Le Sueur County, MN

Thursday, October 12, 2017

Regular session

Item 1

SWCD, Traxler, Rutt

Staff Contact: **Kathy Brockway or Michelle Mettler**

STAFF REPORT

GENERAL INFORMATION

APPLICANT: Le Sueur County Soil Water Conservation District (SWCD)
OWNER: Patrick Traxler-Steve Rutt

911 ADDRESS: Lake Volney Lane, Le Center MN 56057

PROJECT DESCRIPTION: Grading, excavating, and filling of approximately 3,064 cubic yards of material for a wetland enhancement project, in a Recreational Residential "RR" District, on a Recreational Development "RD lake, Lake Volney.

ZONING DISTRICT PURPOSE:
A District, adjacent to Recreational Development (RD) and Natural Environment (NE) lakes, to preserve areas which have natural characteristics suitable for both passive and active recreational usage. Also, it is the intent of this District to manage areas suitable for residential development of varying types, including permanent and seasonal housing. Some non-residential uses with minimal impacts on residential uses may be allowed.

ZONING ORDINANCE SECTIONS: 13.2,18

GOALS AND POLICIES:

Goal 2: Le Sueur County should adopt and enforce land use goals and policies that conserve and restore its natural resources, bring protections to the ecological systems of the natural environment, and prevent the premature development of natural resource areas.

Policy: Utilize shorelands on Recreational Development Lakes (RD) for housing, but with a focus on development design that protects the resource.

Goal 3: Improve water quality in Le Sueur County.

Policy: The County will undertake actions to help protect groundwater as well as surface water features.

SITE INFORMATION

LOCATION: Lot 16 and Outlot A, Block 2, Lake Volney Estates, and part of Government Lot 1, Section 1, Cordova Township.

ZONING: Recreational Residential "RR"

GENERAL SITE DESCRIPTION: Platted Subdivision/wetlands

ACCESS: Existing

EXISTING LAND USE WITHIN ¼ MILE:

North: Platted Subdivision
South: Ag Land
East: LakeVolney
West: Ag Land/Farm site

TOWNSHIP BOARD NOTIFICATION

The applicant contacted Harry Mach, Cordova Township on August 11, 2017.
Documentation received from Ron Schmidt, Cordova Township on August 14, 2017 allowing access to the project on Lake Volney Road and to do whatever grading is involved in the road right of way.

NATURAL RESOURCES INFORMATION

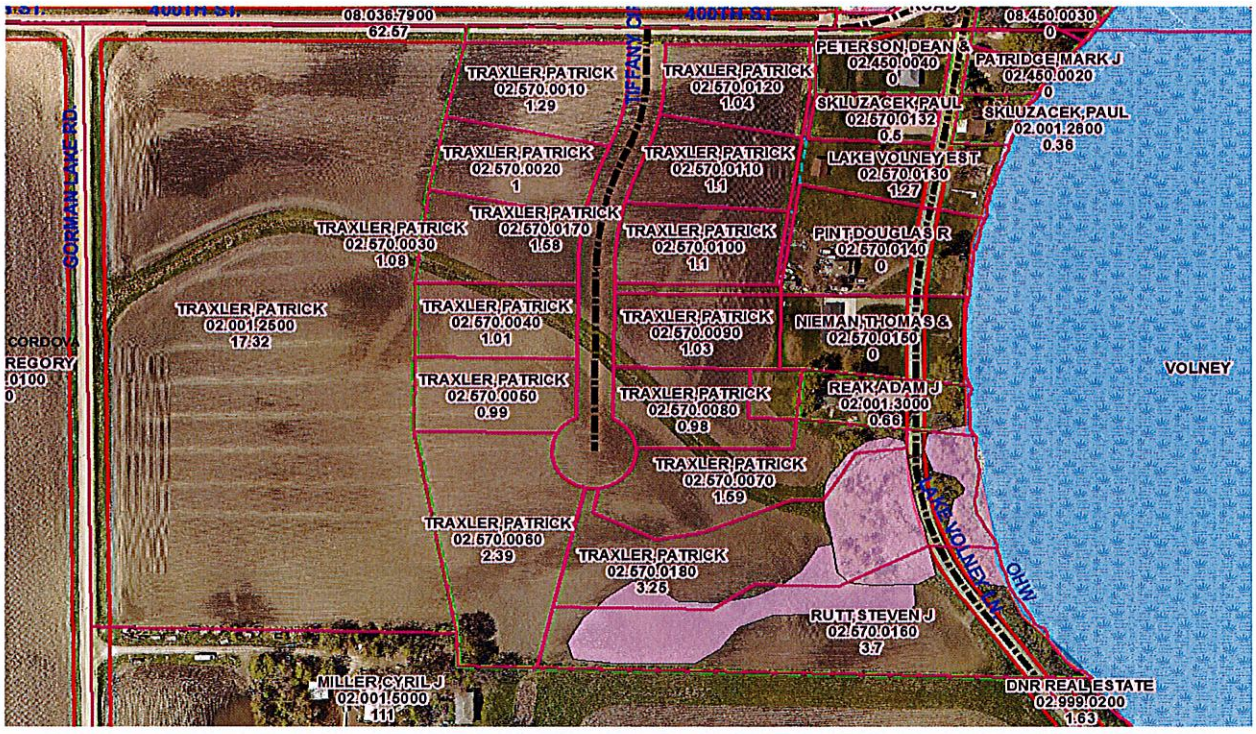
SHORELAND: The proposal is located within the Shoreland District.

WETLANDS: According to the National Wetlands Inventory, Type wetlands located in the quarter-quarter section where the project is proposed.

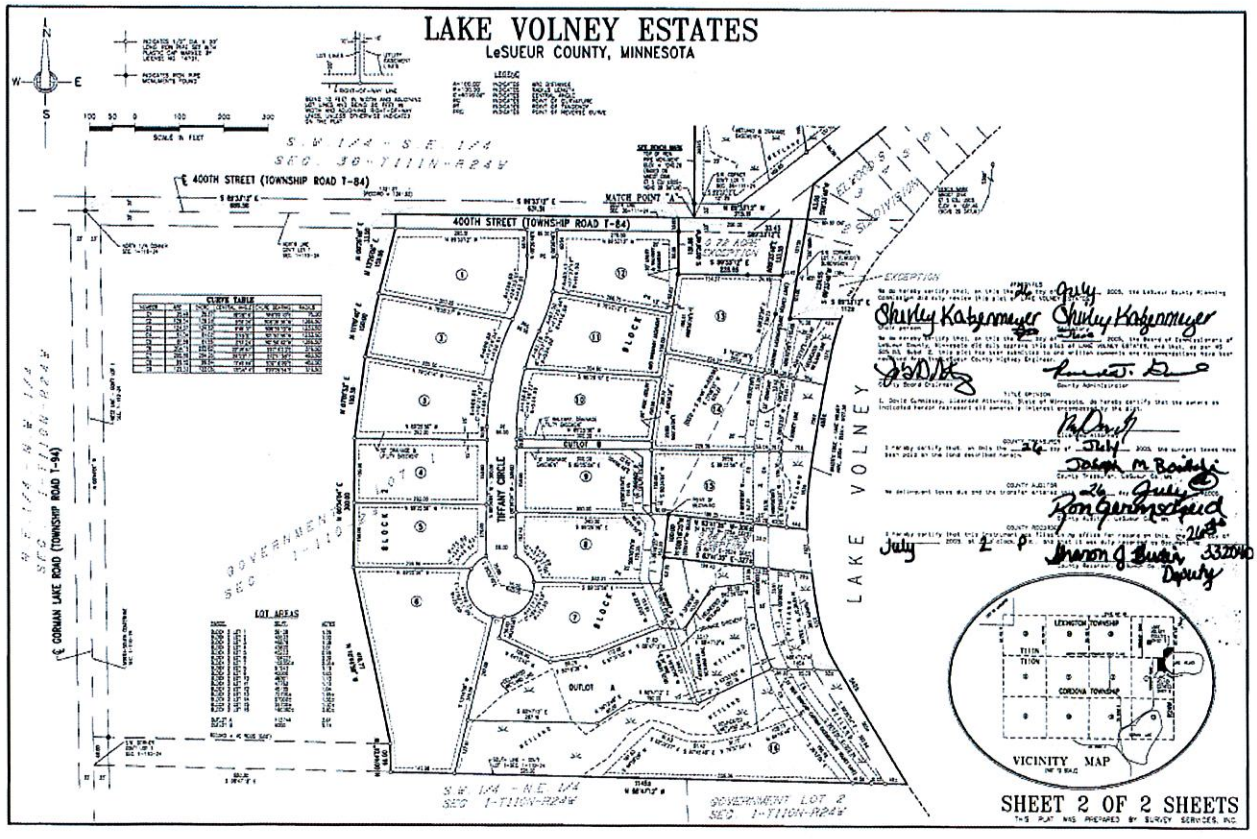
ATTACHMENTS

Application, Criteria Form, Narrative, Township Approval, Wetland Enhancement Documents, Erosion Control, Survey, Plat

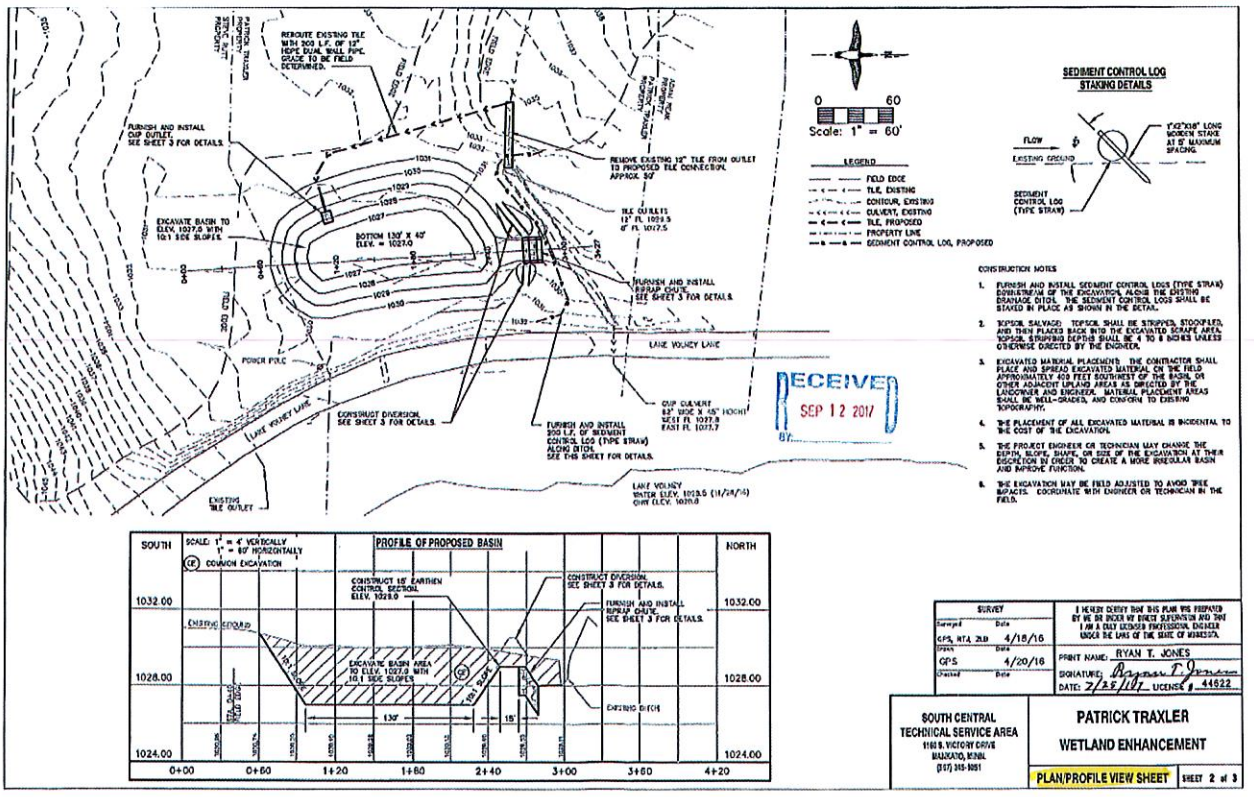
AERIAL PHOTO



PLAT



SITE PLANS


SEDIMENT CONTROL LOG STAKING DETAILS
Scale: 1" = 60'
LEGEND
FIELD EDGE
TILE, EXISTING
CONTOUR, EXISTING
CULVERT, EXISTING
TILE, PROPOSED
PROPERTY LINE
SEDIMENT CONTROL LOG, PROPOSED
CONSTRUCTION NOTES
PROFILE OF PROPOSED BASIN
SOUTH
NORTH
LAKE VOLNEY LANE
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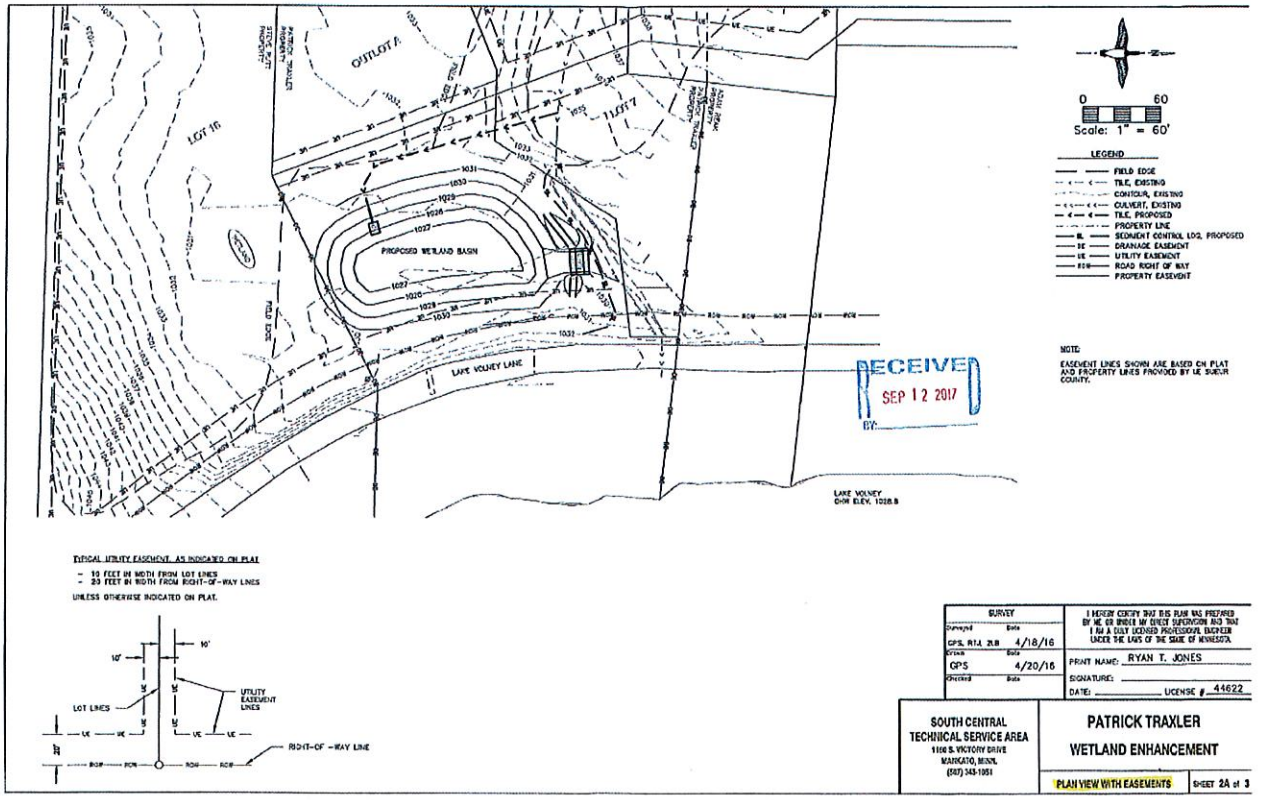
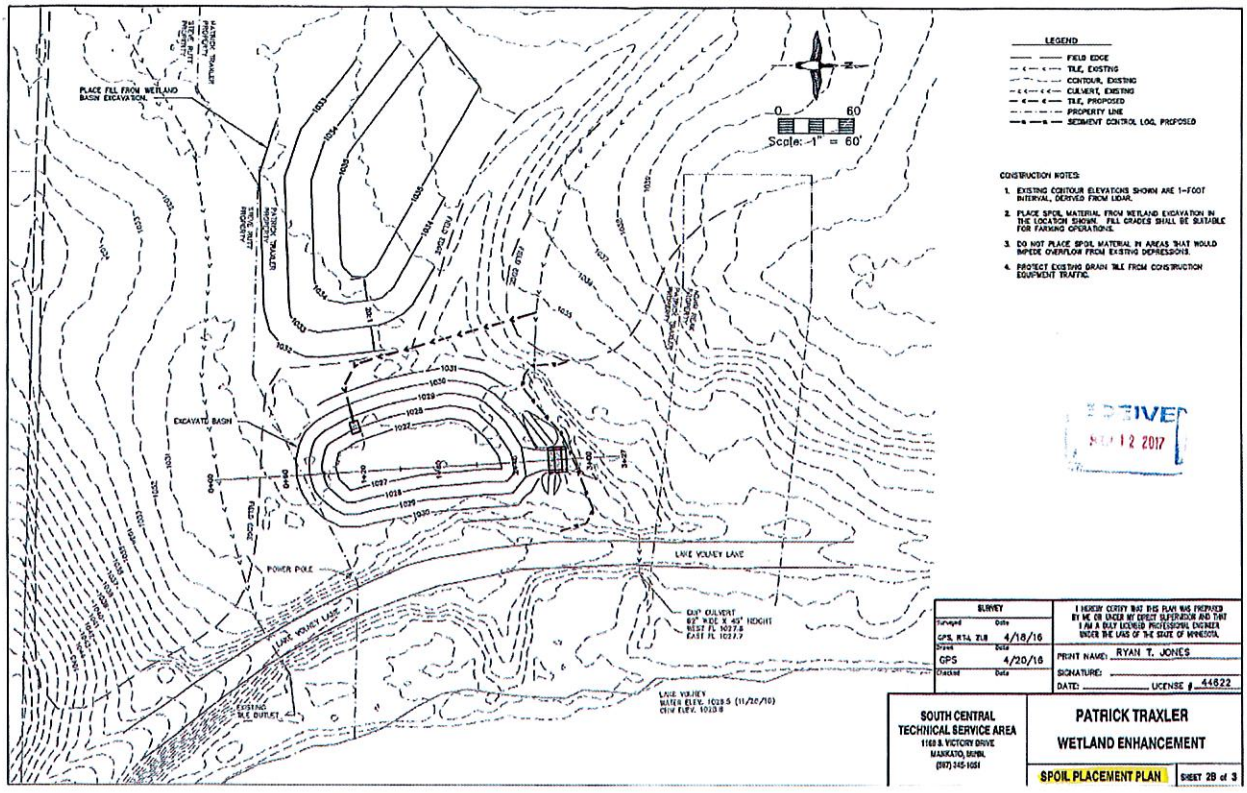
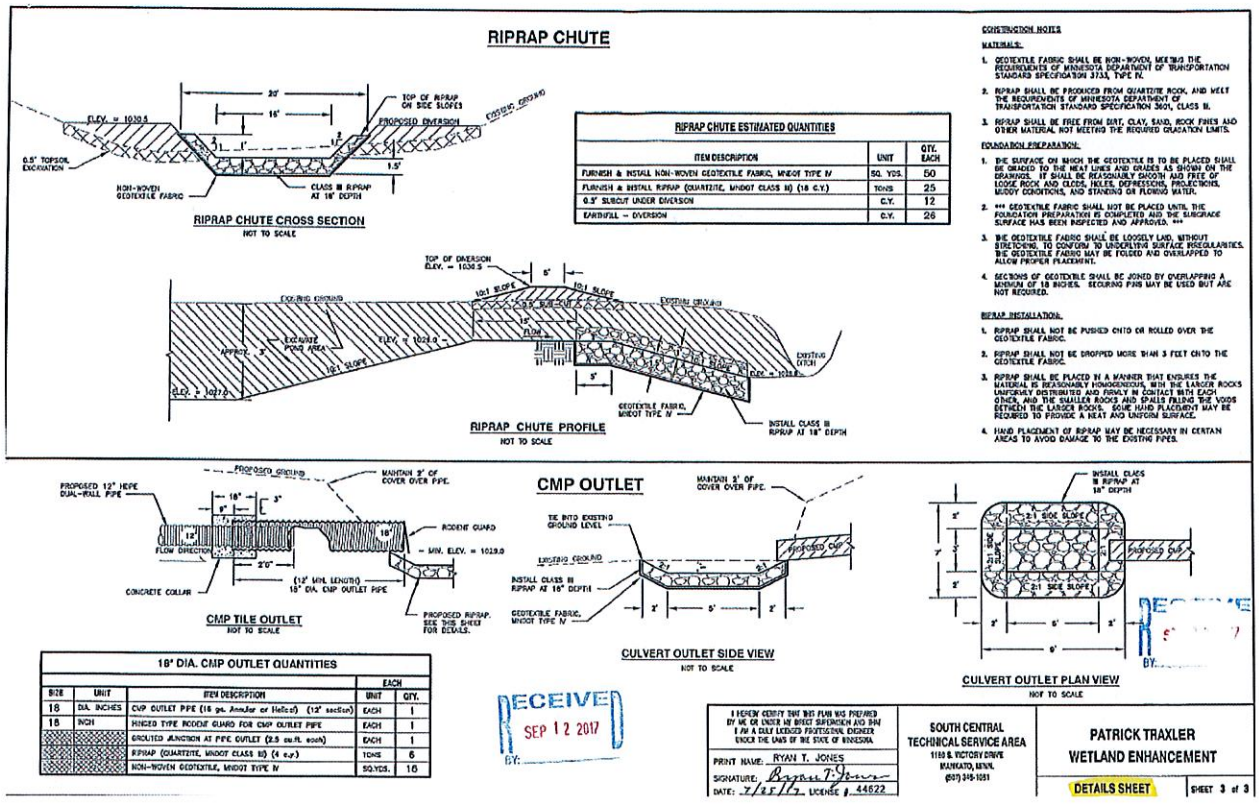
SOUTH CENTRAL TECHNICAL SERVICE AREA
PATRICK TRAXLER
WETLAND ENHANCEMENT
PLAN/PROFILE VIEW SHEET
SHEET 2 of 3


Scale: 1" = 60'
LEGEND
PROPOSED WETLAND BASIN
LAKE VOLNEY LANE
RECEIVED
SEP 12 2017
NOTE:
EASEMENT LINES SHOWN ARE BASED ON PLAT AND PROPERTY LINES PROVIDED BY LE SUEUR COUNTY.
TYPICAL UTILITY EASEMENT, AS INDICATED ON PLAT
UNLESS OTHERWISE INDICATED ON PLAT.
LOT LINES
UTILITY EASEMENT LINES
RIGHT-OF-WAY LINE
SOUTH CENTRAL TECHNICAL SERVICE AREA
PATRICK TRAXLER
WETLAND ENHANCEMENT
PLAN VIEW WITH EASEMENTS
SHEET 2A of 3





PLANNING AND ZONING COMMISSION CONSIDERATIONS

The Planning Commission and staff shall consider possible adverse effects of the proposed conditional use and what additional requirements may be necessary to reduce such adverse effects. Its judgment shall be based upon the following factors to include, but not limited to:

1. Relationship to County plans.
2. The geographical area involved.
3. Whether such use will negatively affect surrounding properties in the area in which it is proposed.
4. The character of the surrounding area.
5. The demonstrated need for such use.

6. Whether the proposed use would cause odors, dust, flies, vermin, smoke, gas, noise, or vibration or would impose hazards to life or property in the neighborhood.
7. Whether such use would inherently lead to or encourage disturbing influences in the neighborhood.
8. Whether stored equipment or materials would be screened and whether there would be continuous operation within the visible range of surrounding residences.
9. Abatement of Environmental Hazards as regulated in this Ordinance
10. Other factors impacting the public health, safety and welfare.

PLANNING AND ZONING COMMISSION CONDITIONS

The Planning Commission shall recommend such conditions relating to the granting of said Conditional Use Permit, as they deem necessary to carry out the intent and purpose of this Ordinance or recommend that the request be denied. Such recommendation shall be in writing. The conditions may include, but are not limited to the following:

Shoreland District. The following additional evaluation criteria and conditions apply within the Shoreland Districts of the County.

1. **Evaluation criteria**. A thorough evaluation of the water body and the topographic, vegetation, and soils conditions on the site must be made to ensure:

   a. The prevention of soil erosion or other possible pollution of public waters, both during and after construction.
   b. The visibility of structures and other facilities as viewed from public waters is limited.
   c. The site is adequate for water supply and on-site sewage treatment.
   d. The types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate this watercraft.

2. **Conditions attached to Conditional Use Permits in Shoreland Districts.** The Board of County Commissioners, upon consideration of the criteria listed above and the purposes of this Ordinance, shall attach such conditions to the issuance of the conditional use permits as it deems necessary to fulfill the purposes of this Ordinance. Such conditions may include, but are not limited to, the following:

   a. Increased setbacks from the ordinary high water level.
   b. Limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted.
   c. Special provisions for the location, design, and use of structures, sewage treatment system, watercraft, launching and docking areas, and vehicle parking areas.

PLANNING AND ZONING COMMISSION FINDINGS

Based on the information submitted by the applicant, contained in this report, and as required by the Le Sueur County Zoning Ordinance, the following findings have been developed for this request:
(Please circle one for each item: Agree, Disagree, Not Applicable.)

1. *The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminishes and impairs property values within the immediate vicinity.*

2. *The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding vacant property for uses predominant in the area.*

3. *Adequate utilities, access roads, drainage and other facilities have been or are being provided.*

4. *Adequate measures have been or will be taken to provide sufficient off-street parking and loading space to serve the proposed use.*

5. *Adequate measures have been or will be taken to prevent and control offensive odor, fumes, dust, noise and vibration, so that none of these will constitute a nuisance, and to control lighted signs and other lights in such a manner that no disturbance to neighboring properties will result.*

6. *Is the Conditional Use Permit consistent with and supported by the statement of purposes, policies, goals and objectives in the Ordinance?*

7. *Is the Conditional Use Permit consistent with the Comprehensive Land Use Plan?*

Recommend (circle one) approval / denial / table / of Conditional Use Permit.

Le Sueur County

Conditional Use Application-Grading, Excavating & Filling

Activities that involve topographic alterations in all districts shall conform to the standards in Section 18 of the Le Sueur County Zoning Ordinance. Activities within a shoreland district shall conform to the standards in Section 13 of the Le Sueur County Zoning Ordinance.

In addition any activities in any type wetland shall be evaluated in accordance with the Wetland Conservation Act (WCA) regulations, as administered by the Le Sueur County Soil & Water Conservation District (SWCD).

I. Applicant:

Name Le Sueur County SWCD
Mailing Address 181 W. Minnesota St
City Le Center State MN Zip 56057
Phone # 507-357-4879 Phone #

II. Landowner:

Name Patrick Traxler
Mailing Address 36497 191st Ave
City Montgomery State MN Zip 56069

Property Address NA
City State Zip
Phone # 507-357-4879 Phone #

III. Parcel Information:

Parcel Number 02.570.0180 + 0160 02.001.2500 Parcel Acreage 3.25 + 17.32 = 20.57
Attach Full Legal Description (***NOT*** *abbreviated description from tax statement)*
Township Cordova Section 1
Subdivision Lake Volney Estates Lot Outlot A & Lot 16 Block 002

IV. Township Notification: Township must be notified of proposed use prior to application.

Cordova Township notified on 8/11/17
(Township Name) *(Date)*

Board Member Harry Mach regarding the proposed use.
(Name)

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BY:

V. Quantities and Submittal Formats:

a. One (1) reproducible 8.5" x 11" copy of the request and all other supporting documents.

b. Twenty Three (23) copies must be submitted, if any documents are in color, an aerial, or larger than 8.5" x 11" in size.

c. Electronic version of any supporting documents *if available*.

c. Additional copies may be requested as deemed necessary by the Department.

d. **Application must be made in person** by the applicant and/or landowner no later than 12 P.M. on the date of application deadline.

e. **Appointment is necessary.**

f. **Applications will not be accepted by mail.**

VI. Fees: Must be paid at the time of application.

Conditional Use Permit	$ 750	After-The-Fact fee is **doubled.**
Filing Fee	$ 46	

Additional Fees:

Special Meeting	$ 2,000	
After-The-Fact Penalty	$ 1,500	OR 10% of improvement, whichever is greater

VII. Type of Request: Grading, Excavating or Filling.

☐ **Non-Shoreland** Cubic yards of material movement: _____
- ☐ Within Bluff Impact Zone Cubic yards of material movement: _____
- ☐ Within Bluff Cubic yards of material movement: _____

TOTAL cubic yards of material movement: _____

☒ **Shoreland-** Outside Shore Impact Zone Cubic yards of material movement: 3,064
- ☐ Within Shore Impact Zone Cubic yards of material movement: _____
- ☐ Within Bluff Impact Zone Cubic yards of material movement: _____
- ☐ Within Bluff Cubic yards of material movement: _____

TOTAL cubic yards of material movement: 3064

☐ Assurance security shall be required for projects that are >1500 cubic yards.

VIII. Description of Request:

a. A full description of request with detailed information including what operations are to occur and what general types of equipment may be used in the operation must be attached.

b. Complete the following in relationship to the proposed Conditional Use Permit.

1. ENVIRONMENTAL IMPACT: See attached
2. ADVERSE IMPACT ON SURROUNDING AREAS: None
3. STORMWATER RUNOFF: See attached
4. DOES ANY PART OF THE PROJECT EXTEND BELOW OHWL: No
5. WETLAND IMPACT: See attached
6. SLOPE STABILITY: See attached
7. CERTIFICATE OF INSURANCE: Required of SWCD Bids
8. MEET ALL APPLICABLE COUNTY STATE & FEDERAL REGULATIONS: *(For example additional licensing and/or permitting)* Yes

IX. Site Plan: Shall include but not limited to the following:

- **Parcels < 5 AC =** 2-foot contours depicting existing and proposed topography.
- **Parcels 5-20 AC =** 5-foot contours depicting existing and proposed topography.
- **Parcels >20 AC =** 10-foot contours depicting existing and proposed topography.
- Location of grading, excavating, and/or filling sites.
- Location of areas for obtaining fill or disposing of excavated materials.
- Tree inventory of all trees, indicating trees to be cut or removed.
  (Caliper of 6 inches or greater measured 4.5 feet from ground level).

• North point	• Lake	• Existing Structures	• Septic system
• Setbacks	• River	• Proposed Structures	• Well
• Property Lines	• Wetland	• Lot Dimensions	• Access (size & location)
• Road Right-Of-Way	• Stream	• Ponds	• Easements
• Landscape, screening and buffering			• Drainage

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• Site plan & As-Built must be completed by a surveyor or professional engineer.

2

X. Restoration Plan: Shall include but not limited to the following:

- Areas of restoration shall include the application of a minimum of 4 inches of topsoil or similar material that will support plant growth. *(Must be included in cubic yards calculation of material.)*

- Reseeded areas indicated with type of vegetation. *(Shall meet minimum standards by the SWCD))*

- Tree replacement plan. *(Areas located within the Bluff Impact Zone, Bluff, Shoreland & Conservancy Distircts)*
  - Root zone of existing trees shall be preserved and protected during development.
  - Replace one tree for every tree that is removed.
  - Replacement trees shall have a minimum caliper of 2 inches at 4.5 feet from ground level.

XI. Attachments: Shall include but not limited to:

- [x] a. **Description of Request**-*See Part VIII for full details and requirements.*
- [x] b. **Site Plan**-*See Part IX for full details and requirements.*
- [x] c. **Full Legal Description**-*Not abbreviated description from tax statement.*
- [x] d. **Access approval**-*Attach approval in writing from proper road authority.*
- [x] e. **Township Notification**-*See Part IV for details and requirements.*
- [x] f. **Septic System Compliance Inspection**
- [x] g. **Erosion Control Plan**-*Attach completed and signed plan including map.*
- [x] h. **Restoration Plan**-*See Part X for full details and requirements.*
- [ ] i. **Approved Stormwater Pollution Prevention Plan**
  -Must meet NPDES requirements and prepared by a licensed professional engineer.

XII. Procedure:

The Planning & Zoning Commission shall hold a public hearing on the proposed Conditional Use Permit at a scheduled Planning and Zoning Commission meeting.

The Planning and Zoning Commission is an advisory board to the County Board of Commissioners and will make a recommendation to the County Board.

The Department shall report the finings and recommendations of the Planning Commission to the County Board for final decision.

Action by the County Board shall be a majority vote of its members.

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BY:

The Department shall notify the applicant and/or landowner in writing of the County Board decision.

A certified copy of the Conditional Use Permit shall be filed with the Le Sueur County Recorder by the Department.

XIII. Signatures:

I hereby certify with my signature that all data contained herein as well as all supporting data are true and correct to the best of my knowledge.

Applicant signature _____ Date 9-12-17

I hereby certify with my signature that all data contained herein as well as all supporting data are true and correct to the best of my knowledge.

Property Owner signature _____ Date 9-12-17

3

OFFICE USE ONLY

Request: GRADING, EXCAVATING & FILLING

☐ **Non-Shoreland**
- ☐ Within Bluff Impact Zone — Cubic yards of material movement: _____
- ☐ Within Bluff — Cubic yards of material movement: _____

Cubic yards of material movement: _____

TOTAL cubic yards of material movement: _____

☐ **Shoreland** - Outside Shore Impact Zone — Cubic yards of material movement: 3,064
- ☐ Within Shore Impact Zone — Cubic yards of material movement: _____
- ☐ Within Bluff Impact Zone — Cubic yards of material movement: _____
- ☐ Within Bluff — Cubic yards of material movement: _____

TOTAL cubic yards of material movement: 3,064

Pre-App Date	9-12-17	Lake Classification	RD	Feedlot	500' 1000 (N)
Meeting Date	10-12-17	Lake	Volney	Wetland Type	1-2 (3-8) N
60 Day	11-11-17	FEMA Panel # 27079C0	300 D	Water courses	Y (N)
Zoning District	RR	Flood Zone	X-outside	Bluff	Y (N)

☑ Request Description	☑ Access Approval	☑ Septic	Comp Insp / Design
☑ Site Plan	☑ Erosion Control Plan	☑ Meeting (Reg) / ATF / Spec	
☑ Full Legal	☐	☐ Fee	$ 746.00
☑ Ordinance	☐ Other _____	☐ Penalty	$ 750- Inkind

☑ Application Complete — Michelle R Mettler — Planning & Zoning Department Signature — 9-12-17 — Date — 17 — Permit #

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BY: mrm

4

Le Sueur County

Conditional Use Application-Grading,Excavating & Filling

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City Le Center State MN Zip 56057
Phone # 507-357-4879 Phone # _____

II. Landowner:

Name Steven Rutt
Mailing Address 39352 221st Ave
City Le Center State MN Zip 56057

Property Address Lake Volney Ln
City Le Center State MN Zip 56057
Phone # _____ Phone # _____

III. Parcel Information:

Parcel Number 02.570.0160 Parcel Acreage 3.7 ac
Attach Full Legal Description (***NOT*** *abbreviated description from tax statement)*
Township Cordova Section 1
Subdivision Lake Volney Estates Lot 016 Block 002

IV. Township Notification: Township must be notified of proposed use prior to application.

_____ Township notified on _____
(Township Name) *(Date)*

Board Member _____ regarding the proposed use.
(Name)

V. Quantities and Submittal Formats:

a. One (1) reproducible 8.5" x 11" copy of the request and all other supporting documents.

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d. **Application must be made in person** by the applicant and/or landowner no later than 12 P.M. on the date of application deadline.

e. **Appointment is necessary.**

f. **Applications will not be accepted by mail.**

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- Reseeded areas indicated with type of vegetation. *(Shall meet minimum standards by the SWCD))*

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- ☐ f. **Septic System Compliance Inspection**
- ☐ g. **Erosion Control Plan**-*Attach completed and signed plan including map.*
- ☐ h. **Restoration Plan**-*See Part X for full details and requirements.*
- ☐ i. **Approved Stormwater Pollution Prevention Plan**
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The Department shall notify the applicant and/or landowner in writing of the County Board decision.

A certified copy of the Conditional Use Permit shall be filed with the Le Sueur County Recorder by the Department.

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XIII. Signatures:

I hereby certify with my signature that all data contained herein as well as all supporting data are true and correct to the best of my knowledge.

Applicant signature _____ Date 9-12-17

I hereby certify with my signature that all data contained herein as well as all supporting data are true and correct to the best of my knowledge.

Property Owner signature _____ Date 8-14-17

3

LE SUEUR COUNTY
CONDITIONAL USE PERMIT CRITERIA

Conditional Use Permit #: 17344

Applicant: LE SUEUR COUNTY SWCD **Land Owner:** PATRICK TRAXLER

Conditional Use Permit Request: TO ALLOW GRADING, EXCAVATING, AND FILLING OF APPROXIMATELY ~~2,000~~ 3064 CUBIC YARDS OF MATERIAL FOR A WETLAND ENHANCEMENT PROJECT.

1. The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminishes and impairs property values within the immediate vicinity.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

2. The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding vacant property for uses predominant in the area.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

3. Adequate utilities, access roads, drainage and other facilities have been or are being provided.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

4. Adequate measures have been or will be taken to provide sufficient off-street parking and loading space to service the proposed use.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

5. Adequate measures have been or will be taken to prevent and control offensive odor, fumes, dust, noise and vibration, so that none of these will constitute a nuisance, and to control lighted signs and other lights in such a manner that no disturbance to neighboring properties will result.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

6. The conditional use is consistent with and supported by the statement of purposes, policies, goals and objectives in the Ordinance.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

7. The conditional use is consistent with the Comprehensive Land Use Plan.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

If all answers are "YES" by a majority of the Planning Commission, the criteria for granting of the Conditional Use Permit request have been met. The Conditional Use Permit will meet the goals of safety, health and the general welfare of the public.

Date: _____ **APPROVED** ____ **DENIED** ____ **PZ Chairperson** _____

COUNTY BOARD MEETING DATE _____

Parcel Legal Description:
LAKE VOLNEY ESTATES Block-002 3.25 AC OUTLOT A

Project Description:
This project will enhance a preexisting wetland in the Lake Volney Estates plat by increasing the capacity and directing runoff to the basin. A total of 1,520 cu yds. of material will be excavated from the existing wetland to increase its capacity, a drain tile will redirect preexisting flow, and an outlet structure will be constructed utilizing 36 cu yds. of excavated material. The outlet structure will allow for excess, treated stormwater to safely outlet to Lake Volney. Eighteen (18) cu yds. of riprap will be placed to prevent scouring on both the outlet of the drain tile into the wetland and outlet pipe. Excess soil (1,506 cu yds.) will be disposed of on the field located on the same parcel under the same ownership. This results in a total of 3,064 cu yds. of total soil movement. Once work is completed, the site will be seeded for final stabilization. Site access will be via a preexisting access off of Lake Volney Ln. The newly constructed outlet structure for the wetland will discharge water at the 1028 elevation to a preexisting ditch that originally accepted water from this system. The ditch then flows to a culver under the road, directed to Lake Volney. Work was previously done downstream at this outlet to handle the existing flow. The project is setback 132 feet from Lake Volney.

This work is not designed for and will not treat water for the development. This is a separate basin from the stormwater basin created for the Lake Volney Estates plat.

1. Environmental Impacts: This project will enhance a preexisting wetland on the property and will provide treatment of farm runoff that is currently discharged directly into Lake Volney. The wetland will provide runoff filtration, groundwater recharge, and habitat.

3. Stormwater Runoff: No adverse impact to stormwater runoff will be created by this project. Erosion control measures will be placed on site per plan to prevent erosion offsite. Once work is completed, the site will be reseeded.

5. Wetland Impact: This project will enhance the wetland. The project will increase the overall size depth of the wetland. The seed mix that will be planted in the wetland are appropriate for Minnesota wetland enhancements.

6. Slope Stability: Side slopes of the new basin will be set at 10:1 slope, outlets for both the wetland and the tile will be armored to protect against scouring, and the site will be revegetated to prevent erosion. Slope for waist fill will be graded out to a slope of 20:1.

We give permission
To LeSueur Co. SWCD
to access the project
west of our Lake
Volney Rd (Township)

Ron Schmidt
Cordova Township
Chairman & Supervisor
and to do whatever
grading is involved
in the Right of Way
8-14-17

PROJECT MANUAL

WETLAND ENHANCEMENT

LOCATED IN:

NE ¼ - Section 1
Cordova Township
Le Sueur County

PREPARED FOR:

Patrick Traxler

AND THE

Le Sueur County
Soil and Water Conservation District

PREPARED BY:

South Central Technical Service Area
1160 South Victory Drive, Suite 3
Mankato, MN 56001

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Ryan T. Jones
Ryan T. Jones

Date: 7-25-17

Reg. No. 44622

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BY:

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MN-3	Structural Removals
MN-6	Seeding, Sprigging and Mulching
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SP-1	Dual Wall HDPE Pipe

INDEX TO DRAWINGS

Sheet 1	Cover Sheet
Sheet 2	Plan/Profile View Sheet
Sheet 3	Details Sheet

COOPERATOR'S REVIEW AND APPROVAL STATEMENT

I have reviewed the plans and specifications and agree to complete the work accordingly. Modification of these plans and specifications must be approved by the South Central Technical Service Area before installation. Failure to meet these plans and specifications may jeopardize my State or Federal cost-share funding.

I am responsible for clearly locating and marking all private utilities and tile lines within the work area. Failure to locate and mark private utilities and tile lines may increase my construction costs. I am responsible for securing all necessary permits and completing the work in accordance with all Local, State, and Federal Laws. I am responsible for all negotiations and agreements with the contractor(s). I will be available during construction to discuss potential modifications and conduct necessary negotiations with the contractor(s).

_____

(Cooperator's Signature) (Date)

CONTRACTOR'S REVIEW AND APPROVAL STATEMENT

I have reviewed the plans and specifications and agree to complete the work accordingly. Modification of these plans and specifications must be approved by the owner and the South Central Technical Service Area before installation. Failure to meet these plans and specifications may jeopardize the owner's State or Federal cost-share funding.

I understand that before the start of construction, the owners of all utilities must be notified. The excavator is responsible for giving this notice by calling the "Gopher State One Call" system at 1-800-252-1166 or at www.gopherstateonecall.org at least 48 hours prior to any excavation.

_____

(Contractor's Signature) (Date)

OPERATION AND MAINTENANCE PLAN

Traxler Wetland Enhancement
NE ¼ Section 1 – Cordova Township – Le Sueur County

Wetland enhancement projects are designed for a minimum life expectancy of 25 years. This can only be accomplished by proper maintenance. Listed below are recommended maintenance practices:

1. Remove accumulated debris and grass from the structure inlet at least once per year. The inlet controlling water elevation must be kept free of obstructions to function as designed. Higher than designed water levels create the potential structure failure.

2. Maintain a good grass cover on earth embankments and outlet structures. Do not allow trees to become established on these areas. Trees inhibit dense vegetative cover and weaken the structural integrity of the earthfill.

3. Check earth embankments after large storms and at least once a year for rodent damage, seepage, slope erosion, slope failure, spillway erosion, etc. Contact Le Sueur SWCD for assistance.

BID SCHEDULE

PROJECT:	**Wetland Enhancement**
OWNER:	**Patrick Traxler**
ENGINEER:	**Ryan Jones, P.E.** **South Central Technical Service Area** **1160 South Victory Drive, Suite 3** **Mankato, MN 56001** **(507) 345-1051**
PROJECT MANAGER:	**Michael Schultz, District Manager** **Joe Jirik, Technician** **181 W. Minnesota St.** **Le Center, MN. 56057** **(507) 357-4879 ex.3**

TERMS AND CONDITIONS:

A. GENERAL

1. This is a Unit Price Contract

2. Duplicate Bid Forms are provided herein. One set shall be completed in ink and returned to the owner. The second set may be retained by the bidder

3. Submit bid for all items. Failure to do so will preclude consideration of the bid. In case of error in the extension of prices, the unit price shall govern. In case of error in summation, the total corrected bid amounts shall govern.

B. PAYMENT

1. All items shall be paid on the basis of actual quantities measured except those designated as plan quantities (P) on the Bid Schedule.

2. Pay Units shown on the Bid Schedule are abbreviated as follows: Cubic Yards, C.Y.; Cubic Feet, C.F.; Gallon, Gal.; Lineal Foot, L.F.; Lump Sum, L.S.; Pound, lbs.; Square Foot, S.F.; Square Yard, S.Y.; Staked Quantities, S.Q.; and Furnish and Install, F & I.

3. Mobilization shall consist of preparatory work and operations including, but not limited to, those necessary for: the movement of personnel, equipment, supplies and incidentals to the project site; the establishment of all Contractor offices or other facilities necessary for work on the project; and the cost of insurance and bonds necessary for the project. The amount bid for mobilization shall not exceed five (5) percent of the total bid price.

4. Unless indicated as a plan quantity (P) or noted otherwise, a quantity may be increased or decreased no more than 25 percent from the amount shown on the Bid Schedule, with no change in unit price. If a quantity changes more than 25 percent, the unit price for that item shall be renegotiated upon written request by the Engineer or the Contractor. Plan quantities (P) are based upon original design data, which includes surveys, design assumptions, drawings and calculations. Changes in the number of units of a plan quantity (P) item shall not be made unless authorized by the Engineer.

5. Work items not included in the Bid Schedule but required by the Construction Plans or Specifications shall be considered incidental to the project.

6. Work done contrary to instructions of the Engineer, and any work done beyond that which is specified or ordered, will be considered to be Unauthorized work and will not be paid for under the provisions of this bid. Unauthorized work shall be removed by and at the expense of the Contractor, upon receipt of a written order from the Engineer.

7. Payments requested by the Contractor, prior to completion and certification of the project, may be made, if authorized by the Engineer. If authorized, ten percent (10%) of the approved "partial" payment will be with held until project completion.

C. MEASUREMENT

1. Unless noted otherwise, earthfill/embankment materials shall be measured by volume in cubic yards. The basis of measure is by compacted volume (CV) and not excavated volume or loose volume. The Contractor shall apply his/her own compaction factor. Compacted volume shall be computed by the average end area method as determined by cross section measure of the materials.

2. Thicknesses or depths will be measured according to neat lines shown on the drawings or as altered to fit site conditions, and preconstruction surveys, as directed by the Engineer.

3. All items, which are measured by the linear foot, such as pipe culverts, guardrail, under drains, etc., will be measured parallel to the base or foundation upon which the structure is placed.

4. Materials, which are measured by the cubic yard vehicular measure, shall be hauled in approved vehicles and measured at the point of delivery. The vehicles may be of any size or type, provided the body is shaped such that its capacity and actual contents can be accurately measured. All vehicles shall be loaded to at least their struck capacity, as determined by the Engineer, with sufficient over-allowance being made for settlement during transit. Each load shall be leveled upon its arrival at the point of delivery, if so directed by the Engineer. No allowance will be made for material heaped above the struck capacity of the vehicle. Deductions will be made in 2 cubic yard increments on loads, which contain less than the struck capacity.

5. In computing quantities of materials that require overlapping, such as geotextile fabric, geomembrane, or reinforcement wire, the net area covered by the material, excluding overlaps, shall be measured for payment. The Contractor shall be responsible for additional quantities of material to account for overlapping requirements.

6. When mutually agreed upon in writing, materials may be measured in units other than the unit of measurement specified as the basis of payment, but the measured quantity shall be converted to the specified unit of measure for payment. Factors for conversion from one unit of measurement to another shall be as established by the Engineer and agreed to by the Contractor.

7. The term "lump sum", when used as a unit of measurement for payment, will mean complete payment for that item of work as shown on the drawings and described in the specifications and will be construed to include all necessary fittings and accessories.

8. When standard manufactured items are specified such as fencing, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section, dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in the cited specifications, manufacturing tolerances established by the industries involved will be accepted.

BID FORM

Traxler Wetland Enhancement

Item No.	Item Description	Pay Unit	Estimated Quantity	Unit Price	Bid Amount
1	MOBILIZATION	L.S.	1		
2	CLEAR AND GRUB TREES IN WORK AREA Includes: (approximately 0.35 acres)	L.S.	1		
3	COMMON EXCAVATION Includes: (hauling and spreading in field)	C.Y.	1520 (P)(CV)		
4	FURNISH & INSTALL RIPRAP CHUTE Includes: (geotextile fabric, riprap, diversion earthwork) (see sheet 3 for details)	L.S.	1		
5	FURNISH & INSTALL 12" DIA. HDPE DUAL WALL PIPE (see sheet 2 for details)	L.F.	200		
6	FURNISH & INSTALL 18" DIA. CMP OUTLET STRUCTURE (see sheet 3 for details)	L.S.	1		
7	REMOVE AND DISPOSE OF EXISTING TILE FROM PROPOSED CONNECTION TO EXISTING OUTLET	L.F.	50 (P)		
8	SEEDING	ACRE	0.8		
9	EROSION CONTROL BLANKET, MNDOT CAT. 2A	S.Y.	400		
10	MULCH	TONS	2		
11	SEDIMENT CONTROL LOG, TYPE STRAW	L.F.	200		

TOTAL BID PRICE (Total of all Bid Amounts): _____

(continued on back page)

The undersigned offers to furnish labor, materials and equipment necessary to complete the project in accordance with the project plans, specifications and bid schedule, at the unit prices and/or amount specified.

NAME: _____

SIGNATURE: _____

DATE: _____

Notes:
All sales tax paid by the contractor in securing product for this bid shall be included as part of the total bid price.
(CV) Compacted Volume
(P) Plan quantity for which no direct measurement shall be made.

Minnesota Construction Specification 2—Clearing and Grubbing

1. Scope
The work consists of clearing and grubbing and disposal of trees, snags, logs, brush, stumps, shrubs, and rubbish from the project area.

2. Protection of existing vegetation
Trees and other vegetation designated to remain undisturbed shall be protected from damage throughout the duration of the construction period. Any damages resulting from the contractor's operations or neglect shall be repaired by the contractor.

Earthfill, stockpiling of materials, vehicular parking, and excessive foot or vehicular traffic shall not be allowed within the drip line of vegetation designated to remain in place. Vegetation damaged by any of these or similar actions shall be replaced with viable vegetation of the same species, similar condition, and like size unless otherwise approved by the engineer.

Any cuts, skins, scrapes, or bruises to the bark of the vegetation shall be carefully trimmed and local nursery accepted procedures used to seal damaged bark.

Any limbs or branches 0.5 inch or larger in diameter that are broken, severed, or otherwise seriously damaged during construction shall be cut off at the base of the damaged limb or branch flush with the adjacent limb or tree trunk. All roots 1-inch or larger in diameter that are cut, broken, or otherwise severed during construction operations shall have the end smoothly cut perpendicular to the root. Roots exposed during excavation or other operations shall be covered with moist earth or backfilled as soon as possible to prevent the roots from drying out.

3. Marking
The limits of the area(s) to be cleared and grubbed will be marked by stakes, flags, tree markings, or other suitable methods. Trees to be left standing and uninjured will be designated by special markings placed on the trunk about 6 feet above the ground surface.

4. Clearing and grubbing
All trees not marked for preservation and all snags, logs, brush, stumps, shrubs, rubbish, and similar materials shall be cleared from within the limits of the designated areas. Unless otherwise specified, all stumps, roots, and root clusters that have a diameter of 1 inch or larger shall be grubbed out to a depth of at least 2 feet below subgrade for concrete structures and 1 foot below the ground surface at embankment sites and other designated areas.

5. Disposal
All materials cleared and grubbed from the designated areas shall be disposed of at locations shown on the drawings or in a manner specified in section 6. The contractor is responsible for complying with all local rules and regulations and the payment of any and all fees that may result from disposal at locations away from the project site.

6. Construction details
Clearing and grubbing is required to allow for excavation of the basin.

The vegetative materials shall be disposed of by removal from the site, or as otherwise approved by the landowner and in accordance with local, state and federal law.

The foundation of the diversion embankment shall be free of all woody materials.

Minnesota Construction Specification 3—Structural Removal

1. SCOPE
The work shall consist of the removal, salvage and disposal of structures (including fences) from the designated areas.

2. MARKING
The limits of areas or each structure unit to be removed will be marked by means of stakes, flags, painted markers or other suitable methods. Structures or areas to be preserved in place or salvaged will be designated by special markings.

3. REMOVAL
All structures designated in the specification or on the drawings for removal shall be removed to the specified extent and depth.

4. SALVAGE
Structures that are designated to be salvaged shall be carefully removed and neatly placed in the specified storage areas. Salvaged structures that are capable of being disassembled shall be dismantled into individual members or sections. Such structures shall be neatly match marked with paint prior to disassembly. All pins, nuts, bolts, washers, plates and other loose parts shall be marked or tagged to indicate their proper locations in the structure and shall be fastened to the appropriate structural member or packed in suitable containers. Materials from fences designated to be salvaged shall be placed outside the work area on the property from which they were removed. Wire shall be rolled into uniform rolls of convenient size. Posts and rails shall be neatly piled.

5. DISPOSAL OF REFUSE MATERIALS

Refuse materials resulting from structure removal shall be burned or buried at locations shown on the drawings or as approved by the Engineer.

6. CONSTRUCTION DETAILS
At the locations shown in the plan, existing drain tile shall be excavated, removed and disposed. The drain tile to be removed extends from the proposed connection point to the existing outlet at the open ditch. Refilling and compacting the trench is incidental.

Minnesota Construction Specification 6—Seeding, Sprigging, and Mulching

1. Scope

The work consists of preparing the area for treatment; furnishing and placing seed, sprigs, mulch, fertilizer, inoculants, lime, and other soil amendments; and anchoring mulch in designated areas as specified.

2. Material

Seed—All seed shall conform to the current rules and regulations of the state where it is being used and shall be from the latest crop available. It shall meet or exceed the standard for purity and germination listed in section 6.

Seed shall be labeled in accordance with the state laws and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures are evidence of purity and germination. No seed will be accepted with a test date of more than 9 months before the delivery date to the site.

Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable shall be as defined in the current State laws relating to agricultural seeds. Each type of seed shall be delivered in separate sealed containers and fully tagged unless exception is granted in writing by the engineer.

Fertilizer—Unless otherwise specified, the fertilizer shall be a commercial grade fertilizer. It shall meet the standard for grade and quality specified by State law. Where fertilizer is furnished from bulk storage, the contractor shall furnish a supplier's certification of analysis and weight. When required by the contract, a representative sample of the fertilizer shall be furnished to the engineer for chemical analysis.

Inoculants—Not used.

Lime and other soil amendments—Not used.

Mulch tackifiers—Asphalt emulsion tackifiers shall conform to the requirements of ASTM D 977, Specification for Emulsified Asphalt. The emulsified asphalt may be rapid setting, medium setting, or slow setting. Nonasphaltic tackifiers required because of environmental considerations shall be as specified in section 6.

Straw mulch material—Straw mulch shall consist of wheat, barley, oat or rye straw, hay, grass cut from native grasses, or other plants as specified in section 6. The mulch material shall be air-dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The use of mulch that contains noxious weeds is not permitted. The contractor shall provide a method satisfactory to the engineer for determining weight of mulch furnished.

Other mulch materials—Mulching materials, such as wood cellulose fiber mulch, mulch tackifiers, synthetic fiber mulch, netting, and mesh, are other mulching materials that may be required for specialized locations and conditions. These materials, when specified, must be accompanied by the manufacturer's recommendations for methods of application.

3. Seeding mixtures, sod, sprigs, and dates of planting
The application rate per acre for seed mixtures, sprigs, or sod and date of seeding or planting shall be as shown on the plans or as specified in section 6.

4. Seedbed preparation and treatment
Areas to be treated shall be dressed to a smooth, firm surface. On sites where equipment can operate on slopes safely, the seedbed shall be adequately loosened (4 to 6 inches deep) and smoothed. Depending on soil and moisture conditions, disking or cultipacking, or both, may be necessary to properly prepare a seedbed. Where equipment cannot operate safely, the seedbed shall be prepared by hand methods by scarifying to provide a roughened soil surface so that broadcast seed will remain in place.

If seeding is to be accomplished immediately following construction operations, seedbed preparation may not be required except on a compacted, polished, or freshly cut soil surface.

Rocks larger than 6 inches in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance operations shall be removed or disposed of as specified in section 6.

Seedbed preparation shall be discontinued when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by the engineer.

5. Seeding, sprigging, fertilizing, mulching, and stabilizing
All seeding or sprigging operations shall be performed in such a manner that the seed or sprigs are applied in the specified quantities uniformly in the designated areas. The method and rate of seed application shall be as specified in section 6. Unless otherwise specified, seeding or sprigging shall be accomplished within 2 days after final grading is completed and approved.

Fertilizer, lime, and other soil amendments shall be applied as specified in section 6. When specified, the fertilizer and soil amendments shall be thoroughly incorporated into the soil immediately following surface application.

The rate, amount, and kind of mulching or mesh shall be as specified in section 6. Mulches shall be applied uniformly to the designated areas. They shall be applied to areas seeded not later than 2 working days after seeding has been performed. Straw mulch material shall be stabilized within 24 hours of application using a mulch crimper or equivalent anchoring tool or by a suitable tackifier. When the mulch crimper or equivalent anchoring tool is used, it shall have straight blades and be the type manufactured expressly for and capable of firmly punching the mulch into the soil. Where the equipment can be safely operated, it shall be operated on the contour. Hand methods shall be used where equipment cannot safely operate to perform the work required.

The tackifier shall be applied uniformly over the mulch material at the specified rate, or it shall be injected into the mulch material as it is being applied. Mesh or netting stabilizing materials shall be applied smoothly, but loosely on the designated areas. The edges of these materials shall be buried or securely anchored using spikes or staples as specified in section 6.

The contractor shall maintain the mesh or netting areas until all work under the contract has been completed and accepted. Maintenance shall consist of the repair of areas damaged by water erosion, wind, fire, or other causes. Such areas shall be repaired to reestablish the intended condition and to the design lines and grades required by the contract. The areas shall be

refertilized, reseeded, and remulched before the new application of the mesh or netting.

6. Construction details

Seed and mulch the disturbed area as directed by a SWCD technician.

Fertilizer – Not used.

Seeding - The seed mixtures shall be as listed in the plans (Sheet 1):

Minnesota State Seed Mix 33-261 (Stormwater South and West) applied at a rate of 35 lbs per acre.

In general this mix may be seeded during the following seasons:

Spring:	April 15 to July 20
Fall:	September 20 to October 20

Seeding dates may be adjusted by no more than 10 calendar days by the Engineer based on weather conditions. Provide temporary stabilization when outside the season of planting dates of the specified permanent seed mixture.

Dormant Seeding: After November 1, a dormant seeding may be conducted provided that soil temperatures are below 40 degrees Fahrenheit.

Seeding Method – See native mixes with a native seed drill, a drop-type seeder, or a hydroseeder at the adjusted bulk application rate of each mixture. Use a drill capable of accurately metering the types of seeds planted and capable of maintaining a uniform mixture of seed during drilling. Use a drill with disk furrow openers and a packer assembly to compact the soil directly over the row. Seed native mixes in rows no greater than 8 inches apart. Place seeds to a final planting depth from 1/8 inch to 3/8 inch. Perform drill seeding at a right angle to surface drainage. A drop-type seeder with separate seed box for the fluffy seed and a soil packer assembly may be used in lieu of a drill with disk openers. Use a cyclone or spinner type seeder on acres no greater than 1 acre.

Mulching

Straw mulch (MnDOT 3882, Type 1) shall be applied uniformly at a rate 2 tons per acre. Straw mulch material shall be anchored with a straight disk.

Erosion Control Blanket

Erosion control blanket (MnDOT 3885, Category 2A) shall be installed on the in areas draining directly to the open ditch. The blanket shall be stapled to the ground as recommended by the manufacturer, and trenched in on the upstream end. Follow MnDOT 2575.3.G2

Sediment Control Log

Sediment control log shall meet the requirements of MnDOT 3897 for the type referenced in the plans. Installation shall be as shown in the plan detail, and per MnDOT 2573.3.F.1.

33-261 Stormwater South & West

Common Name	Scientific Name	Rate (lb/ac)	Rate (kg/ha)	% of Mix (by weight)	Seeds/ sq ft
big bluestem	*Andropogon gerardii*	2.00	2.24	5.72%	7.35
fringed brome	*Bromus ciliatus*	2.00	2.24	5.73%	8.10
Virginia wild rye	*Elymus virginicus*	1.50	1.68	4.28%	2.31
fowl bluegrass	*Poa palustris*	1.06	1.19	3.03%	50.70
slender wheatgrass	*Elymus trachycaulus*	1.00	1.12	2.85%	2.53
switchgrass	*Panicum virgatum*	0.38	0.43	1.07%	1.93
prairie cordgrass	*Spartina pectinata*	0.38	0.43	1.07%	0.91
Indian grass	*Sorghastrum nutans*	0.12	0.13	0.36%	0.55
bluejoint	*Calamagrostis canadensis*	0.06	0.07	0.18%	6.40
	Grasses Subtotal	8.50	9.53	24.29%	80.78
awl-fruited sedge	*Carex stipata*	0.25	0.28	0.71%	3.10
dark green bulrush	*Scirpus atrovirens*	0.19	0.21	0.54%	31.70
woolgrass	*Scirpus cyperinus*	0.06	0.07	0.18%	39.00
	Sedges & Rushes Subtotal	0.50	0.56	1.43%	73.80
golden alexanders	*Zizia aurea*	0.20	0.22	0.56%	0.79
autumn sneezeweed	*Helenium autumnale*	0.13	0.15	0.36%	5.97
marsh milkweed	*Asclepias incarnata*	0.11	0.12	0.32%	0.20
leafy beggarticks	*Bidens frondosa*	0.11	0.12	0.31%	0.20
Canada anemone	*Anemone canadensis*	0.07	0.08	0.19%	0.20
obedient plant	*Physostegia virginiana*	0.07	0.08	0.21%	0.30
tall coneflower	*Rudbeckia laciniata*	0.07	0.08	0.21%	0.37
New England aster	*Symphyotrichum novae-angliae*	0.07	0.08	0.19%	1.56
flat-topped aster	*Doellingeria umbellata*	0.06	0.07	0.17%	1.50
spotted Joe pye weed	*Eutrochium maculatum*	0.06	0.07	0.18%	2.19
blue vervain	*Verbena hastata*	0.05	0.06	0.15%	1.85
	Forbs Subtotal	1.00	1.12	2.85%	15.13
Oats	*Avena sativa*	25.00	28.02	71.43%	11.14
	Cover Crop Subtotal	25.00	28.02	71.43%	11.14
	Total	35.00	39.23	100.00%	180.85
Purpose:	Stormwater pond edges, temporarily flooded dry ponds, and temporarily flooded ditch bottoms.				
Planting Area:	Tallgrass Aspen Parklands, Prairie Parkland, and Eastern Broadleaf Forest Provinces. Mn/DOT Districts 2(west), 3B, 4, Metro, 6, 7 & 8.				

Minnesota Construction Specification 21—*Excavation*

1. Scope
The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials.

2. Classification
Excavation will be classified as common excavation or rock excavation in accordance with the following definitions or will be designated as unclassified.

Common excavation shall be defined as the excavation of all materials that can be excavated, transported, and unloaded by the use of heavy ripping equipment and wheel tractor-scrapers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by means of excavators having a rated capacity of one cubic yard and equipped with attachments (such as shovel, bucket, backhoe, dragline or clam shell) appropriate to the character of the materials and the site conditions.

Rock excavation shall be defined as the excavation of all hard, compacted or cemented materials the accomplishment of which requires blasting or the use of excavators larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than one cubic yard in volume encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation.

Excavation will be classified according to the above definitions by the Engineer, based on his judgment of the character of the materials and the site conditions.

The presence of isolated boulders or rock fragments larger than one cubic yard in size will not in itself be sufficient cause to change the classification of the surrounding material.

For the purpose of this classification, the following definitions shall apply:

Heavy ripping equipment shall be defined as a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a tractor having a power rating of 200-300 net horsepower (at the flywheel).

Wheel tractor-scraper shall be defined as a self-loading (not elevating) and unloading scraper having a struck bowl capacity of 12-20 yards.

Pusher tractor shall be defined as a track type tractor having a power rating of 200-300 net horsepower (at the flywheel) equipped with appropriate attachments.

Unclassified Excavation. Items designated as "Unclassified Excavation" shall include all materials encountered regardless of their nature or the manner in which they are removed. When excavation is unclassified, none of the definitions or classifications stated in Section 2 of this specification shall apply.

3. Blasting
The transportation, handling, storage, and use of dynamite and other explosives shall be directed and supervised by a person of proven experience and ability in blasting operations.

Blasting shall be done in such a way as to prevent damage to the work or unnecessary fracturing of the foundation and shall conform to any special requirements in Section 10 of this specification.

4. Use of excavated materials
To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required permanent earthfill or rockfill. The suitability of materials for specific purposes will be determined by the Engineer. The Contractor shall not waste or otherwise dispose of suitable excavated materials.

5. Disposal of waste materials
All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of at the locations shown on the drawings or shall be disposed of by the Contractor at sites of his own choosing away from the site of the work.

6. Bracing and shoring
Excavated surfaces too steep to be safe and stable if unsupported shall be supported as necessary to safeguard the work and workmen, to prevent sliding or settling of the adjacent ground, and to avoid damaging existing improvements. The width of the excavation shall be increased if necessary to provide space for sheeting, bracing, shoring, and other supporting installations. The Contractor shall furnish, place and subsequently remove such supporting installations.

7. Structure and trench excavation
Structure or trench excavation shall be completed to the specified elevations and to sufficient length and width to include allowance for forms, bracing and supports, as necessary, before any concrete or earthfill is placed or any piles are driven within the limits of the excavation.

8. 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. The extent and depth of borrow pits within the limits of the designated borrow areas shall be as directed by the Engineer.

Borrow pits shall be excavated and finally dressed in a manner to eliminate steep or unstable side slopes or other hazardous or unsightly conditions.

9. Overexcavation
Excavation in rock beyond the specified lines and grades shall be corrected by filling the resulting voids with portland cement concrete made of materials and mix proportions approved by the Engineer. Concrete that will be exposed to the atmosphere when construction is completed shall contain not less than 6 sacks of cement per cubic yard of concrete. Concrete that will be permanently covered shall contain not less than 4-1/2 sacks of cement per cubic yard. The concrete shall be placed and cured as specified by the Engineer.

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

The cost of unauthorized excavation and the backfill required to replace unauthorized excavation shall be borne by the Contractor.

10. Construction details

Excavated material shall be placed and spread in the adjacent farm fields, at locations approved by the Landowner.

SP-1 Dual Wall HPDE Pipe (Water Tight)

1. Scope

The work consists of furnishing and installing dual wall high density polyethylene (HDPE) pipe and the necessary fittings and appurtenances as shown on the drawings or as specified herein.

2. Material

Pipe

The HDPE pipe shall be N-12 WT IB pipe (per ASTM F2648) as manufactured by ADS Inc., or an equivalent product approved by the Engineer.

- The pipe shall have a smooth interior and annular exterior corrugations.
- 4- through 60-inch pipe shall meet ASTM F2648.

Material for pipe production shall be an engineered compound of virgin and recycled high-density polyethylene conforming with the minimum requirements of cell classification 424420C (ESCR Test Condition B) for 4- through 10-inch (100 to 250 mm) diameters, and 435420C (ESCR Test Condition B) for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material and installation requirements for a given application.

Joints/Gaskets

Joints shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

12- through 60-inch diameters shall have a reinforced bell with a polymer composite band. The bell tolerance device shall be installed by the manufacturer.

Fittings

Fittings shall conform to ASTM F2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance requirements of ASTM F2306.

3. Handling and storage

Pipe shall be delivered to the job site and handled by means that provide adequate support to the pipe and do 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 edges and/or surface or rocks). The manufacturer's special handling requirements shall be strictly observed.

Pipe shall be stored on a relatively flat surface so that the barrels are evenly supported. Unless the

INSTALLATION GUIDE

N-12® HDPE (per AASHTO) Pipe Installation for Agricultural Drainage

IG 1.03PE
November 2014

The recommendations presented here detail how to install a dependable subsurface drainage or groundwater control system using ADS N-12® dual wall HDPE pipe manufactured to meet AASHTO M252, AASHTO M294 or ASTM F2306. These installation practices are not recommended for sanitary or storm sewer applications, commercial applications, road crossings or installations where a higher level of performance is required. While performance requirements can differ depending on a project's specific requirements, this guide is intended to address the common practices used in agricultural installations where a greater amount of deflection is acceptable. For installation conditions outside not addressed in this document (poor soil conditions, high surface loads), please contact an ADS representative for further guidance.

Backfill Selection

Only soils meeting the classifications described in Table 1 are recommended for use. The minimum required compaction level for the respective soil is dependent upon the expected fill height and the shape of the trench being cut. Reference the Trench Construction section of this installation guide for compaction level and allowable fill height recommendations.

Table 1
Acceptable Soil Classes for Backfill & Embedment

Soil Description	Soil Classification	
	ASTM D2321	ASTM D2487
Graded or crushed stone Crushed gravel	Class I	-
Well-graded sand, gravels, and gravel/sand mixtures; Poorly graded sand,gravels and gravel/sand mixtures; little or no fines	Class II	GW GP SW SP
Silty or clayey gravels, Gravels/sand/silt or gravels and/clay mixtures, silty or clayey sands, sand/clay or sand/silt mixtures	Class III	GM GC SM SC
Inorganic silts and low to medium plasticity clays; gravelly, sandy, or silty clays; some fine sands	Class IVA	ML CL

Trench Construction

As with any pipe, groundwater or seasonal high water tables may impede installation. De-watering is necessary to maintain stability of in-situ and backfill materials for a safe and effective installation.

Trenches or ditch bottoms containing bedrock, soft much or refuse or other material unable to provide long-term pipe support are unacceptable and shall be removed. Unsatisfactory material shall be removed to the extent recommended by the design engineer. Without specific design guidance from a soils expert, the following guidelines may be implemented:

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- Unyielding material or rock shall be removed 0.5ft (150mm) below bottom of pipe grade and 0.5ft (150mm) on either side of the pipe and replaced with suitable material.
- Soft or unstable soils shall be excavated approximately 2ft (600mm) below grade and three times pipe diameter and replaced with a suitable material.

In areas where soil migration is a concern, a non-woven filter fabric (geotextile) shall be used to separate native soil from the backfill material as recommended by the design engineer. Guidance on sizing filter fabric to prevent migration of fines is provided in ASTM D2321. Additionally, when perforated pipe or pipe with soil-tight joints is installed and water levels are expected to vary, either due to seasonal fluctuations, pumping or well-pointing methods, water flow may be sufficient to move sand or silt into the drain, in which case a non-woven filter fabric around the pipe may be necessary to prevent blockage or hydraulic capacity reduction of the pipe. It is recommended that any pipe with more than 8ft of cover be non-perforated; perforated pipe may allow soil infiltration which could undermine the backfill of the pipe. For designs utilizing solid pipe, a watertight joint is available to eliminate soil infiltration into the joint.

To prevent damage to the pipe, a minimum depth of backfill above the pipe should be maintained before allowing vehicles or equipment to travel over the pipe. Following ADS backfill recommendations and based on common large tractors (John Deere 9630 or equivalent), a minimum cover of 24" (610mm) should be provided. Heavier equipment or shallower cover may be possible and should be evaluated by an ADS representative for specific installation recommendations. Heavy construction equipment or high-impact compaction equipment (e.g. hydrohammer) requires at least 48" (1220mm) of cover and should be evaluated by the engineer prior to pipe installation and equipment use.

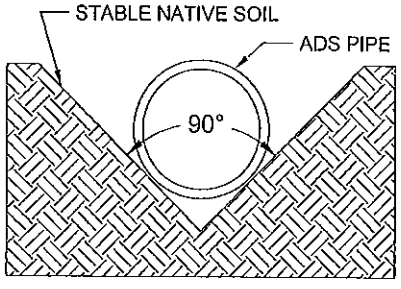
Parallel pipe installations require adequate space be maintained between the pipes in order to allow for proper compaction of the backfill material. Minimum spacing shall not be less than half of the pipe diameter for pipes larger than 24" (600mm) and not less than 12" (300mm) for pipe diameters 24" and smaller; narrower spacing may be possible depending on the pipe diameter, trench shape and the backfill material.

The shape of the trench can vary based on excavation equipment, type of fill being used for embedment, and compaction methods. Independent of the trench shape however, successful installation of flexible pipe relies on the quality of the embedment. The following subsections outline recommendations for shaped-trench construction and pipe installation. When installing any pipe material, shaped trench bottoms should only be used when the existing soils are stable enough to withstand the cut without sloughing.

V-Bottom (4" – 8" Diameter Pipe)

A V-shaped trench bottom is best used for pipe diameters 8" (200mm) or smaller, per ASTM F449-02; however, fittings should be installed using a rectangular trench. The shape of the "V" should be at a 90-deg angle and is typically formed using a plow attachment; see Figure 1. The pipe is pressed into the V-shaped void and provides adequate support to reduce horizontal deflection. Often times, the native soils are placed over top the pipe to bring the excavation up to the final grade. Soil classes 1 through 4 are suitable backfill materials for this trench construction. Fill heights, measured from top of pipe to surface, should be limited to 8ft when utilizing this type of trench.

Figure 1
V-Bottom Trench



Rounded Trench Bottom (10" – 60" Diameter Pipe)

A rounded trench bottom is best used for pipe diameters 10" (250mm) or greater; however, fittings should be installed using a rectangular trench. A rounded trench bottom is commonly created using a shaped trencher or using a "spoon" attachment on an excavator bucket. Performance of the pipe in this type of trench is greatly dependent on the trench walls conforming as closely as possible to the outside of the pipe. The width of the spoon should be sized to accommodate the diameter of the pipe being installed. For spoon widths that greatly exceed the pipe diameter, the pipe will be allowed to deflect a greater amount until a point at which the sidewalls of the pipe are adequately supported by the trench walls or backfill material. The trench should be cut to a depth such that the bottom 180-deg (half) of the pipe is supported. See Figure 2 and Table 2 for trench dimensions.

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For any pipe material placed in a shaped trench, the invert pipe elevation is dependent on the elevation of the excavated trench bottom. When the trench is cut, the pipe will follow the line and grade of the trench and any deviations in the design slope can affect pipe hydraulics.

Allowable fill heights based on the backfill material and compaction level are provided in Table 3.

Figure 2
Rounded Trench Installation

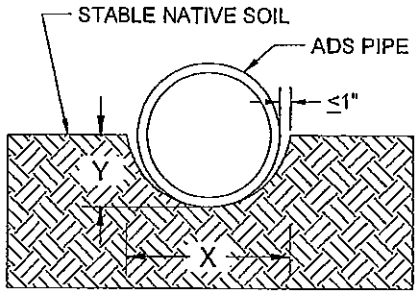

Table 2
Rounded Trench Dimensions

Pipe Diameter in (mm)	Maximum* Width "X" in (mm)	Depth "Y" in (mm)
10 (250)	13.5 (343)	5.7 (145)
12 (300)	16.5 (419)	7.3 (185)
15 (375)	19.6 (498)	8.8 (224)
18 (450)	23.3 (592)	10.6 (269)
24 (600)	29.9 (759)	14.0 (356)
30 (750)	37.2 (945)	17.6 (447)
36 (300)	43.2 (1097)	20.6 (523)
42 (1050)	49.8 (1265)	23.9 (607)
48 (1200)	55.7 (1415)	26.9 (683)
60 (1500)	68.6 (1742)	33.3 (846)

Maximum width based on ≤1" gap on either side of the pipe at the springline. Wider trench widths may adversely affect pipe performance

Table 3
Maximum Fill Height, ft (m)
for Rounded Trench Construction

Pipe Diameter in (mm)	Soil Classification *(see Table 1)*	
	Class 2 (GW, GP, SW, SP) @ 85%	Class 4A (ML, CL) @ 80%
10 (250)	20 (6.1)	9 (2.7)
12 (300)	21 (6.4)	11 (3.4)
15 (375)	20 (6.1)	10 (3.0)
18 (450)	21 (6.4)	12 (3.7)
24 (600)	18 (5.5)	10 (3.0)
30 (750)	19 (5.8)	10 (3.0)
36 (300)	15 (4.6)	8 (2.4)
42 (1050)	16 (4.9)	8 (2.4)
48 (1200)	14 (4.3)	7 (2.1)
60 (1500)	11 (3.4)	6 (1.8)

Fill heights are measured from top of pipe to ground surface.
Unit weight of soil = 120pcf
For deeper installations or installations below groundwater table, contact an ADS representative for recommendations

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Flat Trench Bottom (4" – 60" Diameter Pipe)

When greater fill heights are required for any pipe diameter, a rectangular trench may be necessary, in combination with improved soil embedment or additional compaction effort; for any fittings, a rectangular trench, in lieu of a shaped bottom trench, shall be used. The trench should be wide enough to place and compact backfill material around the pipe. Increasing the trench width increases the soil load on the pipe. Where trench walls are stable or supported, provide a width sufficient, but not greater than necessary, to ensure working room to properly and safely place and compact embedment materials. The minimum trench width should be no less than pipe OD+6" but no greater than pipe OD+24". Refer to Figure 3 for rectangular trench construction.

Any soil types listed in Table 1 may be used as backfill. Non-cohesive sand or sand/gravel mixtures (Class 2 and 3) require compaction in order to remove voids and minimize long term settlement that can lead to excessive deflection. Cohesive materials (Class 4) also require compaction efforts, but are inherently more difficult to compact compared to non-cohesive soils. In order to minimize compactive effort, the moisture content of cohesive soils should be near optimum and should only be used where water is not present in the trench during placement. Cohesive soils can provide adequate pipe support, but may not be suitable under high fills, surface-applied wheels loads or with high-energy vibratory compactors.

Table 4 provides allowable fill heights using sand/gravel mixture, well compacted; allowable fill heights using other materials or other compaction levels not listed are available from your ADS representative or referencing ADS Technical Note 2.01.

Figure 3
Rectangular Trench Installation

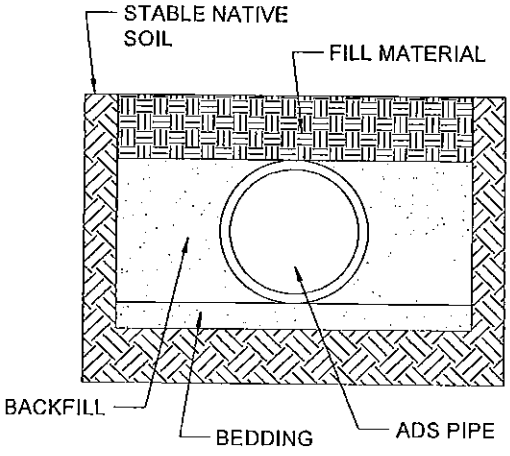

Table 4
Maximum Fill Height for Rectangular Trench Construction

Pipe Diameter in (mm)	**Class 2** (GW, GP, SW, SP) **@ 95%** ft (m)
4 (100)	26 (7.9)
6 (150)	30 (9.1)
8 (200)	23 (7.0)
10 (250)	27 (8.2)
12 (300)	27 (8.2)
15 (375)	29 (8.8)
18 (450)	25 (7.6)

Pipe Diameter in (mm)	**Class 2** (GW, GP, SW, SP) **@ 95%** ft (m)
24 (600)	21 (6.4)
30 (750)	18 (5.5)
36 (300)	20 (6.1)
42 (1050)	19 (5.8)
48 (1200)	18 (5.5)
60 (1500)	20 (6.1)

Fill heights are measured from top of pipe to ground surface.
Unit weight of soil = 120pcf
For deeper installations or installations below groundwater table, contact an ADS representative for recommendations

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LE SUEUR COUNTY ENVIRONMENTAL SERVICES
88 SOUTH PARK AVE.
LE CENTER, MINNESOTA 56057-1620
(507) 357-2251
FAX (507) 357-8541

Erosion and Sediment Control Plan

Goal: To control erosion and prevent sediment and other pollutants from entering the lakes, streams, wetlands, and storm drain systems during construction.

Property Owner: Patrick Traxler PID: 02.570.0180
Mailing Address: 36497 191st Ave, Montgomery, MN 56069
Property Address: NA
Phone: (507) 357-4879 Mobile/Cell:( )

Responsible party for Implementation/Inspection: Le Sueur SWCD
Address: 181 W. Minnesota St., Le Center MN 56057
Phone: (507) 357-4879 Mobile/Cell:( )

Erosion & Sediment Control Measures

1. Maintain existing vegetation whenever possible and minimize the area of disturbance. Retain and protect trees to enhance future landscaping efforts and to reduce raindrop impact. (Vegetation is the best and most cost-effective erosion control practice).

2. Install all erosion and sediment control practices prior to any soil disturbing activities, when applicable.

3. Phase construction activities to minimize the areas disturbed at one time. This will also allow completed areas to be stabilized and re-vegetated before disturbing adjacent sites.

4. Maintain and protect all natural waterways. Retain at least a 20-foot wide strip of natural vegetation along all waterways to filter out sediment and other pollutants.

5. Minimize the use of impermeable surfaces such as roofs, driveways, parking lots and roads. The Environmental Resources staff must approve all storm water runoff plans.

6. Use rock rip-rap at both the outlet and inlet ends of culverts to prevent scour erosion.

7. Limit construction equipment to designated areas to control soil compaction.

8. Install silt fence on the down-slope perimeter of all disturbed areas according to the attached installation instructions. Sensitive areas such as wetlands, drainage swales and shoreland areas should also be protected with silt fence.

9. Install straw bale checks or rock check dams in areas of concentrated flow .

10. Cover any stockpiled topsoil with plastic or other impervious covering. Use stockpiled topsoil as earthen berms to serve as temporary sediment basins.

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11. Mulch all disturbed areas at the rate of one 50-pound bale of straw per 500 square feet. On slopes 4:1 or steeper use the following erosion control blankets that have been pinned to the slope according to the manufacturer's instructions:

2:1 slopes or steeper	Straw/Coconut Blanket or High Velocity Wood Blanket
3:1 slopes or steeper	Wood or Straw Blanket with net on both sides
4:1 slopes or steeper	Wood or Straw Mulch blanket with net on one side
Flat areas	Straw Mulch w/disc anchoring

12. Seed all disturbed areas within seven days of final grading and temporary seed/mulch all areas that will be left inactive for more than seven days. Do not seed later than September 1st. Areas that need to be seeded after this date should be dormant seeded in late October or early November. See the attached instruction sheet for recommended mixtures and rates. The use of native plant materials, including trees and shrubs, is encouraged. Native species will provide good vegetative cover that is adapted to our soils and climate.

13. Apply fertilizer according to soil test recommendations.

14. Install water bars on access roads to prevent concentrated water from flowing down the road and eroding gravel.

15. Attach a site map showing the location of all erosion control practices, property lines, roads, lakes, watercourses, wetlands, on-site systems and building locations.

Note: To reduce mud transported onto paved roads, a rock construction entrance may be required. This will require a six-inch layer of 1-2 inch diameter washed rock a minimum of 50 feet in length.

Inspection and Maintenance

16. Inspect the construction site every 7 days and within 24 hours after every rain event to ensure the practices are working properly (i.e. silt fences, water bars).

17. Clean out the silt fences when they are 1/3 full of sediment or replace with functional silt fences within 24 hours.

18. Clean out sediment basins on a regular basis to maintain capacity.

I agree to install, inspect and maintain the above practices to accomplish the goal of preventing erosion.

Patrick Trapp — 9-12-17
(Property Owner) — (Date)

[illegible] — 9-12-17
(Person Responsible for Implementation) — (Date)

If you have any questions, please contact Environmental Services, at 507-357-8538.

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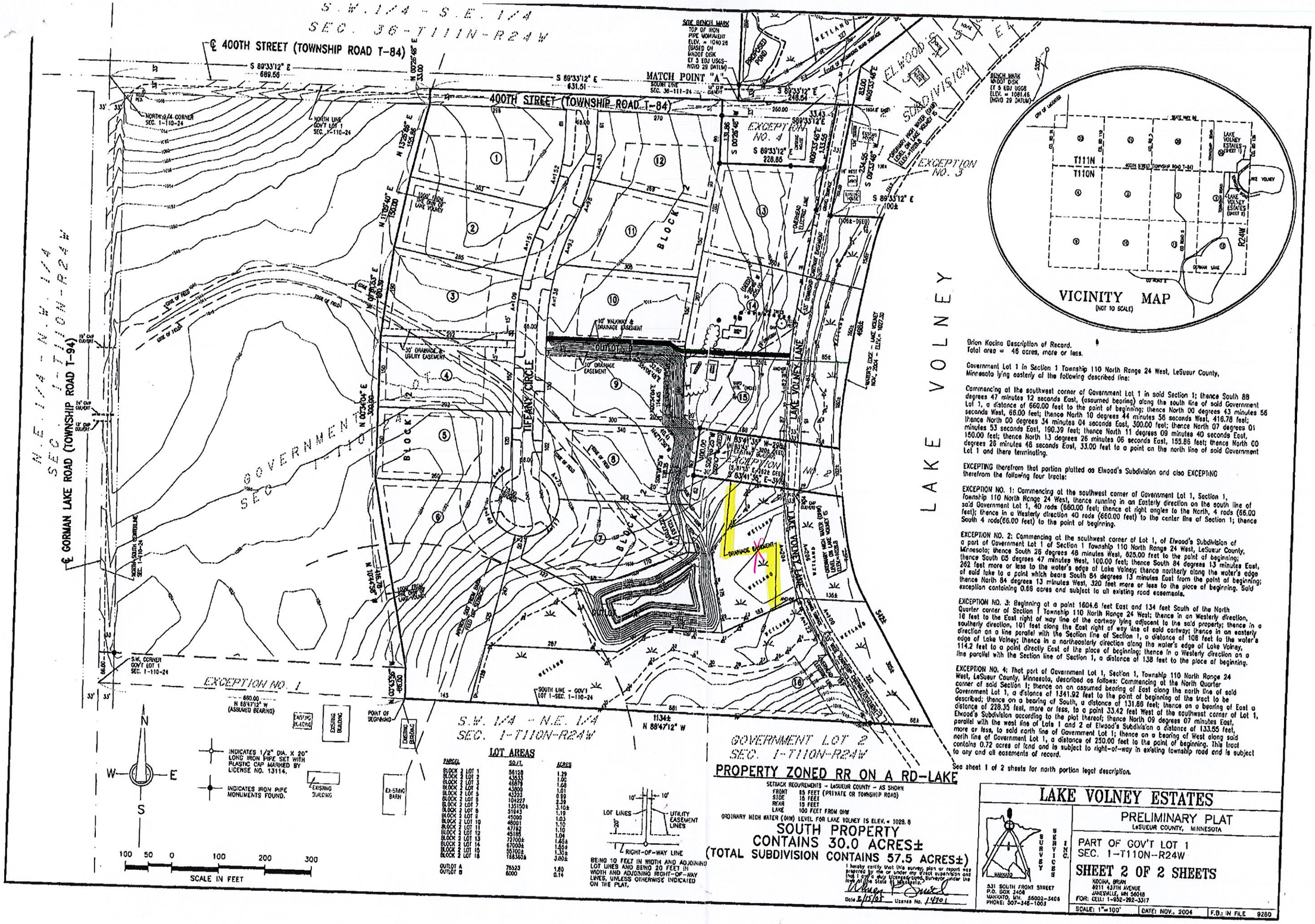

Brian Kocina Description of Record.
Total area = 46 acres, more or less.

Government Lot 1 in Section 1 Township 110 North Range 24 West, LeSueur County, Minnesota lying easterly of the following described line:

Commencing at the southwest corner of Government Lot 1 in said Section 1; thence South 88 degrees 47 minutes 12 seconds East, (assumed bearing) along the south line of said Government Lot 1, a distance of 660.00 feet to the point of beginning; thence North 00 degrees 43 minutes 56 seconds West, 66.00 feet; thence North 10 degrees 44 minutes 58 seconds West, 416.78 feet; thence North 00 degrees 34 minutes 04 seconds East, 300.00 feet; thence North 07 degrees 01 minutes 53 seconds East, 190.39 feet; thence North 11 degrees 09 minutes 40 seconds East, 150.00 feet; thence North 13 degrees 26 minutes 06 seconds East, 155.86 feet; thence North 00 degrees 26 minutes 46 seconds East, 33.00 feet to a point on the north line of said Government Lot 1 and there terminating.

EXCEPTING therefrom that portion platted as Elwood's Subdivision and also EXCEPTING therefrom the following four tracts:

EXCEPTION NO. 1: Commencing at the southwest corner of Government Lot 1, Section 1, Township 110 North Range 24 West, thence running in an Easterly direction on the south line of said Government Lot 1, 40 rods (660.00 feet); thence at right angles to the North, 4 rods (66.00 feet); thence in a Westerly direction 40 rods (660.00 feet) to the center line of Section 1; thence South 4 rods(66.00 feet) to the point of beginning.

EXCEPTION NO. 2: Commencing at the southwest corner of Lot 1, of Elwood's Subdivision of a part of Government Lot 1 of Section 1 Township 110 North Range 24 West, LeSueur County, Minnesota; thence South 26 degrees 48 minutes West, 625.00 feet to the point of beginning; thence South 05 degrees 47 minutes West, 100.00 feet; thence South 84 degrees 13 minutes East, 262 feet more or less to the water's edge of Lake Volney; thence northerly along the water's edge of said lake to a point which bears South 84 degrees 13 minutes East from the point of beginning; thence North 84 degrees 13 minutes West, 320 feet more or less to the place of beginning. Said exception containing 0.66 acres and subject to all existing road easements.

EXCEPTION NO. 3: Beginning at a point 1604.6 feet East and 134 feet South of the North Quarter corner of Section 1 Township 110 North Range 24 West; thence in an Westerly direction, 16 feet to the East right of way line of the cartway lying adjacent to the said property; thence in a southerly direction, 101 feet along the East right of way line of said cartway; thence in an easterly direction on a line parallel with the Section line of Section 1, a distance of 108 feet to the water's edge of Lake Volney; thence in a northeasterly direction along the water's edge of Lake Volney, 114.2 feet to a point directly East of the place of beginning; thence in a Westerly direction on a line parallel with the Section line of Section 1, a distance of 138 feet to the place of beginning.

EXCEPTION NO. 4: That part of Government Lot 1, Section 1, Township 110 North Range 24 West, LeSueur County, Minnesota, described as follows: Commencing at the North Quarter corner of said Section 1; thence on an assumed bearing of East along the north line of said Government Lot 1, a distance of 1,341.92 feet to the point of beginning of the tract to be described; thence on a bearing of South, a distance of 131.86 feet; thence on a bearing of East a distance of 228.35 feet, more or less, to a point 33.42 feet West of the southwest corner of Lot 1, Elwood's Subdivision according to the plat thereof; thence North 09 degrees 07 minutes East, parallel with the west line of Lots 1 and 2 of Elwood's Subdivision a distance of 133.55 feet, more or less, to said north line of Government Lot 1; thence on a bearing of West along said north line of Government Lot 1, a distance of 250.00 feet to the point of beginning. This tract contains 0.72 acres of land and is subject to right-of-way in existing township road and is subject to any and all easements of record.

See sheet 1 of 2 sheets for north portion legal description.

LOT AREAS

PARCEL	SQ.FT.	ACRES
BLOCK 2 LOT 1	56128	1.29
BLOCK 2 LOT 2	43633	1.00
BLOCK 2 LOT 3	46879	1.08
BLOCK 2 LOT 4	43900	1.01
BLOCK 2 LOT 5	43233	0.99
BLOCK 2 LOT 6	104227	2.39
BLOCK 2 LOT 7	135150±	3.10±
BLOCK 2 LOT 8	51943	1.19
BLOCK 2 LOT 9	45000	1.03
BLOCK 2 LOT 10	48001	1.10
BLOCK 2 LOT 11	47782	1.10
BLOCK 2 LOT 12	45188	1.04
BLOCK 2 LOT 13	72700±	1.66±
BLOCK 2 LOT 14	67000±	1.55±
BLOCK 2 LOT 15	55700±	1.30±
BLOCK 2 LOT 16	166360±	3.80±
OUTLOT A	78523	1.80
OUTLOT B	6000	0.14

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Date 2/15/05 License No. 14701

WETLAND ENHANCEMENT

PREPARED FOR

PATRICK TRAXLER

AND THE

LE SUEUR COUNTY SOIL & WATER CONSERVATION DISTRICT

CONSTRUCTION NOTES:

THE OWNER IS RESPONSIBLE FOR OBTAINING LAND RIGHTS AND LOCAL, STATE, AND FEDERAL PERMITS OR OTHER PERMISSION NECESSARY TO PERFORM AND MAINTAIN THE PRACTICE.

BEFORE START OF CONSTRUCTION, THE OWNER OF ANY UTILITIES INVOLVED MUST BE NOTIFIED. THE EXCAVATOR IS RESPONSIBLE FOR GIVING NOTICE BY CALLING "GOPHER STATE ONE-CALL" AT (800) 252-1166 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO LOCATE ANY PRIVATE UTILITIES THAT MAY BE IN THE VICINITY OF THE PROJECT. THE SOUTH CENTRAL TECHNICAL SERVICE AREA MAKES NO REPRESENTATION OF THE EXISTENCE OR NON-EXISTENCE OF UTILITIES. THE ABSENCE OF UTILITIES ON DRAWINGS DOES NOT ASSURE THAT THERE ARE NO UTILITIES ON SITE.

A PRE-CONSTRUCTION CONFERENCE WITH THE OWNER, CONTRACTOR(S), SWCD REPRESENTATIVE, AND SOUTH CENTRAL TSA ENGINEER OR TECHNICIAN SHALL BE SCHEDULED ONE WEEK PRIOR TO START OF CONSTRUCTION. ANY WORK DONE BEFORE CONFERENCE WILL JEOPARDIZE PROJECT APPROVAL AND FUNDING.

MINNESOTA SPECIFICATIONS FOR CONSERVATION PRACTICES APPLY FOR ALL MATERIALS AND CONSTRUCTION WORK. THESE SPECIFICATIONS ARE PART OF THIS PLAN.

CHANGES IN THE DRAWINGS OR SPECIFICATIONS MUST BE AUTHORIZED BY THE OWNER AND THE RESPONSIBLE ENGINEER.

RESTORATION NOTES:

TOP-DRESS THE PROPOSED EMBANKMENTS WITH A MINIMUM OF 6 INCHES OF TOPSOIL.

PRIOR TO SEEDING, THE SITE SHALL BE PREPARED BY LOOSENING TOPSOIL TO A MINIMUM DEPTH OF 3 INCHES.

DISTURBED AREAS SHALL BE SEEDED WITH MINNESOTA STATE SEED MIX 33-261 (STORMWATER SOUTH AND WEST), APPLIED AT A RATE OF 35 LBS PER ACRE. SEE SPECIFICATIONS FOR REQUIREMENTS FOR SEEDING NATIVE GRASS MIXTURES.

- FOR 0.8 ACRES, 28 LBS OF SEED MIX IS REQUIRED

DISTURBED AREAS SHALL BE PROTECTED AS FOLLOWS:

- SLOPES DRAINING DIRECTLY TO THE OPEN DITCH: PROTECT WITH EROSION CONTROL BLANKET (MNDOT 3885 CAT. 2A.)
- ALL OTHER AREAS: PROTECT WITH DISK ANCHORED MULCH (MNDOT 3882, TYPE 1) APPLIED AT A RATE OF APPROXIMATELY 2 TONS PER ACRE.

ESTIMATED QUANTITIES

ITEM	ITEM DESCRIPTION	QUAN.	UNIT	CONST. SPEC.	MATERIAL SPEC.	NOTES
1	MOBILIZATION	1	L.S.			
2	CLEAR AND GRUB TREES IN WORK AREA.	1	L.S.	MN-2		
3	COMMON EXCAVATION, Includes: (hauling and spreading in field)	1520	C.Y.	MN-21		(P) (CV)
4	FURNISH & INSTALL RIPRAP CHUTE, Includes: (geotextile fabric, riprap, diversion earthwork) (see sheet 3 for details)	1	L.S.	SEE SHEET 3	SEE SHEET 3	
5	FURNISH & INSTALL 12" DIA. HDPE DUAL-WALL PIPE (see sheet 2 for details)	200	L.F.	SP-1	SP-1	
6	FURNISH & INSTALL 18" DIA. CMP OUTLET STRUCTURE: (see sheet 3 for details)	1	L.S.	SEE SHEET 3	SEE SHEET 3	
7	REMOVE AND DISPOSE OF EXISTING TILE FROM PROPOSED CONNECTION TO EXISTING OUTLET.	50	L.F.	MN-3		(P)
8	SEED, Includes; (all disturbed areas)	0.8	ACRE	MN-6		
9	EROSION CONTROL BLANKET, MNDOT CAT 2A	400	S.Y.	MN-6	3885	
10	MULCH, Includes; (all disturbed areas)	2	TONS	MN-6	3882	
11	SEDIMENT CONTROL LOG, TYPE STRAW (see sheet 2 for details)	200	L.F.	MN-6	3897	

NOTES:

(P) - PLAN QUANTITY FOR WHICH NO DIRECT MEASUREMENT SHALL BE MADE.
(CV) - COMPACTED VOLUME

THE FOLLOWING SECTIONS OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" (2016 EDITION) ARE REFERENCED IN THE PLAN:

3601 RIPRAP MATERIAL
3733 GEOTEXTILES
3882 MULCH MATERIAL
3885 ROLLED EROSION CONTROL PRODUCTS
3897 SEDIMENT CONTROL LOG

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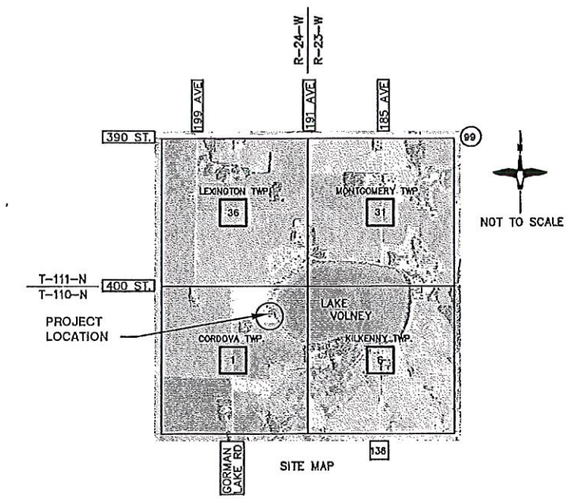


SITE MAP

SHEET INDEX

SHEET NO.	TITLE
1	COVER SHEET
2	PLAN/PROFILE SHEET
3	DETAILS SHEET

ENGINEERING DESIGN DATA
WATERSHED AREA = 237 ACRES

CONSTRUCTION CERTIFICATION STATEMENT

I HEREBY CERTIFY THAT A FINAL INSPECTION OF THIS PROJECT HAS BEEN PERFORMED AND THAT THE WORK COMPLETED IS IN ACCORDANCE WITH THE PLAN AND SPECIFICATIONS. ANY CHANGES TO THE PLANS AND SPECIFICATIONS ARE SO NOTED.

SIGNATURE: DATE:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: RYAN T. JONES
SIGNATURE: Ryan T. Jones
DATE: 7/25/17 LICENSE # 44622

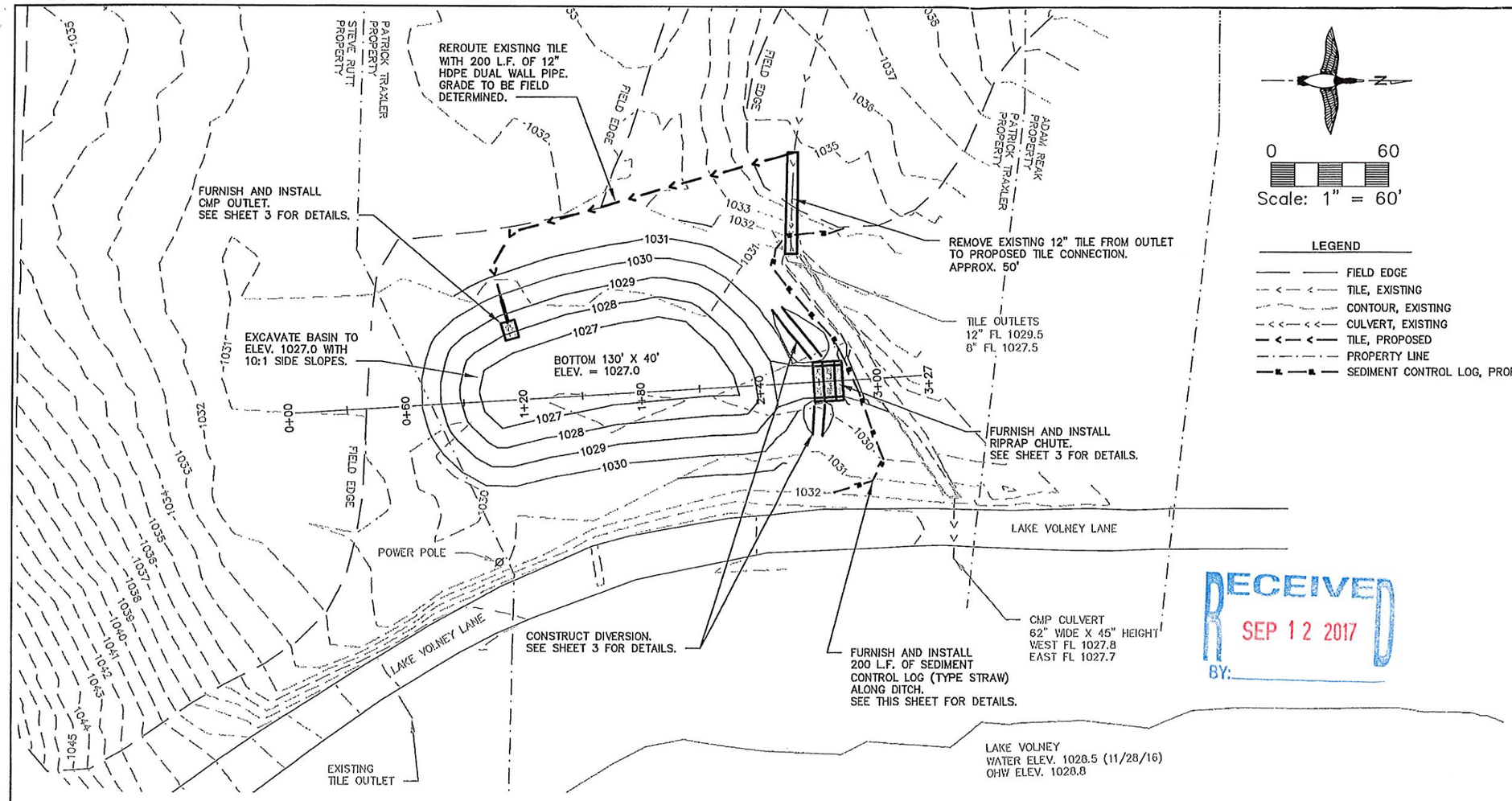
SURVEY		DESIGN		GPS
Surveyed	Date	Designed	Date	UNITS INTERNATIONAL FEET
GPS, RTJ, ZLB	4/18/16	GPS	12/16	COORDINATE SYSTEM UTM 15 NORTH
Drawn	Date	Drawn	Date	DATUM NAD1983 (CONUS)
GPS	4/20/16	GPS	12/16	GEOID GEOID03 (CONUS)
Checked	Date	Checked	Date	
		RTJ	1/18/17	

SOUTH CENTRAL TECHNICAL SERVICE AREA
1160 S. VICTORY DRIVE
MANKATO, MINN.
(507) 345-1051

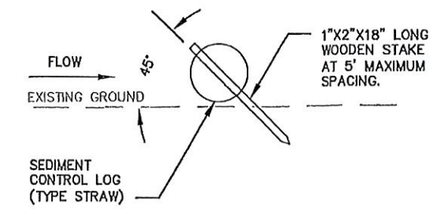
PATRICK TRAXLER
WETLAND ENHANCEMENT

COVER SHEET

Sec. 1 T. 110 N. R. 24 W.
County: LE SUEUR
Township: CORDOVA
Near: LE CENTER
SHEET 1 of 3



SEDIMENT CONTROL LOG STAKING DETAILS



CONSTRUCTION NOTES

1. FURNISH AND INSTALL SEDIMENT CONTROL LOGS (TYPE STRAW) DOWNSTREAM OF THE EXCAVATION, ALONG THE EXISTING DRAINAGE DITCH. THE SEDIMENT CONTROL LOGS SHALL BE STAKED IN PLACE AS SHOWN IN THE DETAIL.
2. TOPSOIL SALVAGE: TOPSOIL SHALL BE STRIPPED, STOCKPILED, AND THEN PLACED BACK INTO THE EXCAVATED SCRAPE AREA. TOPSOIL STRIPPING DEPTHS SHALL BE 4 TO 6 INCHES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. EXCAVATED MATERIAL PLACEMENT: THE CONTRACTOR SHALL PLACE AND SPREAD EXCAVATED MATERIAL ON THE FIELD APPROXIMATELY 400 FEET SOUTHWEST OF THE BASIN, OR OTHER ADJACENT UPLAND AREAS AS DIRECTED BY THE LANDOWNER AND ENGINEER. MATERIAL PLACEMENT AREAS SHALL BE WELL-GRADED, AND CONFORM TO EXISTING TOPOGRAPHY.
4. THE PLACEMENT OF ALL EXCAVATED MATERIAL IS INCIDENTAL TO THE COST OF THE EXCAVATION.
5. THE PROJECT ENGINEER OR TECHNICIAN MAY CHANGE THE DEPTH, SLOPE, SHAPE, OR SIZE OF THE EXCAVATION AT THEIR DISCRETION IN ORDER TO CREATE A MORE IRREGULAR BASIN AND IMPROVE FUNCTION.
6. THE EXCAVATION MAY BE FIELD ADJUSTED TO AVOID TREE IMPACTS. COORDINATE WITH ENGINEER OR TECHNICIAN IN THE FIELD.

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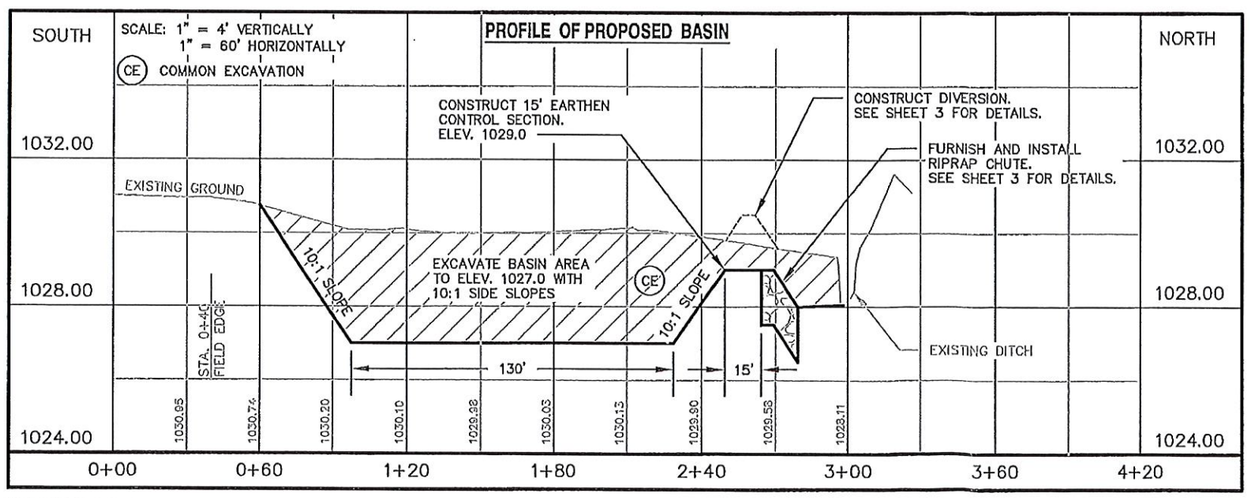
PROFILE OF PROPOSED BASIN



SURVEY	
Surveyed: GPS, RTJ, ZLB	Date: 4/18/16
Drawn: GPS	Date: 4/20/16
Checked	Date

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

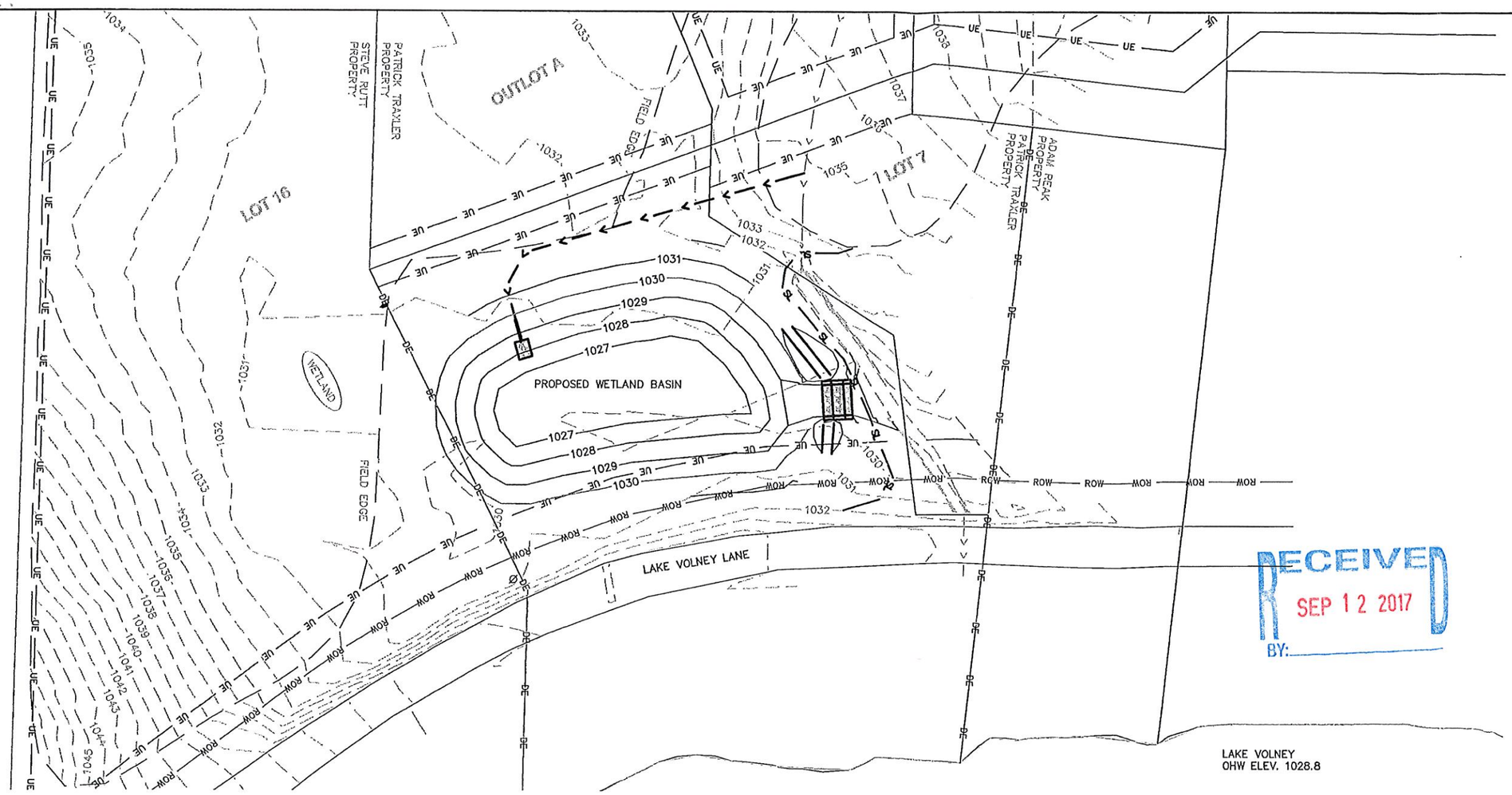
PRINT NAME: RYAN T. JONES
SIGNATURE: Ryan T. Jones
DATE: 7/25/17 LICENSE # 44622

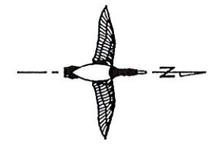
SOUTH CENTRAL TECHNICAL SERVICE AREA
1160 S. VICTORY DRIVE
MANKATO, MINN.
(507) 345-1051

PATRICK TRAXLER WETLAND ENHANCEMENT

PLAN/PROFILE VIEW SHEET

SHEET 2 of 3





0 60

Scale: 1" = 60'

LEGEND

- FIELD EDGE
- TILE, EXISTING
- CONTOUR, EXISTING
- CULVERT, EXISTING
- TILE, PROPOSED
- PROPERTY LINE
- SL — SEDIMENT CONTROL LOG, PROPOSED
- DE — DRAINAGE EASEMENT
- UE — UTILITY EASEMENT
- ROW — ROAD RIGHT OF WAY
- PROPERTY EASEMENT

NOTE:

EASEMENT LINES SHOWN ARE BASED ON PLAT AND PROPERTY LINES PROVIDED BY LE SUEUR COUNTY.

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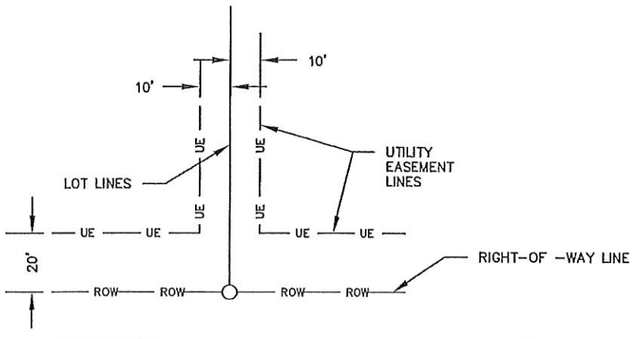
BY:

TYPICAL UTILITY EASEMENT, AS INDICATED ON PLAT

- 10 FEET IN WIDTH FROM LOT LINES
- 20 FEET IN WIDTH FROM RIGHT-OF-WAY LINES

UNLESS OTHERWISE INDICATED ON PLAT.



SURVEY	
Surveyed	Date
GPS, RTJ, ZLB	4/18/16
Drawn	Date
GPS	4/20/16
Checked	Date

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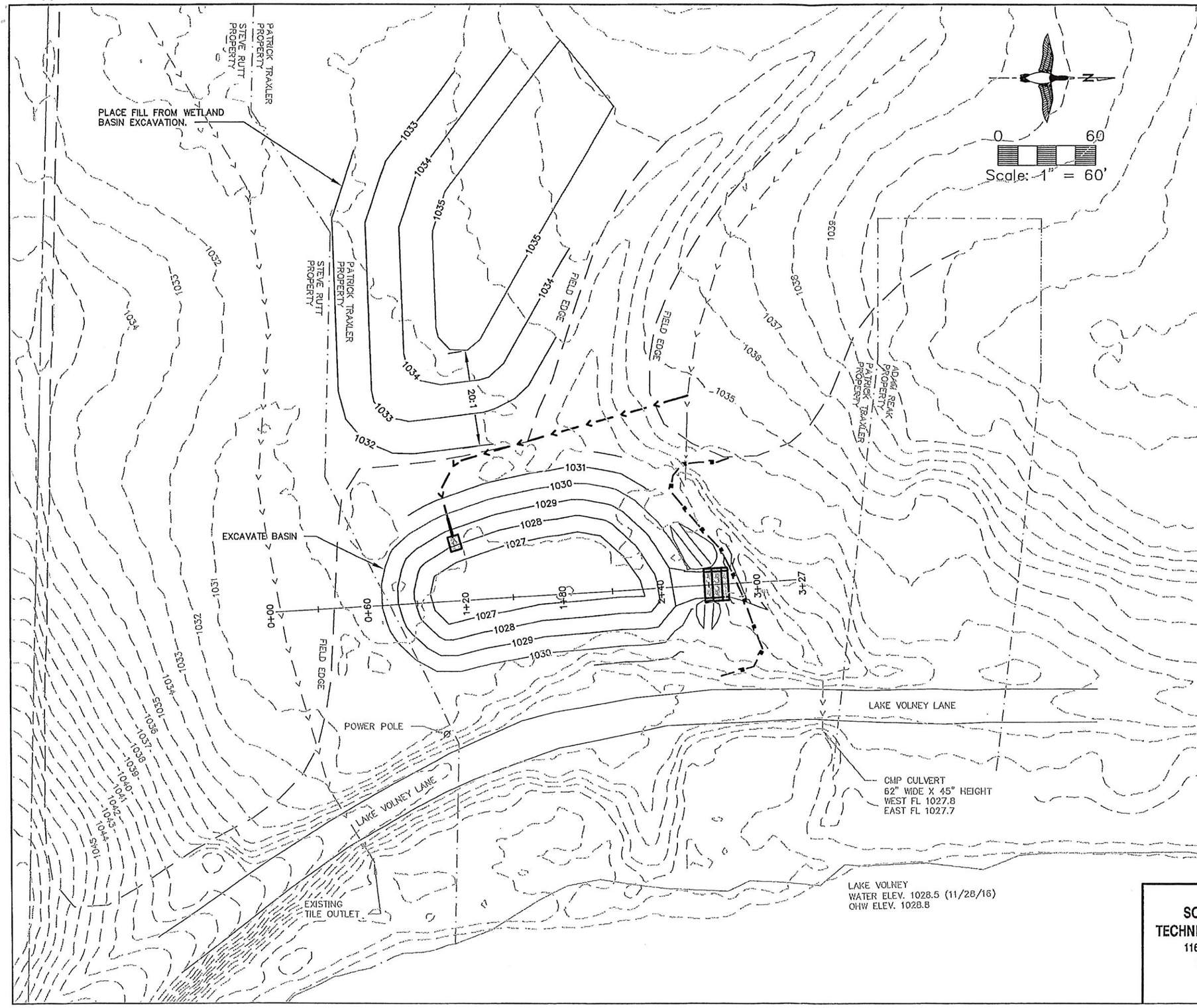
PATRICK TRAXLER

WETLAND ENHANCEMENT

PLAN VIEW WITH EASEMENTS

SHEET 2A of 3



LEGEND

- FIELD EDGE
- TILE, EXISTING
- CONTOUR, EXISTING
- CULVERT, EXISTING
- TILE, PROPOSED
- PROPERTY LINE
- SEDIMENT CONTROL LOG, PROPOSED

CONSTRUCTION NOTES:

1. EXISTING CONTOUR ELEVATIONS SHOWN ARE 1-FOOT INTERVAL, DERIVED FROM LIDAR.
2. PLACE SPOIL MATERIAL FROM WETLAND EXCAVATION IN THE LOCATION SHOWN. FILL GRADES SHALL BE SUITABLE FOR FARMING OPERATIONS.
3. DO NOT PLACE SPOIL MATERIAL IN AREAS THAT WOULD IMPEDE OVERFLOW FROM EXISTING DEPRESSIONS.
4. PROTECT EXISTING DRAIN TILE FROM CONSTRUCTION EQUIPMENT TRAFFIC.

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SEP 12 2017

SURVEY	
Surveyed	Date
GPS, RTJ, ZLB	4/18/16
Drawn	Date
GPS	4/20/16
Checked	Date

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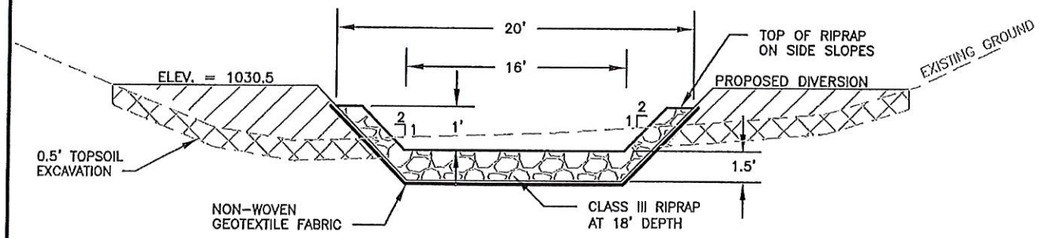
PATRICK TRAXLER

WETLAND ENHANCEMENT

SPOIL PLACEMENT PLAN

SHEET 2B of 3

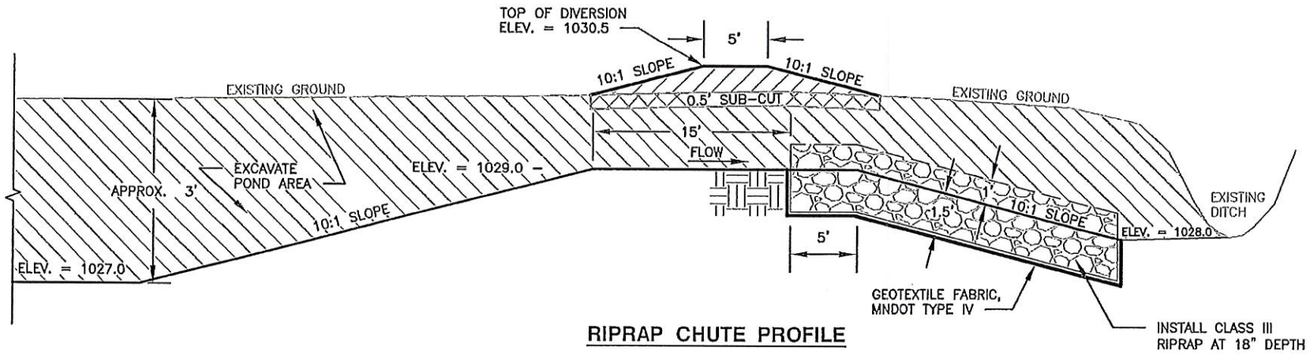
RIPRAP CHUTE



RIPRAP CHUTE CROSS SECTION

NOT TO SCALE

RIPRAP CHUTE ESTIMATED QUANTITIES		
ITEM DESCRIPTION	UNIT	QTY. EACH
FURNISH & INSTALL NON-WOVEN GEOTEXTILE FABRIC, MNDOT TYPE IV	SQ. YDS.	50
FURNISH & INSTALL RIPRAP (QUARTZITE, MNDOT CLASS III) (18 C.Y.)	TONS	25
0.5' SUBCUT UNDER DIVERSION	C.Y.	12
EARTHFILL – DIVERSION	C.Y.	26



RIPRAP CHUTE PROFILE

NOT TO SCALE

CONSTRUCTION NOTES

MATERIALS:

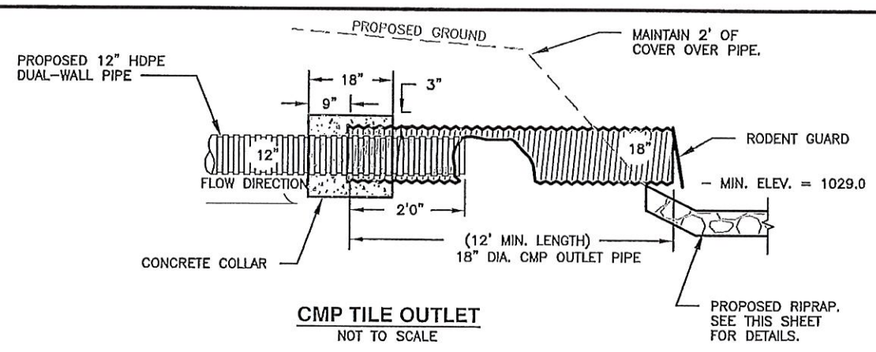
1. GEOTEXTILE FABRIC SHALL BE NON-WOVEN, MEETING THE REQUIREMENTS OF MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION 3733, TYPE IV.
2. RIPRAP SHALL BE PRODUCED FROM QUARTZITE ROCK, AND MEET THE REQUIREMENTS OF MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION 3601, CLASS III.
3. RIPRAP SHALL BE FREE FROM DIRT, CLAY, SAND, ROCK FINES AND OTHER MATERIAL NOT MEETING THE REQUIRED GRADATION LIMITS.

FOUNDATION PREPARATION:

1. THE SURFACE ON WHICH THE GEOTEXTILE IS TO BE PLACED SHALL BE GRADED TO THE NEAT LINES AND GRADES AS SHOWN ON THE DRAWINGS. IT SHALL BE REASONABLY SMOOTH AND FREE OF LOOSE ROCK AND CLODS, HOLES, DEPRESSIONS, PROJECTIONS, MUDDY CONDITIONS, AND STANDING OR FLOWING WATER.
2. *** GEOTEXTILE FABRIC SHALL NOT BE PLACED UNTIL THE FOUNDATION PREPARATION IS COMPLETED AND THE SUBGRADE SURFACE HAS BEEN INSPECTED AND APPROVED. ***
3. THE GEOTEXTILE FABRIC SHALL BE LOOSELY LAID, WITHOUT STRETCHING, TO CONFORM TO UNDERLYING SURFACE IRREGULARITIES. THE GEOTEXTILE FABRIC MAY BE FOLDED AND OVERLAPPED TO ALLOW PROPER PLACEMENT.
4. SECTIONS OF GEOTEXTILE SHALL BE JOINED BY OVERLAPPING A MINIMUM OF 18 INCHES. SECURING PINS MAY BE USED BUT ARE NOT REQUIRED.

RIPRAP INSTALLATION:

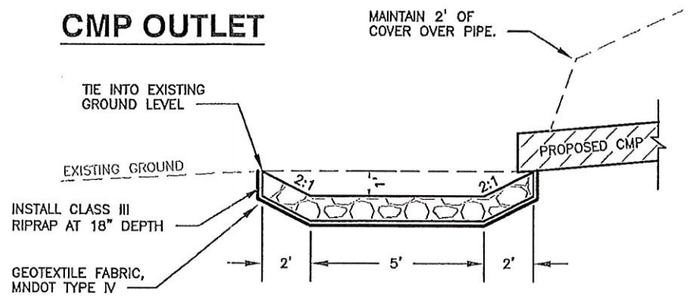
1. RIPRAP SHALL NOT BE PUSHED ONTO OR ROLLED OVER THE GEOTEXTILE FABRIC.
2. RIPRAP SHALL NOT BE DROPPED MORE THAN 3 FEET ONTO THE GEOTEXTILE FABRIC.
3. RIPRAP SHALL BE PLACED IN A MANNER THAT ENSURES THE MATERIAL IS REASONABLY HOMOGENEOUS, WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT WITH EACH OTHER, AND THE SMALLER ROCKS AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. SOME HAND PLACEMENT MAY BE REQUIRED TO PROVIDE A NEAT AND UNIFORM SURFACE.
4. HAND PLACEMENT OF RIPRAP MAY BE NECESSARY IN CERTAIN AREAS TO AVOID DAMAGE TO THE EXISTING PIPES.



CMP TILE OUTLET

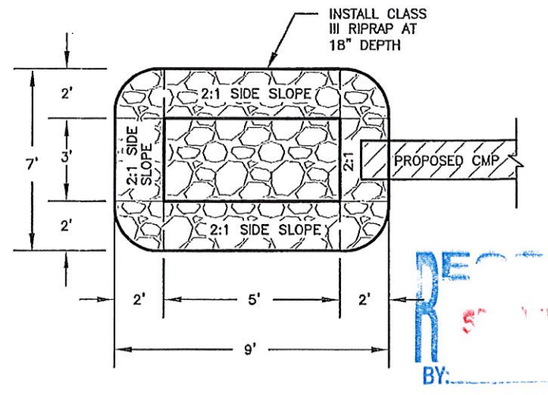
NOT TO SCALE

CMP OUTLET



CULVERT OUTLET SIDE VIEW

NOT TO SCALE



CULVERT OUTLET PLAN VIEW

NOT TO SCALE

18" DIA. CMP OUTLET QUANTITIES				
			EACH	
SIZE	UNIT	ITEM DESCRIPTION	UNIT	QTY.
18	DIA. INCHES	CMP OUTLET PIPE (16 ga. Annular or Helical) (12' section)	EACH	1
18	INCH	HINGED TYPE RODENT GUARD FOR CMP OUTLET PIPE	EACH	1
		GROUTED JUNCTION AT PIPE OUTLET (2.5 cu.ft. each)	EACH	1
		RIPRAP (QUARTZITE, MNDOT CLASS III) (4 c.y.)	TONS	6
		NON-WOVEN GEOTEXTILE, MNDOT TYPE IV	SQ.YDS.	16

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PATRICK TRAXLER WETLAND ENHANCEMENT

DETAILS SHEET

SHEET 3 of 3