

REQUEST FOR BIDS

Upper Iowa River Flood Reduction Project

UI-BID-001

Winneshiek County, IA

Due:

3:00 PM

October 17, 2019

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WINNESHIEK COUNTY, IOWA

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PUBLIC NOTICE: ADVERTISEMENT FOR BIDS
Winneshiek County, Iowa

The County of Winneshiek is seeking bids for the following project:

Construction of flood reduction projects in the Upper Iowa River Watershed

Project Location:

This project consists of 2 structures on agricultural land within the Upper Iowa River Watershed in Winneshiek County.

Project Information:

The project involves the construction of 2 grade stabilization/sediment control basins and associated waterways.

Plans and Specifications Will be Available October 3rd, 2019 at 3:00 PM at/from the Offices of:

Northeast Iowa Resource Conservation and Development, Inc. (RC&D)
101 E. Greene St.
P.O. Box 916
Postville, IA 52162
563-864-7112
pberland@northeastiowarcd.org
Point of Contact: Paul Berland or Amanda Streeper

Electronic copies of the bid packet are available via e-mail, hard copies are available for pick-up at the RC&D office.

Pre-Bid Meeting:

A Pre-Bid Meeting will be held October 10 @ 9:00 AM at the Winneshiek Soil and Water Conservation District Office, 2296 Oil Well Road, Decorah, IA 52101. Engineer will be in attendance and site visits will occur dependent upon weather conditions.

Time and Place for Filing Sealed Proposals:

Sealed bids will be received from qualified contractors at the Northeast Iowa RC&D office, 101 E. Greene St., PO Box 916 Postville, IA 52162 until **October 17 at 3:00 PM.**

Time and Place Sealed Proposals Will be Opened and Considered:

Bids will be opened and tabulated at Northeast Iowa RC&D office at 3:00 PM on October 17, 2019 for consideration by the Winneshiek County Board of Supervisors at its meeting on October 21, 2019.

Section 3 Requirements

A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent

feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

Section 3 Businesses are encouraged to respond to this proposal. A Section 3 business is a business that is:

51% owned by Section 3 residents*

Whose permanent, full-time staff is comprised of at least 30% Section 3 residents*

Has committed 25% of the dollar amount of its subcontracts to Section 3 businesses

*A Section 3 resident is defined as a public housing resident or someone with a household income that is less than 80% of the area median income.

Businesses that believe they meet the Section 3 criteria are encouraged to register as a Section 3 Business through HUD's website:

<https://portalapps.hud.gov/Sec3BusReg/BRegistry/RegisterBusiness>

BID INSTRUCTIONS & AWARD PROCEDURE

Please complete all documents properly. Failure to complete and sign all documents with respect to the requirements listed below may cause your bid not to be read.

BID BOND

- i. The bid security in the amount of five percent (5%) of the total bid price shall be in the form of a cashier's check, a certified check, or a bank money order drawn on a FDIC insured bank in Iowa or drawn on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the County of Fayette, hereinafter called the "Jurisdiction".
- ii. The bid bond must be submitted using the Bid Bond Form. All signatures on the bid bond must be original signatures in ink; facsimile (fax) of any signature on the bid bond is not acceptable.

PROPOSAL SUBMISSION

- i. The proposal shall be submitted in a sealed envelope properly identified as the Proposal with the project title and the name and address of the bidder. Proposals shall be delivered to Northeast Iowa RC&D, 101 E. Greene Street, P.O. Box 916, Postville, IA 52162 at or before 3:00 P.M., local time on October 17, 2019. It is the sole responsibility of the bidder to see that its proposal is delivered prior to the time for opening bids, along with the appropriate bid security sealed in the separate envelope identified as Bid Security or Bid Bond. Proposals received after the bid receipt deadline will be returned to the bidder unopened and will not be considered.
- ii. The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if these documents are omitted from the Proposal envelope.
 - a. **UI-BID-001 BID FORM:** Signatures must be in original ink
 - b. **UI-BID-001 BID SCHEDULE (consisting of 3 pages):** the Bidder must provide the Unit Price, the Amount, the Division Subtotals and the Grand Total Bid. In case of discrepancy, the Unit Price governs. The quantities shown on the Proposal are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Jurisdiction shall only use the Grand Total Bid for comparison of the bids.
 - c. **Intent to Comply with Section 3 Requirements**

SPECIAL NOTE ON BID INSTRUCTIONS

- i. The bidder should be sure to read and understand all required federal provisions, wage rate determinations, bonding requirements, contract requirements, labor standards and bid packet materials prior to submitting a bid.
- ii. The project consists of two (2) separate flood control structures at 2 locations. Bids should reflect the total cost to construct all of the structures. The Jurisdiction will enter into one (1) contract for the construction of both structures and will not sub-divide the projects and offer multiple contracts. The contractor awarded the contract may elect to hire sub-contractors, but will do so at their own desire and will be required to fulfill requirements and provisions related to sub-contracting.

AWARD PROCEDURE

- i. The Jurisdiction reserves the right to reject any bids, and to accept in whole or in part the bid which in the judgment of the bid evaluators is the lowest, most responsive and responsible bid. The Jurisdiction, reserves the right to reject any and all bids, to waive technicalities or irregularities and to enter into such contract as it shall deem to be in the best interests of the County.

UI-BID-001 BID FORM

Submitting Firm: _____

Address: _____

City: _____ State: _____ Zip: _____

Authorized Representative (print): _____

Authorized Representative Signature: _____

Date: _____ Email: _____

Phone: _____

Our/My bid, as shown in the Grand Bid Total from the Bid Schedule submitted is

\$ _____.

The correct summation of actual bid tabulation figures will supersede any amounts shown on this page.

CERTIFICATIONS: By signing this form, the bidder certifies that they have read and understand all bid packet items related to this solicitation, including, but not limited to, contract language, bonding requirements, federal provisions, wage rate determination, labor standards, reporting and records maintenance and construction specifications.

FIRM PRICING. Offered prices shall remain firm for a minimum of 30 days after the due date of this solicitation unless indicated otherwise. Accepted prices shall remain firm for the duration of the contract.

ADDENDA (It is the Bidder's responsibility to check for issuance of any addenda). The authorized representative hereby acknowledges receipt of the following addenda:

Addenda Number _____ Date _____ Addenda Number _____ Date _____

Addenda Number _____ Date _____ Addenda Number _____ Date _____

UI-BID-001 BID SCHEDULE

UPPER IOWA RIVER WATERSHED

SITE: JEVNE
IOWA

BID SCHEDULE

ITEM NO.	WORK OR MATERIAL	SPEC. NO.	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization		1	Job	\$ _____	\$ _____
2	Clearing & Grubbing	1	1	Job	\$ _____	\$ _____
3	Seeding (Critical area)	6	0.6	Acres	\$ _____	\$ _____
4	Seeding (Native Prairie area)		1.0	Acres	\$ _____	\$ _____
5	Core Trench Excavation	21	309	Cu Yds.	\$ _____	\$ _____
6	Compacted Earthfill	23	4727	Cu Yds.	\$ _____	\$ _____
7	Rip Rap Rock Placed	61	30	Ton	\$ _____	\$ _____
8	SP Pipe, 12" Installed w/ Appurtenances	45	110	Lin. Ft.	\$ _____	\$ _____
9	Anti-seep Collars Installed (4x4)		3	Each	\$ _____	\$ _____
10	Fence - 4 Strand Barb Wire		1600	Feet	\$ _____	\$ _____
11	Gates (12 ft) Installed		2	Each	\$ _____	\$ _____
12	Waterline Installed		170	Feet	\$ _____	\$ _____
13	Hydrant Installed		1	Job	\$ _____	\$ _____

TOTAL BID - JEVNE SITE\$ _____

UPPER IOWA RIVER WATERSHED

SITE: **DOWE**
IOWA

BID SCHEDULE

ITEM NO.	WORK OR MATERIAL	SPEC. NO.	QUANTITY UNIT	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization		1 Job	\$ _____	\$ _____
2	Clearing & Grubbing	1	1 Job	\$ _____	\$ _____
3	Seeding (Critical area)	6	3.0 Acres	\$ _____	\$ _____
4	Seeding Cover Crop		10.0 Acres	\$ _____	\$ _____
5	Earthwork Waterway Shaping	412	3660 Cu Yds.	\$ _____	\$ _____
6	Waterway Outlet Shaping	23	1250 Cu Yds.	\$ _____	\$ _____
7	Rip Rap Rock Placed	61	201 Ton	\$ _____	\$ _____
8	SP Pipe, 10" Installed w/ Appurtenances	45	62 Lin. Ft.	\$ _____	\$ _____
9	GeoTextile Fabric		550 SY	\$ _____	\$ _____
10	Outlet Stilling Pool		1 Job	\$ _____	\$ _____
11	Fabric Checks Installed		540 Feet	\$ _____	\$ _____

TOTAL BID -DOWE SITE\$ _____

UI-BID-001

SITES:
UPPER IOWA RIVER WATERSHED

BID SCHEDULE
SUMMATION OF BIDS

TOTAL BID, JEVNE SITE..... \$ _____

TOTAL BID, DOWE SITE \$ _____

SUMMATION OF BIDS

GRAND TOTAL BID \$ _____

Firm: _____

Signature: _____

BID BOND

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety, are held and firmly bound unto Winneshiek County, Iowa, as Obligee, (hereinafter referred to as "the Jurisdiction"), in the penal sum of five percent (5%) of the total bid price \$_____, lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

WHEREAS, the Principal is submitting a sealed proposal to the Jurisdiction for the purpose of entering into a contract for the following project;

Upper Iowa River Flood Reduction Project – Bid Packet 1 (13-NDRI-009). UI-BID-001

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

Signed and sealed this _____ day of _____, 20__.

SURETY:

PRINCIPAL:

Surety Company

Bidder

By _____
Authorized Surety Representative

By _____
Signature

Name (Print/Type)

Name (Print/Type)

Address, City, State, Zip

Address, City, State, Zip

INTENT TO COMPLY WITH SECTION 3 REQUIREMENTS

(To be provided with procurement documents and returned with all submitted bids)

Section 3 of the Housing and Urban Development Act of 1968 [12 U.S.C. 1701u and 24 CFR Part 135] is HUD's legislative directive for providing preference to low-income residents of the local community (regardless of race or gender), and the businesses that substantially employ these persons, for new employment, training and contracting opportunities resulting from HUD-funded projects. The regulations seek to ensure that low- and very low-income persons, and the businesses that employ these individuals, are notified about the expenditure of HUD funds in their community and encouraged to seek opportunities, if created.

A Section 3 resident is defined as a public housing resident or someone with a household income that is less than 80% of the area median income.

A Section 3 business is defined as a business that is:

51% owned by Section 3 residents

Whose permanent, full-time staff is comprised of at least 30% Section 3 residents**

Has committed 25% of the dollar amount of its subcontracts to Section 3 businesses

Note: If your business meets the definition of a Section 3 business, you may register as a Section 3 Business through HUD's website here:

<https://portalapps.hud.gov/Sec3BusReg/BRegistry/RegisterBusiness>

Businesses who self-certify that they meet one of the regulatory definitions of a Section 3 business will be included in a searchable online database. The database can be used by agencies that receive HUD funds, developers, contractors, and others to facilitate the award of covered construction and non-construction contracts to Section 3 businesses.

Please complete the following:

1. If awarded a contract for this CDBG funded project, do you anticipate hiring new employees to complete the project? (Hiring would be specific to this project)

☐ Yes ☐ No If yes, please estimate the number of employees to be hired: _____
2. Is your business a Section 3 Business? ☐ Yes ☐ No
3. Is the bidder willing to consider hiring Section 3 residents for future employment opportunities that are a direct result of this CDBG funded project?

☐ Yes ☐ No
4. Is the bidder willing to consider subcontracting with Section 3 Businesses for this project?

☐ Yes ☐ No

I understand that this contracting opportunity is subject to HUD Section 3 requirements (24 CFR Part 135). I have read and understand the Section 3 requirements as generally described above and presented in the Section 3 contract language included in the procurement documents for this project. If awarded a contract, the business commits to following Section 3 requirements, as they apply to this project. If awarded a contract for this project, the business agrees to provide reports to (insert City/County) on Section 3 efforts and accomplishments.

Name of Contractor/Subcontractor

Address

Print Name

Title

Signature

Date

"General Decision Number: IA20190081 08/16/2019

State: Iowa

Construction Types: Heavy and Highway

Counties: Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Black Hawk, Boone, Bremer, Buchanan, Buena Vista, Butler, Calhoun, Carroll, Cass, Cedar, Cerro Gordo, Cherokee, Chickasaw, Clarke, Clay, Clayton, Clinton, Crawford, Dallas, Davis, Decatur, Delaware, Des Moines, Dickinson, Dubuque, Emmet, Fayette, Floyd, Franklin, Fremont, Greene, Grundy, Guthrie, Hamilton, Hancock, Hardin, Harrison, Henry, Howard, Humboldt, Ida, Iowa, Jackson, Jasper, Jefferson, Johnson, Jones, Keokuk, Kossuth, Lee, Linn, Louisa, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Mills, Mitchell, Monona, Monroe, Montgomery, Muscatine, O'Brien, Osceola, Page, Palo Alto, Plymouth, Pocahontas, Polk, Pottawattamie, Poweshiek, Ringgold, Sac, Shelby, Sioux, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, Wayne, Webster, Winnebago, Winneshiek, Woodbury, Worth and Wright Counties in Iowa.

EXCLUDES SCOTT COUNTY

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on

the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	08/16/2019

SUIA2019-001 10/18/2017

	Rates	Fringes
Carpenter & Piledrivermen		
ZONE 1.....	\$ 27.92	13.28
ZONE 2.....	\$ 26.03	13.38
ZONE 3.....	\$ 26.03	13.38
ZONE 4.....	\$ 25.55	10.80
ZONE 5**.....	\$ 24.45	9.20
CONCRETE FINISHER		
ZONE 1.....	\$ 27.50	7.10
ZONE 2.....	\$ 27.50	7.10
ZONE 3.....	\$ 27.50	7.10
ZONE 4.....	\$ 24.85	6.10
ZONE 5.....	\$ 23.80	6.10
ELECTRICIAN (STREET AND HIGHWAY LIGHTING AND TRAFFIC SIGNALS)		
ZONE 1, 2, AND 3.....	\$ 24.45	6.50
ZONE 4.....	\$ 23.15	6.50

ZONE 5.....	\$ 21.00	6.50
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IRONWORKER (SETTING OF
STRUCTURAL STEEL)

ZONE 1.....	\$ 30.50	10.70
ZONE 2.....	\$ 28.41	10.70
ZONE 3.....	\$ 28.41	11.00
ZONE 4.....	\$ 26.35	9.50
ZONE 5**.....	\$ 24.50	9.05

LABORER

ZONE 1, 2 AND 3

GROUP A.....	\$ 23.15	9.18
GROUP AA.....	\$ 25.53	9.18
GROUP B.....	\$ 21.30	9.18
GROUP C.....	\$ 18.22	9.18

ZONE 4

GROUP A.....	\$ 20.82	8.63
GROUP B.....	\$ 19.50	8.63
GROUP C.....	\$ 16.62	8.63

ZONE 5

GROUP A.....	\$ 21.32	7.18
GROUP B.....	\$ 18.82	7.18
GROUP C.....	\$ 17.97	7.18

POWER EQUIPMENT OPERATOR

ZONE 1

GROUP A.....	\$ 31.75	14.55
GROUP B.....	\$ 30.20	14.55
GROUP C.....	\$ 27.70	14.55
GROUP D.....	\$ 27.70	14.55

ZONE 2

GROUP A.....	\$ 31.05	14.55
GROUP B.....	\$ 29.45	14.55
GROUP C.....	\$ 26.90	14.55
GROUP D.....	\$ 26.90	14.55

ZONE 3

GROUP A.....	\$ 29.05	23.30
GROUP B.....	\$ 27.25	23.30
GROUP C.....	\$ 26.25	23.30
GROUP D.....	\$ 26.25	23.30

ZONE 4

GROUP A.....	\$ 30.55	11.65
GROUP B.....	\$ 29.41	11.65
GROUP C.....	\$ 27.33	11.65
GROUP D.....	\$ 27.33	11.65

ZONE 5

GROUP A.....	\$ 27.37	9.60
GROUP B.....	\$ 26.33	9.60
GROUP C.....	\$ 24.60	9.60
GROUP D.....	\$ 23.60	9.60

TRUCK DRIVER (AND PAVEMENT

MARKING DRIVER/SWITCHPERSON)

ZONE 1.....	\$ 23.85	10.85
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ZONE 2

.....	\$ 23.85	10.85
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ZONE 3.....	\$ 23.85	10.85
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ZONE 4.....	\$ 23.85	6.65
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ZONE 5

.....	\$ 21.90	6.65
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ZONE DEFINITIONS

ZONE 1 The Counties of Polk, Warren, and Dallas for all Crafts, and Linn County Carpenters only.

ZONE 2 The Counties of Dubuque for all Crafts and Linn County for all Crafts except Carpenters.

ZONE 3 The Cities of Burlington, Clinton, Fort Madison, Keokuk, and Muscatine (and abutting municipalities of any such cities).

ZONE 4 Story, Black Hawk, Cedar, Jasper, Jones, Jackson, Louisa, Madison, and Marion Counties; Clinton County (except the City of Clinton), Johnson County, Muscatine County (except the City of Muscatine), the City of Council Bluffs, Lee County and Des Moines County.

ZONE 5 All areas of the state not listed above.

LABORER CLASSIFICATIONS - ALL ZONES

GROUP AA - {Skilled pipelayer (sewer, water and conduits) and tunnel laborers; asbestos abatement worker} (Zones 1, 2 and 3).

GROUP A - Carpenter tender on bridges and box culverts; curb machine (without a seat); deck hand; diamond & core drills; drill operator on air tracs, wagon drills and similar drills; form setter/stringman on paving work; gunnite nozzleleman; joint sealer kettleman; laser operator; powderman tender; powderman/blaster; saw operator; {pipelayer (sewer, water, and conduits); sign erector*}; tunnel laborer; asbestos abatement worker (Zones 4 and 5)}, sign erector.

GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400 cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on demolition; drill tender; dumpmen; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chairs; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except stripers); paving breaker; planting trees, shrubs and flowers; power broom (not self-propelled); power buggyman; rakers; rodman (tying reinforcing steel); sandblaster; seeding and mulching; sewer utility topman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline, or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint stripers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor; water carrier.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - All terrain (off road) forklift; asphalt breakdown roller (vibratory); asphalt laydown machine; asphalt plant; asphalt screed; bulldozer (finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper;

directional drill (60,000 (lbs) pullback and above);
 dragline and power shovel; dredge engineer; excavator (over
 ♦ cu. yd.); front end loader (4 cy and over); horizontal
 boring machine; master mechanic; milling machine (over 350
 hp); motor grader (finish); push cat; rubber tired backhoe
 (over ♦ cu. yd.); scraper (12 cu. yd. and over or finish);
 Self-propelled rotary mixer/road reclaimer; sidebroom
 tractor; slipform portland concrete paver; tow or push
 boat; trenching machine (Cleveland 80 or similar)

GROUP B - Articulated off road hauler, asphalt heater/planer;
 asphalt material transfer vehicle; asphalt roller; belt
 loader or similar loader; bulldozer (rough); churn or
 rotary drill; concrete curb machine; crawler tractor
 pulling ripper, disk or roller; deck hand/oiler;
 directional drill (less than 60,000 (lbs) pullback);
 distributor; excavator (1/2 cu. yd. and under); form riding
 concrete paver; front end loader (2 to less than 4 cu.
 yd.); group equipment greaser; mechanic; milling machine
 (350 hp. and less); paving breaker; portland concrete dry
 batch plant; rubber tired backhoe (1/2 cu. yd. and under);
 scraper (under 12 cu. yd.); screening, washing and crushing
 plant (mobile, portable or stationary); shoulder machine;
 skid loader (1 cu. yd. and over); subgrader or trimmer;
 trenching machine; water wagon on compaction.

GROUP C - Boom & winch truck; concrete spreader/belt placer;
 deep wells for dewatering; farm type tractor (over 75 hp.)
 pulling disc or roller; forklift; front end loader (under 2
 cu. yd.); motor grader (rough); pile hammer power unit;
 pump (greater than three inch diameter); pumps on well
 points; safety boat; self-propelled roller (other than
 asphalt); self-propelled sand blaster or shot blaster,
 water blaster or striping grinder/remover; skid loader
 (under 1 cu. yd.); truck mounted post driver.

GROUP D - Boiler; compressor; cure and texture machine; dow
 box; farm type or utility tractor (under 75 hp.) pulling
 disk, roller or other attachments; group greaser tender;
 light plants; mechanic tender; mechanical broom; mechanical
 heaters; oiler; pumps (under three inch diameter); tree

chipping machine; truck crane driver/oiler.

**** CARPENTERS AND PILEDRIVERMEN, or IRONWORKERS (ZONE 5)**

Setting of structural steel; any welding incidental to bridge
or culvert construction; setting concrete beams.

*** ADDED CRAFT - SIGN ERECTOR**

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic
violence, sexual assault, or stalking. Additional information
on contractor requirements and worker protections under the EO
is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates

the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

PERFORMANCE AND PAYMENT BOND

KNOW ALL BY THESE PRESENTS:

That we, _____ as Principal (hereinafter the "Contractor" or "Principal" and _____, as Surety are held and firmly bound unto the County of Winneshiek, Iowa (hereinafter referred to as "the Jurisdiction") and to all persons who may be injured by any breach of any of the conditions of this Bond in the penal sum of _____ Dollars(\$ _____) lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, legal representatives and assigns, jointly or severally, firmly by these presents.

The conditions of the above obligations are such that whereas said Contractor entered into a contract with the Jurisdiction, bearing date the day of __, 201__, (hereinafter the "Contract") wherein said Contractor undertakes and agrees to construct the following described improvements: Upper Iowa River Flood Reduction Project – Bid Packet 1 (13-NDRI-009) UI-BID-001, unless modified herein, and to faithfully perform all the terms and requirements of said Contract within the time therein specified, in a good and workmanlike manner, and in accordance with the Contract Documents.

It is expressly understood and agreed by the Contractor and Surety in this bond that the following provisions are a part of this Bond and are binding upon said Contractor and Surety, to-wit:

1. PERFORMANCE: The Contractor shall well and faithfully observe, perform, fulfill and abide by each and every covenant, condition and part of said Contract and Contract Documents, by reference made a part hereof, for the above referenced improvements, and shall indemnify and save harmless the Jurisdiction from all outlay and expense incurred by the Jurisdiction by reason of the Contractor's default of failure to perform as required. The Contractor shall also be responsible for the default or failure to perform as required under the Contract and Contract Documents by all its subcontractors, suppliers, agents, or employees furnishing materials or providing labor in the performance of the Contract.

2. PAYMENT: The Contractor and the Surety on this Bond are hereby agreed to pay all just claims submitted by persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the performance of the Contract on account of which this Bond is given, including but not limited to claims for all amounts due for labor, materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used by the Contractor or any subcontractor, wherein the same are not satisfied out of the portion of the contract price which the Jurisdiction is required to retain until completion of the improvement, but the Contractor and Surety shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price shall have been established as provided by law. The Contractor and Surety hereby bind themselves to the obligations and conditions set forth in Chapter 573, Code of Iowa, which by this reference is made a part hereof as though fully set out herein.

3. GENERAL: Every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

A. To consent without notice to any extension of time to the Contractor in which to perform the Contract;

B. To consent without notice to any change in the Contract or Contract Documents, which thereby increases the total contract price and the penal sum of this bond, provided that all such changes do not, in the aggregate, involve an increase of more than twenty percent of the total contract price, and that this bond shall then be released as to such excess increase; and

C. To consent without notice that this Bond shall remain in full force and effect until the Contract is completed, whether completed within the specified contract period, within an extension thereof, or within a period of time after the contract period has elapsed and the liquidated damage penalty is being charged against the Contractor.

The Contractor and every Surety on the bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

D. That no provision of this Bond or of any other contract shall be valid which limits to less than five years after the acceptance of the work under the Contract the right to sue on this Bond.

E. That as used herein, the phrase "all outlay and expense" is not to be limited in any way, but shall include the actual and reasonable costs and expenses incurred by the Jurisdiction including interest, benefits and overhead where applicable. Accordingly, "all outlay and expense" would include but not be limited to all contract or employee expense, all equipment usage or rental, materials, testing, outside experts, attorney's fees (including overhead expenses of the Jurisdiction's staff attorneys), and all costs and expenses of litigation as they are incurred by the Jurisdiction. It is intended the Contractor and Surety will defend and indemnify the Jurisdiction on all claims made against the Jurisdiction on account of Contractor's failure to perform as required in the Contract and Contract Documents, that all agreements and promises set forth in the Contract and Contract Documents, in approved change orders, and in this Bond will be fulfilled, and that the Jurisdiction will be fully indemnified so that it will be put into the position it would have been in had the Contract been performed in the first instance as required. In the event the Jurisdiction incurs any "outlay and expense" in defending itself with respect to any claim as to which the Contractor or Surety should have provided the defense, or in the enforcement of the promises given by the Contractor in the Contract, Contract Documents, or approved change orders, or in the enforcement of the promises given by the Contractor and Surety in this Bond, the Contractor and Surety agree that they will make the Jurisdiction whole for all such outlay and expense, provided that the Surety's obligation under this bond shall not exceed 125% of the penal sum of this bond.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Howard County, State of Iowa. If legal action is required by the Jurisdiction to enforce the provisions of this Bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Contractor and the Surety agree, jointly and

severally, to pay the Jurisdiction all outlay and expense incurred therefore by the Jurisdiction. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to Surety for any amount guaranteed hereunder whether action is brought against the Contractor or whether Contractor is joined in any such action or actions or not.

NOW THEREFORE, the condition of this obligation is such that if said Principal shall faithfully perform all the promises of the Principal, as set forth and provided in the Contract, in the Contract Documents, and in this Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

When a word, term, or phrase is used in this Bond, it shall be interpreted or construed first as defined in this Bond, the Contract, or the Contract Documents; second, if not defined in the Bond, Contract, or Contract Documents, it shall be interpreted or construed as defined in applicable provisions of the Iowa Code; third, if not defined in the Iowa Code, it shall be interpreted or construed according to its generally accepted meaning in the construction industry; and fourth, if it has no generally accepted meaning in the construction industry, it shall be interpreted or construed according to its common or customary usage.

Failure to specify or particularize shall not exclude terms or provisions not mentioned and shall not limit liability hereunder. The Contract and Contract Documents are hereby made a part of this Bond.

Witness our hands this day of _____, 2016.

SURETY:

PRINCIPAL:

Surety Company

Bidder

By _____
Authorized Surety Attorney in Fact Officer

By _____
Signature

Name (Print/Type)

Name (Print/Type)

Address, City, State, Zip

Address, City, State, Zip

NOTE: All signatures on this performance and payment bond must be original signatures in ink; copies or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal.

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, by and between the County of Winneshiek, Iowa (hereinafter referred to as the **COUNTY**) and _____. (hereinafter referred to as the **CONTRACTOR**) WITNESSES THAT:

WHEREAS, the COUNTY and the CONTRACTOR are desirous of entering into a contract to formalize their relationship, and

WHEREAS, pursuant to Title I of the Housing and Community Development Act of 1974, as amended, the Iowa Economic Development Authority (IEDA) is authorized by the federal Department of Housing and Urban Development (HUD) to provide State Community Development Block Grant Program funds (hereinafter referred to as CDBG funds) to units of local government selected to undertake and carry out certain programs and projects in compliance with all applicable local, state, and federal laws, regulations and policies, and

WHEREAS, IEDA submitted an application for funds from HUD under the Disaster Relief Appropriations Act, 2013, Public Law 113-2, for the Community Development Block Grant National Disaster Resilience (CDBG-NDR) competition on behalf of the Recipient and the Recipient agreed to abide by the application terms and conditions; and

WHEREAS, IEDA received funds under the Disaster Relief Appropriations Act, 2013. (Public Law 113-2) under the CDBG-NDR program; and

WHEREAS, Winneshiek County has been awarded a contract (13-NDRI-009) through IEDA for a grant of federal funds from HUD under the Disaster Relief Appropriations Act, 2013, Public Law 113-2; and

WHEREAS, CONTRACTOR submitted a bid for construction and has been selected to provide construction services for the project(s) identified in the bid packet,

WHEREAS, the Scope of Work included in this contract is authorized as part of the COUNTY’s approved CDBG project, and

WHEREAS, it would be beneficial to the COUNTY to utilize the CONTRACTOR as an independent entity to accomplish the Scope of Work as set forth herein and such endeavor would tend to best accomplish the objectives of the local CDBG project;

WITNESSETH: That for and in consideration of the mutual covenants herein contained, the parties hereto agree with each other as follows:

CONTRACT AMOUNT: As outlined in the CONTRACTOR’S bid submitted _____(herein as Attachment), the cost of services shall not exceed \$_____

I. GENERAL CONDITIONS

1. Time of Performance:

Time is of the essence in this project. The COUNTY is obligated to issue a written Proceed Order within ten (10) from the acceptance of the CONTRACTOR'S Proposal. If the Proceed Order is not received by the CONTRACTOR, the CONTRACTOR has the option of withdrawing his or her Quote and Proposal.

The CONTRACTOR shall commence work within fifteen (15) days of issuance of the Proceed Order and only after a pre-construction meeting where the engineer and labor standards officer are present.

The CONTRACTOR shall achieve substantial completion by December 31, 2019.

Prior to, or at Contract execution, CONTRACTOR must provide: a) performance bond on the part of the CONTRACTOR for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the CONTRACTOR'S obligations under such contract; and b) payment bond on the part of the CONTRACTOR for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract

2. Contract:

The Contract consists of the:

- a. COUNTY'S Request for Bids (Attachment A)
- b. Written bid response submitted by CONTRACTOR (Attachment B)
- c. CONTRACTOR'S Payment and Performance Bond in the amount of \$ _____
- d. County Board of Supervisor Approval of the Contract
- e. Notice to Proceed

3. Services:

The CONTRACTOR shall provide the work as outlined in the COUNTY's Request for Bids as outlined in the CONTRACTOR'S proposal.

4. Payment:

Payment under this Contract shall be progress payments and shall be made based on the work completed and invoiced. Payments will generally be made within 45 days of receipt of the invoice upon approval by the COUNTY Board of Supervisors. Invoices shall be directed to the Project Administrator:

Paul Berland
Northeast Iowa RC&D
101 E. GREENE ST., P.O. Box 916 Postville, IA 52162

5. Records:

The CONTRACTOR agrees to maintain such records and follow such procedures as may be required under the state's CDBG Program and any such procedures as the COUNTY or IEDA may prescribe. In general, such records will include information pertaining to the contract, obligations and unobligated balances, assets and liabilities, outlays, equal opportunity, labor standards (as appropriate), and performance.

All such records and all other records pertinent to this contract and work undertaken under this contract shall be retained by the CONTRACTOR for a period of five years after final audit of the COUNTY's CDBG project, unless a longer period is required to resolve audit findings or litigation. In such cases, the COUNTY shall request a longer period of record retention.

The COUNTY, the IEDA and other authorized representatives of the state and federal government shall have access to any books, documents, papers and records of the CONTRACTOR which are directly pertinent to the contract for the purpose of making audit, examination, excerpts, and transcriptions.

The COUNTY, IEDA and duly authorized officials of the state and federal government shall have full access and the right to examine any pertinent documents, papers, records and books of the CONTRACTOR involving transactions related to this local program and contract.

6. Relationship:

The relationship of the CONTRACTOR to the COUNTY shall be that of an independent CONTRACTOR rendering professional services. The CONTRACTOR shall have no authority to execute contracts or to make commitments on behalf of the COUNTY and nothing contained herein shall be deemed to create the relationship of employer and employee or principal and agent between the COUNTY and the CONTRACTOR.

7. Suspension, Termination, and Close Out:

If the CONTRACTOR fails to comply with the terms and conditions of this contract, the COUNTY may pursue such remedies as are legally available, including but not limited to, the suspension or termination of this contract in the manner specified herein:

- a. Suspension - If the CONTRACTOR fails to comply with the terms and conditions of this contract, or whenever the CONTRACTOR is unable to substantiate full compliance with provisions of this contract, the COUNTY may suspend the contract pending corrective actions or investigation, effective not less than seven (7) days following written notification to the CONTRACTOR or its authorized representative. The suspension will remain in full force and effect until the CONTRACTOR has taken corrective action to the satisfaction of the COUNTY and is able to substantiate its full compliance with the terms and conditions of this contract. No obligations incurred by the CONTRACTOR or its authorized representative during the period of suspension will be allowable under the contract except:
 - (1) Reasonable, proper and otherwise allowable costs which the CONTRACTOR could not avoid during the period of suspension;
 - (2) If upon investigation, the CONTRACTOR is able to substantiate complete compliance with the terms and conditions of this contract, otherwise allowable costs incurred during the period of suspension will be allowed; and
 - (3) In the event all or any portion of the work prepared or partially prepared by the CONTRACTOR is suspended, abandoned or otherwise terminated, the COUNTY shall pay the CONTRACTOR for work performed to the satisfaction of the COUNTY, in accordance with the percentage of the work completed.
- b. Termination for Cause – If the CONTRACTOR fails to comply with the terms and conditions of this contract and any of the following conditions exists:
 - (1) The lack of compliance with the provisions of this contract were of such scope and nature that the COUNTY deems continuation of the contract to be substantially detrimental to the interests of the COUNTY;
 - (2) The CONTRACTOR has failed to take satisfactory action as directed by the COUNTY or its authorized representative within the time period specified by same;

- (3) The CONTRACTOR has failed within the time specified by the COUNTY or its authorized representative to satisfactorily substantiate its compliance with the terms and conditions of this contract; then,

The COUNTY may terminate this contract in whole or in part, and thereupon shall notify the CONTRACTOR of termination, the reasons therefore, and the effective date, provided such effective date shall not be prior to notification of the CONTRACTOR. Notification will be by certified letter and may be in effect immediately. After this effective date, no charges incurred under any terminated portions of the Scope of Work are allowable.

c. Termination for Other Grounds – This contract may also be terminated in whole or in part:

- (1) By the COUNTY, with the consent of the CONTRACTOR, or by the CONTRACTOR with the consent of the COUNTY conditions of termination, including effective date and in case of termination in part, that portion to be terminated;
- (2) The COUNTY may terminate this contract at any time giving at least ten (10) days notice in writing to the CONTRACTOR. If the contract is terminated for convenience of the COUNTY as provided herein, the CONTRACTOR will be paid for time provided and expenses incurred up to the termination date.

8. Changes, Amendments, Modifications:

The COUNTY may, from time to time, require changes or modifications in the Scope of Work to be performed. Such changes, including any decrease or increase in the amount of compensation, which are mutually agreed upon by the COUNTY and the CONTRACTOR shall be incorporated in written amendments to this contract.

9. Personnel:

The CONTRACTOR represents that he/she has, or will secure at his/her own expense, all personnel and/or sub-contractors required in order to perform under this contract. Such personnel or sub-contractors shall not be employees of, or have any contractual relationship to, the COUNTY.

All services required hereunder will be performed by the CONTRACTOR, or under his/her supervision and all personnel, whether employee or sub-contractor, engaged in the work shall be fully qualified and shall be authorized or permitted under federal, state and local law to perform such services.

10. Assignability:

The CONTRACTOR shall not assign any interest on this contract, and shall not transfer any interest on this contract (whether by assignment or notation), without prior written consent of the COUNTY thereto; provided, however, that claims for money by the CONTRACTOR from the COUNTY under this contract may be assigned to a bank, trust company, or other financial institution without such approval. Written notice of any such assignment or transfer shall be furnished promptly to the COUNTY by the CONTRACTOR.

11. Reports and Information:

The CONTRACTOR, at such times and in such forms as the COUNTY may require, shall furnish the COUNTY such periodic reports as it may request pertaining to the work or services undertaken pursuant to this contract, the costs and obligations incurred or to be incurred in connection therewith, and any other matters covered by this contract.

12. Copyright:

No report, maps or other documents produced in whole or in part under this contract shall be subject of an application for copyright by or on behalf of the CONTRACTOR.

13. Compliance with Local Laws:

The CONTRACTOR shall comply with all applicable laws, ordinances and codes of the state and local government and the CONTRACTOR shall save the COUNTY harmless with respect to any damages arising from any tort done in performing any of the work embraced by this contract.

II. CIVIL RIGHTS:

1. CONTRACTOR agrees to comply with the following laws and regulations:

a. Title VI of the Civil Rights Act of 1964 (P.L. 88-352)

States that no person may be excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving Federal financial assistance on the basis of race, color, or national origin.

b. Title VIII of the Civil Rights Act of 1968 (Fair Housing Act), as amended

c. Iowa Civil Rights Act of 1965 (Iowa Code Chapter 216 and Iowa Code Chapter 19B.7)

This Act mirrors the Federal Civil Rights Act.

d. Section 109 of Title I of the Housing and Community Development Act of 1974, as amended (42 U.S.C. 5309)

Provides that no person shall be excluded from participation in, denied the benefits of, or subjected to discrimination on the basis of race, color, national origin, sex, age, or handicap under any program or activity funded in part or in whole under Title I of the Act.

e. The Age Discrimination Act of 1975, as amended (42 U.S.C. 1601 et seq.)

Provides that no person on the basis of age, be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program or activity receiving Federal financial assistance.

f. Section 504 of the Rehabilitation Act of 1973, as amended (P.L. 93-112, 29 U.S.C. 794)

Provides that no otherwise qualified individual shall solely by reason of his/her handicap be excluded from participation in, be denied the benefits of, or be discriminated against under any program or activity receiving Federal financial assistance.

g. Americans with Disabilities Act (P.L. 101-336, 42 U.S.C. 12101-12213)

Provides comprehensive civil rights to individuals with disabilities in the areas of employment, public accommodations, state and local government services, and telecommunications.

h. Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. 1701u)

The purpose of section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) (section 3) is to ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State and local laws and regulations, be directed to low- and very low-income persons, particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low- and very low-income persons.

i. Federal Executive Order 11246, as amended, by Federal Executive Order 11357

Provides that no one be discriminated in employment.

j. Federal Executive Order 11063, as amended by Executive Order 12259.

2. During the performance of this contract, CONTRACTOR agrees as follows:

- a. CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- b. CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- c. CONTRACTOR will send to each labor union or representative of workers with which they have a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of CONTRACTOR's commitments under Section 202 of the Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. CONTRACTOR will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- e. CONTRACTOR will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- f. In the event of CONTRACTOR's non-compliance with the nondiscrimination clause of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and CONTRACTOR may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- g. CONTRACTOR will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. CONTRACTOR will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance. **Provided, however,** that in the event CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency; CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

III. HOUSING AND URBAN DEVELOPMENT ACT OF 1968 (Section 3)

1. The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701 u. Section 3 requires that to the greatest extent feasible, opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.

- a. The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR Section 3, and all applicable rules and orders of the Department issued there under prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability that would prevent them from complying with these requirements.
- b. CONTRACTOR will send to each labor organization or representative of workers with which they has a collective bargaining agreement or other contract or understanding if any, a notice advising said labor organization or workers' representative of their commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.
- c. CONTRACTOR will include this Section 3 clause in every subcontract; for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the Subcontract upon finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR Section 3. CONTRACTOR will not subcontract with any subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR Section 3 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.
- d. Compliance with the provisions of Section 3, the regulations set forth in 24 CFR Section 3, and all applicable rules and orders of the Department issued there under prior to the execution of the contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors, and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which Federal assistance is provide, and to such sanctions as are specified by 24 CFR Section 135.135.
- e. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- f. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- g. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

IV. CERTIFICATION REGARDING GOVERNMENT-WIDE RESTRICTION ON LOBBYING:

1. CONTRACTOR certifies, to the best of their knowledge and belief that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the CONTRACTOR, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

- b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, CONTRACTOR shall complete and submit Standard Form-LLL, "Disclosure Form to Report Federal Lobbying" in accordance with its instruction.
- c. CONTRACTOR shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure."

V. CLEAN AIR AND WATER ACTS COMPLIANCE: (APPLIES TO CONTRACTS ABOVE \$100,000)

In addition to the preceding provisions, contracts in excess of \$100,000 shall require compliance with the following laws and regulations:

- Section 306 of the Clean Air Acts (42 U.S.C. 1857(h)).
- Section 508 of the Clean Water Act (33 U.S.C. 1368).
- Executive Order 11738.
- EPA Regulations - 40 CFR, Part 15.

During the performance of this contract, the CONTRACTOR agrees as follows:

1. CONTRACTOR will certify that any facility to be utilized in the performance of any nonexempt contract or subcontract is not listed on the Excluded Party Listing System pursuant to 40 CFR 32.
2. CONTRACTOR agrees to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 U.S.C. 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1318) relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.
3. CONTRACTOR agrees that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that a facility utilized or to be utilized for the contract is under consideration to be listed on the Excluded Party Listing System.
4. CONTRACTOR agrees that it will include or cause to be included the criteria and requirements in Paragraph (1) through (4) of this section in every nonexempt subcontract and require every subcontractor to take such action as the Government may direct as a means of enforcing such provisions.

VI. STANDARDS AND POLICIES RELATING TO ENERGY EFFICIENCY

Pub. L. 94-163, 89 Stat. 871

Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

VII. NOTICE OF AWARDDING AGENCY REQUIREMENTS AND REGULATIONS PERTAINING TO REPORTING

The Contractor must provide information as necessary and as requested by the Iowa Economic Development Authority for the purpose of fulfilling all reporting requirements related to the CDBG program.

VIII. RCRA COMPLIANCE

The CONTRACTOR agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

IX. FEDERAL LABOR STANDARDS PROVISIONS

U.S. Department of Housing And Urban Development Office of Labor Relations

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A.1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section I(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii)(a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1)The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2)The classification is utilized in the area by the construction industry; and

(3)The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b)If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c)In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d)The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii)Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv)If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for

the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section I(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section I(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the

Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to, and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of... influencing in any way the action of such Administration... makes, utters or publishes any statement knowing the same to be false... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions

X: IN WITNESS WHEREOF, the COUNTY and the CONTRACTOR have executed this contract agreement as of the date and year last written below.

COUNTY OF WINNESHIEK

CONTRACTOR

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

Index of Sheets

1	Site View
2	Plan View
3	Section on CL Dam & CL Flowline
4	Gully Profile

The following Construction Specifications are part of this plan:

- 1A-1 Site Preparation
- 1A-5 Pollution Control
- 1A-6 Seeding and Mulching for Cover
- 1A-11 Removal of Water
- 1A-21 Excavation
- 1A-23 Earthfill
- 1A-26 Topsoiling
- 1A-45 Plastic (PVC, PE) Pipe
- 1A-61 Loose Rock Rip Rap

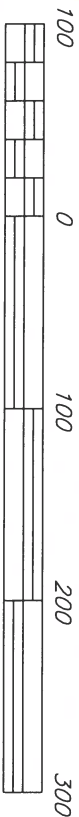


Location Map
SE 1/4 Section 8, T97N R8W
Scale 1" = 3,000'

BENCH MARK		
NO.	ELEV.	DESCRIPTION
TBM 1	1112.98	2"x2" Wood Hub 70' south of east end of dam CL
TBM 2	1113.66	2"x2" Wood Hub 60' south of west end of dam CL

Items of Work

Work or Material	Spec No.	Unit	Estimated Quantity
Clearing and Grubbing	1	Job	1
Excavation Common - Core Trench	21	Cu. Yd.	309
Earthfill - including Stripping	23	Cu. Yd.	4,727
12" PVC Pipe w/ Hooded Inlet	45	Lin. Ft.	110'
Class E Rip Rap Rock	61	Ton	30
4' x 4' Anti-Seep Collar - 20' Spacing		Each	3



Scale in Feet

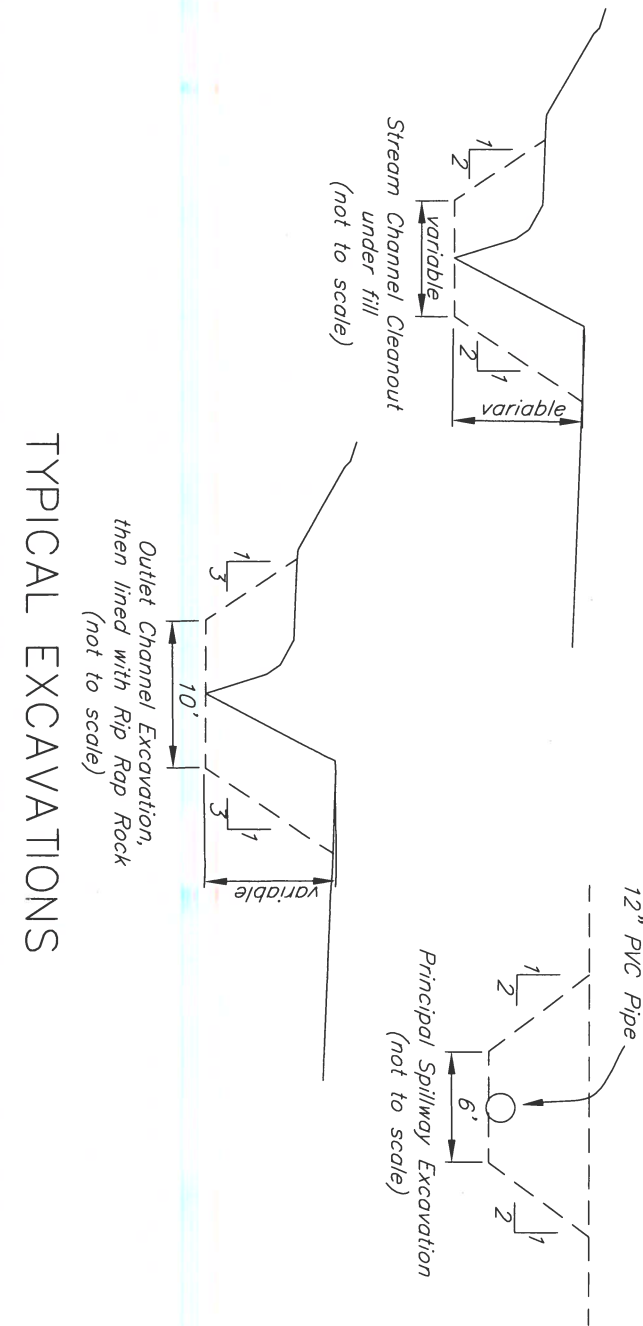
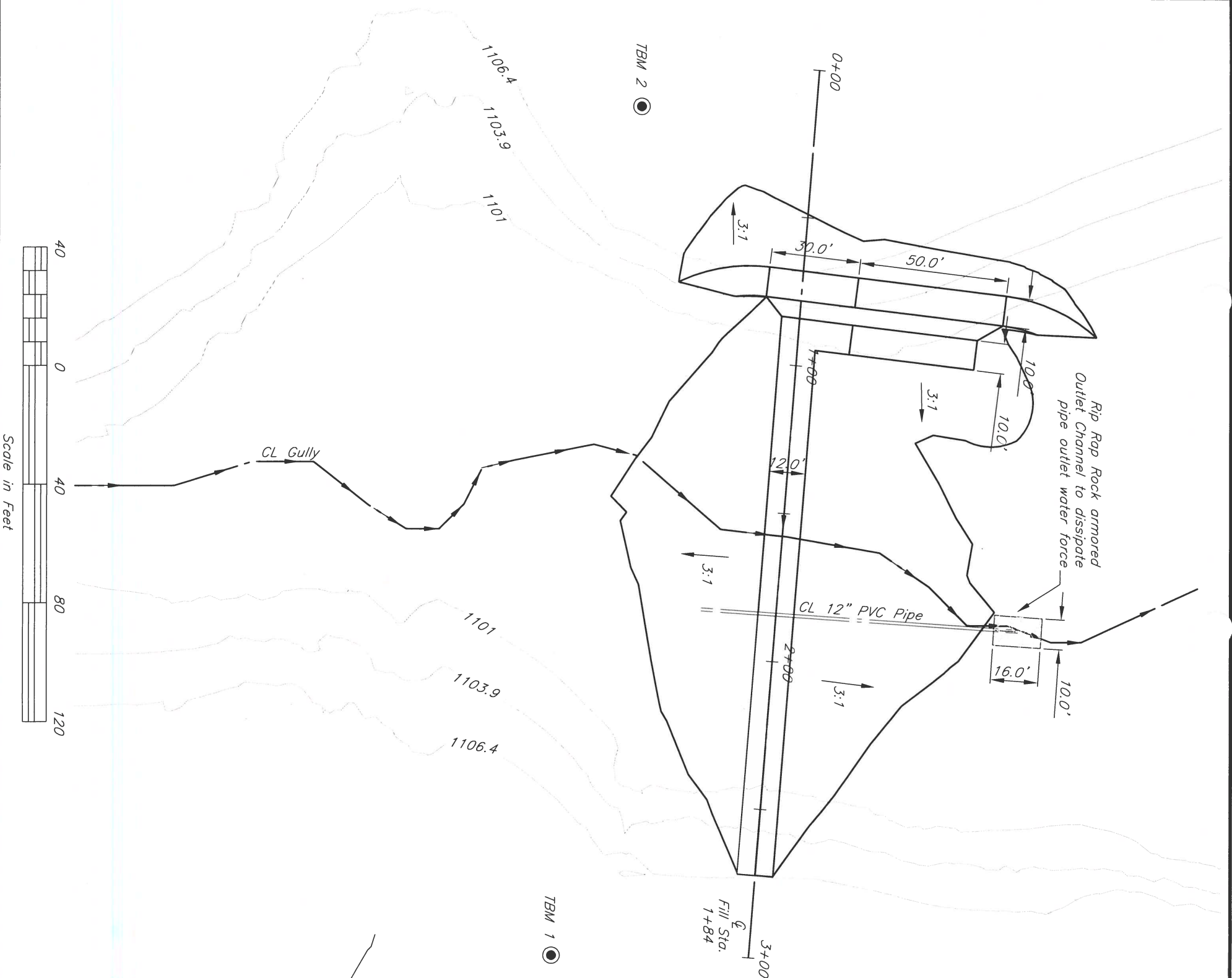
If a cultural resource is identified during construction, stop immediately and notify the Natural Resources Conservation Service Archeologist at (515) 284-4370.

CONTRACTOR IS RESPONSIBLE FOR CALLING IOWA ONE CALL 1-800-292-8989

NRCS does not guarantee that this structure will fill and/or remain filled with water to the principal spillway crest elevation.

NOTES:

1. If excavation in core trench cuts into any gravelly, weathered material, it shall be removed down to the bedrock surface in order to prevent potential seepage.
2. Borrow above the pool elevation shall maximize areas that are flatter than 8:1. Borrow below the pool elevation shall be 3:1 or flatter.
3. Two feet of soil shall remain over bedrock in borrow area.
4. All rock 6 inches or greater and any foreign material is not allowed in the earth fill dam. Any rock 6 inches or greater shall be placed with rip rap rock in the pipe outlet area to dissipate the water force.
5. PVC Pipe Connections: Shall be bell and gasket. Do not solvent weld. Install the bell at the upstream end.



TYPICAL EXCAVATIONS

	Date	2/2019
Designed	D Mohn	2/2019
Drawn	D Mohn	2/2019
Checked	Dave Mellick	6-11-19
Approved		

PLAN VIEW
Julie Jevne

Grade Stabilization Structure
EJC III

T97N, R8W Springfield Section 8

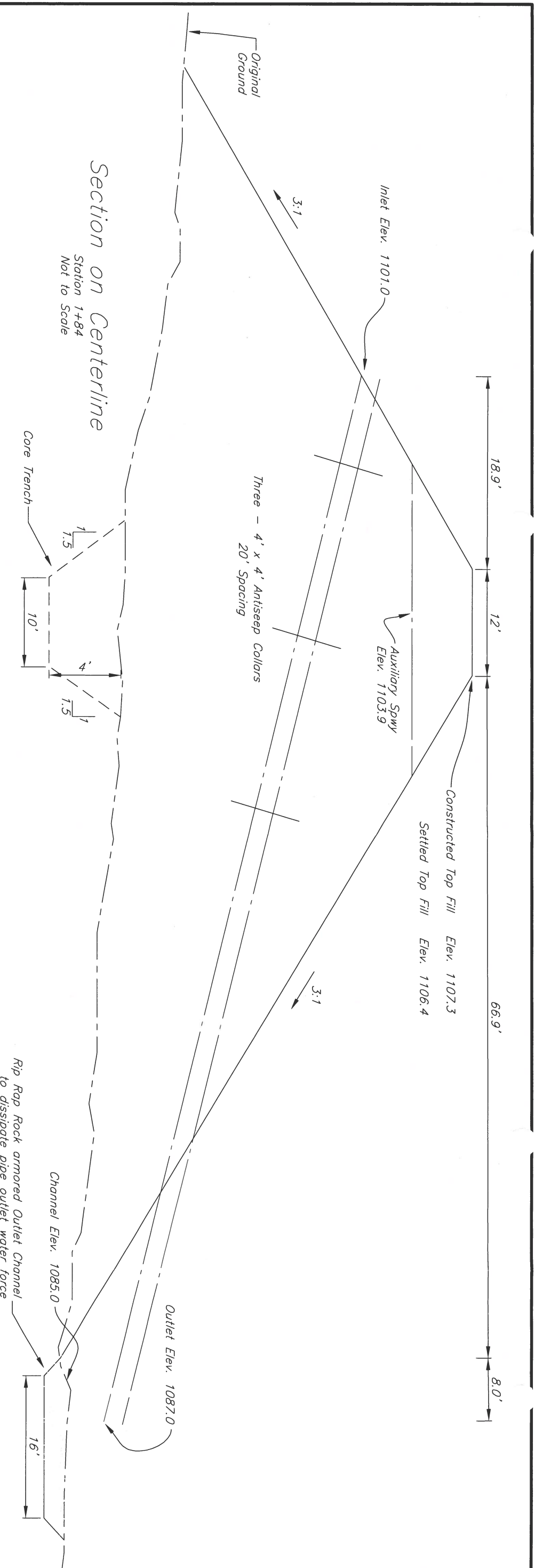
Winneshiek County, Iowa



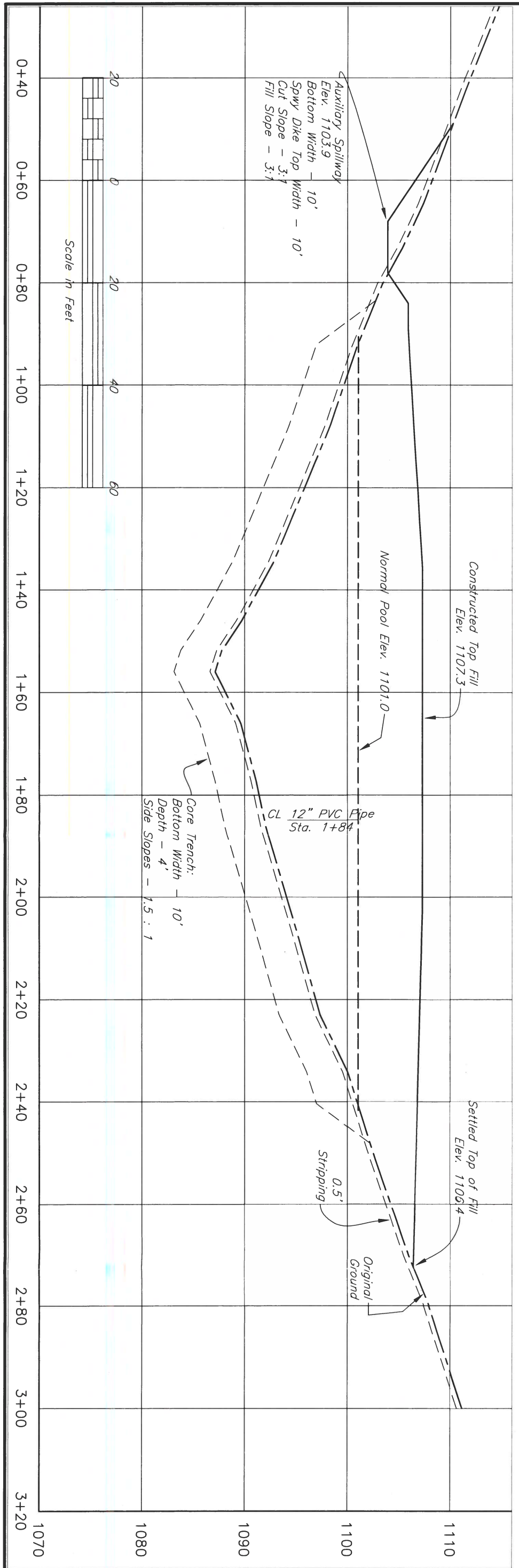
United States
Department of
Agriculture

Natural Resources
Conservation Service

File No.
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Drawing No.
2/15/19 1:47 PM
Sheet 2 of 5



Section on Centerline
Station 1+84
Not to Scale



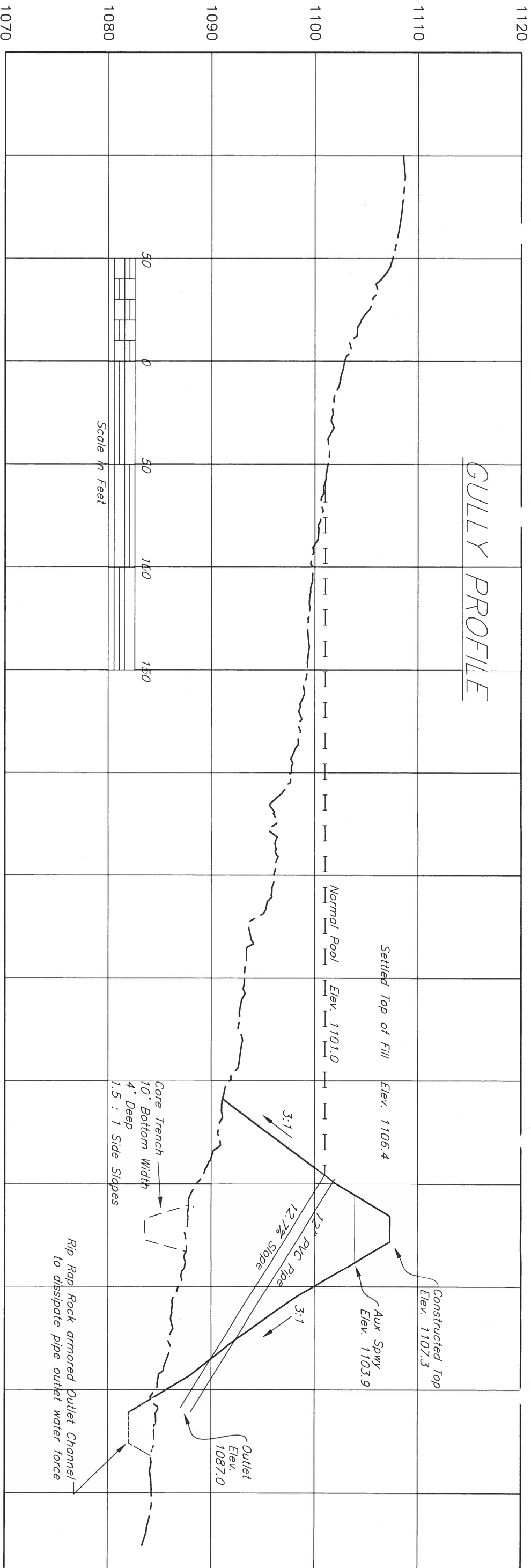
	Date
Designed <u>D Mohn</u>	<u>2/2019</u>
Drawn <u>D Mohn</u>	<u>2/2019</u>
Checked <u>Dave Mellick</u>	<u>6-11-19</u>
Approved _____	_____

PROFILES/SECTIONS ON CL
Julie Jevne
Grade Stabilization Structure
EJC III

T97N, R8W Springfield Section 8 Winneshiek County, Iowa

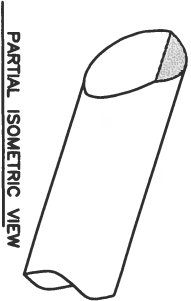
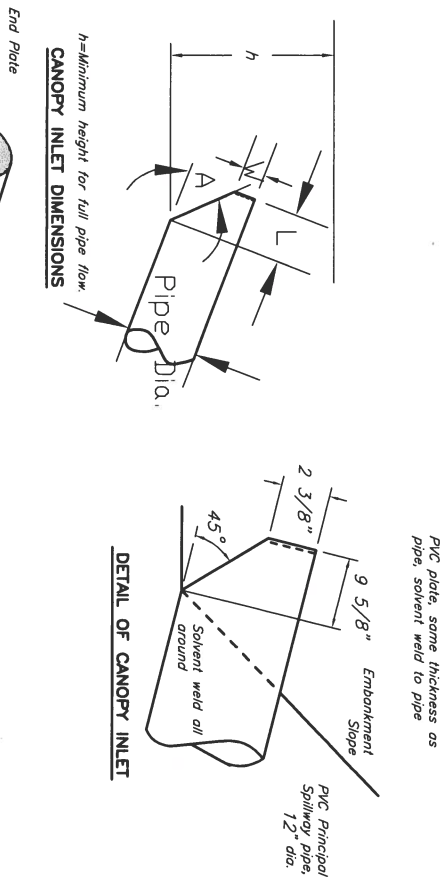


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Sheet 3 of 5



Bill of Materials

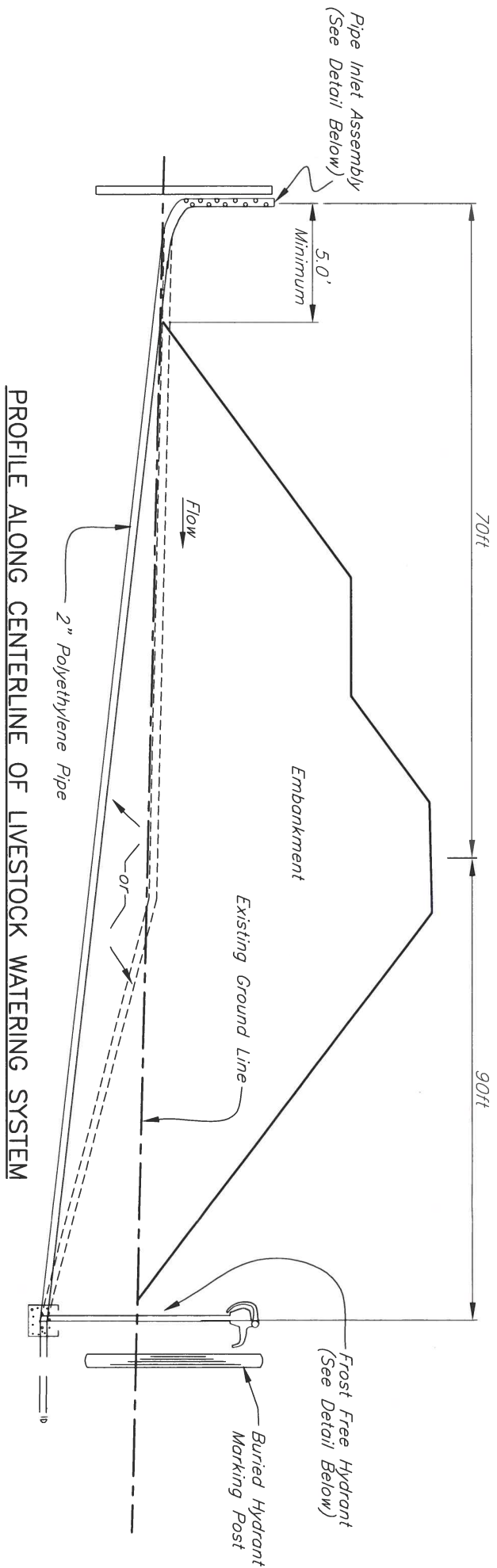
- 5036 cu. yds. compacted earth fill which includes the main fill, core trench, and auxiliary spillway dike.
- 110 ft of 12" PVC pipe with Canopy Inlet
- Pipe appurtenances to be in accordance with 1A-45 Plastic (PVC, PE) Pipe. Pipe options include: ASTM D2241 SDR 26 OR AWWA C900 Class 165. An end cap may be cut to specifications and used as canopy inlet. (See Canopy Inlet Drawing)
- (3) 4' x 4' anti-seep collars. Anti-seep collars can consist of a butyl rubber membrane, and shall have heavy duty wood framing with stainless steel bands to ensure a water tight connection between the collar and the PVC pipe.
- Pipe connections: All connections shall be bell and gasket. Do not solvent weld. Install the bell at the upstream end.
- 30 tons Rip Rap Rock to armor outlet channel to dissipate pipe outlet water force.



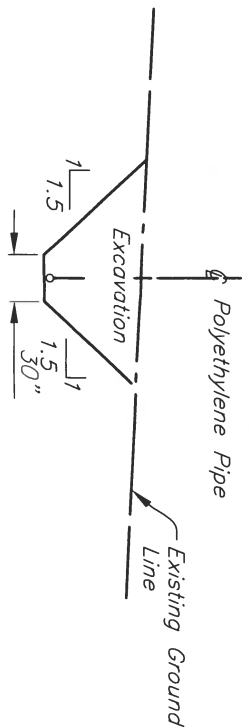
STANDARD DWG. 1A-1214
DATE June 2008 PAGE 1 OF 1

Pipe Dia. in.	Pipe Size in.	W in.	L in.	A Deg.	h ft.
6	0-5	1 1/8	3 1/4	56	0.9
	5.1-15	1 1/4	4 3/4	45	0.9
	15.1-25	1 5/8	6 3/8	33	0.9
8	0-5	1 1/2	4 3/8	56	1.2
	5.1-15	1 5/8	6 3/4	45	1.2
	15.1-25	2 3/8	10 3/8	27	1.2
	25.1-32	3 1/8	15 3/8	22	1.2
10	0-5	2 1/8	6	56	1.5
	5.1-15	2 5/8	8	45	1.5
	15.1-25	3 1/2	12	33	1.5
	25.1-32	4 1/4	15 5/8	27	1.5
12	0-5	2 1/2	6 1/2	56	1.8
	5.1-15	3 1/4	8 3/4	45	1.8
	15.1-25	4 1/4	13 1/4	33	1.8
	25.1-32	5 1/4	18 1/4	27	1.8

Water Surface



PROFILE ALONG CENTERLINE OF LIVESTOCK WATERING SYSTEM

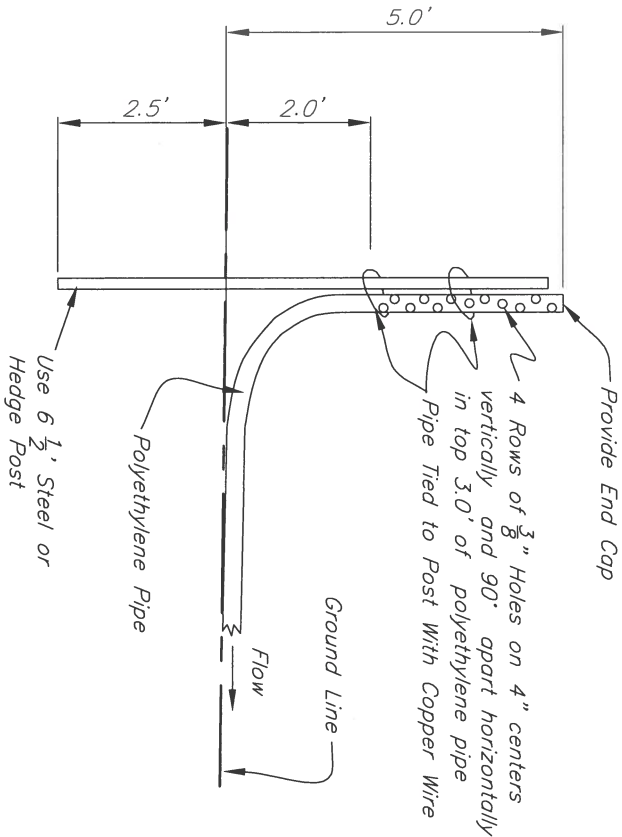


TYPICAL PIPELINE TRENCH DETAIL

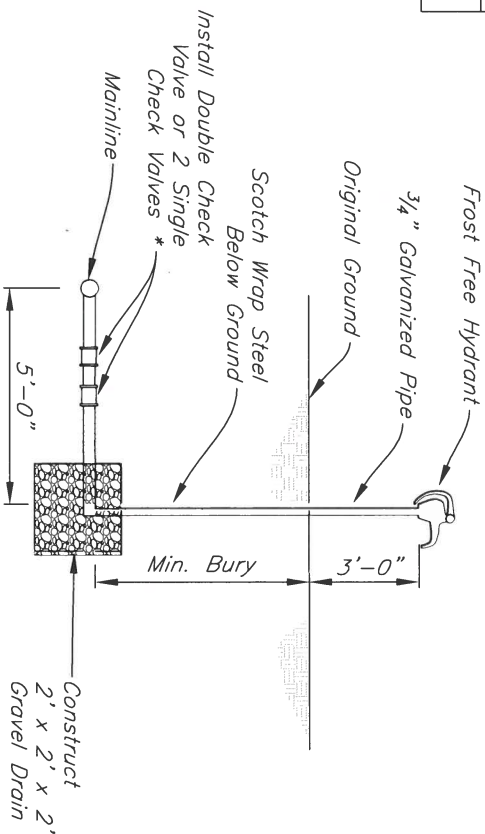
NOTES

1. A minimum of 6 feet of pipeline cover shall be maintained throughout the entire pipeline installation.
2. Pipeline grade may vary under the embankment as long as the grade remains positive and minimum pipe cover is maintained.
3. Pipeline installation is shown as perpendicular to pond centerline of fill.
4. Locate the inlet assembly in a location that risk of sedimentation inundation is minimized while still positioned to provide the minimum amount of water pressure head needed to facilitate the system demands.
5. No pipe joints shall be allowed under the fill.
6. Earth fill adjacent to the pipe shall be hand tamped under the embankment.
7. Prior to backfilling, the livestock watering system shall be approved by NRCS.
8. Any continuation of the livestock pipeline downstream of the valve box shall be designed in accordance with the Pipeline (516) standard criteria and detailed on a separate page.
9. Landowner may substitute an equivalent length steel post in lieu of the 4 inch diameter wooden marking post.

ASTM D2239; Polyethylene (PE) Plastic Pipe Nominal Dia.(s): 1.25", 1.5" and 2"	Maximum Allowable Pipe Cover
SIDR 11.5	16 ft
SIDR 9	24 ft
SIDR 7	35 ft



PIPE INLET ASSEMBLY DETAIL



TYPICAL HYDRANT INSTALLATION

BILL OF MATERIALS

- 1 ea. Pipe Inlet Assembly
- 160 Lin. Ft. 2" diam. Polyethylene Pipe
- (ASTM D2239 PE2708, PE3608, PE4608 or PE4710 SIDR 9)
- 1 ea. Frost Free Hydrant Assembly and Marking Post

LIVESTOCK PIPELINE w/Hydrant
THROUGH AN EARTHEN EMBANKMENT
Julie Jevne

Dated	6/19
Designed	D Mohn
Drawn	D Mohn
Checked	Mellick
Approved	

Jevne Project Summary

UI-012-JEVNE (Grade Stabilization Structure/Pond)

Assistance by: Matt Frana - UIR Watershed Project Coordinator **Date:** 5/31/19

Project Location: Sec 08, T97N R08W, Springfield Township

Project Objective: To control on farm erosion and slow water to prevent continued gully advancement.

Background: Landowner (Julie Jevne) had erosion concerns on her farm she wanted to address. After heavy rain events she also has issues with access roads and fences washing out. She contacted NRCS to see about using a grade stabilization structure to slow water going through her farm and reduce erosion.





Project Plan:

A grade stabilization structure (pond) will be constructed in the drainageway that will slow the flow of water, reducing damages after heavy rain events. It will be designed to have a permanent pool of water. The designed project will control 39 drainage acres and reduce water flow by 98.5%.

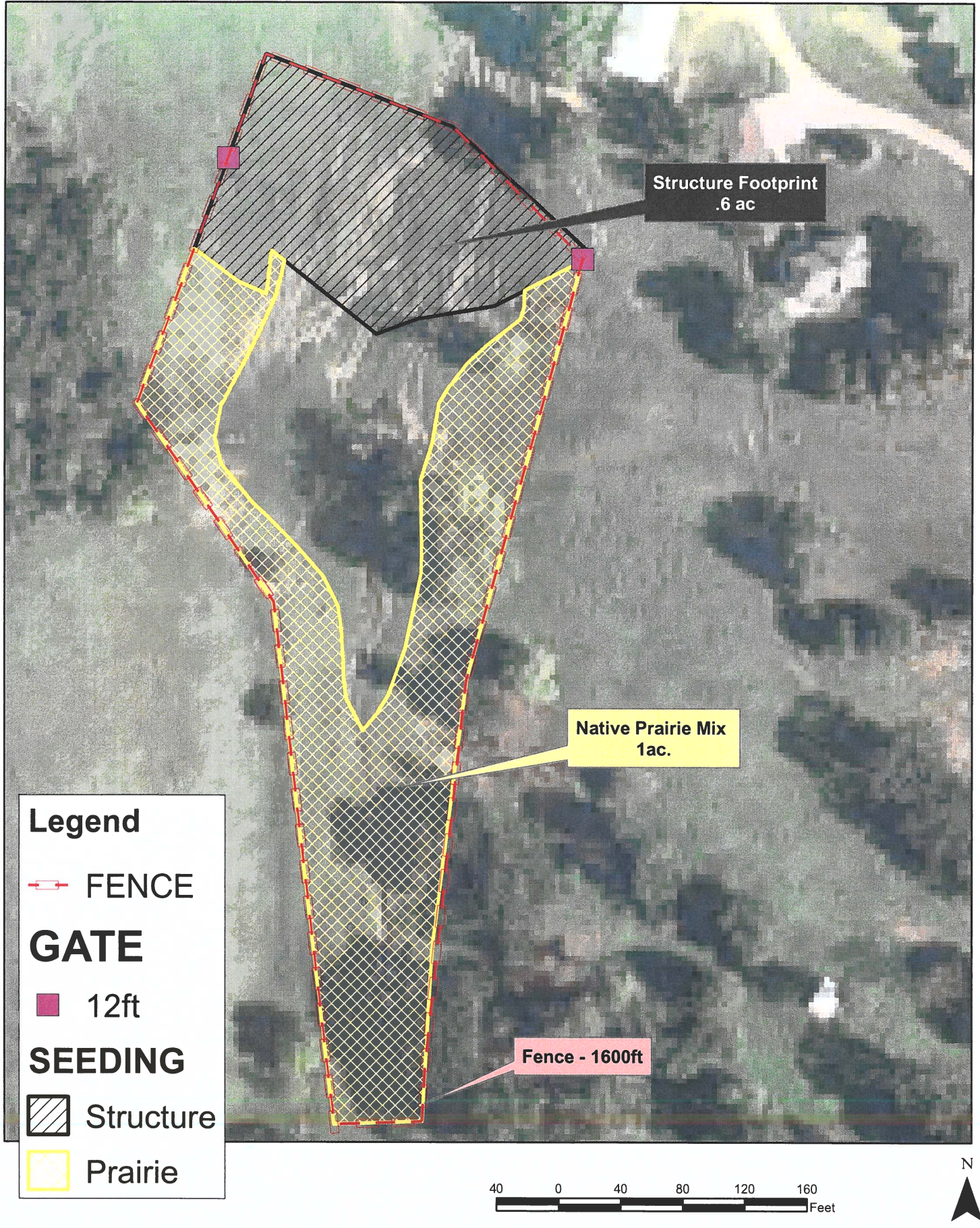
After construction, the grade stabilization structure footprint will be seeded with prescribed seed mix for critical areas on the structure. Native prairie will be seeded around the permanent pool. This will help filter sediment and nutrients from entering the pool area (increasing longevity of project), protect against erosion, and enhance wildlife habitat on the property. See seeding plans for prescribed seed mixes and recommended seeding methods.

The pool and structure will have to be fenced off from cattle. This is to prevent damage to the project and insure longevity. The site can be flash grazed to control vegetation, weeds, and trees. Fenced off areas should only be flash grazed for only a couple days at a time. 2 gates will be installed on the structure for access and maintenance.

Grade Stabilization Project
Seeding and Fencing
UI-012-JEVNE

Customer(s): JULIE JEVNE
Legal Description: Tract 969; T97N R08W Sec 8

Assisted By: Matthew Frana
6/6/19
2017 imagery



Post Construction Seeding and Vegetation Establishment Plan

UI-012-JEVNE

The seeding and establishment of vegetation at the site post construction is the responsibility of the project contractor. After the new seeding is successfully established, continued maintenance will be the responsibility of the landowner.

There will be 2 different seedings completed on this site:

- 1) **Criteria Area Seeding (1 ac):** This is the seeding mix/method that will be used for the structure itself. The goal of this seeding is to quickly establish vegetation on the structure to prevent erosion or damage to structure. Refer to Critical area seeding plan and job sheet for prescribed seed mix and planting methods. This area will typically be fenced off from livestock but may be flash grazed periodically to control trees and weeds on structure.
- 2) **Native Seed Mix (1 acre):** To be used around the structure and pool area. A diverse mix of natives will enhance wildlife habitat for the site. Refer to seeding plans and Conservation Cover Job Sheet for seed mix and instructions on establishment.

Notes for seeding/establishment:

- a. For convenience seed mixes were based off Iowa Pheasants Forever (PF) seed mixes, but are NOT required to order seed through PF. The CP42 Leopold #1 Pollinator Mix is recommended to ensure adequate establishment over a variety of land types while maximizing wildlife benefits. If prescribed seed mix species are not available when ordering, please contact Matt Frana (Upper Iowa Watershed Project Coordinator) to modify seeding plan to ensure it meets project goals.
- b. Seeding dates to plant include:
 - i. April 1st – July 1st
 - ii. November 15th (frost) – snow coverIf construction is completed, but timing is not right to plant natives, use temporary seeding of oats (3bu/ac) to cover ground until natives can be planted. Based on current timeline projects, natives will likely be seeded this fall as a dormant seeding. Dormant seeding should be done after frost has settled, but before snow has accumulated.
- c. Nurse Crop: If a temporary seeding isn't needed, add a nurse crop to the native seed mix. This will grow quickly, provide ground cover, and suppress weeds while native species establish. If planted in the fall use winter wheat and if plant in the spring use oats. Plan to keep nurse crop mowed to a height that prevents it from reseeding.
- d. Best planting methods use a native no-till drill. Broadcast with light incorporation or cultipacking is also acceptable. Refer Conservation Cover Job Sheet and Iowa Native Prairie Planting Guide for more info on seeding and establishment.
- e. Plan on keeping the native prairie seeding mowed the 1st year to a height of around 6-8 inches to help better establish prairie. It should also be burned every 3-5 years to maintain heath and prevent tree establishment.



Seeding Plan

Name Julie Jevne

Date 2/11/2019

Tract No. t969

Field No.

Contract No

Type of Seeding: Critical area

Prepared by DTM

Dam Structure
& Borrow Area

Seeding Percent Pure Live Seed=(% Germination + Hard Seed) * % Purity
100

Critical area

Enter Acres: 1

Species	Acres	% of Stand	Pounds Per Acre		Total Needed	
Smooth Brome	1	100	25.0	Pounds	25	Pounds
		100	0.0	Pounds		Pounds
			0.0	Pounds		Pounds
			0.0	Pounds		Pounds
			0.0	Pounds		Pounds
Oats or Rye	1		1.5	Bushels	1.5	Bushels
Fertilizer & Lime			***IF NEEDED, PENDING SOIL TESTS***			
Lime (ECCE)	2000	Lbs/Ac			2000	
Nitrogen	30	Lbs/Ac			30	
Phosphate (P205)	30	Lbs/Ac			30	
Potash (K20)	40	Lbs/Ac			40	

Seeding will be completed:

Other:

3

Immediate After Project Completion

Additional Seeding Criteria: Clip oats/rye before heading. Re-seed and mow as needed until sod is established.

Seeding was completed according to the above requirements on:

(Date)

(Producer's Signature)

(Date)

Field Office

Certified by

(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services. For cost-share projects, attach receipts for seed, fertilizer, lime and mulch.

Critical Area Planting

Iowa Job Sheet

Natural Resources Conservation Service
Des Moines, Iowa

Iowa Conservation Practice 342
June 2017

Definition

Establishing permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

Purpose

- » Stabilize areas with existing or expected high rates of soil erosion by water and wind.
- » Stabilize areas, such as sand dunes and other riparian areas.
- » Stabilize stream and channel banks, ponds and other shorelines, and earthen features of structural conservation practices.

Condition Where Practice Applies

This practice applies to highly disturbed areas, such as: active or abandoned mined lands; urban restoration sites; construction areas; conservation practice construction sites; eroded banks of natural and constructed channels and lake shorelines; areas needing stabilization before or after natural disasters, such as floods, hurricanes, tornadoes and wildfires; and other areas degraded by human activities or natural events.

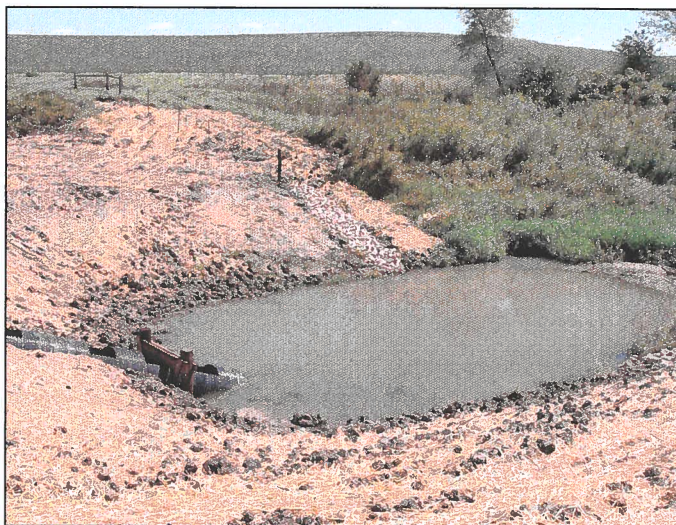
Criteria for Conservation Cover

A. Seeding Periods

Permanent, perennial vegetative cover and/or trees will be established during the first recommended seeding or planting period for the selected species or mixture. Planting dates are outlined on Table 1 of this job sheet. Planting immediately after construction of earthen structures such as terraces, grade stabilization, or ponds may be completed at the discretion of the Conservation Planner with Job Approval Authority.

B. Fertilizer and Lime Requirements

Soil fertility and pH level will be amended to satisfy the needs of the specific plant species planned. Recommendations for establishment will be determined by an approved testing laboratory from soil samples collected in the area to be seeded. Fertilizer requirements



may be waived at the discretion of the Conservation Planner with Job Approval Authority on a site where:

- » application equipment cannot access the site (i.e. steep sides of terraces, grade stabilization, ponds).
- » field practices, such as waterways and terraces, when soil tests for adjacent cropland is at optimum or higher.

C. Companion Crop

All critical area plantings will contain a companion crop of spring cereal rye or will be mulched. Mulching is recommended on slopes steeper than 4:1 where mowing of a companion crop may be difficult or dangerous. Mulch of small grain straw shall be used at the rate of 2 tons/ac.

For spring seedings of introduced species, oats or a spring cereal grain shall be seeded at a rate of 1 1/2 bushels/acre to reduce soil erosion and help control weed competition. The oats shall be clipped at the time of seed head emergence to promote growth of the new permanent cover. The use of the companion crop is not required when interseeding.

D. Seedbed preparation and Seeding

1. Conventional seeding for spring and late summer

seeding periods where site conditions allow for safe operation of equipment.

- » The seedbed shall be worked to a depth of 3", smooth, friable and firm before seeding.
- » All tillage operations shall be performed across the general slope of the land.
- » Grass and legume seed shall be drilled uniformly over the area at a 1/4-1/2 inch depth, or broadcast uniformly over the area and rolled into the seedbed.
- » Where erosion is a concern prepare a seedbed with tillage tool that will leave enough residue or provide mulch to provide adequate protection.

2. No-till seeding for spring, late summer and dormant seeding periods where site conditions allow for safe operation of equipment.

- » Approved herbicides shall be applied to kill or suppress existing weed competition, as necessary. Herbicides will not be used in waterways or filter strips adjacent to wetlands or other waterbody.
- » A drill designed for no-till planting shall be used to plant the seed at a depth of 1/4 - 1/2 inch.

3. Frost Seeding

- » Broadcast seed for only those species approved for frost seeding as shown in table 2 and table 3.

4. Hydro-seeding

Hydro-seeding can be used on all sites but especially on sites that are too steep for regular seeding equipment to operate. The prescribed procedure will be to apply the seed and fertilizer in a water slurry uniformly over the surface. A second trip will be needed to apply an asphalt emulsion to long fiber mulch as it is blown on.

5. Sodding

All sod used shall be free of noxious weeds as listed in Iowa State Laws and shall be cut from stands giving not less than 90 percent ground cover.

Only moist, fresh sod shall be used. Lay sod as soon as possible after delivery to the site. Wet soil to a depth of 2 inches or more prior to laying the sod. Lay the sod from the lower end of the slope. Sod strips shall be laid at right angles to the flow of water; stagger joints. Fill any open joints with loose soil. Tamp or roll laid sod to insure a solid contact of root mass to soil surface.

On severely steep sites or when anticipating overland flow, sod shall be held in place by woven wire, wooden

pegs, wire staples, or similar material. Pegs or staples will be a minimum of 10 inches long.

E. Seeding Stand Improvement

This includes any stand modification that maintains some vegetative component of the original stand.

1. Incorporation of grasses and/or legumes with light tillage.

- » Weaken the existing stand in the fall or early winter by use of herbicides, grazing, mowing or a combination of these methods.
- » Use a disk, cultivator, or similar tool to disturb 40- 50% of the existing stand.
- » Grass and legumes shall be drilled uniformly over the area at 1/4-1/2 inch depth, or broadcast uniformly over the area and rolled into the seedbed.
- » Remove early spring regrowth by mowing to reduce competition and allow the new seedlings to become established.

2. Incorporation of grasses and/or legumes with no-tillage (interseeding) for spring, late summer and dormant seeding periods.

- » When interseeding into existing sod, graze, burn, mow or apply herbicides to kill strips or suppress existing vegetation and to control weed competition. Herbicides will not be used in waterways or filter strips adjacent to wetlands or other waterbody.
- » Control broadleaf weeds by applying herbicide at least two weeks prior to applying contact herbicides and prior to seeding.
- » Grass and legumes shall be drilled uniformly over the area at 1/4-1/2 inch depth.
- » Remove early spring regrowth by mowing to reduce competition and allow the new seedlings to become established.

3. Incorporation of grasses and/or legumes with frost seeding.

- » Broadcast seed only species approved for frost seeding as shown in table 2 and table 3. Small smooth (shiny) seeded species are best for incorporation into the soil during freezing and thawing.
- » Frost seeding is likely to be more successful if existing stand is weak and less than 50 percent of the ground is covered with live vegetation.

F. Inoculation

1. Legume seed shall be inoculated and the inoculant shall be specific to the legume seeded.
2. When more than one legume species is used, each species shall be inoculated separately.

G. Seed Quality

1. All seed shall be of high quality and comply with Iowa Seed and Weed Laws.
2. Cool season (introduced) grass and legume seeding rates are expressed in bulk pounds/acre. Seed quality shall not drop below 80% Pure Live Seed (PLS) where $PLS = (\% \text{ germination} + \text{dormant seed}) \times \% \text{ purity}$.
3. Native grass species seeding rates are expressed in PLS pounds/acre.

H. Management during the Establishment Year

Plant species and cultivars shall be selected based upon:

1. Climatic conditions such as annual rainfall, seasonal rainfall, growing season length, humidity levels, temperature extremes and the USDA Plant Hardiness Zones.
2. Soil condition and position attributes such as pH, percent slope, available water holding capacity, aspect, drainage class, inherent fertility, flooding and ponding, and levels of salinity and alkalinity.
3. Plant characteristics such as season of growth, vigor, ease of establishment, longevity of the species, growth habit, adaptation to soil conditions, and conservation value.
4. Resistance to diseases and insects common to the site or location.
5. Compatibility with other plant species and their selected cultivars in rate of establishment and growth habit when seeded together as a mixture.

6. Seeding Rates

The pure stand rates in table 2 of this standard are the minimum rates for planting a single species stand into well-prepared seedbed at the proper placement. The pure stand rates are decreased to a percentage of the desired stand when used to calculate a mixture of two or more species. Select combinations of plant species and cultivars best adapted to site conditions.

7. When frost seeding is used, the seeding rate shown in table 2 and table 3 shall be multiplied by 1.5.
8. Introduced Species

- » Approved introduced plant species, allowable mixture composition and the pure stand seeding rate are shown in Table 2.
- » A designed seeding mixture shall meet criteria specified in table 2 as to species composition and seeding rate.
- » For critical area seeding used for erosion control, at least 50% of mixture shall be composed of grasses.
- » Tall Fescue shall not compose more than 10% of the mixture if the secondary purpose is for wildlife.
- » Mixtures may include up to 20% native grasses. Use the criteria for the predominant species in the mixture for stand establishment.

9. Native Species

- » Approved native plant species, allowable mixture composition and a pure stand seeding rate are shown in Table 3.
- » A designed seeding mixture shall meet criteria specified in table 3 as to species composition and seeding rate. At least 50% of the mixture shall be composed of grasses. For seeding mixtures with the secondary purpose of wildlife not more than 20% of the mixture will be composed of switchgrass.
- » When developing seeding mixtures, except eastern gamma grass, use 60 seeds/sq. ft. for grass stands.
- » Mixtures may include up to 20% introduced legumes. Use the criteria for the predominant species in the mixture for stand establishment.

I. Weed Control During the Establishment Year

Weed control during the establishment year shall be provided to ensure survival of the new permanent seeding.

1. To manage severe weed competition, native species may be mowed no closer than 8 inches and introduced species no closer than 4 inches.
2. Approved herbicides may be used on both introduced and native plantings to control weed species.

J. Establishment of Temporary Cover

Temporary cover may be required to reduce potential weed and erosion problems where one of the following conditions exists.

1. Fields with herbicide carry over.
2. Where planting is delayed due to unavailability of

seed.

3. The normal planting period has passed.

Temporary cover or mulching will be established on sites where construction delays or shutdowns occur if the delay or shutdown will last more than 30 days.

4. The temporary cover shall be seeded as specified in Table 4.

K. Site Protection and Access Control

Grazing animal access to planted areas will be controlled for a minimum of two growing seasons during the establishment period.

All areas to be grazed will have a grazing plan that meets the criteria in the Iowa Field Office Technical Guide.

Grazing shall be permanently excluded on high hazard areas, such as cut banks, areas of seepage, or other potentially unstable areas.

L. Re-vegetate Degraded Sites that Cannot Be Stabilized Through Normal Farming Practices

If gullies or deep rills are present, they will be filled and leveled as necessary to allow equipment operation and ensure proper site and seedbed preparation.

Based on a soil test and other appropriate site evaluations, soil amendments will be added as necessary to ameliorate or eliminate physical or chemical conditions that inhibit plant establishment and growth.

Table 1. Seeding dates for introduced and native species

Type of Seeding	Introduced Species ² (Grasses and Legumes)	Native Species ³
Spring	March 1 - May 15	April 1 - July 1
Late Summer	August 1 - September 15	Not Recommended
Dormant ¹	November 15 - Freeze	November 15 - Freeze
Frost ¹	February 1 - March 15	February 1 - March 15

1. Refer to Table 2 and 3 for applicable plant species.

2. Includes all species generally considered introduced.

3. Includes all warm and cool season natives planted in mixture.

Table 2. Seeding chart for introduced plant species

Plant Species	% of Mixture (Range Allowed)		Seeding Rate PLS/acre
	Critical Areas Grassland ^{3/}	Trees, Shrubs & Wildlife	
Smooth brome ¹	0-100	0-25	25
Kentucky bluegrass ¹	0-80	0-10	25
Orchardgrass ²	0-25	0-100	10
Timothy ²	0-25	0-100	10
Alfalfa ²	0-50	0-50	20
Red clover ²	0-50	0-50	16
Birdsfoot trefoil ²	0-50	0-25	16

Table 2. Seeding chart for introduced plant species cont...

Plant Species	% of Mixture (Range Allowed)		Seeding Rate PLS/acre
	Critical Areas Grassland ^{3/}	Trees, Shrubs & Wildlife	
Reed Canarygrass ⁵	0-25	0	16
Perennial rye	0-50	0-50	25
Ladino clover ²	0-50	0-50	8
Red top	0-50	0-80	10
Alsike clover ²	0-50	0-50	8
Tall Fescue ¹	0-50	0-10	16
Sweetclover ^{2,4}	0-20	0-20	10

1. For critical area seeding used for erosion control, at least 50% from the grassland or wildlife seeding mixture shall be composed of sod forming grasses. (Tall Fescue should not consist of more than 10% of the mix if primary or secondary purpose is for wildlife.)
2. Species suitable for frost seeding, increase seeding rate by a factor of 1.5.
3. Mixtures may include up to 20% native grasses. See Table 3 for seeding rates. Use the criteria for the predominate species in the mixture for establishment. 4 Sweet clover is to be used in mixtures only.
4. Sweet clover is to be used in mixtures only.
5. Reed Canary grass is to be used only for very wet sites with high nutrient load anywhere it Reed Canary grass is already present downstream of the practice.

Table 3. Seeding chart for native plant species

Grasses ¹	% of Mixture (Range Allowed)	Pure Stand Seeding Rate PLS lbs./acre	Seeds/sq. ft.	Seeds/lb.
Big bluestem, <i>Andropogon gerardi</i>	0-100	16	60	165,000
Blue grama, <i>Bouteloua gracilis</i>	0-20	4	75	825,000
Buffalograss, <i>Buchloe dactyloides</i>	0-20	65	60	40,000
Canada wildrye, <i>Elymus canadensis</i>	0-20	22	61	121,000
Eastern gamagrass, <i>Tripsacum dactyloides</i>	0-100	20	4	7,500
Indiangrass, <i>Sorghastrum nutans</i>	0-100	15	60	175,000
Little bluestem, <i>Schizachyrium scoparium</i>	0-20	11	60	240,000
Sideoats gramma, <i>Bouteloua curtipendula</i>	0-20	14	61	191,000
Switchgrass, <i>Panicum virgatum</i> ²	0-100	7	62	389,000
Virginia Wildrye, <i>Elymus virginicus</i>	0-20	27	60	96,000
Western wheatgrass, <i>Agropyroni smithi</i>	0-20	24	61	110,000

1. When developing seed mixtures, except eastern gamagrass, use 60 seeds/sq. ft. for grass stands. Grass and forb/legume mixtures are 40 seeds/sq. ft. for the grass component and minimum of 20 seeds/sq. ft. for forb/legume component.
2. Species suitable for frost seeding, multiply seeding rate by factor of 1.5.

Table 4. Temporary Seeding Recommendations

Fields with atrazine ¹ carryover, lack of suitable seed or late planting date	
Sudangrass	20 lbs./acre
Sorghum-Sudangrass hybrid	20 lbs./acre
Corn	2 bushels/acre
Fields where planting is delayed, due to lack of suitable seeding or late planting date	
Oats	3 bushels/acre
Winter rye	2 bushels/acre
Spring or winter wheat	2 bushels/acre

1. For other herbicide carryover problems, check with the area office.

Table 5. Critical Area Seedbed Mixtures for Specific Site Conditions

Site Conditions	Seeding Mixture	Rate lbs./acre
Moderately to well drained, limed or non-acid, fertile soils	Alfalfa Red clover Smooth brome grass	3 2 15
	Alfalfa Timothy Smooth brome grass Or Orchardgrass	6 2 15 Or 8
Imperfectly drained soils	Red clover Ladino clover Orchardgrass	4 1 8
	Birdsfoot trefoil Smooth brome grass Timothy	5 12 3
	Big bluestem Switchgrass	14 2
Poorly drained soils	Birdsfoot trefoil Timothy Or Orchardgrass	4 8 Or 12
	Alsike clover Ladino clover Tall fescue Or Timothy	2 3 8 Or 5

Table 5. Critical Area Seedbed Mixtures for Specific Site Conditions cont...

Site Conditions	Seeding Mixture	Rate lbs./acre
Very wet sites with high nutrient loading (i.e. animal waste filter strips)	Reed canary grass	16
	Tall fescue	16
	Switchgrass	7
Medium acid to strongly acid (6.0-5.1) with well drained to poorly drained soil that has a high clay content	Birdsfoot trefoil Tall fescue Bromegrass	7 5 8
Medium to strongly acid (pH 6.0-5.1) shallow (20 in.) with poorly drained soils with low fertility and low level management	Birdsfoot trefoil Tall Fescue Red top Switchgrass	4 4 3 2
Deep or coarse sands, droughty, usually acid (pH 6.0)	Sand lovegrass Switchgrass Prairie sandreed grass	2 5 4
Reclaimed acid mine spoil (pH 4.0)	Birdsfoot trefoil Red clover Crown vetch Tall fescue	4 4 4 4
Reclaimed acid mine spoil, deep coarse sands, droughty, low fertility (pH 4.0)	Switchgrass Big bluestem Indiangrass Little bluestem	2 4 4 3
Alkaline mine spoil (pH 7.4)	Bromegrass Alfalfa	12 10
	Bromegrass Timothy	14 5

Seeding Plan

Name PF CP42 Leopold#1 Pollinator
Prepared by Matt Frana
Program: Field Area (acres): 1.000

Date 7/19/2019
Tract No.
Field No.
Contract No. UI-012-JEVNE

Seeding Mix Summary

Grasses	Scientific Name	Common Name	Seeds/Ft ²	PLS Lbs/Acre	PLS Lbs Total	Estimated Cost/Acre
1	<i>Andropogon gerardii</i>	Big Bluestem	0.918	0.250	0.25	
2	<i>Sorghastrum nutans</i>	Indiangrass	1.102	0.250	0.25	
3	<i>Bouteloua curtipendula</i>	Sideoats Grama	1.653	0.750	0.75	
4	<i>Schizachyrium scoparium</i>	Little Bluestem	5.510	1.000	1.00	
5	<i>Carex brevior</i>	Shortbeak Sedge	0.213	0.020	0.020	
6	<i>Elymus virginicus</i>	Virginia Wildrye	0.154	0.100	0.10	
7	<i>Sporobolus compositus</i>	Composite Dropseed	0.165	0.015	0.015	
8	<i>Sporobolus heterolepis</i>	Prairie Dropseed	0.088	0.015	0.015	
9	<i>Tridens flavus</i>	Purpletop Tridens	0.048	0.005	0.0050	
10	<i>Carex vulpinoidea</i>	Fox Sedge	0.184	0.005	0.0050	
SUBTOTAL GRASSES			10.035	2.410	2.410	\$0

Forbs/Legumes	Scientific Name	Common Name	Seeds/Ft ²	PLS Lbs/Acre	PLS Lbs Total	Estimated Cost/Acre
1	<i>Allium stellatum</i>	Autumn Onion	0.040	0.010	0.010	
2	<i>Anemone virginiana</i>	Tall Thimbleweed	0.051	0.005	0.0050	
3	<i>Agastache foeniculum</i>	Blue Giant Hyssop	0.331	0.010	0.010	
4	<i>Verbena hastata</i>	Blue Vervain	1.025	0.030	0.030	
5	<i>Verbena stricta</i>	Hoary Vervain	0.514	0.050	0.050	
6	<i>Baptisia alba</i>	White Wild Indigo	0.006	0.010	0.010	
7	<i>Asclepias tuberosa</i>	Butterfly Milkweed	0.032	0.020	0.020	
8	<i>Asclepias incarnata</i>	Swamp Milkweed	0.035	0.020	0.020	
9	<i>Asclepias verticillata</i>	Whorled Milkweed	0.040	0.010	0.010	
10	<i>Tradescantia ohiensis</i>	Common Spiderwort	0.029	0.010	0.010	
11	<i>Silphium laciniatum</i>	Compass Plant	0.002	0.010	0.010	
12	<i>Silphium perfoliatum</i>	Cup Plant	0.005	0.010	0.010	
13	<i>Silphium terebinthinaceum</i>	Prairie Rosinweed	0.004	0.010	0.010	
14	<i>Silphium integrifolium</i>	Rosinweed	0.004	0.010	0.010	
15	<i>Symphyotrichum novae-angliae</i>	New England Aster	0.242	0.010	0.010	
16	<i>Symphyotrichum laeve</i>	Smooth Blue Aster	0.202	0.010	0.010	
17	<i>Symphyotrichum oolentangiense</i>	Skyblue Aster	0.294	0.010	0.010	
18	<i>Oligoneuron album</i>	Stiff Aster	0.118	0.005	0.0050	
19	<i>Rudbeckia hirta</i>	Black-eyed Susan	3.717	0.110	0.11	
20	<i>Rudbeckia triloba</i>	Brown-eyed Susan	0.125	0.010	0.010	
21	<i>Ratibida pinnata</i>	Gray-headed Coneflower	2.755	0.250	0.25	
22	<i>Echinacea pallida</i>	Pale Coneflower	0.096	0.050	0.050	
23	<i>Eupatorium perfoliatum</i>	Boneset	0.588	0.010	0.010	
24	<i>Brickellia eupatorioides</i>	False Boneset	0.118	0.010	0.010	
25	<i>Eupatorium altissimum</i>	Tall Thoroughwort	0.184	0.010	0.010	
26	<i>Eupatoriadelphus maculatus</i>	Spotted Trumpetweed	0.349	0.010	0.010	
27	<i>Eupatorium purpureum</i>	Sweetscented Joe Pye Weed	0.771	0.050	0.050	
28	<i>Astragalus canadensis</i>	Canadian Milkvetch	0.624	0.100	0.10	
29	<i>Chamaecrista fasciculata</i>	Partridge Pea	0.298	0.300	0.30	
30	<i>Desmanthus illinoensis</i>	Prairie Mimosa	0.771	0.500	0.50	
31	<i>Crotalaria sagittalis</i>	Rattle Box	0.165	0.100	0.10	
32	<i>Hypericum ascyron</i>	Giant St. Johnswort	1.047	0.015	0.015	
33	<i>Mimulus ringens</i>	Monkey Flower	0.845	0.001	0.0010	

34	<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.808	0.010	0.010
35	<i>Penstemon grandiflorus</i>	Large-flowered	0.103	0.020	0.020
36	<i>Penstemon digitalis</i>	Foxglove Penstemon	0.955	0.020	0.020
37	<i>Oligoneuron rigidum</i>	Stiff Goldenrod	0.452	0.030	0.030
38	<i>Solidago speciosa</i>	Showy Goldenrod	0.698	0.020	0.020
39	<i>Liatris aspera</i>	Tall Blazing Star	0.059	0.010	0.010
40	<i>Liatris pycnostachya</i>	Prairie Blazing Star	0.202	0.050	0.050
41	<i>Coreopsis tripteris</i>	Tall Tickseed	0.051	0.010	0.010
42	<i>Helianthus rigidum</i>	Prairie Sunflower	0.029	0.020	0.020
43	<i>Helianthus occidentalis</i>	Western Sunflower	0.103	0.020	0.020
44	<i>Heliopsis helianthoides</i>	Ox-eye	0.231	0.100	0.10
45	<i>Parthenium integrifolium</i>	Feverfew, Wild Quinine	0.051	0.020	0.020
46	<i>Euphorbia corollata</i>	Flowering Spurge	0.029	0.010	0.010
47	<i>Zizia aurea</i>	Golden Alexander's	0.404	0.100	0.10
48	<i>Vernonia fasciculata</i>	Ironweed	0.176	0.020	0.020
49	<i>Physostegia virginiana</i>	False Dragonhead	0.081	0.020	0.020
50	<i>Lespedeza capitata</i>	Round-headed Bush Clover	0.147	0.050	0.050
51	<i>Desmodium canadense</i>	Showy Ticktrefoil	0.040	0.020	0.020
52	<i>Dalea purpurea</i>	Purple Prairie Clover	3.636	0.550	0.55
53	<i>Dalea candida</i>	White Prairie Clover	0.349	0.050	0.050
54	<i>Phlox pilosa</i>	Prairie Phlox	0.035	0.005	0.0050
55	<i>Eryngium yuccifolium</i>	Rattlesnake Master	0.014	0.005	0.0050
56	<i>Ludwigia alternifolia</i>	Seedbox	2.388	0.005	0.0050
57	<i>Oenothera biennis</i>	Common Evening	1.653	0.050	0.050
58	<i>Veronicastrum virginicum</i>	Culver's Root	1.469	0.005	0.0050
59	<i>Monarda fistulosa</i>	Wild Bergamot	0.257	0.010	0.010
60	<i>Geranium maculatum</i>	Wild Geranium	0.009	0.005	0.0050
61	<i>Ruellia humilis</i>	Wild Petunia	0.191	0.100	0.10
62	<i>Asclepias syriaca</i>	Common Milkweed	0.016	0.010	0.010
SUBTOTAL FORBS			30.065	3.121	3.121

Woody	Scientific Name	Common Name	Seeds/Ft ²	PLS Lbs/Acre	PLS Lbs Total	Estimated Cost/Acre
1	<i>Amorpha canescens</i>	Lead Plant	0.059	0.010	0.010	
2	<i>Ceanothus americanus</i>	New Jersey Tea	0.028	0.010	0.010	
3	<i>Rosa arkansana</i>	Prairie Wild Rose	0.005	0.005	0.0050	
SUBTOTAL VINES/WOODY			0.091	0.025	0.025	\$0

TOTAL 40.191 5.556 5.556 \$0

	Soil Test Information	Total Needed lbs
Lime (ECCE) (Actual Lime)		
Nitrogen		
Phosphate (P205)		
Potash (K20)		

Seeding Dates:

Additional Seeding Criteria:

Seed with nurse crop. See nurse crop instructions for more details.

Seeding was completed by according to the above requirements.
(Date)

(Producer's Signature)

(Date)

Field Office

Certified by
(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.

For CRP cost-share, return receipts to Farm Service Agency.

For all other cost-share projects, attach seed tags and receipts for seed, fertilizer, lime, etc.

This order blank is effective to JUNE 30, 2019

to www.iowapf.net for more information

Iowa Pheasants Forever Native Grass Seed Program

WINTER/SPRING 2019

Call Matt O'Connor, mcoconnor@pheasantsforever.org
563-926-2357 or cell# 319-240-4075

Send Full Payment and Purchase Order to: **Matt O'Connor**
Pheasants Forever, 2880 Thunder Rd., Hopkinton Iowa 52237

Purchase Order

A chapter or personal check must be included with your order Make check out to: Pheasants Forever – Native Grass Seed Order

COUNTY NAME:

Contact Person & Phone:

SHIP TO:

(please include phone#)

phone # _____

e-mail _____

Provide us your e-mail address and we will send you a receipt via e-mail plus a hardcopy in the US mail.

Must order at
least one acre

“The Leopold Mix” & Leopold Pollinators
Highly diverse native mixes – the best! ALL IOWA ECOTYPE SEED
Now we offer Leopold CP42 Pollinator Mixes at great prices!!!!

Unit Price

Total Price

At least one
acre

CP-42 LEOPOLD #1 POLLINATOR (Dry/Wet/Mesic) 10/30 mix:

10 grass seed per square foot/30 forb seed per square foot

.25lb Big bluestem, .25lb Indian grass, .75lb Side oats grama, 1lb Little bluestem, 0.02lb Shortbeak Sedge, 0.1lb Virginia wildrye, 0.015lb Composite(rough) dropseed, 0.015lb Prairie dropseed, .005lb Purpletop tridens, .005lb Fox sedge. **Forbes:** Autumn onion .01lb, Tall thimbleweed .005lb, Blue Giant Hyssop .01lb, Blue Vervain .03lb, Hoary Vervain .05lb, White Wild Indigo .01lb, Butterfly Milkweed .02lb, Swamp Milkweed .02lb, Whorled Milkweed .01lb, Common Spiderwort .01lb, Compass Plant .01lb, Cup Plant .01lb, Prairie Rosinweed .01lb, Rosinweed .01lb, New England Aster .01lb, Smooth Blue Aster .01lb, Skyblue Aster .01lb, Stiff Aster .005lb, Black-eyed Susan .11lb, Brown-eyed Susan .01lb, Gray-headed Coneflower .25lb, Pale Coneflower .05lb, Boneset .01lb, False Boneset .01lb, Tall Thoroughwort .01lb, Spotted Trumpetweed .01lb, Sweetscented Joe Pye Weed .05lb, Canadian Milkvetch .1lb, Partridge Pea .3lb, Prairie Mimosa .5lb, Rattle Box .1lb, Giant St. Johnswort .015lb, Monkey Flower .001lb, Common Mountain Mint .01lb, Large-flowered Beardtongue .02lb, Foxglove Penstemon .02lb, Stiff Goldenrod .03lb, Showy Goldenrod .02lb, Tall Blazing Star .01lb, Prairie Blazing Star .05lb, Lead Plant .01lb, New Jersey Tea .01lb, Prairie Wild Rose .005lb, Tall Tickseed .01lb, Prairie Sunflower .02lb, Western Sunflower .02lb, Ox-eye .1lb, Feverfew, Wild Quinine .02lb, Flowering Spurge .01lb, Golden Alexander's .1lb, Ironweed .02lb, False Dragonhead .02lb, Round-headed Bush Clover .05lb, Showy Ticktrefoil .02lb, Purple Prairie Clover .55lb, White Prairie Clover .05lb, Prairie Phlox .005lb, Rattlesnake Master .005lb, Seedbox .005lb, Common Evening Primrose .05lb, Culver's Root .005lb, Wild Bergamot .01lb, Wild Geranium .005lb, Wild Petunia .1lb, Common Milkweed .01lb

**\$278
per acre**

Must order
at least one
acre

CP-42 LEOPOLD #2 POLLINATOR (Dry/Wet/Mesic) 10/40:

10 grass seed per square foot/40 forb seed per square foot

.25 lb Big bluestem, .25 lb Indian grass, .75lb Side Oats Grama, 1lb Little bluestem, 0.02lb Shortbeak Sedge, 0.1lb Virginia wildrye, 0.015lb Composite(rough) dropseed, 0.015lb Prairie dropseed, .005lb Purpletop tridens, .005lb Fox sedge. **Forbes:** Autumn onion .01lb, Candle Anemone .005lb, Tall thimble weed .005lb, Blue Giant Hyssop .01lb, Blue Vervain .03lb, Hoary Vervain .05lb, Blue Wild Indigo .005lb, Longbract Wild Indigo .005lb, White Wild Indigo .005lb, Butterfly milkweed .02lb, Swamp Milkweed .02lb, Prairie Milkweed .01lb, Whorled milkweed .01lb, Common Spiderwort .01lb, Longbract Spiderwort .01lb, Compass Plant .01lb, Cup Plant .01lb, Prairie Rosinweed .01lb, Rosinweed .01lb, New England Aster .01lb, Smooth Blue Aster .01lb, Skyblue Aster .01lb, Stiff Aster .005lb, White Heath Aster .005lb, Western Silver Aster .005lb, Black-eyed Susan .11lb, Brown-eyed Susan .01lb, Fragrant Coneflower .01lb, Gray-headed Coneflower .2lb, Tall Coneflower .01lb, Pale Coneflower .05lb, Boneset .01lb, False Boneset .01lb, Tall Thoroughwort .01lb, Spotted Trumpetweed .01lb, Sweetscented Joe Pye .05lb, Canadian Milkvetch .1lb, Partridge Pea .3lb, Prairie Mimosa .5lb, Common Milkweed .05lb, Cardinal Flower .001lb, Great Lobelia .001lb, Giant St. Johnswort .02lb, Monkey Flower .003lb, Common Mountain Mint .01lb, Slender Mountain Mint .005lb, Large-flowered Beardtongue .02lb, Foxglove Penstemon .03lb, Stiff Goldenrod .05lb, Showy Goldenrod .02lb, Riddell's Goldenrod .01lb, Tall Blazing Star .01lb, Prairie Blazing Star .05lb, Rocky Mountain Blazing Star .01lb, Prairie Coreopsis .005lb, Tall Tickseed .01lb, Prairie Sunflower .02lb, Western Sunflower .02lb, Saw-tooth Sunflower .01lb, Ox-eye .1lb, Feverfew, Wild Quinine .02lb, Flowering Spurge .01lb, Golden Alexander's .1lb, Ironweed .02lb, False Dragonhead .02lb, Round-headed Bush Clover .02lb, Showy Ticktrefoil .02lb, Purple Prairie Clover .65lb, White Prairie Clover .05lb, Prairie Phlox .005lb, Rattlesnake Master .005lb, Seedbox .005lb, Pale Gentian-Yellow Gentian .01lb, Pale Indian Plaintain .02lb, Common Evening Primrose .1lb, Culver's Root .005lb, Tall Bellflower .005lb, Wild Bergamot .1lb, Wild Geranium .005lb, Wild Petunia .1lb, Lead Plant .01lb, New Jersey Tea .01lb, Prairie Wild Rose .005lb

**\$345
per acre**

LEOPOLD GRASS BUMP UP 10 grass seed per square foot

.07lb Big bluestem, .04 Indiangrass, .68 Sideoats gramma, 0.8lb Little bluestem, .02lb Shortbeak Sedge, .1lb Virginia wildrye, .185lb Composite dropseed, .035 Prairie dropseed, .02lb Purpletop tridens, .025 Fox sedge

**\$36
per acre**

Free Shipping!

Balance Due

You must include a check for full amount with your order! Call Matt O'Connor 563 926-2357 or 319-240-4075 with questions.

Nurse Crop Seeding Plan (Fall Planting)

Name Julie Jevne

Date 7/19/2019

Tract No.

Field No.

Contract No. UI-012-JEVNE

Type of Seeding: ☐ Full seeding ☒ Spot seeding

Prepared by Matt Frana

Seeding Percent Pure Live Seed = $(\% \text{ Germination} + \text{Hard Seed}) * \% \text{ Purity}$
100

Enter Acres: 1

Acres % of Stand Acre - Circle One Below

Total Needed

Species	Acres	% of Stand	Pounds Per Acre	Total Needed
Winter Wheat	1		15 Pounds	15.0 Pounds

Seeding will be completed: ☒ Nov 1st - Freeze up ☐ Other

Additional Seeding Criteria: Adding 1/4 bu of winter wheat per acre with the native seed mix as a nurse crop to suppress weeds as native mix establishes itself. **USE THIS MIX FOR NURSE CROP IF PLANTING IN FALL. IF PLANTING IN SPRING USE 1/2 BU/AC (16 lbs/ac) OF OATS INSTEAD.**

Seeding was completed according to the above requirements on: _____ (Date)

(Contractor's Signature)

(Date)

Field Office _____

Certified by _____

ADD TO NATIVE PRAIRIE MIX

Temporary Cover - Oats

Name Julie Jevne Date 7/11/2016 Tract No.
Field No.
Contract No.
Type of Seeding: Prepared by Matt Frana

Seeding Percent Pure Live Seed=(% Germination + Hard Seed) * % Purity
100

Full seeding

Enter Acres: 1	Acres	% of Stand Acre - Circle One Below	Total Needed
		Pounds Per Acre	
		PLS*	
Oats	1	96 lb	96.0 lb

Seeding will be completed: Other 3

Additional Seeding Criteria: USE ONLY IF NEED TO SEED AREA OUTSIDE OF RECOMMENDED PLANTING DATES FOR NATIVE PRAIRIE.
Plant 3 bu/ac of oats per acre for temporary cover until conditions are suitable for planting native seed mix.

Seeding was completed according to the above requirements on: (Date)

(Contractor's Signature)

(Date)

Field Office

Certified by

USE ONLY IF NEED COVER BEFORE RECOMMENDED NATIVE SEEDING DATES



Conservation Cover

Iowa Job Sheet

Natural Resources Conservation Service
Des Moines, Iowa

Iowa Conservation Practice 327
May 2017

Definition

Establishing and maintaining permanent vegetative cover.

Purpose

This practice may be applied to accomplish one or more of the following:

- » Reduce soil erosion and sedimentation.
- » Improve water quality.
- » Improve air quality.
- » Enhance wildlife, pollinator, and beneficial organism habitat.
- » Improve soil quality.

Condition Where Practice Applies

This practice applies on all lands needing permanent vegetative cover. This practice does not apply to plantings for forage production or to critical area plantings.

Criteria for Conservation Cover

A. Seeding Periods

Permanent, perennial vegetative cover and/or shrubs will be established during the first recommended seeding or best planting period for the selected species or mixture. Planting dates are outlined on Table 1 of this job sheet.

B. Fertilizer and Lime Requirements

Soil fertility and pH level will be amended on introduced species to satisfy the needs of the specific plant species planned. Soil samples will be collected on the area to be seeded according to the protocol in ISU CROP 3108 "Take a good soil sample to help make decisions." Samples will be tested at a state approved testing laboratory.

- » Introduced Species - Recommendations will be based on pastureland, according to ISU Extension publication PM 869 "Fertilizing Pastures for Conservation Cover Establishment." Lime



recommendations will be developed from Table 16 of ISU PM 1688 "General Guide for Crop Nutrient Recommendations in Iowa." Soil tests that are less than four years old may be used to make recommendations.

Fertilizer or lime will not be used when establishing seeding in Hydrologic zones B, C, or D, including floodplain filter strips as outlined in Technical Note #27, Guidance on Seeding for Pothole, Floodplain, and Other Wetlands.

- » Native Species - For native grass and forb establishment, no N, P, K, or lime is required.

C. Companion Crop

- » Introduced Species - Companion crops are required on tilled fields and where slopes are >5%. Companion crops will not be required in fields that are no-tilled into existing residue, if the residue is adequate to reduce soil erosion. A Companion crop of spring cereal grain at the rate of 1 bushel/acre will be drilled or broadcasted. See Table 4 in the 327 Job Sheet for a list of acceptable companion crops. The companion

crops shall be clipped 4-6 inches high at the time of seed head emergence to promote growth of the new permanent cover. The use of the companion crop is not required when interseeding, and is optional for all other seeding periods outside the spring seeding period.

- » Native Species - Companion crops are required on tilled fields, and where slopes are >5%. Companion crops will not be required in fields that are no-tilled into existing residue, if the residue is adequate to reduce soil erosion. A companion crop of spring cereal grain at the rate of 1 bushel/acre will be drilled or broadcasted. See Table 4 in the 327 Job Sheet for a list of approved companion crops. The companion crop will be clipped 8 inches high at the time of seed head emergence to promote growth of the new permanent cover.

D. Seedbed preparation and Seeding

1. Perennial vegetation must be killed prior to seeding.
2. Conventional seeding for spring, late summer, and dormant seeding periods where site conditions allow for safe operation of equipment.
 - » The seedbed shall be worked to a depth of 3", smooth, friable and firm before seeding. Native seedlings will be rolled or cultipacked before and after seeding.
 - » All tillage operations shall be performed across the general slope of the land.
 - » Seeds shall be drilled uniformly over the area at a 1/8 - 1/4 inch depth depending on site conditions, or broadcast uniformly over the area and rolled/harrowed into the seedbed. Native forbs will be seeded no deeper than 1/8-inch and must be rolled, not harrowed.
 - » Where erosion is a concern prepare a seedbed with tillage tool that will leave enough residue or mulch to provide adequate protection.
3. No-till seeding for spring, late summer and dormant seeding periods where site conditions allow for safe operation of equipment.
 - » Approved herbicides shall be applied to kill or suppress existing weed competition prior to planting, as necessary. Herbicides will not be used in grassed waterways or filter strips adjacent to wetlands or other waterbody, unless it is labeled for use adjacent to or over water.
 - » A drill designed for no-till planting shall be used to plant the seed at a depth of 1/8 - 1/4-inch

depending on site conditions. Native forbs will be seeded no deeper than 1/8-inch.

4. Dormant seeding is done after soil temperatures drop below what is needed for seeds to germinate in the fall (4-inch soil temperature is less than 50 degrees) and before frost is completely out in the spring. This generally occurs around Nov. 15.
 - » Seeding in cornstalks or sod can be done conventionally by preparing the seedbed with tillage, or no-tilled provided there is sufficient seed to soil contact.
 - » On tilled ground, soybean stubble, or corn fields that had residue (burned or removed), the seed may be broadcasted and rolled to provide seed to soil contact and prevent seed from blowing away from site. This shall be done when the top 1-2 inches are thawed to ensure good seed to soil contact.
5. Frost Seeding is done when the ground is frozen at night and thaws during the day. Seed is incorporated by the freezing and thawing. No additional incorporation is required.
 - » Species approved for frost seeding are shown in Table 2. Native species suitable for frost seeding are debeard or smooth coated species.
 - » Frost seeding is not recommended on corn stalks or high residue fields.
 - » Frost seeding cannot be done on ground with ice cover, crusted snow, or snow depth > 4 inches.

E. Seeding Stand Improvement

This includes any stand modification that maintains some vegetative component of the original stand.

1. Incorporation of grasses, forbs and/or legumes with light tillage:
 - » When interseeding into existing sod, graze, burn, mow or apply herbicides to suppress existing vegetation and to control weed competition. Herbicides will not be used in grassed waterways or filter strips adjacent to wetlands or other waterbody, unless it is labeled for use adjacent to or over water.
 - » Use a disk, field cultivator, or similar tool to disturb 40-50% of the existing stand.
 - » Grasses, forbs and/or legumes shall be drilled uniformly over the area at 1/8 - 1/4-inch depth, or broadcast uniformly over the area and rolled into the seedbed. Native forbs will be seeded no deeper than 1/8-inch.

- » Harrow may be used to incorporate seed for introduced species only.
 - » Remove early spring regrowth by mowing to reduce competition and allow the new seedlings to become established.
2. Incorporation of grasses and/or legumes with no-tillage (interseeding) for spring, late summer and dormant seeding periods:
- » When interseeding into existing sod, graze, burn, mow or apply herbicides to suppress existing vegetation and to control weed competition. Herbicides will not be used in grassed waterways or filter strips adjacent to wetlands or other waterbody, unless it is labeled for use adjacent to or over water.
 - » Control weeds prior to seeding.
 - » Grasses, forbs and/or legumes shall be drilled uniformly over the area at 1/8 - 1/4-inch depth. Native forbs will be seeded no deeper than 1/8-inch.
 - » Remove early spring regrowth by mowing to reduce competition and allow the new seedlings to become established.
3. Incorporation of grasses and/or legumes with frost seeding.
- » When interseeding into existing sod, graze, burn, mow or apply herbicides to suppress existing vegetation and to control weed competition. Herbicides will not be used in grassed waterways or filter strips adjacent to wetlands or other waterbody, unless it is labeled for use adjacent to or over water.
 - » Broadcast species only approved for frost seeding as shown in Table 2. Small, smooth (shiny) seeded species are best for incorporation into the soil during freezing and thawing.
 - » Frost interseeding is only allowed if existing stand is weak and less than 50 percent of the ground is covered with perennial vegetation.

F. Seed Quality

1. All seed shall be of high quality and comply with Iowa Seed and Weed Laws.
2. Cool season (introduced) grass and legume seeding rates are expressed in pounds/acre of Pure Live Seed (PLS) where PLS = (% germination + dormant seed) X % purity).
3. Native grass species seeding rates are expressed in PLS pounds/acre. Either the germination test or Tetrazolium (TZ) test is acceptable to determine PLS for native species.

G. Approved Plant Species and Seeding Rates.

Plant species and cultivars shall be selected based upon the adaptation to site conditions, including moisture regime and landscape preference. See the Native Seeding Calculator.

Introduced Species

The pure stand rates in table 2 of this Job Sheet are the minimum rates for planting a single species stand into well-prepared seedbed at the proper placement. The pure stand rates are decreased to a percentage of the desired stand when used to calculate a mixture of two or more species. Select combinations of plant species and cultivars best adapted to site conditions.

- » Approved introduced plant species, allowable mixture composition and the pure stand seeding rate are shown in Table 2.
- » A designed seeding mixture shall meet criteria specified in table 2 as to species composition and seeding rate.
- » For seedings used for erosion control, at least 50% of mixture shall be composed of grasses.
- » Tall Fescue shall not compose more than 10% of the mixture if the primary or secondary purpose is for wildlife.
- » Mixtures may include up to 20% native species. Use the criteria for the predominant species in the mixture for stand establishment.

Native Species

The Iowa Native Seeding Calculator will be used to develop the Native Seeding mixture. Approved native species are determined by county location, longevity of stand, and moisture regime. They are presorted when using the calculator. The user must select moisture regime, seeding type (prairie, savanna, wetland) and longevity.

- » A designed seeding mixture shall meet criteria specified in the Iowa Native Seeding Calculator as to species composition and seeding rate. At least 25 percent by # of seeds/sq. ft. (10 seed/sq. ft.) of the mixture shall be composed of grasses. For wildlife mixtures not more than 4 seeds/sq. ft. of the total mixture will be composed of switchgrass and not more than 8 seeds/sq. ft. of Canada wild rye. Some programs may be more restrictive.
- » When developing seeding plans, except eastern gramma grass, use 40 seeds/sq. ft. for pure grass stands. Grass and forb mixtures use 10-30 seeds/sq. ft. for the grass component and a minimum of 10-30 seeds/sq. ft. for the forb component. (The sum of the grass and forb mixtures total 40 total

seeds/sq. ft.) Seeding mixtures composed of 20 seeds/sq. ft. or less may only be used on 5 percent slopes or less, unless a nurse crop of 1 bu/ac is used, or on any land if the mix is no-tilled.

- » When using a grass/forb mixture, develop a mix of tall, medium and short species. This allows for more light penetration to promote the forb component.
- » For diverse prairie restorations and pollinator plantings with a minimum of 10 species or more, no more than 20% of the total mix can comprise of a single species of grass and 10% of the total mix can comprise of a single species of forb. No more than 33% of the stand can be comprised of early successional species. Early successional species is defined as a species with a Coefficient of Conservatism (CC) ≤ 3 .
- » Mixtures may include up to 20 percent introduced forbs, of which no single introduced forb species may comprise more than 10 percent of the mix. The percentage is based on the total grass and forb mix. Use stand establishment and seeding criteria for native plants when including introduced forbs. Although introduced legumes are allowed in native mixtures, it is not recommended for prairie restoration efforts.
- » Annual and biannual forbs/legumes are to be limited to no more than 20% by # of seeds/sq. ft. of the forb/legume component, and no more than 20% of any one species of total mix.
- » For long-term prairie reconstruction, use local source identified seed. Refer to Technical Note 28, "Guidance for Seeding Natives on Prairie Reconstruction Sites."
- » When planting within one mile of an existing native prairie remnant, the native seeding will be a local ecotype or source identified (seed harvested from remnant sites). Refer to Technical Note 28, "Guidance for Seeding Natives on Prairie Reconstruction Sites."

Additional Criteria for Enhancing Wildlife Habitat

- » Grasses, forbs, shrubs, and/or legumes shall be planted in a diverse mix to promote biodiversity and meet the needs of the targeted species of wildlife.
- » Tall fescue shall not compose more than 10% (or 4 seeds/sq. ft.) of the mixture if the primary or secondary purpose is wildlife.
- » When developing seeding plans for wildlife, restoration or reconstruction of pothole,

floodplain, and other wetland ecosystems, consider the soils, moisture regimes, and topography of the site to develop seeding mixtures to meet the site characteristics. See Agronomy Technical Note 27, "Guidance on Seeding For Pothole, Floodplain, and other Wetlands."

- » Any mowing after seeding establishment, except for noxious weed control will be done outside primary nesting season, May 15 to Aug. 1, to protect nesting wildlife.
- » Annual mowing of an entire field is not permitted.
- » For pollinator and monarch habitat, refer to appropriate Job Sheet or habitat guide.

H. Management during the Establishment Year

Weed control during the establishment year shall be provided to ensure survival of the new permanent seeding.

1. To manage weed competition, native species may be mowed no closer than 8 inches and introduced species no closer than 4 inches. Mow to allow for sunlight to get down to young seedlings and reduce the amount of thatch from covering the stand. Mowing should start before vegetation reaches a height of 18 inches, and continue about every two weeks throughout the first growing season. Mow at least once in the second season. Additional mowing beyond that will be based on the amount of weed pressure.
2. Approved herbicides may be used on both cool and native plantings to control weed species.
3. When establishing forbs with warm season grasses, the cover will be suppressed by mowing, grazing, chemicals or burning in the second season to avoid grasses or weeds from shading out the forbs.

I. Establishment of Temporary Cover

Temporary cover may be required to reduce potential weed and erosion problems where one of the following conditions exists:

1. Fields with herbicide carry over.
2. Where planting is delayed due to unavailability of seed.
3. The normal planting period has passed.
4. Delayed planting to ensure previous perennial vegetation is terminated.

The temporary cover shall be seeded as specified in Table 3.

Table 1. Seeding dates for introduced and native species

Type of Seeding	Introduced Species ² (Grasses and Legumes)	Native Species ³
Spring	March 1 - May 15	April 1 - July 1
Late Summer	August 1 - September 15	Not Recommended
Dormant ¹	November 15 - March 1	November 15 - March 31
Frost ⁴	February 1 - March 15	February 1 - March 31

1 Only if seed can be incorporated by drilling or cultipacking to ensure seed to soil contact can be obtained and reduce predation.

2 Includes all species generally considered introduced.

3 Includes all warm and cool season natives planted in mixture.

4 Refer to Table 2 for applicable Introduced plant species. Native species suitable are debeard or smooth coated.

"Seeding cannot be done on ground with ice cover, crusted snow, or snow depth greater than 4 inches."

Table 2. Seeding chart for introduced plant species

	% of Mixture (Range Allowed)		
Plant Species	Grassland² & Wildlife	Trees and Shrubs	Seeding Rate PLS/acre
Grasses			
Kentucky bluegrass	0-100	0-10	5
Orchardgrass	0-50	0-100	8
Smooth bromegrass	0-100	0	10
Tall fescue¹	0-25	0	8
Timothy¹	0-50	0-100	4
Red top¹	0-50	0-100	3
Intermediate wheatgrass	0-25	0	10
Perennial rye¹	0-25	0-50	10
Legumes			
Alfalfa¹	0-100	0-50	10
Alsike clover¹	0-50	0-50	4
Kura clover¹	0-50	0-50	8
White clover¹	0-50	0-50	3
Red clover¹	0-50	0-50	8

1 Species suitable for frost seeding.

2 Mixtures may include 20% native grasses. See the Iowa Native Seeding Calculator for seeding rates. Use the criteria for the predominate species in the mixture for establishment.

Table 3. Temporary Seeding Recommendations

Fields with atrazine ¹ carryover, lack suitable seed or late planting date	
Sudangrass	20 lbs./acre
Sorghum-Sudangrass hybrid	20 lbs./acre
Corn	2 bushels/acre
Fields where planting is delayed, due to lack of suitable seed or late planting date	
Oats	3 bushels/acre
Winter rye	2 bushels/acre
Spring or winter wheat	2 bushels/acre

¹ For other carryover problems, check with the area office.

Table 4. Companion Crop Recommendations

Spring Grain	
Oats	1 bushel/acre
Spring Wheat	1 bushel/acre
Spring Barley	1 bushel/acre

Iowa Native Prairie Planting Guide

Planting Native Prairie Into Cool Season Sod

(Brome, Orchard, Fescue, Bluegrass)



1. **Late Summer** - Start the sod to prairie conversion process. Mow existing grass (4-6" ht.) between Aug. 2 and Sept.1. (*The earlier, the better to ensure time for regrowth during dry conditions. Haying is preferred over mowing, but follow program rules.*)
2. **Early Sept. to Mid Oct.** - Apply glyphosate herbicide at 2 quarts/acre when the active ingredient is 41%. Use 3 quarts for hard to control species such as Canada thistle, clovers, reed canary grass, and fescue. Follow the label for specific rates, adjuvants, etc. Adding 2,4-D Ester can help with difficult to kill perennial broadleaves, i.e. clovers. Apply after there is 6-8 inches of regrowth. Good growing conditions are required (overnight lows 40F+, daytime high 60F+) when and after you spray for 2-3 days.
3. **Early Spring (optional)** - Burn off dead plant material in early spring with fire. This will:
 - a. encourages a flush of regrowth from any living brome in the Spring;
 - b. encourages a flush from seed bank (i.e. red clover, annual weeds);
 - c. remove duff layer;
 - d. allow better herbicide contact;
 - e. make it easier to plant into;
 - f. allow you to see hazards such as: ant hills, badger holes, and tile breaks. *Use combination of disk and blade to smooth those areas.*
4. **Late May** - Apply glyphosate herbicide to the area to be planted after green up.

Spraying in the spring is not sufficient to kill the existing perennial vegetation. If you are starting this process in the spring, spray and then leave the ground fallow for the first growing season.



5. **(Option 1) Late May to Early June** - Plant mixed native grasses and forbs with a native no-till drill 7+ days after the herbicide application. *Chemicals need time to translocate into the root system of emerged vegetation. Cutting up sprayed grass could affect the performance.*
 - a. Drill shallow: 1/8" for forbs, 1/4" for grass.
 - b. Broadcast and roll only if > 50% of soil is exposed.
5. **(Option 2 - Preferred) Leave area fallow for the growing season**
 - a. Spray 1-2 times during the summer when majority of weeds are < than 12" tall. **Caution:** Don't let weeds get too tall. They will be harder to kill, and you don't want them to add seed to the seed bank. Weeds in a fallow field left unchecked can produce a tremendous amount of weed seed.
 - b. Spray again in September – first ½ of October
 - c. Complete a dormant seeding by drilling (or broadcasting if 50% or more soil is exposed).

Planting Native Prairie Into Cool Season Sod



Fall/Dormant Seeding

Fall/Dormant seedings can be conducted Nov. 15 through April 1, or until the freeze/thaw season ends.

- » Advantageous to the forb component. Germination increases for many forb species if they go through freeze/thaw cycles.
- » Need > 50% of soil exposed.
- » In diverse forb mixes, seed 0.25 lbs. (4 oz. or 1.0 seed/ft²) each of Big Bluestem, Indiangrass and Switchgrass. Dormant seedings are not as conducive as a spring planting for the tall warm season grasses.
- » Broadcast and then roll. If the ground is frozen, don't roll.
- » Don't broadcast seed on ice covered ground, snow crusted ground, or when snow cover is > than 4".

Other Considerations:

- » Seed forbs on the surface or a shallow depth (up to 1/8" depth). Grasses do fine planting up to 1/4" depth. *Some seed on the surface is ok.*
Tip: When using a native grass drill, disconnect every other tube on the forb box, so seed lands on the ground.
- » If you are trying to complete a seeding in an area with reed canary, develop a long-term plan to kill it completely (very difficult) and a proper seed mix that will compete with it.
- » Do not use fertilizer because it will only help the weeds out-compete your seeding.
- » When broadcasting, rolling will help with seed to soil contact and to reduce predation of seed from birds, mice, and night crawlers.
- » When seeding small areas or when broadcasting seed, add a carrier to help ensure you don't run out of seed (i.e. rice hulls, cocoa shells, pell lime, ground cobs). Consider broadcasting the area twice to ensure good coverage.
- » On small areas (< 2 acres), you can seed from a bucket.
 - Flag off lines every 50' to help stay in line.
 - Use sand as a carrier — 2 parts damp sand to 1 part seed, minimum.
 - Weigh seed and separate into buckets.
- » Adding ½ - 1 bu. of oats to spring seedings can reduce erosion.

If Tillage Is Necessary

- » Tillage is only recommended when the field is very rough from gophers, etc.
 - » Several tillage passes will be required to prepare an acceptable seedbed.
 - » The downside of tillage is that it can increase weed pressure.
1. If you decide to till, follow steps 1 and 2 from the previous page. If the field is too rough to mow, then skip step 1 and go to step 2.
 2. Perform Tillage
 - » If spraying occurred, complete tillage in the spring to smooth the area.
 - » If no spraying occurred, deep tillage will be required in the fall to kill the cool season stand using a plow or chisel plow, followed up in the spring with a disk and a field cultivator.
 3. Seedbed must be rolled 1-2 times before planting to create a firm seedbed.
 4. Drill or broadcast, and then roll again.
- » **For High-end Seedings** (pollinator/CP-25 /prairie reconstruction):
 - Ideal mix is: 25-50% grass/50-75% forbs.
 - Strive for diversity.
 - Limit amount of tall warm season grasses (Big Bluestem, Indian Grass, & Switchgrass). They establish quickly and can out-compete forbs. Recommended seeding rate: 0.1 (1.6 oz. or 0.4 seeds/ft²) to 0.25 lbs. (4 oz. or 1.0 seeds/ft²) each for Big Bluestem and Indian Grass. Limit Switchgrass to the 0.1 lb. rate. Other native grasses are not as competitive.
 - » Native grasses are an important component of the tall grass prairie. Less favorable grasses such as woolly cupgrass, smooth brome, tall fescue and quack grass will take over if native grasses are excluded.
 - » Consider Iowa ecotype seed (originated from prairie remnant plants) for long-term to permanent seedings.
 - » Use high end seedings around the farmstead for added beauty.

If you have additional questions, contact your local NRCS Field Office, Iowa Department of Natural Resources (DNR) biologists, or Pheasants Forever biologist for further guidance.



CONSERVATION PRACTICE COST ESTIMATE

JULIE JEVNE - SPRINGFIELD 8

D MOHN - 7/2019

'UPPER IOWA WATERSHED PROJECT - GRADE STABILIZATION/POND STRUCTURE'

-COST-SHARE EXPENSES-

4,727 CU. YDS. COMPACTED EARTH FILL	@\$3.75/CU. YD.	=\$17,726.25
309 CU. YDS. CORE TRENCH EXCAVATION	@\$3.00/CU. YD.	=\$927.00
110 LIN. FT. 12" PVC PIPE (INSTALLED)	@\$30/FT.	=\$3,300.00
3 (4' X 4') ANTI-SEEP COLLARS	@\$200/EA.	=\$600.00
30 TONS RIP RAP ROCK (PLACED)	@\$22/TON	=\$660.00
.6 AC CRITICAL AREA SEEDING	@\$300/AC.	=\$180.00
1 AC NATIVE PRAIRIE SEEDING	@\$350/AC.	=\$350.00
1600FT OF 4-STRAND BARB WIRE FENCE	@\$2/FT.	=\$3200.00
2 (12FT) GATES	@\$125/EA.	=\$250.00
170FT WATERLINE (INSTALLED)	@\$1.35/FT.	=\$229.50
1 HYDRANT (INSTALLED)	@\$250	=\$250.00

SUBTOTAL **=\$27,772.75**

LANDOWNER COST (10% OF COST-SHARE EXPENSES) **=\$2,777.28**

-OTHER EXPENSES-

MISC. AND CONTINGENCY	@ 3%	=\$700.00
SITE MOBILIZATION	@\$500 PER	=\$500.00
0.25 AC. SITE PREP/CLEARING/GRUBBING	@\$2,000/AC.	<u>=\$500.00</u>
SUBTOTAL		\$1,700.00

TOTAL ESTIMATED GRADE STABILIZATION/POND PROJECT COST **\$29,472.75**

**TOTAL PROJECT COSTS AND CONSTRUCTION COSTS PROVIDED HEREIN ARE MADE ON THE BASIS OF TECHNICIAN'S EXPERIENCE AND QUALIFICATIONS AND REPRESENT THE TECHNICIAN'S BEST JUDGMENT. HOWEVER, THE TECHNICIAN CANNOT AND DOES NOT GUARANTEE THAT BIDS OR ACTUAL TOTAL PROJECT OR CONSTRUCTION COSTS WILL NOT VARY FROM THE ESTIMATE OF PROBABLE CONSTRUCTION COST. THIS ESTIMATE IS INTENDED TO ASSIST IN BUDGETARY ASSESSMENT AND DOES NOT GUARANTEE THAT ACTUAL PROJECT COSTS WILL NOT EXCEED OR BE LOWER THAN THE AMOUNTS STATED IN THIS ESTIMATE.



200 0 200
Feet

I have reviewed and agree with the content of the attached plan prepared by the NRCS.

Landowner: _____ Date: _____

I certify that this practice has been constructed in accordance with the plans and specifications.

Contractor: _____ Date: _____

NRCS Rep.: _____ Date: _____

CONTRACTOR IS RESPONSIBLE
FOR CALLING IOWA ONE CALL
1-800-292-8989
Ticket # _____

If a cultural resource is
identified during construction,
stop immediately and notify the
Natural Resources Conservation
Service Archeologist at
(515) 284-4370.



United States
Department of
Agriculture

Natural Resources
Conservation Service

Owner: Carol Dowe

Location: Sec 33, T 100 N, R 8-W

Hesper Township
Winneshiek County, Iowa

	Designed	Date
	M Oylo	6/19
	M Oylo	6/19
Checked	Mellick	7/19
Approved	Sam Mellick	7/19

Eng. Job Class	Revision Date
I, II	January 2017

Sheet 1 of 12

DESIGN DATA

[illegible]

ESTIMATED QUANTITIES

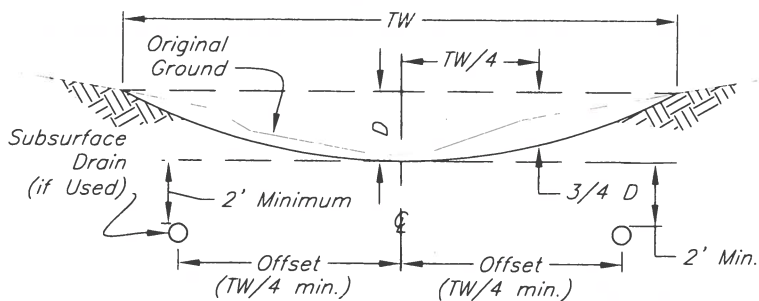
ESTIMATED QUANTITIES		
ITEM	QUANTITY	UNIT
<i>Earthfill (if calculated)</i>	N/A	<i>cu. yd.</i>
<i>Excavation (if calculated)</i>	N/A	<i>cu. yd.</i>
<i>Clearing (if applicable)</i>	N/A	<i>ac.</i>
<i>Waterway Length</i>	875' 957	<i>ft.</i>
<i>Waterway Area</i>	0.7	<i>ac.</i>
<i>Seeding Area</i>		<i>ac.</i>
<i>Other: trap rock outlet</i>	102	feet
<i>Other:</i>		

Notes:

1. All work comply with Construction Specification 1A-412.
2. See Sheet 1 of 12 for the Plan View.
3. See Sheet(s) 3 of 12 for the Profile(s).
4. See Sheet 8 of 12 for the Fabric or Rock Check details.
5. See Sheet(s) N/A of N/A for the Subsurface Drain details.

Note 6: Transition from parabolic grassed waterway to rock lined trapezoidal outlet section should occur over a length of 50 to 100 feet.

Note7: Shape diversion berm with 3' top from prop line to west edge of Waterway #1; to direct run off to within waterway dimensions @ approx. sta 7+60.



TYPICAL PARABOLIC CROSS SECTION

STANDARD DWG. IA-1510

DATE	June 2011	PAGE	1	OF	1
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Natural Resources Conservation Service
United States Department of Agriculture

PARABOLIC GRASSED WATERWAY

Owner: **Carol Dowe**

Location: Sec. **33**, T **100** N R **8** W

Hesper Township

Winneshiek County, Iowa

BENCH MARK

ID	Elev.	Description
TBM1	1,211.14	West of WW #1 at Sta 7+80

Designed **M Oylo** Date **3/19**

Drawn M Oyloe 3/19

Checked Dev 3/19

Approved _____

File Name

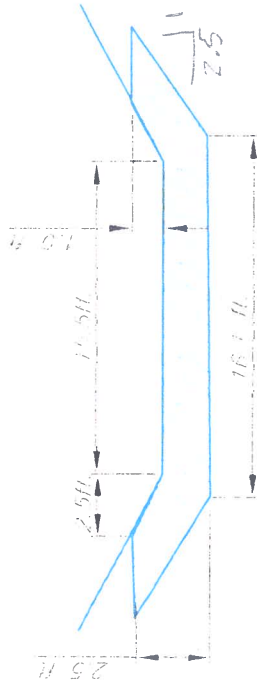
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Sheet 2 of 12

Notes:

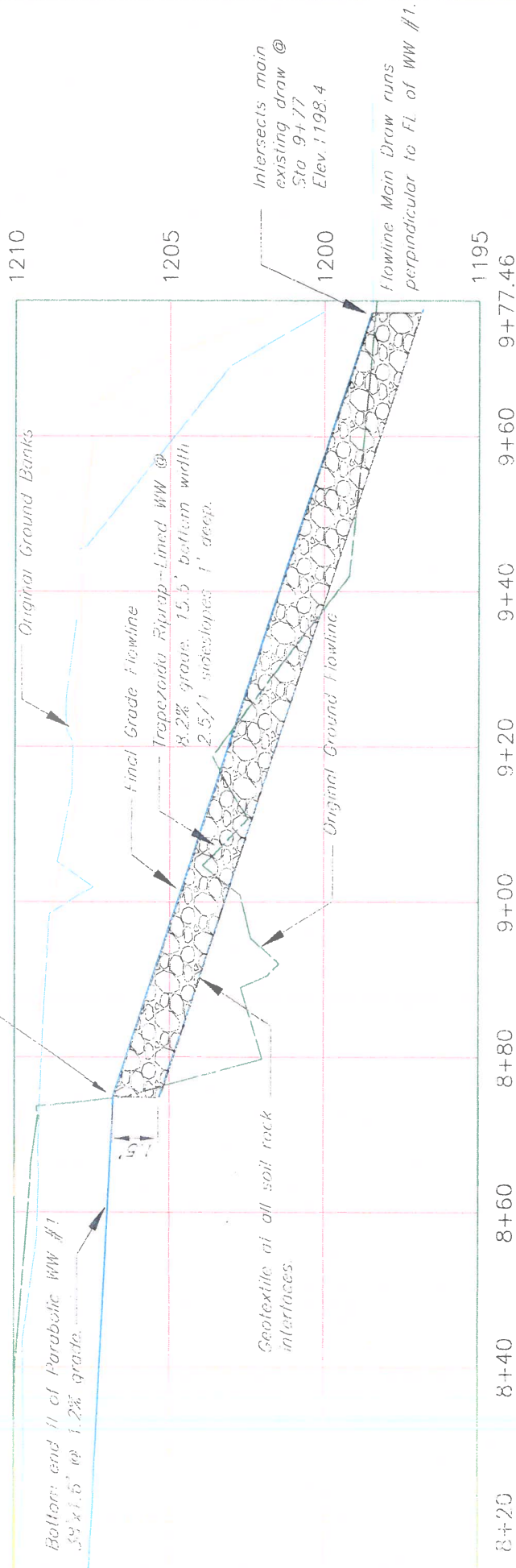
200.7 tons D30-8.3" Rip Rap.
1.5 feet deep measured perpendicular to slope.
440.3 square yards Geotextile Fabric.
Geotextile Fabric shall be installed under all Rip Rap.
Any Geotextile splices shall overlap a minimum of 18 inches, with upstream or upslope Geotextile overlapping the downslope Geotextile.

Transition from parabolic grassed waterway to trapezoidal outlet section should occur over a length of 50 to 100 feet.

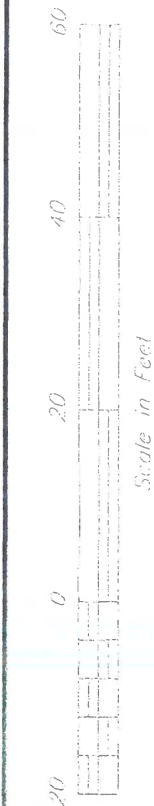


SECTION on Trapezoidal Outlet End

Sta 8+75 Elev. 1206.8 transition from parabolic grassed WW to trapezoidal riprap lined WW



cl_ww1_last PROFILE



WW#1 Rocked Outlet Profile
Carol Dowe
Working
Hesper 13 Wintershook County, CA

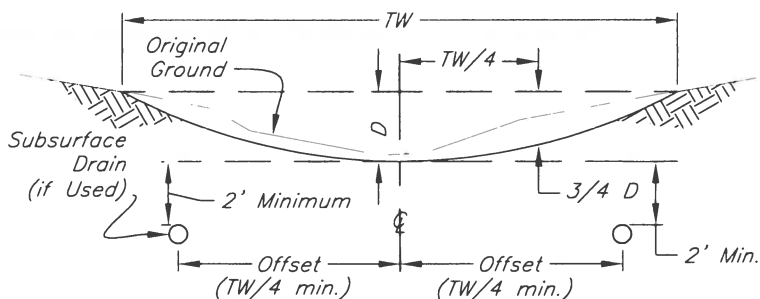
Designed	M. Oylec	Date		File Name	
Drawn	M. Oylec	4/19		Drawing Name	
Checked	CS			7/18/19 4:06 PM	
Approved				Sheet 3 of 12	

4/12

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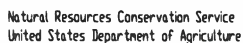
ESTIMATED QUANTITIES		
ITEM	QUANTITY	UNIT
<i>Earthfill (if calculated)</i>		<i>cu. yd.</i>
<i>Excavation (if calculated)</i>		<i>cu. yd.</i>
<i>Clearing (if applicable)</i>	N/A	<i>ac.</i>
<i>Waterway Length</i>	900	<i>ft.</i>
<i>Waterway Area</i>	0.7	<i>ac.</i>
<i>Seeding Area</i>		<i>ac.</i>
<i>Other:</i>		
<i>Other: ww2 basin outlet</i>		

1. All work shall comply with Construction Specification 1A-412.
2. See Sheet 1 of 12 for the Plan View.
3. See Sheet(s) 6 of 12 for the Profile(s).
4. See Sheet 8 of 12 for the Fabric or Rock Check details.
5. See Sheet(s) N/A of N/A for the Subsurface Drain details.



BENCH MARK		
ID	Elev.	Description
TBM4	1,208.06	West of WW #2 at Sta 9+25

DATE	June 2011	PAGE	1	OF	1
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Owner: **Carol Dowe**
Location: Sec. **33**, T **100** N R **8** W
Hesper Township
Winneshiek County, Iowa

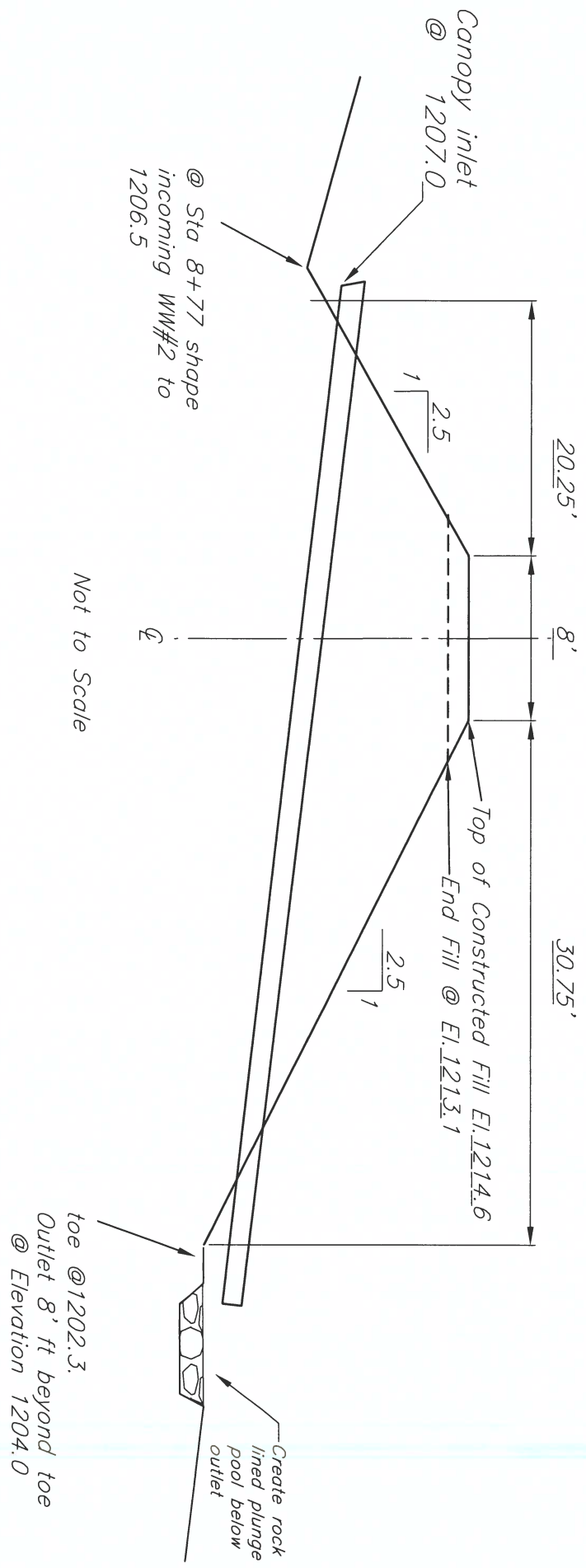
File Name
Drawing Name
Sheet 5 of 12

Bill of Materials

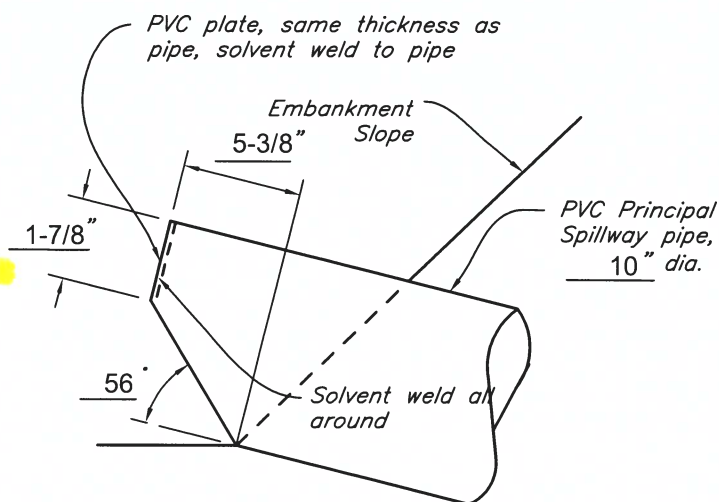
- 1,250 cu. yds. compacted earth fill.
- 70 ft of 70" diameter PVC pipe. Pipe and appurtenances to be in accordance with IA-45 Plastic(PVC,PE) Pipe.
- Pipe required: ASTM D2241 ~~SDR~~ 26.
- See attached for canopy inlet detail.
- Pipe connectors: Bell and spigot joints must be used. Do not use solvent weld and couplers. Must use normal pipe lubricant from the manufacturer or dish soap for lubricating the gasket joints. Crease or other petroleum products are not allowed. Install the bell at the upstream end.
- After pipe is installed any exposed pipe will need to be painted to reduce pipe degradation due to direct exposure to sunlight.
- Have a jumping jack available for bedding the pipe.

NOTES:

All rock 6 inches or greater and any foreign material is not allowed in the earth/fill/dam. Any rock 6 inches or greater shall be placed in the pipe outlet area to dissipate the water force.



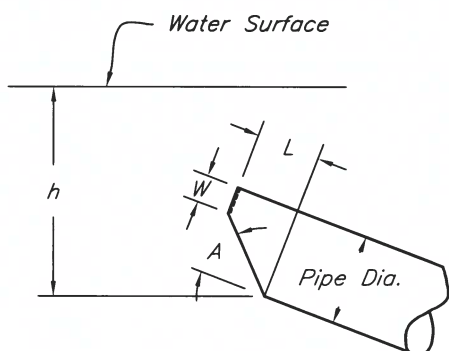
Pipe Diam. In.	Pipe Grade %	W In.	L In.	A Deg.	h Ft.
6	0-5	1 1/8	3 1/4	56	0.9
	5.1-15	1 1/4	4 3/4	45	0.9
	15.1-25	1 5/8	6 5/8	33	0.9
	25.1-32	2 1/8	7 3/4	27	0.9
8	0-5	1 1/2	4 3/8	56	1.2
	5.1-15	1 5/8	6 3/8	45	1.2
	15.1-25	2 1/8	8 3/4	33	1.2
	25.1-32	2 3/4	10 3/8	27	1.2
10	0-5	1 7/8	5 3/8	56	1.5
	5.1-15	2	8	45	1.5
	15.1-25	2 5/8	11	33	1.5
	25.1-32	3 1/2	13	27	1.5
12	0-5	2 1/4	6 1/2	56	1.8
	5.1-15	2 3/8	9 5/8	45	1.8
	15.1-25	3 1/4	13 1/4	33	1.8
	25.1-32	4 1/4	15 5/8	27	1.8



DETAIL OF CANOPY INLET

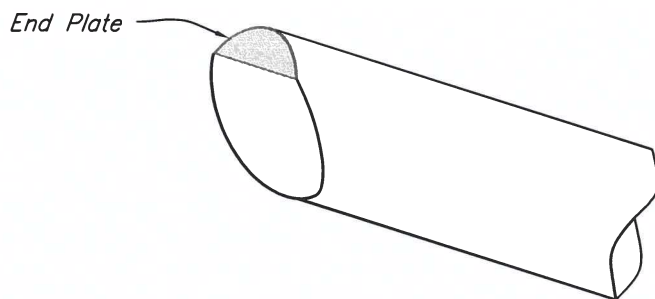
NOTES

1. Pressure rated PVC pipe shall conform to ASTM D-2241. Schedule 40 and 80 PVC shall conform to ASTM D-1785.
2. Pipe material designation shall be PVC 1120 or 1220.
3. The longest section of pipe in the installation shall be 20 feet.
4. PVC pipe shall be joined by:
 - a. Double gasketed couplings capable of resisting 160 psi pressure. Minimum length of coupling shall be 7.8" for 6" diameter, 8.2" for 8" diameter, 9.1" for 10" diameter, and 10" for 12" diameter.
 - b. Single gasketed joint with minimum joint length beyond gasket of 2".
5. PVC welding solvent must be formulated for the intended use to produce a weld of maximum strength.
6. Non-buried sections (i.e. inlet and outlet) of non-ultraviolet (UV) protected PVC pipe shall be painted with a heavily pigmented, exterior water base latex paint. The latex paint must be thickly applied as an opaque coating on the pipe and fittings that have been well cleaned and very lightly sanded. No painting is required for UV protected PVC pipe.



h=Minimum height for full pipe flow.

CANOPY INLET DIMENSIONS



PARTIAL ISOMETRIC VIEW

STANDARD DWG. IA-1214

DATE June 2008 PAGE 1 OF 1



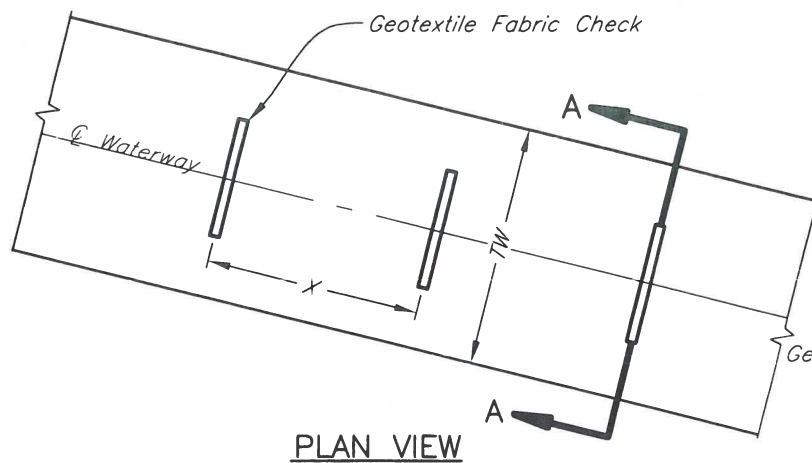
United States
Department of
Agriculture

Natural Resources
Conservation Service

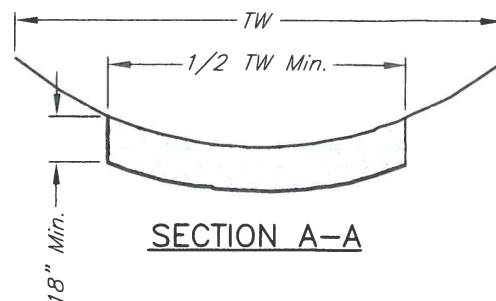
CANOPY INLET DETAIL 6" to 12" PVC PIPE

Designed M Oylor Date 11/18
 Drawn _____
 Checked _____
 Approved _____

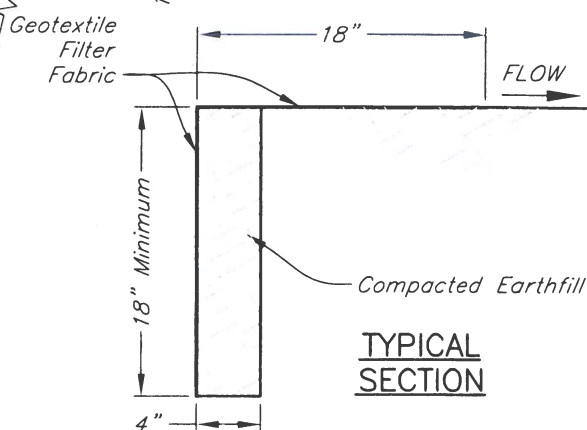
File Name _____
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 Sheet 7 of 12



PLAN VIEW



SECTION A-A



TYPICAL SECTION

Notes:

1. Geotextile shall meet the IA-95 Geotextile Construction Specification: 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 surface.

Geotextile Fabric Check Data							
Waterway Number	Start Station	End Station	Check Spacing (X)	No. of Checks	Geotextile Length (1/2 TW)	Total (lin.ft.)	Total (sq.yd.)
1	0+20	7+20	75	10	20	200	66.7
1	7+20	8+75	100	2	20	40	13.3
2	0+00	2+30	50	5	20	100	33.3
2	2+30	9+50	75	10	20	200	66.7
TOTALS:						540	180.0

<u>Waterway Grade</u>	<u>Maximum Spacing between Checks</u>
0 to 1.5 percent	100 Feet
1.5 to 3.0 percent	75 Feet
Greater than 3 percent	50 Feet

IOWA STANDARD DWG. NO. 1506

DATE Jan. 2009 PAGE 1 OF 1



PARABOLIC FILTER FABRIC CHECK

Owner: Carol Dowe

Location: Sec. 33, T. 100 N, R. 8 West

Hesper Township

Winneshiek County, Iowa

Designed M Oylae

Date 11/18

Drawn M Oylae

11/18

Checked B

Approved _____

File Name

Drawing Name

Sheet 8 of 12

Terrace Construction Checkout Sheet

Report Generated
06/19/2019

Project Name: 2019_Basin_REDO, Dowe_Basin_Iltry

Location: _____

Project Description: _____

Practice: 410

Designed by: moyloe

Date: _____

Checked by: Mell:ck **Date:** 6-19-19

Surveyed by _____

Date _____

Checked by _____

Date _____

NOTE: The column (R) is the elevation difference from the hub to the constructed ridge. The minimum ridge rod is the BM rod reading plus the value in (R).

I certify the information recorded on this sheet is a true representation of the actual practice installation and the practice as installed does () or does not () meet NRCS plans and specifications.

Certified by _____

Date _____

NRCS Rep. _____

Date _____

Benchmark Desc:

BS _____ HI _____ FS _____ BM Elev: 0.00

BS _____ HI _____ FS _____ Elev:

Strip. Vol. (cy): 231.8

Total Fill (cy): 1227.6

Total Cut (cy): 245.7

Total Length 240.0
(ft):

Strip. Depth 6.0
(in):

Flagline Loc: RIDGE_CENTER

Design Water 1213.1
Elev:

BM - Des. -1213.1
Water:

DOWE BASIN noTree Profile

Station	FLAG NUMBER	Ref. Elevation (ft)	Channel Elevation (ft)	Channel C/F	Ridge Elev. (ft)	Ridge C/ F	Bottom Width (ft)	Drain/ Block Info	Channel	Ridge Shots	(R) Add to hub rod
0+10.0		1214.3	1214.1	0.2C	1215.1	0.8F	0.0				-1215.1
0+50.0		1211.0	1212.0	1.0F	1214.3	3.3F	0.0				-1214.3
1+00		1207.5	1208.0	0.5F	1214.4	6.9F	0.0				-1214.4
1+33.0		1204.5	1206.5	2.0F	1214.6	10.1F	0.0	1+33.0			-1214.6
1+50.1		1207.3	1207.4	0.1F	1214.4	7.1F	0.0				-1214.4
2+00.1		1210.6	1210.6	0.0C	1214.3	3.6F	0.0				-1214.3
2+50.0		1213.3	1213.2	0.1C	1214.2	0.9F	0.0				-1214.2

Note: Ridge and Channel Cut/Fill values are relative to ground elevation at reference line.

Terrace Construction Summary Sheet

Project Name: 2019 Basin REDO, Dowe_Basin_Iltry

Location: _____

Project Description: _____

Practice: 410

Designed by: moyloe

Checked by: Melnick

Date: _____

Date: 6-20-19

Terraces											
Terrace	Type	Reach	Cut Slope	Bottom Width	Front Slope	Top Width	Back Slope	Strip. Vol.	Fill Vol.	Layout Length	Constr. Length
DOWE B1	*NarrowBase	0+10.0 - 2+50.0	5.0 : 1	0.0	2.5 : 1	8.0	2.5 : 1	231.8	1227.6	240.0	
Totals								231.8	1227.6	240.0	

Front heights may vary throughout a Terrace

All Stripping Volumes based on 6.0 inch stripping depth

Survey Control Points				
Point	Northing	Easting	Elevation	Description

*The construction checkout information shown on this sheet is a true representation of the actual construction performed.
 This practice was installed in accordance with NRCS plans and specifications.*

Certified by: _____ Date _____

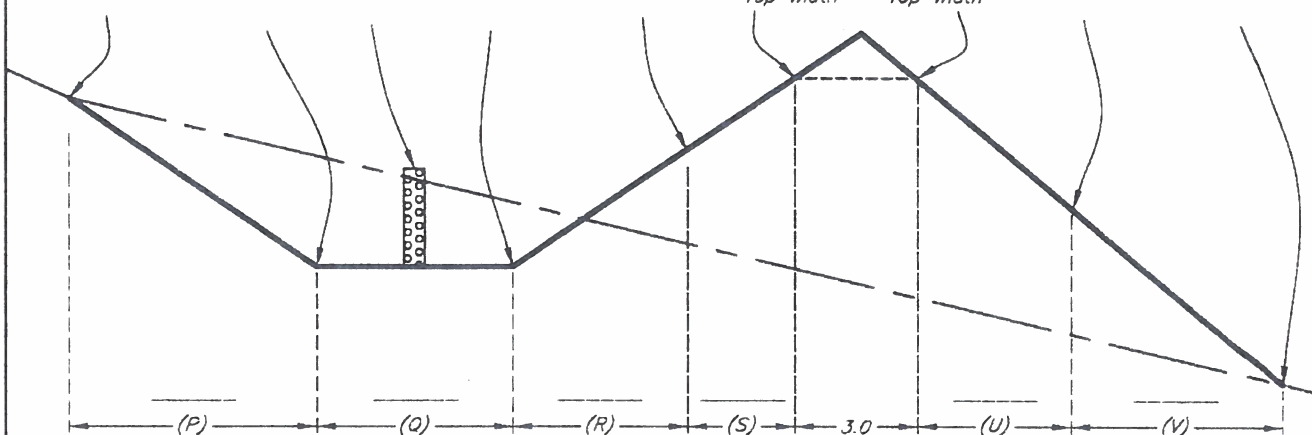
NRCS Representative: _____ Date _____

Terrace Cross Section Checkout Sheet

Landowner/Project: _____ Survey By: _____ Date: _____

Terrace: _____ Intake #/Station: _____ EIM ID: _____ BM Elev. _____ Shot on BM: _____ H.I. _____

(A) _____	(B) _____	(C) _____	(D) _____	(E) _____	(F) _____	(G) _____	(H) _____	(I) _____
Cut Slope Daylight	Upstream Channel Edge	Top of Intake	Front Slope Toe	Mid Front Slope	Front Slope shoulder @ Top Width	Back Slope shoulder @ Top Width	Mid Back Slope	Back Slope Toe

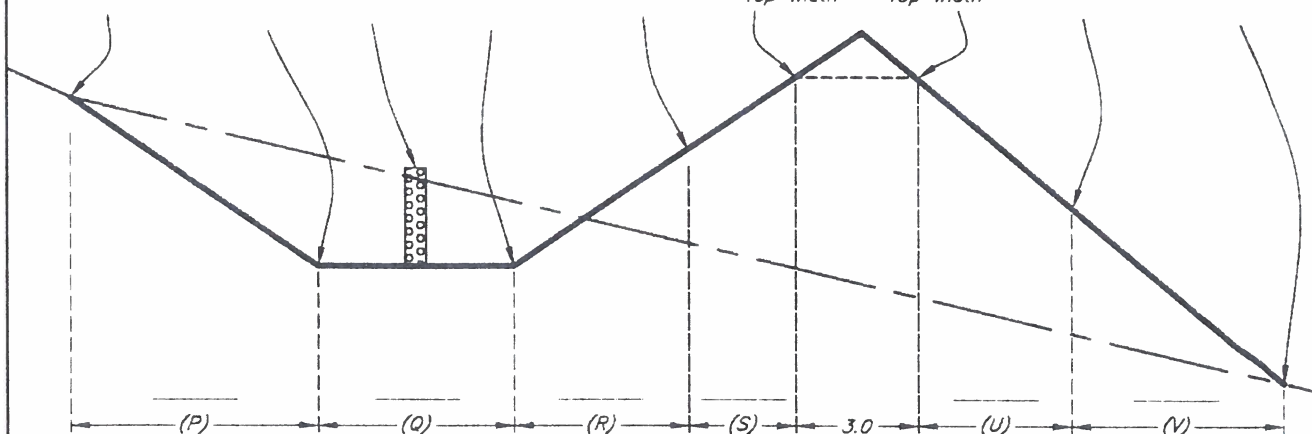


Actual Slope
Steepness Ratio
(Horizontal):1

$\frac{P}{(B-A)}$	$\frac{R}{(D-E)}$	$\frac{S}{(E-F)}$	$\frac{U}{(H-G)}$	$\frac{V}{(I-H)}$
-------------------	-------------------	-------------------	-------------------	-------------------

Terrace: _____ Intake #/Station: _____ BM ID: _____ BM Elev. _____ Shot on BM: _____ H.I. _____

(A) _____	(B) _____	(C) _____	(D) _____	(E) _____	(F) _____	(G) _____	(H) _____	(I) _____
Cut Slope Daylight	Upstream Channel Edge	Top of Intake	Front Slope Toe	Mid Front Slope	Front Slope shoulder @ Top Width	Back Slope shoulder @ Top Width	Mid Back Slope	Back Slope Toe



Actual Slope
Steepness Ratio
(Horizontal):1

$\frac{P}{(B-A)}$	$\frac{R}{(D-E)}$	$\frac{S}{(E-F)}$	$\frac{U}{(H-G)}$	$\frac{V}{(I-H)}$
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United States
Department of
Agriculture

Natural Resources
Conservation Service

Terrace Cross-Section Checkout Sheet

Carol Dowe, Basin_WW_2

33 Hesper

EFT Version 4.0.2.6

File Name

Basin_WW_2.xml

Drawing Name

Cross-Section Checkout

10/24/2018

Sheet _____ of _____

Seeding Plan

Name Carol Dowe Date 11/18 Tract No. 2378

 Field No. Constructed Waterways & Basin

 Contract No. _____

 Type of Seeding Critical Prepared by M Oyloe

*To figure Pure Live Seed (PLS) rates, multiply the percent purity by the percent germination. Divide the seeding rate by the percent PLS to find the bulk seed needed per acre.

For example, 98% purity X 60% germination = 0.588% PLS

 $10 \text{ lbs./acre} \div 0.588\% \text{ PLS} = 17 \text{ lbs./acre}$

Species	Acres	Lbs./Acre: Bulk or PLS (Circle One)	Total Needed
Brome	3	15 # Pounds	45#
Perennial Rye	3	5 # Pounds	15#
Red Clover	3	3.2 # Pounds	9.6#
		Pounds	
		Pounds	
Oats	3	1.5 Bushels Pounds	4.5BU

☐ Soil Amendments, based on recent soil test (less than 4 yrs. old)

☒ Soil Amendments based on generic recommendation

Apply soil amendments prior to seedbed preparation or before seeding, if a no-till drill is used.

Amendment	Rate/Acre	Acres	Total
Lime (ECCE)	3000	3	9000
Nitrogen	0		
Phosphate (P ₂ O ₅)	100-200	3	300-600
Potash (K ₂ O)	50-100	3	150-300

Establishment Method: No-Till _____ Conventional X Frost _____ Dormant _____

Seeding Completion Date March1-May15 or Aug1-Sept15

Mulch Needed _____

Additional Seeding Criteria Clip nurse crop before heading out.

Seeding Complete by _____

 (Date)

(Producer's Signature)

(Date)

Field Office _____

Certified by _____

 (NRCS Representative)

12/12

Carol Dowe Sec. 33 Hesper Twp. Winneshiek Co.

[illegible]

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATIONS**

For

Julie Jevne

Winneshiek County, Iowa

List of Specifications

<u>Specification Number</u>	<u>Title</u>	<u>Pages</u>
IA-1	Site Preparation	1
IA-5	Pollution Control	2
IA-6	Seeding and Mulching for Cover	1
IA-11	Removal of Water	1
IA-21	Excavation	1
IA-23	Earthfill	3
IA-26	Topsoiling	1
IA-45	Plastic (PVC, PE) Pipe	4
IA-61	Rip Rap Rock	2

These specifications are part of the construction plans. The work shall be performed in accordance with the drawings and specifications unless otherwise approved, in writing, by NRCS. For items of work requiring NRCS inspection, it is the responsibility of the contractor to keep the local NRCS office informed of the progress of work so that timely inspections may be performed. Work installed without NRCS inspection will not be certified as meeting NRCS standards.

NATURAL RESOURCES CONSERVATION SERVICE CONSTRUCTION SPECIFICATION

IA-1 SITE PREPARATION

1. SCOPE

Site preparation work shall consist of clearing, grubbing, stripping, refuse removal, bank sloping and structure removal on the site as necessary to rid the site of all undesirable materials on or near the surface and prepare the site for the structure. All woody growth within the construction area shall be cleared and all stumps and roots one inch in diameter or larger shall be grubbed from the site. In addition, all areas within 25 feet of the footprint of the structure shall be cleared and grubbed except as directed by NRCS. The work shall also consist of the removal and disposal of structures (including fences) that must be removed to perform other items of work.

For wetland restoration, enhancement, or creation projects, the wetland area shall be disturbed as little as possible and existing naturally vegetated spillway areas shall not be disturbed.

2. FOUNDATION PREPARATION

The construction areas shall be stripped a minimum of 6 inches to remove all unsuitable materials such as organic matter, grasses, weeds, sod, debris, and stones larger than 6 inches in diameter.

In an earth embankment foundation area, all channel banks and sharp breaks shall be sloped to no steeper than 1.5 horizontal to 1 vertical.

The foundation area shall be thoroughly scarified before placement of fill material. The surface shall have moisture added or shall be compacted if necessary so that the first layer of fill material can be compacted and bonded to the foundation.

3. STRIPPED MATERIAL DISPOSAL

Suitable soil material shall be stockpiled for use as topsoil. The other stripped materials shall be buried, removed from the site, or disposed of as directed by the owner or NRCS. Whenever possible, material shall not be disposed of in the pool area created by the structure.

Stockpiled materials around a construction site should be placed so as not to hinder subsequent construction operations.

4. DISPOSAL OF REFUSE MATERIALS

Waste materials from clearing and structure removal shall be burned or buried at locations approved by the owner. Buried materials shall be covered with a minimum of 2 feet of earthfill. Whenever possible, material shall not be disposed of in any pool area created by the structure.

All refuse shall be disposed of in a manner which complies with all local and state regulations.

5. SALVAGE

Items to be salvaged shall be as shown on the drawings. Structures and fencing materials that are designated to be salvaged shall be carefully removed and neatly placed in the specified storage areas.

6. SPECIAL SPECIFICATIONS

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-5 POLLUTION CONTROL

1. SCOPE

The work shall consist of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air during construction operations.

2. MATERIALS

All materials furnished shall meet the requirements shown on the drawings or in the specifications.

3. EROSION AND SEDIMENT CONTROL MEASURES AND WORKS

The measures and works shall include, but are not limited to, the following:

Staging of Earthwork Activities: The excavation and moving of soil materials shall be scheduled so that areas unprotected from erosion will be minimized. These areas will be unprotected for the shortest time feasible.

Seeding: Structures and disturbed areas shall be seeded as soon as possible after construction is completed.

Temporary seedings may be used as an alternative to other stabilization measures as approved by NRCS.

Mulching: Construction areas that have been disturbed but have no construction activity scheduled for 21 days or more shall have erosion protection measures applied by the 14th day. This erosion protection may be mulching or other approved temporary measures. Construction areas shall not be left open during a winter shutdown period and shall be protected by mulching.

All seeding and mulching shall be completed in accordance with the seeding plan and Iowa Construction Specification IA-6, Seeding and Mulching for Protective Cover.

The following works may be temporary. If they are installed as a temporary measure, they shall be removed and the area restored to its original state when they are no longer needed or when permanent measures are installed.

Diversions: Diversions may be required to divert clean runoff water away from work areas and to collect runoff from work areas for treatment and safe disposition.

Stream Crossings: Culverts or bridges may be required where construction equipment must cross streams.

Sediment Basins: Sediment basins may be required to settle and filter out sediment from eroding areas to protect properties and streams below the construction site.

Sediment Filters: Straw bale filters, geotextile sediment fences, or other equivalent methods may be used to trap sediment from areas of limited runoff. Sediment filters shall be properly anchored to prevent erosion under them.

Waterways: Waterways may be required for the safe removal of runoff from fields, diversions, and other structures or measures.

4. CHEMICAL POLLUTION

The Contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to be used to dispose of chemical pollutants, such as drained lubricating or transmission oils, greases, soaps, concrete mixer wash water, asphalt, etc., produced as a by-product of the construction work. At the completion of the construction work, sumps shall be removed and the area restored without causing pollution.

Sanitary facilities such as chemical toilets or septic tanks shall not be placed adjacent to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water sources. At the completion of construction work, facilities shall be disposed of without causing pollution.

5. AIR POLLUTION

The burning of brush or trash or disposal of other materials shall adhere to local and state regulations.

Fire prevention measures shall be taken to prevent the start or the spreading of wild fires, which result from project work. Fire breaks or guards shall be constructed at locations shown on the drawings.

All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall insure safe operations at all times. If chemical dust suppressants are used, the material shall be a commercially available product specifically designed for dust suppression and the application shall follow manufacturer's requirements and recommendations. A copy of the product data sheet and manufacturer's recommended application procedures shall be provided to the Engineer five working days before use.

6. MAINTENANCE, REMOVAL, AND RESTORATION

All pollution control measures and works shall be adequately maintained in a functional condition as long as needed during the construction operation. All temporary measures shall be removed and the site restored to as near original conditions as practical.

7. SPECIAL SPECIFICATIONS

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-6 SEEDING AND MULCHING FOR PROTECTIVE COVER

1. SCOPE

The work shall consist of seeding, mulching, and fertilizing all disturbed areas and other areas as indicated on the drawings or otherwise designated.

2. SEEDBED PREPARATION AND APPLICATION

The entire area to be seeded shall be reasonably smooth and all washes and gullies shall be filled to conform to the desired cross-section before actual seedbed preparation is begun. At this stage of the operation, the required fertilizer and lime shall be applied uniformly and incorporated into the top 3 inches of the soil with suitable tillage equipment. The seedbed preparation operation shall be suspended when the soil is too wet or too dry. The seedbed shall be loosened to a depth of at least three inches.

On side slopes steeper than 2-1/2 horizontal to 1 vertical, the 3 inch minimum depth of seedbed preparation is not required, but the soil shall be worked enough to insure sufficient loose soil to provide adequate seed cover.

Unless otherwise specified, the seeding operation shall be performed immediately after preparation of the seedbed. The seed shall be drilled or broadcast by equipment that will insure uniform distribution of the seed.

3. MATERIALS

The seeding, fertilizing, and mulching requirements are as specified on Form IA-CPA-4.

Straw from cereal grains or hay will be used as mulching material. It shall be relatively free of weeds.

4. MULCH APPLICATION

The required mulching shall be performed as soon as possible after seeding unless otherwise specified. The mulch shall be applied uniformly over the area. The type and rate shall be as specified. When mulching is required, all areas seeded during any one day shall be mulched within 24 hours. The mulch may be spread by any means that results in a uniform cover.

The mulch shall be anchored. Anchoring of the mulch may be performed by a mulch anchoring tool or regular farm disk weighted and set nearly straight, by installation of mulch netting, or by other methods approved by NRCS.

5. SPECIAL SPECIFICATIONS

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-11 REMOVAL OF WATER

1. SCOPE

The work shall consist of the removal of surface water and ground water as needed to perform the required construction in accordance with the plans and specifications.

2. DIVERTING SURFACE WATER

The Contractor shall build, maintain and operate all cofferdams, channels, diversions, flumes, sumps, and other temporary protective works needed to divert surface water away from the construction site while construction is in progress.

3. DEWATERING THE CONSTRUCTION SITE

Foundations, cutoff trenches, borrow areas and other parts of the construction site shall be dewatered as needed for proper execution of the construction work. The Contractor shall furnish, install, operate and maintain all works and equipment needed to perform the dewatering.

4. EROSION AND POLLUTION CONTROL

Removal of water from the construction site, including the borrow areas shall be accomplished in such a manner that erosion and the transmission of sediment and other pollutants are minimized.

5. REMOVAL OF TEMPORARY WORKS

After temporary works have served their purposes and before the Contractor leaves the site, they shall be removed.

6. SPECIAL SPECIFICATIONS

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-21 EXCAVATION

1. SCOPE

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials. The cutoff trench and any other required excavations shall be dug to the lines and grades shown on the drawings or as staked in the field. Structure or trench excavations will conform to all safety requirements of OSHA.

2. USE OF EXCAVATED MATERIALS

Suitable materials from the specified excavations shall be used in the construction of required permanent earth fill. The suitability of materials for specific purposes shall be determined by the NRCS Inspector.

3. DISPOSAL OF WASTE MATERIAL

All surplus or waste material shall be disposed of in areas shown on the drawings or as approved by the NRCS Inspector. The waste material shall be smoothed and sloped to provide drainage.

4. STRUCTURE AND TRENCH EXCAVATION

Structure or trench excavations will conform to all safety requirements of OSHA.

5. BORROW EXCAVATION

When the quantities of suitable materials obtained from specified excavations are insufficient to construct the specified fills, additional materials shall be obtained from the designated borrow areas as shown on the drawings or as approved by NRCS and the landowner. On wetland projects, borrow shall not be taken from the wetland area within 10 feet of the embankment or as shown on the drawings.

Borrow areas shall be excavated and grading completed in a manner to eliminate steep or unstable side slopes or hazardous or unsightly conditions.

6. OVER-EXCAVATION

Excavation beyond the specified lines and grades shall be corrected by filling the resulting voids with compacted earthfill, except that if the earth is to become the subgrade for riprap, sand or gravel bedding or drainfill, the voids shall be filled with material conforming to the specifications for the riprap, bedding or drainfill, as appropriate.

7. SPECIAL SPECIFICATIONS

NATURAL RESOURCES CONSERVATION SERVICE CONSTRUCTION SPECIFICATION

IA-23 EARTHFILL

1. SCOPE

The work shall consist of the construction of earth fills required by the drawings and specifications. The completed work shall conform to the lines, grades, and elevations shown on the drawings or as staked in the field.

2. MATERIALS

All fill materials shall be obtained from required excavations and designated borrow areas. Fill materials shall contain no sod, brush, roots or other bio-degradable materials. Rocks larger than 6 inches in diameter shall be removed prior to compaction of the fill.

3. FOUNDATION PREPARATION

Foundations for earthfill shall be stripped a minimum of 6 inches to remove vegetation and other unsuitable materials. Foundation surfaces shall be scarified to a minimum depth of 2 inches prior to placing fill material.

Foundation and abutment surfaces shall not be sloped steeper than 1.5 horizontal to 1 vertical unless otherwise shown on the drawings.

4. PLACEMENT

Fill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by NRCS. Fill shall not be placed upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.

Adjacent to structures or pipes, fill shall be placed in a manner which will prevent damage. The height of the fill adjacent to structures or pipes shall be increased at approximately the same rate on all sides.

The materials used throughout the earth fill shall be essentially uniform. Selective placement shall be as shown on the drawings or approved by NRCS.

If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified to a minimum depth of 2 inches before the next layer is placed.

The top surfaces of embankments shall be maintained approximately level during construction, except that a cross-slope of approximately 2% shall be maintained to ensure effective drainage.

When moving fill material from the borrow area(s) to the embankment by use of bulldozers only, the following steps shall be followed:

- Immediately after the borrow material is pushed to the embankment, it shall be spread in horizontal lifts placed parallel to the centerline of the embankment.
- Compactive effort will then be applied by operating equipment parallel to the centerline of the fill or embankment.
- Lift thicknesses shall be in strict compliance with Clause 6, below.

Sectional fills are not allowed unless they are shown on the construction drawings.

5. CONTROL OF MOISTURE CONTENT

The moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall have water added and mixed until the requirement is met.

The moisture content of the fill material shall be such that a ball formed with the hands does not crack or separate when struck sharply with a pencil and will easily ribbon out between the thumb and finger.

Earth foundations under and adjacent to concrete structures shall be prevented from drying and cracking before concrete and backfill are placed.

The application of water to the fill materials shall be accomplished at the borrow areas insofar as possible.

6. COMPACTION

Earth fill shall be compacted by one of the following methods as specified on the plans or in Section 8, Special Specifications. If no method is specified, compaction will be in accordance with Method 1.

- Method 1 - Earthfill shall be placed so that the wheels or tracks of the loaded hauling equipment, traveling in a direction parallel to the centerline of fill, pass over the entire surface of each layer being placed. Low ground pressure vehicles shall not be used for this purpose.
- Method 2 - Two (2) complete passes of a tamping-type roller will be made over each layer. The roller shall be capable of exerting a minimum force of two hundred (200) pounds per square inch.
- Method 3 - Minimum density shall be 90% of the maximum density as determined by ASTM D 698 and as shown on the plans.

The maximum thickness of a lift of fill before compaction shall be 9 inches, unless otherwise indicated on the drawings.

Fill adjacent to structures, pipe conduits, and appurtenances shall be placed in layers not more than 4 inches thick and compacted to a density equivalent to that of the surrounding fill. Methods used to obtain compaction for fine or coarse grained materials are as follows:

- For fine grained materials, hand tamping or manually directed power tampers may be used. Hand compaction only shall be used to compact the earthfill under the bottom half of circular pipes. Manually directed power tampers shall not be used in tight spaces where applying full compactive effort will result in direct contact of the tamper plate with the pipe. Care should be taken so that compaction around the spillway pipe does not cause uplift of the pipe resulting in a void beneath the pipe.
- For coarse grained materials (sands and gravels), vibratory plate compactors shall be used for obtaining compaction. However, hand tamping shall be used to compact the material under the bottom half of circular pipes.

In all cases, follow manufacturer instructions for the specific compaction equipment being used. Heavy equipment shall not be operated within 2 feet of any structure or pipe.

Compacting of fill adjacent to concrete structures shall not be started until the concrete is 7 days old.

7. ISLANDS, MOUNDS, AND LOAFING AREAS ON WETLAND RESTORATION, ENHANCEMENT, OR CREATION PROJECTS

Islands shall be randomly located within the wetland area at locations shown on the drawings or as staked in the field. The orientation of island shorelines shall be random with attention given to prevailing winds to limit wave damage. In general, the side of the island with the longest dimension shall be parallel to the prevailing wind direction. Side slopes of islands shall be as shown on the drawings, but in no case shall be steeper than 6 horizontal to 1 vertical. Island shapes shall be irregular.

Loafing areas shall be constructed in the areas shown on the drawings or as staked in the field and shall be graded to drain runoff water. The elevation of at least one loafing area should be above the maximum water level whenever possible.

Excavated material not suitable for embankments, wetland dikes, or islands can be used to create mounds or blended into surrounding topography to create a natural appearance. Spoil material shall not be spread on existing wetland areas.

Organic soils shall not be used to construct islands, loafing areas, dikes, or embankments.

8. SPECIAL SPECIFICATIONS

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-26 TOPSOILING

1. SCOPE

The work shall consist of salvaging topsoil from borrow areas or required excavations and spreading it on the exposed disturbed areas.

2. QUALITY OF TOPSOIL

Topsoil shall consist of friable surface soil reasonably free of grass, roots, weeds, sticks, stones, or other foreign materials.

3. EXCAVATION

After the site has been cleared and grubbed, the topsoil shall be removed from borrow areas and required excavation areas to the depth as shown on the drawings. Topsoil shall be stockpiled at locations approved by NRCS.

4. SPREADING

Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Surfaces designated to be covered shall be lightly scarified just prior to the spreading operation. Where compacted fills are designated to be covered by topsoil, the topsoil shall be placed concurrently with the fill and shall be bonded to the compacted fill with the equipment.

Topsoil shall be placed to the minimum depth shown on the drawings. After the spreading operation is completed, the surface shall be finished to a reasonably smooth surface.

5. SPECIAL SPECIFICATIONS

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-45 PLASTIC (PVC, PE) PIPE

1. SCOPE

The work shall consist of furnishing and installing plastic pipe and the necessary fittings specified herein or as shown on the drawings. This specification does not cover subsurface drainage systems.

2. MATERIALS

Corrugated Polyethylene (PE) Tubing. Corrugated PE tubing and fittings shall conform to the requirements of the applicable specification listed below:

<u>Kind of Pipe</u>	<u>Specification</u>
Corrugated Polyethylene(PE) Tubing and Fittings, Nominal Sizes 3 to 6 inch, inclusive	ASTM F 405
Large Diameter Corrugated Polyethylene Tubing and Fittings, Nominal Sizes 8 to 24 inch, inclusive	ASTM F 667
Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe	ASTM F 894

Poly(Vinyl Chloride) (PVC) Plastic Pipe. PVC pipe and fittings shall conform to the requirements of the applicable specification listed below:

<u>Kind of Pipe</u>	<u>Specification</u>
PVC Plastic Pipe, Schedules 40, 80 and 120.....	ASTM D 1785
PVC Pressure-Rated Pipe (SDR Series)	ASTM D 2241
PVC Pressure Pipe, 4 in. through 12 in., for Water Distribution	AWWA C900
PVC Water Transmission Pipe, Nominal Diameters 14 in through 36 in.	AWWA C905

PVC and PE Plastic Pipe. Plastic pipes meant for non-potable, livestock water supply shall conform to the requirements of the applicable specification listed below:

<u>Kind of Pipe</u>	<u>Specification</u>
Polyethylene (PE) Plastic Pipe, (SDR-PR) Based on Controlled Inside Diameter.....	ASTM D 2239
PVC Pressure-Rated Pipe (SDR Series)	ASTM D 2241

3. FITTINGS AND JOINTS

Pipe joints shall conform to the details shown on the drawings. Pipe shall be installed and joined in accordance with the manufacturer's recommendations.

Joints may be bell and spigot type with elastomeric gaskets, coupling type with elastomeric gasket on each end, or solvent cemented. Gaskets shall conform to ASTM D 1869. Solvent cemented joints shall not be used for pond spillway pipes. Solvent cemented joints for PVC pipe and fittings shall be in accordance with ASTM D 2855. When a lubricant is required to facilitate joint assembly, it shall be a type having no detrimental effect on the gasket or pipe material.

Mechanical joints (split couplings and snap couplings) may be used when joining PE pipe and fittings when the pipe is used for non-pressure flow and a free draining sand or gravel bedding material is provided. Elastomeric-sealed mechanical joints shall be used when joining PE pipe and

fittings under pressure flow or where seepage cannot be tolerated. Where non-pressure pipe is specified, the fittings shall be of the same or similar materials as the pipe and shall provide the same durability and strength as the pipe.

A special case of livestock water supply involves pipes through a dam or embankment. Only PE pipe meeting the above specification may be used. PE pipe, of 1 ¼, 1 ½, or 2-inch diameter shall be installed so that there are no joints within the embankment area.

Where pressure pipe is specified, fittings shall have a design capacity equal to or exceeding that specified for the pipe to which it is attached. Fittings shall be cast iron, steel, one piece injection molded plastic fitting or fabricated from plastic pipe and one piece injection molded plastic fittings. Pressure pipe fittings shall conform to the requirements of the applicable specification listed below.

<u>Kind of Fitting</u>	<u>Specification</u>
Threaded PVC Plastic Pipe Fittings, Schedule 80.....	ASTM D 2464
PVC Plastic Pipe Fittings, Schedule 40.....	ASTM D 2466
PVC Plastic Pipe Fittings, Schedule 80.....	ASTM D 2467
Butt Heat Fusion (PE) Plastic Fittings for PE Plastic Pipe and Tubing	ASTM D 3261
Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals	ASTM D 3139
PVC Pressure Pipe, 4 in. through 12 in., for Water Distribution	AWWA C900
PVC Water Transmission Pipe, Nominal Diameters 14 in through 36 in.....	AWWA C905

4. HANDLING AND STORAGE

Pipe shall be delivered to the job site and handled by means which provide adequate support to the pipe and does not subject it to undue stresses or damage. When handling and placing plastic pipe, care shall be taken to prevent impact blows, abrasion damage, and gouging or cutting (by metal surfaces or rocks). All special handling requirements of the manufacturer shall be strictly observed. Special care shall be taken to avoid impact when the pipe must be handled at temperatures of 40 degrees F (4.4 degrees C) or less.

Pipe shall be stored on a relatively flat surface so that the barrels are evenly supported. Unless the pipe is specifically coated to withstand exposure to ultraviolet radiation, it shall be covered with an opaque material when stored outdoors for a period of 15 days or longer.

5. TRENCHING

Plastic pipe conduits shall be installed in trenches or plowed in according to the following methods:

- A. **Trencher Constructed** - When conditions permit, trenching for pipelines, which are buried from 5 to 6 feet deep, are usually done with a narrow 4 to 6 inch wide chain trencher. Where there is little gravel and the ground is not too wet, these trenchers bring up well pulverized soil that makes good backfill material. Where rocks are not present, any of this material may be backfilled directly around the pipe. There is no practical way to compact the fill in these narrow trenches. The owner must be made aware that this material normally consolidates to its maximum extent in two to five years, but depressions or low spots can be hazards to livestock, humans and equipment.
- B. **Backhoe Constructed Trench** – Backhoe trenches are usually a minimum of 12 inches wide. The material frequently comes out of the trench as clods, large chunks, and rocks. Immediately backfill over the pipe with 4 to 6 inches of soil that is free of these clods, large chunks, and rocks. If adequate excavated material is not available, then material such as sand or fine gravel should be imported and placed around the pipe to a depth of 4 to 6 inches over the top of the pipe. Fill the trench with the remaining excavated material.

- C. **Plowing** – Plowing, or ripping, is a trenchless method for installing plastic pipe. It is a multi-stage process consisting of positioning a vibrating or static (non-vibrating) plow equipped with a trailing product guide which feeds pipe to the depth setting of the plow as it moves forward. The pipe is inserted into the ground continuously along a predetermined path and depth. The vertical depth of installation is controlled by hydraulic adjustment of the plow shear head and the surface contours. The depth of insertion must be continually adjusted to compensate for changes in terrain.

6. LAYING AND BEDDING THE PIPE

Plastic pipe conduits and fittings shall be installed as shown on the drawings and specified herein. The pipe shall be laid so that there is no reversal of grade between joints, unless otherwise shown on the drawings. The pipe shall be placed with the bell end upstream, unless otherwise specified. The pipe shall be carefully placed on the bedding or into the pipe trench.

Care shall be taken to prevent distortion and damage during unusually hot (over 90 degrees F) or cold weather (under 40 degrees F). After the pipe has been assembled in the trench, it shall be allowed to reach ground temperature before backfilling to prevent pull out of joints due to thermal contraction.

The pipe ends and the couplings shall be free of foreign material when assembled. During the placement of the pipe, each open end of the pipeline shall be closed off by a suitable cover or plug at the end of work on the pipeline each day and until work resumes or installation is complete.

Perforated pipe shall be laid with the perforations down and oriented symmetrically about the vertical centerline. Perforations shall be clear of any obstructions when the pipe is laid.

Pipe shall be firmly and uniformly supported throughout the entire length. Bell-holes shall be made in the bedding under bells or couplings and other fittings to prevent the pipe from being supported by fittings.

- a. Earth Bedding. When bedding is specified, the pipe shall be firmly and uniformly bedded in a shaped bedding groove that closely conforms to the bottom of the pipe for a depth equal to a minimum of 1 inch or 5 percent of the diameter of the pipe, whichever is greater. The bedding material shall be free of rocks or stones greater than 0.5 inch diameter and earth clods greater than 2 inch diameter.
- b. Sand or Gravel Bedding. When sand or gravel bedding is specified, the pipe shall be firmly and uniformly placed on a sand or gravel bed. Sand or gravel fill shall be carefully placed and compacted as specified herein and as shown on the drawings.

A few installations of above ground pipelines have been noted. These installations are normally laid directly on the ground and very close to an existing fence line for protection. Only those pipelines designed to withstand exposure to ultraviolet radiation may be utilized for these installations. Adequate thrust control shall be incorporated in these installations.

7. BACKFILL

The pipe shall be held down during backfilling to the top of the pipe to prevent its being lifted from its original placement.

Within 2 feet of the pipe, backfill shall be carefully placed and compacted by means of hand tamping or manually directed power tampers or plate vibrators to form a continuous uniform support around the pipe. Maximum thickness of layers before compaction within 2 feet of the pipe shall be 4 inches and at more than 2 feet from the pipe a maximum thickness before compaction shall be 9 inches. Unless otherwise specified, the initial backfill shall be compacted to a density equivalent to that of the adjacent fill or foundation materials.

The water content of cohesive backfill material shall be such that, kneaded in the hand, the soil will form a ball which does not readily separate. For non-cohesive sand and gravel backfill material, water content is not a concern for thin lifts.

8. SPECIAL SPECIFICATIONS

NATURAL RESOURCES CONSERVATION SERVICE CONSTRUCTION SPECIFICATION

IA-61 LOOSE ROCK RIPRAP

1. SCOPE

The work shall consist of the construction of loose rock riprap revetments, structures and blankets, including filter layers or bedding where specified.

2. MATERIALS

Rock for loose rock riprap, filter layers or bedding shall come from sources approved by NRCS. The rock shall be excavated, selected and handled as necessary to meet the quality and grading requirements of this specification and the construction drawings.

Individual rock fragments shall be dense, sound and free from cracks, seams and other defects conducive to accelerated weathering. The rock fragments shall be angular to sub rounded in shape. The least dimension of an individual rock fragment shall not be less than 1/3 the greatest dimension of the fragment unless otherwise specified on the construction drawings.

3. SUBGRADE PREPARATION

The subgrade surfaces on which the riprap or bedding is to be placed shall be cut or filled and graded to the lines and grades shown on the drawings. When fill to subgrade lines is required, it shall consist of approved materials and shall be compacted to a density equal to the adjacent existing soil material.

Rock materials shall not be placed until the foundation preparation is completed and the subgrade surfaces have been inspected and approved by NRCS.

4. EQUIPMENT-PLACED ROCK RIPRAP

Rock shall be placed by equipment on the surfaces and to the depths specified. The riprap shall be constructed to the full thickness in one operation and in such a manner as to avoid serious displacement of the underlying materials. The rock shall be delivered and placed in a manner that will insure that the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact, one to another, with the smaller rocks and spalls filling the voids between the larger rocks. Placement of rock shall begin at the bottom of the slope or downstream end of the structure.

Riprap shall be placed in a manner to prevent damage to structures. Hand placing will be required to the extent necessary to prevent damage to adjacent structures.

5. HAND-PLACED RIPRAP

Rock shall be placed by hand on the surfaces and to the depths specified. It shall be securely bedded with the larger rocks firmly in contact, one to another. Spaces between the larger rocks shall be filled with smaller rocks and spalls. Smaller rocks shall not be grouped as a substitute for larger rock. Flat slab rock shall be laid on edge unless otherwise specified. Placement of rock shall begin at the bottom of the slope or downstream end of the structure.

6. FILTER LAYERS OR BEDDING

When the drawings specify filter layers or bedding beneath riprap, the filter or bedding material shall be spread uniformly on the prepared subgrade surfaces to the depth specified. Compaction of filter layers or bedding will not be required, but the surface of such layers shall be finished reasonably free of mounds, dips or windrows.

NATURAL RESOURCES CONSERVATION SERVICE CONSTRUCTION SPECIFICATION

IA-412 GRASSED WATERWAYS

1. SCOPE

The work consists of all excavations, shaping, grading, and earthfill required to construct the waterways as shown on the drawings or as staked in the field. It is the land user's responsibility to locate any existing tile that may be under, along, or crossing the waterways prior to construction. The NRCS is not responsible for any tile damaged during construction.

2. MATERIALS

The earth materials used in constructing the earthfill portions of the waterways shall be suitable material obtained from the waterway channel or other approved sources. The fill material shall be free from brush, roots, frozen material, sod, stones over 6 inches in diameter, or other objectionable material.

3. FOUNDATION PREPARATION

All trees, stumps, brush and debris shall be removed from the site and disposed of so that they will not interfere with construction or proper functioning of the waterway. In fill sections, trees and stumps may be sawed off at a height not exceeding 6 inches above natural ground, provided that the final grade is four feet or more above the top of the stumps.

4. PLACEMENT

Fill will not be placed until the required foundation preparation is complete. Smooth surfaces where fill material is to be placed shall be scarified to insure bonding. Fill shall not be placed upon a frozen surface.

Fill will be placed in approximately uniform horizontal layers of not more than 9 inches in thickness. The moisture content of the material shall be sufficient to obtain firm and suitable compaction. Compaction shall be obtained by routing the hauling and spreading equipment over the fill in such a manner that the entire surface of each layer will be traversed by not less than one tread track of the loaded equipment, or equivalent methods approved by the inspector.

5. EXCAVATION

Excavation shall be to the lines and grades shown on the drawings or staked in the field. All surplus and unsuitable excavated materials will be disposed of at locations shown on the drawings or at locations approved by the inspector. Spoil shall not be placed where it will block the flow of water into the waterway, except as shown on the plan for the construction of temporary diversions.

Where infertile subsoil will be exposed by construction operations, topsoil shall be stripped, stockpiled, and spread on infertile areas after excavation is completed. Areas to be topsoiled shall be undercut so that the finished surface is a design grade after topsoiling is complete.

The area adjacent to the upper end of the waterway shall be graded to divert upper watershed flows into the newly constructed waterway. The outlet end of the waterway shall be left in a stable condition after construction is complete.

6. DIVERSIONS

Temporary or permanent diversions shall be constructed as shown on the plans or staked in the field.

Temporary diversions constructed around the top and sides of the waterway to divert runoff water from the new grass seeding shall be removed following seeding establishment. Spoil from this operation shall not permanently block runoff from adjacent land from entering the waterway and may be placed to help ensure runoff enters the waterway in the future.

7. TOLERANCES

The waterway shall be constructed to the specified width, depth, and grade. The constructed waterway shall present a workmanlike finish with uniform grades and cross sections.

The quarter points of a parabolic waterway shall be constructed to the required elevation plus or minus 10% of the depth. For example, if the waterway has a depth of 1.0 ft., the tolerance is plus or minus 0.1 ft.

The side slopes of a trapezoidal waterway shall be constructed to the required slope plus or minus 10% of the slope when expressed as a ratio $xH:1V$. For example, if the required side slope is $8H:1V$, the tolerance is plus or minus 0.8 and the constructed side slope shall be in the range of $7.2H:1V$ to $8.8H:1V$.

Depth shall be measured at one-half the design width from the centerline at the lowest side of the waterway.

In addition to the tolerances stated above, Case 1 shall apply unless Case 2 is specified in Section 9, Additional Requirements. In all cases, no flat or reverse grades will be allowed.

Case 1: The center of parabolic waterways and the bottom of trapezoidal waterways shall be constructed to the required elevations with allowable tolerances as follows:

- For waterway slopes 1.5% or less: plus or minus 0.1 ft.
- For waterway slopes greater than 1.5%: plus or minus 0.2 ft.

Case 2 (Applies only to waterways with grades over 1.5%): Each reach of the grassed waterway shall be constructed to the specified depth and grade, with allowable tolerances as follows:

- The constructed depth plus or minus 0.2 ft.
- The constructed grade plus or minus 10% of the design grade. For example, if the waterway reach has a design grade of 3%, the tolerance is plus or minus 0.3% and the constructed grade shall be within the range of 2.7-3.3%.

8. SEEDING

A protective cover of vegetation shall be established on all surfaces of the areas disturbed by construction as shown on the plans or staked in the field. Seeding and mulching shall be performed in accordance with the IA-CPA-4, Seeding Plan, and Construction Specification IA-6, Seeding and Mulching for Protective Cover.

9. ADDITIONAL REQUIREMENTS