

LONG PINE CREEK WATERSHED MANAGEMENT

OPEN HOUSE/CUSTOMER APPRECIATION DAY, DECEMBER 10TH, 2018

CHANDLER SCHMIDT

WATERSHED COORDINATOR

MIDDLE NIOBRARA NATURAL RESOURCE DISTRICT

2

STATE WATER QUALITY INITIATIVE (SWQI) FUNDS AND EQIP

- SWQI
 - NRCS works with Farmers and Ranchers in watersheds to improve water quality where there's a critical concern.
 - Financial assistance to implement conservation practices
 - Reduce nitrogen, phosphorus and sediment contributions from Ag fields.
 - Eligible producers receive assistance under the Environmental Quality Incentives Program (EQIP) to install practices such as:
 - Nutrient Management, Cover Crops, Conservation Cropping Systems, Filter Strips, Terraces and Water Quality Monitoring.
- Funding for 5 years
 - 2015-2019

STATE WATER QUALITY INITIATIVE (SWQI) FUNDS AND EQIP

- Best Management Practices (BMP's):
 - Irrigation Water Management: 23 plans of which there is 8,329.9 acres.
 - Fencing (Controlled Access Fencing): 5 plans of which there is, 15,509' or 2.94 miles.
 - Watering Facility (Alternate Water Source): 4 plans of which there is 16 total.
 - Cover Crops: 10 plans of which there is, 2,693.1 acres.
- BMP's will help reduce runoff, reduce sedimentation loads, enhance aquatic habitat and water quality.

STATE WATER QUALITY INITIATIVE (SWQI) FUNDS AND EQIP

- Small Scale Stream Improvements:
 - Mulching
 - Streambank and Shoreline Protection
 - Water and Sediment Control Basin
 - Grade Stabilization Structures: 4 planned and approved for 2018.

Proposed Grade Stabilization Structures



SAND DRAW CREEK REHABILITATION SD-14

- Location
 - Proposed Project: Three Engineered Rock Riffles (ERR) and Bank Stabilization
- JEO Consulting Group
- Clean Water Section 404 Permit
- Easement/s
- Engineered Rock Riffle Access and Construction Designs
- Goals
- Photos of Sand Draw Creek

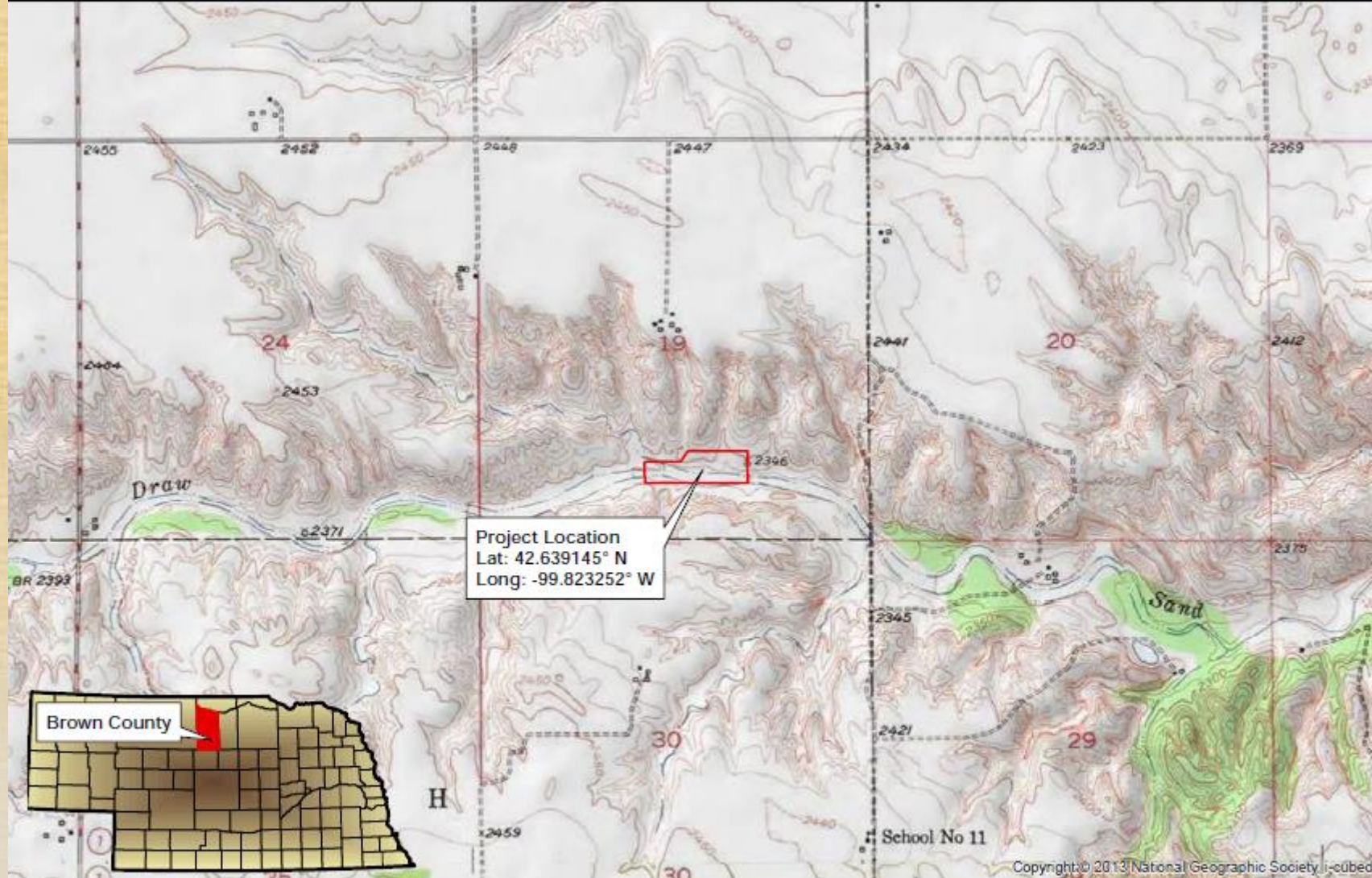
Sand Draw Creek Rehabilitation SD-14

Project:

(North of Ainsworth approximately
7 miles
on Sand Draw Creek)



VICINITY MAP
N.T.S.



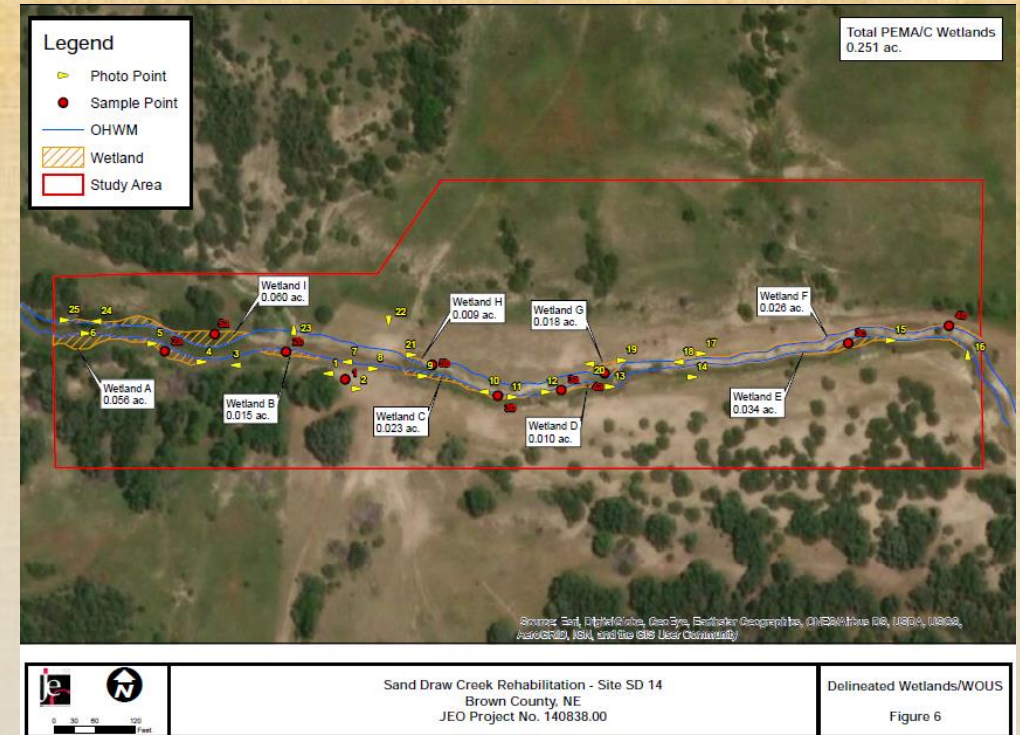
Sand Draw Creek Rehabilitation- Site SD 14
Brown County, NE
JEO Project No. 140838.00

Topographic Map
Dutch Creek, Nebr.
Figure 2

SAND DRAW CREEK REHABILITATION SD-14

- **JEO Consulting Group:**

- Designs
- Wetland Delineation:
 - Determining the Wetland Boundary
- Permitting Service:
 - Nationwide Permit 27-Aquatic Habitat Restoration,
 - Enhancement and Establishment.
 - Nationwide Permit 27 Pre-Construction Permit



SAND DRAW CREEK REHABILITATION SD-14

CLEAN WATER ACT SECTION 404 PERMIT

- United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Permit:
 - Required for the discharge of fill or dredged material in waters of the U.S.
- Time frame: Around 90 Days



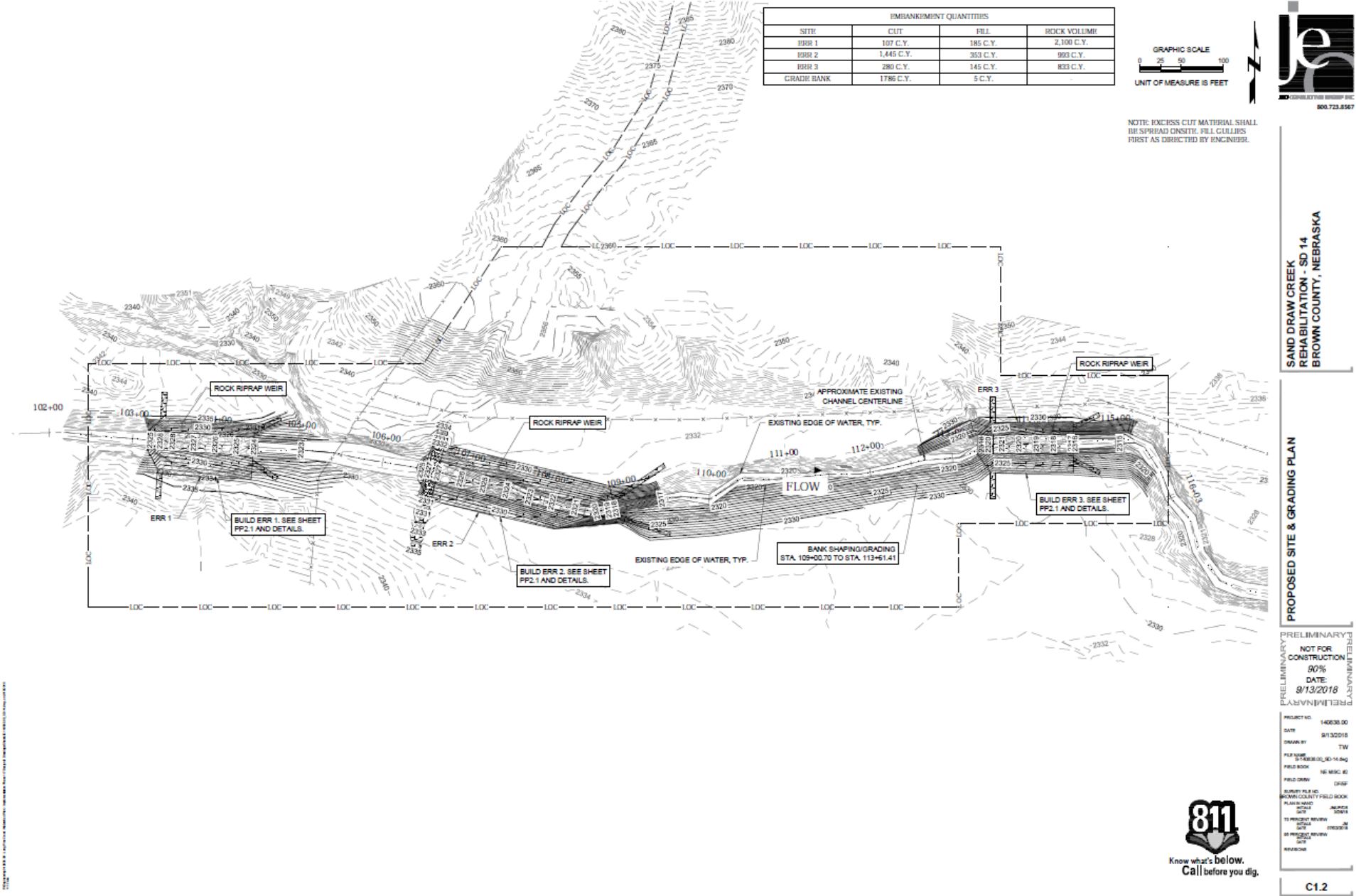
SAND DRAW CREEK REHABILITATION SD-14 EASEMENT

- Ingress, Egress and Regress Easement:
- Construction:
 - Rock Hauling
 - Implementation of Structures
- Oversee:
 - Annual Inspections, Maintenance and the possible Big Rain Events

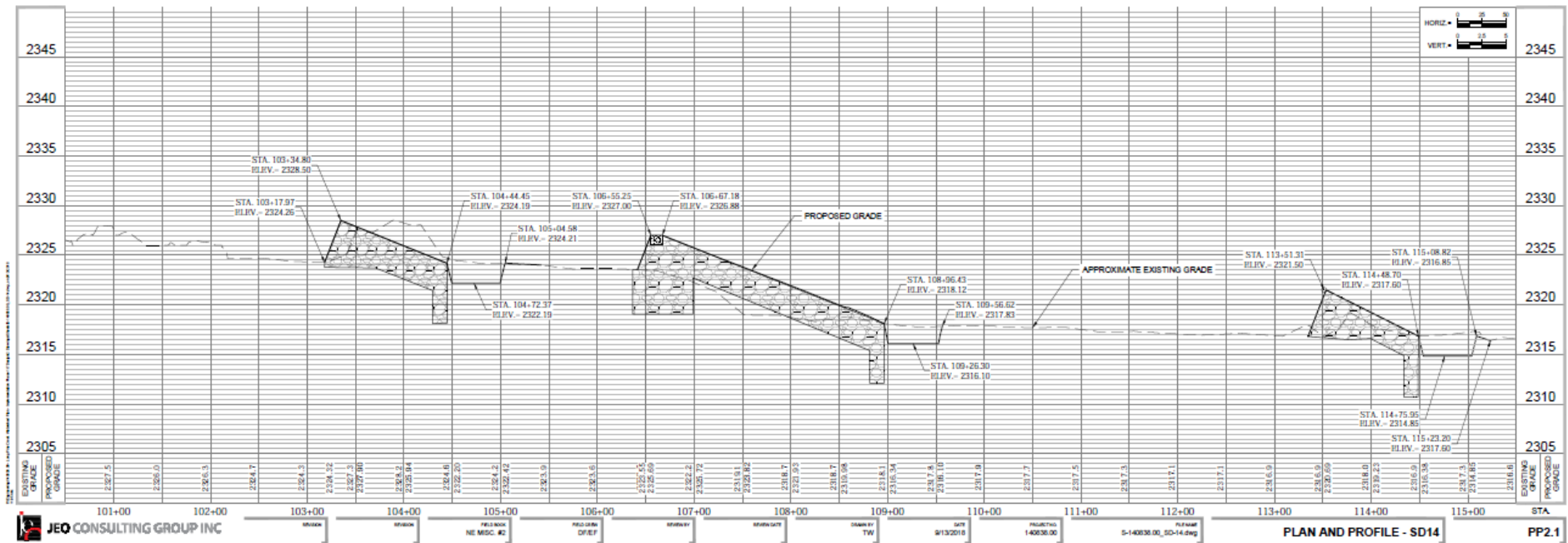
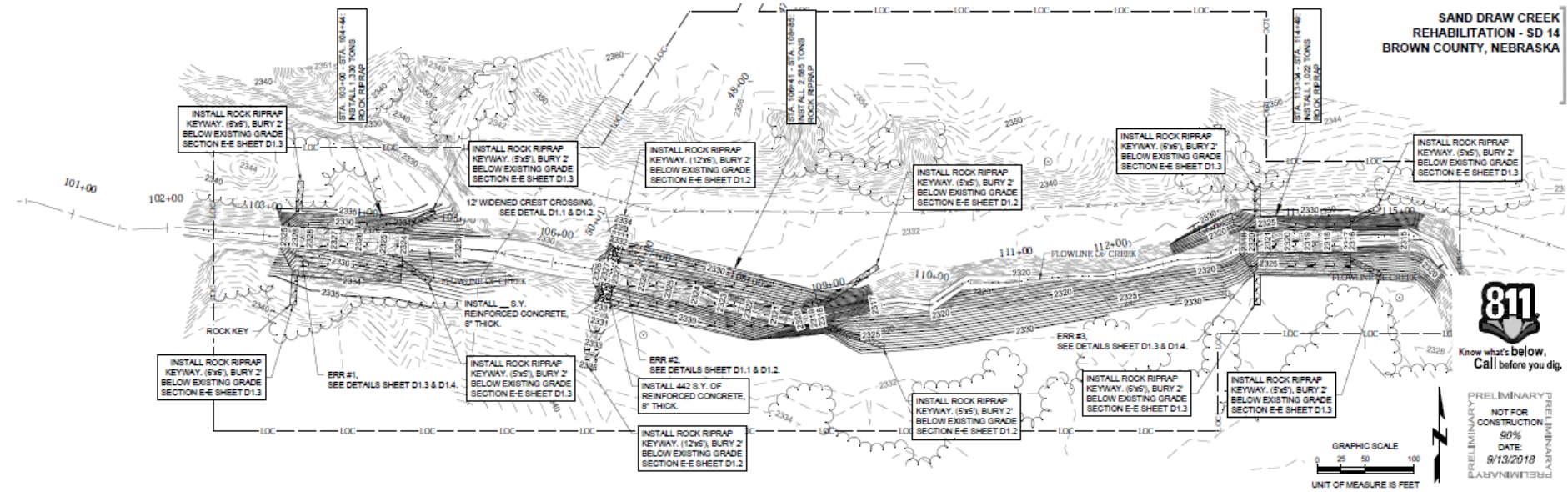
Access Route
to the project
site.



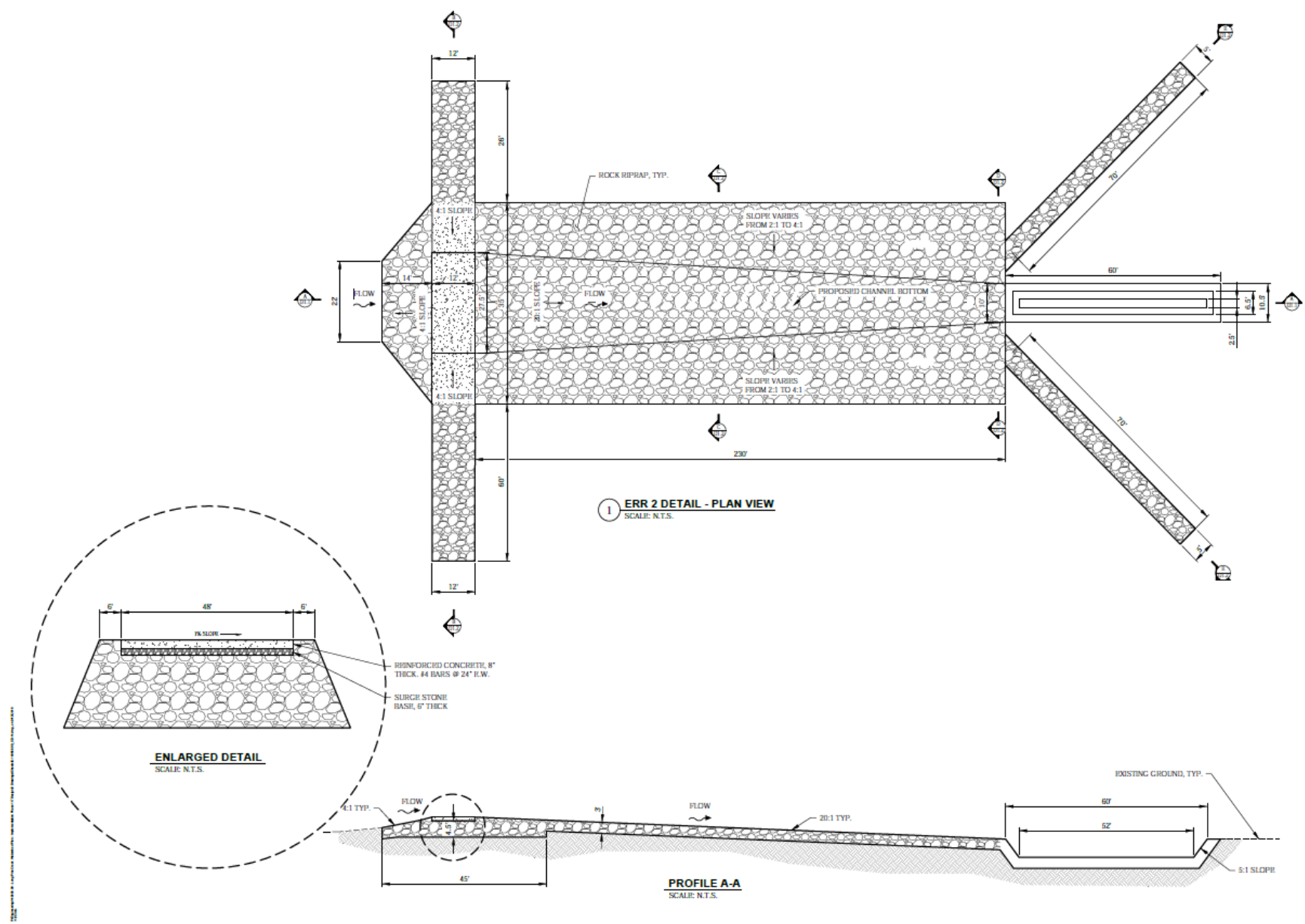
Project Grading Plan



Project Profile View



Plan View ERR
2





J.E. CONSTRUCTION GROUP, INC.
800.723.8567

SAND DRAW CREEK
REHABILITATION - SD 14
BROWN COUNTY, NEBRASKA

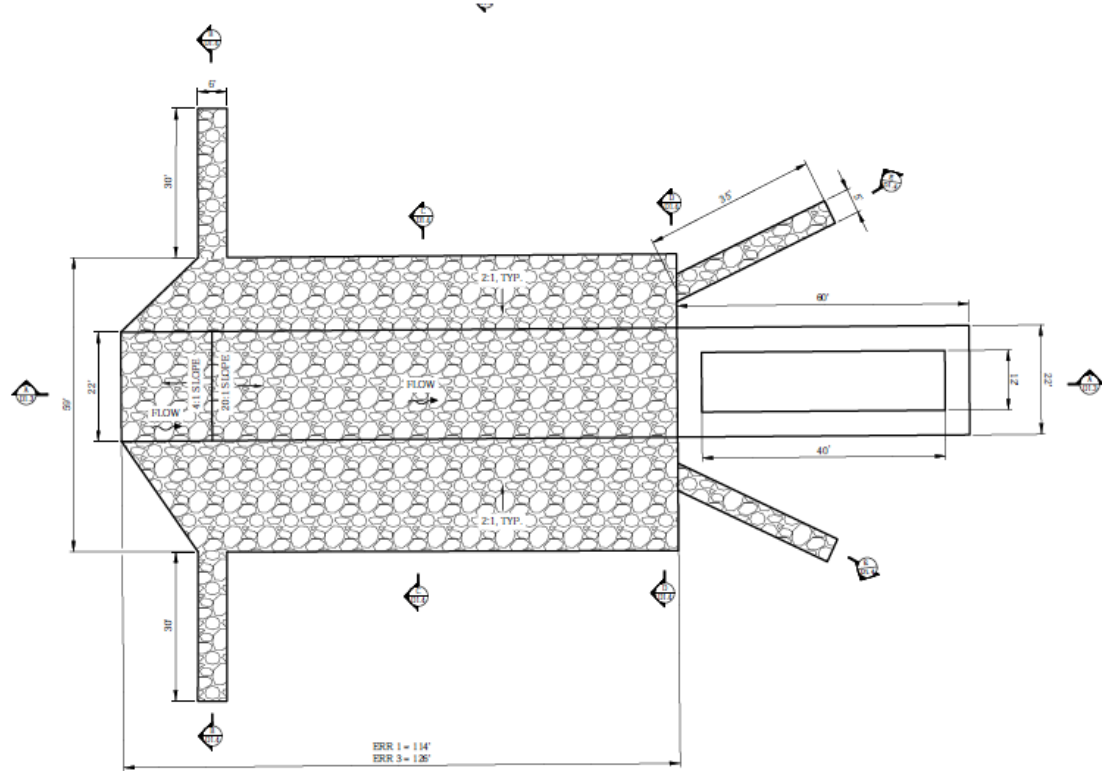
STANDARD DETAILS

PRELIMINARY
NOT FOR
CONSTRUCTION
90%
DATE:
9/13/2018

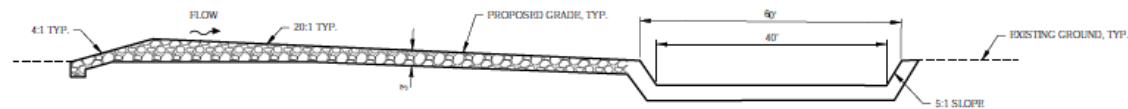
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DATE: 9/13/2018
DRAWN BY: TW
FILE NAME: SD 14-SD-14-00
FIELD BOOK: NC 140838.00
FIELD CREW: CDEP
SURVEY FILE NO: BROWN COUNTY FIELD BOOK
PLAN IN HAND: JACOB
10 PERCENT REVIEW: JACOB
REVISIONS: JACOB

D1.1

Plan View ERR 1 and 3



2 ERR 1 & 3 DETAIL - PLAN VIEW
SCALE: N.T.S.



PROFILE A-A
SCALE: N.T.S.



SAND DRAW CREEK
REHABILITATION - SD 14
BROWN COUNTY, NEBRASKA

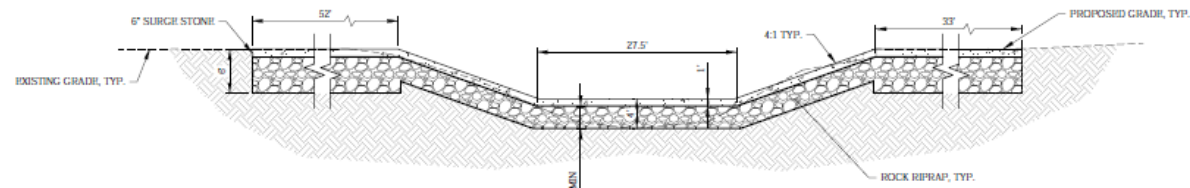
STANDARD DETAILS

PRELIMINARY
NOT FOR
CONSTRUCTION
90%
DATE:
9/13/2018

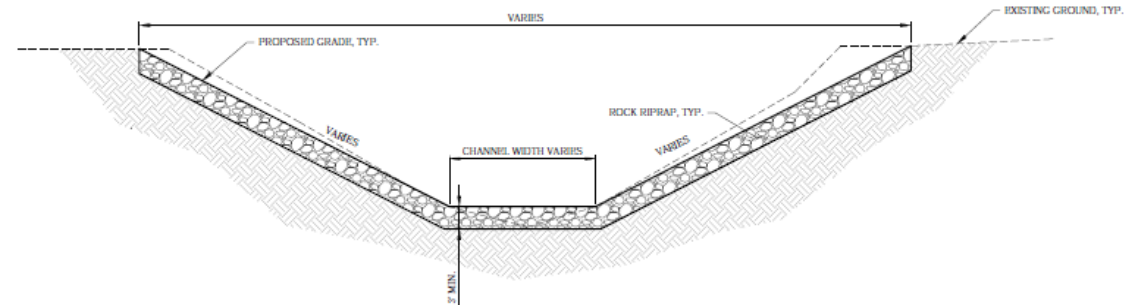
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DATE 9/13/2018
DRAWN BY TW
FILE NAME S:\PROJECTS\SD 14.Swg
FIELD BOOK HE 5862 40
FIELD BOOK CHPT
SURVEY FILE NO. BROWN COUNTY FIELD BOOK
PLAN NUMBER 140638.00
DATE 9/13/2018
TOWN OF SAND DRAW
SD PROJECT NUMBER 140638.00
DATE 9/13/2018
REVISION

D1.3

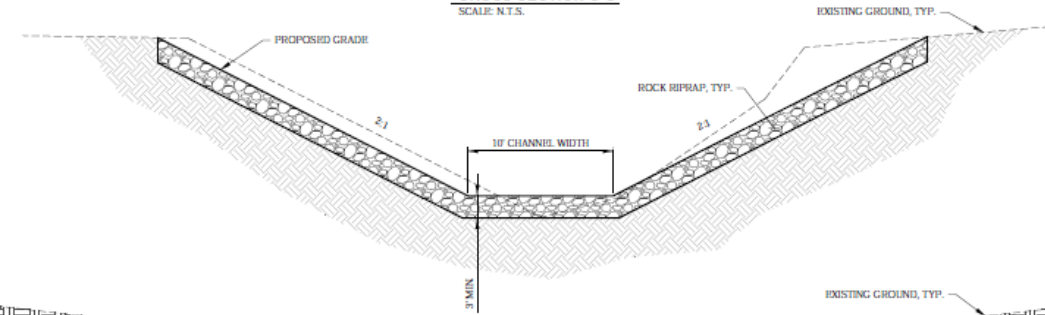
Cross Section of ERR



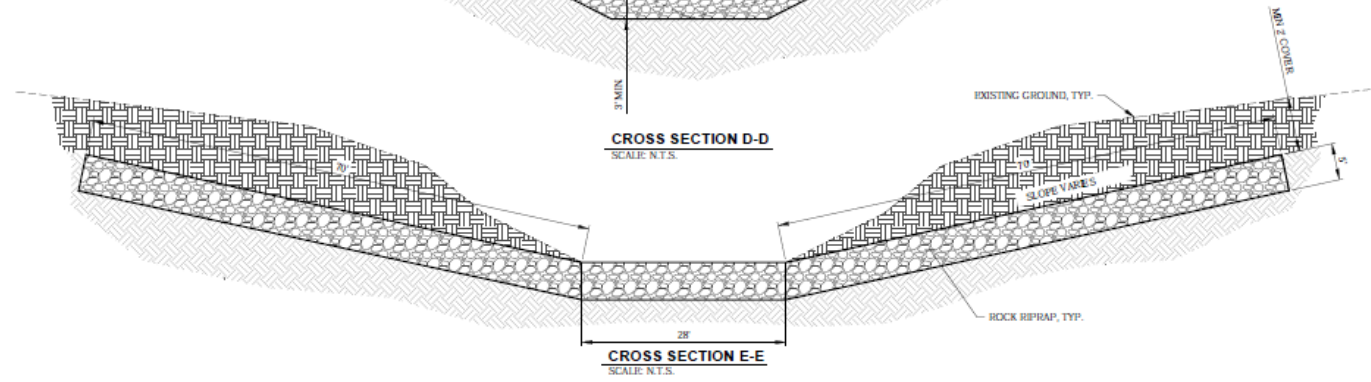
CROSS SECTION B-B
SCALE: N.T.S.



CROSS SECTION C-C
SCALE: N.T.S.



CROSS SECTION D-D
SCALE: N.T.S.



CROSS SECTION E-E
SCALE: N.T.S.



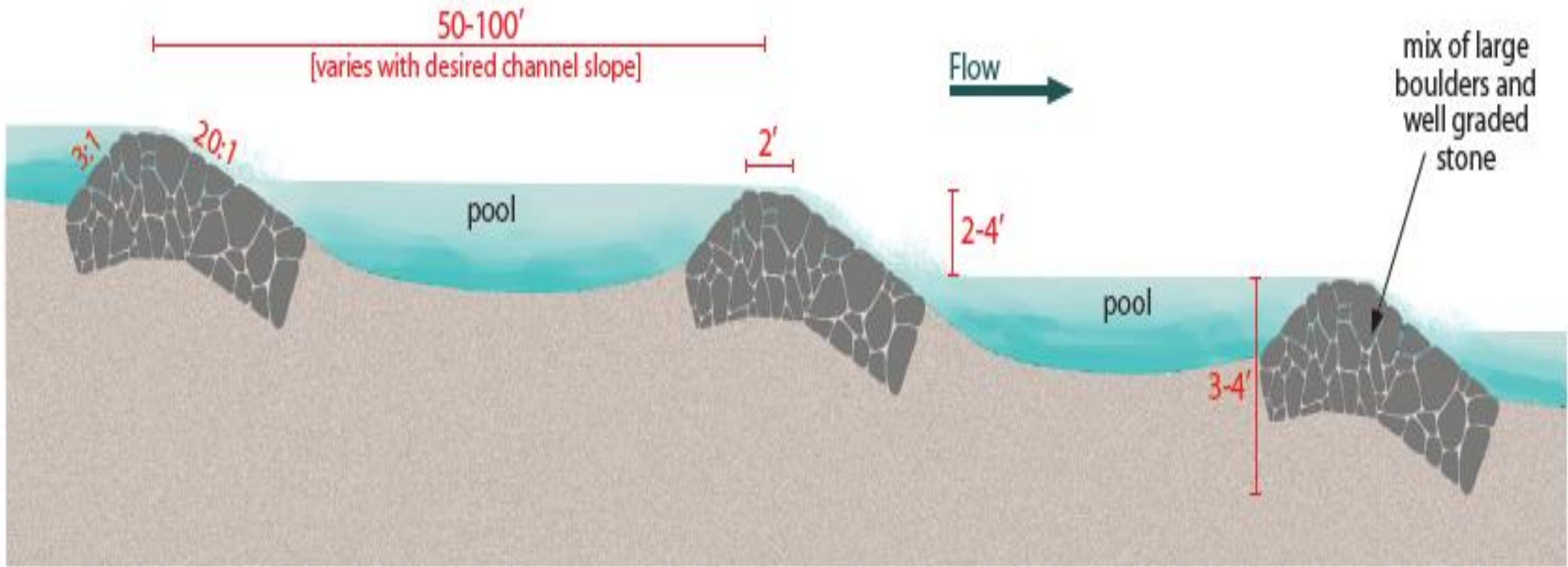
SAND DRAW CREEK
REHABILITATION - SD 14
BROWN COUNTY, NEBRASKA

STANDARD DETAILS

PRELIMINARY
NOT FOR
CONSTRUCTION
90%
DATE
9/13/2018
PRELIMINARY

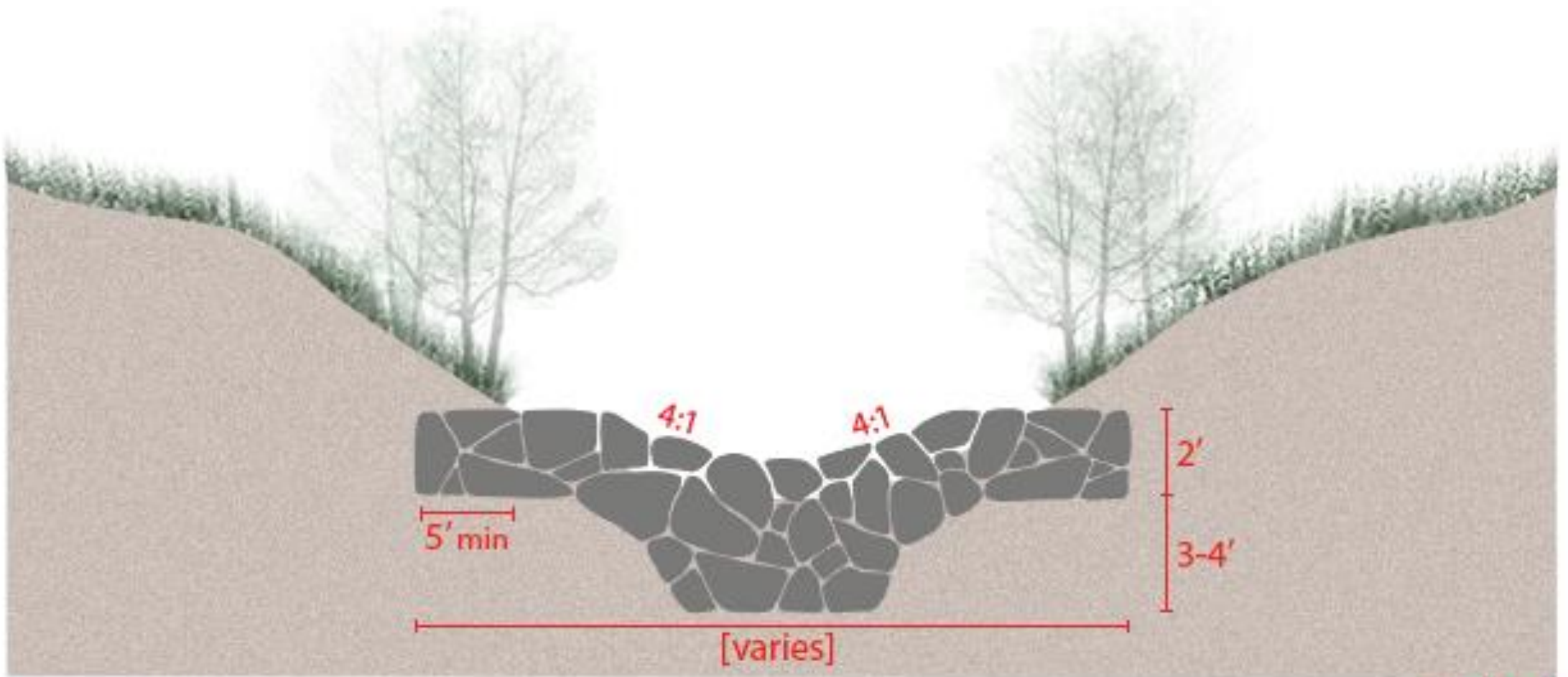
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DATE 9/13/2018
DRAWN BY TW
FILE NAME 91408301010-14-04g
FIELD BOOK NC MISC. 80
FIELD DRAW 0460
SUBMIT FILE TO BROWN COUNTY FIELD BOOK
PLAN NUMBER 0460
DATE 09/13/18
10 PERCENT REVISION 04
BY PROJECT MANAGER
DATE 09/13/18
REVISIONS

D1.2



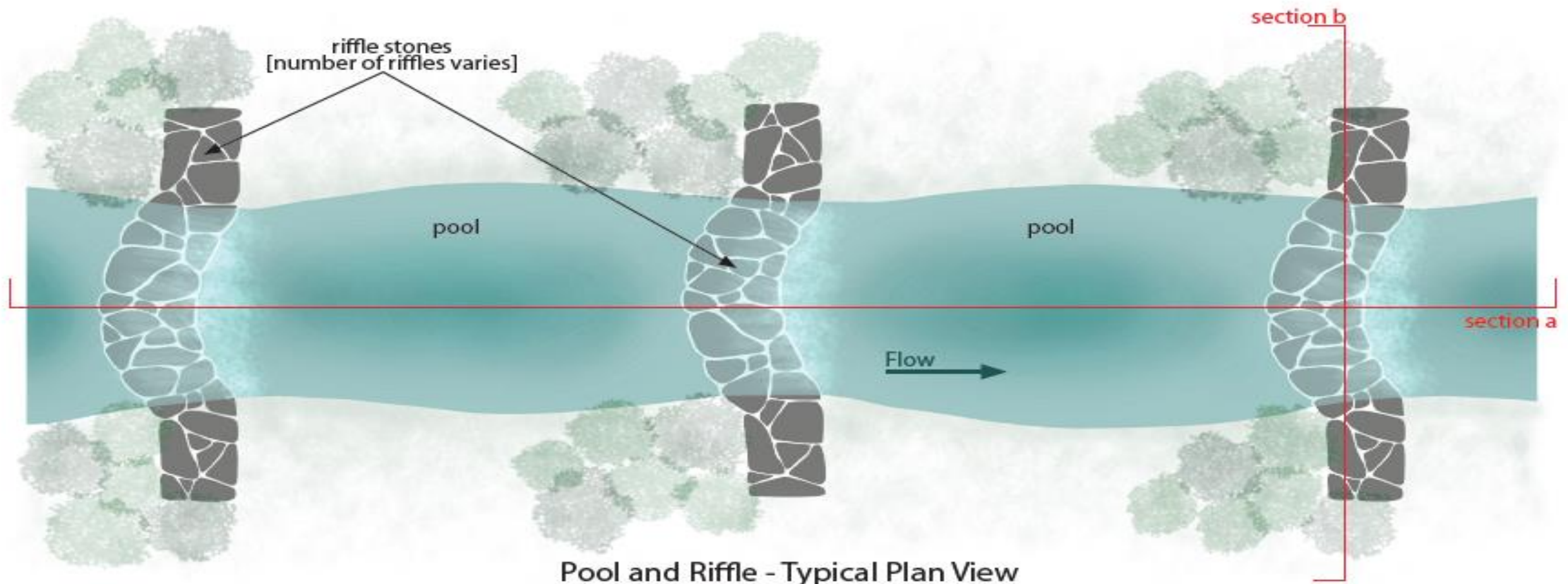
Pool and Riffle - Typical Profile

section a



Pool and Riffle - Typical Cross Section

section b



Pool and Riffle - Typical Plan View

Pool and Riffle

[Diagrams are not drawn to scale]

SAND DRAW CREEK REHABILITATION SD-14

GOALS AND PROJECT SIZE

Project SD-14's implementation will mitigate the effects of the fundamental changes to Sand Draw Creek by implementing measures such as these:

- Improving Water Quality
- Restoring Streambed Elevation
- Controlling Stream Bed and Bank Erosion
- Improving Ecological Diversity (Both In-Stream and On Land)
- Preventing Further Damage To Infrastructure
- Preventing Further Loss of Agricultural Land
- Reducing Downstream Sedimentation

Project Size: .0193 acres or 496 linear feet

SAND DRAW CREEK REHABILITATION SD-14

GOALS CONTINUED...



Sand Draw Box Culvert looking to the east, below Old Highway 7 north of Ainsworth, NE.



Sand Draw Box Culvert looking to the west of Old Highway 7 north of Ainsworth, NE.

View looking south over
the location of the
proposed main (ERR #2)
Engineered Rock
Riffle/Weir.



SAND DRAW CREEK REHABILITATION SD-14 PHOTOS



SAND DRAW CREEK REHABILITATION SD-14 PHOTOS



SAND DRAW CREEK REHABILITATION SD-14 PHOTOS



SAND DRAW CREEK REHABILITATION SD-14 PHOTOS



SAND DRAW CREEK REHABILITATION SD-14 ECOLOGICAL REFERENCE SITE



STREAM SAMPLING

- Long Pine Creek Watershed
- Level Loggers
 - Water Level
 - Temperature
 - Pressure
- Channel Widths and Velocities
 - Stream flow or Velocity shows of how the water is flowing.
- All Units Combined:
 - Gives ideas on how to plan, design and implement structures that are capable of holding the amount of water flow.



Bone Creek



Lower Sand Draw
Creek



Upper Sand Draw
Creek



Middle Sand Draw Creek



WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

- USDA-NRCS/Background
- Proposed Action
- Purpose and Need For Action
- Costs/Estimated Budget Timeline
- Partnerships

WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

- Background:
 - USDA-NRCS Funding:
 - Helps Federal, State, Local and Tribal Government (Project Sponsors) Protect and Restore Watersheds up to 250,000-acre threshold.
 - Investing \$150,000,000.00 in 51 new projects in the 48 states.
 - Funding is also included on 41 additional existing projects in 11 states.
 - Purpose of the WFPO Funds:
 - Erosion and Sediment Control, Watershed Protection, Flood Prevention, Water Quality Improvements, Rural, Municipal and Industrial Water Supply, Water Management, Fish and Wildlife Habitat Enhancement and Hydropower Sources.

WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

- Background Continued:
 - Combined two plans into one plan (Long Pine Creek Watershed Improvement Project):
 - Long Pine Creek Watershed Plan – 224,092 acres
 - Bone Creek Watershed Plan – 108,222 acres
 - Eligibility:
 - The project area is more than the 250,000 acre threshold but was given a variance to consolidate the 2 plans into one.
 - The watershed area is vastly agricultural in nature.

WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

- Proposed Action:
 - What will take place? What is going to happen? What does the future hold for potential projects?
 - A plan that will guide the MNNRD to effectively locate structural and non-structural projects
 - Achieve watershed protection, agricultural water management and public fish and wildlife goals for the watershed
 - Projects included:
 - Construction of various wetlands
 - Small Ponds
 - Grade Control Structures
 - Streambank Stabilization
 - Instillation of Aquatic Habitat

WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

The Purpose And Need for Action:

The purpose of project is:

- Watershed Protection
- Public Fish and Wildlife
- Agricultural Water Management
- Water Quality Management

Need for Action:

- Addressing Stream Degradation due to excessive water flow which is degrading aquatic habitat and property.

WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

- Estimated Budget Timeline:

		Average Estimated Budget Timeline-MNNRD's																							
	Cost	19-Jan	19-Feb	19-Mar	19-Apr	19-May	19-Jun	19-Jul	19-Aug	19-Sep	19-Oct	19-Nov	19-Dec	20-Jan	20-Feb	20-Mar	20-Apr	20-May	20-Jun	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec
Task 1: MNNRD Administration	\$29,500.00	\$1,404.91	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76	\$1,404.76			
Task 2: Public Participation	\$51,312.50	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45	\$2,443.45			
Task 3: Site Data Collection	\$120,302.50				\$24,060.50	\$24,060.50	\$24,060.50	\$24,060.50	\$24,060.50																
Task 4: Conceptual Design Alternatives	\$168,642.50					\$33,728.50	\$33,728.50	\$33,728.50	\$33,728.50	\$33,728.50															
Task 5: Writing Draft Plan-EA for NRCS Review	\$93,318.50				\$10,368.72	\$10,368.72	\$10,368.72	\$10,368.72	\$10,368.72	\$10,368.72	\$10,368.72	\$10,368.72	\$10,368.72												
Task 6: Draft Plan-EA for NWMC and NHQ Review	\$85,602.50												\$28,534.16	\$28,534.16	\$28,534.16										
Task 7: Public Meeting and Interagency Comments	\$6,312.50																\$3,156.25	\$3,156.25							
Task 8: Final Plan-EA	\$76,312.50																	\$25,437.50	\$25,437.50	\$25,437.50					
Task 9: Final Plan-EA Submitted for Authorization	\$33,696.50																			\$8,424.12	\$8,424.12	\$8,424.12	\$8,424.12		
Monthly Costs		\$3,848.36	\$3,848.21	\$3,848.21	\$38,277.43	\$72,005.93	\$72,005.93	\$72,005.93	\$72,005.93	\$47,945.43	\$14,216.93	\$14,216.93	\$42,751.09	\$32,382.37	\$32,382.37	\$3,848.21	\$7,004.46	\$32,441.96	\$29,285.71	\$37,709.83	\$12,272.33	\$12,272.33	\$8,424.12		
Cumulative Monthly Costs		\$3,848.36	\$7,696.57	\$11,544.78	\$49,822.21	\$121,828.14	\$193,834.07	\$265,840.00	\$337,845.93	\$385,791.36	\$400,008.29	\$414,225.22	\$456,976.31	\$489,358.68	\$521,741.05	\$525,589.26	\$532,593.72	\$565,035.68	\$594,321.39	\$632,031.22	\$644,303.55	\$656,575.88	\$665,000.00		
TOTAL	\$665,000.00																								

WATERSHED AND FLOOD PREVENTION OPERATIONS (WFPO) FUNDS

- Partnerships:
 - Nebraska Department of Environmental Equality (NDEQ): Provides funding through Nonpoint Source Program 319 Funding; including funding provided in 2013 for the Water Quality Management Plan (WQMP) and 2016/2017 for construction of stream restoration projects in Sand Draw Creek.
 - The Nebraska Environmental Trust (NET): A state lottery funded organization that contributes money to organizations to conserve, enhance, and restore natural environments of Nebraska.
 - Landowners: Allowing property access to install projects and Best Management Practices (BMP's).
 - NE Game and Parks Commission: Potential financial and technical assistance partner through its Cool Water Streams Initiative.

GRANTS

- NDEQ 319 LPCW Implementation Phase I (56-1581):
 - \$97,500
- NDEQ 319 LPCW Implementation Phase II (17-167):
 - \$299,000
- NET Long Pine Creek Watershed Phase I (15-216-2-2) 2015:
 - \$250,000
- NET Long Pine Creek Watershed Phase II (18-175) 2017:
 - \$282,780

LONG PINE CREEK WATERSHED MANAGEMENT STAKEHOLDERS

- PREVIOUS STAKEHOLDER MEETINGS:

- October 2014
- June 2016
- March 2018

- UPCOMING STAKEHOLDER MEETINGS:

- Open House (December 10th, 2018)
- Future Meetings will be planned with the progress and updates of the LPCW Management, Projects and BMP's.



THANK YOU



LANDOWNERS