Hwy 124 & 64 Pit Reclamation Plan Modification

Owner: Raymond Michels
Operator: Raymond Michels

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Reclamation Plan Modification for the Hwy 124 & 64 Gravel Pit

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Introduction

The purpose of this document is to give supporting information for the proposal to modify the existing permitted mine boundary and reclamation plan for Ray Michels Highway 124 & 64 sand and gravel pit. The pit is located in section 5, T30N – R08W, in the Town of Woodmohr, Chippewa County, Wisconsin. The plan entails adding 21 acres to the existing permitted mining area and modifying the final reclamation plan and timeline for the site. The reclamation plan consists of adding wildlife pond habitats, upland grassland wildlife habitats and low density single family residential development sites. The information in this document follows the Chippewa County Reclamation ordinance code.

Initial Site Plan

A) Initial Site Maps include:

1. Location in the township and county – Figure 1, Hwy 124 & 64 Plat Map

2. Topography of the affected lands
   – Figure 3, Existing Conditions Map

3. Property boundaries showing land under consideration and neighboring parcels within 660 feet
   – Figure 3, Existing Conditions Map

4. Roads within 660 feet of the proposed new site boundary
   – Figure 3, Existing Conditions Map

5. Road right of way lines
   – Figure 3, Existing Conditions Map

6. All structures within 660 feet of the new site boundary
   – Figure 3, Existing Conditions Map

7. Perennial and intermittent streams within 660 feet of the new site boundary
   – Figure 3, Existing Conditions Map
   There are no perennial or intermittent streams on or within 660 feet of the site.

8. Drainage ways/concentrated flow to or from the site
   – Figure 3, Existing Conditions Map
   There are no distinct drainage patterns on site; all runoff is concentrated toward the storm water ponds and the site is internally drained.

9. Wetlands within 660 feet of the new site boundary
   – Figure 3, Existing Conditions Map

10. Boundaries of previous excavations on site
    – Figure 3, Existing Conditions Map

11. Wells within 660 feet of the new site boundary
    – Figure 3, Existing Conditions Map

12. Groundwater elevations at the site and the source of information
    – Figure 3, Existing Conditions Map
    Groundwater elevations were determined using the Chippewa County groundwater map

13. Locations of all utilities at the site
    – Figure 3, Existing Conditions Map

B) Supporting information for initial site description

1. Owner and applicant information
   The mine is owned by Ray Michels, and operated by Michels Sand & Gravel; 13601 State Hwy 64 Bloomer, WI

2. Lease
   There is no lease required

3. Legal description
   FRAC NE NW LYING E OF CSM #2720 & N OF CSM #2186; FRAC NW NE EX COM @ INTER OF CEN LN STATE HWY 64 & CEN LN MARSHMILLER RD, E 300' TO BEG; S 730', E TO E LN NW NE, N 730' TO CEN HWY 64, W TO B & EX PRT OF CSM #2186 & EX PRT DESCRI IN DOC #631847; FRAC NW NE & FRAC NE NW COM @ NW COR CSM #2186, S 5 D E 326.73' TO B; N 87 D E 402.97', N 9 D W 130.36, N 38 D E 17.61', N 79 D E 60.66', N 10 D W 59.04', N 78 D E 23.74', S 5 D E 1119.42' TO S LN NW; FRAC NE NE EX BEG @ NE COR; W 697',S 600', E 222', N 69', E 475' TO E LN, N 531' TO POB, EX BEG @ NW COR, E 174', S 464', NW TO W LN, N TO POB & EX .46 A. FOR STATE HWY 124 EX CSM #4499 FOR 2016 ASS; legal_desc SE NE EX .46 A. FOR STATE HWY 124

   Primary Parcel #
   23008-0612-00020000

4. Parties of interest
   List of names and addresses of landowners within 660 feet of the new site boundary.

Raymond Michels
13601 State Hwy 64
Bloomer, WI 54727

Chippewa County
711 North Bridge Street
Chippewa Falls, WI 54729

Janice Turner
1926 Kranzfelder Street
Bloomer, WI 54727

Jerome & Debora Gillette
19119 140th Street
Bloomer, WI 54727

Luann Granholt
13691 State Hwy 64
Bloomer, WI 54727

Eugene & Mary Kerckhove
13725 State Hwy 64
Bloomer, WI 54727

Chad & April Fleming & Johnson
13975 State Hwy 64
Bloomer, WI 54727

Betz LLC
16101 State Hwy 64
Bloomer, WI 54727

Brooke Stuckert
18906 State Hwy 124
Bloomer, WI 54727

Leonard & Joseph Sykora & Sykora
14527 State Hwy 64
Bloomer, WI 54724

Karen Adrian
12280 180th Street
Chippewa Falls, WI 54729

Elizabeth Bohl
18901 State Hwy 124
Bloomer, WI 54724

Wayne & Patricia Hassemer
18891 State Hwy 124
Bloomer, WI 54724

Mathey Construction Company
920 10th Ave
Onalaska, WI 54650

Charles & Cathy Morning
18186 State Hwy 124
Bloomer, WI 54724

Leonard & Laura Jean Halfman
18303 130th Street
Bloomer, WI 54724

Haas Sons Properties LLC
203 E Birch Street
Throp, 54771

Francis & Judith Ann Jenneman
18529 130th Street
Bloomer, WI 54724

5. Soils Information
   Thickness of the A horizon (topsoil), E horizon (subsurface soil), and B horizon (subsoil) and the method of determination.

   The thicknesses of the soils on site were determined by using the USDA Soil Survey of Chippewa County Wisconsin. There are four different soil types on the site (refer to Figure 2, Soils Map), their names and thicknesses are as follows:

Soils	A horizon (Topsoil) Thickness (in)	E horizon (Subsurface Soil) Thickness (in)	B horizon (Subsoil) Thickness (in)
Chetek sandy loam (CkB)	8	5	7
Chetek sandy loam – eroded (CKC2)	7		12
Rosholt sandy loam (RoA)	7	17	14
Rosholt sandy loam (RoB)	8		24

Site Operations Plan

A) Site Operations Map Includes:

1. Location of mining site boundary
   – Figure 4, Site Operations Map

2. Separation boundaries and separation dimensions as referenced in Mine Siting Standards
   – Figure, 4 Site Operations Map

3. Planned cell boundaries
   – Figure 4, Site Operations Map

4. Location and extent of disturbed areas
   – Figure 4, Site Operations Map

5. Processing facilities
   – Figure, Site Operations Map

6. Location and discharge point of site dewatering systems
   There are no dewatering systems on site

7. Direction of flow of surface runoff
   – Figure 4, Site Operations Map

8. Vegetative and structural measures to be taken to screen the operation from view of surrounding land uses
   – Figure 4, Site Operations Map

9. Points of public road access
   – Figure 4, Site Operations Map

10. Temporary measures to limit on site erosion
    – Figure 4, Site Operations Map

B) Description of Site Operations

1. Material to be extracted
   Sand and Gravel

2. Description of the type of extraction and processing activities to be done on site
   The excavation sequence begins with the stripping of topsoil and overburden using appropriate equipment. The topsoil and overburden will be stored as berms around the site sloped 3:1 and seeded with DOT seed mix #20. These berms will act to screen the operation from view. Further berm/topsoil management is noted in the sequence and progression through new cells section. With the sand and gravel deposit exposed, extraction will occur above and below the water table. Processing operations include screening, crushing, and washing. Materials are then stockpiled before being hauled off site.

   Screening berms and tree planting is allowed within the 50 foot set back from property lines as stated in Chippewa County Siting and Development Standards.

There is one primary access/haul road that is used for the site. It comes into the site from the east off of Highway 124 and is shown on the Operations Plan Map. Haas & Sons also uses this road to access the Jenneman Pit (Permit #2004-03) and Halfman Pit (Permit #2005-02) to the West and South.

The excavation process will be done using backhoes, bulldozers, and end loaders.

The water table is typically 10 to 30 feet below the ground surface. Mining is done 10 to 20 feet below the water table.

There are no high capacity wells on site and none are proposed for this operation.

Historical records indicate that a wetland previously existed on the site. Past mining activity has removed any ecological benefit from this wetland, so no mining setback is required. There is also one small potential wetland area to the north on the other side of Highway 64, roughly 500 feet from the property line. Both of these can be seen on the Existing Conditions Map.

The existing approved hours of operation at this pit are between 6:00am and 9:00pm for crushing and hauling. Startup of the crushing plant is allowed at 5:00am and shutdown at 10:00pm.

3. Estimates of the total volume of sand and gravel to be extracted by cell

Cell	**Area (sq yd)**	**Sand & Gravel (cy)**
3A	87,767	292,500
3B	89,087	296,900
4A	69,885	232,900
4B	83,612	278,700
5	59,945	199,800
6	26,971	89,900
7	31,882	106,300
TOTAL	449,149	1,497,000

Estimates of the total volume of soil and overburden to be striped and stockpiled by cell.

Cell	Area (sq yd)	Composition	Topsoil (cy)	Subsoil (cy)	Total (cy)
3A	87,767	40%RoA, 40%RoB, 20%CkC2	18,000	38,000	56,000
3B	89,087	30%CkB, 70%RoB	19,800	27,100	46,900
4A	69,885	40%CkB, 60%RoB	15,500	20,600	36,100
4B	83,612	100%CkB	18,600	19,700	38,300
5	59,945	100%RoB	13,300	40,000	53,300
6	26,971	100%RoB	6,000	9,000	15,000
7	31,882	80%CkB, 20%CkC2	6,900	7,000	13,900
TOTAL	449,149		98,100	161,400	259,500

4. Topsoil management
   Topsoil and subsoil berms will be constructed during each mining phase to both screen the site and retain material for final reclamation. At a minimum, berms shall be eight (8) feet high, ten (10) feet wide on top, and have 3H:1V side slopes. Berms shall be constructed to be 50% subsoil and 50% topsoil. Immediately following installation of berms, they shall be seeded with DOT seed mix 20 to prevent erosion.

5. Sequence and progression though the new planned cells and soil management
   Please refer to the Operations Plan Map to aid in this description.
   There were originally 3 cells planned when the mine was first permitted in 1998. Mining is now ongoing though cell 3 of that plan. A new plan has been made with cells numbered 3 through 6. Mining is currently ongoing in cell 3-A and 3-B of the new plan.

   The sequence in which these cells will be mined is represented on the Operations Map as "Mine Architecture" and is as follows…

3-A

The western side of Cell 3-A will be mined southward to the edge of the permitted mine boundary. There are no setbacks from the property boundaries to the West and South per agreements with Haas Sons and Stelter INC. The east side of the cell will then be mined northward until it has been mined out.

There is an existing topsoil stockpile in cell 3-A (noted on the Site Operations Map) which will be used to begin berm construction along highway 124 starting on the south end. Additional topsoil and overburden to be stripped in this cell will also be used to construct berms along highway 124.

3-B

Cell 3-B will be mined northward starting from the access road until it is mined out. Mining will cease at the 50 foot setback from the Kerckhove property line.

Topsoil and Subsoil stripping from this cell will be used to create berms on the north end of cell 3-B and cell 4-A.

4-A

Mining in Cell 4-A will begin on the north end of the cell just to the south of the existing berm. An agreement with Brook White has been made in that mining can occur within the 50' property line setback. Cell 4-A will be mined southward toward the access road. A 50 foot setback will be followed on the eastern side of the cell.

Topsoil and subsoil stripping from cell 4-A will be used to create screening berms along 124 starting on the north end.

4-B

Cell 4-B will be mined starting on the south end and mined up to the access road. A 50 foot setback from the property line on the east side of the cell will be followed. It is possible that the south half of this cell will be mined out with cell 3-A.

Topsoil and subsoil to be stripped in this cell will be used to complete the berms along highway 124 if they are not already complete.

4-C

Mining in cell 4-C will commence sometime after cells 4-A and 4-B have been started. Mining will start on the southern edge, leaving enough room to access the cell in the southeast corner. Cell 4-C will be mined out in a clockwise manner starting on the southern edge and ending in the southeast corner. A 10 foot setback from the property boundary with Haas Sons to the west will be followed. A 50 foot setback on the property boundary to the north will be followed.

Topsoil and subsoil to be stripped in this cell will be used to create a berm along the north edge of this cell to screen the operation from highway 64.

Cells 5 & 6
Cell 5 will not be mined until cell 4-C is completely mined out. Direction of mining not yet determined. Cell 6 will be mined after all other cells have been mined out. Direction of mining not yet determined.

Topsoil and subsoil for cell 5 will be stockpiled around the edges of that cell. No screening will be required for cell 5. Topsoil and subsoil for cell 6 will be stored as a berm along the north edge of the cell. There is substantial existing tree cover to act as screening for cell 6 on both sides.

6. Methods for site dewatering and effluent discharge
   All runoff is contained in the ponds on site and the site is internally drained.

7. Stormwater permits required by other agencies
   Attachment 1

8. Erosion control permits required by other agencies
   Attachment 1

9. Reclamation activities to be conducted during mining operation
   As mining commences in new cells, reclamation will begin in cells that are no longer being mined or needed for storage. Topsoil and overburden that has been removed from the pit area will have been saved and stored as berms around the site. The topsoil and overburden will be removed from the berms that are no longer needed for screening and will be used for reclamation. This will consist of the reapplication of overburden and topsoil to create the slopes for the wildlife ponds.

   In addition to wildlife ponds, there will be potentially 5 areas throughout the site that will be intentionally left undisturbed or reclaimed with the intention of using them as sites for single family residential housing developments.

10. Timetable for commencement and cessation of nonmetallic mining operations
    The pit was opened and first mined in the fall of 1998. Nonmetallic mining has been ongoing at this site ever since and will continue until the sand and gravel resources on site are completely mine out. The final reclamation of wildlife ponds will be completed once mining has ceased.

    On average the 124 & 64 pit sees approximately 1 to 4 acres of land disturbed each year. A rough estimate of when the sand and gravel resource for the mine is depleted would be 2050. This is a very approximate estimate and is subject to change based on the demand for sand and gravel on a yearly basis.

Timetable by cell:

Cell	**Mining Completion** *(years from now)*
3-A	5 years
3-B	5 - 10 years
4-A	10 - 20 years
4-B	10 - 20 years

11. Approximate reclamation timetable
    In general, reclamation will be done by cell as mining moves to new cells. Mining is currently ongoing in cell 3-A and 3-B. As mining commences in 4-A and 4-B, wildlife pond reclamation work will begin in 3-A and 3-B. Reclamation of other cells will be done in a similar fashion.

    An existing reclamation bond of $48,000 is currently on file with Chippewa County LCFM.

Final Site Plan

A) Final Site Map Includes:

1. Final depths, final slope angles, and slope stabilization measures
   – Figure 5, Final Site Maps

2. Areas which convey concentrated flow to, across, or from the site
   – Figure 5, Final Site Maps

3. Facilities or structures to remain in place
   – Figure 5, Final Site Map

4. Planned development features on site following closure
   – Figure 5, Final Site Map

5. Cross sections showing current ground surfaces, final slope, groundwater elevations
   – Figure 6, Cross Sections

B) Description of Final Reclamation

1. Plans for disposition of surface structures, roads and related facilities after cessation of mining
   Upon completion of mining, all operating facilities will be removed. These do not include any residential facilities which include the shop, barn, silo and sheds. The primary access

road to the mine will remain in place a driveway. The access road is also used by Haas & Sons and they will need to be considered before removal of the section that leads to their mine site.

2. Topsoil reapplication
   The topsoil and overburden will be removed from the berms around the site and reapplied as uniformly as possible across the site and sloped 3:1. The topsoil stockpiles will also be used to create the appropriate slope requirements around the wildlife ponds as required by Chippewa County.

   Topsoil and subsoil will be separated to the best of the operators' ability and placed in the area to be reclaimed; subsoil first, then topsoil. This will be graded to 3:1 slopes or less. Trucks will be routed away from the areas where topsoil is reapplied to limit compaction and rutting. Tracked equipment will also be used in the reapplication process to limit rutting and compaction.

   According to the USDA soil Survey of Chippewa County, the average topsoil (A horizon) thickness for the site is 6.5 inches. The average subsurface (E Horizon) and subsoil (B horizon) varies considerably but are no less than 10inches combined for the site. Therefore, 10 inches of reapplied subsoil and 6 inches of reapplied topsoil will be the goal for the reclaimed site.

3. Addressing long term safety of the reclaimed mine site
   The final site will have slopes of no more than 3:1 within and around the perimeter of the site. The shoreline of the ponds will have slopes ranging from 3:1 to 10:1. The rest of the site will be above the water table after the soils have been reapplied. The site will be internally drained.

4. Seeding plan
   The edges around the wild life ponds will be sloped and seeded with WI DNR Seed Mix #4. The Upland Grassland Wildlife areas (remainder of the site) will be seeded with WI DNR mix 2.
   See Attachment 2

5. Standard for verifying successful reclamation

   The extent of reclamation success for the site will be measured over the term of a prescribed evaluation period. This evaluation period will extend for a period ranging from three (3) to ten (10) years based on the intended post-mining land use, the intended cover type, and the physical characteristics of the mine site.

   Reclamation success for the Wildlife Pond Habitat will be measured periodically throughout the term of the evaluation period using the following evaluation criteria:

a. Site stability
    i. Establishment of irregular shorelines that vary from 3:1 to 10:1 and extend a minimum of 6 feet vertically below the water line
    ii. No visible erosion (rills, gullies, sluffing, etc.) around the shoreline
    iii. Establishment of a minimum of 6 inches of topsoil placed along the shoreline and on the slope a minimum of two feet vertically below the water line to encourage vegetative growth
b. Plant density and species diversity
    i. 75% or more are species from the specified seed mix, 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
    ii. No more than 50% of the total vegetation is one species from the seed mix
    iii. A minimum of 70% ground cover during the growing season
c. Soil chemistry and fertility
    i. Establishment of a soil profile with a target pH to achieve the post mining land use
    ii. Organic matter greater than 1 percent

Reclamation success for the Upland Grassland Wildlife Habitat will be measured periodically throughout the term of the evaluation period using the following evaluation criteria:

a. Site stability
    i. Slopes no greater than 3:1
    ii. No visible erosion (rills, gullies, sluffing, etc.)
b. Plant density and species diversity
    i. 75% or more are species from the specified seed mix, 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
    ii. No more than 50% of the total vegetation is one species from the seed mix
    iii. A minimum of 70% ground cover during the growing season
c. Soil chemistry and fertility
    i. Establishment of a soil profile with a target pH to achieve the post mining land use
    ii. Organic matter greater than 1 percent

6. <u>Description of anticipated future use of the site</u>
The future use of the site will include developed lands consisting of up to five low density single family residential housing sites. The site will also include several conservation wildlife ponds that will meet Chippewa County "standard for non-metallic mine sites in which ponds are created." The final pond depths will be between 15 and 20 feet. The site will also be reclaimed as an Upland Grassland Wildlife Habitat in the areas where there are no wildlife ponds, or residential sites planned.