

APPENDIX C



April 26, 2012

Ms. Anne Hurlburt
City Administrator
City of Scandia
14727 209th Street
Scandia, MN 55073

**Re: Draft Environmental Impact Statement - Traffic Analysis
for Zavoral Mining Project
RLK Incorporated Project No. 2011-163-M**

Dear Ms. Hurlburt:

RLK Incorporated has been hired by the Take-Action Conserve Our Scandia group to review the Draft Environmental Impact Statement (DEIS), of the Zavoral Mining project. RLK focused specifically on Question 21 of the DEIS, as well as Appendix B-5, to determine the accuracy and completeness of the traffic analysis conducted in the DEIS.

Overall, RLK finds the report devoid of the technical analysis needed to evaluate the traffic operation and safety of the project. Grand assumptions without corroborating evidence do not justify the report's conclusions of no traffic impacts associated with the site. The DEIS must expound upon its analysis, and provide information that justifies its conclusions of no impacts. This includes the following:

- As presented, this report only includes Average Daily Traffic (ADT) information and does not include AM and/or PM Peak Hour turning movement volumes. Turning movement volumes are important to the overall operational analyses of intersections.
- It is unclear whether the ADT information provided has been adjusted to reflect seasonal fluctuations (i.e., recreational traffic on the scenic byway, etc.), and whether this adjusted traffic will be impacted by the hauling operations.
- The analysis must include adequate capacity analyses of specific intersections. Operational analysis typically includes Level of Service Analysis and Warrant Analysis.
- The DEIS investigated crash statistics for only three years, yet there is at least ten years of crash data available related to the gravel operation. One such crash was a fatality involving a hauling truck and a pedestrian directly relatable to gravel operations. With such data available, the DEIS should consider the ten years of data.
- The DEIS does not include an Intersection Crash Performance analysis using the Mn/DOT methods of calculating intersection crash rate per million entering vehicles, severity rate, crash density, or crash cost per year. Nor does the DEIS include Segment Crash Performance analyses.

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These calculations allow comparisons with similar intersections statewide in order to verify severity.

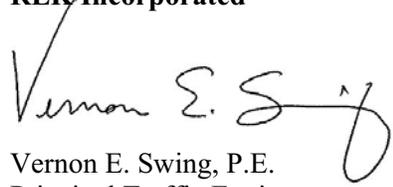
- The response to question 21 of the DEIS suggests that the traffic will be the same for Class C production, yet in its present condition, the traffic associated with Class C production arrives via Hwy 243, Hwy 95 and Hwy 97, resulting in a right turn from Hwy 95 to Hwy 97. In the proposed condition, the Class C will come from the Zavoral mine, requiring the traffic associated with this production to progress across Hwy 95. This will increase the traffic conflict opportunities from 2 to at least 6, resulting in degradation in safety.
- The DEIS does not present traffic analysis of the existing, the short-term build (1st year after completion) short-term no-build, long-term build or no-build scenarios. Typically, development traffic analysis identifies the existing traffic, the projected No-Build traffic operational analyses, and then presents the development's trip generation and Build traffic operational analyses. Projected turning movements levels of service must be presented to assess whether the use constitutes an impact and to provide a comparison between the scenarios.
- The DEIS does not state the sight distances at any of the study locations. Sight distances are important in determining gap analysis of intersections. Because trucks take a longer time to progress from a standing stop, larger gaps in the traffic stream are required, as opposed to smaller vehicles. Gap analysis must also take into account the vertical and horizontal changes in the roadway alignment throughout the study area. The DEIS needs to analyze these gaps, both for the current conditions and the conditions in the future.
- Safety is discussed from the stand point of crashes, without special attention drawn to the design vehicle used to transport the mined material. Trucks used for this activity accelerate and decelerate at significantly slower rates, which can have an adverse impact on the ability to avoid collisions, and increase the safety risks. The dismissive comment regarding the lack of evidence of near miss occurrences does not adequately address the potential that exists.
- There is no discussion of the structural capacity of the roadways and their ability to handle the increase in daily truck trips. The DEIS must provide an assessment of the existing and future pavement condition.
- Mitigation is summarized in the DEIS, yet there is no quantitative discussion of the impacts and changes to the operations or safety of the roadway network associated with the proposed mitigation strategies. These mitigation measures should also be quantified and prioritized.

It is RLK's opinion, the traffic information provided in response to Question 21 of the DEIS does not address the traffic impacts as required by the EIS process. In order to fully understand the traffic impacts associated with the Zavoral mining operation, the above mentioned issues (at a minimum) need to be addressed in a technical manner. Without traffic counts and capacity analysis, the City is unable to assess the impacts to traffic operations and congestion, nor the impacts to the seasonal tourist traffic. Without crash analysis, and gap analysis the City is unable to assess whether existing crash conditions will be exacerbated, or whether the proposed access intersections provide the appropriate safety improvements to allow for seamless integration of site generated traffic. The presented material in the DEIS for Question 21 is incomplete, does not meet the minimum analysis requirements for environmental review, and prevents any opportunity to evaluate the traffic impact of the Zavoral Mining operation. Developing the

mine without appropriate traffic analysis, as we recommend, could result in significant safety issues to Scandia and the surrounding communities, including the increased risk for severe or fatal collisions.

Thank you for the opportunity to review and comment on this information.

Sincerely,
RLK Incorporated

A handwritten signature in black ink that reads "Vernon E. Swing". The signature is written in a cursive style with a large, sweeping initial "V" and a long horizontal stroke at the end.

Vernon E. Swing, P.E.
Principal Traffic Engineer

G:\Scandia Pack\2011-163-M_Correspondence\Letter to Scandia 042612.doc

VERNON SWING, P.E.

TRAFFIC ENGINEERING MANAGER



Years of Experience: 26

REGISTRATIONS:

Professional Engineer:

Minnesota

Wisconsin

Iowa

Illinois

Florida

Washington

PROFESSIONAL AFFILIATIONS:

Institute of Transportation Engineers

Traffic Engineering Council

North Central Institute of Transportation Engineers Signal Operations Committee

Sensible Land Use Coalition

Minnesota Surveyors and Engineers Society

EDUCATION:

Bachelor of Science

Civil Engineering

University of Washington

*P 952-933-0972
vswing@rlkinc.com*

*RLK Incorporated
6110 Blue Circle Drive
Minnetonka, MN 55343*

VERNON SWING is the Principal Traffic Engineer, with over 26 years of traffic engineering and transportation planning experience. Worked extensively in both the public and private sectors with an emphasis on conducting traffic impact studies and mitigation designs. Offers strong expertise in representing complex traffic considerations to public agencies. Prior to working for the private sector, gained 10 years of increasingly responsible signal design and operations experience as a Special Projects Engineer with the Washington State Department of Transportation.

RELEVANT EXPERIENCE:

Relevant experience includes projects involving capacity analysis, access, signal and illumination design, signal operations, signing and traffic control design, and complete street planning. Select examples of project experience include intersections and corridor analysis, plus pedestrian and bicycle facility design.

- ***Environmental Documentation*** - The Lakes, Blaine, MN. Medtronics, Mounds View, MN. Mr. Swing provided traffic engineering for more than 1,080 acres of *The Lakes* mixed-use development, which include 17 intersections and three arterials for *The Lakes* award-winning property in Blaine. The City of Hopkins, in the redevelopment of a former True Value brownfield needed help with traffic and the rezoning of this property, and with the environmental documentation required by the Minnesota Environmental Quality Board (EQB). Following extensive input from a range of stakeholders, three alternative preliminary site plans were created so that the scale of environmental impacts could be more closely analyzed to enable the site construction through 2008 for use by Cargill.
- ***Corridor Study & Design*** – Duluth, MN. Mr. Swing was the Project Principal for the streetscape of approximately two miles of Grand Avenue between 62nd Avenue and Carlton Street. This was one of the largest street reconstruction projects undertaken by the City of Duluth. The City's goals for this project included improving parking conditions, bicycle access, replacing aging utilities, and improving/coordinating traffic signals for this main city road. Worcester, MA. Mr. Swing was the Project Manger for the relocation and upgrade of this gateway to the City of Worcester, MA.
- ***Relocation of Albany Shaker Road*** - Albany, NY. Mr. Swing served as Project Manager for traffic issues related to the relocation and expansion of five miles of Albany Shaker Road near the Albany, New York Airport. This project entailed corridor design and planning, traffic control planning, modal option planning and recreational trail planning and design.

APPENDIX D

HISTORIC MATERIALS

JAN 21 1971

Barton Contracting Co.



LEA

10300 89TH AVENUE NORTH

OSSEO, MINNESOTA 55369

TELEPHONE (612) 425-4191

January 19, 1971

Mr. George Koonce
Minnesota Pollution Control Agency
Division of Water Quality
717 Delaware Street S.E.
Minneapolis, Minnesota 55440

Re: Barton Contracting gravel pit
operation, New Scandia Township

Dear Mr. Koonce:

In regard to a letter dated January 14, 1971, from Mr. Frank T. Lamm, Environmental Engineer representing the Metropolitan Council, Barton Contracting Company wishes to assure the Minnesota Pollution Control Agency that no further encroachment of the bluff area in the gravel pit in question will be made.

Our intentions are to take whatever precautions we feel necessary to insure no water from our operations overflow the bluff.

Very truly yours,

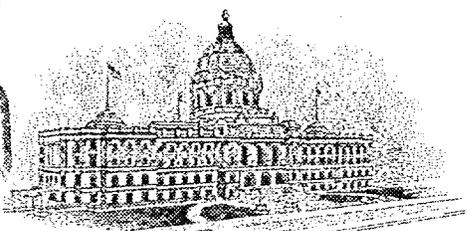
BARTON CONTRACTING COMPANY

Michael S. McGray
Michael McGray
Engineer

MMcG:nd

FRED C. NORTON
DISTRICT 46A
RAMSEY COUNTY
701 FAIRMOUNT AVENUE
ST. PAUL, MINNESOTA 55105

JAN 28 1971



State of Minnesota
HOUSE OF REPRESENTATIVES

L. L. DUXBURY, Speaker

January 25, 1971

COMMITTEES:
APPROPRIATIONS
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COMMERCE AND ECONOMIC DEVELOPMENT
GOVERNMENTAL OPERATIONS
INSURANCE

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✓	WQ
	AQ
	SW
	SAAG
	FILE

Handwritten initials and numbers: 16F, 143, and other scribbles.

Minnesota Pollution Control Agency
717 Delaware Street, S. E.
Minneapolis, Minnesota 55440

Gentlemen:

In re: Application of Barton Contracting Co. in
New Scandia Township

I have received your notice of application for permit by the above name, and I am responding to your request for comments.

Inasmuch as it has been impossible for me to examine the entire file, I would be especially concerned as to whether the proposed plan involves any discharge of materials into the St. Croix River or into any tributary stream which might reach the St. Croix River, or through which deposits are made in the stream and on property through which the stream runs.

From my experience, although the Barton Contracting Co. has made statements in the past that previous plans would not result in the spillage or seepage of effluent for their operations, this has not proved to be true.

The Barton Contracting Co. has been an especially unpleasant neighbor to the nearby residents in other matters; particularly, it insists upon running its extremely noisy machinery late in the evening and into the early morning hours at a time when most people seek the quiet that ordinarily exists. I would appreciate your Agency imposing qualifications upon this permit which would relate to noise pollution.

It has come to my attention that very few interested people have received notice of this application. I would, therefore, suggest that this be brought to the attention of nearby residents, the Soil Conservation Service (which previously took an interest), the New Scandia Township Board, the Washington County Board, and

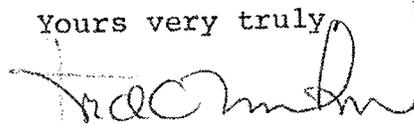


Minn. Pollution Control Agency
January 25, 1971
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the State Legislators from Washington County.

I appreciate the opportunity of responding to this notice of application.

Yours very truly,



Fred C. Norton
State Representative

FCN:kb

cc: Rep. Richard O'Dea
Rep. H. R. Albertson
Senator R. J. Brown

HAYERSTOCK, GRAY, PLANT, MOOTY & ANDERSON

To ~~file~~
chief

HAROLD G. CANT (RETIRED)
HENRY W. HAVERSTOCK
FRANKLIN D. GRAY
FRANK W. PLANT, JR.
JOHN W. MOOTY
KENNETH M. ANDERSON
MELVIN R. MOOTY
RUSSELL M. BENNETT
ROBERT E. BOWEN
CLINTON A. SCHROEDER
EDWARD J. CALLAHAN, JR.
ROBERT A. FORSYTHE
ROBERT L. HELLAND
JAMES S. SIMONSON
LAWRENCE E. NERHEIM
LARRY R. HENNEMAN
RICHARD N. FLINT
MICHAEL P. SULLIVAN
JAMES H. GILLESPIE
CHARLES K. DAYTON
RICHARD A. BOWMAN

RECEIVED
JAN 27 1971

MINN. POLLUTION
CONTROL AGENCY

LAW OFFICES

300 ROANOKE BUILDING
MINNEAPOLIS, MINNESOTA 55402
TELEPHONE 339-9501

BRUCE D. GROSSING
C. STEVEN WILSON
JOHN M. BROEKER
JOHN S. CROUCH
DAVID T. BENNETT
LORING W. KNOBLAUCH
EDWIN C. CARPENTER
LINDLEY S. BRANSON
JOHN W. THIEL
WOOD R. FOSTER, JR.
ROBERT V. BOLINSKE
JEFFREY R. BROOKE
MARVIN R. ANDERSON

January 25, 1971

OF COUNSEL
ALF L. BERGERUD
EDWARD J. CALLAHAN, SR.

Minnesota Pollution Control Agency
Division of Water Quality
717 Delaware Street S. E.
Oak Street Station
Minneapolis, Minnesota 55440

Gentlemen:

Last week I happened to see a copy of the Notice of Application for Permit for New Disposal System, dated January 3, 1971, relating to the application for waste disposal system by Barton Contracting Company, to be located in New Scandia Township, Washington County.

I have no doubt that your engineering staff is in a position to evaluate the statements made by the applicant and make a determination as to whether there is a reasonable likelihood that the system will function as the applicant represents. Not being an engineer, I will not presume to comment upon the effectiveness or noneffectiveness of the proposed system.

However, there are some matters which I believe should be called to your attention, and which may indicate to you the desirability of scrutinizing this application with particular care, giving additional notice of the application, and deferring a decision on the application until you have had an opportunity to hear from other sources who may be able to contribute meaningful information.

I am not aware that your notice was mailed to all nearby residents and property owners who will be the most directly affected by the continuation of Barton's operation. I know that I did not receive notice, and I reside in New Scandia Township almost half of the year, within a half mile of the Barton operation. Certainly the citizens who live nearby ought to receive notice of this application, as well as the Board of Supervisors of New Scandia Township, who I trust have been notified.

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Other agencies and organizations which have a vital interest in your action upon this application, and which may be in a position to render very material assistance to you in your evaluation, include:

1. The St. Croix River Intergovernmental Planning Conference, a representative organization of all local governments adjoining the St. Croix River in both Minnesota and Wisconsin, from Taylors Falls to Prescott. This organization, which is composed exclusively of delegates representing the elected local governments of both sides of the River, is in a position to reflect for your consideration the collective attitudes of the involved local governments. Clearly, this application should be considered by the Pollution Committee of the Intergovernmental Planning Conference.
2. The St. Croix River Association, a representative body composed of residents living on or near the River in Minnesota and Wisconsin, deserves the courtesy of a notice and an opportunity to be heard.
3. The Washington County Soil and Water Conservation District which is concerned with environmental matters within Washington County and which I believe is presently holding meetings on the subject.
4. The Soil Conservation Service of the United States Department of Agriculture has a legitimate interest in this kind of application.
5. The U. S. Army Corps of Engineers ought to be consulted on this application, particularly in view of the fact that Barton's previous misconducts have necessitated action by the Corps.

It seems to me that the foregoing organizations ought to be consulted, because they are obviously in a position to assist you in making your determination as to whether Barton's permit ought or ought not to be granted.

Additional considerations which were not made clear in your notice, and which are of interest to me as well as anyone else, I am sure, who may have been notified of this application, include

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information as to where the 700 gallons per minute of gravel-washing water is to be initially obtained. Is it to be drawn from wells, or is it to be taken from the River? Obviously, different considerations arise depending on the source of the water. Similarly, how is the water ultimately returned to the environment? Does it percolate through the ponds, either into the ground or back to the River? Or is it ultimately allowed to drain from the ponds, in a supposedly clean state, back into the River? Obviously, the water has to come from somewhere and ultimately has to go somewhere. Your notice does not enlighten us on either question.

The considerations in the foregoing paragraph are especially important here because Barton has heretofore discharged its washing water directly into the River (of which more will be said below) and has permitted water to leak from existing ponds into the River, all with a substantial deleterious effect on the environment.

Another consideration, which, while not relating directly to the merits of the proposed water disposal system, ought in fairness to be weighed, is Barton's record as a corporate citizen of New Scandia Township. A few years ago Barton took over a small, long-inactive gravel pit and set up a large-scale gravel crushing and washing operation, primarily for the purpose of furnishing aggregate in the construction of Interstate Highway 35, several miles to the east. Without obtaining permission from the Township, without apparently any consideration of the effects of its actions on the environment; and certainly without any consideration for the comfort of the citizens of the community, Barton began its operations on an almost 24-hour basis, and began discharging large quantities of silt into an existing creek, which emptied into the St. Croix River.

The intolerable noise level of the operation soon brought complaints from many residents of the area, and the matter has been before the Board of Supervisors of New Scandia Township on a number of occasions over the past few years. Barton has stated publicly that it had no further plans for gravel crushing and washing following the completion of Interstate 35. Apparently, there has been a change of plans.

The silt and wash water which was discharged during the early days of Barton's operation constituted a trespass on the land of Mr. C. W. Plowman, now deceased, who took it upon himself to visit the person in charge of the operation and lodge a protest. The response which he received was a threat that he would be bodily ejected from Barton's property. Mr. Plowman did not let the matter rest here, but took other action, including ultimately a complaint to the U. S. Army Corps of Engineers, who I understand thereafter compelled Barton to remove all or part of the silt which it dumped into the St. Croix

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River (this removal was accomplished in haphazard fashion, with some damage to private driveways and public roads in the process).

Thereafter, Barton adopted a ponding system similar to the one now proposed. The system has not been entirely effective and there have been instances of reported leakage of silt into the River. In addition, the silting process has, on at least one occasion, blocked a culvert belonging to the Soo Line Railroad, the adjoining landowner to the east of Barton.

In summary, Barton's record as a corporate citizen indicates to me that its application should be given the closest scrutiny possible, all possible interested persons and agencies should be consulted, and you should take plenty of time to deliberate upon whether to grant this application.

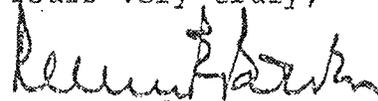
One further matter which I wish to raise is the noise involved in this operation. Barton has habitually operated on a schedule involving crushing operations commencing as early as 4:00 or 5:00 in the morning and continuing until 11:00 in the evening. In the summertime, in the country, this is an intolerable situation. Barton also commenced operations last summer with very little crushing going on, and then toward the end of the summer resumed its almost round-the-clock schedule, allegedly because of the sudden existence of a demand for aggregate. The demand (having to do with the completion of Interstate 35 E) has long been known to Barton, and there was no reason why aggregate could not have been prepared and stockpiled in the early months by operating normal hours, eliminating the necessity of the early morning and late evening operation.

If noise pollution is not within your jurisdiction, at least the above bears on Barton's record as a corporate citizen.

Finally, you should bear in mind that the site of the proposed ponding system lies within the area which will be included in the Federal Scenic River System, which inclusion is presently under consideration by the Federal-State Study Team.

I apologize for the length of these remarks, but I feel strongly that the foregoing matters merit your consideration and that determination of Barton's application should be deferred until notice can be given to the organizations mentioned herein and their recommendations also considered.

Yours very truly,



Robert E. Bowen

REB:skm

April 10, 1971

Mr. Grant J. Merritt
Executive Director
State of Minnesota
Pollution Control Agency
717 Delaware Street S. E.
Minneapolis, Minnesota 55402

Dear Mr. Merritt

Thank you for your reply to my letter of March 10th concerning the manner in which the Barton Construction Company is operating their gravel pit to the considerable damage to the environment of much of New Sweden Township.

I, of course, am very pleased to hear the gravel pit will in the future be operated in such a manner as to limit their dust emissions. However, this is only part of the damaging effects resulting from the way it has been operated. Additionally, there is noise, also recognized as a pollutant, as well as the considerable damage already done to the streams and the river.

I do hope that something can be done about this also so that the area will really be worthy of its inclusion in the Federal Wild River program as at present visualized.

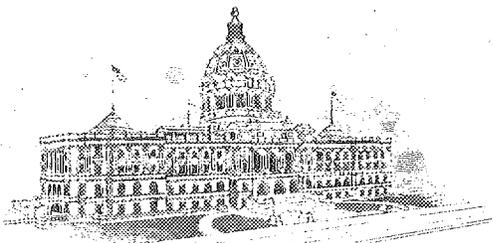
Thank you for whatever help you can give.

Sincerely yours,

(Mrs. R. P.) Barbara F. Schlingerman

Sweden, Minnesota 55073

HOWARD R. ALBERTSON
8TH DISTRICT
WASHINGTON COUNTY
205 W. CHESTNUT ST.
STILLWATER, MINNESOTA 55082



COMMITTEES:
JUDICIARY, CHAIRMAN
ENVIRONMENTAL PRESERVATION
GOVERNMENTAL OPERATIONS
METROPOLITAN AND URBAN AFFAIRS
REGULATED INDUSTRIES
RULES AND LEGISLATIVE ADMINISTRATION

State of Minnesota
HOUSE OF REPRESENTATIVES
AUBREY W. DIRLAM, Speaker

March 18, 1971

Mrs. R.P. Schlengerman
Scandia
Minnesota 55073

Dear Mrs. Schlengerman:

Thank you for your letter with regard to the Barton Company and the St. Croix River and Scandia Township.

I have written letters to the Scandia Town Board and to the Washington County Board of Commissioners and to the Pollution Control Agency with regard to the problem about which you write.

In addition, I am mailing to all of the aforesaid governmental agencies a copy of your letter, reiterating my great concern.

Yours truly,

A handwritten signature in cursive script that reads "Howard R. Albertson".

Howard R. Albertson
State Representative
Washington County

HRA/pl



March 18, 1971

Board of Commissioners
Washington County Office Building
Stillwater, Minnesota 55082

Gentlemen:

Enclosed herewith is a copy of a letter which I received from Mrs. R.P. Schlengerman of Scandia, which is self-explanatory.

By ailing to you a copy of this letter I wish to reiterate my great concern with the problem of the Barton Company gravel pit in Scandia Township.

Thank you for your courtesies and cooperation in this matter.

Yours truly,

/s/ Howard R. Albertson

Howard R. Albertson
State Representative
Washington County

HRA/pl

Enc.

cc: Mrs. R.P. Schlengerman

Same Letter sent to Pollution Control Agency and
New Scandia Town Board



WASHINGTON SOIL AND WATER
CONSERVATION DISTRICT

1825 Curve Crest Blvd., Room 101
Stillwater, MN 55082
(612) 439-6361

MINNESOTA
SOIL AND WATER CONSERVATION DISTRICTS

TO: HOWARD HAWKINSON, SUPERVISOR, NEW SCANDIA TOWNSHIP
FROM: DOUGLAS THOMAS, DISTRICT MANAGER *DT*
DATE: AUGUST 21, 1987
RE: DR. ZAVORAL - Gravel Pit Reclamation

On Saturday August 15, 1987 the site was investigated by myself, Dr. Zavoral owner, Ken Ostlund Township Engineer, and Wally Srock adjacent landowner. The situation that was viewed was gully erosion along the west property line of the pit near the Srock property. Three different areas of significant gully erosion were looked at, the attached photo shows the location of these areas. Area #1 is a gully that has been created due to the failure of an access road culvert, advancement of this gully continues, however it is at a very slow rate. The gully erosion occurring at areas 2 and 3 is caused by uncontrolled surface waters falling over the gravel pit sidewalls. Area 3 is by far the most active of all the sites viewed. Restoration or correction of the erosion is complicated by the intent of Dr. Zavoral to continue mining along this portion of the gravel pit. If mining is allowed, a restoration plan developed from a 2 foot contour map should be developed and assurances provided to the township that restoration will take place immediately upon completion of mining operations. Without additional survey and design work, it would appear that the gully erosion could be controlled through the use of diversions and two water and sediment basins.

A water and sediment basin is an earthen structure with a flexible corrugated plastic outlet. These structures are designed to temporarily store stormwater runoff and release it at a non-erosive rate. If mining is allowed and the time frame is less than 2 to 3 years I would not recommend the use of temporary control measures. Our office is available to provide technical assistance to Dr. Zavoral in developing and implementing the needed erosion control measures.

If you have any questions, please do not hesitate to contact our office.

DT:lma

Encl.

CC: J. H. Zavoral

WASHINGTON COUNTY
DEPARTMENT OF PUBLIC HEALTH

Mary Luth
Public Health Director

Doug Ryan
Division Manager

ENVIRONMENT AND LAND USE DIVISION



Serving the community with programs in Building Inspection, Emergency Services, Food Protection, Land Use Planning,
On-Site Sewage, Public Health Nuisance, Solid and Hazardous Waste, and Water Quality Protection

TO: NEW SCANDIA TOWN BOARD & PLANNING COMMISSION
FROM: DENNIS O'DONNELL, LAND USE SPECIALIST
RE: ZAVORAL MINING APPLICATION
DATE: JULY 31, 1991

James Zavoral has submitted an application for a mining permit on property located in Section 18. Mining has taken place on this property in the past, however, over the past several years, the mine has been closed. Therefore, a new mining permit would be required from both the Township and County.

As I understand the request, the applicant wishes only to remove existing stockpiles on the property. As of this date, no information other than a letter from the Soil Conservation Service has been submitted. It appears very little in the way of restoration of this property has taken place. Before any approvals could be granted, a complete restoration plan must be submitted.

A portion of the property lies within the St. Croix River District. Mining is prohibited within this district. Removal of stockpiles may be allowed and, of course, grading for restoration; however, ~~further excavation would not be allowed.~~

At this time, we would recommend you table this request until such time as a complete mining application has been submitted and reviewed by your engineer, the Soil Conservation Service and myself.

If you have any questions, please feel free to contact me.

DCO/dkr

GOVERNMENT CENTER
14900 61ST STREET NORTH, P.O. BOX 6 • STILLWATER, MINNESOTA 55082-0006
Facsimile Machine (612) 430-6730

(612) 430-6655
Solid Waste, Hazardous Waste
and Emergency Services

(612) 430-6656
Community Sanitation, Building
Inspection and Land Use Planning



EQUAL EMPLOYMENT OPPORTUNITY / AFFIRMATIVE ACTION

MINING PERMIT
PERMIT #94-91132
SEPTEMBER 24, 1992

OWNER: DR. JAMES ZAVORAL
PARCEL NUMBER: 91018-2700 / 91019-3100
LEGAL DESCRIPTION: PART OF NW 1/4 OF SW 1/4 AND PART OF SW 1/4
OF SW 1/4, SECTION 18, T32N, R19W AND PART
OF THE NW 1/4 OF THE NW 1/4, SECTION 19,
T32N, R19W
NEW SCANDIA TOWNSHIP

SPECIAL CONDITIONS

1. This permit allows for the removal of existing stockpiles on this property only. Additional excavation is prohibited. No processing equipment is allowed on the property. No structures are allowed to be constructed.
2. The existing well on the property must be sealed in accordance with State and County standards, unless the Minnesota Department of Health under their rules, would allow the well to remain.
3. Hours of Operation. Hauling shall only be conducted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless other hours or days of operation are specifically authorized by the Town of New Scandia. No hauling is allowed on holidays unless approved by the Town of New Scandia.
4. The owner must comply with any conditions imposed by the Minnesota Department of Transportation.
5. A registered engineer shall size culverts proposed and set proper elevations for these culverts.
6. All applicable provisions of the Town of New Scandia and Washington County Mining Ordinances must be complied with.
7. Final Restoration. Restoration must take place in accordance with the plan submitted and attached as part of this permit. All topsoil is to remain at the site. Future use of the property must be in accordance with zoning requirements in force at that time. Grading of steep slopes shall take place in the first year of operation, unless otherwise approved by the Environment & Land Use Division of the Washington County Department of Public Health. A minimum of four inches of topsoil shall be spread over the disturbed areas, and seeded and mulched in accordance with Soil Conservation Service recommendations. The Soil Conservation Service shall inspect the site in late fall and any further recommendations made by them must be followed.

8. Stockpiling. As overburden is removed, all topsoil must be stockpiled. All topsoil material must remain at the site.
9. Fencing. Existing fencing must remain, as well as a gate that can be locked.
10. Dust and Dirt. The operator shall construct, maintain and operate all equipment in such a manner as to minimize dust conditions. All operations shall meet the standards of the Minnesota Pollution Control Agency. Chloride or other dust control material must be applied by the operator to travel routes and other areas subject to disturbance.
11. Control of Operations. The conditions of this permit shall apply to the land described and shall not in any way, except herein noted, be affected by any subsequent sale, lease or other change from the current ownership.
12. Insurance. The operator shall carry bodily injury and property damage public liability insurance in the amount of \$1,000,000.00.
13. Bond. Dr. James Zavoral shall furnish a surety bond in the amount of \$12,000.00 to run continuously until all operations and final restorations are completed and thereafter for an additional period of eighteen (18) months to assure compliance with all the terms and conditions of this permit. Such bond shall be made by an insurance company or other financial institution acceptable to Washington County, and shall be in a form to be approved by its attorney. Said bond shall be in such terms as may be required to assure full, prompt and faithful performance by Dr. James Zavoral of all closure obligations under this conditional use permit area and the payment of losses, damage and expense incurred or suffered, including attorney fees, as a result of any failure, refusal or inability of Dr. James Zavoral to perform closure obligations or to recover under said bond. The bond shall provide that no waiver or delay or neglect of enforcement of any obligation of Dr. James Zavoral shall affect the right of Washington County or others benefiting thereunder to recover under said bond, and that no claim or demand for payment on the bond shall be made unless written notice of default and reasonable opportunity (not less than 30 days) to cure said alleged default shall first have been given permittee. This permit shall not be effective until the bond is in force and effect. A provision shall be included in the bond to notify Washington County at least 30 days prior to cancellation, or nonrenewable.
14. Annual Report Required. An annual report must be submitted each year specifying the amount of material removed, restoration performed, evidence the required bond and insurance is valid, and that the gravel tax has been paid.
15. Fuel Storage. No fuel storage is allowed on the property.
16. Inspections. Washington County staff has the right to go on the property to inspect the mining operation after providing reasonable notice to the operator.

17. This permit shall be binding on the parties, their heirs, successors and assigns, and shall run with the land
18. All debris, miscellaneous parts, and other unusable machinery must be removed from the property within one (1) year.
19. Revocation. Violation of any conditions of this permit may result in revocation of said permit in conformance with the Washington County Mining ordinance. The operator shall be given written notice of any violation and reasonable time (not less than 30 days) to cure said violation before revocation shall occur.

PROPOSED CONDITIONS

ZAVORAL MINING PERMIT
NEW SCANDIA TOWNSHIP
SEPTEMBER 24, 1991

- 1) This permit allows for the removal of existing stockpiles on this property only. Additional excavation is prohibited. No processing equipment is allowed on the property. No structures are allowed to be constructed.
- 2) The existing well on the property must be sealed in accordance with State and County standards, unless the Minnesota Department of Health under their rules, would allow the well to remain.
- 3) Hours of Operation. Hauling shall only be conducted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless other hours or days of operation are specifically authorized by the Town of New Scandia. No hauling is allowed on holidays unless approved by the Town of New Scandia.
- 4) The owner must comply with any conditions imposed by the Minnesota Department of Transportation.
- 5) A registered engineer shall size culverts proposed and set proper elevations for these culverts.
- 6) All applicable provisions of the Town of New Scandia and Washington County Mining Ordinances must be complied with.
- 7) Final Restoration. Restoration must take place in accordance with the plan submitted and attached as part of this permit. All topsoil is to remain at the site. Future use of the property must be in accordance with zoning requirements in force at that time. Grading of steep slopes shall take place in the first year of operation, unless otherwise approved by the Environment & Land Use Division of the Washington County Department of Public Health. A minimum of four inches of topsoil shall be spread over the disturbed areas, and seeded and mulched in accordance with Soil Conservation Service recommendations. The Soil Conservation Service shall inspect the site in late fall and any further recommendations made by them must be followed.
- 8) Stockpiling. As overburden is removed, all topsoil must be stockpiled. All topsoil material must remain at the site.
- 9) Fencing. Existing fencing must remain, as well as a gate that can be locked.
- 10) Dust and Dirt. The operator shall construct, maintain and operate all equipment in such a manner as to minimize dust.

conditions. All operations shall meet the standards of the Minnesota Pollution Control Agency. Chloride or other dust control material must be applied by the operator to travel routes and other areas subject to disturbance.

- 11) Control of Operations. The conditions of this permit shall apply to the land described and shall not in any way, except herein noted, be affected by any subsequent sale, lease or other change from the current ownership.
- 12) Insurance. The operator shall carry bodily injury and property damage public liability insurance in the amount of \$1,000,000.00.
- 13) Bond. Dr. James Zavoral shall furnish a surety bond in the amount of \$7,500.00 to run continuously until all operations and final restorations are completed and thereafter for an additional period of eighteen (18) months to assure compliance with all the terms and conditions of this permit. Such bond shall be made by an insurance company or other financial institution acceptable to Washington County, and shall be in a form to be approved by its attorney. Said bond shall be in such terms as may be required to assure full, prompt and faithful performance by Dr. James Zavoral of all closure obligations under this conditional use permit area and the payment of losses, damage and expense incurred or suffered, including attorney fees, as a result of any failure, refusal or inability of Dr. James Zavoral to perform closure obligations or to recover under said bond. The bond shall provide that no waiver or delay or neglect of enforcement of any obligation of Dr. James Zavoral shall affect the right of Washington County or others benefiting thereunder to recover under said bond, and that no claim or demand for payment on the bond shall be made unless written notice of default and reasonable opportunity (not less than 30 days) to cure said alleged default shall first have been given permittee. This permit shall not be affective until the bond is in force and effect. A provision shall be included in the bond to notify Washington County at least 30 days prior to cancellation, or nonrenewable.
- 14) Annual Report Required. An annual report must be submitted each year specifying the amount of material removed, restoration performed, evidence the required bond and insurance is valid, and that the gravel tax has been paid.
- 15) Fuel Storage. No fuel storage is allowed on the property.
- 16) Inspections. Washington County staff has the right to go on the property to inspect the mining operation after providing reasonable notice to the operator.
- 17) This permit shall be binding on the parties, their heirs, successors and assigns, and shall run with the land.

- 18) All debris, miscellaneous parts, and other unusable machinery must be removed from the property within one (1) year.
- 19) Revocation. Violation of any conditions of this permit may result in revocation of said permit in conformance with the Washington County Mining Ordinance. The operator shall be given written notice of any violation and reasonable time (not less than 30 days) to cure said violation before revocation shall occur.



WASHINGTON COUNTY
DEPARTMENT OF HEALTH, ENVIRONMENT
AND LAND MANAGEMENT
GOVERNMENT CENTER

14900 61ST STREET NORTH, P.O. BOX 3803 • STILLWATER, MN 55082-3803
Office (612) 430-6655 • TDD (612) 439-3220 • Facsimile Machine (612) 430-6730

Mary L. McGlothlin
Director

Rose Green
Office Manager

November 16, 1993

Mr. James Zavoral
5239 Highwood Drive
Edina, Mn. 55436

RE: Mining Permit #94-91132, New Scandia Township

Dear Mr. Zavoral:

In response to your request to reduce the required bond for your mining operation, I reviewed the site with Mr. Roger Rydeen to determine what improvements have been made. Even though some work has been completed, restoration has not occurred according to the approved plan. Therefore, the bond can not be reduced.

The Mining Permit was approved with several conditions attached. Condition Number 7 states, "Restoration must take place in accordance with the plan submitted and attached as part of this permit." The plan submitted is dated July 17, 1991 and was prepared by Nyhus Engineering. This plan shows the property being restored by regrading steep slopes, installing culverts and constructing berms. Instead of implementing this plan, the restoration which has occurred includes the construction of a berm, catch basin, drainage pipe and rip rap. In addition, it is my understanding that the future restoration being planned consists of the construction of a dike to reroute water which has caused erosion problems. These improvements can not be implemented until a new restoration plan is submitted and processed through the Planning Advisory Commission for review and approval.

At this time, two options are available for you. The first is to complete the restoration according to the approved plan. The second is to submit a new restoration plan identifying the completed and proposed improvements. This plan will have to be reviewed and approved by the County's Planning Advisory Commission. If you have any questions regarding this, please call me at 430-6715.

Sincerely,

Kathleen Nordine
Land Use Specialist II

cc. Roger Rydeen



Washington County Public Health Department
 14900 61st Street North, P.O. Box 3803, Stillwater, Minnesota 55082-3803 612/430-6708

INSPECTION REPORT

Based on an inspection this day, the items circled below identify violations which must be corrected by the next routine inspection or such shorter period of time as may be specified in writing by the regulatory authority. Failure to comply with any time limits for corrections specified in this notice may result in enforcement action.

BUSINESS NAME Zimmer DATE 7/2/93 TIME _____
 LICENSEE _____ BUSINESS HOURS _____
 ADDRESS _____ PHONE 612-535-3333

CITY/TOWNSHIP	PERMIT NUMBER	PARCEL NUMBER	GEO CODE	REINSPECT DATE	PURPOSE
					<input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> FOLLOW-UP <input type="checkbox"/> NEW <input type="checkbox"/> PRE-INSPECTION <input type="checkbox"/> COMPLAINT <input type="checkbox"/> OTHER _____

MINING OPERATIONS -- COMPLIANCE INSPECTION REPORT

1	ACCESS: <u>OKAY</u>	6	WETLANDS: <u>-</u>	11	SOLID/HAZARDOUS WASTE ON-SITE: <u>NOPE</u>
2	FENCING: <u>HOLE IN GATE</u> <u>GOOD GATE LOCKED -</u>	7	WELL: <u>NOT SEALED</u>	12	NOISE/AIR POLLUTION STANDARDS: <u>NO EQUIPMENT/OPERATIONS ON SITE</u>
3	PROPERTY LINE SETBACK: <u>OKAY -</u>	8	EQUIPMENT: <u>NONE</u>	13	DEPTH OF EXCAVATION: <u>NOT REQUIRED BY PERMIT</u>
4	SCREENING: <u>-</u>	9	SLOPES: <u>Not needed</u>	14	RESTORATION: <u>None</u>
5	TREE REMOVAL: <u>-</u>	10	TOPSOIL: <u>?</u>	15	ADDITIONAL COMMENTS:

COMPLIANCE INSPECTION REPORT KEY: [Y] = YES THEY'RE IN COMPLIANCE [N] = NO THEY'RE NOT IN COMPLIANCE [R] = REINSPECT FOR COMPLIANCE

ITEM # VIOLATIONS TO BE CORRECTED

- * HOURS?
- * INSURANCE NOT ADEQUATE
- * BOND: EXPIRED 6/93
- * STATUS OF REGISTRATION PLAN

RECEIVED BY _____ LAND USE SPECIALIST _____



WASHINGTON COUNTY
DEPARTMENT OF HEALTH, ENVIRONMENT
AND LAND MANAGEMENT
GOVERNMENT CENTER

Mary L. McGlothlin
Director

Rose Green
Office Manager

14900 61ST STREET NORTH, P.O. BOX 3803 • STILLWATER, MN 55082-3803
Office (612) 430-6655 • TDD (612) 439-3220 • Facsimile Machine (612) 430-6730

MEMORANDUM

To: Washington County Planning Advisory Commission

From: Dennis O'Donnell, Senior Land Use Specialist

Re: Zavoral Mining Permit

Date: April 17, 1998

Background

James Zavoral owns approximately 100 acres in Section 18 and 19 in New Scandia Township. The property is directly east and for the most part south of the intersection of Highway 95 and 97. In 1991, Mr. Zavoral obtained a five year mining permit from Washington County for this property. Prior to Mr. Zavoral owning the property, the property had been mined going back to at least the 1960's with little regard for erosion control and restoration. No actual mining has taken place on the property for a long time, however there are six stockpiles of material remaining on the property. The permit issued to Mr. Zavoral in 1991 allowed for removal of these stockpiles and restoration of the site.

The five year permit has expired and the applicant is seeking a new five year permit which would allow for continued removal of the stockpiled material. Mr. Zavoral has an agreement with Scandia Trucking to haul material off of the site on an as needed basis. In 1991, approximately 52,500 cubic yards of material existed on the site. Presently approximately 30,500 cubic yards exist.

Analysis

The property still has a varied and rough terrain. When we reviewed the project in 1991, Washington County agreed to a reclamation plan. We realized at the time that not all of reclamation standards of our mining ordinance would be met, however we felt the site was stabilized and more harm than good would be done to try and further flatten the slopes, etc.



Planning Advisory Commission
Zavoral Mining Permit
April 17, 1998
Page 2

The reclamation we felt needed to be done has been completed. The application submitted talks about restoration, however that is language from their 1991 application and has since been completed. We recently walked the site with a representative of the Soil & Water Conservation District and we did not see any additional reclamation work that needed to be done. There is no drainage or erosion off-site and once again we felt it best not to disturb the vegetation that has been established by nature. If the owner develops the property someday, some of the irregular terrain will be corrected.

In the 1991 permit, the applicant was exempt from the fencing requirement since no additional mining was proposed and this will be a short term operation. Only a portion of the property is fenced and a gate does exist at the entrance off of Highway 95. They were required to keep the fencing they have along with the gate.

We originally had a bond in the amount of \$12,000.00 to cover the cost of the restoration. Since the reclamation has been completed, that bond was released a couple of years ago. The only restoration needed prior to closing the operation entirely would be to topsoil and seed the areas where the stockpiles exist. This should be a relatively minimal cost, however if the Planning Advisory Commission felt it appropriate, a small bond could be required for this work.

Conclusion

Since continued removal of the stockpiles is basically further reclamation of the site and we have had no complaints on this operation over the past several years, we would recommend approval of the permit. The following conditions should be made part of the permit:

1. This permit allows for the removal of existing stockpiles on this property only. ~~Additional~~ Additional excavation is prohibited. No processing equipment is allowed on the property. No structures are allowed to be constructed.
2. Hours of Operation. Hauling shall only be conducted between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, unless other hours or days of operation are specifically authorized by the Town of New Scandia. No hauling is allowed on holidays unless approved by the Town of New Scandia.

Planning Advisory Commission
Zavoral Mining Permit
April 17, 1998
Page 3

3. The owner must comply with any conditions imposed by the Minnesota Department of Transportation.
4. All applicable provisions of the Town of New Scandia and Washington County Mining Ordinances and any future revisions to these ordinances must be complied with.
5. Final Restoration. Restoration must take place in accordance with the plan submitted and attached as part of this permit. All topsoil is to remain at the site. Future use of the property must be in accordance with zoning requirements in force at that time. A minimum of four inches of topsoil shall be spread over the disturbed areas, and seeded and mulched in accordance with Soil and Water Conservation Service recommendations.
6. Fencing. Existing fencing must remain, as well as a gate that can be locked.
7. Dust and Dirt. The operator shall construct, maintain and operate all equipment in such a manner as to minimize dust conditions. All operations shall meet the standards of the State Pollution Control Agency. Dust control material must be applied by the operator to travel routes and other areas subject to disturbance.
8. Control of Operations. The conditions of this permit shall apply to the land described and shall not in any way, except herein noted, be affected by any subsequent sale, lease or other change from the current ownership.
9. Insurance. The operator shall carry bodily injury and property damage public liability insurance in the amount of \$1,000,000.00.
10. Annual Report Required. An annual report must be submitted each year specifying the amount of material removed, restoration performed, evidence the required bond and insurance is valid, and that the gravel tax has been paid.
11. Fuel Storage. No fuel storage is allowed on the property.
12. Inspections. Washington County staff has the right to go on the property to inspect the mining operation after providing reasonable notice to the operator.
13. This permit shall be binding on the parties, their heirs, successors and assigns, and shall run with the land.

Planning Advisory Commission
Zavoral Mining Permit
April 17, 1998
Page 4

14. Revocation. Violation of any conditions of this permit may result in revocation of said permit in conformance with the Washington County Mining Ordinance. The operator shall be given written notice of any violation and reasonable time (not less than 30 days) to cure said violation before revocation shall occur.

If you have any questions, please feel free to contact me.

DCO/mlp



WASHINGTON SOIL AND WATER
CONSERVATION DISTRICT

1825 Curve Crest Blvd., Room 101
Stillwater, MN 55082
(612) 439-6361

MINNESOTA
SOIL AND WATER CONSERVATION DISTRICTS

RECEIVED

JUL 01 1991

PUBLIC HEALTH

June 28, 1991

Dolores Peterson
Town of New Scandia
14727 209th St. N.
P.O. Box 128
Scandia, MN 55073

Re: Zavoral Gravel Pit

Dear Dolores,

The Washington SWCD, along with Mr. LeRoy Nyhus, and Mr. William Plowman of your long range planning committee, field inspected the above referenced property on June 19, 1991. This report is intended to address the existing conditions on site and provide you with comments and recommendations that hopefully will help guide you through your permitting process regarding this proposed operation.

This site has quite a storied past regarding environmental impacts to the St. Croix River as a result of some poorly executed mining and reclamation activities. Files in our office indicate extensive erosion problems that severely impacted downstream properties and the St. Croix during the mid to late 1960's. The Washington SWCD provided some erosion control planning assistance at that time.

The site, as it now exists, was left in quite rough condition. It appears that no attempt at reclamation was ever made following the cessation of extraction operations. As a result, there are some existing erosion problems on site. There are three or four small gullies that are somewhat active along the southwest perimeter of the pit. However, the sediment produced by erosion in these gullies is causing no off site damages. Sediment laden runoff is trapped on site in low depressional areas in the pit floor. Since the upstream advance of these small gullies is not close to impacting any adjacent property owners, these gullies need only be addressed if Mr. Zavoral so chooses. Our office would be willing to assist in this effort if requested by Mr. Zavoral.

Currently the only erosion problem on this site that could conceivably cause any off-site damages is that which exists on the Zavoral driveway which winds its way along the east edge of the pit area. This driveway provides the only avenue for two or three acres to drain off the site in the area where the driveway intersects with an access road which heads west into the pit area.

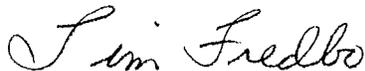
This pit has been mined very close to the steep bluff area adjacent to the St. Croix River. Any future mining activities should stay well away from this existing pit perimeter so as to prevent any future failures of this sidewall area. I would recommend that no additional mining be allowed within 100' of the existing limits of prior excavation.

In conversations with Mr. Nyhus, it was indicated that Mr. Zavoral only plans on removing existing stockpiles in the near future. It may be beneficial for your township to have Mr. Zavoral provide you with some assurance that there is indeed a market for the material in these stockpiles prior to your granting him a permit. This would help alleviate any unnecessary disturbance of the site. In addition, the SWCD recommends that before any additional mining of the site is allowed, beyond removal of existing stockpiles, that a more thorough inspection of the site be performed during the late fall when visibility will be better. The site is quite overgrown and problems on the landscape are difficult to see during the height of the growing season.

Any permit applications associated with this proposed project should be prepared in accordance with the new Washington County Mining Ordinance which was adopted by the Washington County Board of Commissioners on December 18, 1990

If you have any questions with this report, or require any further assistance, please contact me at 439-6361.

Sincerely,



Tim Fredbo

cc: LeRoy Nyhus
Bill Plowman
Dennis O'Donnell, Wash. Co. Public Health

RECEIVED
JUL 01 1991
PUBLIC HEALTH

WASHINGTON COUNTY
DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENT AND LAND USE DIVISION

Mary Luth
Public Health Director

Doug Ryan
Division Manager

Serving the community with programs in Building Inspection, Emergency Services, Food Protection, Land Use Planning,
On-Site Sewage, Public Health Nuisance, Solid and Hazardous Waste, and Water Quality Protection

TO: NEW SCANDIA TOWN BOARD & PLANNING COMMISSION
FROM: DENNIS O'DONNELL, LAND USE SPECIALIST
RE: ZAVORAL MINING APPLICATION
DATE: JULY 31, 1991

James Zavoral has submitted an application for a mining permit on property located in Section 18. Mining has taken place on this property in the past, however, over the past several years, the mine has been closed. Therefore, a new mining permit would be required from both the Township and County.

As I understand the request, the applicant wishes only to remove existing stockpiles on the property. As of this date, no information other than a letter from the Soil Conservation Service has been submitted. It appears very little in the way of restoration of this property has taken place. Before any approvals could be granted, a complete restoration plan must be submitted.

A portion of the property lies within the St. Croix River District. Mining is prohibited within this district. Removal of stockpiles may be allowed and, of course, grading for restoration; however, ~~further excavation would not be allowed.~~

At this time, we would recommend you table this request until such time as a complete mining application has been submitted and reviewed by your engineer, the Soil Conservation Service and myself.

If you have any questions, please feel free to contact me.

DCO/dkr

GOVERNMENT CENTER
14900 61ST STREET NORTH, P.O. BOX 6 • STILLWATER, MINNESOTA 55082-0006
Facsimile Machine (612) 430-6730

(612) 430-6655
Solid Waste, Hazardous Waste
and Emergency Services

(612) 430-6656
Community Sanitation, Building
Inspection and Land Use Planning

EQUAL EMPLOYMENT OPPORTUNITY / AFFIRMATIVE ACTION

Printed on Recycled Paper



MINING PERMIT
PERMIT #94-91132
SEPTEMBER 24, 1992

OWNER: DR. JAMES ZAVORAL
PARCEL NUMBER: 91018-2700 / 91019-3100
LEGAL DESCRIPTION: PART OF NW 1/4 OF SW 1/4 AND PART OF SW 1/4
OF SW 1/4, SECTION 18, T32N, R19W AND PART
OF THE NW 1/4 OF THE NW 1/4, SECTION 19,
T32N, R19W
NEW SCANDIA TOWNSHIP

SPECIAL CONDITIONS

1. This permit allows for the removal of existing stockpiles on this property only. Additional excavation is prohibited. No processing equipment is allowed on the property. No structures are allowed to be constructed.
2. The existing well on the property must be sealed in accordance with State and County standards, unless the Minnesota Department of Health under their rules, would allow the well to remain.
3. Hours of Operation. Hauling shall only be conducted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless other hours or days of operation are specifically authorized by the Town of New Scandia. No hauling is allowed on holidays unless approved by the Town of New Scandia.
4. The owner must comply with any conditions imposed by the Minnesota Department of Transportation.
5. A registered engineer shall size culverts proposed and set proper elevations for these culverts.
6. All applicable provisions of the Town of New Scandia and Washington County Mining Ordinances must be complied with.
7. Final Restoration. Restoration must take place in accordance with the plan submitted and attached as part of this permit. All topsoil is to remain at the site. Future use of the property must be in accordance with zoning requirements in force at that time. Grading of steep slopes shall take place in the first year of operation, unless otherwise approved by the Environment & Land Use Division of the Washington County Department of Public Health. A minimum of four inches of topsoil shall be spread over the disturbed areas, and seeded and mulched in accordance with Soil Conservation Service recommendations. The Soil Conservation Service shall inspect the site in late fall and any further recommendations made by them must be followed.

8. Stockpiling. As overburden is removed, all topsoil must be stockpiled. All topsoil material must remain at the site.
9. Fencing. Existing fencing must remain, as well as a gate that can be locked.
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11. Control of Operations. The conditions of this permit shall apply to the land described and shall not in any way, except herein noted, be affected by any subsequent sale, lease or other change from the current ownership.
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13. Bond. Dr. James Zavoral shall furnish a surety bond in the amount of \$12,000.00 to run continuously until all operations and final restorations are completed and thereafter for an additional period of eighteen (18) months to assure compliance with all the terms and conditions of this permit. Such bond shall be made by an insurance company or other financial institution acceptable to Washington County, and shall be in a form to be approved by its attorney. Said bond shall be in such terms as may be required to assure full, prompt and faithful performance by Dr. James Zavoral of all closure obligations under this conditional use permit area and the payment of losses, damage and expense incurred or suffered, including attorney fees, as a result of any failure, refusal or inability of Dr. James Zavoral to perform closure obligations or to recover under said bond. The bond shall provide that no waiver or delay or neglect of enforcement of any obligation of Dr. James Zavoral shall affect the right of Washington County or others benefiting thereunder to recover under said bond, and that no claim or demand for payment on the bond shall be made unless written notice of default and reasonable opportunity (not less than 30 days) to cure said alleged default shall first have been given permittee. This permit shall not be effective until the bond is in force and effect. A provision shall be included in the bond to notify Washington County at least 30 days prior to cancellation, or nonrenewable.
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15. Fuel Storage. No fuel storage is allowed on the property.
16. Inspections. Washington County staff has the right to go on the property to inspect the mining operation after providing reasonable notice to the operator.

17. This permit shall be binding on the parties, their heirs, successors and assigns, and shall run with the land
18. All debris, miscellaneous parts, and other unusable machinery must be removed from the property within one (1) year.
19. Revocation. Violation of any conditions of this permit may result in revocation of said permit in conformance with the Washington County Mining ordinance. The operator shall be given written notice of any violation and reasonable time (not less than 30 days) to cure said violation before revocation shall occur.



WASHINGTON COUNTY
DEPARTMENT OF HEALTH, ENVIRONMENT
AND LAND MANAGEMENT
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Office (612) 430-6655 • TDD (612) 439-3220 • Facsimile Machine (612) 430-6730

Mary L. McGlothlin
Director

Rose Green
Office Manager

November 16, 1993

Mr. James Zavoral
5239 Highwood Drive
Edina, Mn. 55436

RE: Mining Permit #94-91132, New Scandia Township

Dear Mr. Zavoral:

In response to your request to reduce the required bond for your mining operation, I reviewed the site with Mr. Roger Rydeen to determine what improvements have been made. Even though some work has been completed, restoration has not occurred according to the approved plan. Therefore, the bond can not be reduced.

The Mining Permit was approved with several conditions attached. Condition Number 7 states, "Restoration must take place in accordance with the plan submitted and attached as part of this permit." The plan submitted is dated July 17, 1991 and was prepared by Nyhus Engineering. This plan shows the property being restored by regrading steep slopes, installing culverts and constructing berms. Instead of implementing this plan, the restoration which has occurred includes the construction of a berm, catch basin, drainage pipe and rip rap. In addition, it is my understanding that the future restoration being planned consists of the construction of a dike to reroute water which has caused erosion problems. These improvements can not be implemented until a new restoration plan is submitted and processed through the Planning Advisory Commission for review and approval.

At this time, two options are available for you. The first is to complete the restoration according to the approved plan. The second is to submit a new restoration plan identifying the completed and proposed improvements. This plan will have to be reviewed and approved by the County's Planning Advisory Commission. If you have any questions regarding this, please call me at 430-6715.

Sincerely,

Kathleen Nordine
Land Use Specialist II

cc. Roger Rydeen



Washington County Public Health Department
 14900 61st Street North, P.O. Box 3803, Stillwater, Minnesota 55082-3803 612/430-6708

INSPECTION REPORT

Based on an inspection this day, the items circled below identify violations which must be corrected by the next routine inspection or such shorter period of time as may be specified in writing by the regulatory authority. Failure to comply with any time limits for corrections specified in this notice may result in enforcement action.

BUSINESS NAME Zimmerman DATE 7/17 TIME 10:00
 LICENSEE _____ BUSINESS HOURS _____
 ADDRESS _____ PHONE 612-523-5233

CITY/TOWNSHIP	PERMIT NUMBER	PARCEL NUMBER	GEO CODE	REINSPECT DATE	PURPOSE
					<input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> FOLLOW-UP <input type="checkbox"/> NEW <input type="checkbox"/> PRE-INSPECTION <input type="checkbox"/> COMPLAINT <input type="checkbox"/> OTHER _____

MINING OPERATIONS -- COMPLIANCE INSPECTION REPORT

1	ACCESS: <u>OKAY</u>	6	WETLANDS: <u>-</u>	11	SOLID/HAZARDOUS WASTE ON-SITE: <u>NOPE</u>
2	FENCING: <u>HOLE IN GATE</u> <u>GOOD GATE LOCKED -</u>	7	WELL: <u>11/4 SEALED</u>	12	NOISE/AIR POLLUTION STANDARDS: <u>NO EQUIPMENT/OPERATIONS ON SITE</u>
3	PROPERTY LINE SETBACK: <u>OKAY -</u>	8	EQUIPMENT: <u>NONE</u>	13	DEPTH OF EXCAVATION: <u>NOT REQUIRED BY PERMIT</u>
4	SCREENING: <u>-</u>	9	SLOPES: <u>Not needed</u>	14	RESTORATION: <u>None</u>
5	TREE REMOVAL: <u>-</u>	10	TOPSOIL: <u>?</u>	15	ADDITIONAL COMMENTS:

COMPLIANCE INSPECTION REPORT KEY: [Y] = YES THEY'RE IN COMPLIANCE [N] = NO THEY'RE NOT IN COMPLIANCE [R] = REINSPECT FOR COMPLIANCE

ITEM # _____ VIOLATIONS TO BE CORRECTED _____

* HOURS? _____

* INSURANCE - NOT ADEQ VATE _____

* BOND: EXPIRED 6/93 _____

* STATUS OF RESTORATION PLAN _____

RECEIVED BY _____ LAND USE SPECIALIST _____



WASHINGTON COUNTY
DEPARTMENT OF HEALTH, ENVIRONMENT
AND LAND MANAGEMENT

GOVERNMENT CENTER

14900 61ST STREET NORTH, P.O. BOX 3803 • STILLWATER, MN 55082-3803
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Mary L. McGlothlin
Director

Rose Green
Office Manager

MEMORANDUM

To: Washington County Planning Advisory Commission

From: Dennis O'Donnell, Senior Land Use Specialist

Re: Zavoral Mining Permit

Date: April 17, 1998

Background

James Zavoral owns approximately 100 acres in Section 18 and 19 in New Scandia Township. The property is directly east and for the most part south of the intersection of Highway 95 and 97. In 1991, Mr. Zavoral obtained a five year mining permit from Washington County for this property. Prior to Mr. Zavoral owning the property, the property had been mined going back to at least the 1960's with little regard for erosion control and restoration. No actual mining has taken place on the property for a long time, however there are six stockpiles of material remaining on the property. The permit issued to Mr. Zavoral in 1991 allowed for removal of these stockpiles and restoration of the site.

The five year permit has expired and the applicant is seeking a new five year permit which would allow for continued removal of the stockpiled material. Mr. Zavoral has an agreement with Scandia Trucking to haul material off of the site on an as needed basis. In 1991, approximately 52,500 cubic yards of material existed on the site. Presently approximately 30,500 cubic yards exist.

Analysis

The property still has a varied and rough terrain. When we reviewed the project in 1991, Washington County agreed to a reclamation plan. We realized at the time that not all of reclamation standards of our mining ordinance would be met, however we felt the site was stabilized and more harm than good would be done to try and further flatten the slopes, etc.



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The reclamation we felt needed to be done has been completed. The application submitted talks about restoration, however that is language from their 1991 application and has since been completed. We recently walked the site with a representative of the Soil & Water Conservation District and we did not see any additional reclamation work that needed to be done. There is no drainage or erosion off-site and once again we felt it best not to disturb the vegetation that has been established by nature. If the owner develops the property someday, some of the irregular terrain will be corrected.

In the 1991 permit, the applicant was exempt from the fencing requirement since no additional mining was proposed and this will be a short term operation. Only a portion of the property is fenced and a gate does exist at the entrance off of Highway 95. They were required to keep the fencing they have along with the gate.

We originally had a bond in the amount of \$12,000.00 to cover the cost of the restoration. Since the reclamation has been completed, that bond was released a couple of years ago. The only restoration needed prior to closing the operation entirely would be to topsoil and seed the areas where the stockpiles exist. This should be a relatively minimal cost, however if the Planning Advisory Commission felt it appropriate, a small bond could be required for this work.

Conclusion

Since continued removal of the stockpiles is basically further reclamation of the site and we have had no complaints on this operation over the past several years, we would recommend approval of the permit. The following conditions should be made part of the permit:

1. This permit allows for the removal of existing stockpiles on this property only. Additional excavation is prohibited. No processing equipment is allowed on the property. No structures are allowed to be constructed.
2. Hours of Operation. Hauling shall only be conducted between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, unless other hours or days of operation are specifically authorized by the Town of New Scandia. No hauling is allowed on holidays unless approved by the Town of New Scandia.

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3. The owner must comply with any conditions imposed by the Minnesota Department of Transportation.
4. All applicable provisions of the Town of New Scandia and Washington County Mining Ordinances and any future revisions to these ordinances must be complied with.
5. Final Restoration. Restoration must take place in accordance with the plan submitted and attached as part of this permit. All topsoil is to remain at the site. Future use of the property must be in accordance with zoning requirements in force at that time. A minimum of four inches of topsoil shall be spread over the disturbed areas, and seeded and mulched in accordance with Soil and Water Conservation Service recommendations.
6. Fencing. Existing fencing must remain, as well as a gate that can be locked.
7. Dust and Dirt. The operator shall construct, maintain and operate all equipment in such a manner as to minimize dust conditions. All operations shall meet the standards of the State Pollution Control Agency. Dust control material must be applied by the operator to travel routes and other areas subject to disturbance.
8. Control of Operations. The conditions of this permit shall apply to the land described and shall not in any way, except herein noted, be affected by any subsequent sale, lease or other change from the current ownership.
9. Insurance. The operator shall carry bodily injury and property damage public liability insurance in the amount of \$1,000,000.00.
10. Annual Report Required. An annual report must be submitted each year specifying the amount of material removed, restoration performed, evidence the required bond and insurance is valid, and that the gravel tax has been paid.
11. Fuel Storage. No fuel storage is allowed on the property.
12. Inspections. Washington County staff has the right to go on the property to inspect the mining operation after providing reasonable notice to the operator.
13. This permit shall be binding on the parties, their heirs, successors and assigns, and shall run with the land.

Planning Advisory Commission

Zavoral Mining Permit

April 17, 1998

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14. Revocation. Violation of any conditions of this permit may result in revocation of said permit in conformance with the Washington County Mining Ordinance. The operator shall be given written notice of any violation and reasonable time (not less than 30 days) to cure said violation before revocation shall occur.

If you have any questions, please feel free to contact me.

DCO/mlp

One injured in semi rollover

By Phillip Bock Editor | Posted: Wednesday, May 2, 2012 1:29 pm

A semi truck carrying crushed rock or gravel rolled over Tuesday afternoon, closing a section of Highway 97 and sending one person to the hospital.

According to the Sheriff's Department, a semi truck driven by James Logan, 35, of Buffalo, Minn. was traveling southbound on Highway 95, preparing to turn right onto Highway 97 at approximately 7:28 p.m. April 24. As the driver downshifted and made the turn, the truck's contents shifted, causing the truck to topple and the load to spew across the roadway.

Logan sustained moderate injuries in the accident and was transported from the scene by ambulance.

It took crews until approximately 10:44 p.m. to clear the debris from the roadway. A front loader and fire truck were used to pick up the debris and wash the roadway.

The Washington County Sheriff's Department, Minnesota State Patrol, Lakeview Ambulance, North Memorial Ambulance, and Scandia Fire Department responded to the scene.

The crash remains under investigation by the Minnesota State Patrol.

Containment berm at frac mine fails

By Joseph Pruski Contributing Writer | Posted: Tuesday, May 15, 2012 10:51 am

GRANTSBURG—A berm built to contain the sediment of a silica sand (frac sand) washing pond failed at Interstate Energy Partners frac sand mine in Grantsburg, resulting in sediment running off site, and eventually into the St. Croix River.

An unidentified citizen who was hiking in the area on April 22 came across the sediment they described as “creamy coffee colored” in a stream, and alerted the National Park Service and Burnett County. The complaint, which was filed April 23, made its way to the proper authorities on April 25. On April 26, Burnett County Land and Water Conservation officials identified the sediment as “silica fines” and determined that it came from the frac sand mine. Along with the Wisconsin Department of Natural Resources (WDNR), they visited the mine site.

“The containment berm did not do the job it was supposed to do, and it was not a proper berm,” Dave Ferris, Burnett County Conservationist, who was on site the morning of April 26, said. “The fines moved through a wetland and then got into a creek and moved downstream into the river.”

When authorities arrived the mine was shut down temporarily and the line to that particular wash pond was secured. Tiller Corporation, which operates the mine, is currently in the process of building a new permanent berm to replace the failed temporary one. There are a total of five wash ponds on site at the mine, as well as two wash ponds in Sunrise, Minn.

“What we did was stop the

operation immediately, and then pump the water from that pond into ponds that were sealed well,” Mike Caron, Director of Land Use Affairs for Tiller Corporation said. “We’ve since reconstructed the containment area and Burnett County and the DNR have been out to inspect it.”

According to Ferris, Tiller Corporation was unaware that the berm had been failing until authorities visited the mine. Given the time between when the complaint was first made and authorities first contacted the mine, it is possible that sediment had been seeping from the frac sand washing pond for at least three days. No estimate has been made of the amount of sediment that made its way into the river.

Caron said that the containment pond was newly constructed and that it had been in use for only “a couple of days.”

The St. Croix River is designated as a National Scenic Riverway, and therefore subject to federal oversight by the National Park Service (NPS). Jill Medland, who serves as Environmental Coordinator of the St. Croix National Scenic Riverway, said that unnatural quantities of sediment make their way into the river, it is cause for environmental concern.

“We don’t yet know site specific impacts, but in general, sediment has an impact on the river bottom which cumulatively impacts the sediment of the river and could affect fish spawning and mussels, and things like that,” Medland said.

The wetland, which the sediment initially discharged into, is on Interstate Energy Partners land, and according to Ferris, “not a problem” as it is “settling out on its own.” As was the case with the river, the fine silica sediment naturally settles to the river bottom and the water begins to clear. Once the line to the failed washing pond had been shut down, the river and stream water began to clear and sediment began to settle.

Officials from the NPS, WDNR, and Burnett County have continued monitoring the event and will continue to track any environmental concerns that arise. While Ferris acknowledged the mine had not been inspected regularly, he said that collective inspections by the WDNR and county would become a fixture. The most recent inspection of the mine was last fall.

Tiller Corporation has also implemented a stricter inspection schedule effective immediately.

“We’re moving forward with a more vigorous monitoring schedule that includes more frequent visual inspections and water quality monitoring,” Caron said. “When we’re mining a natural resource in close proximity to another important natural resource (St. Croix River), we have duties and responsibilities to protect it, and it’s our intention to do that.”

A joint investigation by Burnett County officials and WDNR has been launched, and should be completed within a couple of weeks. This is the first time the mine has had any violations since opening last July. Ferris was unsure what, if any, penalties would be levied against the mine or mine operator.

“We haven’t decided anything yet,” Ferris said. “Our goal was to get proper containment put in, and when they’re done with that, we’ll get together with the WDNR and talk about that (penalties).”

The National Park Service is also in the process of determining what recourse they have in terms of citing the mine.



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May 17, 2012

Ms. Anne Hurlburt
Scandia City Administrator
Scandia City Office
14727 209th Street North
Scandia, MN 55073

Re: Take Action-Conserve Our Scandia Comment on Zavoral Mine Draft
Environmental Impact Statement

Dear Ms. Hurlburt:

On behalf of our client, Take Action-Conserve Our Scandia ("TA-COS"), we submit this Comment on the Zavoral Mine & Reclamation Project Draft Environmental Impact Study ("DEIS") published March 19, 2012 in the EQB Monitor. TA-COS is a group of residents from Scandia and the surrounding area concerned that the development of the gravel mine at the Zavoral property proposed by Tiller Corporation ("Tiller") will negatively affect the Scandia community and environment. TA-COS has commissioned a series of expert reports to evaluate the impact of the proposed mine and the sufficiency of the DEIS.

As demonstrated in these expert reports, the DEIS does not meet the Minnesota Environmental Policy Act's, Minn. Stat. § 116D.01 et seq. ("MEPA") basic requirements for an Environmental Impact Statement ("EIS") on multiple grounds, which renders the DEIS inadequate as a matter of law. Specifically, the DEIS fails to account for current market information and industry research which "indicates that as a result of the mine, there will be a home value reduction of 25% within ¼ mile of the mine and a 5% reduction as far as three miles from the mine." Property Value Impact Report at 6-7. The DEIS is "devoid of the technical analysis needed to evaluate the traffic operation and safety of the project," which "could result in significant safety issues to Scandia and the surrounding communities, including the increased risk for severe or fatal collisions." Traffic Analysis Report at 2. The DEIS does not address significant environmental impacts of the Tiller mine, including how Species of Concern in the adjacent Regionally Significant Ecological Area will be adversely affected or how runoff from the mine may affect brook trout in Zavoral Creek and endangered mussels in the St. Croix River.

Furthermore, the DEIS fails to consider reasonable and feasible alternative sites for a gravel mine that would utilize available aggregate that is either (a) within the Scandia region, (b) within the Metro Region, or (c) located in Northern Minnesota and transported to the Metro Region by rail. The DEIS also fails to consider an alternative mine layout that reduces the mine footprint to avoid disturbing the portions of the proposed mine which contain native or reestablished trees and provides a 50-meter buffer zone between the mine and adjacent forests. Additionally, the DEIS fails to consider an alternative that includes reclamation without further mining. Finally, the DEIS fails to consider reasonable and effective mitigation measures,

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including replanting, monitoring, and financial assurance requirements. This Comment will discuss these defects in the DEIS in detail.

This Comment begins by reviewing the standard for an EIS under MEPA. The Comment then introduces the expert reports and discusses the deficiencies with the DEIS that the expert reports identify. As noted, there are three central areas the DEIS has failed to adequately consider as identified in the expert reports commissioned by TA-COS. First, the DEIS fails to adequately consider significant impacts of the Tiller mine proposed on the Zavoral property as required by MEPA, including the impact to property values, the impact to traffic, and the impact to the environment. Second, the DEIS fails to meet the requirements of MEPA that an EIS consider reasonable and feasible alternatives, including an alternative site, an alternative mine layout, and a reclamation-only alternative. Finally, the DEIS does not consider sufficient mitigation measures as required by MEPA. As the Responsible Government Unit ("RGU"), the City of Scandia ("City") is required to remedy these deficiencies in the DEIS before the final EIS can be considered adequate and complete under MEPA. Minn. R. § 4100.2600.

I. The Requirements of MEPA

MEPA requires that an EIS be prepared when there is any major government action that has the potential for significant environmental effects. Minn. Stat. § 116D.04, subd. 2a. The purpose of the EIS is to analyze the significant environmental impacts, discuss appropriate alternatives to the proposed action, and identify means to mitigate the adverse impacts. *Id.* In addition to considering the environmental impacts, the EIS must also analyze the economic, employment, and sociological effects that cannot be avoided if the action is taken. *Id.* MEPA requires the following:

The environmental impact statement shall be an analytical rather than an encyclopedic document which describes the proposed action in detail, analyzes its significant environmental impacts, discusses appropriate alternatives to the proposed action and their impacts, and explores methods by which adverse environmental impacts of an action could be mitigated. The environmental impact statement shall also analyze those economic, employment, and sociological effects that cannot be avoided should the action be implemented.

Minn. Stat. § 116D.04, subd. 2a. The EIS must take a "hard look" at the potential environmental impacts of the proposed Tiller mine in order to be considered sufficient, or the EIS will be deemed inadequate. See *CARD v. Kandiyohi County Bd. of Comm'rs*, 713 N.W.2d 817, 838 (Minn. 2006); *Reserve Mining Co. v. Herbst*, 256 N.W.2d 808, 825 (Minn. 1977) ("[W]here there is a combination of danger signals which suggest the agency has not taken a 'hard look' at the salient problems and has not genuinely engaged in reasoned decision-making it is the duty of the court to intervene.") (quotations omitted).

The Minnesota Environmental Quality Board (EQB), under its MEPA authority, has established detailed rules specifying the requirements for an EIS. Minn R. § 4410.0200 et seq. These rules detail the requirements for alternatives; the type of environmental, economic,

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employment, and sociological impacts analyzed; and the mitigation measures considered, which are discussed as follows.

a. Alternatives

An EIS must consider the potential significant impacts of the alternatives to the proposed project along with the impacts the project will have. Minn. R. § 4410.2300(G). "The EIS must address one or more alternatives of each of the following types: . . . alternative sites, alternative technologies, modified designs or layouts, modified scale or magnitude, and alternatives incorporating reasonable mitigation measures identified through comments received." *Id.*

An alternative, including an alternative site, must be considered when the alternative is feasible. See *Iron Rangers for Responsible Ridge Action v. Iron Range Resources*, 531 N.W.2d 874, 882 (Minn. Ct. App. 1995). Only where an alternative would not meet the underlying need or purpose of the project, or where it will have similar environmental benefits but substantially less adverse economic, employment, or sociological impacts, may the alternative be excluded from consideration. Minn. R. § 4410.2300(G).

Failure of an EIS to analyze available alternatives will result in the EIS being deemed inadequate. See *Iron Rangers for Responsible Ridge Action v. Iron Range Resources*, 531 N.W.2d 874, 882 (Minn. Ct. App. 1995); *State by Archabal v. County of Hennepin*, 495 N.W.2d 416, 416 (Minn. 1993) (government action reversed for failure to show lack of feasible alternative construction site).

b. Environmental, Economic, Employment, and Sociological Impacts

For the proposed project and each major alternative, the EIS must provide a thorough discussion of potentially significant adverse or beneficial environmental, economic, employment, and sociological impacts generated by the proposed action or alternative. Minn. R. § 4410.2300(G). These impacts should include direct, indirect, and cumulative impacts. *Id.* Data and analysis must be provided that is sufficient to consider the importance of the impact analyzed and give enough information to provide a reasoned choice among the alternatives. *Id.* The EIS must discuss major differences of opinion concerning the significant impacts. *Id.*

c. Mitigation Measures

The EIS must identify mitigation measures that could reasonably eliminate or minimize any adverse impact of the proposed project. Minn. R. § 4410.2300(G). Specifically, mitigation is defined to include (a) avoiding impacts altogether by not undertaking a certain project or parts of a project; (b) minimizing impacts by limiting the degree of magnitude of a project; (c) rectifying impacts by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating impacts over time by preservation and maintenance operations during the life of the project; (e) compensating for impacts by replacing or providing substitute resources or environments; and (f) reducing or avoiding impacts by implementation of pollution prevention measures. Minn. R. § 4410.0200, subp. 51. The mitigation measures considered should be specific and able to be implemented. See *Nat'l Audubon Soc'y v. MPCA*, 569 N.W.2d 211, 218

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(Minn. Ct. App. 1997). Correspondingly, the mitigation measures considered should not be vague statements of good intentions. *Id.*

II. Expert Reports

TA-COS, in order to ensure a complete and accurate EIS, has commissioned three expert reports to analyze and evaluate the sufficiency of the DEIS, which it incorporates in this Comment in the appendices hereto. The first report, the ZAVORAL MINE ECOLOGICAL REVIEW OF DRAFT ENVIRONMENTAL IMPACT STATEMENT prepared by Applied Ecological Services, Inc. ("AES Report") (attached as Appendix A), reviews the sufficiency of the analysis in the DEIS of the significant ecological impacts, the available alternatives to the proposed action, and mitigation measures as required by Minn. Stat. § 116D.04, subd. 2a. Applied Ecological Services, Inc. ("AES") provides ecological and restoration design and environmental contracting services. Dr. Kim Chapman, an author of the AES Report, is a principal ecologist at AES with a Ph.D. in conservation biology and has 25 years experience in ecological research, natural resource planning, land restoration, and land management. Doug Messing, the other author of the AES report, is a senior ecologist at AES with a masters degree in conservation biology and 19 years of experience in the ecological and environmental fields, including natural resource inventory and assessment and conservation planning, design, and development.

The second report, the REVIEW OF BRKW'S MARKET ANALYSIS: THE IMPACT ON PROPERTY VALUES IN SCANDIA DUE TO THE PROPOSED ZAVORAL/TILLER MINING OPERATION prepared by Lisa Philippi ("Property Value Impact Report") (attached as Appendix B), addresses the adequacy of the DEIS's consideration of economic impacts, specifically the unavoidable impact of the Tiller mine on home values, as required by Minn. Stat. § 116D.04, subd. 2a. The report's author, Lisa Philippi, is a professional mortgage broker with 32 years of experience in the real estate industry and a respected member of the Scandia community.

The third report, the DRAFT ENVIRONMENTAL IMPACT STATEMENT TRAFFIC ANALYSIS OF THE ZAVORAL MINING PROJECT prepared by RLK Incorporated ("Traffic Analysis Report") (attached as Appendix C), reviews the DEIS's assessment of the traffic impacts that will result from the Tiller mine. Vernon Swing, the report's author, is a professional traffic engineer with 26 years of traffic engineering and transportation planning experience.

In addition to these reports, TA-COS has compiled historic materials on mining at the Zavoral property ("Historic Materials") (attached as Appendix D). These materials provide an overview of past mining at the Zavoral property and the impact that resulted.

The City as RGU is obliged to respond and address the issues identified in this Comment and its accompanying reports in preparing the final EIS for the Tiller mine. Minn. R. § 4100.2600.

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III. Impact on Property Values

The DEIS inaccurately and inadequately considered the impact of the Tiller mine on property values in Scandia as described in the Property Value Impact Report. MEPA requires that an EIS analyze the economic impacts of a proposed project that cannot be avoided. Minn. Stat. § 116D.04, Subd. 2a. The DEIS attempts to satisfy this requirement with the Market Analysis prepared by BRKW Appraisers. See DEIS at ES-12.

The BRKW Market Analysis, however, does not provide the “hard look” at economic impacts required under MEPA. As described by Lisa Philippi in the Property Value Impact Report, the BRKW Market Analysis does not meet professional appraisal standards. See Property Value Impact Report at 6. The particular deficiencies of the BRKW Market Analysis include the fact that it uses outdated market information that vastly underestimates the market impact, uses an insufficient sample of home sales, and ignores industry research on the impact of gravel mines on home values. *Id.* at 6. Specifically, the BRKW Market Analysis fails to satisfy the Uniform Standards Professional Appraisal Practices, commonly accepted practices in the appraisal industry, in the following ways:

BRKW compared a very small sampling of 22 home sales comparables compared to Diane Hite’s study using 2,552 homes. BRKW only used a small data set analysis, which was the matched pair approach. An adequate appraisal would also use a large data set analysis such as the Hedonic method.

BRKW did not explain why the scope of the study was only a one-mile radius of properties and then also did not explain why it ended up with only ¼ mile radius of affected properties.

BRKW did not use a cross section of property values, such as a high priced home, middle range home, low valued home, large acreage properties, especially with Scandia having varied property types and values. The home sale comparables were all in the \$200,000 - \$300,000 range.

BRKW did not utilize recent home sale comparables within the last couple of years. They utilized 2006 and 2007 comparables from the peak of the housing market boom, which would show a decreased effect on value loss.

BRKW did not utilize home sale comparables from either the Scandia Mine area, located off of Lofton or the Franconia Mine area. Even if there were limited comparables available, this information should have been evaluated.

BRKW’s study did not compare value reduction with the different Mining time lines. Such as the 10-year, five-year and one-year proposed plan. For example, the one-year plan having increased truck traffic over the other plans could affect property values more but for a shorter period of time.

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BRKW utilized mines located in Maple Grove, Rosemount, and Andover, which are very high density housing areas in a suburban setting. This is not at all comparable to Scandia's rural nature and their unique river front properties.

Property Value Impact Report at 6. Because the DEIS does not conduct an assessment of the mine's impact to home values that meets minimum professional standards, the DEIS fails to provide the "technical knowledge and expertise" expected of an agency in preparing an EIS. See *Minn. Ctr. for Env'tl. Advocacy v. MPCA*, 644 N.W.2d 457, 464 (2002).

As a result of these deficiencies, the DEIS fails to account for current market information and industry research that "indicates that as a result of the mine, there will be a home value reduction of 25% within ¼ mile of the mine and a 5% reduction as far as three miles from the mine." Property Value Impact Report at 6–7. This reduction in home values "represents a loss of millions of dollars to the residents of Scandia and has the potential to impose significant economic hardship on individual residents" and is a significant and unavoidable economic impact on residents of the Scandia community. *Id.* at 7; Minn. Stat. § 116D.04, Subd. 2a.

Consequently, the DEIS does not constitute the "hard look" at the unavoidable economic impacts as required by MEPA. Minn. R. §§ 4410.2300(G)–(H). The EIS must accurately consider the significant economic impact to Scandia and its residents that will result from the Tiller mine's impact on home values in a manner meeting industry standards as required by MEPA in order to be considered adequate. Minn. Stat. § 116D.04, Subd. 2a.

IV. Traffic Impacts

The DEIS determined that the traffic impact of the mine has the potential to cause economic and sociological impacts, including the potential to affect safety and tourism. DEIS at ES-24–27. The DEIS's analysis of the mine's potential impacts, however, is inadequate because it is "devoid of the technical analysis needed to evaluate the traffic operation and safety of the project." Traffic Analysis Report at 1. The EIS should provide an adequate analysis of traffic impacts as described in the Traffic Analysis Report in order to meet the requirements of MEPA. Minn. Stat. § 116D.04, Subd. 2a.

The Traffic Analysis report identifies eleven separate deficiencies in the DEIS's traffic study. The deficiencies are as follows:

- As presented, this report only includes Average Daily Traffic (ADT) information and does not include AM and/or PM Peak Hour turning movement volumes. Turning movement volumes are important to the overall operational analyses of intersections.
- It is unclear whether the ADT information provided has been adjusted to reflect seasonal fluctuations (i.e., recreational traffic on the scenic byway, etc.), and whether this adjusted traffic will be impacted by the hauling operations.

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- The analysis must include adequate capacity analyses of specific intersections. Operational analysis typically includes Level of Service Analysis and Warrant Analysis.
- The DEIS investigated crash statistics for only three years, yet there is at least ten years of crash data available related to the gravel operation. One such crash was a fatality involving a hauling truck and a pedestrian directly related to gravel operations. With such data available, the DEIS should consider the ten years of data.
- The DEIS does not include an Intersection Crash Performance analysis using the Mn/DOT methods of calculating intersection crash rate per million entering vehicles, severity rate, crash density, or crash cost per year. Nor does the DEIS include Segment Crash Performance analyses. These calculations allow comparisons with similar intersections statewide in order to verify severity.
- The response to question 21 of the DEIS suggests that the traffic will be the same for Class C production, yet in its present condition, the traffic associated with Class C production arrives via Hwy 243, Hwy 95 and Hwy 97, resulting in a right turn from Hwy 95 to Hwy 97. In the proposed condition, the Class C will come from the Zavoral mine, requiring the traffic associated with this production to progress across Hwy 95. This will increase the traffic conflict opportunities from 2 to at least 6, resulting in degradation in safety.
- The DEIS does not present traffic analysis of the existing, the short-term build (1st year after completion) short-term no-build, long-term build or no-build scenarios. Typically, development traffic analysis identifies the existing traffic, the projected No-Build traffic operational analyses, and then presents the development's trip generation and Build traffic operational analyses. Projected turning movements levels of service must be presented to assess whether the use constitutes an impact and to provide a comparison between the scenarios.
- The DEIS does not state the sight distances at any of the study locations. Sight distances are important in determining gap analysis of intersections. Because trucks take a longer time to progress from a standing stop, larger gaps in the traffic stream are required, as opposed to smaller vehicles. Gap analysis must also take into account the vertical and horizontal changes in the roadway alignment throughout the study area. The DEIS needs to analyze these gaps, both for the current conditions and the conditions in the future.

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- Safety is discussed from the stand point of crashes, without special attention drawn to the design vehicle used to transport the mined material. Trucks used for this activity accelerate and decelerate at significantly slower rates, which can have an adverse impact on the ability to avoid collisions, and increase the safety risks. The dismissive comment regarding the lack of evidence of near miss occurrences does not adequately address the potential that exists.
- There is no discussion of the structural capacity of the roadways and their ability to handle the increase in daily truck trips. The DEIS must provide an assessment of the existing and future pavement condition.
- Mitigation is summarized in the DEIS, yet there is no quantitative discussion of the impacts and changes to the operations or safety of the roadway network associated with the proposed mitigation strategies. These mitigation measures should also be quantified and prioritized.

Traffic Analysis Report at 1-2. Because the DEIS does not conduct an appropriate or complete technical analysis of traffic impacts meeting professional standards, the DEIS's traffic analysis fails to provide the "technical knowledge and expertise" expected of an agency in preparing an EIS. See *Minn. Ctr. for Env'tl. Advocacy v. MPCA*, 644 N.W.2d 457, 464 (2002).

In addition to not providing a sufficient analysis of traffic impacts meeting professional standards, the DEIS failed to provide an analysis of the variation in traffic impacts for each alternative as required by MEPA. As noted by the Traffic Analysis Report, "[t]he DEIS does not present traffic analysis of the existing, the short-term build (1st year after completion) short-term no-build, long-term build or no-build scenarios." Traffic Analysis Report at 2. The failure to consider the variation in traffic impacts for each alternative is a violation of MEPA, which requires that "for the proposed project *and each major alternative* there shall be a thorough but succinct discussion of potentially significant adverse or beneficial effects generated, be they direct, indirect, or cumulative." Minn. R. § 4410.2300(H) (emphasis added).

Most concerning about the DEIS's traffic analysis, however, is RLK's statement that "Developing the mine without appropriate traffic analysis, as we recommend, could result in significant safety issues to Scandia and the surrounding communities, including the increased risk for severe or fatal collisions." Traffic Analysis Report at 2. Especially at the junction of Highway 97 and Highway 95, the potential for severe traffic accidents as a result of gravel hauling is a proven risk. On April 24, 2012, the junction was the location of a gravel truck rolling over, which sent the driver to the hospital and spilled the truck's contents. Phillip Brock, *One Injured in Semi Rollover*, COUNTRY MESSENGER, May 2, 2012. Given the proven potential for increased risk of severe or fatal collisions as a result of the Tiller mine, the DEIS's failure to provide an adequate assessment of traffic impacts is a grievous error which endangers the Scandia community and must be corrected.

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Because of deficiencies identified by RLK in the Traffic Analysis Report, the DEIS “is incomplete, does not meet the minimum analysis requirements for environmental review, and prevents any opportunity to evaluate the traffic impact of the Zavoral Mining operation.” Traffic Analysis Report at 2. Therefore, the “DEIS does not address the traffic impacts as required by the EIS process,” and does not constitute a “hard look” as mandated by MEPA. Traffic Analysis Report at 2; Minn. R. §§ 4410.2300(G)–(H).

V. Environmental Impacts

The Minnesota Legislature decreed that the purpose of preparing an EIS is to “to enrich the understanding of the ecological systems and natural resources important to the state and to the nation.” Minn. Stat. § 116D.01(c). The DEIS, however, fails to fulfill this statutory mandate since it does not adequately analyze the impacts to the environmental ecology of the region and the impact to water resources as described in the AES Report. *Id.*; See also *State ex rel. Wacauta Twp. v. Brunkow Hardwood Corp.*, 510 N.W.2d 27 (Minn. Ct. App. 1993) (enjoining proposed project due to the potential to impact threatened species).

a. Impact on Regional Environment and Ecology

The DEIS’s analysis of ecological impacts is inadequate because “The DEIS focuses only on the site and direct impacts from changes in land cover and habitat conversion. The DEIS lacks discussion of the site’s larger ecological context, rare species located near and adjacent to the site, and impacts likely to result from habitat fragmentation and edge effects, including noise impacts to wildlife.” AES Report at 8. The failure to consider the impact to a larger ecological context is a significant inadequacy in the DEIS because mining will be adjacent to, and adversely affect, the St Croix National Scenic Riverway and associated National Park, and mining would eliminate part of a Minnesota Department of Natural Resources (“MNDNR”)-identified Regionally Significant Ecological Area (“RSEA”). *Id.* at 8.

The impact to the RSEA and St. Croix National Riverway is a significant environmental impact for multiple reasons, including the fact that there are numerous records of “rare plants, animals, fishes, reptiles, mussels, and native plant community occurrences within a 1-mile radius of the Site.” (AES Report at 7). AES identifies the following endangered and threatened species within the RSEA as having the potential to be affected by the Tiller mine as a result of its edge effects:

- Kitten-tails (*Besseyia bullii*; Minnesota Threatened)
- Bog blue grass (*Poa paludigena*; Minnesota Threatened)
- American ginseng (*Panax quinquefolius*; Minnesota Special Concern)
- Red-shouldered hawk (*Buteo lineatus*; Minnesota Special Concern)
- Blanding’s turtle (*Emydoidea blandingii*; Minnesota Threatened)

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- Several threatened and endangered species of mussels occurring within the St. Croix River

AES Report at 7. In addition to these species in the surrounding RSEA, there are species of concern within the mine area that will be directly impacted or destroyed, including raptors and Butternut trees, a Minnesota Special Concern Tree. According to the MNDNR, "A species is considered a species of special concern if, although the species is not endangered or threatened, it is extremely uncommon in Minnesota, or has unique or highly specific habitat requirements and deserves careful monitoring of its status." *Id.* at 8. There are also multiple native tree communities adjacent to the mine site that are classified as "good quality" forests, which provide habitat to many of the notable species within the RSEA. *Id.* at 7. These forests provide habitat for sensitive wildlife species, and removing the forests or mining adjacent to them would harm the ecology of the region. *Id.* at 9.

These critical species and their habitat will be adversely affected by the Tiller mine. Federally-listed endangered mussels have been identified in the St. Croix River immediately downstream of the Zavoral property and will be adversely affected by sediment-laden or warm runoff from the mining operation. *Id.* at 18. Noise from mining will disturb nesting of songbirds which have been documented in the area. *Id.* at 9. As currently proposed, the mine would impact approximately 172 acres of forest-breeding bird habitat. *Id.* at 17. Additionally, opening the forest edge to disturbance creates an opportunity for introduction of invasive species. *Id.* at 17. Invasive species are already present on the mine site, and disturbing existing tree communities will encourage the encroachment of invasive species into intact habitat. *Id.*

The Tiller mine's potential impact to the RSEA, the regional habitat, and sensitive species should be considered in detail in the EIS given the unique and valuable nature of these natural resources. See *State ex rel. Wacauta Twp. v. Brunkow Hardwood Corp.*, 510 N.W.2d 27 (Minn. Ct. App. 1993) (articulating the factors which determine the significance of environmental effects).

b. Impact on Water Resources

The DEIS's failure to sufficiently analyze the impact of the mine on water resources is another major inadequacy in the DEIS as there is the potential for significant adverse effects to water resources and ecosystems. As identified by the AES Report, the DEIS fails to address the prescribed "issues of: a) identifying and mapping the location of springs in the project area and areas of potential impact; b) providing water quality data for Middle Creek and South Creek; and c) quantifying impacts of specific pollutants (e.g., phosphorus, TSS, heavy metals, PAHs, VOCs, temperature) on receiving waters." AES Report at 9. The DEIS should address these issues.

As recommended by AES, "[t]he DEIS should describe how sediment and other pollution from inadequately manage[d] mine runoff may affect Brook Trout and aquatic macroinvertebrates in Zavoral Creek. It should also discuss how the vegetation at spring discharge points, such as the Black Ash Seepage Swamp, could be affected by changed in

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groundwater discharge.” AES Report at 9. Trout streams are especially sensitive and valuable ecological resources, and any impact of the Tiller mine may have on the Zavoral Creek is a significant environmental impact meriting analysis in the EIS. See *State ex rel. Wacauta Twp. v. Brunkow Hardwood Corp.*, 510 N.W.2d 27 (Minn. Ct. App. 1993) (articulating the factors which determine the significance of environmental effects). In addition, the presence of federally-listed endangered mussels in the St. Croix River means the runoff from the Tiller mine could have an irreversible impact to the endangered mussel species. AES Report at 18.

Finally, the decision not to consider the impact of the mine on water surface use in the DEIS is erroneous. DEIS ES-3. The Historic Materials show that past gravel mining on the Zavoral property has caused the discharge of sediment and other pollutants directly to the St. Croix River. See Historic Materials, Letter from Robert E. Bowen of Gray Plant Mooty & Anderson to Minnesota Pollution Control Agency dated January 25, 1971 at 3–4 (discussing how Barton Contracting Company, a corporate predecessor to Tiller, had caused the discharge of silt into the St. Croix River as a result of gravel mining).

The potential for these impacts on water ecology and surface use to occur is not speculative despite any safety features that Tiller might use. Tiller’s sand mine in Grantsburg, Wisconsin was the source of a major sediment discharge to the St. Croix in April 2012. Joseph Pruski, *Containment Berm at Frac Mine Fails*, COUNTRY MESSENGER, May 15, 2012. That discharge occurred as a result of Tiller’s failed containment berm and continued unnoticed by Tiller until discovered by local residents days later. *Id.* The National Park Service noted that the discharge “could affect fish spawning and mussels.” *Id.*

Given the demonstrated potential for significant negative impact to the waters of the St. Croix River, a National Scenic Riverway, the decision not to include an evaluation of impact to water surface use and ecology is a critical deficiency in the DEIS. The DEIS should be revised to include a detailed analysis of the potential for the Tiller mine to adversely affect the St. Croix River and Zavoral Creek.

VI. Alternatives

MEPA requires that an EIS include consideration of alternative sites, alternative designs or layouts, and alternative scales or magnitudes. Minn. R. § 4410.2300. The DEIS has failed to consider and analyze the options for an alternative site, a modified mine layout, and the reclamation-only alternative as required by MEPA. The justifications for excluding these alternatives from the DEIS are insufficient as illustrated by the AES Report since these alternatives are feasible and can satisfy the need of the proposed project. The EIS must contain an analysis of the options for an alternative site, a modified mine layout, and the reclamation-only alternative, or the EIS will be inadequate. Minn. R. § 4410.2300; See *Iron Rangers for Responsible Ridge Action v. Iron Range Resources*, 531 N.W.2d 874, 882 (Minn. Ct. App. 1995); *State by Archabal v. County of Hennepin*, 495 N.W.2d 416, 416 (Minn. 1993) (government action reversed for failure to show lack of feasible alternative construction site).

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a. Failure to Consider Alternative Site

The DEIS should be revised to include consideration of an alternative site. MEPA requires an alternative site to be considered if reasonable and feasible. Minn. R. § 4410.2300. According to the AES Report, “[n]umerous unencumbered deposits of sand and gravel are available to serve the metropolitan area” which Tiller could pursue instead of the Zavoral Property. AES Report at 3. Notably, the AES Report finds that “Other unencumbered sand and gravel resources exist nearby and do not impinge on significant natural resources or lands in which the public has made an investment. For this reason, these other gravel resources warrant consideration as alternatives to the Zavoral site.” *Id.* at at 3. Since there are resources in the area which are a viable and reasonable alternative to the Tiller mine, they should be considered as an alternative in the EIS to satisfy MEPA’s requirements. Minn. Stat. § 116D.04, Subd. 2a; Minn. R. § 4410.2300.

Excluding alternative sites from the DEIS is in violation of MEPA because the Revised Scoping Decision Document (“RSDD”) improperly restricted the scope of the DEIS to exclude alternative sites. See Minn. Stat. § 116D.04, Subd. 2a; Minn. R. § 4410.2300. As explained by the EQB, which oversees MEPA review, the purpose and need of the project may not be overly restrictive.¹ The purpose and need as articulated by the DEIS and the RSDD violate this principle. See DEIS 3-15. The RSDD’s explanation that an alternative site need not be considered because “it does not meet the project purpose and need of making use of significant aggregate resources that are found within the Zavoral Mine Site” lacks evidentiary support and is a wholly insufficient justification to disregard the statutory requirement to consider alternative sites. The City has not provided any explanation or evidence that there is a particular need for the specific resources on the Zavoral Property and why alternative resources would be insufficient.

Furthermore, the factors articulated by the EQB to determine whether an alternative site should be evaluated weigh strongly in favor of evaluating rather than excluding an alternative site from review. These factors are:

- (1) Whether the proposer owns the proposed site [and] how long the proposer has owned the site;
- (2) The likelihood that the proposer could sell or otherwise use the proposed site if the project was moved [and] whether the proposer has access to other sites . . .
- (3) Whether the site is an integral part of the project or whether the project could be built on other sites in the general area . . . and

¹ MINNESOTA ENVIRONMENTAL QUALITY BOARD, GUIDE TO MINNESOTA ENVIRONMENTAL REVIEW RULES 28 (May 2010), available at <http://www.eqb.state.mn.us/documents/Guide%20to%20MN%20ER%20Rules-May%202010.pdf>.

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- (4) The likely use of the proposed site if the project did not take place on it and the environmental impacts of other uses.²

First, the project proponent, Tiller, does not own the site, but has obtained permission from the owner, Dr. Zavoral, to apply for a CUP to open the mine. Tiller's interest in developing the Mine on this site is based on the presence of aggregate, not on any established ownership of the site.

Second, the site has numerous other potential uses as indicated by the DEIS. Allowed uses include a variety of agricultural uses, single family residences, and public parks and recreation facilities. Unlike a mine, these uses are consistent with surrounding land use and are contemplated by the City's current Comprehensive Plan.

Third, the Zavoral property is not integral to the project. Many other sites may satisfy Tiller's objective of opening a gravel mine. See AES Report at 3. The City has acknowledged that other available gravel resources exist. The RSDD, contradicting its own conclusion, admits that there are "significant aggregate resource areas within the Metro Region." The AES Report also demonstrates there are available, unencumbered aggregate resources within the Metro Region, including nearby the Zavoral property, that could be developed as an alternative site and which do not impinge on significant natural resources or lands in which the public has made an investment. AES Report at 3. Additionally, City employees have indicated that it would be financially feasible to transport aggregate to the Metro Region from Northern Minnesota by rail. As a result, there are many alternative site options that could be considered in the EIS.

Fourth, considering an alternative site in the EIS is especially important since the proposed Tiller mine is located next to the St. Croix River. As noted by the DEIS, "Mining noise would likely be audible on the St. Croix." DEIS ES-8. Mining noise audible on the river would significantly and adversely impact the enjoyment of the river as a popular recreational destination, thereby having an impact not only on the ecology of the region but the significant revenue to the region from tourism. The allowed likely uses of the Zavoral property in lieu of a mine would have a much lower environmental impact given the limitation on use imposed by the City Zoning Code. Similarly, an alternative site not located on a National Scenic Riverway would present a lower potential for significant adverse environmental impacts. AES Report at 3.

Given that the City is aware reasonable and feasible alternative sites exist, the EIS should analyze one or more of these alternative sites. To otherwise omit an alternative site from consideration would be a clear violation of MEPA's express requirements. Minn. Stat. § 116D.04, Subd. 2a; Minn. R. § 4410.2300. The EIS should analyze one or more alternative sites for a gravel mine that utilizes available aggregate that is either (a) within the Scandia region, (b) within the Metro Region, or (c) located in Northern Minnesota and transported to the Metro Region by rail.

² *Id.*

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b. Failure to Consider Alternative Mine Layout

The DEIS should be revised to include consideration of an alternative mine layout. MEPA requires that modified designs or layouts be considered as an alternative if reasonable and feasible. Minn. R. § 4410.2300. The RSDD provides absolutely no justification or explanation for excluding consideration of modified design or layout alternatives in the EIS. The DEIS itself admits that modified designs or layout alternatives are possible and could potentially be adopted, but provides no reason why this alternative was not considered. See DEIS 3-15.

The DEIS incorrectly concludes the City does not have the authority to prohibit mining in the nine-acre area of the Zavoral property that has not been mined in the past. As indicated in the AES Report, mining this area would have an impact. AES Report at 16–17. In addition, the City has the legal authority to place conditions on the mining as it deems necessary for the protection of the environment. See Scandia City Code, §§ 1-8, 4-1.

In order to comply with MEPA, the EIS should consider an alternative layout that reduces the mine footprint to avoid disturbing the portions of the proposed mine which contain native or reestablished trees and provides a 50-meter buffer zone between the mine and adjacent forests. See AES Report at 16–17. The native and reestablished trees provide important ecological habitat, and a mine layout that protects these areas would provide an environmental benefit over the proposed layout. *Id.* Additionally, the proposed mine layout does not include a sufficient buffer. As noted in the AES report, providing an increased buffer zone will protect the surrounding forests and reduce edge effects of the mine. AES Report at 16–18. Preserving native or reestablished trees will also help prevent habitat fragmentation. *Id.*

c. Failure to Consider Reclamation-Only Alternative

The DEIS Historic Materials show that history of gravel mining on the Zavoral property has already involved remediation. DEIS at ES-38. The DEIS dismisses past reclamation activities without analysis. *Id.* However, as noted by AES, significant passive reclamation has already incurred. See AES Report at 16. Furthermore, the DEIS ignores the requirement in past permits for Dr. Zavoral to replace the top soil on the site. *Id.* The DEIS notes that replacement of top soil is recommended as part of the reclamation plan, which the DEIS considers a positive environmental impact of the preferred alternative. In light of Dr. Zavoral's past reclamation activities and past obligations to replace top soil and reclaim the site, the DEIS should consider an alternative that includes reclamation without further mining. Minn. Stat. § 116D.04, Subd. 2a; Minn. R. § 4410.2300.

VII. Mitigation Measures

The DEIS proposes multiple mitigation measures. See DEIS at ES-35. All of these mitigation measures should be considered as mandatory conditions of the conditional use permit for the mine in order to assure that these are not vague statements of good intentions. See *Nat'l Audubon Soc'y v. MPCA*, 569 N.W.2d 211, 218 (Minn. Ct. App. 1997). In addition to the mitigation measures described in the DEIS, the EIS should include the mitigation measures identified in the AES Report. AES Report 10–15. The AES Report makes numerous

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recommendations regarding mitigation measures necessary to satisfy MEPA's requirement to analyze potential mitigation measures, all of which should be incorporated into the EIS. AES Report 10-15; Minn. R. § 4410.2300(G).

Mitigation measures recommended by AES include replanting, monitoring, and financial assurance requirements. AES Report 10-15. Specifically, the reclamation plan should include more stringent replanting requirements. *Id.* There should be more specificity in the type of tree, shrub, and grass plantings to be used. *Id.* Multiple species of trees should be used to avoid susceptibility to disease. *Id.* Specific performance standards should be included to assure that replanting provides the expected remediation and should include extended monitoring and management of plantings and reclamation for at least five years. *Id.* Tiller should be required to provide sufficient financial assurances to guarantee complete implementation of reclamation and monitoring in the event the reclamation is abandoned. *Id.*

Conclusion

The DEIS should be revised to include consideration of the impacts and alternatives identified in this Comment as required by MEPA. Minn. R. § 4100.2600. The final EIS should consider in detail the impact on property values, the impact on traffic, and the impact on the environment as detailed in this Comment and in the Expert Reports. In addition, the final EIS should consider an alternative site, a reclamation-only alternative, and an alternative mine layout. Minn. R. § 4410.2300. Finally, the final EIS should consider the mitigation measures detailed in the AES Report. Failure to include detailed consideration of these issues in the final EIS will result in a document that does not meet the requirements of MEPA. Minn. Stat. § 116D.04, Subd. 2a; Minn. R. § 4410.2300.

Sincerely,



Kieran P. Dwyer

KPD/aj
Enclosures

Anne Hurlburt

From: Tom Higgins [tchiggins@frontiernet.net]
Sent: Thursday, May 17, 2012 1:55 PM
To: a.hurlburt@ci.scandia.mn.us
Subject: Tiller/Zavarol proposal

I am a resident of Marine and frequent the St. Croix River. The proposed business will create noise that travels a long way. Noise pollution is a growing concern around the world. Increased human activity brings with it an increase in noise but through wise management by our zoning districts this can be minimized somewhat. Keeping the mine from opening in its proposed location would be a wise decision given its proximity to an area prized for the enjoyment of a natural environment.

Thank you for your work in dealing with this important issue,

Tom Higgins

Sent from my iPad=



May 17, 2012

Anne Hurlburt
Scandia City Administrator
14727 209th Street North
Scandia, MN 55073

RE: City of Scandia Draft Environmental Impact Statement (DEIS)
Zavoral Property Mining and Reclamation
Metropolitan Council District 12 (Harry Melander)
Council Review File No. 20475-2

Dear Ms. Hurlburt:

The Metropolitan Council received the City's DEIS for the Zavoral Property Mining and Reclamation project on March 14, 2012. The proposed project involves mining and site restoration of 64 acres of the 114-acre site located east of State Trunk Highway (TH) 95 near its intersection with TH 97 in the City. The following comments are offered on the draft document.

3.1.1.3 Site Reclamation

Should the City decide to allow site mining and reclamation to proceed as proposed, very little soil and organic matter will be left on the site following reclamation to provide for filtering of nutrients and contaminants to prevent them from infiltrating to the groundwater on the site. Ordinarily, surficial organic-rich soil horizons and naturally developed clay-rich soil horizons near the surface are relied upon to filter out and retain surface-deposited contaminants, fertilizers, and pesticides as moisture moves them down from the surface toward the ground water table. Post-mining and reclamation, only approximately four inches of variable-component topsoil material and three feet of coarse sands will remain above the water table on most of the site, which will be in constant movement laterally to the east. The groundwater below the mine site will only be moving laterally a short distance over a very short relative time span (potentially days to weeks) before it reemerges on the eastern bluff slope as groundwater seeps that will accumulate in the small streams and run off the site area. Council staff recommends that *no* fertilizers or pesticides be allowed to be applied to the site following mining and reclamation (aside from very short lifespan chemicals spot-applied to control noxious weed growth during reclamation), to minimize the potential for contamination of and toxicity impacts to the downstream seeps and streams which flow to the Saint Croix River. Active farm cropping and residential development of the site following reclamation are discouraged.

4.1.1.1 Affected Environment

The forested area below the bluff line within the southern perimeter of the site's proposed mining area, which has not been previously mined, is included within the MnDNR's designated Regionally Significant Ecological Area (RSEA) and within the *Metropolitan Council 2030 Regional Development Framework's* designated Natural Resources Inventory and Assessment (NRI/A) area within the twin cities area. The 6 to 8-acre area is part of a larger adjacent area

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which has been characterized as 'outstanding' in quality by the NRI/A. The white pine-hardwood forested area within the proposed mining area appears to be part of the larger high-quality wooded area which trends along the Saint Croix River bluffs along the eastern boundary of the site.

The Council's policy with regard to areas mapped within either the RSEA or the NRI/A is to encourage their protection and conservation by local land use planning authorities. Therefore, Council staff recommends that the mining area limits be redefined to avoid and protect these regionally significant natural resources. Should the determination be made by the City to allow mining within this area, Council staff encourages the City to work with the project proposer to find the highest and best off-site uses for the 'significant' trees that will have to be cut down on the site.

4.14.2 Potential (Dust) Mitigation Measures

The document proposes the application of calcium chloride to the internal haul roads from the edge of the milled portion of the haul road through the unpaved haul roads within any given active mining phase. Because of mine phasing and the extensive movement of internal roadways within the mine site, any applied calcium chloride could ultimately end up almost anywhere on the 64-acre area. Council staff recommends against the use of *any* calcium chloride within the mine site, due to the coarse texture of on-site road base materials, the near complete internal drainage of the site both during and following mining, its potential for long range negative impacts to plant growth, and the high probability of resultant elevated chloride concentrations in the downgradient groundwater seeps and streams due to their close proximity to the on-site application areas. "Application of chemical dust suppressants should be avoided near sensitive environments, near water bodies and fractured rock, in areas with a shallow groundwater table, and other areas where water could quickly reach the saturated zone." (*Potential Environmental Impacts of Dust Suppressants "Avoiding Another Times Beach"*, An expert panel summary, Las Vegas, Nevada, May 2002, <http://www.epa.gov/esd/cmb/pdf/dust.pdf>)

Chloride concentrations as low as 400 ppm have been found to be toxic to trout, and can negatively impact the growth of pine, poplar, and spruce trees. (Foley, G., Cropley, S., and Giummarra, G., 1996. *Road Dust Control Techniques – Evaluation of Chemical Dust Suppressant's Performance*, ARRB Transport Research Ltd., Special Report 54, Victoria, Australia; Golden, B.J., 1991. *Impact of Magnesium Chloride Dust Control Product on the Environment*, In: Proceedings of the Transportation Association of Canada Annual Conference, Volume 1, Winnipeg, Manitoba; Hanes, R.E., Zelanzy, L.W., and Blaser, R.E., 1970. *Effects of Deicing Salts on Water Quality and Biota*. National Cooperative Highway Research Program, Report No. 91; and Hanes, R.E., Zelanzy, L.W., Verghese, K.G., Bosshart, R.P., Carson Jr., E.W., Wolf, D.D., 1976. *Effects of Deicing Salts on Plant Biota and Soil*. National Cooperative Highway Research Program, Report No. 170.)

Should the decision be made to *allow* the limited use of calcium chloride on the site during mining, chloride concentration monitoring should be added to the list of parameters requiring

Anne Hurlburt
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mandatory surface water quality monitoring in the surface flows of seeps and streams on the eastern bluff face. After first establishing what existing chloride levels are, an acceptable maximum level should be established before mining begins (that will not negatively impact known macroinvertebrates or fish in the streams) and require ceasing further use of calcium chloride and its physical removal from applied areas within the mine site, should that maximum value be reached or surpassed. Due to the unique hydrogeologic conditions of this site whereby essentially all precipitation that falls on the property will discharge at a few environmentally sensitive downgradient seeps and into small trout-bearing streams, it may prove to be difficult for the EPA limit of 230 ppm for chronic effects of chlorides to aquatic life in (freshwater) surface water to be met.

The Metropolitan Council will take no formal action on the DEIS. If you have any questions or need further information on these comments, please contact Jim Larsen P.E., Principal Reviewer in the Council's Regional Growth Strategy and Parks and Open Space Department, at 651-602-1159.

Sincerely,



Phyllis Hanson
Manager, Local Planning Assistance

cc: Harry Melander, Metropolitan Council District 12
Cheryl Olsen, Reviews Coordinator
Lisa Barajas, Council Sector Representative
Judy Sventek, Water Resources Assessment Manager

Anne Hurlburt, City Administration; City of Scandia
14747 209th St. N.
Scandia, MN 55073

May 17, 2012



Re: Zavoral/Tiller Mine Operation

We are owners of the Marine General Store in Marine on St. Croix. We are concerned that the following issue is inadequately covered in the DEIS document for the Zavoral/Tiller mining plan: effect of the mining operation on attraction of tourists to nearby businesses and possible remedies to affected businesses for reduced tourism.

We worry that the mining operation will materially diminish local tourism by degrading key environmental qualities of the area that make it a tourist destination. Visitors come to the River or Marine to get away from the traffic and the noise of the city. Many of our customers come here to camp in the peace and quiet of nearby William O'Brien State Park. These visiting campers, boaters, nature lovers, and scenic drivers contribute to nearly half of our revenue. Without this attraction to the River and the Park, we would not have a viable business in Marine. Businesses in Scandia would be similarly affected, e.g., Todd's hardware, Miester's restaurant, Scandia Store, Scandia Cafe. We believe there must be some quantitative and authoritative study of the effect of the mining operation on the local tourist business.

It is self-evident that the traffic and noise caused by all the mining trucks will affect the attractiveness of the area to tourists, because it will have an effect on the tranquility and rural character of this region that are significant to its draw as a tourist attraction. Everyone living along highway 95 hears the big trucks coming down 95 and 97. On the river nearby, this truck noise is amplified and channeled by the river valley, which detracts from the wild and natural experience of river recreation. What is the impact of the increased noise levels on river tourism? Will it reduce river tourism in our area because visitors will choose to visit other parts of the river still largely unaffected by industrial noise? How will the increased truck traffic affect tourist's decisions to use or avoid this area of highway 95, which brings them past our business in Marine? Will it deter them from choosing this road for their fall scenery tours, which provides vital tourism for our business?

The St. Croix Wild and Scenic River is a designated national asset, which attracts tourists from all over the country to businesses in this area. Since our local customer base is so limited – Marine on St Croix is only some 680 citizens – our success, even our survival as a business, is dependent on this tourism. We are very concerned that the increased noise and truck traffic will deter tourism to Marine and this area of the St. Croix River. As business owners, we appreciate the rights and needs of the Tiller Corporation to pursue their own business interests. However, they do not have a right to adversely impact surrounding businesses by degrading environmental features materially important to the significance and vitality of this area as a tourist attraction: the wild and scenic river, the rural character of our small historic towns devoid of big city industry, the peace and quiet of our parks and communities, the absence of traffic congestion, and the designated St Croix Scenic Byway that traverses state highway 95.

Sincerely,

Handwritten signatures in black ink. The first signature is "Andrew P. Kramer" and the second is "Karen Kramer".

Karen and Andrew Kramer
Marine General Store, owners
101 Judd St.
Marine on St. Croix, MN



Carnelian-Marine-St. Croix Watershed District

Scandia Plaza II • 21150 Ozark Avenue • P.O. Box 188 • Scandia, MN 55073 • Tel 651.433.2150

May 17, 2012

Scandia City Council
14727 209th St. N
Scandia, MN 55073

Re: CMSCWD Comment No. C12-007, Zavoral Mining EIS

Dear Council Members:

Carnelian-Marine-St. Croix Watershed District(District) thanks you for the opportunity to comment on the above report. The District's consultants in surface water and ground water have reviewed the draft EIS and have raised several questions and concerns regarding some conclusions in the report but overall, both state that these concerns should not be material to the performance of the project. We included these comments in a previous review(attached) and they are to be considered to be part of the District's comments as well as the accompanying cover letter dated November 30, 2011. The following comments clarify or are in addition to the comments contained in those memos.

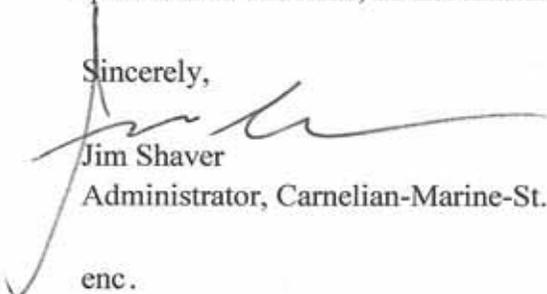
The mission of the District is "Protect and improve water resources within the jurisdiction of the Carnelian-Marine-St. Croix Watershed District through coordination with local units of government, citizens, and other government agencies." This project abuts a natural area with water resources that are dependent on both surface and ground water patterns. Although disturbed by previous mining operations, these patterns are now established and several unique biological communities rely on current flow rates, volumes, and temperatures. Disruption of the current site which is upstream in both surface and ground water flows has the potential to alter these communities.

The District will be reviewing the contractor's plans for the project and will be permitting storm water management, erosion control, and any floodplain and drainage alterations per the Rules of the District. Due to the sensitivity of the downstream resources mentioned above and the interaction between these resources and groundwater, the District suggests that the City of Scandia address the following as conditions if this project is approved:

1. The District agrees with the conclusions of the EIS that surface water flows will be significantly reduced during construction and after reclamation. The report states that there will be short windows during operations when there will be increased chance of surface water runoff. The EIS cites a draft SWPPP(which has not been included in the appendices for review) and undefined BMPs mitigating this risk. In addition, the report states that a berm will be used at the south side of the project. We recommend that the construction and material used for this berm, and any others on site, be engineered and monitored to insure structural integrity.
2. The District agrees that infiltration amounts will increase as a result of the project. However, this could have negative impacts as material is removed from the site. The report states that mining will occur to within 25-30 feet of the water table and no closer than 3 feet above the water table. Depths to within 25-30 feet should have no material impact on the downstream resources that are reliant on ground water. However, if more material is removed and depth to ground water is less than stated, both flow rates and temperatures to the springs will increase and thereby disturb the biology of both the springs, seeps, and streams to the east of the site. Monitoring and mitigation plans should be prepared to prevent this from occurring.
3. AECOM has prepared reports to address the District's concerns about the impact of dust on the water resources to the east of the site. It seems that their data was developed using the surface area of the streams and wetlands with no consideration of the loading from the particulate matter deposited in the overall watersheds of these creeks and wetlands. Rain events will wash much more sediment into these water bodies than calculated in their report and could have an impact on the biologic communities of the resources. The District recommends that monitoring and mitigation plans be prepared to minimize this possibility.

Thank you again for the opportunity to comment on this project and if you have any questions or concerns, do not hesitate to contact the District.

Sincerely,



Jim Shaver

Administrator, Carnelian-Marine-St. Croix Watershed District

enc.

cc; Board of Managers
Carl Almer
Stu Grubb
file

CMSCWD
Emmons & Olivier Resources
Grubb Environmental Services



Carnelian-Marine-St. Croix Watershed District

Scandia Plaza II • 21150 Ozark Avenue • P.O. Box 188 • Scandia, MN 55073 • Tel 651.433.2150

November 30, 2011

Scandia City Council
14727 209th Street N
Scandia, MN 55073

Re: Zavoral Mining Draft EIS Comments

Dear Council Members:

Carnelian-Marine-St. Croix Watershed District is happy to provide the following comments on the Zavoral Mining Draft EIS. We have asked two consultants, Emmons and Olivier Resources, and Grubb Environmental Services to review surface water and ground water issues respectively. I have summarized their comments below and have enclosed copies of these memos as well.

The District's comments on the Draft EIS surface water impacts and mitigation standards are as follows. Changes from consultants' memos are in **bold**:

1. **Most** responses to our February 5, 2009, comments on the previous EAW for this project have been included in this EIS.
2. The EIS mentions a need for a District Stormwater Management Permit. The District's Erosion and Sediment Control Rule, Floodplain & Drainage Alterations Rule will also apply. The District's Wetland Management Rule may also be triggered for this project.
3. The description of the stormwater runoff analysis compares the existing land use to proposed restored land use. Analysis indicates a significant reduction in stormwater discharge rates and volumes primarily due to reestablishment of native vegetation and additional runoff ponding and infiltration. For the purposes of the District permit requirements the pre-development land use assumed runoff CN's are set in the Stormwater Rule and are similar to presettlement runoff CN's. We expect that the applicant will still not have any problem meeting District rate and volume restrictions.
4. The stormwater runoff analysis uses the 24-hr stormwater event to determine runoff rates. The District rule calls for the critical storm event, which is typically the 24-hr storm event. The 100-yr flood elevations (used to establish low floor elevations) for the proposed landlocked basins will need to use the 100-yr 10-day snowmelt **if long term plans for the site are to include built improvements**. Again we do not anticipate this

will be an issue for the proposed project.

5. We understand that District comments on groundwater issues are being provided by Stu Grubb, P.G. and we have therefore not reviewed those issues. However, we did note that the groundwater monitoring plan did not include monitoring for pesticides and fertilizers **as well as petro-chemicals** and we recommend that the District propose this requirement to the City, if there are agricultural fields that will drain to the mining operation and be infiltrated. This is important since the sand and gravel found at this site are very porous providing a direct conduit to the shallow groundwater aquifer.

6. Based on our initial review the Draft EIS appears to provide sufficient detail to adequately inform the District's permitting process for the proposed project.

7. The District has requested further information regarding potential impacts of dust on the small streams and wetlands adjacent to the subject property. Additionally, a request was made to calculate the gross impact of dust in tons per year upon the St. Croix River to evaluate if the current dust control methods proposed will be sufficient to protect the water resources of the District. These should be included in the final draft of the EIS. A monitoring regime should be included in the mitigation to monitor dust impacts on the adjacent streams and wetlands

The District's comments regarding ground water impacts and mitigation standards are as follows with changes from our consultant's comments in **bold**:

The DEIS did not include data from the pump test that was completed at the site. The following concerns were raised about the information that was provided:

1) The St. Lawrence Sandstone formation was identified as an aquitard or confining layer below the site. The St. Lawrence is an effective confining layer in other parts of the Twin Cities. Studies done in Brown's Creek Watershed District suggest that the St. Lawrence may be substantially different in the St. Croix valley where it is closer to the surface. The St. Lawrence may not be a confining layer below the site.

2) The pump test was run for about four hours at a very high pumping rate. Pumping during gravel pit operations will likely be at a lower flow rate for longer periods of time. Data from the pump test could be used to analyze potential impacts from the proposed pumping schedule, but that analysis was not included as part of the DEIS. **This analysis should be provided as part of a technical report summarizing the well test.**

3) The DEIS cites observations at nearby wells during the pump test as evidence that pumping the onsite well will not have impacts on residential wells. These observations are not conclusive evidence, and should be reconsidered in light of the short duration of the pump test.

4) The moderate cliff ecological communities are a rare, groundwater-dependant natural resource along the bluffs east of the site. The total flow of groundwater probably will not change as a result of mining. However, the frequency, duration,

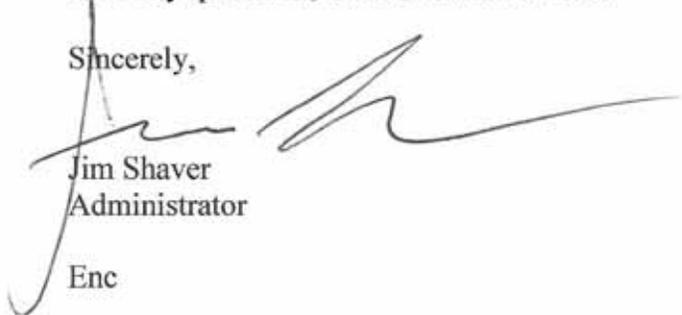
and location of groundwater discharges along the bluffs likely will be affected. No modeling of these changes has been completed.

5) Surface water monitoring will be conducted by Tiller and the Washington Conservation District at the monitoring station downstream from the site. Additional monitoring should include:

- Regular observations for changes to plants along the moderate cliffs east of the site. The moderate cliff ecological communities are a rare, groundwater dependant natural resource.
- One or more groundwater monitoring wells installed along the east boundary of the site. The wells should be monitored for:
 - o Water levels
 - o The same water chemistry as the surface water monitoring, and
 - o Any chemicals used at the site, such as calcium chloride

Thank you for your concern for the water resources of the watershed district and for the opportunity to provide comments on this draft Environmental Impact Statement. If you have any questions, do not hesitate to call.

Sincerely,


Jim Shaver
Administrator

Enc

Cc; Stu Grubb
 Dan Fabian
 Board of Managers
 file

Grubb Environmental Services
Emmons and Olivier Resources
CMSCWD

TECHNICAL MEMORANDUM

From: Stuart Grubb, PG

To: Jim Shaver
Board of Managers
Carnelian Marine St. Croix Watershed District

Date: November 23, 2011

**Subject: Review of Draft EIS
Zavoral Mine Pit**

Draft Environmental Impact Statement (DEIS) documents for the proposed Zavoral Mine Pit project were recently released for public review. Stuart Grubb reviewed the DEIS documents primarily for issues related to groundwater.

None of the groundwater issues identified in the DEIS should cause the CMSCWD to oppose the project. However, not all of the final EIS documents have been released, so further review of the project is recommended.

The most significant recent change to the project has been the elimination of gravel washing at the Zavoral site. This means that the onsite well will only be used to supply water for dust control. Water use for dust control will be about the same as water use for a single family residence. No water appropriations permit will be required.

The DEIS did not include data from the pump test that was completed at the site. The following concerns were raised about the information that was provided:

- The St. Lawrence Sandstone formation was identified as an aquitard or confining layer below the site. The St. Lawrence is an effective confining layer in other parts of the Twin Cities. Studies done in Brown's Creek Watershed District suggest that the St. Lawrence may be substantially different in the St. Croix valley where it is closer to the surface. The St. Lawrence may not be a confining layer below the site.
- The pump test was run for about four hours at a very high pumping rate. Pumping during gravel pit operations will likely be at a lower flow rate for longer periods of time. Data from the pump test could be used to analyze potential impacts from the proposed pumping schedule, but that analysis was not included as part of the DEIS.
- The DEIS cites observations at nearby wells during the pump test as evidence that pumping the onsite well will not have impacts on residential wells. These observations are not conclusive evidence, and should be reconsidered in light of the short duration of the pump test.
- The moderate cliff ecological communities are a rare, groundwater-dependant natural resource along the bluffs east of the site. The total flow of groundwater

probably will not change as a result of mining. However, the frequency, duration, and location of groundwater discharges along the bluffs likely will be affected. No modeling of these changes has been completed.

Surface water monitoring will be conducted by Tiller and the Washington Conservation District at the monitoring station downstream from the site. Additional monitoring should include:

- Regular observations for changes to plants along the moderate cliffs east of the site. The moderate cliff ecological communities are a rare, groundwater-dependant natural resource.
- One or more groundwater monitoring wells installed along the east boundary of the site. The wells should be monitored for:
 - Water levels
 - The same water chemistry as the surface water monitoring, and
 - Any chemicals used at the site, such as calcium chloride

Stuart Grubb and Jim Shaver attended the Public Advisory Committee meeting held November 16, 2011 at the Scandia City Hall. They both presented their questions and concerns regarding water resources to the PAC and the project proposers.

memo



651 Hale Avenue North Oakdale, Minnesota 55128 telephone: 651.770.8448 facsimile: 651.770.2552 www.eorinc.com

Date | November 16, 2011

To | Jim Shaver, Administrator CMSCWD

cc |

From | Dan Fabian, P.E. CMSCWD Engineer

Regarding | CMSCWD Comments on Draft Zavoral Mining Project EIS

Project is Located in Zavoral's Creek Subwatershed Management Area

CMSCWD Comment No. 09-001

Background:

Project is being proposed by the Tiller Corporation and is identified as the Zavoral Site in Scandia Minnesota. The Tiller Corporation currently operates one other Mining Operation in the Carnelian Marine St. Croix Watershed District (District) which is also located in Scandia. Proposed project involves re-opening a currently dormant mining operation on the Zavoral property, mining the property and restoring the property, including currently un-restored portions of the site that had previously been mined by others. Proposed project will increase the mining area by an additional 8-acres and to an additional depth of about 15-ft.

Portions of the project site are located within the St. Croix River District and scenic easement area. No new mining is proposed within that area but approximately 4-acres of previously disturbed area will eventually be restored when mining is completed.

The project site is located in the subwatershed of Zavoral's Creek which is tributary to the St. Croix River. This area of the Carnelian-Marine-St. Croix Watershed District (District) contains significant, unique high value resources both within and adjacent to the parcel boundaries as well as nearby. These resources have been documented as part of the EIS process. The District is very concerned about the protection of these resources.

Comments:

The following comments are based on our initial review of the Draft Environmental Impact Statement (EIS) which has been prepared for the proposed project.

1. Responses to our February 5, 2009, comments on the previous EAW for this project have been included in this EIS.
2. The EIS mentions a need for a District Stormwater Management Permit. The District's Erosion and Sediment Control Rule, Floodplain & Drainage Alterations Rule will also apply. The District's Wetland Management Rule may also be triggered for this project. The District's wetland inventory identified a wetland in the Northwest corner of the site which does not appear to be identified in the

EIS, (the drainage area of this wetland is potentially impacted by grading activities). We need to further review the inventory prepared for the EIS to verify that this area of the site was checked.

3. The description of the stormwater runoff analysis compares the existing land use to proposed restored land use. Analysis indicates a significant reduction in stormwater discharge rates and volumes primarily due to reestablishment of native vegetation and additional runoff ponding and infiltration. For the purposes of the District permit requirements the pre-development land use assumed runoff CN's are set in the Stormwater Rule and are similar to presettlement runoff CN's. We expect that the applicant will still not have any problem meeting District rate and volume restrictions.
4. The stormwater runoff analysis used the 24-hr stormwater event to determine runoff rates. the District rule calls for the critical storm event, which is typically the 24-hr storm event. The 100-yr flood elevations (used to establish low floor elevations) for the proposed landlocked basins will need to use the 100-yr 10-day snowmelt. Again we do not anticipate this will be an issues for the proposed project.
5. We understand that District comments on groundwater issues are being provided by Stu Grubb, P.G. and we have therefore not reviewed those issues. However, we did note that the groundwater monitoring plan did not include monitoring for pesticides and fertilizers and we recommend that the District propose this requirement to the City, if there are agricultural fields that will drain to the mining operation and be infiltrated. This is important since the sand and gravel found at this site are very porous providing a direct conduit to the shallow groundwater aquifer.
6. Based on our initial review the Draft EIS appears to provide sufficient detail to adequately inform the District's permitting process for the proposed project.

Anne Hurlburt

From: Matthew Quast [mbquast@gmail.com]
Sent: Thursday, May 17, 2012 6:21 PM
To: a.hurlburt@ci.scandia.mn.us
Subject: Scandia Gravel Mine Proposal

Dear Anne Hurlburt and the City of Scandia,

I am writing to convey my concerns about the noise pollution from the proposed Tiller/Zavoral gravel mine that will impact the boating community on the St. Croix river. We own a pontoon boat docked at the Marine Landing and we often cruise up river during the week, close to the railroad swing bridge near Osceola and then float and/or fish down stream with the engine off for long stretches. The idea of hearing gravel trucks beeping as they back up and the excavator grinding away and front end loaders that load the gravel, is not a pleasant one. I am a recording engineer by trade and have read the Noise Assessment in the Environmental Impact Statement. I am familiar with the technical jargon expressed in the study and the fabricated idea that suggests the noise generated from the site would be masked by an idling motor boat is a weak argument at best (see page 25). This EIS is flawed and incomplete in its noise assessment because it doesn't take into account the higher standard for quiet that should apply here, and the reasonable expectations of the people who use this stretch of the St. Croix, which is a National Scenic Riverway and national park. If the EIS preparers are actually interested in measuring real noise impacts, they should be talking to people like me who use the river and ask how our experience would be affected. Let's see a statistical analysis of that. Boaters who fish, canoe, kayak and float on this stretch of river would be adversely and objectionably affected by the noise pollution created by as many as 700 trucks a day hauling gravel at the proposed mine!

I must add my name and my fellow boaters to the list of concerned citizens opposed to this proposal.

Sincerely,

Matthew Quast
Marine on St.Croix

Jeff Stonehouse
Marine on St.Croix

Jim Schoeller
Croixside



Corporate Office:
P.O. Box 1480
7200 Hemlock Lane, Suite 200
Maple Grove, Minnesota 55311-6840

Tiller Corporation
and its operating divisions

Barton Sand & Gravel Co.
Commercial Asphalt Co.
Barton Enterprises, Inc.
Barton Industrial Sands, Inc.

General: (763) 425-4191
Facsimile: (763) 425-7153
Web: www.tillercorp.com

May 17, 2012

Scandia City Council
14727 209th St. North
Scandia, MN 55073

Re: Review of appraisal measuring the impact of property values within a one-mile radius of the Proposed Zavoral Mining and Reclamation Project in Scandia, MN.

Honorable Mayor and Council Members:

We asked Shenehon Company (Shenehon) to provide a review (Review) of the BRKW Appraisals Report Dated August 12, 2011 (BRKW Report) prepared to support the analysis on the impact on property values within a one-mile radius of the proposed Zavoral Mining and Reclamation Project (Project) prepared for the City of Scandia by Mr. Michael J. Bettendorf, MAI of BRKW Appraisals, Inc. This Review was commissioned for the purpose of evaluating the methodology used in the BRKW Report and providing Shenehon's opinion based on the information in the BRKW Report. Based upon this work it appears that the appraisal conclusions as stated are inadequate for several reasons.

First, the BRKW Report conclusion that there is a diminution in market value of 2%-5% for properties within $\frac{1}{4}$ mile of the proposed Project is not supported by measurable data. Page 3 of the cover letter states that, "The sales data contained in this analysis reveals that the market fails to recognize a measureable impact, based on proximity to an existing gravel mine or perceived hazard area." It is unclear how the appraiser was able to conclude a 2%-5% diminution value if the data used in the analysis did not recognize a measurable impact. In this regard we asked Shenehon to provide an analysis of relevant sales transactions and provide measurable data to support a conclusion about the impacts on property values within a one-mile radius of the Project, if mining operations were to resume. The data obtained did not show a measureable impact.

Second, the appraiser in the BRKW Report rejected the use of local valuation data from properties in the vicinity of the current mining operation in Scandia and the nearby similar operations in Franconia Township. The conclusions in the BRKW Report are the



result of comparisons of properties in urban/suburban settings whereas the proposed Project is zoned agricultural and located in a rural area. An adequate analysis should include evaluation of the most relevant data representative of Project conditions. It is understood that the appraiser was attempting to find comparable homes similar to one another, however, it seems more reasonable to use sales data as close to the proposed Project as possible. By maintaining proximity to the Project, differences in location, density and land use are minimized versus selecting mining sites all across the metro area and having more adjustments to consider.

Finally, neither the Zavoral DEIS nor the BRKW Report appear to have considered the information from an appraisal prepared by BRKW for a DEIS of the Proposed Xcel Energy Ash Disposal Facility¹. The information in the Xcel DEIS used some of the exact same sales data that was used in the Zavoral DEIS, but concluded that the fly ash landfill would *not* adversely affect current property values *or* future development. Xcel Energy proposed a fly ash landfill located in West Lakeland Township, Minnesota. The Report completed for the Xcel DEIS included a valuation impact analysis on properties located in Oak Park Heights, Rosemount and South Andover. All five of the sales in South Andover used in the impact analysis for the Xcel DEIS are the same sales used in the BRKW Report's appraisal for this Project's DEIS. Similarly, there are three sales that occurred in Rosemount used in the BRKW Report's appraisal for this Project's DEIS that are identical to sales used in the Xcel DEIS. Despite the use of some of the exact same sales data, the results of the appraisals for the Xcel DEIS versus the Zavoral DEIS yield two different conclusions. The proposed Xcel fly ash landfill was determined to have *no* negative impact on property values *or* future development. Contrarily some of the same sales data revealed that the proposed Zavoral Project was determined to have a 2%-5% potential value loss to properties.

Once Shenehon determined the appraisal completed by BRKW for the Zavoral DEIS "...did not demonstrate a measurable impact on market value of residential dwellings...", they were retained to provide a Consulting Report (Report). The purpose of this Report was to measure the impact on market value of residential dwellings within a one-mile radius of the proposed Project if mining operations were to resume for no more than five years and simultaneously reclaimed for residential use. The Report was completed by Shenehon on August 12, 2011 and used a sales comparison approach to the valuation. The analysis was based on residential sales that occurred in the Scandia area from January 1, 2010 through November 1, 2011.

Although sales are fewer in Scandia compared to the Metro Area, it was believed that the most applicable data would be obtained from Scandia sales since the proposed Project is located in Scandia. In addition, there are active gravel mines in the Scandia area that were sufficient for use in the sales analysis.

¹ Minnesota Pollution Control Agency. 2007. Xcel Energy Ash Disposal Facility Draft EIS. Appendix H: Appraisers Report.



The Consulting Report prepared by Shenehon concludes that there is no measureable impact on the market value of residential dwellings located within one mile of the proposed Project.

Enclosed are the Review and Report prepared by Shenehon. If you have any questions please do not hesitate to call. I may be reached at (763) 425-4191.

Sincerely,

Tiller Corporation

A handwritten signature in black ink, appearing to read 'Michael Caron', with a stylized flourish at the end.

Michael Caron
Director of Land Use Affairs

enc:

CONSULTING REPORT

118 Acre Zavoral Mining Site
East of the Highway 97 and Highway 95 Intersection
Scandia, Minnesota 55073

August 12, 2011

Prepared for:
Mr. Gregory Korstad
Larkin Hoffman Daly & Lindgren
7900 Xerxes Avenue South, Suite 1500
Minneapolis, Minnesota 55431

Job Number: 11181-2



SHENEHON COMPANY
BUSINESS & REAL ESTATE VALUATIONS

December 13, 2011

Mr. Gregory Korstad
Larkin Hoffman Daly & Lindgren
7900 Xerxes Avenue South, Suite 1500
Minneapolis, Minnesota 55431

RE: Consulting services measuring the impact on property values within a one-mile radius of the 118 Acre Zavoral Mining Site, located East of the Highway 97 and Highway 95 Intersection, Scandia, Minnesota, if mining operations were to resume.

Dear Mr. Korstad:

At your request we analyzed the impact on property values within a one-mile radius of the subject property if mining operations were to resume for less than five years and be simultaneously be reclaimed for residential use. Our findings, analyses, and conclusions are presented in the attached Consulting Report. The depth of discussion contained in the report is specific to the intended use. Shenehon Company is not responsible for unauthorized or improper use of the report. Detaching this transmittal letter from the report may mislead the intended user.

The subject property is approximately 118 acres located east of the intersection of highway 97 and highway 95 in Scandia, Minnesota. The subject property consists of seven legal parcels and has gently rolling and hilly terrain. The westerly 56 acres were used for a gravel mine about twenty years ago but have not been mined in recent years. The remaining acres are undisturbed and were never mined.

The purpose of this consulting appraisal is to determine if there would be an impact on property values within a one-mile radius of the subject, the Zavoral Mining Site, if mining operations were to resume for less than five years and be simultaneously be reclaimed for residential use.

Based upon the analyses contained in the following report, it is our opinion that there will be no measurable impact on property values within a one-mile radius of the subject property, the Zavoral Mining Site, as of **August 12, 2011** if mining operations were to resume as prescribed.

This appraisal excludes personal property, trade fixtures, and intangible items that are not real property.

Our report complies with the reporting requirements of the Uniform Standards of Professional Appraisal Practice. We inspected the subject property and investigated information believed to be

Mr. Gregory Korstad
Page 2
December 13, 2011

pertinent to its valuation. To the best of our knowledge and belief, the statements and opinions contained in this report are correct and reasonable subject to the limiting conditions set forth.

Thank you for selecting Shenehon Company for your valuation needs. If you have any questions concerning the report, please contact us at 612.333.6533.

Respectfully,

SHENEHON COMPANY

Certified to this 13th day
of December, 2011.



Robert J. Strachota, MAI, CRE[®], MCBA, FIBA
President, Shareholder
Minnesota License No. 4000882
Certified General Appraiser
Email: value@shenehon.com

/ckp

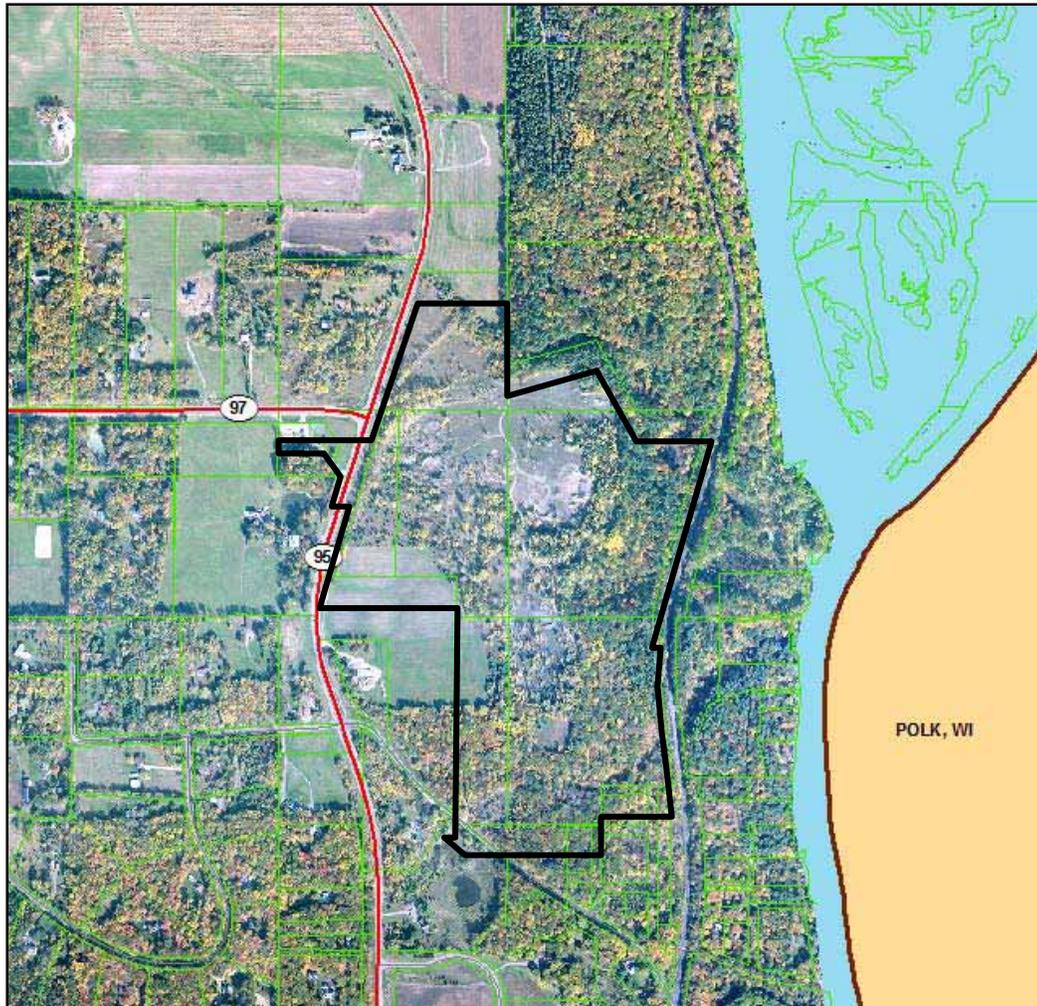
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ADDENDA

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Qualification of AppraiserC-1

The focus of our consulting analysis pertains to the properties within a one-mile radius of the Zavoral Gravel Mine in Scandia, Minnesota. The mine has been closed for approximately twenty years, so the purpose of this consulting appraisal is to determine if there would be an impact on property values within a one-mile radius of the subject, the Zavoral Mining Site, if mining operations were to resume for less than five years and be reclaimed simultaneously.



Zavoral Gravel Mine

DATE OF REPORT

The effective date of our consulting assignment and the effective date of our consulting report is August 12, 2011.

INTENDED USE AND USER

The intended use of our report is for litigation support. The intended user of our report is Mr. Gregory Korstad with Larkin Hoffman Daly & Lindgren on behalf of Tiller Corporation. No other use or users are intended.

HISTORY

According to Washington County, the Zavoral Gravel Mine property has been owned by James H. Zavoral since June 25, 1987. The subject property is approximately 118 acres located east of the intersection of highway 97 and highway 95 in Scandia, Minnesota. The subject property consists of seven legal parcels and has gently rolling and hilly terrain. The westerly 56 acres were used for a gravel mine until approximately twenty years ago and operations have since been suspended. The remaining acres are undisturbed and were never mined. The owner now wishes to reopen the gravel mine and resume operations for five years and simultaneously reclaim the entire site for residential use.

SCOPE OF WORK

We have been engaged to provide consulting services for Mr. Gregory Korstad with Larkin Hoffman Daly & Lindgren and determine the impact on property values within a one-mile radius of the subject, the Zavoral Mining Site, if mining operations were to resume.

As part of our consulting analysis, we researched, reviewed, and analyzed market and property information to respond to the following:

1. Determine if there is a measurable impact on property values located close to an existing gravel mine or perceived hazard area which is to be reopened for no more than five years and simultaneously reclaimed for residential use.
2. If a measurable impact on property values near a gravel mine or perceived hazard area is found, as prescribed, determine the diminution in value compared to distance.
3. Conclude findings.

There are three approaches to value. The appraiser develops each approach applicable to the subject valuation problem and derives an indication of value diminution, if at all. Listed below is a summary of each of the three approaches to value that are useful to solve the valuation problem.

COST APPROACH

The cost approach is based upon the principle that a prudent buyer will not pay more for a property than the cost to develop a new or substitute property with the same utility. This approach is useful in valuing new or proposed construction, special-purpose properties, and properties that are not frequently exchanged in the market.

In the cost approach, the value of the property is derived by adding the estimated land value to the cost of constructing a reproduction or replacement improvement and then subtracting the amount of depreciation from all causes (that is, wear and tear on the property, design and plan deficiencies, or neighborhood and market influences). This technique can also be employed to derive information needed in the sales comparison and income capitalization approaches to value.

We didn't identify any new construction in the area surrounding the gravel mine so the Cost Approach to Value was not applicable. Has there been new construction, we may have used the Cost Approach to isolate economic or locational obsolesces.

SALES COMPARISON APPROACH

The sales comparison approach is based upon the principle of substitution. In other words, a buyer will not pay more to acquire a substitute property of similar utility and desirability within a reasonable timeframe. The sales comparison approach is useful when a number of similar properties have recently sold or are currently for sale in the subject's market. This method is often used for properties that are not usually purchased for their income-producing capability such as owner-occupied properties.

In the sales comparison approach, similar properties are compared to the subject property. Adjustments are made to the known sale price for the various differences between the comparable property and the subject property, and the adjusted prices are used to estimate the probable price at which the subject property would sell if offered on the open market.

We conducted and relied on the Sales Comparison Approach to Value in our analysis. More specifically, we used a paired sales analysis to compare properties close to and further away from a gravel mine and examine their price per square foot versus proximity.

INCOME CAPITALIZATION APPROACH

The income capitalization approach is based upon the principle of anticipation. Any property that generates income can be valued using the income capitalization approach. When more than one approach to value is used to develop an opinion of value for an income-producing property, the value indication produced by the income capitalization approach might be given greater weight than that of the other approaches in the final reconciliation of value indications.

In the income capitalization approach, the rental income of the property is calculated and deductions are made for vacancy and collection loss, and expenses. The prospective net operating income of the

property is then estimated. To support this estimate, historical operating statements for the subject property and comparable properties are reviewed. An applicable capitalization method and appropriate capitalization rate are developed and used in computations that result in an indication of value.

We did not employ the Income Capitalization Approach to Value because the Zavoral Gravel Mine is not an income producing property but an investment property, so it was not an applicable method.

VALUATION PROCESS

The valuation process is a systematic procedure an appraiser follows to provide answers to a client's questions about real property value. The valuation process is accomplished through specific steps, and the number of steps followed depends on the intended use of the assignment results, the nature of the property, the scope of work deemed appropriate for the assignment, and the availability of data. The goal of the valuation process is a well-supported value conclusion. The three approaches to value are interrelated, each requiring the gathering and analyzing of data that pertains to the property being appraised. One or more approaches to value may be used depending on which approaches are necessary to produce credible assignment results, given the intended use.

The sales comparison approach is based upon the principle of substitution. It is our opinion that a sales comparison is the most applicable approach to determining if there would be an impact on property values within a one-mile radius of the subject, the existing Zavoral Mining Site, if active mining operations were to resume for less than five years and be simultaneously reclaimed for residential use.

1. DETERMINE IF THERE IS AN IMPACT ON PROPERTY VALUES LOCATED CLOSE TO A GRAVEL MINE OR PERCEIVED HAZARD AREA.

In order to determine if there is an impact on property values within a one-mile radius of a gravel mine, specifically the Zavoral Mining Site, if mining operations were to resume, it is necessary to employ the Sales Comparison Approach to Value and compare similar sales near and further away from gravel mines.

The sales comparison approach to value is defined in *The Appraisal of Real Estate*, Thirteenth Edition, page 297, as:

The process of deriving a value indication for the subject property by comparing similar properties that have recently sold with the property being appraised, identifying appropriate units of comparison, and making adjustments to the sale prices (or unit prices, as appropriate) of the comparable properties based on relevant, market-derived elements of comparison. The sales comparison approach may be used to value improved properties, vacant land, or land being considered as though vacant when an adequate supply of comparable sales is available.

A major premise of the sales comparison approach is that the market value of a property is related to the prices of comparable, competing properties. This valuation method assumes not only that both buyer and seller are fully informed about the property, but also that both have general knowledge of the market for that property type and that the property was exposed in the open market for a reasonable time.

The steps for preparing the sales comparison approach are:

1. Research the competitive market for information on properties that are similar to the subject property and that have recently sold, are listed for sale, or are under contract.
2. Verify the information by confirming that the data is factually accurate and that the transactions reflect arm's-length market considerations.
3. Select the most relevant units of comparison in the market (e.g., price per acre, price per square foot, price per front foot, price per room) and develop a comparative analysis for each unit.
4. Look for differences between the comparable sale properties and the subject property using all appropriate elements of comparison.
5. Reconcile the various value indications produced from the analysis of comparables to a value bracket and then to a single value indication.

SALES COMPARISON APPROACH TO VALUE

COMPARABLE SALES

We researched improved sales which are comparable to one another. The main difference between comparable sales is the distance from a gravel mine. Since Scandia has three active gravel mines, in addition to the Zavoral Gravel Mine, we did not find it necessary to look beyond the Scandia area for comparable sales. Although sales are fewer in Scandia versus the north half of Washington County or the Metro Area as a whole, we believe that the most applicable data is obtained from Scandia sales since the subject and appraisal problem are located in Scandia. We selected comparable sales from the time period of January 1, 2010 to present. In addition, we sorted sales by proximity to a gravel mine and compared those one mile or closer to a gravel mine to those further than one mile away from a gravel mine. In an effort to minimize additional influences on purchase price, we excluded sales located on lakes in our analysis. We obtained our sales from public records and verified each sale with Washington County. We summarized below the general data of all the residential sales we encountered from January 1, 2010 to the present.

First we analyzed the home sales in Scandia that are one mile or closer to a gravel mine.

SUMMARY OF HOME SALES										
One mile or closer to a gravel mine										
Sale	Address	Total Size (Acres)	Total Finished SF:	Beds:	Baths:	Garage:	Year Built:	Sale Date	Price Per Total Finished SF	Proximity to Gravel/Sand Mine
A	22325 Kirk Court N Scandia, MN 55073	1.50	3,824	6	3	4	2003	12/15/10	\$183.71	0.3 miles
B	9910 Julep Trail N Scandia, MN 55073	4.79	1,008	3	1	3	1973	04/22/11	\$104.07	0.75 miles
C	21881 Pomroy Avenue N Scandia, MN 55073	4.60	1,704	3	2	5	1998	09/24/10	\$137.91	0.8 miles
D	23300 Manning Trail N Scandia, MN 55073	1.60	1,635	2	2	2	1973	02/26/10	\$137.50	1 miles
E	21401 Parrish Road N Scandia, MN 55073	5.00	1,172	3	1	2	1973	10/12/11	\$159.56	1 miles
F	21980 Pomroy Avenue N Scandia, MN 55073	3.78	2,168	4	3	4	1999	11/01/11	\$171.20	1 miles

Before considering adjustments for land size, home size, age, date of sale and conditions of sale, the average sale price for homes sold within one mile or closer to a gravel mine in Scandia is \$149.00 per finished square foot. After considering the adjustments, the average sale price rose to \$155.00 per finished square foot.

SALES COMPARISON APPROACH TO VALUE

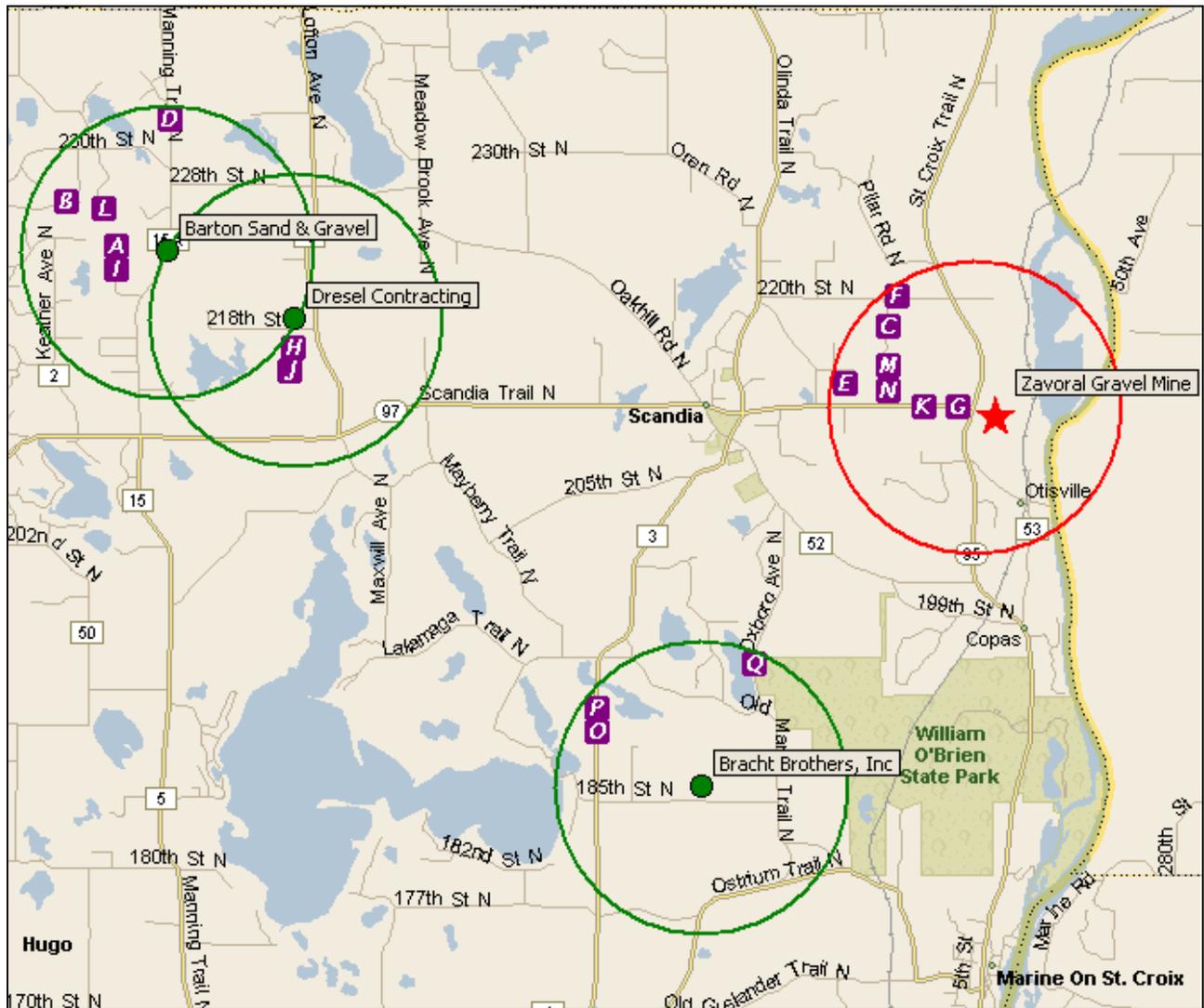
In addition we have segregated and analyzed the active sales in Scandia that are one mile or closer to a gravel mine.

SUMMARY OF ACTIVE SALES									
One mile or closer to a gravel mine									
Sale	Address	Total Size (Acres)	Total Finished SF:	Beds:	Baths:	Garage:	Year Built:	Asking Price Per Total Finished SF	Proximity to Gravel/Sand Mine
G	16210 Scandia Trail Scandia, MN 55073	8.90	1,889	3	2	2	2006	\$290.63	0.12 miles
H	XXXXX Lofton Avenue N Scandia, MN 55073	5.00	3,418	5	4	4	2011	\$131.63	0.14 miles
I	22140 Kirk Avenue N Scandia, MN 55073	5.89	3,532	5	4	3	1997	\$112.09	0.3 miles
J	2xxxx Lofton Avenue N Scandia, MN 55073	5.00	2,732	4	3	4	2011	\$146.38	0.3 miles
K	16015 Scandia Trail N Scandia, MN 55073	5.00	1,474	2	2	3	1997	\$181.14	0.3 miles
L	22577 Kirk Avenue N Scandia, MN 55073	2.30	2,928	3	2	2	1984	\$81.97	0.5 miles
M	21535 Pomroy Avenue N Scandia, MN 55073	6.49	4,053	4	4	2	2002	\$147.79	0.6 miles
N	21525 Pomroy Avenue N Scandia, MN 55073	33.10	1,929	2	2	2	2006	\$289.79	0.6 miles
O	18989 Olinda Trail N Scandia, MN 55047	21.46	2,516	4	3	1	1973	\$139.07	0.8 miles
P	19151 Olinda Trail N Scandia, MN 55047	16.91	3,275	3	3	4	1994	\$175.57	0.9 miles
Q	19655 Oxboro Circle N Scandia, MN 55047	20.40	3,722	3	4	3	2005	\$159.86	1 miles

Before considering adjustments for land size, home size, age, date of sale and conditions of sale, the average asking price for active sales within one mile or closer to a gravel mine in Scandia is \$169.00 per finished square foot. After considering the adjustments, the average asking price declined to \$153.00 per finished square foot.

SALES COMPARISON APPROACH TO VALUE

MAP OF SALES & ACTIVE LISTINGS ONE MILE OR CLOSER TO A GRAVEL MINE



The Zavoral Gravel Mine along with the three other gravel mines in Scandia are identified on the map. Each gravel mine is surrounded by a one-mile radius circle illustrating which sales are within one mile of a gravel mine. The lettered properties indicate sales and active listings within a one mile radius of a gravel mine.

Since the Zavoral Gravel Mine is a large property, we measured the one mile radius circle from the intersection of Highway 97 and Highway 95.

SALES COMPARISON APPROACH TO VALUE

Next we analyzed home sales further than one mile or more from a gravel mine.

SUMMARY OF HOME SALES										
Further than one mile to a gravel mine										
Sale	Address	Total Size (Acres)	Total Finished SF:	Beds:	Baths:	Garage:	Year Built:	Sale Date	Price Per Total Finished SF	Proximity to Gravel/Sand Mine
1	14858 197th Street N Scandia, MN 55047	3.98	2,140	3	3	4	2002	05/23/11	\$133.18	1.1 miles
2	21147 Meadowbrook Circle N, Scandia, MN 55073	1.50	3,175	3	3	3	2005	06/07/10	\$109.80	1.3 miles
3	22353 Peabody Trail N Scandia, MN 55073	9.97	2,566	5	3	2	1973	08/15/11	\$158.79	1.4 miles
4	15659 Pilar Road N Scandia, MN 55073	13.70	1,589	2	2	2	1880	05/04/10	\$88.11	1.5 miles
5	19677 Parkview Lane N Scandia, MN 55073	3.84	2,068	3	3	2	1989	08/03/10	\$153.79	1.5 miles
6	23183 Meadowbrook Ave N Scandia, MN 55073	19.45	4,099	6	5	4	2004	08/08/11	\$253.18	1.5 miles
7	10821 240th Street N Scandia, MN 55073	1.00	2,375	3	4	3	2003	07/23/10	\$118.75	1.6 miles
8	20285 Oxboro Lane N Scandia, MN 55047	3.80	3,975	4	4	5	1992	06/30/11	\$139.31	1.6 miles
9	19450 Parkview Lane N Scandia, MN 55073	4.01	3,300	3	4	2	1991	05/20/11	\$138.27	1.6 miles
10	14712 Oakhill Road Scandia, MN 55073	0.37	1,973	4	2	2	1900	04/01/10	\$65.89	1.7 miles
11	21087 Olinda Trail N Scandia, MN 55073	0.38	2,112	3	1	1	1985	01/29/10	\$86.81	1.7 miles
12	22845 Perkins Avenue N Scandia, MN 55073	2.86	3,112	3	3	5	1971	10/12/10	\$144.80	1.7 miles
13	21162 Newberry Court Scandia, MN 55073	1.50	2,727	4	3	3	2010	06/24/10	\$191.10	1.75 miles
14	21076 Newberry Avenue Scandia, MN 55073	1.50	1,480	2	2	3	2010	12/02/10	\$179.69	1.8 miles
15	22959 Olinda Trail N Scandia, MN 55073	4.99	1,848	3	2	2	1969	09/23/11	\$84.13	2 miles
16	22700 Olinda Trail N Scandia, MN 55073	9.90	1,549	3	2	2	1912	04/07/11	\$132.34	2 miles
17	14241 205th Street N Scandia, MN 55073	5.80	1,915	3	2	3	1915	04/23/10	\$120.10	2 miles

SALES COMPARISON APPROACH TO VALUE

SUMMARY OF HOME SALES											
Further than one mile to a gravel mine											
Sale	Address	Total Size (Acres)	Total Finished SF:	Beds:	Baths:	Garage:	Year Built:	Sale Date	Price Per Total Finished SF	Proximity to Gravel/Sand Mine	
18	22695 Olinda Trail N Scandia, MN 55073	10.65	3,424	5	3	3	1966	04/30/11	\$116.03	2 miles	
19	14700 Oren Road N Scandia, MN 55073	5.30	1,002	2	2	2	1989	08/31/10	\$174.65	2.2 miles	
20	19126 Layton Avenue N Scandia, MN 55047	0.45	1,884	3	2	1	1970	09/24/10	\$146.85	2.75 miles	
21	XXX 252nd Street Scandia, MN 55073	0.75	1,200	2	1	3	2010	07/15/10	\$141.67	2.8 miles	
22	23490 Oldfield Avenue N Scandia, MN 55073	2.68	1,356	3	1	2	1969	09/30/11	\$174.90	3 miles	
23	13935 240th Street N Scandia, MN 55073	9.90	1,782	4	2	2	1994	09/29/10	\$197.70	3 miles	
24	24292 Primrose Lane N Scandia, MN 55073	5.00	2,429	3	3	3	2003	03/26/10	\$180.24	3 miles	
25	15500 244th Street N Scandia, MN 55073	5.00	3,635	6	4	3	2003	06/06/11	\$78.54	3.3 miles	
26	10700 185th Street N Scandia, MN 55047	4.32	1,056	2	1	1	1971	02/17/11	\$97.44	3.5 miles	

Before considering adjustments for land size, home size, age, date of sale and conditions of sale, the average sale price for homes sold further than one mile to a gravel mine in Scandia is \$139.00 per finished square foot. After considering the adjustments, the average sale price rose to \$142.00 per finished square foot.

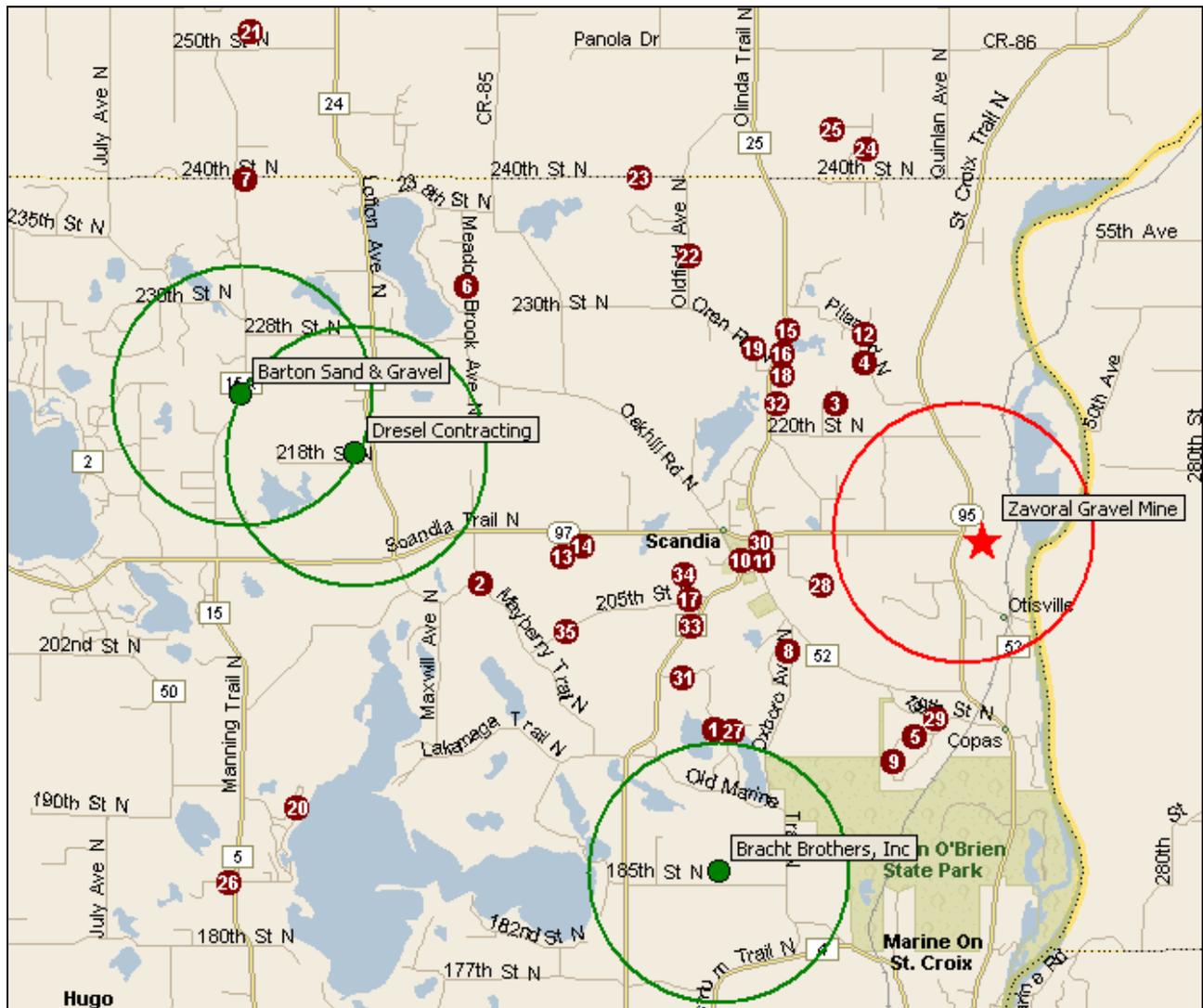
SALES COMPARISON APPROACH TO VALUE

We also analyzed active sales that are further than one mile or more from a gravel mine.

SUMMARY OF ACTIVE SALES									
Further than one mile to a gravel mine									
Sale	Address	Total Size (Acres)	Total Finished SF:	Beds:	Baths:	Garage:	Year Built:	Asking Price Per Total Finished SF	Proximity to Gravel/Sand Mine
27	14855 197th Street N Scandia, MN 55047	4.37	2,315	3	3	8	2004	\$125.23	1.1 miles
28	XXX 209th Street N Scandia, MN 55073	1.60	1,480	2	2	3	2011	\$185.74	1.1 miles
29	16130 199th Street N Scandia, MN 55073	5.99	3,221	4	3	3	1984	\$108.35	1.3 miles
30	14841 Scandia Trail N Scandia, MN 55073	3.00	2,206	2	2	2	1958	\$77.06	1.5 miles
31	14230 202nd Street N Scandia, MN 55047	5.00	1,346	3	2	5	1991	\$193.09	1.5 miles
32	14933 223rd Street N Scandia, MN 55073	5.24	1,962	3	3	3	1993	\$117.18	1.8 miles
33	20470 Olinda Trail N Scandia, MN 55047	4.95	4,589	6	3	4	1992	\$93.70	1.9 miles
34	20773 Odell Avenue N Scandia, MN 55073	2.01	2,321	4	3	3	2011	\$129.21	2.1 miles
35	13383 205th Street N Scandia, MN 55073	21.43	1,825	3	3	2	2004	\$164.33	2.2 miles

Before considering adjustments for land size, home size, age, date of sale and conditions of sale, the average asking price for active sales further than one mile to a gravel mine in Scandia is \$133.00 per finished square foot. After considering the adjustments, the average asking price declined to \$125.00 per finished square foot.

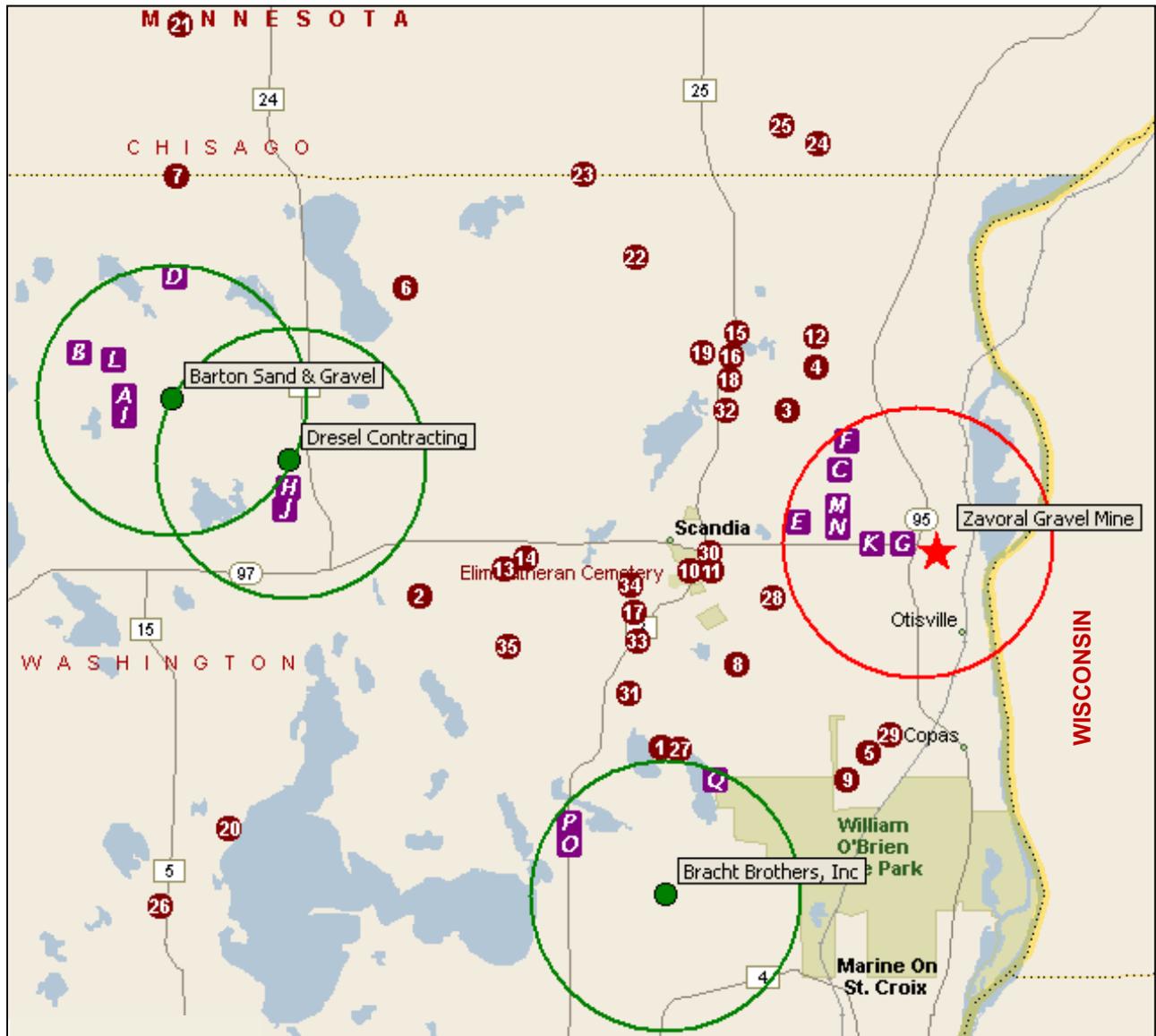
MAP OF SALES & ACTIVE LISTINGS FURTHER THAN ONE MILE TO A GRAVEL MINE



The Zavoral Gravel Mine along with the three other gravel mines in Scandia are identified on the map. Each gravel mine is surrounded by a one-mile radius circle illustrating which sales are not within one mile of a gravel mine. The numbered properties indicate sales and active listings outside the one mile radius of a gravel mine.

Since the Zavoral Gravel Mine is a large property, we measured the one mile radius circle from the intersection of Highway 97 and Highway 95.

MAP OF ALL HOME SALES & ACTIVE LISTINGS



The Zavoral Gravel Mine along with the three other gravel mines in Scandia are identified on the map. Each gravel mine is surrounded by a one-mile radius circle illustrating which sales are within one mile of a gravel mine versus which are located further away than one mile. The lettered properties indicate sales and active listings within a one mile radius of a gravel mine; while the numbered properties are those further away than one mile.

Since the Zavoral Gravel Mine is a large property, we measured the one mile radius circle from the intersection of Highway 97 and Highway 95.

SALES COMPARISON APPROACH TO VALUE

CONCLUSION

SUUMMARY OF SALES DATA & ANALYSIS		
	Average Price Per Finished SF	
	Before Adjustments	After Adjustments
Sales within one mile of a gravel mine	\$148.99	\$155.87
Sales further than one mile from a gravel mine	\$138.69	\$142.37
Active Listings within one mile of a gravel mine	\$168.72	\$153.30
Active Listings further than one mile from a gravel mine	\$132.65	\$125.11

Based on our sales analysis, we conclude that the data did not demonstrate a measurable impact on the market value of residential dwellings located in close proximity to mining operations. Through our research, we discovered that there are more sales of homes located further away from gravel mines in Scandia versus closer. Despite the difference in sales numbers, the data answers the appraisal problem and shows that there is no measurable diminution in value based on proximity to a gravel mine. The average price per finished square foot of a home within one mile or less of a gravel mine is similar, if not higher, than the average price per square foot of a home further than one mile from a gravel mine.

2. IF A MEASURABLE IMPACT ON PROPERTY VALUES NEAR A GRAVEL MINE OR PERCEIVED HAZARD AREA IS FOUND, DETERMINE THE DIMINUTION IN VALUE COMPARED TO DISTANCE.

Since the market data in Scandia did not demonstrate a measurable impact on the market value of residential dwellings located in close proximity to mining operations, we conclude that the market does not measurably discount homes one mile or close to a gravel mine compared to those a mile or more away from a gravel mine. The previous analysis evaluates the impact of a gravel mine as if it exists into perpetuity. The actual circumstance for the subject is that it has been a gravel mine site for over twenty-five years but is being proposed for less than five more years of active mining with complete site restoration afterward.

3. CONCLUDE FINDINGS

We conclude that the Scandia sales data contained in this analysis reveals that the market fails to recognize a measurable negative impact, based on proximity, to an existing gravel mine or perceived hazard area. Although someone might make an “off the cuff” comment that homes near a gravel mine would command a lower price per square foot than homes further away, the data shows that there is no measurable diminution in value based on proximity to a gravel mine in the Scandia market. The price per finished square foot of a home within one mile or less of a gravel mine is similar, if not higher, than the price per square foot of a home one mile or further from a gravel mine.

ADDENDA

ADDENDUM A
CERTIFICATION

I certify that to the best of my knowledge and belief:

1. I considered the factors that have an impact on value in developing the market value in the appraisal report. I did not knowingly withhold any significant information from the appraisal report, and I believe that all the statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in or bias with respect to the subject property and have no personal interest in or bias with respect to the parties involved.
4. Neither my engagement nor my compensation is contingent upon a predetermined value or result.
5. The report analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Uniform Standards of Professional Appraisal Practice, the Appraisal Institute, the American Society of Appraisers, The Counselors of Real Estate®, and the Institute of Business Appraisers.
6. Shenhon Company inspected the subject property.
7. Kate Ostlund provided significant appraisal assistance.
8. As of the date of this report, I have completed the requirements of the continuing education program of the states in which I am licensed and of the associations of which I am a member.
9. I have previously prepared appraisal reports of various types of properties like the subject and therefore have the knowledge and experience to meet the competency provision of the Uniform Standards of Professional Appraisal Practice of The Appraisal Foundation.
10. The use of this report is subject to the requirements of the Appraisal Institute, the American Society of Appraisers, The Counselors of Real Estate®, and the Institute of Business Appraisers relating to review by its duly authorized representatives. The appraiser will not disclose the contents of the appraisal report except as provided for in the Uniform Standards of Professional Appraisal Practice.
11. I am an employee of Shenhon Company and it accepts responsibility for the opinions in the report subject to the Certification and the Assumptions and Limiting Conditions specified in the report.
12. Shenhon Company has appraised the subject property zero time(s) during the previous three years.

Robert J. Strachota, MAI, CRE®, MCBA, FIBA
 President, Shareholder
 Minnesota License No. 4000882
 Certified General Appraiser

ADDENDUM B
ASSUMPTIONS AND LIMITING CONDITIONS

ASSUMPTIONS AND LIMITING CONDITIONS

This appraisal report was written based on the following assumptions and limiting conditions:

1. The property is appraised free and clear of any and all liens or indebtedness, leases/encumbrances, unless otherwise stated. Documents dealing with such matters were not reviewed.
2. Title is assumed to be clear and marketable unless otherwise stated. Shenehon Company assumes no responsibility for title considerations.
3. All factual data furnished by the client, property owner, owner's representative, or persons designated by the client or owner is assumed to be accurate and correct. The information contained in this report was gathered from reliable sources and is assumed to be correct, but no warranty is given for its accuracy.
4. No responsibility is assumed for the legal description provided or for matters pertaining to legal issues. It is assumed that the land and improvements are located within the boundaries or property lines of the legally described property and that the building complies with all ordinances unless otherwise stated.
5. No analysis of soil conditions was required and none was made. The appraiser is not qualified to make such an analysis. All opinions in this report assume stable soils. No responsibility is assumed for unknown soil conditions or for obtaining the engineering studies that may be required to discover them.
6. Estimates in this appraisal report are based upon the present status of the national business economy and the current purchasing power of the dollar. The forecasts, projections, or operating estimates contained herein are based upon current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to change in future conditions.
7. Any maps, drawings, and photographs included in this report are for illustrative purposes only and are included to assist the reader in visualizing the property. Data pertaining to the size or area of the subject property and comparable properties was obtained from reliable sources.
8. The market value in this appraisal report is based upon the physical conditions of the property at the time of inspection, unless otherwise indicated, and the market conditions applicable as of the date of valuation, which may differ from the market conditions applicable as of the date of inspection.
9. The appraiser is not required to prepare for or appear in court or before any board or governmental body by reason of this appraisal report unless previous arrangements were made. If Shenehon Company is compelled to produce documents or testify with regard to work performed, the client shall reimburse Shenehon Company for all costs and expenses incurred.
10. Information relating to the appraisal report such as market data, studies, field notes, conversation notes, and calculations is more fully documented in Shenehon Company's confidential work files.

ASSUMPTIONS AND LIMITING CONDITIONS

11. The allocation of the total value conclusion in this report between the land and the improvements applies only under the stated highest and best use of the property. The allocation of the value between the land and the improvements must not be used in conjunction with any other appraisal and is invalid if so used.
12. Full compliance with all applicable zoning and use regulations and restrictions is assumed unless the nonconformity has been stated, defined, and considered in the appraisal report. Full compliance with all applicable federal, state, and local environmental regulations and laws is assumed unless noncompliance is stated, defined, and considered in the appraisal report. It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authorizations from any local, state, or national government or private entity or organization were or may be obtained or renewed for any use on which the value conclusion contained in this report is based.
13. The subject property is assumed to be under responsible ownership and competent management.
14. This appraisal recognizes that available financing is a major consideration by typical purchasers of real estate in the market, and the appraisal assumes availability of financing to responsible and sufficiently substantial purchasers of the property in amounts similar to those indicated or implied in this report.
15. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the subject property, was not observed by the appraiser. The appraiser has no knowledge of the existence of such materials on or in the property, and the appraiser is not qualified to detect such substances. The presence of hazardous materials may affect the value of the subject property. The value conclusion is predicated on the assumption that there is no such material on or in the subject property that would result in a loss of value. No responsibility is assumed for any such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.
16. The appraiser has not made a specific compliance survey or analysis of the property to determine whether or not it conforms with the detailed requirements of the Americans with Disabilities Act (ADA) which became effective January 26, 1992. Alterations required to comply with ADA regulations may have a negative impact on the value of the subject property.
17. The client agrees that by performing the services rendered, Shenehon Company does not assume, bridge, abrogate, or undertake to discharge any duty of the client to any other entity.
18. Any use of this appraisal report, by the client, is contingent upon payment of all fees in accordance with the agreed upon terms.
19. In consideration for performing the services rendered at the fee charged, Shenehon Company expressly limits its liability to five times the amount of the fee paid or \$100,000, whichever is less. Shenehon Company expressly disclaims liability as an insurer or guarantor. Any persons seeking greater protection from loss or damage than is provided for herein should obtain appropriate insurance. The client shall indemnify and hold harmless Shenehon

ASSUMPTIONS AND LIMITING CONDITIONS

- Company and its employees against all claims by any third party or any judgment for loss or damage relating to the performance or nonperformance of any services by Shenehon Company.
20. Unless specifically brought to the appraiser's attention, the appraiser assumes that there are no hidden or unexpected conditions of the asset being appraised that would adversely affect or enhance the value.
 21. In the event of a dispute involving interpretation or application of this agreement, the parties shall be governed under the laws of the state of Minnesota.
 22. Shenehon Company and/or the appraisers are not qualified to render expert opinions regarding structural issues, water damage, environmental assessments, engineering/mechanical issues, ADA and/or building code compliance, land planning, architectural expertise, or soil conditions. If requested, Shenehon Company will recommend qualified experts in these fields to assist the client and/or the appraisal process.
 23. The appraisal report has been prepared for Gregory Korstad for the intended use of [Purpose]. Possession of this report, or a copy thereof, does not carry with it the right of publication, either in whole or in part, nor may it be used for any purpose other than the one stated in the Letter of Transmittal and the Intended Use of the Report, without the express, written consent of the appraiser and the client. Authorized copies of this report will be signed in blue ink by the appraiser. Unsigned copies or copies not signed in blue ink should be considered incomplete. All unauthorized or incomplete copies of this report also should be considered confidential and, as such, must be returned, in their entirety, to Shenehon Company.

ADDENDUM C
QUALIFICATION OF APPRAISER

QUALIFICATIONS OF ROBERT J. STRACHOTA

BIOGRAPHICAL DATA AND EDUCATION

Born and raised in Milwaukee, Wisconsin. Graduated from Marquette University High School in Milwaukee. Relocated to the Twin Cities and graduated from the University of St. Thomas in St. Paul. Awarded a bachelor of arts degree in finance with honorable distinction. Holds a permanent membership in Delta Epsilon Sigma, a National College Honor Society. Awarded a master of business administration degree from the University of Minnesota. Awarded the distinguished alumni award by the University of St. Thomas for Corporate and Community Responsibility. Inducted into the College of Fellows in the Institute of Business Appraisers. Successfully completed numerous appraisal courses and seminars which have been sponsored by the Appraisal Institute, the Institute of Business Appraisers, the Minnesota Association of Professional Appraisers (MAPA), the American Society of Real Estate Counselors, the Hennepin County Bar Association, NAIOP, the American Institute of CPAs, and other professional groups.

PROFESSIONAL QUALIFICATIONS OR ASSOCIATIONS

Counselor of Real Estate - American Society of Real Estate Counselors® (CRE®)
 Member - Appraisal Institute (MAI) - Certified through December 31, 2012
 Member - Institute of Business Appraisers (MCBA) (BVAL) (Fellow)
 Industrial Organization Economist Associate - American Bar Association (ABA)
 Member - National Association of Industrial and Office Properties - Minnesota Chapter (NAIOP)
 Member - Urban Land Institute (ULI)
 Member - Building Owners and Managers Association - Greater Minneapolis Chapter (BOMA)
 Member - Commissioner of Commerce Task Force for Appraiser Licensing – 1990
 NAIOP Judges Panel for Building Awards
 Member - Lambda Alpha International - Honorary Land Economics Society

CERTIFIED AND LICENSED APPRAISER

Certified General Real Property Appraiser:

- Minnesota: license #4000882, expires August 31, 2013
- Arizona: license #30727, expires January 31, 2012
- Colorado: license #CG40027370, expires December 31, 2011
- Florida: license #RZ0002662, expires November 30, 2012
- South Dakota: license #585CG-2012R, expires September 30, 2012
- Virginia: license #4001.014234, expires May 31, 2013
- Wisconsin: license #585-010, expires December 14, 2011

PROFESSIONAL EXPERIENCE

Shenehon Company, Minneapolis, Minnesota

- President, 1985 to present
- Shareholder, October 1980 to present

Patchin Appraisals, Inc.

- Manager, February 1978 to September 1980

Shenehon-Goodlund and Associates, Inc.

- Appraiser, May 1975 to February 1978

Duties and Responsibilities: Prepare professional valuations and market analysis of real estate, business enterprises and intangible property rights. Assignments have involved numerous types of real estate properties and businesses. These assignments have included highest and best use studies, mortgage financing/recapitalization, condemnation, marriage dissolution, economic loss analysis, tax abatement proceedings, feasibility analysis, investment counseling, potential sales and purchases, lease and rental analyses, bankruptcy proceedings, charitable donations, internal management decisions, easements, special assessment appeals, allocation of purchase price, going public or private, lost profits analyses, estate planning, gift tax, ESOP/ESOT, rights-of-way, valuation of limited and general partner interests in real estate and business partnerships, and insurance indemnification. Teaching experience has been with the Board of Realtors in the University of Minnesota Extension and as an adjunct professor and lecturer at the University of St. Thomas and the University of Minnesota degree programs. Additional teaching experience has been for various appraisal associations, bar associations, legal groups, and the Minnesota Institute of Legal Education. Court experience involves testifying at various commission hearings, district courts, tax courts, and federal courts throughout the U.S. Writing experience includes numerous published articles in various local and national trade journals. Arbitration and commissioner experience involves acting as a court approved arbitrator, commissioner or magistrate on numerous real estate and business valuation disputes. Investment experience has involved a variety of business and real estate assets. Appraisal experience has been throughout the U.S. (over 30 states) and Canada.

PARTIAL CLIENT LIST

3M Corporation	Equitable Life Insurance	Marquette Bank	Target
AGA Medical Corporation	Equity Office	Merrill Lynch-Hubbard	United Health Care
Allianz	Faegre & Benson	Metropolitan Airports Commission	United States Army
AmeriPride Services	Federal Aviation Association	Munsingwear	United States Fish & Wildlife
Bank of Montreal	Federal Reserve Bank	National Presto	United States Justice Department
Best Buy	GE Capital	Opus Group of Cos.	United States Post Office
Cargill	Gerald Hines Interests	Pacific Gas & Electric	University of Minnesota
Catholic Charities	GMAC Mortgage	Pohlad Group of Companies	University of St. Thomas
Citicorp	HUD	Principal Financial Group	U.S. Bancorp
City of Minneapolis	Hennepin & Ramsey Counties	Rahr Malting Company	W.R. Grace Company
City of St. Paul	Internal Revenue Service	Ryan Companies	Walgreen Drug Stores
CSM Corporation	J.P. Morgan Bank	San Diego Gas & Electric	Waycross
Deutsche Bank Trust Company	Kraus Anderson	Schmitt Music	Wells Fargo & Co.
Dominium Group	Lutheran Social Services	SciMed Life Systems	Williams Energy Group
Dorsey & Whitney	M&I Bank	State of Minnesota	Xcel Energy
Eaton Corporation	Malt-O-Meal	SurModics	YMCA

APPRAISAL REVIEW

118 Acre Zavoral Mining Site
East of the Highway 97 and Highway 95 Intersection
Scandia, Minnesota 55073

August 12, 2011

Prepared for:
Mr. Gregory Korstad
Larkin Hoffman Daly & Lindgren
7900 Xerxes Avenue South, Suite 1500
Minneapolis, Minnesota 55431

Job Number: 11181-1



SHENEHON COMPANY
BUSINESS & REAL ESTATE VALUATIONS

November 22, 2011

Mr. Gregory Korstad
Larkin Hoffman Daly & Lindgren
7900 Xerxes Avenue South, Suite 1500
Minneapolis, Minnesota 55431

RE: Appraisal review of the appraisal measuring the impact on property values within a one-mile radius of the 118 Acre Zavoral Mining Site, located East of the Highway 97 and Highway 95 Intersection, Scandia, Minnesota, if mining operations were to resume.

Dear Mr. Korstad:

At your request we reviewed the appraisal measuring the impact on property values within a one-mile radius of the above-referenced property if mining operations were to resume. The appraisal was prepared by Mr. Michael J. Bettendorf, MAI of BRKW Appraisals, Inc. for the City of Scandia and is dated August 12, 2011. The effective date of our review (i.e. the effective date of our value) is November 1, 2011. The purpose of our appraisal review is to evaluate the methodology used in arriving at their conclusions and to develop an opinion based on the information within the appraisal on the impact of the mining operation. Our findings, analyses, and conclusions are presented in the attached Appraisal Review. The depth of discussion contained in the report is specific to the intended use. Shenehon Company is not responsible for unauthorized or improper use of the report. Detaching this transmittal letter from the report may mislead the intended user.

In the context of this appraisal review report (also referred to as the "review report"), "appraiser" refers to Mr. Michael J. Bettendorf, MAI and "the appraisal" or "the work under review" refers to his appraisal measuring the impact of the subject's mining operations on adjacent properties conveyed in the appraisal report dated August 12, 2011.

The appraisal aimed to determine if there would be an impact on property values within a one-mile radius of the Zavoral Mining Site if mining operations were to resume. The work under review concludes a diminution in market value for properties within ¼ mile of the subject property, when it states on page 3 of the cover letter that, "The sales data contained in this analysis reveals that the market fails to recognize a measurable impact, based on proximity to an existing gravel mine or perceived hazard area." However, the appraisal concluded that there would be a negative impact on property values near the mining site if mining operations were to resume and that "The negative impact would remain as long as the facility is in operation." "It was concluded that the impact is limited to a radius of ¼ mile from the site." Within that area, the impact on properties ranged from two to five percent (2%-5%). Since the data used in this appraiser's analysis admittedly did not

Mr. Gregory Korstad
Page 2
November 22, 2011

recognize a measurable impact, we are unable to evaluate the data, if any, that was additionally relied on by the appraiser in concluding the 2%-5% diminution in value.

After careful consideration of the work under review, we conclude that the appraisal and data within did not demonstrate a measurable impact on the market value of residential dwellings located in close proximity to mining operations. Additionally, the appraiser uses a small sample of paired sales that rely on subjective or qualitative adjustments that demonstrate nominal differences in market value. Therefore, we do not consider the analysis adequate or relevant as it pertains to measuring the impact on residential values from mining operations. Furthermore, we are unable to validly conclude similarly with the appraiser's final conclusion that residential properties within a quarter (1/4) mile of the Zavoral Mining Site will have a negative impact on market values in the range of 2%-5%.

Our report complies with the reporting requirements of the Uniform Standards of Professional Appraisal Practice. We inspected the Zavoral mining site and investigated information believed to be pertinent to its valuation. To the best of our knowledge and belief, the statements and opinions contained in this report are correct and reasonable subject to the limiting conditions set forth.

Thank you for selecting Shenehon Company for your valuation needs. If you have any questions concerning the report, please contact us at 612.333.6533.

Respectfully,

SHENEHON COMPANY

Certified to this 22nd day
of November, 2011.



Robert J. Strachota, MAI, CRE[®], MCBA, FIBA
President, Shareholder
Minnesota License No. 4000882
Certified General Appraiser
Email: value@shenehon.com

/ckp

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PURPOSE, INTENDED USE AND USER

The intended use of this appraisal review is to evaluate the methodology used to arrive at their damage conclusion and develop an opinion based on the information within the appraisal for the purpose of studying the impact of proposed mining operations on nearby properties. We have also reviewed the report to provide feedback for an Environment Impact Statement (EIS) that is being completed on the subject's mining operations. The intended user of this report is Gregory Korstad, Larkin Hoffman Daly & Lindgren on behalf of Tiller Corporation.

PROPERTY IDENTIFICATION

The subject property is a vacant parcel formerly used for mining purposes located East of the Highway 97 and Highway 95 Intersection, Scandia, Minnesota. The property identification numbers are: 18-032-19-32-0003, 18-032-19-31-0001, 18-032-19-33-0004, 18-032-19-33-0003, 18-032-19-34-0001, 19-032-19-21-0002 and 19-032-19-22-0001.

RELEVANT DATES

Effect Date of the Review

The effect date of the review is August 12, 2011. The date of the review report is November 22, 2011.

Date of Work Under Review

The date of the work under review is August 12, 2011.

PROPERTY RIGHTS APPRAISED

The subject appraisal estimates a value loss of 2%-5% as a result of resumed mining operations. The appraiser did not identify the type and definition of value or if the value/loss is based on a fee simple or market value definition.

Our analysis is based on the market value for the fee simple interest of the real estate defined in *The Dictionary of Real Estate Appraisal*, Fifth Edition, page 78, as:

Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.

MARKET VALUE DEFINITION

Market value is defined in *The Dictionary of Real Estate Appraisal*, Fifth Edition, page 122, as:

The most probable price that the specified property interest should sell for in a competitive market after a reasonable exposure time, as of a specified date, in cash, or in terms equivalent to cash, under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, for self-interest, and assuming that neither is under duress.

Agencies that regulate federal financial institutions in the United States define market value as stated in the *Uniform Standards of Professional Appraisal Practice (USPAP)*, 2010-2011 Edition, page A-105, as:

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market;
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

SCOPE OF WORK

The scope of work relates to the extent and manner information is researched and analyzed based upon the review assignment. Through the use of extraordinary assumption, in accordance with USPAP, the reader should be aware that the reviewer is assuming that the information contained in the work under review is complete, accurate and has not been misrepresented. We have no reason to doubt the accuracy of any of the information we have relied on, and we are disclosing our reliance to such information as required by USPAP. If any of the material is found to be inaccurate, the opinions and conclusions of the reviewer may differ. We inspected the exterior of the subject property but did not inspect the comparable sales. The reviewer completed the following steps:

1. Relied upon the following information from the work under review:
 - a) property identification and legal description
 - b) description of the site and the physical state of the site
 - c) the appraiser's extraordinary assumptions and hypothetical conditions
2. Analyzed the real estate market taking into account stability and/or changes by conducting independent research.
 - a) researched residential market information
 - b) researched different gravel mining sites
 - c) researched comparable home sales surrounding gravel mining sites

Sources utilized to obtain additional relevant information include, but are not limited to, assessors, public records, our office files, published information, and discussions with the owner's representative.

This Appraisal Review complies with the reporting requirements set forth under Standards Rule 3 of USPAP. An Appraisal Review states the findings and conclusions pertaining to the work under review, and summarizes any data and analyses used by the reviewer to support a different value conclusion, if any, which matches the reporting requirements of Standards Rule 2-2(b). Additional documentation is retained in Shenhon Company's confidential work files.

ADEQUACY AND RELEVANCE

In our opinion, the data considered (and any adjustments made) in the appraisal under review was not sufficient and relevant to the subject property. The valuation issues we observed are highlighted as follows:

- According to Washington County Records, the mining site measures 118.34 acres. However, in the work under review, only 114 acres are accounted for. It appears that the appraiser has omitted a portion of the mining site but fails to explain his reasoning. The omission is small; however, it should be noted.
- The work under review concludes that residential homes near an active mine have diminished property values. As it states in the appraisal, if the mine were to reopen, the land would be restored to its natural state after operations have ceased. The City of Scandia details requirements and rules for land reclamation specific to mining and related activities in City Ordinance No. 103. Ordinance No. 103 ensures that the reclamation plan will be inspected and the land will not be left in a disrupted or unsafe state. It could be argued that although surrounding properties would be near an active mine for a limited period of time, it could be considered a delayed benefit, instead of a detriment, because this nearby land will be returned to its natural state prior to any redevelopment.
- In the sales comparison analysis, sales were selected from 2006 and 2007. The argument was made in the appraisal that 2006-2007 was the most recent period of stabilized values so it provides the best comparables. Although the real estate market has been volatile in recent years, we still consider it more applicable to use recent sales to evaluate trends. The time period from January 2010 to the present has been relatively stable and we consider it an applicable time frame for evaluating current trends versus using data from 2006-2007.
- Although the work under review concludes a diminution in market value for properties within 1/4 mile of the subject property, it states on page 3 of the cover letter that, “The sales data contained in this analysis reveals that the market fails to recognize a measurable impact, based on proximity to an existing gravel mine or perceived hazard area.” The appraiser argues that since the gravel mine has been inactive for twenty years, if operations were to resume, it would be similar to opening a new mine. This statement is speculative and weak because the mine has existed in that location for more than twenty years, whether operating or not. It implies that the gravel mine property and its former operations have gone unnoticed by residents in the area for the past twenty some years even though on the appraisal cover letter it states, “The area is...covered with...material stockpiles” and it is located at a prominent intersection. To imply that the gravel mine has been incognito for years is unbelievable. It is, and has been, an obvious fixture in the area for many years.
- Finally, the appraiser attempts to compare other Minnesota gravel mines to the subject property and extract data supporting a diminution in market value for properties near mines. However, he compares four mines in incomparable locations, Maple Grove/Osseo, Hastings, Rosemount and Andover. It states on page 29 in the report that, “The study has been focused on urban/suburban settings where there is a general conformity in terms of lot size and building design.” However, the subject property is zoned agricultural and is located in a very rural area. Therefore, the gravel mines selected are not comparable and do not provide

relevant data. We understand that the appraiser was attempting to find comparable homes similar to one another, but he failed to use comparables in a similar geographic area. Coincidentally, there are three additional active sand and gravel mines in Scandia and one just north in Franconia Township that could have been analyzed. On page 57 of the report, he argues against using sales data in Scandia stating that, "The homes are located on acreage sites that vary from 1 acre to 29 acres with variations between wooded and pasture land. There is also a wide variety of building design and layout age and condition, style of finish, outbuildings and other factors that makes the possibility of isolating the impact very problematic. As such, no meaningful information for the study was obtained in this area." On page 59, the appraiser makes the same arguments for not using sales near the gravel mine in Franconia Township, just north of the Zavoral site. However, it seems to make the most sense to use sales data as close to the Zavoral mining site as possible to minimize differences in location, density, land use, etcetera versus selecting mining sites all across the metro area and having more adjustments to consider. In the instance of the Zavoral gravel mine, we believe that the most accurate data, despite limited sales, would be from the surrounding rural areas of North Washington County.

METHODS AND TECHNIQUES

In our opinion, the appraisal methods and techniques used in the work under review are consistent with those that are generally accepted in the appraisal industry. We disagree with the application and analysis of market date. We would choose closer gravel mines to analyze along with a different set of comparable home sales, the analysis would be similar. We agree with his method of comparing homes close to gravel mines versus homes further away to determine if there is a measurable diminution in market value related to proximity.

ANALYSES, OPINIONS, AND CONCLUSIONS

Although we agree with the appraiser's methods and techniques, we do not agree with the analysis and final conclusion. In our opinion, the appraiser's analyses, opinions, and conclusions were not supported, appropriate and reasonable. We agree with his analysis of the comparable sales and his findings from the market data summarized by his statement on page 3 of the cover letter, "The sales data contained in this analysis reveals that the market fails to recognize a measurable impact, based on proximity to an existing gravel mine or perceived hazard areas." Additionally, he states on page 61 in the Study Conclusions, "Basically the analysis is inconclusive. The presence of a gravel operation is one of many factors (design, number of bedrooms, age/condition etc.) that are considered in the price being paid for a property." However, we disagree with his final conclusion of a self-proclaimed "logical", yet admittedly unsupported, diminution in market value of 2%-5% for properties within a quarter (1/4) mile of the Zavoral gravel mine. Despite his own admission to an inconclusive study, he speculates on page 3 of the cover letter, "It is logical to assume that the value of properties abutting a new gravel mining operation could be adversely affected." Therefore, it appears that the appraiser ignored the sales analysis study and relied most heavily, or perhaps exclusively, on a general perception to arrive at his final conclusion. However "logical" it may seem to him, we feel that the data has proven that there is no measureable impact on market value for properties near a gravel mine, thus his conclusion is unsupportable. We concede that market value is an opinion of value, it is accepted that different appraisers using similar information and analysis would arrive at slightly different values for the same property. However, based on the issues discussed, we conclude that this appraiser did not arrive at a supportable conclusion.

REVIEWER CONCLUSION

Based on our review of the subject appraisal, we conclude that the appraisal and data within did not demonstrate a measurable impact on the market value of residential dwellings located in close proximity to mining operations. Additionally, the appraiser uses a small sample of paired sales that rely on subjective or qualitative adjustments that demonstrate nominal differences in market value. Therefore, we do not consider it an adequate and relevant document as it pertains to measuring the impact on residential values from mining operations. Furthermore, we do not agree, based on the analysis in the appraisal, with the appraiser's final conclusion that residential properties within a quarter (1/4) mile of the Zavoral Mining Site will have a negative impact on market values in the range of 2%-5%. There is inadequate support within the appraisal to prove a diminution in value for a short term reopening and reclamation of the Zavoral Mine.

ADDENDA

ADDENDUM A
CERTIFICATION

I certify that to the best of my knowledge and belief:

1. I considered the factors that have an impact on value in developing the market value in the appraisal report. I did not knowingly withhold any significant information from the appraisal report, and I believe that all the statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in or bias with respect to the subject property and have no personal interest in or bias with respect to the parties involved.
4. Neither my engagement nor my compensation is contingent upon a predetermined value or result.
5. The report analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Uniform Standards of Professional Appraisal Practice, the Appraisal Institute, the American Society of Appraisers, The Counselors of Real Estate[®], and the Institute of Business Appraisers.
6. Shenehon Company inspected the subject property.
7. Kate Ostlund provided significant appraisal assistance.
8. As of the date of this report, I have completed the requirements of the continuing education program of the states in which I am licensed and of the associations of which I am a member.
9. I have previously prepared appraisal reports of various types of properties like the subject and therefore have the knowledge and experience to meet the competency provision of the Uniform Standards of Professional Appraisal Practice of The Appraisal Foundation.
10. The use of this report is subject to the requirements of the Appraisal Institute, the American Society of Appraisers, The Counselors of Real Estate[®], and the Institute of Business Appraisers relating to review by its duly authorized representatives. The appraiser will not disclose the contents of the appraisal report except as provided for in the Uniform Standards of Professional Appraisal Practice.
11. I am an employee of Shenehon Company and it accepts responsibility for the opinions in the report subject to the Certification and the Assumptions and Limiting Conditions specified in the report.
12. Shenehon Company has appraised the subject property zero time(s) during the previous three years.

Robert J. Strachota, MAI, CRE[®], MCBA, FIBA
 President, Shareholder
 Minnesota License No. 4000882
 Certified General Appraiser

ADDENDUM B
ASSUMPTIONS AND LIMITING CONDITIONS

ASSUMPTIONS AND LIMITING CONDITIONS

This appraisal report was written based on the following assumptions and limiting conditions:

1. The property is appraised free and clear of any and all liens or indebtedness, leases/encumbrances, unless otherwise stated. Documents dealing with such matters were not reviewed.
2. Title is assumed to be clear and marketable unless otherwise stated. Shenehon Company assumes no responsibility for title considerations.
3. All factual data furnished by the client, property owner, owner's representative, or persons designated by the client or owner is assumed to be accurate and correct. The information contained in this report was gathered from reliable sources and is assumed to be correct, but no warranty is given for its accuracy.
4. No responsibility is assumed for the legal description provided or for matters pertaining to legal issues. It is assumed that the land and improvements are located within the boundaries or property lines of the legally described property and that the building complies with all ordinances unless otherwise stated.
5. No analysis of soil conditions was required and none was made. The appraiser is not qualified to make such an analysis. All opinions in this report assume stable soils. No responsibility is assumed for unknown soil conditions or for obtaining the engineering studies that may be required to discover them.
6. Estimates in this appraisal report are based upon the present status of the national business economy and the current purchasing power of the dollar. The forecasts, projections, or operating estimates contained herein are based upon current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to change in future conditions.
7. Any maps, drawings, and photographs included in this report are for illustrative purposes only and are included to assist the reader in visualizing the property. Data pertaining to the size or area of the subject property and comparable properties was obtained from reliable sources.
8. The market value in this appraisal report is based upon the physical conditions of the property at the time of inspection, unless otherwise indicated, and the market conditions applicable as of the date of valuation, which may differ from the market conditions applicable as of the date of inspection.
9. The appraiser is not required to prepare for or appear in court or before any board or governmental body by reason of this appraisal report unless previous arrangements were made. If Shenehon Company is compelled to produce documents or testify with regard to work performed, the client shall reimburse Shenehon Company for all costs and expenses incurred.
10. Information relating to the appraisal report such as market data, studies, field notes, conversation notes, and calculations is more fully documented in Shenehon Company's confidential work files.

ASSUMPTIONS AND LIMITING CONDITIONS

11. The allocation of the total value conclusion in this report between the land and the improvements applies only under the stated highest and best use of the property. The allocation of the value between the land and the improvements must not be used in conjunction with any other appraisal and is invalid if so used.
12. Full compliance with all applicable zoning and use regulations and restrictions is assumed unless the nonconformity has been stated, defined, and considered in the appraisal report. Full compliance with all applicable federal, state, and local environmental regulations and laws is assumed unless noncompliance is stated, defined, and considered in the appraisal report. It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authorizations from any local, state, or national government or private entity or organization were or may be obtained or renewed for any use on which the value conclusion contained in this report is based.
13. The subject property is assumed to be under responsible ownership and competent management.
14. This appraisal recognizes that available financing is a major consideration by typical purchasers of real estate in the market, and the appraisal assumes availability of financing to responsible and sufficiently substantial purchasers of the property in amounts similar to those indicated or implied in this report.
15. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the subject property, was not observed by the appraiser. The appraiser has no knowledge of the existence of such materials on or in the property, and the appraiser is not qualified to detect such substances. The presence of hazardous materials may affect the value of the subject property. The value conclusion is predicated on the assumption that there is no such material on or in the subject property that would result in a loss of value. No responsibility is assumed for any such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.
16. The appraiser has not made a specific compliance survey or analysis of the property to determine whether or not it conforms with the detailed requirements of the Americans with Disabilities Act (ADA) which became effective January 26, 1992. Alterations required to comply with ADA regulations may have a negative impact on the value of the subject property.
17. The client agrees that by performing the services rendered, Shenehon Company does not assume, bridge, abrogate, or undertake to discharge any duty of the client to any other entity.
18. Any use of this appraisal report, by the client, is contingent upon payment of all fees in accordance with the agreed upon terms.
19. In consideration for performing the services rendered at the fee charged, Shenehon Company expressly limits its liability to five times the amount of the fee paid or \$100,000, whichever is less. Shenehon Company expressly disclaims liability as an insurer or guarantor. Any persons seeking greater protection from loss or damage than is provided for herein should obtain appropriate insurance. The client shall indemnify and hold harmless Shenehon

ASSUMPTIONS AND LIMITING CONDITIONS

- Company and its employees against all claims by any third party or any judgment for loss or damage relating to the performance or nonperformance of any services by Shenehon Company.
20. Unless specifically brought to the appraiser's attention, the appraiser assumes that there are no hidden or unexpected conditions of the asset being appraised that would adversely affect or enhance the value.
 21. In the event of a dispute involving interpretation or application of this agreement, the parties shall be governed under the laws of the state of Minnesota.
 22. Shenehon Company and/or the appraisers are not qualified to render expert opinions regarding structural issues, water damage, environmental assessments, engineering/mechanical issues, ADA and/or building code compliance, land planning, architectural expertise, or soil conditions. If requested, Shenehon Company will recommend qualified experts in these fields to assist the client and/or the appraisal process.
 23. The appraisal report has been prepared for Gregory Korstad for the intended use of studying the impact of proposed mining operations on nearby properties.. Possession of this report, or a copy thereof, does not carry with it the right of publication, either in whole or in part, nor may it be used for any purpose other than the one stated in the Letter of Transmittal and the Intended Use of the Report, without the express, written consent of the appraiser and the client. Authorized copies of this report will be signed in blue ink by the appraiser. Unsigned copies or copies not signed in blue ink should be considered incomplete. All unauthorized or incomplete copies of this report also should be considered confidential and, as such, must be returned, in their entirety, to Shenehon Company.

ADDENDUM C
QUALIFICATION OF APPRAISER

QUALIFICATIONS OF ROBERT J. STRACHOTA

BIOGRAPHICAL DATA AND EDUCATION

Born and raised in Milwaukee, Wisconsin. Graduated from Marquette University High School in Milwaukee. Relocated to the Twin Cities and graduated from the University of St. Thomas in St. Paul. Awarded a bachelor of arts degree in finance with honorable distinction. Holds a permanent membership in Delta Epsilon Sigma, a National College Honor Society. Awarded a master of business administration degree from the University of Minnesota. Awarded the distinguished alumni award by the University of St. Thomas for Corporate and Community Responsibility. Inducted into the College of Fellows in the Institute of Business Appraisers. Successfully completed numerous appraisal courses and seminars which have been sponsored by the Appraisal Institute, the Institute of Business Appraisers, the Minnesota Association of Professional Appraisers (MAPA), the American Society of Real Estate Counselors, the Hennepin County Bar Association, NAIOP, the American Institute of CPAs, and other professional groups.

PROFESSIONAL QUALIFICATIONS OR ASSOCIATIONS

Counselor of Real Estate - American Society of Real Estate Counselors® (CRE®)
 Member - Appraisal Institute (MAI) - Certified through December 31, 2012
 Member - Institute of Business Appraisers (MCBA) (BVAL) (Fellow)
 Industrial Organization Economist Associate - American Bar Association (ABA)
 Member - National Association of Industrial and Office Properties - Minnesota Chapter (NAIOP)
 Member - Urban Land Institute (ULI)
 Member - Building Owners and Managers Association - Greater Minneapolis Chapter (BOMA)
 Member - Commissioner of Commerce Task Force for Appraiser Licensing – 1990
 NAIOP Judges Panel for Building Awards
 Member - Lambda Alpha International - Honorary Land Economics Society

CERTIFIED AND LICENSED APPRAISER

Certified General Real Property Appraiser:

- Minnesota: license #4000882, expires August 31, 2013
- Arizona: license #30727, expires January 31, 2014
- Colorado: license #CG40027370, expires December 31, 2014
- Florida: license #RZ0002662, expires November 30, 2012
- South Dakota: license #585CG-2012R, expires September 30, 2012
- Virginia: license #4001.014234, expires May 31, 2013
- Wisconsin: license #585-010, expires December 14, 2013

PROFESSIONAL EXPERIENCE

Shenehon Company, Minneapolis, Minnesota

President, 1985 to present

Shareholder, October 1980 to present

Patchin Appraisals, Inc.

Manager, February 1978 to September 1980

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PARTIAL CLIENT LIST

3M Corporation
 AGA Medical Corporation
 Allianz
 AmeriPride Services
 Bank of Montreal
 Best Buy
 Cargill
 Catholic Charities
 Citicorp
 City of Minneapolis
 City of St. Paul
 CSM Corporation
 Deutsche Bank Trust Company
 Dominion Group
 Dorsey & Whitney
 Eaton Corporation

Equitable Life Insurance
 Equity Office
 Faegre & Benson
 Federal Aviation Association
 Federal Reserve Bank
 GE Capital
 Gerald Hines Interests
 GMAC Mortgage
 HUD
 Hennepin & Ramsey Counties
 Internal Revenue Service
 J.P. Morgan Bank
 Kraus Anderson
 Lutheran Social Services
 M&I Bank
 Malt-O-Meal

Marquette Bank
 Merrill Lynch-Hubbard
 Metropolitan Airports Commission
 Munsingwear
 National Presto
 Opus Group of Cos.
 Pacific Gas & Electric
 Pohlad Group of Companies
 Principal Financial Group
 Rahr Malting Company
 Ryan Companies
 San Diego Gas & Electric
 Schmitt Music
 SciMed Life Systems
 State of Minnesota
 SurModics

Target
 United Health Care
 United States Army
 United States Fish & Wildlife
 United States Justice Department
 United States Post Office
 University of Minnesota
 University of St. Thomas
 U.S. Bancorp
 W.R. Grace Company
 Walgreen Drug Stores
 Waycross
 Wells Fargo & Co.
 Williams Energy Group
 Xcel Energy
 YMCA

Anne Hurlburt

From: Pam Smith [nwpsmith@cox-internet.com]
Sent: Friday, May 18, 2012 12:10 AM
To: a.hurlburt@ci.scandia.mn.us
Subject: Zavoral Mining Project Comments

Ms. Anne Hurlburt
City Administrator
Scandia Community and Senior Center
14727 209th St. N.
Scandia, MN 55073

Subject: Zavoral Mining and Reclamation Project Draft Environmental Impact Statement (EIS)

Dear Ms. Hurlburt,

My husband and I own property near the mining site at 20919 Quint Avenue North in Scandia. We are very concerned about potential impacts to our property and to the St. Croix River associated with the mining of the Zavoral property. We have outlined our primary concerns/comments below:

- We would like an additional Alternative included in the EIS that would allow the mining to occur over two years and between October and April. A representative for Tiller Corp commented in an article published in the Marine Messenger that this would be feasible. Eliminating these 5 spring/summer months would minimize the impacts of the mining operation to the residents and visitors to the St. Croix River during the peak outdoor period.
- Alternative 3A currently comes closest to an acceptable time frame, although as indicated in our first point we would like the period to eliminate 5 spring/summer months. 3A reduces biological, erosion/sedimentation, economic and water resource impacts. Other impacts such as visual, water use, noise and air quality are also reduced under a one to two year plan. We find this alternative to be preferable to any of those studied and the EIS should identify this Alternative as the Environmentally Superior Alternative (but again, modified to limit operations to the months of October through April.)
- We are very concerned about ground water quality. We want Scandia officials to be certain that there will be no danger of polluting our ground water – most of us in this area are on well water and depend on a pristine water source.
- We are very concerned about dust and particulate that will be inhaled and that will make its way to the River wildlife and surrounding vegetation. The EIS indicates that this project is “not likely” to increase dust/emissions or decrease ambient air quality – we would like a definitive statement about potential impacts. The EIS should clarify if this issue.
- The proposed reclamation plan seems insufficient. We want to make sure that the new trees are not planted in a 30 to 60 foot hole in the ground. We would like to see berming along the perimeter of the hole with trees planted on the berms with sufficient depth to simulate the forest they are planning to remove.
- Sound is a major concern. Tiller already contributes to sound pollution heard from the St. Croix with their existing trucking routes. It will only get worse (and continue) with increased mining in the area. We would like to propose that they create a very high berm along Hwy 95 with planted trees to help mitigate the sound (and visual) pollution. Tiller will be moving a large quantity of

Comment #39, Page 2 of 2

dirt during this project and it would be an ideal time to create a sound barrier for the St. Croix River!

Thank you for this opportunity to comment.

Pamela and Michael Smith
P.O. Box 129
20919 Quint Avenue North
Scandia, MN 55073

Tiller Mine EIS Comments
Chauncey Anderson
20453 Quinell Ave N

05-18-2012

Comments on Executive Summary

- **Conflict of Interest:** The RGU for the Zavoral Mine EIS is the City of Scandia, which also stands to gain considerable income from taxes (over \$72,000) if the project should go forward. This is an inherent conflict of interest. The City is not in a position to make an objective decision about the mining project because of the potential for significant income, and therefore should never have been the RGU.
- **Traffic:** According to the Table 2 in the Executive Summary and pp ES 24 to ES 27, operation of the mine under Alternatives 1, 3, or 3A would generate a huge increase in truck traffic, with well over 300 - 600 trips under Alt 1, and as many as 736 trips under Alt 3A. This amounts to one trip every 1 to two minutes (Alt 1), or even more frequently under Alt 3A. This increase in truck traffic on the already busy State Highways 95 or 97 is not acceptable. I don't believe the claim that the roads can handle such an increase. In fact the EIS acknowledges (p. ES-27) that area residents may currently be using other routes to avoid truck traffic on TH 95 and TH97. This statement implicitly recognizes that the existing amount of truck traffic on these roads is too high, and discredits the idea that additional truck traffic at the scale envisioned for the Zavoral Mine can be accommodated without significantly adverse effects on local traffic and safety.
- Furthermore, the assumption that residents may chose to avoid the intersection by traveling on other roads is almost absurd in its Pollyanna naivete, as there really is only one alternate route that is available for local traffic that will bypass the gravel mine, and it has limited utility for most local trips. That route involves using County Rd 52, or Oakhill North, to Scandia from TH95 south of TH97 and north of Cty Rd 53 (Quinnell Ave). If someone is traveling North from Copas or along TH95, and plans to continue northbound, they are most likely to be unaware of this route, or be willing to take it to avoid truck traffic. Only those that are intentionally going to Scandia or beyond (e.g. westward on TH 97) will take Oakhill N, if they know about it. On top of it, residents along Quinnell Avenue that are northbound will find themselves exiting Quinnell just before the gravel mine entrance, where all the truck traffic is coming and going (1 trip every 1 to 2 minutes) and could find entering the highway difficult if not dangerous. I predict that a stoplight will be needed at the Zavoral mine entrance, which would impede the normal flow of traffic on TH 95. Finally, I feel that the additional truck traffic will be a significant safety risk

on both TH95 and TH97, and in the intersection between the two.

- Recreation traffic: The EIS states (p. ES-27) that “The trunk highways have sufficient reserve capacity to handle the change in traffic volume for seasonal traffic. Periods of congestion may be experienced during peak weekend travel times or on a holiday weekend, with or without the Project.” I don’t believe this statement, nor do I find it ethical to claim that there will be an increase in congestion with or without the project. There has been an increase in traffic over the last 20 years as more people chose to commute to the Twin Cities or to Stillwater. While periods of congestion are rare, typically occurring only during special events, the volume of traffic during morning and evening commute periods is now substantial. Adding in 300 to 600 trips of semi-trucks laden with rock will add significantly to congestion, and create far more periods of congestion. To suggest that the increase will be similar with or without the project is disingenuous, at least, and borders on a downright falsification. Finally, the previous arguments are mostly directed at Alternatives 1 and 3; the increases under Alternative 3A would be even greater, so it goes without saying that traffic congestion would be even greater too.

Noise: This is the likely to be the biggest problem to come from operation of the mine. It is likely to affect the most people by the biggest amount and be the least able to be mitigated for.

- Longtime residents remember the noise from the previous operation of the gravel mine. It could be heard as a screeching, scraping, grating sound that traveled up and down the river valley, and started early enough in the morning to disturb people’s sleep. It also intruded on the quiet and serenity that makes the St. Croix River a Scenic Waterway. Remember that sounds travels on water, so the sound of the mine is actually amplified in the river valley rather than dampened. Whether noise standards would be exceeded or not (p. ES-32) is moot. The standards are unlikely to be applicable to a peaceful and quiet, Scenic Waterway, where expectations of quiet and peacefulness are high. The noise will be new, and audible, and will represent a significant diminishment of the peace and quiet of the valley. It will create a cumulative effect, from operation of the mine and the additional truck traffic, that will compromise the outstanding scenic values of the Lower St. Croix National Scenic Riverway.
- Operation of the mine from 7 AM to 7 PM, even with 10 hr days, represents a continuous negative impact that will not go away and that will begin early in the day. As stated (ES-32), “Noise levels when gravel hauling is occurring would be noticeably higher than during low noise traffic conditions.” This represents a significant negative impact. Hearing the mining and hauling noise from dawn till dusk will be wearing and will make it difficult to relax in the evening following work.

- The statement that “If the Zavoral Site were not permitted, it would not result in lower noise impacts to receptors along the haul route because the aggregate hauling would still occur to the Scandia Mine from other locations.” is a specious argument. There is no expectation that the no-build alternative should create a more quiet condition than today’s baseline, as nice as that would be. The use of a double-negative in this context attempts to obfuscate the fact that the additional noise from Alternatives 1, 3, and 3A will be very significant. It does, however, point to current noise levels as already needing abatement, which adds to the detrimental effect of substantial new noise expected from this project.
- The increase in noise in Alternative 3A would even be greater. Neither should be allowed.

Chapter 1.

p. 1-4. The statement that “Economically viable deposits of sand and gravel occur where they were deposited by nature, whether the location is convenient or not.” is a snarky, defensive, jab implying that sand and gravel mining should take priority over objections surrounding negative impacts to nearby residents. It is unprofessional and has no place in a document such as this. Even if it’s a quote from Southwick et al (2000).

Chapter 4, Section 4.6. Water Resources

Under Water Quality Impact Analysis, Sec 4.6.1.2, the EIS states that there would be reductions in 2, 10, and 100 yr peak flows during mining, with reductions as high as 72% for Zavoral Creek, and zero flow occurring for the 2 and 10 year flows. While zero flow may sound like good management to control sediment transport resulting from mining, dewatering a stream is not generally thought to be good. Stream response to storms that is unaffected by upstream land use tends to be beneficial as it promotes habitat complexity, provides bed mobility to flush out fine sediment or accumulated organic detritus. If the flow changes to the creeks really are as severe as indicated, these creeks could see a reduction in food quality and habitat for native aquatic biota. This could be a negative impact.

Figures 26 and 27 show a significant delta at the mouth of Zavoral Creek that is most likely the result of years of sediment transport from that creek, possibly affected primarily by major events. One such event is believed, locally, to have occurred during previous operations of the mine, although no data are known to support this belief. Nonetheless, the overall result is an intrusion of gravel and sediment into the St. Croix and the formation of the delta as indicated. Local boat operators are familiar with this location because the mouth of the creek and the sediment deposited there form a sill, causing water upstream to deepen a bit and providing a slow moving depositional zone on the upstream end. Directly at the sill there is frequently a small riffle extending about 10 to 20 feet from shore, with an eddy and additional depositional zone in the ensuing tailrace of the riffle. This riffle

is one of the few places in the river with a predominantly gravel substrate rather than sandy bed, which may have habitat implications for certain riverine species. The eddy tends to be a more depositional environment, but does remain relatively deep due to the higher velocity flows entering from above. During low flow periods in late summer, this riffle-eddy complex formed by the delta from Zavoral Creek can become part of the chief navigational channel for motor boats going upstream or downstream and attempting to avoid grounding on the shallow sandbars that tend to form in mid-channel. Fishing can be quite good on both the upstream and downstream portions of the delta, as it provides complex habitat with cool water and probably macroinvertebrate drift entering the river from the creek. In the past, there were small but catchable trout in Zavoral Creek. Whether there are now was not addressed in the EIS that I could find.

Operation of the mine, and in particular changes to the flow regime in Zavoral Creek as indicated, could negatively impact the natural sediment transport processes in the stream that help maintain the delta. Whether these processes were altered by previous mine operations most likely cannot be determined at this point in time, but the delta and riffle have come to be a well known geomorphic feature in the river. Mining-related changes in discharge and sediment transport processes in Zavoral Creek should not be allowed to significantly reduce or add to flow and sediment transport in the creek.

18 May 2012

To: City of Scandia

Re: Comments in response to the EIS: Tiller Mining and Reclamation Proposal

Mayor Simonson, and Council Members, Anne Hurlburt and Planning Commission:

Thank you for the opportunity to comment, and for organizing the PAC—which gave all citizens an opportunity to interface with agencies, scientists and others on a key proposal that will effect Scandia, and our neighbors, including the St Croix River, for many years. I hope that the processes and considerations taken to discuss this one building permit proposal, albeit exhaustive, give Scandia a unique perspective on its own future as a city.

My concerns about the adequacy of the EIS are many. I will focus my comments on one key issue. The EQB guidelines for the purpose of an EAW include a 30-day scoping period in advance of an EIS. The guidelines state, “The purpose of the scoping is to focus the EIS analysis on the pertinent issues and to determine what reasonable alternatives will be compared to the project.”

We were informed that the scope for the Tiller Mine proposal on the St Croix River did not need to include an alternative site. Yet, this is a requirement of the EQB Guidelines.

I am concerned about the many changes made to the proposal during the 3 years of the EIS process. It’s hard to believe that Tiller, who had years to consider their application to reopen this site, would somehow neglect the issue of water pumping volumes in their initial proposal. The subsequent change to the proposed use of this site, eliminating washing and processing, initiated many changes to the proposal over the 3+ years. And, I believe, confused the process and misrepresented Tiller’s intent. By avoiding a permit to use the existing well on the Zavoral site, Tiller has side stepped the over sites that a pumping permit requires. But, they were able to submit their proposal to reopen this settled, and on-the-way-to-recovery site, in the nick of time, before a new comprehensive plan was officially adopted. And, they began the review process with a confusing, and surprising side-step to the initial scope.

Meanwhile, the proposed scope of this mine has changed (amount of water to be used, how and where that water will be discharged, the kind of mining operation, the size of the mine and the depth of digging, years of proposed operation, truck traffic volumes and patterns, chemical storage on the site, etc.) without adequately showing the equal value of an alternative site, nor the real value of a “no build” alternative. These are measures that, when not adequately considered, will impact all of us in Scandia, and our neighbors, but in ways that we cannot imagine. The scopes have fluctuated, but the analysis does not give us a clear picture of the outcomes. Who can keep up?

This issue of scope is a legal one. There may be many instances when an alternative site is not included in an EIS. But there is legal precedent to show that the issue of scope changes, without adequate alternative analysis, is de facto outside the EQB guidelines.

Sincerely,

Pam Arnold, Scandia
26560 220th Street North
433-4937

RECEIVED

MAY 18 2012

CITY OF SCANDIA

HELLO,

WITH THIS LETTER I JOIN THE MANY OTHERS WHO QUESTION THE VALIDITY & ACCURACY OF THE CURRENT EIS STUDY BEFORE THE SCANDIA COUNCIL. AS IT STANDS, IT APPEARS TO BE FLAWED AND DECIDEDLY LEANING IN FAVOR OF TILLER. THE FOLLOWING STATEMENTS AND QUESTIONS ADDRESS SOME OF MY CONCERNS.

① TRAFFIC:

I LIVE VERY CLOSE TO THE INTERSECTION OF 97 & 95 AND ON THE DATES & TIMES LISTED BELOW, I DID A TRAFFIC COUNT OF ALL VEHICLES TRAVELLING EAST & WEST. I DIDN'T COUNT NORTH/SOUTH TRAFFIC ON 95 BUT THERE WERE MANY VEHICLES OF ALL TYPES MOVING THROUGH THAT INTERSECTION AS WELL. ADDING EVEN MORE TO THE COUNT LISTED BELOW.

4/29/2012 BETWEEN 10-11AM. - 144 CARS, 47 GRAVEL TRUCKS, 32 SEMI'S

5/2/2012 BETWEEN 10-11AM. 205 CARS, 34 GRAVEL TRUCKS, 45 SEMI'S.

5/2/2012 BETWEEN 3:30-4:30PM. 355 CARS, 20 GRAVEL, 25 SEMI'S, 14 CYCLES

5/4/2012 BETWEEN 10-11AM. 251 CARS, 42 GRAVEL, 32 SEMI'S, 1 CYCLE.

FOR MUCH OF APRIL & ALL OF MAY SO FAR, ALL TRAFFIC HAS BEEN QUITE HEAVY. DUE IN PART I'M GUESSING TO ROAD CONSTRUCTION TO THE NORTH DETOURING THE TRAFFIC & TO SOME TRUCKERS USING LESS TRAVELLED HIGHWAYS IN ORDER TO AVOID TROOPERS & INSPECTIONS, WITH THIS HEAVIER TRAFFIC, WE HEAR MANY LOUD ENGINES, ENGINE BRAKES, ROAD NOISE, PUMPS, AND HAVE DIFFICULTY ENTERING/EXITING OUR DRIVEWAY. PLUS THERE HAVE BEEN 2 ACCIDENTS ALREADY. THESE INCONVENIENCES AND INCIDENTS SHOW US ALL WHAT WE HAVE IN STORE IF TILLER PUTS 560 OR MORE TRUCK TRIPS ON TOP OF THE NORMAL TRAFFIC.

ALSO, NOTHING HAS BEEN SAID ABOUT THE GRAVEL PITS OWNED BY OTHER COMPANIES WHO USE THESE HIGHWAYS. WHAT IF THEY ALSO HAVE AN "EVENT" AND HAVE HEAVY HAUL

over

PERIODS?

REGARDING THE ABOVE, WHAT MODEL WAS USED FOR THIS E.I.S. TO EVALUATE THE TRAFFIC AT THE 97/95 INTERSECTION? IS IT CORRECT THAT THE STUDY USED DID NOT INCLUDE THE POTENTIAL TRAFFIC CROSSING 97 AS THOROUGHLY AS THEY SHOULD BUT FOCUSED MAINLY ON RIGHT TURN/LEFT TURN TRAFFIC? WOULD BY INCLUDING THE CROSSING ISSUE CHANGE THE MN, STATE OR COUNTY'S RULING? DID YOU NOTICE HOW "ATTRACTIVE" THE GRAVEL PITS ON 95 NORTH OF SCANDIA ARE? DEEP & UGLY WITH NOISE, AIR POLLUTION, AND HEAVY TRUCKS CAUSING DANGEROUS & ABRASATING TRAFFIC CONGESTION. JUST THE THING TO HAVE RIGHT AT THE 'FRONT DOOR' TO THE SCANDIA COMMUNITY!

② PROPERTY VALUES.

I AND MANY OTHERS QUESTION & DOUBT THE CONCLUSIONS DRAWN IN THE E.I.S. A DIFFERENT MARKET STUDY THAN THE ONE THEY USED SHOWED A MUCH LARGER DROP IN VALUES THAN SUGGESTED. WHY WASN'T THE MORE PERTINENT STUDY ALTERNATIVE WHICH WAS PRESENTED AT THE MOST RECENTLY HELD PUBLIC MEETING USED? I CAN PERSONALLY ATTEST TO THE FACT THAT TRAFFIC SUBSTANTIALLY AFFECTS PROPERTY VALUES. WITHIN THE LAST 3 YRS WE SOLD A HOME AND BOUGHT A HOME BOTH ARE ON ROADS WITH HIGH TRAFFIC. EACH SOLD AT LEAST 20% BELOW MARKET DIRECTLY BECAUSE OF IT.

③ AIR QUALITY:

EXISTING E.I.S. ACKNOWLEDGES A SLIGHT RISK FOR THOSE LIVING WITHIN $\frac{1}{4}$ MI. OF PROPOSED MINE. CONSIDERING MUCH OF THE OTHER DATA INCLUDED IN THE CURRENT E.I.S. IS QUESTIONABLE AND UNDERSTATED, THE HEALTH RISK IS QUITE POSSIBLY