



MEMORANDUM

TO: Kristina Handt, Administrator, City of Scandia

FROM: Jed Chesnut, Wetland/Natural Resource Specialist

DATE: March 17, 2015

RE: **Zavoral Mining and Reclamation Project – Monitoring and Inspection Report
2015 Inspection #1 – March 12, 2015**

As per the contract (15-01) between the Washington Conservation District (WCD) and the City of Scandia (City), WCD staff performed site inspection and monitoring tasks pertaining to Technical Services of Exhibit B. This memorandum serves as a summary of applicable activities and reviews. The site inspection took place on March 12, 2015. Christina Morrison of Tiller Corporation (Tiller) was present and provided a descriptive tour of the project area. Each service area is listed below with a summary description of results.

1. Technical Service 3 – Erosion and Sediment Control Inspections
 - a. Task 1 – Site Inspection
 - i. Active mining was not occurring during the site visit, however the mine was active for several months prior to the inspection date and the most recent haul event had just finished the week of the site visit.
 - ii. Silt fence that had been installed in 2013 as per the stormwater pollution and prevention plan (SWPPP) was in good shape. The silt fence throughout the project area was still effective for perimeter control.
 - iii. There were some stockpiles of very fine silt material that was being blown off-site due to the windy conditions. See attached pictures. Corrective action may be needed.
 - iv. The entire site had changed significantly since the December inspection. Phase II mining was well underway and much material had been removed. Excavation extended near to the silt fence along the southern boundary (see attached pictures). Red arrows on the attached pictures signify flow direction of surface water runoff.
 - v. Nearly the entire mine site now drains internally, with one exception where the landowner's driveway exits the mine area and begins its descent towards the river. This area had sufficient perimeter control for erosion and sediment control (see pictures).
 - vi. The old access road has been completely removed and the northern area of the mine had been "finished-graded" in preparation for Reclamation Phase II. The entire northern boundary of the active mine area slopes and drains internally (see attached pictures).
 - vii. In 2014, Tiller regraded the internal driveway road that runs along the south and east project limits so that it sloped inward to the mine and therefore runoff would be directed internally. Most of the driveway along the south was no longer present since the area was mined. The driveway is now within the mined area. The diversion drainageways along the east project limit were still present and appeared to be functioning by directing stormwater runoff internally to a ponding area (see attached picture).
 - viii. A small area of exposed soils was observed along the east project limit. The soils had experience some erosion, however the silt fence was functioning properly to

contain the sediment. This area will be checked during each inspection to ensure that sediment does not discharge out of the mine area.

2. Technical Service 4 – Threatened and Endangered Species
 - a. Task 1 – Conduct Site Reviews to Document Compliance with Blanding’s Turtle SOP
 - i. The site was in compliance with the mitigation measures as listed in Appendix C of the Zavoral Mine FEIS.
 - b. Task 2 – Annual Inspection of Site and Monitor T&E Listing Status of Butternut Tree
 - i. The status of the butternut tree (*Juglans cinerea*) had been changed to “endangered” on August 19, 2013. As a result, removal of a butternut tree after August 19, 2013 would require permitting from the Department of Natural Resources. One non-diseased tree has been identified on the property, outside of the mine limits. WCD did not verify its presence during the March site review.
3. Technical Service 5: Reclamation Plan Review and Inspection
 - a. Task 2 – Conduct Site Inspections to Verify Implementation of the Restoration Plan
 - i. Grading of Reclamation Phase II had begun and the northern section of Phase II was at final grade and ready for the topsoil.
 - ii. One of the 25 transplanted white pines appeared dead during the 2014 site inspections suggesting that it was not successfully transplanted. The trees will continue to be monitored.
 - iii. A revised plan for the wooded transition zone (left uncut and planned to be managed) between the mine and the undisturbed forest was approved by the City on August 19, 2014. Initial implementation had begun including selective removal of non-native herbaceous vegetation. The transition zone will be monitored in 2015 as part of WCD’s inspection activities.
 - iv. A significant amount of the required organic soil and mixed material was stockpiled on site and ready for final placement into the reclamation areas.
 - v. Based on the progress in 2014, it appears that the native prairie in Reclamation Phase 1 is establishing well. Confirmation of success will occur at the end of the monitoring period as required by the permit.

This ends the reporting of WCD’s March 2015 monitoring activities. Please call me with any questions at 651-330-8220 x25.

Fine silty material
being blown offsite



Southwest extent
of mine.





Southern boundary
silt fence.

Disturbed areas
drain internally to
mine



Western edge of mining. Areas drain internally.





Silt fence is in excellent condition



Exposed soil has eroded, but is being contained by the silt fence. No discharge is anticipated from this small pile of material, but WCD keep observing this area during the site visits.





Ponding area





Driveway down to
landowner's cabin.
Silt fence is
functional.



Approximate location of old access road.

Groundwater monitoring well

Northern extent of mined area. Grade is final and prepped for reclamation.



