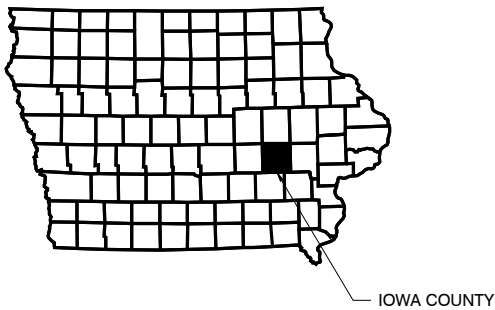
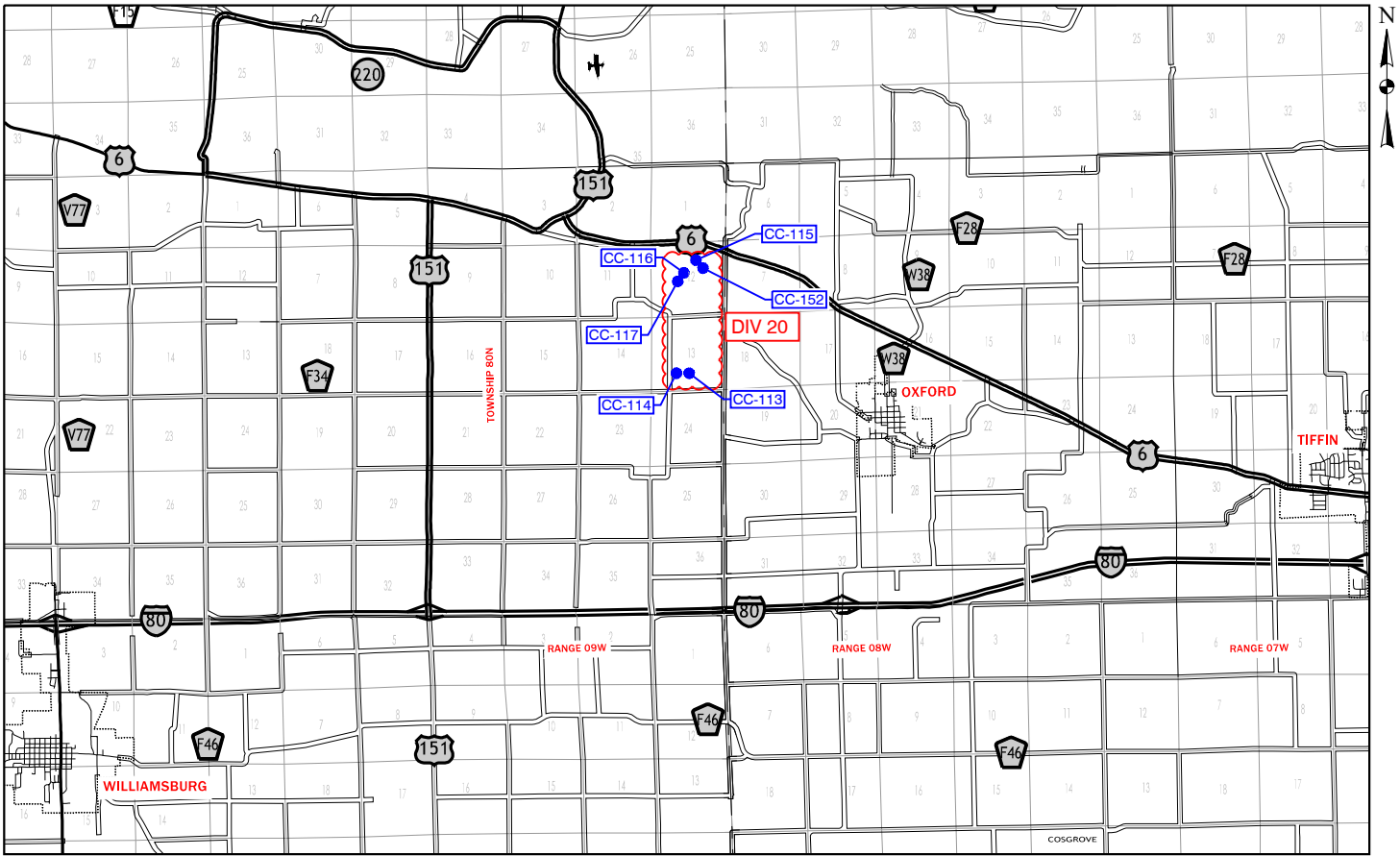


PROPOSED WATERSHED IMPROVEMENTS
CLEAR CREEK WATERSHED IN
IOWA & JOHNSON COUNTIES
BID PACKAGE 5, IOWA COUNTY
~2021~



CLEAR CREEK WATERSHED:
JOHN RATHBUN, COORDINATOR
51 ESCORT LANE
IOWA CITY, IA 52240
319-499-4835

JOHNSON COUNTY BOARD OF SUPERVISORS:
913 S. DUBUQUE STREET, SUITE 201
IOWA CITY, IA 52240



VICINITY MAP - IOWA COUNTY (All Bid Package #5)
Sites are located in Iowa County)

NOT TO SCALE



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Ames, Iowa 50010
Phone 515-232-1784
www.cgaconsultants.com

INDEX OF SHEETS

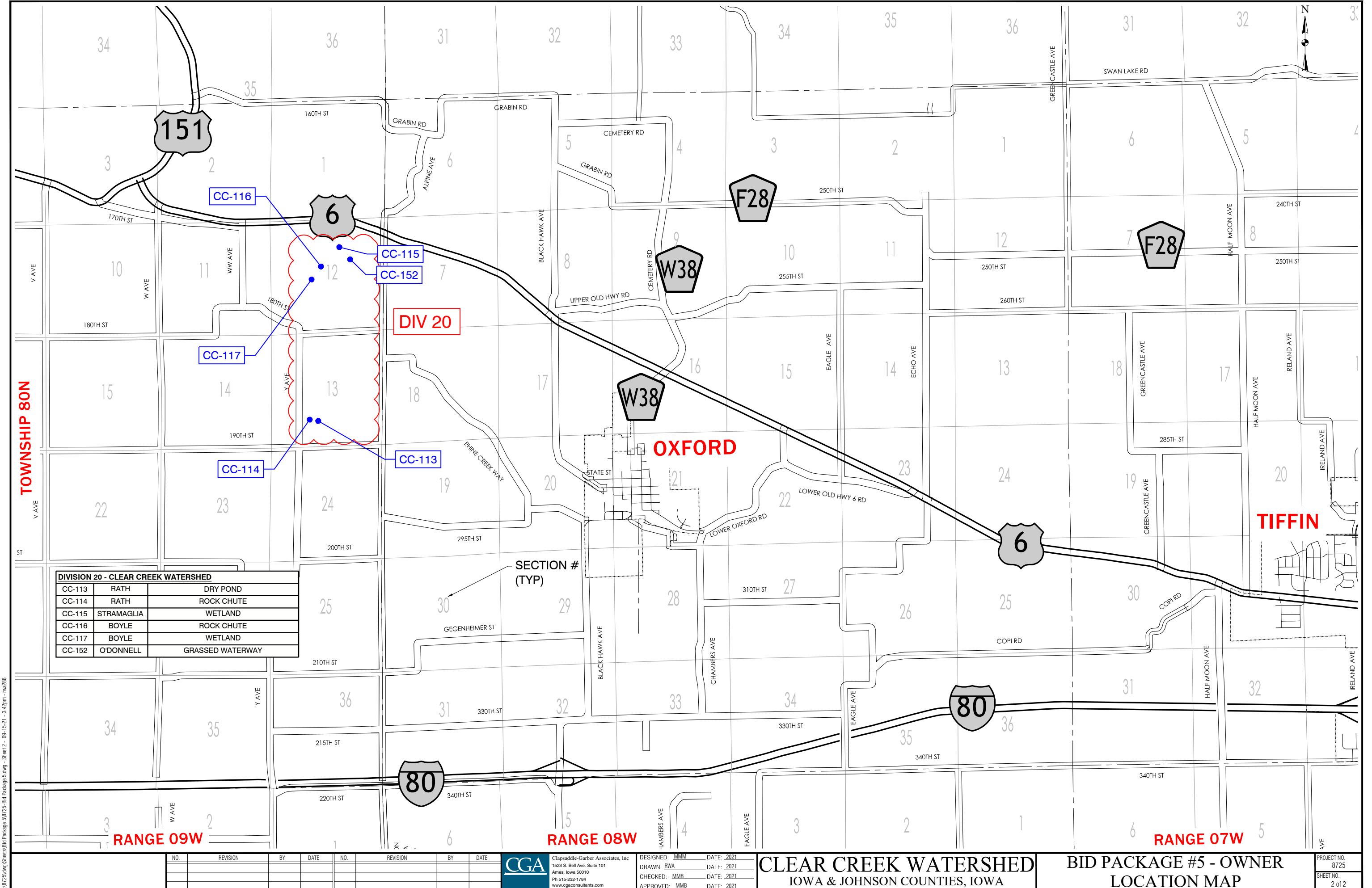
SHEET NO.	DESCRIPTION
1	COVER
2	OWNER LOCATION MAP
DIVISION 20 - CLEAR CREEK WATERSHED	
SHEETS 1-8	CC-113 RATH DRY POND
	CC-114 RATH ROCK CHUTE
SHEETS 1-4	CC-115 STRAMAGLIA WETLAND RESTORATION
	CC-116 BOYLE ROCK CHUTE
SHEETS 1-7	CC-117 BOYLE WETLAND RESTORATION
SHEETS 1-4	CC-152 O'DONNELL GRASSED WATERWAY

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGEMENT, AND BELIEF, THIS DESIGN, CONSTRUCTION DRAWINGS, AND SPECIFICATIONS MEET APPLICABLE NRCS STANDARDS AND SPECIFICATIONS.

Mindy Bryngelson 09/23/2021
SIGNATURE DATE

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. <i>Mindy Bryngelson</i> 09/23/2021 Signature Date Mindy M. Bryngelson, PE Iowa License Number 17135 My license renewal date is December 31, 2021
Pages or sheets covered by this seal: ALL SHEETS	

- NOTES:
1. THE CONTRACTOR SHALL CONTACT ONE-CALL, 800-292-8989, FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
 2. IF CULTURAL RESOURCES ARE FOUND DURING CONSTRUCTION, WORK SHALL STOP IMMEDIATELY. CONTACT THE WATERSHED COORDINATOR, JOHN RATHBUN.
 3. SEE SEPARATELY BOUND SPECIFICATIONS.



J:\8725\dwg\Streets\Bid Package 5\8725-Bid Package 5.dwg - Sheet 2 - 09-15-21 - 3:42pm - rwa286

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



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1523 S. Bell Ave. Suite 101
Ames, Iowa 50010
Ph 515-282-1794
www.cgaconsultants.com

DESIGNED: MMM	DATE: 2021
DRAWN: RWA	DATE: 2021
CHECKED: MMB	DATE: 2021
APPROVED: MMB	DATE: 2021

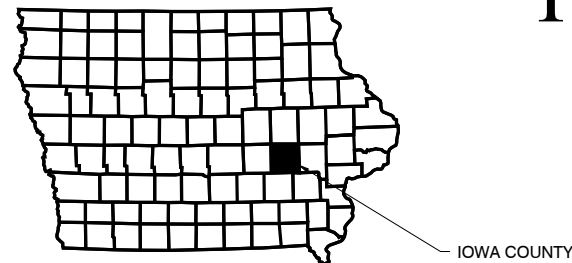
CLEAR CREEK WATERSHED

IOWA & JOHNSON COUNTIES, IOWA

BID PACKAGE #5 - OWNER
LOCATION MAP

PROJECT NO.
8725
SHEET NO.
2 of 2

CC-113 (RATH)
GRADE STABILIZATION STRUCTURE - DRY POND (NRCS 410)
CC-114 (RATH)
GRADE STABILIZATION STRUCTURE- ROCK CHUTE (NCRS 410)
PROPOSED WATERSHED IMPROVEMENTS
CLEAR CREEK WATERSHED
IOWA COUNTY, IOWA
CDBG PROJECT NO.13-NDRI-007



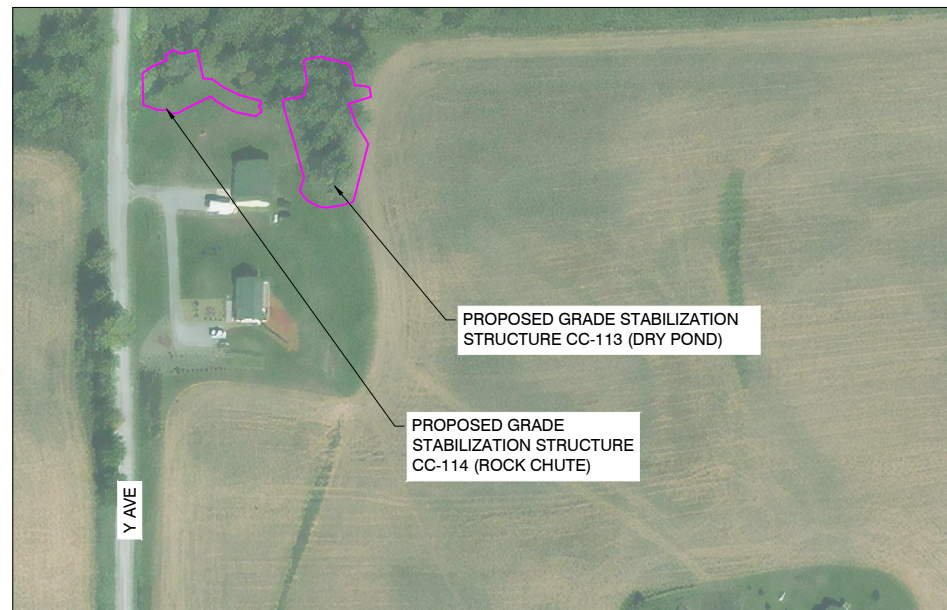
CLEAR CREEK WATERSHED:
JOHN RATHBUN, COORDINATOR
51 ESCORT LANE
IOWA CITY, IA 52240
319-499-4835

JOHNSON COUNTY BOARD OF SUPERVISORS:
913 S. DUBUQUE STREET, SUITE 201
IOWA CITY, IA 52240

LANDOWNER:
ROBERT & SUSAN RATH
3349 190TH STREET
HOMESTEAD, IA 52236
XXX-XXX-XXXX



- NOTES:
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 2. IF CULTURAL RESOURCES ARE FOUND DURING CONSTRUCTION, WORK SHALL STOP IMMEDIATELY. CONTACT THE WATERSHED COORDINATOR, JOHN RATHBUN.
 3. ALSO SEE SPECIFICATIONS.



LOCATION MAP
SECTION 13 T80N R09W



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1523 S. Bell Ave. Suite 101
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Phone 515-232-1784
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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	OVERALL PROJECT SITE
3	CC-113 DAM SECTIONS
4	CC-113 STREAM PLAN & PROFILE
5	CC-114 ROCK CHUTE PLAN
6	CC-114 DETAILS
7	STORM WATER POLLUTION PREVENTION PLAN
8	QUANTITIES AND DESIGN DATA

PERMIT SUMMARY
US ARMY CORPS OF ENGINEERS
REGIONAL GENERAL PERMIT 33
CEMVR - OD - P - 2014 - 0871

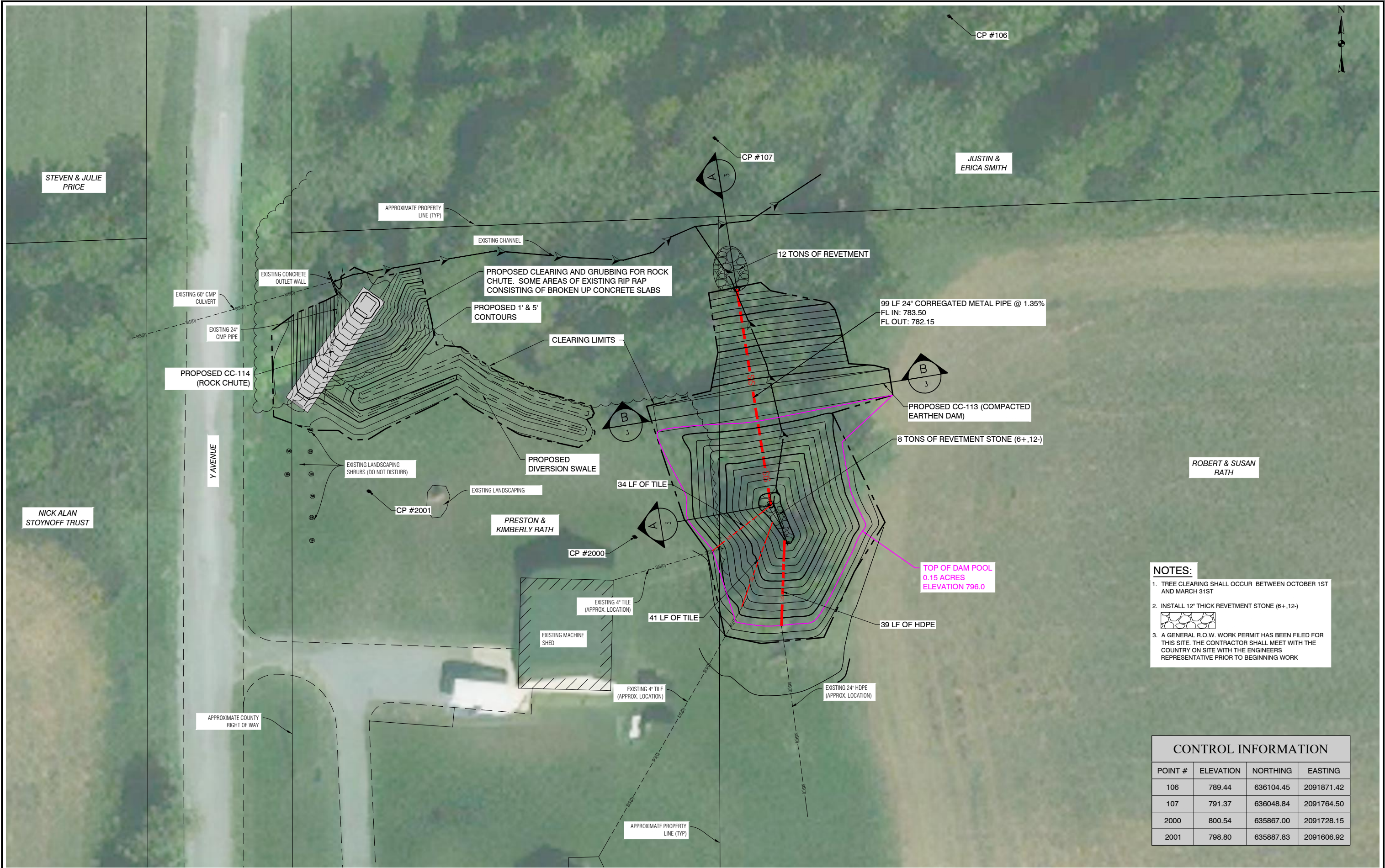
NPDES GENERAL PERMIT #2

IOWA COUNTY GENERAL RIGHT
OF WAY WORK PERMIT

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGEMENT, AND BELIEF, THIS DESIGN, CONSTRUCTION DRAWINGS, AND SPECIFICATIONS MEET APPLICABLE NRCS STANDARDS AND SPECIFICATIONS.

Mindy Bryngelson 09/23/2021
SIGNATURE DATE

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. <i>Mindy Bryngelson</i> 09/23/2021 Signature Date Mindy M. Bryngelson, PE Iowa License Number 17135 My license renewal date is December 31, 2021
Pages or sheets covered by this seal: ALL SHEETS	



- NOTES:**
1. TREE CLEARING SHALL OCCUR BETWEEN OCTOBER 1ST AND MARCH 31ST
 2. INSTALL 12" THICK REVETMENT STONE (6+, 12-)
 3. A GENERAL R.O.W. WORK PERMIT HAS BEEN FILED FOR THIS SITE. THE CONTRACTOR SHALL MEET WITH THE COUNTRY ON SITE WITH THE ENGINEERS REPRESENTATIVE PRIOR TO BEGINNING WORK

CONTROL INFORMATION			
POINT #	ELEVATION	NORTHING	EASTING
106	789.44	636104.45	2091871.42
107	791.37	636048.84	2091764.50
2000	800.54	635867.00	2091728.15
2001	798.80	635887.83	2091606.92



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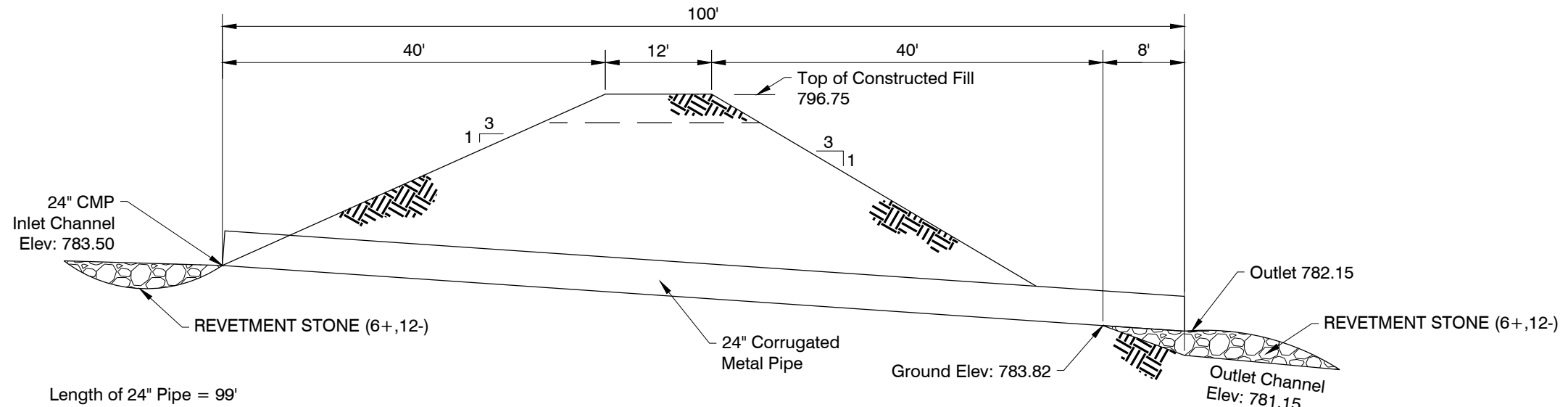
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DRAWN: RWA	DATE: 2/11/2020
CHECKED: MMB	DATE: 8/18/2121
APPROVED: MMB	DATE: 8/19/2021

CC-113- CC-114 (RATH)

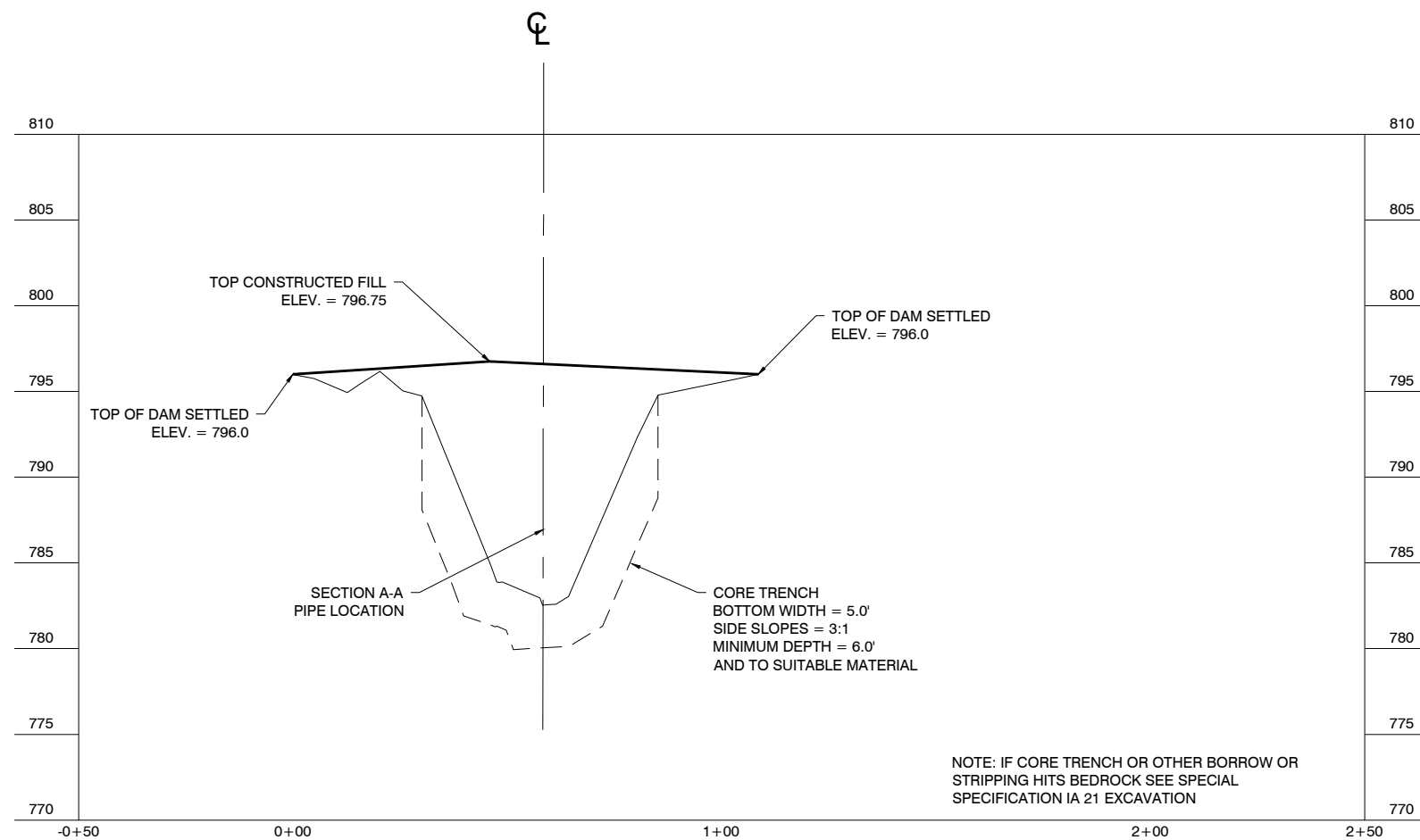
IOWA COUNTY, IOWA

OVERALL PROJECT SITE

PROJECT NO.	8725
SHEET NO.	2



SECTION A-A



SECTION B-B

NOTE:

1. SEED ALL DISTURBED AREAS WITH TYPE I SEED MIX
2. RESTORATION OF HAUL ROUTES AND MATERIAL STORAGE AREAS BACK TO ORIGINAL CONDITIONS SHALL BE PART OF THE MOBILIZATION COSTS.

CC-113 QUANTITIES OF WORK		
Description	Plan Quantity	As-Built Quantity
Clearing & Grubbing	0.3 AC	
Topsoil Strip, Salvage, & Respread	215 CY	
Excavation, Core Trench	200 CY	
Earthfill	525 CY	
4" Tile	75 LF	
24" HDPE Pipe	40 LF	
Corrugated Metal Pipe, 24"	100 LF	
Fertilizing, Seeding, & Mulching Type I	1 LS	
Erosion Control, Rolled Erosion Control Products (RECP)	96 SQ	
Erosion Control, Silt Fence	250 LF	
Revetment Stone (6+ , 12-)	20 Tons	
Mobilization	1 LS	

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



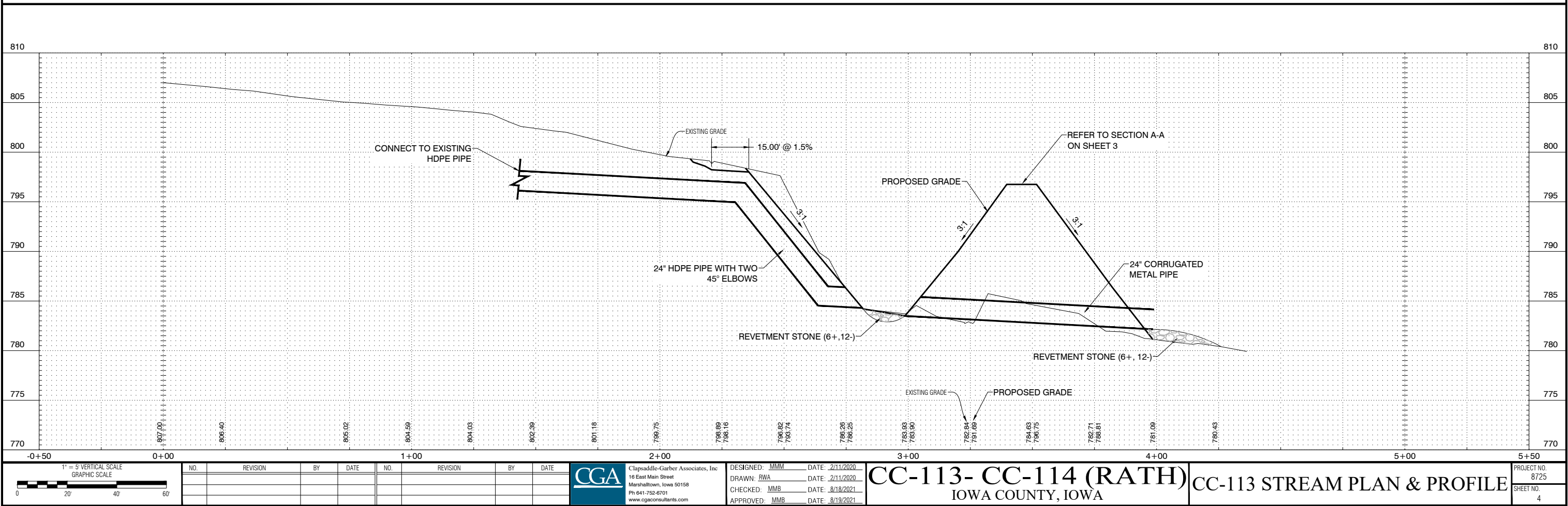
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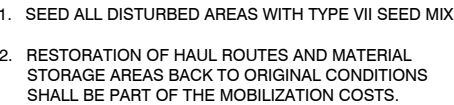
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DRAWN: RWA DATE: 2/11/2020
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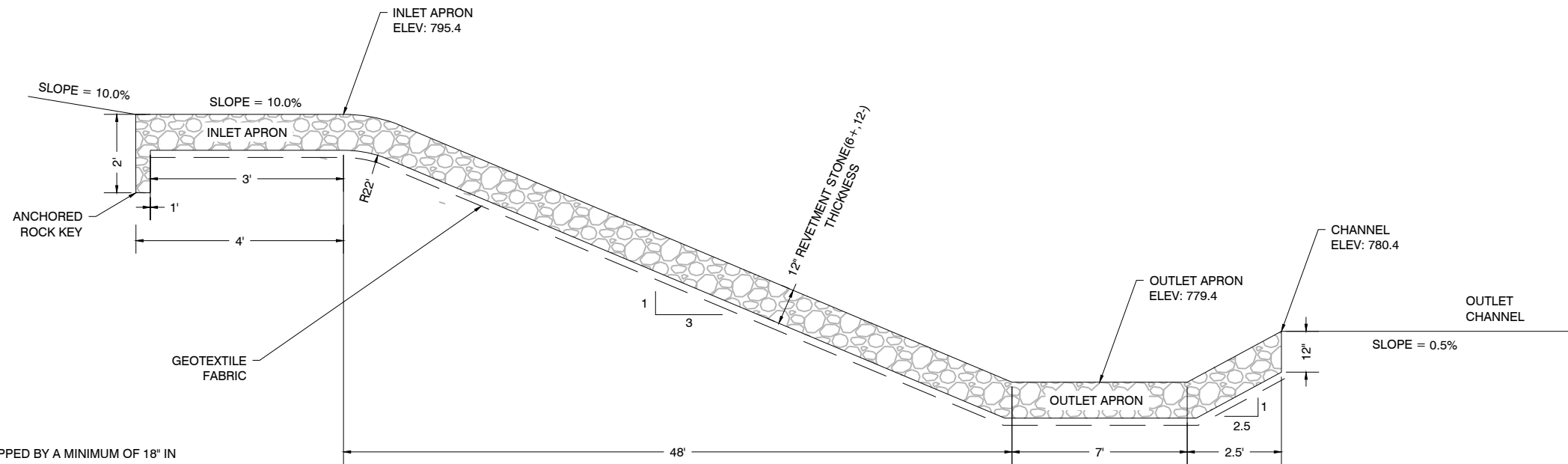
CC-113- CC-114 (RATH)
IOWA COUNTY, IOWA

CC-113 DAM SECTIONS

PROJECT NO.
8725
SHEET NO.
3



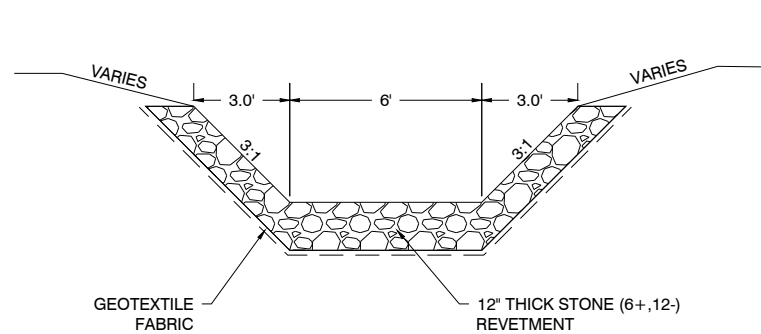




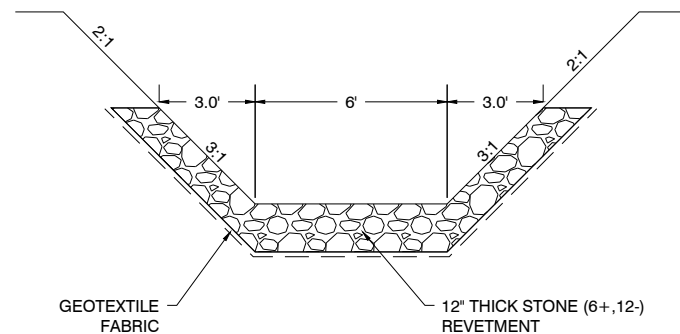
- NOTES:
1. GEOTEXTILE SHALL BE OVERLAPPED BY A MINIMUM OF 18" IN THE DIRECTION OF FLOW.
 2. GEOTEXTILE SHALL BE ANCHORED WITHIN 18" OF ALL SIDES AND 24" OF THE END.
 3. REVETMENT SHALL BE REVETMENT STONE WITH THE FOLLOWING GRADATION (6+ 12'):

GRADATION OF REVETMENT STONE (6+ , 12-)	
Percent Passing	Size (Inches)
100	12"
50-85	10.8"
20-60	9"
10-40	7.8"

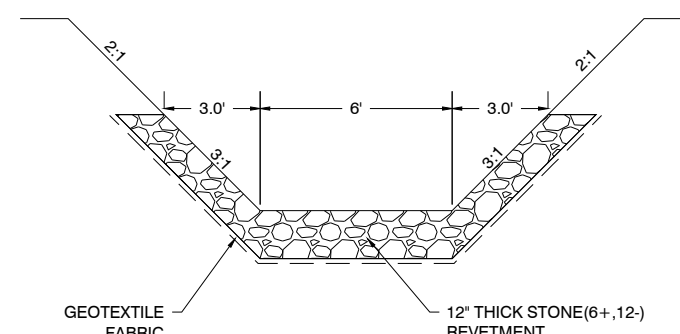
A PROFILE ALONG CENTERLINE OF CHUTE
NOT TO SCALE



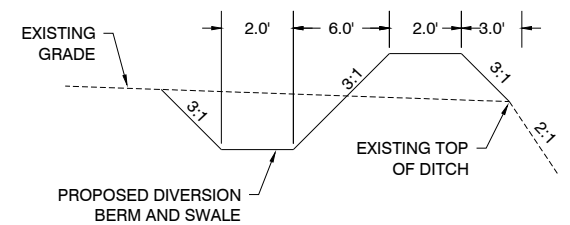
B INLET CHANNEL CROSS SECTION
NOT TO SCALE



C ROCK CHUTE CROSS SECTION
NOT TO SCALE



D OUTLET CHANNEL CROSS SECTION
NOT TO SCALE



E DIVERSION SWALE CROSS SECTION
NOT TO SCALE

J:\8725_RainDiversion\Streets\CC-114 (Rock Chute)\8725_CC-114 (Rain) - 4 Details.dwg - 6 - 09-09-21 - 4:11pm - JRA353

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

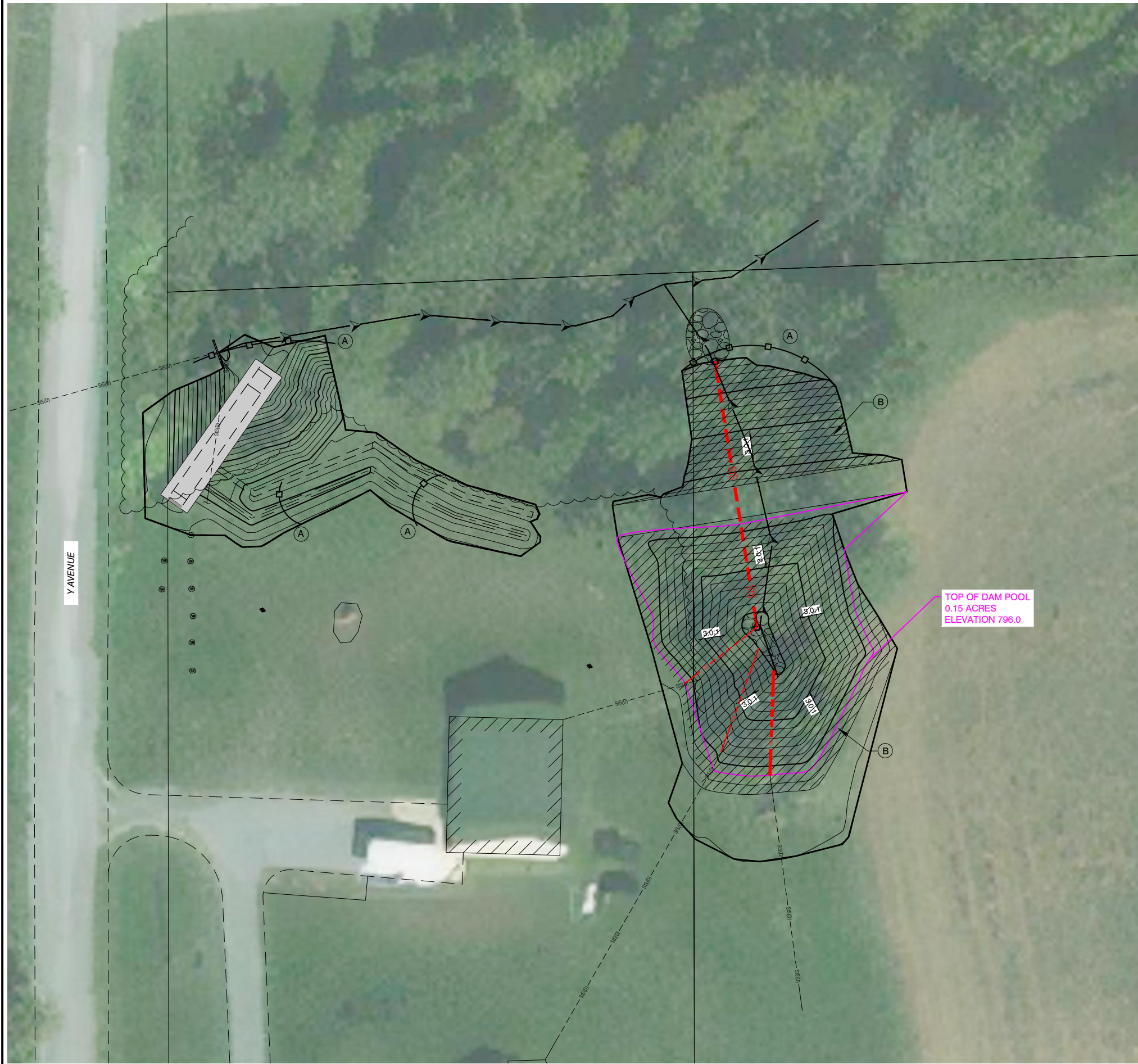


DESIGNED: MMM DATE:
DRAWN: RWA DATE:
CHECKED: MMB DATE:
APPROVED: MMB DATE:

CC-113- CC-114 (RATH)
IOWA COUNTY, IOWA

CC-114 DETAILS

PROJECT NO.
8725
SHEET NO.
6



POLLUTION PREVENTION PLAN NOTES

1. A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL GUIDELINES PER THE IA-DNR CONSTRUCTION PERMIT. ALL CONTRACTORS SHALL BE SUPPLIED A COPY OF THE SWPPP DOCUMENT AT THE BEGINNING OF CONSTRUCTION. A COPY OF THE SWPPP DOCUMENTS SHALL BE LOCATED WITH THE SWPPP MANAGER AT ALL TIMES. COPIES CAN ALSO BE FOUND AT 16 E MAIN STREET, MARSHALLTOWN, IA 50158. ALL CONTRACTORS/SUBCONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT MINIMIZES EROSION AND PREVENTS SEDIMENTS AND NON EARTH DISTURBING POLLUTANTS FROM LEAVING THE SITE AS DESCRIBED IN THE SWPPP. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND IMPLEMENTATION OF THE SWPPP FOR THEIR ENTIRE CONTRACT. THIS RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THE SWPPP.
2. THIS SHEET IS NOT THE COMPLETE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), BUT RATHER A PART OF THE SWPPP THAT IS TO BE UPDATED REGULARLY BY THE CONTRACTOR. IT IS THE PRIME CONTRACTORS RESPONSIBILITY TO UPDATE THE SWPPP PLAN AS NEEDED AS WELL AS CONDUCT ANY NECESSARY INSPECTIONS IN ACCORDANCE WITH THE IOWA DNR AND EPA GUIDELINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ANY DEFICIENCIES, CORRECTING THOSE DEFICIENCIES IMMEDIATELY AND DOCUMENTING SUCH WITH THE SWPPP. ALL EROSION CONTROL ITEMS SHALL BE REMOVED AT THE END OF THE PROJECT. THE SWPPP MANAGER SHALL UPDATE SITE PLAN WITH THE LOCATION OF THE 'POLLUTION PREVENTION PLAN LEGEND' ITEMS ONCE THE LOCATION OF THOSE CONTROLS IS ESTABLISHED. ANY ADDITIONAL CONTROLS THAT ARE USED BUT ARE NOT LISTED IN THE LEGEND SHALL BE CLEARLY IDENTIFIED ON THE PLANS.

LEGEND:

- (A) INSTALL SILT FENCE SEE IOWA SUDAS SPEC. FIG. 9040.119
- (B) INSTALL TEMPORARY ROLLED EROSION CONTROL PRODUCT (RECP)
-

NOTE: ANY CONTROLS NOT SHOWN ON SWPPP SHALL BE LOCATED IN THE FIELD BY THE CONTRACTOR. ALL CHANGES AND ADDITIONAL CONTROLS INSTALLED SHALL BE UPDATED ON THE SWPPP SHEET.

J:\8725_RainWdgs\Streets\8725_CC-113-114\swppp.dwg - 7 - 09-09-21 - 4:19pm - JRA353



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



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Ph 515-232-1794
www.cgaconsultants.com

DESIGNED: MMM DATE: 2/11/2020
DRAWN: RWA DATE: 2/11/2020
CHECKED: MMB DATE: 8/18/2021
APPROVED: MMB DATE: 8/19/2021

CC-113- CC-114 (RATH)
IOWA COUNTY, IOWA

**STORM WATER POLLUTION
PREVENTION PLAN**

PROJECT NO.
8725
SHEET NO.
7

J:\8725 - RainWings Sheets\CC-113\8725_CC-113 (Rain) - 7_Ohs.dwg - 8 - 09-09-21 - 4:57pm - JRA333

CC-113 DESIGN DATA		
DRAINAGE AREA = 13.3 ACRES		
SOIL TYPES	MAP UNIT SYMBOL	HYDROLOGIC GROUP
Colo-Ely Complex	911B	C
Tama-Sparta-Pilot Complex	1442D2	C
Downs Silt Loam	M162C2	C
Downs Silt Loam	M162D2	C
Downs Silty Clay Loam	M162E3	C

Land Use	Area (Ac)	RCN	
Farmstead	1.0	82	
Row Crop	11.4	82	
Brush/Weed/Grass	0.4	65	
Gravel/Road	0.5	89	
		Weighted RCN:	82

SOIL DELIVERY	
Design Life	50 YEARS
Below Crest	1.25
Above Crest	0.23

STAGE-STORAGE			
ELEVATION	AREA (AC)	INTERVAL (AC-FT)	CUMULATIVE (AC-FT)
783.0	0	0	0
784.0	0.01	0.01	0.01
785.0	0.02	0.02	0.02
786.0	0.03	0.02	0.05
787.0	0.03	0.03	0.07
788.0	0.04	0.03	0.11
789.0	0.04	0.04	0.15
790.0	0.05	0.05	0.19
791.0	0.06	0.05	0.25
792.0	0.06	0.06	0.31
793.0	0.07	0.07	0.38
794.0	0.08	0.08	0.45
795.0	0.11	0.09	0.55
796.0	0.13	0.12	0.67
797.0	0.18	0.16	0.82

CC-113 CLASS OF STRUCTURE			
PRINCIPAL SPILLWAY (PS) DESIGN		Low Hazard	Unit
	Rainfall Frequency	50	Year
	Rainfall / 24 Hours	6.29	Inches
	Peak Inflow	70.53	CFS
	Normal Pool Elevation	Dry Basin	
	Max Water Surface Elevation	795.02	Feet
	Max Outflow	47.88	CFS

TOTAL CAPACITY		
	At Top of Dam	0.67
		Ac-Ft

SURFACE AREA		
	At Top of Dam	0.15
		Acres

ELEVATIONS		
	At Top of Dam (Settled)	796.00
	At Top of Dam (Constructed)	796.75
		Feet

CC-114 DESIGN DATA	
Parameter	Value
Drainage Area	1.1 Acres
Apron Inlet Elevation	795.4
Apron Outlet Elevation	779.4
Design Storm (50-Year)	6.29 Inches in 24 Hours
Maximum Flow Through Chute	8.5 cfs

CC-114 HIGH STORM FLOW INFORMATION	
Equivalent Unit Discharge	1.28 cfs/ft
Factor of Safety	1.2
Normal Flow Depth In Chute	0.21 ft
Rock Chute Thickness	12 in
Tailwater Above Outlet Apron	1.68 ft
Hydraulic Jump Height	0.59 ft

QUANTITIES OF WORK				
		CC-113 (DRY POND)	CC-114 (ROCK CHUTE)	TOTAL
Description	Unit	Quantity	Quantity	Quantity
Clearing & Grubbing	AC	0.30	0.15	0.45
Topsoil Strip, Salvage, & Respread	CY	215	115	330
Excavation, Class 13	CY	-	510	510
Excavation, Core Trench	CY	200	-	200
Earthfill	CY	525	-	525
4" Tile	LF	75	-	75
24" HDPE Pipe	LF	40	-	40
Corrugated Metal Pipe, 24"	LF	100	-	100
Fertilizing, Seeding, & Mulching Type I	LS	1	1	2
Fertilizing, Seeding, & Mulching Type VII	LS	-	1	1
Erosion Control, Rolled Erosion Control Products (RECP)	SQ	96	-	96
Erosion Control, Silt Fence	LF	250	-	250
Revetment Stone (6+12-)	Tons	20	52	72
Mobilization	LS	1	1	2

- NOTE:
- MOBILIZATION SHALL INCLUDE RESTORATION OF ALL INGRESS & EGRESS ROUTES & STAGING AREAS TO EXISTING CONDITIONS. REFER TO THE SPECIAL PROVISIONS IN THE PROJECT MANUAL FOR FURTHER DETAILS.
 - ALL DAM STRUCTURES SHALL BE SEEDED WITH TYPE I SEED MIX. ALL OTHER DISTURBED AREAS SHALL BE SEEDED WITH TYPE VII SEED MIX.

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



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1523 S. Bell Ave. Suite 101
Ames, Iowa 50010
Ph 515-232-1784
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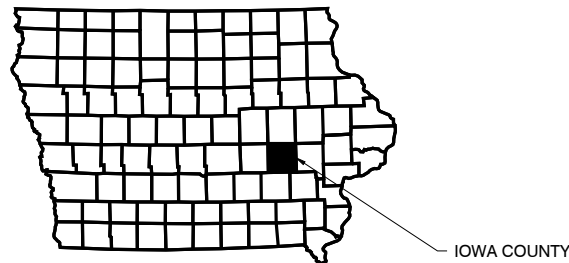
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DRAWN: RWA DATE: 2/11/2020
CHECKED: MMB DATE: 8/18/2021
APPROVED: MMB DATE: 8/19/2021

CC-113- CC-114 (RATH)
IOWA COUNTY, IOWA

QUANTITIES AND DESIGN DATA

PROJECT NO.
8725
SHEET NO.
8

CC-115 (STRAMAGLIA)
WETLAND RESTORATION (NRCS 657)
PROPOSED WATERSHED IMPROVEMENTS
CLEAR CREEK WATERSHED
IOWA COUNTY, IOWA
CDBG PROJECT NO.13-NDRI-007
~2021~



CLEAR CREEK WATERSHED:
JOHN RATHBUN, COORDINATOR
51 ESCORT LANE
IOWA CITY, IA 52240
319-499-4835

JOHNSON COUNTY BOARD OF SUPERVISORS:
913 S. DUBUQUE STREET, SUITE 201
IOWA CITY, IA 52240

LANDOWNER:
JOSEPH STRAMAGLIA
3372 PORTWOOD DR.
HOMESTEAD, IA 52236



LOCATION MAP
SECTION 12 T80N R09W



Clapsaddle-Garber Associates, Inc
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Ames, Iowa 50010
Phone 515-232-1784
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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PROJECT SITE
3	PLAN & PROFILE
4	GRADING, DETAILS, & QUANTITIES

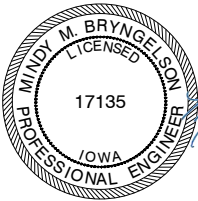
PERMIT SUMMARY
US ARMY CORPS OF ENGINEERS
REGIONAL GENERAL PERMIT 33
CEMVR - OD - P - 2014 - 0871

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGEMENT, AND BELIEF, THIS DESIGN, CONSTRUCTION DRAWINGS, AND SPECIFICATIONS MEET APPLICABLE NRCS STANDARDS AND SPECIFICATIONS.

Mindy Bryngelson 09/23/2021
SIGNATURE DATE

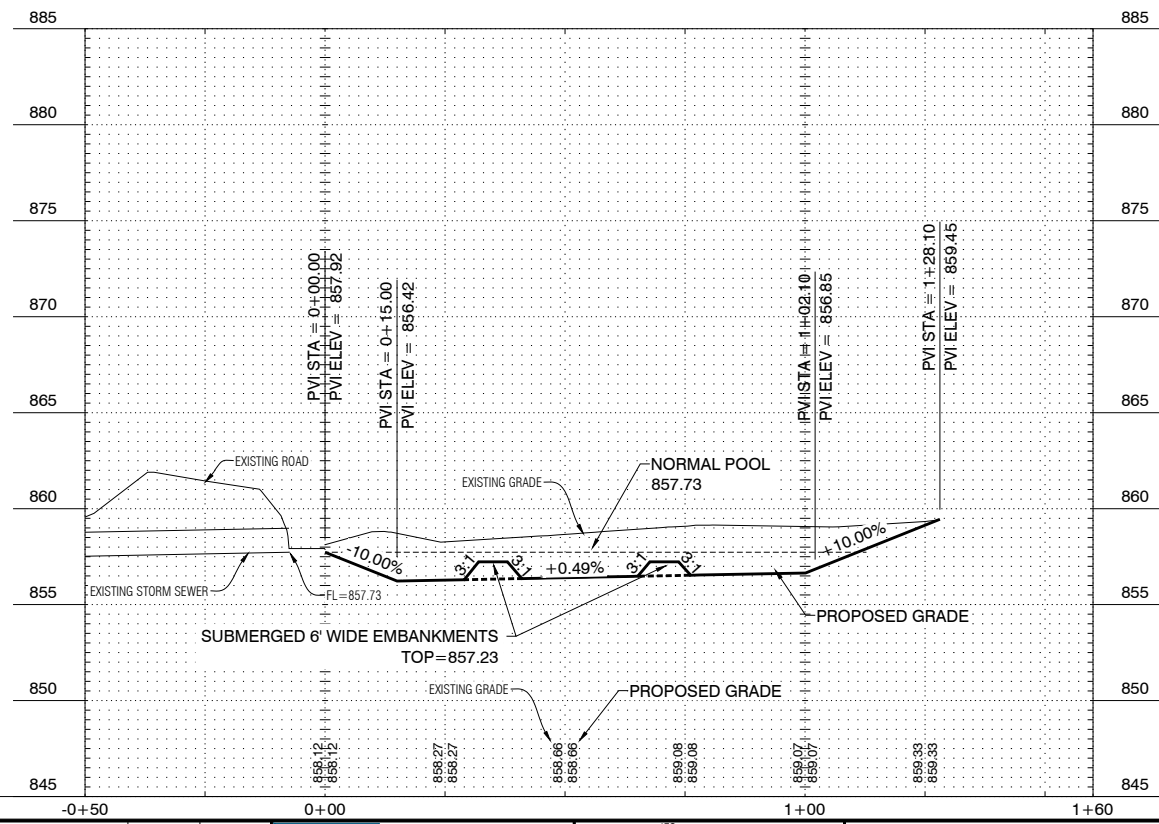
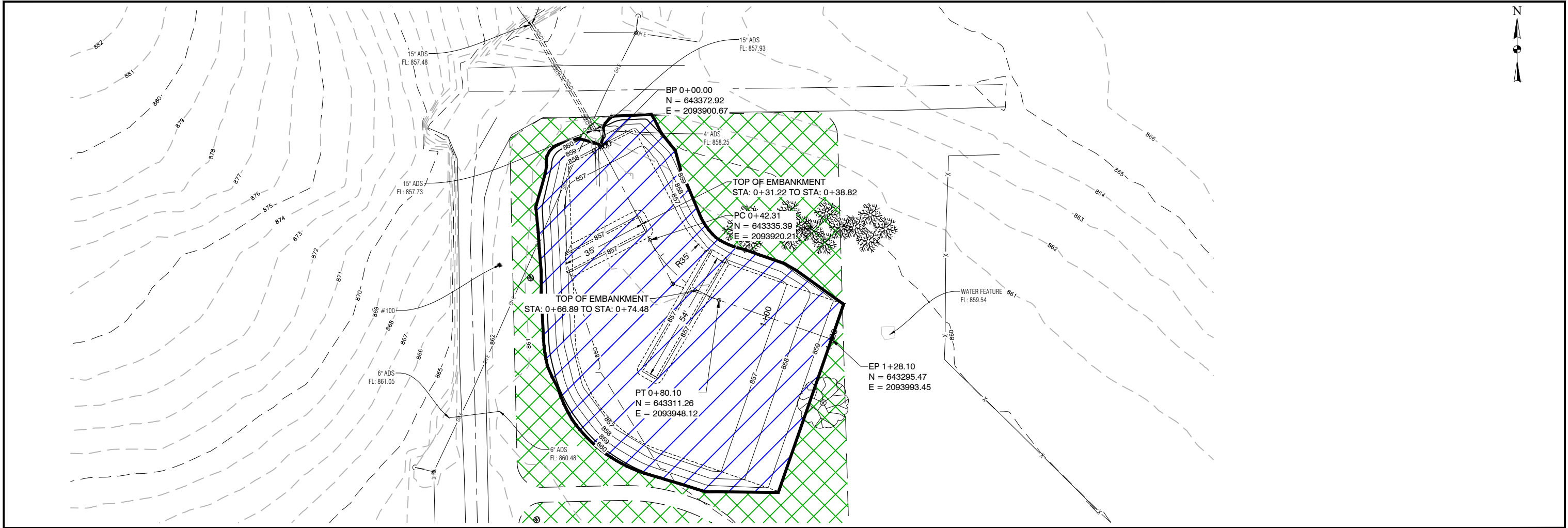


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 3. SEE SEPARATELY BOUND SPECIFICATIONS.

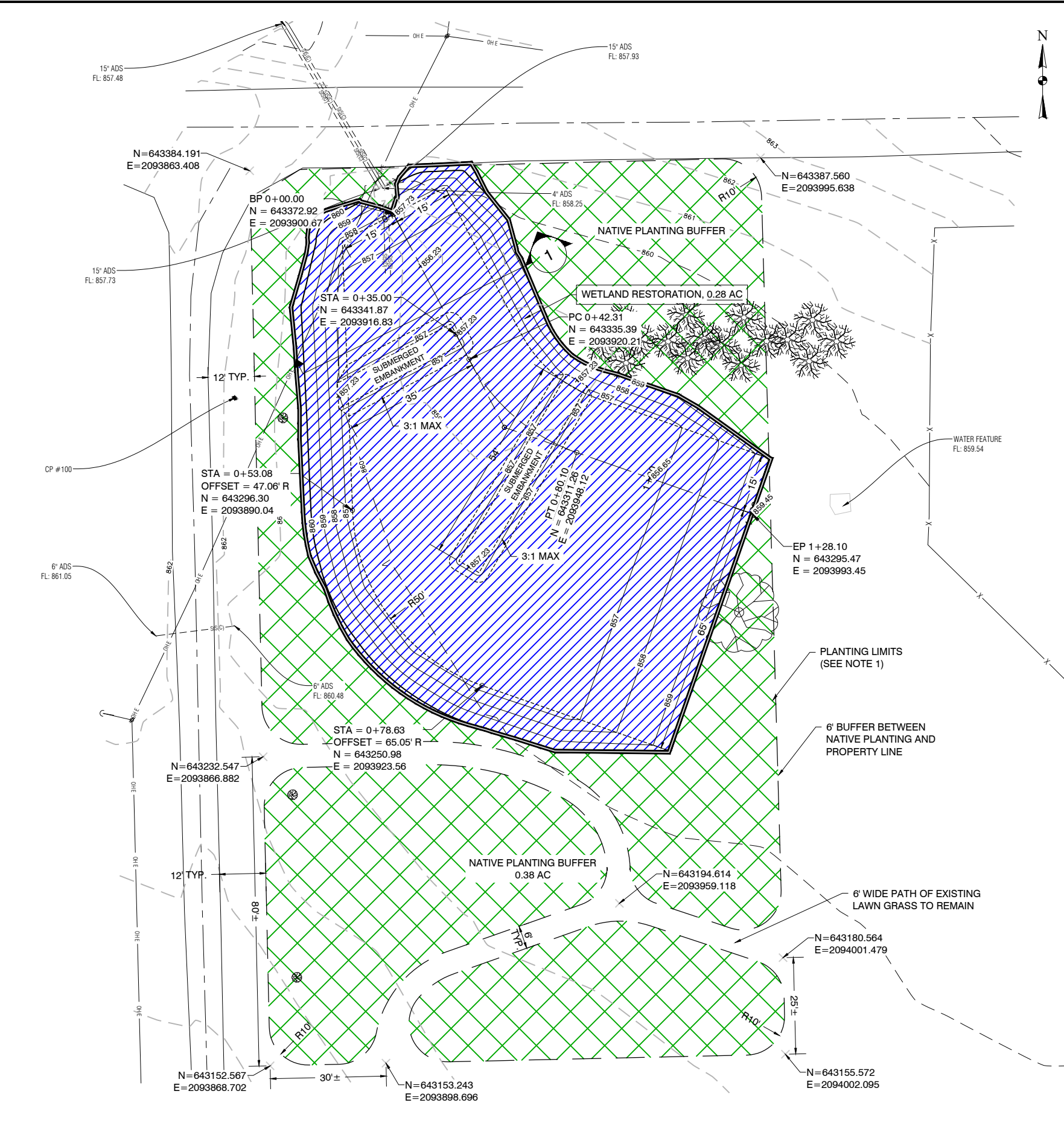
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
	<i>Mindy Bryngelson</i> Signature Mindy M. Bryngelson, PE Iowa License Number 17135 My license renewal date is December 31, 2021	09/23/2021 Date
Pages or sheets covered by this seal: ALL SHEETS		



CONTROL INFORMATION				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
100	CTLSTA 60D	861.66	643325.40	2093859.54
101	CTLSTA 60D	863.84	643023.59	2093976.16

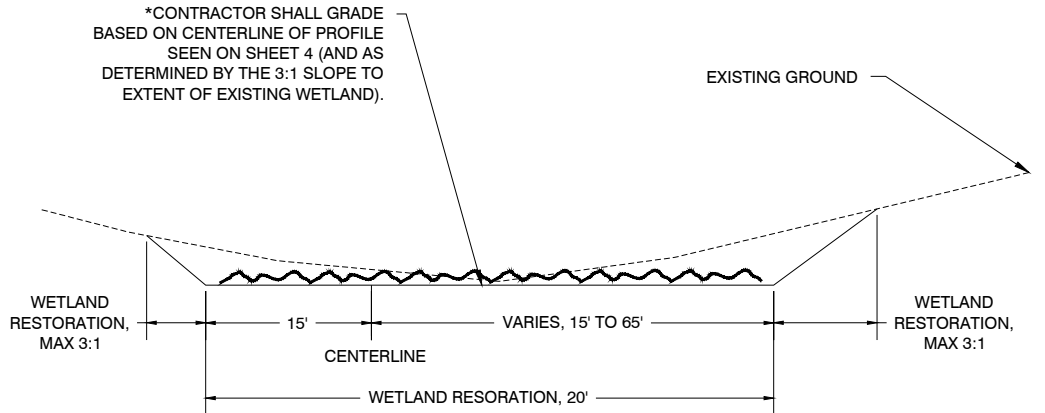


J:\8725 Stramaglia\dwgs\Sheets\8725_CC-115_4 Grading Details & Quantities.dwg - 4 - 09-09-21 - 4:38pm - JRA553



- NOTE:
1. MOW ENTIRE PLANTING LIMITS SHORT. LAYOUT 6' PATHS & ALLOW LANDOWNER TO REVIEW & APPROVE. SPRAY HERBICIDE ONLY ON AREAS TO RECEIVE NATIVE PLANTINGS.
 2. MOBILIZATION SHALL INCLUDE RESTORATION OF ALL INGRESS & EGRESS ROUTES & STAGING AREAS TO EXISTING CONDITIONS. REFER TO THE SPECIAL PROVISIONS IN THE PROJECT MANUAL FOR FURTHER DETAILS.
 3. EXCAVATED SOIL SHALL BE TAKEN TO CC-116 & CC-117 (BOYLE) SITES AS SHOWN ON SHEET 2. PAYMENT FOR WASTE HAULING IS PART OF CC-116 & CC-117 PROJECTS

- STRAGMALIA TYPE IV UPLAND SEED MIX
- STRAGMALIA TYPE V WETLAND SEED MIX



WETLAND RESTORATION TYPICAL 1

CC-115 QUANTITIES OF WORK		
DESCRIPTION	QUANTITY	AS-BUILT QUANTITY
Clearing & Grubbing	0.30 AC	
Topsoil, Strip, Salvage, & Spread	225 CY	
Excavation, Fringe Wetlands	750 CY	
Seeding and Mulching Type IV, Upland Mix	1 LS	
Seeding and Mulching Type V, Wetland Mix	1 LS	
Mobilization	1 LS	



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

CGA
Clapsaddle-Garber Associates, Inc.
1523 S. Bell Ave. Suite 101
Ames, Iowa 50010
Ph 515-282-1784
www.cgaconsultants.com

DESIGNED: JFS DATE: 8/4/2020
DRAWN: RWA DATE: 8/6/2020
CHECKED: MMB DATE: 8/18/2021
APPROVED: MMB DATE: 8/19/2021

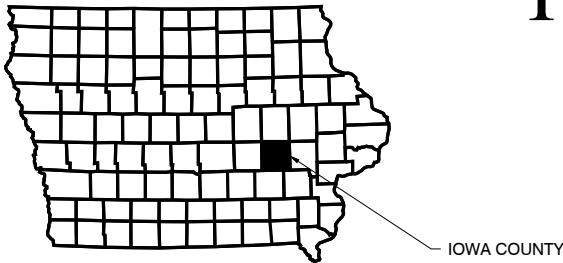
CC-115 (STRAMAGLIA)

IOWA COUNTY, IOWA

GRADING, DETAILS, & QUANTITIES

PROJECT NO.
8725
SHEET NO.
4

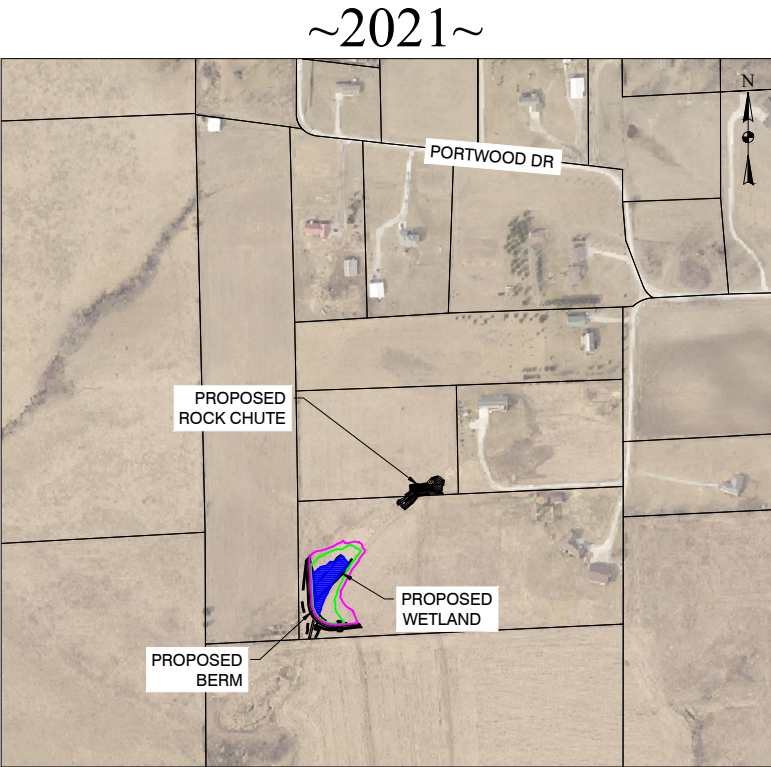
CC-116 TO C-117 BOYLE
GRADE STABILIZATION STRUCTURE - ROCK CHUTE (NRCS 410),
WETLAND RESTORATION (NRCS 657)
PROPOSED WATERSHED IMPROVEMENTS
CLEAR CREEK WATERSHED
IOWA COUNTY, IOWA
CDBG PROJECT NO.13-NDRI-007



CLEAR CREEK WATERSHED:
JOHN RATHBUN, COORDINATOR
51 ESCORT LANE
IOWA CITY, IA 52240
319-499-4835

JOHNSON COUNTY BOARD OF SUPERVISORS:
913 S. DUBUQUE STREET, SUITE 201
IOWA CITY, IA 52240

LANDOWNER:
BETH M STRASSER
3351 PORTWOOD DR
HOMESTEAD, IA 52236



LOCATION MAP
SECTION 12 T80N R09W



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1523 S. Bell Ave. Suite 101
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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PROJECT SITE
3	CC-116 ROCK CHUTE PLAN
4	CC-116 DETAILS
5	CC-117 WETLAND PLAN
6	CC-117 DAM PLAN & PROFILE
7	QUANTITIES AND DESIGN DATA

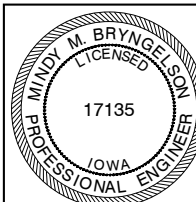

PERMIT SUMMARY
US ARMY CORPS OF ENGINEERS
REGIONAL GENERAL PERMIT 33
CEMVR - OD - P - 2014 - 0871

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGEMENT, AND BELIEF, THIS DESIGN, CONSTRUCTION DRAWINGS, AND SPECIFICATIONS MEET APPLICABLE NRCS STANDARDS AND SPECIFICATIONS.

09/23/2021
SIGNATURE DATE



- NOTES:
1. THE CONTRACTOR SHALL CONTACT ONE-CALL, 800-292-8989, FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
 2. IF CULTURAL RESOURCES ARE FOUND DURING CONSTRUCTION, WORK SHALL STOP IMMEDIATELY. CONTACT THE WATERSHED COORDINATOR, JOHN RATHBUN.
 3. SEE SEPARATELY BOUND SPECIFICATIONS.

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	 09/23/2021 Signature Date Mindy M. Bryngelson, PE Iowa License Number 17135 My license renewal date is December 31, 2019
Pages or sheets covered by this seal: ALL SHEETS	



CONTROL INFORMATION				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
10186	FNDPIN 5/8IN RBR BPC 21103	845.53	642743.95	2092234.60
10253	FNDPIN 5/8IN RBR YPC 10896	843.31	642725.20	2091829.17

EXISTING 12" CMP
TOP: 851.55
EXISTING 12" CMP
TOP: 850.76
FL: 849.71



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



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1523 S. Bell Ave. Suite 101
Ames, Iowa 50010
Ph 515-232-8653
www.cgaconsultants.com

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CHECKED: MMB	DATE: 8/18/2021
APPROVED: MMB	DATE: 8/19/2021

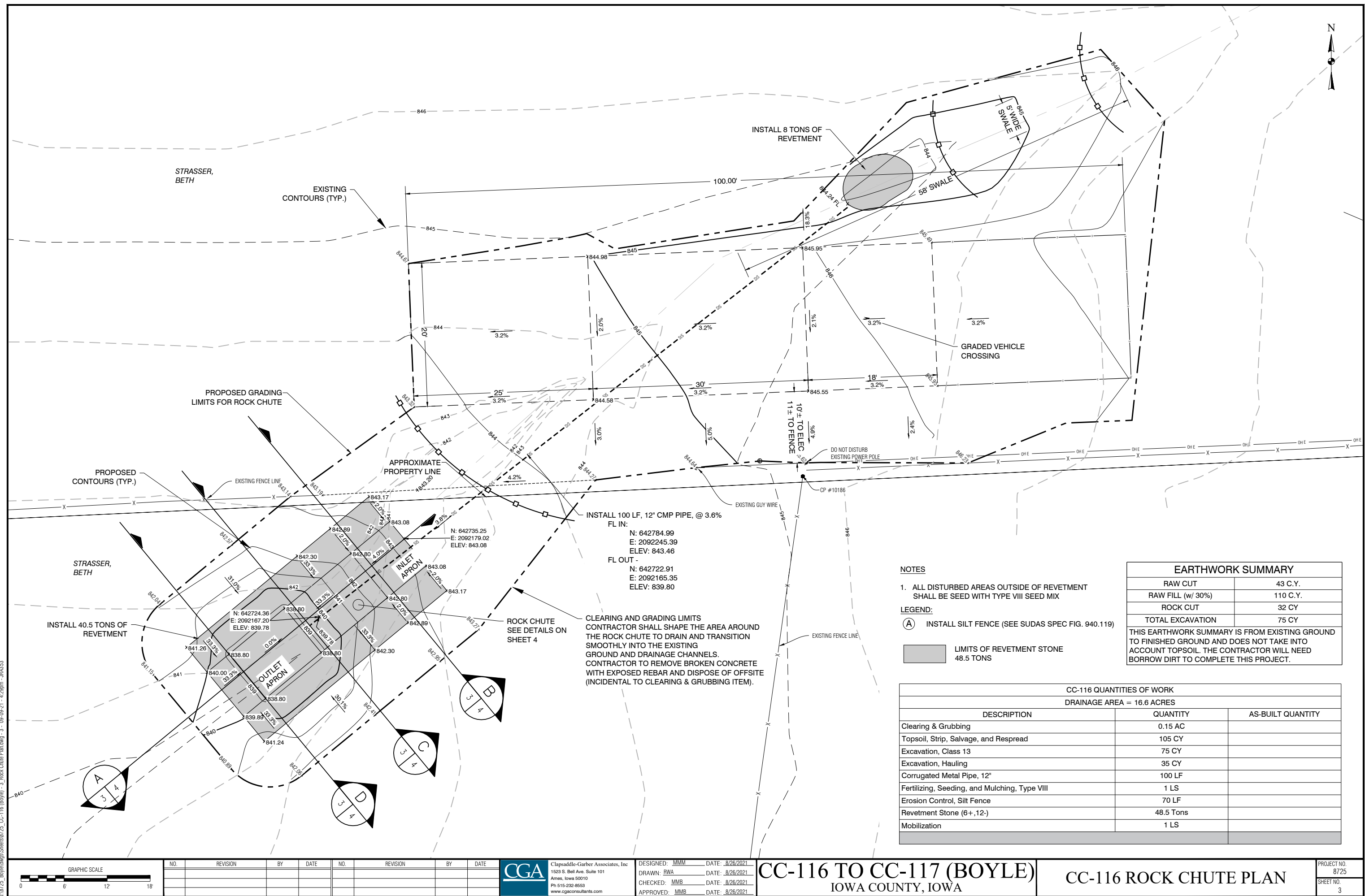
CC-116 TO CC-117 (BOYLE)

IOWA COUNTY, IOWA

OVERALL PROJECT SITE

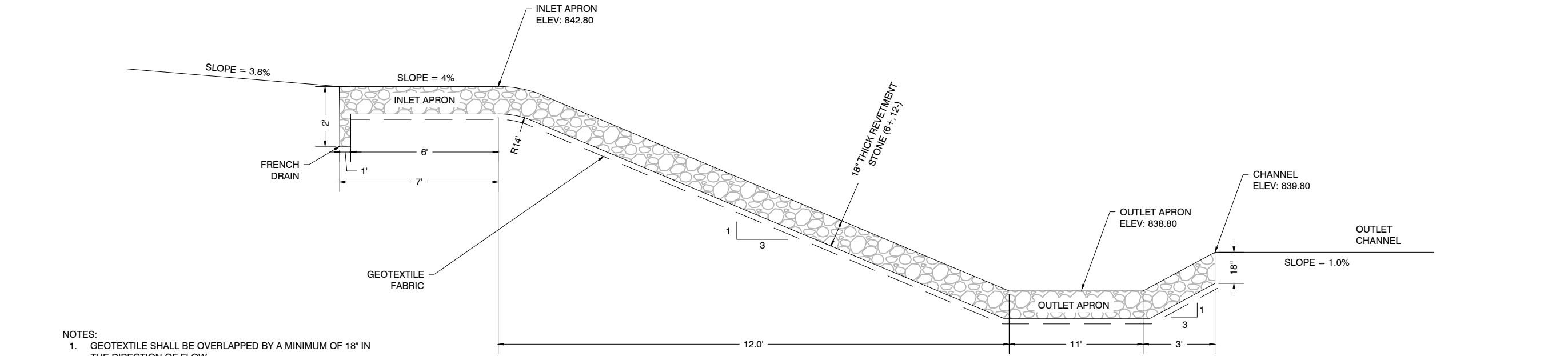
PROJECT NO. 8725
SHEET NO. 2

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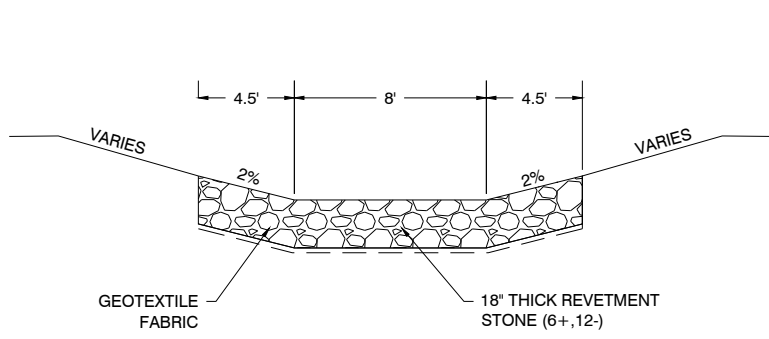


- NOTES:
- 1. GEOTEXTILE SHALL BE OVERLAPPED BY A MINIMUM OF 18" IN THE DIRECTION OF FLOW.
 - 2. GEOTEXTILE SHALL BE ANCHORED WITHIN 18" OF ALL SIDES AND 24" OF THE END.
 - 3. REVETMENT SHALL BE REVETMENT STONE WITH THE FOLLOWING GRADATION (6+ 12-):

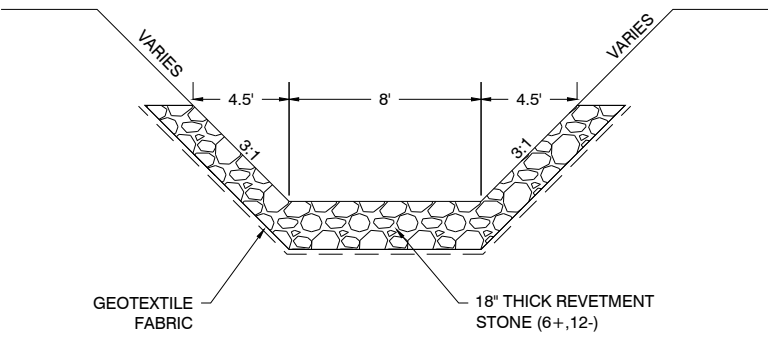
GRADATION OF REVETMENT STONE (6+ 12-)	
Percent Passing	Size (Inches)
100	12"
50-85	10.8"
20-60	9"
10-40	7.8"



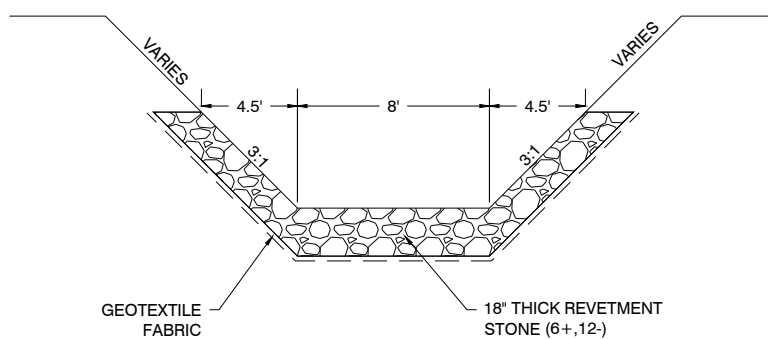
A PROFILE ALONG CENTERLINE OF CHUTE
NOT TO SCALE



B INLET CHANNEL CROSS SECTION
NOT TO SCALE



C ROCK CHUTE CROSS SECTION
NOT TO SCALE



D OUTLET CHANNEL CROSS SECTION
NOT TO SCALE

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

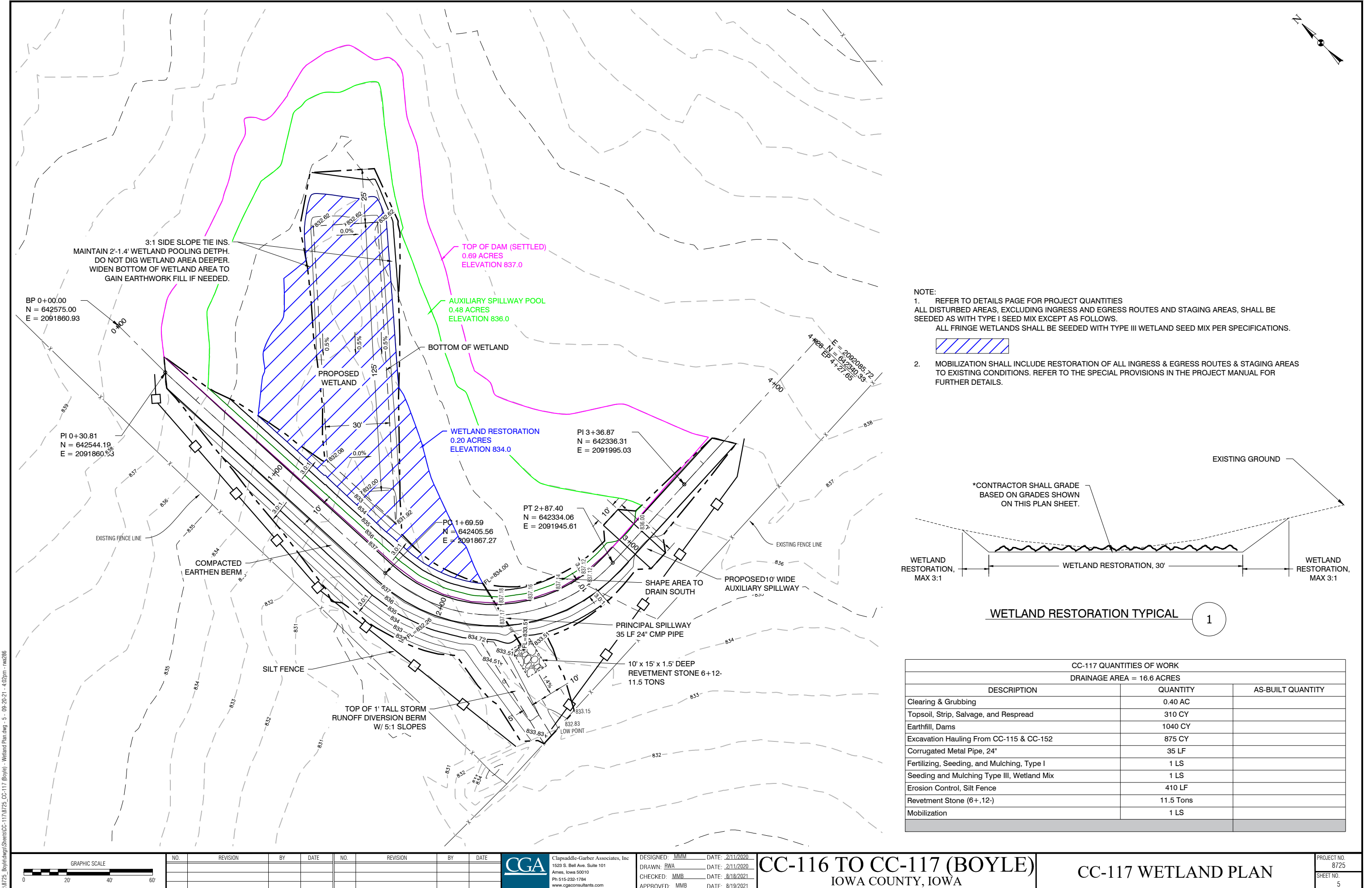
CGA
Clapsaddle-Garber Associates, Inc.
1523 S. Bell Ave. Suite 101
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Ph 515-232-1794
www.cgaconsultants.com

DESIGNED: MMB	DATE: 2/11/2020
DRAWN: RWA	DATE: 2/11/2020
CHECKED: MMB	DATE: 8/18/2021
APPROVED: MMB	DATE: 8/19/2021

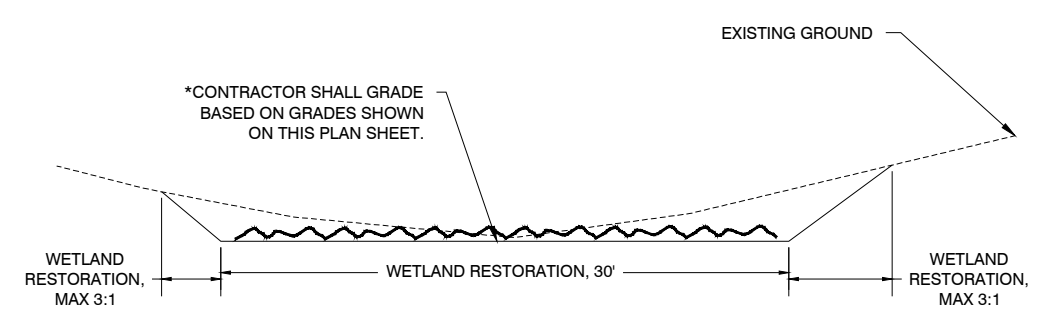
CC-116 TO CC-117 (BOYLE)
IOWA COUNTY, IOWA

PROJECT NO. 8725
SHEET NO. 4

CC-116 DETAILS



- NOTE:
1. REFER TO DETAILS PAGE FOR PROJECT QUANTITIES
ALL DISTURBED AREAS, EXCLUDING INGRESS AND EGRESS ROUTES AND STAGING AREAS, SHALL BE SEEDED AS WITH TYPE I SEED MIX EXCEPT AS FOLLOWS.
ALL FRINGE WETLANDS SHALL BE SEEDED WITH TYPE III WETLAND SEED MIX PER SPECIFICATIONS.
 2. MOBILIZATION SHALL INCLUDE RESTORATION OF ALL INGRESS & EGRESS ROUTES & STAGING AREAS TO EXISTING CONDITIONS. REFER TO THE SPECIAL PROVISIONS IN THE PROJECT MANUAL FOR FURTHER DETAILS.



WETLAND RESTORATION TYPICAL 1

CC-117 QUANTITIES OF WORK		
DRAINAGE AREA = 16.6 ACRES		
DESCRIPTION	QUANTITY	AS-BUILT QUANTITY
Clearing & Grubbing	0.40 AC	
Topsoil, Strip, Salvage, and Respread	310 CY	
Earthfill, Dams	1040 CY	
Excavation Hauling From CC-115 & CC-152	875 CY	
Corrugated Metal Pipe, 24"	35 LF	
Fertilizing, Seeding, and Mulching, Type I	1 LS	
Seeding and Mulching Type III, Wetland Mix	1 LS	
Erosion Control, Silt Fence	410 LF	
Revetment Stone (6+, 12-)	11.5 Tons	
Mobilization	1 LS	

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NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

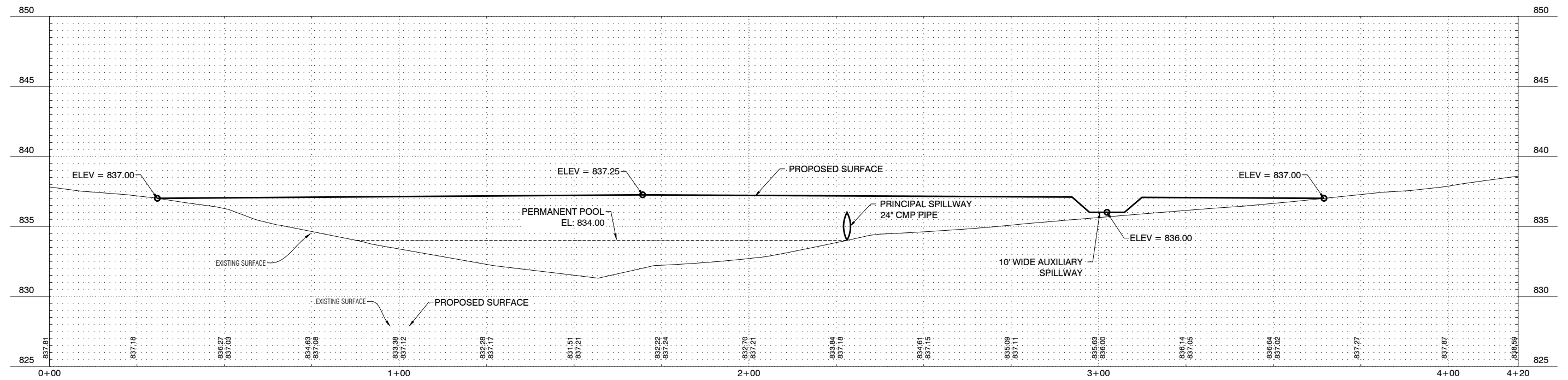
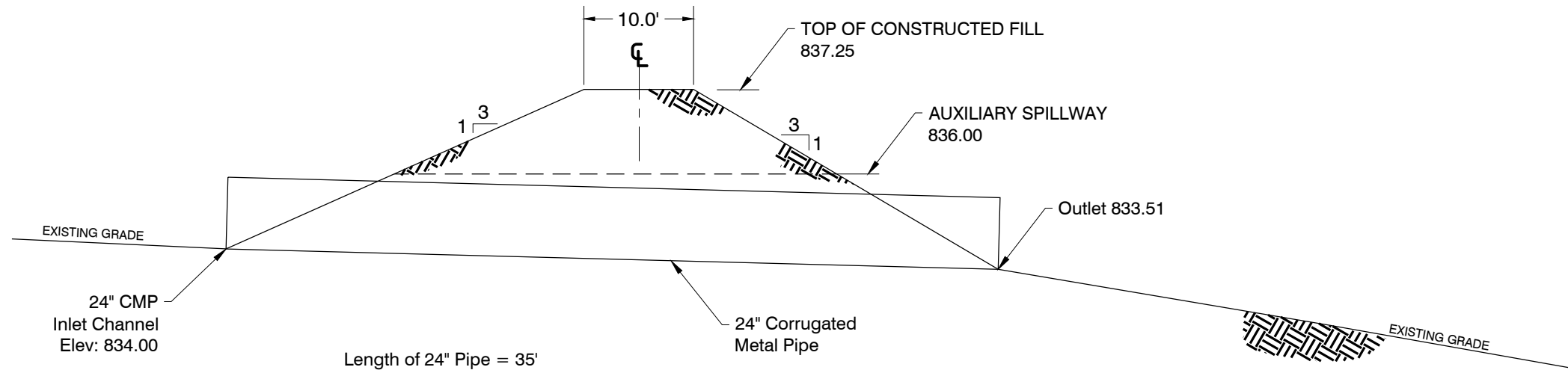


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Ph 515-282-1784
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DESIGNED: MMM DATE: 2/11/2020
DRAWN: RWA DATE: 2/11/2020
CHECKED: MMB DATE: 8/18/2021
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CC-116 TO CC-117 (BOYLE)

IOWA COUNTY, IOWA



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NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



DESIGNED: MMM DATE: 2/11/2020
DRAWN: RWA DATE: 2/11/2020
CHECKED: MMB DATE: 8/18/2021
APPROVED: MMB DATE: 8/19/2021

CC-116 TO CC-117 (BOYLE)
IOWA COUNTY, IOWA

CC-117 DAM PLAN & PROFILE

PROJECT NO.
8725
SHEET NO.
6

J:\8725_Boyle\dwg\Sheets\8725_CC-116 (Boyle) - 4_Details.dwg - 7 - 09-09-21 - 5:14pm - JRA553

DESIGN DATA	
Parameter	Value
Drainage Area	16.6 Acres
Apron Inlet Elevation	842.80
Apron Outlet Elevation	839.80
Design Storm (10-Year)	4.42 Inches in 24 Hours
Maximum Flow Through Chute	31.7 cfs
HIGH STORM FLOW INFORMATION	
Equivalent Unit Discharge	3.44 cfs/ft
Factor of Safety	1.2
Normal Flow Depth In Chute	0.4 ft
Rock Chute Thickness	18in
Tailwater Above Outlet Apron	2.02 ft
Hydraulic Jump Height	1.15 ft

- NOTES:
1. MOBILIZATION SHALL INCLUDE RESTORATION OF ALL INGRESS & EGRESS ROUTES & STAGING AREAS TO EXISTING CONDITIONS. REFER TO THE SPECIAL PROVISIONS IN THE PROJECT MANUAL FOR FURTHER DETAILS.
 2. HAUL ROUTE ACROSS PROPERTY SHALL BE RESTORED WITH TYPE VIII SEED MIX.
 3. BORROW DIRT SHALL BE HAULED IN FROM CC-115 & CC-152 PROJECT SITES. ANY REMAINING BORROW NEEDED TO CONSTRUCT BERM SHALL COME FROM FARM LAND & SHALL BE COORDINATED WITH LAND OWNER.
 4. ALL DAM STRUCTURES SHALL BE SEEDED WITH TYPE I SEED MIX.

QUANTITIES OF WORK				
		CC-116 (ROCK CHUTE)	CC-117 (WETLAND)	TOTAL
Description	Unit	Quantity	Quantity	Quantity
Clearing & Grubbing	AC	0.15	0.40	0.55
Topsoil Strip, Salvage, & Spread	CY	105	310	415
Excavation, Class 13	CY	75	-	75
Earthfill, Dams	CY	-	1040	1040
Excavation, Hauling	CY	35	875	910
Corrugated Metal Pipe, 12"	LF	100	-	100
Corrugated Metal Pipe, 24"	LF	-	35	35
Fertilizing, Seeding, & Mulching, Type I	LS	-	1	1
Seeding & Mulching for Wetlands, Type III	LS	-	1	1
Fertilizing, Seeding, & Mulching, Type VIII	LS	1	-	1
Erosion Control, Silt Fence	LF	70	410	480
Revetment Stone (6+, 12-)	TONS	48.5	11.5	60
Mobilization	LS	1	1	2

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

CGA

Clapsaddle-Garber Associates, Inc
1523 S. Bell Ave. Suite 101
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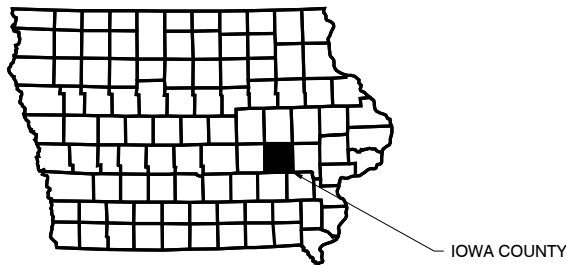
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DRAWN: <u>RWA</u>	DATE: <u>2/11/2020</u>
CHECKED: <u>MMB</u>	DATE: <u>8/18/2021</u>
APPROVED: <u>MMB</u>	DATE: <u>8/19/2021</u>

CC-116 TO CC-117 (BOYLE)

IOWA COUNTY, IOWA

QUANTITIES & DESIGN DATA	
PROJECT NO. 8725	SHEET NO. 7

CC-152 (O'DONNELL)
GRASSED WATERWAY (NRCS 412)
PROPOSED WATERSHED IMPROVEMENTS
CLEAR CREEK WATERSHED
IOWA COUNTY, IOWA
CDBG PROJECT NO.13-NDRI-007
~2021~



CLEAR CREEK WATERSHED:
JOHN RATHBUN, COORDINATOR
51 ESCORT LANE
IOWA CITY, IA 52240
319-499-4835

IOWA COUNTY BOARD OF SUPERVISORS:
913 S. DUBUQUE STREET, SUITE 201
IOWA CITY, IA 52240

LANDOWNER:
DARREN & ANDREA O'DONNELL
3378 PORTWOOD DR
HOMESTEAD, IA 52236



LOCATION MAP
SECTION 12 T80N R09W



Clapsaddle-Garber Associates, Inc
1523 S. Bell Ave. Suite 101
Ames, Iowa 50010
Phone 515-232-1784
www.cgaconsultants.com

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	OVERALL PROJECT SITE
3	PLAN & PROFILE
4	DESIGN DETAILS & QUANTITIES

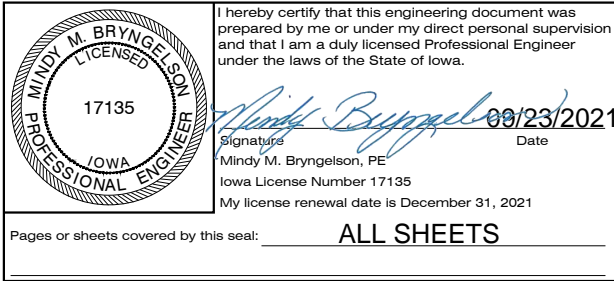
PERMIT SUMMARY
US ARMY CORPS OF ENGINEERS
REGIONAL GENERAL PERMIT 33
CEMVR - OD - P - 2014 - 0871

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGEMENT, AND BELIEF, THIS DESIGN, CONSTRUCTION DRAWINGS, AND SPECIFICATIONS MEET APPLICABLE NRCS STANDARDS AND SPECIFICATIONS IN ACCORDANCE WITH LOCAL NRCS FIELD OFFICE PRACTICES. WATERWAYS HAVE BEEN DESIGNED WITH 0.5 FEET FREEBOARD.

 09/23/2021
SIGNATURE DATE



- NOTES:
1. THE CONTRACTOR SHALL CONTACT ONE-CALL, 800-292-8989, FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
 2. IF CULTURAL RESOURCES ARE FOUND DURING CONSTRUCTION, WORK SHALL STOP IMMEDIATELY. CONTACT THE WATERSHED COORDINATOR, JOHN RATHBUN.
 3. SEE SEPARATELY BOUND SPECIFICATIONS.



J:\8725 - CC-152 O'Donnell\dwgs\Sheets\8725 - CC-152 O'Donnell - 2 - Project Site.dwg - 09-09-21 - 4:49pm - JRA53



CONTROL INFORMATION				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
100	CTLSTA 60D	861.66	643325.40	2093859.54
101	CTLSTA 60D	863.84	643023.59	2093976.16



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



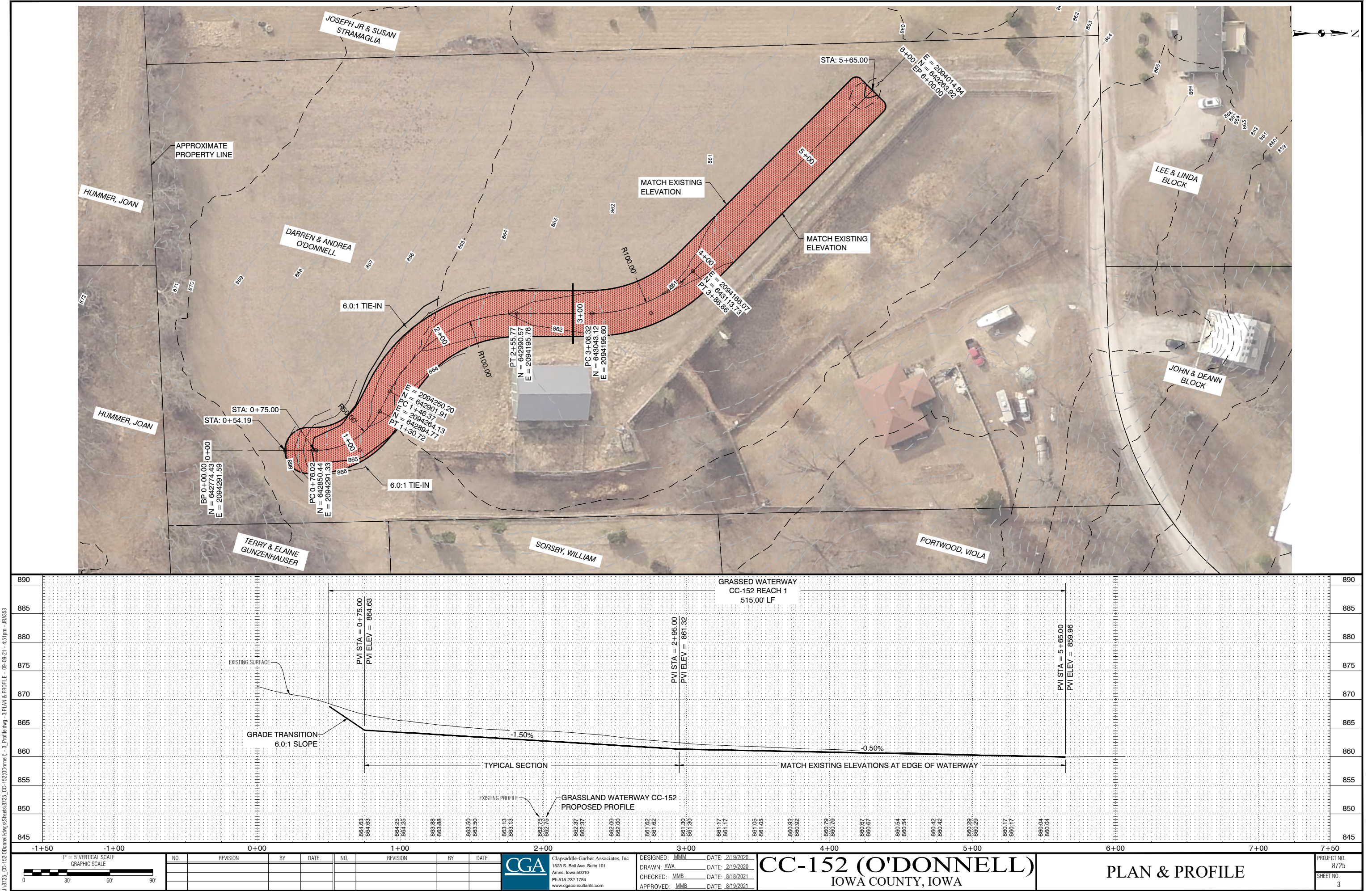
Clapsaddle-Garber Associates, Inc.
1523 S. Bell Ave. Suite 101
Ames, Iowa 50010
Ph 515-232-1784
www.cgaconsultants.com

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DRAWN: RWA	DATE: 2/19/2020
CHECKED: MMB	DATE: 8/18/2021
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CC-152 (O'DONNELL)
IOWA COUNTY, IOWA

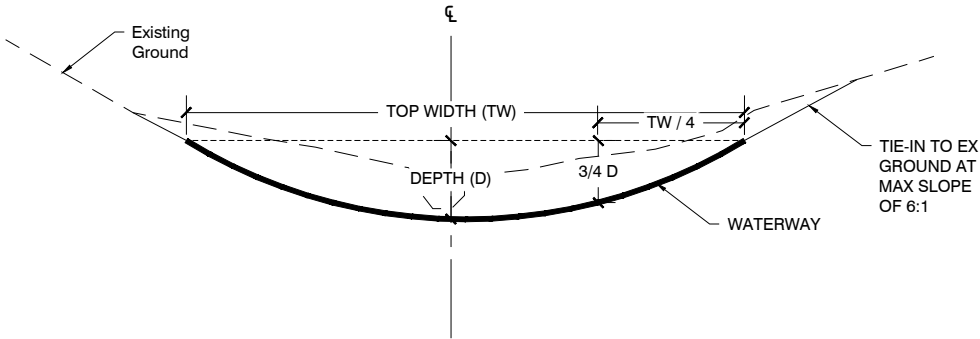
OVERALL PROJECT SITE

PROJECT NO. 8725
SHEET NO. 2

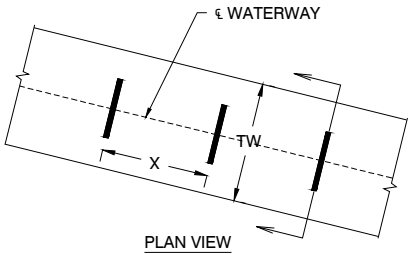


PARABOLIC WATERWAY DESIGN DATA							
WATERWAY NO.	REACH	DRAINAGE AREA (AC)	10-YEAR FLOW (CFS)	SLOPE RANGE (%)	LENGTH (FT)	TOP WIDTH, TW (FT)	DEPTH, D (FT)
CC-152	1	15.3	41	0.5 - 1.5	515'	32.0'	1.0' *

*WHERE APPLICABLE

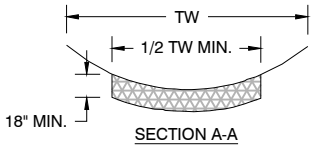


PARABOLIC WATERWAY
NOT TO SCALE



- NOTES:
1. GEOTEXTILE SHALL MEET THE IA-95 GEOTEXTILE CONSTRUCTION SPECIFICATION FOR TYPE-NONWOVEN, CLASS 3, 2, OR 1.
 2. GEOTEXTILE FABRIC CHECKS SHALL BE INSTALLED ACCORDING TO THE TYPICAL SECTION SHOWN OR WITH A MECHANICAL DEVICE (FABRIC PLOW) SPECIFICALLY DESIGNED FOR GEOTEXTILE INSTALLATION.
 3. COMPACT THE GEOTEXTILE TRENCH IN SIX INCH LIFTS, ENSURING THE TOP OF THE TRENCH IS LEVEL WITH THE SURROUNDING GROUND LEVEL.

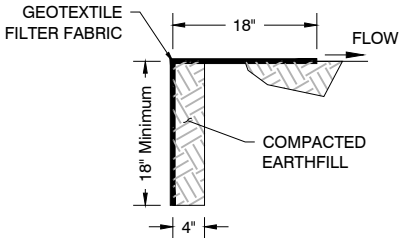
GEOTEXTILE FABRIC CHECK DATA				
WATERWAY NUMBER	FROM UPSTREAM, CHECK SPACING (X)	NO.OF CHECKS	GEOTEXTILE LENGTH (SECTION A-A)	TOTAL (LF)
CC-152	100 FT (TYP.)	5	16.0'	80.0'
TOTAL SUM:				80.0'



TYPICAL CHECK SPACING

WATERWAY GRADE	MAXIMUM SPACING
0 - 1.5 %	100 FEET
1.5 - 3.0 %	75 FEET
> 3.0 %	50 FEET

PARABOLIC FILTER FABRIC CHECK
NOT TO SCALE



- NOTES:
1. GRASSED WATERWAYS SHALL BE SEEDED WITH TYPE VI O'DONNELL NATIVE SEED MIX
 2. EXISTING FARMED AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED WITH TYPE II TEMPORARY SEED MIX
 3. MOBILIZATION SHALL INCLUDE RESTORATION OF ALL INGRESS & EGRESS ROUTES & STAGING AREAS TO EXISTING CONDITIONS. REFER TO THE SPECIAL PROVISIONS IN THE PROJECT MANUAL FOR FURTHER DETAILS.
 4. WASTE SOIL SHALL BE HAULED TO CC-116 & CC-117 (BOYLE) SITES AS SHOWN ON CC-115 SHEET 2. PAYMENT FOR WASTE HAULING IS PART OF CC-116 & CC-117 PROJECTS.

CC-152 QUANTITIES OF WORK		
Description	Plan Quantity	As-Built Quantity
Grassed Waterway, 25' to 40' wide	515 LF	
Seeding & Mulching Type II	1 LS	
Seeding & Mulching Type VI	1 LS	
Geotextile Fabric Check	80 LF	
Mobilization	1 LS	

J:\8725 - CC-152 O'Donnell\dwgs\Sheets\8725_CC-152(O'Donnell) - 4_Details Qty.s.dwg - 09-09-21 - 4:52pm - JRA393

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



Clapsaddle-Garber Associates, Inc
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DESIGNED: MMM	DATE: 2/19/2020
DRAWN: RWA	DATE: 2/19/2020
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APPROVED: MMB	DATE: 8/19/2021

CC-152 (O'DONNELL)
IOWA COUNTY, IOWA

DESIGN DETAILS & QUANTITIES

PROJECT NO. 8725
SHEET NO. 4