

Nonmetallic Mining Reclamation & Operation Plan

Amendment No. 1

(Includes modifications for Wash Plant construction)

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Mondovi Mine

Town of Mondovi, Wisconsin

Prepared for:

Buffalo White Sand, LLC

PO Box 66, Mondovi, Wisconsin 54755

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Figure 2 - Site Layout

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1.0 OVERVIEW AND GENERAL SUMMARY OF THE PROPOSED MINING OPERATIONS

This Nonmetallic Mine Reclamation & Operation Plan addendum is for the construction and operation of a proposed wash plant at the Buffalo White Sands (BWS), LLC.-Mondovi Mine. A Nonmetallic Reclamation Permit Application and Reclamation Plan dated June 1, 2011, prepared by Superior Sand Systems Inc., was previously submitted and approved by the Buffalo County Zoning Department.

BWS is currently operating a non-metallic mine which includes sandstone extraction, hauling, drying and sorting. After limited sand removal and processing, it became apparent that due to fine sediment particle content, this material could not be processed by the sand drying equipment. BWS is proposing to construct a wash plant to expand its current sand processing operations.

The entire permitted mine site encompasses approximately 560 acres. The mine operation will include a wash plant, wash ponds, crusher, sand drying plant, and other equipment to support mining activities, such as: backhoes, haul trucks, conveyors, and front end loaders. Egress and ingress to the mine site is from State Hwy 37, located along the southeast boundary of the site. Typical traffic coming into and out of the mine site is trucks.

The area of the proposed wash plant is approximately 10 acres in size. Construction activities associated with the wash plant will include site grading, installation of an extension to the existing haul road, and construction of four wash ponds totaling approximately 3 acres. The topsoil removed will be kept onsite for berm construction and site reclamation.

Buffalo County Nonmetallic Mining Policy and Procedure requires a 75-foot buffer zone from the active mine boundary to adjoining property lines. No portion of the proposed wash plant will be located within the buffer zone.

The life span of this proposed mine operation is anticipated to be 20 to 30 years. However, market conditions will be the ultimate driver in the longevity of this mine operation. During its operation, about 40 acres will be active, including haul roads. A financial assurance bond of \$120,150.00 is in place with Buffalo County Zoning for the 40 acres.

The end land-use is anticipated to be a combination of agricultural and wildlife habitat with passive recreation. There is no development as part of the final reclamation. Non-agricultural areas will be restored with native plant species as detailed in this plan. All sloping is proposed to be 3:1 to reflect the natural topography.

2.0 SITE INFORMATION

2.1 General Location

The proposed mine operation is located within Sections 28,33, and 34, Township 24 North, Range 11 West, Mondovi, Buffalo County, Wisconsin. The site is located along the north side of State HWY 37, approximately ½ mile south of the intersection of State Hwy 88. Figure 1, *Site Location Map*, shows the location of the nonmetallic mine operation.

Figure 1, along with all remaining report figures, are provided in Appendix A,

2.2 Owner and Operator

Owner & Operator:

Buffalo White Sand, LLC

P O Box 66

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(715) 797-1326

Dick Lowater, General Manager

2.3 Mine Boundaries

Figure 2, *Site Plan View*, illustrates the mine operation boundaries and current site features overlain on a 2010 aerial photograph. Figure 3, *Site Detail*, depicts the proposed wash plant layout and storm water control features.

2.4 Location of Manmade Features

The existing mine operation includes the site haul roads and dry plant. BWS is proposing to construct a wash plant and associated wash ponds (see Figure 3). A berm will be constructed around the perimeter of the wash plant. Due to the distance from State Hwy 37, the proposed wash plant will have limited visibility from the roadway.

The existing dry plant includes one processing building and two storage buildings. The proposed wash plant will be located to the southeast of the dry plant, along the east side of the existing haul road.

3.0 MINE OPERATIONS SETUP

As previously stated, BWS is currently operating a nonmetallic mine used to extract sandstone. The mine operation currently includes the extraction of sandstone from mining Area #1 and a sand drying plant. Operations consist of blasting, excavating and hauling sand with equipment to support mining activities. Due to the inability to process the sand, BWS is proposing to construct a wash plant and associated wash ponds. The location of the existing and proposed operations are shown on Figure 3.

Material is removed using backhoes and front end loaders. The material is loaded into haul trucks and transported to the onsite processing area. Here the material will be crushed (if needed), washed and stockpiled. The washed stockpile material will then be transferred to the sand drying plant. The dried sand will be transported off site via egress and ingress off of State Hwy 37.

There will be a network of ponds, totaling approximately 3 acres, created for the washing operation. A minimum of one high capacity well will be installed to service the washing operations. The high capacity well will be used to maintain water levels in wash ponds. All wash water will be returned to the ponds to be reused. A potable well is present at the mine site and is used for potable and sanitary use.

The life span of this proposed mine operation is anticipated to be 20 to 30 years. However, market conditions will be the ultimate driver in the longevity of this mine operation. During its operation, about 40 acres will be active at any one time. This includes the active mining areas and land dedicated to haul roads, the wash and drying plants, as well as the ponds. The active portion of the mine, where material is currently being extracted, is located along the north property boundary and will generally move from west to east, and progress to the south as the mine matures.

The end land-use is anticipated to be a combination of agricultural and wildlife habitat with passive recreation with no development as part of the final reclamation.

3.1 Mine Safety

No unauthorized access to the mine site, including the processing areas, is allowed. All employees and subcontractors associated with the mine operation will follow the Mine Safety & Health Administration (MSHA) regulations.

3.2 Transportation

Materials will be transported off of the mine site using fully enclosed trucks. The egress and ingress from the mine site is centrally located along the southeast property boundary and provides access to State Hwy 37.

3.3 Mining Equipment

Processing of the sandstone or material will be conducted onsite utilizing a crusher (as needed), wash plant, and sand drying plant. Support equipment onsite will include a track mounted excavator and front end loader. Trucks will only be present for loading activities.

3.4 Dust Control

The wash plant operations is not considered to be a source of significant fugitive dust. The facilities mining, crushing, and sand stockpiling operations will remain nearly the same. The only addition of potential dust sources is the wash plant feed hopper and conveyor, and washed sand stockpile. Most of the washing operations involves wet sand.

The operation has developed a site specific fugitive dust plan, in accordance with WDNR WAC NR 415.04. Haul roads will be maintained with water or other suitable chemicals applied to reduce fugitive dust emissions, as conditions warrant. Mining practices will also be employed to reduce airborne dust, such as limiting heights of stockpiles, stabilizing overburden piles with vegetation, and loading techniques.

3.5 Storm Water Controls

The mine operation has obtained a Wisconsin Pollution Discharge Elimination System (WPDES) General Nonmetallic Mine Permit from the WDNR. The Stormwater Pollution Prevention Plan (SWPPP) has been updated to include the proposed wash plant. BWS will follow the Best Management Practices (BMPs) outlined in the SWPPP and general permit to reduce impacts to storm water. BMPs will include installing silt fencing down slope of excavation activities, installation of vegetated berms, use of vegetative buffers or swales to divert flow back into the mine, and a tracking pad prior to leaving the mine site.

3.6 Topsoil Storage and Protection

All topsoil removed to facilitate the wash plant construction will be stored on the property in locations selected to minimize erosion and reduce product handling during the removal and reclamation stages. A majority of the stockpiled soil will be placed as a berm around the perimeter of the wash plant. If excess material is present and needed for future mining phases, the topsoil can be stockpiled. All topsoil stockpiles will be seeded according to the seeded and silt fencing and/or other protective measures will be employed as needed to reduce erosion. No stockpiles will be placed within existing natural drainage ways.

3.7 Erosion Control

During construction of the wash plant, erosion control will be implemented to minimize erosion and limit the potential for sediment run-off into surface water. The following principles will be followed at the site to control erosion:

- Where runoff is from undisturbed areas occur, the runoff is diverted to the extent practical around any processing or actively mined area that is not currently reclaimed on an interim basis. This will be performed through grading to direct all surface water, protective ditches, silt fencing, straw bales, check dams, and/or buffer areas to encourage infiltration and percolation.
- Recently disturbed areas will be stabilized using best management practices (BMPs) such as quick-growing vegetation, mulch, silt fencing, straw bales, erosion control blankets, or equivalent methods. The BMPs will be implemented as quickly as possible.
- Topsoil stockpiles will be placed in a location on-site that will reduce the potential for erosion. The selected location will be protected against wind and water erosion, unnecessary compaction, and contamination by undesirable materials. If necessary, an effective vegetative cover may be planted to provide adequate protection.

Surface water protection measures will be installed and maintained to support site operation and reclamation activities.

4.0 SITE FEATURES

The following sections provide details regarding the soil, hydrogeology, and topographic information of the proposed wash plant location.

4.1 Site Soils

According to the NRSC Web Soil Survey, soils identified in the area of the proposed wash include is Chaseburg silt loam (616B), 2 to 6 percent slopes, and Seaton silt loam (115D2), 12 to 20 percent slopes, described as follows:

Chaseburg soils consist of very deep, well drained soils with moderately high to high permeability formed in silty and loamy slope alluvium. These soils are associated with hydrologic group B.

Seaton Soils consists of well drained soils with moderately high to high permeability formed from loess parent material. These soils are associated with hydrologic group B.

All topsoil removed during wash plant construction will be maintained onsite and used for berm construction or future site reclamation.

4.2 Existing Topography

Site topography shows the elevation of the entire mine site is approximately 1,240 feet above msl at its highest point to 800 feet msl at the base. Elevation in the area of the proposed wash plant ranges from approximately 890 feet msl to 910 feet msl.

4.3 Groundwater Information

According to the *NRCS Web Soil Survey*, groundwater is more than 80 inches below grade. A search of the July 2009 DNR Water Well Data CD returned two private wells in the vicinity of the mine site. The well forms list the static water level from 13 to 50 feet below grade.

Groundwater use in the local area is primarily potable. Based on the local well construction reports, all the groundwater is pumped from the underlying sandstone aquifer.

Current water usage for the mine is for potable purposes such as onsite drinking water and sanitary facilities. A high capacity well will be installed as part of the proposed wash plant and used to mitigate water loss in the wash ponds. All water used in the washing process will be returned to the ponds for reuse. A copy of the high capacity well approval issued by the WDNR is provided in Appendix B.

4.4 Location of Surface Waters

Surface water bodies located on or in the area of the mine site include a private pond located in the south central portion of the mine site, and the Buffalo River located to the southeast of the mine site, beyond State Hwy 37.

4.5 Existing Drainage Patterns

Within the confines of the site, any surface water that does not infiltrate, flows overland and into natural or constructed drainage swales. A combined drainage swale conveys stormwater off the site and eventually discharges into the Buffalo River.

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5.0 RECLAMATION MEASURES

Information regarding final site reclamation was provided in the original mine application permit.

5.1 Post-mining Land Use

The area of the proposed wash plant is currently agricultural field used for row cropping. BWS plans on returning the site to a post-mining land use consisting of a combination of agricultural and wildlife/passive recreation. There is no planned development as part of the final reclamation.

5.2 Earthwork and Reclamation: Final Grading and Slopes

The original reclamation plan provided details of the post-reclamation site elevation contours. BWS will reduce any unconsolidated material highwalls created by wash plant construction grading activities or any berms constructed around the wash plant to a minimum 3:1 slope. The 3:1 sloping will be more natural looking as it matches the current terrain. The natural sloping would have the effect of reducing unnatural lines and blending the contours in an irregular pattern to avoid regular, unnatural edges. The wash ponds will be filled up to grade as part of the final site grading.

All grading will be completed and resulting surfaces scarified, as needed, prior to topsoil redistribution. Grading will be completed in a manner that prevents ponding of water on the reclaimed surface.

5.3 Re-vegetation Plan

Details of the re-vegetation plan and success criteria for final site reclamation was provided in the original mine application permit and reclamation plan. Reclamation of the proposed wash plant site will follow these specifications.

Compliance with the re-vegetation success standards (performance standards) will be demonstrated for each post-mining land use contained in the approved reclamation plan. Success criteria will vary with the post-mining land use. In addition, both presence and frequency will be included.

6.0 PERMIT MODIFICATION

A request for modification of the permit may be made if changes occur to the area to be mined, the nature of the planned reclamation, or other aspects of mining required for approval by this reclamation plan. Any modification will be according to the standards and procedures identified in the NR 135 permit and the local ordinance.

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7.0 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 as described in the reclamation plan. At that time, the operator will request the Regulatory Authority to perform the necessary inspection and evaluation work to certify the reclamation as complete and to release the financial assurance.

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8.0 FINANCIAL ASSURANCE

A financial assurance bond is currently in place with Buffalo County Zoning. The current financial assurance is \$120,150.00, which is approximately \$3000.00 per acre for the 40 acres of active mine. The 40 acres of active mine would include the wash plant site; Therefore the current bond amount is adequate when including the proposed wash plant. The process equipment included as part of the wash plant will have marketable value, and is considered to be an asset for the final reclamation costs.

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