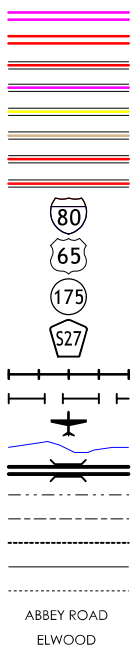


RELET DATE
1-22-2020
REVETMENT
MB-092-4(502)94--77-61

MADISON COUNTY
MADISON COUNTY

LEGEND

INTERSTATE HIGHWAY
PRIMARY HIGHWAY-DIVIDED
PRIMARY HIGHWAY
PORTLAND CEMENT CONCRETE ROAD
ASPHALT ROAD
BITUMINOUS ROAD
GRAVEL ROAD
EARTHEN ROAD
INTERSTATE HIGHWAY
UNITED STATES HIGHWAY
STATE HIGHWAY
COUNTY HIGHWAY
RAILROAD
PIPELINE
AIRPORT
HYDROLOGY
BRIDGE
STATE BOUNDARY
COUNTY BOUNDARY
CORPORATE BOUNDARY
TOWNSHIP LINE
SECTION LINE
ROAD NAMES
UNINCORPORATED PLACE



PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM

MADISON COUNTY

REVETMENT

IA 92 OVER MIDDLE RIVER

2.0 MI.W.OF CO.RD.P-53

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
6

PROJECT NUMBER

MB-092-4(502)94--77-61

R.O.W. PROJECT NUMBER

PROJECT IDENTIFICATION NUMBER

19-61-092-010

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	BRIDGE ESTIMATE SHEET
3	SITUATION PLAN
C.I	ESTIMATE SHEET FOR ROADWAY
A.I-J.I	ROADWAY SHEETS

REVISIONS

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED
ON SHEET NUMBER C.I



1-800-292-8989

www.iowaonecall.com



DESIGN DATA RURAL

2018 AADT 1,140 V.P.D.
TRUCKS 17 %

INDEX OF SEALS

SHEET NO.	NAME	TYPE
I	JOSHUA J. OPHEIM	STRUCTURAL
A.I	BRIAN J. BIRKLAND	ROADWAY

STRUCTURAL 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.

Signature Joshua J. Opheim Date 10-22-2019
Printed or Typed Name Joshua J. Opheim

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: SHEETS I-3

PROJECT DIRECTORY NAME: 6109201019

DESIGN TEAM WHKS
10/22/2019 8:42:09 AM wb

ENGLISH IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES

MADISON COUNTY PROJECT NUMBER MB-092-4(502)94--77-61

SHEET NUMBER I

L:\DEPT\6\8500.12-Bridge Painting\MADISON IA 92 SLOP PROT\DRAWINGS\WORKING\BRG.61092502.dgn 610DDDS000 11x17-pdf.pltcfgr

GENERAL NOTES:

THIS DESIGN IS FOR STREAMBANK AND BERM EROSION REPAIRS TO THE 210'-0 x 30' CONTINUOUS I-BEAM BRIDGE ON IA 92 OVER MIDDLE RIVER. ELECTRONIC COPIES OF THE ORIGINAL DESIGN PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR AS PART OF THE E-FILES SUPPLIED WITH THE CONTRACT DOCUMENTS.

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THE BRIDGE CONTRACTOR SHALL DRESS UP THE SLOPES AROUND THE WINGS WHICH ARE DISTURBED DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND NO EXTRA PAYMENT WILL BE MADE.

FAINT LINES ON PLANS INDICATE THE EXISTING STRUCTURE.

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE STARTING DATE.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

THE ROAD WILL BE OPEN TO TRAFFIC DURING CONSTRUCTION. SEE TRAFFIC CONTROL PLAN NOTE ON THIS SHEET.

RIP RAP NOTES:

SEE DESIGN SHEET 2 FOR SITUATION PLAN AND REVETMENT LIMITS.

THE BRIDGE BERM FORESLOPE SHALL BE COMPACTED AND SHAPED AS SHOWN ON THE SITUATION PLAN, AND AS DIRECTED BY THE ENGINEER. THE BERM FORESLOPE SHALL BE FIRM WHEN THE ENGINEERING FABRIC AND REVETMENT STONE ARE PLACED.

THE ENGINEERING FABRIC SHALL MEET THE REQUIREMENTS OF ARTICLE 4196.01, B, 3 OF THE STANDARD SPECIFICATIONS. IF THE ENGINEERING FABRIC IS LAPPED, THE LAPS SHALL BE A MINIMUM OF ONE FOOT IN LENGTH, SHINGLE FASHION, WITH UP SLOPE LAP PIECE ON TOP AND STAPLED FOR CONTINUITY.

THE REVETMENT STONE SHALL BE DEPOSITED, SPREAD, CONSOLIDATED, AND SHAPED BY MECHANICAL OR HAND METHODS THAT WILL PROVIDE UNIFORM SURFACE APPEARANCE.

THE BERM FORESLOPE SHAPING AND COMPACTING AND THE DISPOSAL OF EXCESS SOIL FROM SHAPING, SHALL BE CONSIDERED INCIDENTAL TO EXCAVATION.

SPECIFICATIONS:

DESIGN: AASHTO SERIES OF 2002.

CONSTRUCTION: 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.

ROADWAY QUANTITIES SHOWN ELSEWHERE IN THESE PLANS.

TRAFFIC CONTROL PLAN:
THE ROADWAY WILL BE OPEN TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN SHOWN ELSEWHERE IN THESE PLANS.



ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNITS	QUANTITY	AS BUILT QUANTITY
1	2104-2713020	EXCAVATION, CLASS 13, CHANNEL	CY	156.7	
2	2507-3250005	ENGINEERING FABRIC	SY	391.6	
3	2507-6800061	REVETMENT, CLASS E	TON	152.1	
4	2507-8029000	EROSION STONE	TON	80.0	
5	2533-4980005	MOBILIZATION	LS	1.00	

ESTIMATE REFERENCE INFORMATION

DATA LISTED BELOW IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

ITEM NO.	DESCRIPTION
1	INCLUDES ALL WORK IN PREPARATION OF GRADE FOR PLACEMENT OF REVETMENT. THIS INCLUDES EXCAVATION TO THE LIMITS SHOWN ON THE DRAWINGS, BACKFILL UTILIZING EXCAVATED MATERIAL, AND DISPOSAL OF EXCESS EXCAVATED MATERIAL. THE BOUNDING LIMITS IN ACCORDANCE WITH ARTICLE 2402.04, B, OF THE STANDARD SPECIFICATIONS DO NOT APPLY. EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF OF THE PROJECT SITE.
2	ENGINEERING FABRIC SHALL BE MATERIAL AS SPECIFIED FOR EMBANKMENT EROSION CONTROL IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.
3	ESTIMATED AT 1.4 TON/CY. NO ADDITIONAL PAYMENT WILL BE MADE IF RECYCLED PCC OR BROKEN CONCRETE IS USED.
4	ESTIMATED AT 1.6 TON/CY.

DESIGN HISTORY AT THIS SITE (INCLUDES THIS DESIGN)

DES. NO.	TYPE OF WORK
965	ORIGINAL DESIGN
991	RETROFIT RAIL
194	BRIDGE DECK OVERLAY
---	REVETMENT

DESIGN FOR REPAIRS TO A 0° SKEW

210'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGE

64'-0 END SPANS82'-0 INTERIOR SPAN

ESTIMATED QUANTITIES & NOTES

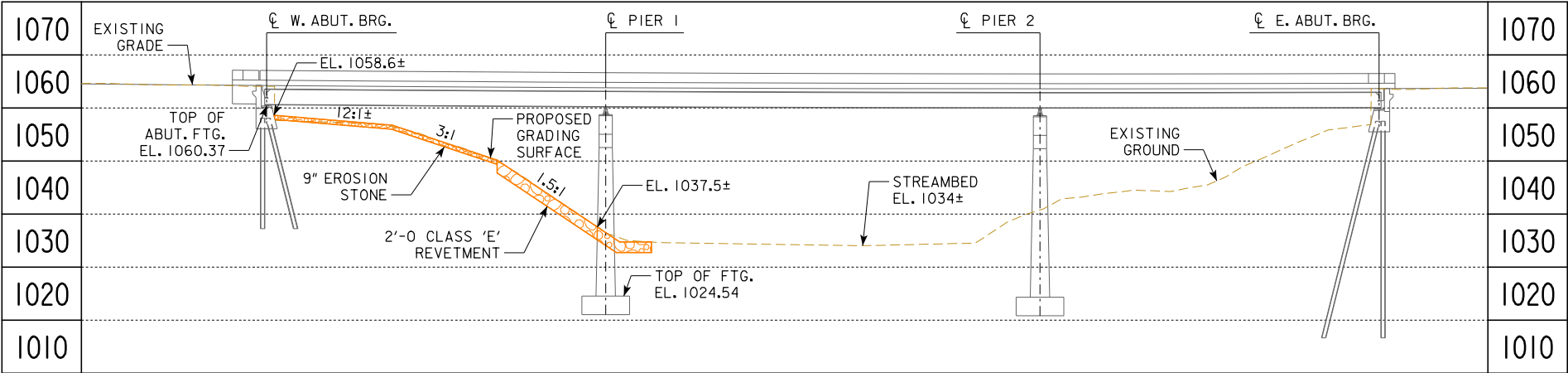
STA. 222+67.00 (IA 92)NOVEMBER, 2019

MADISON COUNTY

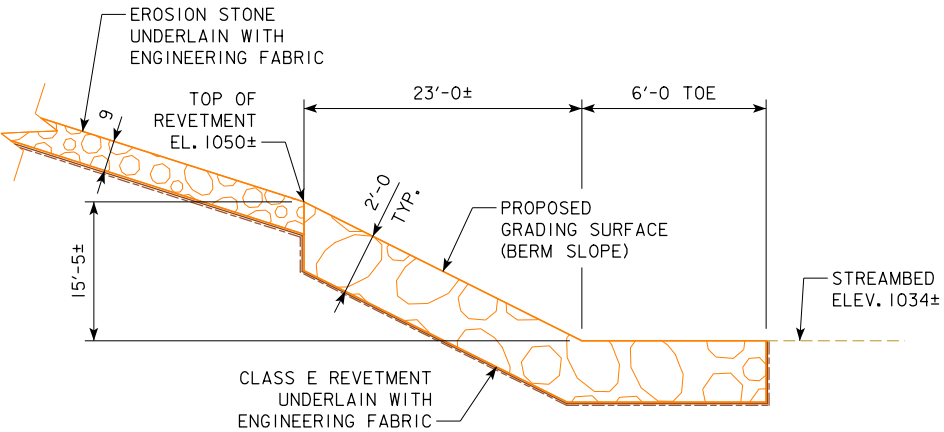
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2FILE NO. DESIGN NO.

BENCH MARK NO. 17: STA. 221+61 I.S.H.C. B.M. IN RT. CURB SECTION OF WEST ABUTMENT BACKWALL OF MIDDLE RIVER BRIDGE. ELEV. = 1065.06.



LONGITUDINAL SECTION ALONG CL IA 92



SECTION THRU BERM LINING (EMBEDDED) - WEST ABUT.

REVETMENT QUANTITIES				
REVETMENT TYPE - LOCATION	EROSION STONE (TON)	REVETMENT CL. E (TON)	ENGINEERING FABRIC (SY)	CLASS 13 EXCAV. (CY)
BERM LINING - WEST BERM ABOVE ELEV. 1050	80.0	0.0	205.8	49.4
BERM LINING - WEST BERM BELOW ELEV. 1050	0.0	127.0	147.7	89.6
BERM LINING - TOE	0.0	25.1	38.1	17.7
TOTALS	80.0	152.1	391.6	156.7

REVETMENT ESTIMATED AT 1.4 TON/CY
EROSION STONE ESTIMATED AT 1.6 TON/CY

HYDRAULIC DATA

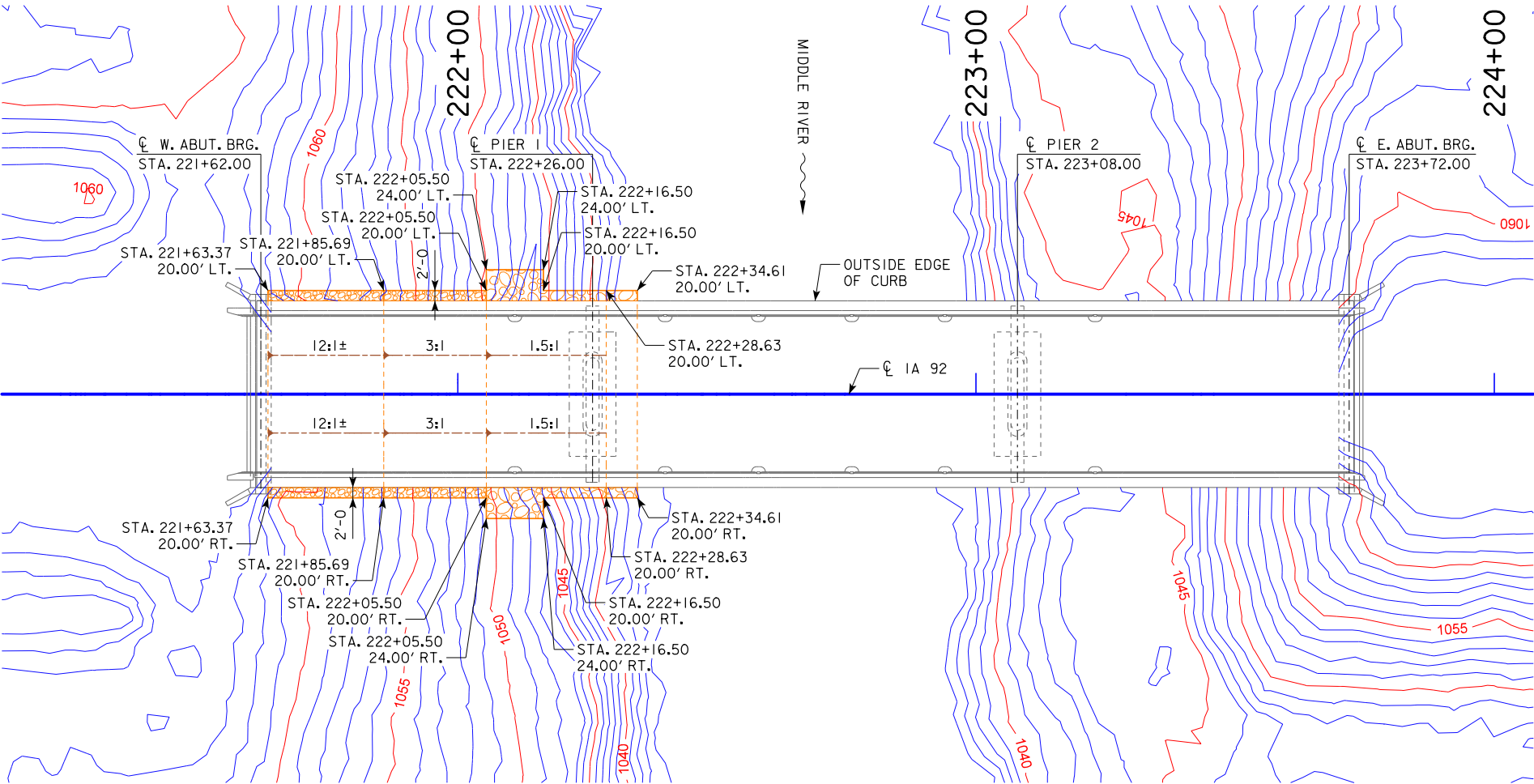
DRAINAGE AREA = 156 SQ. MI.
DESIGN DISCHARGE = 12,500 CFS
(BASED ON ORIGINAL PLANS)

LOCATION

IA 92 OVER MIDDLE RIVER
T-75N R-29W
SECTION 5
WEBSTER TOWNSHIP
MADISON COUNTY
FHWA NO. 34810
BRIDGE MAINT. NO. 6194.4S092
LATITUDE 41.316873°
LONGITUDE -94.213869°

TRAFFIC ESTIMATE

2018 AADT 1,140 V.P.D.
TRUCKS 17 %



SITUATION PLAN

NOTE:
STATIONING AND ELEVATION DATUM BASED ON ORIGINAL PLANS.
CONTOURS ON SITUATION PLAN REPRESENT EXISTING GROUND.



DESIGN FOR REPAIRS TO A 0° SKEW
210'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGE
64'-0 END SPANS 82'-0 INTERIOR SPAN
SITUATION PLAN
STA. 222+67.00 (IA 92) NOVEMBER, 2019
MADISON COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 2 FILE NO. DESIGN NO.



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Roadway Title Sheet
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Roadway Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
C.1	General Notes
C.1	Tabulations
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
	* Color Plan Sheets

	I hereby certify that this plan 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.	
	<u>Brian J. Birkland</u> Signature	<u>10-18-19</u> Date
	<u>Brian J. Birkland</u> Printed or Typed Name	
	My license renewal date is December 31, 2020	

Pages or sheets covered by this seal: A.1, C.1, J.1

100-1D 10-18-05					
PROJECT DESCRIPTION					
This project is for placing revetment protection for the berm foreslope at the west abutment of the bridge on IA 92 over the Middle River, 2.0 mi. west of County Road P53.					

100-0A 10-28-97					
ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)					
Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2528-8445110	TRAFFIC CONTROL	LS	1.00	
2	2528-8445113	FLAGGERS	EACH	See Proposal	
3	2602-0000212	FLOATING SILT CURTAIN (HANGING)	LF	100.0	
4	2602-0000240	MAINTENANCE OF FLOATING SILT CURTAIN	LF	50.0	
5	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	200.0	
6	2602-0000350	REMOVAL OF PERMITER AND SLOPE SEDIMENT CONTROL DEVICE	LF	200.0	

100-4A 10-29-02		
ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description
1	2528-8445110	TRAFFIC CONTROL
-	-	Refer to Traffic Control Plan on Sheet J.1.
2	2528-8445113	FLAGGERS
-	-	This item is for use with Standard Road Plan TC-213.
3	2602-0000212	FLOATING SILT CURTAIN (HANGING)
4	2602-0000240	MAINTENANCE OF FLOATING SILT CURTAIN
		This item is for capturing sediment entering the water from construction activities.
		Refer to Developmental Specification DS-15019 and Standard Road Plan EC-202 for additional information.
		Item to be installed per the discretion of the Engineer.
-	-	Refer to Tab. 100-10.
5	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.
6	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE
		The tabulations include estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction.
		Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 25% additional quantity for field adjustments and replacements.
		Removal of devices may be completed for areas that have achieved 70% permanent growth, as approved by the Engineer. Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
-	-	Refer to Tab. 100-19.

105-4 10-18-11		
STANDARD ROAD PLANS		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
EC-202	10-21-14	Floating Silt Curtain
EC-204	04-18-17	Perimeter and Slope Sediment Control Devices
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-213	10-15-19	Lane Closure with Flaggers

100-19 04-19-16					
PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE					
Possible Standards: EC-204					
Location			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	Remarks
			LF	LF	
221+50.00	222+30.00	Rt.			80.0
221+50.00	222+30.00	Lt.			80.0
				Total	160.0
				25%	40.0
				Bid	200.0

232-3C 04-16-19	
EROSION CONTROL (NATIVE GRASS SEEDING)	
Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:	
SEED MIX:	
Big bluestem (Andropogon gerardii)	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 debarbed 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.	
Place seed according to the requirements of Article 4169.02 of the Standard Specifications.	
Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.	
Preparing the seedbed, furnishing and applying seed and mulch are incidental to mobilization and will not be paid for separately.	

232-3A 04-16-19	
EROSION CONTROL (RURAL SEEDING)	
Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:	
Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.	
Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.	
Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all 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 Nationwide Permit No. 3. 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.	

262-6 10-18-05	
UTILITIES (NOT A POINT 25 PROJECT)	
This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.	
(CTLIA01) CENTURYLINK Contact Name : Tom Sturmer Contact Phone: 720-578-8090 Contact Email: Thomas.sturmer@centurylink.com	
(MC1) VERIZON Contact Name : Dean Boyers Contact Phone: 469-886-4238 Contact Email: dean.boyers@verizon.com	
(SIR) SOUTHERN IOWA RURAL WATER ASSO Contact Name : Dan McIntosh Contact Phone: 641-782-5744 Contact Email: dmc@sirwa.org	
(T18) MEDIACOM CABLE Contact Name : SHANE SCHRADER Contact Phone: 712-314-1248 Contact Email: sschrader@mediacomcc.com	
(WCG) CENTURYLINK Contact Name : Tech On Duty Contact Phone: 877-366-8344 Contact Email: Nationalrelo@Centurylink.com	

100-10 10-21-14					
FLOATING SILT CURTAINS					
Refer to EC-202					
Station	Hanging	Containment	Clean-out (Containment)	Maintenance of Floating Silt Curtain	Remarks
	LF	LF	LF	LF	
222+45.00	100.0			50.0	

108-23A 08-01-08												
TRAFFIC CONTROL PLAN												
Traffic on Ia. 92 shall be maintained at all times. Traffic control shall consist of shoulder closures in accordance with Standard troad Plan TC-202. Lane closures with flaggers may be required occasionally and shall be in accordance with Standard Road Plan TC-213. Place a Road Work Ahead sign (W20-1) on 230th St. as it approaches Ia. 92. Construction not affecting traffic shall be in accordance with Standard Road Plan TC-1. The contractor shall coordinate traffic control with other projects in the area.												
108-25 10-21-14												
511 TRAVEL RESTRICTIONS												
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 92	Both	Madison	2.0 mi. West of Co. Rd. P53	Bridge over the Middle River	Traffic Control Device	34810	Horizontal	N/A	14'-6	N/A	N/A	
111-01 04-17-12												
COORDINATED OPERATIONS												
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.												
Project		Type of Work										
None provided												
FILE NO.	ENGLISH	DESIGN TEAM	WHKS & CO.			MADISON COUNTY		PROJECT NUMBER	MB-092-4(502)94--77-61		SHEET NUMBER	J.1

10/17/2019 3:57:19 PM bbirkland K:\8500.12\MadisonCo-IA92overMiddleRiver-SlopeProtection\Plans\61092502j01.xlsm