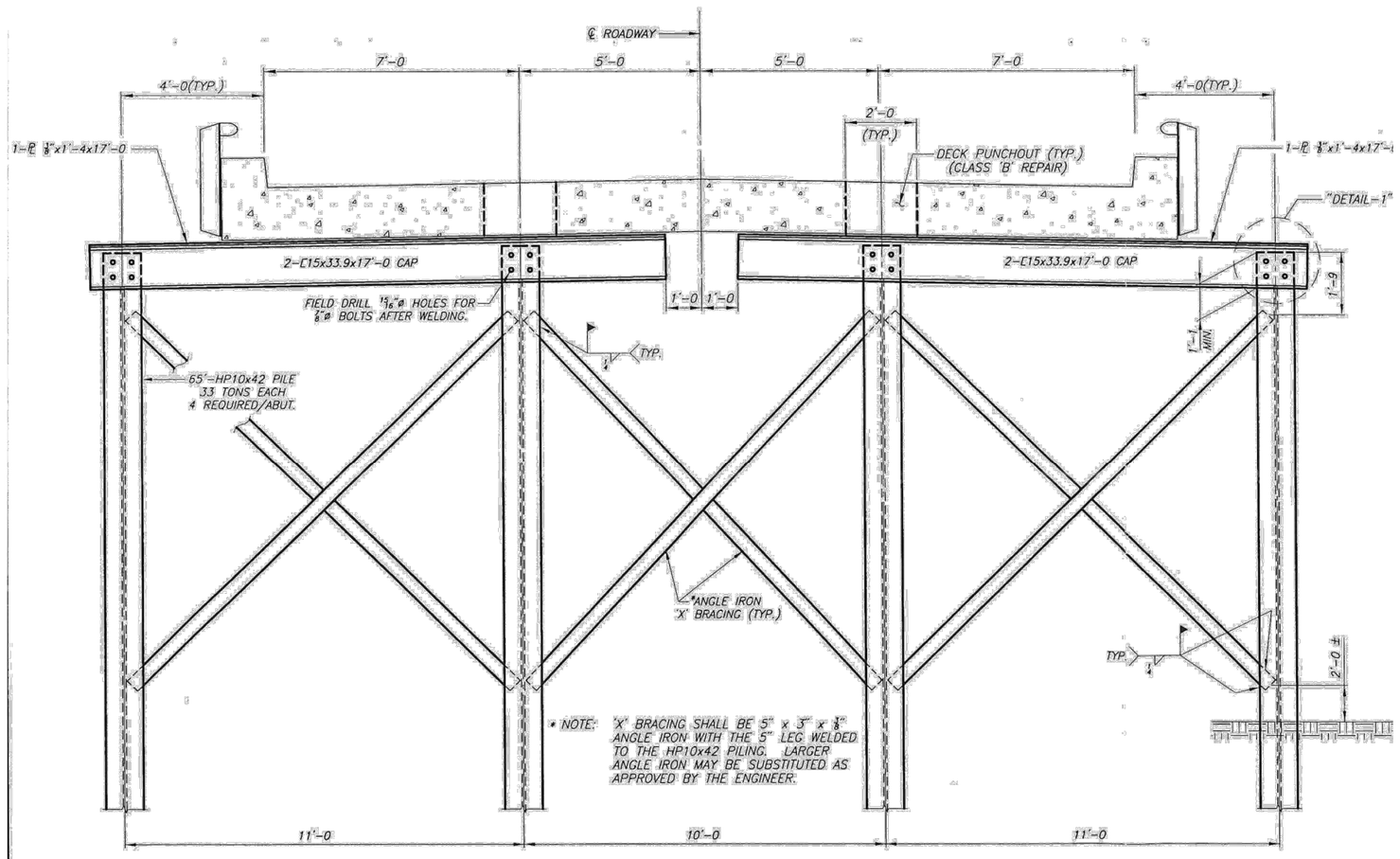
* Not a bid item

Location Bridge Station	End	Skew Ahead Degrees LEFT	Skew Ahead Degrees RIGHT	Approach Pavement Thickness	"Pay Length"	"Non-Reinf. Pavement Area"	"Single-Reinf. Pavement Area"	"Double-Reinf. Pavement Area"	"Standard Road Plans BR Series" Approach	Fixed or Movable Abutment	Abutting Pavement	Subdrain * Perforated Subdrain 4" See Std. Rd. Plan J30-45-06	Subdrain * Subdrain Outlet See Bridge Stds. J30-45-06 & J30-47-06	Side	* Porous Backfill	* Class 'A' Crushed Stone Backfill	* Modified Subbase	* Polymer Grid	* Special Backfill	Remarks
				Inches	FT	SY	SY	SY				LF	STA		CY	CY	TON	SY	TON	
5+36	S	0	15	10	60	115.5	73.9	–	BR–105	M	HMA	60	5+36	LT/RT	3.4	–	192	209	–	SOUTH END – DO NOT INSTALL CURB
6+81	N	0	15	10	60	115.5	73.9	–	BR–105	M	HMA	60	6+81	LT/RT	3.4	–	192	209	–	NORTH END – DO NOT INSTALL CURB
TOTAL					120	231.0	147.8	–				120			6.8	–	384	418	–	

EXISTING SISTER BENT DETAILS



ELEVATION
(LOOKING WEST)



CROSS SECTION AT ABUTMENT

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES

A. Designer:

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:

1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:

1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:

1. Is Project Storm Water Manager.
2. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
3. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
4. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
5. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
6. Is familiar with the Project PPP and storm water site map.
7. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
8. Is signature authority on Notice of Discontinuation.
9. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
10. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:

1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the construction of a 140' continuous concrete slab bridge.

B. This PPP covers approximately 2.4 acres with an estimated 2.4 acres being disturbed. The portion of the PPP covered by this contract has 2.4 acres disturbed.

C. The PPP is located in an area of one soil association (Colo-Perks-Spillville). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.34.

D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:

1. Drainage Patterns – Plan and Profile sheets and Situation plans.
2. Proposed Slopes – Cross Sections.
3. Areas of Soil Disturbance – Construction limits shown on Plan and Profile sheets.
4. Location of Structural Controls – Tabulations in C sheets.
5. Locations of Non-structural Controls – Tabulations in C sheets.
6. Locations of Stabilization Practices – Generally within construction limits shown on Plan and Profile sheets.
7. Surface Waters (including wetlands) – Project Location Map and Plan and Profile sheets.
8. Locations where Storm Water is Discharged – Plan and Profile sheets.

E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into Yankee Run Creek.

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices

1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
   a) Permanently ceased on any portion of the site, or
   b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets.
5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Additional information may be found in Tabulations in the C or T sheets or is referenced in Section 2105 of Standard Specifications.

b. Structural Practices

1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.

POLLUTION PREVENTION PLAN

2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found in the B sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C sheets.

c. Storm Water Management

Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive applicable laws, rules or regulations shall apply.

a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.

b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.

c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.

d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.

e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.

f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.

g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.

h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.

j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:

1. Date of the inspection.
2. Summary of the scope of the inspection.
3. Name and qualifications of the personnel making the inspection.
5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
6. Major observations related to the implementation of the PPP.
7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water site inspection reports in the amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3

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POLLUTION PREVENTION PLAN

calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

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

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

A. Base PPP - Initial Pollution Prevention Plan.

B. Amended PPP - Base PPP amended during construcion. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.

C. Fieldbook Entries – This contains the inspector’s daily diary and bid item postings.

D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).

E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

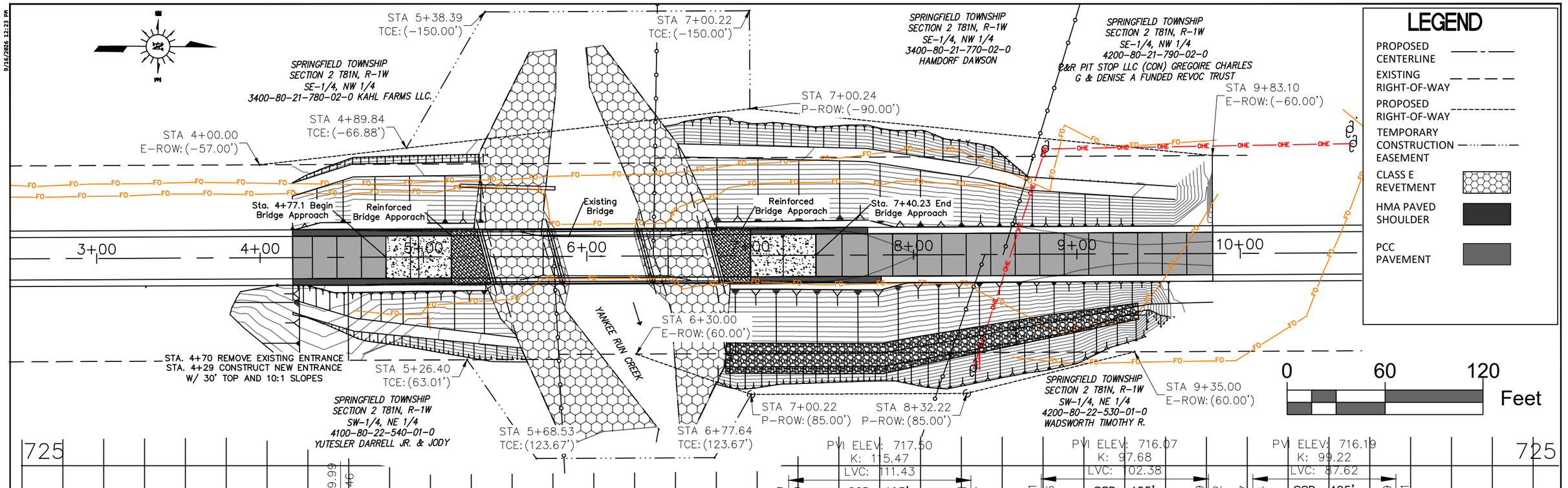
Robert D. Fangmann
Signature

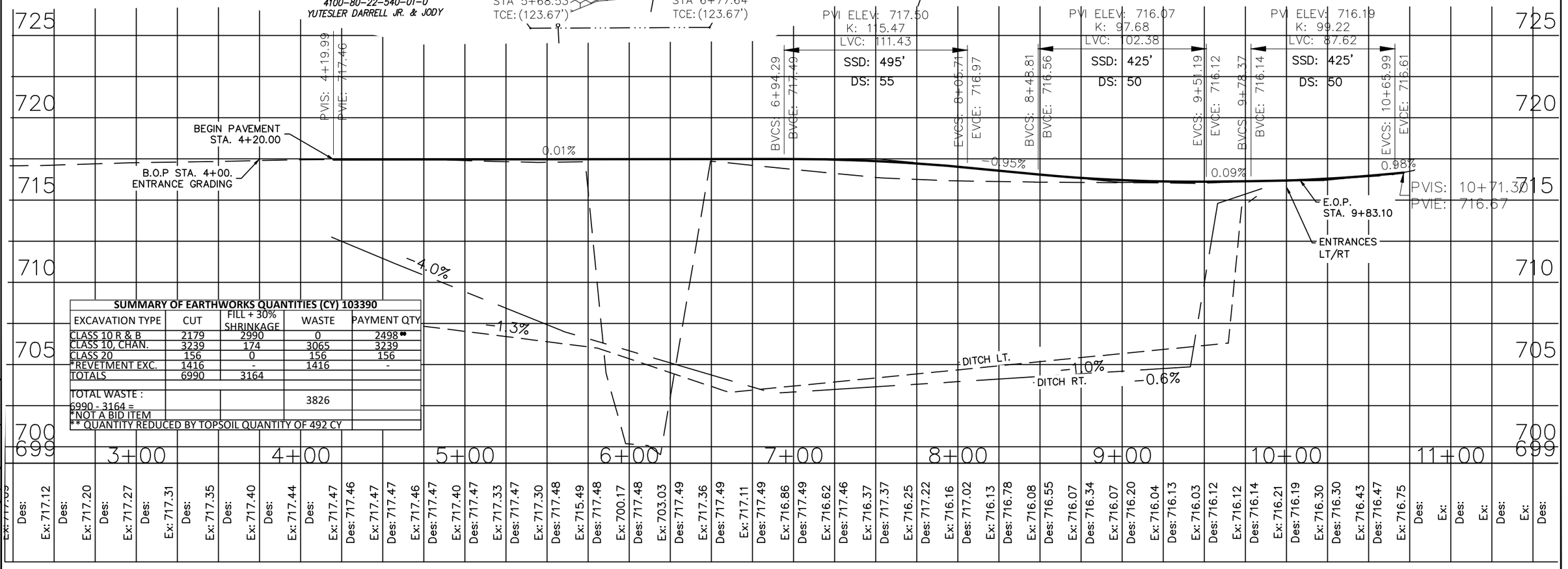
Robert D. Fangmann
Printed or Typed Name

Signature

Printed or Typed Name

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SUMMARY OF EARTHWORKS QUANTITIES (CY) 103390

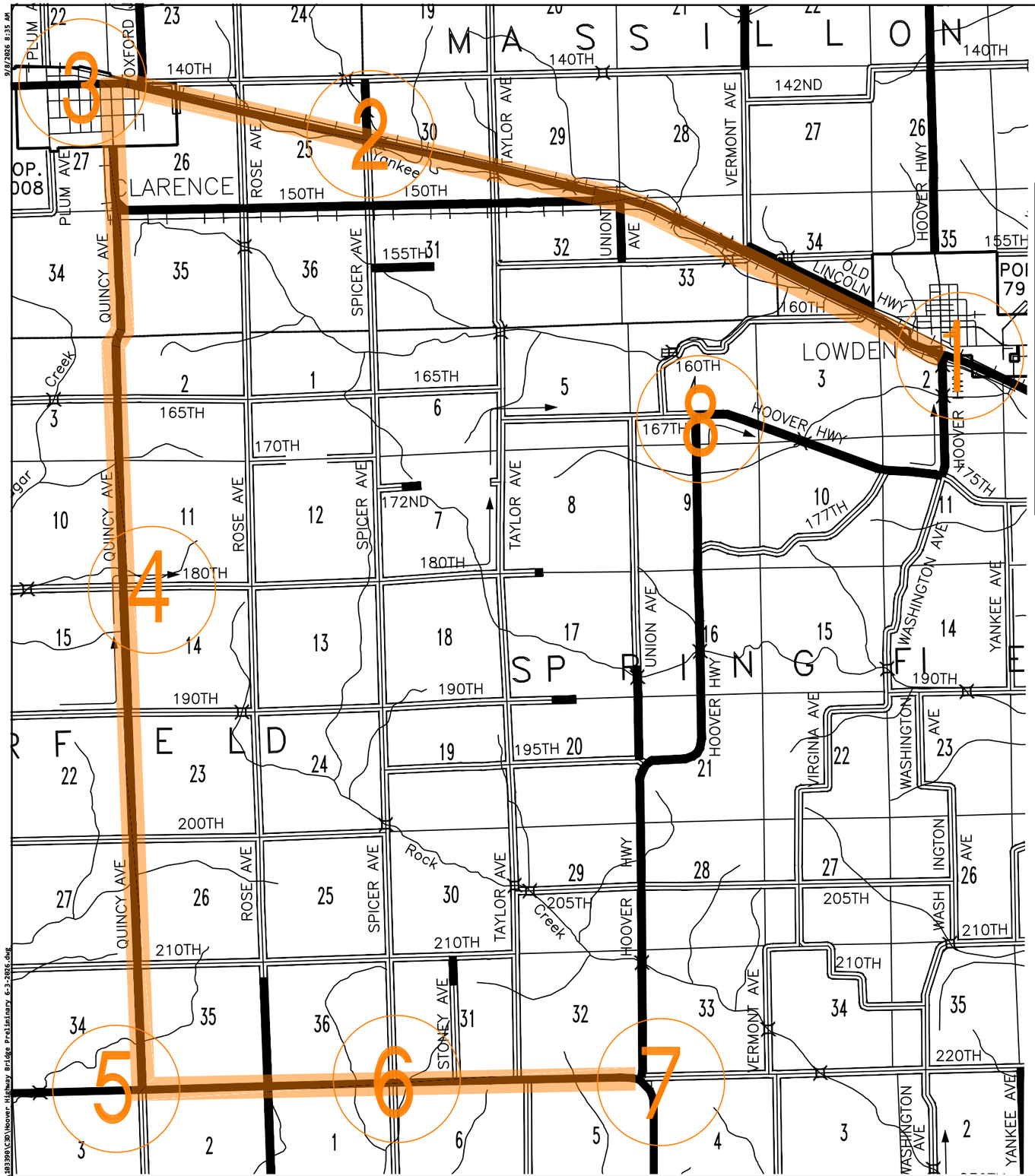
EXCAVATION TYPE	CUT	FILL + 30% SHRINKAGE	WASTE	PAYMENT QTY
CLASS 10 R & B	2179	2990	0	2498**
CLASS 10, CHAN.	3239	174	3065	3239
CLASS 20	156	0	156	156
*REVETMENT EXC.	1416	-	1416	-
TOTALS	6990	3164		
TOTAL WASTE : 6990 - 3164 =			3826	
*NOT A BID ITEM				
** QUANTITY REDUCED BY TOPSOIL QUANTITY OF 492 CY				

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SAVE DATE: 9/16/2026 12:11 PM FHWA NO. 103390

CEDAR COUNTY PROJECT NUMBER BRS-4555(606)--60-16

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	2027	D1	23



TABULATION FOR DETOUR SIGNING	SIZE	COLOR	MUTCD DESIGNATOR	QUANTITY
DETOUR	24" x 12"	BLACK/ORANGE	M4-8	24
NORTH	24" x 12"	BLACK/WHITE	M3-1	11
SOUTH	24" x 12"	BLACK/WHITE	M3-3	13
Y14 ROUTE MARKER	24" x 24"	YELLOW/BLUE	M1-6	28
ADVANCE TURN ARROW (LT)	21" x 15"	BLACK/WHITE	M5-1	3
ADVANCE TURN ARROW (RT)	21" x 15"	BLACK/WHITE	M5-1	4
DIRECTIONAL ARROW (LT OR RT)	21" x 15"	BLACK/WHITE	M6-1	7
DIRECTIONAL ARROW (STRAIGHT)	21" x 15"	BLACK/WHITE	M6-3	10
DETOUR 1500 FEET	48" x 48"	BLACK/ORANGE	W20-2	3
DETOUR 500 FEET	48" x 48"	BLACK/ORANGE	W20-2	2
END DETOUR	24" x 18"	BLACK/ORANGE	M4-8a	2
ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY (1 @ 3 MILES) (1 @ 8 MILES)	60" x 30"	BLACK/WHITE	R11-3	2

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DETOUR SOUTH CEDAR Y14 COUNTY

DETOUR SOUTH CEDAR Y14 COUNTY

END DETOUR CEDAR Y14 COUNTY

ROAD CLOSED TO THRU TRAFFIC

Y24

Y14/Hoover Hwy.

DETOUR SOUTH CEDAR Y14 COUNTY

DETOUR SOUTH CEDAR Y14 COUNTY

DETOUR 1500 FT

Hwy. 30

2

DETOUR SOUTH CEDAR Y14 COUNTY

Hwy. 30

Spicer Ave.

DETOUR NORTH CEDAR Y14 COUNTY

3

DETOUR SOUTH CEDAR Y14 COUNTY

DETOUR SOUTH CEDAR Y14 COUNTY

Hwy. 30

DETOUR 500 FT

DETOUR SOUTH CEDAR Y14 COUNTY

DETOUR SOUTH CEDAR Y14 COUNTY

X64

DETOUR NORTH CEDAR Y14 COUNTY

DETOUR NORTH CEDAR Y14 COUNTY

4

X64

DETOUR NORTH CEDAR Y14 COUNTY

180th St.

DETOUR SOUTH CEDAR Y14 COUNTY

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SAVE DATE: 8/27/2026 3:58 PM

FHWA NO. 103390

CEDAR COUNTY

PROJECT NUMBER

BRS-4555(606)--60-16

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	2027	J2	23

5

6

7

8

X64

Hwy. 130

Hwy. 130

Spicer Ave.

Y14/Hoover Hwy.

220th St.

Hwy. 130

167th St.

Y14

Y14

DETOUR SOUTH
CEDAR Y14 COUNTY

DETOUR NORTH
CEDAR Y14 COUNTY

DETOUR 1500 FT
CEDAR Y14 COUNTY

ROAD CLOSED 8 MILE AHEAD LOCAL TRAFFIC ONLY

ROAD CLOSED 3 MILES AHEAD LOCAL TRAFFIC ONLY

END DETOUR
CEDAR Y14 COUNTY

N

SAVE DATE: 8/27/2026 3:58 PM FHWA NO. 103390

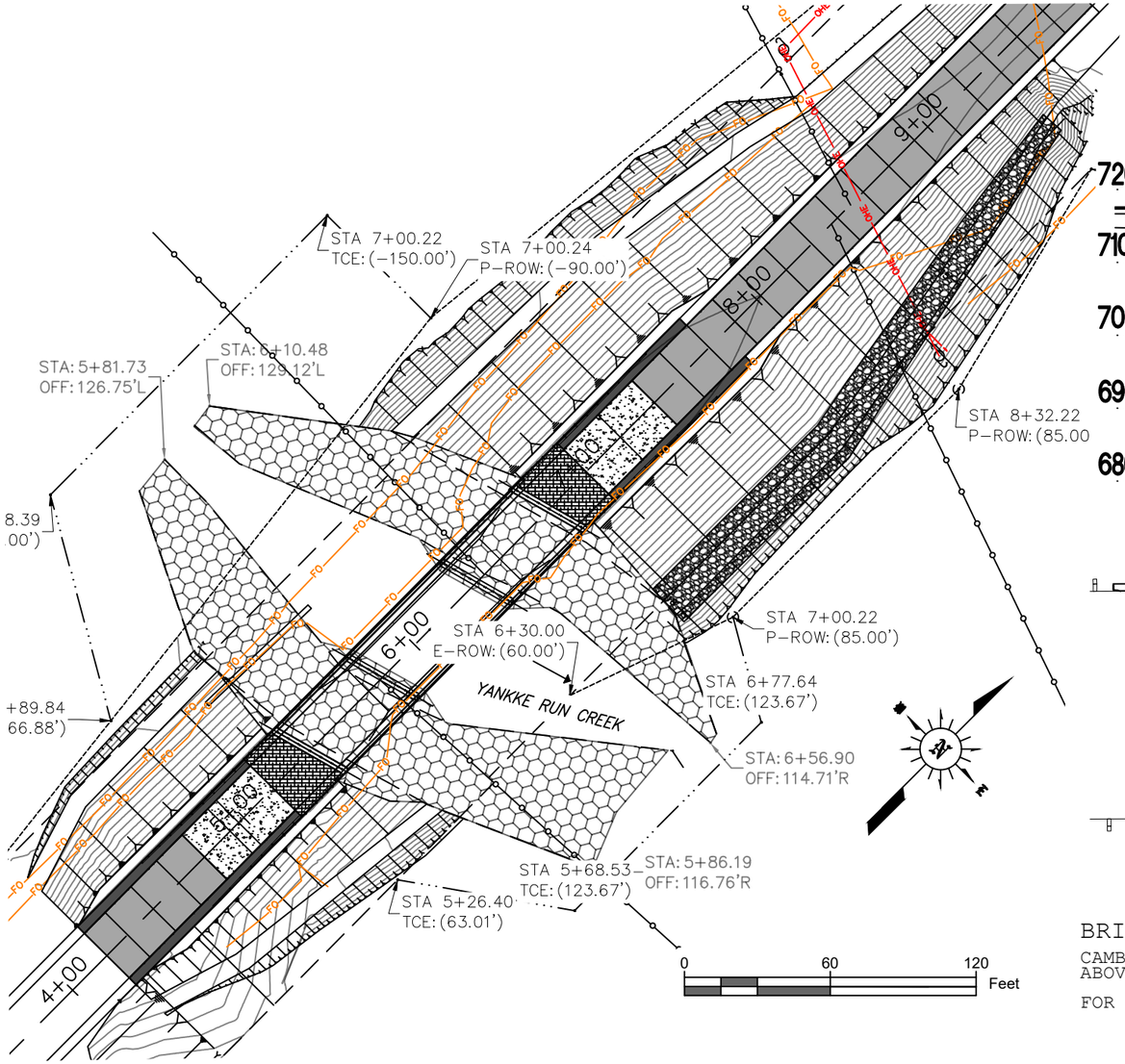
CEDAR COUNTY

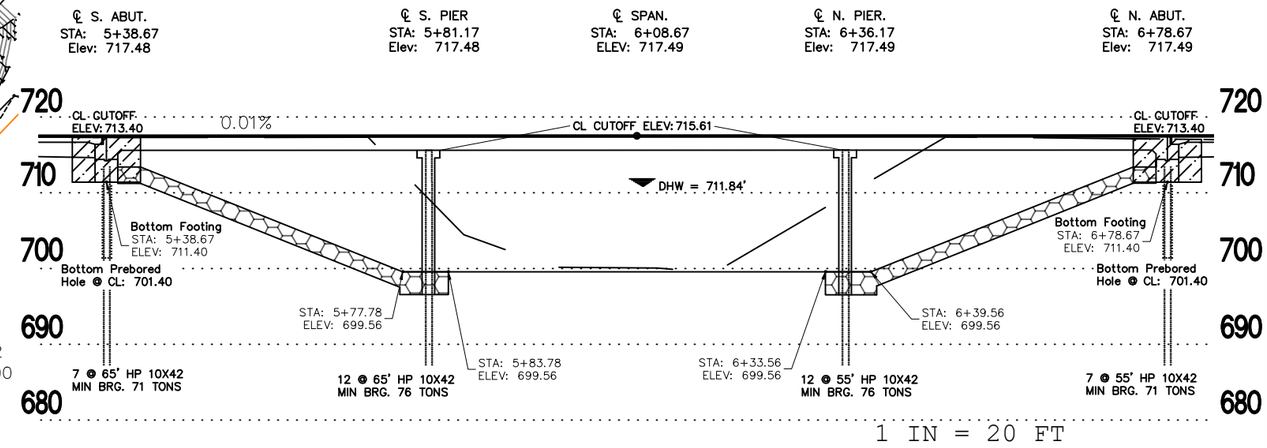
PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
BRS-4555(606)--60-16	IOWA	7	2027	J3	23

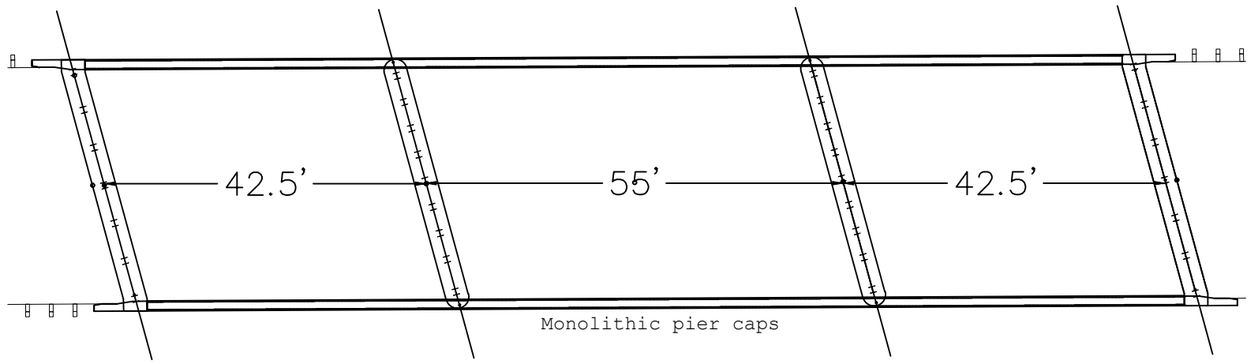
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BRIDGE NOTES:

CAMBER DIMENSIONS REQUIRED FOR ANTICIPATED DEAD LOAD DEFLECTIONS HAVE NOT BEEN ADDED TO ELEVATIONS SHOWN ABOVE. REFERENCE FORM CAMBER DIAGRAM ON STANDARD SHEET J30-16E-06

FOR FLOOR ELEVATIONS, SUBTRACT 1'-10 1/2" (1.875').

HYDRAULIC DATA

DRAINAGE AREA		*21.8 SQ.MI*
DESIGN DISCHARGE Q50		*5,683 C.F.S*
DESIGN HIGHWATER		*711.84*
STREAM SLOPE		*7.81 FT./MI.*
BRIDGE WATERWAY AREA		*1590 SQ.FT.*
DESIGN VELOCITY		*5.75 F.P.S.*
Q25	*4,637 C.F.S*	*STAGE 711.14 FT*
Q100	*6,709 C.F.S.*	*STAGE 712.59 FT*
QOVERTOP	*10,885 C.F.S.*	*STAGE 716.12 FT*
Q200 SCOUR ELEV.	*8,675 C.F.S.*	*ELEV. 688.16 FT**

**SCOUR ELEVATIONS DETERMINED PRIOR TO CLASS E REVETMENT CHANNEL ARMORING.*

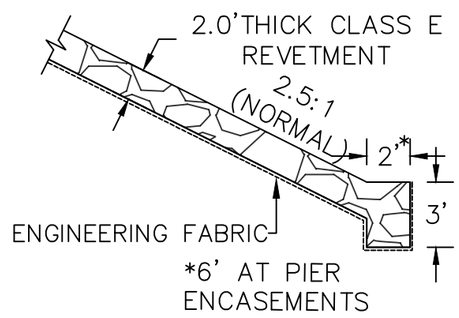
DESIGN FOR
140' x 30'-6 CONTINUOUS
CONCRETE SLAB BRIDGE
STA 6+08.67 15° SKEW R.A.

CEDAR COUNTY

The bridge is designed to withstand the applicable effects of ice and the horizontal stream loads and uplift forces associated with the Q100.

LEGEND

PROPOSED CENTERLINE	——— - ———	CLASS E REVETMENT	
EXISTING RIGHT-OF-WAY	——— ——— ———		
PROPOSED RIGHT-OF-WAY	– – – – – – – –	CLASS 20	
TEMPORARY CONSTRUCTION EASEMENT	——·——·——	EROSION STONE	
PROPERTY LINE	—o—o—o—		



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NORTH ABUTMENT

BORING LOG NO. 1 **STATION** 6+86, 6'RT **Project No.:** 261321

Project: Bridge Replacement Hoover Hwy
Section 2, Springfield Township
Cedar County, Iowa

Client: Cedar County Engineer
Courthouse 400 Cedar Street
Tipton, Iowa 52772-1752

Surface Elevation: 717.0' Date Drilled: 7/6/2026 Drilling Method: HSA
Datum: Provided BM Elevation - 717.1' Drilling Depth, ft.: 64.8 Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							**HMA (7"±)**				0.6
								Crushed Rock (11"±)		CL		716.4
		1	SSA	12	19.5			Dark gray-brown sandy lean clay, trace gravel, moist				1.5
								FILL				715.5
708		2	SSA	6	31.5			Very dark gray sandy lean clay, trace organics, moist to very moist		CL		8
	12							**COHESIVE ALLUVIUM (Stiff Silty Clay)**				709
		3	SSA	4	50.9			Moisture seepage near 16'			▽	17
								Gray silty fine to medium sand, saturated		SM		700
696		4	SSA	17	17.6			**GRANULAR ALLUVIUM (Fine Sand)**				22
	24							Brown-gray lean clay with sand, very moist		CL		695
		5	SSA	3	27.1							
		6	SSA	5	46.7							
684								Gray-brown lean to fat clay with sand, moist after 32'		CL-CH		
	36	7	SSA	10	30.3			**COHESIVE ALLUVIUM (Stiff Silty Clay)**				
		8	SSA	6	31.5							
672		9	SSA	10	22.2							
	48											
		10	SSA	0	28.2							51.5
		11	SSA	150	10.0			Tan fractured dolomite, damp				665.5
660								**BEDROCK**				
	60	12	SSA	50/2"	-			Solid dolomite after 58.5'				
												64.8
		13	SSA	50/3.3"	9.7			End of Boring				652.2
648												
	72											
636												

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

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 17 ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS INC.
Geotechnical | Environmental | Construction Q.C.

NORTH PIER

BORING LOG NO. 2 **STATION** 6+36, 6.5'LT **Project No.:** 261321

Project: Bridge Replacement Hoover Hwy
Section 2, Springfield Township
Cedar County, Iowa

Client: Cedar County Engineer
Courthouse 400 Cedar Street
Tipton, Iowa 52772-1752

Surface Elevation: 717.5' Date Drilled: 7/7/2026 Drilling Method: HSA
Datum: Provided BM Elevation - 717.1' Drilling Depth, ft.: 59.5 Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							**Reinforced PCC (16"±)**				1.3
												716.2
								Air				
708												
	12											13.5
								Dark gray lean clay with rip rap, very moist		CL		704
								Moisture seepage near 17'		SM		
								Brown-gray silty sand after 17'				
								FILL			▽	23
696		1	SSA	2	24.2							
	24							Brown-gray silty fine to medium sand, trace gravel, saturated		SM		694.5
		2	SSA	5	18.1			**GRANULAR ALLUVIUM (Silty Sand)**				26
		3	SSA	4	32.9					CL		691.5
684								Dark gray-brown lean clay, very moist				
	36	4	SSA	6	24.9							
		5	SSA	10	29.4			**COHESIVE ALLUVIUM (Stiff Silty Clay)**				
672								Dark gray lean to fat clay with sand after 40.8'		CL-CH		
	48	6	SSA	6	28.7							
		7	SSA	13	14.9			Brown-gray silty fine sand, saturated after 48'		SM		51
								Tan fractured dolomite, damp				666.5
660		8	SSA	50/1"	-			Solid dolomite after 54.5'				
	60							**BEDROCK**				59.5
		9	SSA	50/0.5"	7.8			End of Boring				658
648												
	72											
636												

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

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 23 ft. ____ ft. ____ ft.

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SOUTH PIER

BORING LOG NO. 3 **STATION** 5+84, 6'RT **Project No.:** 261321

Project: Bridge Replacement Hoover Hwy
Section 2, Springfield Township
Cedar County, Iowa

Client: Cedar County Engineer
Courthouse 400 Cedar Street
Tipton, Iowa 52772-1752

Surface Elevation: 717.4' | Date Drilled: 7/7/2026 | Drilling Method: HSA
Datum: Provided BM Elevation - 717.1' | Drilling Depth, ft.: 69.6 | Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							**Reinforced PCC (16"±)**				1.3
								Air				716.1
708												11.5
	12							Dark gray sandy lean clay with rip rap, very moist		CL		705.9
		1	SSA	1	25.2			**FILL** Mixed with brown-gray after 17'				
696		2	SSA	3	23.6			Moisture seepage near 22'				22.5
	24							Brown-gray lean clay with sand, moist to very moist		CL		694.9
		3	SSA	5	21.9			**COHESIVE ALLUVIUM (Stiff Silty Clay)**				28
		4	SSA	4	19.3			Dark gray silty fine to medium sand, trace gravel, saturated		SM	▽	689.4
684								**GRANULAR ALLUVIUM (Silty Sand)**				
	36	5	SSA	5	22.6							38
		6	SSA	4	22.4			Gray lean clay with sand, moist to very moist		CL		679.4
672		7	SSA	9	21.8							
	48							**COHESIVE ALLUVIUM (Stiff Silty Clay)**				
		8	SSA	12	22.1							
		9	SSA	6	21.3							
660												59
	60	10	SSA	100	15.5			Tan fractured dolomite, damp				658.4
		11	SSA	50/1"	7.9			Gray solid dolomite after 63' **BEDROCK**				
648												69.6
	72	12	SSA	50/1"	10.9			End of Boring				647.8
636												

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

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 28.5 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS INC.
Geotechnical | Environmental | Construction Q.C.

SOUTH ABUTMENT

BORING LOG NO. 4 **STATION** 5+35, 6.5'LT **Project No.:** 261321

Project: Bridge Replacement Hoover Hwy
Section 2, Springfield Township
Cedar County, Iowa

Client: Cedar County Engineer
Courthouse 400 Cedar Street
Tipton, Iowa 52772-1752

Surface Elevation: 717.3' | Date Drilled: 7/6/2026 | Drilling Method: HSA
Datum: Provided BM Elevation - 717.1' | Drilling Depth, ft.: 70 | Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							**HMA (6"±)**				0.5
								Crushed Rock (24"±)				716.8
		1	SSA	13	24.9			Very dark gray sandy lean clay, trace gravel, moist **FILL**		CL		2.5
708												714.8
	12	2	SSA	8	20.7			Dark gray lean clay with sand, moist to very moist		CL		8
		3	SSA	8	14.4			**COHESIVE ALLUVIUM (Stiff Silty Clay)**			▽	709.3
												19.5
696		4	SSA	15				Gray silty fine to medium sand, saturated		SM		697.8
	24	5	SSA	10	14.7			**GRANULAR ALLUVIUM (Fine Sand)**				
												29.5
		6	SSA	5	36.5			Gray lean clay with sand, very moist		CL		687.8
684								**COHESIVE ALLUVIUM (Soft Silty Clay)**				
	36	7	SSA	2	36.1							39.5
		8	SSA	14	9.5			Brown-gray silty medium to coarse sand, trace gravel, saturated		SM		677.8
672		9	SSA	17								
	48	10	SSA	20	16.8			Brown-gray silty fine to medium sand after 49.5' **GRANULAR ALLUVIUM (Coarse Sand)**				
		11	SSA	26	15.8							
660												60.3
	60	12	SSA	42	12.4			Tan fractured dolomite, damp				657
		13	SSA	71	12.7			**BEDROCK**				
648		14	SSA	120	14.1			Solid dolomite after 69.5'				70
	72							End of Boring				647.3
636												

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

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 14.5 ft. ▽ _____ ft. ▽ _____ ft. ▽

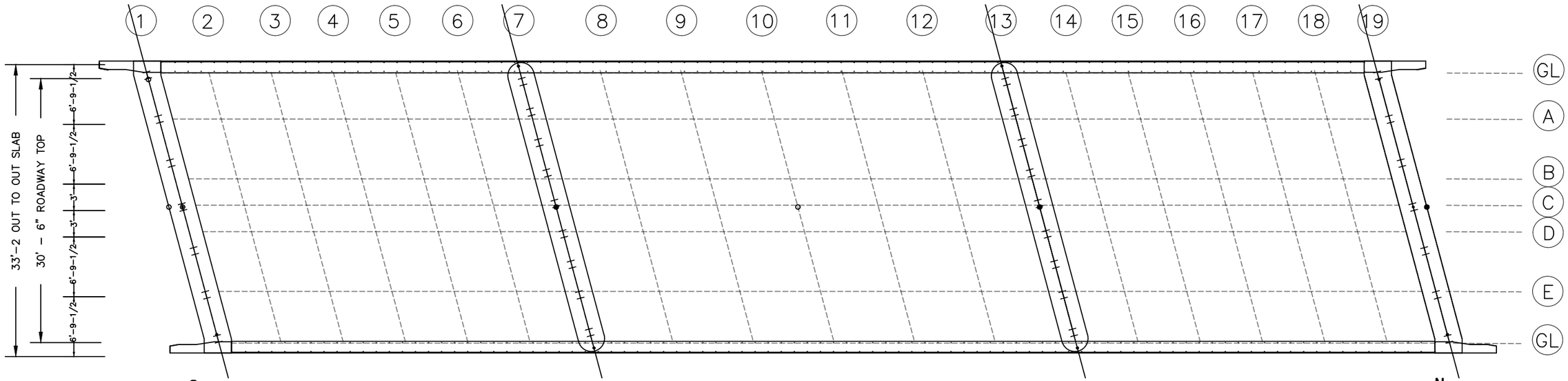
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TOP OF SLAB ELEVATIONS

LOCATION	C.L. S. ABUT. BRG.						C.L. S. PIER						C.L. N. PIER						C.L. N. 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	LINE 14	LINE 15	LINE 16	LINE 17	LINE 18	LINE 19
WEST GUTTER LINE	717.04	717.04	717.04	717.04	717.04	717.04	717.04	717.04	717.04	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05
INTERMEDIATE LINE A	717.23	717.23	717.23	717.23	717.23	717.23	717.23	717.23	717.23	717.24	717.24	717.24	717.24	717.24	717.24	717.24	717.24	717.24	717.24
CROWN LINE B	717.42	717.42	717.42	717.42	717.42	717.42	717.42	717.42	717.42	717.43	717.43	717.43	717.43	717.43	717.43	717.43	717.43	717.43	717.43
C.L. APPROACH ROADWAY C	717.48	717.48	717.48	717.48	717.48	717.48	717.48	717.49	717.49	717.49	717.49	717.49	717.49	717.49	717.49	717.49	717.49	717.49	717.49
CROWN LINE D	717.42	717.42	717.42	717.42	717.42	717.42	717.42	717.42	717.42	717.43	717.43	717.43	717.43	717.43	717.43	717.43	717.43	717.43	717.43
INTERMEDIATE LINE E	717.23	717.23	717.23	717.23	717.23	717.23	717.23	717.23	717.23	717.24	717.24	717.24	717.24	717.24	717.24	717.24	717.24	717.24	717.24
EAST GUTTER LINE	717.04	717.04	717.04	717.04	717.04	717.04	717.04	717.04	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05	717.05



PILE NOTES

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

ABUTMENT PILES

ABUTMENT PILE DESIGN NOTE:

THE CONTRACT LENGTH OF 55 FEET FOR THE NORTH 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 FOR SOIL AND 0.70 FOR ROCK END BEARING. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE CONTRACT LENGTH OF 65 FEET FOR THE SOUTH 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 FOR SOIL AND 0.70 FOR ROCK END BEARING. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

ABUTMENT PILE DRIVING NOTE:

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR ABUTMENT PILES IS 71 TONS AT END OF DRIVE OR RETAP. THE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 15 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS AND BEARING GRAPH

PIER PILES

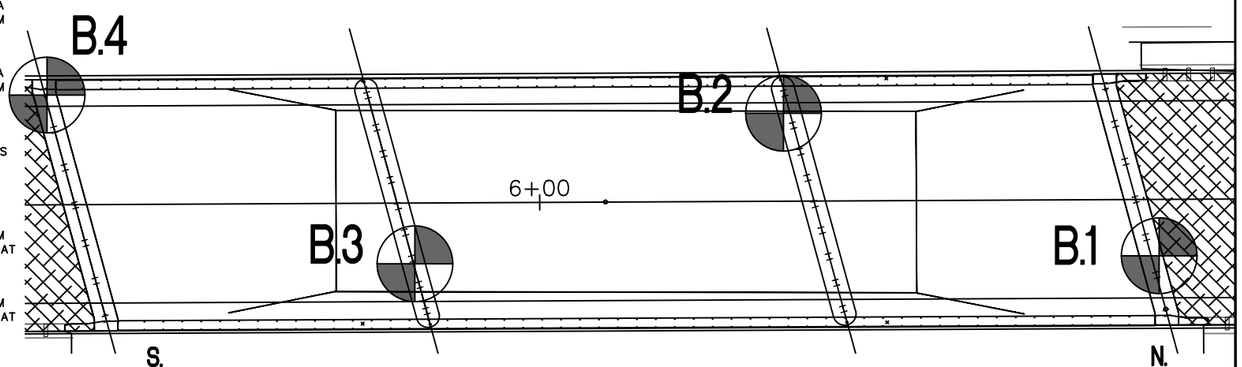
PIER PILE DESIGN NOTE:

THE CONTRACT LENGTH OF 55 FEET FOR THE NORTH 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 FOR SOIL AND 0.70 FOR ROCK END BEARING. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF ENCASEMENT.

THE CONTRACT LENGTH OF 65 FEET FOR THE SOUTH 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 FOR SOIL AND 0.70 FOR ROCK END BEARING. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF ENCASEMENT.

PIER PILE DRIVING NOTE:

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR PIER PILES IS 76 TONS AT END OF DRIVE OR RETAP. THE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 15 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS AND BEARING GRAPH



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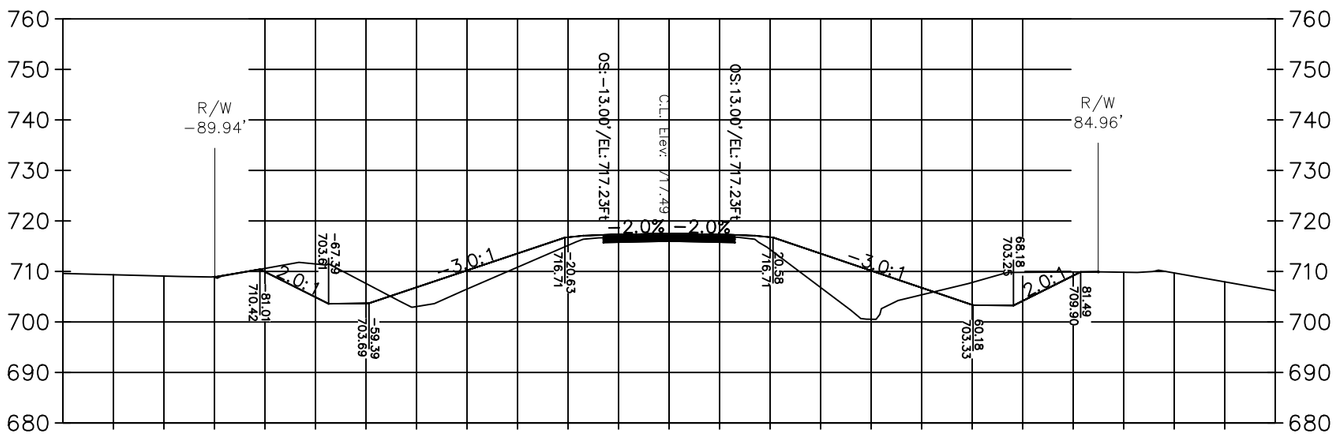
CEDAR COUNTY

PROJECT NUMBER	BRS-4555(606)--60-16

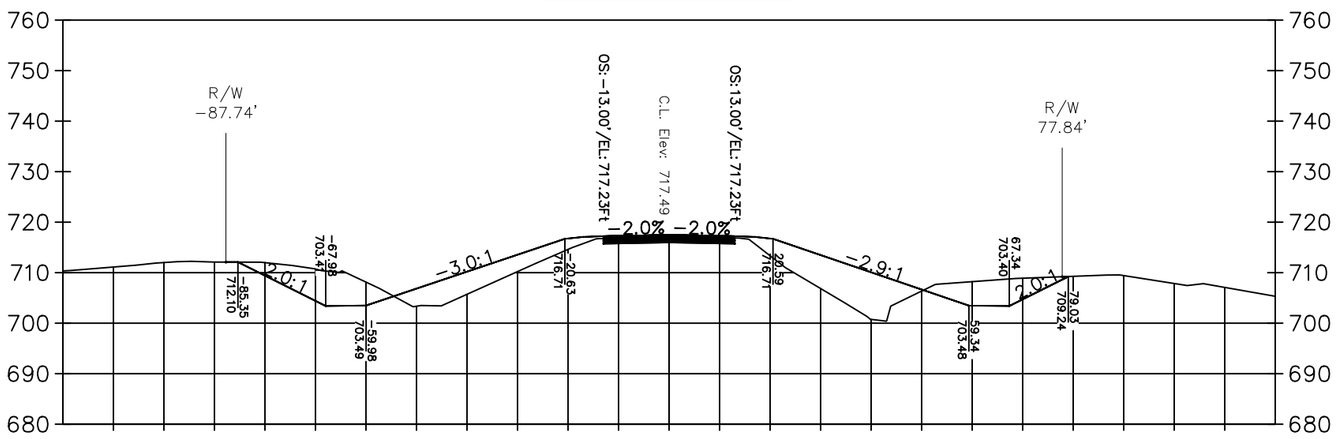
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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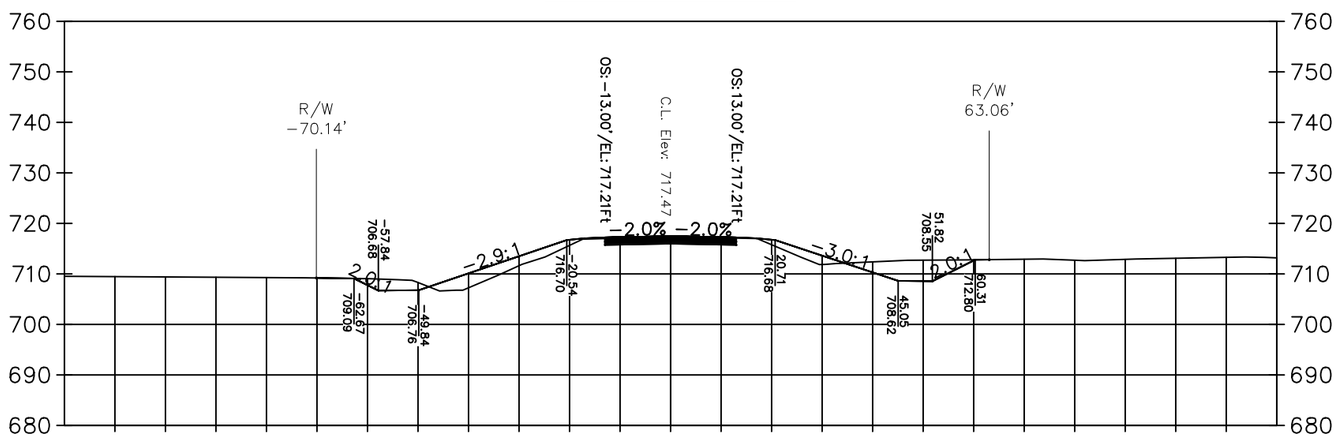
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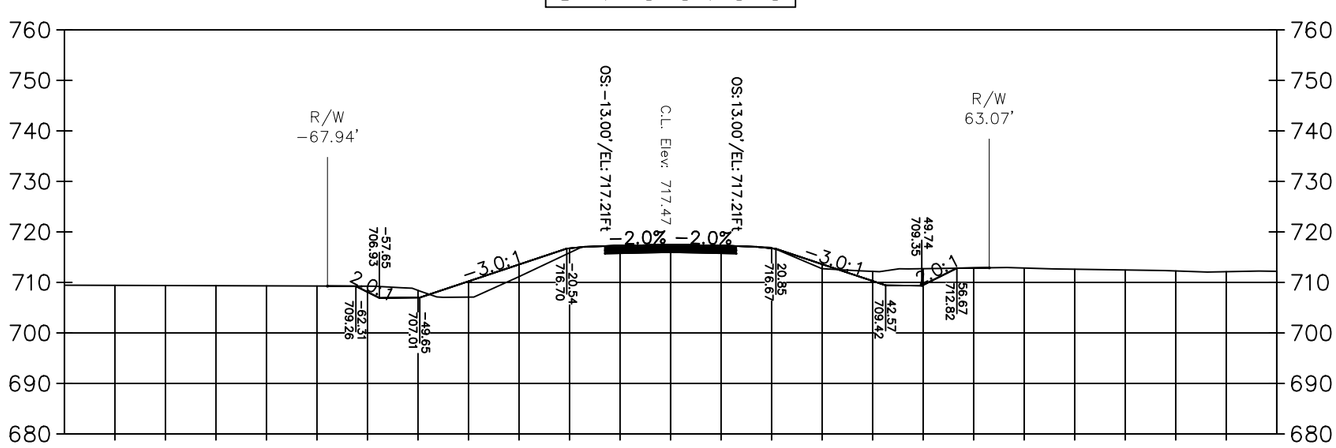
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CEDAR COUNTY

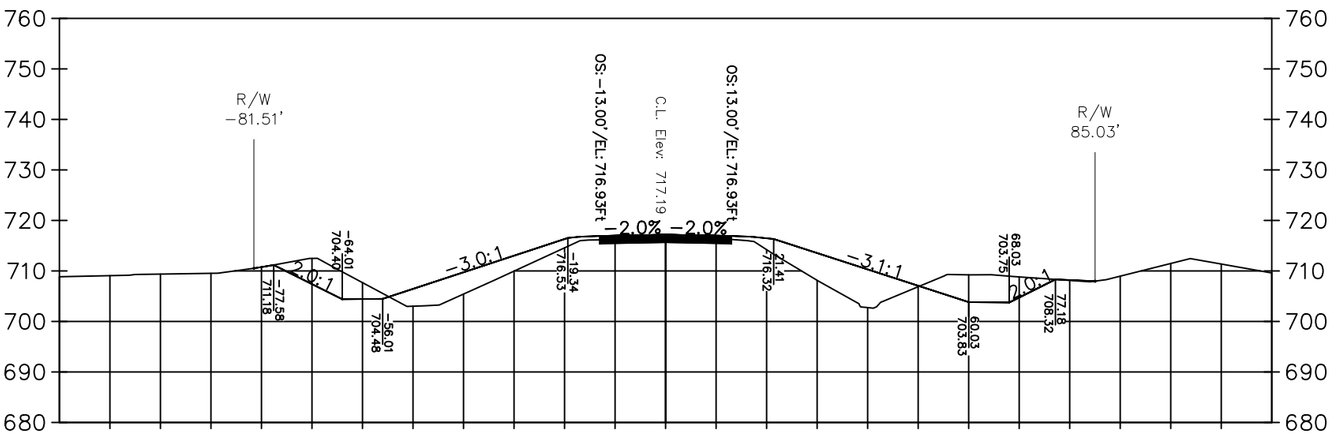
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BRS-4555(606)--60-16	IOWA	7	2027	W2	23

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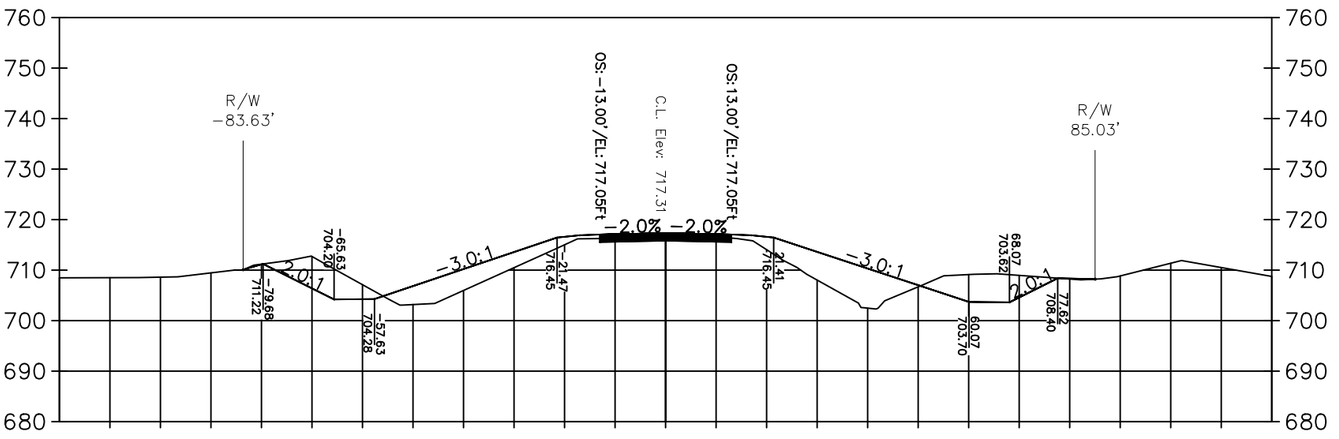
CEDAR COUNTY | PROJECT NUMBER | BRS-4555(606)--60-16

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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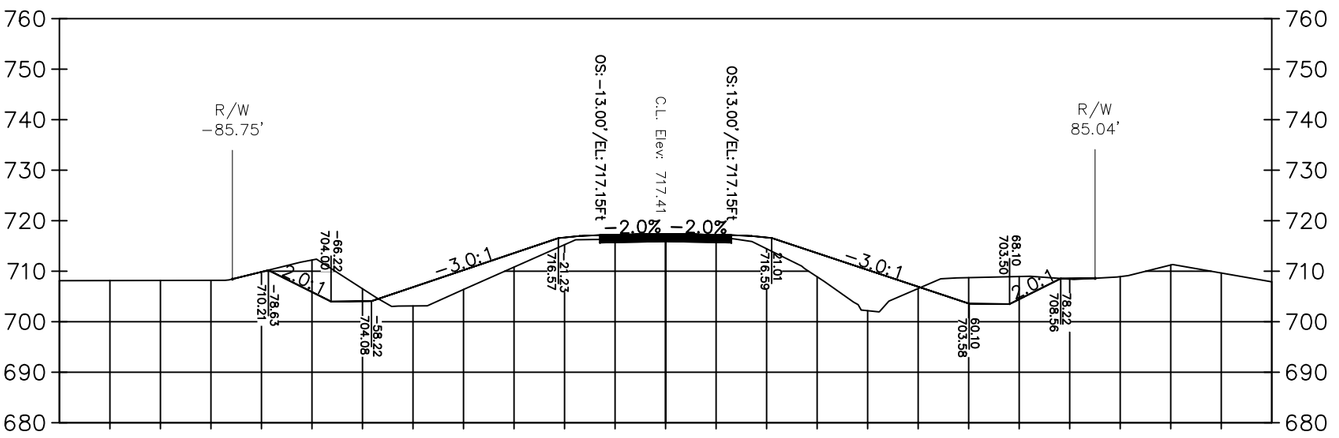
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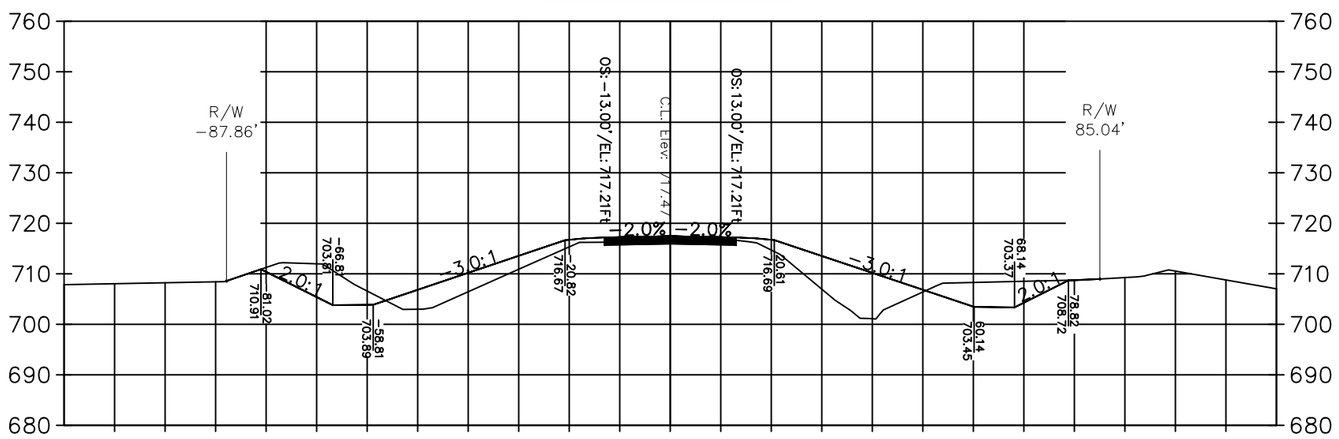
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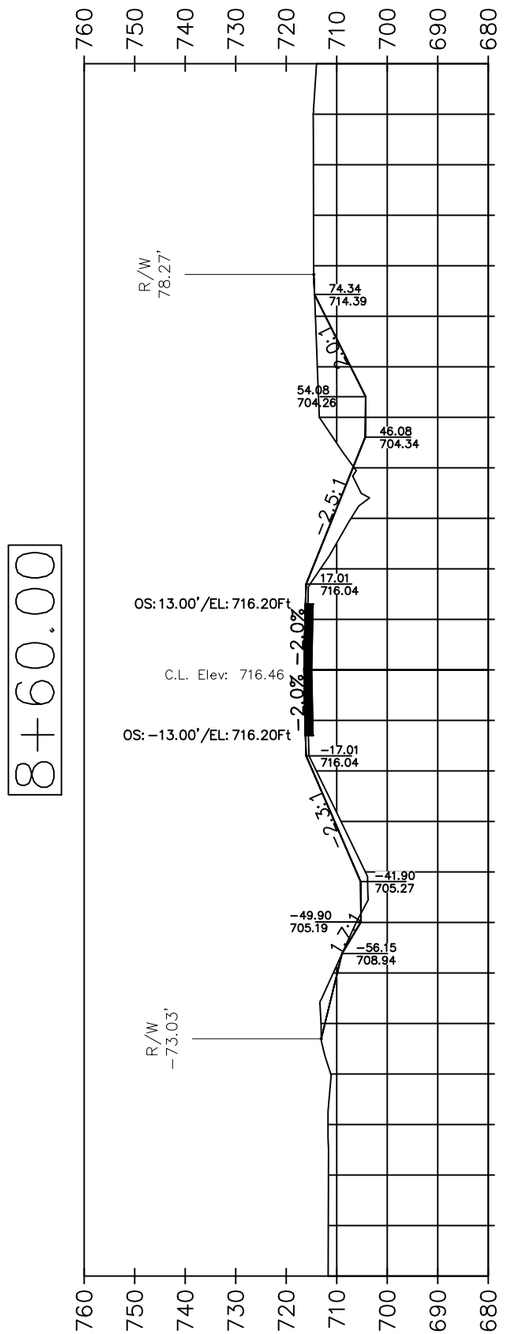
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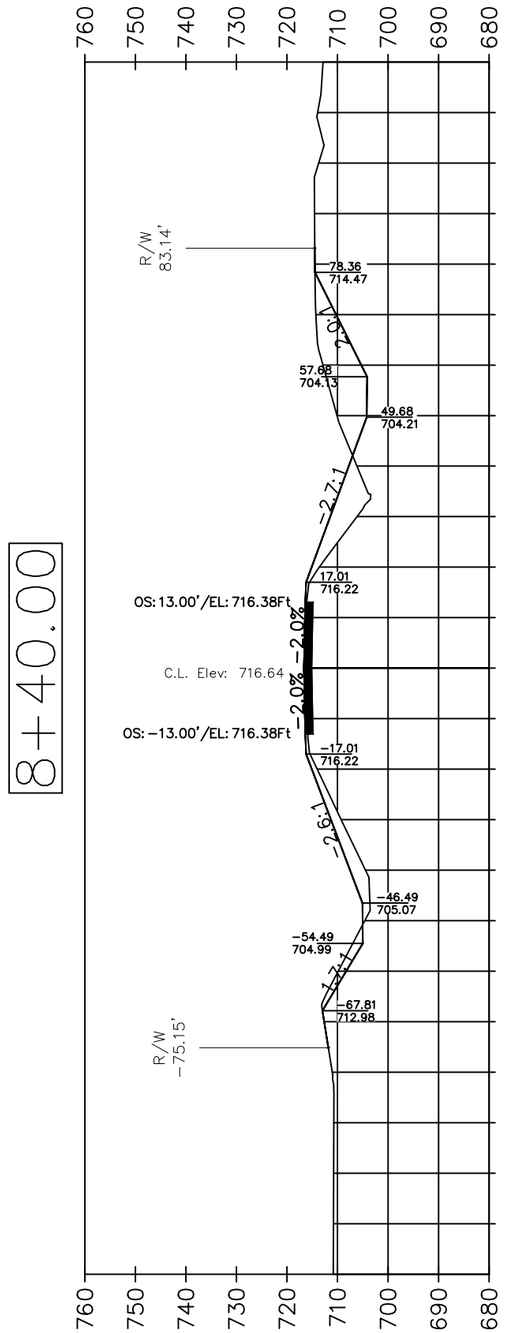


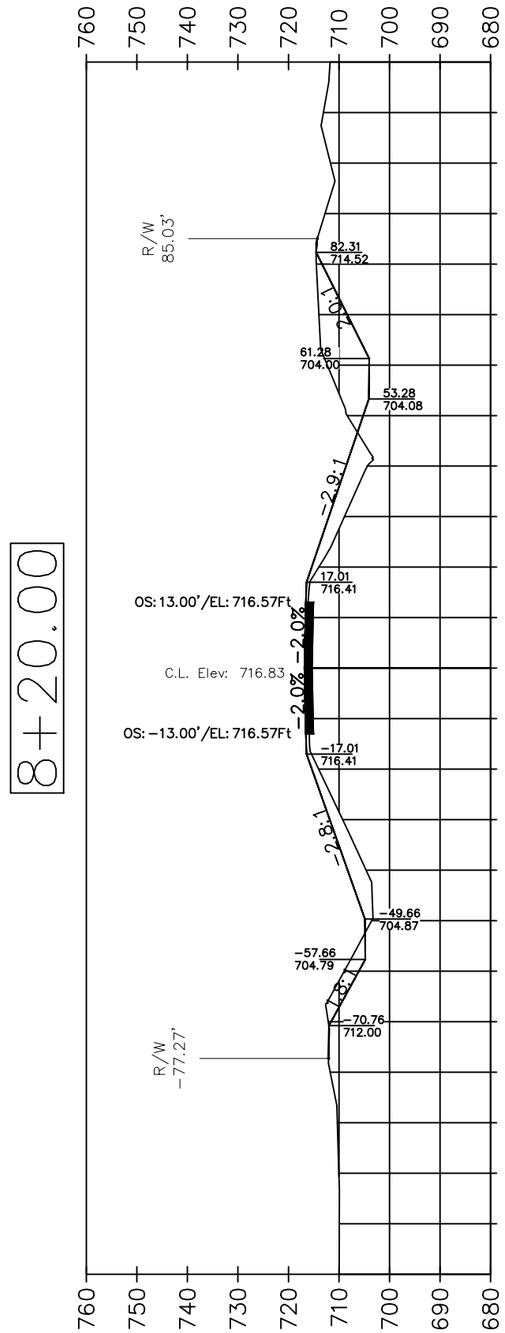
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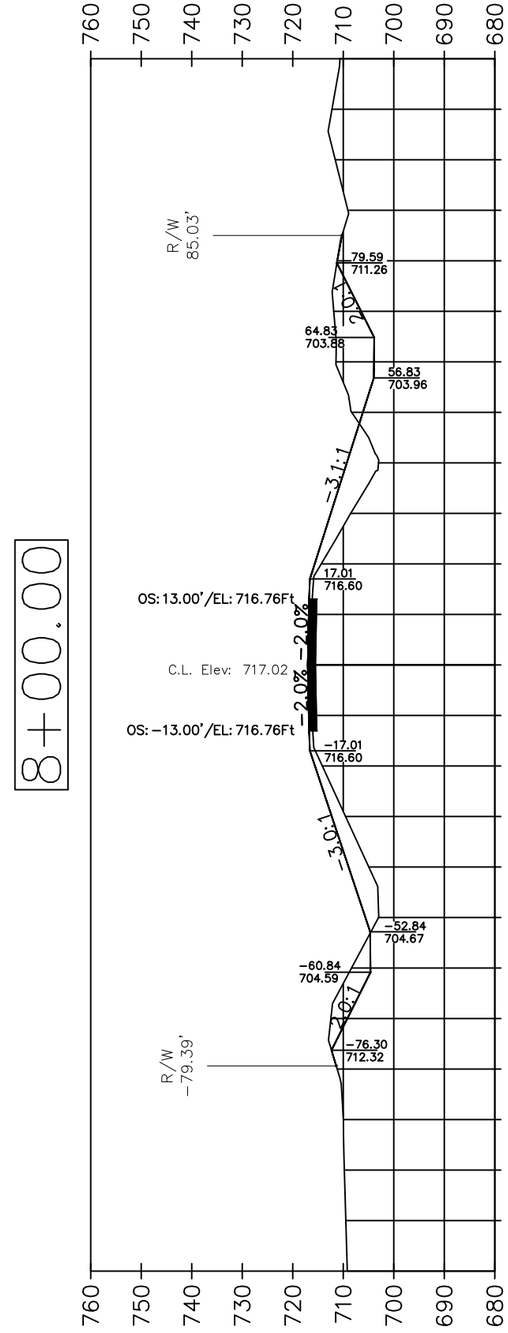


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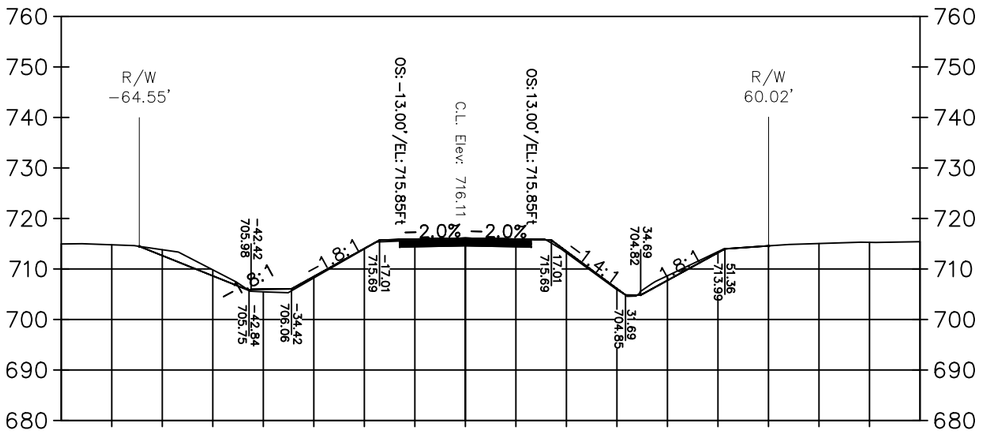
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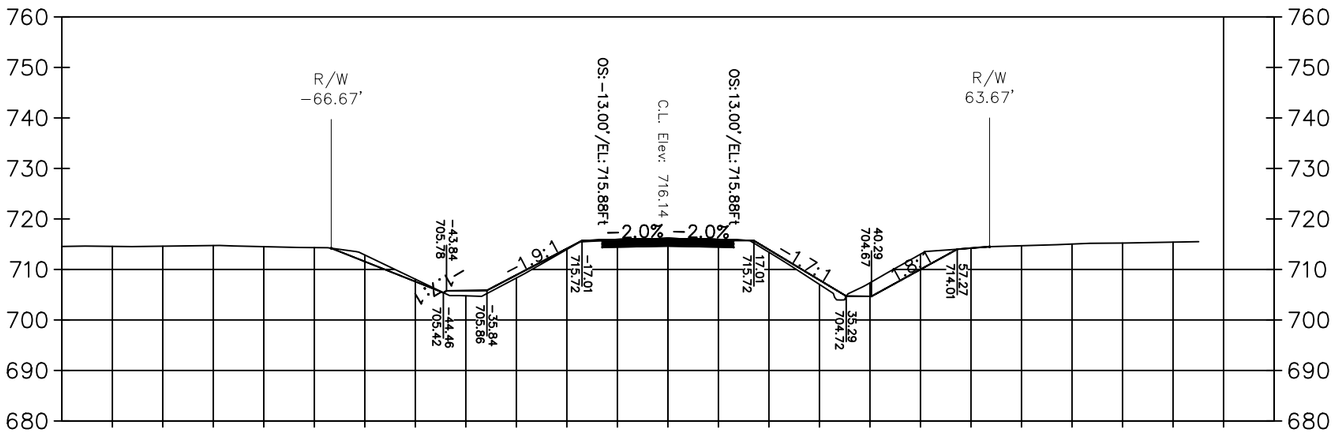
CEDAR COUNTY PROJECT NUMBER BRS-4555(606)--60-16

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	2027	W4	23

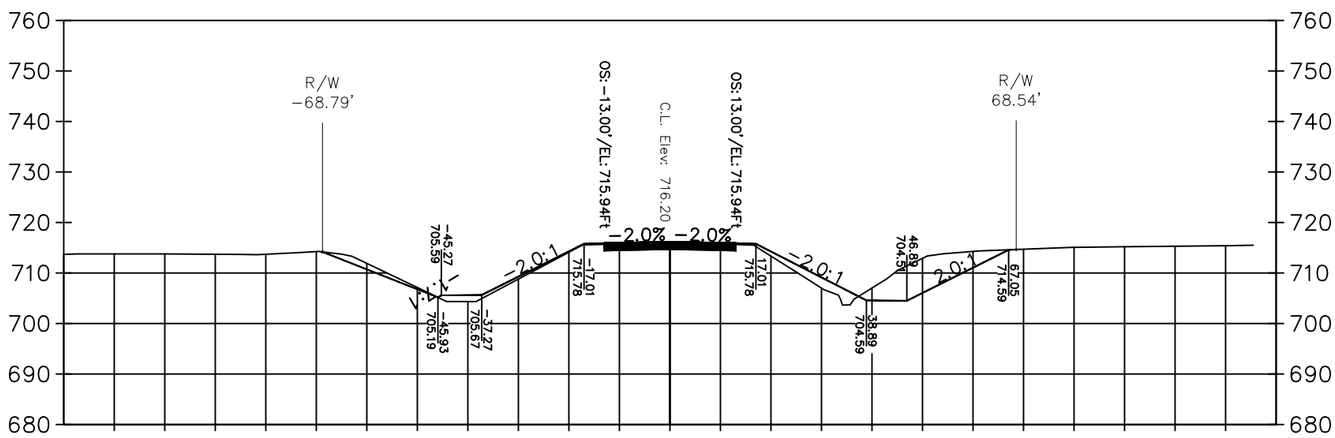
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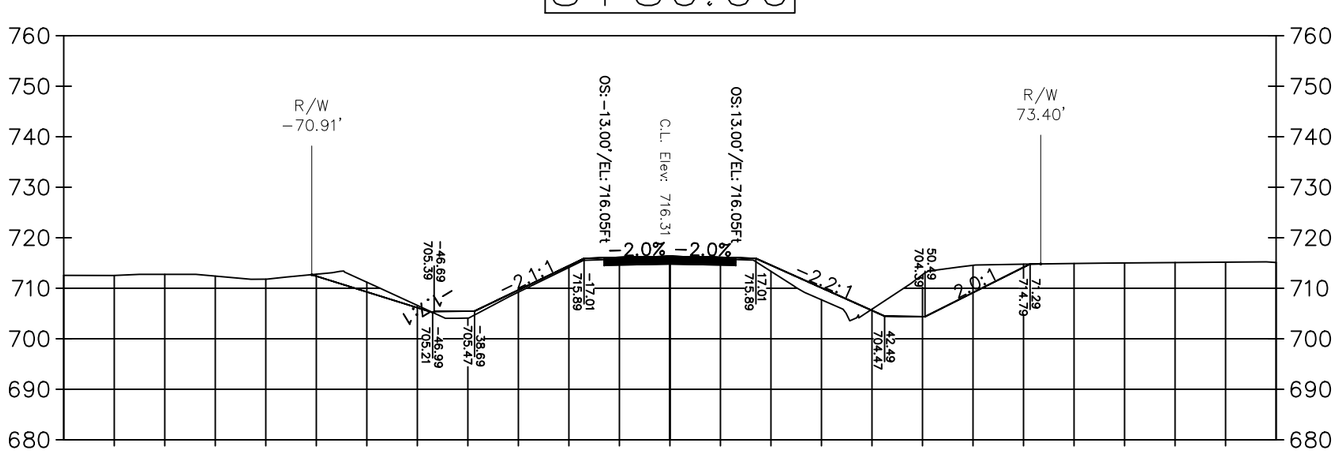
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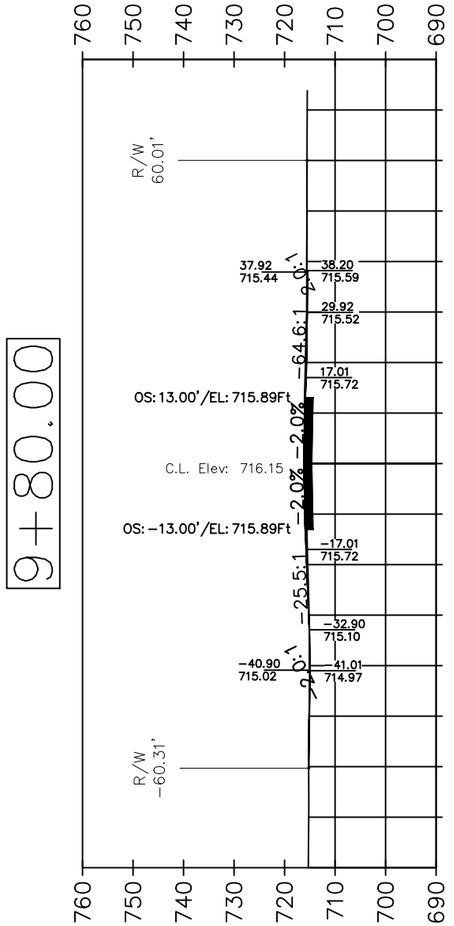
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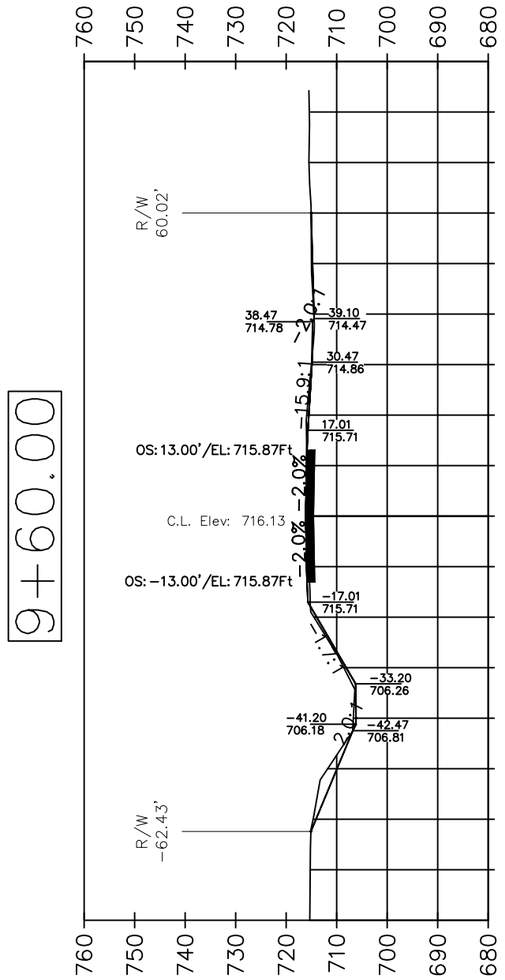
CEDAR COUNTY

PROJECT NUMBER
BRS-4555(606)--60-16

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	2027	W5	23

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