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Memorandum

To: Scandia Planning Commission
Copies To: Kristina Handt, City Administrator
Tom Miller, City Attorney
Mike Caron, Tiller Corporation
From: Sherri Buss, City Planner
Date: November 26, 2012
Reference: Zavoral Mine and Reclamation Project Conditional Use Permit
Project No.: 14305.001
Routing:

SUBJECT: Zavoral Mine and Reclamation Project Conditional Use Permit (CUP)

MEETING DATE: December 4, 2012

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

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

OWNER: James Zavoral

ZONING: Agriculture District—(AG)

120-DAY PERIOD: February 20, 2013

ITEMS REVIEWED: Application form, plans and related materials for November, 2008 CUP Application; additional site plans, reports and revised application submitted through October 9, 2012; Zavoral Mine and Reclamation Project Final EIS and related reports and documents.

I. BRIEF DESCRIPTION OF THE REQUEST AND SUBMITTALS:

The Applicant is requesting a Conditional Use Permit (CUP) to operate a gravel mine on the site of a dormant, unreclaimed gravel mine. The 114-acre site (Zavoral 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 sixty-four (64) acres of the site (the "Project"). Fifty-five (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.

The Applicant submitted the original application in November 2008 and an updated application on October 8, 2012. The updated submittals are available on the City's website for review, and include the following:

- Application Form and legal description, October 8, 2012
- Letter to City, September 15, 2012 updating application
- Land Features, Figure C1-A
- Site Plan, Figure C-2
- Mining and Reclamation Phasing, Figures C1 through C5
- Zavoral Property Reclamation Plan, revised October 8, 2012
- Zavoral Mining and Reclamation Surface Water Plan, October, 2012
- Zavoral 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
- Zavoral Mine and Reclamation Project Emergency/Contingency Response Plan, October, 2012

The Planner and the subconsultants who worked on this review used the materials submitted by the applicant, the analyses and mitigation plan included in the Zavoral Mine and Reclamation Project EIS, and related materials to evaluate the proposed project. The EIS is available on the City's website.

II. PROJECT BACKGROUND

A. Project History

Tiller Corporation submitted a CUP application for the Zavoral Mine and Reclamation Project in November 2008. The City sent a letter to Tiller indicating that the application was incomplete for review in December 2008. The City's Development Code required that Tiller prepare an Environmental Assessment Worksheet (EAW) for the project as part of the CUP application. Tiller prepared an EAW for the project per Minn. Rules Chapter 4410.4300. The City of Scandia was the Responsible Governmental Unit for the preparation and review of the EAW. The City suspended the review of the CUP application while the environmental review was in process, based on Minn. Rules Chapter 4410.3100.

On March 3, 2009, Scandia's City Council determined that the project had the potential for significant impacts and that an Environmental Impact Statement (EIS) was needed. The Notice of Decision for the EAW was published in the *EQB Monitor* on March 23, 2009. The notice identified the City as the RGU for the EIS. In April, 2009 the City approved the Scoping Decision Document (SDD) for the EIS, and published the notice of Intent to Prepare the EIS in September, 2009. Tiller subsequently revised the project to eliminate all aggregate processing activities, including washing and related groundwater withdrawals at the Zavoral site, and proposed that any processing of material would be conducted at other sites, including the Scandia Mine site, located near Manning Trail and 225th Street. Based on Tiller's proposed revised project, the City conducted a formal Scope Amendment Process, and approved a Revised Scoping Decision Document (RSDD) for the proposed project in January 2010.



The City and its consultants completed the Draft EIS and published its availability in March, 2012. The City received comments on the Draft EIS and revised the draft based on the comments to produce the Final EIS. The City determined that the Final EIS was complete on September 25, 2012. Tiller Corporation revised its CUP application based on the Final EIS and submitted the application and required submittals to the City on October 9, 2012. The City determined that the revised CUP application was complete for review on October 23, 2012.

The Zavoral Mine and Reclamation Project is referred to as “the Project” in this report, and the Zavoral Mine and Reclamation Project EIS is referred to as “the EIS” in this report. Tiller Corporation is referred to as “the applicant” or “Tiller” in this report.

B. Land Use Regulations for CUP Review

The Zavoral Site is within the jurisdiction of the City of Scandia and partially within the St. Croix National Scenic Riverway, as designated under the Wild and Scenic River Act and the federal and state Lower St. Croix River Acts. Minnesota Rules Chapter 6105.0370 prohibits sand and gravel operations within the St. Croix River District Zone and scenic easement area. Washington County’s Comprehensive Plan also describes a scenic easement that is partially within the Site. The area proposed for active mining is located outside the Riverway and scenic easement areas. Tiller proposes to conduct reclamation activities on approximately 4 acres of the previously-mined area of the site that is located within the St. Croix River District Zone and scenic easement area.

The Project site is located within the Agriculture (AG) Zoning District identified in Scandia’s 2020 Comprehensive Plan (adopted October 20, 1998), and the Zoning Map and Development Code that implemented that plan. The 2020 Comprehensive Plan was the adopted plan when Tiller submitted the CUP application in November, 2008. Aggregate mining was an allowed use in the AG Zoning District with a CUP under those regulations. Based on the date of the application submittal, it will be reviewed as an allowed use with a CUP in the AG Zoning District.

Scandia’s 2030 Comprehensive Plan was adopted by the City Council on March 17, 2009. The City adopted the Zoning Map and ordinance that implement the plan in November 2010.

The chapters of the Zoning Ordinance that regulate the activities proposed at the Zavoral site include Ordinance No. 103 (Mining and Related Activities), and Chapters 1 of Scandia’s Development Code (Ordinance No. 122). The performance standards included in Chapter 2 of the Development Code cover the same items as the standards included in Ordinance 103.

C. Permits and Approvals Required

Scandia’s Ordinance No. 103 that regulates Mining and Related Activities requires that Tiller obtain a Conditional Use Permit to operate the proposed Zavoral Mine for the long-term. Tiller also needs to obtain an Annual Operating Permit (AOP) for each operating year. Tiller has submitted an AOP application for the 2013 operating year. The City Council will review the AOP application with the CUP application, and could approve the AOP shortly after a CUP approval.

The following permits and approvals are required for the proposed project:



JURISDICTION	PERMITS AND APPROVALS
<i>State of Minnesota</i>	
Minnesota Department Of Transportation	<ul style="list-style-type: none"> • Access Permit (TP 1721)
Minnesota Pollution Control Agency	<ul style="list-style-type: none"> • NPDES (National Pollution Discharge Elimination System)/SDS (State Disposal System) general permit for stormwater discharges associated with construction activities (MNR100001) [Update since completion of EIS: MPCA has combined this permit with the MNG490000 permit listed below. The applicant will be required to obtain one combined permit for both activities.] • NPDES/SDS general permit for construction sand and gravel facilities (MNG490000) • Air Emissions Permit
Minnesota Department of Natural Resources	<ul style="list-style-type: none"> • Endangered Species Take Permit (if Butternut trees are reclassified from Special Concern to Endangered)
<i>Local Government</i>	
City of Scandia	<ul style="list-style-type: none"> • Conditional Use Permit – Mining Operation • Annual Operating Permit
Carnelian-Marine St. Croix Watershed District	<ul style="list-style-type: none"> • Permit for Stormwater Management • Erosion Control Permit

D. Staff Report Contributors

The City’s Planner and several subconsultant specialists completed this report and the recommended conditions for the CUP. The subconsultants included the following:

- David Hume, P.G., Leggette, Brashears and Graham, Inc. (LBG)—Groundwater and related resources
- Washington Conservation District (WCD) staff Jed Chestnut and others--surface water resources, erosion and sediment control, wetlands, rare and threatened species and the reclamation plan
- David Gutterud, Indoor Environment Group—air quality
- Bryant Ficek, P.E., P.T.O.E., TKDA--traffic
- Steve Platisha, P.E., SBP Associates—noise

E. Staff Report Organization

This staff report evaluates the proposed project in the following order:

- Criteria and standards in the City’s Ordinance No. 103 that regulates Mining and Related Activities
- Criteria for evaluating Conditional Use Permits that are included in Chapter One—Section 8.0 of the Development Code.
- Evaluation of Alternatives included in the EIS



This staff review uses the application and related submittals, and the objective standards and criteria included in the Mining Ordinance and the Development Code as the basis for reviewing each of the criteria. The Zavoral Mine and Reclamation Project EIS is part of the application, and therefore the staff review also utilizes the analyses completed for the EIS and the mitigation recommendations included in the EIS to evaluate the project's compliance with the ordinance criteria and to develop the proposed recommendation and conditions.



III. MINING ORDINANCE (ORDINANCE 103) REVIEW

A. Proposed Mining Operations—Summary Description of the Project

Figure C2 attached shows the Project site. The Zavoral Site is 114 acres in size. Tiller's revised application proposes that mining and reclamation activities will occur on 64 acres of the site. 55 of the 64 acres were previously disturbed by mining activities. Tiller is proposing to mine 9 acres of the site that were not previously mined. Tiller is also proposing to conduct reclamation activities on about 4 acres of the site that are located within the St. Croix River District Zone and Scenic Easement. No mining is proposed within the St. Croix River District.

The proposed mining operations are consistent with the operations proposed and evaluated as Alternative #1 in the EIS.

The application indicates that mining operations will be conducted in phases. Each phase will include the following activities:

- Clear and grub vegetation
- Remove the overburden (topsoil) from areas to be mined and stockpile the material on the site for potential future use in reclamation
- Excavate raw aggregate materials
- Transport mined aggregate materials. Most materials would be transported to the Scandia Mine near Manning Trail and 225th Street for use in materials produced at that mine. Some materials mined at the Zavoral site may go directly to construction project sites or other facilities for use and/or processing
- Use Zavoral site well for dust suppression only
- As mining is concluded for each phase, conduct reclamation activities--including grading, placing topsoil or amended site soils, seeding and tree planting

Tiller's application indicates that most of the material mined at the Zavoral Site would be combined with material mined at the Scandia Mine to meet the specified gradations of marketable aggregate produced at the Scandia Mine. Tiller plans to use the material from the Zavoral Site to replace material that is currently transported to the Scandia Mine from Franconia Township, Chisago County, Minnesota and the Osceola Wisconsin area.

Tiller proposes to develop the gravel mine in phases. Figures C1-C5 Mining and Reclamation Phasing show the proposed phasing plan. Active mining would occur to an average depth of 15 feet over the site (ranging from approximately 10 to 70 feet deep across the site). Tiller does not propose to excavate into the groundwater, and would maintain more than the required minimum 3-foot separation from the bottom of the excavation and the groundwater table. (The Carnelian-Marine-St. Croix Watershed District [CMSCWD] Rules require the minimum 3-foot separation from groundwater.) The depth from the maximum excavation depth to groundwater would range from approximately 25 to 50 feet across the site.

The applicant estimates that each phase will include the following areas of mining and reclamation:



	MINING AREA	RECLAMATION AREA
PHASE 1	22.3 Acres	3.9 Acres
PHASE 2	16.5 Acres	22.3 Acres
PHASE 3	20.9 Acres	16.5 Acres
PHASE 4	-	20.9 Acres

Tiller proposes that reclamation would take place concurrently with mining. The applicant submitted *The Reclamation Plan for the Zavoral Property* (May 3, 2011, Revised October 8, 2012) with the revised CUP application.

B. Mining Ordinance Criteria and Evaluation of the Request

Ordinance 103 includes criteria for evaluation of a CUP for a new or expanding mining operation. The criteria include the following:

1. The property must be at least 40 contiguous acres in size
2. The standards for approval of a conditional use permit as contained in Chapter One of the Development Code must be met
3. The operation is consistent with the Scandia Comprehensive Plan
4. All provisions of Ordinance 103 must be met

The sections that follow evaluate the Project based on the 4 criteria. Ordinance criteria are summarized as needed in *italics* under each item. The items include the Planner's recommended conditions for the CUP and AOP. The CUP conditions are more general, and would apply for the lifetime of the project. The AOP conditions are more specific, and may be evaluated and modified if needed from year to year based on the City's review of the monitoring results and AOP.

1. Property Size

The Zavoral site is 114-acres in size. 64 acres of the site are proposed for mining and reclamation activities. The property size meets the ordinance requirement.

2. Standards for CUP Approval from Chapter One of the Development Code

Section IV of this report evaluates the Project in light of the standards included in Chapter One of the Development Code. The standards apply to all Conditional Use Permit requests.

3. Consistency with Scandia Comprehensive Plan

Tiller Corporation submitted the CUP application for the Zavoral Mine and Reclamation Project on November 25, 2008. The City's 2020 Comprehensive Plan was the adopted Comprehensive Plan at the time of the initial application. Under that plan and related zoning map and ordinance, the Zavoral Mine site is included within the Agriculture (AG) District. Aggregate mining is an allowed use in the Agriculture District under the 2020 Comprehensive Plan and Development Code.

The goals and analysis in the 2020 Comprehensive Plan focuses on issues related to growth management. The plan's goals include preserving Scandia's rural character and



distinctive identity from urban growth. The Plan has a short discussion related to aggregate mining that indicated the following:

- Aggregate mining is a necessary activity
- Mining should continue to be a permitted use in the Agriculture District with a CUP
- Mining activity should be screened from neighbors' views
- Land reclamation should be required and carefully managed

The Planner's findings related to the Zavoral Mine CUP application and the criteria for compliance with the Comprehensive Plan include the following:

- Aggregate mining was a permitted use in the AG District with a Conditional Use Permit under the 2020 Comprehensive Plan.
- The CUP application includes proposed screening and a proposed reclamation plan for the Project. These items must meet the requirements of Ordinance 103, Section 7.1, and the submittals are evaluated below. The Planner finds that the proposed screening and Reclamation Plan meet the ordinance requirements, and has proposed conditions for the CUP to require that the screening and reclamation plan will be implemented and monitored to meet City requirements.

The Planner finds that the request is consistent with the goals and policies in the City's 2020 Comprehensive Plan.

4. Ordinance 103 Provisions

a. Ordinance 103, Section 5—Application Requirements.

Items 5.1 and 5.2—Submittals

The applicant provided all of the information required by Section 5, items 5.1 and 5.2 in the application submittal.

Items 5.3-5.5 - Compliance with Minnesota Environmental Quality Board (EQB) Environmental Review Program and Required EAW

The applicant submitted an EAW as required with the original application in November, 2008 to address the EQB requirements. The City reviewed the EAW, and on March 3, 2009, Scandia's City Council determined that the project had the potential for significant impacts, and that an Environmental Impact Statement (EIS) was needed. The Notice of Decision for the EAW was published in the *EQB Monitor* on March 23, 2009. The notice identified the City as the RGU of the EIS for the Zavoral Mine and Reclamation Project. In April, 2009 the City approved the Scoping Decision Document (SDD) for the EIS, and published the notice of Intent to Prepare the EIS in September, 2009. Tiller subsequently revised the project to eliminate all aggregate processing activities, including washing and related groundwater withdrawals, at the Zavoral site, and proposed that any processing of material would be conducted at the Scandia Mine site. Based on Tiller's proposed revised project, the City conducted a formal Scope Amendment Process, and approved a Revised Scoping Decision Document (RSDD) for the proposed project in January 2010.

The City and its consultants completed the Draft EIS and published its availability in March, 2012. The City received comments on the Draft EIS and revised the draft



based on the comments to produce the Final EIS. The City determined that the Final EIS was complete on September 25, 2012. Tiller Corporation revised its CUP application based on the Final EIS and provided additional materials to the City on October 9, 2012. The City determined that the CUP application was complete for review on October 23, 2012. The completed EAW and EIS process complied with the rules of the Minnesota EQB Environmental Review Program, and met the requirements of Minnesota Rules Chapter 4410 and City Ordinance 103.

Item 5.6 - Protection of Groundwater

The ordinance requires that a maximum depth of excavation be established so that groundwater quality and quantity are protected. Mining is not allowed in confined aquifers. Excavation into unconfined aquifers must be carefully monitored. Dewatering is not allowed. No extraction operations are allowed that permanently lower the water table of surrounding properties or other water bodies, wetlands, or groundwater-dependent natural resources.

The application included a Groundwater Quality Protection Plan (October, 2012) with the application. Item 4.7 in the EIS includes a detailed analysis of regional geology and groundwater conditions, and analyzes the potential impacts of the Project on groundwater and related surface water resources.

Depth of excavation and proposed mining operations. Tiller is proposing a maximum mining depth of 840 feet above mean sea level (amsl). Tiller proposes that active mining would occur to depths from 10 to 70 feet across the site, with an average mining depth of 15 feet. The depth from the maximum depth of the mining excavation to groundwater would range from approximately 25 to 50 feet. Tiller does not propose to excavate below the groundwater table, and would maintain more than the minimum required 3-foot separation from the bottom of the excavation and the groundwater table. The proposed mining depths and depth of groundwater are shown on Figures 10 and 11 in the EIS.

Groundwater use and surrounding water tables. The previous mining operation on the Zavoral site utilized a multi-aquifer well. The water appropriation permit for that well has expired, and would be difficult to renew based on current state law. The applicant is not seeking to renew the appropriations permit for the existing well, or to develop new wells to serve the site. The use of the existing well must be limited to less than 1 million gallons per year, or the applicant would be required to obtain a new water appropriation permit. The maximum allowable daily water use without a permit is 10,000 gallons per day (gpd).

The applicant is proposing to limit the use of water from the Zavoral Site well to less than 1 million gallons per year. The water will be used for dust control at the site. The applicant's projected water use for dust control is to pump less than 10,000 gallons per day at a rate of up to 1,200 gallons per minute (gpm).

The EIS analysis included information about surrounding wells and completed an aquifer well test ("pump test") to determine the potential impact of the applicant's proposed groundwater withdrawals on adjacent wells and on groundwater dependent



resources, including local creeks and seeps. The test results and impact analysis completed for the EIS indicated that the levels of withdrawals proposed for dust control for the Project would not have a significant impact on area wells or on other water bodies, wetlands or groundwater-dependent natural resources, such as Zavoral Creek and groundwater seeps in the area. (See Item 4.7.1.4.2 in the EIS.)

Groundwater Plan and Monitoring. The applicant's *Groundwater Quality Protection Plan (GWPP)* includes proposed best management practices to minimize the potential for contamination of underlying soil and groundwater, a groundwater monitoring plan, and sampling protocol. The plan was reviewed by the City's groundwater consultant, Leggette, Brashears, and Graham, Inc. (LBG) and wetland consultant, the Washington Conservation District (WCD). LBG identified some corrections that should be made to the applicant's *Groundwater Quality Protection Plan*. LBG's letter is attached, and the conditions that the Planner proposes in the CUP require the applicant to revise the GWPP to address LBG's comments.

The applicant completed an Emergency/Contingency Response Plan (October 2012) that includes policies for the prevention of spills of pollutants, and guidelines for notification and reporting spills if they occur. The application indicates that no hazardous wastes will be stored at the site. Tiller anticipates that diesel fuel would primarily be brought onto the site by a bulk delivery truck that would directly fuel the operating equipment. At this time, storage of fuel on site is not expected. If storage is necessary in the future, Tiller would utilize a single 1,000-gallon mobile tank. The tank would need to comply with state, county and city regulations and include secondary containment. The tank would be located within the active mining or reclamation area.

Based on the LBG and WCD comments on the application and submittals, and the mitigation recommendations included in the EIS, the Planner proposes the following conditions to the CUP to protect groundwater and related surface water resources:

- The maximum depth of mining shall be 840 feet above mean sea level (amsl). This will guarantee a minimum separation of 10 feet between the bottom of excavation and the top of the groundwater.
- No dewatering shall be permitted
- Daily pumping from the Zavoral Site Well shall not exceed 10,000 gallons at a maximum pumping rate of 1,200 gallons per minute. Annual pumping shall not exceed 1 million gallons.
- The applicant shall keep records of when the Zavoral site well is pumped, and provide the records to the City for groundwater monitoring activities. The records shall document both the daily use and total annual pumped volume from the Zavoral Site Well.
- The applicant shall revise the *Groundwater Quality Protection Plan (GWPP)* (October 2012) to address the corrections and issues identified in the LBG letter to the City dated November 15, 2012.
- The applicant shall revise the locations of the proposed borings and monitoring well as requested by LBG in the letter to the City dated November 15, 2012.
- The applicant shall install additional groundwater observation wells or piezometers down-gradient of the mined area in the vicinity of the wetlands



and near the surface water monitoring stations identified by the WCD. The applicant shall coordinate the number and locations of the observation wells and/or piezometers and frequency of monitoring in consultation with the City, the WCD and LBG.

- The City's consulting hydrogeologist shall make scheduled site visits, 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 he/she identifies issues or problems.
- The City shall review and evaluate the GWPP on an annual basis or more frequently if a significant change in the groundwater conditions occurs. The applicant will modify the GWPP as needed to address identified concerns.
- If diesel fuel is stored at the site, the applicant shall sample and analyze groundwater for diesel range organics. If gasoline is stored at the site, gasoline range organics and benzene shall be added to the analyte list.
- Equipment fueling shall be conducted in a designated area over a hard-surfaced fueling pad.
- The applicant shall provide spill cleanup equipment on-site.

The Planner finds that with the proposed conditions, the Project would meet the requirements of Item 5.6 of Ordinance 103.

Item 5.7 Permits for Air, Noise, and Water Quality

The applicant will need to obtain several permits from the MPCA to operate the mine (listed on the permits table in section II, above). The applicant will also need to obtain required stormwater permits from the Carnelian-Marine-St. Croix Watershed District. Noise permits are not required for the Project. The City's ordinance requires that the project comply with state noise standards. (Chapter Two, Item 3.3 (4)(A) of the e City's Ordinance requires that the Project comply with the Minnesota Pollution Control Agency's noise standards). The Planner has included the following conditions that require the applicant to obtain the necessary permits to operate the Project:

- The applicant shall obtain the required agency permits for stormwater management, and provide the City copies of the permits approved by the Carnelian-Marine-St. Croix Watershed District (CMSCWD) and Minnesota Pollution Control Agency [NPDES/SDS general permit for construction sand and gravel facilities (MNG490000)].
- The applicant shall obtain the required Air Emissions Permit from the Minnesota Pollution Control Agency, and provide a copy of the approved permit to the City.
- The Applicant shall at all times comply with the City's ordinances and all applicable rules and regulations of Federal, State, County and local agencies, and maintain permits granted by those agencies for all operations at the site.

The Planner finds that with the proposed conditions, the Project would meet the requirements of Item 5.7 of Ordinance 103.

Item 5.8 - Permits from the Minnesota DNR and Rare Species



The surveys completed for the EIS documented a population of Butternut trees (*Juglans cinerea*), a species of Special Concern in Minnesota. One tree within the site was identified as healthy; the others are affected by a fungal disease. The Minnesota DNR currently lists Butternut trees as a Special Concern species, and therefore does not require avoidance, protection or mitigation for removing trees of this species. However, the status of the Butternut tree is proposed to change to Endangered within the next year. If tree-clearing occurs after this reclassification takes place, a taking permit from the Minnesota DNR will be required. The Planner has included the following proposed condition for the CUP:

- The applicant shall obtain an Endangered Species Take Permit before removing any Butternut trees identified on the site if the Minnesota DNR reclassifies Butternut trees from Special Concern to Endangered.
- The applicant shall comply with the “Summary of Recommendations for Avoiding and Minimizing Impacts to Blanding’s Turtles Populations” found in Appendix C of the Zavoral Mine and Reclamation Project EIS. The WCD shall complete an annual site visit to verify compliance and provide a report to the City on compliance for review of the AOP. The Applicant shall pay the costs associated with maintaining compliance and performing site visits.
- The applicant will inspect all trees for raptor nests prior to tree clearing. Trees with active nests may not be cleared while the nest is actively used.

The Planner finds that with the proposed conditions, the Project would meet the requirements of Item 5.8 of Ordinance 103.

Item 5.9 Surface Water Protection Plan

The ordinance requires that the applicant provide a surface water protection plan that addresses ongoing monitoring, accident response and remediation. The surface water plan must include subwatershed maps that delineate all drainage areas on the property as well as areas that drain to or through the property.

The applicant included the Zavoral Mining and Reclamation Surface Water Plan (October 2012), a Stormwater Pollution Prevention Plan (July 24, 2012) and an Emergency/Contingency Response Plan (October, 2012) in the CUP Application. The Surface Water Plan is consistent with the project analyzed included in Sections 4.6-4.8 of the EIS, and includes the maps required by the ordinance.

The Surface Water Plan notes that the total area of the site where active mining and reclamation are proposed is 64 acres. 52 acres of that area are internally drained within the site, and have no off-site drainage. The 12 acres that discharge off-site drain to Zavoral Creek, Middle Creek, and South Creek; these creeks drain to the St. Croix River. The EIS concluded that the flow off-site from each watershed in the Project area would be greatly reduced from existing conditions for the 2-year, 10-year and 100-year storm events. After mining and reclamation have been completed, the total area with off-site discharges would be reduced from 11.6 acres to 1.3 acres. As flow rates decline, the potential for erosion and negative impacts on water quality of downstream water bodies would decline. The EIS included proposed mitigation



measures to manage surface water quantity and quality and protect surface waters during site operations.

The applicant is required to obtain stormwater permits from the MPCA and the CMSCWD to operate the project and meet the ordinance requirements. The CMSCWD and WCD reviewed the EIS, the application and its Surface Water Plan, and recommended a monitoring protocol and conditions for the CUP. Based on their recommendations and the mitigation items included in the EIS, the Planner included the following conditions in addition to those included in Item 5.7 to protect surface water resources based on the EIS and comments from the CMSCWD and WCD:

- The applicant shall implement the Best Management Practices (BMP's) included in the SWPPP, Surface Water Plan and CMSCWD permit to manage erosion and sedimentation and protect surface waters.
- The applicant shall construct the proposed berm on the south end of the Site as close to the mining and reclamation limits as possible to reduce off-site peak flow rates and increase on-site infiltration.
- The applicant shall minimize the amount of unnecessary equipment on-site and reduce soil tracking off-site by vehicles.
- The applicant shall monitor all on-site construction equipment for leaks and complete regular preventive maintenance. Fueling and maintenance of vehicles shall occur within the area of active mining and no "topping off" of vehicle fuel tanks shall be allowed.
- Any above-ground storage tank (AST) at the Site shall be located more than 500 feet from surface waters.
- The applicant shall notify the Minnesota Pollution Control Agency of all AST's within 30 days of installation by submitting an AST Notification Form.
- The WCD shall monitor the potential impacts of mining activities on the water resources at the site on behalf of the City. The monitoring locations, protocols and methodology shall be specified in the AOP. The WCD shall submit all status reports and ground and surface water monitoring reports to the City and to the CMSCWD.
- The WCD monitoring point installed for the EIS pump test and collection of baseline data in Zavoral Creek should be monitored for the lifetime of the project.
- Within 60 days of approval of the CUP, or when weather and ground conditions allow, the WCD shall install automated wetland hydrology monitoring wells to monitor for hydrologic changes to the wetlands due to the operation of the Project. The WCD shall analyze the data gathered from the monitoring activities, interpret the data, and report the results to the City. The monitoring shall be conducted throughout the lifetime of the project and/or the valid term of the CUP.

Potential conditions to be included in the AOP:

- The WCD shall install a monitoring station on Middle Creek to track surface water quality and field water quality parameters for the lifetime of the project.
- The WCD shall collect and analyze the data from the monitoring stations on Zavoral and Middle Creek, and report the results to the City and the CMSCWD.



- The WCD shall complete twice annual macro-invertebrate monitoring on Zavoral Creek.
- The WCD shall analyze the water quality monitoring data obtain from the stations on Zavoral Creek and Middle Creek to determine the effect, if any, to surface waters due to the Zavoral Mine operation. The WCD shall notify the City if a negative impact is identified. 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.
- The WCD shall monitor the Black ash seepage subtype wetland boundary mapped by Critical Connections Ecological Services, Inc. in January 2010 that established the baseline boundary of the seep along the Zavoral ravine during the lifetime of the Project.
- The WCD shall monitor the seepage wetlands for inputs of fine sediment-laden groundwater that may arise from increased infiltration within the mine pit.
- The applicant shall fund all data collection and analysis, additional monitoring equipment, installation, and all water monitoring related costs.

The Planner finds that with the proposed conditions, the Project would meet the requirements of Item 5.9 of Ordinance 103.

Item 5.10 - Access Permit for Roadway

The ordinance requires that mining operations that have access from a public roadway obtain an access permit from the respective agency or City, and that turn lanes be added if needed to reduce the risk of traffic safety hazards. The mine operator shall bear the cost of construction of the turn or bypass lanes.

The Planner has included the following proposed conditions for the CUP related to the access permit requirements:

- The applicant shall obtain the required Mn/DOT Access Permit (TP 1721) for the Project.
- The applicant shall construct the new driveway access directly across from TH 97 as required by Mn/DOT for safe access.
- The applicant shall construct a right turn lane on northbound TH 95 at the Project Site entrance as required by Mn/DOT.

The Planner finds that with the proposed conditions, the Project would meet the requirements of Item 5.10 of Ordinance 103.

• *Item 5.11 - Abandoned Wells*

There are no existing abandoned wells on the site.

b. Ordinance 103, Section 7 – Operating Conditions

Item 7.1 - Operating Conditions

- Setbacks



The ordinance requires setbacks of 50 feet from adjoining property lines; 200 feet from any existing occupied structures; 100 feet from any contiguous property subdivided into residential lots of five acres or less; and 100 feet from any road right-of-way from any existing or platted street. Plan sheet C1-A shows the project setbacks. The setbacks identified in the applicant's site plan meet the ordinance requirements.

- Fencing

The ordinance requires that fences be constructed prior to the commencement of mining operations. At a minimum, fencing shall be a three-strand wire fence posted with warning signs. The fencing must be maintained until reclamation is complete.

The applicant is proposing a four-foot high chain link fence, in conjunction with the proposed screening berms. The proposed fencing meets the ordinance requirements. The Planner has included a proposed condition that the fence shall be constructed prior to beginning mining operations, and shall be maintained until reclamation is complete.

- Hours of Operation

The ordinance requires that mining operations including excavating, stockpiling and hauling may be conducted only between the hours of 7 a.m. and 7 p.m., Monday through Friday, unless other hours or days of operation are specifically authorized by the City.

The Planner has included a proposed condition that hours of operation shall conform to the City's ordinance and hauling shall be conducted only between the hours of 7 a.m. and 7 p.m., Monday through Friday, excluding 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 or days of operation.

The Planning Commission may consider a condition discussed in the Final EIS that hours of operation may be limited to 7 a.m. to Noon on Fridays to minimize congestion and conflicts with recreational traffic.

- Screening

The ordinance requires screening when deemed necessary by the City. Screening must be at least six feet in height, and may include walls, berms, fences and plantings.

The Site Plan (sheet C-2) shows the existing and proposed screening on the site. An existing vegetated berm is located on the western boundary of the property. New berms are proposed on the western side of the site that will be constructed to a minimum height of six feet with a maximum slope of 3:1. The plan also notes locations where existing trees will be maintained to screen the site. New



berms will be seeded and mulched, and silt fence will be utilized until vegetation is established. The proposed screening meets the ordinance requirements. The Planner has included the following condition based on the EIS recommendations: The applicant shall coordinate proposed berm removals associated with project completion with the City.

o Dust Control

The ordinance requires that the applicant operate in a manner to minimize on-site and off-site dust, and that operations meet MPCA requirements. The driveway must be setback at least 50 feet from neighboring property lines. The applicant must prepare a dust control plan and implement dust control activities as required by the City. Dust control shall not pollute surface and ground waters. The ordinance includes specific requirements for pit access roads and for minimizing dust deposition on public roads.

The applicant submitted a Dust Control Plan (Revised October 8, 2012) with the CUP application. The applicant's plan notes that the main haul road will be paved with asphalt for the first 300 feet into the site. Asphalt millings will be applied to the main haul road from the paved area to the base of the mine. The plan includes additional watering, washing, sweeping, inspections for tracking, and records of dust control activities.

The EIS includes an analysis of the proposed site activity and the dust control methods proposed by the applicant. The analysis concluded that if the dust control measures are implemented, the impacts from the dust generated by site operations would not exceed federal emissions standards (those standards have been adopted by the MPCA).

The proposed dust control meets the ordinance requirements. The Planner has proposed the following condition for the CUP:

- o The applicant shall implement the Dust Control Plan (dated 10/8/12), including all activities proposed during stripping, grading, and active mining operations.
- o The applicant shall utilize non-chloride agriculturally derived organic polymers or naturally-occurring polymers on internal haul roads to control dust. The applicant shall apply dust control polymers at least twice per season, once at the beginning of the season and once at the midpoint. The applicant shall review the coverage of the material on a regular basis, and reapply the polymers if they are no longer effective.
- o
- o The applicant shall water unpaved haul roads on the site, including milled portions at least twice daily, unless recent precipitation is keeping these roads wet, and at least once every 3 working hours during hot, dry conditions.
- o The applicant shall wash hauling and loading equipment on a regular basis and at least daily in hot, dry conditions.
- o 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.



- The City and its consultants shall perform periodic on-site review of dust control activities. Monitoring shall be performed two to three times per season. Monitoring shall be scheduled in conjunction with days of maximum site activity and worst-case environmental conditions. A second day of sampling shall be performed during each session to record the ambient conditions on a day when no activity is occurring at the site. The monitoring locations, protocols and methodology shall be specified in the AOP.

Potential conditions to be included in the AOP include:

- The applicant shall perform employee exposure monitoring on this site at least once per season and submit the results (with employee personal information redacted) to the City for review with the AOP application submittal. The monitoring shall be specific for respirable dust and respirable silica, shall include mining, loading and hauling personnel, and shall represent worst-case exposure conditions.
- The applicant shall limit vehicle idle times for the site and approach area shall be limited to no more than 15 minutes.
- The City shall establish air monitoring stations at a minimum of four locations: upwind of mining and loading operations, downwind of mining and loading operations, 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.
- 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 PM 10 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 Tube, OSHA ID-182)
- The City's 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.
- If sample results indicate levels above generally accepted or mandated action levels, site work shall stop and all procedures reviewed and modified as necessary to reduce emissions. The City shall complete additional monitoring immediately to confirm that an acceptable reduction in emissions has occurred.
- The Dust Control Plan and air monitoring procedures shall be reviewed and updated as necessary on at least an annual basis with the AOP application.
- The applicant shall fund all data collection and analysis, additional monitoring equipment, installation, and all water monitoring related costs.
- Noise
The ordinance requires that all equipment and other sources of noise must operate so as to be in accord with Federal, State and City noise standards. Item



3.3 (4) (A) of the Development Code states that “the standards of the Minnesota Pollution Control Agency for noise, air and water pollution shall be the standards applied.” The mine operator must prepare a noise mitigation plan that meets the ordinance requirements.

The EIS included a detailed analysis of the noise that will be generated by the project, potential impacts and recommended mitigation strategies in Item 4.15. The analysis utilized the Minnesota State noise standards for land uses including residential uses, churches, schools and campgrounds and examined noise that would be generated by mining activities on the site as well as traffic that will be generated by mining operations.

The EIS analysis concluded that for Alternatives 1 and 3 (mining operations over 5-10 years and 3.3-5 years, respectively, the Project would generate noise levels similar to current levels. Sound levels on the Riverway would not exceed the applicable State standards. Noise levels may be exceeded at a number of residences along TH97 during maximum hauling conditions—however, the levels would be similar to current conditions. Noise levels would be higher under alternative 3A (150-day working operation), and would be higher than levels experienced in the past.

SBP Associates reviewed the EIS noise analysis, and developed a monitoring protocol and recommended conditions for the CUP. Based on the SBP recommendations and mitigation recommendations in the EIS, the Planner has included the following proposed condition for the CUP:

- The applicant shall implement the berms and screens proposed in the site plan.
- The City or its consultant shall complete noise monitoring at the Project site. The monitoring locations, protocols and methodology shall be specified in the AOP.

Potential conditions to be included in the AOP:

- 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.
- Noise monitoring shall include at least one hour of monitoring at a representative location along the Scenic Riverway annually during mining operations.
- A noise monitoring event will be conducted within three weeks of the beginning of each mining phase, weather permitting, and once per operating month thereafter. Monitoring shall be conducted in accord with Minnesota Rules.
- The City shall notify residents of monitoring periods and request access to properties as necessary to conduct monitoring activities.
- The City’s noise consultant shall conduct stationary run up tests (per Minnesota Rules 7030.1040) on selected haul trucks with governed engines. Testing shall be conducted one day every other operating



month at a safe and proper location selected in consultation with the City and mine operator. This test shall include measuring peak noise at a measured distance from a stationary truck while the truck fully accelerates the governed engine.

- The applicant shall ensure that trucks selected by the City and its consultant for stationary run up tests will be required to submit to testing and will follow the required test procedures.
- The applicant shall cooperate with the City and allow access to the site as necessary to conduct noise monitoring.
- The applicant shall fund noise monitoring during site operations.
- If the noise levels exceed State Standards for any of the testing, the applicant will identify and take corrective actions to bring the noise levels into compliance.
- The applicant shall require that Tiller's equipment on the site use broadband alarms and haul trucks shall utilize a circular traffic pattern to the extent feasible or other traffic pattern that minimizes the need for haul trucks to back up on the site.
- The applicant shall ensure that on-site equipment is properly muffled and shall inspect mufflers on the on-site equipment on a weekly basis and document inspections.
- The applicant shall ensure that the mining plan will minimize any time when the noise from the on-site equipment and haul trucks are operating without noise mitigation from berms and/or the mine face.

The Planning Commission should consider high levels of the noise impacts that may be generated by Alternative 3A as it considers the mining alternative to recommend for the CUP.

The Planner finds that with the proposed conditions, the Project would meet the operating conditions related to noise in Ordinance 103.

- Depth of Excavation
The ordinance requires that the depth of excavation be regulated based on groundwater protection and the ability to restore the property. Dewatering is not allowed.

Tiller is proposing a maximum mining depth of 840 feet above mean sea level (amsl). Tiller proposes that active mining would occur to depths from 10 to 70 feet across the site, with an average depth of 15 feet. The depth from the maximum depth of the mining excavation to groundwater would range from approximately 25 to 50 feet. Tiller does not propose to excavate below the groundwater table, and would maintain more than the minimum required 3-foot separation from the bottom of the excavation and the groundwater table. The proposed mining depths and depth of groundwater are shown on Figures 10 and 11 in the EIS.



The proposed depth of excavation meets the ordinance requirement. The Planner has included the following proposed conditions for the CUP:

- The maximum depth of mining shall be 840 feet above mean sea level (amsl). This will guarantee a a minimum separation of 10 feet between the bottom of excavation and the top of the groundwater.
- No dewatering is permitted.
- Site Clearance
The ordinance requires that all stumps and other debris resulting from excavation and mining activities be disposed of by approved methods. The mine plan must address the disposal of stumps, trees and debris. The Planner has included a proposed condition for the CUP as follows: The applicant shall recycle debris created by clearing, grubbing and excavation, or dispose of stumps, trees and debris in another manner approved by the City.
- Appearance/Condition
The Planner has included a proposed condition for the CUP as follows: The applicant shall maintain the mine site and equipment in an orderly condition. Weeds shall be controlled in planted and reclaimed areas. Existing trees, berms and topsoil along existing public rights-of-way shall be preserved, maintained, and supplemented as proposed in the Site Plan and Reclamation Plan.
- Sanitary Facilities
The applicant is proposing to utilize portable sanitary facilities to serve employees at the site. The proposed facilities meet the ordinance requirements. The Planner has included a proposed condition for the CUP as follows: The applicant shall provide and maintain portable sanitary facilities to serve the site.
- Waste Disposal
The applicant will use a waste container within an on-site trailer for waste collection. The waste would be collected by a Tiller employee on a daily basis when work was occurring at the site. The waste will be taken to Tiller's Maple Grove facility, where it will be picked up by a licensed solid waste hauler for disposal at a licensed waste facility. In the event that increase waste disposal was needed, Tiller would utilize a dumpster managed by a licensed waste hauler at the site. The proposed methods of waste disposal meet the ordinance requirements. The Planner has included a proposed condition for the CUP as follows: The applicant shall dispose of any waste generated from the mining operation, including waste from vehicles or equipment maintenance, in accordance with Federal, State and City requirements.
- Water Quality Monitoring
The ordinance requires that water from monitoring wells and discharged from the mining area be analyzed one year after reclamation is complete. Samples from monitoring wells shall be analyzed and results submitted prior to granting an Annual Operating Permit. Sampling shall be done by an independent testing laboratory and agency chosen by the City. Monitoring wells shall be sealed one year after reclamation if the site is determined to be uncontaminated. Water



samples shall be analyzed to determine levels of petroleum products and hydrocarbons. The City may require testing for other contaminants.

The EIS analyzed the potential impacts to surface and ground waters that could occur as a result of the Project (Items 4.5, 4.7, 4.9 and 4.10 in the EIS), and included mitigation recommendations to avoid or minimize potential impacts. The WCD and LBG reviewed the application, including the groundwater and surface water protection plans provided by the applicant, and the EIS mitigation recommendations. The WCD and LBG developed protocols for monitoring groundwater and surface water if the Project receives a CUP. Based on the mitigation recommended in the EIS, WCD and LBG recommendations, the Planner has included proposed conditions monitoring ground and surface waters for the CUP, which are identified in Section 7.1 Operating Conditions, above, and the following additional conditions.

- The applicant shall keep records of when the Zavoral site well is pumped, and provide these to the City, Washington County Department of Public Health and Minnesota DNR for ground water monitoring activities. The City shall provide the WCD access to the records. Records shall include daily use and total annual pumped volume from the Zavoral Site Well.
- Daily total pumping from the Zavoral Site Well shall not exceed 10,000 gallons at a maximum pumping rate of 1,200 gallons per minute. The total annual pumping shall not exceed 1,000,000 million gallons per year.
- Ground-water samples required in the groundwater monitoring plan shall be analyzed for DRO (diesel-range organics). If gasoline is stored at the site, then GRO (gasoline range organics) and benzene shall be added to the analyte list.

The Planner finds that with the proposed conditions, the Project would meet the operating conditions related to water quality monitoring in Ordinance 103.

- Fuel and Chemical Storage and Contingency Response Plans
The applicant included a Stormwater Pollution Prevention Plan (July 24, 2012) and Emergency/Contingency Response Plan (October, 2012) that meet the ordinance requirement. The Planner included a draft condition in the CUP as follows: The applicant must meet Federal, State and City requirements for storage of fuels on the site.
- Additional Provisions for protection of health, safety, welfare and prevention of nuisances
The EIS discussed the potential impacts of the mine operation on bicycle and pedestrian facilities near the Project. It noted that the City's Trail Plan includes a trail along TH 95 that will be impacted by the Project, and a potential trail on TH 97. The Planner has included the following draft conditions for the CUP to related to the trail facilities:
 - The applicant shall fund improvements to the existing pedestrian/bicycle trail along State Scenic Byway TH 95 in the mine area and maintain connections to existing trails.
 - If the proposed trail on TH 97 is developed while the Zavoral Mine is operational, the applicant shall fund signage for the trail crossing on TH 95.



- Processing and Recycling Operations
No processing, recycling operations or asphalt plants are proposed for this Project.
 - Asphalt Plants
No asphalt plant is proposed for this project.
- c. Ordinance 103, Section 8.0 Reclamation

Section 8.1 Submittals. The applicant submitted the Zavoral Property Reclamation Plan (May 3, 2011, revised October 8, 2012). The information included in plan and related maps (C1-C5) meet the requirements for submittals listed in the ordinance under Section 8.1.

Section 8.2 Timing. The plan includes a phasing plan that indicates that the proposed reclamation would occur concurrently and approximately proportionately with the mining operations. The plan indicates that reclamation will occur in four phases. Phase 1 reclamation will take place as the first phase of mining occurs since it will be completed outside the area where mining is occurring, within the St. Croix Riverway Zone and scenic easement. Reclamation Phases 2, 3 and 4 will take place as each mining phase is completed. The proposed timing of reclamation meets the ordinance requirement.

Section 8.3 Water Areas. The Reclamation Plan calls for the creation of some shallow depressions that will infiltrate runoff and help to diversify the plant communities proposed for reclamation, but these areas will not accumulate substantial water, and therefore are not subject to the requirements listed in Section 8.3.

Section 8.4 Excavation and Grading. *The ordinance require that the Reclamation Plan needs to meet the requirements listed in Section 8.4 regarding the use of clean, non-contaminated fill material; the reclamation should result in a gently rolling topography; at least 4 inches of topsoil must be applied of a quality similar to topsoil in the surrounding area; the soil must be planted with trees, shrubs, legumes and grasses; reclaimed slopes shall be no steeper than 4:1 (horizontal to vertical); and reclaimed areas that are planned for building purposes shall have a final elevation at least 10 feet above the groundwater level. The ordinance requires that natural drainage patterns be altered to the least degree and shall not affect public roads or neighboring uses.*

The Reclamation Plan includes the use of existing topsoil material that has been or will be stockpiled on the site, and the additional of additional topsoil as needed to meet the minimum topsoil depth requirement. Maximum slopes of 4:1 are indicated on the Reclamation Plan figures. The final elevation will be 25-30 feet above the groundwater level. The proposed phasing, grading, topsoil, and final elevation meet the ordinance requirements for reclamation. The Planner has included a proposed condition for the CUP as follows: The applicant shall use clean, non-contaminated fill material and topsoil for all reclamation.



Section 8.5 Drainage. *The ordinance requires that existing drainage be maintained where surface water enters and leaves the property, and shall be altered to the least degree needed to carry out excavation and related activities. Drainage alteration should not affect public roads or neighboring uses.*

The site includes 64 acres that will be altered for mining and reclamation. 52 acres of this area are internally drained (previous mined area), and will continue to do so after mining is complete. Six depressional areas will be created within the mined area to hold and infiltrate stormwater. The remaining areas drain to Zavoral, Middle and South Creeks. The existing drainage pattern will be maintained after reclamation, with a slightly larger area draining internally to the mined area rather than off-site. The proposed drainage plan meets the ordinance requirements. The applicant shall be required to obtain the necessary stormwater management permits from the CMSCWD and MPCA, and provide copies of the permits to the City.

Section 8.6 Cover and Planting. *The ordinance requires that the reclamation area be planted with grass, trees, shrubs, crops or other vegetation to prevent erosion and provide for screening and natural beauty. Technical assistance should be obtained from the local conservation district or others as needed.*

The applicant is proposing to plant the reclaimed areas with native trees and seed mixes to create native dry and mesic prairie communities and white pine woodland. Plant community types will change on the site after mining and reclamation are completed, as described in Item 4.4.1.2.1 in the EIS—there will be less cropland, woodland, and nonnative plant communities, and more native dry and mesic prairie areas. The wetland acreages will remain the same. The creation of native plant communities on the site exceeds the requirements of the ordinance, and is a proposed to make the reclamation area compatible with surrounding areas.

The WCD has reviewed and provided comments and recommendations on the Reclamation Plan. The WCD and the Planner propose the following conditions related to the reclamation plan for the CUP:

- Within 60 days of the approval of the CUP, the applicant shall prepare and provide to the City an updated reclamation plan (revising the Reclamation Plan dated October 9, 2012) which includes performance standards, as listed below, for approval by the City. Reclamation on the site shall be implemented in accordance with the updated reclamation plan. Reclamation shall proceed concurrently and proportional to mining operations. Progress on reclamation shall be demonstrated in each AOP application.
- The applicant shall use clean, non-contaminated fill material and topsoil for all reclamation. The applicant shall successfully establish permanent native vegetation in reclaimed areas as per the schedule, extents and methods as provided in the Zavoral Reclamation Plan and Zavoral Reclamation Plan Topsoil and Prairie Establishment Memorandum (October 3, 2011) by CCES.
- Reclamation success shall be defined as follows:
 - a. 90% areal coverage of vegetation for each reclaimed area, within 3 years post seed installation;



- b. 80% of species must be native and non-invasive at the end of the 5th growing season, post seed installation, of each reclaimed area;
 - c. The reclaimed areas shall contain at least 50% of the species for both grasses and forbs contained in the specified seed mixes at the end of the 5th growing season, post seed installation;
 - d. Aggressive native species and invasive non-native species, as listed in the Zavoral Reclamation Plan by CCES, shall account for no more than 20% cover of the reclaimed areas at the end of the 5th growing season, post seed installation.
- Vegetation establishment and monitoring shall continue for a period of 5 years after completion of the Zavoral Mine Project, in its entirety.
 - The applicant shall submit annual reclamation monitoring reports to the city, on or before November 1, that describe the reclamation activities that occurred in the specified year, and the status of all reclaimed areas. The applicant shall provide detailed information such as percent coverage of vegetation, species composition, etc., pertaining to compliance with the performance standards, as provided above. If the reclaimed areas do not meet the performance standards, the applicant shall include corrective action plans in the reclamation monitoring report.
 - If the City determines that a reclaimed area has not met the vegetative performance standards listed above, the city shall order corrective action(s) including, but not limited to, reseeding, overseeding, spot seeding, or other actions so that the reclamation meets the criteria for success. The specific corrective actions may be dependent on site conditions. The city will determine the appropriate actions in consultation with the WCD, the applicants, and other experts, as necessary.
 - The WCD shall complete monitoring of reclamation activities at the Zavoral site on behalf of the City. The monitoring locations, protocols and methodology shall be specified in the AOP.

Potential conditions for the AOP include the following:

- The applicant shall submit to the City monthly reclamation activity progress reports during the growing season for the first two years post-seed installation of each monitoring area in addition to the annual monitoring reports.
- The WCD shall inspect the Project site on an as-needed basis, as requested by the City, to ensure compliance with the reclamation-related conditions of the CUP and the Zavoral Reclamation Plan. The applicant shall pay the costs to review the reclamation plan and conduct site visits.
- The WCD shall monitor the transplanted trees. The applicant shall achieve a survival rate of at least 80% for all transplanted trees. The applicant shall provide the city with the quantity, location, species, and proposed maintenance plan for all trees transplanted as part of the Reclamation Plan. The applicant shall replace trees as needed to achieve the 80% survival rate. The City and WCD shall approve the selection of replacement tree species.



- The applicant shall provide funds to conduct all reclamation monitoring on the site.
- Final reclamation shall include removal of any equipment and backfilling and seeding the operations area.
- Approval of the reclamation plan shall not constitute an approval by the City of Scandia of an ultimate use for the site. Ultimate use shall be determined based on the Scandia Comprehensive Plan and ordinances in effect at the time the mining is complete and applications for development of the site may be submitted.

Findings: The Planner finds that with the required conditions, the Reclamation Plan meets the requirements of Ordinance 103 with the required conditions.



IV. CONDITIONAL USE PERMIT REVIEW CRITERIA—DEVELOPMENT CODE CHAPTER ONE

A. Evaluation of General Criteria for CUPs from Chapter One of the Development Code

Chapter One, Section 8 of the Development Code includes general criteria and performance standards for review of a CUP. This section evaluates the Zavoral Mine application in relation to the general CUP criteria and performance standards in the Code. The analysis utilizes the available objective criteria in the Development Code and the data and analyses completed for the EIS to evaluate the project.

The general criteria for evaluating CUP's include the following:

1. The conditional use permit will be in compliance with and shall not have a negative effect upon the Comprehensive Plan, including public facilities and capital improvement plans.
2. The establishment, maintenance or operation of the conditional use will promote and enhance the general public welfare and will not be detrimental to or endanger the public health, safety, morals or comfort.
3. The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values or scenic views.
4. The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.
5. Adequate public facilities and services are available or can be reasonably provided to accommodate the use which is proposed.
6. The conditional use shall conform to the applicable regulations of the district in which it is located and all other applicable standards of this Chapter.
7. The conditional use complies with the general and specific performance standards as specified by this Section and this chapter.

The Planner's evaluation of the application based on each of the general criteria (in *italics*) is as follows:

1. *The conditional use permit will be in compliance with and shall not have a negative effect upon the Comprehensive Plan, including public facilities plan and capital improvement plans.*

The City's 2020 Comprehensive Plan was the adopted Comprehensive Plan at the time of the initial application. Under that plan and related zoning map and ordinance, the Zavoral Mine site was included within the Agriculture (AG) District. Aggregate mining was an allowed use in the Agriculture District under the 2020 Comprehensive Plan and zoning ordinance. This review of the Zavoral Mine and Reclamation Project CUP application is based on the goals and policies in the 2020 Comprehensive Plan and Zoning Map, the adopted plan at the time that Tiller submitted the CUP application for the Zavoral Mine and Reclamation Project.



The goals and analysis in the 2020 Comprehensive Plan focus on issues related to growth management. The plan's goals include preserving Scandia's rural character and distinctive identity from urban growth. The Plan has a short discussion related to aggregate mining that indicates the following:

- Aggregate mining is a necessary activity
- Mining should continue to be an allowed use in the Agriculture District
- Mining activity should be screened from neighbors' views
- Land reclamation should be required and carefully managed.

The Planner's findings related to the criteria for compliance with the Comprehensive Plan include the following:

- Aggregate mining is a permitted use in the AG District with a Conditional Use Permit.
- The CUP application and EIS include proposed screening and a proposed reclamation plan for the Project. The proposed screening and reclamation plan are evaluated in this staff report, and the Planner finds that the plans meet City requirements.
- The Zavoral Mine project does not impact the public facilities discussed in the 2020 Comprehensive Plan, which included local roadways, local parks, and the downtown sewer system. The Planner has included a condition that the applicant must provide funds to improve the existing city pedestrian/bicycle trail along TH 95.
- The 2020 Comprehensive Plan did not include a capital improvements plan.

Issues related to public facilities and public costs of the project were also addressed in two items in the EIS. Item 4.3.3 in the EIS addresses notes that the City of Scandia and Washington County would be capable of providing the necessary public and emergency services to the project under their existing organization. The EIS did not identify any potential impacts to City capital facilities or the current capital improvement plan. The EIS notes that the City will require additional staff and consultant resources to monitor the mining project for compliance with permit and mitigation requirements. The Planner has included a proposed condition that require that the applicant pay all costs related to city and consultant monitoring of the project and implementation of the mitigation plan.

The Planner finds that the request is consistent with the goals and policies in the 2020 Comprehensive Plan and that the Zavoral Mine and Reclamation Project will not negatively impact the City's public facilities or its capital improvements plan.

2. *The establishment, maintenance or operation of the conditional use will promote and enhance the general public welfare and will not be detrimental to or endanger the public health, safety, morals or comfort.*

The objective criteria that are included in the Development Code and the EIS analysis that relate to evaluating the project's relationship to general public welfare, health, safety, morals and comfort include the following::

- *Traffic.* Development Code Chapter 2, Item 3.1-includes General Standards for Traffic Control. Traffic impacts and control were evaluated in Item 4.13 of the EIS
- *Environmental impacts.* Development Code Chapter 2, Item 3.3- Environmental Regulations, includes requirements for Hazardous Materials and Nuisances (noise, odors, air pollution, wastes, dust, etc.). These items were analyzed in the EIS, in Items 4.2, 4.12, 4.14, and 4.15.



- *Surface and Groundwater impacts.* Development Code Chapter 2, Item 3.7 and Mining Ordinance 103 Items 5.6, 5.7 and 5.9 include standards for managing surface and ground water. The EIS analyzed potential surface and groundwater impacts in Sections 4.6, 4.7 and 4.10.
- *Economic impacts.* The only economic impacts identified in the Development Code are “substantial impacts to property values.” This item is analyzed under criteria #3 below. The EIS analyzed potential economic impacts in Item 4.3.

Each of the criteria is analyzed in the sections that follow:

a. *Traffic*

The Development Code requires that the “traffic generated by any use shall be controlled so as to prevent congestion of the public streets, traffic hazards, and excessive traffic through residential areas, particularly truck traffic. Internal traffic shall be regulated so as to ensure its safe and orderly flow. Traffic into and out of business and industrial areas in all cases shall be forward moving with no backing into streets.”

Item 4.13 of the EIS included a detailed traffic analysis. The analysis concluded that if the recommended mitigation measures were implemented, the levels of traffic that will be generated by the Project will not have significant impacts on public roadway congestion or safety. Project traffic will be confined to state and county roadways, and shall not utilize local residential streets. Truck traffic will not be allowed to back onto roadways.

The EIS included recommended mitigation measures to address potential traffic impacts. TKDA’s Traffic Engineer reviewed the mitigation measures and recommended monitoring activities that should be implemented if the CUP is approved. Based on the EIS analysis and recommendations of City consultants, the Planner recommends the following conditions for the CUP to address the traffic control requirements of the ordinance:

- Traffic generated by the Project shall not exceed the maximum levels analyzed in the EIS for the selected alternative (Alternatives 1 or 3, 600 round trips per day; Subalternative 3, 736 round trips per day).
- The applicant shall record and report the number of trucks hauling Class C add-rock from the Zavoral Mine site and to Scandia Mine annually. The records shall be submitted with the Annual Operating Permit application.
- All truck traffic generated by the project shall utilize TH 97, TH 95, CR 15 (Manning Avenue) and CR 1 (Lofton Avenue). No truck traffic shall be permitted on local streets. Trucks shall not back onto roadways.
- The applicant shall construct a new driveway access directly across from TH 97 for safe access to the site.
- The applicant shall construct a new north-bound right-turn lane as required by Mn/DOT (letter to the City of Scandia, January 22, 2009). The design of the right-turn lane shall be consistent with the design of the existing left-turn lane.
- The applicant shall install truck warning signs that comply with the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD) on State Scenic Byway TH 95 to advise drivers of trucks crossing TH 97 in and out of the Zavoral Site.



- The applicant shall provide funds to improve the existing pedestrian/bicycle trail along TH 95 in the mine area. If a trail is developed along TH 97 and a crossing created to connect the trails while the Zavoral site is operational, the applicant shall provide signing for the trail crossing.
- If a crash or traffic violation occurs involving a truck hauling for Tiller, Tiller shall contact the City to report the incident immediately. The applicant shall report actions it will take to respond to the incident.
- The City and its consultant shall complete traffic monitoring in the Project area. The monitoring locations, protocols and methodology shall be specified in the AOP.

Potential conditions for the AOP include the following:

- The City's consultant shall complete a 24-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 frequency of monitoring and reporting to the City shall be identified in the AOP.
- The City's consultant shall complete 48-hour classification and speed counts that report results hourly on TH 97 and CSAH 1. The counts shall be completed near the Scandia Elementary School and on CSAH 1. The consultant shall report the overall daily volume data and the percentage and number of trucks to the City. The frequency of monitoring shall be specified in the AOP.
- The City shall review the crash records for the roadways in the area that will be used for truck-hauling to identify areas every six months, to identify safety issues. The City shall contact Mn/DOT to discuss safety issues if identified.

The EIS suggested that the City confer with Mn/DOT to determine whether warning flashers should be installed on State Scenic Byway TH 95 to advise drivers of trucks crossing TH 97 in addition to the draft conditions, above. The Planner consulted with Mn/DOT staff on this issue. Mn/DOT staff indicated that the agency is opposed to the installation of warning flashers. Agency staff indicated that site distances are good in both directions at the intersection, and it is already a controlled intersection. Based on experience, Mn/DOT staff believe that the warning flashers are not needed and would not be effective at this location.

b. Environmental Impacts—Hazardous Materials, Air, Noise, Dust

Item 3.3 (4) (A) of the Development Code states that “the standards of the Minnesota Pollution Control Agency for noise, air and water pollution shall be the standards applied in those areas.” The EIS evaluated the potential impacts of the Zavoral Mine Project in relationship to the MPCA standards for environmental hazards, waste, noise and dust. The EIS utilized U.S. EPA standards for air emissions and dust, which have been adopted by the State of Minnesota as the State standard.

The ordinance indicates that “hazardous materials and nuisances” include the following four items:

- 1) *Hazardous materials include bulk storage of over 2,000 gallons of oil, gasoline, diesel fuel, liquid fertilizer, chemicals and similar liquids.* Tiller's



application indicates that no hazardous wastes will be stored at the site. Tiller anticipates that diesel fuel would primarily be brought onto the site by a bulk delivery truck that would directly fuel the operating equipment. At this time, storage of fuel on site is not expected. If storage is necessary in the future, Tiller would utilize a single 1,000-gallon mobile tank, and comply with state, county and city regulations. The tank would be located within the active mining or reclamation area.

- 2) *Explosives.* Tiller's application indicates that Project will not include any blasting or use of explosives.
- 3) *Radiation and electrical interference.* Not included in the application.
- 4) *Nuisances—noise, odors, vibration, smoke air pollution, liquid and solid wastes, heat, glare, dust or other similar adverse nuisances.* The EIS included detailed analysis related to each of the nuisance factors and the potential for impacts that may be generated by the project (Items 4.12, 4.14, and 4.15). Each of these analyses concluded that the Project would not exceed the MPCA and EPA standards or result in significant impacts if the City required the applicant to implement the mitigation measures that are specified in the EIS.

The applicant is proposing the use of portable lighting fixtures that could be used during operating hours only. A condition is included to require that lighting meet the City's requirements.

Based on the EIS analysis, mitigation recommendations and recommendations of City consultants for ground water and dust/air pollution issues, the Planner recommends the following conditions for the CUP so that the Project meets the environmental requirements of the Development Code:

- The applicant shall monitor all on-site construction equipment for leaks and implement regular preventive maintenance of construction equipment. Fueling and maintenance of vehicles shall be completed with the active mining area during each phase of mining, and no "topping off" of vehicle fuel tanks is allowed.
- Any above-ground storage tank(s) at the Site shall be located more than 500 feet from all surface water bodies.
- The applicant shall notify the Minnesota Pollution Control Agency (MPCA) about all above-ground storage tank(s) within 30 days of installation by submitting an AST Notification Form.
- The applicant shall sample and analyze groundwater for diesel range organics (DRO's). If gasoline will be stored at the site, gasoline range organics and benzene shall be added to the analyte list.
- The applicant shall implement all activities included in the Zavoral Mine Dust Control Plan, revised 10/8/12 and submitted to the City, and additional mitigation items listed under item 7.1 Operating Conditions (Dust Control), above.
- The applicant shall construct the berms and screening shown on the site plan
- The applicant shall utilize broadband alarms on all Tiller equipment at the site and shall establish a circular traffic pattern through the site for haul trucks to the extent possible to minimize noise from back-up alarms.
- Lighting shall be limited to hours of operation. Lighting shall be arranged to deflect light away from any adjoining residential property or from public streets.



Light sources shall be hooded or controlled and meet the requirements of Chapter Two, Section 3.9 (4) of the Development Code.

c. Surface and Groundwater

Refer to Items 5.6, 5.7, and 5.9 under Item B.4. Ordinance 103 Provisions in this staff report.

d. Economic impacts

Item 4.3 in the EIS analyses the potential economic impacts of the Project. The analysis concluded the following:

- The Project is likely to create 10 to 25 jobs. The positions may be transferred from other Tiller sites, and may not be new jobs.
- There will be no discernible impact to local tourism.
- The project will generate aggregate tax revenues and local property tax revenues, which will have the effect of slightly reducing the tax burden of all other properties within the area.
- The project may impact the property values of properties within ¼ mile of the Project, and could reduce the values of those properties by 2-5%

The Metropolitan Council has recognized aggregate resources as an important natural resource in the Metropolitan Area. The Council requires communities to identify aggregate resources within their local boundaries, and to plan for the extraction of aggregate prior to urbanization. The proposed Project contributes to the regional goal and general public welfare by extracting aggregate resources prior to urban development for use in public roadway projects, public and private construction projects, and other uses that benefit the general public.

In summary, the proposed project will contribute to regional goals and the general public welfare by extracting aggregate resources for use prior to urbanization for a variety of vital public purposes and private projects. It will provide a relatively small number of jobs and will contribute to local tax revenues. It may have a negative impact on the values of some homes near the Project site. It has the potential to impact some measures of public health and safety, and will have some impacts on residents who live near the Project site. However, the EIS found that if the mitigation recommendations in the EIS are implemented, the impacts will not be significant. In considering this criteria as a whole, the Planner finds that if the recommended conditions and mitigation are implemented, the Project will promote and enhance the general public welfare, and the mitigation strategies included in the conditions will manage the potential impacts so that they are not significant.

3. *The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values or scenic views.*

This criteria includes three issues:

a. Use and enjoyment of property



Adjacent properties include agricultural, residential and open space uses. Objective criteria in the ordinance that address the potential impacts to the use and enjoyment of these properties are addressed under several previous items in this review, including the analysis for Criteria #2 above that discusses the potential impacts from traffic and nuisances such as noise, odors, vibration, smoke air pollution, liquid and solid wastes, heat, glare, dust.

b. Property values

The EIS included analyses of potential impacts to property values and scenic views. The EIS analysis of potential impacts to property values notes that a large number of factors contribute to the valuation of any property, and that the actual sales data collected for the EIS analysis from residential areas near mining projects in other communities in Minnesota failed to find a recognizable impact of the mining projects on the value of surrounding homes.

The analysis noted that since the site has not been operated for many years, it is effectively a “new” mine in an area where property values have recently declined. Due to these factors, the analysis included a professional opinion that the introduction of a perceived negative factor may have a stronger impact than in some other markets. The analysis suggested that the potential impacts, if any, would be limited to properties within ¼ mile of the Project site, based on the impact factors analyzed in the EIS. Within that area, a potential property value reduction of up to 2% may occur for properties between the bluff and St. Croix River and on the southern side of the site. The analysis identified a potential property value reduction of up to 5% for the Westphal ownership area. The EIS notes that the potential impacts could be realized if owners attempt to sell properties within this area while the mine is in operation, and impacts would diminish as reclamation occurs.

The City’s Development Code does not define “substantial diminishment or impairment of property values.” The Commission should consider how this criteria has been considered in the review of conditional use permits, including the existing mining projects, in Scandia.

The Planner research issues related to interpreting the term “substantial diminishment or impairment of property values” as applied in other conditional use permit applications in Minnesota, including aggregate mining CUPs, and how courts have interpreted the general criteria related to “reduction in property value” in similar cases. Based on this review, the Planner has identified the following:

- Potential loss of property value has not usually been a determining factor in denying conditional use permits for aggregate mines or other uses.
- This factor requires real, objective evidence that a reduction in property values has actually occurred in areas near similar mining projects, and there is objective data to suggest that a substantial reduction in values is likely as a result of the project.
- The cases do not provide an accepted definition of “substantial.”



- The City should determine whether additional conditions that would protect properties from impacts, such as berming, screening, etc., could be included in the conditions to address this issue.

The Planner's draft conditions include the mitigation measures recommended in the EIS to avoid or minimize the impacts of the Project on properties around the Project. The conditions include mitigation measures that have the potential to minimize potential declines in property values, including:

- Construction of berms and leaving existing mature vegetation in place around the boundaries of the mine site
- Limitations on hours and days of operation
- Requirements that the Project comply with state standards related to noise, dust, light and pollution

The Planning Commission and Council may also consider the project alternatives to shorten the duration of the mine project or reduce hours of operation in order to further minimize potential impacts to property values.

c. Scenic views

The EIS included an analysis of the potential Project impacts on scenic views (Item 4.16). The analysis concluded that no significant impacts will occur if the mitigation measures included in the analysis are implemented. Based on the EIS analysis and recommended mitigation measures, the Planner recommends the following conditions for the CUP to address potential impacts related to scenic views:

- The applicant shall maintain existing woodlands and screening outside the mining area limits.
- The applicant shall construct the berms and screening identified on the project plans and reclamation plan.
- The applicant shall establish and maintain a maximum stockpile height of 880 feet above mean sea level. Stockpiles shall not be located on the west side of the site.
- All lighting shall be shielded, downcast lighting that meets the requirements of the City's ordinance.

The Planner's evaluation of Criteria #3 indicates that if the recommended mitigation measures and conditions are implemented, the Project will not be injurious to the use and enjoyment of other property in the immediate vicinity based on the objective criteria included in the Development Code. The data included in the EIS indicated that reductions in property values have not occurred on residential properties near similar mine sites in Minnesota, and therefore available empirical data indicates that the project is not likely to have substantial impacts to local property values; and if the applicant implements the required mitigation measures and conditions the project will not have impacts to scenic views.

4. *The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.*



The areas surrounding the Zavoral Project site are occupied by rural residential, agricultural and open space uses, and some vacant properties. Permitted uses in the area include residential, agricultural and open space uses, so the existing uses are those that are likely to continue for the long-term.

Objective criteria for evaluating the project's potential to impede the normal and orderly development and improvement of surrounding property for the uses permitted in the Zoning District are the same as those evaluated for Criteria #2 and #3 above:

- Traffic and congestion -- congestion or lack of roadway capacity may impede additional development
- The project creates hazards or nuisances such as noise, dust, or views that discourage the development or improvement of surrounding property.

Items 2 and 3 above discuss the potential for traffic, hazards and nuisances to impact surrounding properties and impede development, based on the standards included in the City's Development Code and the EIS. The EIS analysis concluded that:

- TH 97 and 95 and County roadways designated to carry traffic from the Project have sufficient capacity to handle the traffic and avoid negative impacts to other roadway users. If the mitigation strategies recommended in the EIS are implemented, the traffic that will be generated by the Project will not create significant congestion on the roadways.
- The project will not create hazards or nuisances that exceed state standards for noise, dust, air pollution or other nuisances or negatively impact local views if the mitigation strategies recommended in the EIS are implemented.

The Planner has included the conditions listed under Items 2 and 3 above in the recommended conditions to address the potential project impacts that could impede the normal and orderly development or improvement of surrounding properties.

5. *Adequate public facilities and services are available or can be reasonably provided to accommodate the use which is proposed.*

Item 4.3.3 in the EIS concluded that the City of Scandia and Washington County would be capable of providing public and emergency services for the Project under their existing organization. The City will need to utilize its staff and consultant resources to monitor the Project for compliance with permit requirements and the conditions that would be included in the Conditional Use Permit.

The Project will use public roadway facilities. Mn/DOT concluded that the state roadways have the capacity to handle the Project traffic. Washington County did not identify problems with roadway capacity or impacts in its comments on the Draft EIS. No public sewer, water or other infrastructure is needed to serve the Zavoral Mine Project.

Item 4.13 in the EIS analyzed the impacts of potential traffic that could be generated by the Project under each of the EIS alternatives. The analysis concluded that the existing roadway network has sufficient capacity to handle the daily traffic volumes that would occur, including peak hour truck volumes. Periods of congestion may be experienced during peak weekend travel times or on holiday weekends with or without the Project traffic.



The potential conditions listed under the analysis for Item 3.1 (6) Traffic Control and the conditions that require that the applicant pay all costs related to city and consultant monitoring of the project and implementation of the mitigation plan are included in the recommended conditions to address the criteria that adequate public facilities and services be available to the Project.

6. *The conditional use shall conform to the applicable regulations of the district in which it is located and all other applicable standards of this Chapter.*

Aggregate mining is a permitted use in the Agriculture District designated in the 2020 Comprehensive Plan and Zoning Map. The lot and setback requirements for mining operations are included in Ordinance No. 103, Section 3. The requirements include the following:

- The property must be at least 40 contiguous acres in size.
- The standards for approval of a conditional use permit in Chapter One, Section 7 of the Development Code must be met
- The operation is consistent with the Scandia Comprehensive Plan
- The provisions of Ordinance No. 103 must be met.

A section that follows analyzes the consistency of the proposed project with the requirements of Ordinance No. 103. Based on the analysis included in items 1-7 in this section, and the analysis of the project in relationship to the requirements of Ordinance No. 103, the proposed use conforms to the applicable regulations of the Agriculture District and applicable standards of the Development Code.

7. *The conditional use complies with the general and specific performance standards as specified by this Section and this chapter.*

Items 1 through 6 above analyze the Project and its compliance with the general performance standards specified in Chapter One, Section 8 (Conditional Uses). The Project's compliance with the performance standards in Chapter One is discussed under Section B that follows. A previous section analyzed the Project compliance with the Performance Standards in Ordinance 103.

B. Evaluation of Performance Standards – Item 8.5 of Chapter

Chapter 1, Section 8.5 of the Development Code includes the following performances standards (italics). The Planner's evaluation of the project in relation to each of the standards follows the standard:

1. *The use and site in question shall be capable of supporting the wastewater disposal needs of the proposed use, and shall meet all applicable standards and regulations necessary to protect public health and to protect surface and ground waters. The applicant is proposing to use portable sanitary facilities to serve employees at the site. The Planner has included a proposed condition for the CUP as follows: The applicant shall provide and maintain portable sanitary facilities to serve the site and shall meet all applicable standards and regulations for wastewater disposal.*
2. *Adequate parking shall be provided and the site design for access, circulation, parking and loading areas shall minimize internal and external traffic conflicts. The Planner has*



included a proposed condition as follows: The applicant shall provide parking for all employees and visitors within the site. Circulation and parking shall minimize internal and external traffic conflicts.

3. *An adequate pedestrian circulation system shall be clearly defined and appropriate provisions made to protect such areas from encroachment by parked or moving vehicles.* The EIS discussed the potential impacts of the mine operation on bicycle and pedestrian facilities near the Project. It noted that the City's Trail Plan includes a trail along TH 95 that will be impacted by the Project, and a potential trail on TH 97. The Planner has included the following draft conditions for the CUP to related to the trail facilities:
 - The applicant shall fund improvements to the existing pedestrian/bicycle trail along State Scenic Byway TH 95 in the mine area and maintain connections to existing trails. The improvements shall include trail signage that alerts users to trucks entering and leaving the Zavoral site.
 - If the proposed trail on TH 97 is developed while the Zavoral Mine is operational, the applicant shall fund signage for the trail crossing on TH 95.
4. *All landscaping, screening, woodland and tree preservation requirements shall be met.* Previous sections discuss the proposed landscaping and screening. Mining projects are required to meet the landscaping and screening requirements of Ordinance 103, and are not required to meet the landscaping, woodland and tree preservation standards in Chapter 2 of the Development Code. The Planner has included proposed conditions for the CUP requiring that the applicant implement the Reclamation Plan and fund the monitoring of reclamation activities.
5. *All exterior lighting shall be so directed so as not to cast glare toward or onto the public right-of-way or neighboring property and be in compliance with all city lighting requirements.* The Planner has included a proposed condition that the applicant shall meet the requirements of the City's lighting ordinance.
6. *Potential exterior noise generated by the use shall be identified and mitigation measures as may be necessary shall be provided to insure compliance with the City's noise ordinance.* This issue was discussed in previous sections of this report. The Planner has included a proposed condition that the project shall meet the noise standards included in the ordinance.
7. *The site drainage system shall meet all applicable standards for management of water quantity and water quality.* The Planner has included a proposed condition that the Project shall obtain the required stormwater management permits from the MPCA and CMSCWD.
8. *The architectural appearance and functional design of non-residential buildings and sites shall be in harmony with the Scandia Architectural Design Guidelines and with the character of the surrounding buildings and sites.* No buildings are proposed and the City has no Design Guidelines that apply to mining projects.
9. *All signs and informational or visual communication devices shall be in compliance with applicable regulations.* No signage is currently proposed. The Planner has included a



condition as follows: The applicant shall obtain the required sign permits for all signs proposed at the site.

10. *The use and site shall be in compliance with any federal or state laws or regulations which are applicable and any other required permits are obtained and documented to the City. The Planner has included conditions regarding compliance with applicable federal and state laws and required permits.*
11. *Any applicable business licenses that may be mandated by City ordinance are approved and obtained. No license is required for this business.*
12. *The hours of operation may be restricted when there is potential negative impact upon the surrounding area or neighboring uses. The Planner has included a proposed conditions that specifies the hours of operation for the Project.*
13. *Any costs that may be incurred by the city to monitor compliance with the conditions of the Conditional Use Permit shall be paid by the applicant and/or owner of the property. The Planner has included a proposed condition that the applicant shall pay all costs that may be incurred by the city to monitor compliance with the conditions of the Conditional Use Permit.*

The Planner concludes that the Project meets the performance standards included in Chapter One of the Development Code and Ordinance No. 103.



V. ALTERNATIVE EVALUATION

The EIS evaluated three alternatives and one sub-alternative for Project operation. The alternatives included the following:

- Alternative 1 – Operation of the mine for five to ten years
- Alternative 2 – The No-Build Alternative
- Alternative 3 – Reduced Timeframe, 3.3-5 year operation
- Alternative 3A – Reduced Timeframe, 150-Working Day operation

The applicant is proposing Alternative 1—that the mine be operated for up to ten years. The City may require a shorter alternative, based on its evaluation of the project and its potential impacts and the comments and concerns of agencies and the public.

The Executive Summary included in the Final EIS includes tables that summarize the Alternatives evaluated in the EIS and their potential impacts. The tables are located in item ES2 in the Final EIS, and are labeled Table 2 and Table 3.

Utilizing the information in the technical reports included in the DEIS Appendices, the DEIS analyzed the environmental impacts of the proposed project (Alternative #1), two alternatives and one subalternative. The Planning Commission and Council may find this summary helpful in considering the alternatives.

- The DEIS found that Alternatives #1, #3 and #3A would have similar impacts over the duration of the mining operation, but that the duration of many impacts would be shorter under Alternatives #3 and #3A than under Alternative #1.
- Alternatives #3 and #3A may have a reduced potential for major storm events and potential impacts to water resources than Alternative #1 due to the reduced timeframe.
- Under Alternative #3A, Tiller would not be able to comply with the City's current restriction on the use of County Road 1 (Lofton Avenue) access at the Scandia Mine during non-daylight hours.
- Under Alternative #3A, dust emission rates would be higher on a daily and annual basis than for Alternatives #1 and #3, though emissions would likely not exceed standards or affect surface waters and other natural resources around the site under Alternative #3A.
- Under Alternative #3A, noise levels are expected to be higher than under Alternatives #1 and #3 due to the larger number of trucks operating at the site, and noise impacts would extend over 12 hour-working days rather than 10-hour days proposed for Alternatives #1 and #3.
- The Zavoral Site would be reclaimed earlier under Alternatives #3 and #3A than under Alternative #1.
- The DEIS found that No Build Alternative (Alternative #2) would generally result in no change from current conditions, and therefore would avoid the impacts identified for Alternatives #1, #3 and #3A. However, because the EIS concluded that if the proposed



mitigation strategies were implemented the project would not have significant impacts, the City may face a legal challenge if it adopts Alternative #2.

The Planning Commission and Council should consider the potential impacts of the alternatives, the EIS analyses, and the public testimony regarding the project, and recommend one of the alternatives. The Planner recommends that the proposed project duration be included as an item in the Development Agreement with the applicant and property owner.



VI. OPTIONS FOR THE PLANNING COMMISSION

The Planning Commission can recommend to the Council to:

1. Approve the request.
2. Approve the request with conditions.
3. Deny the request with findings.
4. Table the request.

VII. PLANNING STAFF FINDINGS AND RECOMMENDATIONS:

A. Findings

The Planner recommends approval of the Conditional Use Permit for the Zavoral Mine and Reclamation Project based on the following findings:

- The Project meets the Criteria for approval of a CUP in Mining Ordinance No. 103.
- If the mitigation recommendations included in the EIS and the Planners recommended conditions are implemented, the project will meet the Provisions and Performance Standards included in Ordinance No. 103.
- The Reclamation Plan meets the requirements of Ordinance No. 103.
- The conditional use is in compliance with and will not have a negative effect upon the Comprehensive Plan, including the public facilities plan and capital improvement plan.
- The establishment, maintenance and operation of the conditional use will promote and enhance the general public welfare and will not be detrimental to or endanger the public health, safety, morals or comfort if the mitigation recommendations and conditions are implemented.
- The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted if the mitigation recommendations and conditions are implemented, and the conditional use will not substantially diminish or impair property values or scenic views.
- The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.
- Adequate public facilities and services are available or can be reasonably provided to accommodate the use which is proposed.
- The conditional use will conform to the applicable regulations of the district in which it is located, and all other applicable standards of the Development Code if the recommended mitigation and conditions are implemented.
- The conditional use complies with the general and specific performance standards included in the Development Code.

Recommended Conditions for the Conditional Use Permit

1. The Conditional Use Permit is granted only for the Project identified in the plans and application submitted to the City on November 14, 2008, and revised and resubmitted on October 9, 2012.



2. The applicant shall comply at all time with the City's ordinances and all applicable rules and regulations of Federal, State, County and local agencies, and maintain existing permits granted by those agencies for all operations at the site.
3. The maximum depth of mining shall be 840 feet above mean sea level (amsl). This will guarantee a minimum separation of 10 feet between the bottom of excavation and the top of the groundwater.
4. No dewatering shall be permitted.
5. Daily pumping from the Zavoral Site Well shall not exceed 10,000 gallons at a maximum pumping rate of 1,200 gallons per minute. Annual pumping shall not exceed 1 million gallons.
6. The applicant shall keep records of when the Zavoral Site Well is pumped, and provide the records to the City Washington County Department of Public Health and Minnesota Department of Natural Resources for groundwater monitoring activities. The records shall document both the daily use and total annual pumped volume from the Zavoral Site Well.
7. The applicant shall revise the *Groundwater Quality Protection Plan (GWPP)* (October 2012) to address the corrections and issues identified in the Leggette, Brashears, and Graham Inc. (LBG) letter to the City dated November 15, 2012.
8. The applicant shall revise the locations of the proposed borings and monitoring well as requested by LBG in the letter to the City dated November 15, 2012.
9. The applicant shall install additional groundwater observation wells or piezometers down-gradient of the mined area in the vicinity of the wetlands and near the surface water monitoring stations identified by the Washington Conservation District (WCD). The applicant shall coordinate the number and locations of the observation wells and/or piezometers and frequency of monitoring in consultation with the City, the WCD and LBG.
10. The City's consulting hydrogeologist shall make scheduled 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 he/she identifies issues or problems during the monitoring activity.
11. The City shall review and evaluate the GWPP on an annual basis or more frequently if a significant change in the groundwater conditions occurs. The applicant shall modify the GWPP as needed to address identified concerns.
12. If diesel fuel is stored at the site, the applicant shall sample and analyze groundwater for diesel range organics. If gasoline is stored at the site, gasoline range organics and benzene shall be added to the analyte list.
13. The applicant shall meet Federal, State and City requirements for storage of fuels on the site.
14. Equipment fueling for the Project shall be conducted in a designated area over a hard-surfaced fueling pad.
15. The applicant shall provide spill cleanup equipment on-site.
16. The applicant shall obtain the required agency permits for stormwater management, and provide to the City copies of the permits approved by the Carnelian-Marine-St. Croix Watershed District (CMSCWD) and the Minnesota Pollution Control Agency.



17. The applicant shall obtain the required Air Emissions Permit from the Minnesota Pollution Control Agency, and provide a copy of the approved permit to the City.
18. The applicant shall obtain an Endangered Species Take Permit before removing any Butternut (*Juglans cinerea*) trees identified on the site, if the Minnesota Department of Natural Resources (DNR) reclassified Butternut trees from a Special Concern to Endangered species.
19. The applicant shall comply with the "Summary of Recommendations for Avoiding and Minimizing Impacts to Blanding's Turtles Populations" included in Appendix C of the Zavoral Mine and Reclamation Project EIS. The WCD shall complete an annual site visit to the Zavoral Site to verify compliance, and provide a report on compliance to the City for the review of the Annual Operating Permit (AOP).
20. The applicant will inspect all trees for raptor nests prior to tree clearing. Trees with active nests may not be cleared while the nest is actively used.
21. The applicant shall implement the Best Management Practices (BMP's) included in the Storm Water Pollution Prevention Plan (SWPPP) (July, 24, 2012), Surface Water Plan (October 2012), and CMSCWD permit to protect surface waters and manage erosion and sedimentation.
22. The applicant shall construct the proposed berm on the south end of the Site as close to the mining and reclamation limits as possible to reduce off-site peak flow rates and increase infiltration.
23. The applicant shall minimize the amount of unnecessary equipment on the Site and reduce soil tracking off-site by vehicles.
24. The applicant shall monitor all on-site construction equipment for leaks and complete regular preventive equipment maintenance. Fueling and maintenance of vehicles shall occur within the area of active mining and no "topping off" of vehicle fuel tanks is allowed.
25. Any above-ground storage tank (AST) at the Site shall be located more than 500 feet from surface waters.
26. The applicant shall notify the Minnesota Pollution Control Agency of all AST's within 30 days of installation by submitting an AST Notification Form.
27. The WCD shall monitor the potential impacts of mining activities on the water resources at the site on behalf of the City. The monitoring locations, protocols, and methodology shall be specified in the AOP. The WCD shall submit all status reports and ground and surface water monitoring reports to the City and the CMSCWD.
28. The WCD monitoring point installed for the EIS pump test and collection of baseline data in Zavoral Creek should be monitored for the lifetime of the project.
29. Within 60 days of approval of the CUP, or when weather and ground conditions allow, the WCD shall install automated wetland hydrology monitoring wells to monitor for hydrologic changes to the wetlands due to the operation of the Project. The WCD shall analyze the data gathered from the monitoring activities, interpret the data, and report the results to the City. The monitoring shall be conducted throughout the lifetime of the Project and the valid term of the CUP.



30. The applicant shall obtain the required Minnesota Department of Transportation (Mn/DOT) Access permit (TP 1721) for the Project.
31. The applicant shall construct the new driveway access directly across from TH 97 as required by Mn/DOT for safe access.
32. The applicant shall construct a right turn lane on northbound TH 95 at the Project Site entrance as required by Mn/DOT.
33. The applicant shall construct the fence included in the Project plans prior to beginning mining operations, and shall maintain the fence until reclamation is complete.
34. The hours of operation and hauling shall be conducted only between 7 a.m. and 7 p.m., Monday through Friday, excluding 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 or days of operation.
35. The applicant shall coordinate any proposed berm removals associated with Project completion with the City.
36. The applicant shall implement the Dust Control Plan (dated 10/8/12), including all activities proposed during stripping, grading and active mining operations.
37. The applicant shall utilize non-chloride agriculturally derived organic polymers or naturally-occurring polymers on internal haul roads to control dust. Applications will occur at least twice per season, once at the beginning of the season and once at the midpoint. The applicant shall review the coverage of the material on a regular basis, and reapply the polymers if they are not long effective. The applicant shall complete additional applications when needed during dry periods.
38. The applicant shall water unpaved haul roads on the site, including milled portions, at least twice daily, unless recent precipitation is keeping these roads wet; and at least once every 3 working hours during hot, dry conditions.
39. The applicant shall wash hauling and loading equipment on a regular basis, and at least daily in hot, dry conditions.
40. 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.
41. The City and its consultants shall perform periodic on-site review of dust control activities to assure compliance with this permit. Monitoring shall be performed two to three times per season. Monitoring shall be scheduled in conjunction with days of maximum site activity and worst-case environmental conditions. A second day of sampling shall be performed during each session to record the ambient conditions on a day when no activity is occurring at the site. The monitoring locations, protocols and methodology shall be specified in the AOP.
42. The Dust Control Plan and air monitoring procedures shall be reviewed and updated as necessary on at least an annual basis with the AOP application.
43. The applicant shall implement the berms and screens proposed in the site plan.
44. The City and its consultant shall complete noise monitoring at the Project site. The monitoring locations, protocols and methodology shall be specified in the AOP.



45. The applicant shall cooperate with the City and allow access to the site as necessary to conduct noise monitoring.
46. The applicant shall fund noise monitoring during site operations.
47. If the noise levels at the Project exceed State Standards for any of the testing, the applicant will identify and take corrective actions to bring the noise levels into compliance.
48. The applicant shall require that the equipment on the site use broadband alarms and haul trucks shall utilize a circular traffic pattern or other traffic pattern to the extent feasible that minimizes the need for haul trucks to back up on the site.
49. The applicant shall ensure that on-site equipment is properly muffled and shall inspect mufflers on the on-site equipment on a weekly basis and document inspections.
50. The applicant shall ensure that the mining plan will minimize any time when the noise from the on-site equipment and haul trucks are operating without noise mitigation from berms and/or the mine face.
51. The applicant shall recycle debris created by clearing, grubbing and excavation, or dispose of stumps, trees and debris in another manner approved by the City.
52. The applicant shall maintain the mine site and equipment in an orderly condition. Weeds shall be controlled in planted and reclaimed areas. Existing trees, berms and topsoil along existing public rights-of-way shall be preserved, maintained and supplemented as proposed in the Site Plan and Reclamation Plan.
53. The applicant shall provide and maintain portable sanitary facilities to serve the site and shall meet all applicable standards and regulations for wastewater disposal.
54. The applicant shall dispose of any waste generated from the mining operation, including waste from vehicles or equipment maintenance, in accordance with Federal, State and City requirements.
55. The applicant shall meet Federal, State and Local requirements for storage of fuels on the site.
56. The applicant shall fund improvements to the existing pedestrian/bicycle trail along State Scenic Byway Trunk Highway 95 in the mine area, and maintain connections to existing trails.
57. If the proposed trail on TH 97 is developed while the Zavoral Mine is operational, the applicant shall fund signage for the trail crossing on TH 95.
58. Within 60 days of the approval of the CUP, the applicant shall prepare and provide to the City an updated reclamation plan (revising the Reclamation Plan dated October 9, 2012), which includes performance standards, as listed below, for approval by the City. Reclamation on the site shall be implemented in accordance with the updated reclamation plan.
59. Reclamation shall proceed concurrently and proportionally to mining operations. Progress on reclamation shall be demonstrated in each AOP application.
60. The applicant shall use clean, non-contaminated fill material and topsoil for all reclamation. The applicant shall successfully establish permanent native vegetation in reclaimed areas as per the schedule, extents and methods as provided in the Zavoral Reclamation Plan and



Zavoral Reclamation Plan Topsoil and Prairie Establishment Memorandum (October 3, 2011) by CCES.

61. Reclamation success shall be defined as follows:
 - 90% areal coverage of vegetation for each reclaimed area, within 3 years post seed installation;
 - 80% of species must be native and non-invasive at the end of the 5th growing season, post seed installation, of each reclaimed area;
 - The reclaimed areas shall contain at least 50% of the species for both grasses and forbs contained in the specified seed mixes at the end of the 5th growing season, post seed installation;
 - Aggressive native species and invasive non-native species, as listed in the Zavoral Reclamation Plan by CCES, shall account for no more than 20% cover of the reclaimed areas at the end of the 5th growing season, post seed installation.
62. Vegetation establishment and monitoring shall continue for a period of 5 years after completion of the Zavoral Mine Project, in its entirety.
63. The applicant shall submit annual reclamation monitoring reports to the city, on or before November 1, that describe the reclamation activities that occurred in the specified year, and the status of all reclaimed areas. The applicant shall provide detailed information such as percent coverage of vegetation, species composition, etc., pertaining to compliance with the performance standards, as provided above. If the reclaimed areas do not meet the performance standards, the applicant shall include corrective action plans in the reclamation monitoring report.
64. If the City determines that a reclaimed area has not met the vegetative performance standards listed above, the city shall order corrective action(s) including, but not limited to, reseeding, overseeding, spot seeding, or other actions so that the reclamation meets the criteria for success. The specific corrective actions may be dependent on site conditions. The city will determine the appropriate actions in consultation with the WCD, the applicants, and other experts, as necessary.
65. The WCD shall complete monitoring of reclamation activities on the site on behalf of the City. Monitoring locations, protocols and methodologies shall be specified in the AOP.
66. The applicant shall provide funds to conduct all reclamation monitoring on the site.
67. Final reclamation shall include removal of any equipment and backfilling and seeding the operations area.
68. Approval of the reclamation plan shall not constitute an approval by the City of Scandia of an ultimate use for the site. Ultimate use shall be determined based on the Scandia Comprehensive Plan and ordinances in effect at the time the mining is complete and applications for development of the site may be submitted.
69. The applicant shall maintain existing woodlands and screening outside the mine area limits.



70. The applicant shall establish a maximum stockpile height of 880 feet above mean sea level. Stockpiles shall not be located on the west side of the site.
71. Traffic generated by the Project shall not exceed the maximum levels analyzed in the EIS for the selected alternative (Alternatives 1 or 3, 600 round trips per day; Subalternative 3, 736 round trips per day).
72. The applicant shall record and report the number of trucks hauling Class C add-rock from the Zavoral Mine site and to Scandia Mine annually. The records shall be submitted with the Annual Operating Permit application.
73. All truck traffic generated by the project shall utilize TH 97, TH 95, CR 15 (Manning Avenue) and CR 1 (Lofton Avenue). No truck traffic shall be permitted on local streets. Trucks shall not back onto roadways.
74. The applicant shall construct a new driveway access directly across from TH 97 for safe access to the site.
75. The applicant shall construct a new north-bound right-turn lane as required by Mn/DOT (letter to the City of Scandia, January 22, 2009). The design of the right-turn lane shall be consistent with the design of the existing left-turn lane.
76. The applicant shall install truck warning signs that comply with the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD) on State Scenic Byway TH 95 to advise drivers of trucks crossing TH 97 in and out of the Zavoral Site.
77. The applicant shall provide parking for all employees and visitors within the site. Circulation and parking shall minimize internal and external traffic conflicts.
78. If a crash or traffic violation occurs involving a truck hauling for Tiller, Tiller shall contact the City to report the incident immediately. The applicant shall report actions it will take to respond to the incident.
79. The City and its consultant shall complete traffic monitoring in the Project area. The monitoring locations, protocols and methodology shall be specified in the AOP.
80. All lighting on the site shall be hooded or controlled and meet the requirements of the City's Development code. Lighting shall be limited to the hours of mine operation. Lighting shall be arranged to deflect light away from any adjoining residential property or from public streets.
81. The applicant shall obtain the required sign permits for all signs proposed at the site.
82. The applicant shall pay all costs associated with site monitoring activities including, but not limited to costs of equipment, installation, site visits, data collection, data analysis, reporting, maintaining compliance and all other costs associated with all of the monitoring activities identified in these conditions.



83. The applicant shall cooperate with the City and provide access to the site as needed to conduct the monitoring activities required by this permit.
84. The applicant shall provide a final, corrected copy of the Application materials and plan sheets to the City within 60 days of approval of the CUP.
85. The applicant shall complete a Developer Agreement with the City. The Agreement shall include a financial guarantee acceptable to the City to assure compliance with the reclamation plan, and provide for an escrow that the City will use to pay for monitoring and reporting activities.
86. The applicant must apply for and obtain an Annual Operating Permit from the City.
87. The applicant shall pay all fees and escrows.

Potential Conditions for the AOP

Water Quality monitoring

- The WCD shall install a monitoring station on Middle Creek to track surface water quality and field water quality parameters for the lifetime of the project.
- The WCD shall collect and analyze the data from the monitoring stations on Zavoral and Middle Creek, and report the results to the City and CMSCWD.
- The WCD shall complete twice annual macro-invertebrate monitoring on Zavoral Creek and report the results to the City annually for use during the review of the AOP for the project.
- The WCD shall collect and analyze the data from the monitoring stations on Zavoral and Middle Creek to determine the effect, if any, to surface waters due to the Zavoral Mine operation. The WCD shall notify the City if a negative impact is identified. 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.
- The WCD shall monitor the Black ash seepage subtype wetland boundary mapped by Critical Connections Ecological Services, Inc. (CCES) in January 2010 that established the baseline boundary of the seep along the Zavoral ravine during the lifetime of the project.
- The WCD shall monitor the seepage wetlands for inputs of fine sediment-laden groundwater that may arise from increased infiltration within the mine pit.

Dust Control/Air Quality

- The applicant shall perform employee exposure monitoring on this site at least once per season and submit the results (with employee personal information redacted) to the City for review with the AOP application submittal. The monitoring shall be specific for respirable dust and respirable silica, shall include mining, loading and hauling personnel, and shall represent worst-case exposure conditions.
- The applicant shall limit vehicle idling times for the site and approach area to no more than 15 minutes.



- The City shall establish air monitoring stations at a minimum of four locations: upwind of mining and loading operations, downwind of mining and loading operations, 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.
- 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 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.
- 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.

Noise

- 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.
- Noise monitoring shall include at least one hour of monitoring at a representative location along the Scenic Riverway annually during mining operations.
- A noise monitoring event will be conducted within three weeks of the beginning of each mining phase, weather permitting, and once per operating month thereafter. Monitoring shall be conducted in accord with Minnesota Rules.
- The City shall notify residents of monitoring periods and request access to properties as necessary to conduct monitoring activities.
- The City's noise consultant shall conduct stationary run up tests (per Minnesota Rules 7030.1040) on selected haul trucks with governed engines. Testing shall be conducted one day every other operating month at a safe and proper location selected in consultation with the City and mine operator. This test shall include measuring peak noise at a measured distance from a stationary truck while the truck fully accelerates the governed engine.
- The applicant shall ensure that trucks selected by the City and its consultant for stationary run up tests will be required to submit to testing and will follow the required test procedures.



Reclamation Plan

- The applicant shall submit to the City monthly reclamation activity progress reports during the growing season for the first two years post-seed installation of reach monitoring area in addition to the annual monitoring reports.
- The WCD shall inspect the Project site on an as-needed basis, as requested by the City, to ensure compliance with the reclamation-related conditions of the CUP and the Zavoral Reclamation Plan. The applicant shall pay the costs to review the reclamation plan and conduct site visits.
- The WCD shall monitor the transplanted trees. The applicant shall achieve a survival rate of at least 80% for all transplanted trees. The applicant shall provide the city with the quantity, location, species, and proposed maintenance plan for all trees transplanted as part of the Reclamation Plan. The applicant shall replace trees as needed to achieve the 80% survival rate. The City and WCD shall approve the selection of replacement tree species.

Traffic

- The City's consultant shall complete a 24-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 frequency of monitoring and reporting to the City shall be identified in the AOP.
- The City's consultant shall complete 48-hour classification and speed counts that report results hourly on TH 97 and CSAH 1. The counts shall be completed near the Scandia Elementary School and on CSAH 1. The consultant shall report the overall daily volume data and the percentage and number of trucks to the City. The frequency of monitoring shall be specified in the AOP.
- The City shall review the crash records for the roadways in the area that will be used for truck-hauling to identify areas every six months, to identify safety issues. The City shall contact Mn/DOT to discuss safety issues if identified.

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

Randall Simonson, Mayor

ATTEST:

Kristina Handt, Administrator/Clerk

