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Memorandum

To:	Scandia City Council	Reference:	Zavoral Mine and Reclamation Project Annual Operating Permit
Copies To:	Kristina Handt, City Administrator		
	Mike Caron, Tiller Corporation		
From:	Sherri Buss, RLA AICP, City Planner	Project No.:	15023.010
Date:	February 8, 2012	Routing:	

SUBJECT: Tiller Corporation, Inc. - Annual Operating Permit (AOP) Application for Zavoral Mine and Reclamation Project

MEETING DATE: February 12, 2013

LOCATION: East of the Intersection of State TH 97 and State TH 95

APPLICANT: Tiller Corporation
P.O. Box 1480
Maple Grove, Minnesota 55311

120-DAY PERIOD: February 20, 2013

ZONING: Agriculture District

ITEMS REVIEWED: Application, Plans and Related Submittals; EIS; CUP staff report; Subconsultant recommendations for monitoring

BRIEF DESCRIPTION OF THE REQUEST:

Tiller Corporation has applied for a Conditional Use Permit and Annual Operating Permit (AOP) to operate a gravel mine on the site of a dormant, unreclaimed gravel mine. The 114-acre site (Site) is located along St. Croix Trail North (State Trunk Highway [TH] 95, a State Scenic Byway, east of its intersection with Scandia Trail North (State TH 97). The applicant is proposing that mining and reclamation will occur on 64 acres of the Site (the "Project"). 55 acres of the proposed Project are located on portions of the Site that were previously disturbed by mining; a 9-acre area that was not mined in the past is proposed for mining. Four acres on

the Site are proposed for reclamation only. No processing or recycling activities are proposed as part of the project.

The Applicant submitted the original application in November 2008, and an updated application on October 9, 2012. The updated submittals are available on the City's website for review, and include the following:

- Application Form and legal description, October 9, 2012
- Letter to the City, September 15, 2012, updating the application
- Land Features, Figure C-1A
- Site Plan 2013 Activity AOP
- Mining and Reclamation Phasing, Figures C1 through C5
- Zavoral Property Reclamation Plan, revised October 8, 2012
- Zavoral Mine and Reclamation Surface Water Plan, October 2012
- Savoral Mining and Reclamation Groundwater Quality Protection Plan, October 2012
- Stormwater Pollution Prevention Plan (SWPPP), July 24, 2012
- Zavoral Mine Dust Control Plan, Revised October 8, 2012
- Savoral Mine and Reclamation Project Emergency/Contingency Response Plan, October 2012

The City's Mining Ordinance specifies an AOP cycle that coincides with the active mining season. Applications are due by January 31 each year, so that permits can be approved before the start of the mining season in that year.

The City is reviewing the application for the CUP for the Zavoral project concurrently with the AOP application. If the CUP and AOP are approved, 2013 could be the first year of mine operation. The conditions approved with the CUP and AOP will apply to the project and its operation.

EVALUATION OF THE AOP REQUEST

The Applicant is requesting an Annual Operating Permit (AOP) for a mining operation. The permit requirements are governed by the City's Ordinance No. 103, Regulation of Mining and Related Activities, which is Chapter 4 of the Development Code. The Ordinance requires review of the following items for the AOP:

1. The operating conditions of the previous year and evaluation of compliance with the CUP conditions.
2. Proposed operating conditions and any variation from the previous year.
3. Results of the annual inspection by the City.

The Project's first year of operation will be 2013 if the CUP is approved. Therefore, the proposed conditions for the CUP and proposed operations (item #2) are the focus of this staff report.

CONDITIONAL USE PERMIT REQUIREMENTS

The City of Scandia is considering Tiller’s application for a Conditional Use Permit for mining and reclamation activities at the Zavoral Site. The project will need to comply with the CUP if it is approved for the Project. The CUP conditions specific to the first year of operation include items that need to be completed before mining operations begin, or shall be completed during the first year of operation, as indicated on the following table. These conditions will not be repeated in the AOP.

CUP Condition	Deadline Specified in CUP	Status
1. Comply with CUP	Ongoing	Compliance will be monitored by City staff and consultants.
2. Comply with applicable rules and regulations	Ongoing	Compliance will be monitored by City staff and consultants.
3. Maximum depth of mining	Ongoing	Maximum depth of mining to be 840 feet above mean seal level (amsl). Separation between maximum depth of mining and ground water to be 25 feet or more. Ground water levels to be monitored and reported on a quarterly basis to the MN DNR.
6. Production	Ongoing	Daily pumping from the Zavoral Site Well shall not exceed 10,000 gallons at maximum pumping rate of 1,200 gallons per minute. .
7. Production Well Records	Annual reporting	Tiller shall keep production well records and provide the records to the City, WCD, Washington County Department of Public Health and MN DNR.
8. Revise Groundwater Protection Plan	Within 60 days of approval of CUP	Tiller shall submit the revised plan to City.
10. Monitoring activities	Ongoing	Tiller shall cooperate with monitoring activities completed by the City and its consultants for groundwater and related resources, surface water, noise, air pollution and dust, traffic and mine operations, as specified in the CUP and AOP.
16 & 17. Obtain required stormwater permit and implement BMP’s	Before commencement of mine operations	Tiller shall obtain required stormwater permits from CMSCWD and MPCA and implement the BMP’s included in the SWPPP and provide copies of the permits to the City.
18. Obtain required Air Emissions Permit	Before commencement of mine operations	Tiller shall obtain the required Air Emissions Permit from the MPCA and provide a copy of the permit to the City.
19. Obtain Endangered Species Take Permit for Butternut trees	If required by DNR	Tiller shall obtain the permit before removal of any Butternut trees if MN DNR reclassifies Butternut as an Endangered Species.



CUP Condition	Deadline Specified in CUP	Status
20. Blanding's Turtles Recommendations	Before commencement of mining operations	Tiller shall provide a copy of its operating procedures for minimizing impacts to Blanding's Turtles to the City. City will monitor implementation.
28-30. Access permit and construction	Before commencement of mining operations	Tiller shall obtain the required Mn/DOT Access Permit (TP 1721) and construct the required access and turn lane.
31. Truck records	Submit with 2014 AOP Application	Tiller shall record and report the numbers of trucks hauling Class C add-rock as required in the CUP.
34. Truck warning signs	Before commencement of mining operations	If approved by Mn/DOT, Tiller shall install truck warning signs as required by the CUP.
37. Fence	Before commencement of mining operations	Tiller shall construct the fence shown on the plans before mining operations begin.
40. Update Dust Control Plan	Within 60 days of approval of the CUP	Tiller shall update the Dust Control Plan and provide a copy to the City.
54. Bike Trail	With construction of new access	Tiller shall fund improvements to the existing bicycle/pedestrian trail during construction of the new access to the Site. City to obtain Limited Use Permit from Mn/DOT for maintenance.
55. Update Reclamation Plan	Within 60 days of approval of the CUP	Tiller shall provide an updated Reclamation Plan to the City.
61. Annual reclamation monitoring report	Submit with 2014 AOP application	Tiller shall submit an annual reclamation monitoring report to the City.
74. Developer Agreement and Financial Security	Within 60 days of approval of the CUP	Tiller shall complete a developer agreement and provide acceptable financial security to the City.

OPERATING CONDITIONS - EVALUATION FOR THE AOP

Site Operations - Background Information

Tiller's application indicates that mining operations at the Zavoral site will begin in 2013 if the City approves the CUP for the site. Activities during the first year of operations will include construction of the new site access drive and right turn lane, construction of the haul road into the site, and clearing and stripping of the Phase I mining area. Mining will begin in the Phase I



Mining area and Reclamation will begin in the Phase I Reclamation Area. These areas are shown on the AOP Site Plan, attached.

The sections that follow review the Ordinance 103 requirements for Operating Conditions at the site (Section 7), and describe the proposed site operations and how they relate to the requirements. The sections and staff recommendations identify the proposed conditions for the AOP that related to site operations in 2013.

Ground Water Monitoring Plan and Monitoring Issues

Tiller submitted a Groundwater Protection Plan (GWPP) with the CUP Application. Legette, Brashears and Graham, Inc. (LBG), the City's groundwater consultant, reviewed plan, and provided comments. The plan meets the ordinance requirements.

LBG suggested that some revisions be completed to the GWPP, and provided proposed conditions for the AOP that include locations for monitoring wells and a monitoring protocol for the first year of mine operation. The CUP requires that Tiller update the GWPP based on LBG's comments. LBG's conditions for monitoring are included in the proposed conditions for the AOP. The City will review the monitoring results during 2013, and may make changes in the monitoring requirements and protocol for the 2014 AOP.

Setbacks

The AOP application and plan indicates that the minimum setbacks are maintained as follows:

- 50 feet from the adjoining property line
- 200 feet from an existing occupied structure
- 100 feet from residential property boundaries of 5 acres or less
- 100 feet from any road right-of-way

The setbacks meet the requirements of Ordinance No. 103.

Fencing

The application indicates that a portion of the site is fenced with a four-foot high chain link fence. Existing berms and vegetation create the boundaries of other portions of the site. There is a locking metal gate at the entrance to the site. The fencing and berms meet the requirements of the City's Ordinance. The Council may discuss whether additional fencing should be required.

Hours of Operation

The CUP conditions require that the hours of operation and hauling include 7 a.m. to 7 p.m. Monday through Thursday, and 7 a.m. to 2 p.m. Friday except Federal holidays, during daylight hours, or one hour before sunrise and one hour after sunset during seasons when daylight is not available between 7 a.m. and 7 p.m., unless the City authorizes other hours of operation. The Applicant is required to obtain the City's permission for any extended hours in accordance with procedures set in Ordinance No. 103. The hours meet the requirements of Ordinance No. 103.



Screening

The application notes that existing screening berms, wooded buffer areas, State Trunk Highway 95 and agricultural fields separate the property from surrounding properties. The site plan identifies existing screening trees (northwest boundary of site), existing berms on the west boundary of the site, and additional screening berms on the south boundary of the site that will be constructed during the initial year of operation to screen the Phase I activities. The CUP and AOP conditions require construction of the berms identified for Phase I and require that existing trees and screening be maintained on the northwest and west boundaries of the site.

Dust Control

The CUP includes conditions that Tiller obtain the required MPCA Air Emissions Permit before commencing operations at the site, and provide a copy of the approved permit to the City.

The application included a proposed Dust Control Plan for the site. The site plan and Dust Control Plan address the ordinance requirements for operating conditions, including:

- The required 50-foot setback for the driveway access from neighboring properties.
- The specific items that must be included in the Dust Control Plan to minimize dust and potential pollution.
- The main haul road will be paved for the first 300 feet into the site and asphalt millings will be applied to the main haul road within the site, per the ordinance requirements.
- The Stormwater Management Plan BMP's and CUP conditions require Tiller to minimize soil tracking by trucks on roadways

The Plan was reviewed on behalf of the City by Dave Gutterud, Indoor Environment Group Inc. Mr. Gutterud identified a proposed monitoring protocol for the site, and suggested some changes to the Dust Control Plan. The CUP conditions require that Tiller update the Dust Control Plan within 60 days of the approval of the CUP, that Tiller implement the approved Dust Control Plan and CUP conditions related to dust and air quality, and that Tiller cooperate with the City and its consultant to implement the dust control monitoring at the site. The monitoring that is required in the proposed AOP conditions includes monitoring for compliance with the MPCA Air Emissions Permit as well as monitoring for respirable dust particles (silica). With the implementation of the proposed CUP and AOP conditions, the Project will meet the ordinance requirements.

Noise

The CUP includes a condition that the Applicant must comply with the MPCA's State Noise Standards. The condition indicates that if noise levels at the Project site exceed state standards, the applicant will identify and take corrective actions to bring the noise levels into compliance. The City may order additional testing to confirm compliance with the noise standards. The CUP also includes conditions that require the use of broadband alarms on Tiller-owned equipment, circular traffic patterns to minimize back-up noise, regular muffler inspection, and minimizing the time when equipment and haul trucks operate without noise mitigation from the existing and required berms and mine face.



The proposed conditions for the AOP specify the noise monitoring that will occur at the site during the first year of operations. The City may modify the conditions if needed for the 2014 AOP. With the implementation of the proposed CUP and AOP conditions, the Project will meet the ordinance requirements.

Depth of Excavation

The ordinance requires that the establishment of a maximum depth of mine operation, and prohibits dewatering. The CUP conditions include a condition that establishes a maximum depth of mine operation at 840 feet above mean sea level (amsl) and a minimum 25-foot separation from ground water. The conditions require regular monitoring and reporting on ground water conditions at the site to the City, Minnesota DNR, CMSCWD and Washington County.

Tiller installed the monitoring wells that are required in the CUP conditions on the site in January, 2013. The proposed conditions for the AOP require that the City or its consulting hydrogeologist (LBG) make monthly visits to download the groundwater monitoring data and collect manual measurements. The hydrogeologist will report the results at least annually to the City, or more frequently if he identifies issues or problems. The City will review the depth of mining annually as part of its site visit and monitoring activities. The proposed depth of excavation and monitoring meet the ordinance requirements.

Site Clearance

The ordinance requires that stumps and other debris resulting from site clearance and excavation be disposed of by approved methods, and this condition is included in the CUP. Site clearing in the Phase I Mining area will begin in 2013 and the City will inspect the site to determine whether the applicant has complied with this condition and report on the inspection results for the 2014 AOP application for site operations. The proposed activities meet the ordinance requirements.

Appearance/Condition

The CUP includes a condition that the site be maintained in an orderly condition, and control weeds in planted and reclaimed areas. The City will inspect the site during mining operations in 2013 to confirm that the site and facilities are maintained in a neat condition and include the inspection results in the review of the 2014 AOP application for site operations. The application meets the ordinance requirements.

Sanitary Facilities

The application indicates that portable sanitary facilities will be provided at the site. This meets the requirements of the City's ordinance and conditions for the CUP. The proposed facilities meet the ordinance requirements.

Waste Disposal

The CUP requires that the applicant dispose of any solid waste generated by the operation in accordance with Federal, State and City requirements. The City will inspect the site to determine whether the applicant has complied with this condition and report on the inspection results for the 2014 AOP application for site operations. The proposed methods meet the ordinance requirements.



Water Quality Monitoring Plan

The CUP includes conditions that require regular monitoring of surface water, groundwater, and groundwater-dependent resources at the site. The conditions require that the applicant cooperate with the City and its consultants so that the monitoring and reporting may be completed as required.

The Planner has included proposed conditions for the AOP that specify the monitoring methods and protocols for the water quality monitoring at the site during 2013. These conditions may be revised for 2014, based on the results of 2013 monitoring. With the implementation of the proposed CUP and AOP conditions, the Project will meet the ordinance requirements.

Fuel and Chemical Storage

No fuel or chemical storage are proposed at the site in 2013. The CUP includes conditions to address any storage proposed in the future.

Contingency Response Plan

The application included an Emergency/Contingency Response Plan. The plan will be kept on-file at the City for access by emergency personnel. The plan meets the ordinance requirements.

Processing and Recycling Operations

No processing or recycling are proposed at the Zavoral site.

Trucking Operations

The ordinance requires that all mining operations have access from a nine-ton blacktop, concrete or gravel road. The CUP conditions require that Tiller construct the new driveway access from State TH 95 to the site and obtain the required Mn/DOT Access Permit for the project, to meet the ordinance requirement.

The proposed conditions for the AOP include a condition that Tiller inform all contractors about the following requirements related to trucking operations, and monitor compliance with the requirements by all of its contractors:

- Engine braking is prohibited in Scandia
- Lofton Avenue is restricted to daytime use only
- Loads are required to be covered

The proposed conditions for the AOP also include specific monitoring activities for trucking operations in 2013 to ensure that the numbers of trucks and operations address the CUP requirements and findings of the Zavoral Mine and Reclamation Project EIS. With the implementation of the proposed CUP and AOP conditions, the Project will meet the ordinance requirements.



Reclamation Plan

The applicant submitted a Reclamation Plan with the CUP. The City and WCD reviewed the Reclamation Plan, and required some changes to the plan. The CUP requires that Tiller submit an updated plan within 60 days of approval of the CUP. The CUP also includes conditions related to the implementation and monitoring of reclamation at the site.

The AOP application indicates that reclamation activities will begin in the Phase I area in 2013—the northeastern portion of the Project site. This area is within the St. Croix River District and Scenic Easement Area. The applicant has provided a cost estimate for the proposed Phase I activities. The Phase I reclamation activities will include the following:

- Removal of existing stockpiles from previous mining and minor grading
- Seeding and establishment of native dry and mesic prairie seed mixes
- Planting native white pine trees (transplanted from other areas of the site)

The Planner's proposed conditions for the AOP include site monitoring and the submission of progress reports to the City. The CUP conditions require corrective action if the monitoring finds that the reclamation activities are not meeting the CUP requirements. With the implementation of the proposed CUP and AOP conditions, the Project will meet the ordinance requirements.

Relationship of Proposed Site Operations to the Scandia Mine Site

The EIS for the Zavoral Mine site analyzed potential impacts of site operations on the Scandia Mine Site. Material mined at the Zavoral Mine will be trucked to the Scandia Mine Site. The CUP for the Zavoral Site includes conditions related to trucking operations for the material that is transported from the Zavoral to the Scandia site.

The City received Tiller's application for an AOP for operation of the Scandia Site in 2013 on January 31, 2013. The Council will review this application at its March 19, 2013 meeting.

SITE INSPECTION

The City will complete site inspections at the Zavoral Site in 2013 as needed to assure compliance with the CUP and AOP conditions.

ACTION REQUESTED:

The City Council can:

1. Approve the AOP;
2. Approve the AOP with conditions;
3. Deny the application if it is found that the request is not consistent with the Comprehensive Plan, CUP, AOP Criteria, and Mining Ordinance, and is not in the best interest of the community;
4. Table the request if the Council needs additional information to make its decision.

PLANNING STAFF RECOMMENDATIONS:

The Planner recommends approval of the Tiller Corporation 2013 AOP for sand and gravel mining, hauling and reclamation at the Zavoral Site, with the following conditions:



1. All site operation and reclamation activities shall meet the requirements of the Conditional Use Permit for the Project, approved by the City on February 19, 2013.
2. Site operations in 2013 shall be consistent with the application and plans submitted to the City in November 2008, and updated on October 9, 2012.
3. The applicant's requests for operating hours or haul routes outside those specified in the Conditional Use Permit shall be accompanied by a proposed truck haul route for approval by staff.
4. The applicant shall inform all of its contractors about the following requirements related to trucking operations, and monitor compliance with the requirements by all of its contractors:
 - a. Engine braking is prohibited in Scandia per City Ordinance.
 - b. Lofton Avenue is restricted to daylight hours only as defined in the CUP for the Zavoral Mine and Reclamation Project.
 - c. Haul loads are required to be covered.
5. The City or its consultants shall monitor the potential impacts of mining activities on the ground and surface water resources at the site. The applicant shall cooperate with the City as requested to complete the monitoring activities. The City shall submit all status reports and ground and surface water monitoring reports to the applicant, CMSCWD, the WCD and the Minnesota DNR.
6. The City's consulting hydrogeologist shall make monthly site visits to download groundwater monitoring data and collect manual measurements. The hydrogeologist shall evaluate the data and report the results to the City at least annually with the AOP application, or more frequently if the consultant identifies issues or problems during the monitoring activity.
7. The City or its consultant shall install a monitoring station upstream of or near the existing monitoring station near Crystal Springs in order to isolate potential effects due to mining from other effects to due unrelated activities within the watershed. The applicant shall permit installation of the monitoring station on the Project Site if requested. The City or its consultant will analyze the data to determine the effect, if any, to the springs due to the Zavoral Mine operation, and identify any negative impacts. The results of the analysis shall be provided at least annually to the City for use during the review of the AOP for the Project, or more frequently if impacts are identified.
8. The City or its consultant shall visit the monitoring sites on Zavoral Creek and near Crystal Springs at least twice per month to download the automated data loggers at the monitoring stations and perform grab samples for analysis and analyze the water quality and quantity data gathered at the site. The consultant may also visit the site after large storm events to gather and analyze monitoring data. If the consultant detects any negative impact to Zavoral Creek or Crystal Springs they will notify the City immediately. The consultant shall provide a summary of the monitoring data and analysis in by early January for use in the AOP evaluation.
9. The City or its consultant shall complete an annual field review of the wetland boundaries within the project area, including black ash seepage swamps (Wetlands A, B, and C as shown in the CCES wetland delineation report dated January 14, 2011), to determine if the mining activities have any impact on the wetlands. The review shall occur within the growing season as defined by the U.S. Army Corps of Engineers Wetland Delineation



Manual (North Central and Northeast Regional Supplement), and shall be coordinated with the applicant.

10. The applicant shall provide the wetland delineation boundary data to the City or its consultant in a Geographic Information System format (such as an ArcGIS shapefile) that was obtained as part of the wetland delineation conducted by Critical Connections Ecological Services (CCES) in October, 2010.
11. If a change to the boundaries of the wetlands within the project area is observed that cannot be attributed to climatic influences or other local disturbances not related to mining, the City shall require that quantitative monitoring (including but not limited to, the installation of shallow monitoring wells and piezometers) be initiated for all wetlands within the project area. This monitoring could include the installation of wetland hydrology monitoring equipment along multiple transects across each wetland boundary. The City may conduct this comprehensive monitoring to verify whether the Zavoral Mine is causing the changes to the wetlands. If the City determines that the Zavoral Mine is impacting the wetlands, the quantitative data will be used by the City in consultation with the Technical Evaluation Panel to prepare a Restoration Order and calculate the required replacement for unpermitted wetland impacts.
12. The City or its consultant shall complete twice annual macro-invertebrate monitoring on Zavoral Creek and provide this information to the CMSCWD.
13. The City or its consultant shall perform periodic on-site review and monitoring of dust control activities to assure compliance with this permit. The applicant shall cooperate with the City as requested to complete the monitoring activities.
14. The City or its consultant shall establish air monitoring stations at a minimum of five locations: upwind of mining and loading operations, downwind of mining and loading operations, at the site entrance, downwind of the site entrance, and downwind of one location on the haul route. The City may establish additional monitoring locations based on City or public concerns.
15. The air quality monitoring plan shall include the collection of the following samples at each sampling location: Airborne particulate matter PM10 (monitor using a fibrous aerosol monitor fitted with a PM10 impactor); Respirable dust (using cyclones/37mm PVC cassettes and lab analysis [NIOSH method 0600/7500; mod OSHA ID-142]); Respirable silica, quantitative (using cyclones/37mm PVC cassettes and lab analysis); Diesel particulates (37 Quartz Fiber NIOSH 5040) and Nitrogen dioxide (TEA Tude, OSHA ID-1820; or equipment and methods that meet current OSHA or State standards. A monitoring station for respirable dust and respirable silica shall be established as close as possible to and downwind of the on-site operations.
16. The City and its consultant shall analyze and compare the air monitoring results to current State and Federal Ambient Air Quality Standards, ACHIG TLV or OSHA PELs or current applicable standards.
17. If sample results indicate levels above generally accepted or mandated action levels, the applicant shall stop all work on the site, review operating procedures and modify Project operations as necessary to reduce emissions. The City shall complete additional monitoring immediately after new procedures are in place to confirm that an acceptable reduction in emissions has occurred.



18. The applicant shall water and wash haul roads on the site during active mining operations, in accord with the applicant's updated Dust Control Plan, unless recent precipitation is keeping haul roads washed and wet.
19. The applicant shall wash hauling and loading equipment on a regular basis during active mining operations.
20. The applicant shall complete sweeping activities using vacuum-assisted sweeping equipment or similar equipment that ensures that sweeping operations do not generate visible airborne emissions.
21. The City and its consultant shall complete noise monitoring at the Project site. The applicant shall cooperate with the City as requested to complete the monitoring activities.
22. Noise monitoring shall include identification of one or two worst-case representative residential locations for each phase of mining and conduct at least one hour of monitoring at each location during operations in the morning and one hour of monitoring during operations in the afternoon annually.
23. Noise monitoring shall include at least one hour of monitoring at a representative location along the St. Croix Scenic Riverway annually during mining operations.
24. A noise monitoring event will be conducted within three weeks of the beginning of each mining phase, weather permitting, during a typical haul event. The City may conduct additional monitoring if needed based on site conditions. Monitoring shall be conducted in accord with Minnesota Rules.
25. The City shall notify residents of monitoring periods and request access to properties as necessary to conduct monitoring activities.
26. If monitoring results indicate levels above state standards, the applicant shall stop all work on the site, review operating procedures and modify Project operations as necessary to reduce noise to permitted levels. The City shall complete additional monitoring immediately after new procedures are in place to confirm that an acceptable reduction in noise has occurred.
27. The City or its consultant shall complete traffic monitoring of the Project. The applicant shall cooperate with the City as requested to complete the monitoring activities.
28. The City or its consultant shall complete a 14-hour video log of the TH 97 and 95 intersection that shall include the new access to the Zavoral site and count the numbers of trucks entering and exiting the site. The City's consultant shall review the log, and shall provide a summary of the observations related to traffic operations to the City, and identify any issues or problems related to the conditions required for operations. If issues are identified, the City may order additional video traffic counts.
29. The City shall review the crash records for the roadways in the area that will be used for truck-hauling every six months, to identify safety issues. The City shall contact Mn/DOT to discuss safety issues if identified.
30. The City and its consultants shall complete monitoring of reclamation activities on the site on behalf of the City. The applicant shall cooperate with the City as requested to complete the



monitoring activities. The City shall inspect the reclamation activities on an as-needed basis, at least annually.

31. The applicant shall submit to the City quarterly reclamation activity progress reports during the growing season post-seed installation of reach monitoring area, and shall submit an annual reclamation report with the AOP application for 2014.
32. The City or its consultant shall monitor the transplanted trees to ensure the survival rate required by the CUP.

Adopted by the Scandia City Council this 19th day of February, 2013.

Randall Simonson, Mayor

ATTEST:

Kristina Handt, Administrator/Clerk



**CITY OF SCANDIA
RESOLUTION NO. 02-19-13-XX**

**RESOLUTION APPROVING ANNUAL OPERATING PERMIT APPLICATION
OF TILLER CORPORATION FOR THE ZAVORAL SAND AND GRAVEL MINE AND
RECLAMATION PROJECT**

WHEREAS, Tiller Corporation (“Applicant”) has applied for an Annual Operating Permit (AOP) to operate the Zavoral Mine and Reclamation Project (“Project”) on a property owned by James Zavoral, located east of the intersection of State Trunk Highway 97 and State Trunk Highway 95 (“Site”); and

WHEREAS, the Property is located in Washington County, Minnesota and legally described in Attachment A; and

WHEREAS, the Applicant submitted an application for a CUP for the Project to the City on November 25, 2008, including the required Environmental Assessment Worksheet (EAW); and submitted an updated application on October 9, 2012; and

WHEREAS, the Site proposed for the Project is located within the Agriculture (AG) Zoning District in the City’s 2020 Comprehensive Plan and related Development Code, and those were the adopted Comprehensive Plan and regulations at the time of the application; and

WHEREAS, the City and its consultant completed the Zavoral Mine and Reclamation Project EIS to meet the requirements of Minnesota Rules 4410, and the EIS concluded that if the mitigation recommendations included in the EIS were implemented that the Project will not have significant environmental impacts; and

WHEREAS, the City Council approved the Findings of Fact and Record of Decision that found that the Zavoral Mine and Reclamation Project EIS was adequate to serve as the environmental review for the Project because it met the criteria set forth in Minnesota Rules 4410.2800 and the requirements of Minnesota Statutes Chapter 116D on September 25, 2012; and

WHEREAS the City approved a Conditional Use Permit for the Zavoral Mine and Reclamation project on February 19, 2013; and

WHEREAS, the Scandia City Council reviewed the AOP application at its regular meetings on February 12 and 19, 2013; and

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF SCANDIA, WASHINGTON COUNTY, MINNESOTA, that it should and hereby does find that the Annual Operating Permit for 2013 for the Zavoral Mine and Reclamation Project shall be and hereby is issued, with the following conditions made a part thereof:

1. All site operation and reclamation activities shall meet the requirements of the Conditional Use Permit for the Project, approved by the City on February 19, 2013.
2. Site operations in 2013 shall be consistent with the application and plans submitted to the City in November 2008, and updated on October 8, 2012.
3. The applicant's requests for operating hours or haul routes outside those specified in the Conditional Use Permit shall be accompanied by a proposed truck haul route for approval by staff.
4. The applicant shall inform all of its contractors about the following requirements related to trucking operations, and monitor compliance with the requirements by all of its contractors:
 - a. Engine braking is prohibited in Scandia per City Ordinance.
 - b. Lofton Avenue is restricted to daylight hours only as defined in the CUP for the Zavoral Mine and Reclamation Project.
 - c. Haul loads are required to be covered.
5. The City or its consultants shall monitor the potential impacts of mining activities on the ground and surface water resources at the site. The applicant shall cooperate with the City as requested to complete the monitoring activities. The City shall submit all status reports and ground and surface water monitoring reports to the applicant, CMSCWD, the WCD and the Minnesota DNR.
6. The City's consulting hydrogeologist shall make monthly site visits to download groundwater monitoring data and collect manual measurements. The hydrogeologist shall evaluate the data and report the results to the City at least annually with the AOP application, or more frequently if the consultant identifies issues or problems during the monitoring activity.
7. The City or its consultant shall install a monitoring station upstream of or near the existing monitoring station near Crystal Springs in order to isolate potential effects due to mining from other effects to due unrelated activities within the watershed. The applicant shall permit installation of the monitoring station on the Project Site if requested. The City or its consultant will analyze the data to determine the effect, if any, to the springs due to the Zavoral Mine operation, and identify any negative impacts. The results of the analysis shall be provided at least annually to the City for use during the review of the AOP for the Project, or more frequently if impacts are identified.
8. The City or its consultant shall visit the monitoring sites on Zavoral Creek and near Crystal Springs at least twice per month to download the automated data loggers at the monitoring stations and perform grab samples for analysis and analyze the water quality and quantity data gathered at the site. The consultant may also visit the site after large storm events to gather and analyze monitoring data. If the consultant detects any negative impact to Zavoral Creek or Crystal Springs they will notify the City immediately. The consultant shall provide a summary of the monitoring data and analysis in by early January for use in the AOP evaluation.
9. The City or its consultant shall complete an annual field review of the wetland boundaries within the project area, including black ash seepage swamps (Wetlands A, B, and C as shown

in the CCES wetland delineation report dated January 14, 2011), to determine if the mining activities have any impact on the wetlands. The review shall occur within the growing season as defined by the U.S. Army Corps of Engineers Wetland Delineation Manual (North Central and Northeast Regional Supplement), and shall be coordinated with the applicant.

10. The applicant shall provide the wetland delineation boundary data to the City or its consultant in a Geographic Information System format (such as an ArcGIS shapefile) that was obtained as part of the wetland delineation conducted by Critical Connections Ecological Services (CCES) in October, 2010.
11. If a change to the boundaries of the wetlands within the project area is observed that cannot be attributed to climatic influences or other local disturbances not related to mining, the City shall require that quantitative monitoring (including but not limited to, the installation of shallow monitoring wells and piezometers) be initiated for all wetlands within the project area. This monitoring could include the installation of wetland hydrology monitoring equipment along multiple transects across each wetland boundary. The City may conduct this comprehensive monitoring to verify whether the Zavoral Mine is causing the changes to the wetlands. If the City determines that the Zavoral Mine is impacting the wetlands, the quantitative data will be used by the City in consultation with the Technical Evaluation Panel to prepare a Restoration Order and calculate the required replacement for unpermitted wetland impacts.
12. The City or its consultant shall complete twice annual macro-invertebrate monitoring on Zavoral Creek and provide this information to the CMSCWD.
13. The City or its consultant shall perform periodic on-site review and monitoring of dust control activities to assure compliance with this permit. The applicant shall cooperate with the City as requested to complete the monitoring activities.
14. The City or its consultant shall establish air monitoring stations at a minimum of five locations: upwind of mining and loading operations, downwind of mining and loading operations, at the site entrance, downwind of the site entrance, and downwind of one location on the haul route. The City may establish additional monitoring locations based on City or public concerns.
15. The air quality monitoring plan shall include the collection of the following samples at each sampling location: Airborne particulate matter PM10 (monitor using a fibrous aerosol monitor fitted with a PM10 impactor); Respirable dust (using cyclones/37mm PVC cassettes and lab analysis [NIOSH method 0600/7500; mod OSHA ID-142]); Respirable silica, quantitative (using cyclones/37mm PVC cassettes and lab analysis); Diesel particulates (37 Quartz Fiber NIOSH 5040) and Nitrogen dioxide (TEA Tude, OSHA ID-1820; or equipment and methods that meet current OSHA or State standards. The monitoring station for respirable dust and respirable silica shall be established as close as possible to and downwind of the on-site operations.
16. The City and its consultant shall analyze and compare the air monitoring results to current State and Federal Ambient Air Quality Standards, ACHIG TLV or OSHA PELs or current applicable standards.

17. If sample results indicate levels above generally accepted or mandated action levels, the applicant shall stop all work on the site, review operating procedures and modify Project operations as necessary to reduce emissions. The City shall complete additional monitoring immediately after new procedures are in place to confirm that an acceptable reduction in emissions has occurred.
18. The applicant shall water and wash haul roads on the site during active mining operations, in accord with the applicant's updated Dust Control Plan, unless recent precipitation is keeping haul roads washed and wet.
19. The applicant shall wash hauling and loading equipment on a regular basis during active mining operations.
20. The applicant shall complete sweeping activities using vacuum-assisted sweeping equipment or similar equipment that ensures that sweeping operations do not generate visible airborne emissions.
21. The City and its consultant shall complete noise monitoring at the Project site. The applicant shall cooperate with the City as requested to complete the monitoring activities.
22. Noise monitoring shall include identification of one or two worst-case representative residential locations for each phase of mining and conduct at least one hour of monitoring at each location during operations in the morning and one hour of monitoring during operations in the afternoon annually.
23. Noise monitoring shall include at least one hour of monitoring at a representative location along the St. Croix Scenic Riverway annually during mining operations.
24. A noise monitoring event will be conducted within three weeks of the beginning of each mining phase, weather permitting, during a typical haul event. The City may conduct additional monitoring if needed based on site conditions. Monitoring shall be conducted in accord with Minnesota Rules.
25. The City shall notify residents of monitoring periods and request access to properties as necessary to conduct monitoring activities.
26. If monitoring results indicate levels above state standards, the applicant shall stop all work on the site, review operating procedures and modify Project operations as necessary to reduce noise to permitted levels. The City shall complete additional monitoring immediately after new procedures are in place to confirm that an acceptable reduction in noise has occurred.
27. The City or its consultant shall complete traffic monitoring of the Project. The applicant shall cooperate with the City as requested to complete the monitoring activities.
28. The City or its consultant shall complete a 14-hour video log of the TH 97 and 95 intersection that shall include the new access to the Zavoral site and count the numbers of trucks entering and exiting the site. The City's consultant shall review the log, and shall provide a summary of the observations related to traffic operations to the City, and identify any issues or problems related to the conditions required for operations. If issues are identified, the City may order additional video traffic counts.

29. The City shall review the crash records for the roadways in the area that will be used for truck-hauling every six months, to identify safety issues. The City shall contact Mn/DOT to discuss safety issues if identified.
30. The City and its consultants shall complete monitoring of reclamation activities on the site on behalf of the City. The applicant shall cooperate with the City as requested to complete the monitoring activities. The City shall inspect the reclamation activities on an as-needed basis, at least annually.
31. The applicant shall submit to the City quarterly reclamation activity progress reports during the growing season post-seed installation of reach monitoring area, and shall submit an annual reclamation report with the AOP application for 2014.
32. The City or its consultant shall monitor the transplanted trees to ensure the survival rate required by the CUP.

Adopted by the Scandia City Council this 19th day of February, 2013.

Randall Simonson, Mayor

ATTEST:

Kristina Handt, Administrator/Clerk

APPLICATION FOR ANNUAL OPERATORS PERMIT
TILLER CORPORATION
ZAVORAL MINING AND RECLAMATION PROJECT
CITY OF SCANDIA
WASHINGTON COUNTY, MINNESOTA

I. INTRODUCTION

The following Annual Operators Permit (AOP) application is submitted on behalf of Tiller Corporation (Tiller) in compliance with the City of Scandia's Ordinance No. 103 and Chapter 4 of the Development Code: Mining and Related Activities Regulations, Section 6, adopted by the City of Scandia on August 28, 2007.

II. ANNUAL REPORT

A. Operating Conditions

The site will operate in accordance with operating conditions regulated by Section 7 of the Scandia Ordinance 103.

1. Setbacks: No mining, stockpiling or land disturbance activities, with the exception of screening activities, are proposed to take place within the setback areas. Minimum setback areas are maintained as follows:
 - a) 50 feet from an adjoining property line
 - b) 200 feet from an occupied structure existing on May 20, 2008.
 - c) 100 feet from any contiguous property subdivided into residential lots of 5 acres or less
 - d) 100 feet from any road right-of-way.
2. Fencing: A portion of the site is fenced with a four foot high chain link fence. The fence is currently used in conjunction with an in place screening berm and established vegetation to provide screening from State Highway 95. There is a locking metal gate at the entrance to the site.
3. Hours of operation: The site will operate in from 7:00 a.m. to 7:00 p.m. Monday through Friday except holidays.
4. Screening: Screening berms, wooded buffer areas, a state highway and agricultural fields separate the mining activity from surrounding properties. Mining operations are conducted in recessed portions of the site to

minimize visibility. Additional screening berm construction will occur along Phase 1 during the initial year of operations.

5. Dust control: Dust control will be implemented as described in the Zavoral Mine Dust Control Plan, submitted with the CUP application. The main haul road will be paved for the first 300 feet into the site as part of the construction of the realignment of the site entrance and the right turn lane. Asphalt millings will be applied to the main haul road from the edge of the asphalt to the floor of the mining area. Paved and milled portions of the haul road will be washed during haul events. Unpaved internal haul roads that are in use will be watered, and the site entrance will be swept on a regular basis. Haul trucks will be covered with tarps and a 15 mph speed limit will be posted within the mine site.
6. Noise: All activities will be conducted so as to be in accordance with all Federal, State and City noise standards. An on-site circular traffic pattern will be implemented for haul trucks to minimize the need to back-up, which triggers a back-up alarm. When possible, broadband back-up alarms will be used by Tiller equipment.
7. Depth of excavation: Maximum depth will be approximately 840 feet above msl. Reclamation grades will vary from 848-890 feet above msl.
8. Site clearance: Site clearing activities will commence within Phase 1 Mining in 2013.
9. Appearance/condition: All equipment at the site will be maintained in a neat condition.
10. Sanitary Facilities: Portable sanitary facilities will be provided in the operating areas as required by the Mine Safety and Health Administration.
11. Waste Disposal: Waste generated from the operation will be disposed of in accordance with Federal, State and City requirements.
12. Water Quality Monitoring: A plan for groundwater monitoring has been developed and submitted as part of the CUP permitting process. Groundwater monitoring will be conducted in accordance with the CUP.
13. Fuel and Chemical Storage: Any fuel and chemicals stored on-site will be stored in accordance with Federal and State standards.
14. Contingency Response Plan: The site operates under an Emergency Contingency Response Plan that was provided to the City in conjunction with the CUP application.

15. Added Provisions: The operator will comply with other such reasonable requirements that the City may find necessary to adopt for the protection of health, safety and welfare and/or prevention of nuisance.
16. Processing: Processing is not conducted at this site.
17. Recycling: Recycling is not conducted at this site.
18. Trucking Operations: The site has access to State Highways 95 and 97. The main haul route from the Site is State Highway 97 westbound.
19. Asphalt Plants: Asphalt is not produced at this site.

B. Compliance with Conditions of the CUP

The site will operate within the conditions of the CUP.

C. Annual Activity

The Site is not yet permitted. This section will be included in future AOPs once mining activity has been initiated.

D. Description of operating conditions planned for the coming year:

1. During the 2013 mining season, the site will begin operations. Activities associated with the onset of mining activity will include the realignment of the site access and construction of the right turn lane. Construction of the main haul road, clearing and stripping in Phase 1 Mining will also take place. Operations in Phase 1 Mining will commence as will work within Phase 1 Reclamation area.
2. Site Plan: A Site Plan is attached which illustrates the areas planned to be mined in 2013.
3. Aerial Photo: An aerial photo is attached which illustrates the areas planned to be mined in 2013.
4. Reclamation: No reclamation activities have been performed to date. Reclamation activities planned for 2013 will be located in the Phase 1 Reclamation area. Reclamation activities will be conducted in accordance with the Reclamation Plan submitted as part of the CUP application. .
5. Operating Conditions for 2013: Active mining will occur within the Phase 1 Mining area as indicated on the Site Plan.

E. Inspection:

Inspections will be conducted once site operations have begun.

III. CERTIFICATION

I certify that the plans, specifications or reports for the above described facility were prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

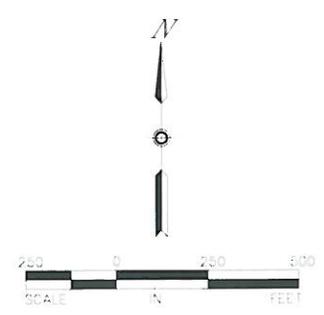


Kirsten Pauly

Date: October 8, 2012 Reg. No. 21842



Aerial Photo
2013 Activity
Annual Operating Permit





TECHNICAL MEMORANDUM

TO: Kristina Handt, City of Scandia
FROM: Erik Anderson, Washington Conservation District
DATE: February 7, 2013
RE: **Surface Water Monitoring Protocols during Winter Months**

Zavoral's Creek shall also be monitored during winter months (approximately November – March) at the monitoring station location near the mouth of Zavoral's Creek. Due to winter weather conditions and the related limits of monitoring equipment in freezing temperatures, the protocols shall be amended to include recording continuous 15-minute turbidity, dissolved oxygen, temperature, and conductivity only. The site shall be visited at least twice per month to download the monitoring data and exchange equipment batteries. The ability to monitor the creek depends on the creek having flowing water. The absence of flowing water, shallow water within the creek that would expose the equipment to the air, or the presence of thick ice (that would have to be broken to reach the equipment) will prohibit the monitoring efforts. Winter monitoring at the location upstream of Crystal Springs is not feasible due to the likelihood that the creek channel would be dry thus exposing the equipment to winter conditions resulting in damage.

Cost Estimate

The cost associated with the aforementioned winter monitoring is highly dependent upon variables such as: access to the monitoring site, plowing the private drive on a regular basis to facilitate access, etc. The cost estimate provided below may change depending on site conditions during the time of monitoring. This task can fall under the "additional tasks" portion of the existing contract between the City of Scandia and WCD, therefore not requiring a contract amendment.

- Estimated Data collection & analysis: 50 hrs @ \$63/hr = **\$3,150**
 - Equipment calibration solution = **\$100**
- Total \$3,250**