



# PLANS OF PROPOSED IMPROVEMENTS ON THE PRIMARY ROAD SYSTEM CLAYTON COUNTY BRIDGE DECK REPLACEMENT US 18 OVER NATURAL STREAM LOCATED 0.6 MILES W. OF E JCT. US 52

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.



REVISIONS

STANDARD ROAD PLANS STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER \_\_\_\_\_\_C.2 DESIGN DATA RURAL 2020 AADT \_\_\_\_\_\_3040 V.P.D TRUCKS \_\_\_\_\_\_7 %

CLAYTON COUNTY

			TOTAL SHEETS
		PROJEC	T NUMBER
		BRFN-018	-9(103)39-22
		R.O.W. PRO	DJECT NUMBER
		PROJECT IDENT	IFICATION NUMBER
-		12-2	2-018-020
		INDEX (	OF SHEETS
	NO.	DESCRIP	FION
ŀ	1	TITLE SHEET	
F	2	ESTIMATE SHEET	DESIGN 117
1	2-23	DESIGN 117 - BRI	DGE PLANS
-			
ŀ	C.1	BOADWAY SHEETS	OR ROADWAY
ŀ	A.1-J.1	ROADWAT SHEETS	
[			
-			
auts Below. Ill before you dig.			
	IN		EALS
	11		
JHEET NU.			
A.1	TAYLOR	R. THEULEN	ROADWAY DESIGN
		TURAL DES	
Anthony J.	I hereb by me am a c of the	by certify that this end or under my direct p duly licensed Professio State of lowa.	ineering document was prepared ersonal supervision and that I nal Engineer under the laws x/xx/20xx
19231	Stopat	ure	م+د

Printed or Typed Name

	, ,	
PROJECT NUMBER BRFN-018-9(103)39-22	SHEET NUMBER 1	

Anthony J. Bower

My license renewal date is December 31, 20xx

ESTIMATED BRIDGE QUANTITIES - DESIGN 117						
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUANTITY	
1.	2401-6750001	Removals, As per plan	LS	1.00		
2.	2402-2720000	Excavation, Class 20	CY	36		
3.	2403-0100010	Structural Concrete (Bridge)	CY	340.6		
4.	2404-7775005	Reinforcing steel, epoxy coated	LB	121974		
5.	2408-7800000	Structural steel	LB	1992		
6.	2414-6424110	Concrete barrier railing	LF	620.4		
7.	2507-2638650	Bridge wing armoring - Erosion stone	SY	24.0		
8.	2526-8285000	Construction Survey	LS	1.00		
9.	2533-4980005	Mobilization	LS	1.00		

## ESTIMATE REFERENCE INFORMATION

## ITEM NO.

 Includes items as described in the "General Notes" on Design Sheet 2 and "Removal Notes" on Design Sheet 4. Does not include removal of approach pavement and guardrail. Removal of scheduled items shall be in accordance with section 2401, of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the state.

DESCRIPTION

- Includes excavation at existing abutments. Includes furnishing and placing subdrains (including excavation) and subdrain outlets at abutments. Includes furnishing and placing special backfill at wingwalls.
- 3. Includes furnishing and placing concrete for deck, abutment diaphragms, and wingwalls. Includes cost to field drill holes in existing girder webs as shown on Design Sheet 8. Includes furnishing and placing water flooding, porous backfill, flooded backfill, and geotextile fabric. Includes all installation cost for dowels. Includes furnishing and placing all resilient joint filler required. Includes furnishing and installing 1 inch diameter plastic conduit in barrier ends.
- 5. Includes furnishing and placing shear studs and six deck drains.
- Includes furnishing and placing engineering fabric, erosion stone, and all required excavation, shaping, and compacting for wing armoring.

Roadway quantities shown on Sheet C.1

ENGLISH

9039



## Specifications:

TION

 $\boldsymbol{\alpha}$ 

S

 $\geq$ 

С

 $\mathbf{M}$ 

С

C

Ζ

ഗ

 $\mathbb{Z}$ 

1

S

S

 $\boldsymbol{\mathcal{M}}$ 

C

C  $\boldsymbol{\alpha}$ 

Design: AASHTO series of 2002.

Construction: Iowa Department of Transportation Standard Specifications, Supplemental Specifications, and Specifications, Supplemental Specifications, Applicable Specifications, Supplemental Specifications, and Special Provisions shall apply to construction work on this project.

## Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO Standard Specifications for Highway Bridges, series of 2002.

Reinforcing steel in accordance with section 8, grade 60. Concrete in accordance with section 8, f'c = 4.0 ksi, including bridge deck concrete. Structural steel in accordance with section 10 ASTM A709 grade 36.

## General Notes:

This design is for the bridge deck replacement of the existing 292'-0" x 32'-0" continuous welded plate girder bridge on US18 over a natural steam. Electronic plans of the existing structure are available to the Contractor as part of the E-Files supplied with the contract documents.

Dimensions shown on these plans are based on the original design plans (Design No. 165). All dimensions and details shown in these plans pertinent to new construction shall be verified in the field by the Contractor before starting construction. The Contractor shall note that the bench mark is located on the portion of the structure that will be removed during construction. Therefore, the benchmark will need to be relocated by the contractor prior to removal operations.

The bridge deck is designed for HS-20 loading with no allowance for future wearing surface.

Faint lines on plans indicate existing portions of the bridge.

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.

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

Keyway dimensions shown on the plans are based on nominal dimensions unless stated otherwise. In addition, the bevel used on the keyway shall be limited to a maximum of 10 degrees from vertical.

The road will be closed to traffic during construction. See traffic control plan note.

It is the intent of this design to use the existing plate girders, existing intermediate diaphragms, existing pier diaphragms, and existing abutment diaphragms as constructed.

A scrape sample was taken from an area of this bridge to get an indication of the existence of and level of total lead and total chromium. Analysis of total lead on this sample was \_\_\_\_ ppm parts per million (ppm). Analysis of total chromium on this sample was \_\_\_\_ ppm. 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.

Concrete removal shall be initiated with a  $\frac{3}{4}$ " saw cut wherever possible.

"Removals as per plan" include all costs associated with removing the full deck, barrier rails, railing, abutment backwall, and expansion joint. Removals shall be in accordance with section 2401 of the specifications. Any damage to other portions of the existing structure not noted for removal shall be the responsibility of the Bridge Contractor and shall be repaired at no extra cost to the State.

It is the intent of these plans to reuse the existing steel shear lugs on top of the girders. The Contractor shall exercise care not to damage these lugs during the concrete deck removal operation. Any replacement of damaged shear lugs will be as directed by the Engineer and repaired at no cost to the State.

The existing guardrail at this bridge is to remain the property of the Iowa DOT. The Contractor shall remove the existing guardrail and deliver to the Iowa DOT Elkader maintenance yard. See the road plans for bid item, tabulation and note.

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. Work shall be considered incidental and no extra payment will be made.

The Contractor is responsible to provide sufficient temporary bracing to minimize lateral deflection and rotation of exterior steel beams during deck placement. Lateral deflection and rotation of exterior beams may result in thin decks and an upwards shift in bar mats which can decrease concrete cover. Partially or fully installed permanent bracing as shown in these design plans shall not be assumed sufficient to minimize lateral deflection and rotation of exterior beams during deck placement. Temporary bracing shall not be welded to the steel beams or its attachments including the studs.

These bridge plans label all reinforcing steel with English notation (5al is  $\frac{5}{18}$  inch diameter bar). English reinforcing steel received in the field may display the following "bar designation." The "bar designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

English size	3	4	5	6	7	8	9	10	11
Bar designation	10	13	16	19	22	25	29	32	36

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

SHOP DR/ TABLE BE ACCORDA SUBMITTA WITH 110 CONSTRU SHOP DR/ (Paren) Co
Example:

1	
2	

Shop dra the table
in accord

convention:

1	Demo
2	Temp
3	
4	

DESIGN HISTORY AT THIS SITE						
Des. No.	Type of work					
165	Original design					
186	Retrofit rails					

Traffic control plan Note: US18 will be closed to thru traffic. Refer to the traffic control plan shown on roadway sheet J.1.

FILE NO. 31200 11:13:45 PM 4/11/2022 9039

ENGLISH DESIGN TEAM Stanley Consultants Inc

c:\pw work\pwmain\anthony.bower\d1441285\ORD\_22018103\_117\_20480\_Z03.dgn

CLAYTON COUNTY PROJECT NUMBER BRFN-018-9(103)--39-

## SHOP DRAWING SUBMITTALS

AWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS SHOWN IN THE ELOW. (NOTE ADDITIONAL SHOP DRAWINGS MAY BE REQUIRED IN ANCE WITH ARTICLE 1105.03 OF THE STANDARD SPECIFICATIONS.) AL REQUIREMENTS FOR SHOP DRAWINGS SHOULD BE IN ACCORDANCE 05.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE ICTION OF THE IOWA DEPARTMENT OF TRANSPORTATION. AWINGS SHALL BE SUBMITTED WITH THE FOLLOWING NAMING CONVENTION: County\_DesignNumber\_SubmittelDescription.pdf (090)\_Blackhawk\_Design915\_DeckDrains.pdf

# Shop Drawing Submittals

wings shall be submitted for the following items shown in below. (Note additional shop drawings may be required dance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for shop drawings should be in accordance with Article 1105.03, of the Standard Specifications, for Highway and Bridge Construction of the Iowa DOT.

Shop drawings shall be submitted with the following naming

(Paren)\_County\_DesignNumber\_SubmittalDescription.pdf Example: (090)\_BlackHawk\_Design915\_DeckDrains.pdf

orary bracing

	Design For 45° Skew (RA) 292'-0'' X 32'-0'' CONTINUOUS WELDED GIRDER BRIDGE							
	64'-0" End Spans			82 -0" Interior Span				
		GENERA	l not	ES				
	STA. 752+56.00	(US 18)	Letting	Date December 22, 2022				
		CLAYTON	I Coui	nty				
	I	OWA DEPARTMENT	OF TRANSP	ORTATION				
	Design No. 117	Design Sheet N	o.2 of 22	FHWA No. 20480				
22		SHEET NUMBER	3					



## SITUATION PLAN

Repair shall consist of:

- (1)Remove and reconstruct the bridge deck.
- (2) Remove existing backwalls and expansion joints and replace with semi-integral abutments at both ends of bridge. Include construction of new wings for new barrier rail end sections. Include new subdrain behind the abutment diaphragms.
- (3) Place bridge end drains at the west end of the bridge.
- (4) Remove and replace approaches with 70' standard bridge approaches.
- (5) Remove and replace the existing guardrails and install paved shoulders at guardrails in accordance with current standards.

# TRAFFIC ESTIMATE

2020 AADT 3040 V.P.D. TRUCKS 27%

FILE NO. 31200 11:13:59 PM 4/11/2022

DESIGN TEAM Stanley Consultants Inc. ENGLISH

9039

c:\pw work\pwmain\anthony.bower\d1441285\ORD 22018103 117 20480 Z03.dgn





## ABUTMENT REAR BACKWALL ELEVATION

## REMOVAL NOTES:

Hatched areas indicate concrete removals.

This sheet shows details of the partial superstructure removal on the existing bridge. All partial removals shall be in accordance with Section 2401 of the Standard Specifications. All such removals shall be to neat saw cuts to provide clean straight surfaces at interfaces between new concrete and remaining concrete. The removal shall be done in a manner which will prevent any damage to the existing structure to remain. The Contractor shall assume full responsibility for any damage caused, and shall repair any damaged area to its original condition, as directed by the Engineer, at the Contractor's expense. Any existing reinforcing steel which is to be "saved" that is exposed during removal operations is to be carefully protected, cleaned and incorporated into new construction unless noted otherwise.

Start all removals with  $\frac{3}{4}$ " sawcut.



**NSTRUCTION** C  $\bigcirc$ Ц  $\bigcirc$ Ô Ž S AN Edge Of Deck (Be**l**ow) Р S Raised Curbs To Be Removed (Typ.) S ш  $\boldsymbol{\alpha}$ Existing Wing To Remain (Typ.) C  $\bigcirc$ Cut Bars Flush With Concrete To Remain (Typ.)  $\mathbf{\mathcal{L}}$ Δ



9039





9039



22	SHEET NUMBER	7	REVISED

**ONSTRUCTION**  $\bigcirc$  $\mathbf{\mathcal{L}}$ 0 ⊢ Ö Ž -ANS, РГ S S ш J Õ Ц Ц



REAR ELEVATION AT ABUTMENT

FILE NO. 31200	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	CLAYTON COUNTY	PROJECT NUMBER BRFN-018-9(103)
11:14:06 PM 4/11/2022	9039	c:\pw_work\pwmain\anthony.bower\d1441285\ORD_22018103_117_20480_Z03.dgn		

Notes:

No diaphragm concrete shall be placed under steel girders. Bearings shall be free to slide and rotate.

See Design Sheet 8 for Sections A-A and B-B.

See Design Sheet 9 for Abutment Notes, Bent Bar Details, and Bar List.









SECTION B-B



## BENT BAR DETAILS

## ABUTMENT NOTES:

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

The cost of resilient joint filler is to be included in the price bid for "Structural Concrete (Bridge)"

If necessary to prevent damage to the end of the bridge deck from construction equipment, an appropriate method of protection approved by the Engineer shall be provided by the Bridge Contractor at no extra cost to the State.



FILE NO.	31200
11:14:08 PM	4/11/2022

R		FORCING BAR LIST - OI	NE A	BU		JT				
•	BAR		SHAPE	NO.	LENGTH	VEIGHT				
	6d1	Abut Diaph Longit		14	25 -6	536				
	5d2	Paving Notch Longit		4	22'-6"	135				
	6d3	Abut Diaph - Longit		3	11 1	50				
	5d5	Abut. Diaph ends Abut. Diaph at girders		12	3'-6"	76 58				
				10						
					10:5					
	6g1	Abut. Diaph. Hoop		33	10'-2"	504				
5	6g2	Abut Diaph. Bend		41	9-0 8'-0"	96				
R,	6g4	Abut. Diaph. Tie - Ends	Ū	8	11'-6"	138				
$\triangleleft$	5g5	Abut. Diaph. Bend - at girders	Г	8	3'-6 <b>"</b>	29				
മ	5g6	Abut. Diaph Ends		4	4'-6"	19				
$\Box$	5k1	Paving Notch - Horiz		43	4'-4"	194				
Ш	5k2	Paving Notch - Bend		43	4'-9"	213				
$\exists$					_					
õ	5h2	Abut. Wing - Horiz.		24	6'-0"	150				
$\cup$										
$\succ$										
×										
0										
-										
		DEINEODOING STEEL EDOXY CO.		OTAL	(LDC.)	2702				
		KEINFORCING STEEL EFORT COA	ATED - T	OTAL	(LD3.)	2795				
	Note: Concrete quantity for abutment diaphragms included in the Superstructure Concrete shown on Design Sheet 12.									
		Design For 45° Skew	(RA)							
		292'-0'' X 32'-0'' CC	JNT	NU	UUS					
		WELDED GIRDER	BR	[DC	ΞE					
	6	4'-0" End Spans		82'-0	" Interior	Span				
		ABUTMENT DE	TAIL	S						
	S	TA. 752+56.00 (US 18)	ng Date	Dece	mber 22,	2022				
		<b>ΓΙΑΥΤΟΝ Γ</b> Ω	untv	,						
		IOWA DEPARTMENT OF TRAN	ISPORTA	TION						
	De	esign No. 117 Design Sheet No. 9 of 2	2	FHW	'A No. 20	480				

SHEET NUMBER

10

•	2	2	



11:14:10 PM 4/11/2022

9039

NFORCING BAR LIST -	S.W	1 &	N.E. \	WING
	SHAPE	NO.	LENGTH	WEIGHT
zontal Back Face		12	6'-8	83
zontal Traffic Face		12	6'-9	84
cal Both Faces		32	7'-7	253
REINFORCING STEEL EPOXY	COATE	о <b>-</b> тот	AL ( LBS. )	420
BENT BAR DE	TAIL	S		
$\begin{array}{c} 6'-8"\\ \hline 2'\cdot0"\\ \hline 0\\ \hline$	10", 10½"	er	<u>/</u>	
CONCRETE PLACE	MEN	ΤS	UMMA	RY
CONCRETE	1			TOTAL
ne Abutment Wing				2.3
	ΤΟΤΑ	L (CU	YDS.)	2.3
et 11 for details of other abutment for wingwalls shall be backfilled with furnishing and placing special back the price bid for "Excavation, Class ill be made.	wingwa n speci fill is to 20". f	alls. albac be Noex	ckfill. tra	
Design For 292'-0'' X 32'- WELDED GI 64'-0" End Spans S.W. & N.E. ABU STA. 752+56.00 (US 18) CLAYTO IOWA DEPARTMEN Design No. 117 Design Sheet	45° Ske O'' ( RDE JT. \ Lei N C T OF TR No. 10	W (RA) CON R B WIN tting D OUN ANSPC of 22	RTATION FINDGE 82'-0" Ir G DET ate Decemb ty FRTATION FHWA I	IUS Iterior Span AILS er 22, 2022 No. 20480
-22 SHEET NUMBER	11			





	PCING BAR LIST		<u>م ۱</u>	SEV	
		SHAPE		J.L. V	WEIGHT
ontal	back face		12	6'-8"	83
contal	traffic face		12	6'-9"	84
cal bo	th faces		32	7'-7"	253
			52		235
	REINFORCING STEEL EPOXY C	COATED	) - TO	TAL ( LBS.	) 420
	BENT BAR DE	TAIL:	S		
	6'-8"	a			
	<sup>2</sup> '-0" 3'-	10"	>		
	$= 3^{3}/2^{10}$	10½"	17%"		
	$\frac{10^{"}}{10^{"}}$ D=3 <sup>3</sup> / <sub>4</sub> "				
	►				
imensi	ons are out to out. $D = pin$	diamete	er.		
	CONCRETE PLACE	MEN	ΤS	UMMA	۲Y
	CONCRETE				TOTAL
ne abu	tment wing				2.3
		ΤΟΤΑ	L (CU	. YDS.)	2.3
et 8 for for wi f furnis the p ill be r	or details of other abutment w ngwalls shall be backfilled with shing and placing special back rice bid for "Excavation, Class made.	vingwall h speci fill is to 20". I	ls. al bad o be No ex	ckfill. tra	
Ĩ					
	Design For 292'-0'' X 32'- WELDED GI 64'-0" End Spans S.E. & N.W. ABU STA. 752+56.00 (US 18) CLAYTC IOWA DEPARTMEN Design No. 117 Design Sheet	45° Ske 0'' 0 RDE JT. 1 Let 0N C IT OF TR No. 11	W (RA CON R B MIN tting D OUN ANSPC of 22	BRIDGE 82'-0" In G DET ate Decembe ty PRTATION FHWA N	US terior Span AILS r 22, 2022 o. 20480
-77	SHEET NUMBER	12			



	RE	INFORCING BAR LIST - E	BRID	GE	DEC	K
	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
	7a1	Deck Transv Top & Bott.		710	34'-10"	50,552
$\Box$	7a2	Deck Transv Top & Bott. Ends		82	VARIES	2,996
ш	7a3	Deck Transv Top & Bott. Ends		82	VARIES	2,947
F						
⊴	6b1	Deck Longit Top & Bott.		632	40'-0"	37,971
0	4b2	Deck - Acute Corners - Mid-height		10	20'-0"	134
$\odot$						
$\sim$	5j1	Deck Transv Top (at rail)		784	6'-3"	5,111
$\mathcal{S}$						
$\widehat{}$						
$\widetilde{}$						
ш						
		Reinforcing Steel Epox	y Coated	1 - To	tal (lbs.)	99,711

## CONCRETE PLACEMENT OUANTITIES

LOCATION	QUANTITY
Section 1, Deck & Abut. Diaph.	80.8
Section 2, Deck	43.4
Section 3, Deck	43.4
Section 4, Deck & Abut. Diaph.	80.8
Section 5, Deck	30.7
Section 6, Deck	30.7
Section 7, Deck	30.7
Total (cu. yds.)	340.6



Between Haunches

## TYP. DECK & HAUNCH DETAIL

\* Concrete haunch dimension measured between bottom of deck and top of top flange plate. Refer to haunch details shown elsewhere in these plans.

The maximum embedment of the edge of the top flange in the deck shall be  $\frac{1}{2}$ . Shear studs are to have a minimum penetration of 2" into the deck and be at least  $2\frac{1}{2}$ " clear of the top of the deck. These requirements were used in setting the maximum and minimum allowable field haunch values shown in the "Miscellaneous Data Table" shown elsewhere on these plans.





11.14.18 PM 4/11/2022

**STRUCTION** Z C Ц  $\bigcirc$ C Ž S AN Р S S ш  $\boldsymbol{\alpha}$ Ċ C  $\checkmark$ Δ





## SHEAR STUD DETAIL

 FILE NO. 31200
 ENGLISH
 DESIGN TEAM Stanley Consultants Inc.

 11:14:19 PM
 4/11/2022
 9039
 c:\pw work\pwmain\anthony.

9039 c:\pw\_work\pwmain\anthony.bower\d1441285\ORD\_22018103\_117\_20480\_Z03.dgn

CLAYTON COUNTY PROJECT NUMBER BRFN-018-9(103)--39-22





EXTERIOR GIRDER



EXTERIOR GIRDER



## SHEAR STUD DETAIL

 FILE NO. 31200
 ENGLISH
 DESIGN TEAM Stanley Consultants Inc.

 11:14:21 PM
 4/11/2022
 9039
 c:\pw work\pwmain\anthony.



Δ



LOCATION OF TOP OF SLAB ELEVATIONS

	TOP OF SLAB ELEVATIONS																					
	€ W. ABUT BRG						SPLICE			Q PIER NO. 1 SPLICE								SPLICE		_	Q PIER NO. 2	
LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
NORTH GUTTER LINE	1050.95	1050.99	1051.03	1051.07	1051.11	1051.15	1051.18	1051.21	1051.24	1051.27	1051.30	1051.33	1051.36	1051.40	1051.44	1051.47	1051.51	1051.54	1051.58	1051.61	1051.65	1051.68
GIRDER LINE A	1050.99	1051.03	1051.07	1051.11	1051.14	1051.18	1051.22	1051.25	1051.28	1051.31	1051.34	1051.37	1051.40	1051.44	1051.47	1051.51	1051.54	1051.58	1051.62	1051.65	1051.69	1051.72
GIRDER LINE B	1051.23	1051.27	1051.31	1051.35	1051.39	1051.42	1051.46	1051.49	1051.52	1051.55	1051.58	1051.61	1051.64	1051.68	1051.71	1051.75	1051.79	1051.82	1051.86	1051.89	1051.93	1051.96
CROWN LINE	1051.28	1051.32	1051.36	1051.39	1051.43	1051.47	1051.51	1051.54	1051.57	1051.60	1051.63	1051.66	1051.69	1051.72	1051.76	1051.80	1051.83	1051.87	1051.90	1051.94	1051.97	1052.01
Q US 18	1051.45	1051.49	1051.53	1051.57	1051.60	1051.64	1051.68	1051.71	1051.74	1051.77	1051.80	1051.83	1051.86	1051.90	1051.93	1051.97	1052.00	1052.04	1052.08	1052.11	1052.15	1052.18
CROWN LINE	1051.31	1051.35	1051.39	1051.42	1051.46	1051.50	1051.54	1051.57	1051.60	1051.63	1051.66	1051.69	1051.72	1051.75	1051.79	1051.83	1051.86	1051.90	1051.93	1051.97	1052.00	1052.04
GIRDER LINE C	1051.28	1051.32	1051.36	1051.40	1051.43	1051.47	1051.51	1051.54	1051.57	1051.60	1051.63	1051.66	1051.69	1051.73	1051.76	1051.80	1051.83	1051.87	1051.91	1051.94	1051.98	1052.01
GIRDER LINE D	1051.14	1051.17	1051.21	1051.25	1051.29	1051.33	1051.37	1051.40	1051.43	1051.46	1051.49	1051.52	1051.55	1051.58	1051.62	1051.65	1051.69	1051.73	1051.76	1051.80	1051.83	1051.87
SOUTH GUTTER LINE	1051.11	1051.15	1051.19	1051.23	1051.27	1051.31	1051.34	1051.37	1051.40	1051.43	1051.46	1051.49	1051.52	1051.56	1051.60	1051.63	1051.67	1051.70	1051.74	1051.77	1051.81	1051.84
			SPLICE						SPLICE			€ PIER NO. 3			SPLICE						€ N. ABUT. BRG	
LOCATION	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	
NORTH GUTTER LINE	1051.71	1051.74	1051.77	1051.81	1051.85	1051.88	1051.92	1051.95	1051.99	1052.02	1052.06	1052.09	1052.13	1052.17	1052.21	1052.25	1052.29	1052.32	1052.35	1052.38	1052.41	
GIRDER LINE A	1051.75	1051.78	1051.81	1051.85	1051.88	1051.92	1051.95	1051.99	1052.03	1052.06	1052.10	1052.13	1052.17	1052.21	1052.25	1052.28	1052.32	1052.36	1052.39	1052.42	1052.45	
GIRDER LINE B	1051.99	1052.02	1052.05	1052.09	1052.12	1052.16	1052.20	1052.23	1052.27	1052.30	1052.34	1052.37	1052.41	1052.45	1052.49	1052.53	1052.56	1052.60	1052.63	1052.66	1052.69	
CROWN LINE	1052.04	1052.07	1052.10	1052.13	1052.17	1052.21	1052.24	1052.28	1052.31	1052.35	1052.38	1052.42	1052.46	1052.50	1052.53	1052.57	1052.61	1052.65	1052.68	1052.71	1052.74	
ፍ US 18	1052.21	1052.24	1052.27	1052.31	1052.34	1052.38	1052.41	1052.45	1052.49	1052.52	1052.56	1052.59	1052.63	1052.67	1052.71	1052.74	1052.78	1052.82	1052.85	1052.88	1052.91	
CROWN LINE	1052.07	1052.10	1052.13	1052.16	1052.20	1052.24	1052.27	1052.31	1052.34	1052.38	1052.41	1052.45	1052.49	1052.53	1052.56	1052.60	1052.64	1052.68	1052.71	1052.74	1052.77	
GIRDER LINE C	1052.04	1052.07	1052.10	1052.14	1052.17	1052.21	1052.24	1052.28	1052.32	1052.35	1052.39	1052.42	1052.46	1052.50	1052.54	1052.57	1052.61	1052.65	1052.68	1052.71	1052.74	
GIRDER LINE D	1051.90	1051.93	1051.96	1051.99	1052.03	1052.06	1052.10	1052.14	1052.17	1052.21	1052.24	1052.28	1052.31	1052.35	1052.39	1052.43	1052.47	1052.51	1052.54	1052.57	1052.60	
SOUTH GUTTER LINE	1051.87	1051.90	1051.93	1051.97	1052.01	1052.04	1052.08	1052.11	1052.15	1052.18	1052.22	1052.25	1052.29	1052.33	1052.37	1052.41	1052.45	1052.48	1052.51	1052.54	1052.57	



ENGLISH	DESIGN TEAM Stanley Consultants Inc.

FILE NO. 31200 11:14:23 PM 4/11/2022

9039

c:\pw work\pwmain\anthony.bower\d1441285\ORD 22018103 117 20480 Z03.dgn

	TABLE OF GIRDER LINE HAUNCH ELEVATIONS																					
GIRDER LINE     G. W. ABUT. BRG.     SPLICE     Q. PIER NO. 1     SPLICE													SPLICE			Ç PIER NO. 2						
	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	LINE 20	LINE 21	LINE 22
GIRDER LINE A	1050.32	1050.37	1050.42	1050.47	1050.50	1050.54	1050.57	1050.59	1050.61	1050.64	1050.68	1050.72	1050.75	1050.79	1050.83	1050.87	1050.90	1050.93	1050.97	1051.00	1051.02	1051.05
GIRDER LINE B	1050.57	1050.62	1050.66	1050.66	1050.75	1050.78	1050.81	1050.83	1050.86	1050.89	1050.92	1050.96	1050.99	1051.03	1051.07	1051.12	1051.15	1051.18	1051.18	1051.24	1051.27	1051.30
GIRDER LINE C	1050.61	1050.66	1050.71	1050.71	1050.79	1050.83	1050.83	1050.88	1050.90	1050.93	1050.93	1051.01	1051.04	1051.08	1051.12	1051.16	1051.19	1051.22	1051.26	1051.29	1051.31	1051.34
GIRDER LINE D	1050.47	1050.52	1050.56	1050.56	1050.65	1050.68	1050.71	1050.73	1050.76	1050.79	1050.79	1050.86	1050.90	1050.94	1050.98	1051.02	1051.05	1051.08	1051.11	1051.14	1051.17	1051.20
GIRDER LINE			SPLICE						SPLICE			Q PIER NO. 3						SPLICE			€ N. ABUT. BRG	
	LINE 23	LINE 24	LINE 25	LINE 26	LINE 27	LINE 28	LINE 29	LINE 30	LINE 31	LINE 32	LINE 33	LINE 34	LINE 35	LINE 36	LINE 37	LINE 38	LINE 39	LINE 40	LINE 41	LINE 42	LINE 43	
GIRDER LINE A	1051.09	1051.14	1051.18	1051.22	1051.26	1051.30	1051.33	1051.36	1051.39	1051.42	1051.44	1051.46	1051.50	1051.55	1051.59	1051.64	1051.68	1051.72	1051.74	1051.77	1051.78	
GIRDER LINE B	1051.34	1051.38	1051.42	1051.46	1051.50	1051.54	1051.57	1051.60	1051.63	1051.66	1051.68	1051.71	1051.74	1051.79	1051.83	1051.88	1051.92	1051.96	1051.98	1052.01	1052.03	
GIRDER LINE C	1051.38	1051.43	1051.47	1051.51	1051.55	1051.59	1051.62	1051.65	1051.68	1051.71	1051.73	1051.75	1051.79	1051.84	1051.88	1051.93	1051.97	1052.01	1052.03	1052.06	1052.07	
GIRDER LINE D	1051.24	1051.28	1051.32	1051.36	1051.40	1051.44	1051.47	1051.50	1051.54	1051.56	1051.58	1051.61	1051.65	1051.69	1051.74	1051.78	1051.83	1051.87	1051.89	1051.91	1051.93	

								MISCI	ELLAN	EOUS	DATA	TABLE											
ت لان W. GIRDER LINE Abut. Brg								SPLICE Q_ PIER NO. 1						SPLICE					SPLICE				C PIER
		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	LINE 20	LINE 21	LINE 22
ANTICIPATED DEFLECTION DUE TO SLAB (`IN.`)	ALL	0	1/8	3/16	5/16	5/16	1⁄4	1/8	1/16	0	0	1/16	1/8	3/16	1⁄4	5/16	3⁄8	5/16	1⁄4	3/16	1/8	1/16	0
CROSS SLOPE ADJUSTMENTS (`IN.`)	ALL											1/16											
ALLOWABLE	LIOWABLE MIN. ALL 0 0 (0.000)																						
FIELD HAUNCH (`IN. & FT.`)	MAX. ALL											3 (0.250)											
	GIRDER LINE			SPLICE		SPLICE							€ PIER NO. 3						SPLICE			Q N. Abut Brg.	
		LINE 23	LINE 24	LINE 25	LINE 26	LINE 27	LINE 28	LINE 29	LINE 30	LINE 31	LINE 32	LINE 33	LINE 34	LINE 35	LINE 36	LINE 37	LINE 38	LINE 39	LINE 40	LINE 41	LINE 42	LINE 43	
ANTICIPATED DEFLECTION DUE TO SLAB (`IN.`)	ALL	1/16	1⁄8	3/16	1⁄4	5/16	3⁄8	<sup>5</sup> /16	1⁄4	3/16	1/8	1/16	0	0	1/16	1⁄8	1⁄4	5/16	5/16	3/16	1/8	0	
CROSS SLOPE ADJUSTMENTS (`IN.`)	ALL <sup>1</sup> / <sub>16</sub>																						
ALLOWABLE	MIN. ALL 0 (0.000)																						
FIELD HAUNCH (`IN. & FT.`)	MAX. ALL											3 (0.250)											



9039

c:\pw\_work\pwmain\anthony.bower\d1441285\ORD\_22018103\_117\_20480\_Z03.dgn



- 3. Cost of the joint sealer and bond breaker shall be considered incidental to other
- 4. All barrier rail reinforcing steel is to be epoxy coated as shown or noted.
- 5. The concrete barrier rail is to be bid on a lineal foot basis. The number of lineal feet of barrier rail installed will be paid for at the contract price per lineal foot based on plan quantities. Price bid for concrete barrier railing shall be full compensation for furnishing all material, excluding reinforcing steel, and all of the equipment and labor required to erect the rail in accordance with these plans and current
- 6. The joint sealer shall be light gray nonsag latex caulking sealer marketed for outdoor use. No testing or certification is required.
- 7. Top of the barrier rail is to be parallel to the theoretical Q grade.
- 8. Cross sectional area of the standard section of the barrier rail = 2.84 square feet.
- 9. Concrete barrier rails placed using the slipform method will require the use of a Class BR concrete in accordance with Article 2513.03a of the Standard Specification. Cast-inplace barrier rails shall use Class C mix. Class D concrete is not permitted for concrete barrier rails (`cast-in-place or slipformed method`).



Denotes the maximum value for this dimension. this dimension may vary due to construction inaccuracies.

FILE NO. 31	1200	ENGLISH	DESIGN TEAM Stanley Consultants Inc.
11:14:27 PM	4/11/2022	9039	c.\pw_work\pwmain\anthony_bower\d1441285\ORD_22018103_117_20480_Z03.dgn

FPO	XY	REINE	57		O B	ΔF	RRIF	R	RAII	5
ECTION	BAR				0 0,		SHAPE	NO	LENGTH	WEIGHT
	5c1	Vertical				_	N	588	5-11	3,629
	5c2	Vertical					5	588	6'-0"	3,679
ION										
FAND						_				
5 0	5d1	Longitudin	al				—	144	39'-0"	5,857
						_				
							T	ΤΟΤΑΙ	. (LBS.)	13,165
		BEN	Т	BAR D	ETA	IL	S			
Note: All	dimen CC RAIL	sions are out DNCRET SECTION END SECTION		ut. D = pin dia PLACEN 2 @ 294.2' @	meter. ENT 0.1052 4		5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> 5 <sup>1/2</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> 5 <sup>1/2</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> 5 <sup>1/2</sup> D=3 <sup>3</sup> C	P 2 P P P P P P P P P P P P P P P P P P		DTAL 51.9 2.6 64.5
C		RETE	ΒA	RRIFR R						
		ITEM	1			-		UNI		ANTITY
CONCRE	TE BAF	RIER RAILING	ì					L.F.	62	20.5
		<b>29</b> 64'-0" End Sj STA. 752+56 Design No. 1	2'-( WE <sup>Dans</sup> .00 I 17	Design Fo D'' X 32 LDED G ARRIER (US 18) CLAYT( OWA DEPARTME Design Sheet	IRDI RAIL NT OF T NO. 18 OF	kew C E R . [	(RA) ONT BF DET DET DET NSPORT	AIL AIL AIL ATIO FH	JOUS GE <sup>0"</sup> Interic S ember 22 N WA No. 2	<b>5</b> pr Span 2, 2022 0480
103)39-22				SHEET NUMBE	R 19	9				









\*

THE 6c4, 6c3, 5c5-10, 2`-`6d2 AND 4t1 BARS ARE TO BE PLACED WITH THE ABUTMENT WING. THE DETAILS FOR PLACEMENT ARE SHOWN ON THE WING ABUTMENT SHEET.

DASHED LINES BELOW THE TOP OF WING ARE THE ABUTMENT WING REINFORCING STEEL. SEE WING ABUTMENT SHEET FOR PLACEMENT.

PROJECT NUMBER BRFN-018-9(103)--39-22

FILE NO. 31200 11:14:29 PM 4/11/2022

9039

c:\pw\_work\pwmain\anthony.bower\d1441285\ORD\_22018103\_117\_20480\_Z03.dgn

REINFORCING STEEL -	ONE	E EN	D SE	CTION
LOCATION	SHAPE	NO.	LENGTH	WEIGHT
RTICAL	Π	12	5'-6	99
RTICAL		4	2 10	17
		4	4 - 1 8 - 0	25 144
RTICAL	n N	6	VARIES	23
RIZONTAL		6	6'-8	60
RIZONTAL		8	6'-9	81
RIZONTAL		1	3'-9	4
JTMENT WING TIE BARS		4	VARIES	5
/ITH BARRIER RAIL REINFORCING)	TOTA	AL WEIGI	HT (LBS.)	458
CONCRETE PLACEMENT	<u>s</u> ui	MMA	RY	
SECTION			тс	DTAL
AIL ONE END SECTION			0.65	CU. YD.
DLIVI DAN DEI	AILO			
<sup>−</sup>			RAR	"×"
			5.5	0'-61/2
5-10 103/4	.1		5c6	0'-8 <sup>1</sup> /2
	۲ 	-	5c7	0'-10 <sup>1</sup> / <sub>4</sub>
$\square$   $D=4\frac{1}{2}$   $-\sqrt{2}$	,_~↓	_	5c8	$1 \ 0^{1/_{4}}$
6d2			5c9	1-2
			5c10	1'-4
& 6C4			L	
		$\mathbf{X}$	×+.	
		3	×.	
D=4 <sup>1</sup> / <sub>2</sub>		1000		
			</td <td></td>	
m <u>+ +</u>			1:30	
6c2 & 6c3		Far	₩ Fc10	
		505-	-JCIU	
_				
NOTE: ALL DIMENSIONS AF	RE OUT TO	о оит.		
4t1 D = PIN DIAME	TER.			
Design For 4	45° Skew	(RA)		
292'-0" X 32'-(	J <sup>III</sup> C(	ĴŇŢI	NUOL	is l
		BR	IDGE	-
64'-0" End Spans			82'-0" Inte	rior Span
BARRIER R	AIL D	DETA	ILS	
STA. 752+56.00 (US 18)	Lettir	ng Date	December	22, 2022
CLAYTOI	N Co	untv		
IOWA DEPARTMENT	OF TRAN	ISPORTA	TION	
Design No. 117 Design Sheet No.	19 of 22		FHWA No.	20480

20

SHEET NUMBER



## NOTE:

Subdrain shall slope downward 2% from high end when outletting at one end of the Abutment.

The Geotextile Fabric shall be in accordance with Article 4196.01, B, 6 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.

## ABUTMENT BACKFILL PROCESS:

The base of the excavation subgrade behind the abutment is to be graded with a 4% slope away from the abutment footing and a 2% cross slope in the direction of the subdrain outlet. This excavation shaping is to be done prior to beginning installation of the geotextile and backfill material.

After the subgrade has been shaped, the geotextile fabric shall be installed in accordance with the details shown. The fabric is intended to be installed in the base of the excavation and extended vertically up the abutment backwall, abutment wing walls, and excavation face to a height that will be approximately 1 To 2 foot higher than the height of the porous backfill placement as shown in the "Backfill Details" on this sheet. The strips of the fabric placed shall overlap approximately 1 foot and shall be pinned in place. The fabric shall be attached to the abutment by using lath folded in the fabric and secured to the concrete with shallow concrete nails. The fabric placed against the excavation face shall

When the fabric is in place, the subdrain shall be installed directly on the fabric at the toe of the rear excavation slope. A slot will need to be cut in the fabric at the point where the subdrain exits the fabric near the end of the abutment

Porous backfill is then placed and leveled, no compaction is required.

The remaining work involves backfilling with floodable backfill, surface flooding, and vibratory compaction. The floodable backfill material shall be in accordance with the Standard Specifications. The floodable backfill shall be placed in individual lifts, surface flooded, and compacted with vibratory compaction to ensure full consolidation. Limit the loose lifts to no more than 2 feet of

Start surface flooding for each floodable backfill lift at the high point of the subdrain and progress to the low point where the subdrain exits the fabric. To ensure uniform surface flooding, water running full in a 2-inch diameter hose should be sprayed in successive 6-foot to 8-foot increments for 5 minutes within

Floodable backfill lift placement, flooding, and compaction shall progress until the required full thickness of the abutment backfill has been completed.

Water required for flooding, subdrains, porous backfill, floodable backfill, and geotextile fabric furnished at the bridge abutments will not be measured

The cost of water required for flooding, subdrains, porous backfill, floodable backfill, and geotextile fabric furnished at the bridge abutments shall be included in the contract unit price bid for Structural Concrete.

	292'-( WE	Design For 45 O'' X 32'-0 ELDED GIR	5° Skew (RA '' CON DER [	<sup>A)</sup> NTINUOUS BRIDGE
	64'-0" End Spans Abi	utment Ba	ckfill	82'-0" Interior Span Details
	STA. 752+56.00	(US 18)	Letting I	Date December 22, 2022
		CLAYTON	I Cour	nty
	I	OWA DEPARTMENT	OF TRANSP	ORTATION
	Design No. 117	Design Sheet No. 2	20 of 22	FHWA No. 20480
22		SHEET NUMBER	21	

## SUBDRAIN NOTES:

this structure

The Subdrains shall be 4" in diameter and shall be in accordance with Article 4143.01, B, of the Standard Specifications. The Subdrain Outlet shall consist of a length of pipe with a Removable Rodent Guard as detailed on this sheet. The length of the Outlet Pipe shall be determined by the Revetment and it's placement location. The Contractor is to insure the Outlet Pipe is adequately strong enough and will not be damaged when Revetment is placed. A check will be made at the Subdrain Outlet to insure that the Subdrain is not damaged and is draining properly during the Backfill Flooding Process. If a metal Outlet Pipe is used, it shall be 6 inches in diameter and coupled to the 4 inch diameter Subdrain in one of the two following ways. 1. Use an inside fit reducer coupler (coupler must be inserted a minimum of 1'-0 into the

metal outlet pipe).

entire opening with grout. (Bridge)". No extra payment will be made.

grading layout.

 $\boldsymbol{\alpha}$ С C  $\mathbb{Z}$ S  $\mathbf{Z}$  $\overline{\triangleleft}$ Δ S S  $\boldsymbol{\alpha}$ C C  $\boldsymbol{\alpha}$ 

RUCTION

Г S

Z C

![](_page_21_Figure_6.jpeg)

This Plan Sheet shows Details for placing all Subdrains and Subdrain Outlets required for

2. Insert 1'-0 of the 4" $\oslash$  Subdrain into the 6" $\oslash$  metal Outlet Pipe, then fully seal the

The cost of furnishing and placing Subdrain (including Excavation), Granular Backfill, Porous Backfill, and Subdrain Outlet is to be included in the price bid for "Structural Concrete

The dimensions shown for the proposed Subdrains are based on the proposed grading layout of Bridge Berms. The dimensions shown are for estimating only. Required lengths and general locations of Subdrains are subject to change due to field adjustments of the

SUBDRAIN OUT	LET ELEVATION
Location	Elevation
West Abutment	1042.4 <u>+</u>
East Abutment	1043.8±

– Existing Abutment Face

![](_page_22_Figure_0.jpeg)

![](_page_22_Figure_1.jpeg)

![](_page_22_Figure_2.jpeg)

CLAYTON COUNTY PROJECT NUMBER BRFN-018-9(103)--39-22

11.14.34 PM 4/11/2022

9039

c:\pw work\pwmain\anthony.bower\d1441285\ORD 22018103 117 20480 Z03.dgn

## **GENERAL NOTES:**

Erosion Stone shall be placed along the sides of the wings and abutment footing as shown in Section A-A. This is typical at each corner of the bridge unless otherwise noted in the plans. The Erosion Stone at these locations shall be underlayed with Engineering Fabric in accordance with Article 4196.01, B, 3, of the Standard Specifications.

The Erosion Stone shall be in accordance with Section 4130, of the Standard Specifications. Material passing the 3 inch screeen but 100% retained on a 1 inch screen may be used as choke

The Erosion Stone shall be deposited, spread, consolidated and shaped by mechanical or hand methods that will provide uniform 9" depth and density and provide uniform surface appearance. Payment for the Bridge Wing Armoring will be bid per Square

Yard. Cost will include Engineering Fabric, Erosion Stone, Excavation, Shaping, and Compaction to dimensions shown in these plans. Bid item shall be "Bridge Wing Armoring - Erosion

![](_page_22_Picture_12.jpeg)

		F	
	INDEX OF SHEETS		INDEX OF TABULATIONS
NO.	DESCRIPTION	Tabulation	Tabulation Title
A Sheets	Title Sheets	C Sheets	
A.1	Index of Tabulations and Index of Sheets	100-0A	ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)
B Sheets	Typical Cross Sections and Details	100-1D	PROJECT DESCRIPTION
B.1	Typical Cross Sections and Details	100-4A	ESTIMATE REFERENCE INFORMATION
C Sheets	Quantities and General Information	100-19	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES
C.1	Project Description	100-28	LONGITUDINAL GROOVING
C.1	Estimated Roadway Quantities	102-5	EXISTING PAVEMENT
C.1	Estimate Reference Information	104-8A	SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN
C.2	Standard Road Plans	105-4	STANDARD ROAD PLANS
C.1 - C.5	Tabulations	107-23	GRADING FOR GUARDRAIL INSTALLATIONS
G Sheets	Survey Sheets	108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION
G.1	Survey Information	108-13A	SAFETY CLOSURES
G.2	Control Point Vicinity Map	108-22	PAVEMENT MARKING LINE TYPES
G.3	Horiz. And Vert. Project Control Coordinate Listing	110-1	REMOVAL OF PAVEMENT
G.4	Alignment and Curve Data	110-7A	REMOVAL OF STEEL BEAM GUARDRAIL
J Sheets	Traffic Control and Staging Sheets	110-13	DELIVERY AND STOCKPILING
J.1	Traffic Control Plan & Staging Notes	111-25	INDEX OF TABULATIONS
		112-6	BRIDGE APPROACH SECTION
		112-9	SHOULDERS
		112-10	MILLED RUMBLE STRIPS

	FILE NO.	31200	ENGLISH	DESIGN TEAM Stanle	y Consultants Inc.	CLAYTON COUNTY	PROJECT NUMBER	BRFN-018-9(103
--	----------	-------	---------	--------------------	--------------------	----------------	----------------	----------------

111-25 10-18-11
Sheet No.
C.1 C.1 C.3 C.2 C.2 C.3 C.2 C.3 C.3 C.2 C.3 C.2 C.3 C.2 C.2 C.2 C.2 C.2 C.2 C.2 C.2 C.2 C.2

	I hereby certify that this engineeri	ng document was prepared		
	by me or under my direct personal su	pervision and that I		
	am a duly licensed Professional Engi	neer under the laws of		
1	the State of Iowa.			
		4/11/2022		
	Signature	Date		
	Printed or Typed Name My license renewal date is December 31, 2	0 23		
Pages or sheets covered by this seal: A.1, B.1, C.1 - C.5, G.1 - G.4, and J.1				
)39-22	SHEET NUMBER A.1			

![](_page_24_Figure_0.jpeg)

 $pw:\projectwise.dot.int.lan:\projectwise.dot$ 

			10-19-21
ved Shoulder at guardra nting layout:	il. 8" PCC may be	e substituted v	vith the
mainline pavement joint r in thickness, place add nel of the mainline pave dge of mainline paveme ate longitudinal joint at t	spacing. When r itional transverse ment. Place long nt when P is grea transverse joint le	nainline paver - 'C' joints in sl itudinal 'C' join ater than 10' w ess than 10' in	ment is 8" or houlder at ht at P/2 ide. length.
of HMA is required to f under guardrail. Remove no additional payment.	ace of guardrail p al and reinstallati	oost. Hand cor on of guardrai	npaction will I will be
oulation 112-9 for should	der quantities.		
ion only: When guardrai ved shoulder, fasten forr h shown.	il posts are install n board to the fac	led prior to cor ce of guardrail	nstruction of posts for
e paved shoulder 20 fee	t beyond the cent	ter of the first	post.
<sup>.</sup> may be notched for firs pavement. Do not drive	at 2 posts or post posts through pa	sleeves may l vement.	be installed
(per PV-101) for PCC s per PV-101) for HMA sh	shoulder. noulder.		
other details in the plan			
Sect Roll down at gra	24" 3" • • • • • • • • • • • • • • • • • •	earth.	
PAVED SH (GRANULAR SHOU	IOULDER AT ( JLDER ADJAC	GUARDRAIL	AINLINE)
<u> </u>	SHEET NUMBER	В.1	

			10-18-05					
ESTIMATE REF						PROJECT DESCRIPTION		
Code	Item Code	Item No.	west of East	ocated 0.6 miles	n Creek, loc	e replacement of the bridge (Maint. No. 2296.0S018) on US 18 over Dry Rur	ct involves the	his proje unction U
25070 SPECIAL BACKFILL	2102-0425070	1					5 521	
Refer to Tab 112-9 on Sheet C.4 for 1								
25000 EMBANKMENT-IN-PLACE This item is for grading guardrail bl	2102-2625000	2	100-0A 10-28-97					
13090 EXCAVATION, CLASS 13, WASTE	2102-2713090	3				ESTIMATED ROADWAY QUANTITIES		
Refer to Tab 112-9 on Sheet C.4 for 1 Excavated material may be used as emb						(I DIVISION PROJECT)		1
		-	As Built Qty.	lotal	Unit		Item Code	tem No.
00090 PAVED SHOULDER, HOT MIX ASPHALT MIXTU	2122-5500090	4		131.7	TON	SPECIAL BACKFILL	2102-0425070	2
Refer to Detail 7156 on Sheet 8.1 for				98.8	CY	EXCAVATION, CLASS 13, WASTE	2102-2713090	3
				317.6	SY	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	2122-5500090	4
50000 SHOULDER CONSTRUCTION, EARTH	2123-7450000	5		4.97	STA	SHOULDER CONSTRUCTION, EARTH	2123-7450000	5
Refer to Tab 112-9 on Sheet C.4 for 1				638.4	SY	BRIDGE APPROACH, BR-203	2301-0690203	6
Also reter to Detail 7156 on Sheet B.				1483.9	SY EACH	LUNGLIUDINAL GROUVING IN CONCREIE	2412-0000100	/
Requires a minimum of 4 inches of top				520 0		REMOVAL OF STEEL REAM GUARDRATI	2505-0500402	9
90203 BRIDGE APPROACH. BR-203	2301-0690203	6		325.0	LF	STEEL BEAM GUARDRAIL	2505-4008300	10
Refer to Tab 112-6 on Sheet C.4 for d				4	EACH	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	2505-4008410	11
				4	EACH	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	2505-4021010	12
00100 LONGITUDINAL GROOVING IN CONCRETE	2412-0000100	7		4	EACH	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	2505-4021720	13
Refer to Tab 100-28 on Sheet C.2 for				886.4	SY	REMOVAL OF PAVEMENT	2510-6745850	14
08120 REMOVAL OF STEEL BEAM GUARDRATI	2505-4008120	8		10.44	FACH	SAFETY CLOSURE	2527-9265109	16
Refer to Tab 110-7A on Sheet C.2 for	2505 4000120	0		1.00	LS	TRAFFIC CONTROL	2528-8445110	17
				4.51	STA	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	2548-0000100	18
00402 BRIDGE END DRAIN, DR-402	2503-0500402	9		5.0	GAL	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	2548-0000110	19
Refer to Tab 104-8A on Sheet C.3 for				0.92	STA	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	2548-0000200	20
	2505 4000200	10		0.14	STA	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	2548-0000320	21
108300 STEEL BEAM GUARDRAIL	2505-4008300	10		1280.0			2555-0000010	.2
21010 STEEL BEAM GUARDRATH END ANCHOR, BOLT	2505-4021010	12		1280.0	LF	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	2602-0000312	24
21720 STEEL BEAM GUARDRAIL TANGENT END TERM	2505-4021720	13						
Refer to Tab 108-8A on Sheet C.3 for								
45850 REMOVAL OF PAVEMENT	2510-6745850	14			-			
Refer to Tab 110-1 on Sheet C.2 for 1								
	2527-9263100	15						
Refer to Tab 108-22 on Sheet C.5 for	2721-3203103	13						
18000 SAFETY CLOSURE	2528-2518000	16						
Refer to Tab 108-13A on Sheet C.2 for								
	2528-8445110	17						
Refer to Tab 108-23A on Sheet J.1 for	2320 0443110	1/						
Includes R11-4 at the US 18/County Rc								
00100 MILLED SHOULDER RUMBLE STRIPS, HMA SL	2548-0000100	18						
00110 ASPHALT EMULSION FOR FOG SEAL (SHOULD	2548-0000110	19						
00200 MILLED SHOULDER RUMBLE STRIPS, PCC SU	2548-0000200	20						
Refer to Tab 112-10 on Sheet C.4 for	2040-0000320	21						
00010 DELIVER AND STOCKPILE SALVAGED MATERI Refer to Tab 110-13 on Sheet C.2 for	2555-0000010	22						
00312 PERIMETER AND SLOPE SEDIMENT CONTROL	2602-0000312	23						
00351 REMOVAL OF PERIMETER AND SLOPE OR DIT	2602-0000351	24						

FILE NO. 31200	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	CLAYTON COUNTY PROJECT NUMB	IBER BRFN-018-9(103)39-22	SHEET NUMBER C.1	

## 100-4A 10-29-02

## RENCE INFORMATION

Description

cations and details.

sters and paved shoulder areas. Refer to Tab 107-23 on Sheet C.3 for rial shall be provided by the Contractor.

cations and details. nkment-in-place.

E, 9 IN. cations and details. additional details.

ocations and details. for additional details. soil. Place according to Article 2105.03,B of the Standard Specifications.

tails and locations.

ocations and additional details.

ocations and additional details.

ocations and additional details.

SECTION, BA-201

NAL, BA-205 ocations and additional details.

cations and additional details.

SOLVENT-BASED ocations and additional details.

locations and additional details.

details.

X32 intersection and at the US 18/US 52 intersection.

RUMBLE STRIPS)

JRFACE ocations and additional details.

ocations and additional details.

EVICE, 12 IN. DIA. H CHECK SEDIMENT CONTROL DEVICE etails and locations.

105-4 10-18-11 STANDARD ROAD PLANS The following Standard Road Plans apply to construction work on this project.	04 REMOVAL OF PAVEMENT Refer to Tabulation 102-5	<b>110-1</b> 4-16-13
NumberDateBA-20004-20-21Steel Beam Guardrail ComponentsBA-20104-19-22Steel Beam Guardrail Barrier Transition Section (MASH TL-3)BA-20210-20-15Steel Beam Guardrail Bolted End AnchorBA-20510-19-21Steel Beam Guardrail Tangent End Terminal (MASH TL-3)BA-25004-20-21Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)	Begin     End     Side     Pavement     Area     Saw Cut*       Station     Station     Side     Side     Sy	
BR-203       10-19-21       Double Reinforced 12" Approach         BR-211       10-19-21       Bridge Approach (Abutting PCC or Composite Pavement)         DR-306       10-16-18       Precast Concrete Headwall for Subdrain Outlets         DR-402       04-19-22       Rock Flume for Bridge End Drain         EC-204       10-19-21       Perimeter, Slope and Ditch Check Sediment Control Devices         EC-502       04-21-15       Seeding in Rural Areas         EW-301       04-20-20       Guardrail Grading         DM-110       04-21-20       Line Turnes	750+24.00       751+23.00       Both       Composite       319.2       24.0       West approach         754+03.00       754+81.00       Both       Composite       319.2       24.0       East approach         748+96.00       750+24.00       Rt       Composite       56.9       132.0       West approach shoulder south side         749+26.00       750+24.00       Lt       Composite       54.4       103.0       West approach shoulder north side         754+81.00       755+86.00       Rt       Composite       46.7       109.0       East approach shoulder south side         754+81.00       756+16.00       Lt       Composite       90.0       141.0       East approach shoulder north side	
PV-1210-20-20Milled Shoulder Rumble StripsPV-1310-17-17Milled Centerline Rumble StripsPV-10104-19-22JointsSI-17304-19-16Object MarkersSI-21110-18-16Object Marker and Delineator Placement with Guardrail	e	110-13 04-20-10
SI-881 04-16-19 Special Signs for Workzones TC-1 10-15-19 Work Not Affecting Traffic (Two-Lane or Multi-Lane)	DELIVERY AND STOCKPILING	
TC-202       10-19-21       Work Within 15 ft of Traveled Way         TC-232       10-21-14       Shoulder Rumble Strip Operations	Item Description         Quantity         Units         Delivery Location         Contact Name & Number         Remarks           Steel Beam Guardrail &         IADOT Elkader         Gabriel Zittergruen         22347 Iowa 128	
TC-23310-17-17Pavement Marking Operations Two-LaneTC-25204-21-20Routes Closed to Traffic	Store         Store         Supervisor         List         List <thlist< th="">         List         List</thlist<>	3
110-7A 04-17-12         REMOVAL OF STEEL BEAM GUARDRAIL         1 Lane(s) to which the installation is adjacent.         Includes length of End Terminals and End Anchors.         Location         Includes length of End Terminals and End Anchors.         Location         Includes length of End Terminals and End Anchors.         Location         Includes length of End Terminals and End Anchors.         Location         Station to Station         Side       Removal of Guardrail         IP         ID         ID	108-13A 08-01-08         SAFETY CLOSURES         Refer to Section 2518 of the Standard Specifications         Station         Closure Type         Remarks         727+50.00       X         757+50.00         X	102-!
EXISTING	PAVEMENT	04-18-17
Location Surface Base	Subbase Removal Coarse Aggregate Reinforcement	
No.     County     Route     Dir. of Travel     Begin Ref. Loc. Sign     End Ref. Loc. Sign     Year     Type     Project Number     Type     Depth     Type     Depth       1     Clayton     US 18     Both     295.74     299.32     1969     HMA     F-18-9(4)20-22     PCC     9	Type     Depth     Type     Depth     Depth     Source     Type     Durability     Type       IN     IN     BENTE/ELKADER     C.LST.     2	
2         Clayton         US 18         Both         295.74         299.32         1986         AAC         FN-18-9(51)21-22         AAC         1.5         BAC         1.5           3         Clayton         US 18         Both         295.74         299.32         2006         HMA         NHSN-018-9(83)2R-22         HMA         2         HMA         2	BENTE/ELKADER C.LST.	
4         Clayton         US 18         Both         295.74         299.32         2006         HMA         NHSN-018-9(83)2R-22         HMA         2         HMA         3	MIL 3	
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.	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.	

FILE NO.**31200**ENGLISHDESIGN TEAM**Stanley** Consultants Inc.4/7/20224:55:02 PM9589c:\pw\_work\pwmain\xingwei.weng\d1441399\SHT\_22018103\_C01.x1sm

3)39-22	SHEET NUMBER	C.2	

									K lation	con Check	Dit		I STODE	moton and		1		Leest?		
				Remarks	F				nch Dia	ia 20 i	Length o 12 inch D:	nch Dia	allation Dia 20 iu	1 of Insta 12 inch D	Peri Length 9 inch Dia	Side	tation	End S	Station	
									LF		LF	LF		LF 370.0 280.0 260.0	LF	Rt Rt Lt	2+50.00 5+00.00 -+70.00	752	48+80.00 53+20.00 49+10.00	7777
														1280.0	Totals:				52+00.00	
107 10-1							т. т		CUAR	EOP		CP								
			rthwork	Ear	301	to EW	Refer		GUAR Feet)	nsions (F	Dimen			nt.	ion is adjace	tallat	the ins	to whick	Lane(s)	
Remarks	-	ankment Place	Em	Excavation Class 10						(Y3)			(Y1)		Foreslope at Guardrail	Side	ion	Stat	ion 🕞	
	-	CY		CY		4		×4		(^3)		~2							Direct: of Tra	-
		46.4				0	•						50	1// 0	2.4	Rt	+16 00	751	EB	1
		34.7 34.7 46.4			50.4 50.4 50.4 50.4	8.1 8.1 8.1 8.1	0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0					5.0 5.0 5.0	81.6 81.6 144.0	3:1 3.5:1 3.5:1 4:1	Rt Lt Lt	+28.00 +84.00 +96.00	754 750 753	EB WB WB	3
DGE RAIL END SECTION 5-625, LS-626, LS-630, LS-635, SI-172	<b>OR BRIDGE RA</b> 00, BA-260, LS-625, LS-0	34.7 34.7 46.4 162.1 RIER 25, BA-25(	: BAF 21, BA- Marker:	Totals: <b>ICRETE</b> -211, BA-22 and Object	50.4 50.4 50.4 50.4 50.4 50.4 50.4 50.4	8.1 8.1 8.1 8.1 206, E	0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD , BA-205	EAM G	EL BI , BA-201	<b>STE</b> is: BA-200	Standarc	5.0 5.0 5.0 5.0 Possible	81.6 81.6 144.0 	3:1 3.5:1 3.5:1 4:1 dijacent. rdrail instal	Rt Lt Lt lt le is a to guar	+28.00 +84.00 +96.00 +96.00	which th item. Inc Locati	EB WB WB ne(s) to t a bid	Li Ne
DGE RAIL END SECTION 5-625, LS-626, LS-630, LS-635, SI-172 Post Steel Beam Barrier Adapter Guardrail Transition	OR BRIDGE RA 0, BA-260, LS-625, LS-0 Bolted End Post Anchor Adapter	34.7 34.7 46.4 162.1 RIER 25, BA-25(	BAF 21, BA- Markers ct Mark I-173	Totals: ICRETE -211, BA-22 and Object I Objec S:	50.4 50.4 50.4 50.4 50.4 50.4 50.4 50.4	8.1 8.1 8.1 8.1 206, E Del	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD , BA-205	EAM G	EL BI , BA-201	STE	Standard sths 30, or LS	5.0 5.0 5.0 5.0 9005 Leng 260, LS-6	144.0 14	adjacent. rdrail instal	Rt Lt Lt le is a to guan	e obstac	which th item. Inc Locati	tion Helion	
Post     Steel Beam     Barrier       Adapter     Guardrail     Transition       BA-210     BA-200     BA-201     BA	OR BRIDGE RA 0, BA-260, LS-625, LS-0 Bolted End Anchor BA-202 BA-210 TYPE EACH EACH	34.7 34.7 46.4 162.1 RIER 25, BA-25( 2) (2) (2) (3) 0M3-R EACH	: BAF 21, BA- Markers ct Mark I-173 Typ DM3-L FACH	Totals: ICRETE -211, BA-22 and Object I Objec S: Type 2 OM2-2 C EACH	50.4         50.4 <t< th=""><th>8.1 8.1 8.1 8.1 206, E Del</th><th>0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8</th><th>200.0 137.0 137.0 200.0 5UARD , BA-205</th><th>EAM G ., BA-202 g-Span Sy BA-211</th><th>EL BI</th><th>STE 5-635 ET</th><th>Standarc gths 30, or LS</th><th>Possible</th><th>144.0 145.0 14</th><th>3:11 3.5:1 3.5:1 4:1 4:1 adjacent. rdrail install BA- set VT1</th><th>Rt Lt Lt le is a to guar</th><th>e obstac</th><th>which th item. Inc Locati</th><th>Direction of Traffic () 0 = Outside (s) 0 = Outside (s)</th><th>3 4</th></t<>	8.1 8.1 8.1 8.1 206, E Del	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD , BA-205	EAM G ., BA-202 g-Span Sy BA-211	EL BI	STE 5-635 ET	Standarc gths 30, or LS	Possible	144.0 145.0 14	3:11 3.5:1 3.5:1 4:1 4:1 adjacent. rdrail install BA- set VT1	Rt Lt Lt le is a to guar	e obstac	which th item. Inc Locati	Direction of Traffic () 0 = Outside (s) 0 = Outside (s)	3 4
DGE RAIL END SECTION           S-625, LS-626, LS-630, LS-635, SI-172           Post         Steel Beam           Adapter         Guardrail           BA-210         BA-200           BA-210         BA-201           EACH         LF           112.5         1           50.0         1           112.5         1	Bolted End Anchor BA-260, LS-625, LS-6 BA-202 BA-210 TYPE EACH A 1 A 1 A 1 A 1 A 1	34.7 34.7 46.4 162.1 RIER 25, BA-250 (2) (2) (3) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	BAF 21, BA- Markers ct Mark I-173 Typ DM3-L EACH 1 1	Totals: ICRETE -211, BA-22 and Object I Objec S: Type 2 OM2-2 CC EACH I 6 4 4 6 6	50.4 50.4 50.4 50.4 50.4 50.4 50.4 50.4	8.1 8.1 8.1 8.1 206, E Del Del 211 2 2 2 2 2	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5 0 5 0 5 0 5 0 5 0 5 5 5 5 5 5 5 5	EAM G , BA-202 g-Span Sy BA-211 TION	EL BI	S-635 ET LF 47.7 47.7 47.7 47.7	Standarc gths 30, or LS VT2 LF 12.50 12.50 12.50	5.0       5.0 </th <th>144.0       144.0       1ation.       250, BA-20       VF       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0</th> <th>3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 A:1 BA- Set VT1 BA- BA- Set VT1 LF Rt 137.500 Rt 75.000 Lt 75.000 Lt 75.000</th> <th>Rt Lt Lt le is a to guar offs FT 16.8' 16.8' 16.8' 16.8'</th> <th>re obstac idental on 51+15.78 54+28.18 50+83.82 53+96.18</th> <th>754           750           753           which th           item. Ind           Locati          </th> <th>B WB WB WB WB C C C C C C C C C C C C C</th> <th>La La La La La La La La La La La La La L</th>	144.0       144.0       1ation.       250, BA-20       VF       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 A:1 BA- Set VT1 BA- BA- Set VT1 LF Rt 137.500 Rt 75.000 Lt 75.000 Lt 75.000	Rt Lt Lt le is a to guar offs FT 16.8' 16.8' 16.8' 16.8'	re obstac idental on 51+15.78 54+28.18 50+83.82 53+96.18	754           750           753           which th           item. Ind           Locati	B WB WB WB WB C C C C C C C C C C C C C	La La La La La La La La La La La La La L
Post         Steel Beam         Barrier           Adapter         Steel Beam         Barrier           BA-210         BA-200         BA-201         B/           EACH         LF         EACH         T           50.0         1         50.0         1           50.0         1         112.5         1           325.0         4         4         4	OR BRIDGE RA       0, BA-260, LS-625, LS-0       Bolted End Anchor       Bolted End Anchor       BA-202       BA-202       BA-202       BA-210       TYPE       EACH       A       1       A       1       4	34.7 34.7 46.4 162.1 <b>RIER</b> 25, BA-25( 2 2 7 8 3 0M3-R EACH 1 1 1 1 2	BAF 21, BA- Markers Ct Mark I-173 Typ DM3-L EACH 1 1 2	Totals: SCRETE -211, BA-22 and Object I Objec S: Type 2 OM2-2 C EACH 6 4 4 6 4 4 6 20	50.4 50.4 50.4 50.4 50.4 50.4 50.4 50.4	8.1 8.1 8.1 8.1 206, E Del Del 211 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD , BA-205 /stem	EAM G , BA-202 g-Span Sy BA-211 TION	EL BI	STE STE is: BA-200 ET LF 47.7 47.7 47.7 47.7	Standarc gths 30, or L9 VT2 LF 12.50 12.50 12.50 12.50	Possible	144.0 14	3:11 3.5:1 3.5:1 4:1 4:1 A:1 BA- Set VT1 F LF Rt 137.500 Lt 75.000 Lt 75.000 Lt 137.500	Rt Lt Lt le is a to guar offs FT 16.8' 16.8' 16.8'	te obstac +96.00 +96.00 +96.00 	which th item. Inc Locati .de 	EB WB WB WB WB WB WB WB WB WB W	
Post         Steel Beam         Barrier           Adapter         Steel Beam         Barrier           Section         Transition         Section           BA-210         BA-200         BA-201         BK           EACH         LF         EACH         I           50.0         1         1         1           325.0         4         1         1	Bolted End Anchor BA-260, LS-625, LS-6 BA-202 BA-210 TYPE EACH EACH A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1	34.7 34.7 46.4 162.1 <b>RIER</b> 25, BA-250 (2) (2) (3) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	BAF 21, BA- Markers Ct Mark I-173 Typ DM3-L EACH 1 1 2	Totals: ICRETE -211, BA-22 and Object I Objec S: Type 2 OM2-2 CC EACH I 6 4 4 4 6 20 20	50.4 50.4 50.4 50.4 50.4 50.4 50.4 50.4	8.1 8.1 8.1 8.1 206, E Del Del 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 SUARD , BA-205 /stem	EAM G , BA-202 g-Span Sy BA-211 TION I	EL BI	S-635 ET LF 47.7 47.7 47.7 47.7	Standarc gths 30, or L9 12.50 12.50 12.50 12.50	5.0 5.0 5.0 5.0 9 9 9 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1	141.0 144.0 14	3:11 3.5:1 3.5:1 4:1 4:1 adjacent. rdrail instal: BA- set VT1 BA- BA- Set VT1 LF Rt 137.500 Lt 75.000 Lt 137.500	Rt Lt Lt Lt If is a to guar offs offs FT 16.8' 16.8' 16.8' 16.8' 16.8'	e obstac idental on 51+15.78 54+28.18 54+		EB WB WB WB WB WB WB WB WB WB WB WB WB WB	
Post         Steel Beam         Barrier           Adapter         Guardrail         Transition           Section         Ta           BA-210         BA-200         BA-201           EACH         LF         EACH           112.5         1           50.0         1           325.0         4	Bolted End Anchor BA-202 BA-202 BA-210 TYPE EACH EACH A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1	34.7 34.7 46.4 162.1 <b>RIER</b> 25, BA-250 (2) (2) (2) (3) (2) (3) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	BAF 21, BA- Markers Ct Mark I-173 Typ DM3-L EACH 1 1 1 2	Totals: JCRETE -211, BA-22 and Object I Objec S: Type 2 OM2-2 C EACH I 6 4 6 4 6 20 10 10 10 10 10 10 10 10 10 1	30:4         50:1:172         Type 1         White         EACH         4         AIN	8.1 8.1 8.1 8.1 206, E Del Del 211 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD , BA-205 /stem TYPE	EAM G , BA-202 g-Span Sy BA-211 TION I I DR-402	EL BI , BA-201 Long STA STA STA	S-635 ET LF 47.7 47.7 47.7 47.7 47.7 47.7 47.7 et lume Bad Plan DR ection (DR	Standard ROCK mdard Roz pur Prote	Possible  Possible  Possible  N OR  r to Stan	141.0 81.6 81.6 144.0 144.	3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 BA- set VT1 BA- set VT1 LF Rt 137.500 Lt 75.000 Lt 75.000 Lt 75.000 Lt 137.500 Bid Items	Rt Lt Lt Ie is a to guar offs FI 16.8' 16.8' 16.8' 16.8' 5COU	te obstac +28.00 +28.00 +96.00 +96.00 	754 750 753 753 753 753 753 753 100 100 100 100 75 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	EB WB WB WB WB WB WB WB WB WB WB U U U U	Li 1 1
Post         Steel Beam         Barrier           Adapter         Guardrail         Barrier           BA-210         BA-200         BA-201           EACH         LF         EACH           112.5         1           50.0         1           325.0         4	Bolted End Anchor Ba-260, LS-625, LS-0 Bolted End Anchor BA-202 BA-210 TYPE EACH A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1	34.7 34.7 46.4 162.1 <b>RIER</b> 25, BA-25( 2) 7 8 3 0M3-R EACH 1 1 1 2 104-8A 04-19-22 emarks	BAF 21, BA- Markers ct Mark I-173 Typ DM3-L EACH 1 1 2 2	Totals: ACRETE -211, BA-22 and Object I Objec S: Type 2 OM2-2 C EACH I 6 4 4 4 6 20 Erosion Stone	30.4         51.172         Type 1         White         EACH         6         6         6         6	8.1 8.1 8.1 8.1 206, E Del Del 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD , BA-205 /stem TYPE DGE	EAM G , BA-202 g-Span Sy BA-211 TION BA-211 TION BA-211 TION BA-211 TION BA-211 TION BA-211 TION BA-211 TION BA-211 TION BA-211 TION BA-202	EL BI , BA-201 Long STAT	STEI STEI SS-635 ET LF 47.7 47	Standarc standarc standarc Standa	Possible  Possible  Vout Leng  Go, LS-6  ()  Control  Contro  Control  Cont	81.6         81.6         81.6         144.0         Iation.         Lay         250, BA-2         VF         LF         0 <td>3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 A:1 A:1 A:1 A:1 A:1 A</td> <td>Rt Lt Lt Lt Offs Offs I6.8' 16.8' 16.8' 16.8' 16.8' 16.8' Bi COU</td> <td>te obstac +28.00 +28.00 +96.00 +96.00 </td> <td>which th item. Inc Locati set set ocation Bridge Corner</td> <td>EB WB WB WB WB WB WB WB WB WB WB WB WB WB</td> <td>Li 1 1 2 3 4 Bit St</td>	3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 A:1 A:1 A:1 A:1 A:1 A	Rt Lt Lt Lt Offs Offs I6.8' 16.8' 16.8' 16.8' 16.8' 16.8' Bi COU	te obstac +28.00 +28.00 +96.00 +96.00 	which th item. Inc Locati set set ocation Bridge Corner	EB WB WB WB WB WB WB WB WB WB WB WB WB WB	Li 1 1 2 3 4 Bit St
DGE RAIL END SECTION           5-625, LS-626, LS-630, LS-635, SI-172           Post         Steel Beam         Barrier           Adapter         Guardrail         Transition           Section         Ta           BA-210         BA-200         BA-201           EACH         LF         EACH           112.5         1           50.0         1           325.0         4	Bolted End Anchor BA-202 BA-202 BA-210 TYPE EACH EACH A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1	34.7 34.7 46.4 162.1 <b>RIER</b> 25, BA-250 (2) (2) (2) (3) (2) (3) (2) (3) (3) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	: BAF 21, BA- 21, BA- Markers Ct Mark I-173 Typ M3-L EACH 1 1 1 2 2	Totals: JCRETE -211, BA-22 and Object D Object S: Type 2 OM2-2 C EACH 1 6 4 6 4 6 20 Erosion Stone TONS 83	30:4         50:4         1:neators         6:4	8.1 8.1 8.1 8.1 8.1 206, E Del Del 22 2 2 2 2 2 2 2 2 2 2 2 2	0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	200.0 137.0 137.0 200.0 5UARD 5UARD , BA-205 /stem TYPE DGE 5tone Stone	EAM G , BA-202 g-Span Sy BA-211 TION I BA-211 TION I BA-211 TION I BA-211 TION I BA-202 BA-201 BA-20	EL BI , BA-201 Long STA STA STA STA STA Cong STA Cong STA STA STA STA STA STA STA STA STA	S-635 ET LF 47.7 47.	Standard Ths 30, or LS VT2 LF 12.50 12	Possible  Possible Possi	141.0         81.6         81.6         144.0         1ation.         Lay         250, BA-2         VF         LF         0 </td <td>3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 A:1 BA- set VT1 BA- Set VT1 F LF Rt 137.500 Lt 75.000 Lt 75.000 Lt 75.000 Lt 75.000 Lt 137.500 Bid Items ridge End Dra: TYPE DR-402 DR-402 DR-402</td> <td>Rt Lt Lt Lt Ie is a to guar offs FI 16.8'</td> <td>te obstac +28.00 +28.00 +28.00 +96.00 +96.00 cation 51+15.78 54+28.18 50+83.82 53+96.18 Distan DI-1 0 DI-2 FT 41</td> <td>vhich th item. Inc Locati ue w w w w w w w x v 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7</td> <td>EB WB WB wB wB wB wB wB wB wB wB wB wB wB wB wB</td> <td>) L; ) D) D; ) N</td>	3:11 3.5:1 3.5:1 4:1 4:1 A:1 A:1 A:1 BA- set VT1 BA- Set VT1 F LF Rt 137.500 Lt 75.000 Lt 75.000 Lt 75.000 Lt 75.000 Lt 137.500 Bid Items ridge End Dra: TYPE DR-402 DR-402 DR-402	Rt Lt Lt Lt Ie is a to guar offs FI 16.8'	te obstac +28.00 +28.00 +28.00 +96.00 +96.00 cation 51+15.78 54+28.18 50+83.82 53+96.18 Distan DI-1 0 DI-2 FT 41	vhich th item. Inc Locati ue w w w w w w w x v 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	EB WB WB wB wB wB wB wB wB wB wB wB wB wB wB wB	) L; ) D) D; ) N

## 108-8A 10-16-18

3 and SI-211.

ems					
250 or LS-6	530		BA-260 o	r LS-635	
End Te	rminal		Barrier Transition	End Terminal	Remarks
Flared	Tangent	Flared	Section	Tangent	
BA-206	LS-625	LS-626	BA-221	BA-225	
EACH	EACH	EACH	EACH	EACH	

3)39-22	SHEET NUMBER	<b>C.3</b>	

										BR	IDGE	APPRO	ACH SE	CTION											04	112-6 4-18-17
* Not a hid item											Ref	er to the	Series.													
	Location				Approach F	Pavement	1	St	tandard Roa	d Plans				Subdrain	1					de						
Bridge Station Er	nd	Skew Ahead Degrees	T Thickness	Pay Length	Non-Rein Pavemen Area	nf. Reinf. Pavement Area	Double- Reinf. t Pavement Area	Approac	BR Seri Fixed c h Movabl	es Pr Abut Pave	Per cting Sub ement	* rforated odrain 4"	Subdrain	Outlet	Porous Backfill	* Class 'A' Crushed Stor Backfill	* Modified Subbase	Polymer Grid	Special Backfil	1			Remarks			
752+56.00	LE W	FT RIG	HT Inches	FT 82.5	SY 116.	.7 5Y	SY 8 124.8	BR-203	Abutmer Movabl	e BR-	-211	LF 55.0	STA 750+34.3	Side 32 Rt	CY 1.3	CY	TON 333.4	SY 352.8	TON							
752+56.00	E		45 12.0	82.5	116.	.7 77.8	8 124.8	BR-203	Movabl	e BR-	-211	55.0	754+77.6	58 Rt	1.3		333.4	352.8								
				Totals	: 233.	.3 155.0	5 249.5								2.6		666.7	705.5								
<ol> <li>Lane(s) to whi</li> <li>See Typ. 7156,</li> <li>Bid Item.</li> <li>Applies only f</li> <li>Bid Item. Typ.</li> <li>Does not inclu</li> </ol>	ch the sh 7157, or or Paved 1 7156, 71 ide shrink	oulder is ad 7158. Shoulders co 57, or 7158.	jacent. nstructed on pr	roject w:	ith existi	ng granular	shoulders.					SHOULI	DERS												10	112-9 -20-20
Calculations a	assume a H	MA unit weig	ht (lbs/cf) of	145, a S	Special Ba	ckfill unit	weight (lbs/	cf) of 140	), and a Gra	nular Sh	noulder un:	it weight	(lbs/cf) of	140.		Quar	tition									
	1.				P	$(P_{SG})$ (	G		4				Davied	_" Paved	Reinforce	d							Earth Sho	ulder Cons	truction	- v
Road	ion ffic	Station t	o Station	Sido	Width	Width	Width Le	J CI	cavation	Hot Mix	Asphalt	Binder	Paved Shoulder	Shoulder at	Paved		Special Ba	ckfill	S	ubbase	Granular	Shoulder	Δ	lternates		mark
Identification	rect Tra	Station	o station	JIUE	FT					TON	TON	TONG	CV (3)	Guardrail	Shoulder	HMA Alt	ernate	PCC Alterr	ate	GY (3)	<b>TON</b> (3)		sta <sup>3</sup>	HMA	PCC	Rei
LIC 10	Of	748:06 00	740,17,00	D+	FI	FT (2)	FI 1	21.0	CY (3)	10N	10N/STA	TONS	SY O	SY O	SY C		10N/STA		N/STA	LY 🕑	TON	TON/STA	0.2	(Y 🕑	LY O	
US 18 US 18	EB           EB           EB           EB           B           WB           WB           WB           WB           WB	749+17.00 749+17.00 754+88.00 755+14.00 755+64.00 749+26.00 749+26.00 749+38.00 755+63.00 755+45.00 755+95.00	749+67.00 750+24.00 755+14.00 755+86.00 749+48.00 749+98.00 750+24.00 755+95.00 755+95.00 756+16.00	Rt     Rt     Rt     Rt     Lt     Lt     Lt     Lt     Lt	7	7.5 to 5.5 5.5 5.5 to 7.5 7.5 7.5 to 5.5 5.5 5.5 5.5 to 7.5 7.5	Tot	21.0 50.0 57.0 26.0 50.0 22.0 22.0 50.0 26.0 57.0 50.0 21.0 als:	3.7         11.3         10.3         4.7         11.3         6.0         11.3         4.7         10.3         11.3         5.7         98.8	9.133 19.031 18.596 8.483 19.031 9.570 9.570 19.031 8.483 18.596 19.031 9.135	43.500 38.063 32.625 32.625 38.063 43.500 43.500 38.063 32.625 32.625 38.063 43.500	0.546 1.142 1.116 0.509 1.142 0.574 0.574 1.142 0.509 1.116 1.142 0.548	Image: Constraint of the second sec	17.5 36.1 34.8 15.9 36.1 18.3 18.3 36.1 15.9 34.8 36.1 17.5 317.6		7.0           14.9           15.0           6.8           14.9           7.3           7.3           14.9           6.8           15.0           14.9           7.3           14.9           6.8           15.0           14.9           7.0           131.7	29,750 26,250 26,250 29,750 33,250 33,250 29,750 26,250 26,250 29,750 33,250						0.2 0.5 0.6 0.7 0.5 0.2 0.2 0.5 0.3 0.6 0.5 0.2 0.5 0.2	5.1 12.0 13.7 17.1 12.0 5.3 5.3 12.0 6.3 13.7 12.0 5.1		
* Calculated at 18 Road Identific US 18 US 18	" width fo	5 Stat Stat 748+9 750+2 754+8 754+8 754+8 754+2 750+2 754+4 754+8	tion to Station 6.00 750 4.00 750 1.00 754 8.00 755 7.00 750 4.00 750 9.00 754 8.00 756	L +24.00 +63.00 +88.00 +86.00 +24.00 +31.00 +88.00 +16.00	ocation Shoulder Pavement Type HMA PCC PCC HMA HMA PCC PCC HMA	Rumble S (Cent Rt or Lt Right Right Right Left S Left S Left S	MILLEI Strip Type erline, Shoulder) Shoulder Shoulder Shoulder Shoulder Shoulder Shoulder Shoulder Shoulder Shoulder	D RUME ee PV-12 a L IN 12" 12" 12" 12" 12" 12" 12" 12" 12"	SLE ST           and PV-13           Install           PCC           STA           0.31           0.01           0.01           0.01           0.01	RIPS	ngth (M A A 1.28 0.98 0.97 1.28	Fog Se illed Rumb Should GAL	al* le Strip) der 1.4 0.0 0.0 1.1 1.1 0.0 0.0 0.0 1.4	Effec PCC Paver	tive Shoul	der Width Granular\ Earth FT	Reman	112-10 10-20-20 "ks								
US 18 US 18		750+2.754+8	4.00 750	+31.00 +88.00	PCC PCC	Cent Cent To HMA Sh PCC Sh PCC or HM HMA Cer PCC Cer PCC or HMA	erline erline tals noulders oulders A Shoulders tterlines tterlines Centerlines	12" 12" PCC 0.92 0.00 0.14 0.00	· 0.0 · 0.0 · 0.0 · 0.0 · 0.0 · 0.0 · 0.0	7			0.0 0.0 Fog Seal 5.0 0.0 0.0 0.0 0.0 0.0													

 FILE NO.
 **31200** ENGLISH
 DESIGN TEAM
 **Stanley Consultants** Inc.

 4/7/2022
 4:55:02 PM
 9589
 c:\pw\_work\pwmain\xingwei.weng\d1441399\SHT\_22018103\_C01.xlsm

CLAYTON COUNTY PROJECT NUMBER BRFN-018-9(103

3)39-22	SHEET NUMBER	C.4	

## **PAVEMENT MARKING LINE TYPES**

ELW4

STA

9.28

9.28

ELY4

<u>ςτ</u>δ

**ST**Δ

Length by Line Type (Unfactored)

\*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

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. BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 ELY4: Edge Line Left (Yellow) @ 1.00 Location Dir. of NPY4\*\* Side BCY4\* DCY4 BLW4 Road TD Station to Station Marking Type Travel LCR STA STA STΔ STA US 18 750+24.00 754+88.00 BOTH Waterborne/Solvent Paint XXXX 4.64 Factored Total: Waterborne/Solvent Paint 1.16 10.44 Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based 232-3A 232-3C 10-19-21 10-19-21 **EROSION CONTROL EROSION CONTROL** (RURAL SEEDING) (NATIVE GRASS SEEDING) Area to be seeded is estimated to be less than 1 acre. If the Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03, B of the for as extra work according to Article 1109.03, B of the Standard Specifications. Standard Specifications. Following the completion of work in a disturbed area and Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the Specifications, place seed and mulch on the disturbed area disturbed area lying 8 feet adjacent to shoulder and median as lying 8 feet or more beyond the shoulder as follows: follows: SEED MIX: Place seed and fertilize according to the requirements of Big bluestem (Andropogon geradii) 6 lbs. PLS/Acre (7.0 kg/ha) Article 2601.03,C,3 and Section 4169 of the Standard Indiangrass (Sorghastrum nutans) 6 lbs. PLS/Acre (7.0 kg/ha) Specifications. Little bluestem (Schizachyrium scoparium) 6 lbs. PLS/Acre (7.0 kg/ha) Place mulch according to the requirements of Articles Partridge Pea (Chamaecrista fasciculata) 2601.03, E, 2, a and 4169.07, A of the Standard Specifications. 4 lbs. PLS/Acre (4.5 kg/ha) Sideoats grama (Bouteloua curtipendula) Preparing the seedbed, furnishing and applying seed, 4 lbs. PLS/Acre (4.5 kg/ha) fertilizer, and mulch are all incidental to mobilization and Canada wildrye (Elymus canadensis) 2 lbs. PLS/Acre (2.2 kg/ha) will not be paid for separately. 1 lbs. PLS/Acre (1.1 kg/ha) Switchgrass (Panicum virgatum) 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. 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.

•	edian nose	area.							108-22 04-16-13
	BLW4: Bro	ken Lane	Line (Whit	e)@0.25			ELW4: Edg	e Line Ri	ght (White) @ 1.00
	ine Type (	Unfactore	d)				r	1	
									Remarks
	STA	STA	STA	STA	STA	STA	STA	STA	
					ļ				
	-	-	-	-	-	-	-	-	

3)39-22	SHEET NUMBER	C.5

## Survey Information

Clayton County BRFN-018-9(103)--39-22 US 18 over Dry Run Creek PIN 12-22-018-020 Sap-0000

## Party Personnel

Matt Fouts- Surveyor/PLS Brandon Wood- Survey Technician Will Riordan- Survey Senior Technician Dirk Janssen- Survey Technician

 Date(s) of Survey

 Begin Date
 11/21/2019

 End Date
 12/03/2019

General Information

Measurement units for this survey are US survey feet. This survey is for Preliminary/Engineering for the proposed bridge replacement on US Highway 18 over Dry Run Creek and 0.6 miles West of East US 52 Junction. This project is a Full Field Survey.

Vertical Control

Vertical datum for this survey is relative to NAVD88, Geoid 12BUS.

Vertical positions were established by static observations and post processed using concurrent observations from the IaRTN Elkader reference station.

Horizontal Control

The project coordinate system is the Iowa Regional Coordinate System, Zone 3. Horizontal datum is NAD83 (2011) for Epoch 2010.00. The projection parameters for Zone 3 of the IaRCS is defined below:

Lambert Conformal Conic Projection North American Datum of 1983 Origin Lat: 40°15'00"N Origin Central Meridian: 91°12'00"W Central Meridian Scale: 1.000035 False Northing: 8,300,000 False Easting: 13,500,000

Horizontal positions for site control were established by static observations and post processed using concurrent observations from the IaRTN Elkader reference station

Alignment Information

The horizontal alignment for this survey is a retrace of the Construction centerline of Plans No. o. F-18-9(1)\*\*22-7. Survey stationing was equated to the plan Pl at STA 730+23.6 and run ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 738+32.3 Const. CL Project Project No. F-18-9(1)\*\*22-7 Survey PC Sta. 738+32.3

PT Sta 749+24.0 Const. CL Project Project No. F-18-9(1)\*\*22-7 Survey PT STA 749+24.0

POT STA 757+10.4 Const. CL Project Project No. F-18-9(1)\*\*22-7 Survey POT STA 757+10.5

FILE	NO. 31200	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	CLAYTON COUNTY	PROJECT NUMBER BRFN-018-9(103)39-2
3:05:11 F	PM 4/11/2022	9589	pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2201802012\Design\CADD	_Files\Sheet_Files\SHT_22018103_G01.dgn	

2	SHEET NUMBER	G.1	

![](_page_31_Figure_0.jpeg)

pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2201802012\Design\CADD\_Files\Sheet\_Files\SHT\_22018103\_G01.dgn 9589

3:05:13 PM

4/11/2022

PROJECT NUMBER BRFN-018-9(103)--39-2

C,			
		•	
nt			
2	SHEET NUMBER	G.2	

# HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

# HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

# VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 3

Point Name	Northing	Easting	Elevation	Feature Definition	Description
CP100	9304287.90	13467010.14	1049.05	CP	1/2" REBAR WITH ORANGE PLASTIC CAP SOUTH OF HIGHWAY 18 AND AT THE WEST END C
CP101	9304223.77	13467456.36	1025.55	CP	ROW MONUMENT NORTH OF HIGHWAY 18 AND WEST OF BRIDGE
CP102	9304499.57	13467548.30	1023.25	CP	1/2" REBAR WITH ORANGE PLASTIC CAP NORTH OF HIGHWAY 18 AND SOUTH OF SHELTER
CP103	9303744.20	13468272.09	1055.57	CP	1/2" REBAR WITH ORANGE PLASTIC CAP SOUTH OF HIGHWAY 18 AND AT THE EAST END O
CP104	9303758.83	13468025.26	1048.33	CP	ROW MONUMENT EAST OF POWER POLE AND SOUTHEAST OF BRIDGE
BM50	9304014.80	13467884.13	1044.78	BM	RAILROAD SPIKE IN THE 1ST POWER POLE EAST OF BRIDGE AND NORTH OF HIGHWAY 18
BM51	9303755.42	13468012.12	1047.87	BM	RAILROAD SPIKE IN A POWER POLE EAST OF BRIDGE AND SOUTH OF HIGHWAY 18

FILE NO. 31200	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	CLAYTON COUNTY	PROJECT NUMBER BRFN-018-9(103)39-22	SHEET NUMBER G.3	
3:05:14 PM 4/11/2022	9589	pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2201802012\Design\CADD_	Files\Sheet_Files\SHT_22018103_G01.dgn			

HELTER BY ROAD T END OF SITE

T END OF SITE

							ALI	GNMENT C	OORDINAT	ES								101-16 10-20-09
			Point on Tangent		Begin Spiral			Begin Curve		Simple Cur	rve PI or Master PI o	of SCS		End Curve			End Spiral	
Name	Location		Coordinates	<i></i>	Coordi	nates	<i>c</i> , , , ,	Coord	inates	<u></u>	Coordinates	S	<i>c</i> , , , ,	Coord	inates		Coord	inates
		Station	Y (Northing) X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing) X (E	Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)
C1	US 18	749+00.00	9304174.71 13467314.43															
	05 10	750100.00	555555555555555555555555555555555555555															
FILE NO. 2	1200 ENGL	ISH DESIGN TE	AM Stanley Consul	tants Tr	nc .						PROJECT NUMBER	BRFN-0	18-9/10	3)39-22	) SHF	ET NUMBER	G.4	
· · · · · · · ·			- Jeaniey consul	Conco II									-0 -(-0		-		J. T	

# NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

# ACCESS CONTROL PREVIOUSLY ACQUIRED.

FILE NO.	ENGLISH	DESIGN TEAM	IOWA DOT * OFFICE OF ROW	COUNTY	PROJECT NUMBER

 -	
SHEET NUMBER	27. 2

![](_page_35_Figure_0.jpeg)

CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\2201802012\ROW\22018113.sht

Route	Direction	County	None anticipated	Location Description	Feature Crossed		Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restrict
					108-23A 08-01-08			1 04	11-01 -17-12
US 18 to b Contractor	e closed and o shall give Io	detoured to remov owa DOT 14 days n	<b>TRAFF</b> re existing bridge sup notice prior to the se	<b>EC CONTROL PLAN</b> perstructure and construct new roadway. tart of the detour. Detour signs will be	placed by others.	C Other work in include the c	<b>OORDINATED</b> ( progress during the sonstruction of the pro	<b>OPERATIONS</b> same period of time will ojects listed. Coordinat	e
US 18 Deto	ır - US 18 wi B60, the	ll be closed and n east to IA 13,	an off-site detour w then northeast to US	ill be utilized. The detour would follow 52, then north to US 18.	County Road X28 south to County Road	same area.	roject	Type of Work	the

## 108-25 10-21-14

: .on	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks

3)39-22	SHEET NUMBER	J.1