



Sawyer County

Agenda

Zoning Committee Meeting

Friday, December 16, 2022 @ 8:30 AM

Large Courtroom; Sawyer County Courthouse

Page

1.

The public is strongly encouraged to access the public hearing remotely due to public health and safety concerns. To view or participate in the virtual meeting from a computer, iPad, or Android device please go to <https://zoom.us/j/99413118485>. You can also use the dial in number for listening only at 1-312-626-6799 with the Webinar ID: 994 1311 8485. If additional assistance is needed please contact the Zoning & Conservation Department at 715-634-8288 prior to the meeting.

2. PRELIMINARY MATTERS

- a. Call to Order and Roll Call
- b. Pledge of Allegiance
- c. State of Committee and Hearing Procedure and Statement of Hearing Notice
[Statement of Comm. Hearing & Procedure & Hearing Notice](#)

5 - 6

- d. Approval of Previous Meeting Minutes
[11-17-2022 Minutes](#)

7 - 10

- e. Public Comment

Please note comment time is intended for general public comments, not comments relating to a specific application before this Committee. Each Agenda item requiring a public hearing will have its public hearing conducted just prior to the application being considered by this Committee. If you wish to speak on a specific Agenda item, we encourage you to hold your comments until that specific public hearing.

3. REZONE APPLICATIONS

- a. None

4. CONDITIONAL USE APPLICATIONS

- a.

11 - 20

A Public Hearing in the Town of Radisson. CUP #22-033. Owner: Mason & Laura Hurd. Part of the NW ¼ of the SW ¼ and SW ¼ of the SW ¼, Lot 1 CSM 34/142 #8130; S25, T38N, R06W; Parcel #022-638-25-3204; 19.6 total acres; Zone (A-1) Agricultural One. Permit desired for a 14' x 40' accessory structure on vacant property per section 4.26 (1) of the Sawyer County Zoning Ordinance. This is to meet setbacks of property lines and Ordinary High Water Mark.

[CUP #22-033, Mason& Laura Hurd pkt.](#)

- b. Discussion/Action in the Town of Radisson. CUP #22-033. Owner: Mason & Laura Hurd. Part of the NW ¼ of the SW ¼ and SW ¼ of the SW ¼, Lot 1 CSM 34/142 #8130; S25, T38N, R06W; Parcel #022-638-25-3204; 19.6 total acres; Zone (A-1) Agricultural One. Permit desired for a 14' x 40' accessory structure on vacant property per section 4.26 (1) of the Sawyer County Zoning Ordinance. This is to meet setbacks of property lines and Ordinary High Water Mark.

21 - 31

- c. AMENDED- A Public Hearing in the Town of Edgewater, CUP #22-005. This is a re-hearing of the application. Previous application was adjourned with vague condition language. At the November 17, 2022 Zoning Committee Meeting a motion was made and seconded to re-hear application. Application has been amended to including new ownership and additional request for convenience store and bait sales. New Owners: Joshua O'Rourke & Joseph O'Rourke. Part of Government Lot 1, Lot 2 CSM 27/309 #8635; S33, T38N, R09W; Parcel #008-938-33-5109; Tax ID #44505; 3.54 total acres; Zoned Residential/Recreational One (RR-1); Permit desired for Section 17.2 (B) (3) for a recreational sales and marina building including convenience store and bait sales. Building not to exceed 1200 square feet of footprint area. This would be considered a recreational service-oriented use.

[CUP #22-005, Joshua O'Rourke pkt.](#)

- d. AMENDED- Discussion/Action. A Public Hearing in the Town of Edgewater, CUP #22-005. This is a re-hearing of the application. Previous application was adjourned with vague condition language. At the November 17, 2022 Zoning Committee Meeting a motion was made and seconded to re-hear application. Application has been amended to including new ownership and additional request for convenience store and bait sales. New Owners: Joshua O'Rourke & Joseph O'Rourke. Part of Government Lot 1, Lot 2 CSM 27/309 #8635; S33, T38N, R09W; Parcel #008-938-33-5109; Tax ID #44505; 3.54 total acres; Zoned Residential/Recreational One (RR-1); Permit desired for Section 17.2 (B) (3) for a recreational sales and marina building including convenience store and bait sales. Building not to exceed 1200 square feet of footprint area. This would be considered a recreational service-oriented use.

32 - 45

- e. AMENDED - A Public Hearing in the Town of Round Lake. CUP #22-026. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555;

Zoned Forestry One (F-1) & Residential/Recreational One (RR-1) 39.85 total acres. Permit desired for the 10.57 total acres of the Forestry One (F-1) zone district for the Location/Operation of a non-metallic mineral extraction site including rock crusher.

[CUP #22-026. Location & Operation Plan Travis Butterfield pkt.](#)

- f. AMENDED - Discussion/Action in the Town of Round Lake. CUP #22-026. Owner: Travis Butterfield. Part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, S11, T41N, R08W; and Part of the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1) 39.85 total acres. Permit desired for the 10.57 total acres of the Forestry One (F-1) zone district for the Location/Operation of a non-metallic mineral extraction site including rock crusher.

46 - 110

- g. AMENDED - A Public Hearing in the Town of Round Lake. CUP #22-026 for the Reclamation Plan. Owner: Travis Butterfield. Part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, S11, T41N, R08W; and Part of the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Permit desired for the 10.57 total acres for the Sawyer County NR 135 Reclamation Issuance for location/operation of a non-metallic mineral open pit.

[CUP #22-026, Travis Butterfield Reclamation Plan pkt.](#)

- h. AMENDED - Discussion/Action in the Town of Round Lake. CUP #22-026 for the Reclamation Plan. Owner: Travis Butterfield. Part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, S11, T41N, R08W; and Part of the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Permit desired for the 10.57 total acres for the Sawyer County NR 135 Reclamation Issuance for location/operation of a non-metallic mineral open pit.

5. NEW BUSINESS

111 - 113

- a. Ordinance Amendment for Multi-Dwelling Development and definition of a resort. Discussion/Possible Action to send to Towns.
[Multi-Dwelling Development V2](#)
- b. Any other business that may become the Committee.

6. ADJOURNMENT

7.

A quorum of the County Board of Supervisors or of any of its committees may be present at this meeting to listen and observe. Neither the Board nor any of the committees have established attendance at this meeting as an official function of the Board or committee(s) or otherwise made a determination that attendance at the meeting is necessary to carry out the Board or committee's

function. The only purpose for other supervisors attending the meeting is to listen to the information presented. Neither the Board nor any committee (other than the committee providing this notice and agenda) will take any official action with respect to this noticed meeting.

**SAWYER COUNTY ZONING COMMITTEE
STATEMENT OF COMMITTEE HEARING AND PROCEDURE AND STATEMENT OF HEARING
NOTICE**

This Sawyer County Zoning Committee ("Zoning Committee") meeting is being held this day and will be called to order at approximately 8:30 a.m. in the Sawyer County Courthouse, 10610 Main Street, Hayward, Wisconsin.

This Statement of Committee Hearing and Procedure and Statement of Hearing Notice is for the public's reference and supplements on the statements on the record under Agenda Item No. 1, "Preliminary Matters." This Statement of Committee Hearing and Procedure and Statement of Hearing Notice is incorporated into the record of today's Zoning Committee meeting.

Nothing in this Statement of Committee Hearing and Procedure and Statement of Hearing Notice modifies or otherwise limits the provisions set forth in the Wisconsin Statutes and other applicable law.

Any persons requiring assistance with this may contact the Sawyer County Zoning Administrator or request assistance at the Zoning Committee meeting during public comments.

Statement of Committee Hearing and Procedure

Individual Public Hearing: Generally, each application requiring a public hearing shall have an individual public hearing conducted just prior to the Agenda item in which the Zoning Committee may take action.

Public Hearing Process: Each public hearing conducted at this Zoning Committee meeting will follow this order: (1) presentation of a summary of the petition set forth in the application or request; (2) submission of a file to the Zoning Committee; and (3) the applicant's statements (or the applicant's representative's statements) and presentation of evidence; (4) public testimony by persons desiring to give pertinent testimony (a "Speaker") in support of the application; (5) public testimony by Speakers in objection to the application; and (6) any rebuttal as permitted by the Zoning Committee Chair. Once the Zoning Committee has the pertinent information, the public hearing will be closed and thereafter the Zoning Committee may deliberate, discuss, pose questions to the Sawyer County staff, legal counsel or the applicant, and take action on the application within the Zoning Committee's discretion.

Hearing Appearance Slip: For all hearings to be conducted at today's Zoning Committee meeting, any Speaker desiring to give pertinent testimony will be afforded to opportunity to do so. A Speaker must complete a Hearing Appearance Slip, which is provided at this meeting next to the meeting Agenda. After completion, the Speaker shall deliver the Hearing Appearance Slip to the Zoning Committee Chair prior to the commencement of the Zoning Committee meeting.

Process and Guidelines for Testimony by Speakers: Prior to speaking, the Speaker must be recognized by the Zoning Committee Chair in order to speak. Once recognized by the Zoning Committee Chair, the Speaker must state their full name and address before giving testimony. The Speaker should also state whether the Speaker represents a client, group, or other association, whether the Speaker is in favor or opposes the proposal on which the testimony is being given, and other pertinent information. Speakers should confine their testimony to the facts and matters presented. Speakers should avoid repetitive testimony, and Speakers are encouraged to state that they agree or disagree with other comments to avoid repetitive testimony. A Speaker's testimony will be limited to three (3) minutes, unless additional time is provided for by the Zoning Committee Chair. Orderly procedures require that each Speaker proceeds without interruption by others. All testimony will be addressed to the Zoning Committee and there will be no questions or arguments between individuals. The Zoning Committee is under no obligation to answer questions posed by the Speaker during the public hearing.

Applications for Rezoning: On applications for a change in zoning designation of property, the decision of the Zoning Committee is a recommendation to the Sawyer County Board of Supervisors for final determination and action. This provision does not modify or otherwise limit the provisions set forth in Wis. Stat. § 59.69 or any other applicable law.

Appeal of Certain Decisions: Any person aggrieved by a decision regarding a conditional use or any other decision in which the County Zoning Committee is the decision making body, a person may commence an action with the Sawyer County Board of Appeals to review the Zoning Committee's decision in whole or in part, within 30 days of the date following the committee's decision letter. This provision does not modify or otherwise limit the provisions set forth in Wis. Stat. § 59.694.

Statement of Hearing Notice

Each public hearing conducted at this Zoning Committee meeting has been published as a Class 2 notice in accordance with Wisconsin Statutes Ch. 985 in the Sawyer County Record and the Sawyer County Gazette, and publically posted within the Sawyer County Courthouse.

Questions

Please contact the Sawyer County Zoning Administrator should you have any questions regarding this Statement of Committee Hearing and Procedure and Statement of Hearing.

**MINUTES OF PUBLIC HEARING
Sawyer County Zoning Committee
November 17, 2022**

Zoning Committee

Jesse Boettcher, Chairman
Ronald Buckholtz
Tweed Shuman
Stacey Hessel
John Righeimer
Michael Maestri

Zoning Administration

Jay Kozlowski, Zoning & Conservation Administrator
Kathy Marks, Deputy Zoning & Conservation Administration

PRELIMINARY MATTERS

a) Call to Order and Roll Call

Boettcher called the Public Hearing before the Sawyer County Zoning Committee to order at 8:30 AM in the Sawyer County Courthouse, 10610 Main St., Hayward, Wisconsin. Roll Call finds Boettcher, Buckholtz, Shuman-absent, Hessel, Righeimer-absent and Maestri-virtual. Attending from the Zoning Office Kozlowski and Marks. Andy Phillips-virtual as legal counsel for Sawyer County.

b) Pledge of Allegiance

c) Statement of Committee and Hearing Procedure and Statement of Hearing Notice.

Those persons wishing to speak will be afforded the opportunity provided they identify themselves.

The Public Hearing Notice was published as a Class 2 Notice in accordance with Chapter 985 of the Wisconsin Statutes in the Sawyer County Record and Sawyer County Gazette.

d) Motion made by Buckholtz to approve the October 21, 2022 minutes, 2nd by Hessel. All in favor.

e) Public Comment. Kate Mayberry, Douglas Kurtzweil, Linda Zillmer and John Rainville.

REZONE

None

CONDITIONAL USE APPLICATIONS

a) A Public Hearing in the Town of Lenroot. CUP #22-032. Owner: Kubarek Auction & Estate Services LLC, Part of the SW ¼ of the NW ¼; S12, T41N, R09W; Parcel #014-941-12-2301; Tax ID# 17939; 28.50 total acres; Zoned (A-1) Agricultural One. Permit desired for a place to house

online auction items for people to see and inspect. Preview hours would be 2pm-6pm, then pickup time from 12pm-6pm. This would happen about 10 times a year. As per Section 17.4(B) (25) like or similar uses in the opinion of the Sawyer County Zoning Committee subject to the procedures for obtaining a Conditional Use Permit. Kozlowski reads the application, staff report, Town opinion, there were no neighbor opinions. Motion by Buckholtz to open the public hearing portion of the application, second by Hessel. All in favor. Ron Kubarek, owner speaks in favor of the application. Discussion held with Committee. No other comments. Motion to come out of the public hearing portion of the application by Hessel, 2nd by Buckholtz. All in favor. Motion to approve the application by Hessel which is like or similar use within the A-1 zone district, 2nd by Boettcher. Discussion by Committee. Conditions of CUP #22-032 is limited to the property owner. Not to exceed 12 separate auction event per year. Each event to include a "preview day" and "pick-up day". "Preview Day" hours to be 2:00PM-6PM. "Pick-Up Day" hours to be typically from 12:00PM-6PM or by appointment only for certain circumstances. If additional buildings are proposed for "Auction Sales Events" or to alter other previously listed conditions, a Conditional Use Permit renewal will be required. All signage must meet Sawyer County Zoning Ordinance Requirements. All other Town, County, State, Federal Laws are followed. Findings of Fact: It would not be damaging to the rights of others or property values. It would not be detrimental to ecology, wild life, wetlands or shorelands. It would not create an air quality, water supply, or pollution problem. It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal. It would not create traffic or highway access problems. It would not destroy prime agricultural lands. It would be compatible with the surrounding uses and the area. It would be consistent with the Town and/or County Comprehensive Plan. It would be a like or similar use to another stated Conditional Use Permit in the opinion of the Sawyer County Zoning Committee. It would not create an objectionable view. Discussion held. Roll call finds: Hessel – yes, Boettcher – yes, Buckholtz – yes, Michael Maestri – yes. All in favor.

REZONES & CONDITIONAL USE APPLICATIONS (POSTPONED)

a) & b) (POSTPONED) A Public Hearing in the Town of Round Lake. RZN #22-012. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID #26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Purpose of request is for the Residential/Recreational One (RR-1) to change to Forestry One (F-1) for non-metallic mineral extraction. c) & d) (POSTPONED) A Public Hearing in the Town of Round Lake. CUP #22-026. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1) 39.85 total acres. Permit desired for the Location/Operation of a non-metallic mineral extraction site. e) & f) (POSTPONED) A Public Hearing in the Town of Round Lake. CUP #22-026 for the Reclamation Plan. Owner: Travis Butterfield. Part of the NE ¼ of the SE ¼, S11, T41N, R08W; and Part of the NW ¼ of the SW ¼; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres; Permit desired for the Sawyer County NR 135 Reclamation Issuance for location/operation of a non-metallic mineral open pit. Kozlowski explains that the applicant has requested that the RZN #22-012 and CUP #22-026 be postponed until the

December meeting because they are amending their application. Andy Phillips Corporation Counsel speaks of fairness of notification for the Town and public and that there is no issue regarding amending the application and recommends that they be postponed. Boettcher asks about the new Town amendment. Andy Phillips, Corporation Counsel says that this may impact the applications but that is an issue between the Town and Butterfield. Discussion continues. Motion by Buckholtz to postpone the applications 4a-4f until the December 2022 Zoning Committee meeting. Second by Hessel. Andy Phillips, Corporation Counsel asks about deadline for the amended applications. Kozlowski explains if the applications are not in the office by Monday the application will be deemed incomplete. No discussion. All in favor.

NEW BUSINESS

a) Ordinance Amendment for Multi-Dwelling development and definition of a resort. Kozlowski explains the changes needed and to have the Committee look over and suggest any changes that they feel needed. Then to hear at the December 2020 meeting. Discussion held. Andy Phillips, Corporation Counsel speaks of the non-conforming and should amend the code, require a CUP, also the terms need to make sense for the definition. Discussion continues. Andy Phillips, Corporation counsel suggests that they also look at the short & long term rental. Discussion continues. Andy Phillips, Corporation Counsel says can we as a County require an application for a CUP on an existing non-conforming structure or use and no matter what happens we are going to create issues with existing non-conforming properties or structures. Whether we amend the code or don't amend the code. From my perspective, a legal perspective, we should amend the code in order to have clarity for the public about what is allowed and not allowed. Provide additional clarity, definition clarity so we all understand what the rules are going forward. The goal is to bring non-conformity into conformity to code. As the property changes hands, changes things of that nature. You can bring them into compliance to code. That would take years for that to happen. If we do nothing to the code we are just perpetuating the ambiguity and the lack of understanding on the part of the public on how these definitions work and what that means to a particular land owner use of his or her property. The only substance between version 1 and version 2 is was to tighten it up and clean it up from my legal perspective. The substance change it occurred to us that the language that we have in version 2, under RR-1 and RR-2, A) are items 3 and 4. What do we do with duplexes or what do we do with a habitable area that sits above a garage. Garage is an accessory structure that's allowed. Essentially you have a habitable space above a garage and an existing dwelling you have 2 families that could live on that property. Doesn't meet the definition of Dwelling Multi-family, but it's an accessory structure that contains a habitable area. Are we going to treat that as a permitted use or a Conditional Use? This should be part of your homework. Let's think about the different ways folks are using properties and ways that we again add clarity to uses going forward. Discussion with Committee held. Andy Phillips, Corporation Counsel adds to the Committee's homework to use terminology that makes sense and definitional terms that makes sense to the public. Discussion continues. Motion to Approve by Buckholtz, second by Hessel needs a vote. Roll call finds: Hessel – yes, Buckholtz – yes, Maestri – yes, Boettcher – yes. All in favor.

b) CUP #22-005, O'Rourke. Kozlowski explains that there was not a vote on the motion from previous month. Motion by Buckholtz to wipe out any previous conditions and adjournments. Case will be re-heard at the December Zoning Committee Public Hearing and will also be re-heard at the Town of Edgewater Town Board Meeting. The applicant can amend current

application or submit a new application. Second by Hessel. Roll call finds: Hessel – yes, Buckholtz – yes, Maestri – yes, Boettcher – yes. All in favor.

c) Municode – Codification of Ordinances. Zoning Ordinance in Appendix of Code or codify in within the code. Kozlowski explains the current appendix. Andy Albarado, Sawyer County Administrator explains the Municode and that it should be codified with the other Ordinances. Andy Phillips, Corporation counsel that the existing code could be confusing and would this need Town approval. Suggests to use as appendix in the Municode. Discussion with Committee. Motion by Buckholtz to approve to keep the Ordinance in the appendix, second by Hessel. Discussion held. Roll call finds: Hessel – yes, Buckholtz – yes, Boettcher – yes, Maestri- yes. All in favor.

d) Closed Session – Pank Road Property Closed Session - Pank Road Property -- 19.85(1) (g) Conferring with legal counsel for the governmental body who is rendering oral or written advise concerning strategy to be adopted by the body with respect to litigation in which it is or is likely to become involved. Motion by Hessel to go into Closed Session, second by Buckholtz. Roll call finds: Boettcher – yes, Maestri - yes, Hessel – yes, Buckholtz –yes. All in favor.

Open Session. Motion by Hessel to open the closed session, second by Buckholtz. All in favor. Boettcher advises that there was no action taken in closed session.

e) Any other business that may come before the Committee. None

ADJOURNMENT

Boettcher adjourns meeting at 10:13am.

Minutes prepared by Kathy Marks, Deputy Zoning & Conservation Administrator.



Conditional Use Permit Request STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # CUP 22-033

Applicant:

Mason & Laura Hurd
3204 Glenhaven PL
Eau Claire, WI 54703

Property Location & Legal Description:

Part of the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ and SW $\frac{1}{4}$ of the SW $\frac{1}{4}$, Lot 1 CSM 34/142 #8130; S25, T38N, R06W; Parcel #022-638-25-3204; 19.6 total acres; Zone (A-1) Agricultural One.

Request: Permit desired for a 14' x 40' accessory structure on vacant property per section 4.26 (1) of the Sawyer County Zoning Ordinance. This accessory structure is to meet all setbacks of property lines and Ordinary High Water Mark. As per section 4.26 (1) of the Sawyer County Zoning Ordinance.

4.26(1)...The construction of accessory buildings on vacant property may only be allowed by Conditional Use with Town and Zoning Committee Approval. Granting of a Conditional Use will require within 3 years for a principal dwelling Land Use Permit to be applied for and the principal dwelling to be built within the permit time frame on the same parcel. Failure to build principal dwelling will result in citation and order for removal of accessory structure.

Project History & Summary of Request

As per conversations with the applicants the Conditional Use Permit is being requested to first build an outbuilding prior to constructing a cabin. Proposed accessory structure is to meet all other County Zoning setback and use requirements.

Additional information for Conditional Use Permits:

Substantial evidence means facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion.

If an applicant agrees to meets all of the requirements and conditions specified in the county ordinance or those imposed by the county zoning board, the county shall grant the

conditional use permit. Any condition imposed must be related to the purpose of the ordinance and be based on substantial evidence. The conditions must be reasonable and, to the extent practicable, measurable. The applicant must demonstrate that the application and all requirements and conditions established by the county relating to the conditional use are or shall be satisfied, both of which must be supported by substantial evidence. The county's decision to approve or deny the permit must be supported by substantial evidence.

Possible Conditions for Approval: (choose from list below) (add or delete from list below)

- 1 Land Use Permit is required and applied for **accessory structure(s)** within 1 year from the date of Zoning Committee decision.
- 2 Land Use Permit is required and applied for **principal structure** within 3 years from date of Zoning Committee decision. Failure to apply and build will result in citation with potential order for removal of accessory building.
- 3 A fire number/site address be required for the property.
- 4 Proposed accessory structure must me all other Sawyer County Zoning & Conservation requirements and compliant with all other State & Federal Laws
- 5 Size of proposed structure not to exceed 14' x 40'.

Findings of Fact for Approval: (choose from list below)

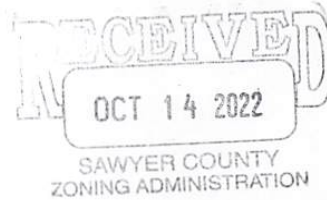
- 1 It would not be significantly damaging to the rights of others or property values
- 2 It would not be detrimental to ecology, wild life, wetlands or shorelands.
- 3 It would not create an air quality, water supply, or pollution problem.
- 4 It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
- 5 It would not create traffic or highway access problems.
- 6 It would not destroy prime agricultural lands.
- 7 It would be compatible with the surrounding uses and the area.
- 8 It would be consistent with the Town and/or County Comprehensive Plan
- 9 It would not create an objectionable view.

Findings of Fact for Denial: (choose from list below)

- 10 It would be significantly damaging to the rights of others and property values.
- 11 It would be detrimental to ecology, wild life, wetlands or shorelands.
- 12 It would create an air quality, water supply, or pollution problem.
- 13 It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
- 14 It would create traffic or highway access problems.
- 15 It would destroy prime agricultural lands.
- 16 It would not be compatible with the surrounding uses and the area.
- 17 It would be consistent with the Town and/or County Comprehensive Plan
- 18 It would create an objectionable view.



Conditional Use Public Hearing Application



TO: Sawyer County Zoning and Conservation Administration
10610 Main Street Suite 49
Hayward, Wisconsin 54843

Attn: Kathy Marks E-mail: kathy.marks@sawyercountygov.org

Phone: 715-638-3225

Property Owner Name & Address:

Mason Hurd
4410 Golf Terrace Suite 102
Eau Claire WI 54701

Phone: 715-577-9841

Email: RedShoreAgent@gmail.com

Property description including Parcel Number:

PRT, NWSW, SWSW, Lot 1 CSM, 34/42 # 8130
S25 T38N R06W Town of Radisson Parcel #
022-638-25-3204

Permit desired for:

14x40 Accessory Structure on Vacant land pursuant to
Sawyer County Zoning Ordinance Section 4.26(1)

To meet setbacks of P/L & OHWN

Mason Hurd


Owner Print & Sign

Owner Print & Sign

Signature of property owner(s) required. The undersigned person(s) hereby give permission for access to the property for inspection by Municipal Officials, Sawyer County Zoning Staff and Sawyer County Zoning Committee members if needed.

Name, Address, Phone & Email of Agent or Buyer:

Fee: \$350.00

Rev January 2021

Date of Public Hearing: Dec. 16, 2022

Real Estate Sawyer County Property Listing

Today's Date: 10/17/2022

Property Status: **Current**

Created On: 6/14/2016 10:05:08 AM

 **Description** Updated: 6/14/2016

Tax ID:	42410
PIN:	57-022-2-38-06-25-3 02-000-000040
Legacy PIN:	022638253204
Map ID:	
Municipality:	(022) TOWN OF RADISSON
STR:	S25 T38N R06W
Description:	PRT NWSW, SWSW, LOT 1 CSM 34/142 #8130
Recorded Acres:	19.600
Calculated Acres:	19.174
Lottery Claims:	0
First Dollar:	No
Waterbody:	Brunet River
Zoning:	(A-1) Agricultural One
ESN:	441

 **Tax Districts** Updated: 6/14/2016

1	State of Wisconsin
57	Sawyer County
022	Town of Radisson
576615	Winter School District
001700	Technical College

 **Recorded Documents** Updated: 5/3/2018

 WARRANTY DEED	
Date Recorded: 5/2/2018	412156
 MFL WITHDRAWAL ORDER	
Date Recorded: 7/18/2016	402028
 CERTIFIED SURVEY MAP	
Date Recorded: 5/16/2016	401069
 MFL ORDER	
Date Recorded: 11/16/2015	398633
 QUIT CLAIM DEED	
Date Recorded: 1/14/2015	393980
 PERSONAL REPRESENTATIVES DEED	
Date Recorded: 12/30/2014	393774
 PERSONAL REPRESENTATIVES DEED	
Date Recorded: 3/8/2005	328973

Child History Record Count: 4 -

HISTORY  [Expand All History](#) White=Current Parcels Pink=Retired Parcels

-  **Tax ID:** 21924 **PIN:** 57-022-2-38-06-25-3 03-000-000010 **Leg. Pin:** 022638253301 **Map ID:** .11.1
-  **Tax ID:** 21923 **PIN:** 57-022-2-38-06-25-3 02-000-000010 **Leg. Pin:** 022638253201 **Map ID:** .10.1
-  **Tax ID:** 21922 **PIN:** 57-022-2-38-06-25-3 01-000-000010 **Leg. Pin:** 022638253101 **Map ID:** .9.1
-  **Tax ID:** 42409 **PIN:** 57-022-2-38-06-25-3 02-000-000020 **Leg. Pin:** 022638253202

42410

This Parcel



Parents



Children

 **Ownership** Updated: 5/3/2018

MASON J & LAURA A HURD	EAU CLAIRE WI
Billing Address:	Mailing Address:
MASON J & LAURA A HURD	MASON J & LAURA A HURD
3204 GLENHAVEN PL	3204 GLENHAVEN PL
EAU CLAIRE WI 54703	EAU CLAIRE WI 54703

 **Site Address** * indicates Private Road

N/A

 **Property Assessment** Updated: 8/9/2017

2022 Assessment Detail			
Code	Acres	Land	Imp.
G6-PRODUCTIVE FOREST	19.600	28,400	0

2-Year Comparison			
	2021	2022	Change
Land:	28,400	28,400	0.0%
Improved:	0	0	0.0%
Total:	28,400	28,400	0.0%

 Property History

Parent Properties	Tax ID
57-022-2-38-06-25-3 02-000-000020	42409



401069

PAULA CHISSER
REGISTER OF DEEDS SAWYER COUNTY, WI
05/16/2016 12:50PM
REC FEE: 30.00

PAGES 4

DEED DOC. No. 389604

BRUNET LANE

N00°20'03"E 1888.34'

S00°08'25"E 1043.05'

S00°20'03"W 1472.82'

S00°20'03"W 1299.45'

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S00°20'03"W 1299.45'

SAWYER COUNTY CERTIFIED SURVEY MAP

LOCATED IN PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER, PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER, AND PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER, OF SECTION 25, TOWNSHIP 38 NORTH, RANGE 6 WEST, IN THE TOWN OF RADISSON, SAWYER COUNTY, WISCONSIN.

EAST 1/4 CORNER
SEC. 25-38-6

WEST 1/4 CORNER
SEC. 25-38-6

DEED DOC. No. 239318

-N89°07'30"E 5382.89'-
N89°07'30"E 2691.75'

DEED DOC. No. 348999

N89°07'30"E
2691.14'

LOT 1
853,652 SQ. FT. ±
19.60 ACRES ±

LOT 2
709,765 SQ. FT. ±
16.29 ACRES ±

LOT 3
575,039 SQ. FT. ±
13.20 ACRES ±

LOT 4
523,762 SQ. FT. ±
12.02 ACRES ±

CENTERLINE OF A
66' WIDE ROAD AND
UTILITY EASEMENT.

DEED DOC. No. 393980

NOTE: THE ORDINARY HIGH WATER
LINE OF THE BRUNET RIVER IS
APPROXIMATE AND IS FOR REFERENCE
ONLY.

ANY LAND BELOW THE ORDINARY
HIGH WATER MARK OF A LAKE OR
NAVIGABLE STREAM IS SUBJECT TO
THE PUBLIC TRUST IN NAVIGABLE
WATERS THAT IS ESTABLISHED UNDER
ARTICLE IX, SECTION 1 OF THE STATE
CONSTITUTION.

BRUNET RIVER

LEGEND

- Found 2-1/2" Brass Capped Iron Pipe.
- Set 3/4" x 18" Iron Rod wt. 1.50 lbs. per foot.
- Structure



SCALE IN FEET 1" = 300'

SEE SHEET 2 OF 4 SHEETS FOR
CURVE AND LINE TABLE DATA.

JOB # 02416

Prepared by:

Jesse Suzan Land Surveying LLC

Phone No. (715) 634-0774

13731W Sjoström Circle

Hayward, WI 54843

Sheet 1 of 4 Sheets

BEARINGS ARE REFERENCED TO THE EAST-WEST 1/4
LINE OF SECTION 25, TOWNSHIP 38 N., RANGE 6 W. WHICH
BEARS N89°07'30"E. SAWYER COUNTY GRID, NAD 83/2011.

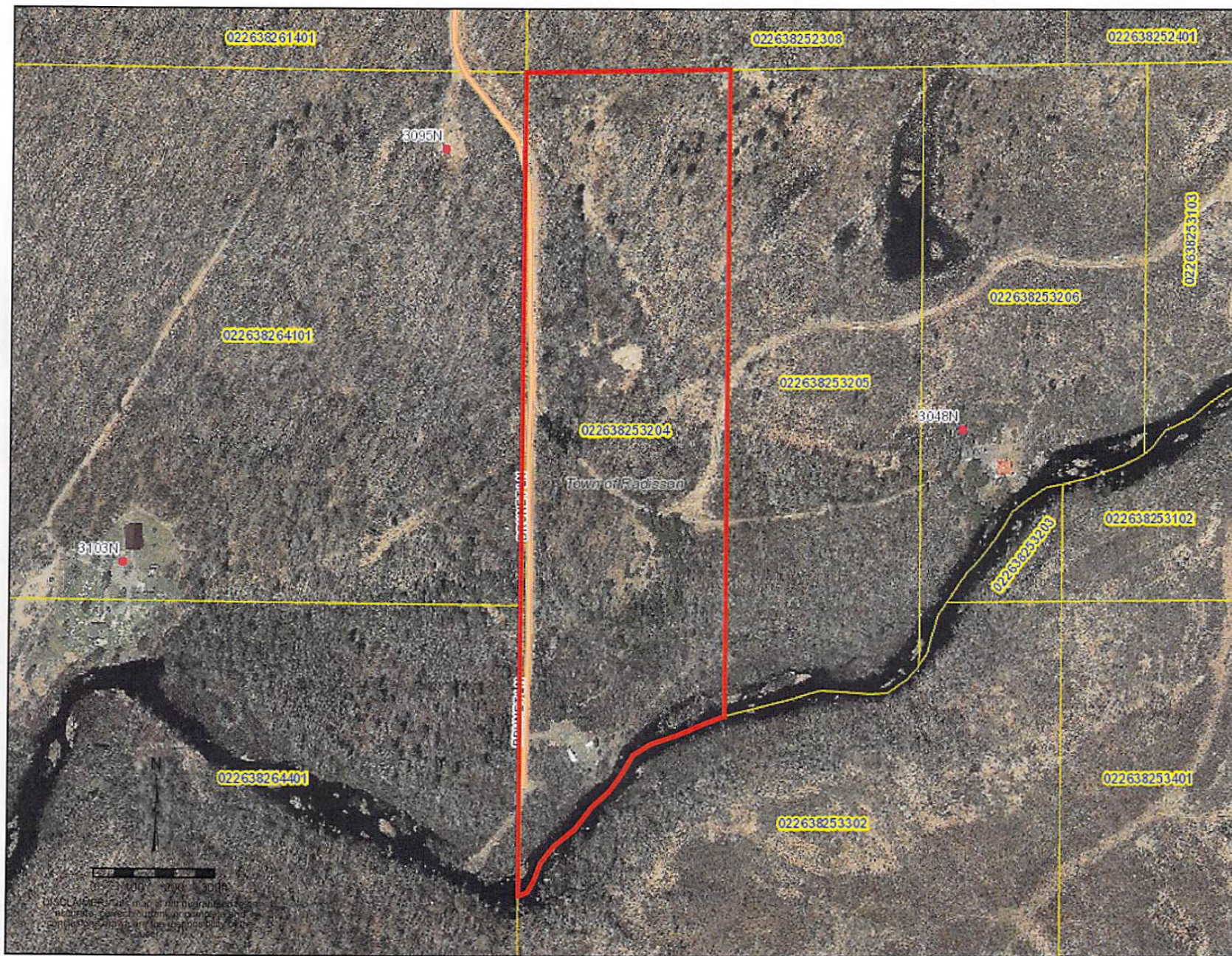
GSM# 8130

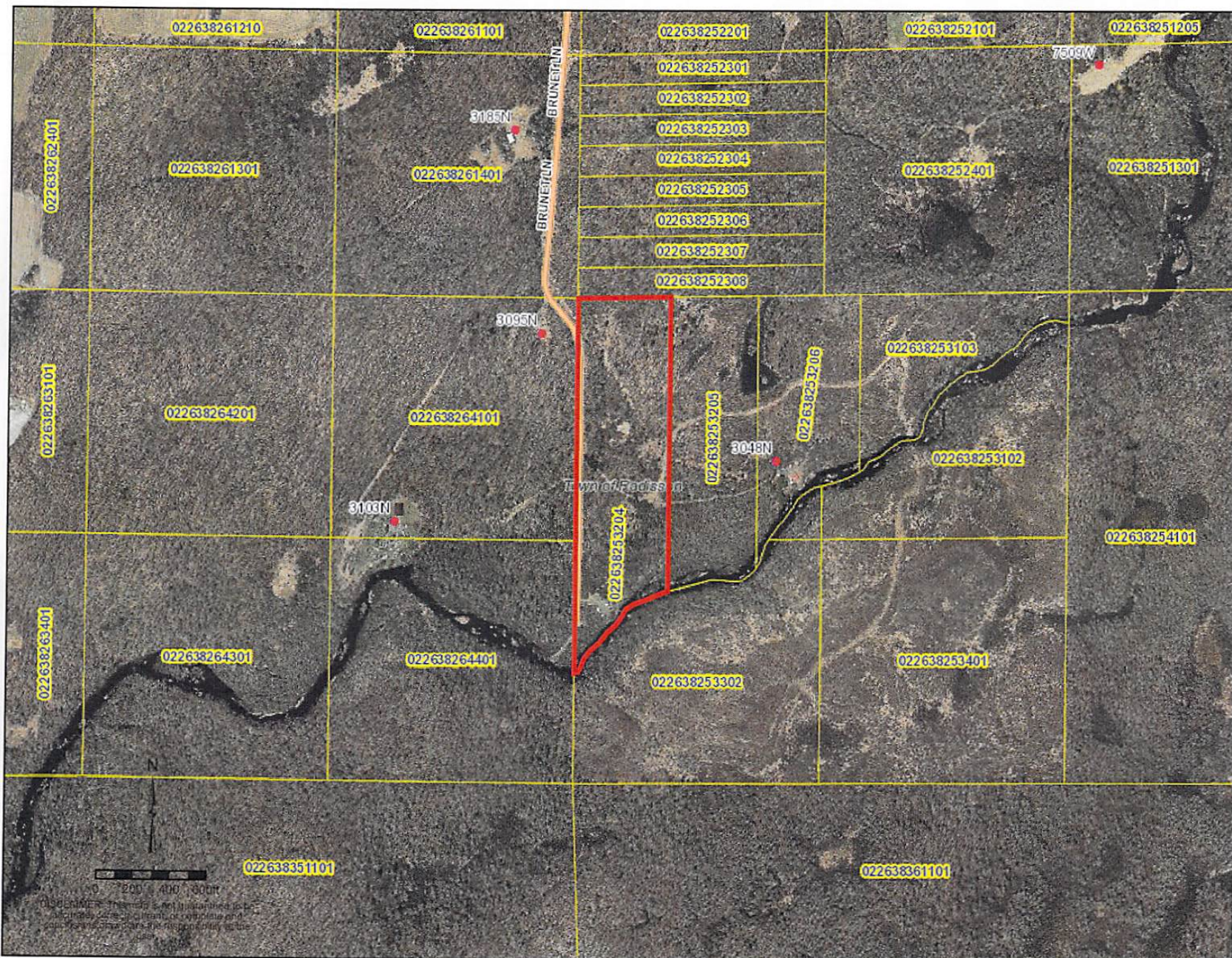
401069 1 of 4

VOL 34

PG 142

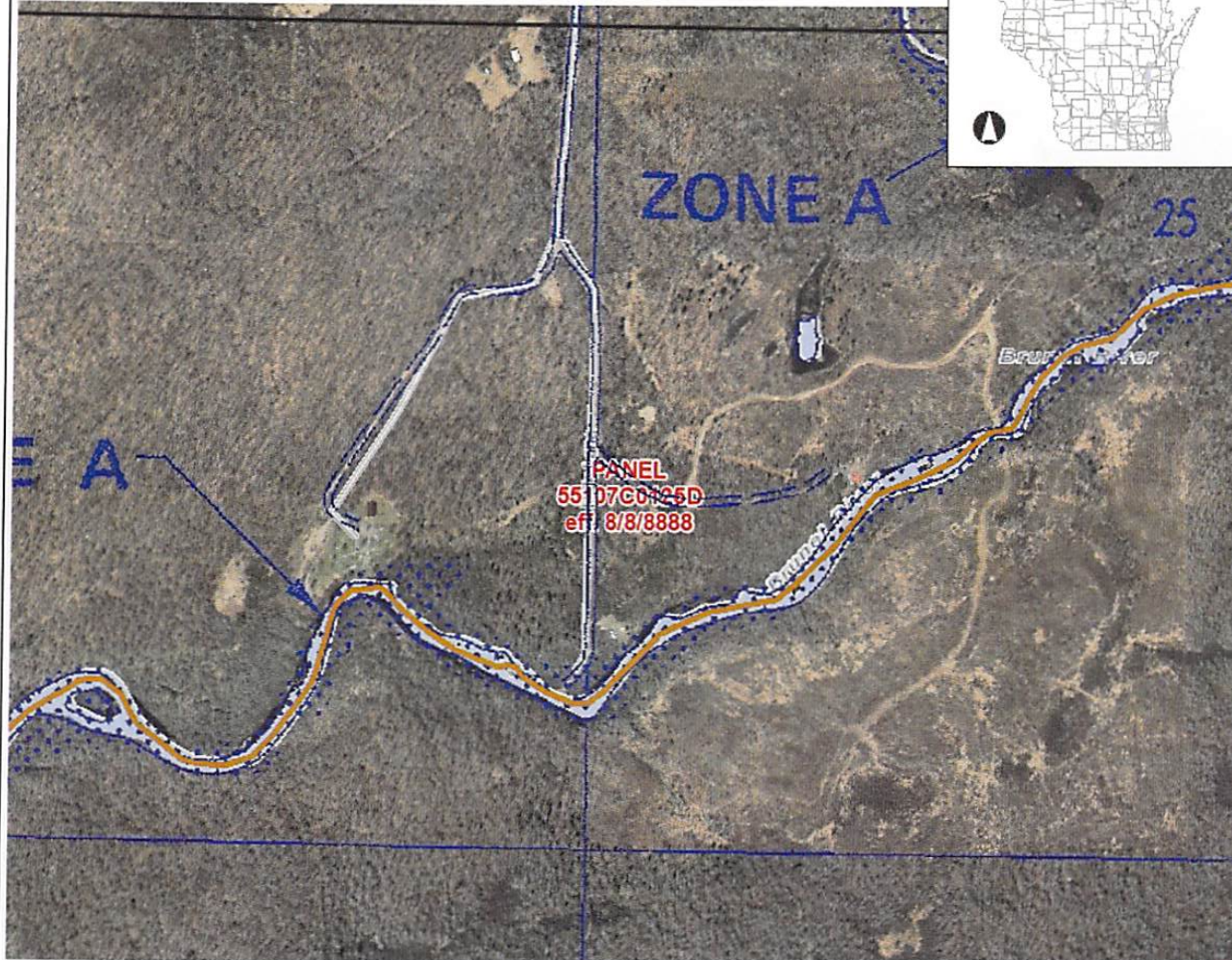








Surface Water Data Viewer Map



Legend

- Dams**
 - Dams with FERC License
 - Dams
- Record Flood Levels**
- Analysis Lines**
 - Other
 - Flood Insurance Study
 - Letter of Map Revision
 - Case By Case Analysis
 - Bridge
- Analysis Points**
 - Other
 - Flood Insurance Study
 - Letter of Map Revision
 - Case By Case Analysis
 - Bridge
- Analysis Catchments**
- Floodplain Storage**
- Cross Sections**
- Floodplains**
 - Flood Fringe
 - Floodway
- FERC Project Area Boundaries**
- DOT Bridges**
- Statewide Paper FIRM Index**
- FIRM Panels**
- Cross-Sections**
- Flood Hazard Boundaries**
 - Limit Lines
 - SFHA / Flood Zone Boundary
- Flood Hazard Zones**
 - 1% Annual Chance Flood Hazard
 - Regulatory Floodway

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

Conditional Use Permit Request STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # CUP 22-005 (Amended)

Applicant:

Joshua O'Rourke
N1283 County Road MD
Sarona, WI 54870



Property Location & Legal Description:

Part of Government Lot 1, Lot 2 CSM #8635. S33, T38N, R09W; Parcel #008-938-33-5109; 3.54 total acres; Zoned Residential/Recreational One (RR-1). Located at 2892N County Hwy F

Request: Purpose of request is to have up to a 1200 square foot commercial building for recreational sales and marina including convenience store and bait shop as per section 17.2(B)(3) of the Sawyer County Zoning Ordinance.

Project History & Summary of Request: As per the applicant's statement they are requesting to build an approximately 1,000 sq ft building (not to exceed 1,200 sq ft) on the property that would serve as a dock/lift service center but also have other aspects of a marina that would rent boats, minor repair parts, and possible bait sales. The building would include a front office area, small break room, boat parts for basic repairs, bait sales, and a small pavilion. Future storage sheds for slip customers would also be included as part of this request but would need to meet applicable setbacks.

At this time no formal plans or building layouts have been discussed with the Sawyer County Zoning & Conservation Department. The Zoning & Conservation Department would have an onsite inspection conducted after spring melt to accurately layout building location. As part of one of the conditions for potential approval it would be recommended that a licensed engineer would sign off on site stability and erosion control plans for building proposal. This would only be for a potential approval of the conditional use permit. This site certainly has some topography challenges with it but through careful planning and water diversion techniques this site could be developed. The owner would work with the Conservation Department to ensure site stability.

The boat slips and marina aspects as they relate on-water would already require DNR approval or meet the specified guidelines from the DNR included within the "pier planner" information distributed by the DNR.

This CUP request originally started back in March of 2022. At that time, a motion was made to adjourn the case for additional information for an engineered driveway, grading for building and driveway permit from County. It was later brought back to ZC in June in that this originally adjournment never had a set deadline as to complete these requirements. In June a motion was

made that the applicant would need to provide information by November 1, 2022. In October 2022, the Zoning Committee made a further motion that due to vague language of the first motion that the Committee would rehear this case including wiping out any previous conditions and adjournments and that the application be reheard at the December Zoning Committee Meeting.

It should be noted that the applicant has secured a driveway permit from the County Hwy Department and a Grading Permit from Sawyer County Zoning to start construction of a driveway installation.

Additional information for Conditional Use Permits:

Substantial evidence means facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion. If an applicant agrees to meets all of the requirements and conditions specified in the county ordinance or those imposed by the county zoning board, the county shall grant the conditional use permit. Any condition imposed must be related to the purpose of the ordinance and be based on substantial evidence. The conditions must be reasonable and, to the extent practicable, measurable. The applicant must demonstrate that the application and all requirements and conditions established by the county relating to the conditional use are or shall be satisfied, both of which must be supported by substantial evidence. The county's decision to approve or deny the permit must be supported by substantial evidence.

Possible Conditions for Approval: (choose from list below) (add or delete from list below)

- 1 Main building not to exceed 1,200sq ft (approximately 1,000 sq ft)
- 2 Business hours to be conducted between 6AM-9PM, majority of summer depending on daylight
- 3 An engineered approved plan be required for building location as it relates to erosion control, site stability, and additional grading of the property.
- 4 All signage must meet Sawyer County Zoning Ordinance Requirements per zone district.
- 5 All other Town, County, State, Federal Laws are followed including DNR approval for docks/piers/wharfs.

Findings of Fact for Approval: (choose from list below)

- 1 It would not be significantly damaging to the rights of others or property values
- 2 It would not be detrimental to ecology, wild life, wetlands or shorelands.
- 3 It would not create an air quality, water supply, or pollution problem.
- 4 It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
- 5 It would not create traffic or highway access problems.
- 6 It would not destroy prime agricultural lands.
- 7 It would be compatible with the surrounding uses and the area.
- 8 It would be consistent with the Town and/or County Comprehensive Plan
- 9 It would not create an objectionable view.

Findings of Fact for Denial: (choose from list below)

- 10 It would be significantly damaging to the rights of others and property values.
- 11 It would be detrimental to ecology, wild life, wetlands or shorelands.
- 12 It would create an air quality, water supply, or pollution problem.
- 13 It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
- 14 It would create traffic or highway access problems.
- 15 It would destroy prime agricultural lands.
- 16 It would not be compatible with the surrounding uses and the area.
- 17 It would not be consistent with the Town and/or County Comprehensive Plan.
- 18 It would create an objectionable view.



application received
11/1/22
Amended

Conditional Use Public Hearing Application

TO: Sawyer County Zoning and Conservation Administration
10610 Main Street Suite 49
Hayward, Wisconsin 54843
Attn: Kathy Marks E-mail: kathy.marks@sawyercountygov.org

Property Owner Name & Address:

Joshua O'Rourke
N1283 County Hwy MD
Sardona, WI. 54870

Phone: 715-651-6600 Email: O'Rourke.joshua@gmail.com

Property description including Parcel Number:

Prt Grout Lot 1, Lot 2 CSM #8635
Parcel # 008-938-33-5109 tax id #44505
3.54 Acres zoned RR-1

Permit desired for:

Section 17.2(B)(3) for a recreational sales and
marina building including convenience store and bait sales.
Building not to exceed 1200 sq ft of footprint area. This
would be considered a recreational service-oriented use

Joshua O'Rourke
[Signature]
Owner Print & Sign

Owner Print & Sign

Signature of property owner(s) required. The undersigned person(s) hereby give permission for access to the property for inspection by Municipal Officials, Sawyer County Zoning Staff and Sawyer County Zoning Committee members if needed.

Name, Address, Phone & Email of Agent or Buyer:

Fee: \$350.00 - PD
Rev January 2021

Date of Public Hearing: December 16th, 2022

Real Estate Sawyer County Property Listing

Today's Date: 11/22/2022

Property Status: Next Year

Created On: 6/3/2022 9:14:38 AM

 Description Updated: 11/2/2022

Tax ID:	44505
PIN:	57-008-2-38-09-33-5 05-001-000090
Legacy PIN:	008938335109
Map ID:	

Municipality:	(008) TOWN OF EDGEWATER
STR:	S33 T38N R09W
Description:	PRT GOVT LOT 1 LOT 2 CSM 37/309 #8635
Recorded Acres:	3.540
Calculated Acres:	0.000
Lottery Claims:	0
First Dollar:	No
Waterbody:	Chetac Lake
Zoning:	(RR1) Residential/Recreational One
ESN:	

 Tax Districts Updated: 6/3/2022

1	State of Wisconsin
57	Sawyer County
008	Town of Edgewater
650441	Birchwood School District
001700	Technical College

 Recorded Documents Updated: 6/3/2022

WARRANTY DEED	
Date Recorded: 5/9/2022	<u>439010</u>
CERTIFIED SURVEY MAP	
Date Recorded: 4/27/2022	<u>438817</u>
CERTIFIED SURVEY MAP	
Date Recorded: 6/9/2021	<u>432463</u>
TERMINATION OF DECEDENTS INTEREST	
Date Recorded: 7/8/2010	<u>367376</u>
MANAGED FOREST LAW-MFL	
Date Recorded: 11/22/1995	<u>251569</u>
WARRANTY DEED	
Date Recorded: 4/21/1995	<u>247403</u>

Child History Record Count: 3 -

HISTORY  Expand All History White=Current Parcels Pink=Retired Parcels Tax ID: 9506 Pin: 57-008-2-38-09-33-5 05-001-000010 Leg. Pin: 008938335101 Map ID: :1.1 Tax ID: 40901 Pin: 57-008-2-38-09-33-5 05-001-000040 Leg. Pin: 008938335104 Map ID: :1.4 Tax ID: 44224 Pin: 57-008-2-38-09-33-5 05-001-000080 Leg. Pin: 008938335108

44505 This Parcel ↑ Parents ↓ Children

 Ownership Updated: 6/3/2022

JOSHUA W O'ROURKE	SARONA WI
JOSEPH T O'ROURKE	SARONA WI

Billing Address:	Mailing Address:
JOSHUA W O'ROURKE	JOSHUA W O'ROURKE
N1283 COUNTY HWY MD	N1283 COUNTY HWY MD
SARONA WI 54870	SARONA WI 54870

 Site Address * Indicates Private Road

2892N COUNTY HWY F	BIRCHWOOD 54817
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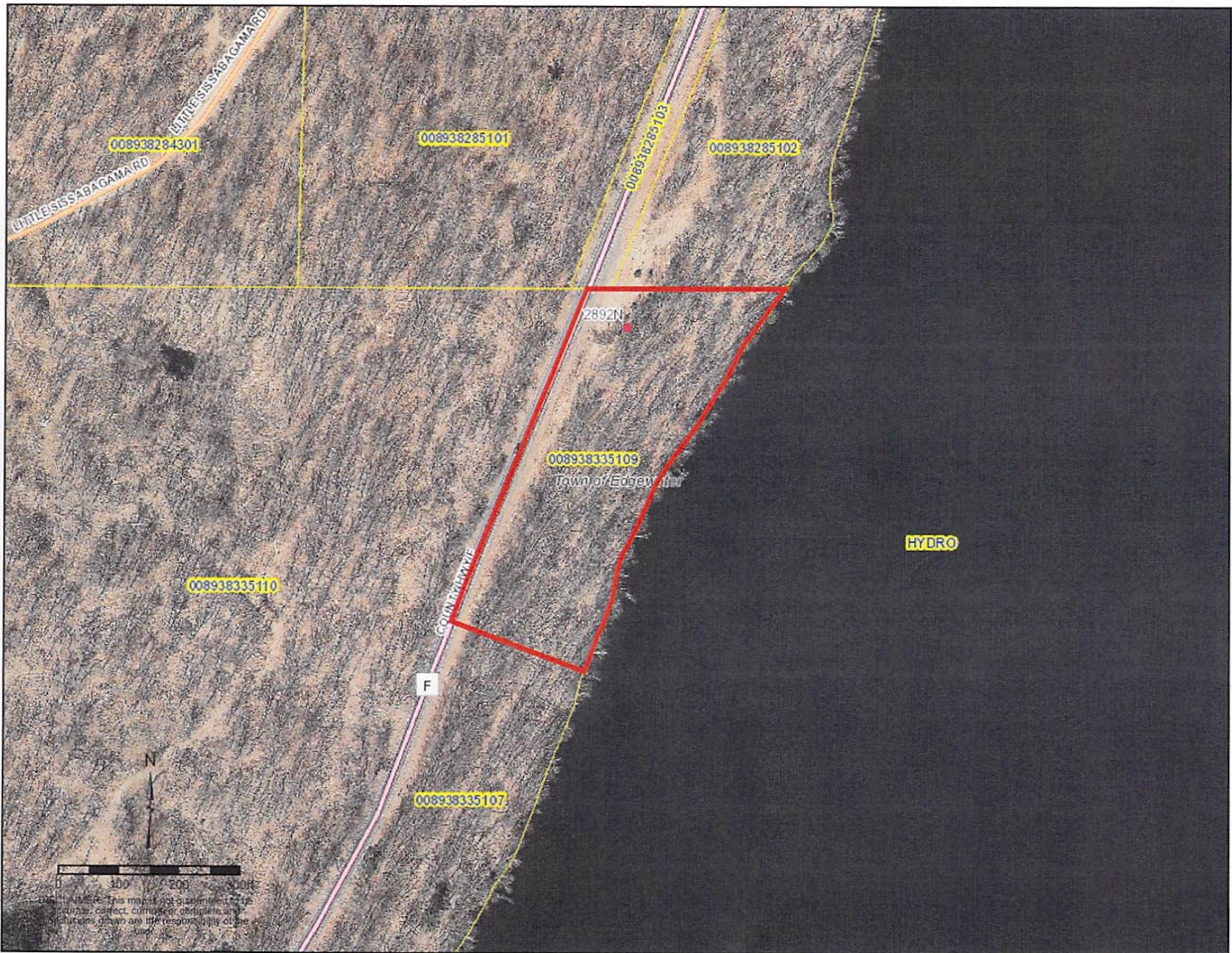
 Property Assessment Updated: N/A**2022 Assessment Detail**

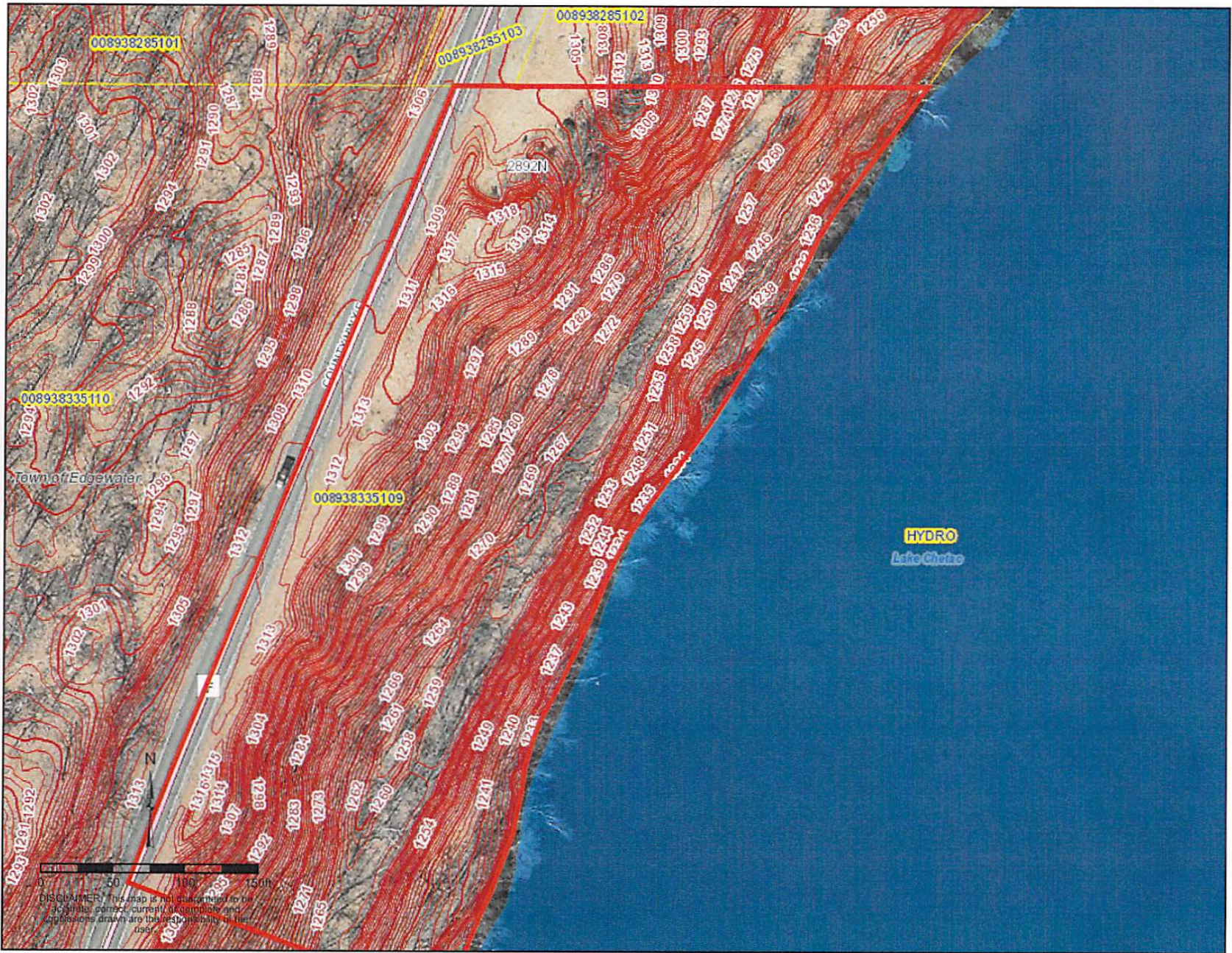
Code	Acres	Land	Imp.
N/A			

2-Year Comparison	2021	2022	Change
Land:	0	0	0.0%
Improved:	0	0	0.0%
Total:	0	0	0.0%

 Property History

Parent Properties	Tax ID
57-008-2-38-09-33-5 05-001-000080	44224







17.2 RR-1: Residential/Recreational One District

This district is intended to provide for residential development and essential recreation oriented-services in areas of high recreational value where soil conditions and other physical features will support such development without depleting or destroying natural resources.

A) Permitted Uses

- 1) One-family and two-family dwellings.
- 2) Private garages, carports, and boathouses.
- 3) Horticulture and gardening.
- 4) Essential services and utilities intended to serve the principal permitted use.
- 5) Signs subject to the provisions of Section 5.0.
- 6) Customary accessory uses provided such uses are clearly incidental to the principal permitted use.
- 7) Licensed In-Home Day Care/Child Care (no more than 8 children)

B) Uses Authorized by Conditional Use

- 1) Mobile home parks subject to the provisions of Section 6.5.
- 2) Telephone, telegraph and power transmission towers, poles, and lines, including transformers, substations, relay and repeater stations, equipment housing and other necessary appurtenant equipment and structures.
- 3) Recreational service-oriented uses such as restaurants, cocktail lounges, marinas, County Zoning Committee are of the same general character or clearly incidental to a permitted use or use authorized by conditional permit.
- 4) Hair salon and barber shop
- 5) Sport shops, bait sales, and other recreational services which in the opinion of the private or wholesale carpentry or woodworking shop; limited to property owner.
- 6) Greenhouse and florist.
- 7) Professional offices and studios.
- 8) Bed and Breakfast establishments.
- 9) Taxidermy.
- 10) Real estate office.
- 11) Childcare center, play school.
- 12) Shrub, tree nursery.
- 13) Lake access subject to provisions of Section 4.412.
- 14) Lake access for island development subject to provisions of Section 4.413.
- 15) MULTI-DWELLING DEVELOPMENT (i.e. **new** condominium, hotel, motel or resort, or other development which is the same general scale and character). (Does not include the conversion of existing properties to a condominium ownership, existing resorts, motels, hotels or any other existing multi dwelling development unless more rental/dwelling units are being proposed by plat or other means that would be in addition to the existing rental/dwelling units.)
- 16) Public and private parks, playgrounds and water sports areas.
- 17) Churches
- 18) Accessory structures on vacant property according to Section 4.26 (1) or an

accessory structure on property lying across the Town or County Road from the principle structure. See Section 4.26(2)

19) Funeral Homes

20) Horses



Conditional Use Permit Request - STAFF REPORT

Prepared By: Jay Kozlowski, Sawyer County Zoning & Conservation Administrator

File: # CUP 22-026 Location and Operation Plan

Applicant:

Travis Butterfield
14346W State Hwy 77
Hayward, WI 54843

Property Location & Legal Description:

Part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, S11, T41N, R08W; and Part of the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$; S12, T41N, R08W; Lot 1 CSM 28-13 #7170; Parcel #024-841-11-4101; Tax ID# 26555; Zoned Forestry One (F-1) & Residential/Recreational One (RR-1); 39.85 total acres;

Request: Permit desired for a non-metallic mining extraction operation including rock crusher. This would be for a potential 5-year approval.

Project History & Summary of Request

This request of CUP 22-026 is for the location of a non-metallic mineral extraction operation including a rock crusher. The property is 39.85 total acres with an actual mine site which was amended and is identified as 10.57 acres towards the Northwest portion of the property. The mine site area is to occur fully within the designated F-1 Zone District. Only travel roads are to occur within the RR-1 zoned areas of this property. Per Section 6.23(2) of the Sawyer County Zoning Ordinance would require any rock crushing operation to be located greater than 1000' from any residence. As part of the attached packet the mine location will primary be located to the Northwest side and be as close as 600' from the nearest residence with again all crushing operations to exceed 1000'.

As per conditions of an approved reclamation plan financial assurance would be required in the amount of \$15,855 or \$1500 per acre. The applicant must provide payment of assurance prior to any excavation.

The specified normal hours of operation are 8 AM to 5 PM, Monday – Friday; April-December. Crushing hours as specified in the plan of operation are Monday-Friday, 8 AM to 5 PM; 7 days total per year.

Additional information for Conditional Use Permits:

Substantial evidence means facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion.

If an applicant agrees to meet all of the requirements and conditions specified in the county ordinance or those imposed by the county zoning board, the county shall grant the conditional use permit. Any condition imposed must be related to the purpose of the ordinance and be based on substantial evidence. The conditions must be reasonable and, to the extent practicable, measurable. The applicant must demonstrate that the application and all requirements and conditions established by the county relating to the conditional use are or shall be satisfied, both of which must be supported by substantial evidence. The county's decision to approve or deny the permit must be supported by substantial evidence.

Possible Conditions for Approval: (choose from list below) (add or delete from list below)

- 1 Obtain approval or conditional approval of reclamation plan
- 2 Hours of normal operations: 8AM-5PM, Monday-Friday; April-December
- 3 Crushing hours: April-December, 8AM-5PM, Monday-Friday, 7 total days per year. Crushing may occur earlier in the year based on weather conditions. May not exceed 7 days of crushing.
- 4 Zoning Committee to potentially set vegetative setback distance for properties lines. (discussion should occur on this)
- 5 A Fire # or Site Address is required for the property.
- 6 Maintain compliance with Department of Natural Resources Chapter 30
- 7 Comply with all other federal, state, and local regulations including approval of the "Reclamation Plan".

Findings of Fact for Approval: (choose from list below)

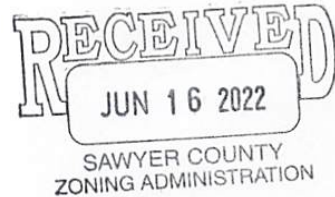
- 1 It would not be significantly damaging to the rights of others or property values
- 2 It would not be detrimental to ecology, wild life, wetlands or shorelands.
- 3 It would not create an air quality, water supply, or pollution problem.
- 4 It would not create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
- 5 It would not create traffic or highway access problems.
- 6 It would not destroy prime agricultural lands.
- 7 It would be compatible with the surrounding uses and the area.
- 8 It would be consistent with the Town and/or County Comprehensive Plan
- 9 It would not create an objectionable view.

Findings of Fact for Denial: (choose from list below)

- 10 It would be significantly damaging to the rights of others and property values.
- 11 It would be detrimental to ecology, wild life, wetlands or shorelands.
- 12 It would create an air quality, water supply, or pollution problem.
- 13 It would create topographical problems such as run off, drainage, erosion, flooding, or vegetative cover removal.
- 14 It would create traffic or highway access problems.
- 15 It would destroy prime agricultural lands.
- 16 It would not be compatible with the surrounding uses and the area.
- 17 It would not be consistent with the Town and/or County Comprehensive Plan
- 18 It would create an objectionable view.



Conditional Use Public Hearing Application



TO: Sawyer County Zoning and Conservation Administration
10610 Main Street Suite 49
Hayward, Wisconsin 54843

Attn: Kathy Marks E-mail: kathy.marks@sawyercountygov.org

Phone: 715-638-3225

Property Owner Name & Address:

Travis A. Butterfield
14346W State Rd 77
Hayward, WI 54843

Phone: 715-492-7021

Email: kellybutterfield@hotmail.com

Property description including Parcel Number:

Parcel ID# 26555
Prt NESE SEC 11, Prt NWSW Sec 12 Lot 1 CSM 28/13
7170, 39.85 Acres/ amend acreage to 10.57 acres

Permit desired for:

Location operation of non-metallic mineral
extraction site. mine site to be 10.57 acres.

Travis A. Butterfield

Owner Print & Sign

Owner Print & Sign

Signature of property owner(s) required. The undersigned person(s) hereby give permission for access to the property for inspection by Municipal Officials, Sawyer County Zoning Staff and Sawyer County Zoning Committee members if needed.

Name, Address, Phone & Email of Agent or Buyer:

Fee: \$350.00

Date of Public Hearing: Amended for meeting August 19, 2022 Dec. 16, 2022

Rev January 2021

Real Estate Sawyer County Property Listing

Today's Date: 11/21/2022

Property Status: Current

Created On: 2/6/2007 7:55:45 AM

**Description**

Updated: 2/17/2016

Tax ID:	26555
PIN:	57-024-2-41-08-11-4 01-000-000010
Legacy PIN:	024841114101
Map ID:	.13.1
Municipality:	(024) TOWN OF ROUND LAKE
STR:	S11 T41N R08W
Description:	PRT NESE SEC 11 PRT NWSW SEC 12 LOT 1 CSM 28/13 #7170
Recorded Acres:	39.850
Calculated Acres:	39.863
Lottery Claims:	0
First Dollar:	No
Zoning:	(F-1) Forestry One (RR1) Residential/Recreational One
ESN:	461

**Tax Districts**

Updated: 2/6/2007

1	State of Wisconsin
57	Sawyer County
024	Town of Round Lake
572478	Hayward Community School District
001700	Technical College

**Recorded Documents**

Updated: 2/17/2016

QUIT CLAIM DEED	
Date Recorded: 12/7/2015	398964
TRUSTEES DEED	
Date Recorded: 1/12/2015	393941
QUIT CLAIM DEED	
Date Recorded: 2/8/2010	365154
QUIT CLAIM DEED	
Date Recorded: 4/17/2008	353030
QUIT CLAIM DEED	
Date Recorded: 2/1/2006	336701
QUIT CLAIM DEED	
Date Recorded: 8/29/1995	249832 560/110

**Ownership**

Updated: 2/17/2016

TRAVIS A BUTTERFIELD	HAYWARD WI
-----------------------------	------------

Billing Address:

TRAVIS A BUTTERFIELD
14346W STATE HWY 77
HAYWARD WI 54843

Mailing Address:

TRAVIS A BUTTERFIELD
14346W STATE HWY 77
HAYWARD WI 54843

**Site Address** * indicates Private Road

N/A

**Property Assessment**

Updated: 7/16/2019

2022 Assessment Detail

Code	Acres	Land	Imp.
G6-PRODUCTIVE FOREST	39.850	41,400	0

2-Year Comparison

	2021	2022	Change
Land:	41,400	41,400	0.0%
Improved:	0	0	0.0%
Total:	41,400	41,400	0.0%

**Property History**

N/A



**Travis Butterfield
Butterfield Pit – Non Metallic Mine
Hwy 77, Hayward WI
Operation and Maintenance Plan**

OPERATION PLAN

Owner: Travis A Butterfield

Parcel ID: 024841114101

Property Description: Prt NESE Sec 11 Prt NWSW Sec 12 Lot 1 CSM 28/13 #7170

Location: Sawyer County, East of Hayward, approximately ½ miles west of Pit Rd on the North side of State Hwy 77

Property Size: 39.85 Acres

Proposed Non-Metallic Mine Area: 10.57 Acres

Proposed Activities

Extracting, crushing, conveying, and stockpiling gravel. Extracting and stockpiling sand.

Hours of Operation

Normal Hours: Monday – Friday 8:00 AM – 5:00 PM

Crushing Hours: April – December, Monday – Friday 8:00 AM – 5:00 PM, 7 days total per year.

Total Crushing Operations: No more than 7 days per year.

Access Route

Access to the site is an existing driveway off State Hwy 77.

Equipment Used

Equipment used during pit operation will be an excavator, front end loader, dump truck, conveyor and a crusher.

Principal Structure/Residences

The closest principal structure is approximately 600 feet from the closest boundary of the proposed pit. See attached map measuring distance to adjacent structures. All crushing activities will occur at least 1,000 feet from the closest residence. Further, the proposed pit sits in a natural depression and all pit activities will be blocked from direct sight/sound by an earthen berm. Any areas that do not have a sufficient earthen berm will be built up to block the direct line of sight and sound to adjoining residences.

Excavation

The depth of the pit will be no more than 25 feet. Approximately 5000-10,000 yards of gravel are anticipated to be excavated each year. Excavation will continue until the decided setbacks are reached. (See Reclamation Plan for more detail).

Lot Lines

Lot lines have been marked with stakes/paint or ribbon. Identification and safety signs will be placed at the pit entrance. The proposed pit will maintain at least the required 10' setback from the neighboring northern property line.

Navigable Waters/Wetlands

The property has some wetlands on the far east property line and on the east property line. The boundary of proposed pit is 65 feet from the closest identified wetland. See attached map measuring

distance to identified wetlands. Pursuant to Sawyer County Ordinance § 4.29, all of these setbacks exceed the required 40' setback from wetland areas.

Erosion Control

Runoff from the site will be controlled by being contained within the pit itself. The pit will be started in a natural occurring hole, and water will be drained therein. As the pit expands, water will continually drain within the pit to avoid runoff. Because of the pit's natural layout, there will be no runoff, thus no runoff will reach the wetland areas. (See Reclamation Plan for more detail)

Environmental Considerations

All operations will be done in a way that will minimize the production of noise, vibration, or dust. Best management practices will be used to minimize erosion and pollution of the surface and ground water. (See Reclamation Plan for more detail)

Activities/Projects the Mining Operations Supports

The mined materials will support projects being done by the applicant. Materials will predominantly be used for residential projects with some commercial/municipality projects upon request. Applicant would consider selling to state, county or townships if requested. The materials will be used for construction projects in and around Sawyer County. The availability of this local pit will eliminate excess transportation and shipment of sand and gravel from outside areas. The minerals from this pit will not be sold to businesses or individuals and will be used solely by the applicant and his personally owned business operations.

The users of the mined materials will include the applicant personally as well as Butterfield, Inc. Butterfield, Inc. is a Wisconsin corporation with its sole owners being the applicant, Travis Butterfield as President, and the applicant's brother, Tony Butterfield, as vice-president. See attached information from the Wisconsin Department of Financial Institutions for corporate information.

Reclamation Plan

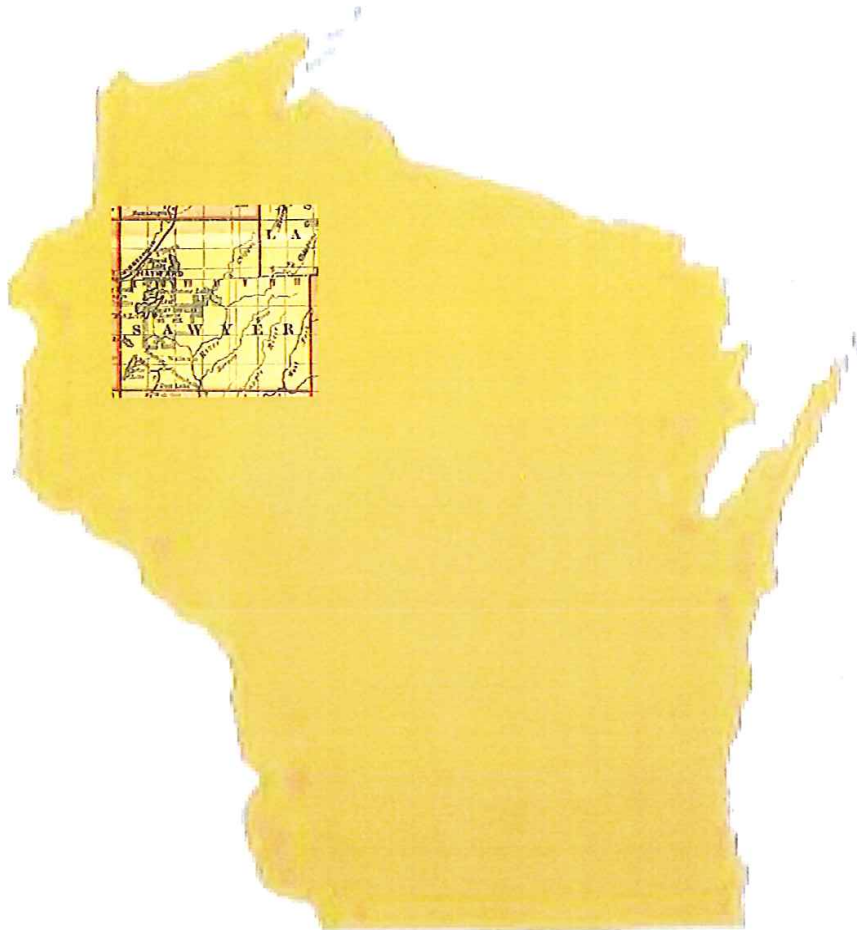
A reclamation plan has been submitted to Sawyer County Zoning.

Maintenance Plan

Runoff from the pit will be internally drained at all times. (See Reclamation Plan for more detail)

Travis Butterfield

SAWYER COUNTY
NR135
RECLAMATION PLAN



Created By:
Travis Butterfield
2022

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Real Estate Sawyer County Property
Listing

Today's Date: 11/21/2022

Property Status: **Current**

Created On: 2/6/2007 7:55:45 AM

▢ **Description** Updated: 2/17/2016

Tax ID:	26555
PIN:	57-024-2-41-08-11-4 01-000-000010
Legacy PIN:	024841114101
Map ID:	.13.1
Municipality:	(024) TOWN OF ROUND LAKE
STR:	S11 T41N R08W
Description:	PRT NESE SEC 11 PRT NWSW SEC 12 LOT 1 CSM 28/13 #7170
Recorded Acres:	39.850
Lottery Claims:	0
First Dollar:	No
Zoning:	(F-1) Forestry One (RR1) Residential/Recreational One
ESN:	461

▢ **Tax Districts** Updated: 2/6/2007

1	State of Wisconsin
57	Sawyer County
024	Town of Round Lake
572478	Hayward Community School District
001700	Technical College

▢ **Recorded Documents** Updated: 3/30/2010

▢ **QUIT CLAIM DEED**

Date
Recorded: 12/7/2015 [398964](#)

▢ **TRUSTEES DEED**

Date
Recorded: 1/12/2015 [393941](#)

▢ **QUIT CLAIM DEED**

Date
Recorded: 2/8/2010 [365154](#)

▢ **QUIT CLAIM DEED**

Date
Recorded: 4/17/2008 [353030](#)

▢ **Ownership** Updated: 2/17/2016

TRAVIS A BUTTERFIELD HAYWARD WI

Billing Address:	Mailing Address:
TRAVIS A BUTTERFIELD	TRAVIS A BUTTERFIELD
14346W STATE HWY 77	14346W STATE HWY 77
HAYWARD WI 54843	HAYWARD WI 54843

▢ **Site Address** * indicates Private Road
N/A

▢ **Property Assessment** Updated: 7/16/2019

2022 Assessment Detail			
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Improved:	0	0	0.0%
Total:	41,400	41,400	0.0%

▢ **Property History**

N/A

Wisconsin Department of Financial Institutions

Strengthening Wisconsin's Financial Future

Search for:
butterfield, inc

Search Records

[Search](#)
[Advanced Search](#)
[Name Availability](#)

Corporate Records

Result of lookup for T062497 (at 11/21/2022 9:17 AM)

BUTTERFIELD, INC.

You can: [File an Annual Report](#) - [Request a Certificate of Status](#) - [File a Registered Agent/Office Update Form](#)

Vital Statistics

Entity ID T062497

Registered Effective Date 04/02/2014

Period of Existence PER

Status Incorporated/Qualified/Registered [Request a Certificate of Status](#)

Status Date 04/02/2014

Entity Type Domestic Business

Annual Report Requirements Business Corporations are required to file an Annual Report under s.180.1622 WI Statutes.

Addresses

Registered Agent Office
TONY BUTTERFIELD
14346W STATE RD 77
HAYWARD , WI 54843

[File a Registered Agent/Office Update Form](#)

Principal Office
15628 STATE ROAD 77
HAYWARD , WI 54843-6002

Historical Information

Annual Reports

Year	Reel	Image	Filed By	Stored On
2022	000	0000	online	database
2021	000	0000	online	database
2020	000	0000	online	database
2019	000	0000	online	database
2018	000	0000	online	database
2017	000	0000	online	database
2016	000	0000	online	database
2015	000	0000	online	database

[File an Annual Report](#) - [Order a Document Copy](#)

**Certificates of
Newly-elected
Officers/Directors**

None

Old Names

Change Date	Name
Current	BUTTERFIELD, INC.
01/11/2017	TB INDUSTRIES, INC.

Chronology

Effective Date	Transaction	Filed Date	Description
04/02/2014	Incorporated/Qualified/Registered	04/02/2014	E-Form
06/29/2015	Change of Registered Agent	06/29/2015	FM16-E-Form
01/11/2017	Amendment	01/12/2017	Old Name = TB INDUSTRIES, INC.
07/14/2017	Change of Registered Agent	07/14/2017	Form16 OnlineForm
06/22/2019	Change of Registered Agent	06/22/2019	Form16 OnlineForm

[Order a Document Copy](#)

Travis Butterfield - Non-Metallic Mine Reclamation Plan Updated October 2022

Applicant Name: Travis Butterfield

Address: 14346W State Hwy 77

Hayward, WI 54835

Pit Name: Butterfield

Sites Legal Description: S11 T41N R08W; PRT NESE SEC 11 PRT NWSW SEC 12 LOT 1 CSM 28/13 #7170

Phone:(715) 634-8176

Total Area of Mine: 10.57 acres

Purpose and planned excavation of mine: The purpose of the mine is for the production of gravel and fill sand. The total extent of the mine is shown on the Site Plan Map. Excavation will be done in phases to limit the amount of exposed soil to reduce the possibility of erosion and pollution of surface or groundwater. Active excavation at the site will not exceed five acres at any given time. The total depth of excavation will be between 20' to 25', and will not exceed 25' in any location.

General Location: Butterfield's Pit non-metallic mine is located in SE¼, NE¼, Section 11, Range 8 West, Township 41 North, & PRT SW¼, NW¼, Section 12, Range 8 West, Township 41 North in the Town of Round Lake, Sawyer County, Wisconsin. The mine is approximately ¼ of a mile west of state highway 77.

Soil Type: The soil type at the site is a Pence sandy loam, 6 to 30 percent slopes.

Distribution, thickness, and type of topsoil: Thickness of topsoil is less than 8 inches with an abrupt wavy boundary.

Approximate elevation of groundwater: The approximate ground level elevation of the water table in this site is 50-60' below the land surface as detailed in the USGS water level test data attached hereto. The groundwater level will be 20-30' below the floor of the final pit level.

Location of surface waters and existing drainage patterns: The existing drainage pattern of the site is internally draining. There are no perennial water bodies close to the mine site. The closest water is a small ephemeral pond about ¼ mile to the south and Round Lake is located ¾ of a mile to the south. The existing drainage patterns and the distance to identified wetlands can be seen on the attached maps.

Current biological resources, plant communities, and wildlife use at and adjacent to mine site: Biological and wildlife data was mainly determined by visual observations. The proposed mine site is a young northern hardwood forest consisting of mostly maple with a mix of oak, birch, and aspen trees.

Wildlife usage is moderate in the forest for foraging and cover of the property. Main species present include rabbits, whitetail deer, and various songbirds and smaller mammals common to the area.

No threatened or endangered species were observed or known to inhabit the site.

Proposed post-mining land use: The proposed post-mining land use for the non-metallic mine site is a grassy meadow with some trees. The proposed land use would be appropriate to the current local zoning of Forestry 1. Upon complete reclamation natural succession would convert the grassy meadow back to forested habitat.

BMP's to be employed before and during non-metallic mine operation: All run-off is planned to be contained within the pit. An earthen berm, constructed with some of the overburden, will be left around the perimeter of the mine to contain all run-off within the mine site. Total area of exposed soil will be limited to only an area large enough to allow for needed excavation, which shall in no event exceed five acres at a time. If the possibility for erosion outside the mine occurs, silt fencing or a sediment basin may be needed. Exposed soils will be seeded with a cover crop and seed mixture to quickly revegetate the site and stabilize the soils protecting from run-off and wind erosion. Water will be applied to non-vegetated areas of the site to control dust during dry or windy conditions.

Topsoil removal, storage, stabilization, and conservation: Topsoil shall be removed prior to excavation of subsoil for each newly-excavated area. Topsoil removal will be accomplished using bulldozers, front end loaders, and other necessary equipment with the goal of recovering as much of the existing topsoil as possible. Topsoil will be removed in a manner that minimizes the surface area exposed to erosion at any one time. The removed topsoil will be reused for reclamation purposes and additional topsoil will be purchased and applied, if necessary to achieve a 6" layer of topsoil on all reclaimed areas.

Topsoil that has been stripped from the site will be stockpiled on level ground and away from any slopes. Stockpiles will be located in an area where they will be easy to access and out of the way to keep double handling to a minimum. To help prevent erosion and weed growth stockpiled topsoil should be seeded. A cover crop of oats, barley, winter wheat, or winter rye will be used if the stockpile will be disturbed in less than six months. If a stockpile will not be disturbed for more than six months at a time a perennial seed mixture will be used (See Critical Area Seeding Attachment). If erosion is occurring to the stockpile, straw bale silt fencing will be placed around topsoil stockpile until it has been seeded and stabilized. See Straw Bale Silt Fencing attachment for proper installation and maintenance.

Final Reclamation Standards

Reclamation Costs & Financial Assurance: The estimated cost of reclamation is \$1,250 per acre of disturbed area, for a total cost of \$13,500. This cost estimate includes the cost for necessary seed to revegetate (see attached seed price) and operator costs for reclamation services. Financial assurance will be based on the cost of reclamation.

Sloping and Grading: All slopes will be graded to a final slope of 3:1 horizontal to vertical or flatter. The floor of the mine will be graded to prevent ponding of water on the reclaimed surface. Resulting surfaces will be scarified prior to topsoil redistribution. Stockpiled topsoil will be evenly distributed over the entire site and outside topsoil will be brought in if the stockpiled supply is insufficient.

Revegetation: The areas will be seeded following the final grading and completion of each phase and all site preparation activities. A soil test will be taken before planting to determine the proper amount, if any of fertilizer and/or lime to be applied.

Seed will be applied to properly prepared soils at any time during the growing season when soil conditions are suitable. Seeding should not be carried out immediately following rain, when ground is too wet, too dry, or during windy conditions.

The seed mixture should be chosen from the Critical Area Seeding attachment that is suitable for the site conditions or D.O.T. #20 from the 1996 W1 D.O.T. Standard Specification for Highway Construction manual which consist of 6% Kentucky Bluegrass, 24% Hard Fescue, 40% Tall Fescue, and 30% Perennial Ryegrass. D.O.T. mix #20 should be planted at 12 pounds per acre.

A cover crop of annual rye or oats should also be planted during the spring and summer. Winter wheat or winter rye should be planted as a cover crop after September 1. Seeding can be done using a broadcast seeder or grain drill. Cover crops should be planted at a rate of:

Annual rye - 5 pounds per acre

Oats - 48 pounds per acre

Winter Wheat - 90 pounds per acre

Winter Rye - 8 pounds per acre

Mulching and Erosion Control: All slopes will be seeded and covered with mulch. To control erosion during reclamation of side slopes, topsoil should not be distributed over an area larger than what can be seeded and covered with mulch in a day. Mulch reduces run-off and erosion as well as conserves moisture and control weeds. See attached Mulching Standard for mulching options and proper application.

Quantifiable standards for revegetation adequate to show that a sustainable stand of revegetation has been established which will support the approved post-mining land use: One year after an area has been reclaimed the non-metallic mine operator will notify the Sawyer County Land and Water Conservation Department to request final reclamation approval. A representative of Sawyer County LWCD will determine adequate revegetation using percent vegetative cover. Since a primary objective of this work is to stabilize the site, it is important to provide a high degree of vegetative cover as quickly as possible. This will result in greater protection of the soil from the effects of raindrop impact, which will be absorbed by the vegetative "canopy". This protection translates into reduced erosion and sedimentation.

Any unacceptable areas are to be fixed by the operator and a return visit by a LWCD representative will determine if the site is acceptable and financial assurance can be released.

Note: All stockpiles will be removed, and site vegetated before reclamation will be considered final.

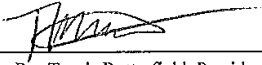
The operator shall provide a signed certification that reclamation will be carried out in accordance with the reclamation plan. The operator shall also certify that the Best Management Practices are installed and maintained. The landowner and lessee, if different from the operator, shall also provide signed certification that they concur with the reclamation plan and will allow its implementation.

In the following situations, the landowner and lessee, if different from the mine operator, are not required to submit a written certification. The operator shall provide written evidence that the landowner and lessee, if different from the operator, have been provided with a written copy of the reclamation plan, and that:

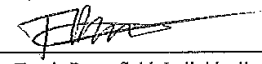
- a. The mine operator has submitted a reclamation plan for an existing non-metallic mine in accordance with Sawyer County Non-Metallic Mining Reclamation Ordinance Section 12.20, or
- b. The operator has submitted a reclamation plan for a new or reopened mine in accordance with Sawyer County Non-Metallic Mining Reclamation Ordinance Section 12.30 which is located on land for which a lease agreement or memorandum of lease between the landowner and applicant was recorded prior to August 1, 2001 (NMMRO Section 13(6)).

Travis Butterfield & Butterfield, Inc., (operator) certify that reclamation will be carried out in accordance with the reclamation plan and the required Best Management Practices are installed and maintained.

Butterfield, Inc.


By: Travis Butterfield, President (operator)

11/21/22
Date


Travis Butterfield, Individually (operator)

11/21/22
Date

I, Travis Butterfield, {landowner} certify that I have received a copy of the reclamation plan, read it and understand it. I further certify that I concur with the reclamation plan and will allow its implementation.


Landowner Signature

11/21/22
Date

**Travis Butterfield
Butterfield Pit – Non-Metallic Mine
Hwy 77, Hayward, WI
Amended Operation and Maintenance Plan October 2022**

OPERATION PLAN

Owner: Travis A Butterfield

Parcel ID: 024841114101

Property Description: Prt NESE Sec 11 Prt NWSW Sec 12 Lot 1 CSM 28/13 #7170

Location: Sawyer County, East of Hayward, approximately ½ miles west of Pit Rd on the North side of State Hwy 77

Property Size: 39.85 Acres

Proposed Non-Metallic Mine Area: 10.57 Acres

Proposed Activities

Extracting, crushing, conveying, and stockpiling gravel. Extracting and stockpiling fill sand.

Hours of Operation

Normal Hours: Monday – Friday 8:00 AM – 5:00 PM

Crushing Hours: April – December, Monday – Friday 8:00 AM – 5:00 PM, 7 days total per year.

Total Crushing Operations: No more than 7 days per year.

Access Route

Access to the site is an existing driveway off State Hwy 77.

Equipment Used

Equipment used during pit operation will be an excavator, front end loader, dump truck, conveyor and a crusher.

Principal Structure/Residences

The closest principal structure is approximately 600 feet from the closest boundary of the proposed pit. See attached map measuring distance to adjacent structures. All crushing activities will occur at least 1,000 feet from the closest residence. Further, the proposed pit sits in a natural depression and all pit activities will be blocked from direct sight/sound by an earthen berm. Any areas that do not have a sufficient earthen berm will be built up to block the direct line of sight and sound to adjoining residences.

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The users of the mined materials will include the applicant personally as well as Butterfield, Inc. Butterfield, Inc. is a Wisconsin corporation with its sole owners being the applicant, Travis Butterfield as President, and the applicant's brother, Tony Butterfield, as vice-president. See attached information from the Wisconsin Department of Financial Institutions for corporate information.

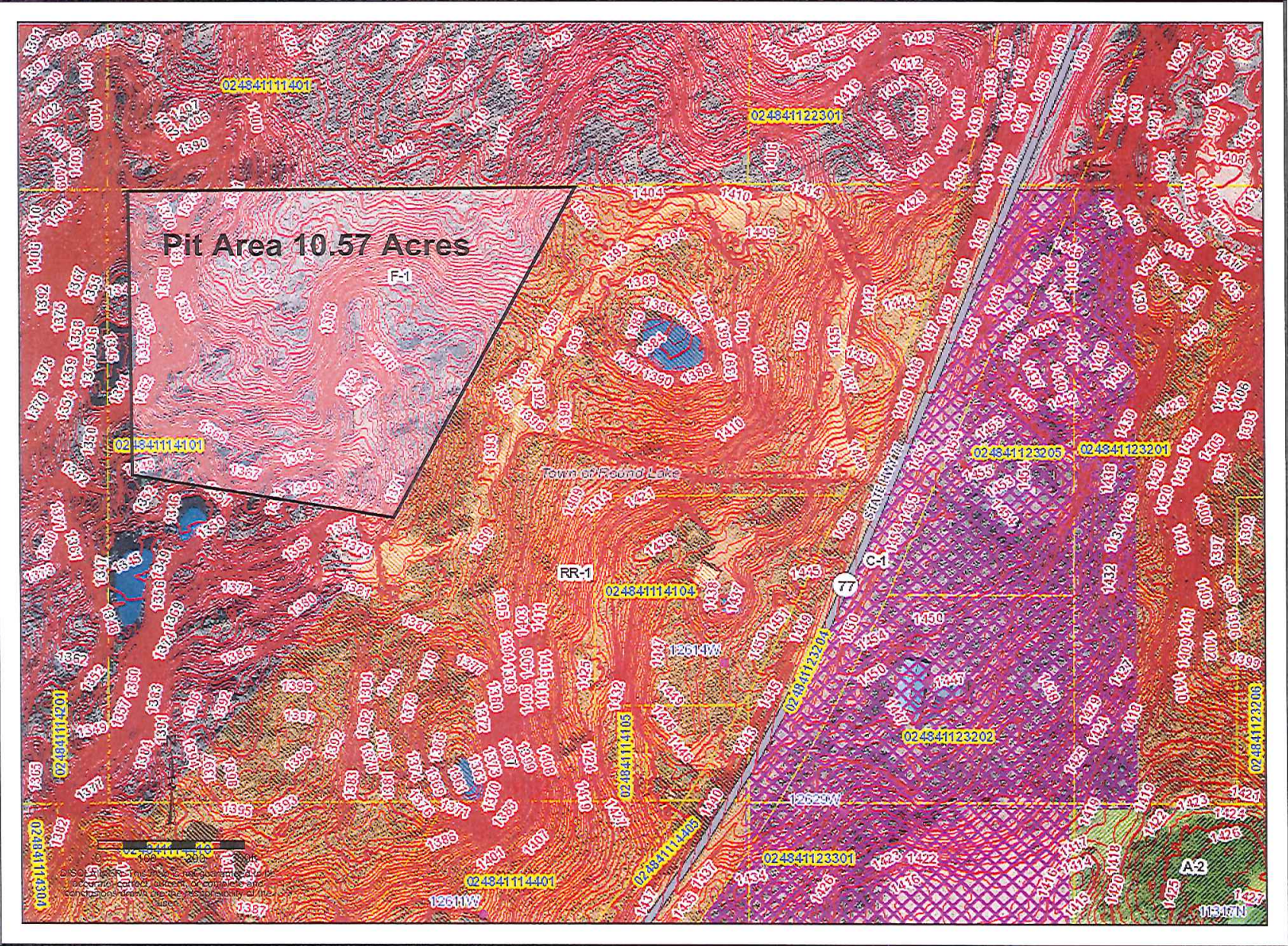
Reclamation Plan

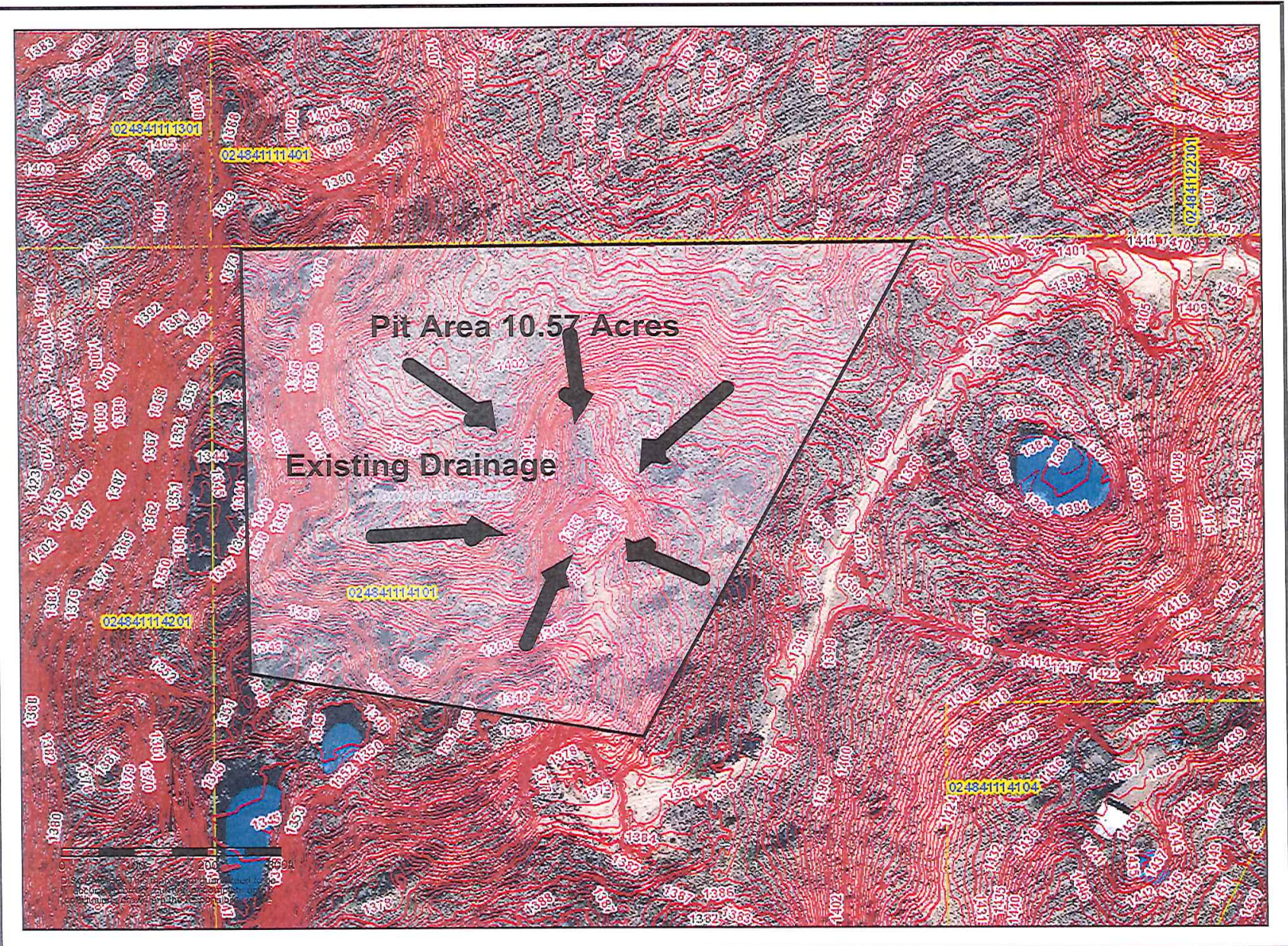
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Runoff from the pit will be internally drained at all times. (See Reclamation Plan for more detail)

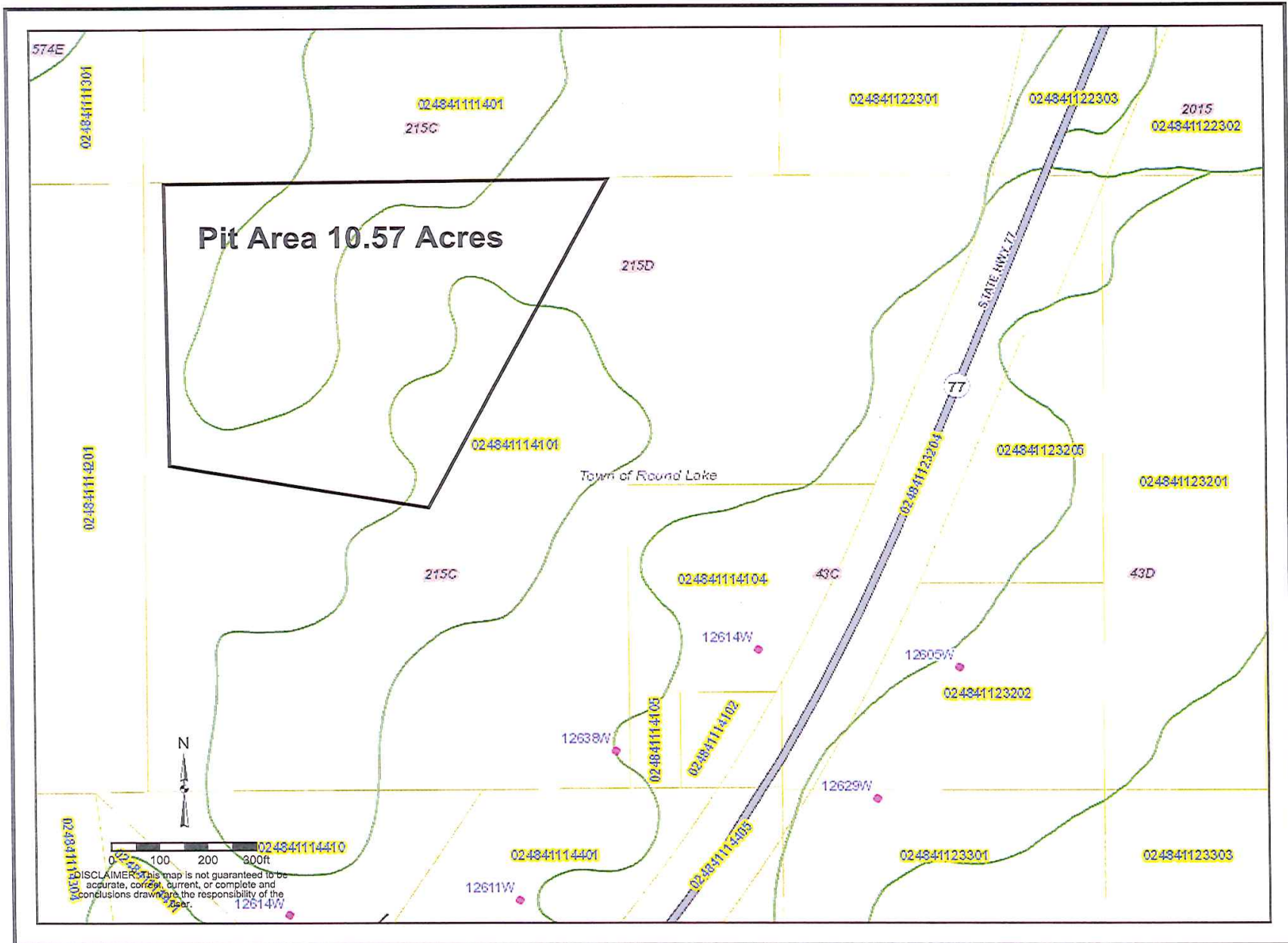
The map displays a topographic view of the Gravel PR area. A large rectangular area is highlighted in light blue, indicating a specific site or project area. The map features contour lines representing elevation, with labels such as 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600, 620, 640, 660, 680, 700, 720, 740, 760, 780, 800, 820, 840, 860, 880, 900, 920, 940, 960, 980, 1000, 1020, 1040, 1060, 1080, 1100, 1120, 1140, 1160, 1180, 1200, 1220, 1240, 1260, 1280, 1300, 1320, 1340, 1360, 1380, 1400, 1420, 1440, 1460, 1480, 1500, 1520, 1540, 1560, 1580, 1600, 1620, 1640, 1660, 1680, 1700, 1720, 1740, 1760, 1780, 1800, 1820, 1840, 1860, 1880, 1900, 1920, 1940, 1960, 1980, 2000, 2020, 2040, 2060, 2080, 2100, 2120, 2140, 2160, 2180, 2200, 2220, 2240, 2260, 2280, 2300, 2320, 2340, 2360, 2380, 2400, 2420, 2440, 2460, 2480, 2500, 2520, 2540, 2560, 2580, 2600, 2620, 2640, 2660, 2680, 2700, 2720, 2740, 2760, 2780, 2800, 2820, 2840, 2860, 2880, 2900, 2920, 2940, 2960, 2980, 3000, 3020, 3040, 3060, 3080, 3100, 3120, 3140, 3160, 3180, 3200, 3220, 3240, 3260, 3280, 3300, 3320, 3340, 3360, 3380, 3400, 3420, 3440, 3460, 3480, 3500, 3520, 3540, 3560, 3580, 3600, 3620, 3640, 3660, 3680, 3700, 3720, 3740, 3760, 3780, 3800, 3820, 3840, 3860, 3880, 3900, 3920, 3940, 3960, 3980, 4000, 4020, 4040, 4060, 4080, 4100, 4120, 4140, 4160, 4180, 4200, 4220, 4240, 4260, 4280, 4300, 4320, 4340, 4360, 4380, 4400, 4420, 4440, 4460, 4480, 4500, 4520, 4540, 4560, 4580, 4600, 4620, 4640, 4660, 4680, 4700, 4720, 4740, 4760, 4780, 4800, 4820, 4840, 4860, 4880, 4900, 4920, 4940, 4960, 4980, 5000, 5020, 5040, 5060, 5080, 5100, 5120, 5140, 5160, 5180, 5200, 5220, 5240, 5260, 5280, 5300, 5320, 5340, 5360, 5380, 5400, 5420, 5440, 5460, 5480, 5500, 5520, 5540, 5560, 5580, 5600, 5620, 5640, 5660, 5680, 5700, 5720, 5740, 5760, 5780, 5800, 5820, 5840, 5860, 5880, 5900, 5920, 5940, 5960, 5980, 6000, 6020, 6040, 6060, 6080, 6100, 6120, 6140, 6160, 6180, 6200, 6220, 6240, 6260, 6280, 6300, 6320, 6340, 6360, 6380, 6400, 6420, 6440, 6460, 6480, 6500, 6520, 6540, 6560, 6580, 6600, 6620, 6640, 6660, 6680, 6700, 6720, 6740, 6760, 6780, 6800, 6820, 6840, 6860, 6880, 6900, 6920, 6940, 6960, 6980, 7000, 7020, 7040, 7060, 7080, 7100, 7120, 7140, 7160, 7180, 7200, 7220, 7240, 7260, 7280, 7300, 7320, 7340, 7360, 7380, 7400, 7420, 7440, 7460, 7480, 7500, 7520, 7540, 7560, 7580, 7600, 7620, 7640, 7660, 7680, 7700, 7720, 7740, 7760, 7780, 7800, 7820, 7840, 7860, 7880, 7900, 7920, 7940, 7960, 7980, 8000, 8020, 8040, 8060, 8080, 8100, 8120, 8140, 8160, 8180, 8200, 8220, 8240, 8260, 8280, 8300, 8320, 8340, 8360, 8380, 8400, 8420, 8440, 8460, 8480, 8500, 8520, 8540, 8560, 8580, 8600, 8620, 8640, 8660, 8680, 8700, 8720, 8740, 8760, 8780, 8800, 8820, 8840, 8860, 8880, 8900, 8920, 8940, 8960, 8980, 9000, 9020, 9040, 9060, 9080, 9100, 9120, 9140, 9160, 9180, 9200, 9220, 9240, 9260, 9280, 9300, 9320, 9340, 9360, 9380, 9400, 9420, 9440, 9460, 9480, 9500, 9520, 9540, 9560, 9580, 9600, 9620, 9640, 9660, 9680, 9700, 9720, 9740, 9760, 9780, 9800, 9820, 9840, 9860, 9880, 9900, 9920, 9940, 9960, 9980, 10000. A scale bar is located in the bottom left corner, showing distances from 0 to 1000 feet. The map is titled 'Gravel PR' in the upper right corner.





Soil Map—Sawyer County, Wisconsin





Soil Map—Sawyer County, Wisconsin

MAP LEGEND

Area of Interest (AOI)		Spoil Area
Area of Interest (AOI)		Stony Spot
Soils		Very Stony Spot
Soil Map Unit Polygons		Wet Spot
Soil Map Unit Lines		Other
Soil Map Unit Points		Special Line Features
Special Point Features		Water Features
Blowout		Streams and Canals
Borrow Pit		Transportation
Clay Spot		Rails
Closed Depression		Interstate Highways
Gravel Pit		US Routes
Gravelly Spot		Major Roads
Landfill		Local Roads
Lava Flow		Background
Marsh or swamp		Aerial Photography
Mine or Quarry		
Miscellaneous Water		
Perennial Water		
Rock Outcrop		
Saline Spot		
Sandy Spot		
Severely Eroded Spot		
Sinkhole		
Slide or Slip		
Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sawyer County, Wisconsin
Survey Area Date: Version 19, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2021—Oct 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
43C	Antigo silt loam, 6 to 15 percent slopes	14.3	15.4%
43D	Antigo silt loam, 15 to 35 percent slopes	8.8	9.5%
215C	Pence sandy loam, 6 to 15 percent slopes	18.6	20.1%
215D	Pence sandy loam, 15 to 35 percent slopes	49.9	53.8%
574E	Sayner loamy sand, 15 to 45 percent slopes	0.7	0.7%
2015	Pits	0.5	0.5%
Totals for Area of Interest		92.7	100.0%

This is an aerial map of a section of land in T41N R8W. The map features a coordinate grid with UTM values (628200 to 630500) and NAD 83 values (510700 to 510600). The land is divided into several colored regions: green, yellow, red, and white. Labels on the map include 'Phippo Fire Ln', 'Bethel Rd', and various parcel numbers (e.g., 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 266

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MAP LEGEND

Area of Interest (AOI)	
	Area of Interest (AOI)
Soils	
	Soil Map Units
Soil Ratings	
	Poor
	Fair
	Good
	Not rated or not available
Political Features	
	City
	PLSS Township and Range
	PLSS Section
Water Features	
	Streams and Canals
Transportation	
	Rails
	Interstate Highways
	US Routes
	Major Roads
	Local Roads

MAP INFORMATION

Map Scale: 1:6,880 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>

Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sawyer County, Wisconsin

Survey Area Date: Version 10, Aug 18, 2011

Date(s) aerial images were photographed: 5/17/2005; 7/19/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

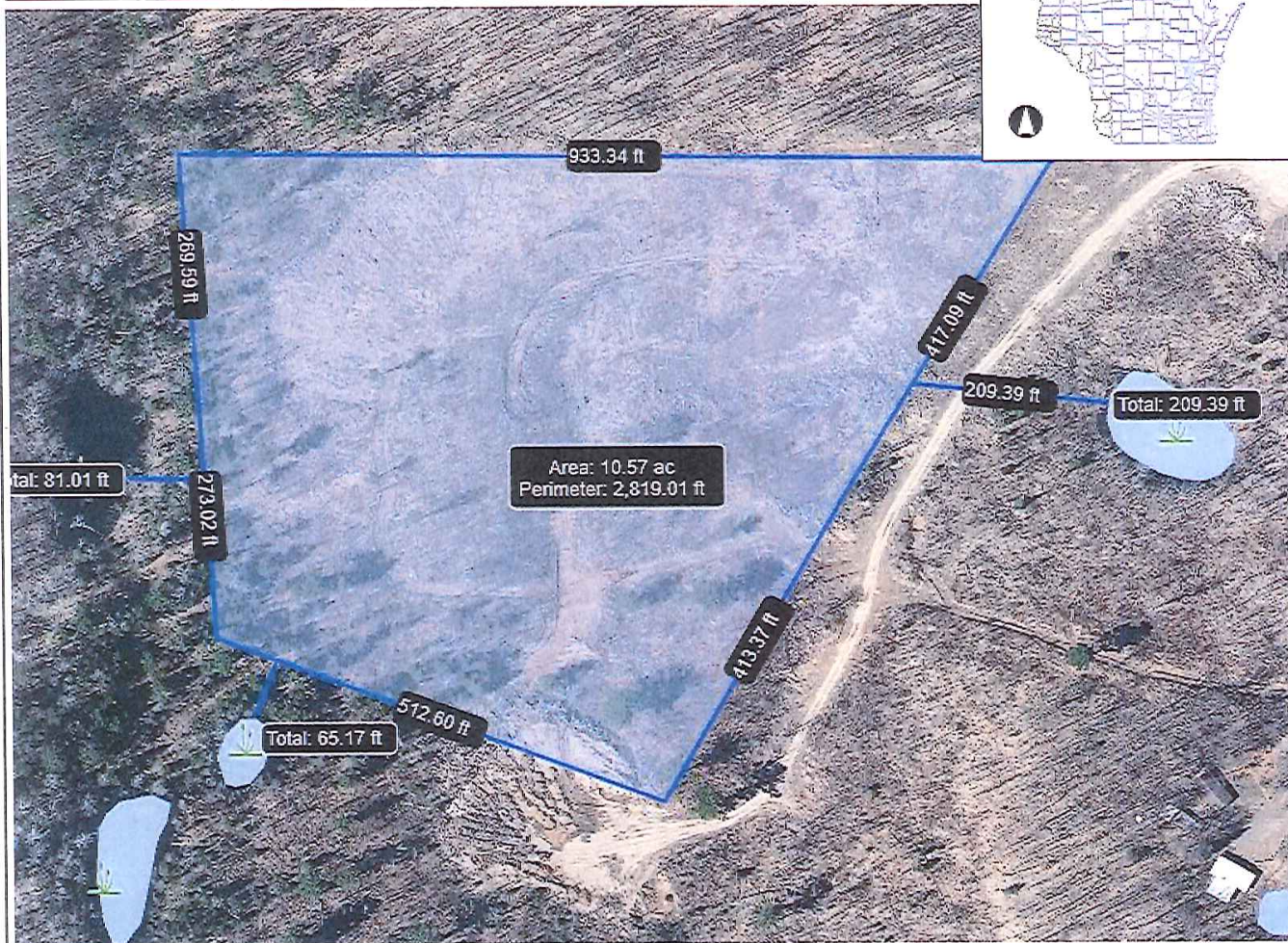


FINAL CONTOURS AFTER RECLAMATION





Surface Water Data Viewer Map



Legend

- Wetland Class Areas
- Wetland Class Points
 - Dammed pond
 - Excavated pond
 - Filled/draind wetland
 - Wetland too small to delineate
 - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Waterway and Wetland Alterations
- Informal Actions
- Exemption Determinations
- Ordinary High Water Mark Determinations
- Wetland Identifications and Confirmations
- Navigability Determinations
 - Yes
 - Yes with Agricultural Exemption
 - No
- Surface Water Outfalls
- County Boundary
- Cities, Towns & Villages
 - City
 - Village
 - Civil Town
- Railroads
- Index to EN_Image_Basemap_Leaf_Off

Notes

0.1 0 0.03 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 1,980

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>



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National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category: [Site Information](#) Geographic Area: [United States](#)

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- **ALERT!** USGS will be performing an upgrade to their network on **Thursday, November 17, 2022, starting at 10:00pm EST**. During the maintenance period, the Water Data for the Nation web portal and water services will be accessible; however, delivery of the most recent time-series data and WaterAlert notifications will be disrupted. The maintenance period is not expected to exceed 4 hours, after which the backlog of time-series data will be processed and delivered.
- [Water Data for the Nation Blog](#)

Site Map for the Nation

USGS 460228091193501 SW-41/08W/14-0024

[Available data for this site](#) [Location map](#)

Sawyer County, Wisconsin

Hydrologic Unit Code 07050001

Latitude 46°02'28", Longitude 91°19'35" NAD27

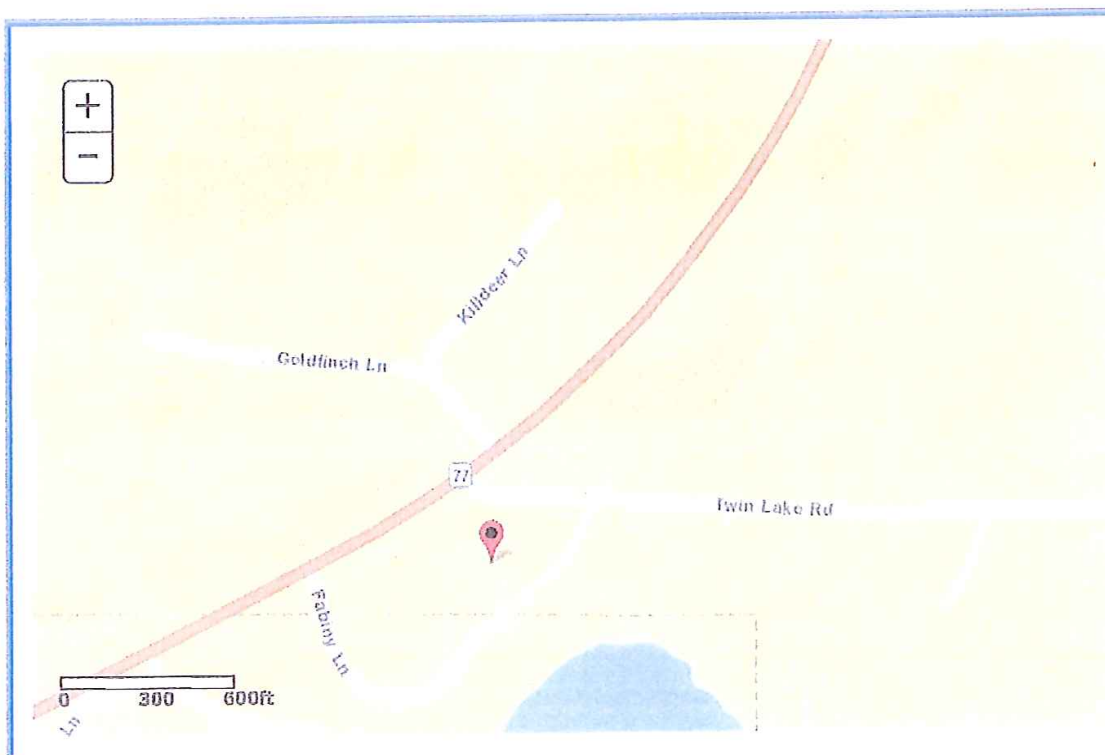
Land-surface elevation 1,400.00 feet above NGVD29

The depth of the well is 118 feet below land surface.

The depth of the hole is 118 feet below land surface.

This well is completed in the Sand and gravel aquifers (glaciated regions) (N100GLCIAL) national aquifer.

Location of the site in Wisconsin



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Title: NWIS Site Inventory for USA: Site Map

URL: <https://nwis.waterdata.usgs.gov/nwis/nwismap?>

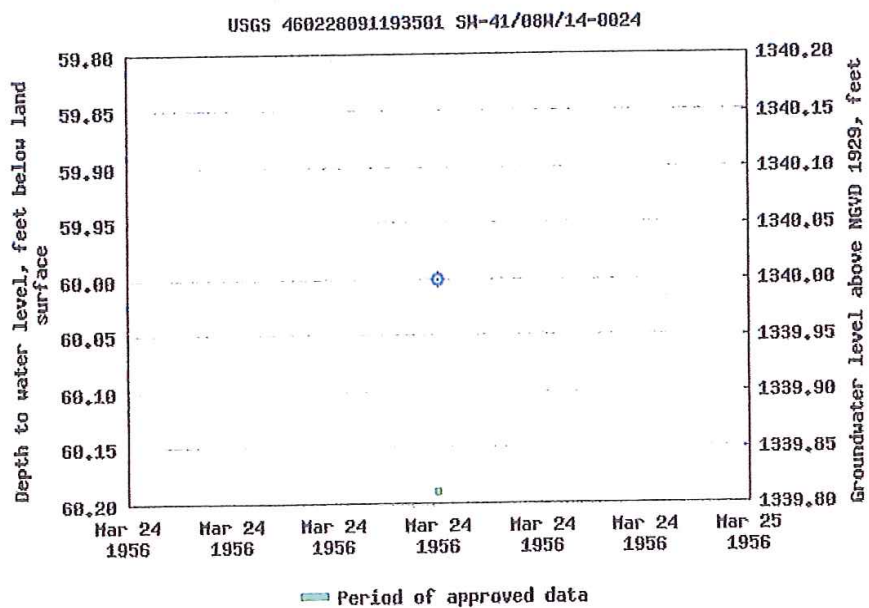


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0.18 0.17 nadww01

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

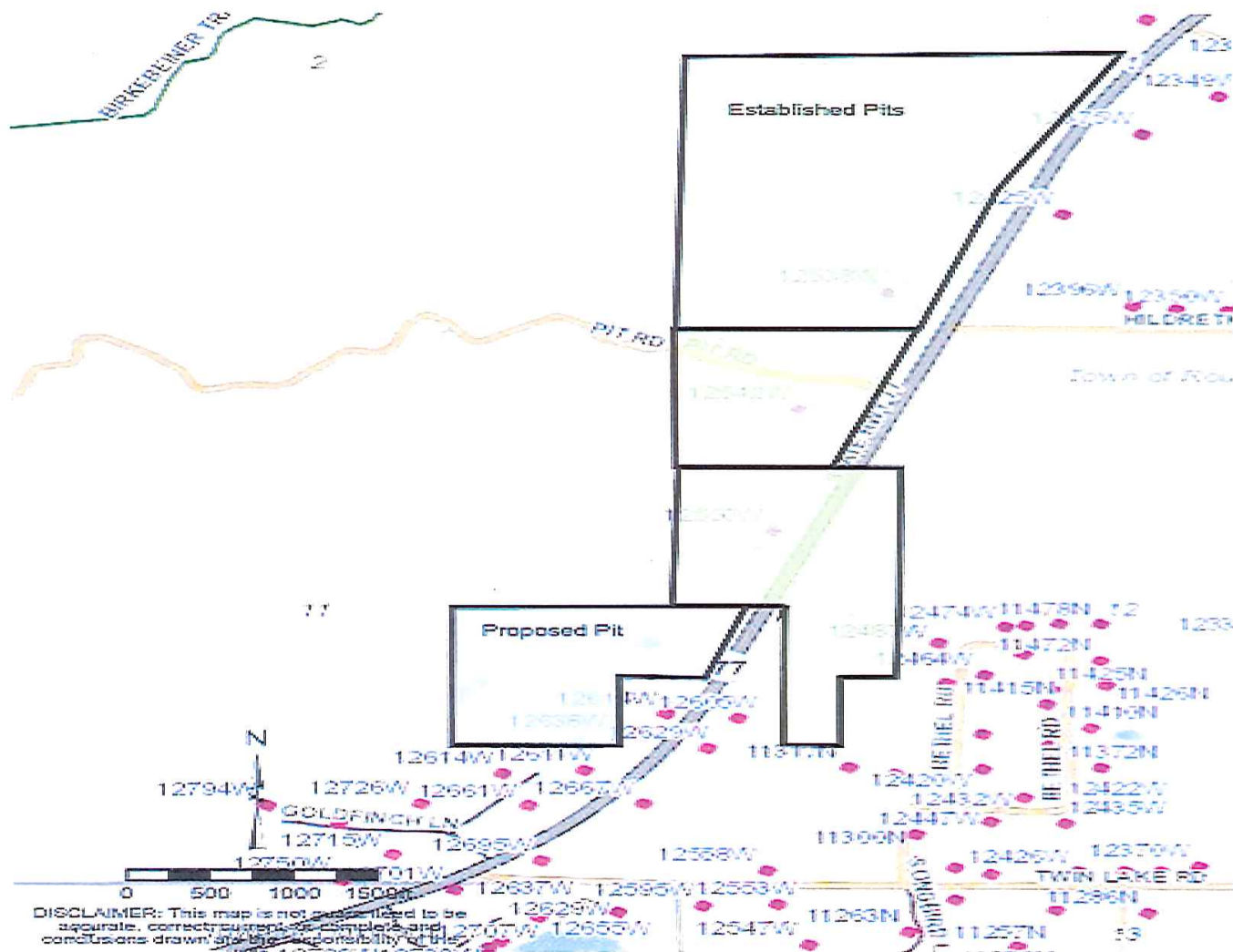
Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2022-11-21 08:21:53 EST

0.54 0.47 nadww01



Proposed Pit with Established Pits



Roadfill Source

Roadfill Source— Summary by Map Unit — Sawyer County, Wisconsin (WI113)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
43C	Antigo silt loam, 6 to 16 percent slopes	Good	Antigo (90%)		2.5	2.0%
43D	Antigo silt loam, 15 to 30 percent slopes	Fair	Antigo (90%)	Slope (0.05)	2.6	2.1%
68E	Keweenaw-Sayner-Vilas complex, 15 to 45 percent slopes, stony	Poor	Keweenaw (40%)	Slope (0.00)	4.1	3.2%
			Sayner (30%)	Slope (0.00)		
			Vilas (20%)	Slope (0.00)		
182B	Padus sandy loam, 0 to 6 percent slopes	Good	Padus (76%)		2.5	2.0%
215C	Pence sandy loam, 6 to 15 percent slopes	Good	Pence (95%)		70.7	55.2%
215D	Pence sandy loam, 15 to 30 percent slopes	Fair	Pence (85%)	Slope (0.06)	35.4	27.7%
2015	Pits	Not rated	Pits (100%)		10.1	7.9%
Totals for Area of Interest					128.0	100.0%

Roadfill Source— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Good	75.7	59.2%
Fair	38.1	29.7%
Poor	4.1	3.2%
Not or Not Rated	10.1	7.9%
Totals for Area of Interest	128.0	100.0%

Description

Roadfill is soil material that is excavated in one place and used in road embankments in another place. The soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments. The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The soils are rated "good," "fair," or "poor" as potential sources of roadfill. The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential). Normal compaction, minor processing, and other standard construction practices are assumed.

Numerical ratings between 0.00 and 0.99 are given after the specified features. These numbers indicate the degree to which the features limit the soils as sources of roadfill. The lower the number, the greater the limitation.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Photos of Pit

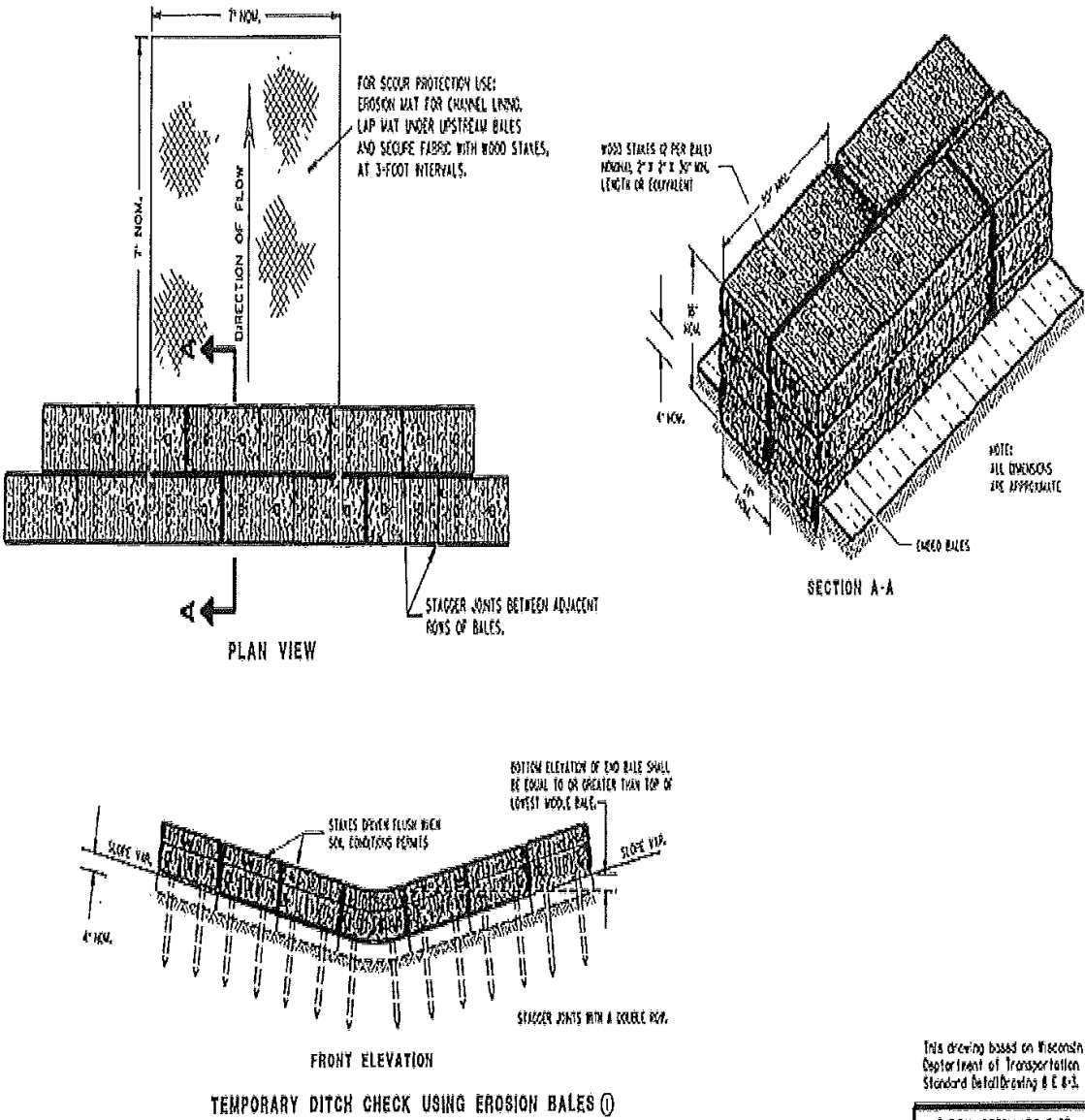






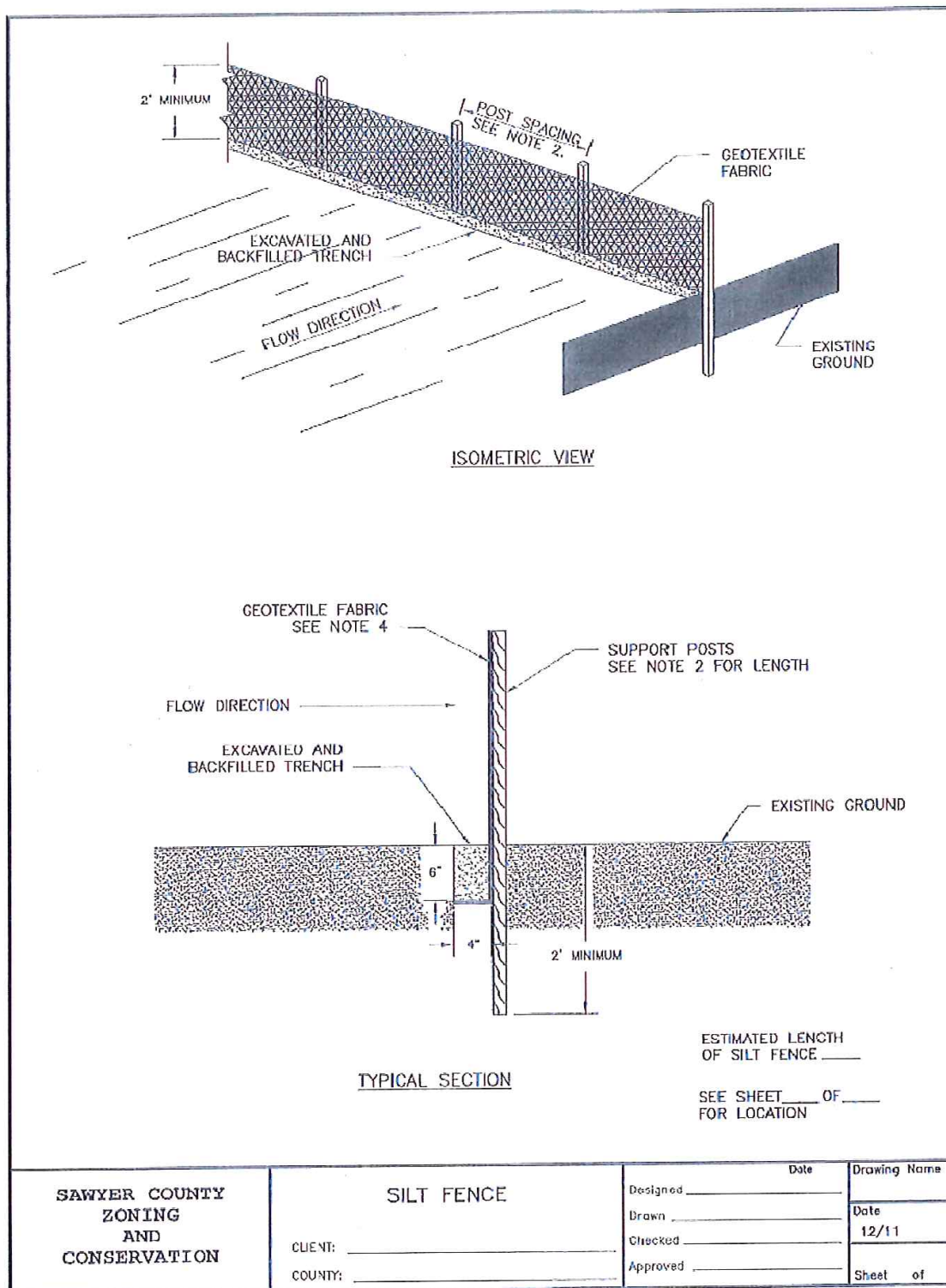


Figure 1



This drawing based on Wisconsin
Department of Transportation
Standard Detail Drawing 8 E 8-3.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS



NOTES:

1. THE GEOTEXTILE FABRIC SHALL BE PLACED IN THE EXCAVATED TRENCH, BACKFILLED, AND COMPACTED TO THE EXISTING GROUND SURFACE.
2. WOODEN SUPPORT POSTS SHALL BE A MINIMUM DIMENSION OF 1-1/8" x 1-1/8" AIR OR KILN DRIED OF HICKORY OR OAK AND 4 FEET LONG. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAL FOOT AND 5 FEET LONG. POST SPACING SHALL BE A MAXIMUM OF 8 FEET FOR WOVEN FABRIC AND 3 FEET FOR NON-WOVEN FABRIC.
3. THE GEOTEXTILE FABRIC SHALL BE ATTACHED DIRECTLY TO THE UPSLOPE SIDE OF WOODEN POSTS WITH 0.5 INCH STAPLES IN AT LEAST 3 PLACES, OR WITH WOODEN LATH AND NAILS. ATTACHMENT TO STEEL POSTS WILL BE BY WIRE FASTENERS OR 50 POUND PLASTIC TIE STRAPS ON THE UPSLOPE SIDE.
4. THE GEOTEXTILE FABRIC SHALL CONSIST OF EITHER WOVEN OR NON-WOVEN POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE. NON-WOVEN FABRIC MAY BE NEEDLE PUNCHED, HEAT BONDED, RESIN BONDED, OR COMBINATIONS THEREOF. ALL FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:

TEST REQUIREMENT	METHOD	VALUE *
MINIMUM GRAB TENSILE STRENGTH IN THE MACHINE DIRECTION	ASTM D 4632	120 LBS.
MINIMUM GRAB TENSILE STRENGTH IN THE CROSS MACHINE DIRECTION	ASTM D 4632	100 LBS.
MAXIMUM APPARENT OPENING SIZE EQUIVALENT STANDARD SIEVE	ASTM D 4751	NO. 30
MINIMUM PERMITTIVITY	ASTM D 4491	0.05 SEC ⁻¹
MAXIMUM PERMITTIVITY	ASTM D 4491	0.135 SEC ⁻¹ OR 10 gpm/sq ft at 50 mm constant head.
MINIMUM ULTRAVIOLET STABILITY PERCENTAGE OF STRENGTH RETAINED AFTER 500 HOURS OF EXPOSURE	ASTM D 4355	70%

* ALL NUMERICAL VALUES REPRESENT MINIMUM/MAXIMUM AVERAGE ROLL VALUES. (FOR EXAMPLE, THE AVERAGE OF MINIMUM TEST RESULTS ON ANY ROLL IN A LOT SHOULD MEET OR EXCEED THE MINIMUM SPECIFIED VALUES.)

BILL OF MATERIALS

ITEM	QUANTITY
SUPPORT POSTS	_____
GEOTEXTILE	_____ FT.
FASTENERS	AS REQUIRED

CRITICAL AREA PLANTING

(Acre)
Code 342

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

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

II. Purposes

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- Stabilize and restore riparian areas.
- Stabilize stream and channel banks and shorelines.
- Stabilize areas with existing or expected high rates of soil erosion by water or wind.
- Rehabilitate and revegetate degraded sites that cannot be stabilized using normal establishment techniques.

III. Conditions Where Practice Applies

This practice applies to highly disturbed areas such as:

- active or abandoned surface mine sites,
- urban conservation sites,
- road construction areas,
- conservation practice construction sites,
- areas needing stabilization before or after natural disasters such as floods, tornadoes, and wildfires,
- eroded banks of natural channels, banks of newly constructed channels, and lake shorelines, and
- areas degraded by human activities.

IV. Federal, Tribal, State and Local Laws

Critical area planting practices shall comply with all federal, tribal, state and local laws, rules or regulations. The landowner and/or operator is responsible for securing required permits. This

standard does not contain the text of the federal, tribal, state or local laws.

V. Criteria

A. General Criteria Applicable To All Purposes.

1. Site Assessment

A site investigation shall be conducted to identify any physical, chemical, or biological conditions that could affect the successful establishment of vegetation. The site investigation shall include evaluation of: soil characteristics, soil fertility, slope, aspect¹, moisture regime, climate patterns, proximity to natural plant community, and site history.

Areas to be planted will be cleared of unwanted materials and smoothed or shaped, if needed, to meet planting and landscaping purposes.

Compacted layers will be ripped and the soil re-firmed prior to seedbed preparation.

On tilled or disturbed sites, prepare a firm seedbed. The seedbed shall contain enough fine particles for uniform shallow coverage of seed and contact with moisture and nutrients. For details on seedbed preparation, refer to Wisconsin Agronomy Technical Notes 5, Establishing and Maintaining Native Grasses, Legumes, and Forbs; and 6, Establishing and Maintaining Introduced Grasses and Legumes.

2. Specie Selection and Seed Quality

Species selected for planting shall be suited to current site conditions, intended use, and be resistant to diseases and insects common to the site location.

Conservation Practice Standards are reviewed periodically and updated if needed. To obtain the current version of this standard, download it from the electronic Field Office Technical Guide, or contact the NRCS State Office or the Wisconsin Land and Water Conservation Association office at (608) 441-2677.

¹Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

Selected species will have the capacity to achieve adequate density and vigor to stabilize the site within an appropriate period.

Native herbaceous or woody vegetation selected for planting shall be suitable for the site.

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

Certified Seed shall be used, and seeding rates will be based on *Pure Live Seed (PLS)*. Seed tag information such as purity and germination and any computations to adjust seeding rates must be submitted to document actual seeding rates. *Actual adjusted seeding rates* will be based on the equivalent of 100 percent PLS, determined by multiplying the percent purity by total percent germination.

Untested introduced and native grass and forb seed are not approved for planting.

When certified seed is unavailable or difficult to locate, *non-certified* seed can be used, after testing for varietal purity, germination, and other mechanical qualities, such as inert matter and other crop or weed seeds.

If more than 20 percent of legume seed is hard seed, increase the seeding rate for legumes by the percentage of hard seed.

Introduced and native legume seed shall be inoculated immediately prior to planting. Rhizobia inoculant shall be specific to the legume seeded. When more than one legume specie is used, each specie will be inoculated separately.

3. Seeding Periods

The specific date that provides the best chance for success will vary from south to north and from year to year with prevailing moisture and temperature conditions. Late summer seeding is generally riskier than spring seeding. Planting at either end of the allowable range is riskier than the middle of the range. Refer to Figure 1 for planting zones and Tables 1 and 2 for seeding dates.

Seeding outside of the recommended dates must be approved by the Area Resource Conservationist or State Agronomist.

Frost seeding is not an authorized seeding method when using this standard.

Dormant seeding can be used when planting introduced species. When using dormant seedlings in concentrated flow areas, the site must be mulched according to the engineering design (if applicable) and Wisconsin NRCS Field Office Technical Guide, Section IV, (WI FOTG) Conservation Practice Standard 484, Mulching.

4. Nutrient and Soil Amendment Requirements

When seeding *introduced species*, soil fertility and pH level will be amended to satisfy the needs of the plant species to be established. Fertilizer and lime recommendations will be determined by a soil test, and all nutrients will be applied following WI FOTG Standard 590, Nutrient Management. If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer and 2 tons of 80-89 lime or equivalent per acre. Soil amendments may be waived at the discretion of a certified conservation planner. The basis for waiving the use of soil amendments shall be documented in the client's case file.

For establishment of *native species*, use of soil amendments are not required.

5. Seedbed Preparation

Prior to planting into cropland fields, verify that herbicides previously applied to the site will not "carry over" and damage the new seeding.

Site preparation shall be adequate to assure weed suppression and to promote germination and growth of the species planted.

Planting equipment type, use, and timing shall be appropriate for the site conditions, soil characteristics, and type of seeds (size, etc.) selected to assure uniform placement and germination.

Refer to Wisconsin Agronomy Technical Notes 5 and 6 for detailed guidance for specific situations.

6. **Mulching, Temporary Cover, and Companion Crop**

Mulching, temporary cover, and companion crops are vital practices utilized to support the establishment of a critical area planting. Temporary cover and companion crops suppress weed growth and limit soil erosion during the establishment period. Use depends on the site conditions, method of planting, and seed mixture.

For further details on mulching, temporary cover and companion crop recommendations, refer to Wisconsin Agronomy Technical Notes 5 and 6.

B. Criteria for Seed Mixture Development

Seeding rates are based on seeds per square foot of Pure Live Seeds. Refer to Tables 3 and 4 for common species and seeding rates.

Additional approved species for critical area planting can be found in Wisconsin Agronomy Technical Notes 5 and 6. Species not listed in the technical notes must be approved in advance by the State Agronomist.

a. **Introduced Grass and Legume Plantings on Critical Sites**

Custom and standard mixtures will comprise of at least 50 percent grass seed, consisting of at least 25 percent sod forming grass seed per square foot.

A minimum of 160 seeds per square foot is required for either a solid stand of grasses or a combination of grasses and legumes. Increase seeding rate by 15 percent when dormant seeding occurs.

Standard mixes listed in Table 5 will meet the minimum seed mixture criteria.

b. **Native Herbaceous Plantings on Critical Sites**

Native species are generally not recommended for critical area plantings due to their slow establishment and because they are clump grasses, not the preferred sod-

forming grasses. Native plantings are not permitted in concentrated flow channels.

- 1) A minimum of 60 seeds per square foot for solid native grass plantings is required.
- 2) For native grass and forb/legume mixtures, a minimum of 40 seeds per square foot of grass and a minimum of 20 seeds per square foot for the forb/legume component is required. The minimum of 20 forb/legume seeds per square foot is not required when the solid stand native grass mixture comprise of 60 grass seeds per square foot is utilized.

Canada/Virginia wildrye and sidecoats grama shall not exceed a maximum of 20 percent of the required grass seeds per square foot in custom seed mixtures.

C. Additional Criteria to Stabilize Stream Channel Banks and Shorelines

Wisconsin FOTG Standard 580, Streambank and Shoreline Protection, shall be used to stabilize the toe and/or bank hydrologic zones before vegetation establishment.

1. **Bank and Channel Slopes**

Identify, mark, and protect desirable existing vegetation during practice installation.

On sites with a disturbed soil profile, topsoil will be stockpiled and spread over areas to be planted as needed to meet planting and land shaping needs.

Channel side slopes shall be shaped to a stable slope to facilitate establishment and maintenance of desired vegetation.

Slopes steeper than 2H:1V shall not be stabilized using vegetation alone. A combination of vegetative and structural measures will be used on these slopes to ensure adequate stability.

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

2. **Species Selection**

Plant material used for this purpose shall:

- be adapted to the hydrologic zone into which they will be planted.
- be adapted and proven in the regions in which they will be used.
- when mature, produce plant communities that are compatible with those already existing in the area.
- protect the channel banks but not restrict channel capacity.

D. Additional Criteria to Stabilize Areas of Erosion By Wind and Water

1. The amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective shall be determined using the current approved wind and/or water erosion prediction technology.
2. Do not use tillage where desirable vegetation is already present or where soil disturbance will increase the potential for erosion or cause sedimentation to environmentally sensitive areas.
3. Use a companion crop as added protection.

E. Additional Criteria to Rehabilitate and Revegetate Degraded Sites That Cannot Be Stabilized Using Normal Establishment Techniques

Slope Stabilization

1. On sites that are too steep for regular seeding equipment to operate, the use of hydroseeding and mechanically blown

mulch is recommended. For more information regarding hydroseeding, refer to Wisconsin Agronomy Technical Note 6.

2. Grade to a stable slope when shaping and eliminate all overfalls. For slopes steeper than 2H:1 V, enhanced stabilization activities such as soil bioengineering may be required. These practice concepts shall follow approved design procedures located in the NRCS Engineering Field Handbook, Chapter 18.
3. The toe of the slope, or the outlet of the concentrated flow channel, shall be stable before attempting seeding on the slope.
4. Concentrated flow may need to be diverted from the critical area during the establishment period.
5. All gullies and deep rills will be filled and leveled during seedbed preparation.
6. A minimum of 4 inches of friable soil material or topsoil shall be added and mixed to exposed rocky, sandy, gravelly, shaley material, or extremely fine textured subsoil.
7. Sod placement shall be limited to areas that can naturally supply needed moisture or sites that can be irrigated during the establishment period.
8. Sod will be placed and anchored using techniques to ensure that it remains in place until established.

A map of Iowa showing its 99 counties. The state is divided into three planning zones, labeled on the left: North, Central, and South. The counties are labeled with their names. The North zone includes counties from Des Moines to Harrison. The Central zone includes counties from Boone to Muscatine. The South zone includes counties from Boone to Muscatine. The map shows the geographical layout of the state and the distribution of counties within each zone.

Zone	Spring Seeding
Northern	Thaw - 7/13
Central	Thaw - 6/30
Southern	Thaw - 6/30

Planting Zone	Spring	Late Summer	Dormant
North	5/1 - 6/15	7/15 - 8/10	11/1 - Freeze up
Central	4/15 - 6/1	8/1 - 8/21	11/1 - Freeze up
South	4/1 - 5/15	8/7 - 8/29	11/1 - Freeze up

VI. Considerations

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation functions are as follows.

- A. Minimize activities which disturb wildlife during the primary nesting season May 15 through August 1.
- B. Consider seeding at a lower rate and making 2 passes to ensure uniform coverage. Check seed boxes regularly to ensure even distribution.
- C. Heavy traffic and/or compacted soil areas may need special site preparation prior to seeding.
- D. Sprigs, root stocks, crowns, cones, culms, and sod may be considered where appropriate to accelerate the establishment of cover.
- E. Woody shrubs or trees may be used only after initial stabilization. Plant in accordance with the purpose of the planting. See WI FOTG Standards 612, Tree/Shrub Planting; and 580, Streambank and Shoreland Protection. Also see NRCS Engineering Field Handbook, Chapter 16, Streambank and Shoreline Protection and Chapter 18, Soil Bioengineering for Upland Slope Protection.
- F. Consider using carriers such as vermiculite, sawdust, and soybean meal to increase volume and weight for uniform seed distribution.
- G. Consider limited or no use of herbicides one year prior to seeding. If herbicides must be used, ensure there is no potential for carryover and follow label recommendations. Follow WI FOTG Standard 595, Integrated Pest Management, for pesticide use and safety.
- H. Consider sodding to establish vegetation on steep slopes. For further details on this special erosion control measure, refer to Wisconsin Agronomy Technical Note 6.
- I. Consider establishing a buffer of trees and/or grasses next to intermittent or perennial streams.
- J. Consider planting native vegetation and/or local *genotypes* when restoring riparian corridors to its pre-settlement conditions.
- K. High seed counts per square foot much above the recommended minimums may lead to excessive

competition and poor establishment of some species. Seeds per square foot should not exceed 25 percent of the minimum requirement, with the exception of mixtures designed for wet mesic and wet sites.

- L. Consider the use of *soil bioengineering* techniques to arrest and prevent slope failures and erosion. For approved design procedures, refer to Chapter 18 of the NRCS Engineering Field Handbook (EFH).
- M. Consider alternatives to reduce or eliminate the delivery of sediment and associated pollutants into the riparian zone by implementing upland treatment practices.

VII. Plans and Specifications

Prepare plans and specifications for each field or management unit according to the Criteria and Operation and Maintenance sections of this standard. Specifications shall describe the requirements for applying this practice to meet the intended purpose using the appropriate specification and/or job sheets. The following elements shall be addressed in the plan, as applicable, to meet the intended purpose.

- Site preparation.
- Fertilizer application.
- Methods of seeding/planting.
- Selection of species.
- Analysis of seed quality.
- Seeding rate (adjusted based on pure live seed calculations).
- Target number of plants per square foot after emergence.
- Mulching (if applicable).
- Temporary cover (if applicable).
- Companion crop (if applicable).
- Weed control activities during the establishment period.

Specifications shall be recorded using Wisconsin Job Sheets 134, How to Establish and Maintain Introduced Grasses and Legumes; and 135, How to Establish and Maintain Native Grasses, Forbs, and Legumes.

VIII. Operation and Maintenance

- A. Noxious weeds and other undesirable species must be controlled at all sites. During the first year, mow plantings at 14 to 21-day intervals or when weeds are 12-14 inches high and before the development of mature seed. Mowing height

should be 4 inches for introduced and 7 inches for native plants. Small grain companion crops should be mowed at boot stage and prior to heading. Spot spraying or hand pulling may be needed for some invasive species such as thistles and purple loosestrife.

- B. Sites may require on-going periodic maintenance consisting of mowing, burning, or herbicide treatment.
- C. Sites should be inspected periodically to ensure site stabilization objectives are being met.

IX. References

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- Henderson, R. A. 1995. Plant Species Composition of Wisconsin Prairies: An Aid to Selecting Species for Plantings and Restorations Based Upon University of Wisconsin-Madison Plant Ecology Laboratory Data. Wisconsin Department of Natural Resources Technical Bulletin No. 188.
- Ladd, D. and Oberle, F. 1995. Tallgrass Prairie Wildflowers, A Field Guide. The Nature Conservancy.
- Nichols, S. and Entine, L. 1976. Prairie Primer. University of Wisconsin - Extension, publication G2736.
- Packard, S. and Mutel, C. 1997. The Tallgrass Restoration Handbook for Prairies, Savannas and Woodlands. Society for Ecological Restoration.
- Rock, H. W. 1971. Prairie Propagation Handbook. Boerner Botanical Gardens.
- USDA, NRCS, National Engineering Handbook, Part 650, Engineering Field Handbook.
- USDA, NRCS, Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.
- USDA, NRCS, Wisconsin Agronomy Technical Note 5, Establishing and Maintaining Native Grasses, Forbs, and Legumes.
- USDA, NRCS, Wisconsin Agronomy Technical Note 6, Establishing and Maintaining Introduced Grasses and Legumes.
- USDA, NRCS, Wisconsin Job Sheet 134, How to Establish and Maintain Introduced Grasses and Legumes.
- USDA, NRCS, Wisconsin Job Sheet 135, How to Establish and Maintain Native Grasses, Forbs, and Legumes.

X. Definitions

Actual Adjusted Seeding Rates (V.A.2) – an increase in seeds per square foot or pounds per acre, when the PLS is less than 100 percent.

Aspect (V.A.1) – The exposure of the site to direct sunlight, prevailing winds, and other factors that influence plant growing conditions. For example, a north slope tends to be cooler and moister while a south-facing slope tends to be drier and warmer.

Soil Bioengineering (VI.L) – Practice of combining mechanical, biological, and ecological concepts to arrest and prevent shallow slope failures and erosion.

Certified Seed (V.A.2) – Seed that meets the standards established by the designated official seed certifying agency for the purpose of ensuring species/variety, species/varietal purity and mechanical quality. The Wisconsin Crop Improvement Association is the official seed certifying agency for Wisconsin.

Genotype (VI.J) – A group of individual plants which share a specified genetic makeup. For example, all big bluestem plants that are genetically adapted to grow and mature in the climatic conditions found in the driftless region could be considered a genotype.

Introduced Species (V.A.4) – Plant species that historically were not native to North America and were brought here from other parts of the world, for example, smooth bromegrass and alfalfa.

Native Species (V.A.4) – Plants species that historically would have been found growing in North America such as big bluestem or green needle-grass.

Non-Certified Seed (V.A.2) – Seed that is grown, processed, tested and labeled for species/variety and mechanical quality factors, but is not certified by an official seed certifying agency.

Pure Live Seed (PLS) (V.A.2) – PLS is a means of expressing seed quality, based on the percentage of seed in a seed lot that is both pure and viable. PLS is calculated by multiplying the percentage of total viable seed (germination + hard seed + dormant seed) by the percentage of pure seed divided by 100.

Untested Seed (V.A.2) – Seed that has no assurances of testing for species/variety and mechanical quality, i.e., species/variety purity, inert matter, other crop or weed seeds and germination potential. Untested seed legally cannot be labeled.

Table 3
Common Species and Seeding Rates for Critical Area Plantings

Common Name	Scientific Name	Moisture Regime	Single Species Seeding Rate (P.L.S) Lbs./Ac.	Seeds/Lb.	Seeds/Square Ft./Lb./Ac.
Native Grasses					
Big Bluestem ¹	<i>Andropogon gerardii</i> ¹	D, DM, M, WM	11	165,000	3.8
Canada Wild Rye	<i>Elymus canadensis</i>	DM, M, WM	12	83,200	1.9
Indian Grass ¹	<i>Sorghastrum nutans</i> ¹	D, DM, M, WM, W	10	192,000	4.4
Little Bluestem	<i>Schizachyrium scoparium</i>	D, DM, M	8	240,000	5.5
Prairie June Grass	<i>Koeleria macrantha</i> ^{1,2}	D, DM, M	0.5	2,308,672	53
Sideoats Grama	<i>Bouteloua curtipendula</i>	D, DM, M	8	127,000	2.9
Switch Grass ¹	<i>Panicum virgatum</i> ¹	D, DM, M, WM, W	7	389,000	8.9
Virginia Wild Rye	<i>Elymus virginicus</i>	M, WM, W	17	67,200	1.5
Introduced Grasses					
Chowings Red Fescue ²	<i>Festuca rubra</i> L., ssp. <i>fallax</i> ²	D, DM, M	5	350,000	8
Creeping Red Fescue ^{1,2}	<i>Festuca rubra</i> ^{1,2}	DM, M, WM	5	350,000	8
Festulolium	<i>Festuca x Lolium</i>	DM, M, WM	10	227,000	5.2
Italian or Annual Ryegrass	<i>Lolium perenne</i> L., ssp. <i>multiflorum</i>	DM, M, WM	20	227,000	5.2
Kentucky Bluegrass ^{1,2}	<i>Poa pratensis</i> ^{1,2}	D, DM, M, WM, W	8	2,177,000	50
Orchard Grass	<i>Dactylis glomerata</i> L.	D, DM, M, WM	10	653,000	15
Perennial Ryegrass	<i>Lolium perenne</i>	DM, M, WM	20	227,000	5.2
Redtop ^{1,2}	<i>Agrostis gigantea</i> ²	M, WM, W	4	4,990,000	114.5
Smooth Bromegrass ^{1,2}	<i>Bromus inermis</i> ^{1,2}	D, DM, M, WM	20	136,000	3.1
Tall Fescue	<i>Schedonorus arundinaceus</i>	D, DM, M, WM	12	227,000	5.2
Timothy	<i>Phleum pratense</i>	DM, M, WM, W	8	1,230,000	28.2
Legumes					
Alfalfa	<i>Medicago sativa</i>	D, DM, M	12	219,000	5.0
Alsike Clover	<i>Trifolium hybridum</i>	M, WM, W	3	680,000	15.6
Birdsfoot trefoil	<i>Lotus corniculatus</i>	DM, M, WM, W	7	375,000	8.6
Red Clover	<i>Trifolium pratense</i>	DM, M, WM	10	275,000	6.3
White Ladino Clover	<i>Trifolium repens</i>	DM, M, WM	3	871,650	20

¹ Species approved for seeding individually at the recommended Pure Stand Rates based on Pure Live Seeds (P.L.S) depending on the erosiveness of the site.

It is required that at least 50% of the seeds per square foot of mixtures planted to introduced and native species on critical areas are composed of grasses, and 25% of the seeds per square foot are sod-forming grasses for introduced species.

If more than 20% of the legume seed is hard seed, increase the seeding rate for legumes by the percent of hard seed.

Seeds per square foot for a particular species can be calculated by multiplying the number of seeds per pound of the specie by the rate of the specie in pound(s) per acre divided by 43,560 square feet.

² Sod-forming grass plants.

Table 4
Seeding Chart for Native Grass Species

Common Name	Scientific Name	Percent of Mixture	Pure Stand Seeding Rate	Seeds per Square Foot
Big Bluestem	<i>Andropogon gerardii</i>	0-100	11 lbs/ac	42
Canada Wildrye	<i>Elymus canadensis</i>	0-20	12 lbs/ac	23
Indian grass	<i>Sorghastrum nutans</i>	0-100	10 lbs/ac	44
Little Bluestem	<i>Schizachyrium scoparium</i>	0-20	8 lbs./ac	44
Sidecoats Grama	<i>Bouteloua curtipendula</i>	0-20	8 lbs/ac	23
Switchgrass	<i>Panicum virgatum</i>	0-100	7 lbs/ac	63
Virginia Wild Rye	<i>Elymus virginicus</i>	0-20	17 lbs/ac	26
Prairie June Grass	<i>Koeleria macrantha</i>	0-20	0.5 lbs/ac	26
Hairy Grama	<i>Bouteloua hirsuta</i>	0-25	1 lb/ac	26

Canada Wild Rye, Virginia Wild Rye and Sidecoats Grama when combined will not comprise of more than 20% of the total grass seeds per square foot. Pure stand seeding rates for Big Bluestem and Indiangrass must be increased by 5 lbs/acre to meet the minimum seeds per square foot as required by this standard. Refer to Table 3 for suggested moisture regimes per specie.

Table 5
Seeding Mixtures Suitable for Critical Area Plantings

Seed Calculator Code*	Moisture Regimes	Common Name	Scientific Name	Seeding Rate in lb/ae PLS	Seeding Rate in Seeds/Ft ² PLS	Capacity Returnance	Type of Site**
342-1	Dry-Mesic and Mesic Sites	Smooth Brome	Bromus inermis	10	31	B	EB, WW, CSB
		Creeping Red Fescue	Festuca rubra	3	24		
		Alfalfa	Medicago sativa	3	15		
		Red Clover	Trifolium pratense	3	19		
		Kentucky bluegrass	Poa pratensis	1.5	75		
342-2	Dry-Mesic and Mesic Sites***	Smooth Brome	Bromus inermis	15	47	B	EB, WW
		Alfalfa	Medicago sativa	7	35		
		Timothy	Phleum pratense	3	85		
342-3	Dry-Mesic and Mesic Sites	Kentucky bluegrass	Poa pratensis	1	50	B	CSB, EB, WW
		Smooth Brome	Bromus inermis	10	31		
		Timothy	Phleum pratense	2	56		
		Tall Fescue	Schedonorus arundinacea	2	10		
		Perennial Ryegrass	Lolium perenne	5	26		
342-4	Dry-Mesic and Mesic Sites	Smooth Brome	Bromus inermis	20	62	B	EB, WW, CSB
		Creeping Red Fescue	Festuca rubra	5	40		
		Alfalfa	Medicago sativa	8	40		
		Red Clover	Trifolium pratense	4	25		
342-5	Dry-Mesic and Mesic Sites	Smooth Brome	Bromus inermis	30	93	B	EB, WW, CSB
		Alfalfa	Medicago sativa	14	70		
342-6	Dry-Mesic, Mesic, and Wet Mesic Sites	Smooth Brome	Bromus inermis	7	22	B	CSB, EB, WW
		Timothy	Phleum pratense	2	56		
		Creeping Red Fescue	Festuca rubra	1	8		
		Kentucky Bluegrass	Poa pratensis	1	50		
		Perennial Ryegrass	Lolium perenne	3	16		
		Red Clover	Trifolium pratense	3	19		
342-7	Mesic Sites***	Smooth Brome	Bromus inermis	7	22	B	EB, WW
		Creeping Red Fescue	Festuca rubra	2	16		
		Kentucky bluegrass	Poa pratensis	3	150		
		Birdsfoot trefoil	Lotus corniculatus	2	17		
342-8	Mesic Sites***	Smooth Brome	Bromus inermis	15	47	B	WW, EB
		Creeping Red Fescue	Festuca rubra	2	16		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-9	Mesic Sites***	Kentucky Bluegrass	Poa pratensis	3	150	C	WW, EB
		Creeping Red Fescue	Festuca rubra	4	32		
		Perennial Ryegrass	Lolium perenne	10	52		
342-10	Mesic Sites	Smooth Brome	Bromus inermis	14	43	B	EB, WW, CSB
		Timothy	Phleum pratense	3	85		
		Red Clover	Trifolium pratense	3	19		
		Perennial Ryegrass	Lolium perenne	4	21		
342-11	Mesic Sites	Smooth Brome	Bromus inermis	32	99	B	EB, WW
		Creeping Red Fescue	Festuca rubra	8	64		
342-12	Mesic Sites	Kentucky bluegrass	Poa pratensis	4	200	C	EB, WW
		Creeping Red Fescue	Festuca rubra	3	24		

Seed Calculator Code*	Moisture Regimes	Common Name	Scientific Name	Seeding Rate in lb/ac PLS	Seeding Rate in Seeds/ft ² PLS	Capacity Retardance	Type of Site**
342-13	Mesic Sites	Smooth Bromegrass	Bromus inermis	14	43	B	EB, WW, CSB
		Timothy	Phleum pratense	4	113		
		Red Clover	Trifolium pratense	3	19		
342-14	Mesic Sites	Smooth Bromegrass	Bromus inermis	15	47	B	EB, WW, CSB
		Timothy	Phleum pratense	3.5	99		
		Alsike Clover	Trifolium hybridum	2	32		
342-15	Mesic Sites	Smooth Bromegrass	Bromus inermis	15	47	B	EB, WW
		Timothy	Phleum pratense	3.5	99		
		Birdsfoot trefoil	Lotus corniculatus	3	26		
342-16	Wet Mesic Sites	Tall Fescue	Schedonorus arundinacea	5	26	B	CSB, EB, WW
		Timothy	Phleum pratense	3	85		
		Perennial Ryegrass	Lolium perenne	3	16		
		Red Clover	Trifolium pratense	3	19		
		Smooth Bromegrass	Bromus inermis	6	19		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-17	Wet Mesic Sites	Redtop	Agrostis gigantea	1	115	C	WW, CSB, EB
		Timothy	Phleum pratense	3	85		
		Red Clover	Trifolium pratense	5	32		
342-18	Wet Mesic Sites	Timothy	Phleum pratense	3	85	B	WW, CSB, EB
		Perennial Ryegrass	Lolium perenne	3	16		
		Red Clover	Trifolium pratense	3	19		
		Smooth Bromegrass	Bromus inermis	6	19		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-19	Wet Mesic Sites	Redtop	Agrostis gigantea	1	115	C	WW, CSB, EB
		Timothy	Phleum pratense	1	28		
		Red Clover	Trifolium pratense	4	25		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-20	Wet Sites***	Redtop	Agrostis gigantea	2	229	C	WW
		Alsike Clover	Trifolium hybridum	2	31		
		Kentucky Bluegrass	Poa pratensis	2	100		
342-21	Wet Mesic Sites	Redtop	Agrostis gigantea	3	344	C	WW
		Alsike Clover	Trifolium hybridum	3	47		

*These codes represent the mixtures used in the Wisconsin Seed Calculator

**EB = Embankments, WW = Waterways, CSB = Channel and Streambanks

***Mixtures can be used on other site descriptions when not listed.



How to Establish and Maintain Native Grasses, Forbs, and Legumes

Wisconsin Job Sheet 135

Natural Resources Conservation Service (NRCS)

Wisconsin

Landowner: _____ Tract: _____

If you are receiving financial assistance for completing this planting, refer to your agreement for any additional requirements or restrictions.

PURPOSE

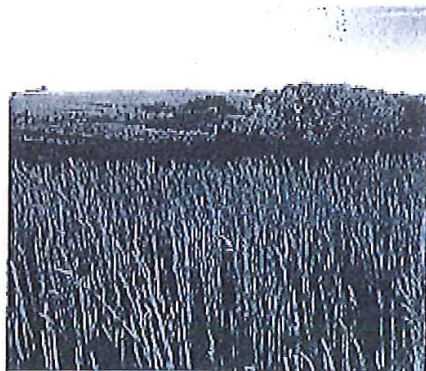
This job sheet describes methods to establish and maintain native grasses, forbs, and legumes and applies to the following practice:

- ☐ Conservation Cover (327)
- ☐ Critical Area Planting (342)
- ☐ Forage and Biomass Planting (512)

Native species can be used to accomplish one or more of the following:

- Reduce soil erosion.
- Enhance pollinator and wildlife habitat.
- Increase forage supply during periods of low production.
- Produce feedstock for biofuel or energy production.
- Improve soil, water, and air quality.

For additional recommendations, refer to Wisconsin NRCS Agronomy Technical Note 5, Establishing and Maintaining Native Grasses, Forbs, and Legumes, at <http://www.wi.nrcs.usda.gov/technical/technotes.html>.



SPECIES SELECTION AND SEED QUALITY

1. Species and cultivars must be selected based upon the adaptation to site conditions, including appropriate moisture regime, climatic conditions, soil conditions, and landscape position.
2. Select species based on growth characteristics, fertility requirements, disease resistance, compatibility with other species, and the intended use of the seeding.
3. Mixtures must meet all requirements of the Wisconsin weed laws. Species identified as restricted or prohibited by law shall not be planted.
4. Seed must be of high quality and meet the requirements of the Wisconsin seed laws for certification. If certified seed is not available, non-certified seed may be used as long as the seed is tested for purity and germination by a testing laboratory following Association of Official Seed Analysts (AOSA) procedures. If you plan to use untested seed, prior approval must be granted from NRCS before planting.
5. Native species are not recommended in concentrated flow areas due to their slow establishment and growth characteristics.
6. If one or more of the species in the mix consists of more than 20 percent hard seed, the seeding rate for the species must be increased by the percent of hard seed.
7. Legume seeds must be inoculated prior to planting.

SEEDING PERIODS AND RATES

1. Seeding rates and species are provided on the attached seeding plan. Rates are based upon Pure Live Seed (PLS). In order to determine PLS, the seed must be tested for purity and germination. If you are receiving financial assistance for this practice, any changes in the species or rates listed in the seeding plan must be approved before seed is purchased.
2. Permanent, perennial vegetative cover will be established within the recommended seeding dates as shown on the attached seeding plan. When it is not possible to seed during the recommended seeding dates, a temporary cover will be required to reduce erosion until the seeding can be completed.
3. **Frost Seeding.** The frost seeding period in Wisconsin typically ranges from February to mid-March but may vary from year to year depending on the weather. Frost seeding is allowed only during the active freezing and thawing cycle and can be completed on fields where good seed-to-soil contact can be obtained. Do not frost seed on fields with solid ice or snow cover greater than 2 inches. Seeding rates must be increased by 15 percent. Refer to your seeding plan to determine if frost seeding is allowed for your situation.
4. **Dormant Seeding.** Dormant seeding occurs late in the fall when the soil temperature is cool enough to prevent germination until the following spring. This type of seeding provides greater risk of failure due to variability in weather and often has reduced yields. Seeding rates must be increased by 15 percent when seeding during this time period. Refer to your seeding plan to determine if dormant seeding is allowed for your situation.

FERTILIZER AND LIME REQUIREMENTS

For establishment of native species, soil testing and application of soil amendments is not a requirement.

SEEDING METHODS

Conventional Seeding

Conventional seeding includes preparing a firm seedbed by using tillage and packing equipment. The seed is broadcasted on the soil surface and incorporated by secondary tillage or packing tools.

Some native seeds are fluffy, light, and chaffy which require agitators in the seed boxes on the drill for the seed to flow uniformly. When possible, seed should be sorted according to size and shape and placed in the appropriate seed boxes to ensure uniform distribution across the field.

Seed can also be broadcast by using air seeders, fertilizer spreaders, or other types of rotary or drop seeder implements. When a small amount of seed is being applied over a large area, a carrier should be mixed with the seed. Carriers such as pelletized lime, fertilizer, cracked corn, saw dust, vermiculite, etc., may be used.

The seedbed should contain enough fine soil particles to provide uniform shallow coverage of the seed as well as contact with moisture and nutrients. It is important to have a firm seedbed. As a minimum, cultipack or roll before and after seeding. When walking on a properly prepared seedbed, the depth of your footprints should not exceed $\frac{1}{4}$ inch. Do not use heavy, no-till type drills to seed on conventionally prepared seedbeds. Heavy drills tend to sink into the soil and seeding depth will be difficult to control. Do not plant seed deeper than $\frac{1}{4}$ inch.

No-Till Seeding

No-till planting is the planting of grasses and/or forbs in the absence of tillage. No-till can be used to establish new seedlings on land previously in row crops or existing sod. As with conventional seeding, seed placement should be no deeper than $\frac{1}{4}$ inch. A drill equipped for no-till planting must be used to obtain proper seeding depth unless the ground is soft enough to allow consistent penetration of disk openers of a conventional drill.

Herbicides are often necessary when using no-till methods of establishment. When using herbicides, be sure to read and follow all label directions.

No-Till Planting Into Crop Residue

Residue should be uniformly distributed over the field from the previous year's harvest. It is often preferred to plant new seedlings into soybean stubble when using a no-till drill. No-tilling into large amounts of non-labile residue such as corn stalks and small grain residue may reduce germination and seedling vigor. For spring weed control, use a nonselective herbicide to kill weeds prior to planting. Be careful not to select a herbicide that will have carryover or residual effects on your new seeding.

No-Till Planting into Existing Sod

No-till planting can be used to completely renovate existing sod. In order to prepare a good seedbed for no-tilling into existing sod, plant litter and existing growth must be removed or altered prior to applying nonselective herbicides. Options to remove or reduce existing cover include mowing, burning, haying, or grazing.

- **Mowing:** Mow the site using a rotary mower or flail chopper to a height of 3 inches. Mowing equipment should uniformly distribute the mowed plant material over the field surface.
- **Burning:** Conduct a prescribed burn according to the requirements outlined in the burn plan. The burn plan must address safety concerns and document the appropriate timing for the burn.
- **Haying:** Mechanically harvest vegetation from the site the year before the planned seeding. The timing of the hay harvest should be planned to minimize the amount of re-growth that will occur prior to herbicide application.
- **Grazing:** Timing and duration of grazing must be intensive enough to significantly reduce the existing vegetative cover. If possible, begin the grazing at a time of the year when the standing vegetation is green and growing to increase the palatability and feed value of the forage which will result in a more uniform removal of the vegetation.

After the existing plant litter is altered or removed, allow plants to actively re-grow before applying a nonselective herbicide. Be aware of herbicides that may have carryover or residual effects. Timing of herbicide applications usually occurs in the spring before plants flower or early fall to actively growing plants. Herbicide applications in the fall often have greater efficacy, but air temperature should be above 50° F to improve plant uptake.

Interseeding

Interseeding includes any stand modification that maintains some vegetative component of the original stand. Interseeding is a good way to improve existing stands that lack plant diversity. It is **NOT** recommended to seed native species along with or into existing stands of introduced grasses/legumes (bromegrass, fescue, alfalfa, etc.). Introduced species are too competitive with the slower establishing native species. Any existing stands of

introduced species should be terminated prior to seeding native species.

For interseeding native species, existing plant growth and litter will need to be reduced, and the same options used for no-tilling into existing sod can be used. In addition, limited tillage can be used to suppress the existing cover.

- **Limited Tillage:** Limited tillage may also be used to suppress the existing stand. Fields can be tilled to a depth of 3 to 5 inches and should expose at least 50 percent of the soil surface. Careful consideration should be used when using limited tillage due to potential erosion concerns or the potential to encourage additional weed growth due to soil disturbance.

After reducing plant growth, herbicides can be used to suppress, not eliminate, vegetation prior to interseeding. One must consider the current types of plants in the field (grasses vs. broadleaves) and which species you want to suppress. In addition, current field conditions and timing of application must be considered before selecting a herbicide.

A drill equipped for no-till planting must be used to obtain proper seeding depth unless limited tillage is used to prepare the seedbed. In this case, seed may be broadcast or drilled. Use a cultipacker or roll the seedbed before and after seeding when tillage is used.

TEMPORARY COVER AND COMPANION CROPS

Temporary Cover

Temporary cover is required when seed or planting stock is not available, the normal planting period has passed, or where herbicide carryover is likely. A temporary cover will typically not be necessary on those areas where at least 50 percent of the ground is covered with either crop residue or vegetative cover.

Temporary cover crops must be clipped or terminated prior to seedhead emergence or before planting permanent cover.

Temporary Cover			
Species	Rate (lbs. or bu. / acre)		Seeding Dates
	No Herbicide Carryover	Triflazine Carryover Likely	
Forage Sorghum	½ bu.		5/15 - 7/15
Sorghum-Sudangrass Hybrid	1 bu.		
Sudangrass	1 bu.		
Winter Wheat	120 (2 bu.)	Not recommended	8/1 - 10/15
Winter Cereal Rye	112 (2 bu.)	Not recommended	
Oats	64 (2 bu.)	Not recommended	4/1 - 5/1
Annual Ryegrass	20 lbs.	Not recommended	4/1 - 5/1

Companion Crops

Companion crops can be used to reduce the amount of erosion on critical sites, suppress weeds, and provide added protection for permanent perennial vegetation seeded during the first year of planting. Refer to your seeding plan to determine if companion crops are recommended for your situation.

OPERATION AND MAINTENANCE

Weed control during establishment is critical to ensure survival of the new stand. Mowing, herbicide application, or grazing may be used alone or in combination to control weeds before they go to seed. Graze or mow the existing stand at a height of 7 inches before weeds go to seed. If grazing the stand, be cautious of selective grazing where animals do not uniformly graze the stand. Be careful not to mow or graze when the soil is wet to avoid damage to seedlings. If residue will be left on the field, do not allow the vegetation to grow too high prior to mowing, otherwise excessive residue may accumulate and smother seedlings. Additional treatment may be needed every 3 to 4 weeks throughout the growing season until the stand becomes established. If using herbicides, be sure to follow all label directions.

Once the permanent vegetation is established, control noxious weeds or invading woody vegetation by spot mowing, spraying with herbicides, grazing, burning, or other methods appropriate for the site. To maximize wildlife benefits, mow before May 15 or after August 1 to protect nesting birds and provide cover.

Please note: If you are receiving financial assistance for this seeding, certain methods and timing of maintenance may not be allowed. Refer to your contract agreement for specific guidance.

CONSERVATION RESERVE PROGRAM (CRP) REQUIREMENTS

CRP rules allow the cover to be managed throughout the year to control weeds or woody vegetation UNTIL the cover is determined to be established (typically within the first 3 years of the contract).

Once the cover is established, no disturbance is allowed during the primary nesting season recorded in the CRP contract (May 15 through August 1). Spot clipping or spot spraying may be done during the primary nesting season with prior approval from the local Farm Service Agency (FSA) County Committee.

Any haying or grazing of CRP must be approved by the Farm Service Agency in advance.

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USDA-NRCS

April 2013

Wisconsin Job Sheet 135



How to Establish and Maintain Introduced Grasses and Legumes

Wisconsin Job Sheet 134

Natural Resources Conservation Service (NRCS)

Wisconsin

Landowner: _____ Tract: _____

If you are receiving financial assistance for completing this planting, refer to your agreement for any additional requirements or restrictions.

PURPOSE

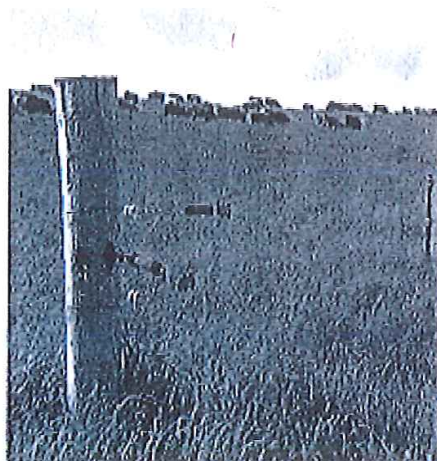
This job sheet describes methods to establish and maintain introduced grasses and legumes and applies to the following practice:

- ☐ Conservation Cover (327)
- ☐ Critical Area Planting (342)
- ☐ Forage and Biomass Planting (512)

Introduced grasses and legumes can be used to accomplish one or more of the following:

- Stabilize areas with existing or expected high rates of soil erosion.
- Enhance pollinator and wildlife habitat.
- Improve forage production and livestock health.
- Improve soil, water, and air quality.

For additional recommendations, refer to Wisconsin NRCS Agronomy Technical Note 6, Establishing and Maintaining Introduced Grasses and Legumes, located at <http://www.wi.nrcs.usda.gov/technical/technotes.html>.



SPECIES SELECTION AND SEED QUALITY

1. Species and cultivars must be selected based upon the adaptation to site conditions, including appropriate moisture regime or forage suitability group, climatic conditions, soil conditions, and landscape position.
2. Select species based on growth characteristics, fertility requirements, disease resistance, compatibility with other species, and the intended use of the seeding.
3. Mixtures must meet all requirements of the Wisconsin weed laws. Species identified as restricted or prohibited by law shall not be planted.
4. Seed must be of high quality and meet the requirements of the Wisconsin seed laws for certification. If you plan to use untested seed, prior approval must be granted from NRCS before planting. If certified seed is not available, non-certified seed may be used as long as the seed is tested for purity and germination by a testing laboratory following Association of Official Seed Analysts (AOSA) procedures.
5. If one or more of the species in the mix consists of more than 20 percent hard seed, the seeding rate for the species must be increased by the percent of hard seed.
6. Legume seeds must be inoculated prior to planting.

SEEDING PERIODS AND RATES

1. Seeding rates and species are provided on the attached seeding plan. Rates are based upon Pure Live Seed (PLS). In order to determine PLS, the seed must be tested for purity and germination. If you are receiving financial

assistance for this practice, any changes to the species or rates listed in the seeding plan must be approved before seed is purchased.

2. Permanent, perennial vegetative cover will be established within the recommended seeding dates as shown on the attached seeding plan. When it is not possible to seed during the recommended seeding dates, a temporary cover will be required to reduce erosion until the seeding can be completed.
3. **Frost Seeding.** The frost seeding period in Wisconsin typically ranges from February to mid-March but may vary from year to year depending on the weather. Frost seeding is allowed only during the active freezing and thawing cycle and can be completed on fields where good seed-to-soil contact can be obtained. Do not frost seed on fields with solid ice or snow cover greater than 2 inches. Seeding rates must be increased by 15 percent. Refer to your seeding plan to determine if frost seeding is allowed for your situation.
4. **Dormant Seeding.** Dormant seeding occurs late in the fall when the soil temperature is cool enough to prevent germination until the following spring. This type of seeding provides greater risk of failure due to variability in weather and often has reduced yields. Seeding rates must be increased by 15 percent when seeding during this time period. Refer to your seeding plan to determine if dormant seeding is allowed for your situation.

FERTILIZER AND LIME REQUIREMENTS

Forage and Biomass Planting (512)

If you are planting hayland or pasture, soil tests no older than 4 years must be taken according to UW Extension Publication A2100, Sampling Soils for Testing. You will need at least one sample for every 5 acres or less, and the samples must be analyzed at a Wisconsin certified soil testing laboratory. Any recommendations for fertilizer or lime will be applied based on UW Extension Publication A2809, Nutrient Application Guidelines for Field, Vegetable and Fruit Crops.

Conservation Cover (327) or Critical Area Planting (342)

When following either of these standards, you can choose to take a soil test using the procedure listed above or follow a general recommendation. If you choose not to obtain a soil test, a general recommendation of 150 pounds per acre of a 20-10-10 fertilizer and a minimum of 2 tons per acre of 80-89 lime may be used. Under certain conditions, fertilizer and/or lime requirements may be waived.

SEEDING METHODS

Conventional Seeding

Conventional seeding includes preparing a firm seedbed by using tillage and packing equipment. The seed is broadcasted on the soil surface and incorporated by secondary tillage or packing equipment.

When using a drill, seed should be sorted according to size and shape and placed in the appropriate seed boxes to ensure uniform distribution across the field.

Seed can also be broadcast by using air seeders, fertilizer spreaders, or other types of rotary or drop seeder implements. When a small amount of seed is being applied over a large area, a carrier should be mixed with the seed. Carriers such as pelletized lime, fertilizer, cracked corn, saw dust, vermiculite, etc., may be used.

The seedbed should contain enough fine soil particles to provide uniform shallow coverage of the seed as well as contact with moisture and nutrients. It is important to have a firm seedbed. As a minimum, cultipack or roll before and after seeding. When walking on a properly prepared seedbed, the depth of your footprints should not exceed ¼ inch. Do not use heavy, no-till type drills to seed on conventionally prepared seedbeds. Heavy drills tend to sink into the soil and seeding depth will be difficult to control. Do not plant seed deeper than ¼ inch.

No-Till Seeding

No-till planting is the planting of grasses and/or legumes in the absence of tillage. No-till can be used to establish new seedlings on land previously in row crops or existing sod. As with conventional seeding, seed placement should be no deeper than ½ inch. A drill equipped for no-till planting must be used to obtain proper seeding depth unless the ground is soft enough to allow consistent penetration of disk openers of a conventional drill.

Herbicides are often necessary when using no-till methods of establishment. When using herbicides, be sure to read and follow all label directions.

No-Till Planting Into Crop Residue

Residue should be uniformly distributed over the field from the previous year's harvest. It is often preferred to plant new seedlings into soybean stubble when using a no-till drill. No-tilling into large amounts of non-fragile residue such as corn stalks and small grain residue may reduce germination and seedling vigor. For spring weed control, use a nonselective herbicide to kill weeds prior to planting. Be careful not to select a herbicide that will have carryover or residual effects on your new seeding.

No-Till Planting Into Existing Sod

No-till planting can be used to completely renovate existing sod. In order to prepare a good seedbed for no-tilling into existing sod, plant litter and existing growth must be removed or altered prior to applying nonselective herbicides. Options to remove or reduce existing cover include mowing, burning, haying, or grazing.

- **Mowing:** Mow the site using a rotary mower or flail chopper to a height of 3 inches. Mowing equipment should uniformly distribute the mowed plant material over the field surface.
- **Burning:** Conduct a prescribed burn according to the requirements outlined in the burn plan. The burn plan must address safety concerns and document the appropriate timing for the burn.
- **Haying:** Mechanically harvest vegetation from the site the year before the planned seeding. The timing of the hay harvest should be planned to minimize the amount of re-growth that will occur prior to herbicide application.
- **Grazing:** Timing and duration of grazing must be intensive enough to significantly reduce the existing vegetative cover. If possible, begin the grazing at a time of the year when the standing vegetation is green and growing to increase the palatability and feed value of the forage which will result in a more uniform removal of the vegetation.

After the existing plant litter is altered or removed, allow plants to actively re-grow before applying a nonselective herbicide. Be aware of herbicides that may have carryover or residual effects. Timing of herbicide applications usually occurs in the spring before plants flower or early fall to actively-growing plants. Herbicide applications in the fall often have

greater efficacy, but air temperature should be above 50° F to improve plant uptake.

Interseeding

Interseeding includes any stand modification that maintains some vegetative component of the original stand. Interseeding is a good way to improve existing stands that lack plant diversity or have low-yielding forage species. Existing plant growth and litter will need to be reduced, and the same options used for no-tilling into existing sod can be used. In addition, limited tillage can be used to suppress the existing cover.

- **Limited Tillage:** Limited tillage may also be used to suppress the existing stand. Fields can be tilled to a depth of 3 to 5 inches and should expose at least 50 percent of the soil surface. Careful consideration should be used when using limited tillage due to potential erosion concerns or the potential to encourage additional weed growth due to soil disturbance.

After reducing plant growth, herbicides can be used to suppress, not eliminate, vegetation prior to interseeding. One must consider the current types of plants in the field (grasses vs. broadleaves) and which species you want to suppress. In addition, current field conditions and timing of application must be considered before selecting a herbicide.

A drill equipped for no-till planting must be used to obtain proper seeding depth unless limited tillage is used to prepare the seedbed. In this case, seed may be broadcast or drilled. Use a cultipacker or roll the seedbed before and after seeding when tillage is used.

TEMPORARY COVER AND COMPANION CROPS

Temporary Cover

Temporary cover is required when seed or planting stock is not available, the normal planting period has passed, or where herbicide carryover is likely. A temporary cover will typically not be necessary on those areas where at least 50 percent of the ground is covered with either crop residue or vegetative cover.

Temporary cover crops must be clipped or terminated prior to seedhead emergence or before planting permanent cover.

Temporary Cover			
Species	Rate (lbs. or bu. / acre)		Seeding Dates
	No Herbicide Carryover	Triazine Herbicide Carryover Likely	
Forage Sorghum	2 bu.		5/15 - 7/15
Sorghum-Sudangrass Hybrid	1 bu.		
Sudangrass	1 bu.		
Winter Wheat	120 (2 bu.)	Not recommended	8/1 - 10/15
Winter Cereal Rye	112 (2 bu.)	Not recommended	
Oats	64 (2 bu.)	Not recommended	4/1 - 9/1
Annual Ryegrass	20 lbs.	Not recommended	4/1 - 9/1

Companion Crops

Companion crops can be used to reduce the amount of erosion on critical sites, suppress weeds, and provide added protection for permanent perennial vegetation seeded during the first year of planting. If the seeding is not used for hayland purposes, the companion crop must be mowed before seedhead emergence. Second and subsequent mowings may be necessary when re-growth provides competition to new plantings. Mowing should only remove the growth above the developing seedlings. Companion crops seeded late summer in most cases will not require clippings prior to the first killing frost unless the growing season is prolonged. Refer to your seeding plan to determine if companion crops are recommended for your situation.

OPERATION AND MAINTENANCE

Weed control during establishment is critical to ensure survival of the new stand. Mowing, herbicide application, or grazing may be used alone or in combination to control weeds before they go to seed. Graze or mow the existing stand at a height of 4 to 6 inches before weeds go to seed. If grazing the stand, be cautious of selective grazing where animals do not uniformly graze the stand. Be careful not to mow or graze when the soil is wet to avoid damage to seedlings. If residue will be left on the field, do not allow the vegetation to grow too high prior to mowing; otherwise, excessive residue may accumulate and smother seedlings. Additional treatment may be needed every 3 to 4 weeks

throughout the growing season until the stand becomes established. If using herbicides, be sure to follow all label directions.

Once the permanent vegetation is established, control noxious weeds or invading woody vegetation by spot mowing, spraying with herbicides, grazing, burning, or other methods appropriate for the site. To maximize wildlife benefits, mow before May 15 or after August 1 to protect nesting birds and provide cover.

Please note: If you are receiving financial assistance for this seeding, certain methods and timing of maintenance may not be allowed. Refer to your contract agreement for specific guidance.

CONSERVATION RESERVE PROGRAM (CRP) REQUIREMENTS

CRP rules allow the cover to be managed throughout the year to control weeds or woody vegetation UNTIL the cover is determined to be established (typically within the first 3 years of the contract).

Once the cover is established, no disturbance is allowed during the primary nesting season recorded in the CRP contract (May 15 through August 1). Spot clipping or spot spraying may be done during the primary nesting season with prior approval from the local Farm Service Agency (FSA) County Committee.

Any haying or grazing of CRP must be approved by the Farm Service Agency in advance.

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USDA-NRCS

April 2013

Wisconsin Job Sheet 134

MULCHING

(Acre)
Code 484

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Applying plant residues, or other suitable materials produced off site to the land surface.

II. Purpose

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- conserve soil moisture,
- moderate soil temperature,
- provide erosion control,
- suppress weed growth,
- facilitate the establishment of vegetative cover,
- improve soil condition, and
- reduce airborne particulates.
- Reduce energy use associated with irrigation.

III. Conditions Where Practice Applies

This practice applies to all lands where mulches are needed. This practice may be used alone or in combination with other practices.

IV. Federal, Tribal, State, and Local Laws

Users of this standard shall comply with applicable federal, tribal, state and local laws, rules, regulations or permit requirements governing mulching. This standard does not contain the text of federal, tribal, state, or local laws.

V. Criteria

A. General Criteria Applicable to All Purposes

The type of mulching material selected should be based on cost, time of year, soils, percent slope, anticipated runoff velocities, and landscape position.

If the area to be mulched is to be seeded, see Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV, Standard 342, Critical Area

Planting, for seedbed preparation, lime, fertilizer, and seeding requirements.

Mulch shall consist of either natural and/or artificial materials such as plant residue (including cereal grain straw, grass hay, wood chips, bark and wood fiber), byproducts, gravel, plastic, fabric, or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended effect for the required time period.

1. Criteria for Site Preparation

Soil surface shall be prepared prior to the application of the mulch material in order to achieve desired purpose and to ensure optimum contact between soil and mulch. All areas to be mulched shall be reasonably smooth and free of rills, gullies, and debris.

Concentrated flow sources above the site where mulch is applied shall be diverted, or mulch designed to withstand anticipated runoff velocities shall be used.

2. Criteria for Materials

Mulch material shall be relatively free of disease, pesticides, chemicals, noxious weed seeds, and other pests and pathogens.

3. Criteria for Application

Criteria for mulch application applies to both seeded and unseeded areas.

Mulch shall be applied immediately after seeding or after final grading for unseeded areas.

The mulch material shall be evenly applied.

Manufactured mulches should be applied according to the manufacturer's specifications.

Crimping (disking), wood cellulose fiber, tackifiers, netting, pinning, or other acceptable methods of anchoring will be used if needed to hold the mulch in place. Criteria are described in V.B. Mulch Anchoring Methods.

4. Mulch Application Rate

Straw and hay mulch shall be applied at the rate of 1½ to 2 tons per acre. This application results in a layer of 6 to 7 stems, 1 to 2 inches thick and shall provide a minimum 70% ground cover. Some soil surface can be seen after the application.

Wood chips or wood bark shall be applied at the rate of 6 to 9 tons per acre to achieve a minimum of 80 percent ground cover.

Wood cellulose fiber mulch, applied with a hydroseeder, shall be applied at the rate of 1,500 to 2,000 pounds per acre. Apply a tackifier when the slope exceeds 3 to 1.

Long-fibered wood cellulose shall be applied at the rate of ¾ to 1¼ tons per acre.

Corncobs shall be applied at the rate of 5 tons per acre.

Gravel shall be applied approximately 2 inches deep and shall consist of pieces ¼ to 2 inches in diameter and shall achieve a minimum of 90 percent ground cover.

5. Fiber Blankets and Mats

Erosion control products manufactured from wood fiber, straw, or paper are intended for use in high water velocity conditions. Design and install according to the manufacturer's instructions.

B. Criteria for Mulch Anchoring Methods

1. Mulch Anchoring Tool or Disk (Serrated Blades)

Apply mulch and pull a mulch anchoring tool over soil surface immediately following the mulch application. Use equipment with serrated straight disks spaced 6 to 10 inches or other suitable equipment approved by the Natural Resources Conservation Service (NRCS). Operate as close to the contour as possible. Mulch material should be

imbedded into the soil surface 2 to 3 inches. Use on areas where concentrated flow velocity is less than 4 feet per second.

2. Wood Cellulose Fiber

Apply wood cellulose fiber with a hydromulcher immediately after spreading mulch. Reduce straw or hay mulch applications to 3,000 pounds per acre and apply 750 pounds of wood fiber per acre over the surface of the straw or hay in combination with a nontoxic, biodegradable tackifier. Use on areas without concentrated flow.

3. Tackifier or Binder Material

Apply tackifier or binder material with suitable equipment by spraying product directly into the mulch as it is applied. Rate of application shall be according to manufacturer's recommendations. Material shall be nontoxic to plant life. Use only on areas without concentrated flow.

Follow the manufacturer's recommendations on mixing and temperature control. The mulch materials and tackifier shall be blown from a machine and uniformly deposited over the area in one operation.

The machine used for placement of mulch shall blow or eject by constant air stream a controlled amount of straw or hay. It shall also introduce into the air stream a spray of asphalt or similar product.

Mulch materials shall not contain moisture in excess of that which will permit uniform feeding through the machine.

4. Polypropylene Plastic or Jute Netting

Use netting on areas without concentrated flow or where concentrated flow velocity is less than 4 feet per second. Prior to recommending the use of netting, evaluate the potential for reptiles or other wildlife to become entrapped by the net. If a risk is identified, select a 100% degradable net (W1 DOT Class I Type A, Class II Type C), or an alternative mulch anchoring method.

Apply netting over the mulch application and staple according to manufacturer's recommendations.

On slopes, mats and nets may be run either up and down or cross slope. In areas of concentrated flow, mats and nets shall be laid parallel to the direction of flow and spread evenly without stretching to allow maximum contact with the soil. Adjacent edges should be overlapped a minimum of 3 inches with the adjoining mats or nets. Staples of 11 gauge or heavier will be used to hold the mats and nets in place. Staples shall be U-shaped with a 1-inch crown. Staple length shall be determined based on soil condition.

Soil Condition	Staple Length
Highly compacted soils	6 inches
Friable soils	8 inches
Loose or sandy soils	10 inches

Lay downstream blankets first, working upstream. The netting side of the blanket shall be on the top side after installation. Mat and net edges and middles will be stapled according to manufacturer's recommendations.

5. Peg and Twine

After mulching, divide the area into blocks approximately one square yard in size. Drive 4 to 6 pegs per block to within 2 to 3 inches of the soil surface. Anchor mulch by stretching twine between pegs in a crisscross pattern on each block. Secure twine around each peg with two or more turns. Drive pegs flush with soil surface to allow mowing. Use on areas without concentrated flow.

6. Pinning

Cut mulch into soil surface with square edge spade or a dull disk. Make cuts in contour rows. Use on small areas without concentrated flow.

7. Soil

Small areas of mulch can be lightly covered with soil. The soil shall be free of stones and debris, and distributed over the mulch in a thin uniform layer. Use on small areas without concentrated flow.

8. Trenching or Weights

Bury edge of plastic in a trench 6 inches deep. Compact the soil over plastic in the trench. Use stones to hold plastic down in other places as needed. Use on small areas without concentrated flow.

C. Additional Criteria to Conserve Soil Moisture and/or Reduce Energy Use Associated with Irrigation

Mulch material applied to the soil surface shall cover at least 60 percent of the soil surface to reduce potential evaporation.

D. Additional Criteria Applicable to Moderate/Modify Soil Temperature

Nonporous, clear, infrared transmissible, and dark-colored material shall be used to raise soil and ambient air temperature below the mulch. Light-colored material will be used to cool soil and ambient soil temperature below the mulch. The mulch shall be applied to the desired soil and air temperature below the mulch can be achieved.

The material should be sufficient thickness to persist for the period of time required for the temperature modification.

The percent coverage shall be 100 percent over the area treated.

E. Additional Criteria Applicable to Control Weed Growth

Mulches applied around growing plants or prior to seedling development shall provide 100 percent ground cover. Thickness of the mulch shall be adequate to prevent emergence of targeted weeds. Use colored or infrared transmissible (IRT) plastic when plastic mulch is used.

F. Additional Criteria to Suppress Weed Growth

The thickness of mulch will be determined by the size and growth characteristics of the plant being mulched. Mulches shall be kept clear of the stems of plants where disease is likely to occur. Mulches applied around growing plants or prior to weed seedling development shall have 100 percent ground cover. Thickness of the mulch shall be adequate to prevent emergence of targeted weeds. Plastic mulches may be used.

G. Additional Criteria to Establish Vegetative Cover

Mulch shall be applied at a rate that achieves a minimum of 70 percent ground cover to provide protection from erosion and runoff and yet allow adequate light and air penetration to the seedbed to ensure proper germination and emergence.

H. Additional Criteria to Improve Soil Condition

Apply mulch materials with a carbon to nitrogen ratio (C:N) less than 30:1 so that soil nitrogen is not immobilized by soil biota. Do not apply mulch with C:N less than 20:1 to an area of designed flow in watercourses.

Use the Soil Conditioning Index to assess soil quality impacts and to determine the type and rate of the mulching material.

VI. Considerations

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation functions are as follows.

- A. Consider mulching disturbed areas that will not have additional construction activity for 60 days, or completed sites that will not be permanently seeded for periods of 60 days or longer.
- B. Consider application of mulch immediately after a precipitation event or watering to conserve soil moisture. Ensure soil under shallow rooted crops is moist, as these crops require a constant supply of moisture.
- C. Consider anchoring straw or hay mulch or keep mulch moist to prevent blowing in wind-prone areas.
- D. Consider the impact of mulch materials with a high water holding capacity and/or high impermeability to water droplets which may reduce the water availability to plants.
- E. Consider the potential impact of fine-textured mulches (e.g., rice hulls) which allow less oxygen penetration than coarser materials. Fine-textured mulches should be applied in a layer no thicker than 2 inches.
- F. Consider the potential of organic materials with C:N ratios of less than 20:1 to release excess nitrate to adjoining surface waters.

- G. Consider the potential for mulch to provide habitat for beneficial insects and provide pest suppression.

- H. Consider the mulch color impact on plant growth. Clear mulches allow profuse weed growth and may negate the benefits of soil warming. Black mulches provide effective weed control. Wavelength selective (IRT) plastic provides the soil warming characteristics of clear mulch with the weed control ability of black mulch.

- I. Consider the potential for runoff from low permeability mulches (e.g., plastic) which may increase concentrated flow and erosion on un-mulched areas.

- J. Consider potential toxic allelopathic effects that mulch material may have on other organisms. Animal and plant pest species contained in the mulch may be incompatible with the intended use.

- K. Consider the potential for increased pathogenic activity within the applied mulch material.

- L. Consider the potential for mulch to cause disease and pest problems. Keep mulch 3 to 6 inches away from plant stems and crowns where an identified risk is present. Additional weed control may be needed around the plant base area.

- M. Consider the potential for deep mulch to provide nesting habitat for ground-burrowing rodents that can chew extensively on tree trunks and/or tree roots. Use of a light mulch applied after the first cold weather may prevent rodents from nesting.

- N. Consider the potential impacts of mulch material on aquatic environments due to changes in water chemistry or as waterborne debris.

- O. Consider the use of biodegradable staples in locations where wire staples are determined to be a risk.

VII. Plans and Specifications

Specifications shall be prepared for each site and purpose and recorded using approved specification sheets, job sheets, technical notes, narrative statements in the conservation plan, or other acceptable documentation.

Documentation shall include the following:

- purpose of the mulch;
- type of mulch material used;
- percent cover and/or thickness of mulch material;
- rate of mulch application (tons/acre, lbs/square foot);
- timing of application;
- site preparation;
- listing of netting, tackifiers, or method of anchoring; and
- operation and maintenance.

VIII. Operation and Maintenance

Mulched areas will be periodically inspected, and mulch shall be reinstalled or repaired as needed to accomplish the intended purpose.

Evaluate the effectiveness of the mulch (application, amount of cover provided, durability, etc.) and adjust the management or type of mulch to better meet the intended purpose(s).

Removal or incorporation of mulch materials as necessary after use shall be consistent with the intended purpose and site conditions.

Operation of equipment near and on the site shall not compromise the intended purpose of the mulch.

Prevent or repair any fire damage to the mulch material.

Properly collect and dispose of artificial mulch material after intended use.

Monitor and control undesirable weeds in mulched areas.

IX. References

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section I, Erosion Prediction, Revised Universal Soil Loss Equation (RUSLE2).

Toy, T.J., and G.R. Foster. (Ed.) 1998. Guidelines for the use of the Revised Universal Soil Loss Equation (RUSLE) Version 1.06 on mined lands, construction sites, and reclaimed lands. USDA, OSMR.

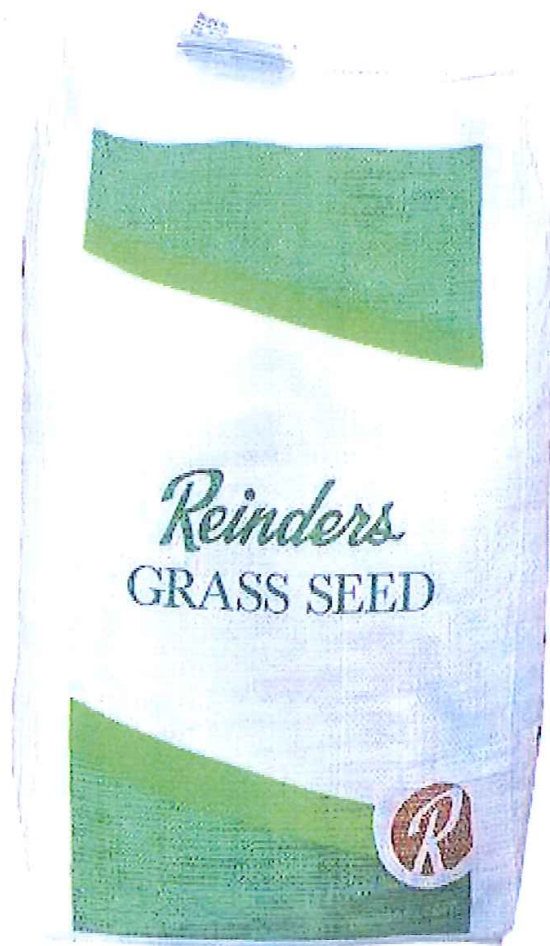
USDA, NRCS. 2002. National Agronomy Manual. 190-V. Washington, D.C.

ASTM Designation: D 977, Standard Specification for Emulsified Asphalt

Wisconsin Department of Transportation, Erosion Control Product Acceptability Lists (PAL): Erosion Mats, Class I Type A, Class II Type C; Tackifiers. <http://www.dot.wisconsin.gov/business/engineering/pal.pdf>

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Reinders - Wisconsin DOT No. 20 Seed Mix - 50 LB Bag



SKU: 3207-1400

Availability: In Stock

Your Price:

\$263.00 /bag - 1 +

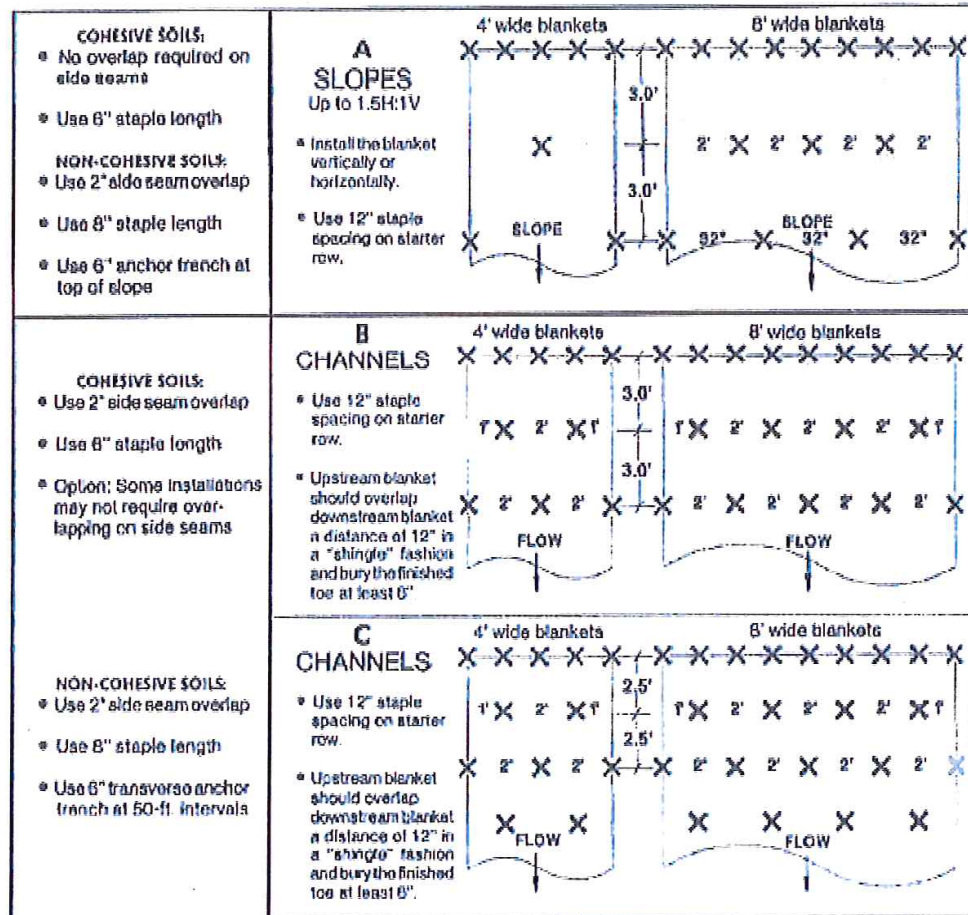
Erosion control blanket installation instructions

SLOPES

Product	Staple Diagram		Staples		Seam Overlay		Installation	
Soils	Cohesive	Non Cohesive	Cohesive	Non Cohesive	Cohesive	Non Cohesive	Cohesive	Non Cohesive
Curlex I	A	A	D	E	..	F	H	I
Curlex II	A	A	D	E	..	F	H	I
QuickGrass	A	A	D	E	..	F	H	I

CHANNELS

Product	Staple Diagram		Staples		Seam Overlay	
Soils	Cohesive	Non Cohesive	Cohesive	Non Cohesive	Cohesive	Non Cohesive
Curlex I	B	B	D	E	G	G
Curlex II	B	B	D	E	G	G
QuickGrass	B	B	D	E	G	G
Curlex III	C	C	D	E	G	G



D = 6x1x5 11 ga. wire
E = 8x2x8 11 ga. wire
F = 2'
G = 6'
H = Start 3' over grade break
I = Start 3' over grade break & trench

SECTION 2.0 DEFINITIONS

(30) DWELLING, MULTI-FAMILY: A dwelling or group of two or more DWELLINGS on one lot, but which may have joint services and/or facilities. One-family and two-family dwellings contained in the same DWELLING UNIT are permitted only within the R-1, RM-1 and RM-2 zones. Dwelling units require approval by the City of Madison. The City of Madison does not require approval for accessory structures or uses. The City of Madison does not require approval for accessory structures or uses. The City of Madison does not require approval for accessory structures or uses.

(31) DWELLING UNIT: A building or portion thereof with rooms arranged, designed, used or intended to be used for one family. Guesthouses with kitchen and bathroom facilities; and any accessory structures with a HABITABLE LIVING AREA are considered to be DWELLING UNITS. Houseboats and watercraft on land shall not be used as DWELLINGS or DWELLING UNITS. The City of Madison does not require approval for accessory structures or uses.

(57) LOT: A parcel of land occupied or capable of being occupied by one Building or one DWELLING UNIT and the ACCESSORY STRUCTURES OR USES customarily incidental to it, including such open spaces as are required by this ordinance.

(71) MULTI-DWELLING DEVELOPMENT: DEVELOPMENT, regardless of form of ownership consisting of three or more DWELLING UNITS, CONDOMINIUM, RESORT, hotel or motel units or other units/structures intended for residential or long or short-term rental uses, all of which are to be located on the same LOT.

(85) RESORT: A resort is a for-profit business, which is licensed by the Wisconsin Department of Health and Family Services, which provides rental to the public of more than 2 (two) DWELLING UNITS contained in one or more permanent buildings used primarily for recreational use.

SECTION 17.0 ZONE DISTRICTS

17.1 R-1: Residential One District

A) Permitted Uses

1) One family year-round DWELLING.

2) (Residential DWELLING, MULTI-FAMILY - One-family and two-family dwellings contained in the same DWELLING UNIT are permitted only within the R-1, RM-1 and RM-2 zones. Dwelling units require approval by the City of Madison. The City of Madison does not require approval for accessory structures or uses. The City of Madison does not require approval for accessory structures or uses.)

B) Uses Authorized by Conditional Use

17.1(B)(1) [REDACTED] provided any of community or non-union health benefits from [REDACTED] must meet the minimum standards set forth in Section 18. Additionally, if or more funding units agree with [REDACTED] to provide all or part of one or more other financial arrangements to help defray costs.

17.2 RR-1: Residential/Recreational One District

A) Permitted Uses

1) One-family and two-family dwellings year-round DWELLINGS

[illegible]

3) A year-round DWELLING that contains DWELLING UNITS for up to two-families.

4) A one-family DWELLING and one additional DWELLING-UNIT consisting of a guesthouse with kitchen and bathroom structures or an accessory structure with a habitable living area.

B) Uses Authorized by Conditional Use

17.2(B)(15) MULTI-DWELLING DEVELOPMENT (i.e., **new** condominium, hotel, motel or resort, or other development which is the same general scale and character). (Does not include the conversion of existing properties to a condominium ownership, existing resorts, motels, hotels or any other existing multi dwelling development unless more rental/dwelling units are being proposed by plat or other means that would be in addition to the existing rental/dwelling units.) **MULTI-DWELLING DEVELOPMENT** or other similar development **including a condominium, hotel, motel, resort, or other development creating additional dwelling units, or other development**, which in the opinion of the County Zoning Committee, **is** of the same general scale and character. **Each DWELLING UNIT must meet the minimum Dwelling Unit Standards contained in Section 17.2(C)(1) and (2) and (3) of the Ordinance.** (Example: If a development must have 100 or more Dwelling Units, it must meet the standards.) Does not include conversions of existing properties to a different form of ownership (i.e., to condominium ownership) unless DWELLING UNITS are being proposed by plat or other means that would be in addition to the existing **existing** DWELLING UNITS. Does not include existing MULTI-DWELLING DEVELOPMENTS unless creating additional DWELLING UNITS.

Commented [MT1]: For discussion to resolve potential ambiguity. Need to decide whether we want these to be permitted uses or uses authorized by conditional use. Also need to decide if we want minimum lot sizes for #4.

17.3 RR-2: Residential/Recreational Two District

A) Permitted Uses

- 1) One-family and two-family dwellings year-round DWELLING.
- 2) ~~Year-round DWELLING, MULTI-FAMILY, or similar use that must be at least 1,500 sq ft of living space and include at least one additional dwelling unit.~~
- 3) A year-round DWELLING that contains DWELLING UNITS for up to two-families.
- 4) A one-family DWELLING and one additional DWELLING-UNIT consisting of a guesthouse with kitchen and bathroom structures or an accessory structure with a habitable living area.

B) Uses Authorized by Conditional Use

17.2(B)(16) MULTI-DWELLING DEVELOPMENT or other similar development ~~including a condominium, which must be created under a deed of trust or similar instrument~~, which in the opinion of the County Zoning Committee, are of the same general scale and character. Each DWELLING UNIT must ~~meet the minimum~~ ~~Dimensional Requirements contained in Section 17.2(B)(16)(a) and (b) of the~~ ~~ordinance.~~ Does not include conversions of existing properties to a different form of ownership (i.e., to condominium ownership) unless DWELLING UNITS are being proposed by plat or other means that would be in addition to the existing ~~uses.~~ DWELLING UNITS. Does not include existing MULTI-DWELLING DEVELOPMENTS unless creating additional DWELLING UNITS.

Commented [MT2]: For discussion to resolve potential ambiguity. Need to decide whether we want these to be permitted uses or uses authorized by conditional use. Also need to decide if we want minimum lot sizes for #4.