IOWADOT
Form 831240 (12-15)

CHANGE ORDER

For Local Public Agency Projects

No.: 1

Non-Substantial: ☐

Substantial: ☒

Administering Office Concurrence Date

Accounting ID No. (5-digit number): 39300

Project Number: HDP-1642(685)--71-78

Kind of Work: PCC Pavement - Grade and

Local Public Agency: City of Council Bluffs

Contractor: RPL Utility

Date Prepared: August 28, 2023

You are hereby authorized to make the following changes to the contract documents.

A - Description of change to be made:

0140/ Increase/ 2402-2720100/Excavation, Class 20, For Roadway Pipe Culvert

0350/ Increase/ 2507-2350005/ Engineering Fabric

0570/ Decrease/ 2599-9999014/ ('Square Feet' Item) Tied Concrete Block Mat

8001/ New Item/ 2599-9999005/ ('Each' Item) 18" Culvert Elbow

8002/ New Item/ 2599-9999005/ ('Each' Item) 36" Culvert Elbow

8003/ New Item/ 2599-9999005/ ('Each' Item) Culvert Pipe Connectors
The Method of Measurement/ Basis of Payment is by each joint constructed with a Type 3 connection. The connectors are required as follows:
- 18" Culvert Pipe (Station 529+62): 2 connected joints at each end (4 total)
- 36" Culvert Pipe (Station 516+39): Connected joints at all joints (32 total)
- 60" Culvert Pipe (Station 506+00): Connected joints at all joints (34 total)

8004/ New Item/ 2599-9999009/ ('Linear Feet' Item) Additional Depth for 30" Unclassified Culvert Pipe Removal
Method of Measurement/ Basis of Payment is the linear feet of 30" Unclassified Culvert Pipe removed.

8005/ New Item/ 2599-9999003/ ('Cubic Yards' Item) Class 1 Bedding
Method of Measurement/ Basis of Payment is as follows:
- 18" Culvert Pipe: the calculated volume of bedding shown in detail for Class R-1 in SW-102 Standard Road Plan.
- 60" Culvert Pipe: the calculated volume for a 4' wide excavation from bottom of 30" Unclassified Culvert Pipe to the bottom of the limits of excavation for the Class R-2 bedding for the 60" Culvert Pipe plus the calculated volume of bedding shown in the detail for Class R-2 in SW-102 Standard Road Plan.

8006/ New Item/ 2507-6800021/ Revetment, Class B

8007/ New Item/ 2602-0000160/ Rock Check Dam

8008/ New Item/ 2602-0000170/ Maintenance of Rock Check Dam

8009/ New Item/ 2402-2720100/ Excavation, Class 20, For Roadway Pipe Culvert

B - Reason for change:

0140/ Plan Change by Project Engineer. Increasing the quantity due to plan error.
Specification section 2402.04 paragraph B.3 specifies how the volume of Class 20 Excavation should be calculated for roadway pipe culverts. The excavation quantity in the bid for the 60" Culvert Pipe at station 506+00 was calculated with pre-construction grades as the surface of the excavation. The actual excavation occurs after the initial 3 month settlement and is within the permanent embankment limits with a surface elevation of 1,115' per sheet J.1 staging notes. The increase in excavation quantity represents the additional excavation over the bid quantity for this location.

0350/ Plan Change by Project Engineer increasing the quantity to construct a Rip Rap Apron at the outlet of the 60" pipe culvert at Sta. 506+00. The additional quantity of "Engineering Fabric" is to be constructed per the SUDAS detail 9040.111.

0570/ Plan Change by Project Engineer reducing the quantity to construct a Rip Rap Apron in place of the "Tied Concrete Block Mat" at the outlet of the 60" Pipe Culvert at Sta. 506+00.

8001/ Plan Change by Project Engineer adding an item for 18" Culvert Elbow to address an omission in the plans. Table 104-3 on sheet C.10 did not have elbows tabulated for the 18" Culvert Pipe. Sheet V.1 shows an elbow is required for this culvert.

8002/ Plan Change by Project Engineer adding an item for 36" Culvert Elbow to address an omission in the plans. Table 104-3 on sheet C.10 did not have elbows tabulated for the 36" Culvert Pipe. Sheet V.1 shows an elbow is required for this culvert.

8003/ Plan Change by Project Engineer adding an item for Culvert Pipe Connectors to address an omission in the plans. Table 104-3 on sheet C.10 did not have connected joints per DR-121 tabulated for any culverts. The engineer has ordered these to be installed as discussed in section above.

8004/ Plan Change by Project Engineer adding an item for Additional Depth for 30" Unclassified Culvert Pipe Removal. Sheet J.1 staging notes discuss that "20-25 feet of fill" will be placed above 30" Unclassified Culvert Pipe for initial 3 month settlement period. The actual depth over the 30" Unclassified Culvert Pipe is approximately 31'. The Y-axis on sheet V.1 for the 60" Culvert Pipe at station 506+00 (same flow line as the 30" Unclassified Culvert Pipe) is shifted 5' making this culvert appear more shallow than the actual plan depth. Both of these plan errors misled the contractor to believe that the excavation depth for removing the 30" Pipe after 3 month settlement period was more shallow than actual plan depth. Per sheet C.4 estimate reference information for bid item 0230 "Culvert, Unclassified Roadway Pipe, 30" Dia.", the excavation and removal of this pipe was to be included in this item. This change will compensate for the added depth to the 30" pipe.

8005/ Plan Change by Project Engineer adding an item for Class 1 Bedding. Table 104-3 on sheet C.10 requires pipe culverts to be backfilled according to Standard Road Plan DR-101. The table did not tabulate quantities of "flooded backfill" or "flowable mortar" for this work and there weren't bid items to compensate for this. The engineer is modifying the backfill requirements to conform to Standard Road Plan SW-102 with Class R-1 detail to be used for 18" Pipe Culvert and Class R-2 detail to be used for 60" Pipe Culvert.

8006/ Plan Change by Project Engineer adding an item for Revetment, Class B. The special design of the 60" Pipe Culvert at station 506+00 allows for a maximum soil cover of 40'. Plan revision #1 raised the 60" Pipe Culvert (station 506+00) outlet elevation by approximately 2.5' to maintain this maximum requirement. The elevation difference between the culvert outlet and the channel beyond the project limits requires additional water velocity and erosion mitigation than the planned "Tied Concrete Block Mat" was designed to provide. The engineer is ordering a Rip-Rap Apron per SUDAS detail 9040.111 to be constructed with Class B Revetment as a substitute for the "Tied Concrete Block Mat".

8007/ Plan Change by Project Engineer adding an item for Rock Check Dam to provide an erosion control check during the life of the construction and to supplement the velocity and erosion mitigation of the Rip Rap Apron noted in 8006 change.

8008/ Plan Change by Project Engineer adding an item for Maintenance of Rock Check Dam to provide compensation for maintaining the rock check dam of erosion impacts during the life of the project.

8009/ Plan Change by Project Engineer adding an item for Excavation, Class 20, For Roadway Pipe Culvert. Specification section 2402.04 paragraph B.3 specifies how the volume of Class 20 Excavation should be calculated for roadway pipe culverts. The excavation quantity in the bid for the 60" Culvert Pipe at station 506+00 was calculated with pre-construction grades as the surface of the excavation. The actual excavation occurs after the initial 3 month settlement and is within the permanent embankment limits with a surface elevation of 1,115' per sheet J.1 staging notes. The increase in excavation quantity represents the additional excavation over the bid quantity for this location.

C - Settlement for cost(s) of change as follows with items addressed in Sections F and/or G:

0140/ Increase/ 2402-2720100/ Excavation, Class 20 For Roadway Pipe Culvert, 33.00 CY @ $36.850/CY = $1,216.05
0350/ Increase/ 2407-3250005/ Engineering Fabric, 124.00 SY @ $3.820/SY = $473.68
0570/ Decrease/ 2599-9999014/ ('Square Feet' Item) Tied Concrete Block Mat, 600.00 SF @ $20.270/SF = $12,162.00 (CR)
8001/ New Item/ 2599-9999005/ ('Each' Item) 18" Culvert Elbow, 1.00 Each @ $2,460.000/Each = $2,460.00
8002/ New Item/ 2599-9999005/ ('Each' Item) 36" Culvert Elbow, 1.00 Each @ $3,280.000/Each = $3,280.00
8003/ New Item/ 2599-9999005/ ('Each' Item) Culvert Pipe Connectors, 70.00 Each @ $210.000/Each = $14,700.00
8004/ New Item/ 2599-9999009/ ('Linear Feet' Item) Additional Depth for 30" Unclassified Culvert Pipe Removal, 272.00 LF @ $26.500/LF = $7,208.00
8005/ New Item/ 2599-9999003/ ('Cubic Yards' Item) Class 1 Bedding, 187.40 CY @ $71.000/CY = $13,305.40
8006/ New Item/ 2507-6800021/ Revetment Class B, 122.90 Ton @ $103.190/Ton = $12,682.05
8007/ New Item/ 2602-0000160/ Rock Check Dam, 18.00 LF @ $155.000/Each = $2,790.00
8008/ New Item/ 2602-0000170/ Maintenance of Rock Check Dam, 3.00 Each @ $880.000/Each = $2,640.00
8009/ New Item/ 2402-2720100/ Excavation, Class 20, For Roadway Pipe Culvert, 9,008.00 CY @ $21.340/CY = $192,230.72

D - Justification for cost(s) (See I.M. 3.805, Attachment D, Chapter 2.36, for acceptable justification):

Complete documentation located in Doc Express/Project File.
0140/ N/A (Contract Unit Price).
0350/ N/A (Contract Unit Price).
0570/ N/A (Contract Unit Price).
8001/ Agreed Unit Price per Each. No direct comparison was possible with bid search since this is a non-standard item that is normally subsidiary to culvert pipe. Type C-1 culvert connections are similar to elbows. Proposal 08-0750-636 has bid prices for type C-1 connections in the range of the accepted unit price for this work.
8002/ Agreed Unit Price per Each. No direct comparison was possible with bid search since this is a non-standard item that is normally subsidiary to culvert pipe. Type C-1 culvert connections are similar to elbows. Proposal 08-0750-636 has bid prices for type C-1 connections in the range of the accepted unit price for this work.
8003/ Agreed Unit Price per Each. No direct comparison was possible with bid search since this is a non-standard item that is normally subsidiary to culvert pipe. Proposal 10-1503-072 has bid prices for "Tie Pipe Joint" that appear similar in magnitude and are favorable for our agreed unit price for this work.
8004/ Agreed Unit Price per Linear Foot. No direct comparison was possible with bid search since this is a non-standard item. The contractor's unit price for this work represents a 10% increase in the unit cost over the bid price which the engineer considers fair compensation for the additional excavation and depth required to remove the temporary 30" Culvert Pipe.
8005/ Agreed Unit Price per Cubic Yard. The most direct comparison for this bedding material would be the flooded backfill that it replaces. A bid search of the last 5 years for bid item "Flooded Backfill" yielded an average unit price of $74.86 / CY which is favorable for the accepted unit price for this change item.
8006/ Negotiated and Agreed Unit Price per Ton. The accepted unit price for the work was negotiated and the contractor provided a thorough labor and equipment break down as justification.
8007/ Agreed Unit Price per Linear Foot. The proposed unit price is higher than the average bid price but within the range of bid prices for the last 5 years. The small quantity and difficult accessibility for the location are sufficient reasons for accepting the unit price.
8008/ Agreed Unit Price per Each. The proposed unit price is higher than the average bid price but within the range of bid prices for the last 5 years. The small quantity and difficult accessibility for the location are sufficient reasons for accepting the unit price.
8009/ Negotiated and agreed Unit Price per Cubic Yard. The accepted unit price for the work above 125% of the bid quantity was negotiated and the contractor provided a thorough labor and equipment break down for justification with reasonable answers to follow up questions.

E - Contract time adjustment: ☐ No Working Days added ☒ Working Days added: 18 ☐ Unknown at this time

Justification for selection:
The original contract duration has the contractor completing approximately $9,000 per day of work. The cost added by this change order justifies a 26 calendar day extension. The contractor requested 18 additional calendar days which is acceptable.

IOWADOT
Form 831240 (12-15)

Accounting ID No.(5-digit number): 39300

Change Order No.: 1

F - Items included in contract:

Participating				For deductions enter as "-x.xx"		
Federal-aid	State-aid	Line Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
X		0140	Excavation, Class 20, For Roadway Pipe Culvert	$36.85	33.000	$1,216.05
X		0350	Engineering Fabric	$3.82	124.000	$473.68
X		0570	Tied Concrete Block Mat	$20.27	-600.000	-$12,162.00

Add Row | Delete Row | TOTAL | -$10,472.27

G - Items not included in contract:

Participating				For deductions enter as "-x.xx"		
Federal-aid	State-aid	Change Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
X		8001	2599-9999005 18" Culvert Elbow	$2,460.00	1.000	$2,460.00
X		8002	2599-9999005 36" Culvert Elbow	$3,280.00	1.000	$3,280.00
X		8003	2599-9999005 Culvert Pipe Connectors	$210.00	70.000	$14,700.00
X		8004	2599-9999009 Additional Depth for 30" Unclassif	$26.50	272.000	$7,208.00
X		8005	2599-9999003 Class 1 Bedding	$71.00	187.400	$13,305.40
X		8006	2507-6800021 Revetment, Class B	$103.19	122.900	$12,682.05
X		8007	2602-0000160 Rock Check Dam	$155.00	18.000	$2,790.00
X		8008	2602-0000170 Maintenance of Rock Check Dam	$880.00	3.000	$2,640.00
X		8009	2402-2720100 Excavation, Class 20, For Roadway	$21.34	9,008.000	$192,230.72

Add Row | Delete Row | TOTAL | $251,296.17

H. Signatures

Agreed: _____ 9/12/2023
Contractor Date

Recommended: _____ 9/12/2023
Project Engineer Date

Approved:

Person in Responsible Charge	Date	Other (optional)	Title	Date
Contracting Authority (optional)	Date	Other (optional)	Title	Date
Iowa DOT Administering Office	Date			

Approval is contingent upon funds being available under the existing project agreement or upon additional Federal-aid funds being made available by a modified project agreement.

FHWA Concurrence: _____ _____
Federal Highway Division Administration (if required) Date

DISTRIBUTION (after fully executed on LPA projects): Original - Finance; Copies - Contractor, Project Engineer, Contracting Authority, Administering Office.

Date distributed: _____ Initials: _____

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
501+70.35	502+44.01	Lt/Rt	PCC	292.7	78.0	Estimated thickness 7"
1006+79.12	1007+24.00	Lt/Rt	PCC	367.6	26.0	Estimated thickness 7"
529+71.58	529+75.30	Lt/Rt	HMA	37.0	95.0	Estimated thickness 8"
			Total =	697.3	199.0	

110-5
10-20-15

SIDEWALK REMOVAL

* Not a bid item

Begin Station	End Station	Area SY	Saw Cut* LF	Remarks
501+77.00	501+90.00	15.3	4.0	
501+74.00	501+87.00	14.1	4.0	
	Total =	29.4	8.0	

104-3
10-17-17

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

* Not a bid item

(1) Diameter or equivalent diameter

(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe

(3) Backfill according to DR-101

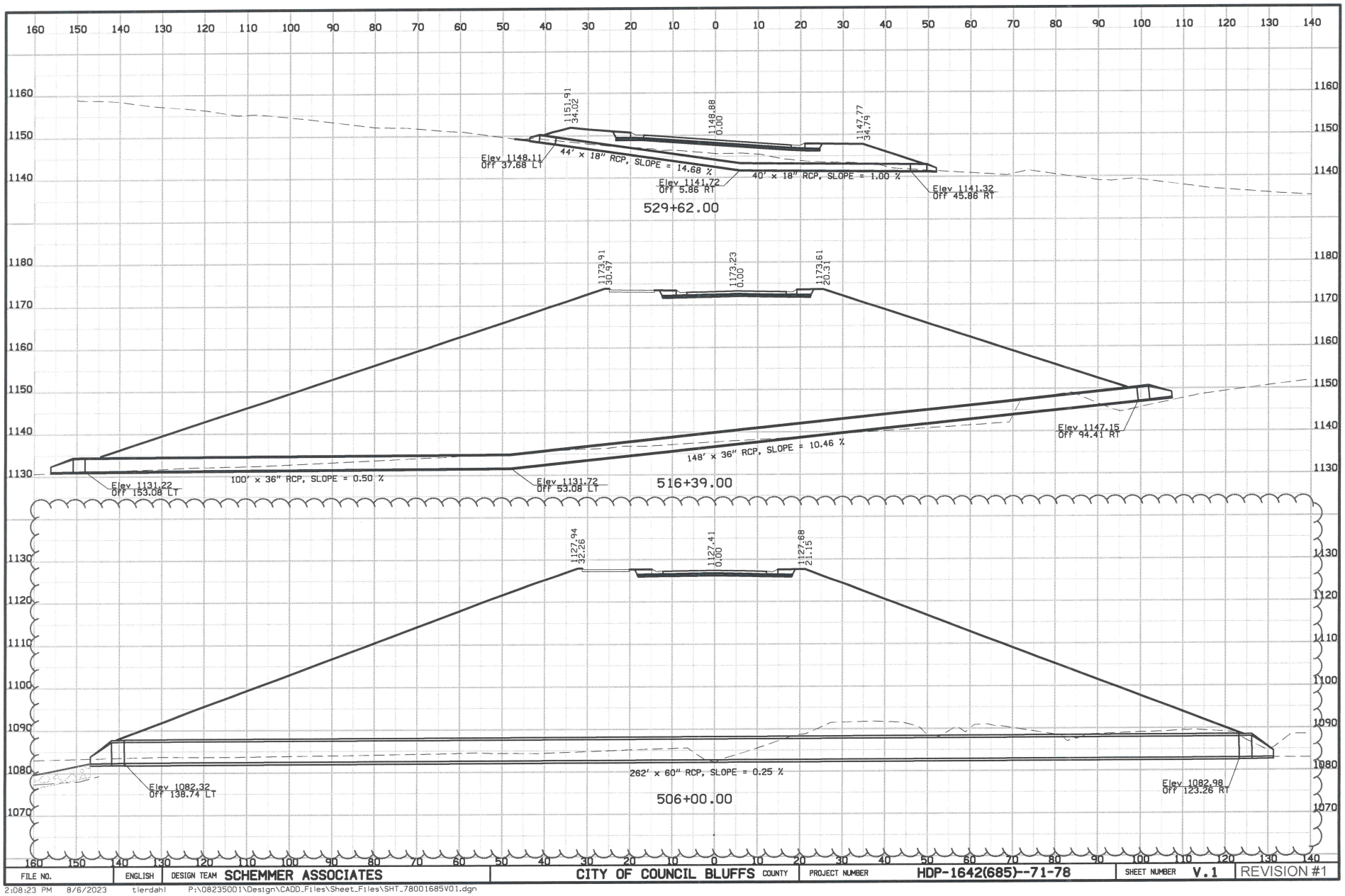
Drainage Area ACRE	Location	Type	Size (1) IN	Kind Of Pipe (2)	Length New Const. LF	Bedding Class	Design Cover (H) FT	Camber* (DR-102) FT	Apron No. IN	Apron No. OUT	Apron Guard* (DR-213) No.	Elbow* (DR-141) No.	Diaphragm* (DR-501) No.	Tee Section* (DR-142) No.	"D" Section* (DR-141) No.	Reducer* No.	Type 'C' Connections* (DR-122) Type	Connected Pipe Joint* (DR-121) No.	4" Perforated Subdrain* Type	Flow Line Elevations FT	Lt.	Rt.	Other	Other	Dimensions Lin. Ft. Total Lt.	Total Rt.	Extensions Lt.	Extensions Rt.	Skew Ahead Degrees Lt.	Skew Ahead Degrees Rt.	Dike Rt./Lt.	Dike Location Station	Dike Top Elevation	Dike Type	Class 20 CY	Flowable Mortar CY	Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (3) (A+B) CY	Remarks
51.4	506+00.00	SPECIAL	60	RCP	~~268~~	B	~~37.0~~		1	1	2									~~1079.85~~	~~1082.52~~			~~144.7~~	123.3			109	71					~~124.0~~					
					262		39.8													1082.32	1082.98			138.7										9165.0					
5.2	516+39.00	SPECIAL	36	RCP	248	B	36.0		1	1	2									1131.22	1147.15	1131.72		153.4	94.6			100	80					5.0					
	529+62.00	2000D	18	RCP	84	B	5.0	0.08	1	1										1148.11	1141.32	1141.72		38.2	45.8			89	91					4.0					
																																		9298.0					

100-09
MODIFIED

TIED CONCRETE BLOCK MAT

0

Location Station	Side	Length LF	Width LF	Area SF	Remarks
~~505+58.00~~	~~Lt.~~	~~25~~	~~24~~	~~600~~	
516+03.00	Lt.	20	12	240	
529+57.00	Rt.	19	15	285	
			Total	~~1125~~	
				525	



FILE NO.	ENGLISH	DESIGN TEAM SCHEMMER ASSOCIATES	CITY OF COUNCIL BLUFFS COUNTY	PROJECT NUMBER HDP-1642(685)--71-78	SHEET NUMBER V.1	REVISION #1

2:08:23 PM 8/6/2023 tlerdahl P:\08235001\Design\CADD_Files\Sheet_Files\SHT_78001685V01.dgn