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Monday, July 22, 2013

Mr. Peter Stoltman
Zoning Technician / Inspector
Buffalo County
407 South 2nd Street
P.O. Box 492
Alma, WI 54610

VIA EMAIL
peter.stoltman@buffalocounty.com

Re: Conditional Use Permit Application
Badger Bluff Sands LLC Mine Site
Town of Waumandee, Buffalo County, Wisconsin

Dear Mr. Stoltman:

This Conditional Use Permit (CUP) Application is being submitted on behalf of Badger Bluff Sands LLC for a proposed non-metallic mine and wet processing facility to be located in the Town of Waumandee. The Reclamation Plan is in the process of being completed and will be submitted to the County following review and approval of the CUP Application by the Township and County Highway Department.

Please contact us if you have any questions / comments or require additional information.

Sincerely,

Sharon J. Masek

Sharon Masek, P.G., P.H.
Hydrogeologist

Enclosure

C: Kevin Rich, Badger Bluff Sands LLC

Application for a Conditional Use Permit for Non-metallic Mineral Mining

(Grayed areas are for Land Resource Staff)

The undersigned applies for a conditional use permit to do work herein described and located as shown in the site maps. The undersigned agrees that all work will be done in accordance with the Buffalo County Zoning Ordinance and all other applicable ordinances of the County of Buffalo and all laws of the State of Wisconsin, applicable to said premises and with the information therein:

Date of Application: July 22, 2013 Permit Issue # _____ - _____

Application received by: _____ (staff signature). Date _____

Complete all Information as directed. Print or Type.

1.Owner 1.) Gerald and Cheryl Earney 2.) The Mississippi Connection Land and Timber Company, LLC 3.) Marion Earney ** (Life Estate holder on part of Gerald and Cheryl Earney property)			2.Agent/Operator & Contact Person Badger Bluff Sands LLC		
Address 1.) W998 Schoepps Valley Road 2.) 349 W. 24th Street			Street Address 349 West 24th Street		
City 1.) Cochrane 2.) Buffalo City	State 1.) WI 2.) WI	Zip 1.) 54622 2.) 54622	City Buffalo City	State WI	Zip 54622
Phone: 1.) 608-248-2402	2.) 608-248-2933		Phone: 608-248-2933		
Alternate #: 1.) 715-495-2815	2.) 715-495-1917		Alternate #: 715-495-1917		
Email 1.) caearney@gmail.com 2.) krich367@gmail.com			Email krich367@gmail.com		
Signature 1.) Gerald & Cheryl Earney 2.) Kevin Rich 3.) Marion B Earney			Signature Kevin Rich - managing member		

Written Explanation of Proposal. (Identify how it complies with criteria for approval for Conditional Use Permits on Section 212 of the Zoning Ordinance.) (Please see attached Supporting Documentation.)

_____ (use additional sheets as needed).

Legal Description. Provide the complete legal description of the property on which the mine is located. (Please see attached Supporting Documentation.)

Town of _____, Section _____, Township _____N, Range _____W. _____ ¼ _____ ¼

Parcel #'s - (Please see attached Supporting Documentation.)

Product Information. (acreages to report are the total number of active and un-reclaimed acres).

Type of material/s proposed for mining: Industrial Sand

Type of Processing: Excavation and Wet Processing

Total number of acres to be disturbed for mining site: 65 acres (mines + storm water + wet plant)

Total number of phases in the mining operation: 3 Approximate acres in each phase: 1: 4.5, 2: 14.7, 3: 14

Estimated life of the mine: 10 years

Current land use of site: (provide any applicable details) Mine Areas: Forested, Wet Plant: Agriculture (See Fig. 5, Appendix B)

Use of property post mining: (provide any applicable details) The mine areas will be replanted with seedlings to re-establish forests. Areas with steep slopes may be seeded with wild grasses and forbs to establish wildlife areas. The wet plant area will be returned to agricultural use by replacing topsoil and amending, as determined at the time of reclamation.

Hauling Information.

First Primary Route: (Briefly describe this route, by direction and roadways utilized to end locations).
West on Schoepps Valley Road (1.96 mi), South on STH 88 (4.03 mi), North on STH 35 (20.51 mi), South on STH 25 (3.00 mi) to Wabasha, Minnesota. [See Figure 4 (Map of Haul Routes) in Appendix B for depiction of haul route.]

Loads per day 100, Number of trucks used 10, Loads per year 20,000 Tons per year 500,000

Town Board Review: Application was mailed to applicable Town Clerk and Town Chairperson _____ date;
by _____ staff signature

Describe any action or discussion By Town Board: _____

Highway Department Review:
Application was forwarded to Highway Department _____ date; by _____ staff signature

TIA required: _____ (yes/no). HIA required _____ (yes/no). Road/s agreement required _____ (yes/no)

Highway Department Signature _____ Date: _____

☐ required TIA received; date_____, received by _____ (staff signature)

☐ required HIA received; date_____, received by _____ (staff signature)

☐ required road agreement received; date_____, received by _____ (staff signature)

☐ required road agreement received; date_____, received by _____ (staff signature)

Second Primary Route: (Briefly describe this route, by direction and roadways utilized to end locations).
West on Schoepps Valley Road (1.96 mi), South on STH 88 (4.03 mi), South on STH 35 (10.90 mi), West on STH 54 (1.50 mi) to Winona, Minnesota. [See Figure 4 (Map of Haul Routes) in Appendix B for depiction of haul route.]

Loads per day 100, Number of trucks used 10, Loads per year 20,000 Tons per year 500,000

Town Board Review: Application was mailed to applicable Town Clerk and Town Chairperson _____ date;
by _____ staff signature

Describe any action or discussion By Town Board: _____

Highway Department Review:
Application was forwarded to Highway Department _____ date; by _____ staff signature

TIA required: _____ (yes/no). HIA required _____ (yes/no). Road/s agreement required _____ (yes/no)

Highway Department Signature _____ Date: _____

☐ required TIA received; date_____, received by _____ (staff signature)

☐ required HIA received; date_____, received by _____ (staff signature)

☐ required road agreement received; date_____, received by _____ (staff signature)

☐ required road agreement received; date_____, received by _____ (staff signature)

Use additional sheets for additional haul routes

Secondary Route: (Briefly describe this route, by direction and roadways utilized to end locations).
West on Schoepps Valley Road (1.96 mi), North on STH 88 (0.20 mi), West on CTH O (4.32 mi), North on STH 35 (16.78 mi), South on 25 (3.00 mi) to Wabasha, Minnesota. [See Figure 4 (Map of Haul Routes) in Appendix B for depiction of haul route.]

Loads per day 100, Number of trucks used 10, Loads per year 20,000 Tons per year 500,000

Town Board Review: Application was mailed to applicable Town Clerk and Town Chairperson _____ date;
by _____ staff signature

Describe any action or discussion By Town Board: _____

Highway Department Review:
Application was forwarded to Highway Department _____ date; by _____ staff signature

TIA required: _____ (yes/no). HIA required _____ (yes/no). Road/s agreement required _____ (yes/no)

Highway Department Signature _____ Date: _____

☐ required TIA received; date_____, received by _____ (staff signature)

☐ required HIA received; date_____, received by _____ (staff signature)

☐ required road agreement received; date_____, received by _____ (staff signature)

☐ required road agreement received; date_____, received by _____ (staff signature)

Use additional sheets for additional haul routes

Maps Required. (Do the maps show?)

Perimeter of mine boundary (including processing area)	☒	Direction of flow of storm water runoff	☒
Pre/Post mining contours (reclamation plan)	☒	Adjacent property owners	☒
Residential wells within 3,960 feet	☒	Surface water within 2,640 feet	☒
Existing structures within 2,640 feet	☒	Excavation areas with delineated mine phases	☒
Existing and proposed structures within the mine site	☒	Location of erosion control berms and topsoil	☒
Location of settling ponds	☒	Location of stormwater ponds	☒
Wetland boundaries	☒	Location of material stockpiling	☒

Nuisance Mitigation Plan (use additional paper if necessary). (Please see attached Supporting Documentation.)

Explain how noise will be regulated/controlled (if applicable) in regard to a mitigation plan. _____

Explain how air quality will be regulated/controlled (if applicable) in regard to a mitigation plan. _____

Explain how nighttime light will be regulated/controlled (if applicable) in regard to a mitigation plan. _____

Explain how odors will be regulated/controlled (if applicable) in regard to a mitigation plan. _____

Explain how water quality will be regulated/controlled (if applicable) in regard to a mitigation plan. _____

Conditions placed on all applications are as follows:

There will be a list of conditions that will be placed on all nonmetallic mines with this application.

Additional conditions proposed by Applicant are as follows:

There is an opportunity for the applicant to place conditions on their own mine during the application process.

Badger Bluff Sands LLC proposes to offer to collect background water samples from residential wells within a quarter mile of the mine boundary. Those residences will also receive well inspections. The inspections and water analysis will provide background data to document the existing conditions prior to the beginning of mining operations. Analytical parameters will be proposed as part of the Reclamation Plan and finalized with input from the County. Copies of the analytical results and well inspection reports will be provided to the well owners and included in the mine's annual reporting. A second set of water samples will be collected approximately one to two years after mining operations begin. Analyses will be the same as the background samples and results will be provided to both the owners and the County.

Certification (See attached Certification Page for signature.)

I, Kevin Rich, hereby certify that the information herein is true and accurate. I also certify that I am the owner or that I am the agent of an owner who is authorized to apply for a permit on behalf of the owner.

_____ _____

Signature of Owner or Agent Date Signed

Application for a Conditional Use Permit for Non-metallic Mineral Mining – Checklist

The following information is required before the application will be accepted and considered complete.

Applicant Check-In		Staff Initials	Date Received
☒	Complete Conditional Use Permit – Nonmetallic Mining permit application, signed and dated by owner and agent		
☒	Complete legal descriptions and parcel address for all subject parcels		
☒	Lease agreement if Operator is not the Property Owner		
☒	Meeting with town board Date: April 9, 2013		
☒	Pre application meeting with County Staff date: _____		
☒	Six (6) **folded** paper copies of application materials and related plans		
☒	One (1) copy of all application materials in digital form		
☒	Written explanation of proposal and how it complies with criteria for approval (see Zoning Ordinance., Section 212 for Conditional Use Permit/s)		
☒	Topographic maps showing the following: perimeter of mine boundary, direction of flow of storm water runoff, location of borings		
☒	Vicinity maps showing the location of the site and following: Adjacent property owners, residential wells within 3,960 feet, surface water within 2,640 feet, existing structures within 2,640 feet, and haul routes to end locations (distance measured from mine boundary)		
☒	Site maps including: excavation areas with delineated mine phases, existing and proposed structures, locations of erosion control berms and topsoil storage, location of settling ponds and storm water ponds, wetland boundaries, and area for material stockpiling.		
☒	Grading, drainage, and erosion control plan or resource management plan		
☒	Description of water requirements and wash plant facilities (if applicable).		
	Are high capacity wells proposed? Yes (yes/no) (See Appendix G.)		
☒	Nuisance mitigation plan		
☒	Conditional Use Application fee paid (see page 6 of this application for fee schedule)		
☐	Town Board(s) Response		
☐	Highway Department Response		
☐	Land Resources Committee Response		
☐	Reclamation Plan		
☐	Other Application materials as required by staff: (specify additional requirements)		

Project Review Information – Office Use Only --

Highway Department Contact: Phone # -

Other required information: _____ yes/no. Specify additional requirements: _____

_____

Town Board Contact: Phone # -

Other required information: _____ yes/no. Specify additional requirements: _____

_____

Land Resources Department review staff: Phone # -

Other required information: _____ yes/no.

Specify additional requirements: _____

_____

Application Complete: _____ yes/no). (Is the application ready to go to public hearing?)

Date Application is Complete_____ Time: _____
Land Resources Staff Signature_____

Fee Schedule for submitting a CUP Application for a non-metallic mining site.

Mine Site (acres)	Application Fee
1-5	$500
6-10	$750
11-15	$1,000
16-25	$1,500
26-50	$2,500
51-100	$5,000
101-200	$7,500
201-300	$10,000
301+	$13,500
Fee for Processing Plants and Trans-load Facilities $2,500	

CERTIFICATION PAGE

Conditional Use Permit Application

Badger Bluff Sands LLC Mine Site
Town of Waumandee, Buffalo County, Wisconsin

Prepared for:
Badger Bluff Sands LLC
349 West 24th Street
Buffalo City, WI 54622

Prepared by:
Cooper Engineering Company, Inc.
2600 College Drive
Rice Lake, WI 54868

Operator Certification:

I, Kevin Rich, hereby certify that the information herein is true and accurate. I also certify that I am the owner or that I am the agent of an owner who is authorized to apply for a permit on behalf of the owner.

Kevin Rich Managing member 07-21-2013

Kevin Rich, Managing Member *Date Signed*

Conditional Use Permit Application

Badger Bluff Sands LLC Mine Site

Town of Waumandee, Buffalo County, Wisconsin

July 2013

Prepared by:

Cooper Engineering Company, Inc.
2600 College Drive
Rice Lake, WI 5486

SUPPORTING DOCUMENTATION

TABLE OF CONTENTS

APPENDICES

1. LAND OWNER / OPERATOR INFORMATION

OWNER INFORMATION
Name of Owner: a) Gerald & Cheryl Earney b) The Mississippi Connection Land & Timber Company, LLC c) **Marion Earney
Address: a) W998 Schoepps Valley Road, Cochrane, WI 54622 b) 349 West 24th Street, Buffalo City, WI 54622 c) W1002 Schoepps Valley Road, Cochrane, WI 54622
Phone: a) 608-248-2402 (Alternate 715-495-2815) b) 608-248-2933 (Alternate: 715-495-1917) c) 608-248-2865
Email: a) caearney@gmail.com b) krich367@gmail.com c) No email

NOTE: Gerald and Cheryl Earney and the Mississippi Connection Land & Timber Company, LLC together formed ZEER LLC, a limited liability corporation that is leasing the subject mine property to Badger Bluff Sands LLC (the operator).

**Marion Earney is Gerald Earney's mother and holds a Life Estate on part of the SE ¼, SE ¼, Section 32, T21N, R11W. Marion Earney has signed a joinder of and consent to lease by Life Estate holder form.

AGENT / OPERATOR INFORMATION
Name of Agent / Operator & Contact Person: Badger Bluff Sands LLC (Contact: Kevin Rich)
Address: 349 West 24th Street, Buffalo City, WI 54622
Phone: 608-248-2933 (Alternate: 715-495-1917)
Email: krich367@gmail.com

2. OPERATION PLAN

a. Written Explanation of Proposal

i. The location, nature, and size of the proposed use

This proposal is for a non-metallic mine and wet processing facility to be located on Schoepps Valley Road in the Town of Waumandee, Buffalo County, Wisconsin. The site location is shown on Figure 4 in Appendix B. The material proposed to be mined is industrial sand for gas and / or oil production and potential unknown markets. The mining process will include: removal and stockpiling of topsoil and overburden; excavation of marketable material using backhoes, bulldozers, and possible blasting to assist in the removal of overburden; overland conveyance of the raw material from the excavation areas to the wet processing facility; wet processing (washing and sorting); treatment and recycling of the processing water; on-site stacking and drainage of the wet sand; loading sand onto transport trucks; and hauling wet sand off-site for additional dry processing elsewhere.

ii. The size of the site in relation to the proposed project

The parcels included in the mine project cover a total of about 82.22 acres. The proposed excavation areas are currently forested land and the proposed wet processing area is presently used for agriculture (see Figure 5 in Appendix B). The operators plan to restore both the mine areas and the processing plant area to their current land uses following reclamation. Attached maps and sketches (Figures 3, 3a, 3b, 3c, and 3d) show the mine properties and the proposed mine layout.

iii. The location of the site with respect to existing or future roads giving access to it

Mining will occur in three phases as shown on Figure 3 in Appendix B. Mined material will be transported from each excavation area (phase) to the wet plant via overland conveyors. As Phase I is completed and Phase II begins, the conveyor system will cross underneath Schoepps Valley Road through a culvert to be designed and constructed specifically for that purpose. Schoepps Valley Road is the access road to the wet plant and will be used to transport washed sand from the site. A road study and evaluation report was completed for Schoepps Valley Road in November 2013 to determine the impact that hauling sand would have on the town road and preliminary research on the driveway location. Follow-up field work and analysis was completed in June 2013 for the final driveway location.

Copies of these reports are included in Appendix D. There are no known plans for future roads in the area of the proposed Badger Bluff Sands Mine Site.

iv. Its compatibility with existing uses on land adjacent thereto

Non-metallic mining is a compatible land use with the current agriculture and forested land uses on and adjacent to the proposed mining site. Non-metallic mining is a Buffalo County conditionally permitted land use in areas that are zoned agriculture, as are the surrounding properties. The proposed final reclamation will return the agricultural areas to farm use, but with less relief, making them more useful to the farmers.

v. Its harmony with the future development of the district

There are no known plans for future development in the proposed mine area. This area has been rural agriculture and hunting land for decades. The proposed use and final reclamation will be in harmony with both current and future uses.

vi. Existing topography, drainage, soils types, and vegetable cover

The existing topography on the proposed mine site consists of hills and valleys typical to this area of Wisconsin. Existing drainage flows off the hilltops and is directed across the land and through ravines to Schoepps Valley Creek, eventually reaching Waumandee Creek. Vegetation cover varies from agricultural crops to grasslands to forested hills. Soil types on the site consist mainly of silt loam with some loams and loamy terrace escarpments. Some of these soils lie on slopes as steep as 20% – 40%, meaning storm water management for these areas will be critical. A Storm Water Pollution Prevention Plan (SWPPP) will be submitted as part of the Wisconsin DNR's General Permit to Discharge under the Wisconsin Pollutant Discharge Elimination System for Non-metallic Mining Operations. Site maps showing existing topography, drainage, soil types, and vegetative cover can be found in Appendix B (Figures 1, 5, 6, and 11).

vii. Its relationship to the public interest, the purpose and intent of this ordinance, and substantial justice to all parties concerned

The proposed non-metallic mining project will provide economic benefit in the creation of jobs for the miners and plant operators. This operation will employ local contractors in assisting with the erection of the wash plant facility and surrounding areas. Trucking facilities will also gain additional work and associated businesses, such as repair stations, fueling stations, and restaurants will see an increase in activity.

The mine will be developed and operated in compliance with all applicable local, state, and federal rules and regulations. Necessary permits and approvals will be obtained prior to beginning mining operations. Examples of permits and approvals that may be required include air quality, storm water protection, erosion control, grading, ground water protection, high capacity well installation and operation (See Appendix G), mine reclamation, building permit, blasting permit, etc. The requirement to comply with these various rules and regulations provides protection and substantial justice to all parties concerned. This proposed non-metallic mine meets the purpose and intent of the Buffalo County Zoning Ordinance and is a conditionally approved use in areas of Buffalo County that are zoned agriculture. Approval of the Conditional Use Permit for the proposed Badger Bluff Sands LLC Mine Site complies with the County's Zoning Ordinance.

b. Site Background and Existing Conditions

The proposed Badger Bluff Sands LLC non-metallic mine is located in southwestern Wisconsin within the driftless, or unglaciated, area. The geology in this region consists of Cambrian sedimentary rocks, including dolomites and sandstones. The sedimentary rocks range as thick as 1200 to 1500 feet thick and are underlain by crystalline igneous and metamorphic bedrock. The Cambrian sandstone is the target material for the proposed non-metallic mine.

Soil borings were performed on the site in August 2012. Documentation is included in App E. Review of the boring information shows the presence of dolomite at elevations above 1030 to 1050 feet. Sandstone was present beneath the dolomite to elevations of at least 955 feet, possibly lower. The sandstone in this area is likely the Jordan formation, based on general geologic maps of the region. Jordan is a marketable sand due to its size, roundness, hardness, and purity. The identified thickness of sand on the subject site is seventy feet (elevation 1050 to 980).

Groundwater in the area of the proposed mine is at an elevation of approximately 800 feet, well below the proposed final elevation to be mined. Surface water on and near the mine site consists of wetlands and small unnamed streams that converge and eventually empty into larger streams, such as Waumandee Creek, before making their way to the Mississippi River.

The proposed wet plant area is located at a lower elevation than the mine phases. Based on available water well data from local well logs, groundwater at the wet plant site ranges from elevation 680 feet to elevation 720 feet.

Wetlands were delineated on the mine site in the areas that will be disturbed. A copy of the wetland delineation map is attached as Figure 8 in Appendix B. Every effort will be made to avoid wetland impact. However, if there is no practicable alternative and wetland impact is necessary, appropriate permits will be applied for at that time.

c. Plan of Operations

Mining at the proposed Badger Bluff Sands LLC Mine Site will begin with site preparation. The area for the wet processing plant will be cleared, storm water ponds will be constructed, and silt fence will be installed. Site preparation will be accomplished by using typical construction equipment such as bulldozers and backhoes. Topsoil and excess material will be used to construct berms along the wet plant boundary. These berms will serve to shield the wet plant visually and reduce off-site noise. In addition, berms will direct storm water to collection areas. The plant pad and settling ponds will be constructed and the plant components will be assembled. Three settling ponds and a fresh water / storm water storage pond are planned. See Figure 3a in Appendix B for layout.

The proposed mine will consist of three distinctly separate phases; Phase I, Phase II, and Phase III as shown on Figure 3 in Appendix B. Phase I and the wet plant area will be located on the north side of Schoepps Valley Road. Phases II and III will be located south of Schoepps Valley Road.

Raw sand will be transported from the mine area to the wet plant via overland conveyors. Conveyors will move the sand more efficiently and with less impact than trucking on this site. The conveyor corridor will be prepared by removing and stockpiling topsoil to construct an access / maintenance road along the conveyor. Storm water ponds will be placed along the corridor as needed to detain or decelerate storm water. A landing area will be constructed at the entrance to each mine phase as that phase is opened. Initially, the conveyor will be constructed between Phase I and the wet plant.

Mining equipment will include bulldozers and backhoes. It is possible that scrapers may also be used to remove topsoil and non-bedrock overburden. Based on known conditions at the site, blasting will likely be required to remove the dolomite overburden and to break up the sandstone for excavation. Front end loaders will be used to load the sandstone into the conveyor for transport to the wet plant. The conveyor will feed the raw sandstone into a sorter that will remove the oversized pieces and then move the sand into the wet plant.

Mining will begin on at the southwest corner of Phase I, where the landing pad will be constructed. Topsoil and overburden will be removed from the lower mine area and used to construct berms along the east and west edges of Phase I. Sand will be excavated throughout the lower center portion of Phase I between elevations 1050 feet and 980 feet. Mining will then move to the northern portion of Phase I. Overburden consisting largely of dolomite is present between the elevations of 1050 and 1120 feet. This overburden will be removed and placed into the previously excavated area. The sand in the north central portion of Phase I will then be mined. The final sections of Phase I to be mined will be the east and west edges. The topsoil and overburden berms will be used in reclamation of the center portion and sand will be excavated along the east and west edges. When all sand has been removed, the mined area will be reclaimed by replacing the overburden and topsoil.

Phase II will be mined next. The conveyor system will be relocated from Phase I to Phase II. The planned conveyor route includes a stream crossing over Schoepps Valley Creek and a culvert crossing beneath Schoepps Valley Road. Both crossings will require Wisconsin Department of Natural Resources permits. Application for those permits will proceed as soon as the Reclamation Plan is approved by Buffalo County. An existing logging trail will provide an access point to Phase II. A storm water pond and a landing pad will be constructed along the west side of the logging trail. Additional storm water detention ponds will be constructed along the natural ravine that exists between the landing pad area and the top of Phase II. Topsoil will be removed from the ravine eastwardly across Phase II and used to construct berms along the southern and eastern edges of the phase, at the upper elevation (1100 feet) of this phase. An additional topsoil berm will be placed on the north edge of the mined area at an elevation of approximately 980 feet. Overburden will be stockpiled in the southeast and southwest portion of this phase. Mining will proceed throughout the center of Phase II from elevations 1050 feet to 980 feet. The overburden stockpiles will then be placed into the excavation and the topsoil berms will removed and used in reclamation. Overburden will be removed from the northern edge of the mine area and placed into the excavated area in order to mine the sand from that area. When all sand has been recovered, the mined area will be reshaped, covered with topsoil, and seeded.

Phase III will be mined from east to west. Topsoil will be stripped and used to construct berms along the outer edges of the phase. A storm water pond will also be constructed along the south edge of this phase. Overburden will be removed from small sections at a time within Phase III and temporarily stockpiled. As mining moves from east to west, the overburden from each section will be placed into the previously

excavated section. Temporary storm water infiltration ponds will be placed as need in the section being mined to detain and infiltrate storm water internally.

The total quantity of marketable sand in the Badger Bluff Sand LLC Mine Site is estimated to be 2.3 million tons. Production of 2,500 tons per day is anticipated and the plant will operate for 200 days per year. The estimated life of the mine is 10 years. Phase I will be completed within twelve months of startup and Phases II and III will each operate for just over four years.

The wet plant is expected to operate Monday through Friday for eighteen hours per day. Up to one hundred loads per day will be transported from the site, with an anticipated average of eighty loads per day.

d. Reclamation

As described in the operations section above, reclamation of the mined areas will occur contemporaneously with mining. Overburden from one section will be placed into the previously excavated section when possible. Small sections can be covered with topsoil and seeded as soon as they are mined. One benefit of this type of reclamation is that minimal surface area is exposed at any one time. In addition, large quantities of topsoil and overburden do not have to be moved and stored for long periods of time. Each phase of the Badger Bluff Sands LLC Mine will be reclaimed separately due to their locations apart from one another.

Implementation of the proposed reclamation plan will result in the return of agricultural areas to agricultural use. Where possible, slopes will be flattened to improve the fields for farming. The forested areas will be largely replanted to trees, with the exception of some small wildlife ponds and feed plots. Steep final hillsides may be planted in a wildlife mixture for habitat and food. A complete reclamation plan meeting the requirements of Wisconsin Administrative Code Chapter NR 135 and Buffalo County Non-metallic Mining Reclamation Ordinance Chapter 757 will be developed and submitted for Buffalo County review upon approval of the CUP.

e. Wet Plant Operation

The wet processing plant proposed to be used on the Badger Bluff Sands LLC Mine Site is being designed by KPI-JPC. The plant is a typical sand washing plant where raw product enters the plant and is mixed with water. The slurry is run through cyclones to separate out the undesirable materials and then through hydro-sizers (fractionators) to sort the sand by size. Secondary cyclones again clean and sort the sand and it then runs through a dewatering screen or screws prior to being conveyed onto stockpiles to

gravity drain. The damp sand is then loaded onto trucks and transported off-site to another location for drying.

Wet plants use large volumes of water but the majority of that water is recycled through the system. The proposed plant will use up to 6,000 gallons per minute of water. However, less than 200 gallons per minute of makeup water will be required to be added to the system. The used wash water drains to the settling ponds and the fresh water / storm water pond, where it is then recycled back into the plant. Storm water that falls on the plant area is collected into the fresh water / storm water pond and added to the system. Water draining from beneath the stockpiles is directed back into the system via the settling ponds. Overall, water consumption is limited to water leaving the site in the damp sand and evaporation.

A high capacity water well will be installed at the plant site to provide the necessary wash water. The well will run for short periods of time to feed the fresh water / storm water pond. The system water is pumped from the fresh water / storm water pond, runs through the wet plant, and is recaptured for reuse.

f. Grading, Drainage, and Erosion Control

i. Grading and Drainage

The area for Phase I currently consists of slopes ranging from about 20% to as steep as 65%. Since the current slope is already steep, it is assumed that there will be greater slopes and high walls after reclamation. These high walls will be properly engineered by a professional to ensure stabilization. During mining, operations shall take place to ensure that all storm water run-off from the site is routed to the storm water pond (see location on Figure 3a in Appendix B), which will be sized to meet / exceed the design criteria of a 10-year, 24-hour Type II storm event.

Currently, the grading for the wet plant is fairly level, with slopes ranging from 0% to 10%. All storm water run-off will be directed to the on-site ponds before leaving the site. The storm water / fresh water pond will be sized to meet / exceed the design criteria of a 10-year, 24-hour Type II storm event. After wet processing operations are complete, the site will be restored to its existing conditions.

Phase II currently consists of slopes ranging from 25% to 65%. As shown on Figure 3c in Appendix B, there is a relative large ravine running through the west side of the mine area, which will initially be used to direct storm water to various

staged ponds to capture all run-off from the mine site. The series of ponds will be analyzed and sized appropriately to accommodate a 10-year, 24-hour Type II storm event. As with Phase I, greater slopes or high walls could be expected after reclamation, and will be properly engineered by a professional to ensure stabilization.

The area for Phase III consists of slopes ranging from 20% to 80%. Figure 3d in Appendix B shows a storm water pond located in the southeast corner of the mine. Storm water run-off will be routed to this pond at the beginning of mining operations until adequate room for an infiltration pond is available within the mining limits. Due to the limited area and existing topography, this phase will be internally drained. Design criteria of a 10-year, 24-hour Type II storm event will be met. Due the existing steep slopes, greater slopes or high walls could be expected after reclamation. They will be properly engineered by a professional to ensure stabilization.

ii. Erosion Control

For the mine site, preliminary erosion control measures are depicted on Figures 3a, 3b, 3c, and 3d in Appendix B. Silt fence will be installed prior to any land disturbance and located at the toes of the berms and down-slope of any land disturbing activities. Ditch checks will be installed in locations of channelized flow to reduce the flow velocity of the storm water run-off. Stone Tracking Pads and a tire washing station will be placed at any point where traffic will egress the mine site to prevent off-site sedimentation (street sweeping will be done as necessary). Mulching and seeding will be done for all topsoil berms and any other areas requiring a vegetative cover. Erosion mat will be utilized on any erodible slopes that require vegetation. Fuel storage areas will be located on-site on level grades with berms or barriers to prevent any storm water run-on or run-off. Absorbent spill clean-up materials and spill kits will be available in the fuel storage areas.

All storm water and erosion controls will be inspected on a weekly basis, within 24 hours of any storm event totaling 0.5-inches or greater, and following snow melt run-off. An inspection report will be completed during each inspection and all completed forms will be kept on-site. All storm water and erosion control measures will be maintained and repaired (if necessary) within 24 hours of identification.

3. LEGAL DESCRIPTIONS

The Parcel Identification Numbers and legal descriptions for the project area are listed below. All parcels are in the Town of Waumandee. Complete Legal Descriptions are included with the Lease Agreements in Appendix A.

PIN	Land Owner	Section	Township	Range	¼	¼-¼
034-00813-0000	Gerald and Cheryl Earney	32	21N	11W	SE	NE
034-00814-0000		32	21N	11W	SE	NW
034-00817-0000		32	21N	11W	SE	SW
034-00818-0000		32	21N	11W	SE	SE
034-00832-0000		33	21N	11W	SW	SW
034-00833-0000		33	21N	11W	SW	SW
034-00017-0000	Mississippi Connection Land & Timber Co., LLC	5	20N	11W	NW	NW
034-00018-0000		5	20N	11W	NW	SW
034-00021-0000		5	20N	11W	SW	NW

4. HAULING INFORMATION

The Badger Bluff Sands LLC mine will operate in conformance with Buffalo County requirements. Tracking pads will be used at the mine access road and all loads will be covered during transport. Badger Bluff Sands LLC will negotiate any necessary agreements with the Township and County.

a. First Primary Route

Route Description: West on Schoepps Valley Road (1.96 miles), South on STH 88 (4.03 miles), North on STH 35 (20.51 miles), South on STH 25 (3.00 miles) to Wabasha, Minnesota. See Figure 4 (Map of Haul Routes) in Appendix B for depiction of haul route.

b. Second Primary Route

Route Description: West on Schoepps Valley Road (1.96 miles), South on STH 88 (4.03 miles), South on STH 35 (10.90 miles), West on STH 54 (1.50 miles) to Winona, Minnesota. See Figure 4 (Map of Haul Routes) in Appendix B for depiction of haul route.

c. Secondary Route

Route Description: West on Schoepps Valley Road (1.96 miles), North on STH 88 (0.20 miles), West on CTH O (4.32 miles), North on STH 35 (16.78 miles), South on STH 25 (3.00

miles) to Wabasha, Minnesota. See Figure 4 (Map of Haul Routes) in Appendix B for depiction of haul route.

5. MAPS REQUIRED

Completed	Map Requirement	Figure Number
X	Perimeter of mine boundary (including processing area)	1, 2, 3
X	Pre/~~Post~~-mining contours (Reclamation Plan)	1, 3a, 3b, 3c, 3d
X	Residential wells within 3,960 feet	2
X	Existing structures within 2,640 feet	2
X	Existing and proposed structures within the mine site	2
X	Location of settling ponds	3a, 3c, 3d
X	Wetland boundaries	8
X	Direction of flow of storm water run-off	1
X	Adjacent property owners	2
X	Surface water within 2,640 feet	1-11
X	Excavation areas with delineated mine phases	3, 3a, 3c, 3d
X	Location of erosion control berms and topsoil	3a, 3c, 3d
X	Location of storm water ponds	3a, 3c, 3d
X	Location of material stockpiling	3a, 3c, 3d

6. NUISANCE MITIGATION PLAN

1. Explain how noise will be regulated/controlled (if applicable) in regard to a mitigation plan.

Noise from the mining activities will be controlled by the use of berms, limited hours of operation, and buffers of trees surrounding the mined areas. All three phases of the proposed mine are located well off the public road, which will also help mitigate noise from operations. If required, white noise backup beepers can be used on mining equipment.

2. Explain how air quality will be regulated/controlled (if applicable) in regard to a mitigation plan.

The mine will require an air permit or exemption, per Wisconsin Department of Natural Resources and US EPA requirements. If an air permit is required, a regular monitoring plan and system will be implemented. A Fugitive Dust Plan will also be

developed and implemented. The plan will include measures such as watering roads during dry conditions and misting stockpiles during windy / dry conditions.

3. Explain how nighttime light will be regulated/controlled (if applicable) in regard to a mitigation plan.

Nighttime light will be controlled by the use of limited hours of operation and installation of full cutoff shrouds on all site lighting. The cutoff shrouds direct light downward rather that allowing it to disperse in all directions.

4. Explain how odors will be regulated/controlled (if applicable) in regard to a mitigation plan.

Odor is not typically a concern at sand mining operations, the sand is inert. The wet plant equipment is electrical, so no exhaust fumes will be generated by the plant. There will be minimal exhaust fumes from diesel engines on mining equipment and transport trucks. Those fumes will be addressed as part of the air permit application.

5. Explain how water quality will be regulated/controlled (if applicable) in regard to a mitigation plan.

Badger Bluff Sands LLC is proposing to collect pre-operations water samples from residential water wells within a quarter mile of the mine site. The sample results will establish baseline conditions in those wells. Well inspections will also be offered to those residents. The separation between the base of the proposed mine and regional groundwater is one hundred and eighty feet. Groundwater wells may not be necessary but will be installed if required by Buffalo County.