Engineers • Consultants • Inspectors

NONMETALLIC MINING SITE RECLAMATION PLAN

For

Proposed Sand Quarry
Gerke Excavating, Inc.

Town of Byron
Monroe County, Wisconsin

September 2014

Prepared by:

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NONMETALLIC MINING RECLAMATION PLAN

For
Gerke Excavating
Sand Quarry Site

Town of Byron
Monroe County, Wisconsin
2014

1.0 BACKGROUND AND GENERAL INFORMATION

1.1 Description of Project Activity

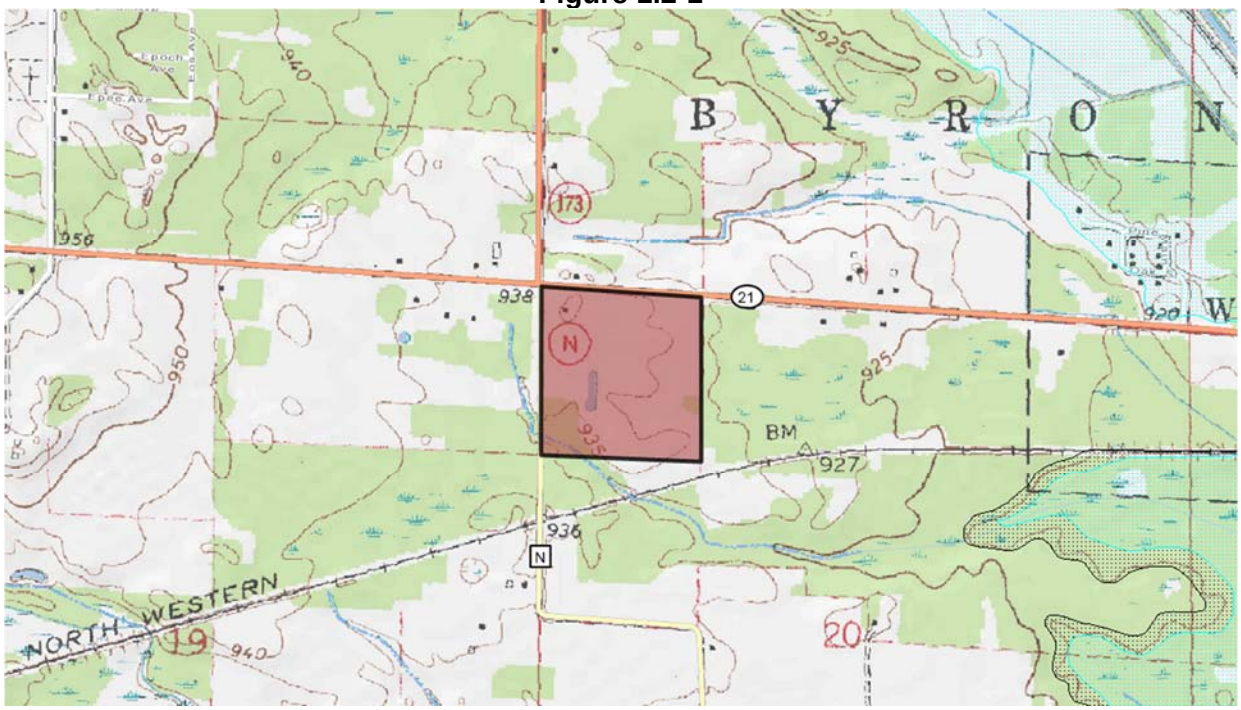
The purpose of this report is to provide a framework for the nonmetallic mining reclamation at the proposed quarry site. The site is located in the Town of Byron, Monroe County, 1.25 miles West of the Village of Wyeville. The proposed mining quarry includes primarily an agricultural field and agricultural forest.

1.2 Project Location

The project site is located in the NW 1/4 of the NW 1/4 of Section 20, T18N, R01E, Town of Byron, Monroe County, Wisconsin, containing approximately 40 acres.

Said property consists primarily of an agricultural field that will be excavated during the mining operation. Figure 1.2-1 is a USGS location map of the surrounding area.

Figure 1.2-1



2.0 STATE AND LOCAL REQUIREMENTS

Section 2.1 below lists the state nonmetallic mining reclamation requirements; Section 2.2 below lists the local requirements and Section 2.3 is a listing of persons and/or entities receiving this document.

2.1 Wisconsin DNR Requirements (NR 135)

2.1.1 Surface Water and Wetland Protection

Nonmetallic mining reclamation shall be conducted and completed in a manner that assures compliance with water quality standards for surface waters and wetlands. Necessary measures for diversion and drainage of runoff from the site to prevent pollution of waters of the state shall be installed in accordance with the reclamation plan. Diverted or channelized runoff resulting from reclamation may not adversely affect neighboring properties.

2.1.2 Groundwater Protection

Nonmetallic mining site shall be reclaimed in a manner that does not cause a permanent lowering of the water table that results in adverse effects on surface waters, or a significant reduction in the quantity of groundwater reasonably available for future users of groundwater infiltration.

2.1.3 Topsoil Management

Removal of on-site topsoil material shall be performed prior to any mining activity. Once removed, topsoil or topsoil substitute material shall either be used in contemporaneous reclamation or stored in an environmentally acceptable manner. The location of stockpiled topsoil or topsoil substitute material shall be chosen to protect the material from erosion or further disturbance or contamination. Runoff water shall be diverted around all locations in which topsoil or topsoil substitute material is stockpiled.

2.1.4 Final Grading and Slopes

Final grades and slopes shall provide for stable and safe conditions in the post mining land use. Final reclaimed slopes covered by topsoil or topsoil substitute material may not be steeper than a 3:1. When the post−mining land use includes a body of water, the approved final grade at the edge of a body of water shall extend vertically 6 feet below the lowest seasonal water level. A slope no steeper than 3:1 shall be created at a designated location or locations, depending on the size of the water body to allow for a safe exit.

2.1.5 Topsoil Redistribution for Reclamation

Topsoil or topsoil substitute material shall be redistributed in accordance with the approved reclamation plan in a manner which minimizes compaction and prevents erosion. Topsoil or topsoil substitute material shall be uniformly redistributed except where uniform redistribution is undesirable or impractical. Topsoil material redistribution may not be performed during or immediately after a precipitation event until the soils have sufficiently dried.

2.1.6 Revegetation and Site Stabilization

Except for permanent roads or similar surfaces, all surfaces affected by nonmetallic mining shall be reclaimed and stabilized by revegetation or other means. Revegetation and site stabilization shall be performed as soon as practicable after

mining activity has permanently ceased in any part of the mine site.

2.1.7 Assessing Completion of Successful Reclamation

The criteria for assessing when reclamation is complete and, therefore, when the financial assurance may be released shall be specified in the reclamation plan and shall be based on site inspection and report.

2.1.8 Maintenance

During the period of the site reclamation, after the operator has stated that reclamation is complete but prior to release of financial assurance, the operator shall perform any maintenance necessary to prevent erosion, sedimentation or environmental pollution.

2.2 Monroe County Nonmetallic Mining Ordinance

2.3 Submittal List

Monroe County Land Conservation Department
c/o Bryce Richardson
Soil and Water Conservationist
Monroe County Land Conservation Department
820 Industrial Drive, Suite 3
Sparta, WI 54656
(608) 269-8976
Bryce.richardson@co.monroe.wi.us

Other approving authorities will be copied as needed or requested.

3.0 RECLAMATION PLAN

3.1 Site Information

The proposed mine will contain a sand/gravel quarry located on 40 acres in Monroe County, Wisconsin. The operation will be located approximately 1.25 miles west of the village of Wyeville, WI. The mine is proposed to operate for 10 years allowing 1 to 2 years for reclamation.

Mining of the sand will occur in two phases. Each separate phase is expected to be about 4-5 years. Post reclamation land use for the mine is a lake reservoir. Reclamation along the lake shores of phase 1 will occur contemporaneously with the second mining phase. Pit area of mining Phase one will be utilized as a staging area during Phase two. Ground water is near surface and de-watering is expected to take place during the mining lifecycle. Wellpoint system or open sumps and ditches system can be utilized to dewater the excavation pit. Ground water discharge will be routed thru settlings basin, sized per DNR technical standard 1061, and released to the SW low lying areas. Waste and overburden screens shall be stockpiled to provide a source of backfill material during final reclamation activities.

3.1.1 Legal Description

Beginning at the NW ¼ of the NW ¼ of Section 20. T18N, R01E, Town of Byron, Monroe County, WI and point of beginning.
Thence bearing s 85-59-14.525 e a distance of 1326.304 along hwy 21 row line;
Thence bearing s 0-13-57.454 e a distance of 1317.216 ;

Thence bearing n 86-10-2.572 w a distance of 1329.539;
Thence bearing n 0-4-46.490 w a distance of 1321.147 to the point of beginning.

3.1.2 Property Boundary

Please see attached Maps A1.4 & B1.0

3.1.3 Aerial Extent

Map B1.0 illustrates how phasing will occur. Mining occurs in phases to minimize disturbance and erosion on the mining site while helping to maintain the status of "internally drained". Each phase corresponds to a specific excavation period where topsoil is removed and the pit is expanded.

There are two mining phases. Prior any sand extraction, topsoil shall be stripped and relocated to designated stockpile locations and perimeter berm. Later this topsoil along with waste screens shall be used to reclaim areas excavated during the sand excavation. Lake shore reclamation efforts shall commence upon completion of Phase one. Remaining reclamation shall be completed at the end of Phase two so as to maintain an internally drained status. For more information on Phasing see Map B1.0.

3.1.4 Geologic Composition and Depth of Mineral Deposits

The site primarily features an agricultural field with wooded areas to the South. Slopes are nearly flat, (0%-3%). The geology for this area is described as a sandstone with some dolomite and shale. The sand is found just below the topsoil with sandstone below it. The purpose of this quarry is to mine the sand to use in construction projects.

3.1.5 Distribution, Thickness and Type of Topsoil

The predominant soil type in the area of the proposed mining site is loamy sand to fine sand. A map delineating the soil types has been included in the reclamation plan (Map A7) along with the approximate pre-mining topography (Maps A1-A5). Generally, topsoil on site is to a depth of 0-10". The primary soils encountered on the site are loamy sand in nature and include Majik-Ponycreek complex, lake terrace (1548A) and Tint sand, lake terrace (596A).

3.1.6 Groundwater Information

Wisconsin Geologic and Natural History Survey (WGNHS) provides an overview of the regional groundwater regime. Depth to water table at the proposed quarry is estimated 5ft below surface. Please refer to Map A1.5 for the regional groundwater depth. The mining operation will be conducted below the groundwater table and will require pumping during the mining operation. De-watering will follow WDNR technical standard 1061.

3.1.7 Location of Surface Waters

DNR surface water viewer depicts only intermittent streams near the proposed mining area. Reclaimed site topography will maintain the drainage pattern to the ephemeral streams generally draining to SE direction. For more details see Map A4.

3.1.8 Existing Topography

Existing topography has been generally represented on Maps A1 and A5, and more specific

and localized on B1.0 and B1.1. Map B1.1 also shows the mining site in plan and profile after the reclamation is complete.

3.1.9 Locations of Manmade Features

Please refer to Map A1 which shows the existing site, and Map B1.0 which shows the mining site with the proposed manmade features. Proposed manmade features include access road, stockpile locations, andperimeter berm.

3.2 Post Mining Land Use

Gerke Excavating shall return the site to a combination of post-mining land uses including a wildlife habitat and a lake for swimming, stocked with fish or for future cranberry operations. The proposed reclamation plan provides details and final land uses for the entire mining site. Generally, slopes shall be graded to 3:1 horizontal to vertical ratio or flatter.

Plant materials will be selected for reclamation based on the post-mining land use. Native species will be used to the extent practicable.

3.3 Reclamation Measures

3.3.1 Final Grades and Slopes

Gerke Excavating shall re-grade steep slopes and maintain 3:1 slopes or flatter where practical, to promote natural lines and blending contour lines to the undisturbed site topography. Mine operator shall use overburden screens and other clean material as backfill against vertical slopes. The proposed mining pit bottom will be approximately 30' below grade (~906' contour)

Slopes near the edge of the water reservoir shall be gradual at a rate of 6:1, and shall extend vertically 6 feet below the lowest seasonal water level.

All grading shall be completed and resulting surfaces scarified prior to topsoil redistribution. Grading will be competed in a manner of preventing ponding of water on the reclaimed surfaces. The topsoil and subsoil will be placed and finished to the required lines, grades and slopes as shown on Map B1.1

3.3.2 Safety

In all areas where highwalls may be retained and in any area where a potential risk to safety exists, warning signs shall be posted. In addition, a safety berm or a safety bench, fencing or a combination of both shall be installed to restrict access to potentially unsafe areas. The proposed project shall be reclaimed in a manner that complies with all applicable federal, state, and local regulations governing public health, safety, and welfare.

3.3.3 Topsoil Management

Erosion control measures shall be installed prior any land disturbance activities. Trees, brush and other woody materials removed from the site during grubbing shall be shredded to mulch and stockpiled on site. These materials shall be used later in reclamation

activities when possible. Large oversized materials or boulders shall be separated and used to control access to site and the construction of screening berms.

After completing erosion and sediment control measures and clearing and grubbing the site, but prior to commencing mining activities, the top soil and surficial plant growth material shall be removed. Topsoil horizon is estimated to vary between 3” and 12”. In all cases top stripping shall be to a minimum of 6”. Minor deviations may occur in the field as the site conditions demand.

Topsoil removal shall be accomplished by scrappers or bulldozers and haul trucks. When feasible, soil will be removed in a manner to minimize the surface area exposed to erosion at any given time.

Initially, all topsoil removed from the mining site shall be used to construct a perimeter berm shown on Map B1.0. Later on as more area opens up topsoil can be stockpiled on the quarry floor within the mined area. This topsoil stockpile will be shaped into an elongated profile and shall be protected in a timely fashion from erosion through revegetation using the specified seed mix in Appendix B, page B2.4 or through use of mulch or other protective measures. Utilizing the specified seed mix will minimize completion with undesirable and aggressive weedy species.

Topsoil redistribution and site preparation shall be performed to achieve the final topography and drainage patterns as practicable once mining has ceased. All grading will be completed and the resulting surfaces scarified prior topsoil redistribution. This will promote good adherence and bonding between the subsoil and the topsoil and improve infiltration and drainage. Grading will be accomplished so to prevent ponding of water on the reclaimed surface. Topsoil shall be placed back to a depth of minimum 6 inches.

When compaction of soil is found to be too dense (access roads) to allow for suitable bond, the mining operator shall employ measures to rectify this condition such as disking, chisel plowing, ripping and or scarification. These measures will promote good bonding between the topsoil and underlying materials and will ensure suitable substrate for plant growth and the development of plant root system.

All topsoil shall be redistributed into a prepared site. Topsoil redistribution will be performed under dry conditions using appropriate equipment as to minimize compaction. Any clods or lumps present after the topsoil redistribution shall be broken down by the use of harrows, discs or other appropriate equipment in order to provide uniform textured soil.

3.3.4 Structures

Please refer to Map B1.0 for the locations of the access roads and stockpile locations. Any drainage and sediment control structures within the mining area shall be removed once the vegetative cover is sufficiently established to provide equivalent protection.

3.3.5 Re-vegetation Plan

The revegetation plan includes all activities in support of selecting, obtaining, handling and applying seed or otherwise installing plant materials to fulfill the reclamation plan. Seed and plant materials will be obtained from a licensed nursery that normally works with native prairie and/or wetland plant materials. Seed shall be free of contamination by weedy

species. Seed selection shall be based on the reclamation land use (See Appendix B, Page B2.4): Mix-3&4; Wildlife, Lake Margins/Wetlands

Reclaimed areas shall be seeded only after soils have been properly prepared as specified above. Seeding shall be done at any time during the growing season when soil conditions are suitable except between July 1 and August 15, unless permitted by the county representative. Seeding activities will not be carried out immediately following rain, when the ground is too dry or during windy periods. Care will be taken to follow the instructions that are provided by the supplier.

General seeding methods include:
Broadcast Seeding Using Agricultural Equipment applicable for agricultural land use and wildlife/passive recreation. Seeding activities will be carried out using specified equipment and in a manner to avoid soil compaction. The area seeded will not exceed the area that can be mulched on the same day. Seed will be uniformly sown by means of equipment adapted to the purpose. Then the site will be lightly raked or dragged to cover the seed with approximately one-fourth inch of soil. After seeding is complete, the areas will be lightly rolled or compacted by means of suitable equipment to improve seed to soil contact and germination.

Following seeding, mulch will be applied uniformly at a rate of between 1 and 1.5 tons per acre. Mulch will be wheat straw, marsh hay or equivalent weed-free mulch. Mulching operations will begin at the top of the slope and proceed downward. The mulch cover will be applied so as to be loose enough to allow some sunlight to penetrate, yet thick enough to provide shade and protection from desiccation and raindrop impact and erosion. After spreading on reseeded surfaces mulch will be crimped into the soil by passing over the reclaimed surface with a dull, weighted disk or similar implement. On steep slopes straw or hay mulch will be securely pegged or stapled in place. In lieu of such anchorage, the mulch may be secured by means of heavy biodegradable twine fastened with pegs or staples to form a grid. Also, at the discretion of the project manager erosion blanket, jute netting or a tactifier may be used in addition to or in lieu of the crimping process.

3.3.6 Revegetation Standards

The purpose of establishing clear revegetation surface criteria is necessary to provide a reference point to evaluate the success of the reclamation operation in an objective manner. Suggested revegetation standards are listed below:

Post mining Land Use and Success criteria Table

Post Mining Land Use	Seed Mix	Stage Phase	Success Criteria	Years to Show
Wildlife	#3	Final Reclamation	70% cover	2
Lake Margins/ Wetlands	#4	Final Reclamation	70% cover	3

Percent cover shall be determined by estimating the percentage of an area covered by vegetation and a predictor of site stability. A typical standard for percent cover is 70% cover (primarily leaf and stem area) averaged over the site at 90 percent statistical confidence level. Count may be physical and photos shall be provided. The measurement

of cover should be timed to correspond with the period of peak vegetative growth, generally in early-mid August.

Upon completion of reclamation activities, whether this includes a portion of the site or the entire mining site, a representative from the Monroe County Land Resources Department or other relevant regulatory authority shall inspect the site in order to verify success of reclamation.

3.3.7 Erosion Control

The main purpose of a general erosion control plan is to minimize erosion and limit the potential for sediment run-off into surface waters. Erosion control measures will be established prior to any site development activities including soil removal and stockpiling. Erosion control measures will be also established prior to initiating reclamation such as contemporaneous reclamation, backfilling or grading. Typical erosion control measures are shown on Map B2.0 and B2.3. Surface water runoff within mining areas shall be contained within the boundaries of the disturbed area and allowed to infiltrate. The mining will take place in a manner so as to keep the mine internally drained, and not allow water to discharge from any disturbed mine areas on site. However, during the initial phases of the mining a perimeter topsoil berm will be constructed to maximize runoff containment. Protection measures will be installed and maintained to support reclamation activities. Mining will be completed in two phases to aid in internally draining the mine site.

3.3.8 Site Maintenance

Mining operator shall inspect the sediment and erosion control systems on a regular basis and immediately after severe storms. Periodic follow-up inspections of all reclaimed or otherwise stabilized surfaces shall be performed to ensure they are in a condition stable enough to control erosion and sedimentation. When damage caused by traffic, wind, water or other cause is detected the mining operator will promptly perform all necessary maintenance and repair work to the erosion control system. Likewise, other work necessary to ensure long term success of the vegetation including follow-up fertilization, necessary soil amendments or any weed or pest control will be accomplished.

As part of maintenance of the reclaimed site, Gerke Excavating will perform any necessary weed control or pest control and maintenance both to facilitate the establishment and survival of vegetation. Exotic species that occur on the site or are accidentally added though contaminants in the seed mixes or through the use of hay or other mulch products that are not weed free will be promptly controlled through fire, mechanical means or with herbicides. This is especially true when the species appears on the list of state noxious weeds. This will continue until the concerns of the Monroe County Land Resources Office are satisfied.

3.4 Criteria for Successful Reclamation

Gerke Excavating shall demonstrate compliance with the revegetation success standards (performance standards) for each post-mining land use contained in the reclamation plan. The techniques employed are as follows: percent cover will be determined as total cover (expressed as a percentage) as measured by coverage of the canopy (vertical projection of plant parts) and will be recorded by species. Cover will be measured over the entire re-vegetated site at no less than 20 randomly placed 10 square feet quadrats for each 10 acre area. Success criteria will vary with

the post-mining land use. In addition, both presence (a species list) and frequency (number of quadrats the species occurs in) will be included.

3.5 Process of a Sand Quarry Operation

In opening a new sand quarry Gerke Excavating shall utilize the existing driveway on CTH N to the quarry site. Existing House and Shed will be razed. For the topsoil perimeter berm construction Gerke Excavating shall use bulldozers, (which pushes material into piles) a backhoe for excavations, and haul trucks for off road usage only. Once this is completed either a wellpoint or sump/ditch de-watering system shall put in place. Mining will be done using backhoes dozers, material is then sorted into stockpiles or loaded on haul trucks with the use of an end loader. When the mine site is large enough Gerke Excavating shall utilize portable conveyors to stockpile aggregate materials. The initial amount of sand stone shall be used on the access road.

3.6 Final Site Actions

The final removal of mining-related structures, drainage structures and sediment control structures will be accomplished once the vegetative cover is robust enough to provide equivalent protection. At such time and in accordance with the approved reclamation plan those structures will be removed and the soils in such areas will be reclaimed. At this time Gerke Excavating shall request the Monroe County Land Conservation Department to perform the necessary inspection and evaluation work to certify the reclamation as complete (COC) and to release the financial assurance.

3.7 Sand Products Usages

Typical use of sand aggregate products is in road construction: gravel roads, parking lots, driveways, etc.

3.8 Nuisance Mitigation Plan

Noise: Source of noise is limited to construction equipment, backhoes, dozers and haul trucks. Contractor shall observe approved operational hours.
Lighting: Most of the time lighting will not be an issue, however there will be times when the Contractor shall be providing material for WisDOT projects that must be completed at night time due to the safety reasons on certain high volume highway projects. On these projects the Contractor shall process, haul, and truck materials at night time. Duration of such projects is typically limited to a week or two at a time. These operations will be in compliance with MSHA regulations.

3.9 Proposed Hours of Operation

Typical mining operations last for a few weeks at a time, at which time the Contractor expects to work 8 hours a day for 5 days a week. Trucking is expected to be 12 hours per day and occasional Saturdays and Sundays.

4.0 Certification of the Reclamation Plan

I hereby certify, as a duly authorized representative or agent, that Gerke Excavating, Inc., shall comply with the provisions of this reclamation plan as well as the statewide nonmetallic mining reclamation standards established in ss. NR 135.05 through NR 135.15, Wis. Adm. Code.

Signature of Applicant or Duly Authorized Agent Date Signed

_____ _____

Owner and/or Lessee: Gerke Excavating, Inc. (Same as above)

4.1 Financial Assurance

The objective of financial assurance is to ensure that the Monroe County Land Resources Department has access to funds necessary to implement site reclamation in the event that the operator does not perform the agreed upon duties. The funds shall accurately reflect the cost for the regulatory authority to hire outside help to perform reclamation. The main purpose of financial assurance is to ensure that the operator will faithfully execute the requirements of the approved reclamation plan, the applicable reclamation ordinance and Ch. NR 135.

- Gerke Excavating, is estimating **$3,200.00** per acre for reclamation purposes.
- The total amount of financial assurance shall be based on the actual disturbed acreages of land and not on the overall mining area.
- The length of the financial assurance is dictated by the period of time required to establish the post mining land use specified in the mine reclamation plan.
- Any interest from the financial assurance shall be paid to the operator per NR 135.40(4)
- Upon approval the proposed amount, the mining operator shall establish a bond, net worth test, escrow account or an alternate option to cover the financial assurance.

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APPENDIX A

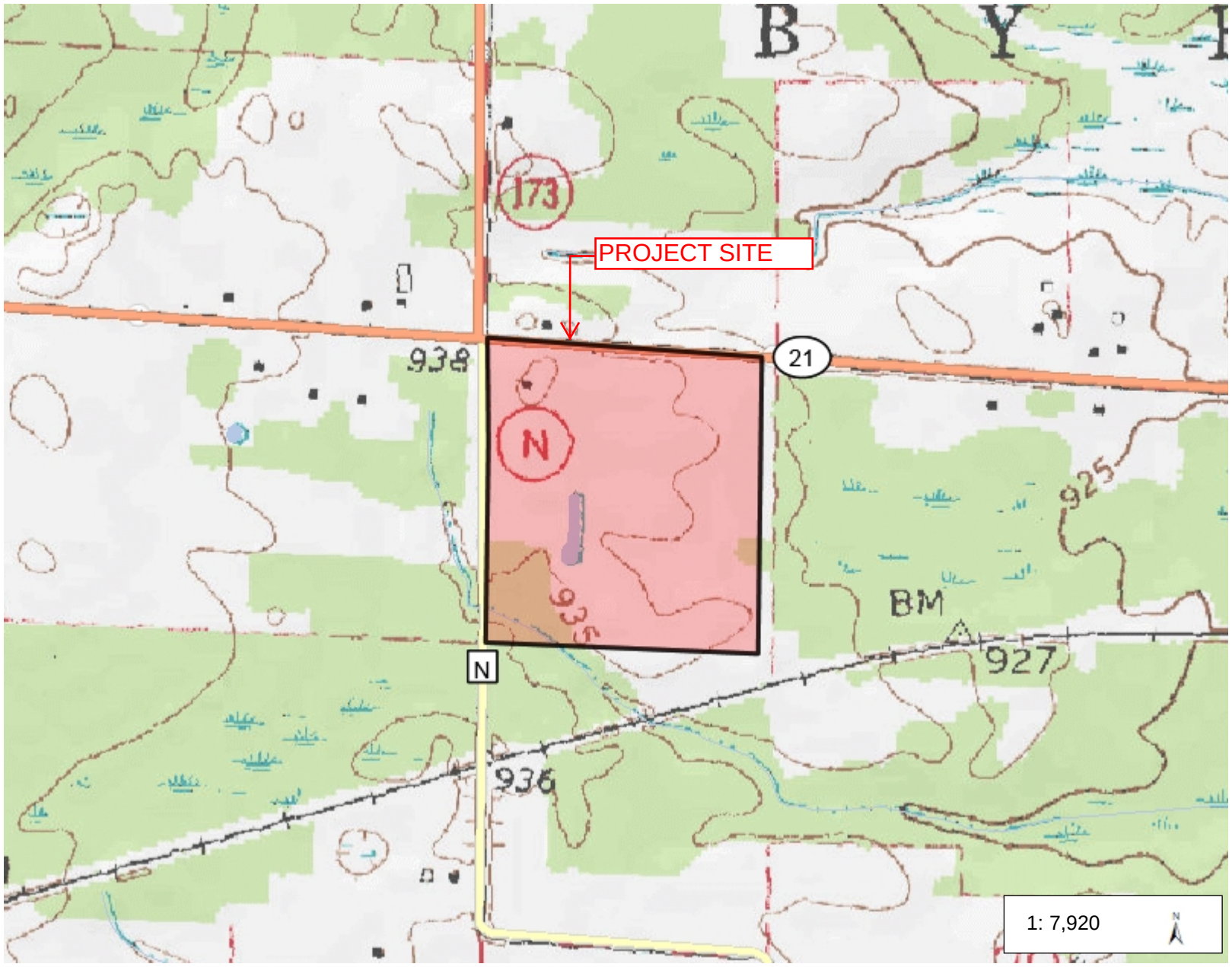
General Maps & Additional Information

Gerke Excavating - Sand Quarry

Town of Byron

Monroe County WI

USGS Topographic Map



Legend

- Rivers and Streams
- Open Water

Notes

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

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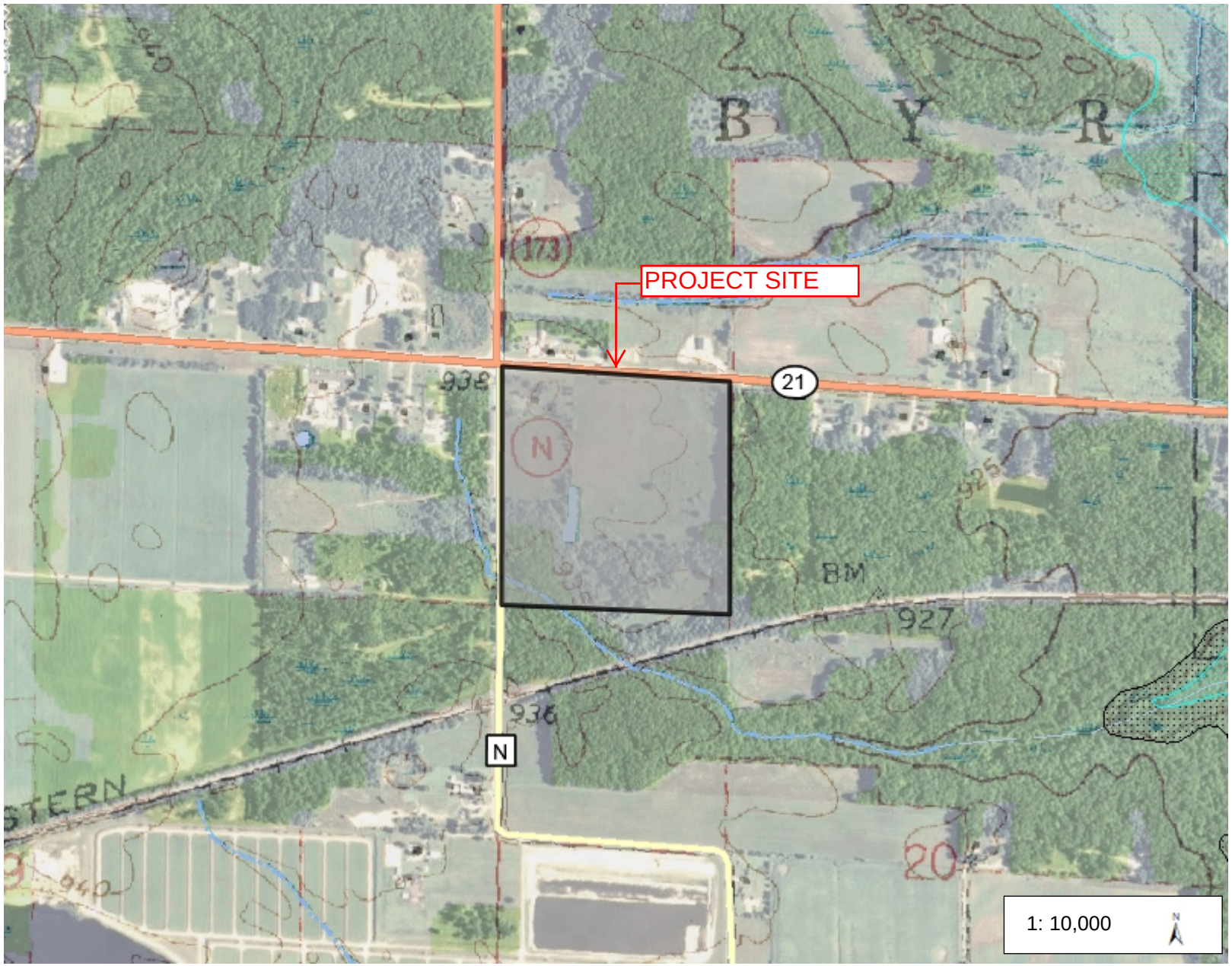
USGS Topographic Map With Aerial



Legend

- 1% Annual Chance Flood Haz
- 0.2% Annual Chance Flood Ha
- Intermittent Streams
- Rivers and Streams
- Open Water
- Air Photo Index (2008 NAIP)

Notes

0.3 0 0.16 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

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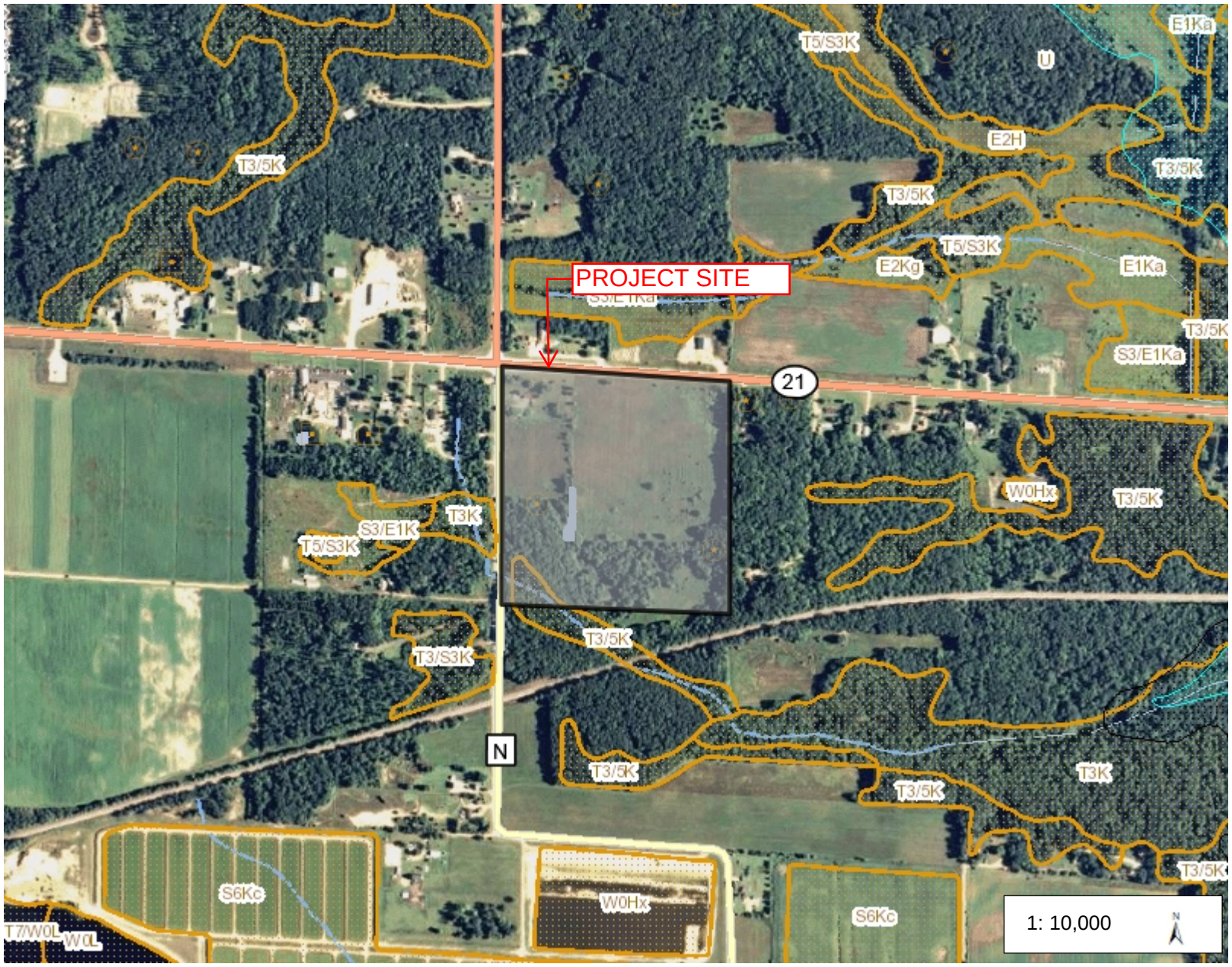
WI DNR Wetlands, Floodplains, & Critical Habitat Areas



Legend

- 1% Annual Chance Flood Haz
- 0.2% Annual Chance Flood Ha
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
- Filled Points
- Wetland Class Areas
  - Wetland
  - Upland
- Filled Areas
- Critical Habitat Areas
  - Other Public Rights Feature
  - Sensitive Area Designation
- Intermittent Streams
- Rivers and Streams
- Open Water
- Air Photo Index (2008 NAIP)

Notes

A3

0.3 0 0.16 0.3 Miles

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WI DNR Fisheries Waters (None Noted)

Legend

Musky Streams
- Natural Reproduction (Cat 1)
- Natural Reproduction Plus Stocking
- Reproduction Unknown, Stocking C

Musky Areas
- Natural Reproduction (Cat 1)
- Natural Reproduction Plus Stocking
- Reproduction Unknown, Stocking C

Sturgeon Streams

Sturgeon Areas

Smallmouth Bass Streams
- Non-Wadable Coarse Substrate
- Non-Wadable Fine Substrate
- Wadable Cool Water
- Wadable Nursery Waters
- Wadable Warm Water

Walleye Waters
- Natural Reproduction Only
- Natural Reproduction and Stocking
- Stocking Plus Natural Reproductior

Trout Stream Lines
- Class 1
- Class 2
- Class 3

Trout Spring Ponds
- Class 1
- Class 2
- Class 3

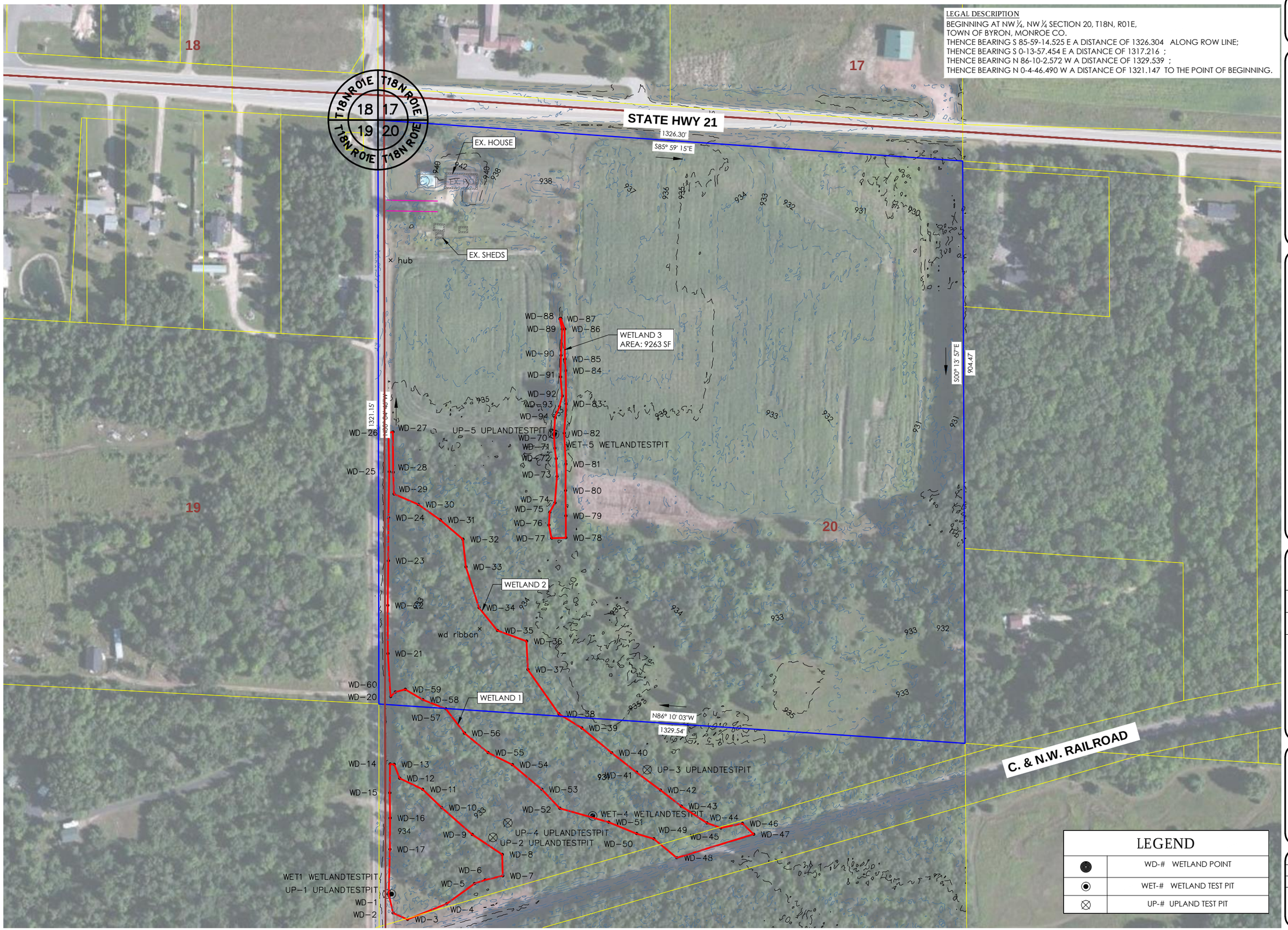
Notes

0.3 0 0.16 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

© Latitude Geographics Group Ltd.

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 aregarding accuracy, applicability for a particular use, completemenss, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/org/legal/



LEGAL DESCRIPTION

BEGINNING AT NW ¼, NW ¼ SECTION 20, T18N, R01E,
TOWN OF BYRON, MONROE CO.
THENCE BEARING S 85-59-14.525 E A DISTANCE OF 1326.304 ALONG ROW LINE;
THENCE BEARING S 0-13-57.454 E A DISTANCE OF 1317.216 ;
THENCE BEARING N 86-10-2.572 W A DISTANCE OF 1329.539 ;
THENCE BEARING N 0-4-46.490 W A DISTANCE OF 1321.147 TO THE POINT OF BEGINNING.

LEGEND

●	WD-# WETLAND POINT
◉	WET-# WETLAND TEST PIT
⊗	UP-# UPLAND TEST PIT

GEC

General Engineering Company

P.O. Box 340 • 916 Silver Lake Dr. • Portage, WI 53901
608-742-2169 (Office) • 608-742-2592 (Fax)
www.generalengineering.net

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PROPERTY BOUNDARY

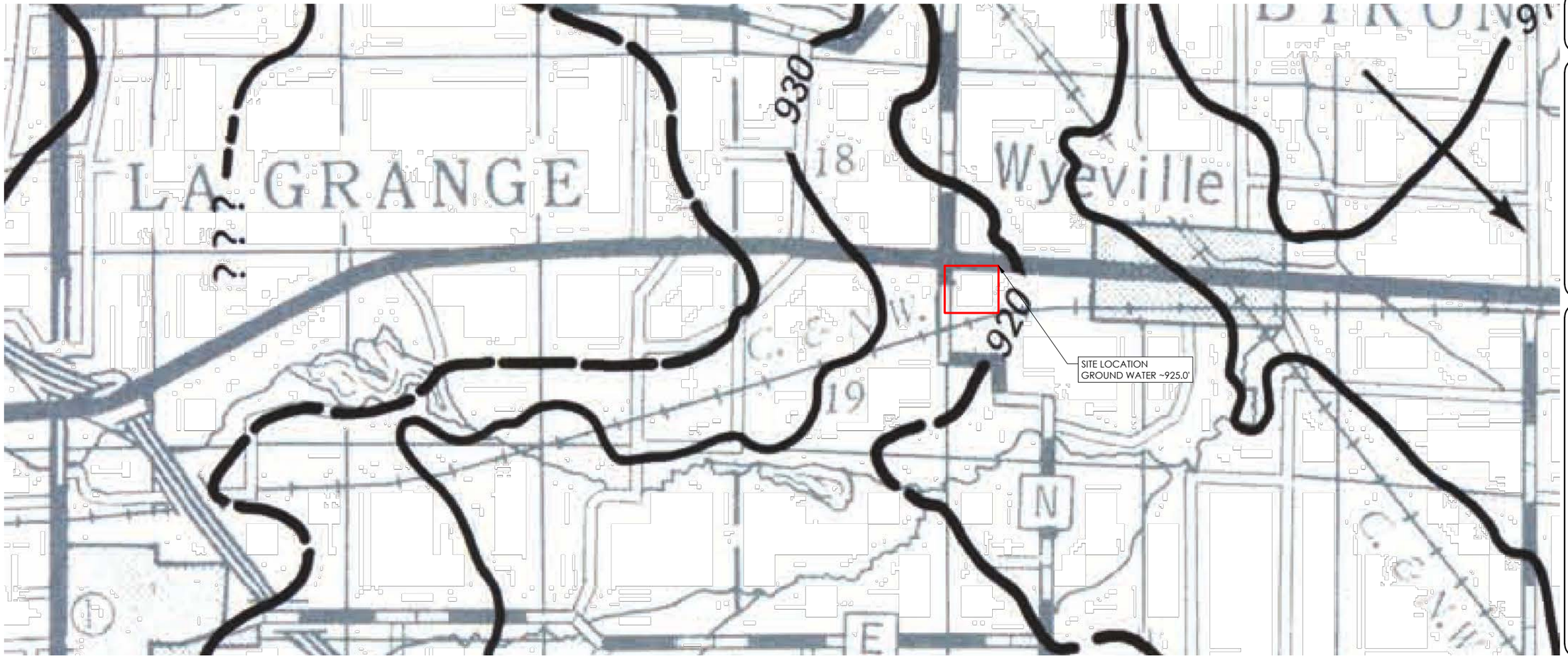
Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

DATE	BY	NO.	REVISIONS

N
W E
S
0 100' 200'
SCALE

DRAWN BY	SSR
DATE	9/12/14
GEC FILE NO.	2-0114-46B
SHEET NO.	A5



WATER TABLE ELEVATION

IRRIGABLE LANDS INVENTORY

PHASE I — GROUND WATER AND RELATED INFORMATION

By:
I.D. LIPPELT

Prepared by:
WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY

Sponsored by:
GOLDEN SANDS RESOURCE CONSERVATION AND DEVELOPMENT AREA

Funded by:
UPPER GREAT LAKES REGIONAL PLANNING COMMISSION

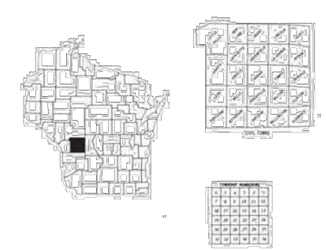
SEPTEMBER 1981

EXPLANATION

- Elevation of water table, 20-ft. interval. Datum is mean sea level
- Areas with 40-ft. interval
- Probable location of water table
- Inferred location of water table
- ? Location of water table unknown, insufficient data
- Half interval, 10-ft.
- Direction of ground-water movement
- Ground-water divide, approximate location
- Probable ground-water divide
- Federal/state lands

Data have not been field checked.

SOURCES:
(a) Well Constructor's Reports (1936-1979) — Wisconsin Department of Natural Resources
(b) Published and unpublished Geologic Logs (1896-present) — Wisconsin Geological & Natural History Survey
(c) USGS Topographic Maps
(d) Water-level observation wells from the Ground-Water Level Monitoring Network operated and maintained by Wisconsin Geological and Natural History Survey and USGS.
(e) Monroe County Land Atlas and Plat Book, 1980, Rockford Map Publishers, Inc.



MONROE CO.
DEPARTMENT OF TRANSPORTATION

SCALE MILES

MAP 6

GEC

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GROUND WATER
Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

REVISIONS	NO.	BY	DATE

SCALE

DRAWN BY	SSR
DATE	9/12/14
GEC FILE NO.	2-0114-46B
SHEET NO.	A6

Hydrologic Soil Group—Monroe County, Wisconsin
(Gerke Excavating - Byron NMM)

Map Scale: 1:3,090 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: http://websoilsurvey.nrcs.usda.gov
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: Monroe County, Wisconsin
Survey Area Data: Version 8, Dec 24, 2013

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

Date(s) aerial images were photographed: Aug 18, 2011—Oct 2, 2011

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.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Monroe County, Wisconsin (WI081)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
596A	Tint sand, lake terrace, 0 to 3 percent slopes	A	4.8	12.3%
1548A	Majik-Ponycreek complex, lake terrace, 0 to 3 percent slopes	C	34.1	87.7%
Totals for Area of Interest			**38.8**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba).

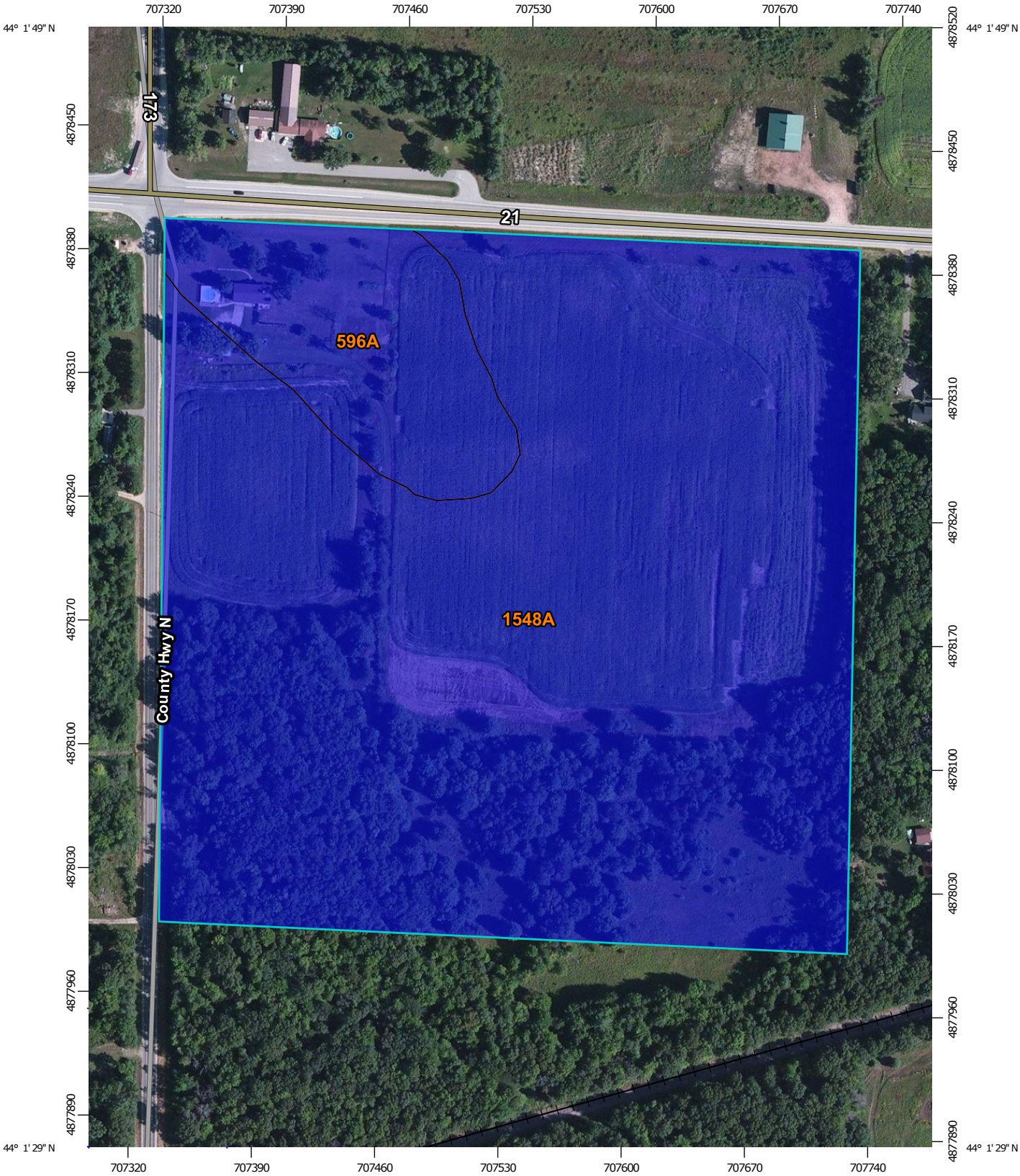
Engineering Properties–Monroe County, Wisconsin														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*Pct*	*Pct*					*Pct*	
596A—Tint sand, lake terrace, 0 to 3 percent slopes														
Tint, lake terrace	93	A	0-9	Sand	SM, SP-SM	A-2-4	0	0	80-100	75-100	55-90	5-15	16-25	1-4
			9-24	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90	1-10	0-19	NP-2
			24-60	Sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0	80-100	75-100	55-90	1-20	0-19	NP-2

Engineering Properties–Monroe County, Wisconsin														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*Pct*	*Pct*					*Pct*	
1548A—Majik-Ponycreek complex, lake terrace, 0 to 3 percent slopes														
Majik, lake terrace	65	C	0-4	Loamy sand	SM, SC-SM	A-2-4	0	0	95-100	90-100	65-90	10-30	20-33	1-6
			4-7	Sand, fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90	5-25	15-23	1-6
			7-29	Sand, fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	60-90	5-25	0-21	NP-4
			29-60	Fine sand, sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-90	1-10	0-19	NP-2
Ponycreek, lake terrace	30	A/D	0-4	Muck	PT	A-8	0	0	100	100	—	—	—	—
			4-6	Mucky sand	SM, SP-SM	A-1-b, A-3	0	0	80-100	75-100	20-70	5-25	37-65	1-4
			6-29	Sand, coarse sand	SM, SP-SM	A-1-b, A-3	0	0	80-100	75-100	20-70	5-25	15-22	1-4
			29-64	Sand, coarse sand	SM, SP-SM	A-1-b, A-3	0	0	80-100	75-100	20-70	5-25	0-19	NP-2

Data Source Information

Soil Survey Area: Monroe County, Wisconsin
Survey Area Data: Version 8, Dec 24, 2013

Depth to Any Soil Restrictive Layer—Monroe County, Wisconsin
(Gerke Excavating - Byron NMM)



Map Scale: 1:3,090 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Rating Points

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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.

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Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

Date(s) aerial images were photographed: Aug 18, 2011—Oct 2, 2011

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.

Depth to Any Soil Restrictive Layer

Depth to Any Soil Restrictive Layer— Summary by Map Unit — Monroe County, Wisconsin (WI081)				
Map unit symbol	**Map unit name**	**Rating (centimeters)**	**Acres in AOI**	**Percent of AOI**
596A	Tint sand, lake terrace, 0 to 3 percent slopes	>200	4.8	12.3%
1548A	Majik-Ponycreek complex, lake terrace, 0 to 3 percent slopes	>200	34.1	87.7%
Totals for Area of Interest			**38.8**	**100.0%**

Description

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

This theme presents the depth to any type of restrictive layer that is described for each map unit. If more than one type of restrictive layer is described for an individual soil type, the depth to the shallowest one is presented. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

Interpret Nulls as Zero: No

BEDROCK GEOLOGY OF WISCONSIN

UNIVERSITY OF WISCONSIN–EXTENSION

Geological and Natural History Survey

APRIL 1981
REVISED 2005

EXPLANATION

DEVONIAN

- D — dolomite and shale

SILURIAN

- Sd — dolomite

ORDOVICIAN

- Om — Maquoketa Formation—shale and dolomite
- Os — Sinnipee Group—dolomite with some limestone and shale
- Osp — St. Peter Formation—sandstone with some limestone shale and conglomerate
- Opc — Prairie du Chien Group—dolomite with some sandstone and shale

CAMBRIAN

- € — sandstone with some dolomite and shale

MIDDLE PROTEROZOIC

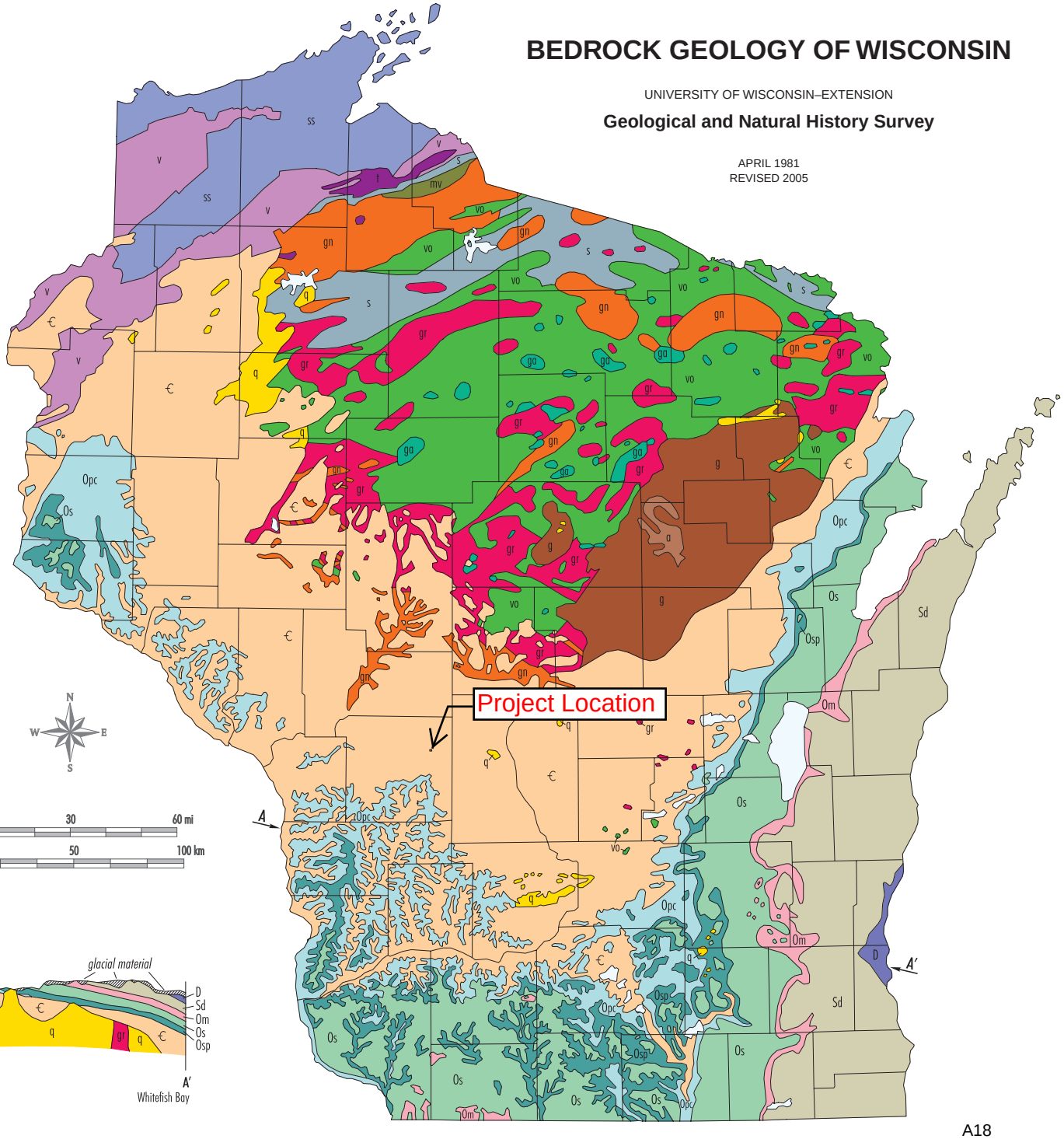
- ss, v, t — Keweenawan rock—
  - ss, sandstone
  - v, basaltic to rhyolitic lava flows
  - t, gabbroic, anorthositic and granitic rock
- g, a — Wolf River rock—
  - g, rapakivi granite, granite, and syenite
  - a, anorthosite and gabbro

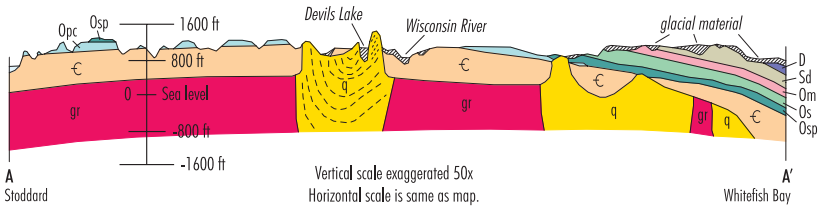
LOWER PROTEROZOIC

- q — quartzite
- gr — granite, diorite, and gneiss
- s, vo, ga
  - s, metasedimentary rock, argillite, siltstone, quartzite, greywacke, and iron formation
  - vo, basaltic to rhyolitic metavolcanic rock with some metasedimentary rock
  - ga, meta-gabbro and hornblende diorite

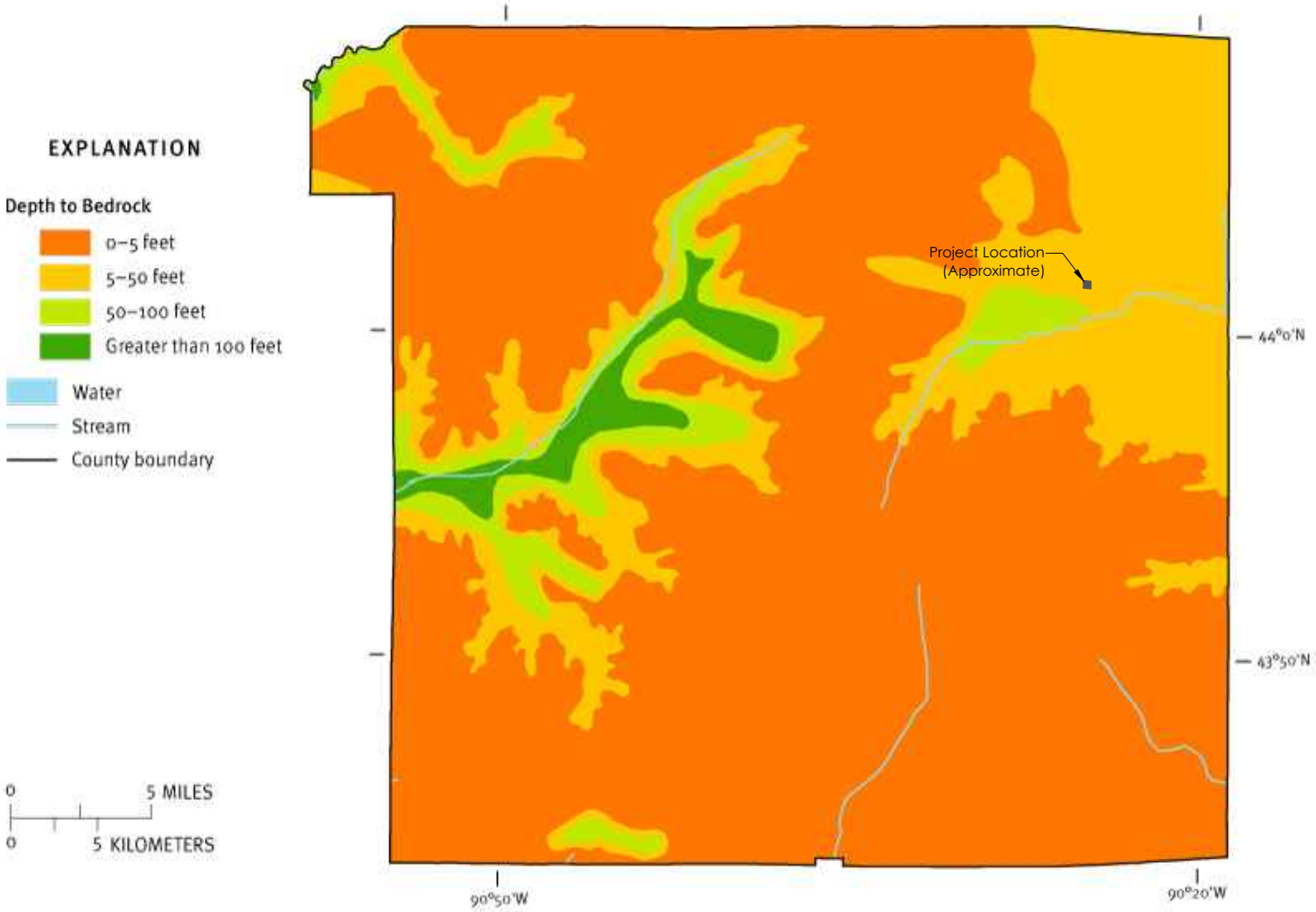
LOWER PROTEROZOIC OR UPPER ARCHEAN

- mv, gn
  - mv, metavolcanic rock
  - gn, granite, gneiss, and amphibolite





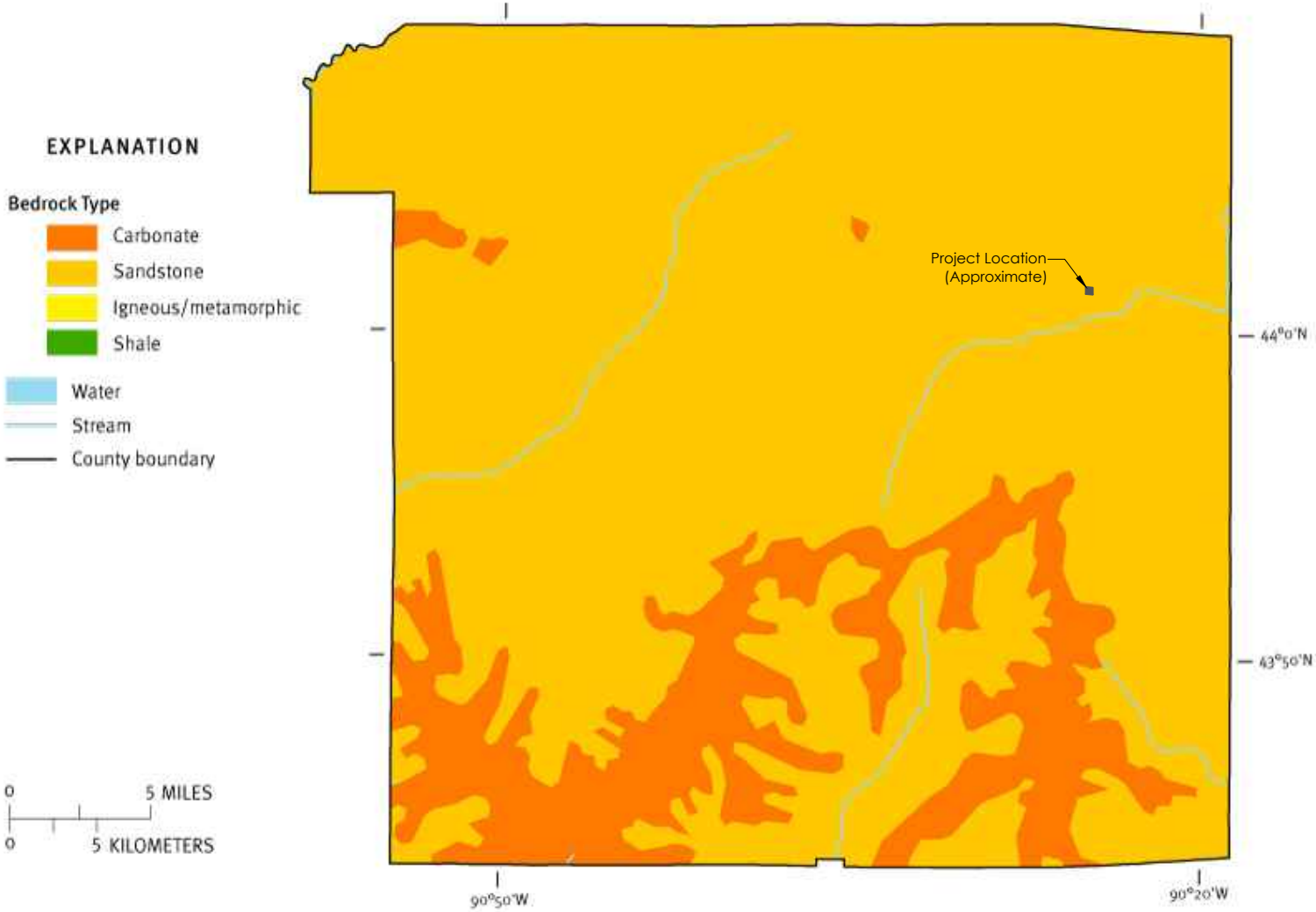
Monroe County – Depth to Bedrock



This resource characteristic map was derived from generalized statewide information at small scales, and cannot be used for any site-specific purposes.

Map source: Schmidt, R.R., 1987, Groundwater contamination susceptibility map and evaluation: Wisconsin Department of Natural Resources, Wisconsin's Groundwater Management Plan Report 5, PUBL-WR-177-87, 27 p.

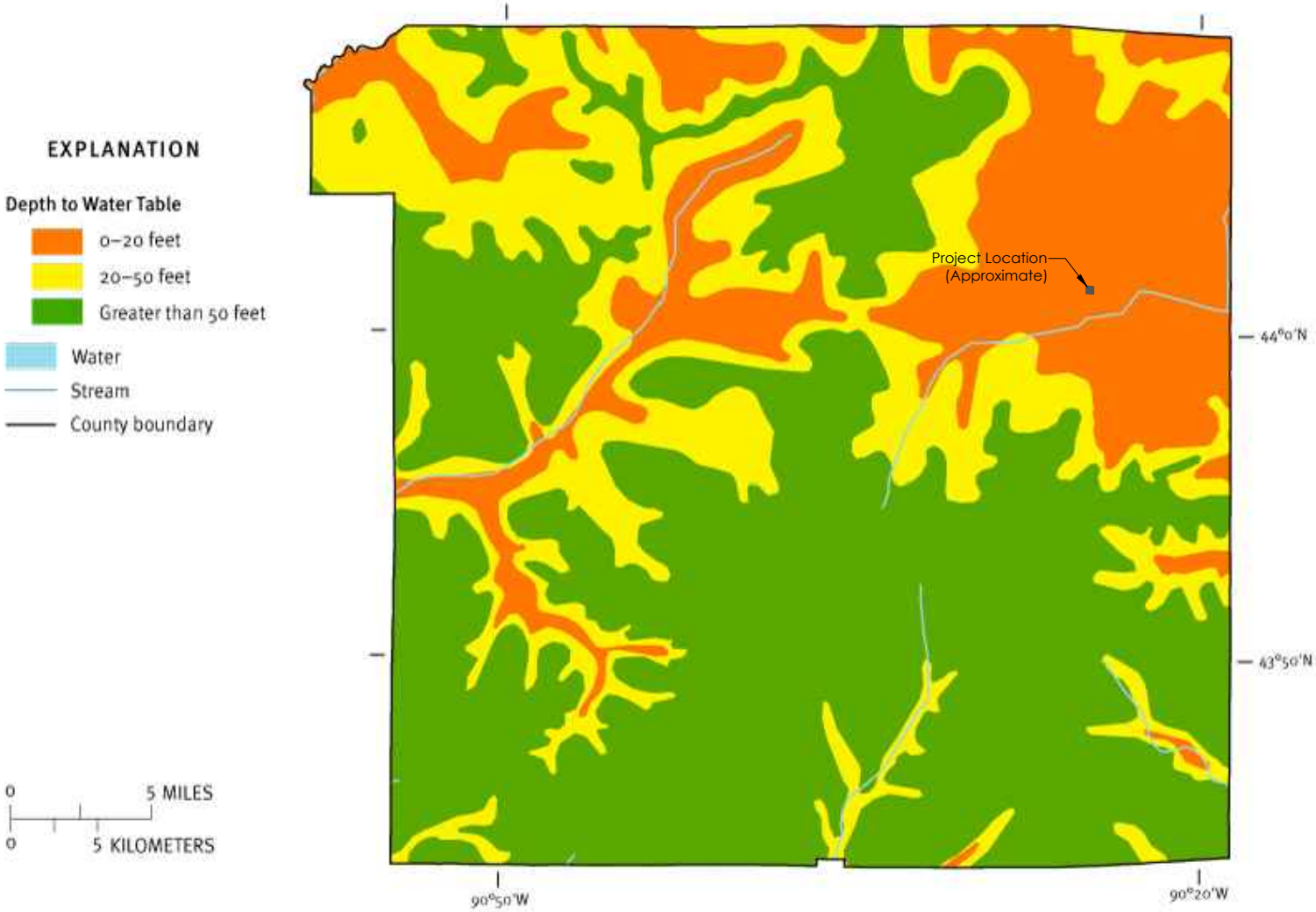
Monroe County – Bedrock Type



This resource characteristic map was derived from generalized statewide information at small scales, and cannot be used for any site-specific purposes.

Map source: Schmidt, R.R., 1987, Groundwater contamination susceptibility map and evaluation: Wisconsin Department of Natural Resources, Wisconsin's Groundwater Management Plan Report 5, PUBL-WR-177-87, 27 p.

Monroe County – Depth to Water Table



This resource characteristic map was derived from generalized statewide information at small scales, and cannot be used for any site-specific purposes.

Map source: Schmidt, R.R., 1987, Groundwater contamination susceptibility map and evaluation: Wisconsin Department of Natural Resources, Wisconsin's Groundwater Management Plan Report 5, PUBL-WR-177-87, 27 p.

Engineers • Consultants • Inspectors

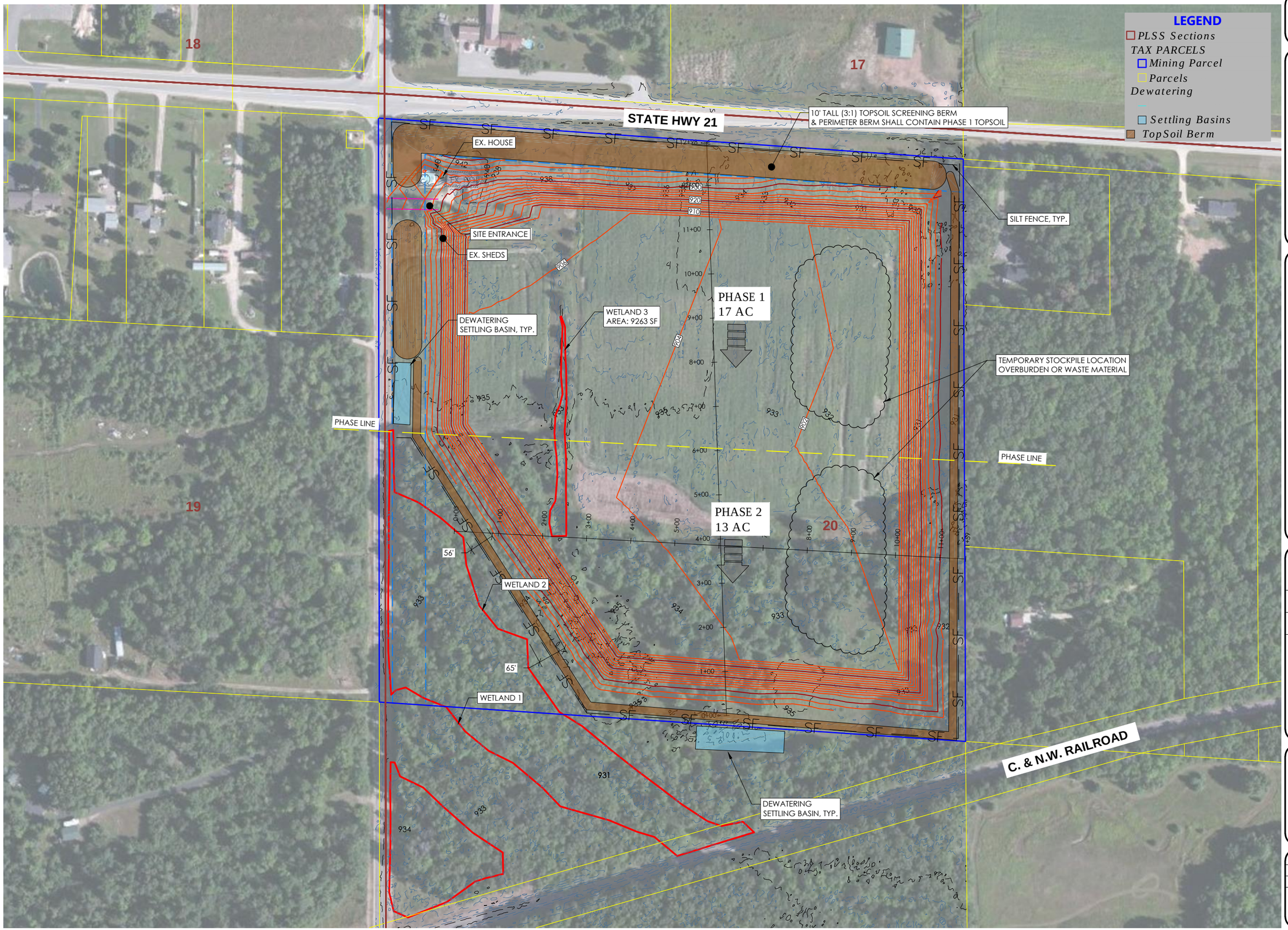
APPENDIX B

Site Specific Maps and Information

Gerke Excavating - Sand Quarry

Town of Byron

Monroe County WI



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General Engineering Company

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MINING PHASES

Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

DATE	BY	NO.	REVISIONS

N
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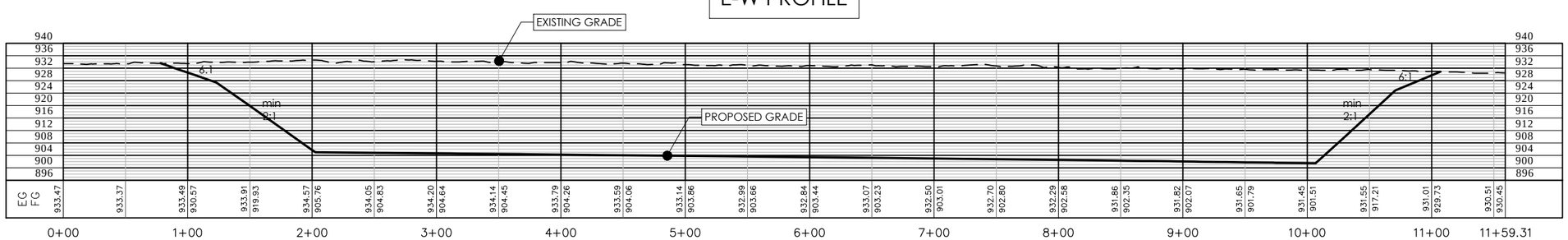
0 100' 200'
SCALE

DRAWN BY	SSR
DATE	9/12/14
GEC FILE NO.	2-0114-468
SHEET NO.	B1.0

E-W PROFILE



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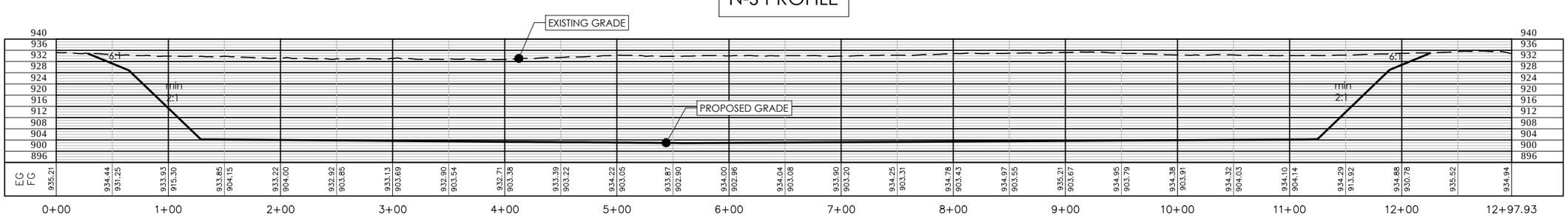

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FINAL GRADING SLOPES

Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

NO.	REVISIONS	BY	DATE

N
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0 100'
50'
SCALE

DRAWN BY	SSR
DATE	9/12/14
GEC FILE NO.	2-0114-46B
SHEET NO.	**B1.1**

CONSTRUCTION SITE EROSION CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. FURNISHING, INSTALLING, MAINTAINING, AND REMOVING EROSION AND SEDIMENT CONTROL FACILITIES AND MEASURES.

B. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL EROSION CONTROL FACILITIES AND MEASURES NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT THE WORK SITE. THESE FACILITIES AND MEASURES MAY OR MAY NOT BE SHOWN ON THE DRAWINGS AND THEIR ABSENCE ON THE DRAWINGS DOES NOT ALLEVIATE THE CONTRACTOR FROM PROVIDING THEM. ANY MEASURES AND FACILITIES SHOWN ON THE DRAWINGS ARE THE MINIMUM ACTIONS REQUIRED.

1.02 REFERENCES

A. WDNR TECHNICAL STANDARDS - SEE DNR WEBSITE @ *http://dnr.state.wi.us/org/water/wm/nps/stormwater/techstds.htm*

B. WISCONSIN DEPARTMENT OF TRANSPORTATION, EROSION CONTROL, PRODUCT ACCEPTABILITY LISTS FOR MULTI-MODAL APPLICATIONS PAL, CURRENT EDITION.

1.03 GENERAL

A. REQUIREMENTS OF WDNR TECHNICAL STANDARDS SHALL BE FOLLOWED AT ALL TIMES.

B. USE SURFACE WATER AND EROSION CONTROL FACILITIES AND MEASURES THROUGHOUT THE DURATION OF THE CONSTRUCTION ACTIVITY TO CONTROL THE MOVEMENT OF SURFACE WATER AND TO REDUCE THE POTENTIAL FOR EROSION. MAINTAIN THE FACILITIES AND MEASURES UNTIL PERMANENT VEGETATION IS ESTABLISHED.

C. ERODED SOIL MATERIAL SHALL NOT BE ALLOWED TO LEAVE THE CONSTRUCTION SITE OR TO ENTER A WATERWAY, LAKE, OR WETLAND.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING THE EROSION CONTROL FACILITIES, AND IN GENERAL, SHALL USE CONSTRUCTION PRACTICES THAT MINIMIZE EROSION.

E. ERODED MATERIAL THAT HAS LEFT THE CONSTRUCTION SITE SHALL BE COLLECTED AND RETURNED TO THE SITE BY THE CONTRACTOR.

F. PREVENT CONSTRUCTION SITE TRACKING WITH GRAVELED ROADS, ACCESS DRIVES, AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC AND PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING (NOT FLUSHING) BEFORE THE END OF EACH WORKDAY.

1.04 SEQUENCING AND SCHEDULING

A. CONSTRUCT AND STABILIZE EROSION CONTROL MEASURES FOR DIVERSIONS OR OUTLETS PRIOR TO ANY GRADING OR DISTURBANCE OF THE CONSTRUCTION SITE.

B. INSTALL FILTER FABRIC AND STRAW BALE FENCES AND BARRIERS PRIOR TO DISTURBING THE AREA.

C. TURF AREAS THAT HAVE BEEN COMPLETED TO FINISH GRADE SHALL BE STABILIZED WITH PERMANENT SEEDING WITHIN SEVEN DAYS. TURF AREAS WHERE ACTIVITY HAS CEASED AND THAT WILL REMAIN EXPOSED FOR MORE THAN 20 DAYS BEFORE ACTIVITY RESUMES AND SOIL STOCKPILES SHALL BE STABILIZED WITH TEMPORARY SEEDING OR SOIL STABILIZER.

D. OTHER EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO DISTURBANCE OF THE CONSTRUCTION SITE, AS APPLICABLE.

PART 2 - PRODUCTS

2.01 SILT FENCE

- FABRIC SHALL BE SHALL A WOVEN OR NONWOVEN POLYESTER, POLYPROPYLENE, STABILIZED NYLON, OR POLYETHYLENE GEOTEXTILE WITH THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	*TEST METHOD*	*REQUIREMENT**
GRAB TENSILE STRENGTH, LBS MIN.	ASTM D 4632	
MACHINE DIRECTION		120
CROSS DIRECTION		100
MAX. APPARENT OPENING SIZE, US SIEVE	ASTM D 4751	NO. 30
PERMITTIVITY, SEC-1, MIN.	ASTM D 4491	0.05
MIN. UV STABILITY AT 500 HRS, %	ASTM D 4355	70%

* MINIMUM OR MAXIMUM AVERAGE ROLL VALUES.

2.02 TEMPORARY SEED

A. AREAS NEEDING PROTECTION DURING PERIODS WHEN PERMANENT SEEDING IS NOT APPLIED SHALL BE SEEDED WITH ANNUAL SPECIES FOR TEMPORARY PROTECTION. PROVIDE SPECIES AS FOLLOWS:

SPECIES	% PURITY
OATS	98
CEREAL RYE	97
WINTER WHEAT	95
ANNUAL RYEGRASS	97

B. PROVIDE OATS FOR SPRING AND SUMMER. PROVIDE CEREAL RYE, WINTER WHEAT, OR ANNUAL RYEGRASS FOR FALL SEEDING.

2.03 EROSION MAT

A. ALL EROSION MAT PRODUCTS SHALL BE OF THE CLASS AND TYPE INDICATED AND SHALL BE CHOSEN FROM THE EROSION CONTROL PRODUCT ACCEPTABILITY LISTS.

B. CLASS I: A SHORT-TERM DURATION (SIX MONTHS OR GREATER), LIGHT DUTY, ORGANIC MAT. NETTING SHALL BE NON-ORGANIC, PHOTODEGRADABLE OR BIODEGRADABLE NETTING. THE WEIGHT OF THE NETTING SHALL NOT EXCEED 15% OF THE TOTAL BLANKET WEIGHT. THE NETTING SHALL BE SUFFICIENTLY BONDED TO THE PARENT MATERIAL TO PREVENT SEPARATION FOR THE LIFE OF THE PRODUCT.
1. TYPE A: A NETTED PRODUCT FOR USE ON SLOPES 2.5 TO 1 OR FLATTER WITH A MINIMUM PRODUCT PERMISSIBLE SHEAR STRESS OF 50 PA (1.0 LBS/FT2). NOT TO BE USED IN CHANNELS.
2. TYPE B: A DOUBLE NETTED PRODUCT FOR USE ON SLOPES 2 TO 1 OR FLATTER OR IN CHANNELS WITH A MINIMUM PRODUCT PERMISSIBLE SHEAR STRESS OF 70 PA (1.5 LBS/FT2).

C. CLASS II: A LONG-TERM DURATION (3 YEARS OR GREATER), ORGANIC MAT. THE WEIGHT OF THE NETTING SHALL NOT EXCEED 15% OF THE TOTAL BLANKET WEIGHT. THE NETTING SHALL BE BONDED SUFFICIENTLY TO THE PARENT MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL FOR THE LIFE OF THE PRODUCT.
1. TYPE A: JUTE FIBER ONLY TO BE USED FOR REINFORCING SOD.
2. TYPE B: FOR USE ON SLOPES 2:1 OR FLATTER, OR IN CHANNELS WITH A MINIMUM PRODUCT PERMISSIBLE SHEAR STRESS OF 95 PA (2.0 LBS/FT2). NON-ORGANIC, PHOTODEGRADABLE, OR BIODEGRADABLE NETTING ALLOWED.
3. TYPE C: FOR USE ON SLOPES 2:1 OR FLATTER, OR IN CHANNELS WITH A MINIMUM PRODUCT PERMISSIBLE SHEAR STRESS OF 95 PA (2.0 LBS/FT2). ONLY 100% ORGANIC FIBERS ALLOWED. WOVEN MATS ARE ALLOWED WITH A MAXIMUM OPENING OF ½ INCH. USE IN ENVIRONMENTALLY SENSITIVE AREAS THAT HAVE A HIGH PROBABILITY OF ENTRAPPING ANIMALS IN THE PLASTIC NETTING.

D. STAPLES: U-SHAPED NO. 11 GAUGE OR GREATER WIRE WITH A SPAN WIDTH OF ONE TO TWO INCHES AND A LENGTH OF NOT LESS THAN 6 INCHES FOR FIRM SOIL AND 12 INCHES FOR LOOSE SOIL.

2.04 SOIL STABILIZER

A. SOIL STABILIZER SHALL BE A POLYACRYLAMIDE (PAM) AND CALCIUM SOLUTION INTENDED TO REDUCE THE ERODIBILITY OF BARE SOILS. THE PRODUCT SHALL ACHIEVE AN 80% REDUCTION IN SOIL LOSS INDUCED BY A TWO INCH PER HOUR RAINFALL SIMULATOR.

B. PAM MIXTURES SHALL BE ENVIRONMENTALLY BENIGN, HARMLESS TO FISH, AQUATIC ORGANISMS, WILDLIFE, AND PLANTS. ONLY ANIONIC PAM WILL BE PERMITTED.

C. ANIONIC PAM, IN PURE FORM SHALL HAVE NO MORE THAN 0.05% FREE ACRYLIC MONOMER BY WEIGHT, AS ESTABLISHED BY THE FOOD AND DRUG ADMINISTRATION AND THE ENVIRONMENTAL PROTECTION AGENCY. THE ANIONIC PAM IN PURE FORM SHALL NOT EXCEED 200 POUNDS PER BATCH.

D. THE PRODUCT PROVIDED SHALL BE LISTED IN THE WISDOT PAL FOR TYPE B SOIL STABILIZER.

2.05 INLET PROTECTION

A. TYPE A: USE AROUND FIELD INLETS UNTIL PERMANENT STABILIZATION METHODS HAVE BEEN ESTABLISHED. USE ON PAVEMENT INLETS PRIOR TO INSTALLATION OF CURB AND GUTTER OR PAVEMENT.

B. TYPE B: USE ON INLETS WITHOUT CURB HEAD AFTER CASTING AND GRATE ARE IN PLACE.

C. TYPE C: USE ON STREET INLETS WITH CURB HEAD.

D. TYPE D: USE IN AREAS WHERE OTHER TYPED OF INLET PROTECTION ARE INCOMPATIBLE WITH ROADWAY AND TRAFFIC CONDITIONS CAUSING POSSIBLE SAFETY HAZARDS WHEN PONDING OCCURS AT INLET.

E. GEOTEXTILE: TYPE FF MEETING THE REQUIREMENTS OF THE LATEST EDITION OF WISDOT PAL.

PART 3 - EXECUTION

3.01 INSTALLATION OF DIVERSIONS

A. TEMPORARY DIVERSIONS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH WDNR CONSERVATION PRACTICE STANDARD, CONSTRUCTION SITE DIVERSION (1066).

3.02 INSTALLATION OF SILT FENCE AND STRAW BALE BARRIERS

A. INSTALL STRAW BALE BARRIERS IN ACCORDANCE WITH THE DRAWINGS AND WDNR CONSERVATION PRACTICE STANDARD, SEDIMENT BALE BARRIER (1055).

B. INSTALL SILT FENCE IN ACCORDANCE WITH THE DRAWINGS AND WDNR CONSERVATION PRACTICE STANDARD, SILT FENCE (1056).

C. SILT FENCE AND STRAW BALE BARRIERS SHALL BE PLACED ON THE CONTOUR TO THE EXTENT PRACTICABLE. PLACE FENCES PARALLEL TO THE SLOPE WITH THE ENDS OF THE FENCE TURNED UPSLOPE A DISTANCE OF ONE TO TWO FEET. THE PARALLEL SPACING SHALL NOT EXCEED THE MAXIMUM SLOPE LENGTHS AS INDICATED IN THE FOLLOWING TABLE:

FENCE AND BARRIER SPACING	
SLOPE	SPACING
<2%	100'
2 - 5%	75'
5 - 10%	50'
10 - 33%	25'
>33%	20'

3.03 TEMPORARY SEEDING

A. PROVIDE A SEEDBED OF LOOSE SOIL TO A MINIMUM DEPTH OF 2 INCHES.

B. APPLY SEED EVENLY AT THE RATE SHOWN IN THE FOLLOWING TABLE. RAKE OR DRAG TO COVER THE SEED TO A DEPTH OF 1/4 INCH.

SPECIES	LBS./ACRE
OATS	131
CEREAL RYE	131
WINTER WHEAT	131
ANNUAL RYEGRASS	80

3.04 EROSION MAT INSTALLATION

A. REMOVE STONES, CLODS, STICKS, OR OTHER FOREIGN MATERIAL THAT WOULD DAMAGE THE MAT OR INTERFERE WITH THE MAT BEARING COMPLETELY ON THE SURFACE.

B. INSTALL EROSION MAT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

C. AFTER SEEDING HAS BEEN COMPLETED, ROLL BLANKETS OUT PARALLEL TO THE DIRECTION OF WATER FLOW, WITH THE NETTING ON TOP. SPREAD THE BLANKETS WITHOUT STRETCHING, MAKING SURE THE FIBERS ARE IN CONTACT WITH THE SOIL. OVERLAP ADJACENT STRIPS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. OVERLAP STRIP ENDS A MINIMUM OF 10 INCHES WITH THE UPGRADE STRIP ON TOP. BURY THE UPGRADE END OF EACH STRIP IN A VERTICAL TRENCH AT LEAST 6 INCHES DEEP.

D. STAPLE THE MAT STRIPS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. STAPLE LONGITUDINAL OVERLAPS AND OUTER EDGES AT MAXIMUM INTERVALS OF 3 FEET. STAPLE STRIP ENDS AT MAXIMUM INTERVALS OF 16 INCHES. PLACE STAPLES THROUGHOUT THE MAT AT MAXIMUM 3-FOOT INTERVALS. INSERT STAPLES FLUSH WITH THE GROUND SURFACE.

3.05 SOIL STABILIZER

A. THE MANUFACTURER SHALL PROVIDE DETAILED WRITTEN INSTRUCTIONS ON THE STORAGE, MIXING, AND APPLICATION PROCEDURES.

B. THE SOIL STABILIZER MAY BE APPLIED BY SPRAYING OR BY DRY SPREADING.

C. APPLICATION RATES: APPLY AT THE RATE RECOMMENDED BY THE MANUFACTURER.

D. DO NOT APPLY WITHIN 30 FEET OF BODY OF WATER (I.E. LAKE, RIVER, STORMWATER POND).

3.06 DITCH EROSION CONTROL

A. THE FOLLOWING EROSION CONTROL MEASURES ARE MINIMUM REQUIREMENTS FOR ALL DITCHES. THE DRAWINGS MAY INCLUDE MORE SPECIFIC MEASURES.

DITCH EROSION CONTROL		
SLOPE RANGE	METHOD	BALE CHECKS
0 - 1%	SEED AND MULCH	NONE
1% - 4%	SEED AND MULCH WITH EROSION MAT	1% - 2%; EVERY 200' 2% - 4%; EVERY100'
4% - 6%	STAKED SOD	EVERY 75'
>6%	STAKED SOD AND/OR RIPRAP AS SPECIFIED BY ENGINEER ON DRAWINGS	EVERY 75' FOR SOD

B. STONE DITCH CHECKS: UNLESS OTHERWISE INDICATED ON THE DRAWINGS, INSTALL STONE DITCH CHECKS AT INTERVALS OF ONE DITCH CHECK FOR EVERY TWO FEET OF DROP IN CHANNEL GRADE.

3.07 INSTALLATION OF SOD IN DITCHES

A. LAY SOD SO THAT JOINTS OF ABUTTING ENDS OF STRIPS ARE NOT CONTINUOUS. LAY EACH STRIP SNUGLY AGAINST PREVIOUSLY LAID STRIPS.

B. ROLL OR FIRMLY TAMP SOD TO PRESS THE SOD INTO THE UNDERLYING SOIL.

C. TURN THE UPPER EDGES OF THE STRIPS INTO THE SOIL.

D. STAKE STRIPS ALONG THE LONGITUDINAL AXIS AT 18-INCH INTERVALS AND NEAR THE TOP EDGE OF THE STRIP. PROVIDE WOOD LATH OR SIMILAR STAKES, 12 INCHES LONG. LEAVE TOP OF STAKE APPROXIMATELY 1/2 INCH ABOVE SOD SURFACE.

3.08 INSTALLATION OF OTHER FACILITIES

A. INLET PROTECTION BARRIERS, CHANNEL STABILIZATION, GRASSED WATERWAYS, ROCK LINED WATERWAYS, SEDIMENTS TRAPS, SEDIMENT BASINS, AND OTHER FORMS OF EROSION CONTROL MEASURES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH WDNR *TECHNICAL STANDARDS*.

3.09 MAINTENANCE

A. INSPECT DIVERSIONS WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING PERIODS OF PROLONGED RAINFALL, UNTIL THE VEGETATIVE COVER IS STABILIZED. MAKE NECESSARY REPAIRS IMMEDIATELY.

B. INSPECT FILTER FABRIC FENCES AND BARRIERS WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING PERIODS OF PROLONGED RAINFALL. NECESSARY REPAIRS OR REPLACEMENT SHALL BE MADE IMMEDIATELY. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS REACH ONE-HALF THE HEIGHT OF THE FENCE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR REPLACING FABRIC DUE TO WEATHERING.

C. INSPECT STRAW BALE FENCES AND BARRIERS WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING PERIODS OF PROLONGED RAINFALL. NECESSARY REPAIRS OR REPLACEMENT SHALL BE MADE IMMEDIATELY. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS REACH ONE-THIRD THE HEIGHT OF THE BALES. REPLACE BALES AFTER THREE MONTHS.

D. INSPECT ALL SEEDING, SOD, MULCHES, MATS AND NETS WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING PERIODS OF PROLONGED RAINFALL. ADDITIONAL MULCH, NETTING OR MATTING SHALL BE APPLIED IMMEDIATELY WHEN NECESSARY TO MAINTAIN SUITABLE COVERAGE. MAKE INSPECTIONS UNTIL VEGETATIVE COVER IS ESTABLISHED. WATER SEEDING AND SOD WHEN NECESSARY TO PROMOTE ESTABLISHMENT.

E. ALL OTHER SOIL EROSION CONTROL MEASURES SHOULD BE INSPECTED AND REPAIRED IMMEDIATELY, IF REQUIRED, WITHIN 24 HOURS AFTER STORM EVENT OR DAILY DURING PERIODS OF PROLONGED RAINFALL.

3.10 REMOVAL

A. AFTER FINAL VEGETATION IS ESTABLISHED, REMOVE BALES, SILT FENCES, *DITCH CHECKS*, *DIVERSIONS*, AND OTHER EROSION CONTROL FACILITIES. RESTORE AREAS DISTURBED BY THE REMOVALS.

3.11 MONITORING FOR WPDES PERMIT

A. UNLESS INDICATED OTHERWISE WITHIN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MONITORING REQUIREMENTS OF THE WPDES PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

B. EROSION AND SEDIMENT CONTROLS SHALL BE ROUTINELY INSPECTED AT LEAST EVERY SEVEN DAYS, AND WITHIN 24 HOURS AFTER A PRECIPITATION EVENT OF 0.5 INCHES OR GREATER. WEEKLY WRITTEN REPORTS OF ALL INSPECTIONS SHALL BE MAINTAINED AND SUBMITTED TO THE ENGINEER. THE REPORTS SHALL CONTAIN THE FOLLOWING INFORMATION:
1. DATE, TIME, AND EXACT PLACE OF INSPECTION.
2. NAME(S) OF INDIVIDUAL(S) PERFORMING INSPECTION.
3. AN ASSESSMENT OF THE CONDITION OF EROSION AND SEDIMENT CONTROLS.
4. A DESCRIPTION OF ANY EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE PERFORMED.
5. A DESCRIPTION OF THE SITES PRESENT PHASE OF CONSTRUCTION.

C. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH THE APPROPRIATE DNR FORM TO USE FOR THE INSPECTIONS.

SPECIFICATIONS

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EROSION CONTROL SPECS
Sand Quarry
Gerke Excavating

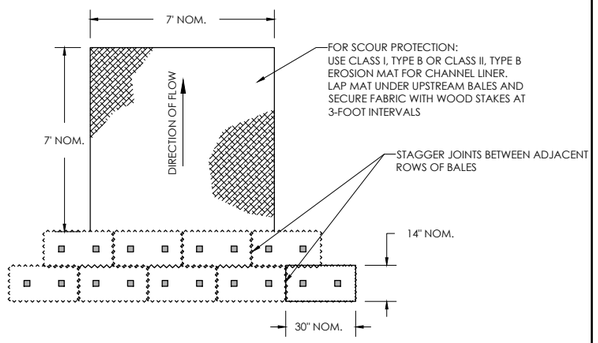
Town of Byron
Monroe County, WI

REVISIONS	NO.	BY	DATE

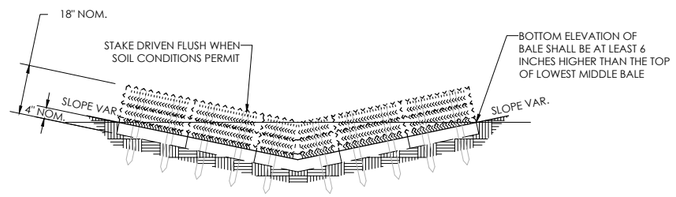
SCALE

DRAWN BY SSR
DATE 9/11/14
GEC FILE NO. 2–0114–46B
SHEET NO.

B2.0

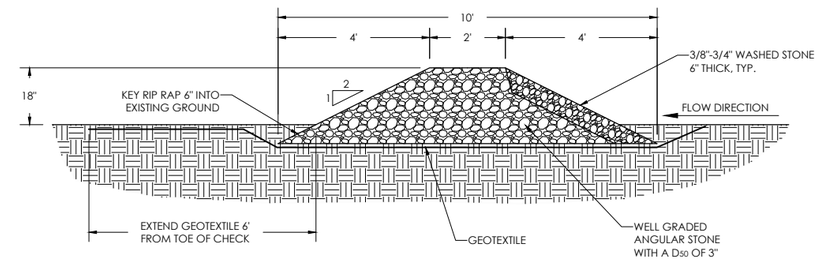


PLAN

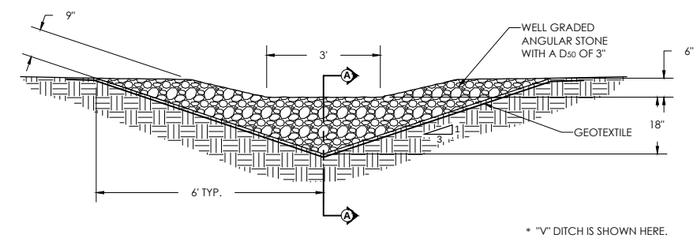


SECTION

EROSION BALE FOR CHANNEL FLOW



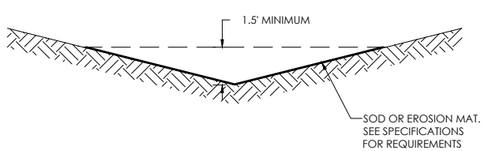
SECTION A-A



* "V" DITCH IS SHOWN HERE.
SEE CIVIL PLANS FOR DITCH SECTION.

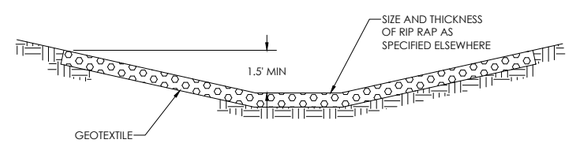
DITCH SECTION *

STONE DITCH CHECK

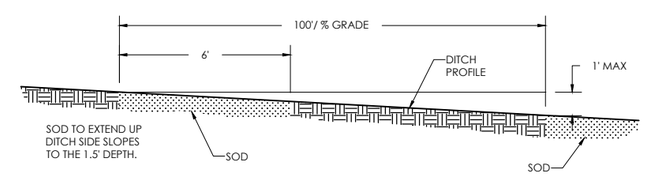


SECTION

DITCH EROSION CONTROL



TYPICAL RIP RAP IN DITCH



SOD DITCH CHECKS

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EROSION CONTROL DETAILS

Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

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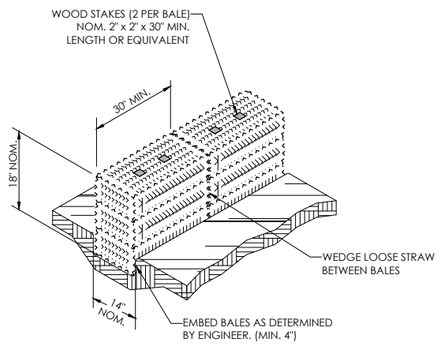
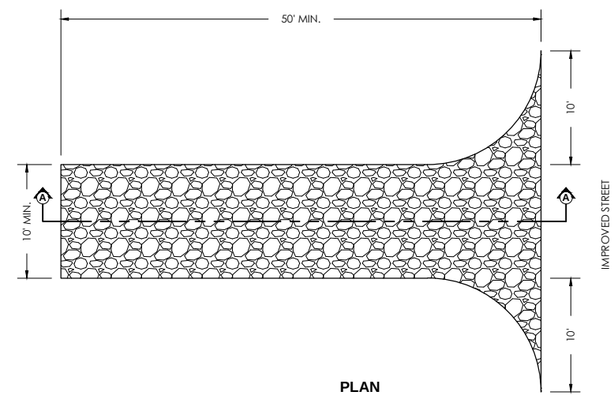


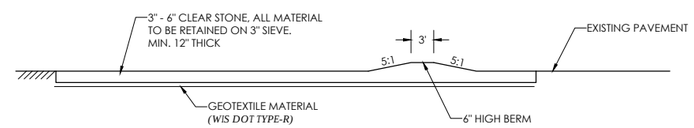
NOTE: ALL DIMENSIONS ARE APPROXIMATE.

EROSION BALE INSTALLATION



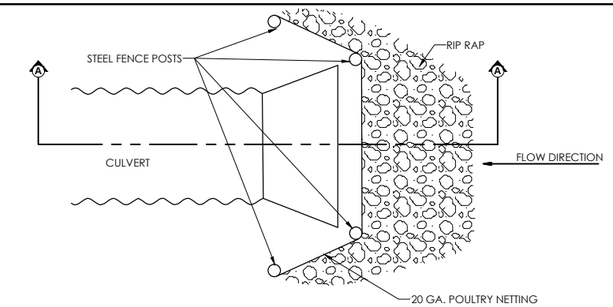
PLAN

NOTE:
MAINTAIN THE ROCK ENTRANCE TO
PREVENT TRACKING ONTO PAVEMENT



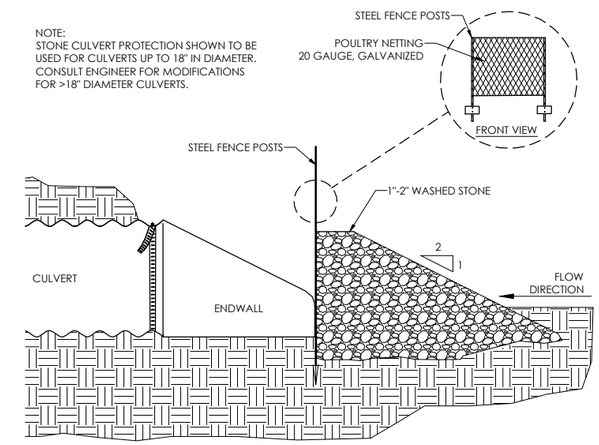
SECTION A-A

ROCK CONSTRUCTION ENTRANCE



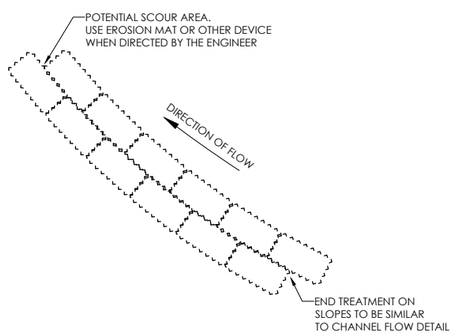
PLAN

NOTE:
STONE CULVERT PROTECTION SHOWN TO BE
USED FOR CULVERTS UP TO 18" IN DIAMETER.
CONSULT ENGINEER FOR MODIFICATIONS
FOR >18" DIAMETER CULVERTS.



SECTION A-A

STONE CULVERT PROTECTION

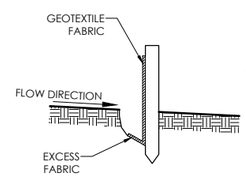


PLAN

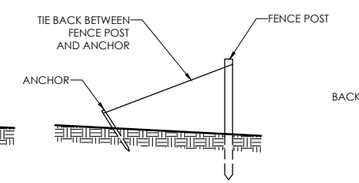
EROSION BALE WHEN ALTERING FLOW DIRECTION

NOTES:

1. HORIZONTAL BRACE WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POST AS DIRECTED BY THE ENGINEER.
2. TRENCH SHALL BE A MINIMIUM OF 4" WIDE BY 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC, FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH AND COMPACT WITH EXCAVATED SOIL.
3. WOOD POST SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.

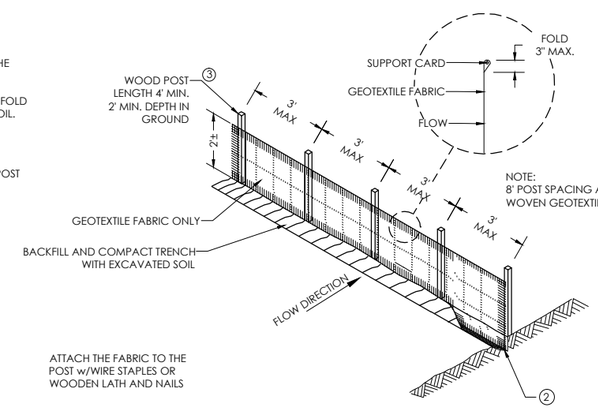


TRENCH DETAIL



TIE BACK DETAIL

WHEN REQUIRED BY ENGINEER



NOTE:
8' POST SPACING ALLOWED IF A
WOVEN GEOTEXTILE FABRIC IS USED.

ATTACH THE FABRIC TO THE
POST w/WIRE STAPLES OR
WOODEN LATH AND NAILS

SILT FENCE

GEC

General Engineering Company

P.O. Box 340 • 916 Silver Lake Dr. • Portage, WI 53901
608-742-2169 (Office) • 608-742-2592 (Fax)
www.generalengineering.net

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EROSION CONTROL DETAILS

Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

DATE	BY	NO.	REVISIONS

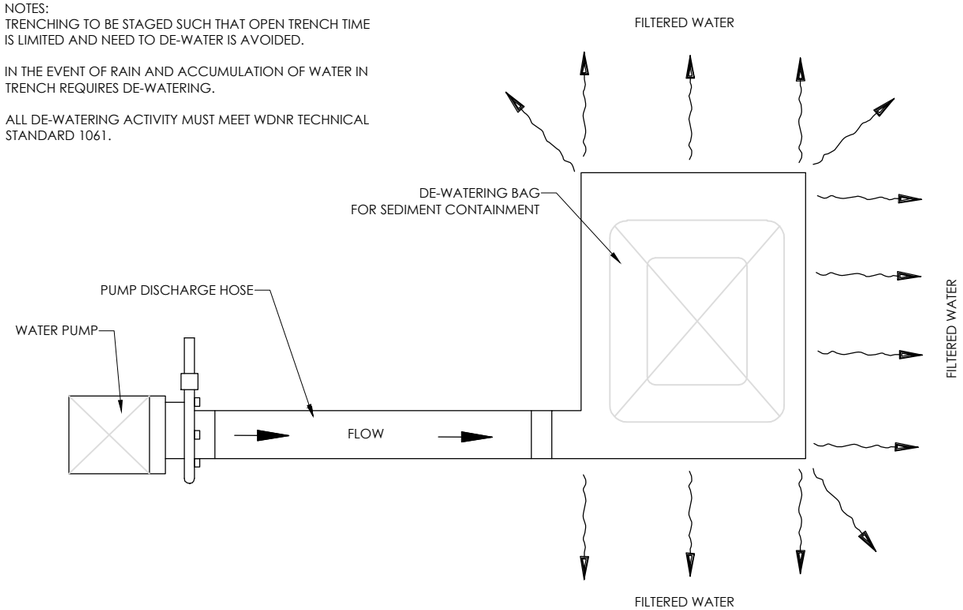
AS NOTED
SCALE

DRAWN BY	SSR
DATE	9/11/14
GEC FILE NO.	2-0114-46B
SHEET NO.	B2.2

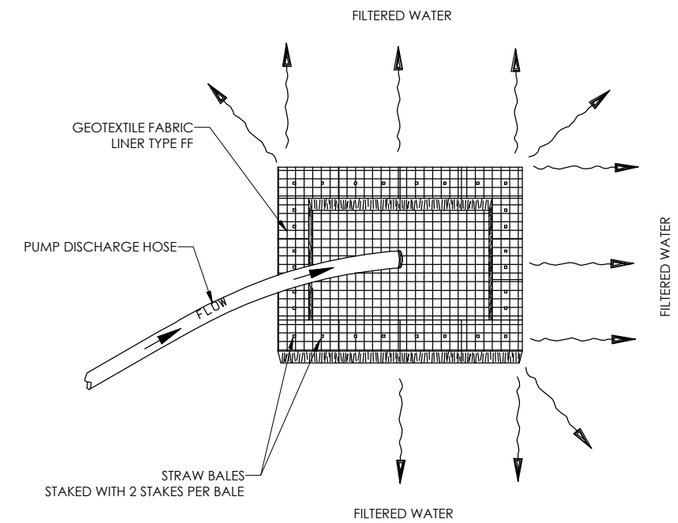
NOTES:
TRENCHING TO BE STAGED SUCH THAT OPEN TRENCH TIME IS LIMITED AND NEED TO DE-WATER IS AVOIDED.

IN THE EVENT OF RAIN AND ACCUMULATION OF WATER IN TRENCH REQUIRES DE-WATERING.

ALL DE-WATERING ACTIVITY MUST MEET WDNR TECHNICAL STANDARD 1061.



NOTES:
DE-WATERING BASIN SHALL BE CONSTRUCTED ON STABILIZED GROUND AND SHALL BE MONITORED FOR EROSION AND EVIDENCE OF SEDIMENT LEAVING BASIN. DE-WATERING BASIN SHALL BE CONSTRUCTED TO AN APPROPRIATE SIZE SO OVER TOPPING WILL NOT OCCUR.



TEMPORARY SETTLING BASIN
WISDOT EROSION CONTROL

SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW

BASIN STORAGE VOLUME (CUBIC FEET) = 16 X GPM (PUMP FLOW RATE)

EXAMPLE:
ESTIMATED PUMP RATE OF 500GPM
HEIGHT OF BALES = 1.5 FT

SOLUTION:
VOLUME = 500 X 16 = 8,000CF
AREA = 8,000/1.5 = 5,333SF
USE 75FT X 72FT BASIN

GEC

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DE-WATERING DETAIL
Sand Quarry
Gerke Excavating

Town of Byron
Monroe County, WI

REVISIONS	NO.	BY	DATE

SCALE

DRAWN BY	SSR
DATE	9/12/14
GEC FILE NO.	2-0114-46B
SHEET NO.	B2.3

NONMETALLIC MINING RECLAMATION
Town of Byron
Monroe County, Wisconsin

SEED MIX SPECIFICATION

MIX 3 – NATIVE MIX FOR WILDLIFE/PASSIVE RECREATION

Grasses, sedges and similar plants

Common Name	Scientific Name	pounds per acre
Big Bluestem	*Andropogon gerardi*	1
Canada Wild Rye	*Elymus canadensis*	3
Switchgrass	*Panicum virgatum*	1
Indiangrass	*Sorghastrum nutans*	3
		Total: 8 pounds

Forbs and legumes

Common Name	Scientific Name	ounces per acre
Purple Prairie Clover	*Dalea purpurea*	2
Canada Tick-trefoil	*Desmodium canadensis*	5
New England Aster	*Aster novae-angliae*	0.2
Purple cone flower	*Echinacea purpurea*	4
Dotted Mint	*Monarda punctata*	4
Bergamot	*Monarda fistulosa*	5
Yellow coneflower	*Ratibida pinnata*	3
Blackeyed Susan	*Rudbeckia hirta*	0.5
Blue Vervain	*Verbena hastada*	1
		Total: 24.5 oz

MIX 4 – WET SOILS/POND EDGE/WEDLAND AREA

Common Name	Scientific Name	quality per acre
Canada Wild Rye	*Elymus canadensis*	3 lbs
Switchgrass	*Panicum virgatum*	1 lbs
Timothy	*Phleum pratense*	2 lbs
Blue Joint Grass	*Calamagrotis canadensis*	3.2 oz
Annual oats	*Avena sativa*	8 lbs
Alsike clover	*Trifolium hybridum*	1 lbs
Red clover	*Trifolium repens*	1 lbs
Culver's root	*Veronicastrum virginicum*	2 oz
Canada Tick-trefoil	*Desmodium canadensis*	5 oz
Blackeyed Susan	*Rudbeckia hirta*	0.2 oz
Smooth Aster	*Aster laevis*	2 oz
New England Aster	*Aster novae-angliae*	0.6 oz
Joe pye weed	*Eupatorium maculatum*	1 oz
		Total: 17 lbs per acer

Engineers • Consultants • Inspectors

APPENDIX C

Monroe County Nonmetallic Mining Permit Application

Gerke Excavating - Sand Quarry

Town of Byron

Monroe County WI

Monroe County
Land Conservation Department
820 Industrial Drive, Suite 3
Sparta WI 54656
(608) 269-8976

APPLICATION FOR
RECLAMATION PERMIT FOR NEW OR
REOPENED NMETALLIC MINING SITES
Form NM-02 Date - 1/14

PLEASE COMPLETE ALL INFORMATION ON THIS APPLICATION. PRINT OR TYPE. Use of this form is required for any nonmetallic mining reclamation permit application filed pursuant to Chapter NR 135, Wis. Adm. Code. Monroe County will not consider your application unless you complete and submit all information required by this application form.

1. **Applicant/Operator**
Gerke Excavating
Address
15341 State Highway 131
City, State, Zip Code
Tomah, WI 54660
Telephone No. (Include area code)
608-372-4203

2. **Property Owners/Lessors (if different from Applicant/Operator)**
Gerke Excavating
Address
15341 State Highway 131
City, State, Zip Code
Tomah, WI 54660
Telephone No. (Include area code)

(Additional owner/lessor information can be submitted on separate sheet)

3. **Property Description: Provide the complete legal description of the property on which the mine is located (example: N ½ , NE ¼, Section 3, T29N, R6E)**

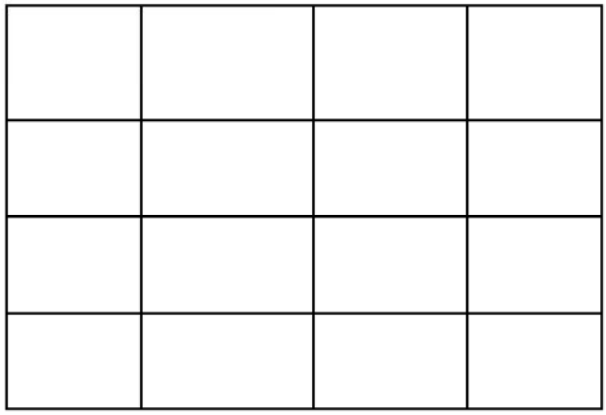
Town, City, Village of Town of Byron, County of MONROE
Tax Parcel Number 006-00503-0000
Total Site Acreage 40

4. **General Location Map - draw the location of the site on the section map below. Include roads and any other pertinent information and label ¼ ¼ section points. Alternatively, attach a plat map, topographic map or other map of sufficient detail to enable access to the site by public roads**

SEE A1.4

N

W



E

S

5. **Project Information: Please provide a brief description of the general location (including surrounding land use) and the nature of the nonmetallic mine (type of deposit, proposed frequency and expected duration of mining activity).**

See attached maps A1.0-A1.4
Surrounding land use is farm fields/ cranberry marshes, rail road, woods
deposit: sand
frequency: daily operations
duration of mining: 10 years

6. Reclamation Plan: A reclamation plan conforming to s. NR 135.19, Wis. Adm. Code must be submitted with this permit application, including any previous regulatory approvals so long as they meet the reclamation standards of subch. II of NR 135 as allowed under ss. NR 135.21(1)(d) and (e), Wis. Adm. Code.

I hereby certify, as a duly authorized representative or agent, that the operator, Gerke Excavating (name of operator), will provide, as a condition of the reclamation permit, financial assurance as required by s. NR 135.40, Wis. Adm. Code, upon granting of the reclamation permit and before mining begins.

I also certify that, if applicable, the land owner or lessor has been provided with a copy of the reclamation plan as required by s. NR 135.19(6)(b), Wis. Adm. Code and a signed certification from the landowner indicating their concurrence with the reclamation is attached to this application.

Signature of Applicant or Duly Authorized Agent _____ Date Signed _____

7. Fees:

Acres currently undisturbed that will be activated January 1, 2014 through December 31, 2014 17

Total fee, (includes DNR fee) (see table below) = $740.00

I hereby certify that the information contained herein is true and accurate. I also certify that I am entitled to apply for a permit, or that I am the duly authorized representative or agent of an applicant who is entitled to apply for a permit.

Signature of Applicant or Duly Authorized Agent _____ **Date Signed** _____

2014 FEE SCHEDULE

Mine Size, Unreclaimed Acres	2014 Monroe Co. Fee	Wisconsin DNR's Annual Fee	Total Annual Fee 2014
1 to 5 acres	$150	$35	$185
6 to 10 acres	$300	$70	$370
11 to 15 acres	$450	$105	$555
16 to 25 acres	$600	$140	$740
26 to 50 acres	$700	$160	$860
51 acres or larger	$750	$175	$925

MAKE CHECKS PAYABLE TO: MONROE COUNTY LAND CONSERVATION DEPT.

LEAVE BLANK - FOR RECEIVING AGENCY USE ONLY

Permit No.	**Date Received** **Date Application Was Complete**
Date Reclamation Plan Received: **Received By:**	**Date Financial Assurance Received:** **Received By:** **Amount**