Dane County Contract Cover Sheet

Res 177

Revised 01/2022

Dept./Division	LWRD/Parks		
Vendor Name	Ducks Unlimited	**MUNIS #**	33117
Brief Contract Title/Description	Grant for wetland restoration at Walking Iron Wildlife Area.		
Contract Term	9-1-2022 to 11-1-2023		
Contract Amount	$65,000		

Contract # Admin will assign	14832
Type of Contract	
☐	**Dane County Contract**
☐	**Intergovernmental**
☐	**County Lessee**
☐	**County Lessor**
☐	**Purchase of Property**
☐	**Property Sale**
■	**Grant**
☐	**Other**

Department Contact Information	
Name	Janet Crary
Phone #	224-3730
Email	crary@countyofdane.com
Purchasing Officer	Carmen Hidalgo

Vendor Contact Information	
Name	Brian Glenzinski
Phone #	262-347-6962
Email	bglenzinski@ducks.org

Purchasing Authority		
☐	**$11,000 or under – Best Judgment** (1 quote required)	
☐	**Between $11,000 – $40,000 ($0 – $25,000 Public Works)** (3 quotes required)	
☐	**Over $40,000 ($25,000 Public Works)** (Formal RFB/RFP required)	**RFB/RFP #**
☐	**Bid Waiver – $40,000 or under** ($25,000 or under Public Works)	
☐	**Bid Waiver – Over $40,000** (N/A to Public Works)	
☐	**N/A – Grants, Leases, Intergovernmental, Property Purchase/Sale, Other**	

MUNIS Req.					
Req #	**Org:** CPLWRESC	**Obj:** 51305	**Proj:**	$ 65,000.00
	Org: CPLWRESC	**Obj:** new rev	**Proj:**	$ 65,000.00
Year	**Org:**	**Obj:**	**Proj:**	

Budget Amendment	
☐	A Budget Amendment has been requested via a Funds Transfer or Resolution. Upon addendum approval and budget amendment completion, the department shall update the requisition in MUNIS accordingly.

Resolution Required if contract exceeds $100,000 ($40,000 PW)			
☐	Contract does not exceed $100,000 ($40,000 Public Works)		
☐	Contract exceeds $100,000 ($40,000 Public Works) – resolution required.	**Res #**	177
■	A copy of the Resolution is attached to the contract cover sheet.	**Year**	2022

CONTRACT MODIFICATIONS – Standard Terms and Conditions		
☐ No modifications.	☐ Modifications and reviewed by:	☑ Non-standard Contract

APPROVAL	
Dept. Head / Authorized Designee	
Hicklin, Laura	Digitally signed by Hicklin, Laura Date: 2022.08.23 14:44:06 -05'00'

APPROVAL – Contracts Exceeding $100,000	
Director of Administration	**Corporation Counsel**

APPROVAL – Internal Contract Review – Routed Electronically – Approvals Will Be Attached		
DOA:	**Date In:** 8/26/22 **Date Out:** _____	☒ Controller, Purchasing, Corp Counsel, Risk Management

Goldade, Michelle

From: Goldade, Michelle
Sent: Tuesday, August 30, 2022 11:12 AM
To: Hicklin, Charles; Hidalgo, Carmen; Gault, David; Lowndes, Daniel
Cc: Stavn, Stephanie; Oby, Joe
Subject: Contract #14832
Attachments: 14832.pdf

Tracking:

Recipient	Read	Response
Hicklin, Charles	Read: 8/30/2022 11:54 AM	Approve: 8/30/2022 11:54 AM
Hidalgo, Carmen	Read: 8/30/2022 11:22 AM	Approve: 8/30/2022 11:23 AM
Gault, David	Read: 8/30/2022 1:40 PM	Approve: 8/30/2022 1:45 PM
Lowndes, Daniel		Approve: 8/30/2022 1:08 PM
Stavn, Stephanie	Read: 8/30/2022 2:52 PM	
Oby, Joe		

Please review the contract and indicate using the vote button above if you approve or disapprove of this contract.

Contract #14832
Department: Land & Water Resources/Parks
Vendor: Ducks Unlimited
Contract Description: Accept WI DNR Waterfowl Stamp Grant Sub-award from Ducks Unlimited (Res 177)
Contract Term: 9/1/22 – 11/1/23
Contract Amount: $65,000

Michelle Goldade
Administrative Manager
Dane County Department of Administration
Room 425, City-County Building
210 Martin Luther King, Jr. Boulevard
Madison, WI 53703
PH: 608/266-4941
Fax: 608/266-4425
TDD: Call WI Relay 711

Please Note: I currently have a modified work schedule...I am in the office Mondays and Wednesdays and working remotely Tuesdays, Thursdays and Fridays in accordance with COVID 19 response guidelines.

2022 RES-177

ACCEPTANCE OF A WDNR WATERFOWL STAMP GRANT SUB-AWARD FROM DUCKS UNLIMITED INC

The Land & Water Resources Department has secured a $65,000 grant from Ducks Unlimited Inc. as a sub-award of a Wisconsin Department of Natural Resources Waterfowl Stamp Grant.

The purpose of the grant is to conserve wetland and associated upland for the benefit of migrating waterfowl, shorebirds and other wildlife.

The restoration funds will be used for a large wetland and prairie restoration project in the Walking Iron Wildlife Area in the Town of Mazomanie. The project includes creating waterfowl scrapes, filling ditches and seeding the project area with native prairie and wetland.

The project has many water quality benefits, including allowing the water to filter through the wetland before it eventually enters the Wisconsin River, increasing groundwater recharge and providing excellent waterfowl and pheasant hunting habitat

THEREFORE, BE IT RESOLVED, that the County Board of Supervisors and the Dane County Executive hereby accept the $65,000 in grant funds from Ducks Unlimited Inc.

BE IT FINALLY RESOLVED, that new revenue account CPLWRESC “Duck Stamp Grant” be established for $65,000 and CPLWRESC 51305 Walking Iron WLA Restoration Expense be increased $65,000. All Funds shall be carried forward until realized and expended.

DUCKS UNLIMITED 7322 Newman Boulevard, Building 1, Dexter, MI 48130-1557 (734) 623-2000 www.ducks.org

August 16, 2022

Ms. Joleen Stinson
Director, Dane County Parks
4318 Robertson Rd
Madison, WI 53718

RE: Dane County – Waterfowl Stamp Funds

Dear Ms. Stinson,

This letter acknowledges the commitment of Sixty-five Thousand Dollars ($65,000.00) cash by Ducks Unlimited, Inc. to Dane County in support of Walking Iron Wildlife Area wetland restoration north of Amenda Rd. These funds are derived from WDNR Waterfowl Stamp.

Payment will be made by Ducks Unlimited, Inc. upon acceptance of this letter agreement and fulfillment of the following terms:

- Award period September 1, 2022 – November 1, 2023
- All work must be performed in accordance with the relevant standards set forth in plan set included in exhibit A.
- Invoices to DU for completed work must include appropriate documentation of eligible expenses.
- Invoices and associated supporting documentation must be received by DU no later than December 1, 2023

Please review the terms of the letter agreement and sign below to indicate your acceptance. Upon execution, please return the signed original to Ducks Unlimited, Inc. and a fully executed copy will be returned.

Sincerely,

James A. Rader

James A. Rader
Director of Operation
Great Lakes/Atlantic Regio

ACCEPTED & AGREED – Dane County

_____
Joe Parisi – Dane County Executive

_____
Date of Signature

STANDARD CONSTRUCTION SPECIFICATIONS FOR WETLAND RESTORATION

DUCKS UNLIMITED

DUCKS UNLIMITED

GREAT LAKES/ATLANTIC REGIONAL OFFICE

SPECIAL PROVISIONS

ALL MATERIALS FOR WATER CONTROL STRUCTURE AND PIPES HAVE ALREADY BEEN PURCHASED BY USFWS. CONTRACTOR WILL ONLY BE BIDDING ON INSTALLATION.

201 MOBILIZATION

201.10 DESCRIPTION

The work shall include the supply of all labor, material and equipment to transport all needed labor, material and equipment to and from a project site to successfully complete that project as shown on the plans or described by the Engineer. When work consists of construction in a number of different locations at a given project site, mobilization shall include the transportation of the required labor, material and equipment between the various locations at the project site.

201.20 METHOD

The Contractor shall conduct all mobilization operations in a timely orderly, manner. Unless otherwise approved by the Engineer, mobilization operations shall commence no later than one week after the pre-construction meeting. Mobilization shall commence no later than one week after project completion and be finished within two weeks of project completion. During all operations, the Contractor is responsible for maintaining public and private property in original condition.

201.30 METHOD OF MEASUREMENT

Mobilization shall be included in the Lump Sum Bid

202 SITE PREPARATION

202.10 DESCRIPTION

This specification shall cover the supply of all labor, materials, and equipment required for clearing and grubbing, and site preparation. The work shall include:

a) Removal from site and disposal of all trees, roots, brush, stone, rubbish and all other surface litter in designated areas by burying or burning.

b) Coordination of necessary clearing and grubbing operations to allow timely completion of construction staking of a project.

c) Grubbing to remove grass and debris.

d) Stripping of six (6) inches of topsoil and re-spreading after construction is completed, unless otherwise specified on the plans.

e) Final cleanup of the site prior to demobilization will require the spreading and shaping of all materials stockpiled or moved to facilitate construction including but not limited to vegetative material.

202.20 CONSTRUCTION METHODS

Clearing shall consist of the cutting, removing, disposal and cleaning up of all timber, brush and fallen timber, stumps, shrubs, and rubbish. Trees and shrubs designated for preservation shall be marked and protected from scoring, barking or other injury during construction operations.

Grubbing shall consist of the removal and disposal of all roots, stumps, imbedded logs or objectionable debris to a depth of not less than twelve (12) inches below the original ground surface. Where no trees or brush exist, grubbing shall consist of removal of grass and debris prior to placement of fill material.

Topsoil stripping and stockpiling shall be performed for the footprint of all embankments and at the surface area of all pothole and channel excavations. Unless otherwise specified, upon completion of the construction, the stockpiled material shall be spread and finished to a reasonably smooth surface.

Trees, logs, stumps, brush and other debris shall be burned and buried or disposed of in areas designated by the Engineer. Areas such as borrows, pits, and excavations so designated shall be left in a neat and finished appearance free from debris. All materials disposed of shall be covered with clean fill and leveled in such a way as to promote drainage.

202.30 METHOD OF MEASUREMENT

Site preparation shall be included in the Lump Sum Bid and shall be considered incidental to the excavation, embankment, structure, and piping operations, and no measurement shall be made.

203 EXCAVATION

203.10 DESCRIPTION

This specification shall cover the supply of all labor, materials, and equipment required for the excavation, hauling and spreading of materials from within the limits of the cut area as shown on the plans, including but not limited to, excavation of designated areas; peninsula cutoffs; pothole and dugout construction; and key trench construction. The work shall include control of water during excavation, the shaping of slopes to the lines and grades shown on the drawings and the disposal of materials within designated areas. Unless otherwise specified, all material to be excavated shall be considered unclassified regardless of their nature or the manner in which they are removed.

203.20 CONSTRUCTION METHODS

203.21 SITE PREPARATION

Prior to any excavation, sites shall be cleared and grubbed with topsoil removed in accordance with the specification for **SITE PREPARATION.** Material cleared and grubbed shall be disposed of per the Engineer's directions. Topsoil removed shall be stockpiled and later re-spread on those areas at a thickness of six (6) inches, unless otherwise specified.

203.22 EXCAVATION

Excavation shall mean the removal of all materials encountered within the limits of excavation as shown on the drawings or as staked by the Engineer. Excavation shall be performed in as nearly a continuous operation as possible, trimmed and leveled to conform to the required lines, grades and tolerances. Areas over-excavated shall be replaced with suitable materials compacted to a density at least equal to that of the in-situ material or to the satisfaction of the Engineer.

Suitable material excavated from the excavation areas shown on the plans shall be used in any embankments called for on the plans. This shall include areas stripped of topsoil or unsuitable material that need to be backfilled with suitable material or key trenches. Placement of these embankments or backfills shall be done in accordance with the specification for **EMBANKMENT CONSTRUCTION.**

Excavated material unsuitable for embankments shall be deposited in locations shown on the plans or as directed by the Engineer. Unsuitable excavated materials shall be deposited as uniformly and continuously as possible in successive layers. No specific compaction will be required but where the material is placed with equipment other than tractor scrapers, blading and leveling is required to minimize voids. The fill shall be leveled upon completion to conform to lines and grades and enable the area to be seeded.

Rock excavation operations shall be controlled by the Contractor to produce the size gradations specified for other parts of the work, if the rock is designated by the Engineer as suitable for use.

203.23 DISPOSAL OF WASTE MATERIALS

All surplus or unsuitable excavated materials designated as waste by the Engineer shall be disposed of at the locations shown on the plans or as directed by the Engineer.

203.24 CONTROL OF SURFACE AND SUBSURFACE WATER

The Contractor is responsible for control of surface water, subsurface water, and drainage during the construction period. All temporary fills, crossings, and culverts necessary to promote drainage during construction will be installed and removed at the Contractor's expense prior to acceptance of the work. Any claims arising from upstream or downstream damages as a result of the construction or failure of these temporary works will be the Contractor's responsibility.

It is the responsibility of the Contractor to control the surface and sub-surface water and drainage in any excavation area, dewatering placement area and borrow area. Should material quality lessen through inadequate drainage, the Contractor may be directed by the Engineer to construct drainage facilities or develop an alternate borrow area at the Contractor's expense.

203.30 METHOD OF MEASUREMENT

Excavation shall be considered incidental to the embankment, structure, and piping operations, and no measurement shall be made.

204 EMBANKMENT CONSTRUCTION

204.10 DESCRIPTION

The work shall include the supply of all labor, material and equipment required to complete the construction of key trenches, dams, dikes, berms, levees or roadway embankments as shown on the plans and as staked in the field. The work shall include:

a) Excavation of suitable materials from borrows or excavations.

b) Placement of materials from designated borrow areas or excavation into embankments such as dams, dikes, berms, levees or roadways.

c) Leveling and trimming of embankments and borrow areas.

204.20 CONSTRUCTION METHODS

204.21 SITE PREPARATION

Prior to any embankment or key trench construction, sites shall be cleared and grubbed with topsoil removed in accordance with the specification for **SITE PREPARATION.** Material cleared and grubbed shall be disposed of per the Engineer's directions. Topsoil removed shall be stockpiled and later re-spread on those areas at a thickness of six (6) inches, unless otherwise specified.

204.22 FILL MATERIAL

Unless otherwise specified, all material shall be placed in loose lifts of not more than eight (8) inches thickness and shall be compacted by suitable compaction equipment to a minimum of 95% of maximum density as determined by the Standard Proctor Method ASTM D698. Moisture content shall be in the range of -1% to +3% of optimum moisture content.

204.23 KEY TRENCH CONSTRUCTION

The Contractor shall not commence key trench construction until such work as specified in the specification for **SITE PREPARATION** has been completed to the satisfaction of the Engineer.

Where specified on the plans, the key trench excavation shall be made to the lines and grades shown on the drawings but may be altered during construction upon the direction of the Engineer to adjust for variation in soil conditions. Excavated material, if acceptable in quality to the Engineer, may be stockpiled for use in site preparation or embankment construction. Unacceptable materials shall be disposed of by placing into designated areas. The key trench completed to the original ground surface elevation shall be rough leveled prior to commencing embankment construction.

204.24 EMBANKMENT CONSTRUCTION

The Contractor shall not commence embankment construction until such work as specified in the specification for **SITE PREPARATION** and the key trench, where specified, has been completed to the satisfaction of the Engineer.

Embankment material excavated from ditches/borrows with tractor-scraper units shall be placed in successive layers across the entire width of the embankment. Each layer must be spread as deposited longitudinally along the embankment with each layer not exceeding eight (8) inches in thickness. With the Engineer's approval, the initial layer may be increased in thickness in wet areas to provide a working pad capable of supporting the hauling equipment. The embankment at all times must be maintained in a reasonably level condition and hauling equipment shall be directed over the full width of each layer to facilitate uniform compaction.

Where embankment material is excavated with bucket equipment from ditches or borrow, it shall be deposited into the embankment within reach of the equipment. To prevent berm failure, stock piling on berms will not be permitted. Materials shall be placed and spread in layers with each layer after spreading not to exceed eight (8) inches in thickness.

All embankments will be construction staked to final grade elevations shown on the drawings. Embankments shall be brought to these elevations using embankment material graded to a tolerance of+/-0.1 feet. Topsoil or riprap materials are to be placed on top of embankment construction. Topsoil depths shall be six (6) inches, unless otherwise specified, while riprap depths shall be as specified on the drawings. All embankment construction must be as continuous as possible and the fill maintained such that drainage is assured at all times.

Should fill settlement occur during the construction of the embankment and within seven days of substantial completion, and prior to acceptance of the work, additional material shall be placed and trimmed to achieve final grade by the Contractor at his own expense. After embankments have been constructed to grade, they shall be leveled and trimmed to conform to the lines, grades and cross-sections shown on the plans and/or as staked. Acceptance of finished embankment may be made progressively during the course of construction upon the request of the Contractor. A completed embankment once accepted by the Engineer shall not be used by the Contractor for haulage, access or other purposes without the consent of the Engineer.

204.25 TRIMMING

The crest, side slopes and berms of the embankment shall be leveled and trimmed to conform to the lines and grades shown on the drawings. The crest shall be constructed to the elevation shown on the plans prior to acceptance of the work. Acceptance of the finished embankment may be made progressively during the course of construction upon the request of the Contractor. Once accepted by the Engineer, the Contractor shall not use a completed embankment for haulage, access or other purposes.

204.26 HAUL ROADS AND BORROW AREAS

The construction, maintenance and removal of all haul roads from the borrow areas shall be the responsibility of the Contractor and be considered incidental to the work. Borrow areas shall be maintained during construction in a graded condition such that drainage is assured and that operations can resume quickly after precipitation periods. The maximum depth of any borrow area inside wetland units shall be three (3) feet unless otherwise specified on the

plans. Following completion of the work, borrows are to be left in a graded condition acceptable to the Engineer and all haul roads, access roads and temporary crossings are to be removed.

204.27 CONTROL OF SURFACE AND SUBSURFACE WATER

The Contractor is responsible for control of surface water, subsurface water, and drainage during the construction period. All temporary fills, crossings, and culverts necessary to promote drainage during construction will be installed and removed at the Contractor's expense prior to acceptance of the work.

303 CULVERT AND PIPE INSTALLATION

303.10 DESCRIPTION

The work of this section shall include the supply of all labor, materials and equipment required to complete the installation of all culverts with associated earthwork called for on the drawings and/or specified herein.

This work shall consist of excavation; cofferdams and dewatering; preparing the bed for the pipe; assembly of the pipe sections, installation of pipe sections; and backfill and compacting to the lines and grades shown on the drawings, as specified.

303.20 MATERIALS

303.21 SUPPLY OF MATERIALS

Unless otherwise specified, the Contractor will supply all materials necessary to complete the installation as shown on the plans or recommended by the material manufacturer.

All culverts and inlet and outlet pipes shall be of the diameter and length as shown on the plans. The pipe shall match the material and coating of the base riser unless otherwise specified on the plans. Unless otherwise specified, the pipe shall adhere to the aluminum corrugated metal specification as listed below. All materials supplied by the Contractor shall be subject to inspection by the Engineer.

The following specifications for each material type shall be adhered to.

I) Aluminum corrugated metal pipe. The minimum acceptable series for aluminum CMP shall be 3000 Series. The material shall meet the requirements of AASHTO Ml 97.

a) Pipe shall be close riveted or of a "lock seam" construction. Unless otherwise specified all pipes shall have a 2-2/3" x 1/2" corrugation. The gauge of the pipe shall be as follows unless otherwise specified on the plans:

Pipe Diameter	2-2/3" **x** ½" Corrugations Metal Thickness	3" x I" Corrugations Metal Thickness
12"-21"	14	**NA**
24"-36"	12	14
42"-54"	10	12
60"-96"	8	IO

b) All welds shall be 3/16" fillets unless otherwise specified on the plans and shall conform to the Welded Joint Requirements of the latest edition of the AISC Manual. All bolted connections shall utilize stainless steel bolts, nuts, and washers, grade 18-8 or 304 or better.

2) Steel corrugated metal pipe. Where stated as acceptable on the plans, all steel CMP shall be made of galvanized or aluminized Type II steel. Galvanized steel corrugated metal pipe shall meet the composition requirements of AASHTO M2 I 8. The aluminized Type TI steel shall conform to the requirements of AASHTO M274.

a) Pipe shall be close riveted or of a "lock seam" construction. Unless otherwise specified all pipes shall have a 2 2/3" x 1/2" corrugation. The gauge of the pipe shall be as follows unless otherwise specified on the plans:

Pipe Diameter	2-2/3" **x** ½" Corrugations Metal Thickness	3" x l" Corrugations Metal Thickness
12"-21"	16	**NA**
24"-36"	14	16
42"-54"	12	14
60"-96"	10	12

b) Pipe made of galvanized or aluminized Type II steel shall be coated. This coating shall be a double bituminous coating (dipped or sprayed), or a 10 mil polymeric film laminate. The coatings shall be applied to both the inside and outside of the pipe. The bituminous coating shall be of double thickness and be in accordance with AASHTO M190 Type "A" Standard Specification. All spray coatings shall conform to AASHTO M243.

c) All welds shall be 3/16" fillets unless otherwise specified on the plans and shall conform to the Welded Joint Requirements of the latest edition of the AISC Manual.

3) Unless otherwise specified, all corrugated metal pipe connections shall be made utilizing the flange coupler as shown on the plans.

4) Where called for the plans, annular connecting bands shall be the same material and have the same coating, corrugations, and gauge as specified for the pipe that is to be connected.

a) The connecting bands shall be either 24" in width or have a minimum of nine (9) corrugations. The minimum circumferential overlap shall be six (6) inches. If helical pipe is used, a minimum of four (4) re-rolled annular corrugations shall be formed to allow the use of the annular overlapping connecting bands.

b) To provide for a watertight joint, a closed cell expanded gasket shall be used in conjunction with connecting band. The gasket shall be at least 24" in width, 3/8" thick, with an unstretched diameter ten (l 0) percent less than nonnal pipe size and shall comply with ASTM D1056, Grade SCE-43. Mastic shall be placed on each side of the gasket.

c) The binders for the connecting bands will consist of a minimum of 6 rods and tank lugs, three (3) per side, in accordance with the plans. The minimum rod diameter shall be 7/16" with ½" threads. All rods and lugs shall be stainless steel, grade 18-8 or 304 or better.

5) High Density Polyethylene (HOPE) Pipe. Where stated as acceptable on the plans, watertight HOPE pipe shall have a smooth interior and annular exterior corrugations. The pipe shall be approved by the Engineer and shall be of the length shown on the Plans.

a) The material shall meet the requirements of ASTM D3350 with a minimum cell classification 335420C.

b) The pipe shall incorporate a gasketed bell and spigot design. The gasket shall meet the requirements of ASTM F477 with a minimum watertight performance of 10.8 psi.

c) 12" to 48" HOPE pipe shall meet the requirements of AASHTO M294, Type S.

d) 54" and 60" HOPE pipe shall meet the requirements of AASHTO MP7.

e) 36" through 60" diameters shall have a reinforced bell and spigot. The gasket corrugation shall be reinforced with a closed cell structural foam core.

6) Pre-cast concrete pipe and box section culverts shall conform to the requirements of AASHTO Ml 70 and AASHTO M273 respectively.

7) When called for on the plans, the Contractor shall supply to the site ready mix concrete, or site mix concrete in accordance with the specification for **CAST-IN-PLACE REINFORCED CONCRETE.** Forms, reinforcing steel or wire mesh, for the concrete pad for the control structure will be the responsibility of the Contractor. The installation of this concrete shall be considered incidental to the culvert installation and no separate measurement or payment shall be made for this work.

303.22 HANDLING AND STORAGE OF MATERIALS

All materials shall be handled and stored in careful and workmanlike manner to the satisfaction of the Engineer. Any dents or depressions as a result of storage and handling during transportation or installation shall not be allowed. The Contractor shall be responsible for replacement and reinstallation of the damaged pipe at his own expense.

303.30 CONSTRUCTION METHODS

303.31 CONTROL OF SURFACE / SUBSURFACE WATER

The Contractor is responsible for control of surface water, subsurface water, and drainage during the construction period. All temporary fills, crossings, and culverts necessary to promote drainage during construction will be installed and removed at the Contractor's expense prior to acceptance of the work. Any claims arising from upstream or downstream damages as a result of the construction or failure of these temporary works will be the Contractor's responsibility.

It is the responsibility of the Contractor to control the surface and sub-surface water and drainage in any excavation area, dewatering placement area and borrow area. Should material quality lessen through inadequate drainage, the Contractor may be directed by the Engineer to construct drainage facilities at the Contractor's expense.

303.32 EXCAVATION

The Contractor will be required to excavate the base to the lines of excavation and to a depth of the invert elevations as shown on the plans. Base excavation shall extend a minimum of three (3) feet or one pipe diameter, whichever is greater, beyond the ends and sides of the pipe, or pipes, and the excavation shall be transitioned to meet the existing channel slopes. If necessary, the excavation shall be dewatered in order to prevent disturbing the natural soil conditions at the base of the excavation and to allow the placing and compacting of the backfill material in the dry.

Cofferdams will be required for all excavations in active watercourse channels and in areas of ground water seepage. Cofferdams must be built to withstand all the forces to which they may be subjected and shall be located such as to give sufficient clearance for the construction of cutoff trenches and/or sump pits for dewatering unless otherwise provided. Cofferdam placement, maintenance and removal shall be the responsibility of the Contractor and shall be considered as incidental to the placement of the culvert.

Dewatering shall be accomplished by constructing cut-off trenches and sump pits around the outside perimeter of the pipe beds. These shall be excavated to a depth of no less than two (2) feet below the elevation of the base of the excavation. Trenches and sump pits shall be shored and braced with cribs as necessary. The Contractor will be required to provide sufficient pumping capacity to lower and maintain the ground water approximately one **(1)** foot below the base of excavation.

The excavated base shall be inspected by the Engineer prior to commencement of backfilling. If the Engineer deems further excavation to be required below the bottom of the excavation line shown on the plans and specified herein, the Contractor shall excavate such additional materials as directed by the Engineer. The work involved in doing this additional excavation will be classified as extra work and will be paid for as such.

The Contractor shall not over excavate below specified lines and grades. If, in the opinion of the Engineer, the Contractor over excavates material in an area, he shall replace at his expense the over excavated material with suitable site material and compact that material to a density equal to the surrounding in-situ material, or to the satisfaction of the Engineer.

Excavated material not required as backfill shall be classified as "surplus material" and will be dealt with as shown on the plans. Unless otherwise specified, disposal of surplus material shall be considered incidental to the bid item culvert and pipe installation.

303.33 INSTALLATION OF AND ASSEMBLY OF CULVERTS

The Contractor, after preparation of the bed, shall assemble the pipe sections, progressively in accordance with the manufacturer's instructions or as directed by the Engineer.

All pipe supplied to the site shall be inspected prior to assembly, for chipping or damage in handling and shall be repaired as directed by the Engineer. Welding, drilling, bolting or otherwise attaching devices (temporary or permanent) to the structure to assist in structure installation is prohibited.

All materials damaged, distorted by more than five (5) percent of nominal dimensions, lost, broken or deemed unsuitable due to the Contractor's method of installation, handling or from neglect shall be replaced by the Contractor at his expense.

303.34 BACKFILL

All materials to be used for bed preparation and backfill will be suitable site material as approved by the Engineer. In the event that no suitable site material is available from designated borrow areas for the pipe installation, the Contractor shall supply suitable material from an approved borrow area. The payment for placing this fill will be classified as extra work and will be paid for as such. Material used for backfill from designated borrow areas will be installed per the details specified in the specification for **EMBANKMENT CONSTRUCTION.** No separate payment will be made for excavation and backfill.

The Contractor shall compact the in-situ material below the invert elevations prior to assembly and erection of the pipe. This bed shall be fully leveled and compacted throughout the full width and length of the trench and to the exact grade as specified, so that the barrel of the pipe shall be uniformly and evenly supported throughout its entire length.

Initial backfill shall be deposited in horizontal, uniform layers not exceeding six (6) inches in thickness before compaction, and each layer shall be thoroughly compacted throughout to ensure thorough tamping of backfill under the haunches and around the pipe. This is to be achieved by hand compaction for a distance of two (2) feet from the pipe circumference. Hand compaction of fill material shall be accomplished by the application of motor driven hand tampers or other approved equipment in such a manner that every point of the surface of each layer will be compacted. Each layer will be inspected and approved by the Engineer prior to proceeding with the next layer of fill.

After the above initial backfilling has been completed and approved, the remaining backfill, consisting of suitable site material, shall be placed in layers not exceeding eight (8) inches before compaction. Each layer shall be compacted by mechanical means to a density equivalent to that of the surrounding unexcavated material. Each layer will be inspected and approved by the Engineer prior to proceeding with the next layer of backfill.

No boulders, rock, ice, snow, organic material or debris shall be permitted in the trench. This material will be classified as unsuitable material and treated as such.

Compaction equipment or methods that produce horizontal or vertical earth pressures which may cause excessive displacements or which may damage the installation shall not be used.

Backfill shall be executed to the lines and grades shown on the plans and as specified herein. No separate measurement shall be made for backfill.

303.35 ROAD SURFACE AT CULVERT CROSSING

Any road material removed as necessary for the installation of the culvert shall be replaced with material of the same quality to the width, depth, consistency and compaction of existing road on each side.

303.40 QUALITY CONTROL

303.41 WORKMANSHIP AND MATERIALS

All workmanship and materials furnished and supplied under this specification are subject to close and systematic inspection and testing by the Engineer including all operations, from the selection and production of materials, to final acceptance of the specified work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection or approval that may have been previously given. The Engineer reserves the right to reject any material or work that is not in accordance with the requirements of this specification.

303.42 ACCESS

The Engineer shall be afforded full access for the inspection and control testing of materials, both at the site of work and at any plant or borrow pit used for the supply of the materials, to determine whether the materials are being supplied in accordance with this specification.

303.50 METHOD OF MEASUREMENT

No separate measurement shall be made for the excavation, installation and removal of cofferdams, dewatering, backfill, compaction, assembly and installation of pipe. This work shall be considered incidental to the culvert installation measurement described herein.

305 RIPRAP, REVETMENT & AGGREGATE PLACEMENT

305.10 DESCRIPTION

This work shall consist of supply and placement of rock riprap, filterstone, concrete revetment or other aggregate as protective covering along the side slopes, bases of channels, slopes around culverts, and on embankments or such other places as may be indicated on the plans, as specified herein, or as directed by the Engineer.

305.20 MATERIALS

305.21 BEDDING MATERIAL

Where called for on the plans and unless otherwise specified, material used for bedding shall be well- graded sand and gravel with the following gradation:

Percent(%) Passing bv Weight				
3" Sieve	l" Sieve	1/2" Sieve	#4 Sieve	#100 Sieve
100	75-85	45-65	15-35	0-15

The bedding material shall be from a source approved by the Engineer.

305.22 FILTER FABRIC

Unless otherwise specified, filter fabric shall be utilized in the installation of all riprap and revetment. The filter fabric shall be a nonwoven polyester or polypropylene geotextile. This geotextile shall have a minimum grab tensile strength of 150 pounds as determined by ASTM D4632. The geotextile shall have a maximum opening size equivalent to a #70 U.S. standard sieve.

The contractor shall supply all pins and other items necessary to fasten the filter fabric to the ground so it will not slide or form gaps when placing rock riprap.

All materials shall be handled and stored in a careful and workmen-like manner to the satisfaction of the engineer.

For concrete revetment, the geotextile shall be bonded to the base of the concrete block mats with an overlap of two to three feet incorporated on one end and one side adjacent to each other.

305.23 RIPRAP

The contractor shall supply rock, which will consist of fieldstone or rough, unhewn quarry rock. Stone containing shale, sandstone, or other material that will disintegrate readily shall not be used. Class designations shall be based on the following gradations:

Riprap Class	Percent of Total Weight Smaller Than Given Size						
	30"	24"	18"	12"	9"	6"	3"
Class I	100	100	100	100	100	35-80	0-20
Class II	100	100	100	50-75	10-50	0-10	
Class III	100	100	50-75	10-50	0-10		
Class IV	100	85-100	60-80	20-40		0-20	

If the rock riprap class designation is not specified on the construction plans, CLASS I rock riprap shall be acceptable. The rock shall be approved by the Engineer prior to installation.

305.24 CONCRETE BLOCK REVETMENT

Concrete block revetment systems shall be supplied in a manner that meets the requirements as specified on the plans. Unless otherwise specified, the concrete shall be in accordance with the specification for **CAST-IN-PLACE REINFORCED CONCRETE.** The cables shall be stainless steel aircraft cable of Type 302 or 304 stainless and of Type I x 19 construction. Stainless steel clamps of the type and number recommended by the revetment manufacturer shall be provided. Anchors shall be provided in accordance with the manufacturer's recommendations.

305.25 OTHER AGGREGATE

Any other aggregate as called for on the plans shall be supplied in a manner that meets the gradation as specified on the plans. The rock shall be approved by the Engineer prior to installation.

305.30 CONSTRUCTION METHODS

305.31 SUBGRADE PREPARATION

The areas on which the rock, revetment or other aggregate is to be placed shall be graded to the lines shown on the plans. The soil surface shall be smooth and free from any obstructions to provide adequate contact area between the soil and the bedding material or filter fabric.

305.32 BEDDING MATERIAL

When called for on the plans, a six (6) inch layer of bedding material shall be placed as shown prior to the placing of any riprap or revetment.

305.33 FILTER FABRIC

The filter fabric shall be placed under all riprap in such a way that there is adequate contact area between the soil and the fabric. Installation shall start on the downstream end of the slope. Pins shall be installed to prevent the filter fabric from sliding or forming gaps during installation of the filter material and placement of the rock riprap.

When filter fabric is to be placed on a slope, an anchor trench shall be constructed on the top of the slope and a toe trench shall be constructed on the lower end of the installation. The trenches shall be perpendicular to the slope and must be at least one foot wide and one foot deep. The filter fabric shall be placed in the anchor trench and the toe trench. The trenches shall be backfilled and compacted to adequately anchor the filter fabric.

Where a seam is needed to provide a continuous coverage of the filter fabric, the two pieces of filter material shall be overlapped a minimum of two feet. Pins shall be placed in the overlap area to prevent slipping during placement of the filter material and rock riprap.

Great care shall be taken to protect the filter fabric from damage either from the wheels or tracks or any sliding caused by the equipment.The fabric shall not be exposed to the sun for more than seven days. If the fabric meets the requirements of ASTM D4255, less than 30% strength loss at 500 hours, the maximum exposure shall be 30 days.

305.34 RIPRAP

Riprap shall be placed by equipment capable of controlling the drop of the rock riprap. The maximum drop of the rock shall be three (3) feet. Pushing or rolling rocks over the geotextile will not be allowed. Placement will be in such a manner that the smaller stones will be uniformly distributed throughout the mass. Sufficient handwork shall be done to provide a neat and uniform surface, with the depth being specified herein and as shown on the plans. The surface may not vary from the theoretical surface by more than 4" at any point for riprap, unless otherwise specified.

305.35 CONCRETE BLOCK REVETMENT

The concrete revetment mats shall be laid from the downstream end of the project to the upstream end to ensure the geotextile joints are shingled to direct flow over the joint and prevent undennining. The gaps between each mat shall not be greater than two (2) inches or they shall be filled using a grout mixture as recommended by the manufacturer. The outside edges of the mat system shall be entrenched and buried at least one block into the ground. After installation of the mat system, the top surface shall be covered with topsoil and seeded, if specified on the plans.

305.36 OTHER AGGREGATE

Upon completion and approval of the subgrade preparation by the Engineer, the aggregate shall be placed and compacted on the prepared subgrade to the dimensions shown on the plans. The location and method of placement shall be shown on the plans. Equipment used for placement operations shall be approved by the Engineer.

305.40 METHOD OF MEASUREMENT

No separate measurement shall be made for the filter fabric or bedding material used in the riprap placement. The supply and installation of these materials shall be considered incidental to the riprap placement.

401 SOIL EROSION AND POLLUTION CONTROL

401.10 DESCRIPTION

The work shall include the supply of all labor, materials and equipment necessary for the construction and maintenance of erosion controls and to minimize the production of sediment and other pollutants to water and air during construction operations. It is the Contractor's responsibility to adhere to all Local, State and Federal regulations regarding the control of soil erosion, sedimentation, and pollution. The work and measures may include, but are not limited to the following as shown on the drawings or as specified herein.

a) Staging of Earthwork Activities - The excavation and moving of soil materials shall be scheduled so that the smallest possible areas will be unprotected from erosion for the shortest time feasible.

b) Diversions - Diversions shall be used to divert water away from work areas and/or to collect runoff from work areas for treatment and safe disposition.

c) Stream Crossings - Stream crossings shall be used where fording of streams by equipment is necessary.

d) Silt Fence - Silt fence shall be used to trap sediment from areas of limited runoff. Silt fence is temporary and shall be removed when permanent measures are installed.

e) Sediment Basins - Sediment basins shall be used to settle and filter out sediment from eroding areas to protect properties and streams below the construction site.

f) Filters - Rock and straw bale filters shall be used to trap sediment from areas of limited runoff. Straw bales are temporary and shall be removed when permanent measures are installed.

g) Waterways - Waterways shall be used for the safe disposal of runoff from fields, diversions and other structures or measures.

401.20 MATERIALS

All materials used for permanent erosion and sedimentation controls shall meet the requirements as specified on the plans. Materials used for temporary erosion and sedimentation controls shall be approved by the Engineer.

401.30 CONSTRUCTION METHODS

401.31 GENERAL REQUIREMENTS

Construction operations shall be conducted in such a manner to reduce erosion and sedimentation to a practical minimum. Temporary or permanent controls shall be constructed to the extent possible prior to clearing and grubbing operations. Clearing and grubbing shall not be done until the area is needed in the construction operation.

The construction site shall be maintained in a clean and sanitary condition during construction operation. Trash barrels shall be provided at the site and periodically emptied.

Installation of all controls shall be accomplished as specified on the plans or with the approval of the Engineer in accordance with the manufacturer's published recommended practice.

401.32 INCIDENTAL EROSION AND POLLUTION CONTROL ITEMS

These items shall consist of installing measures, supplying all materials and equipment, and performing all work to control erosion and minimize the production of sediment and other pollutants to the water and air during construction operations. Such measures shall include, but are not limited to, silt fences and other measures listed in this specification or deemed necessary by the Engineer.

All state and local laws governing soil erosion and pollution control shall be followed. The Engineer shall have sole authority in determining when pollution control measures are necessary, when pollution control measures are functioning properly, and when silt fences for this item of work are required.

With the exception of silt fence, the Contractor shall determine which soil erosion and pollution control measures to install, provided that the measures are in accordance with applicable laws. The Contractor shall maintain all soil erosion and pollution control measures.

Earth stockpiles shall be in the area located on the drawings and protected with silt fences to control runoff and erosion in such a manner as to minimize the production of sediment and other pollutants to the water during construction operations.

401.40 CHEMICAL POLLUTION

The Contractor shall provide tanks or barrels to be used to dispose of waste oils or other chemical pollutants produced as a by-product of the work under the contract, such as drained lubricating or transmission oils, greases, soaps, asphalt, etc. At the completion of the work, all storage tanks or barrels shall be removed and disposed of at the Contractor's expense in accordance with all Local, State and Federal regulations.

Sanitary facilities 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.

401.50 AIR POLLUTION

All Local, State and Federal regulations concerning the burning of brush or slash or disposal of other materials shall be adhered to. Fire prevention measures shall be taken to prevent the start or the spreading of fires that may result from any contract work. Firebreaks or guards shall be constructed at locations as shown on the drawings.

All public access or haul roads used during construction of the project shall be watered or treated with dust palliative when necessary to control the dust raised by the hauling equipment.

401.60 MAINTENANCE, REMOVALAND RESTORATION

All measures and works shall be adequately maintained in a functional condition as long as needed during the construction operation. Sediment shall be removed periodically or as directed by the Engineer. Upon sediment removal, all trapped sediment from the controls must be disposed of in the spoil area as shown on the plans. All temporary measures shall be removed and the site restored as nearly to original conditions as practicable as directed by the Engineer. All temporary measures and materials become the property of the Contractor upon removal.

401.70 METHOD OF MEASUREMENT

Soil erosion and pollution control shall be measured on a lump sum basis of installed devices. No separate payment shall be made for excess material.

402 SEEDING AND MULCHING

402.10 DESCRIPTION

The work of this section shall include the supply of all labor, materials, equipment and incidental items required to complete the seeding and mulching operations as shown on the plans or specified herein. This specification shall cover the preparation of areas to be seeded, furnishing and placing required seed, fertilizer, and other materials necessary for the complete seeding of the areas of this project requiring the establishment of turf.

402.20 MATERIALS

402.21 SEED MIXTURE

Seed mixtures shall be composed of certified seed of the purity, germination, and proportions, by weight, as specified on the plans. Seed shall be furnished separately or in mixture in standard, sealed containers with (l) seed name; (2) lot number; (3) net weight; (4) percentages of purity and of germination and (5) percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the Owner duplicate signed copies of a statement by the vendor, certifying that each lot of seed has been tested by a qualified laboratory for seed testing within six months of date of delivery.

402.22 MULCHING MATERIAL

Straw or excelsior mulches shall be of an approved material and anchored with an approved adhesive or netting. Mulch blankets shall be made of a uniform layer of straw or excelsior with a backing of net on one side only. Devices used to hold the net in place shall be of the material and design specified on the plans or approved by the Engineer.

402.30 SEEDING SEASON

The Contractor shall obtain the permission of the Owner to proceed with a dormant seeding during the late fall. If fall dormant seeding is not approved, the Contractor shall complete all seeding the following spring prior to June 15.

402.40 SOIL PREPARATION

Areas to be seeded that have been damaged by erosion shall be restored prior to seeding. All areas to be seeded shall be finished to the grades shown on the plans, plus 4" for topsoil thickness, and then cultivated to provide a reasonably firm, but friable seedbed, free of lumps and clods detrimental to seeding operations. A minimum of 1 inch of surface soil shall be in a loose condition.

402.50 APPLICATION

Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment shall be used to apply the seed and fertilizer in the amounts and mixtures shown on the plans. When a hydro-seed method is used, the capability of the equipment shall be adequate as approved by the Engineer to effectively cover the area to be seeded. Areas that are inaccessible may be sown by the broadcast method. All areas shall be visually inspected for uniformity of application. Hand-operated seeding devices may be used when seed and fertilizer are applied in dry form.

Application shall start at the top of the slope and work downward. All application rates shall be approved by the Engineer prior to application.

402.60 QUALITY CONTROL

402.61 WORKMANSHIP AND MATERIALS

All workmanship and materials furnished and supplied under this specification are subject to close and systematic inspection and testing by the Engineer including all operations, from the selection and production of materials, to final acceptance of the specified work.

The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection or approval that may have been previously given. The Engineer reserves the right to reject any work or materials that are not in accordance with the requirements of this specification.

402.62 CARE DURING CONSTRUCTION

The Contractor shall be responsible for protecting and caring for seeded areas until acceptance of the work. The Contractor shall repair any damage to seeded areas caused by construction operations without additional compensation.

402.70 METHOD OF MEASUREMENT

No measurement shall be made for the supply and installation of mulch where required. This shall be considered incidental to seeding operations.

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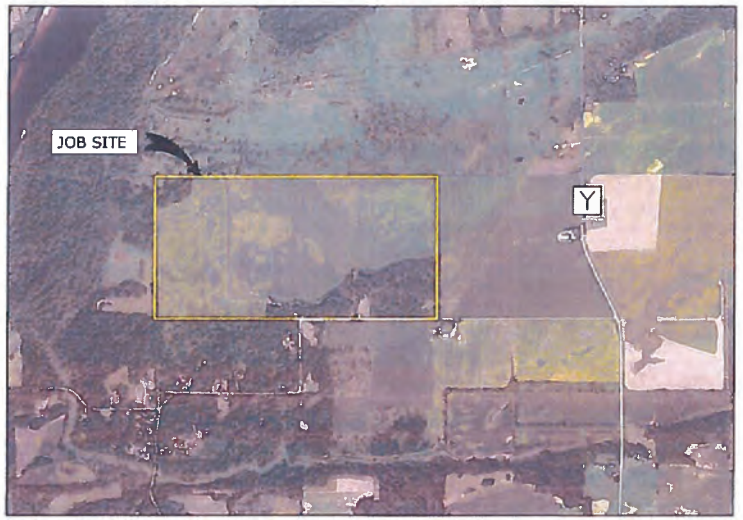
WALKING IRON COUNTY PARK
DANE COUNTY, WI

MAZOMANIE
T9N, R6E, S5

N



PROJECT LOCATION
ADDRESS: 10704 AMENDA ROAD, MAZOMANIE, WI

SHEET INDEX

811 Know what's below. Call before you dig.

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7322 NEWMAN BOULEVARD, BUILDING 1
DEXTER, MICHIGAN 48130
(734) 623-2000 www.ducks.org
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WALKING IRON
DANE COUNTY
WISCONSIN

CAD FILE:	WATWI12
DESIGNED BY:	MJS
DRAWN BY:	
SURVEYED BY:	MJS
BIOLOGIST:	BG
DATE:	4/13/2021
PROJECT NUMBER:	US-WI-436-1
SHEET	1

ESTIMATED QUANTITIES

NOTES	SPEC. #	ITEM	UNIT	QUANTITY
11	201	MOBILIZATION	LS	1
14	202	SITE PREPARATION	LS	1
12	203	EXCAVATION	CY - P	62190
22	204	EMBANKMENT CONSTRUCTION	CY-P	50380
21	301	INLINE WCS	EACH	1
21	303	24" SCH 40 PVC PIPE	LIN FT	100
23	305	RIP RAP WITH GEOTEXTILE	TN	10
13	401	STRAW WATTLES	LIN FT	100
13	401	EROSION CONTROL BLANKET	SQ YD	180
13	402	SEEDING AND MULCHING	AC	11

SPECIFICATIONS

101 GENERAL CONDITIONS
102 SUPPLEMENTAL CONDITIONS
201 MOBILIZATION
202 SITE PREPARATION
203 EXCAVATION
204 EMBANKMENT CONSTRUCTION
301 WATER CONTROL STRUCTURES
303 CULVERT AND PIPE INSTALLATION
305 RIPRAP
401 SOIL EROSION AND POLLUTION CONTROL
402 SEEDING AND MULCHING
404 TRAFFIC AND MAINTENANCE CONTROL

CONSTRUCTION NOTES:

1. ALL UNDERGROUND HAZARDS AND UTILITIES MUST BE INVESTIGATED PRIOR TO CONSTRUCTION. NOTIFICATION OF EFFECTED UTILITY COMPANIES IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTACT DIGGERS HOTLINE AT LEAST THREE DAYS PRIOR TO START OF CONSTRUCTION.
2. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH DU PERSONNEL, THE CONTRACTOR, AND THE LANDOWNER PRIOR TO CONSTRUCTION START-UP.
3. THE CONTRACTOR AND/OR LANDOWNER SHALL NOTIFY DU AT LEAST 3 DAYS PRIOR TO START-UP OF CONSTRUCTION.
4. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS.
5. ALL LOCAL STATE AND FEDERAL PERMITS WILL BE OBTAINED PRIOR TO CONSTRUCTION.
6. ALL EXCAVATED FILL WILL BE USED IN CONSTRUCTION OF PLANNED DITCH FILLS AND EMBANKMENT. ANY REMAINING SPOILS CAN BE PLACED IN DESIGNATED SPOILS AREAS LISTED ON PLAN VIEW.
7. ALL DISTURBED AREAS WILL BE SEEDED UPON COMPLETION OF CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL ACCESS ROADS AND STAGING AREAS TO PRE-CONSTRUCTION CONDITIONS AFTER CONSTRUCTION IS COMPLETED.
9. DU TECHNICIAN WILL STAKE ALL CONSTRUCTION ACTIVITIES PRIOR TO CONSTRUCTION.
10. ALL TRAFFIC LEAVING THE SITE SHALL BE FREE OF ANY LOOSE MUD AND/OR DEBRIS. ANY MUD DEPOSITED ON ROAD WILL BE REMOVED AND DEPOSITED BACK ON SITE IMMEDIATELY.
11. FOR MOBILIZATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL AND EQUIPMENT TO TRANSPORT ALL NEEDED LABOR, MATERIAL AND EQUIPMENT, TO AND FROM A PROJECT SITE, TO SUCCESSFULLY COMPLETE THAT PROJECT AS SHOWN ON THE PLANS.
12. EXCAVATION IS FOR CUTTING OUT OR EXCAVATING ALL SCRAPE PONDS, DITCH PLUGS. SITE PREPARATION FOR PONDS IS INCIDENTAL. ALL EXCAVATION MATERIAL IS FOR EMBANKMENT AND DITCH FILLS.
13. SOIL EROSION AND POLLUTION CONTROL SHALL INCLUDE THE SUPPLY, INSTALLATION, AND MAINTENANCE OF ALL MATERIALS, IN COMPLIANCE WITH WISCONSIN REGULATIONS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF WORK, AND WILL BE MAINTAINED UNTIL FINAL STABILIZATION OF THE SITE. CONTRACTOR SHALL MAINTAIN, INSPECT, AND PROVIDE ALL PROPER RECORDING AND REPORTING ACCORDING TO THE PERMIT REGULATIONS. INCLUDES SEEDING, STRAW WATTLES, EROSION CONTROL BLANKET AND MULCHING.
14. SITE PREPARATION SHALL INCLUDE STRIPPING FOR DITCH PLUGS, EMBANKMENT AND SPILLWAY STOCKPILING TOPSOIL FOR REPLACEMENT, PLACING TOPSOIL OVER ALL DISTURBED AREAS, AND LEVELED SUITABLE ENOUGH FOR SEEDING. GRUBBING OF BRUSH AND TREES FOR EARTHWORK PREPARATION IS ALSO INCLUDED.
15. SCRAPE PONDS IN FLOODPLAIN WILL REMOVE FILL TO ADD COMPENSATORY STORAGE IN THE FLOODPLAIN.
16. TRAFFIC CONTROL IS INCIDENTAL TO PROJECT SPECIFICATION.
17. DEWATERING AND WATER MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY, AND IS CONSIDERED INCIDENTAL TO THE PROJECT.
18. STRAW WATTLES WILL BE PLACED ALONG THE CONTOUR ABOVE NEWLY CONSTRUCTED WATER CONTROL STRUCTURE OUTLET PIPE. 100' LENGTHS OF WATTLES WILL BE PLACED AT THE WATER CONTROL STRUCTURE.
19. STRAW WATTLES AREA AVAILABLE IN 9-INCH DIAMETER, 25-FOOT LENGTHS. THEY ARE INSTALLED BY STAKING IN PLACE, AND CAN BE TIED TOGETHER TO ACHIEVE ANY DESIRED LENGTH.
20. SECURE THE WATTLE WITH 18-24" STAKES EVERY 3-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKE SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.
21. EMBANKMENT SHALL INCLUDE ALL WORK REQUIRED TO HAUL, PLACE, AND COMPACT FILL MATERIAL TO CONSTRUCT EARTHWORK, AS STAKED IN THE FIELD. ANY MATERIAL EITHER NEEDED OR REMAINING FROM THIS OPERATION SHALL COME FROM EXISTING SCRAPES OR BE DEPOSITED IN DITCH FILLS.
22. RIP-RAP CLASS I IS FOR THE ROCK PLACED DOWNSTREAM OF THE WATER CONTROL STRUCTURE. NON-WOVEN FILTER FABRIC IS REQUIRED BENEATH ALL ROCK/RIP-RAP AND SHALL BE SECURED TO SLOPES AND BOTTOM, USING PINS AS NOTED SPECIFICATION 305. QUANTITY IS BASED ON TONS. CONTRACTOR SHALL PROVIDE SCALE TICKETS WITH WEIGHTS INCLUDING TARE WEIGHTS, GROSS WEIGHTS, AND NET WEIGHTS OF MATERIAL DELIVERED.

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7322 KENNEL BUILDING 1
DEXTER, MICHIGAN 48130
(734) 623-2000 www.ducks.org
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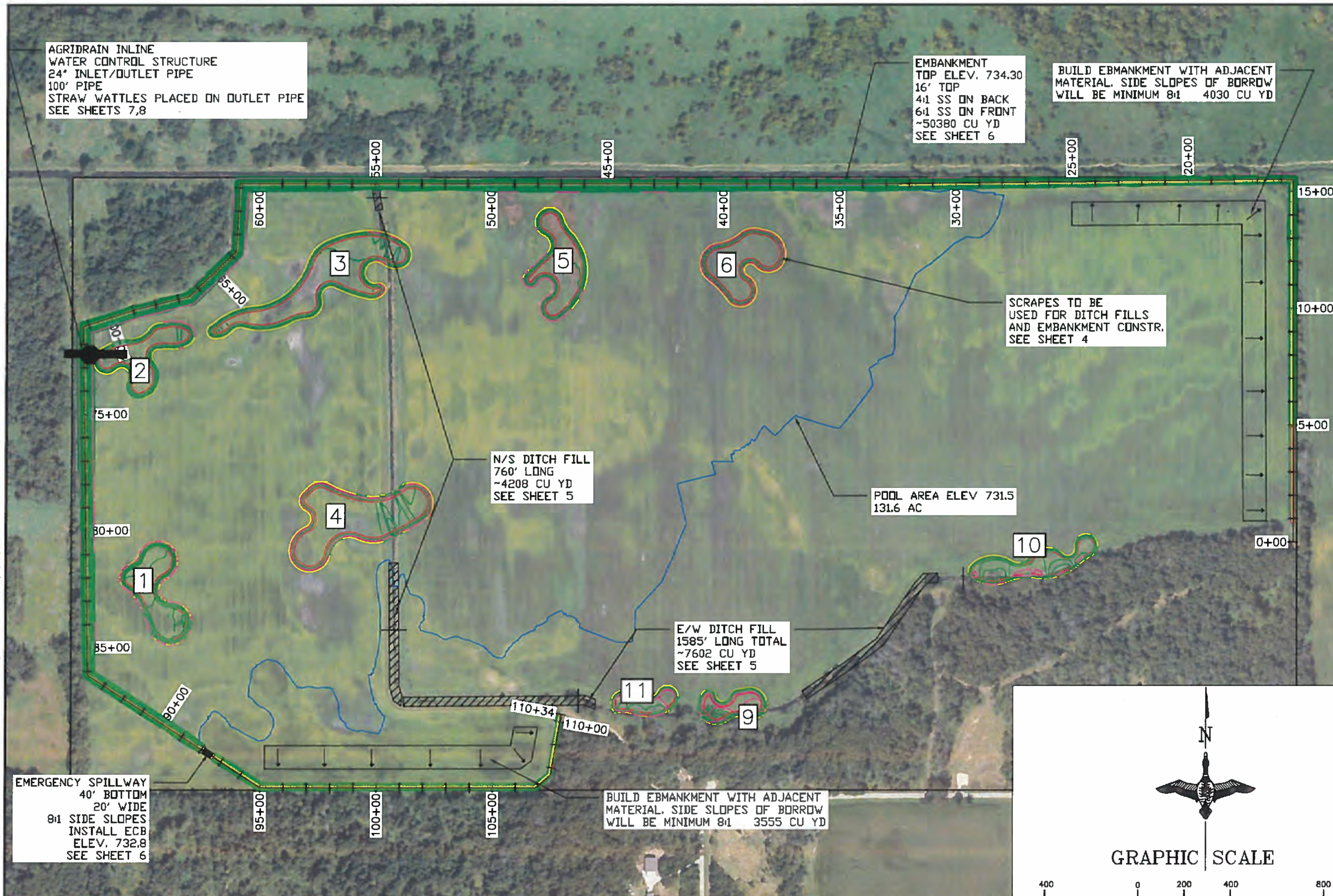
QUANTITIES, NOTES, SPECIFICATIONS
WALKING IRON
DANE COUNTY
WISCONSIN

By:	Date:	Revisions	Sheet:	Revision:

CAD FILE: WA(Post)2
DESIGNED BY: MJS
DRAWN BY:
SURVEYED BY: MJS
BIOLOGIST: BG
DATE: 4/13/2021
PROJECT NUMBER: US-WI-436-1
SHEET 2



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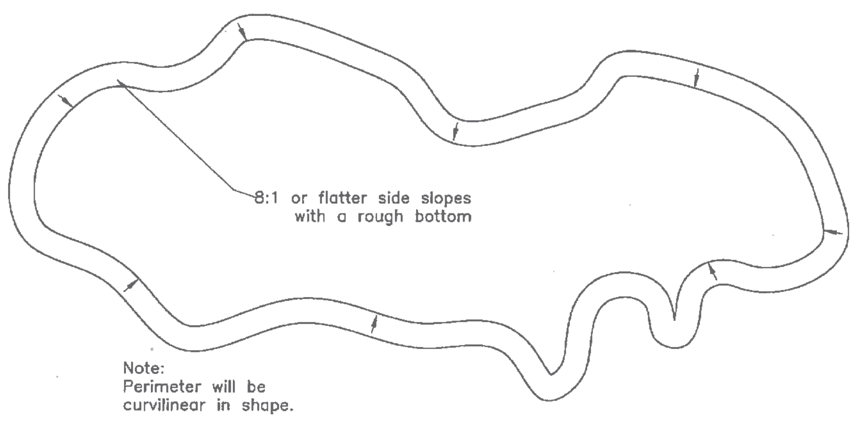
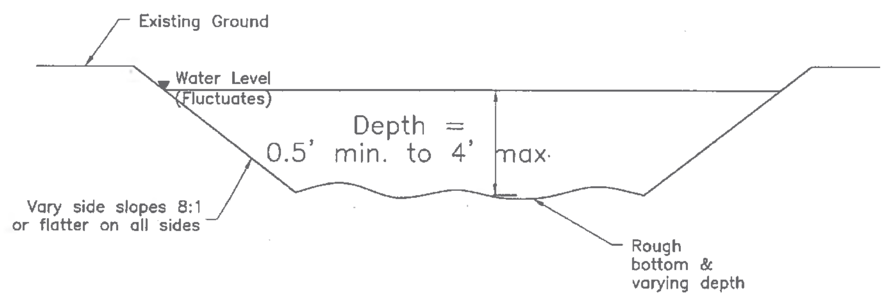
SITE PLAN
WALKING IRON
DANE COUNTY
WISCONSIN

Revision	Sheet	Revisions	Date	By

CAD FILE: WA(Feet)52422
DESIGNED BY: MJS
DRAWN BY:
SURVEYED BY: MJS
BIOLOGIST: BG
DATE: 4/13/2021
PROJECT NUMBER: US-WI-436-1
SHEET 3



WETLAND SCRAPE PLAN VIEW



TYPICAL WETLAND SCRAPE CROSS SECTION

Notes:

1. Scrapes/borrow areas will be constructed at locations and as flagged by the technician.
2. Scrapes are to be irregular in shape when completed. Wheel ruts are allowed and desired.
3. Strip minimum 6" of topsoil and stockpile it for spreading, if needed, after the excavation is completed.
4. Spoil shall be used for embankment and ditch fills.

See Sheet 3 for the location of the scrapes

SCRAPE NUMBER	ACRES	CY
1	1.7	6405
2	1.5	5537
3	3.3	12394
4	3.0	10349
5	1.7	6504
6	1.7	6680
9	0.8	1886
10	0.8	2753
11	0.8	2097

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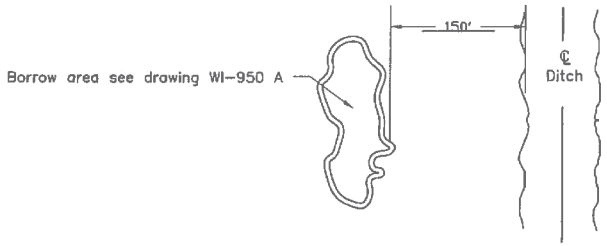
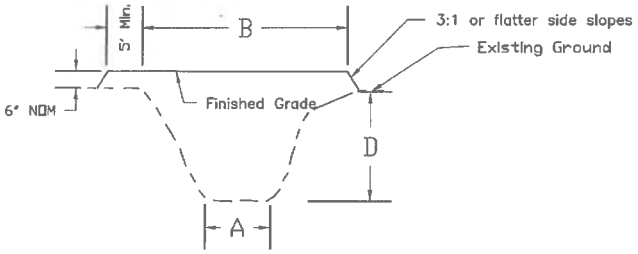
SCRAPES
WALKING IRON
DANE COUNTY
WISCONSIN

CAD FILE: WA(Feet)
DESIGNED BY: MJS
DRAWN BY:
SURVEYED BY: MJS
BIOLOGIST: BG
DATE: 4/13/2021
PROJECT NUMBER: US-WI-436-1
SHEET 4



DITCH FILL PLAN VIEW



DITCH FILL CROSS SECTION

Ditch #	A	B	D	Length	Cu. Yd.
N/S	6	40	5	760	4208
E/W	6	30–35	4.5–6	1585	7602

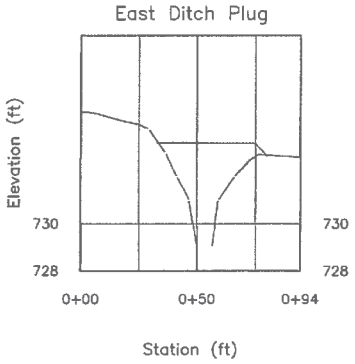
Total Cu.Yd. 11810 DITCH FILL
50380 EMBANKMENT
62190 TOTAL

See Sheet 3 for the location of the ditch fills

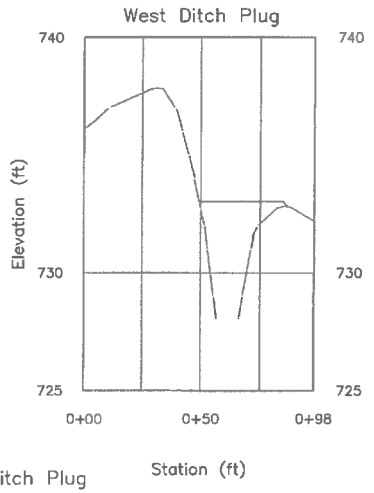
Notes:

1. Scrapes/ Borrow areas will be constructed at locations flagged by the technician.
2. Construction Specification Excavation and Earthfill, will be followed.
3. Seeding will be completed according to sheet 9.

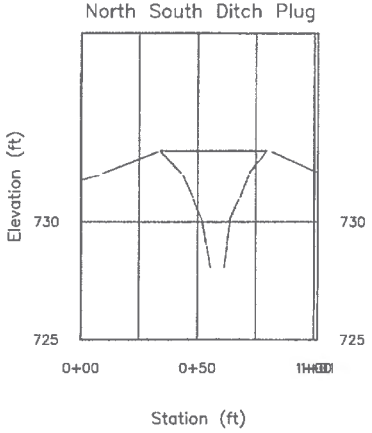
East Ditch Plug



West Ditch Plug



North South Ditch Plug



LEGEND

EXISTING GROUND

PROPOSED DITCH PLUG

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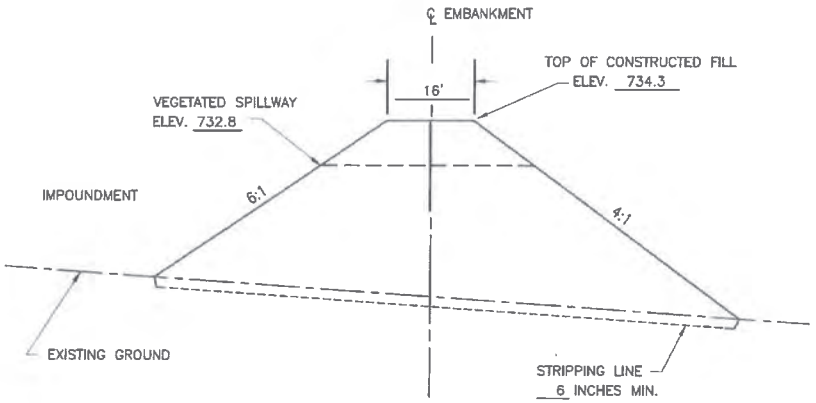
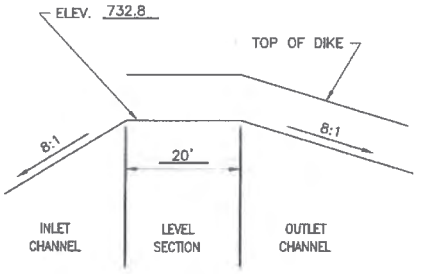
DITCH PLUG
WALKING IRON
DANE COUNTY
WISCONSIN

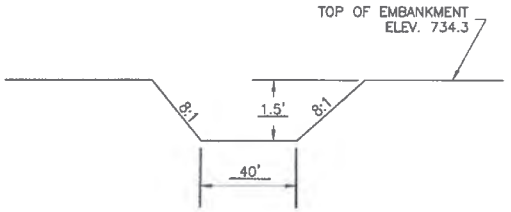
CAD FILE: WA(Feat.)2
DESIGNED BY: MJS
DRAWN BY:
SURVEYED BY: MJS
BIOLOGIST: BG
DATE: 4/13/2021
PROJECT NUMBER: US-WI-436-1
SHEET 5

CROSS SECTION OF EMBANKMENT





VEGETATED SPILLWAY PROFILE



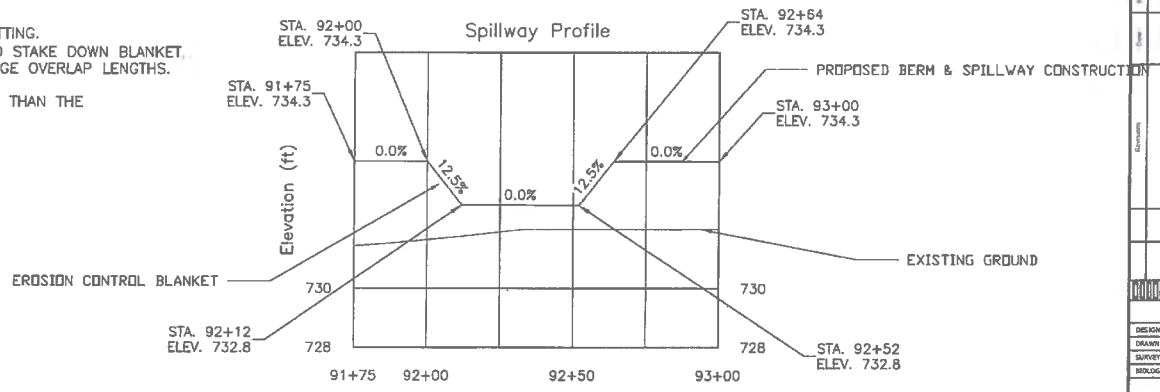
VEGETATED SPILLWAY CROSS SECTION AT LEVEL SECTION

NOTES:

1. THE UPPER 6-INCHES OF SOIL WITHIN THE EMBANKMENT AND VEGETATED SPILLWAY LIMITS SHALL BE STRIPPED AND STOCKPILED FOR REUSE.
2. THE VEGETATED SPILLWAY WILL HAVE AT LEAST A 20' WIDE FLAT SECTION AND GRADE BACK ON ALL SIDES AT AN 8:1 SLOPE.

NOTES:

1. EROSION CONTROL BLANKET SHALL BE CLASS I TYPE B DOUBLE NETTING.
2. STAPLES OF 11 GAUGE OR HEAVIER 8" IN LENGTH WILL BE USED TO STAKE DOWN BLANKET.
3. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR BOTH END AND EDGE OVERLAP LENGTHS.
4. BLANKET WILL BE STAPLED PER MANUFACTURERS RECOMMENDATIONS.
5. SPILLWAY INLET AND OUTLET SLOPES WILL BE 8:1 WHICH IS FLATTER THAN THE EMBANKMENT SIDE SLOPES.



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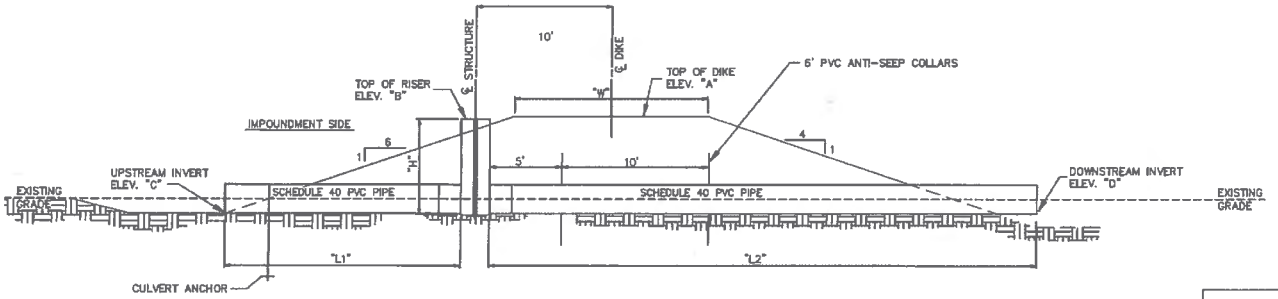
EMBANKMENT & SPILLWAY DETAILS
WALKING IRON
DANE COUNTY
WISCONSIN

CAD FILE:	WA(Feet)2
DESIGNED BY:	MJS
DRAWN BY:	
SURVEYED BY:	MJS
BIOLOGIST:	BG
DATE:	4/13/2021
PROJECT NUMBER:	US-WI-436-1
SHEET #	6



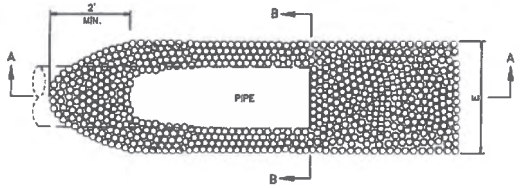
PROFILE OF AGRI-DRAIN® WATER CONTROL STRUCTURE

NOT TO SCALE

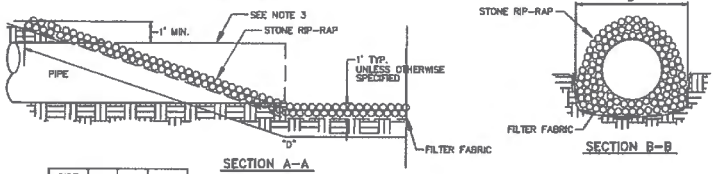
STRUCTURE	PIPE SIZE	RISER SIZE	TOP OF DIKE EL. "A"	TOP OF RISER EL. "B"	FULL SERVICE LEVEL	INLET I.E. EL. "C"	OUTLET I.E. EL. "D"	TOP WIDTH "W"	INLET LENGTH "L1"	OUTLET LENGTH "L2"	℄ – ℄ OFFSET	RISER HEIGHT "H"
1	24	31	734.3	734.5	731.5	725.6	724.5	16	60	40	10	9

GRADATION OF ROCK

PERCENT PASSING BY WEIGHT	SIZE (INCHES)
100	14"
60–85	11"
25–50	7"
5–20	4"
0–5	2"



PLAN VIEW



SECTION A–A

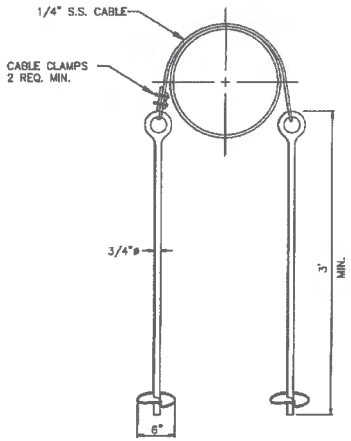
SECTION B–B

PIPE DIA.	D	E	Sq.Yds.
12"	17'	3'	5.5
15"	18'	3.75'	7.2
18"	19'	4.5'	8.3
21"	20'	5.25'	11.0
24"	21'	6"	13.2
27"	22'	8.75'	15.4
30"	27'	10'	28.7
36"	29'	10'	30.3
42"	31'	10'	31.8
48"	33'	10'	33.2
54"	35'	10'	34.5
60"	37'	10'	35.7

NOTES:
1. IF THE RIPRAP CLASS DESIGNATION IS NOT SPECIFIED ON THE CONSTRUCTION PLANS, D50 7" ROCK RIPRAP SHALL BE UTILIZED. THE ROCK SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
2. UNLESS OTHERWISE SPECIFIED, CLASS I GEOTEXTILE BE UTILIZED IN THE INSTALLATION OF RIP RAP.
3. DOWNSTREAM PIPE OUTLET SHALL CONFORM TO SLOPE FOR PIPE DIAMETERS 30" AND LARGER

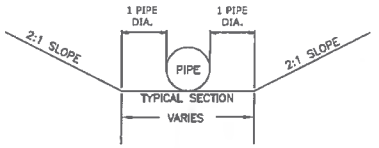
OUTLET AND STONE RIP–RAP DETAIL

NOT TO SCALE



CULVERT ANCHOR

NO SCALE



PIPE INSTALLATION & REMOVAL DETAIL

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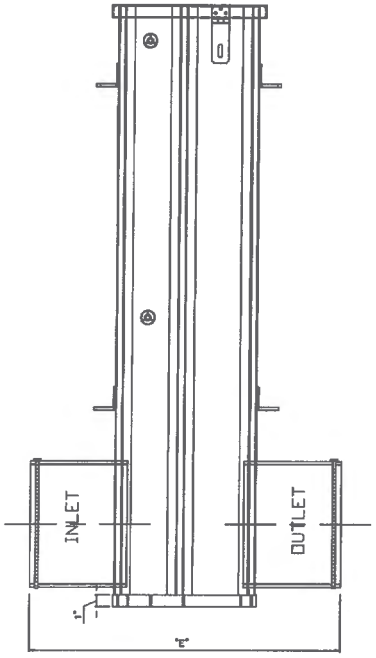
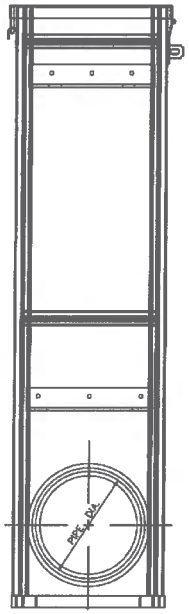
AGRI DRAIN WATER CONTROL STRUCTURE
WALKING IRON
DANE COUNTY
WISCONSIN

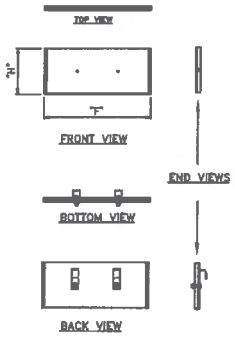
CAD FILE: WA(Feb13)	
DESIGNED BY:	MJS
DRAWN BY:	
SURVEYED BY:	MJS
BIOLOGIST:	BG
DATE:	4/13/2021
PROJECT NUMBER	US-WI-436-1
SHEET	7



SECTION "A"–"A"



SECTION "B"–"B"

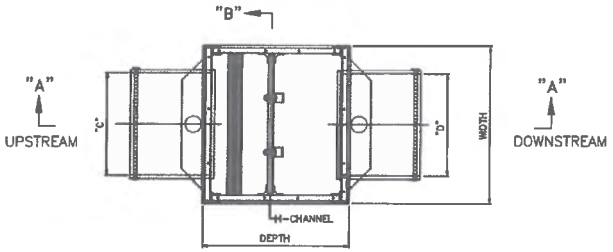


STOPLOG DETAIL
NOT TO SCALE

STRUCTURE SIZING CHART									
PIPE* DIA.	INSIDE DIM.		COUPLING DIM.		COUPLING LENGTH	STOPLOG DIM.			
	WIDTH	DEPTH	"C" (I.D.)	"D" (I.D.)		WIDTH		HEIGHT	
					"E"	"F"	"G"	"H"	"I"
4"	8"	10"	4.42"	4.42"	17.5"	7.75"	7.75"	5"	7"
6"	8"	10"	6.38"	6.38"	17.5"	7.75"	7.75"	5"	7"
8"	12"	12"	8.50"	8.50"	23.5"	11.75"	11.75"	5"	7"
10"	14"	16"	10.60"	10.60"	27.5"	13.75"	13.75"	5"	7"
12"	18"	20"	12.83"	12.83"	31.5"	15.75"	15.75"	5"	7"
15"	20"	24"	17.85"	17.85"	43.5"	19.75"	19.75"	5"	7"
18"	24"	28"	21.70"	21.70"	47.5"	23.75"	23.75"	5"	7"
24"	31"	39"	29.00"	29.00"	58.5"	30.75"	30.75"	5"	7"

* ALL APPLICATIONS WILL UTILIZE SCHEDULE 40 PVC PIPE

AGRI-DRAIN® (OR EQUIVALENT) INLINE WATER LEVEL CONTROL STRUCTURE DETAIL
NOT TO SCALE



PLAN VIEW
(DRAWN WITH FERNCO 1056 COUPLER)

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AGRI DRAIN WATER CONTROL STRUCTURE
WALKING IRON
DANE COUNTY
WISCONSIN

Revisions	Sheet

CAD FILE: WAFeet12
DESIGNED BY: KJS
DRAWN BY:
SURVEYED BY: KJS
BIOLOGIST: BG
DATE: 4/13/2021
PROJECT NUMBER: US-WI-418-1
SHEET 8

SEEDING DATES

SOUTH

TIME PERIOD	DATES			TYPE OF SEEDING
Spring	April 1	through	May 15	Permanent
Summer	May 16	through		Temporary *
Late Summer	August 7	through	August 29	Permanent
Fall	August 30	through		Temporary *
Late Fall	November 1	through	Snow Cover	Dormant
Winter	Snow Cover	through	March 31	Not Allowed

MATERIALS

If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer per acre. This is equivalent to 30 pounds nitrogen (N), 15 pounds phosphate (P205), and 15 pounds potash (K2O) per acre. Apply two tons / acre of 80-89 lime or equivalent. (See page 2 for equivalent)

* Seed a temporary cover crop of Winter Wheat at 120 # /ac (2 bu/ac)
A permanent seeding shall be completed during the next acceptable time period following a temporary seeding.

MINIMUM PURE LIVE SEED (PLS)[1] RATE PER ACRE AND TOTAL POUNDS OF SEED NEEDED

SEEDING MIX (DESIGN) 17	LOCATION: BERM&PLUGS ACRES:	11.00
SPECIES	RATE	POUNDS
Redtop	1.3	13.8
Timothy	3.8	41.3
Red Clover	6.3	68.8
** Winter Wheat	120.0	1320.0

SEEDING MIX (AS-BUILT)	LOCATION ACRES	
SPECIES	RATE	POUNDS

ADDITIONAL SEED PERCENT: 25 %

Mulching Require: Yes

** Companion Crop

Total % Germination may also be termed *Total %* Viable Seed on a tag. If a tag only shows % Germination, the user must *include percentage of the seed that germinated during the lab test* (% Germination) **plus** the *percentage of hard and/or dormant seed.* Hard seed and dormant seed are seeds that are still capable of germinating and producing a plant but did not germinate under the conditions of the test in the lab.

Additional native seeds may be required by permitting agencies. These addition are allowed.

Seed mixture shall meet all requirements of the WI weed laws.

Species identified as restricted or prohibited by law shall not be planted.

Certified seed shall be used, and the seeding rates will be based on pure live seed.

For dormant seedings, increase the seeds per square foot by 15%.

SEEDBED PREPARATION

Seedbed preparation shall immediately follow construction activities.

Prepare a fine, firm seedbed to a minimum depth of three inches. A seedbed is considered firm when a footprint penetrates less than 1/4 inch deep.

SEEDING

Inoculate legumes with the specific inoculum for the species in accordance with the manufacturer's recommendations. When using a hydroseeder, five times the recommended rate of inoculant shall be added to the hydroseeder. Inoculant shall not be mixed with liquid fertilizer.

Seed may be broadcast or drilled as appropriate to the site.
Seed, fertilize, and lime as soon as possible after construction.
Seeding perpendicular to direction of flow is required to limit erosion.

Seed grasses and legumes no more than 1/4 inch deep.

Consider seeding at a lower rate and making 2 passes to ensure more uniform distribution.

TEMPORARY SEEDING OPTIONS

Select one of the following species for temporary cover if:

1) The required seeds or plant stock are not available or the normal permanent seeding period for the species has passed
   - Forage Sorghum - 1/2 bushel per acre (May 15-July 15)
   - Sorghum - Sudangrass Hybrid - 1 bushel per acre (May 15-July 15)
   - Sudangrass - 1 bushel per acre (May 15-July 15)
   - Winter Wheat - 2 bushels per acre (Aug 1-Oct 1)
   - Winter Cereal Rye - 2 bushels per acre (Aug 1-Oct 15)
   - Oats - 2 bushels per acre (Apr 1-Sept 1)
   - Annual Ryegrass - 20 Pounds per acre (Apr 1-Sept 1)

2) Triazine herbicide carryover will not allow establishment of permanent cover immediately.
   - Forage Sorghum - 1/2 Bushel per acre (May 15-July 15)
   - Sorghum - Sudangrass Hybrid - 1 Bushel per acre (May 15-July 15)
   - Sudangrass - 1 Bushel per acre (May 15-July 15)

DORMANT SEEDING

Seed is broadcast and incorporated, no-tilled, or drilled into the seedbed.
Seedbed preparations and conditions are similar to conventional seeding.

MULCHING WILL BE COMPLETED ON EMBANKMENT

Mulching shall be done immediately after seedbed preparation and seeding.
Mulch shall be applied immediately after final grading for areas seeded at a later date.
Mulch material shall be relatively free of disease, pesticides, chemicals, noxious weed seeds, and other pests and pathogens.

Spread straw and hay mulch uniformly and at the rate of 1.5-2.0 tons per acre (60-70 bales). This application results in a layer of 6 to 7 stems, 1 to 2 inches thick, and provides a minimum 70% ground cover. Some soil surface can be seen after the application. Crimping (disking), wood cellulose fiber, tackifiers, netting, pinning, or other acceptable methods of anchoring will be used if needed to hold the mulch in place.

If other mulch materials are used, the rate of application shall meet the manufacturer's recommendations.
Two (2) tons/ac of 80-89 lime or equivalent from UW-EXT A3671

Lime Quality	Tons / AC.	Lime Quality	Tons / AC.
40-49	3.9	70-79	2.3
50-59	3.2	90-99	1.9
60-69	2.7	100+	1.6

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SEEDING
WALKING IRON
DANE COUNTY
WISCONSIN

CAD FILE: WAJFeet12
DESIGNED BY: MJS
DRAWN BY:
SURVEYED BY: MJS
BIOLOGIST: BG
DATE: 4/13/2021
PROJECT NUMBER: US-WI-436-1
SHEET 9