



**DATE/TIME** Tuesday, July 20, 2010, 4:00 PM to 6:00 PM

**LOCATION** Scandia Community Center, Scandia, Minnesota

**ATTENDEES**

**PAC Members** Michael White (Community Representative), Tom Krinke (Scandia Planning Commission), Lisa Schlingerman (Community Representative), Kristin Tuenge (Community Representative), Karen Kromar (Minnesota Pollution Control Agency), Freya Themman (Metropolitan Council), Bill Clapp (Community Representative), Jill Medland (National Park Service), Jed Chesnut (Community Representative), Jim Shaver (Carnelian-Marine-St. Croix Watershed District), Todd Udvig (Washington Conservation District), Jyneen Thatcher (Washington Conservation District), Dan Seemon (USACE, St. Paul District)

**City of Scandia** Anne Hurlburt, City Administrator, Sherri Buss, City Planner (TKDA)

**AECOM Team** Leslie Knapp, Mark Rothfork (AECOM), and Trudy Richter (Richardson, Richter & Assoc. Inc.)

**Tiller Corporation** Mike Caron, Christina Morrison (Tiller Corporation), and Kirsten Pauly (Sunde Engineering)

**Public** Pam Arnold, Craig Christensen, Barbara Booth, Missy Bowen, Roger and Cornelia Eberhart, Chris Ness, Jim Larsen, Randy Ferrin, Kathy Lewis, and Laurie Allen

**MEETING NOTES**

**1. Introductions**

Trudy Richter had the attendees introduce themselves. Trudy also asked PAC members and any other attendees to remember to sign-in.

Agenda items 3 and 4 are included in the PowerPoint presentation. Copies of the presentation are attached and are available on the City of Scandia Zavoral Mine and Reclamation Project EIS website at: <http://www.ci.scandia.mn.us/vertical/Sites/%7B2F1D9A41-1D4D-4195-A3E4-159328E3F399%7D/uploads/%7B486907D0-3FBD-4E9D-B3EC-15F54EC2834E%7D.PDF>

**2. Approval of PAC #2 Meeting Minutes**

The PAC had some comments on the PAC #2 meeting minutes:

- Resident(s) reported they had seen Blanding turtle(s) in the area.
- Will the trees along Highway 95 be removed? Make sure the Forest Plan addresses this and leaves as many trees as possible.



- The trees along Highway 95 are not considered forest and Tiller intends to maintain a tree buffer. Also, the City has a setback of 50 feet from the road right-of-way (ROW). The Forest Management Plan will address this concern. Tiller's Forest Management Plan will need to address trees that would be removed within the mining area along with trees that may be relocated to reclaimed areas.
- The NPS stated that the proposed noise analysis is incomplete. They would like to see what noise standards apply, noise impacts, noise levels, noise impacts to the St. Croix River, and especially mitigation measures.
  - The noise study will be completed and will be part of the EIS.
- The number of households that could be served by 10,000 gallons of water a day is not 3 -but is 40 to 50.
  - The maximum number of houses that could be served by the amount of water Tiller proposes to use annually (<1 million gallons) is up to 25. This is the maximum number of houses based on the proposed production season and working days.
- The meeting minutes from the second PAC meeting were approved based on the understanding that these items would be included in the notes for this meeting. This has been accomplished above.

### 3. Traffic Evaluation

#### a. Traffic Evaluation Scope

See attached PowerPoint presentation. Questions and comments from the PAC are summarized below.

- Highway 95 north of Highway 97 is 7800 and 6700 vehicles. Why the 1100 vehicle difference?
  - This could be because of count location.
- Are methods standard for the entire state?
  - Yes. MnDOT performs standard counts using standard methods.
- What are the actual truck numbers?
  - These were provided later in the presentation.
- Are traffic counters there every day?
  - No. The counts are based on samples (either daily or weekly) that provide a snapshot of traffic. However, there is one counter in the area discussed that is permanent.
- Are crashes specific to intersections? Speaker referenced a known death of a pedestrian near the intersection that was not included in the crashes reported.
  - Yes. Crash records are specific to intersections. We will check to find out why this was not in the MnDOT records for the intersection.
- What is the size of the intersection area?
  - Typically 200 to 400 feet.
- If a vehicle encounters a pedestrian is that considered a crash?
  - Yes. This is considered a very serious crash.
- Crash data not representative of safety issues. We the citizens who live here don't believe this.
  - No response required.
- Why is the southern boundary where it is?
  - Answer provided later in the presentation on a different slide.



- Question on the previous slide. What is a haul event?
  - Add rock not hauled all year. Typically, add rock is hauled once or twice a year for up to 6 weeks (haul event).
- Will haul event increase traffic over current levels?
  - No.
- Did the analysis add traffic to existing traffic at Scandia?
  - Yes. Current traffic related to hauling products plus add rock traffic.
- This is the first time activity levels from Zavoral have been talked about. Have a lot of questions.
  - No response required.
- When no haul event is occurring from Zavoral, what is happening at the site?
  - Possibly reclamation or nothing.
- So, in essence you would be digging a 15 foot deep hole on 63 acres?
  - Correct, Tiller is not proposing to stockpile material at the Zavoral site.
- The Zavoral site would be inactive for most of the year except 12 weeks a year?
  - Yes.
- No dynamiting or crushing?
  - No.
- Foggy on what would be taking place.
  - Add rock from Zavoral would only occur for up to 12 weeks a year. Also, some reclamation work would occur but the remaining time the Zavoral site would remain idle.
- Can time period be shortened and the length of mining extended?
  - City ordinance states the time of operation. Tiller and City could look at this during Conditional Use Permit process (possibly as a mitigation measure).
- Lost me. Past 2 years range was 210 to 558 trucks?
  - Correct.
- What hauling level is expected during mining?
  - 334 to 560 trucks. Cannot exceed 560 trucks, because the Scandia mine site can't handle any more than that. Maybe be less than 334 at times.
- During a haul event?
  - Yes.
- 334 to 560 trucks is Zavoral traffic?
  - Yes, during a haul event.
- Franconia site won't operate during operation of Zavoral?
  - Correct.
- So let me get this straight, a bunch of trucks just swarm into Scandia?
  - No. Tiller calls trucking company(ies) to arrange for trucks as needed for the Scandia site. Foreman may add trucks or stay the same.
- How long will it take to load a truck?
  - Approximately 3 minutes.
- What equipment is used?
  - Front end loader(s).
- How long is a round trip between Zavoral and Scandia sites?
  - Approximately 30 minutes.
- Is 334 the number of trucks (referencing slide)?
  - No. 334 is the average. 210 is the actual number.
- So the number is between 210 and 334 trucks?



- Yes.
- What comes out of Scandia?
  - Product out is approximately 8,000 tons (on a very productive day). Add rock haul event still adds to product trucks.
- Where do trucks fuel for the Scandia site?
  - Fueled before work.
- Would there be fueling at the Zavoral site?
  - Yes. A bulk truck would be brought in to fuel equipment, but no fuel would be stored there.
- Not dealing with small jobs. Who are Tiller clients?
  - Currently 25 percent commercial/residential and 75 percent highway projects.
- What does driveway realignment mean?
  - Make driveway straight across from Highway 97.
- What would you connect trail that runs along the site to (in reference to possible mitigation)?
  - South to state park.
- Who owns the trail?
  - MnDOT.
- Trucks stop before proceeding to Scandia?
  - Yes.
- MnDOT looked at site lines on Highway 95 and they were determined to be deficient (2004).
  - This will need to be reviewed and verified. Can we get the information from that meeting? We are planning to meet with MnDOT to discuss these issues.
- When does this happen during the process?
  - Tiller and AECOM have more review to complete along with further coordination with MnDOT.
- When will PAC review the data?
  - During the Draft EIS review.
- Will intersection analysis be completed?
  - Yes.
- Are recreational bike counts analyzed?
  - Can't locate any data. Do you know of any sources?
- Local bike groups were identified as an option.
- Impact to bikes and motorcycles from the loose gravel on roads?
  - Tiller can't track loose gravel (tracking) onto state highway. They use a sweeper during haul event and sweep at least 1 or 2 times a day.

#### 4. Pump Test Results

Questions and comments by the PAC are summarized below.

- Why was the nursery contacted to prevent them from pumping during the pump test?
  - We didn't want the interference from pumping from the nursery well during the pump test. Otherwise, we would not be able to determine the impact of pumping from the Zavoral Site Well.
- Can you show on a map where the monitoring locations were?
  - Yes. Reviewed on the next slide.
- Is Tiller responsible for monitoring costs in the future?
  - The PAC could request this as a mitigation measure for the City to consider.
- Was the pump test completed because the well was in the Mt. Simon aquifer?



- The pump test was performed for the purpose of this EIS, to assess the potential for impacts to area wells.
- Why not cap Zavoral well and have a shallow one?
  - Not within the scope of the EIS analysis. However, -a shallow well could potentially result in a higher potential for impact to the seeps if placed in the same or interconnected aquifer as the seeps.
- Propose continued monitoring of water quality during mining activities (i.e. sediment to the river).
  - The PAC could request this as a mitigation measure for the City to consider.
- Will there be sediment discharge from the site?
  - No the site drains internally and erosion control measures would be implemented as appropriate.
- Will there be a report containing the results of the pump test? Review prior to EIS?
  - May be able to prepare a tech memo.
- Dust monitoring at the site.
  - The PAC could request this as a mitigation measure for the City to consider.

### 5. Issues for Subsequent Meetings

The following were identified by the PAC members as potential issues to discuss at future meetings:

- Reclamation.
- Site tour. Possibly before the next PAC meeting.
- Noise.
- Scenic impacts.
- No Build
- Economic
- Final Wetland Delineation (lateral effect)
- Can we have another PAC meeting?
- Give noise report to PAC early so speaker does not to educate PAC.
- Red shouldered hawk surveys to AECOM.
- Reference Maderate (southern mesic type) cliff area.

### 6. Public Comment

- Laurie Allmann commented on the Biological Assessment (BA).
  - The BA is too narrow
  - Opening remarks of the document state that state level species were looked at. The EAW requirements will need the BA to be broader.
  - Scoping document calls for BA and threatened species surveys.
  - EAW definition states broader approach is needed.
  - The DNR letter says to look at threatened and endangered species, but does not limit the surveys to that.
  - The BA report is not accurate for the EIS. Direct the consultant to look at Crystal Springs, 3 eagle nests, trout in stream, and geological formations.
  - Don't want the EIS challenged.
- In response to a question, Laurie Allmann stated that Dave Crawford of Crawford Natural Features Assessment who prepared the commentary on the BA did not review the Zavoral site.
- Also, see attached comments that Laurie Allmann sent to the City. The referenced document is available on the City website.



**PAC Meeting 3**  
Zavoral Mine & Reclamation  
Project EIS  
July 20, 2010

**Agenda**

- Approval of Minutes
- Traffic Evaluation
- Pump Test Results
- Wetland Mapping Update
- Issues for Final Two Meetings
- Public Questions (5:45 pm)



**Approval of Minutes**  
Approval of April 2010 Meeting  
Minutes



**Traffic Evaluation**

### Traffic Evaluation Scope

- Analysis of existing & alternative traffic operation impacts to key roadway network serving Zavoral & Scandia sites
- Assess impacts of mining only – Zavoral site
- Review historic operational data for Scandia Mine site
- Identify potential impacts at Scandia Mine site (traffic, safety, & infrastructure)
- Identify potential impacts & mitigation measures



### Existing Conditions Traffic Volumes

### Project Area Roadway Network



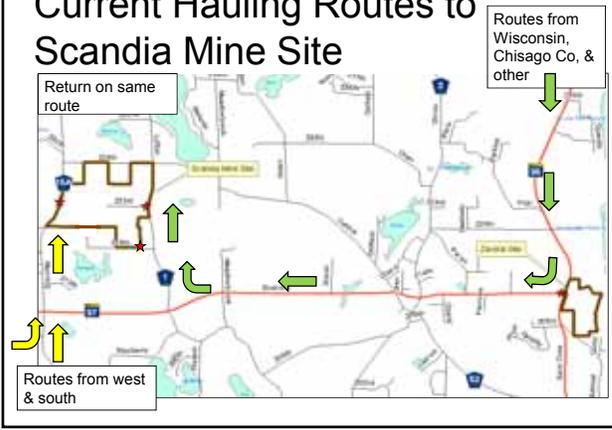
### Existing Roadway Network

- Mn /DOT data for Project Area network
  - Reviewed 2000 to 2010 for Trunk Highways (THs) & County Roads (CSAH/CRs)
  - Data based on average annual daily traffic (AADT) volumes adjusted by Mn/DOT to remove variations & seasonal influences

### Existing Roadway Network

- Trunk Highways
  - TH 95 & TH 97 are currently used as hauling routes
- County Roads in evaluation
  - Manning Trail (CSAH 15) west haul entrance
  - Lofton Av (CR 91) add-rock haul entrance
  - Olinda Trail (CR 3)

### Current Hauling Routes to Scandia Mine Site



### Average Daily Traffic Volumes (2008/2009)



### Crash Evaluation

### Crash Data

- Mn/DOT crash data for 2006, 2007, & 2008 (latest period of Mn/DOT verified data)
- Roadway Links
  - TH 97 from Manning Trail to TH 95
  - Manning Trail from TH 97 to 228th Street
- Intersections
  - TH 97 & Manning Trail
  - TH 97 & Lofton Ave
  - TH 97 & Olinda Trail
  - TH 97 & TH 95

### Segment Crash Summary

- TH 97 from Manning to TH 95
  - 20 crashes, none involved trucks
  - Most common were run off-road & hit object
  - Others: Misc., deer crash
- Manning Trail north of TH 97
  - No crashes

### Intersection Crash Summary

Intersection	Crashes 2006-2008	Notes
TH 97 & Manning Trail	7	4 rear-end, 1 angle, 2 deer
TH 97 & Lofton	11	3 rear-end, 4 angle, 4 run off road
TH 97 & Meadowbrook	1	angle, single unit truck involved
TH 97 & Oakhill	1	run off road
TH 97 & Olinda Trail	0	
TH 97 & TH 95	2	undetermined type



### Traffic Evaluation for Scandia & Zavoral Sites

### EIS Alternatives

- Alternative 1 - Up to 10 Year Operation
  - Total mine life - 1.2 million tons
    - 6 week haul plan (higher hauling traffic volume)
    - 10 week haul plan
- Alternative 2-No Build
- Alternative 3 – Up to 5 Year Operation
  - Total mine life - 1.2 million tons
    - 10 week haul plan (higher hauling traffic volume)
    - 12 week haul plan

### Add Rock Hauling Activities

- Allowable Hauling Hours for Scandia Mine Site (Lofton Ave.)
  - 7 AM to 7 PM, Monday – Friday (Daylight hours, reduced in winter)
- Haul Events
  - Duration typically 3 to 6 weeks (each haul event)
  - Haul events - 1 or 2 times a year
  - 5 or 10 year (or less) alternatives

### Projected Add-Rock Haul Traffic

Mine Life (Years)	Projected Add-Rock Mined (1.2 Mil. Tons)	Projected Loads/Year (Based on 24-Tons/Truck)	Projected Loads/Day (Highest Traffic Generation of Alternatives)	Max. Scandia Mine Capacity Loads/Day (10 hours * 28 trucks/hr)
Alternative 1 ≤ 10 years (6 Week Haul Event)	120,000 t/yr	5,000	167 trucks 334 trips	280 trucks 560 trips
Alternative 3 ≤ 5 years (10 Week Haul Event)	240,000 t/yr	10,000	200 trucks 400 trips	280 trucks 560 trips

### Add Rock Hauling Activities

- Support Staff and Vehicles
  - 1 operator, 1 foreman
  - 1 fuel truck (daily)
  - 1 maintenance truck (2 to 4 days)

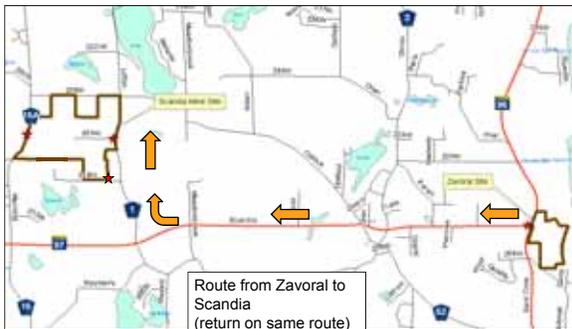
### Reclamation Activities

- Allowable Operating Hours
  - 7 AM to 7 PM by ordinance, Monday through Friday
- Haul Events
  - Duration is 1 to 2 weeks
  - Worst case scenario - hauls are 1 or 2 times a year

### Reclamation Activities

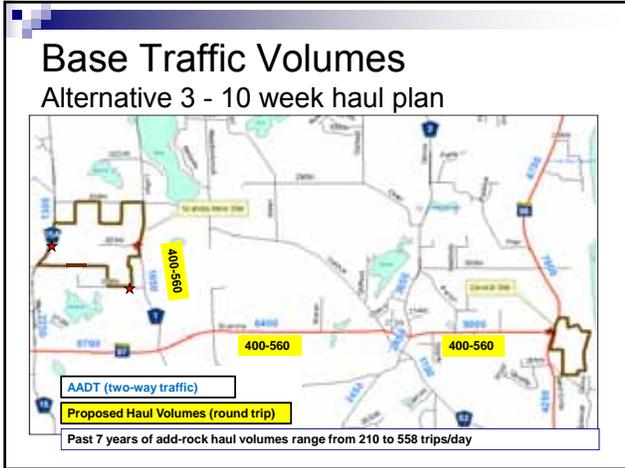
- Support Staff and Vehicles
  - 5-7 operators, one foreman
  - 1 fuel truck (each day)
  - 1 maintenance truck (2 to 4 days)

### Proposed Add-Rock Haul Route Zavoral to Scandia Mine Site

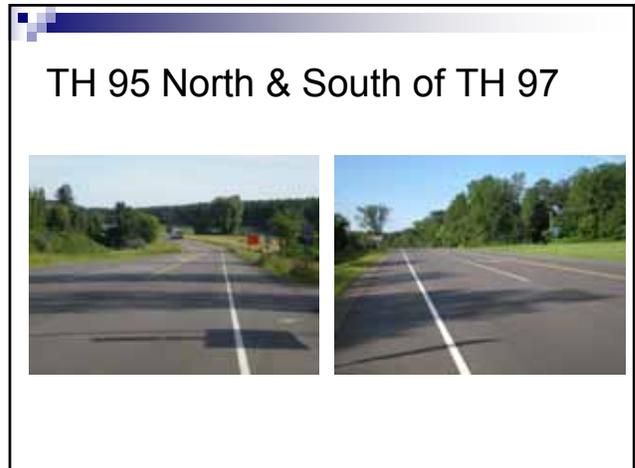


### Base Traffic Volumes Alternative 1 - 6 week haul plan





- ### Potential Mitigation - Roadway
- Review intersection operation at TH 97 & TH 95 for sight distance & safety issues
  - Ongoing Discussions:
    - Tiller working with Mn/DOT on intersection modifications at TH 97 & TH 95.
    - A warning sign with yellow flashers could be installed to alert traffic on TH 95 when trucks are actively hauling at Zavoral Site



### Potential Mitigation-Other

- Improve Existing Trail
  - Possible trail rehabilitation as part of new access realignment.



### Pump Test

### Zavoral Site Water Use

- Dust control only
- <10,000 gpd based on discussions with Tiller – seasonal use, also < mgy permit threshold
- Typical household uses 274 gpd + lawn sprinkling (up to an add't 205 gpd), total about 480 gpd

### Original Pump Test Scope

- Proposed 2, 10-min pump tests - second test following first after 2-hour recovery
- Water levels monitored at
  - Zavoral Cabin Well - about 1,300 ft east of Zavoral Site Well
  - Trail's End Bar & Grill 1 - about 1,700 ft west of Zavoral Site Well
  - Zavoral Creek at culvert



### Coordination with DNR

- Although no DNR is permit required, continued to coordinate with DNR to facilitate their ongoing involvement with EIS process
- DNR agreed that proposed tests technically represent actual water use scenarios
- DNR suggested longer test to help address public perceptions related to water use
- AECOM looked at extending the test accordingly

### Citizens and PAC Input

- Added surface water monitoring sites
  - Crystal Springs-Gregory Page
  - Surface water associated with Spring-box-Lisa Schlingerman & Kristin Tuenge
  - WCD established long-term monitoring point on Zavoral Creek (suggested by Jyneen Thatcher, installed by Erik Anderson & team)
- Pump test discharge basin

### Other

- Added Magnuson (formerly Eisenreich) well
- Contacted Nursery to prevent pumping interference
- Added St. Croix River monitoring point
- Added South Creek monitoring point



Crystal Springs



Groundwater Seeps - Zavoral Creek Ravine



Monitoring Point - Zavoral Creek below Crystal Springs



Discharge Depression



### Pump Test

- Attempted to run 8 hour test at 1,200 gpm
- Ran test for 4 hours & 20 minutes at 660 gpm (highest rate pump could maintain) when pump failed
- At 660 gpm (future pumping rate) - would take 15 min to pump 10,000 gpd or 7-8 min 2x day
- 172,600 gal was pumped—over 17x maximum amount Tiller would use daily
- Determined pump test was sufficient to assess impacts

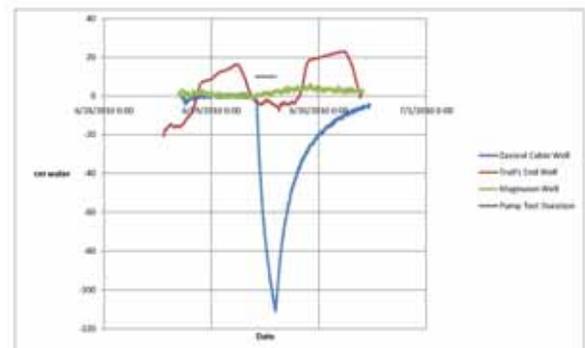


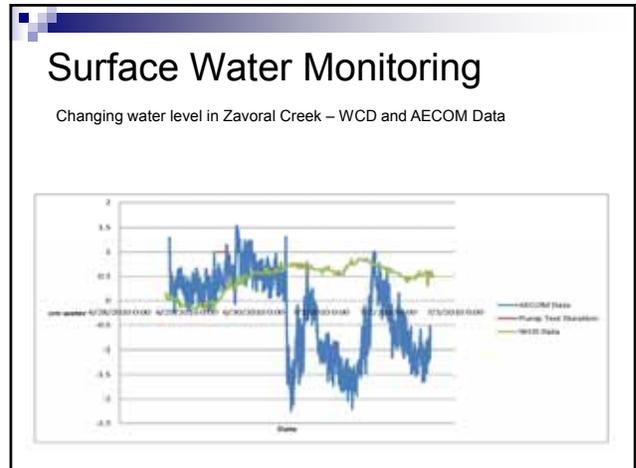
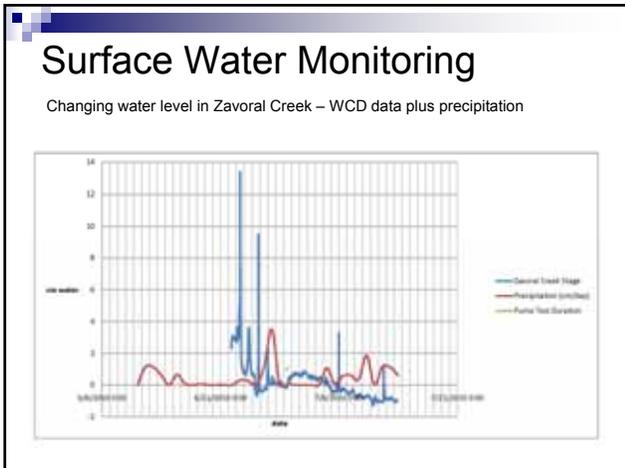
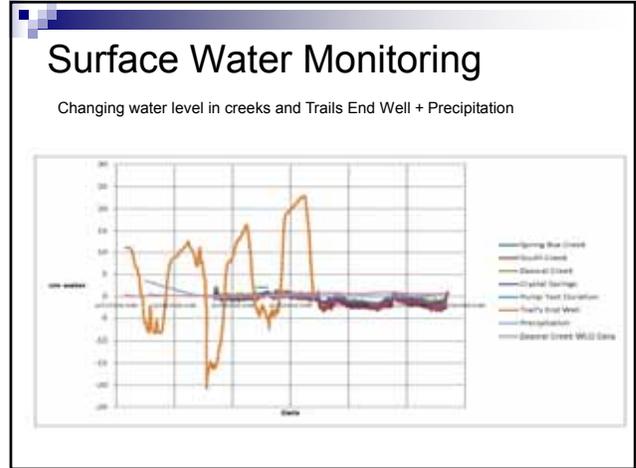
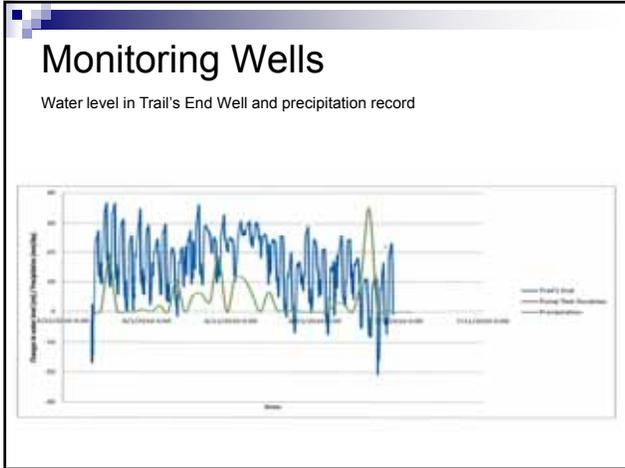
### Preliminary Pump Test Results

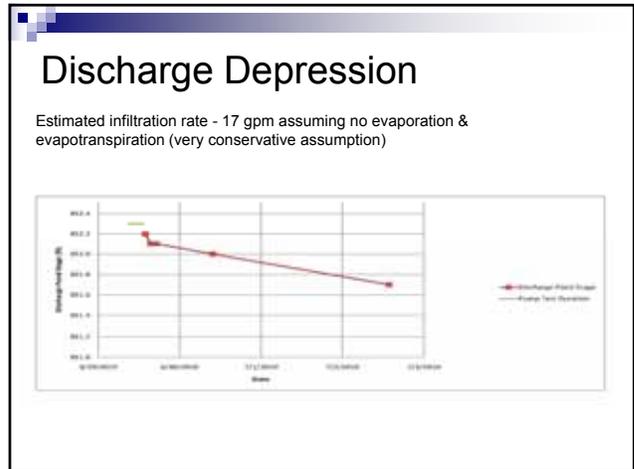
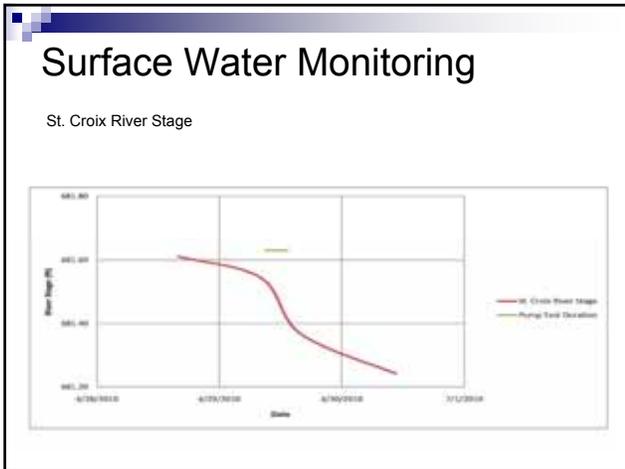
### Monitoring Wells

- Zavoral Cabin Well
  - After 15 min. of pumping -drawdown 0.25 ft
  - After 4 hours & 20 min - drawdown 3.7 ft
- Trail's End Well - no discernable effect
- Magnuson Well – no discernable effect

### Monitoring Wells







- ### Groundwater Balance Calculations
- Groundwater discharge to St. Croix River simulated by Metropolitan Area Groundwater Model is 8.95 m<sup>3</sup>/day/m or 5370 m<sup>3</sup>/day per 600 m width of Zavoral site along St. Croix River
  - Pumping 10,000 gpd from Zavoral Site Well is 0.7% of simulated groundwater discharge or about 2.5% of discharge from Zavoral & South Creeks

- ### Impact of Proposed Water Use on Area Wells
- Monitored wells closest to Zavoral Site Well
    - Minor effect on closest Franconia well (Zavoral Cabin)
      - Drawdown in similar wells further away would be much less to no effect
    - No discernable effect upon closest Prairie du Chien – Jordan well (Magnuson)
      - No effect anticipated in similar wells further away
    - No discernable effect upon drift(?) - Trails End Well
      - No effect anticipated in similar wells further away

### Impact of Proposed Water Use on Surface Water Resources

- Monitored representative creeks, springs, & river at locations close to Zavoral Site Well
- No discernable effects
- No effect anticipated at similar or more distant resources



### Potential Monitoring

### Potential Monitoring

- WCD monitoring of Zavoral Creek during life of mine
- Delineation & future monitoring of seep wetland boundary along Zavoral ravine



### Wetlands



### Routine On-Site Method

- USACE Wetland Delineation Manual (Environmental Laboratory 1987)
- Subsequent guidance documents (USACE 1991, 1992) & Interim Regional Supplement to the USACE Wetland Delineation Manual: Midwest Region (USACE 2008)

### Jurisdictional “Regulated” Wetlands

Areas that under normal circumstances reflect a predominance of hydrophytes (water-loving vegetation), hydric soils, & wetland hydrology (e.g., inundated or saturated soils) are considered wetlands

### Potential Wetland Areas Investigated

- NWI maps show 1 palustrine, unconsolidated bottom, intermittently exposed, excavated wetland within proposed mining limits
- This & 2 other potential wetland areas within proposed mining limits were investigated



## Findings

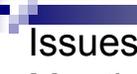
- None of the areas investigated met wetland vegetation, hydric soil, or hydrology criteria
- Agencies requested that seep wetland along Zavoral Creek be delineated on side closest to proposed mine
- Seep wetland could be monitored periodically during life of the mine



## Q & A

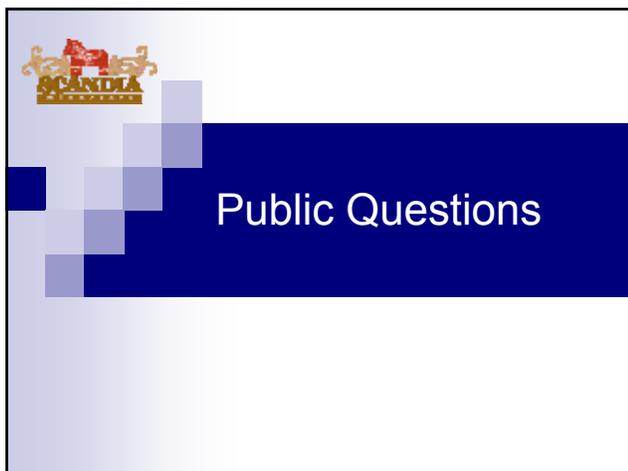


## PAC Meetings



## Issues to Discuss at Next PAC Meeting

- Next - Technical Issue Meeting
  - PAC input on issues to discuss
  - Schedule dependent on when City gets additional data from Tiller
- Final Meeting – Draft EIS Review



***Public Comment on Biological/Natural Features Assessment, Proposed Tiller/Zavoral Gravel Mine: Summary of remarks by watershed district resident Laurie Allmann in presentation to the Project Advisory Committee on July 20, 2010, with additional comments. Written report submitted July 26, 2010 to City of Scandia for distribution to Project Advisory Committee, as requested.***

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Summary Statement

The ecological significance of the project site and surrounding landscape are not being adequately represented in the formal review process because the focus of research has been arbitrarily narrowed both quantitatively and qualitatively. If administrative procedures do not address this issue, the Environmental Impact Statement (EIS) and any related or incorporated assessments will not adequately reflect the fact that the proposed Tiller/Zavoral gravel mine is located in the midst of natural features documented by natural resource professionals and agencies as having local, county, state, national and even global significance. Local officials will not be able to base a decision on the requested Conditional Use Permit (CUP) that is grounded in sufficient evidence, and any proposed mitigation in the event of a CUP approval will be insufficient, given that it will be based on an incomplete understanding of the natural resources potentially impacted.

[Editorial note for following text: Italics indicates quoted material. Underlining and bold type indicates emphasis by Allmann.]

**Discussion**

In the contract between the City of Scandia and EDAW/AECOM, (the consultant hired to conduct an Environmental Impact Study related to the proposed project), it is stated: “We have assumed that the biological assessment will include only state-listed threatened and endangered species for the Zavoral site.” There is no basis for the biological assessment to be limited in this way; in fact, there are numerous official documents supporting a broader assessment, including a) Scandia’s Development Code, b) A letter from the DNR Natural Heritage Program regarding the project, cited and attached in the *Tiller Corporation Zavoral Property Biological Assessment Final Report* prepared by Critical Connections Ecological Services, c) the Minnesota Environmental Quality Board’s Environmental Assessment Worksheet (EAW) Item-by-Item Guidelines, which are used as the template for preparation of an Environmental Impact Study, and d) the approved revised EIS scoping document for the proposed Tiller/Zavoral gravel mine.

- a) The City of Scandia Development Code includes among its 23 stated purposes:
- 1) *To conserve and protect natural resources and maintain a high standard of environmental quality,*
  - 2) *To preserve and protect rural character, the natural landscape, and natural and scenic beauty,*
  - 3) *To prevent environmental pollution and to protect surface and groundwaters from contamination,* and
  - 4) *To provide*

*for the compatibility of different land uses and the most appropriate use of land. These interests are not limited to state-listed threatened and endangered species.*

b) A 2009 biological assessment of the Zavoral property completed by Critical Connections Ecological Services (CCES) and paid for by the Tiller Corporation notes in its report that it “focused on rare plant and animals species at the recommendation of the Minnesota DNR Natural Heritage Program.” It is true that the DNR Endangered Species Environmental Review Coordinator did, in a 2008 letter (attached to the CCES report), specify certain rare or significant features that may be impacted by the project, based on records in the collection of databases of the DNR Natural Heritage Program. However, nowhere did the DNR suggest that a biological assessment be **limited** to those specified, or to state-listed or federally-listed rare species. In fact, the letter states the opposite: “The Natural Heritage Information System is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area.” The letter continues, “Please be aware that this letter focused only on potential effects related to rare natural features; there may be other natural resource concerns associated with the proposed project.”

c) The Item-by-Item Guidance provided by Minnesota’s Environmental Quality Board for completion of required elements in an Environmental Assessment Worksheet—in particular Item 11, titled *Fish, Wildlife and Environmentally Sensitive Resources*—is also used as the template for the Environmental Impact Study (EIS), as is evident in the approved/revised EIS scoping document. According to the guidelines for Item 11, proposed projects should be evaluated for their impact on a) Fish and wildlife habitat areas, and b) ecologically sensitive resources, neither of which is limited to rare species. In fact, the Revised Scoping Document is in error in parenthetically defining the term “**ecologically sensitive resources**” as “(rare, threatened and endangered plant and animal species and habitats).” The actual definition is much broader. The Item by Item Guidance for EAW preparation states: “Ecologically Sensitive Resources” generally refers to rare or unique natural features or features of special significance, including threatened and endangered species; habitats that are rare statewide such as prairie remnants or virgin timber; locally rare habitats, colonial waterbird nesting colonies; and high quality wetland complexes....” (See full text of Section 11, EAW Guidelines, included at the end of this document).

d) The approved Revised Scoping Document (Item 11) calls for a biological assessment and Protected Species Field Survey. Given its stated focus, the CCES work could be considered a Protected Species Field Survey, but is far too narrow in scope to be reasonably considered a biological assessment of the Zavoral Property.

**Despite the above,** in the contract with the consultants hired to complete the EIS, it states: “We have assumed that the survey of plants, animals, and land and water habitats

*provided (by Tiller's consultant, Critical Connections Ecological Services) will be sufficient for Environmental Impact Study preparation and agency coordination."*

The CCES work is professionally executed, accurate, and offers useful insights into the specific species within its narrowly defined scope, but it is grossly insufficient for EIS preparation as a biological assessment of the Zavoral Property. If City of Scandia leaders are to make an informed decision about the potential impacts of the proposed gravel mine relative to their consideration of a Conditional Use Permit, a more extensive assessment of natural features (Fish, Wildlife, and Ecologically Sensitive Resources) on the Zavoral property and adjacent properties is required.

It is hoped (and may, in fact, be the case) that the contractors conducting the EIS are undertaking a broader investigation into the natural features of the Zavoral property and surrounding private lands than is suggested by the language in the Revised EIS scoping document and related contract with the City of Scandia. This input if provided in the event that such is not the case.

### **Selected Concerns/Issues Related to Natural Features**

1) In the assessment and report completed by CCES, it notes that "Although several rare mussel species were mentioned in the Natural Heritage Program letter as species that may be impacted by proposed project activities, biological surveys were not conducted for listed mussel species because required riverine habitats that could support these species did not occur within the property limits." Three large ravine systems—one of which originates within the proposed mining boundaries—funnel surface run-off and potentially sediment-laden water to areas where studies indicate these State threatened and endangered mussels have been known to occur, as documented by the Minnesota County Biological Survey. It is expected that the EIS will fully investigate the status of and expected impacts to these mussel species in the vicinity of the proposed mine, in particular in light of the reports by local residents with a long history in the area that there was a "blow out" incident during previous gravel mining activity at the Zavoral site that resulted in a major deposit of sediment/material in the riverway.

2) In Section 11 of the Environmental Impact Worksheet prepared by Sunde Engineering for this project, it states that "*The portion of the (Zavoral) site that will not be disturbed (by active mining) includes 50 acres of woods situated predominantly on the bluff of the St. Croix River and along the very southern portion of the property. This wooded area...will remain as undisturbed buffer area and will continue to provide a variety of wildlife habitats.*" This suggests that the intense activity associated with an adjacent 60-acre mining operation excavating a 15-foot deep hole over a period of 10 years does not constitute disturbance of wildlife habitat. There is, in fact, no appreciable buffer between the proposed mine boundary and the immediately adjacent high value wildlife habitat, including lands protected under easement as part of the St. Croix National Scenic Riverway. This should be indicated in the EIS.

3. Trout streams are a sensitive and highly valued resource in Minnesota, and according

to the Zavoral's Creek Watershed Management Plan produced by the Marine Carnelian Watershed District, "Zavoral's Creek is one of the better quality creeks documented in this study," and "Although no formal fisheries survey has been completed for this creek, based on numerous sightings during field surveys, a healthy, naturally reproducing population of brook trout appears to be present." Although the trout are not noted in the CCES biological assessment, it is expected that EIS preparation relative to Items 11 (*Fish, Wildlife and Ecologically Sensitive Resources*) and Item 12 (*Physical impacts on water resources*) of the Revised EIS Scoping Document will investigate and document the status of the trout population(s) in Zavoral's Creek, and the ways in which the change in land use represented by the proposed mining operation could reasonably be expected to impact the ecological integrity of this creek. Given that the perennial springs that feed this trout stream on the property north of the proposed gravel mine appear to be located below the depth at which excavation is proposed to occur on the Zavoral property, and the interaction with surface run-off via the southernmost branch of the ravine system feeding this creek valley, the burden of proof is on the CUP applicant (the Tiller Corporation) to demonstrate that the proposed activity would have no appreciable effect on the volume/seasonal flow rate/quality of this creek, in both average and drought conditions.

4. The Zavoral Property is included within an area designated by Minnesota Audubon as the St. Croix Bluffs Important Bird Area (IBA). What is the current status of resident and migratory birds on this property, and how would the proposed gravel mining activities impact the habitat values of this site for birds, along with the value of contiguous habitat on adjacent properties? Birds such as the Louisiana water thrush, Mourning warbler, and Red-shouldered hawks are known to utilize ravine systems in the area, and there are recent reports of multiple bald eagle nests occurring in the vicinity, as well as waterfowl and other birds using the Rustrum State Wildlife Management Area on the river just north of the Zavoral property. Further, as the CCES report notes, the Zavoral property and adjacent private lands are within a designated RSEA (Regionally Significant Ecological Area). How, specifically—due to noise, removal of vegetation, general disturbance, interference with local hydrology over a period of 5-10 years—might these values be altered or degraded? The presence of high quality native plant communities with the potential to have suitable habitat for rare species is itself a rare feature. Resilience of populations (bird, mammal, fish, reptile, amphibian, invertebrate, plant) after such prolonged fragmentation of habitat due to development and disturbance cannot be assumed, as native species do not necessarily have refuges in surrounding landscapes from which to re-populate decimated areas.

5. As currently configured in the proposal put forth by the Tiller Corporation, the proposed gravel mine has the potential to negatively impact truly outstanding natural features on the adjacent property to the north. From an ecological perspective—in terms of proximity, surface hydrology and potentially groundwater hydrology—these features are directly linked to the area of the proposed gravel mine. Consider these impressions of Dave Crawford, who visited this property in early July, 2010. Crawford is a retired MN DNR Park Naturalist and resource management specialist, employed in St. Croix Valley 1975-2009, and was hired as a consultant to conduct a cursory natural features

assessment of this property. Here, Crawford describes the creek valley that is fed, in part, by a ravine that originates within the proposed gravel mining boundary:

*“In my estimation, this creek valley rivals or exceeds the geological and scenic significance of the valley of Curtain Falls which is protected by Interstate State Park at Taylors Falls. The Crystal Springs waterfall exceeds Curtain Falls in height, and the valley contains numerous lesser cascades over exposed sandstone bedrock, while the valley of Curtain Falls lacks any lesser cascades. The ravine's two-branched structure, which makes the valley more geologically and scenically complex, is also a feature not found in the Curtain Falls valley. Other features include extensive lengths of exposed vertical cliff walls of what appears to be Franconia Sandstone, both above and below the primary waterfall. Massive angular (e.g., not rounded by transport within a glacier) blocks of what appear to be Franconia Sandstone, are perched within the overburden above the exposed cliff walls – again a feature not found at the Curtain Falls valley. The cliff walls of Crystal Springs Creek valley represent a geologic feature rare enough to potentially qualify for listing as an Endangered Occurrence Record in the MN DNR Heritage Database. ... Year-round groundwater output from four points under the lip of the falls where permeable sandstone conducts water over an impermeable layer is of drinkable quality. This and similar groundwater output from bedrock layers along the creek provide a year-round flow of clear, cold water through the portion of the drainage below the primary falls. It is this flow of cold, relatively sediment-free water which contributes to the suitability of the lower portion of the creek for trout habitat.*

A full summary of Dave Crawford's observations from his visit to the site and review of published literature has been provided as an attachment (Natural Features Assessment of Property Adjacent to Proposed Tiller/Zavoral Gravel Mine, Northern Boundary, Dave Crawford, 7/16/2010). It offers a glimpse into the outstanding natural features in the immediate vicinity of the proposed gravel mine, and reaffirms the need for a more comprehensive biological assessment of all neighboring properties, including the ravine system associated with the private property bordering the Zavoral land to the south.

6. The proposed area of excavation includes an area still disturbed (left unreclaimed, in violation of permit) from earlier mining activity at this site, characterized by non-native plants, areas of disturbed ground, and relatively low ecological integrity. Eventual reclamation and restoration of this area by the Tiller Corporation is being touted as a potential benefit of approving the current request for a conditional use permit to open a new and expanded gravel mine. The Environmental Assessment Worksheet prepared in 2008 by Sunde Engineering for this proposed project states: *“The (proposed Tiller/Zavoral) project, by restoring the unreclaimed mining operation will improve site stabilization and improve the quality of stormwater runoff from the site. This will have a beneficial impact on the water quality of the St. Croix River. Upon completion of the mining activity and the restoration of all previously disturbed areas, the site will also have greater habitat continuity and wildlife habitat will be improved.”* What is not stated is that this disturbed area could (and arguably, should) be reclaimed/restored now, using existing reserve funds dedicated by state statute expressly for the restoration of abandoned gravel pits. As detailed in MN State Statute 298.75, 15% of the tax paid by active aggregate mining operations (based on cubic yards sold or transported) goes into a

fund expressly dedicated to this purpose. In light of this, it is absurd to suggest that a new gravel mine is needed to restore this area and improve water quality and wildlife habitat. What can be done now, under existing law, to reclaim and restore this site?

## **Referenced sections of Environmental Assessment Worksheet Guidelines, Item-by-Item Guidance, Minnesota Environmental Quality Board:**

### **11. Fish, wildlife and ecologically sensitive resources**

a. Fish and wildlife habitat areas exist throughout the state and are not all specifically designated. State and federally designated refuges and protected trout streams or spawning areas are well defined and lists can be obtained for your county.

Nearly all undeveloped land has some wildlife habitat value. The quality and value of the habitat depends on many factors including the degree of disturbance, the nature of the adjoining areas, and the area and type of vegetation or water resources present. Questions about the value of the habitat can be directed to regional offices of the DNR listed in Appendix A. Keep in mind, however, that it is the responsibility of the RGU to determine the nature and significance of any project-related impacts. If unusually valuable or extensive habitat may be impacted, it may be necessary to hire a specialist to conduct a field survey of the site.

b. "Ecologically sensitive resources" generally refers to rare or unique natural features or features of special significance, including threatened and endangered species; habitats that are rare statewide such as prairie remnants or virgin timber; locally rare habitats; colonial waterbird nesting colonies; and high quality wetland complexes. A database of these features is maintained by the DNR Natural Heritage and Nongame Program; contact program staff for a listing of known features near the project (a fee may be charged for this information). This information should be incorporated into the EAW; state the correspondence number on the EAW for reference. The worksheet also asks whether a habitat site survey was conducted. Ecologically sensitive resources not in the DNR database should also be identified and described in the EAW.

"Mitigation measures" for fish, wildlife or ecologically sensitive resources impacts include avoiding, minimizing and compensating for impacts. Examples include landscaping or revegetation with plant species of value to wildlife, retaining wooded travel corridors (especially along waterways), and construction or restoration of wetlands.

### **12. Physical impacts on water resources**

Physical or hydrologic alteration of any surface water should be discussed in this question. Hydrologic modifications include all actions which alter the existing hydrologic regime, that is, rate of discharge into or out of a waterbody, frequency and extent of water level fluctuations, interaction with ground water. The description of the alteration should address: the construction process; volumes of dredged or fill material; the area to be affected; the timing and magnitudes of fluctuations in water surface elevations; spoils disposal sites; and any other relevant information.

Modifications of all wetlands should be discussed, not only “protected wetlands” subject to DNR regulation. Refer to the appendix for information on wetlands classifications. The public waters inventory number and information on permits required for alteration of or construction in aquatic areas may be obtained from DNR regional or area hydrologist offices.

**See Also:**

*Natural Features Assessment of Property Adjacent to Proposed Tiller/Zavoral Gravel Mine, Northern Boundary, Dave Crawford. 7/16/2010.*

*Zavoral’s Creek Watershed Management Plan, Carnelian-Marine-St. Croix Watershed District-2010 Watershed Management Plan*

(Additional sources available upon request. Thank you for the opportunity to offer input.  
L.A. 7/26/2010)