

**NON-METALLIC MINING RECLAMATION PLAN  
“LANCOUR PIT“ 2017 REVISION**

**Operator:** Chippewa County Highway Department

**Owner:** Chippewa County

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**Summary**

This reclamation plan has been developed to provide information about the existing site of the proposed mine, the proposed site operations, and how the mine will be reclaimed to the proposed post mining land use.

This reclamation plan is for a 25.1 acre mine located on the north side of 67<sup>th</sup> Avenue just east of 220<sup>th</sup> Street. The land is currently an active mine. The site has already been stripped of topsoil for a majority of the mine area.

The operator will mine sand and gravel that is located on stream sediment of the Copper Falls Formation. A portion of the site will be mined below the water table and reclaimed as a wildlife pond. The remainder of the site will be reclaimed to grassland/prairie.

**A. Site Information**

**1. Landowner**

Landowner: Chippewa County  
Address: 711 N. Bridge St.  
Chippewa Falls, WI 54729

Applicant: Chippewa County Highway Department  
Address: 801 East Grand Avenue  
Chippewa Falls, WI 54729

Mine Address: 22266 67<sup>th</sup> Avenue  
Cadott, WI 54727  
Town of Sigel

**2. Lease**

There is no lease. Operator and landowner are the same.

**3. Legal Description**

Tax Parcel Numbers & Legal Descriptions as follows:

22807-0323-73439001:

I, Steven J. Johnson, Registered Land Surveyor, S-1287, do hereby certify that to the best of my knowledge and belief, this plat is a true and correct representation of part of the S.W. ¼ of the N.W. ¼ and part of the S.E. ¼ of the N.W. ¼ of Section 3 T28N R7W, Town of Sigel, described as follows: Commencing at the west ¼ corner of said Section 3 THENCE S89°31'42"E 1837.08 FEET; THENCE N04°19'34"W 81.37 FEET to the point of beginning of the land to be described. THENCE N04°19'34"W 650.65 FEET; THENCE N86°54'59"W 1593.78 FEET; THENCE S06°54'41"E 736.88 FEET; THENCE S61°20'27"E 66.28 FEET; THENCE N86°50'35"E 477.04 FEET; THENCE N89°51'31"E 1017.40 FEET to the point of beginning.

**4. Property Owners Within 660 Feet of Project Site**

Travis R & Christine M Schmidt	Terrance J & Kristen A Walters	Split River, LLC
Sue A Blanchette	Terry Walters	Chippewa County Gravel Pit
Wis Central Ltd Railroad R/W		

**5. Soil Information**

Soil Survey of Chippewa County shows the soils at the mine site are mapped as follows.

- Approximately 79.9% of the mine site is mapped as Pits, gravel (Pc).
- Approximately 6.7% of the mine site is mapped as Menahga loamy sand, 0 to 6 percent slopes (MkB).
- Approximately 12.2% of the mine site is mapped as Fordum loam, 0 to 2 percent slopes (Fm).
- Approximately 1.2% of the mine site is mapped as Markey muck, 0 to 1 percent slopes (Me).

Almost all of the topsoil has already been removed from the existing mine in past mining activities.

During site investigations the operator documented the following soils horizon thicknesses in the area to be mined.

Existing Mine

A horizon – 0 inches of topsoil

B horizon – greater than 8 feet of Pits, gravel (Pc)

## **B. Site Operations**

### **1. Description of Materials to be Extracted**

Sand and gravel products will be extracted and processed at the proposed mine.

### **2. Extraction and Processing to be Conducted at the Site**

A driveway is already installed entering from the south property line on the east side of the existing mine, off of 67<sup>th</sup> Avenue. This driveway will serve the proposed mine. Sand & gravel will be mined, crushed, washed, and removed from the site. A portable crushing & washing plant will be used to process the material and stockpile it on site. Materials within the mine will be excavated and transported using bulldozers, excavators, draglines, dump trucks, front end loaders and conveyors.

Sand and gravel will be excavated from the mine above the water table in lifts approximately 4 feet deep. An area in the floor of the mine will be excavated below the water table to create one large pond. No flocculants or other chemicals will be used to support sand and gravel processing.

Operations will begin at cell one by mining down to and below the water table. This will create a pond as the site is mined from west to east. The mining will then move to cell two and finally to cell three.

Good, un-contaminated, topsoil may be brought on-site and stockpiled for the purpose of on-site reclamation or for use on off-site Chippewa County Highway Department roadway projects. Additionally, the Highway Department may store typical highway construction materials (such as guardrail, culvert pipe, un-contaminated clay fill material, rock and gravel, etc...) onsite for future use and production of sand and gravel products.

### **3. Volumes of Materials**

A sequence of mine Cells are planned to systematically mine and reclaim the site. The anticipated area of disturbance and estimated volume of raw materials to be removed during the life of the mine is as follows.

Cell	Area (acre)	During 1 <sup>st</sup> two years (cubic yards)	During Full Life of Operation (cubic yards)*
1	3.72	50,000	183,200
2	6.76	0	335,900
3	4.76	0	244,300
Total	15.23	50,000	763,400

\*10% swell factor for sand & gravel

### **4. Site Dewatering and Effluent Discharge**

This will be an internally drained site. No site dewatering or effluent discharge will take place. It is anticipated that sand and gravel will be mined below the water table in Cells 1 and 2.

## **5. Stormwater Permits/Management**

The operator will obtain a Wisconsin DNR Nonmetallic Mining stormwater permit and manage stormwater in accordance with the standards established in the permit. At a minimum stormwater will be contained within the mine boundaries for all rainfall events up to the 25 year, 24 hour frequency storm.

The site will be mined such that stormwater runoff is towards the excavated floor of the mine where it will infiltrate as well. A notice of intent will be sent to the DNR.

## **6. Individual Chapter 30/NR 340 Permit**

The operator will obtain a Wisconsin DNR Nonmetallic Mining Individual Permit, if required by the DNR, in accordance with the standards established in the permit.

## **7. Erosion Control & Permits**

All topsoil and subsoil stockpiles will be graded to a slope of 3:1 or flatter and stabilized as soon as conditions allow to conserve soil and limit erosion. Berms will be stabilized using best management practices including seeding, mulching, erosion control mat, hydro-seeding, etc. Erosion and sediment control best management practices will be installed as determined by the current Wisconsin Erosion Control Product Acceptability List (PAL) found on the WisDOT website and the Channel and Slope Erosion Control Matrices (Appendix D).

## **8. Reclamation Activities During Operations**

A process of contemporaneous reclamation will be used to systematically mine and reclaim the site. Under this process the site will be reclaimed as soon as possible after materials have been extracted and processed using the planned Cell sequence.

Cell 1 will be restored as Cell 2 is being mined. Cell 2 will be restored as Cell 3 is being mined. Cell 3 will be restored at the completion of mining operations.

At the beginning of the mining operations for each Cell any of the remaining topsoil will be stripped and stockpiled in berms. Mining operations will then excavate, process, and remove sand and gravel from the site.

Upon completion, soils testing will be performed following procedures established in the Wisconsin Nutrient Management Standard 590 to determine the organic matter, phosphorus, potassium and pH. Soil amendments (including lime and fertilizer) will be applied based on the soil test results to meet the fertility requirements needed to achieve the intended post mining land use.

The site will then be seeded. Areas with slopes steeper than 10:1 will have straw mulch applied. Areas flatter than 10:1 will not receive mulch.

Reclamation test plots will be established within the first two years of mining. Test plots will be established for each post mining land use. These test plots will be monitored and used to help determine success in future areas of mine reclamation.

**9. Timetable/Sequence of Operations**

The following periods of operation/extraction are estimated and may increase or decrease based on Highway Department projects and planning.

Location    Activity

Cell 1      Plant and stockpiles will be located in Cell 3. The operator will mine Cell 1 from west to east. This will take approximately 15 years. Slopes along the west, north and south of Cell 1 will be restored as the mining activities move eastward.

Cell 2      Plant and stockpiles will remain in Cell 3. The operator will mine Cell 2 from west to east. This will take approximately 15 years. Slopes along the north and south of Cell 2 will be restored as the mining activities move eastward.

Cell 3      Plant and stockpiles will remain in Cell 3. The operator will mine Cell 3 from north to south. This will take approximately 15 years.

Final      Upon completion of Cell 3 mining, the operator will restore all boundaries of Cell 3 as well as any remaining areas that need restoration.

**10. Timetable**

Estimated period of operation/extraction for each cell:

Cell 1	15 years
Cell 2	15 years
Cell 3	15 years
<b>Total</b>	<b>45 years</b>

These periods of operation/extraction are estimated and may increase or decrease based on Highway Department projects and planning.

**C. Final Site**

**1. Disposition of Structures and Roads**

A split gravel driveway approximately 270 feet long will remain in place at the location of the mine access road connection to 67<sup>th</sup> Avenue. The driveway will provide access to the pond and grassland/prairie area.

Structures such as the scale house and scale will be removed prior to final reclamation. The pond will remain in place as shown on the Final Site Map. There will be no areas of concentrated flow entering, leaving, or within the reclaimed mine site.

**2. Soil Reapplication & Reconditioning**

Overburden piles will be leveled off or used on slopes. This work will be done with excavators or bulldozers. Slopes will be stabilized using best management practices including seeding,

mulching, erosion control mat, hydro-seeding, etc. Erosion and sediment control best management practices will be installed as determined by the current Wisconsin Erosion Control Product Acceptability List (PAL) found on the WisDOT website and the Channel and Slope Erosion Control Matrices (Appendix D).

Any available topsoil material will then be removed from the berms with excavators or loaders and transported in dump trucks to the sloped areas in the mine to be reclaimed. Trucks will be routed to limit traffic over areas where subsoil or topsoil has already been applied. Trucks will dump topsoil and bulldozers will spread the material to be up to 6 inches thick on the slopes of the mine. The use of tracked equipment while spreading topsoil will limit soil compaction.

In the event that rubber tire equipment cannot be routed to prevent topsoil compaction deep tillage equipment will be used to alleviate compaction in the upper 12 to 14 inches of the soil profile.

Soils testing will be performed following procedures established in the Wisconsin Nutrient Management Standard 590 to determine the organic matter, phosphorus, potassium and pH. Soil amendments (including lime and fertilizer) will be applied based on the soil test results to meet the fertility requirements needed to achieve the intended post mining land use.

### **3. Safety Assurances**

Given the slopes on the reclaimed mine site and the post mining land uses there are very limited safety concerns. The pond will have a 3:1 slope that extends 6 feet below the water line. Areas reclaimed as grassland/prairie will have 3:1 slopes.

### **4. Seeding Plan**

Seeding will be selected to achieve the post mining land use that is planned for each designated area. Areas that will be reclaimed to grassland/prairie will be seeded to native grasses. Seed will be broadcast seeded and rolled to improve seed – soil contact. DNR Seed Mix 3 (attached) or similar will be used in these areas. The wildlife pond area will be allowed to vegetate below the water line using natural seed distribution without seeding by the operator.

### **5. Future Use**

The mine site will be reclaimed to establish two different post mining land uses including upland grassland/prairie and wildlife pond habitat. The approximate location of each post mining land use is shown on the Final Site Map.

#### Upland Grassland/Prairie Post Mining Land Use

Steep slopes around the perimeter of the mine will be reclaimed to an Upland Grassland/Prairie Habitat.

The proposed performance measures used to determine reclamation success are:

- a. The establishment of a mine soil profile with a minimum pH of 6 to 8 and organic matter greater than 1 percent.
- b. The establishment of target soil chemistry and fertility to achieve and sustain the post mining land use.
- c. 75% or more of select plant species are present, 25% or less are weeds, and 2% or less are invasive weeds as measured following standardized methods during and at the end

- of the established performance period.
- d. A minimum of 70% ground cover during the growing season.
  - e. No visible erosion (rills, gullies, sluffing, etc.).
  - f. Attainment of “tolerable (sustainable) levels” of select noxious weeds and invasive species as measured following standardized methods during and at the end of the growing season.

#### Wildlife Pond Habitat Post Mining Land Use

Areas of the mine that are below the water table will be reclaimed as a Wildlife Pond.

The proposed performance measures used to determine reclamation success are:

- a. The establishment of irregular shorelines that vary in shape and slope.
- b. The establishment of shoreline slopes that vary from 3:1 to 10:1 and extend a minimum of 6 feet vertically below the water line.
- c. The establishment of a minimum of 6 inches of topsoil, or topsoil substitute material, placed along the shoreline and on the slope a minimum of two feet vertically below the water line to encourage vegetative growth.
- d. The presence of aquatic vegetation along the shoreline.
- e. No visible erosion (rills, gullies, sluffing, etc.).
- f. Attainment of “tolerable (sustainable) levels” of select noxious weeds and invasive species as measured following standardized methods during and at the end of the growing season.

The approach that will be used to manage and monitor the disturbed areas will be defined in a Soil Rehabilitation and Vegetative Management Plan. At a minimum the Soil Rehabilitation & Vegetative Management Plan shall describe the management practices methods and techniques that will be used to:

- Recondition the disturbed “mine soil” to assure the success of the vegetative planting and the sustainability of selected plant communities and associated wildlife habitat.
- Monitor and control noxious weeds and invasive species to target levels.
- Limit or otherwise actively manage the reclaimed area for anticipated plant species that will occur through natural succession.

The criteria that will be used by the County to measure reclamation success include species diversity, plant density, biomass, soil chemistry and fertility, and soil organic matter.

In order to achieve the prescribed post-mining land use the operator will implement a reclamation program to reclaim, manage, and monitor the reclaimed areas for a prescribed performance period.

Upon reclaiming any portion of the site the post-mining land use specified in the reclamation plan shall be maintained while the mine site is under the permit.

In evaluating whether areas subject to reclamation meet the evaluation criteria and performance measures the County may consider the results of onsite test plots established at the site; or the extent of site restoration and ecological development achieved as compared to existing upland

grassland/prairie habitat monitoring sites or reclamation research test plots that have been previously established for this purpose in the surrounding area.

The criteria that will be used by the county to measure reclamation success include species diversity, plant density, biomass, soil chemistry and fertility, and soil organic matter.

Attachments

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