BRIDGE REPLACEMENT - CCS
BRF-065-8(68)--38-17
LETTING DATE
11-19-2019

CERRO GORDO COUNTY - DESIGN 122

CERRO GORDO COUNTY

LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY (80)
- UNITED STATES HIGHWAY (65)
- STATE HIGHWAY (175)
- COUNTY HIGHWAY (S27)
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES — ABBEY ROAD
- UNINCORPORATED PLACE — ELWOOD

IOWA DOT
Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM

CERRO GORDO COUNTY

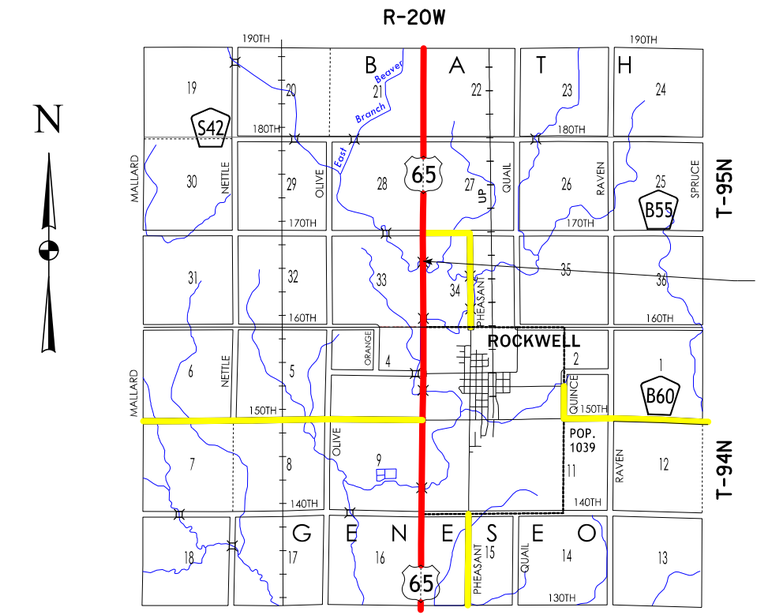
BRIDGE REPLACEMENT - CCS

US 65 OVER EAST BRANCH BEAVERDAM CREEK

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

	TOTAL SHEETS
	24
PROJECT NUMBER	
BRF-065-8(68)--38-17	
R.O.W. PROJECT NUMBER	
?	
PROJECT IDENTIFICATION NUMBER	
17-17-065-010	

INDEX OF SHEETS



N

LOCATION MAP

LOCATION MAP SCALE NOT TO SCALE

PRELIMINARY
NOT FOR CONSTRUCTION

CUT	(ML)	2,660 CY
FILL+30%	(ML)	1,430 CY
CONTRACTOR WASTE		1,230 CY

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

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER C.2

DESIGN DATA RURAL

2020	AADT	3,400	V.P.D.
2040	AADT	3,900	V.P.D.
2040	DHV		V.P.H.
TRUCKS		10/14	%
Total Design ESALs			

INDEX OF SEALS

SHEET NO.	NAME	TYPE
V.1	LAWRENCE J. SPELLERBERG	HYDRAULIC DESIGN
SPS.1	-	GEOTECHNICAL DESIGN

PRELIMINARY PLANS

Subject to change by final design.

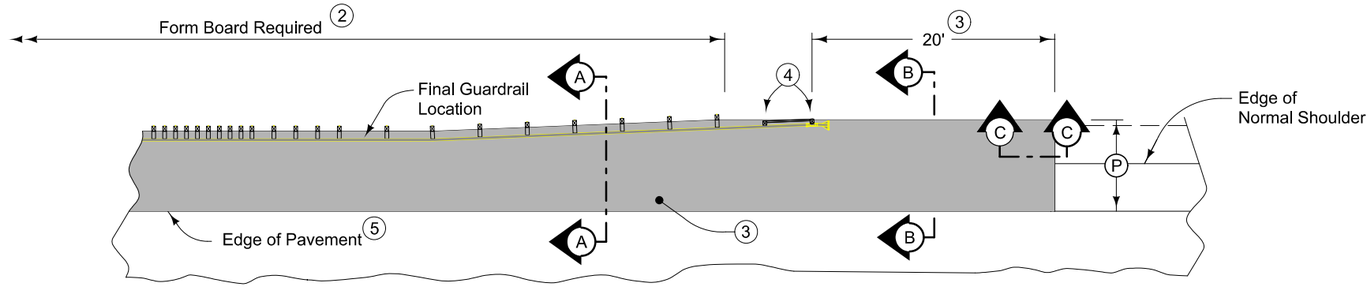
D5 PLAN – Date: August 28, 2018

PROJECT DIRECTORY NAME: 1706501017

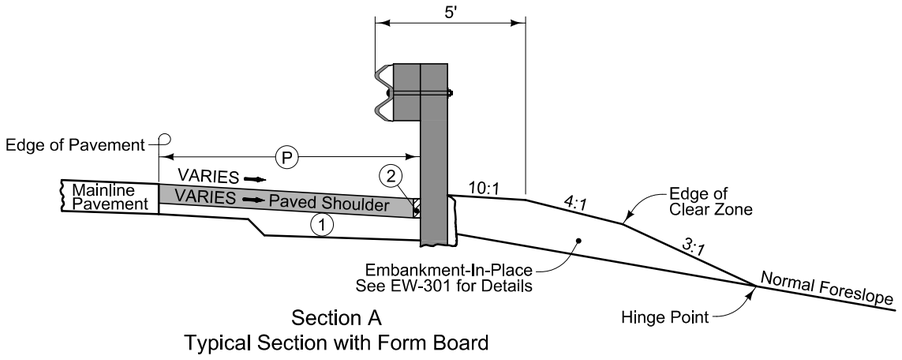
DESIGN TEAM	ENGLISH	FILE NO.	PROJECT NUMBER	SHEET NUMBER
VEENSTRA & KIMM, INC.	IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES	31556	CERRO GORDO COUNTY BRF-065-8(68)--38-17	A.1

Tue-8/28/18 9:37:10 AM smessler pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\1706501017\BRFinal\Veenstra&Kimm\BRG_17065068.dgn 170122S000 11x17_pdf.pltcfg

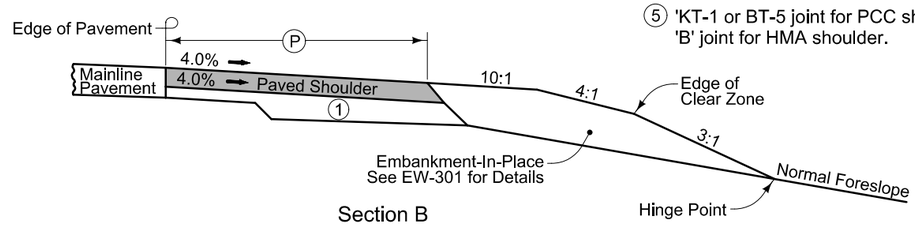
DESIGNER INFO | 7156 MODIFIED



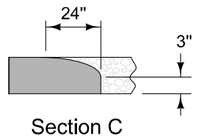
Plan View



Section A
Typical Section with Form Board



Section B



Section C
Roll down at granular shoulder or earth.

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) For subgrade treatment, refer to other details in the plan.

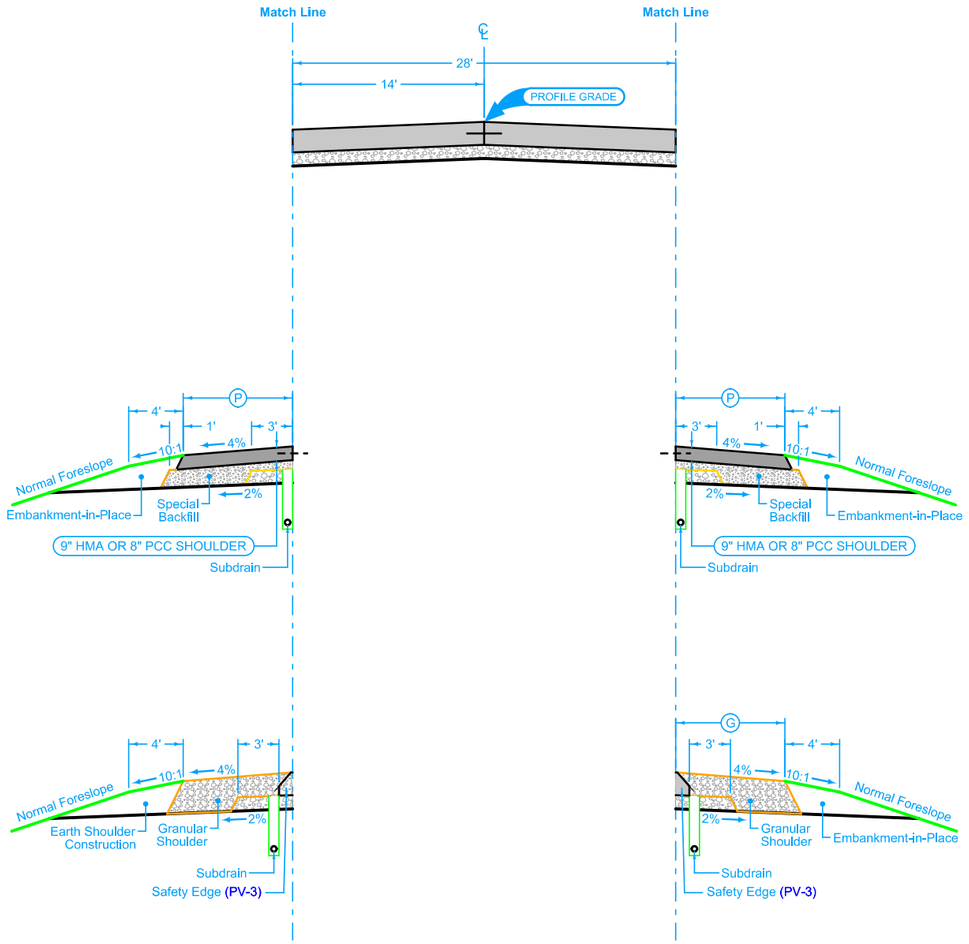
(2) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(5) 'KT-1 or BT-5 joint for PCC shoulder.
'B' joint for HMA shoulder.

PAVED SHOULDER AT GUARDRAIL



Mainline Pavement

2P_
10-19-10

STATION TO STATION		REMARKS
247+70.00	248+45.19	EXISTING PAVEMENT
248+45.19	249+22.21	APPROACH PAVEMENT
251+37.09	252+14.11	APPROACH PAVEMENT
252+14.11	252+90.00	EXISTING PAVEMENT

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_Guard_
MODIFIED

STATION TO STATION		(P) Feet	REMARKS
248+01.40	248+21.40	11.37	SOUTHEAST
248+21.40	248+69.03	11.37-9.54	SOUTHEAST
248+69.03	248+75.19	9.54	SOUTHEAST
248+04.91	248+24.91	11.37	SOUTHWEST
248+24.91	248+72.54	11.37-9.54	SOUTHWEST
248+72.54	248+75.19	9.54	SOUTHWEST
251+84.11	251+86.76	9.54	NORTHEAST
251+86.76	252+34.39	9.54-11.37	NORTHEAST
252+34.39	252+54.39	11.37	NORTHEAST
251+84.11	251+90.27	9.54	NORTHWEST
251+90.27	252+37.90	9.54-11.37	NORTHWEST
252+37.90	252+57.90	11.37	NORTHWEST

Granular Shoulder with Safety Edge

2_G_
MODIFIED

STATION TO STATION		(G) Feet	REMARKS
247+74.68	248+01.40	8.0	SOUTHEAST
247+78.19	248+04.91	8.0	SOUTHWEST
252+54.39	252+81.11	8.0	NORTHEAST
252+57.90	252+84.62	8.0	NORTHWEST

100-0A
10-28-97

ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description

100-1D
10-18-05

PROJECT DESCRIPTION

This Project is for the replacement of a US 65 Bridge Over the East Branch Beaverdam Creek, 1.7 miles North of County Road B60. It will involve pavement reconstruction, bridge approach pavement, steel beam guardrail replacement, paved shoulder construction, and grading.

111-25
10-18-11

INDEX OF TABULATIONS

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
BA-200	10-18-16	Steel Beam Guardrail Components
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-18-16	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BR-101	04-21-15	Bridge Approach Section (General Details)
BR-205	10-16-18	Double Reinforced 12" Approach (Slab Bridge)
DR-402	4-17-18	Rock Flume for Bridge End Drain
EC-201	10-16-18	Silt Fence
EC-502	04-21-15	Seeding in Rural Areas
EW-301	10-20-15	Guardrail Grading
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
MI-101	10-20-15	Fencing Layout
MI-103	10-20-15	Deer Fence and Field Fence Construction
MI-104	10-17-17	Fence Construction at Channel Crossings, Flood Plains, and Minor Ground Depressions
PM-110	10-16-18	Line Types
PV-101	10-16-18	Joints
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-19-16	Routes Closed to Traffic

108-8A
Modified

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, 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.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Location					Layout Lengths (BA-250, BA-260, LS-630, or LS-635)				Long-Span System		Delineators and Object Markers (2)					Bid Items										Remarks
												Delineator	Object Marker							BA-250 or LS-630					BA-260 or LS-635		
																Bolted End	Post	Steel Beam	Barrier	End Terminal				Barrier	End	
																			Transition					Transition	Terminal	
																			Section	Tangent	Flared	Tangent	Flared	Section	Tangent	
No.	(1) Direction of Traffic	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET	BA-211 STATION	BA-211 TYPE	SI-211 TYPE	SI-172 Type 1 White	SI-173 Type 2 OM2-2	SI-173 Type 3 OM3-L	SI-173 Type 3 OM3-R	BA-202 TYPE	BA-202 EACH	BA-210 EACH	BA-200 LF	BA-201 EACH	BA-205 EACH	BA-206 EACH	LS-625 EACH	LS-626 EACH	BA-221 EACH	BA-225 EACH	
				FT	LF	LF	LF	LF				EACH	EACH	EACH	EACH											
1	NB	O	249+09.05	22.3	40.600			47.7			3				1	A	1		0.0	1	1					Southeast
2	SB	O	249+25.06	22.3	53.100			47.7			3			1		A	1		12.5	1	1					Southwest
3	NB	O	251+34.24	22.3	53.100			47.7			3			1		A	1		12.5	1	1					Northeast
4	SB	O	251+50.25	22.3	40.600			47.7			3				1	A	1		0.0	1	1					Northwest

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent. Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	(1) Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10 CY	Embankment In Place CY	
1	NB	249+09.05	Rt	4:1	40.0	5.3					87.7	7.2	46.7		46.1	Southeast Corner
2	SB	249+25.06	Lt	4:1	52.5	5.3					100.2	7.2	46.7		71.0	Southwest Corner
3	NB	251+34.24	Rt	4:1	52.5	5.3					100.2	7.2	46.7		69.3	Northeast Corner
4	SB	251+50.25	Lt	4:1	40.0	5.3					87.7	7.2	46.7		45.7	Northwest Corner

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

Location					Removal of Guardrail (2)
No.	(1) Direction of Traffic	Station to Station		Side	LF
1	SB	248+90.00	249+85.00	Lt	96.0
2	NB	248+90.00	249+85.00	Rt	96.0
3	SB	250+75.00	251+70.00	Lt	96.0
4	NB	250+75.00	251+70.00	Rt	96.0

112-6
04-18-17

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item

Location				Approach Pavement					Standard Road Plans BR Series			Subdrain					* Modified Subbase	* Polymer Grid	* Special Backfill	Remarks
Bridge Station	End	Skew Ahead Degrees LEFT	Skew Ahead Degrees RIGHT	(T) Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	* Perforated Subdrain 4"	* Subdrain Outlet		* Porous Backfill	* Class 'A' Crushed Stone Backfill				
		LEFT	RIGHT	Inches	FT	SY	SY	SY				LF	STA	Side	CY	CY	TON	SY	TON	
250+29.65	S	20		12.0	77.0	93.3	104.6	171.5	BR-205	Movable	BR-211	60.0	248+55.19	Rt	2.0		325.000	380.0		S. End
250+29.65	N	20		12.0	77.0	93.3	104.6	171.5	BR-205	Movable	BR-211	60.0	252+04.11	Rt	2.0		325.000	380.0		N. End

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
248+45.19	249+93.48	BOTH	COMPOSITE	461.3	28.0	SOUTH END
250+65.32	252+14.11	BOTH	COMPOSITE	462.9	28.0	NORTH END

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
247+00	1		S. END - ROADWAY
249+00		1	S. END - BRIDGE
251+60		1	N. END - BRIDGE
253+00	1		N. END - ROADWAY

100-28
10-19-10

LONGITUDINAL GROOVING

Location	Total	Remarks
	SY	
248+45.19	265.2	South Approach Pavement
249+22.21	950.6	Bridge Deck
251+37.09	265.2	North Approach Pavement

104-8A
10-17-17

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan DR-401 and DR-402

Location			Bid Items		PCC Paved Shoulder			Scour Protection (DR-401)			Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	PCC Paved Shoulder	Bridge End Drain	Panels Required	Polymer Grid	Modified Subbase	Special Ditch Control, Wood Excelsior Mat EC-101	Turf Reinforced Mat (TRM), Type 2 EC-104	Transition Mat EC-105	Macadam Stone Base	Engineering Fabric	Erosion Stone	
		FT	SY	TYPE	A B C or D	SY	TONS	SQ	SQ	SF	TONS	SY	TONS	
250+29.65	SE	39.6		DR-402							2.000	50.0	35.000	
250+29.65	SW	55.6		DR-402							2.000	50.0	35.000	
250+29.65	NE	55.6		DR-402							2.000	50.0	35.000	
250+29.65	NW	39.6		DR-402							2.000	50.0	35.000	

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
247+85.00	249+30.00	Lt	180.0	Toe of SW Foreslope
247+75.00	249+05.00	Rt	160.0	Toe of SE Foreslope
249+05.00	249+30.00	Both	200.0	S. Bank of Creek
251+50.00	252+90.00	Lt	160.0	Toe of NW Foreslope
251+20.00	252+75.00	Rt	180.0	Toe of NE Foreslope
251+50.00	251+20.00	Both	220.0	N. Bank of Creek

110-17
04-18-17

CLEARING AND GRUBBING

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters												All Other Materials		Estimated Quantities			Remarks
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area	Herbicide Application	
																FT	FT	Units	Acres	Each	
Southeast Corner	NB	Field Fence - Clearing														668.0		40.1			See Tab. 100-8

100-7
10-16-12

FENCING

* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate		Fence	Brace	Gate		Fence	Brace	Gate				
Station	Offset	Station	Offset		Length*	Type	No.*	Type	Length*	Panels*	No.*	Type	Length*	Panels*	No.*	Type	Length*	Type	
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF		
244+15.00	98'	250+60.00	100'	Rt.									595.0	10	-	-	50.0	A	

100-08
04-17-18

REMOVAL OF FENCE

Removal of Field Fence is incidental to Clearing and Grubbing.

Location				Type	Length	Remarks
From		To				
Station	Offset	Station	Offset		LF	
244+15	98' Rt	244+15	80' Rt	Field	18.0	
244+15	80' Rt	250+60	95' Rt	Field	645.0	
250+60	95' Rt	250+60	100' Rt	Field	5.0	

102-5
04-18-17

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
1		US 65				1931			PCC												
2		US 65				1958			HMA												
3		US 65				1978			HMA												
4		US 65				2001			HMA												

108-22
04-16-13

PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 BLW4: Broken Lane Line (White) @ 0.25 ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00

Location						Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side L	Side C	Side R	BCY4* STA	DCY4 STA	NPY4** STA	BLW4 STA	ELW4 STA	ELY4 STA							
US 65	248+45.19	252+14.11	NB	Waterborne/Solvent Paint			X					3.69								
US 65	248+45.19	252+14.11	BOTH	Waterborne/Solvent Paint		X		3.69												
US 65	248+45.19	252+14.11	SB	Waterborne/Solvent Paint	X							3.69								
				Factored Total: Waterborne/Solvent Paint				0.92	-	-	-	7.38	-	-	-	-	-	-	-	-
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							8.30									

112-9
10-15-13

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) Bid Item
(3) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(4) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 0, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																	Remarks
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width FT	(G) Width FT	(L) Length FT	(3) Class 13 Excavation CY (2)	Hot Mix Asphalt TON	Hot Mix Asphalt TON/STA	Binder TONS	Paved Shoulder SY (2)	Reinforced Paved Shoulder SY (2)	Special Backfill HMA Alternate TON (2)	Special Backfill HMA Alternate TON/STA	Special Backfill PCC Alternate TON (2)	Special Backfill PCC Alternate TON/STA	Modified Subbase CY (2)	Granular Shoulder TON (2)	Granular Shoulder TON/STA	Earth Shoulder Construction Alternates STA (2)	Earth Shoulder Construction Alternates HMA CY (4)	Earth Shoulder Construction Alternates PCC CY (4)	
US 65	NB	247+74.68	248+01.40	Rt		8.0	26.7															Southeast
US 65	NB	248+01.40	248+21.40	Rt	11.4		20.0		12.360	61.820	0.742	25.3		19.900	99.490	21.170	105.860				0.3			Southeast
US 65	NB	248+21.40	248+69.03	Rt	VARIES		47.6		27.080	56.850	1.625	55.3		43.570	91.480	46.360	97.340				0.2			Southeast
US 65	NB	248+69.03	248+75.19	Rt	9.5		6.2		3.200	51.870	0.192	6.5		5.140	83.480	5.470	88.820				0.5			Southeast
US 65	SB	247+78.19	248+04.91	Lt		8.0	26.7														0.1			Southeast
US 65	SB	248+04.91	248+24.91	Lt	11.4		20.0		12.360	61.820	0.742	25.3		19.900	99.490	21.170	105.860				0.3			Southwest
US 65	SB	248+24.91	248+72.54	Lt	VARIES		47.6		27.080	56.850	1.625	55.3		43.570	91.480	46.360	97.340				0.2			Southwest
US 65	SB	248+72.54	248+75.19	Lt	9.5		2.6		1.370	51.870	0.082	2.8		2.210	83.480	2.350	88.820				0.5			Southwest
US 65	NB	251+84.11	251+86.76	Rt	9.5		2.6		1.370	51.870	0.082	2.8		2.210	83.480	2.350	88.820				0.0			Southwest
US 65	NB	251+86.76	252+34.39	Rt	VARIES		47.6		27.080	56.850	1.625	55.3		43.570	91.480	46.360	97.340				0.0			Northeast
US 65	NB	252+34.39	252+54.39	Rt	11.4		20.0		12.360	61.820	0.742	25.3		19.900	99.490	21.170	105.860				0.5			Northeast
US 65	NB	252+54.39	252+81.11	Rt		8.0	26.7														0.2			Northeast
US 65	SB	251+84.11	251+90.27	Lt	9.5		6.2		3.200	51.870	0.192	6.5		5.140	83.480	5.470	88.820				0.3			Northeast
US 65	SB	251+90.27	252+37.90	Lt	VARIES		47.6		27.080	56.850	1.625	55.3		43.570	91.480	46.360	97.340				0.1			Northwest
US 65	SB	252+37.90	252+57.90	Lt	11.4		20.0		12.360	61.820	0.742	25.3		19.900	99.490	21.170	105.860				0.5			Northwest
US 65	SB	252+57.90	252+84.64	Lt		8.0	26.7														0.2			Northwest
																					0.3			Northwest

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 per plan revisions or by contract modification, 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 prime 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. Signature authority on the Base PPP and NOI.
- B. Contractor/Subcontractor:
  1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. Affected contractors/subcontractors are anyone responsible for sediment or erosion controls or involved in land disturbing activities. 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. Submit an Erosion Control Implementation Plan (ECIP) according to Specifications Section 2602 and any additional plan notes.
  3. Install and maintain appropriate controls.
  4. Supervise and implement good housekeeping practices.
  5. Conduct joint required inspections of the site with inspection staff.
  6. Comply with training and certification requirements of Specifications Section 2602.
  7. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.
- C. RCE/Inspector:
  1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
  2. Maintain an up-to-date record that identifies contractors and subcontractors as co-permittees.
  3. Make these plans available to the DNR upon their request.
  4. Conduct joint required inspections of the site with the contractor/subcontractor.
  5. Complete an inspection report after each inspection.
  6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION
- A. This Pollution Prevention Plan (PPP) is for the construction of a *Describe Type Of Facility*.
- B. This PPP covers approximately *Provide # Of Acres* acres with an estimated *Provide # Of Acres* acres being disturbed. The portion of the PPP covered by this contract has *Provide # Of Acres* acres disturbed.
- C. The PPP is located in an area of *Provide # Of Types Of Soil Association* soil association (*Provide Soil Association Type Or* *Types*). The estimated weighted average runoff coefficient number for this PPP after completion will be *Provide runoff coefficient Number*.
- 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 on C sheets.
  5. Locations of Non-structural Controls – Tabulations on 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 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.
- F. Runoff from this work will flow into *List Outlets For Runoff*.

III. CONTROLS
- A. The contractor's ECIP specified in Article 2602.03 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 or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring 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.
  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 on the C sheets of the plan. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation.
        5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
        6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional information may be found in Tabulations in the C or T sheets of the plans or is referenced in Standard Specifications Section 2105.
     b. Structural Practices
        1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
        2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plans or are referenced in the Standard Road Plans Tabulation.
     c. Storm Water Management
        1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.
  2. OTHER CONTROLS
     a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
        1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
        2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
        3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
        4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
        5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
        6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
        7) Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
        8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onside 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.
        9) Litter Management - Ensure employees properly dispose of litter.
        10) Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.
     3. APPROVED STATE OR LOCAL PLANS
        During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

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

V. INSPECTION REQUIREMENTS
- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring 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 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. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection.

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 patio 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.

110-12A
10-17-17

POLLUTION PREVENTION PLAN

110-12A
10-17-17

POLLUTION PREVENTION PLAN

B. Amended PPP - May include Plan Revisions or Contract Modifications for new items, storm water monitoring inspection reports, and fieldbook entries made by the inspector.
C. IDR - Inspector's Daily Report – 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 from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

CERTIFICATION STATEMENT

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

_____
Signature

_____
Printed or Typed Name

_____
Signature

_____
Printed or Typed Name

232-3A
10-20-15

EROSION CONTROL (RURAL SEEDING)

Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:

Use seed mix and fertilizer meeting the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.

Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

232-10
04-18-17

EMERALD ASH BORER

Any living, dead, cut or fallen material of the ash (Fraxinus spp.) including trees, nursery stock, logs, firewood, stumps, roots, branches, and composted or uncomposted ash chips can be freely moved within the yellow areas of the most recent Federal EAB Quarantine & Authorized Transit.

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab_quarantine_map.pdf.

Obtain appropriate Compliance Agreements from USDA APHIS PPQ prior to moving any of the above listed ash articles to areas outside the yellow zone on the map.

For questions, concerns, and general assistance, contact:

USDA APHIS PPQ, Iowa office, 515-414-3295

Or

Iowa Department of Agriculture & Land Stewardship
515-725-1470
Entomology@IowaAgriculture.gov

232-3C
10-20-15

EROSION CONTROL (NATIVE GRASS SEEDING)

Following the completion of work in a disturbed area, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:

SEED MIX:

Big bluestem (Andropogon geradii)	6 lbs. PLS/Acre (7.0 kg/ha)
Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)
Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)
Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)
Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)
Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)
Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)
Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)

Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debearded or equal to facilitate the application of seed.

Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement.

Use seed meeting requirements of Article 4169.02 of the Standard Specifications.

Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed and furnishing and applying seed and mulch is incidental to mobilization and will not be paid for separately.

281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers _____, Permit No. _____. 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.

SURVEY SYMBOLS

- PPA Power Pole Co. 1
- TEV Evergeen Tree
- SI Sign (SIGN)
- TPD Telephone Pedestal (TP)
- TDC Tree Deciduous
- MIS Miscellaneous
- SHR Shrub
- CP Control Point
- TW Top of Water
- LC Lot Corner
- FW Wire Fence
- BRG Bridge
- GDL Guard Rail Steel
- ENU Edge Unpaved Entrance & Parking
- SNP Unpaved Shoulder
- ENT Centerline BL of Entrance
- EP Edge Concrete or A/C Slab
- D Centerline Draw or Stream (Down)
- DU Centerline Draw or Stream (Up)
- EW Edge of Water
- BC Back of Curb
- PIP Pipe Culvert

UTILITY LEGEND

T1 - ICN

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	**Design Color No.**	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

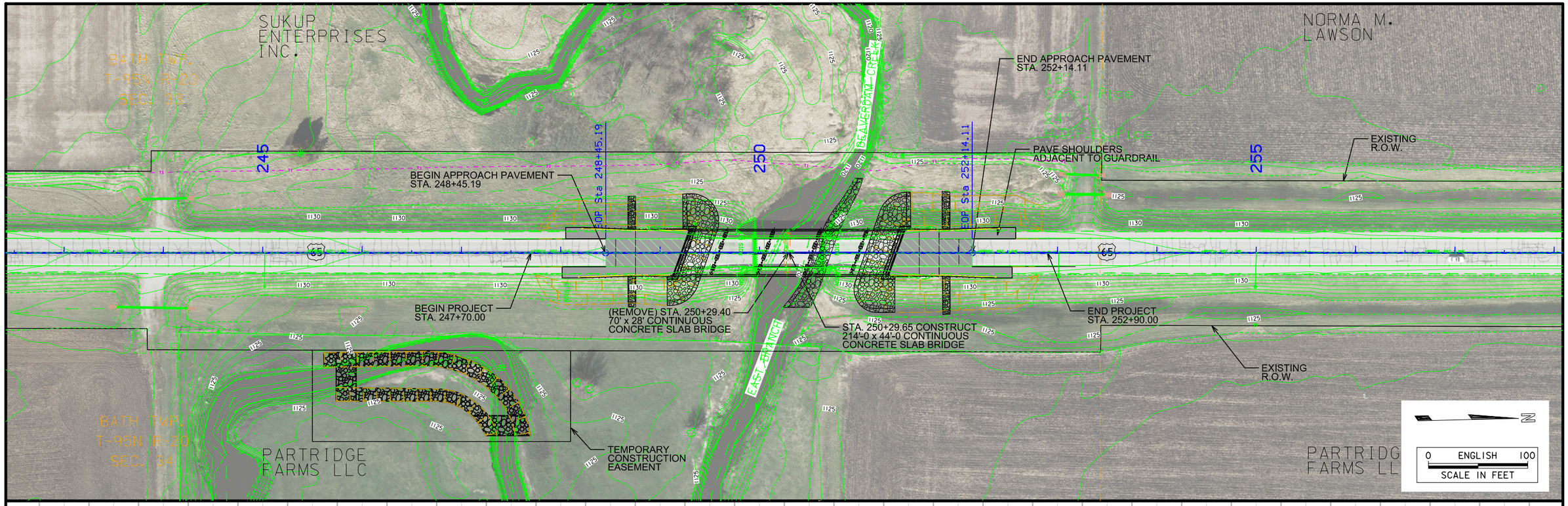
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- C/A Access Control
- Property Line

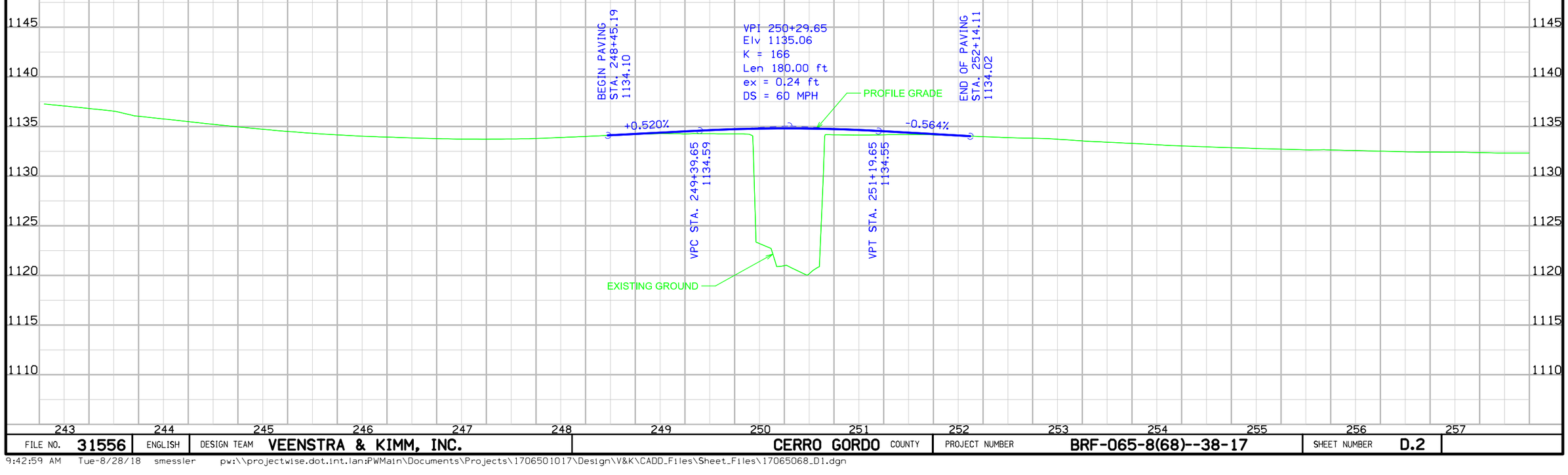
PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

FILE NO. 31556	ENGLISH	DESIGN TEAM Veenstra & Kim, Inc.	CERRO GORDO COUNTY	PROJECT NUMBER BRF-065-8(68)--38-17	SHEET NUMBER D.1

9:42:23 AM Tue-8/28/18 smessler pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\1706501017\Design\V&K\CADD_Files\Sheet_Files\17065068_LGD.dgn





FILE NO. 31556	ENGLISH	DESIGN TEAM VEENSTRA & KIMM, INC.	CERRO GORDO COUNTY	PROJECT NUMBER BRF-065-8(68)--38-17	SHEET NUMBER D.2

9:42:59 AM Tue-8/28/18 smessler pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\1706501017\Design\V&K\CADD_Files\Sheet_Files\17065068_D1.dgn

SURVEY INFORMATION

General Information
Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction over East Branch Beaver Dam Creek approximately 1600 feet South of County road B-55. This project is a Partial DTM with Photo control.

Vertical Control
Vertical datum for this survey is NAVD88 (Computed using Geoid12B). GRS80 Ellipsoidal Height was computed at project Pt. 105 by postprocessing a four hour static session referenced to three Iowa RTN reference stations. The vertical standard deviation of these observations was less than 0.03 ft. at 95% confidence level (2 sigma). Additional benchmarks were established with a digital level loop relative with Pt. 105. The loop error met 3rd Order accuracy and the error was distributed proportionately among the project bench marks.

This survey observed 1 NGS Control Monument with published NAVD88 heights to compare to local ground control:

NGS Cooperative Base Network Control Station designated Bean has a published Elev. Of 1215.
Survey Elev. = 1214.88

Horizontal Control
(State Plane Coordinates)
The project coordinate system for this survey is Iowa Regional Coordinate System Zone 2 (U.S. Survey Feet). This survey control is relative to Iowa RTN reference stations. Iowa RTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by postprocessing four hour static sessions on each control point. The horizontal standard deviation of these observations was less than 0.03 ft. at 95% confidence level (2 sigma).

Alignment Information
The horizontal alignment for this survey is a retracement of As-built Plans for Cerro Gordo County FN Project No. 115 dated 2-27-1959. Survey stationing was equated to the plan P.O.T. at STA 239+45.1 and run ahead without equation to the P.I at Station 266+65.9 which was established at the Northwest corner of Section 34-95-20.

Utility Information
Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark abbreviations
QLA Quality Level A Highest guideline quality level
QLD Quality Level D Lowest guideline quality level

A One-call design information request (Ticket # 551705988) was made November 22, 2017 and converted December 5, 2017 to a design locate request (Ticket # 551706268). The following Companies were listed:

ROCKWELL COOPERATIVE TELEPHONE- Received an E-mail from David Severin at rockwell@netins.net on 11/22/17 at 9:03 A.M. He stated that Rockwell Cooperative Telephone Association has no lines in the project area.

CENTURYLINK - Received an E-mail from Mindi J. Burgett at Mindi.Burgett@CenturyLink.com on 11/22/17 at 9:28 AM. She stated there were no Centurylink lines in the area. Attached was a jpeg file showing the absence of any lines in our project area. No further locates will be needed.

IOWA COMMUNICATION NETWORK- Received an E-mail form Shannon Marlow at shannon.marlow@iow.gov on 11/22/17 at 3:03 P.M. Attached was a pdf file showing their buried communication lines near the west right of way of our project. A locate will be needed.

MEDIACOM- Received an E-mail from Kent Studer at kstuder@mediacomcc.com on 11/22/17 at 3:13 P.M. He stated that Mediacom has no lines in the project area. No further locates will be needed.

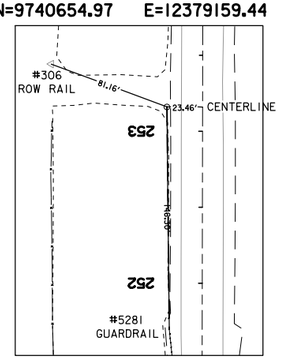
AT&T- Received an E-mail from Kevin Wingard at kwingard@sdt-1.com on 11/27/17 at 2:12 P.M. He stated that AT&T has no lines in the project area. They do have a line well to the west in a private easement a good distance off the Highway 65 corridor. No further locates will be needed.

Company (Quality)	Remark
AT&T Transmission	Not Affected
Centurylink	Not Affected
Iowa Communications Network	Buried Communication Line
Rockwell Cooperative Telephone	Not Affected
Mediacom	Not Affected

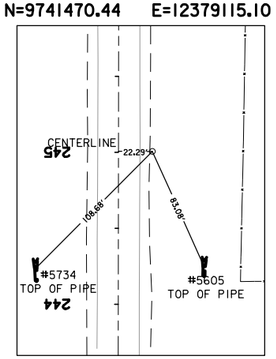
VERTICAL CONTROL

PT	Northing	Easting	Elevation	Description	Station	Offset
101	9740654.97	12379159.44	1134.00	1/2" x 48" rebar with blue cap	245+00.48	21.79' RT.
105	9741470.44	12379115.10	1132.78	1/2" x 48" rebar with blue cap	253+15.88	23.96' LT.
BM			1127.03	Yellow bench tie nail in first fence post south of creek	249+60.52	89.00' RT.

245+00.48, 21.79' RT.
CP101: 1/2"x48" rebar with blue cap
N=9740654.97 E=12379159.44



253+15.88, 23.96' RT.
CP105: 1/2"x48" rebar with blue cap
N=9741470.44 E=12379115.10



ALIGNMENT COORDINATES

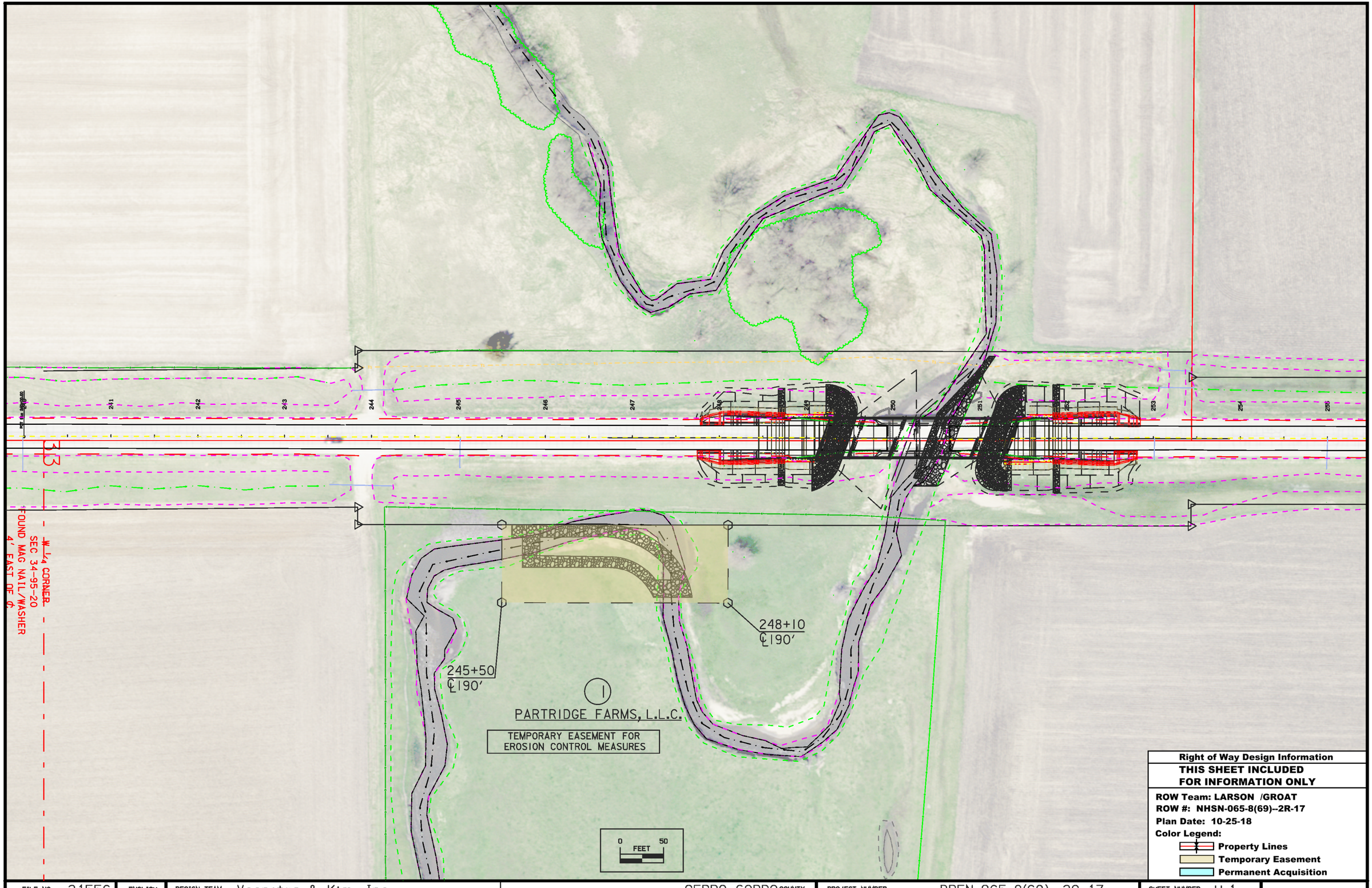
101-16 MODIFIED

Name	Location	Point on Tangent		
		Station	Coordinates	
			Y (Northing)	X (Easting)
3501	BOP	240+00.00	9,740,154.39	12,379,136.78
3502	EOP	260+29.40	9,742,183.79	12,379,140.30

SURVEY INFORMATION

Cerro Gordo ROW: NHSN-065-8(69)--2R-17 PIN 17-17-065-010
E Branch Beaverdam Creek 1.7 mi N of Co Rd B60

PARCEL NO.	OWNER NAME	STATE FEE	STATE EASE	COUNTY FEE	COUNTY EASE	CITY FEE	CITY EASE	EXCESS	TEMP EASE	BORROW FEE	BORROW T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.
1	Partridge farms, L.L.C. - Fee								0.54 AC								
1 Parcel	"TOTALS	0 AC 0 SF	0 AC 0 SF	0 AC 0 SF	0 AC 0 SF	0 AC 0 SF	0 AC 0 SF	0 AC	0.54 AC 0 SF	0 AC	0 AC	0 AC					



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: LARSON /GROAT
ROW #: NHSN-065-8(69)--2R-17
Plan Date: 10-25-18
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	31556	ENGLISH	DESIGN TEAM	Veenstra & Kim, Inc.	CERRO GORDO COUNTY	PROJECT NUMBER	BRFN-065-8(68)--39-17	SHEET NUMBER	H.1

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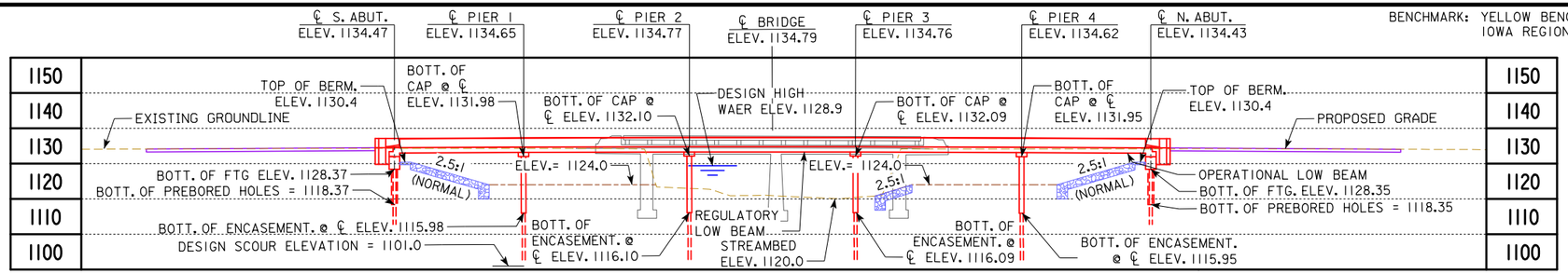
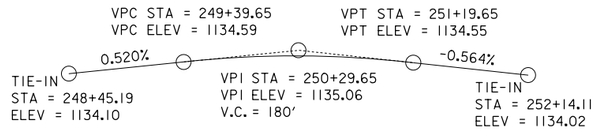
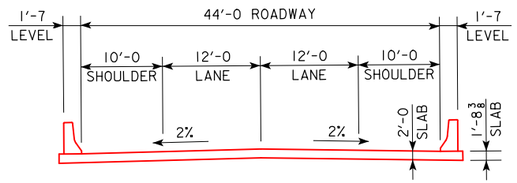


LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

BENCHMARK: YELLOW BENCH TIE NAIL IN FIRST FENCE POST SOUTH OF CREEK, STA: 249+60.52, 89.0' RT. IOWA REGIONAL COORDINATE SYSTEM, ZONE 2, SURVEY FEET, ELEV.=1127.03 NAVD88 (GEOID12B)



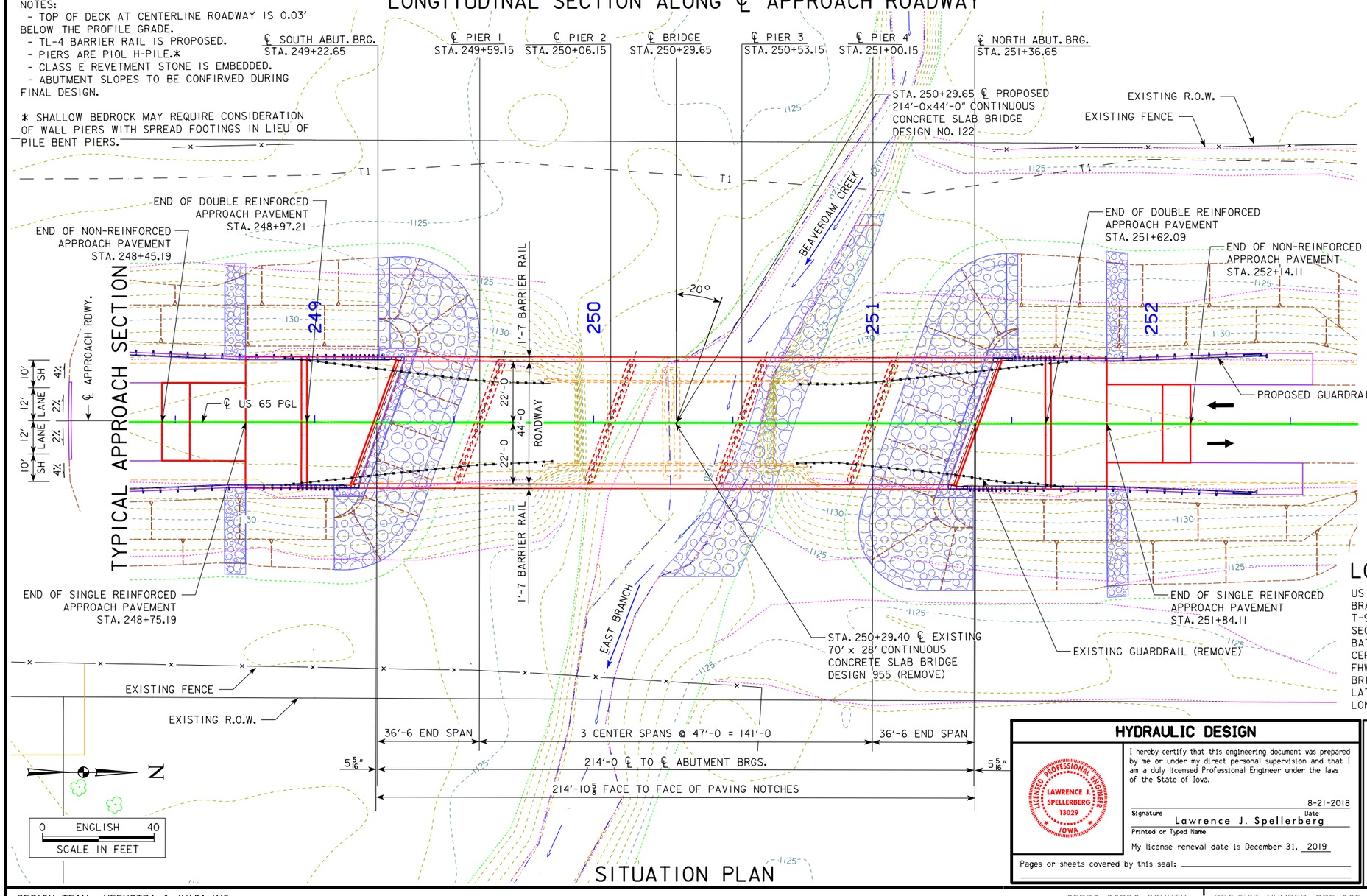
PROPOSED PROFILE GRADE



TYPICAL CROSS SECTION

NOTES:
- TOP OF DECK AT CENTERLINE ROADWAY IS 0.03' BELOW THE PROFILE GRADE.
- TL-4 BARRIER RAIL IS PROPOSED.
- PIERS ARE PIOL H-PILE.*
- CLASS E REVETMENT STONE IS EMBEDDED.
- ABUTMENT SLOPES TO BE CONFIRMED DURING FINAL DESIGN.

* SHALLOW BEDROCK MAY REQUIRE CONSIDERATION OF WALL PIERS WITH SPREAD FOOTINGS IN LIEU OF PILE BENT PIERS.



SITUATION PLAN

HYDRAULIC DATA

DRAINAGE AREA = 19.4 SQ. MI.
STREAM SLOPE = 3.70 FT./MI.
AVG. LOW WATER STAGE = 1121.0

Q_{50} = 5,110 CFS (DESIGN)
STAGE = 1128.9
REGULATORY LOW BEAM = 1132.68
BACKWATER = 1.27 FT.
AVG. BRIDGE VELOCITY = 6.0 FPS

Q_{100} = 6,040 CFS
STAGE = 1129.2
OPERATIONAL LOW BEAM = 1132.30
BACKWATER = 1.49 FT.

Q_{200} = 7,830 CFS
STAGE = 1129.7
CALCULATED DESIGN SCOUR = 1101.0

Q_{500} = 8,590 CFS
STAGE = 1129.9
CALCULATED CHECK SCOUR = 1099.4

ROADWAY OVERTOP 1132.27
STA. 260+15

EXTREME HW STAGE = UNKNOWN

ACTUAL SCOUR WILL BE DEPENDENT ON SOILS REVIEW OF THE ELEVATION OF COMPETENT ROCK.

UTILITIES LEGEND:

— T1 — ICN

LOCATION

US HIGHWAY 65 OVER EAST BRANCH BEAVERDAM CREEK
T-95N R-20W
SECTION 33/34
BATH TOWNSHIP
CERRO GORDO COUNTY
FHWA NO. 018911
BRIDGE MAINT. NO. 1786.3S065
LATITUDE 43.004308
LONGITUDE -93.201763

TRAFFIC ESTIMATE

2020	AADT	3,400	V.P.D.
2040	AADT	3,900	V.P.D.
2040	DHV		V.P.H.
TRUCKS		10/14	%
TOTAL DESIGN ESALs			

HYDRAULIC DESIGN

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.

LICENSED PROFESSIONAL ENGINEER LAWRENCE J. SPELLERBERG 13029 IOWA

8-21-2018
Signature Date
Lawrence J. Spellerberg
Printed or Typed Name

My license renewal date is December 31, 2019

Pages or sheets covered by this seal: _____

DESIGN FOR 20° SKEW (L.A.)

214'-0 X 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

36'-6 END SPANS — 3 AT 47'-0 INTERIOR SPANS

SITUATION PLAN

STA. 250+29.65 (℄ US 65) — JULY, 2018

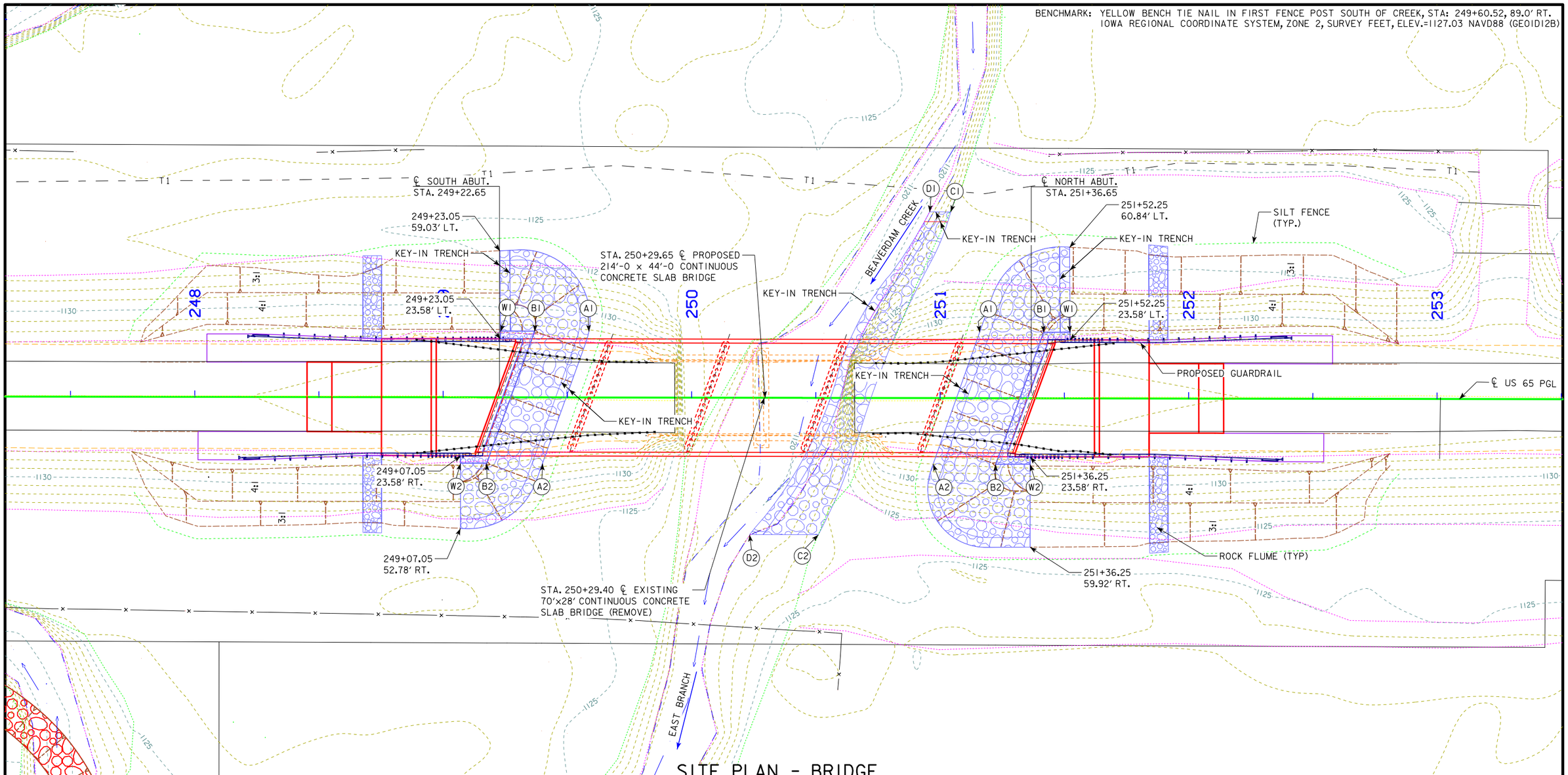
CERRO GORDO COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 4 FILE NO. 31556 DESIGN NO. 122

DESIGN TEAM : VEENSTRA & KIMM, INC. | CERRO GORDO COUNTY | PROJECT NUMBER BRF-065-8(68)--38-17 | SHEET NUMBER V.1

BENCHMARK: YELLOW BENCH TIE NAIL IN FIRST FENCE POST SOUTH OF CREEK, STA: 249+60.52, 89.0' RT.
IOWA REGIONAL COORDINATE SYSTEM, ZONE 2, SURVEY FEET, ELEV.=1127.03 NAVD88 (GEOID12B)



SITE PLAN - BRIDGE

ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
SOUTH ABUTMENT BERM	420	15	500	280
SOUTH CHANNEL BERM	-	-	-	-
NORTH CHANNEL BERM	320	-	350	220
NORTH ABUTMENT BERM	420	15	500	280
SOUTHEAST CHANNEL PROTECTION	740	-	1,050	520
TOTALS	1,900	30	2,400	1,300

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
SEE SHEET D.2 FOR SOUTHWEST CHANNEL PROTECTION.

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	249+58.60	26.58' LT.	1124.0	251+15.87	26.58' LT.	1124.0
A2	249+40.04	26.58' RT.	1124.0	250+97.22	26.58' RT.	1124.0
B1	249+37.11	26.58' LT.	1130.4	251+41.53	26.58' LT.	1130.4
B2	249+17.77	26.58' RT.	1130.4	251+22.19	26.58' RT.	1130.4
C1	-	-	-	251+04.14	75.00' LT.	1124.0
C2	-	-	-	250+51.06	55.11' RT.	1124.0
D1	-	-	-	250+95.66	75.00' LT.	1120.5
D2	-	-	-	250+23.49	55.11' RT.	1121.0
W1	249+23.05	26.58' LT.	1133.7	251+52.25	26.58' LT.	1133.6
W2	249+07.05	26.58' RT.	1133.7	251+36.25	26.58' RT.	1133.7

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

N

0 ENGLISH 40
SCALE IN FEET

DESIGN FOR 20° SKEW (L.A.)

214'-0 X 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

36'-6 END SPANS — 3 AT 47'-0 INTERIOR SPANS

SITE PLAN - BRIDGE

STA. 250+29.65 (℄ US 65) — JULY, 2018

CERRO GORDO COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 4 — FILE NO. 31556 — DESIGN NO. 122

DESIGN TEAM : VEENSTRA & KIMM, INC. | CERRO GORDO COUNTY | PROJECT NUMBER BRF-065-8(68)--38-17 | SHEET NUMBER V.2

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BENCHMARK: YELLOW BENCH TIE NAIL IN FIRST FENCE POST SOUTH OF CREEK, STA: 249+60.52, 89.0' RT.
IOWA REGIONAL COORDINATE SYSTEM, ZONE 2, SURVEY FEET, ELEV.=1127.03 NAVD88 (GEOID12B)

245 246 247 248 249 250 251

REMOVE FENCE FROM CURRENT LOCATION

NEW FENCE

STA. 250+29.65 ℄ PROPOSED 214'-0 x 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

245+50.00 AT EXISTING

EXISTING R.O.W.

248+10.00 AT EXISTING

INSTALL FENCE ON R.O.W. LINE

ROCK GRADE CONTROL

245+50.00 190.00' RT.

248+10.00 190.00' RT.

TEMPORARY CONSTRUCTION EASEMENT

ROCK GRADE CONTROL

BEAVERDAM CREEK

EAST BRANCH

BERM SLOPE LOCATION TABLE

POINTS	WEST BANK			EAST BANK		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
EI	245+61.25	99.31' RT.	1125.3	245+73.59	149.62' RT.	1123.8
E2	247+68.71	183.80' RT.	1122.8	247+24.60	183.80' RT.	1125.8
FI	245+64.42	115.45' RT.	1120.8	245+73.84	135.43' RT.	1120.7
F2	247+53.83	183.65' RT.	1120.63	247+35.48	183.80' RT.	1120.8

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

0 ENGLISH 40
SCALE IN FEET

DESIGN FOR 20° SKEW (L.A.)

214'-0 X 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

36'-6 END SPANS — 3 AT 47'-0 INTERIOR SPANS

SITE PLAN - EROSION REPAIR

STA. 250+29.65 (℄ US 65) — JULY, 2018

CERRO GORDO COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 4 — FILE NO. 31556 — DESIGN NO. 122

SITE PLAN - EROSION REPAIR

DESIGN TEAM : VEENSTRA & KIMM, INC. | CERRO GORDO COUNTY | PROJECT NUMBER BRF-065-8(68)--38-17 | SHEET NUMBER V.3

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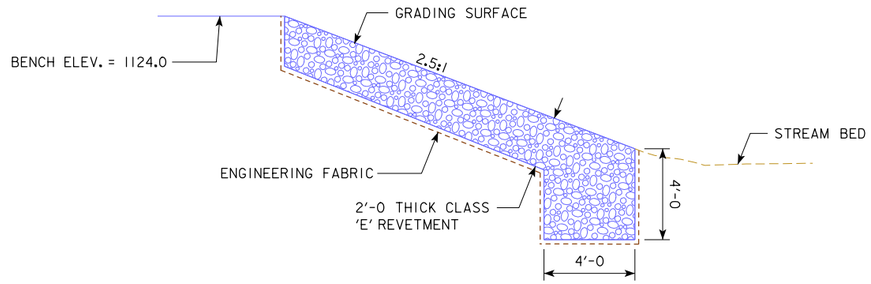
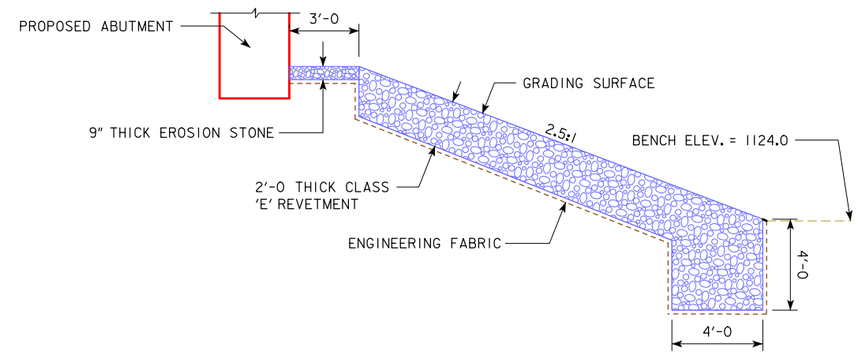
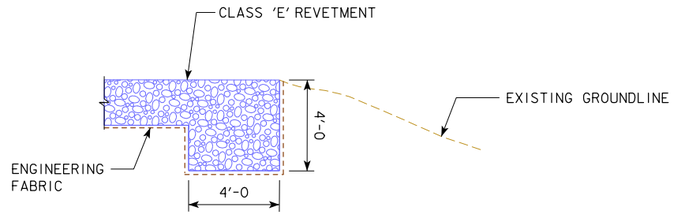
BENCHMARK: YELLOW BENCH TIE NAIL IN FIRST FENCE POST SOUTH OF CREEK, STA: 249+60.52, 89.0' RT.
IOWA REGIONAL COORDINATE SYSTEM, ZONE 2, SURVEY FEET, ELEV.=1127.03 NAVD88 (GEOID12B)



TYPICAL KEY-IN TRENCH AT STREAM BED



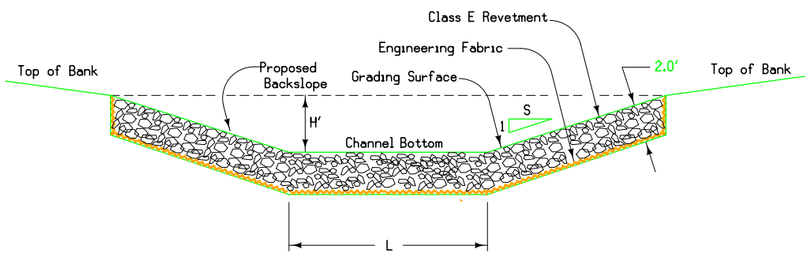
TYPICAL KEY-IN TRENCH AT TOE OF SLOPE



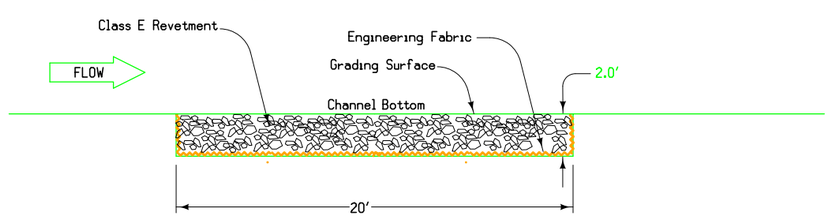
TYPICAL KEY-IN TRENCH AT UPSTREAM ABUTMENT BERM

TYPICAL BERM ARMORING DETAILS

MIT-405
6-18-18



Typical Cross Section



Typical Longitudinal Section

ROCK GRADE CONTROL

DESIGN FOR 20° SKEW (L.A.)

214'-0 X 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

36'-6 END SPANS — 3 AT 47'-0 INTERIOR SPANS

ARMORING DETAILS

STA. 250+29.65 (℄ US 65) — JULY, 2018

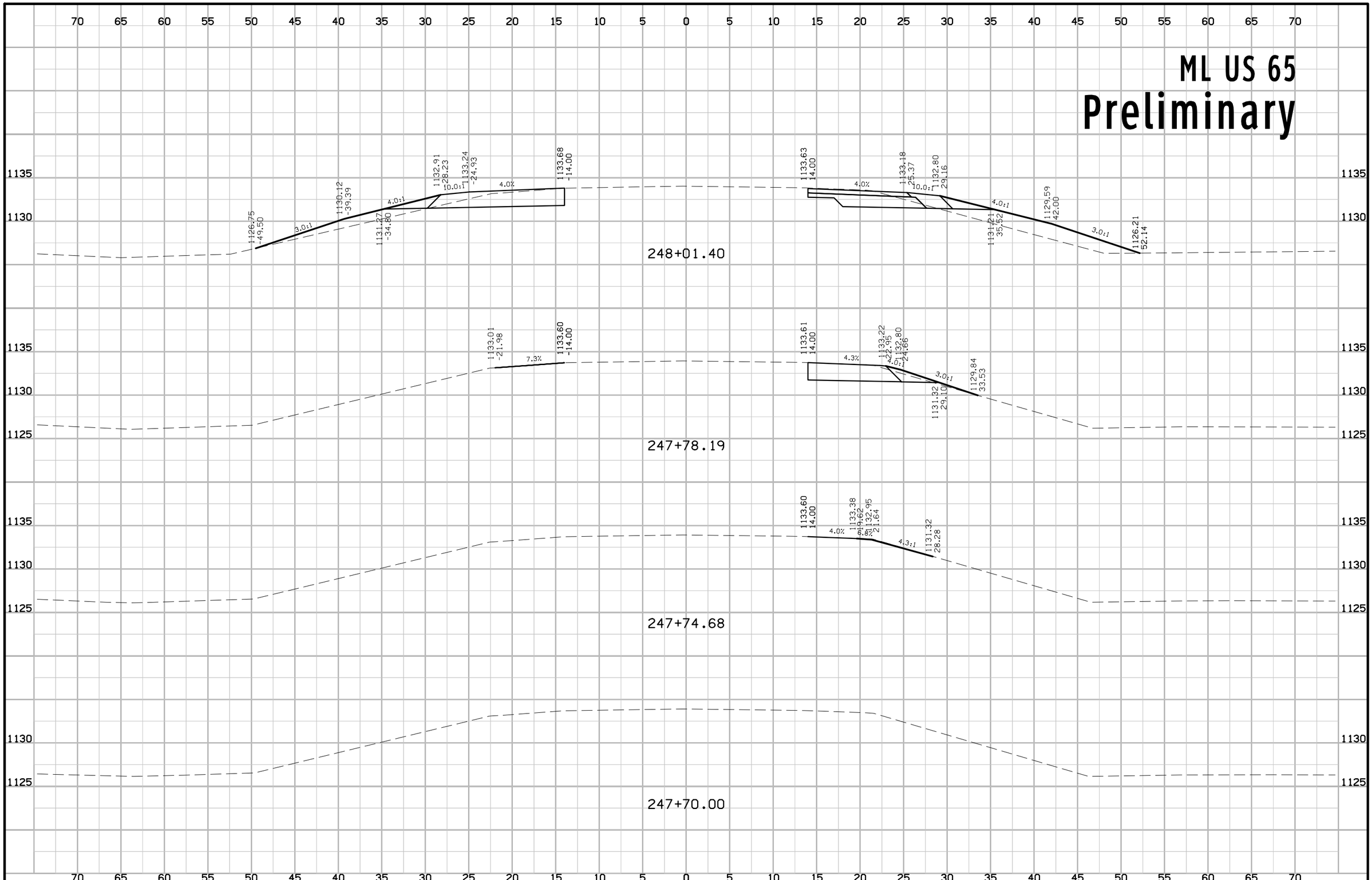
CERRO GORDO COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 4 — FILE NO. 31556 — DESIGN NO. 122

DESIGN TEAM : VEENSTRA & KIMM, INC. | CERRO GORDO COUNTY | PROJECT NUMBER BRF-065-8(68)--38-17 | SHEET NUMBER V.4

ML US 65
Preliminary



FILE NO. 31556	ENGLISH	DESIGN TEAM Veenstra & Kim, Inc.	CERRO GORDO COUNTY	PROJECT NUMBER BRF-065-8(68)--38-17	SHEET NUMBER W.1

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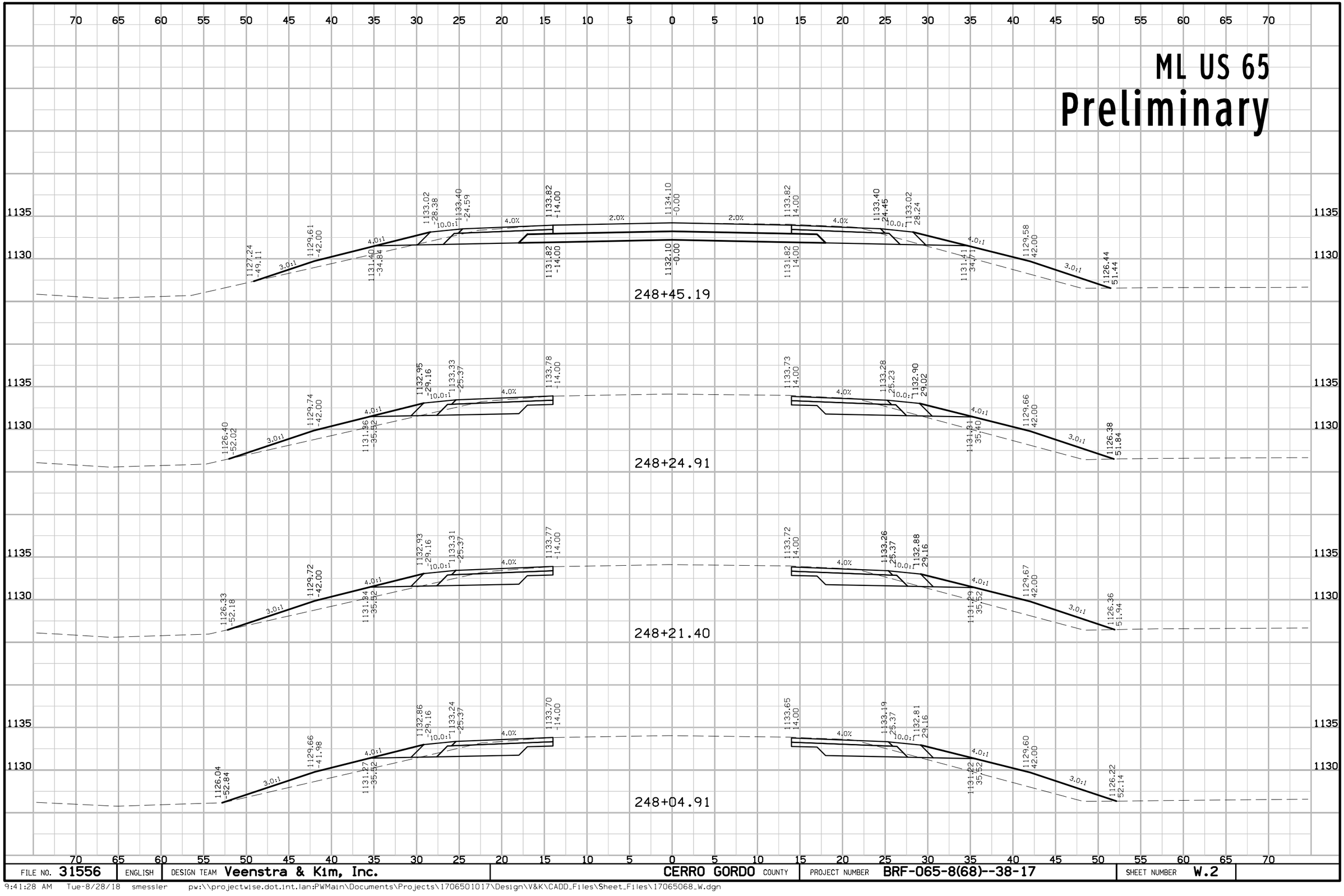
Preliminary



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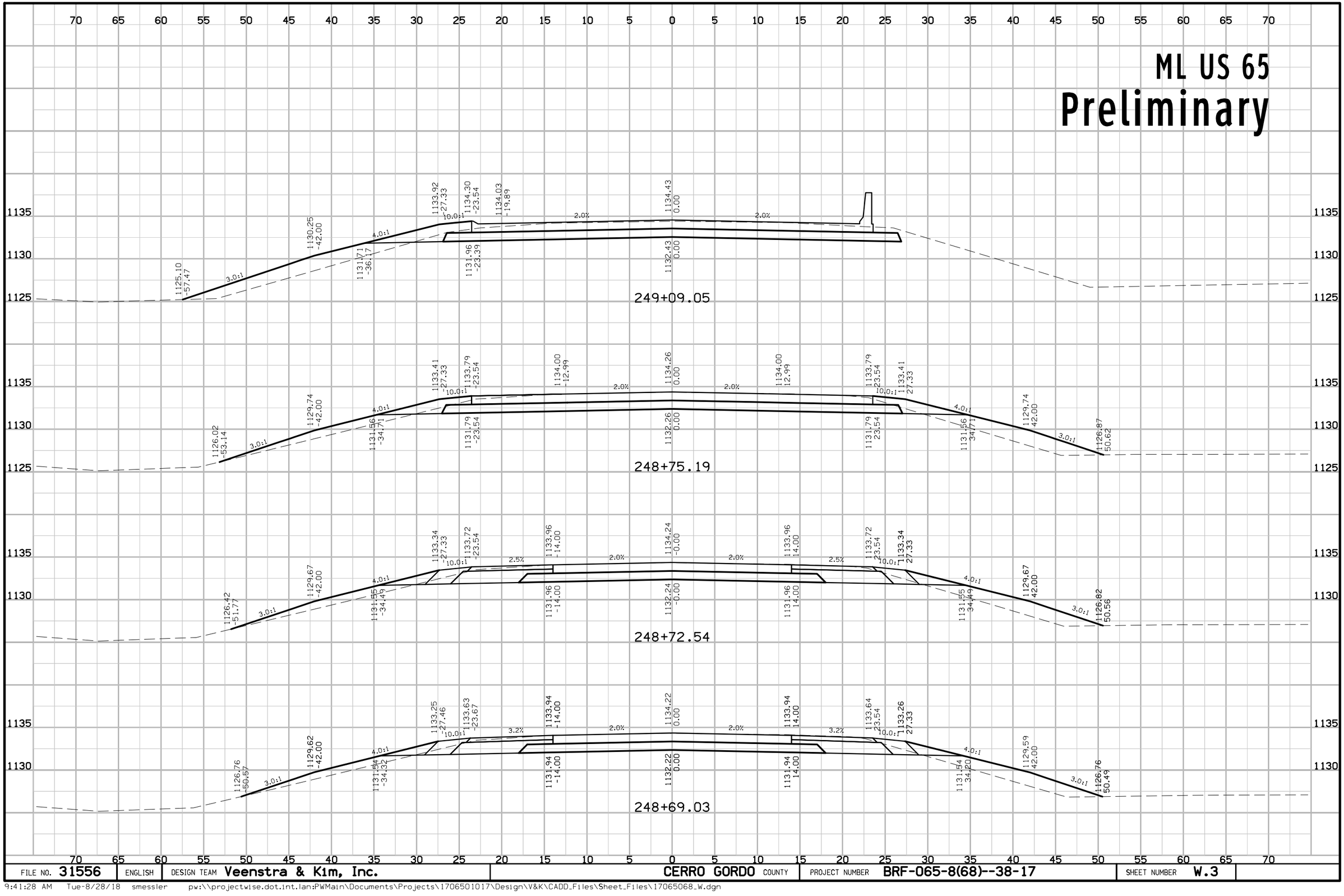
ML US 65
Preliminary



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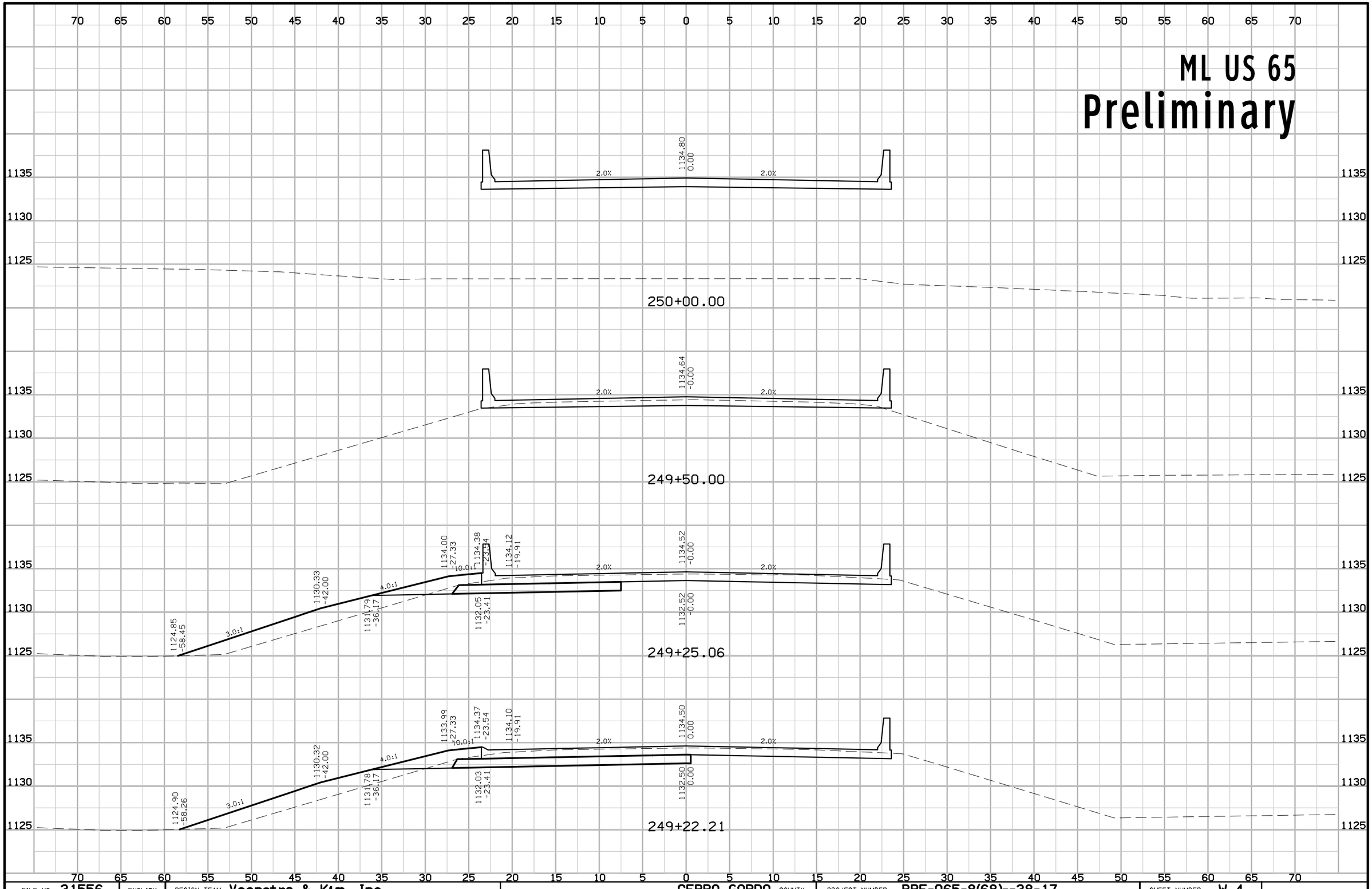
ML US 65
Preliminary



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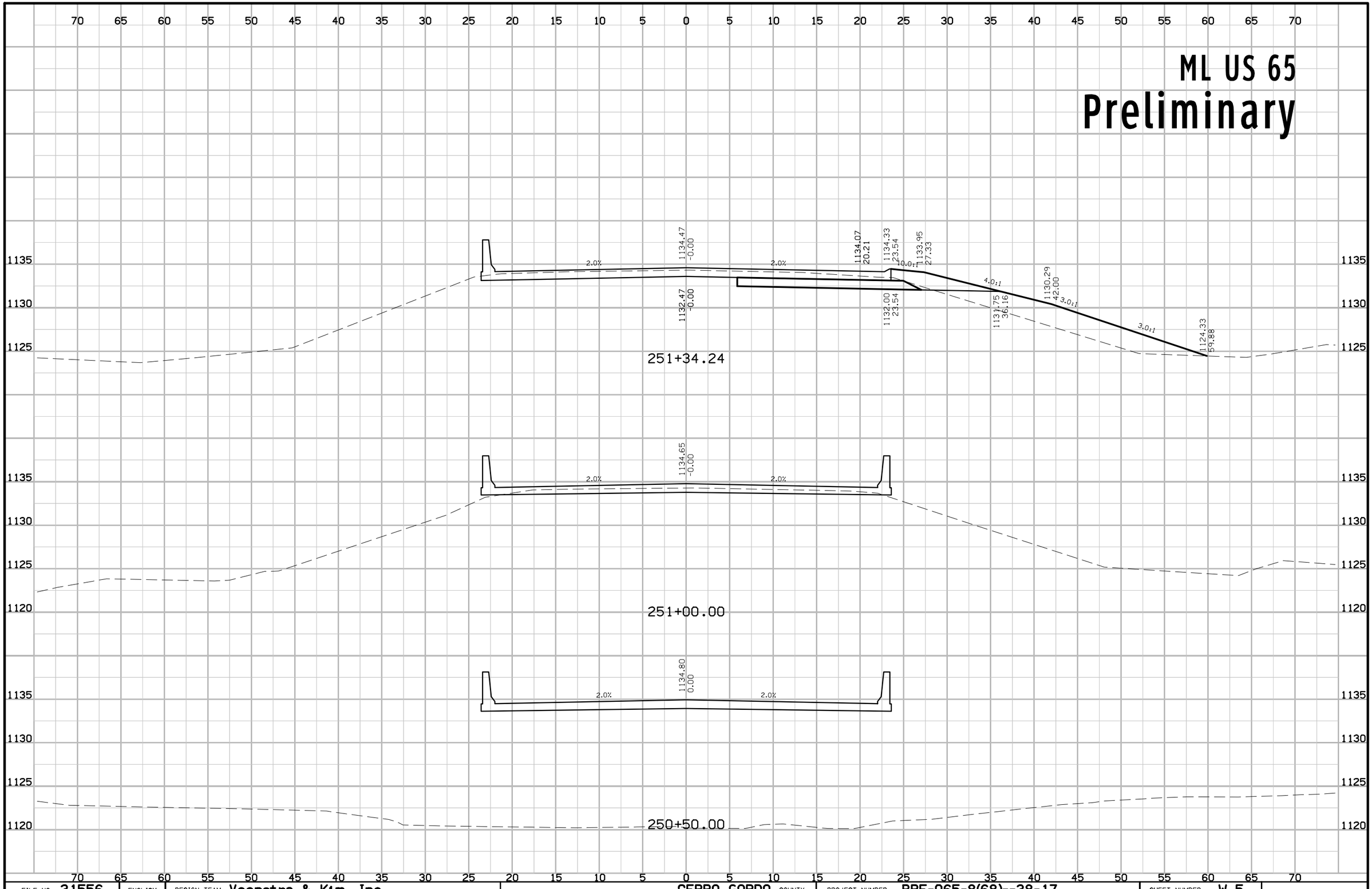
ML US 65
Preliminary



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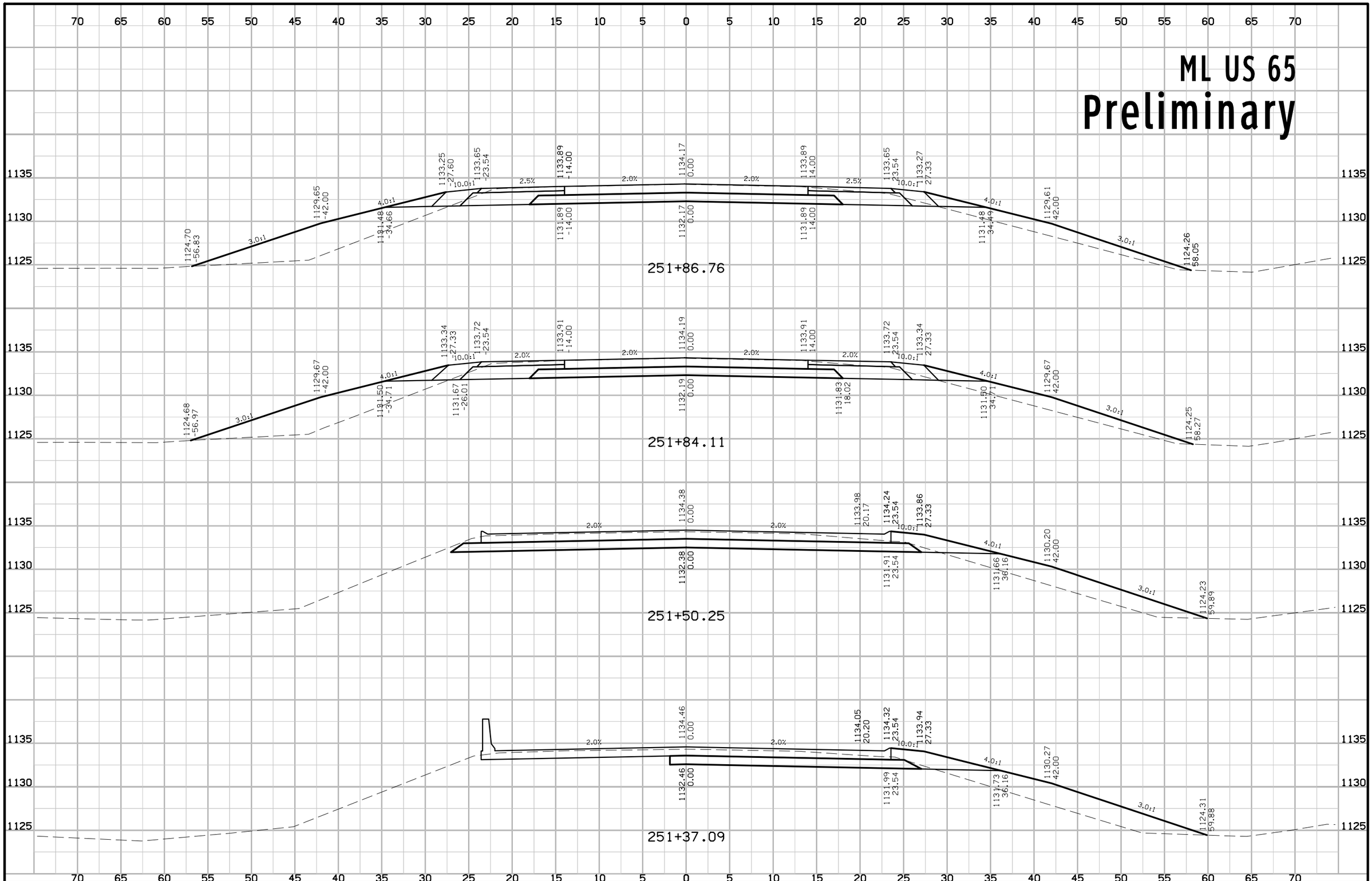
ML US 65
Preliminary



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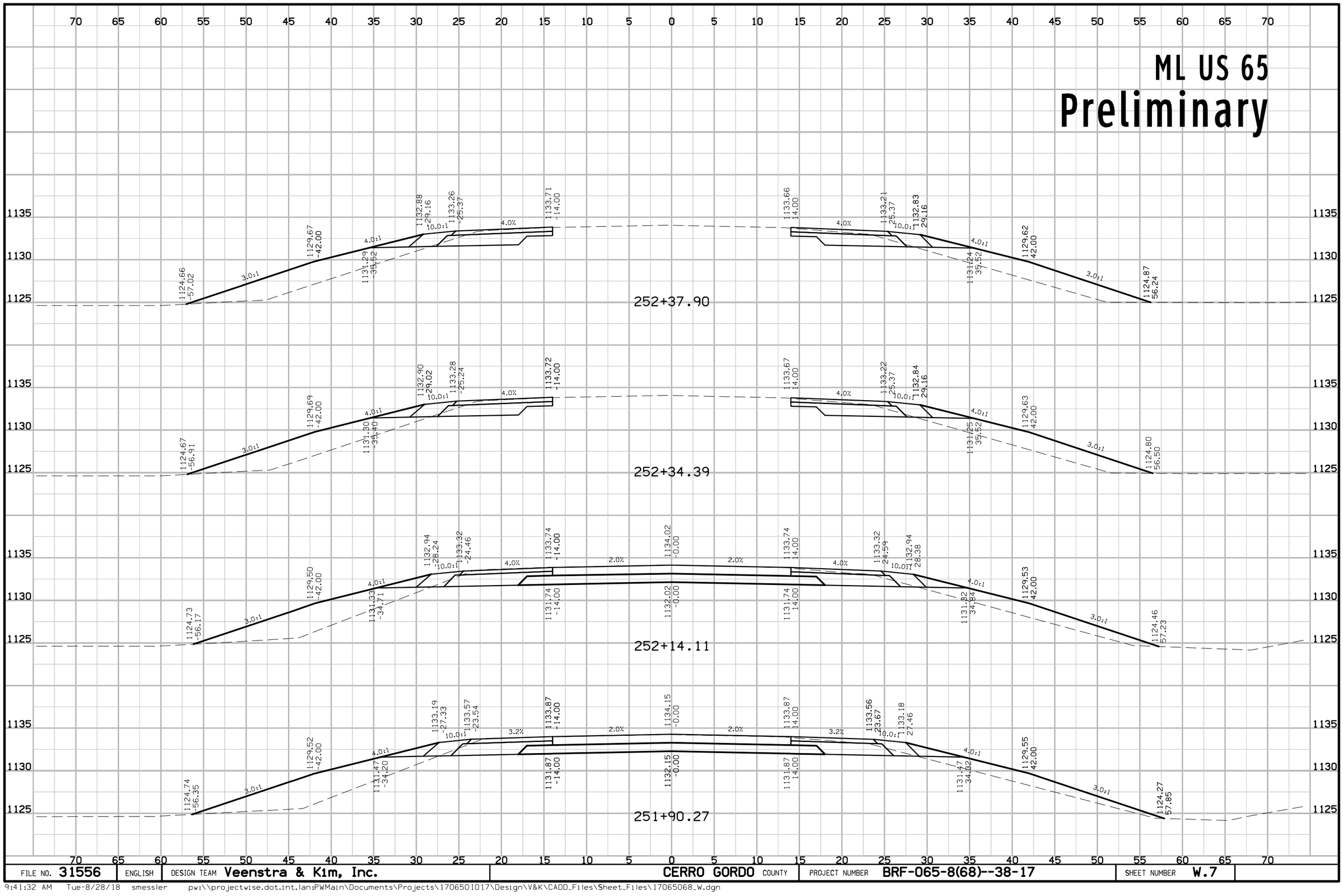
ML US 65
Preliminary



FILE NO. 31556	ENGLISH	DESIGN TEAM Veenstra & Kim, Inc.	CERRO GORDO COUNTY	PROJECT NUMBER BRF-065-8(68)--38-17	SHEET NUMBER W.7

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ML US 65

Preliminary

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

1130 1125 1135

252+90.00

1128.61 -35.61 3.0:1 1133.14 -22.03 4.0% 1133.46 -14.00

252+84.62

1125.01 -47.92 3.0:1 1131.23 -29.11 1132.71 24.66 4.0:1 1133.14 -22.95 4.0% 1133.53 -14.00 1133.43 14.00 4.0% 1133.27 18.00 10.0:1 1132.87 22.01 4.0:1 1132.74 22.39

252+81.11

1124.62 -56.97 3.0:1 1129.61 -42.00 4.0:1 1131.23 -36.52 1132.82 -29.16 10.0:1 1133.20 -25.37 4.0% 1133.65 -14.00 1133.60 14.00 4.0% 1133.16 24.92 10.0:1 1132.83 28.23 4.0:1 1131.19 34.79 1130.04 39.39 3.0:1 1124.94 54.69

252+57.90

1124.63 -57.82 3.0:1 1129.62 -42.00 4.0:1 1131.24 -36.52 1132.83 -29.16 10.0:1 1133.21 -25.37 4.0% 1133.66 -14.00 1133.61 14.00 4.0% 1133.16 25.37 10.0:1 1132.78 29.16 4.0:1 1131.19 37.52 1129.57 41.99 3.0:1 1124.94 55.89

252+54.39

FILE NO. 31556	ENGLISH	DESIGN TEAM Veenstra & Kim, Inc.	CERRO GORDO COUNTY	PROJECT NUMBER BRF-065-8(68)--38-17	SHEET NUMBER W.8

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