

Le Sueur County, MN

Thursday, March 8, 2018 Regular session

Item 1

Lawn Barber/Olson Packet

Staff Contact: Joshua Mankowski or Michelle R. Mettler

STAFF REPORT

GENERAL INFORMATION

APPLICANT:

The Lawn Barber

OWNER:

Harry Olson

911 ADDRESS:

50320 Sunset Lane, Waterville, MN

PROJECT DESCRIPTION:

To allow grading, excavating, and filling of approximately 24 cubic yards of material within the shore impact zone for the repair and construction of a retaining wall within the

shore impact zone.

SITE INFORMATION

LOCATION:

Part of SW/NE, Section 28, Waterville Township

ZONING DISTRICT:

Recreational Residential

ZONING DISTRICT PURPOSE:

The intent of the Recreational Residential (RR) District is 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 are allowed if properly managed under conditional

use procedures.

GENERAL SITE

DESCRIPTION:

Shoreland, residential, wetlands, farmland

ACCESS:

Existing off Sunset Lane

EXISTING LAND USE WITHIN 1/4 MILE:

North: Lake Tetonka

South:

South: Farmland, residences

East: Wetlands

West: Lake Tetonka, residences

BACKGROUND INFORMATION

There is an existing retaining wall on the property that has been repaired twice in the past. The proposal is to replace the existing retaining wall with a high strength retaining wall design to avoid future deterioration.

TOWNSHIP BOARD NOTIFICATION

Public Notice sent to Township via mail. Allan Gehrke from Waterville Township was contacted on January 24, 2018 by the applicant, per application.

NATURAL RESOURCES INFORMATION

SHORELAND:

The proposal is located within the Shoreland District.

WETLANDS:

According to the National Wetlands Inventory,

Type 1 wetlands located in the quarter-

quarter section where the project is proposed.

ATTACHMENTS

Application, description of request, site plan, Versa-Lok spcifications, erosion control plan, aerial photo, Joshua Mankowski letter,

1

STAFF FINDINGS

ZONING ORDINANCE SECTIONS:

Section 13 Shoreland, Section 18 Environmental Performance Standards,

Section 19 Land Use Performance Standards, Section 21 Conditional Use Permits.

GOALS & POLICIES:

The current Land Use Plan as adopted in 2007 does reference to shoreland development

design.

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 resources areas.

Objective 2:

Utilize shorelands on Recreational Development Lakes (RD) for housing but with focus on development design

that protects the resource.

Action 1:

Continue utilizing the minimum state shoreland regulations to determine housing densities and development

GOAL #3:

Improve water quality in Le Sueur County.

Objective 1:

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

Action 1:

The County will adopt and implement the goals, objectives and actins of the County's Local Water Management

Plan.

DNR GUIDANCE LETTERS:

Administration, Compliance, and Enforcement

pg. 1

Grading & Filling within Shoreland Areas

pg. 3

Natural Shorelines

pg. 5

Non-conforming Lots of Record in Shoreland Areas

pg. 19

SEWAGE TREATMENT:

- The property has had a compliance inspection conducted on the septic system servicing the property and was found to be non-compliant.
- The property is located within the Frances, Rays, Sakatah, and Tetonka (FRST) inventory district. Installation update deadline is December 31, 2022.

ENVIRONMENTAL PERFORMANCE STANDARDS-SECTION 18 & 13

WETLAND:

Type 1 wetland to the East of the property.

EROSION CONTROL:

Erosion Control Plan submitted including map.

GRADING, EXCAVATING, OR FILLING:

Grading, excavating, or filling within the shore impact zone beyond 10 cubic yards is listed as a Conditional Use in the Le Sueur County Zoning Ordinance

RETAINING WALL:

Retaining walls located within the shore impact zone are listed as a Conditional

Use in the Le Sueur County Zoning Ordinance.

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:

- 1. Increasing the required lot size or yard dimension.
- 2. Limiting the height, size, or location of the structures.
- 3. Controlling the location, size, and number of vehicle access points.
- 4. Increasing the street width.
- 5. Increasing the number of required off-street parking space.
- 6. Limiting the number, size, location, or lighting of signs.
- 7. Requiring diking, fencing, screening, landscaping or other facilities to protect adjacent or nearby property.
- 8. Designating sites for open space.

SHORELAND DISTRICT EVLAUATION CRITERIA-SECTION 13

- 1. The prevention of soil erosion or other possible pollution of public waters, both during and after construction.
- 2. The visibility of structures and other facilities as viewed from public waters is limited.
- 3. 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.

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SHORELAND DISTRICT CONDITIONS SECTION 13

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

LE SUEUR COUNTY ENVIRONMENTAL SERVICES 88 SOUTH PARK AVE. LE CENTER, MINNESOTA 56057-1600

Phone (507) 357-8538

Fax (507) 357-8541

Date: 02/22/2018

To: Le Sueur County Planning and Zoning Commission

From: Joshua Mankowski

Applicant:

The Lawn Barbors

Property owner:

Harry Olson

Property:

14.028.3700

Description:

Application for a Condition Use Permit to allow Grading, Excavating, and Filling of approximately 24 cubic yards of material within the Shore Impact Zone for the construction of a retaining wall within the Shore Impact Zone.

Recommendation:

It would be my recommendation to approve the application with the condition(s) listed below. The completion of this project will address an ongoing shoreland issue on this property. Alternate designs were discussed, including a more extensive shoreline restoration. The cost of completing that type of project was much higher than replacing the preexisting retaining wall and could result in damage to the existing trees. This project will result in a small shoreline restoration on one side of the lot by removing a 35 foot retaining wall and replacing it with core logs and native vegetation.

Condition(s):

- 1. Work with Environmental Services staff to assure that plantings are Minnesota Natives.
- 2. Work with Environmental Services staff to provide a buffer for the shoreline restoration.

Sincerely,

Joshua Mankowski Le Sueur County

LE SUEUR COUNTY CONDITIONAL USE PERMIT CRITERIA

Conditional Use Permit #: 18008

olicant:	THE LAW	N BARB	ER		L	and Own	er: HARF	RY OLSON		
nditiona	l Use Pern	nit Requ	YARD	S OF MATE	ERIAL WITH	ATING AND HIN THE SHO THIN THE SH	ORE IMPA	CT ZONE FOR	MATELY 24 CUBIC R THE CONSTRUCTI	ION
 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. 									iin	
	Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	Al	TOTAL		
Expla	ain									
2.	The establ	ishment o	f the condi	tional use	will not imp	pede the no	rmal and	orderly deve	lopment and	
	improveme	ent of surr	ounding va	acant prope	erty for use	s predomin	ant in the	e area.		
	Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	Al	TOTAL		
Expla	ain									
3.	Adequate i	utilities, ad	ccess road	s, drainage	e and other	r facilities h	ave been	or are being	provided.	
	Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	Al	TOTAL		
Expla	ain									
4.		neasures	have beer	or will be	taken to p	rovide suffic	cient off-s	treet parking	and loading space	e to
	service the				•			oot parriirig	and reading opace	
	Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	Al	TOTAL		
Expla	ain									
5.	Adequate r	neasures	have beer	or will be	taken to pi	revent and	control of	fensive odor,	fumes, dust, noise	e and
	vibration, s manner tha	o that nor at no distu	ne of these Irbance to	will consti neighborin	tute a nuis a propertie	ance, and t	o control	lighted signs	and other lights in	such a
	Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	Al	TOTAL		
Expla	ain									
6.	The conditi	onal use	is consiste	nt with and	I supported	d by the sta	tement of	f purposes, p	olicies, goals and	
	objectives Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	Al	TOTAL		
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1.	Don Rk	Pam	Doug	Jeanne	Shirley	Don Ry	i Use Piai Al	n. TOTAL		
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III answers a	re "YES" by a r pals of safety, h	najority of the ealth and the	e Planning Co e general welf	mmission, the are of the pub	e criteria for gr lic.	ranting of the C	Conditional U	Ise Permit reque	st have been met. The C	onditional Use Per
ate:			APP	ROVED	DENIE	D P	Z Chairpe	rson		
		со	UNTY BO	ARD MEE	TING DAT	E				

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 The Lawn Border Services LLC Mailing Address 138 North Morningside Dr City LeSueur State MN Zip 56058 Phone # 507-210-8622 Phone #
II.	Landowner: Name Howry Dison Mailing Address 2698 Jophin Ave City Denver State IA Zip 50622
	Property Address 50320 Sunset Ln
	City <u>Waterville</u> State <u>Mル</u> Zip <u>56596</u> Phone # <u>319-859-4488</u> Phone #
	Phone # Phone #
III.	Parcel Information: Parcel Number 14.028.3700 Parcel Acreage 0.58 Attach Full Legal Description (NOT abbreviated description from tax statement)
	Township Waterville Section 28 Subdivision Lot Block
	Subdivision Lot Block
IV.	Township Notification: Township must be notified of proposed use prior to application.
	Township notified on
	(1-20)
	Board Member Alan benge 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.
- 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.



g 4	ı	Filing Fee \$		0 After-The-Fact fee is <u>doul</u> 6	oled.
	,	Additional Fees: Special Meeting \$ After-The-Fact Penalty \$ 1,500 OR	2,0 10%		is greater
VII.	Ту	ype of Request: Grading, Excava	atin	g or Filling.	
		Non-Shoreland ☐ Within Bluff Impact Zone ☐ Within Bluff TOTA	Lc	Cubic yards of material mov	vement:vement:vement:
		Shoreland- Outside Shore Impact Zo Within Shore Impact Zone Within Bluff Impact Zone Within Bluff TOTAL		Cubic yards of material move Cubic yards of material move Cubic yards of material move Cubic yards of material move bic yards of material move	vement:vement:
		☐ Assurance security shall be require	ed	for projects that are >1500 c	ubic yards.
VIII.	De	escription of Request:			
1	a.	A full description of request with deta what general types of equipment ma	ailed y be	d information including what e used in the operation must	operations are to occur and be attached.
	b.	Complete the following in relationsh	ip to	the proposed Conditional L	Jse Permit.
		1. ENVIRONMENTAL IMPACT:			
W/		2. ADVERSE IMPACT ON SURROUNDIN	G AI	REAS:	
		3. STORMWATER RUNOFF:			
		4. DOES ANY PART OF THE PROJECT E	XTE	END BELOW OHWL: No	
		5. WETLAND IMPACT:		-	
	-	6. SLOPE STABILITY:			
		7. CERTIFICATE OF INSURANCE:			
		 MEET ALL APPLICABLE COUNTY ST. (For example additional licensing and/or 			
IX.	Sit	te Plan: Shall include but not limited	to t	he following:	
		 Parcels < 5 AC = 2-foot contour Parcels 5-20 AC = 5-foot contour Parcels >20 AC = 10-foot contour Location of grading, excavating, ar Location of areas for obtaining fill of the inventory of all trees, indicating (Caliper of 6 inches or greater) 	s de irs d nd/o or di ng tr	epicting existing and propose depicting existing and propose or filling sites. sposing of excavated materi rees to be cut or removed.	ed topography. sed topography.
		 North point Setbacks Property Lines Road Right-Of-Way Landscape, screening and buffering 		Existing StructuresProposed StructuresLot DimensionsPonds	Septic systemWellAccess (size & location)EasementsDrainage
		Site plan & As-Built must be con	nple	eted by a surveyor or profe	ssional engineer.

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

mem

8Y:_

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	e but not limited	to:

	a.	Description of Request-See Part VIII for full details and requirements.
	b.	Site Plan-See Part IX for full details and requirements.
	C.	Full Legal Description-Not abbreviated description from tax statement.
-	d.	Access approval-Attach approval in writing from proper road authority.
	e.	Township Notification-See Part IV for details and requirements.
	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
		-Must meet NPDFS 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.

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:

Signatures:	
I hereby certify with my signature that all data contained herein correct to the best of my knowledge. Court Court	as well as all supporting data are true and 02 / 04 / / 8 01 / 06 / / 8 Date
I hereby certify with my signature that all data contained herein correct to the best of my knowledge.	
Property Owner signature	Date ECEIVE FEB 0 5 2018

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*	OFFIC	E USE ONLY		of the second
Request: GRADING, EX	CAVATING & FI	LLING		se
Within Bluff Impact Zone		Cubic yards of mater	ial movemen	t: t: t:
	TOTAL co	ubic yards of materia	al movemen	t:
Shoreland - Outside Within Shore Impa Within Bluff Impa Within Bluff	Cubic yards of mater Cubic yards of mater Cubic yards of mater Cubic yards of mater	ial movemen	t:	
	TOTAL cu	bic yards of materia	I movement	: 24
Pre-App Date 2-3-18 Meeting Date 3-8-18 60 Day 4-10-18 Zoning District PR	Lake Classification Lake FEMA Panel # 270790 Flood Zone	$C0 \underline{\qquad 427} \underline{\qquad} D$	Feedlot Wetland Typ Water course Bluff	
Request Description	- Access Appr	roval	Septic	Comp Insp / Design
☐ Site Plan	Erosion Con	trol Plan	Meeting	Reg / ATF / Spec
☐ Full Legal			Fee	\$ 7900

☐ Other ___

2-5 18 Date

Permit #

☐ Ordinance

Description request (H Olson retaining wall/restoration)

The current retaining wall (Wall 1- 162ftL/3ftH/11inchD) on the property has been fixed twice already (by previous contractor) because when the lake floods over the wall, it washes the soil behind the wall, and many of the wall blocks into the lake. Upon inspection by myself, my opinion was the reasons for failure were due to using hollow core blocks only filled with rocks/dirt, blocks that are glued together, and improper/no drainage material behind the wall. There is another smaller retaining wall which is also having the same issues.

The current base course of blocks on Wall 1 look good, so ideally my plan was to remove everything above the base up and use Versa Lok blocks instead. I will not know until I start digging, but in the event the base course does need to be removed, that will be done. Versa Lok blocks are not hollow and have a pinning system which locks each course together, for a much stronger wall. The pinning system also allows the wall to "flex" ever so slightly to reduce stress points.

To start, we would install silt fence 2ft out into the lake, the length of the entire project for erosion control. We would need to dig down behind the current wall at 4ft deep, by 3ft wide, and remove 9 cubic yards of existing soil. We cannot go back any further as there are 3 very large cottonwood trees' not too far from the current wall that need to stay to help stabilize the area. Most of the soil will be hauled off site, with some being used to backfill behind the drainage rock.

From there we would remove the old blocks, haul off site, and start laying a base pad (if needed). If we do need to redo the base pad, that would involve putting down (2 cubic yards) class 5 and compacting thoroughly to ensure a solid foundation. One the base course is laid and leveled we will start building the wall, adding ¾ drainage rock (2ft wide) behind to wall and compact each level we go up. The additional 1ft of space will be filled with dirt and compacted. Finally, as we get near the final grade, we would level so the final grade sits a few inches below the top of the wall. We plan to seed that area with 2lbs of high quality grass seed. The total amount of material brought in would be (6 cubic yards of ¾ drain rock, 3 cubic yards of soil) The 'new" wall would match the same dimensions of the existing wall.

On (Wall 2- 35ftL/2.8ftH/11inchD), we want to take down the entire wall, 3 smaller dead/dying trees, remove existing landscape rock, and do a shoreline restoration. That would involve removing existing retaining wall block and removing off site. From there we would remove 1.5 cubic yards of debris, and create a gradual slope from the shoreline, rising towards the house. Next, we would install coir logs, stacking them to create an offset wall, secured by 10inch wood stakes. As we stack the coir logs, we would bring in black dirt (2.5 cubic yard) to fill in behind and stabilize the logs.

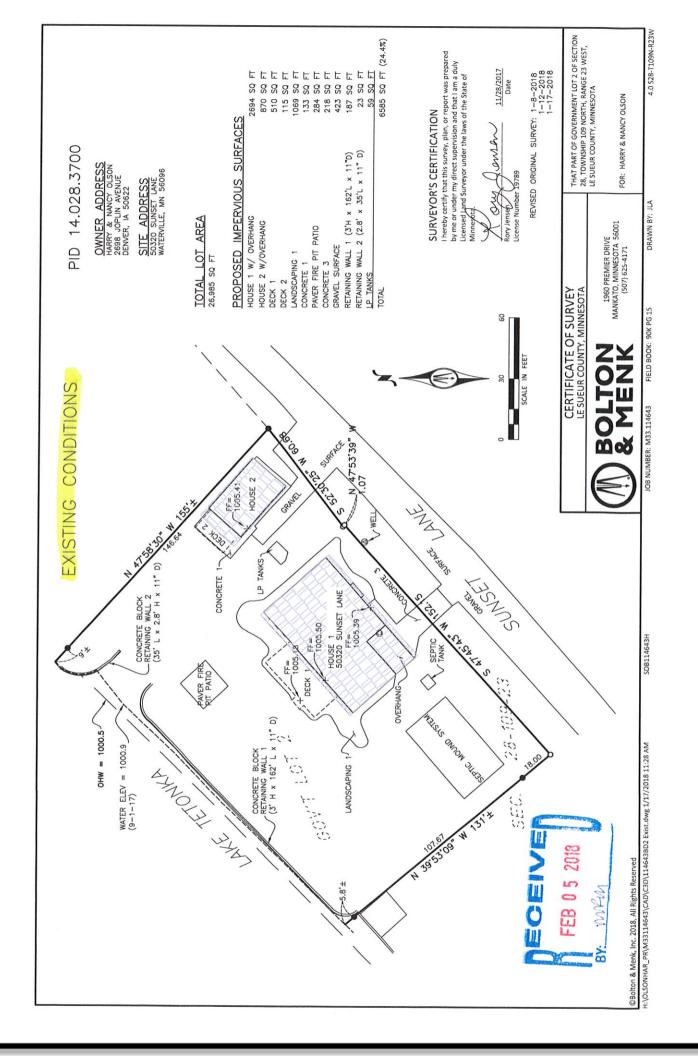


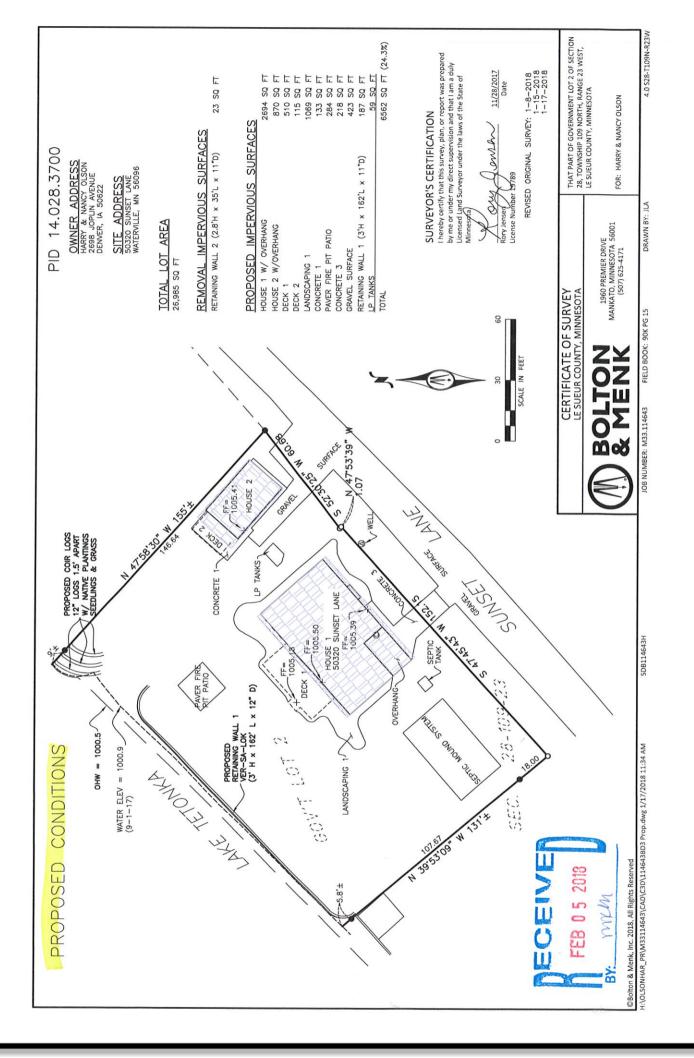
Once the final log is placed at the top grade, we will level the dirt out to match, and start installing native plants into, and between the coir logs. Finally, 1lb of quality grass seed will be put down, raked in, and covered by a thin biodegradable blanket to hold in moisture, and keep pests from picking at the seed. The new restoration area will be supported and shaped by coir logs, so we plan to use the same shape, length, and height of the existing wall.

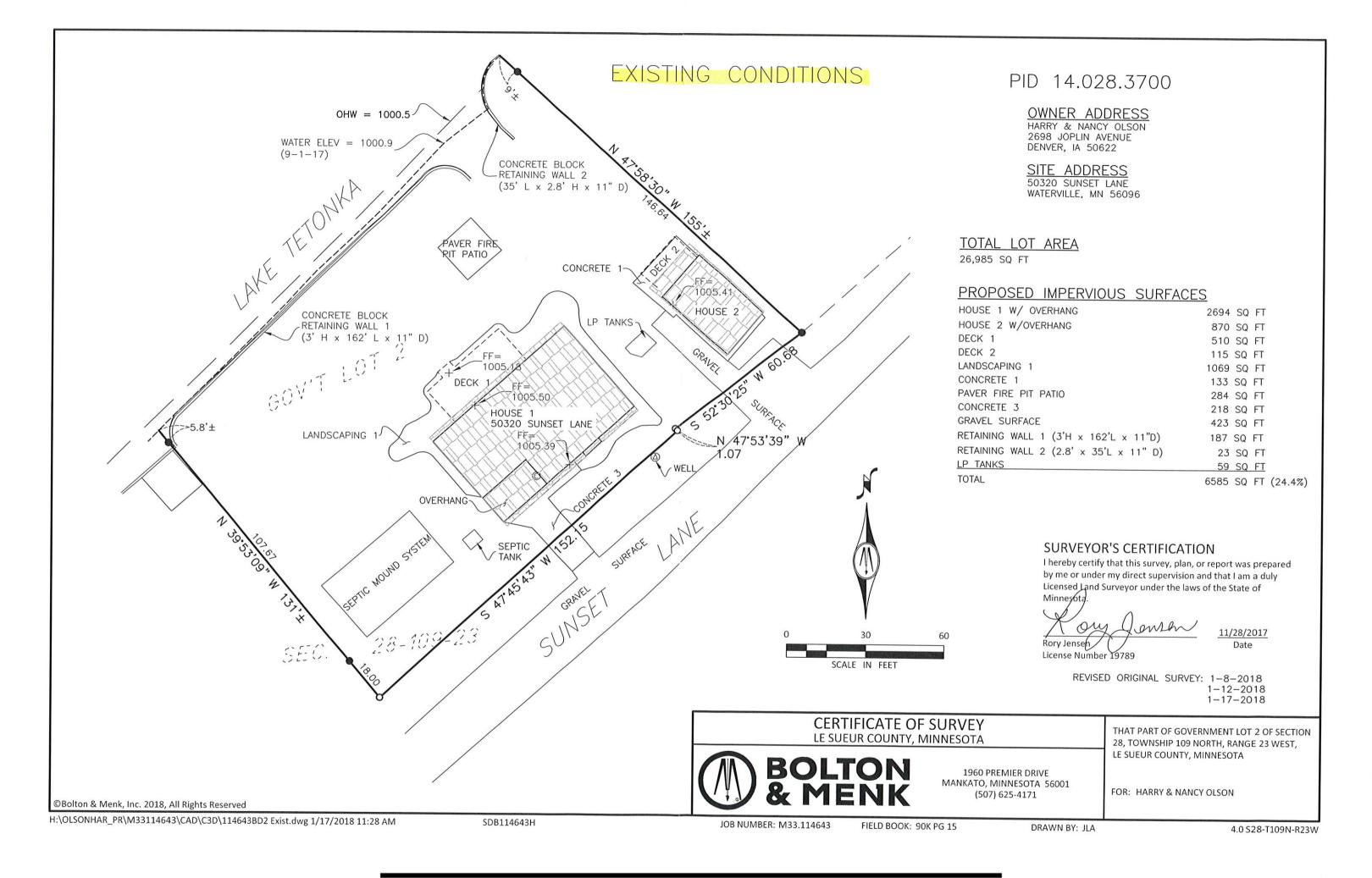
VIII. Description of Request:

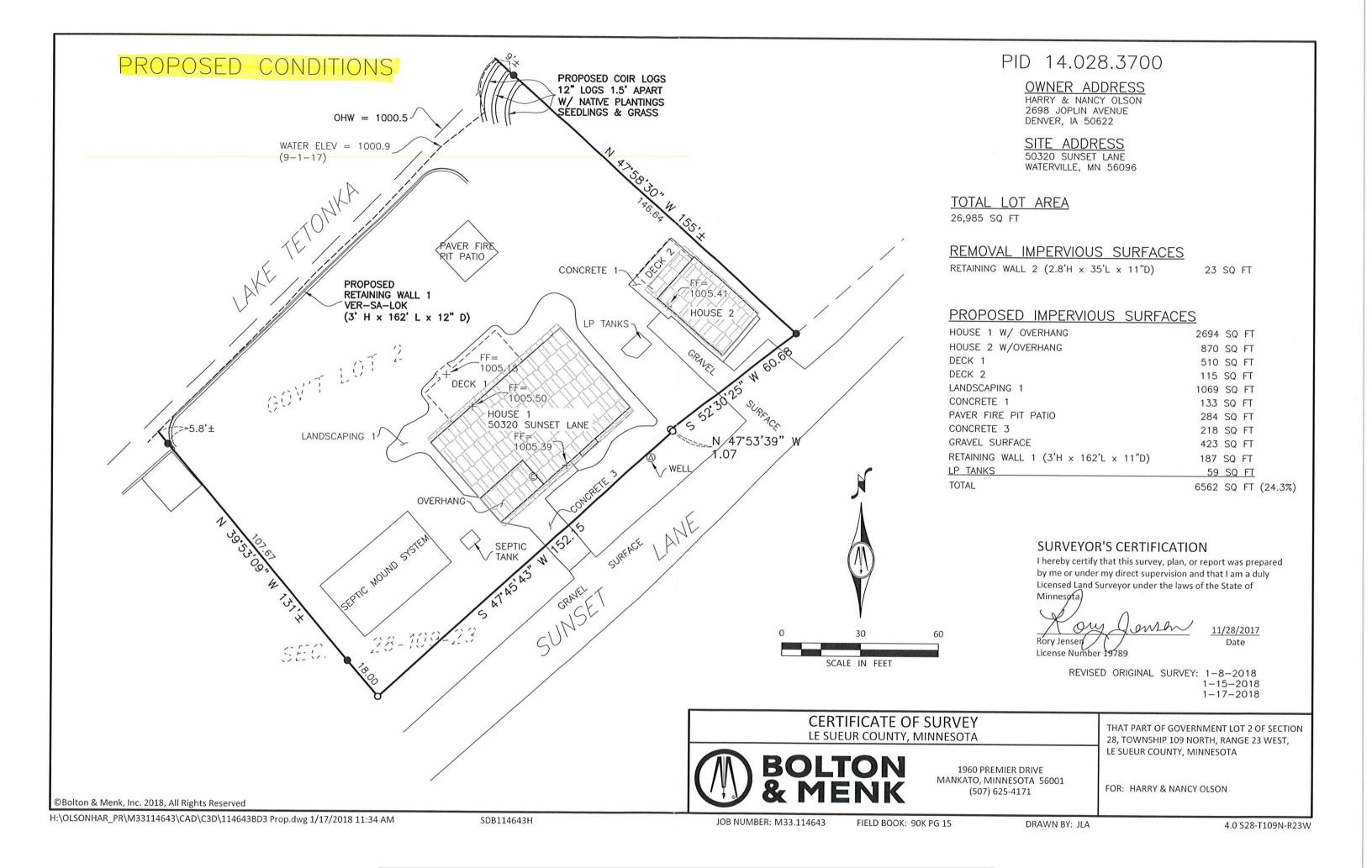
- 1. No. Project will eliminate dirt and landscape rocks washing into the lake, reduce static pressure build up by using drainage rock behind the wall, and create a piece of natural shoreline by doing a restoration.
- 2. No adverse impact on the surrounding area's
- 3. No, it will reduce storm water runoff by better filtering rain water behind the wall, will provide drainage if/when the lake floods up over the wall, and will be filter water in the restoration area by having native vegetation.
- 4. No part of the project will take place below the OHWL
- 5. Does not have any wetland area on, or near the property.
- 6. There will not be any major slope work going on as the entire property is very flat.
- 7. Attached
- 8. No additional licensing or permitting required.











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:	Harry DISON		D: 14.028.3700	
Mailing Address: _	2698 Soplin Ave	Denver IA	50622	
Property Address:	50320 Sunset Lu			
Phone:()	M	obile/Cell:(319) 8	359 - 4988	
		11.1.	B 1	
Responsible party	for Implementation/Inspection:	The Lawn	Barber Services L	,40
Address: 138 N	borth Morningside 1	V Zesueu	r MN 56058	
Phone:()	/ M	obile/Cell:(507) 2	110-8622	

Erosion & Sediment Control Measures

- 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.
- 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.



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 3:1 slopes or steeper

Straw/Coconut Blanket or High Velocity Wood Blanket

4:1 slopes or steeper

Wood or Straw Blanket with net on both sides 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

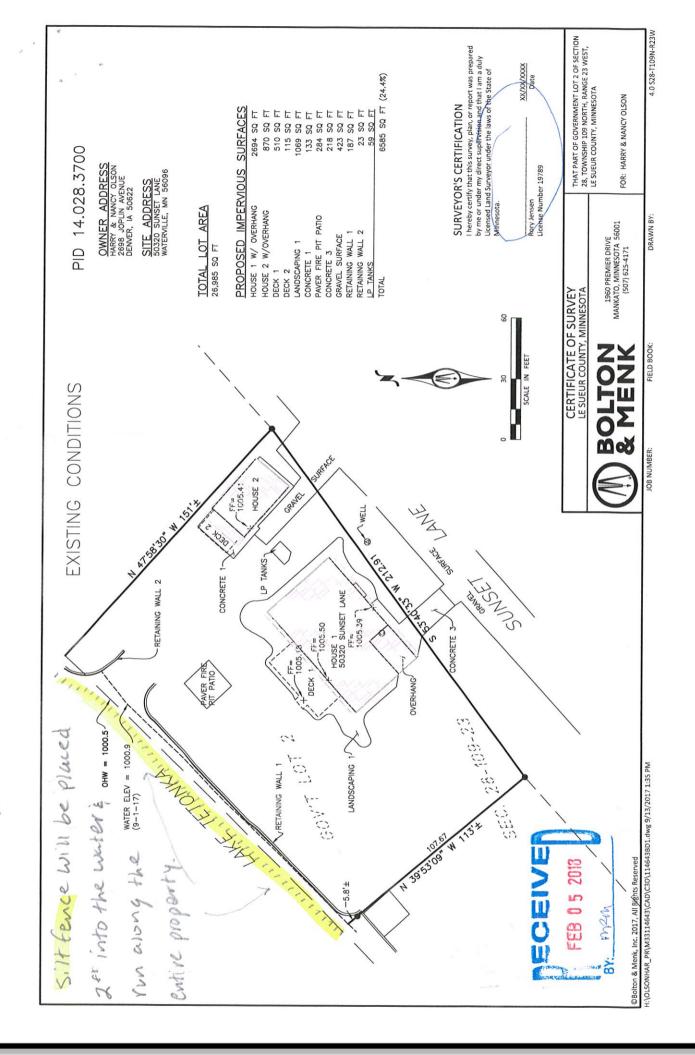
- 16. Inspect the construction site every 7 days and within 24 hours after every rain event to ensure the practices are working properly (i.e. silt fences, water bars).
- 17. Clean out the silt fences when they are 1/3 full of sediment or replace with functional silt fences within 24 hours.
- 18. Clean 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.

X

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







Introduction & Unit Specifications VERSA-LOK® STANDARD UNITS

Standard units are made from high-strength, low-absorption concrete on concrete block machines. The Standard units' solid characteristics make them resistant to damage before, during and after construction in all climates, including shoreline applications.

All CST VERSA-LOK® Retaining Wall Units are made to ASTM C 1372-Standard Specifications of Segmental Retaining Wall Units.

Height: 6 inches 152.4 mm

Width (face): 16 inches 406.4 mm

Width (rear): 14 inches 355.6 mm

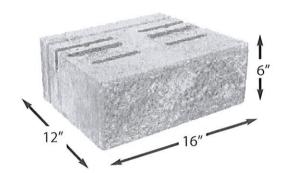
Depth: 12 inches 304.8 mm

Face Area: $^{2}/_{3}$ sq. foot 0.062 m²

Volume: .63 ft³ 0.018 m³

Weight: 82 lbs. 37.19 kg

Wgt/Face Area: 123 lbs./sq. ft. 599.84 kg/m²





VERSA-TUFF® PIN

Length: 6.8 inches 172.7 mm

Diameter: .48 inches 12.2 mm

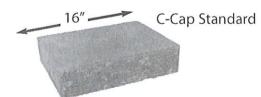
Material: Glass-Reinforced Nylon



Solid VERSA-LOK® Standard Units provide superior durability and construction stability.

VERSA-LOK® CAP UNITS

Caps	Length	Height	Depth	Weight	Sq. Face Ft. Per Pallet	Units Per Pallet	Weight Per Pallet
VERSA-LOK [*] Cap Units	16"	3 %"	12″	57 lbs.	19.2	48	2,740 lb





C-Cap Weathered™





CST Pavers

23 Ridge Rd. Branchville, NJ 07826 Ph# 973-948-7193 Sales Fax# 973-948-2771



VERSA-LOK® Standard System Overview

Pinning

www.cstpavers.com

Pinning Detail

VERSA-LOK® Standard Units have a unique hole-to-slot pinning system for easy installation and superior structural integrity. VERSA-LOK® Standard units interlock with non-corrosive VERSA-TUFF® Pins (two per unit). As wall courses are installed, pins are inserted through holes in uppermost course units and are received in slots of adjacent lower course units. Pinning helps to align units in a consistent 3/4 -inch setback per course.

3/4* SETBACK U ERSA-TUFF PN 2 PER UNIT RECEMNG SLOT

Unreinforced Walls

On many projects, VERSA-LOK* Standard retaining walls work purely as gravity systems--unit weight alone provides resistance to earth pressures. Frictional forces between units and pin connections hold units

together so walls behave as coherent structures. Batter setback of wall faces offers additional resistance against overturning. Maximum allowable wall height for gravity walls varies with soil and loading conditions. Generally, with level backfill, good soils, and no excessive loading. VERSA-LOK® Standard gravity walls are stable to heights of four feet.

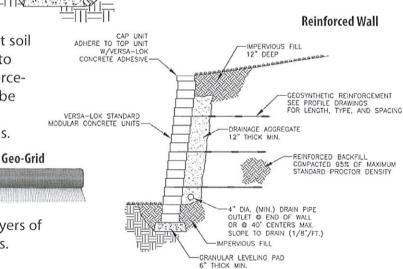
Reinforced Walls

When weight of units alone is not enough to resist soil loads, horizontal layers of geosynthetics are used to reinforce soil behind walls. With proper soil reinforcement and design, VERSA-LOK* Standard walls can be constructed to heights in excess of 40 feet.

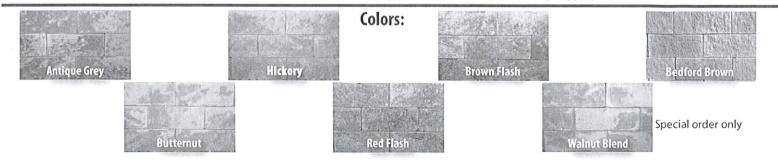
Geosynthetics do not act as tie-backs for wall faces.

Rather, geosynthetics and soil combine to create reinforced soil structures that are strong and massive enough to resist forces exerted on them. In soil-reinforced

walls, Standard units simply retain soil between layers of geosynthetics and provide attractive durable faces.



Unreinforced Wall



Railroad Centerline Recreational <all other values> <all other values> Road Centerline Road ROW Vac Railroad ROW Residential Easement Line Geo Twp Line Pol Twp Line Sub Line 400 -outside Road ROW County Line Section Line Incorporated Parcel Line Corp Line Misc Line Townships Gov Lot CIRC39_CLA AlphaTag Cadastral_Line NAME: PID: DATE: FIRM #: F-Zone: RFPE: District:





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*These maps should not be used for navigational, engineering, legal, or any other site-specific use

"The maps are date specific and are intended for use only at the published scale.

Photo dated April/May 2013

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Created By: MRM

LE SUEUR COUNTY ENVIRONMENTAL SERVICES

507-357-8538

Le Sueur County