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**Memorandum**

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To: Scandia City Council and Scandia Planning Commission  
From: Greg Korstad   
Date: December 19, 2012  
Re: Response to Planning Commission Public Hearing Testimony Presented  
December 4, 2012 and December 12, 2012

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This memo is submitted on behalf of Tiller Corporation (“Tiller”) the applicant for a Conditional Use Permit (the “CUP”) to authorize development of the Zavoral Mining and Reclamation Project (the “Project”) on a 114 acre site (the “Property”) in the City of Scandia, Minnesota (the “City”) owned by Dr. James and Katherine Zavoral.

The purpose of this memo is to provide context for the Planning Commission’s consideration of information presented by those testifying at the two evenings of public hearings held by the Scandia Planning Commission. We also provide guidance to inform the City’s consideration of testimony presented. This general commentary will be supplemented with responses to specific statements made by those presenting factual information in the public hearings.

**General Comments**

It is important to recognize in the context of considering a conditional use permit that the City has already made a number of determinations in its review of Tiller’s request. Each of these determinations has affected the review process and has affected how the City considers this Project as well as the Zavorals’ and Tiller’s ability to responsibly utilize the mineral resources at the Property.

**The City has determined to prepare an extensive Environmental Impact Statement (“EIS”) which has presented extensive factual information about the Project.**

Following Tiller’s submittal of an application for the CUP and a draft Environmental Assessment Worksheet (the “EAW”), the City determined that it needed more information about the environmental circumstances of the Project in order to determine whether to prepare an EIS. At that time the City had the ability (and Tiller would suggest the obligation) to prepare a complete and thorough EAW which could be used to consider whether to prepare an EIS for the Project on the merits of a complete and thorough understanding of the issues raised in environmental review. Tiller requested that the City obtain the information about the Project which had been or could be readily obtained and was readily obtainable and use that information

to supplement the EAW. Instead, the City determined that more information was needed in order to evaluate the Project and prepared an Environmental Impact Statement. The EIS is the City's presentation of its understanding of the environmental effects presented by the Project.

As required by law, the City is to consider any stated environmental impacts (or lack thereof as revealed in the EIS) and the ability to mitigate any potential environmental impacts through government regulation in the City's permitting process. The City's EIS becomes an integral part of that permitting process.

**Tiller has been working with local officials on this Project for many years dating back to before the City was incorporated.**

City Staff (and before that Staff from the Town of New Scandia and Washington County) have been working with Tiller Corporation representatives since 2002 to develop the process for submittal and consideration of land use approvals associated with the Project. The City has also considered the timing of permitting for the Project and the effects of the City's ongoing consideration of changes to its Comprehensive Plan and the development of mining and land use ordinances. In this context, there are three significant considerations:

- The Project is completion of an existing facility which was operated for decades at its location and has still not been completed and reclaimed. A significant amount of excavated construction aggregate stockpiles exist on site and approximately 38 acres of this site is exposed sand and gravel which does not support substantial vegetation and has an irregular landform inconsistent with the surrounding area.
- Tiller Corporation initially presented its request for consideration of reopening this facility in November 2006. A \$5000 environmental review/permitting escrow was established with the Town Board by Tiller's payment to the Town Board on November 16, 2006. Consideration of operation of this facility began when the City was still organized as a township and followed the 2020 Comprehensive Plan which authorizes mining in the agriculture district. After incorporation of the City, a formal application for the CUP was submitted two years later in November 2008.
- Following submittal of Tiller's application the City Staff continued to review the Project under the comprehensive plan in existence at the time of submittal. On two separate occasions, the City Council was asked to confirm whether to consider the Project under the 2020 Comprehensive Plan or under the 2030 Comprehensive Plan. In both instances, the City Council made a clear choice to have the Project reviewed under the 2020 Comprehensive Plan.

### **The Project is reviewed under the City's Comprehensive Plan**

The City has determined to review the Project under the City's 2020 Comprehensive Plan. Notwithstanding that determination many commenters contend that the Project should be reviewed under the 2030 Comprehensive Plan. That issue has been resolved and decided by the City Council.

Under the 2020 Comprehensive Plan, the Project would be allowed at the location where it is proposed if a conditional use permit can be obtained. State law requires that a city issue a conditional use permit for a facility that has been demonstrated to meet the standards of the city for issuance of the conditional use permit. Accordingly, the City must, if it finds that the seven standards of its zoning code are met, issue the conditional use approval for the Project. The City is without authority to make a decision based on public opinion, popularity or stated opposition to the Project, but must make a decision on a rational basis which is neither arbitrary nor capricious and, is based upon substantial evidence in the record of its deliberations.

The Project has no lack of detractors, however a thoughtful review of the opposition reveals it is just the sort of unsupported opposition which cannot support the City's action. The City and its Planning Commission have received comments from several people and groups both for and against the Project. These comments also include strong opinions (and some from very important and well meaning people) about whether, in their view, the Project is favorable or desirable and whether commenters support or oppose the Project. It is important to a meaningful decision for the Planning Commission and City Council to sort out those who simply state a preference from those who make a substantive comment or identify an impact or effect from the Project, as only substantive comments can be used as a basis for the City's decision.

Also presented was the opinion that the Project needed to provide a specific benefit to the community (It was even proposed that it be taxed to benefit the City) or fill an unmet need for materials. Those efforts also misstate the function of the Planning Commission's review of the application by attempting to exact a public benefit or function from this private land.

Some testified that they were opposed to the mine *before* the EIS was prepared and remain opposed *even after the EIS conclusion that the Project will not have significant environmental effects*. This type of thoughtless opposition cannot be relied upon to support a rational land use decision. These are the same Project opponents who asked the City to make a meaningful investigation of the potential for environmental effects hoping to find support for their arbitrary opposition and now are criticizing the process when it didn't produce the desired result. It is telling when the opposition shifts from discussing the need to understand the environmental effects of a Project and instead focuses on criticizing the evaluation of those issues and the staff who objectively analyze the result.

The City also continues to receive comments from those who raise questions rather than provide information or review the voluminous details the City has developed about the Project the Proposer or the permitting process. These questions include such things as:

- What was the response to the "gravel bar" in the river and how would it be handled today?
- Does the Planner have a bias?
- Does the Project present something "good" for the City? Why is the Project needed by the City?
- Is the Project really about mining industrial sand for hydraulic fracturing?

The Planning Commission hearings generated a significant *quantity* of testimony and information about the Project, however the *quality* of almost all of the information presented in opposition to the Project does not meet the standards for information upon which the City could rely in denying the CUP. The objective, rationally based, factual information presented supports issuance of the CUP as your Planner has described. This memo presents the analysis of information presented in the public hearings in three segments.

1. First, the testimony is summarized with the factual information presented after it is separated from the opinion or advocacy statements made in opposition to the Project;
2. Secondly, Tiller Corporation's substantive response to substantive comments is presented, and
3. Thirdly we present recommendations for resolving the issues raised in the comments.

Substantive Comment	Proposer Response	Proposed Resolution
<b>Comments related to the St. Croix River</b>		
<p>It was contended that sounds on the St Croix River should be managed so that they do not include human generated noise. It is claimed that the River experience is harmed if river users or wildlife can hear the Project’s machinery and vehicle sounds at the river, contending it will be the only human noise perceptible on the river. It is also contended that noise levels at the River will be increased.</p> <p>Project opponents have also contended that Federal noise requirements supersede City and State regulations and standards. No specific Federal rules or regulations were presented. The opponents treated the statements against Project noise made by National Park Service staff as presenting a Federal noise “standard.”</p>	<p>Department of Interior National Park Service staff noise level studies show the ambient sound levels at the River. Noise modeling from the EIS confirms Project noise will not significantly exceed and generally will be below the ambient levels and will be well below the State standards at all receptor locations. (see Attachment 1)</p> <p>Current human noise sources along the River include vehicle sounds from Trunk Highway 95 (Trucks cars and motorcycles), human activity at the various residences along the Riverway, agricultural equipment and motor boats. Each of these sources adds human generated noise perceptible to animals and users of the River.</p> <p>State statutes allow motorboat noise levels on the River of 82 decibels (Minn. Stat., Section 86B.321, Subd 2) which is perceptively twice as loud as state standards for the mine noise.</p>	<p>State law requires the City to follow state standards in administering noise regulation. The City must act rationally. To exclude some human generated sounds (the Project) while allowing others (Other vehicles, motorboats and other landowners’ activities) is arbitrary action. The CUP should require adherence to State Noise Standards.</p>

<b>Substantive Comment</b>	<b>Proposer Response</b>	<b>Proposed Resolution</b>
<p>Impacts to the St Croix Wild and Scenic River were claimed including affects from the location being “on the boundary of the National Park”</p>	<p>The Project is adjacent to Scenic Easements acquired by the Department of Interior as a buffer for the River, but the land is still privately owned. Although managed by the National Park Service it is misleading to say the private properties with scenic easement restrictions are a National Park.</p> <p>The Federal Scenic Easement area operates as the buffer to protect the river. The Scenic Easement area excludes all the parts of the Project except the segment of previously mined and un-reclaimed areas proposed only to be reclaimed without any mining, providing a positive impact to the St. Croix Wild and Scenic River.</p>	<p>The CUP should require that active mining not be allowed in the Scenic Easement area, and should require reclamation of the Scenic Easement area at the earliest opportunity.</p>
<p>An allegation was made that tourism interests in the City would be impaired by the Project; however the testimony did not identify which if any tourism interest is affected or identify a characteristic of the Project which would have that effect. The testimony did not identify how the Project would operate to affect tourism interests.</p>	<p>There are no tourism interests on the Project site. The EIS describes how, with mitigation, the Project does not present any significant impacts off-site.</p>	

<b>Substantive Comment</b>	<b>Proposer Response</b>	<b>Proposed Resolution</b>
<p>Testimony was presented about the impacts of another mining facility on the St. Croix River from the perspective of an outfitter operating a commercial business on the River. Tiller Corporation is criticized for having a settling pond leak at that facility.</p>	<p>What is not presented is that the pond was immediately repaired when the leak was discovered and the site operations reconfigured to prevent re-occurrence.</p> <p>It is also important to note that that the Grantsburg facility cited as precedent is a full scale mine with extensive processing operations which has received permits from the local zoning authorities. Note that although it is in an even more remote section of the River than Scandia, when the National Park Service was involved in the permitting proceedings it did not present nearly the amount of opposition it has presented for the Project nor did it present such persistent opposition.</p> <p>The continued existence of the outfitter's business and the NPS wilderness campsites in the vicinity of the Grantsburg facility are evidence that a full scale mining operation can co-exist with river oriented businesses and other activities. This circumstance demonstrates that a limited restricted facility (no processing) like the Project is compatible with river oriented interests.</p>	

<b>Substantive Comment</b>	<b>Proposer Response</b>	<b>Proposed Resolution</b>
<p>Trucks use of motor fuel on the Project was cited as a potential pollution hazard to the river; however no evidence of any increased hazard unique to this Project was presented.</p>	<p>The EIS discusses the use of fuel driven equipment in the Project and how the refueling of this equipment would be accomplished from fuel trucks. This prevents spills by not storing fuel on the property and having designated fueling locations and activities. In contrast to the other uses along the River, Tiller has an active program of fuel management and spill prevention.</p>	<p>The CUP should require following the comprehensive standards for managing fuel as administered by the MPCA.</p> <p>The CUP should require following Tiller's Groundwater Quality Protection Plan Dated October 2012 and as revised by the City's consulting hydrogeologist's recommendations.</p>

<b>Substantive Comment</b>	<b>Proposer Response</b>	<b>Proposed Resolution</b>
<p>The National Park Service seeks to have the City impose sound restrictions which would prohibit certain sounds and allow others, contending the impacts to peace and solitude on the river is different for different sources.</p>	<p>The arbitrary and subjective distinction between acceptable and allowable objectionable sounds is an improper arbitrary and capricious determination which is not allowed. To the extent there is a meaningful federal interest the federal government has the strength to protect it. By claiming the need for the City to act for it, the National Park Service is confirming it does not have a standard it can enforce. This issue was presented and addressed in the EIS based upon consistency with the National Park Service's Management Plan for the River. A sound action by City will be sustainable only if it is based upon a standard for the decision.</p> <p>Minnesota Statutes calls for preemption of noise regulation by MPCA. Minn Stat 116.07 subd 2 states "No local governing unit shall set standards describing the maximum levels of sound pressure which are more stringent than those set by the Pollution Control Agency."</p>	<p>The ability of the National Park Service to enforce and administer its noise regulations is not affected by the City's actions on the CUP. The City's CUP should require adherence to State Noise Standards.</p>

Substantive Comment	Proposer Response	Proposed Resolution
<b>Comments related to Traffic</b>		
<p>Changes in the traffic pattern by adding a crossroad is presented as an increased safety risk.</p> <p>Professional traffic engineering testimony is that the crossing intersection has more potential conflict points but fails to analyze traffic leaving the Project site to travel west on highway 97. Professional testimony does not identify specific unsafe conditions or claim that the MN/DOT approved design is unsafe as presented.</p>	<p>Simply presenting a crossing intersection does not mean it is not safely designed. The EIS confirms that MN/DOT standards are met for the intersection.</p> <p>It is important to understand that the Project traffic is primarily directed west onto highway 97 and thus would not benefit from offset design intended to facilitate turning exits from properties.</p>	<p>The CUP should require construction of road improvements in accordance with Minnesota Department of Transportation recommendations and standards</p>
<p>Impacts from trucks using Trunk Highway 97 were presented and it was alleged that the Project will increase traffic on Highway 97 past the Scandia elementary school.</p>	<p>The EIS presented an analysis of traffic from the Project. This analysis shows that traffic on highway 97 would not be significantly increased because the materials being hauled on Highway 97 are replacing the materials currently used as add rock at the Scandia Mine.(See Attachment 2)</p>	

Substantive Comment	Proposer Response	Proposed Resolution
<b>Comments related to Property Values</b>		
<p>Opponents predict that the operation of the Project could affect values of nearby property. These concerns are not supported with any objective analysis to refute the analysis of the EIS</p> <p>A spokesperson for an opposition group presented a statement that a mortgage broker predicts a 25% diminution of values near the Project, but does not present any support for that allegation.</p>	<p>The analysis in the City’s EIS prepared by professional appraisers comparing values of properties at various locations shows no measurable impact to property values. This analysis focused on the West Lakeland gravel mine as an example of potential valuation impacts. Observation of development patterns there during mine operations since the 1980’s shows strong growth of high valued home surrounding the mine.</p> <p>A similar objective analysis of valuation impacts presented by Tiller confirms the lack of impacts using data from Scandia and Washington County properties.</p> <p>Attached as Attachment 3 are historical aerial photos depicting development surrounding two Tiller Corporation facilities in West Lakeland Township and Denmark Township where development patterns are clearly shown over time during the operation of full scale mining facilities. The review of the development patterns at those facilities confirms the lack of adverse effects from full scale mining operations. A limited facility like the Project would be expected to have even less impact.</p>	<p>The City should rely upon the studies presented in the EIS and comments revealing objective measured valuation circumstances.</p>

Substantive Comment	Proposer Response	Proposed Resolution
<b>Comments related to the 2020 Comprehensive Plan</b>		
<p>An opposition group presented appellate court decisions to support the contention that the Project can be denied if it does not meet the City's Comprehensive Plan. This presentation did not provide the missing segment of the analysis of whether the legal precedents presented have any correlation to the proposal before the City.</p>	<p>The law is clear each Project is judged on its own merits.</p>	
<p>A mining industry lawyer testified that the Project area was a "wrong location" for the Project; however the only rationale for that conclusion which was presented was a generic listing of interests advanced by the City's current 2030 Comprehensive Plan.</p> <p>Traffic was cited as a problem to be remedied with a signalized intersection. That is not a rural value!</p>	<p>A knowledgeable industry source would be able to identify specific significant effects from the Project if such existed.</p> <p>The cited "rural character" and "natural resource values" and "scenic views" called out as important criteria are all well met by the current Project. A gravel mine has a very rural character and produces value from the natural resources being mined (while operated in a way to mitigate impacts to other natural features) and is especially sensitive to views in the riverway as the Project has eliminated the stockpiling washing and crushing equipment which would otherwise be visible.</p>	

<b>Substantive Comment</b>	<b>Proposer Response</b>	<b>Proposed Resolution</b>
<p>The Planning Commission is being urged to impose a “higher standard” on this Project because of certain factors: the River, wildlife areas, geologic features and river mussels. It was not stated how this higher standard changes the Project’s relationship to the interests sought to be protected.</p>	<p>The City has already imposed the highest scrutiny it can place on the Project by performing the highest level of environmental review, preparing an EIS and tasking its consultants to evaluate each of the features identified in those comments. The result is that the lack of potential for harm to these features from the Project is fully understood. These features are protected from harm by the Project components and mitigation measures identified in the EIS.</p> <p>The City standards are those in its ordinances. State law does not allow a City to arbitrarily change its standards.</p>	
<p>Project opponents contended that the mine Project will “go on forever” but presented no support for that contention.</p>	<p>There is no information in the EIS , the Project presentation by Tiller or the City’s review of this Project to support this claim. To the contrary Tiller has presented the Project as removing a discreet sand and gravel deposit above the 840 elevation and immediate reclamation. Thus the Project is inherently limited in size and duration.</p>	

Substantive Comment	Proposer Response	Proposed Resolution
<b>Comments related to Natural Features</b>		
<p>Commenters characterized the wooded areas not previously mined as an important resource, proposing it is a wooded area which needs to be preserved without presenting any evaluation of the circumstances of the wooded areas.</p>	<p>Photos of the site presented at the hearing show that it is predominantly barren unvegetated area. The EIS confirms that the trees on the site are mostly poor quality varieties. There is an unmined area of 9 acres in the Project, however only a portion of that area is wooded.</p> <p>Although the trees on the unmined areas not previously mined are of higher quality than those elsewhere on the active mining area they are not the highest quality wooded area on the site and are only considered a moderate quality wooded area. These wooded areas are only a portion of the unmined area.</p> <p>The Minnesota DNR operated Natural Heritage Program’s Element occurrence ranking Guideline classifies the unmined woods as a C scale wooded area without any special characteristics. This is based upon the fact that this woods shows evidence that it has been degraded from past logging and pasture uses. This woods is of similar quality to most remnant woods found in throughout the City.</p> <p>This wooded segment does not have the higher quality “forest interior characteristics—rather</p>	<p>The City should require reclamation of the Project site in accordance with a City approved plan as presented in the EIS.</p>

Substantive Comment	Proposer Response	Proposed Resolution
	<p>it is a remnant on the edge of the wooded areas. The wooded areas not affected by the Project are of higher quality—greater species diversity, older age, more interior characteristics, better connected to the River Corridor, less presence of invasive species. In addition it is important to recall that the Project and its reclamation plan will facilitate the execution of the forest management plan for the remaining higher quality wooded areas.</p>	
<p>A neighbor to the North testified that his property which has many natural features and is eligible to be classified as a scientific and natural area by the DNR, may be affected; however no information was presented about what or how those features may be affected.</p>	<p>The EIS describes how the potential environmental impacts which without mitigation could emanate from the Project are capable of mitigation with identified management practices related to groundwater and surface water protections and reclamation activities.</p>	<p>The City should require mitigation activities identified in the Stormwater Pollution Prevention Plan, Surface Water Plan, Groundwater Quality Protection Plan and the Zavoral Property Reclamation Plan submitted October 2012 as a supplement to the CUP permit application, as a condition of the CUP.</p>
<p>Additional information about the hydrogeologic setting of the Project was presented from Scott Alexander. This information raised questions about the function of the site once operations occur.</p>	<p>This information describes two important circumstances. First the confining layer separating the deep aquifer seeps from influence by the Project is confirmed. Secondly, the infiltration will be able to be monitored by comparing changes in groundwater elevations at the onsite monitoring well with other data points to track site performance.</p>	<p>The City should require that the project's proposed Groundwater Quality Protection Plan which includes monitoring of groundwater levels, be implemented.</p>

<b>Substantive Comment</b>	<b>Proposer Response</b>	<b>Proposed Resolution</b>
<p>Reclamation of the Project was challenged as not resulting in usable landforms and was characterized as leaving behind a “60 foot deep hole.”</p>	<p>The EIS presented the dimensions and current topography of the Project and final restoration grades. The Exhibits presented by Tiller’s Project engineer showed the way the “before” and “after” profiles are very similar and depicted the resulting landform which mimics the natural river terraces immediately to the north of the Project. See Attachment 4 presenting a three dimensional view of the Project before and after reclamation and three cross section views.</p>	<p>The City has the ability to require reasonable monitoring of the Project and should do so in the Annual Operating Permit for the Project.</p>
<p>Opponents sought to have the City apply a subjective noise standard based upon the source of the sound—trucks and mining equipment rather than the level of the sounds as described in state standards.</p>	<p>State law requires following state standards.</p>	

Substantive Comment	Proposer Response	Proposed Resolution
<p>Commenters contended that the Project would adversely affect important City assets including specifically: Parks, the scenic byway the “Highway 97 gateway” and Wind in the Pines Park. Commenters did not present any explanation of how those assets would be affected.</p>	<p>The Project has been specifically designed to include features which operate to avoid any adverse effects to these interests. Specifically, the setback from Trunk Highway 95 the sloping topography of the site eliminating on site storage and processing of excavated materials will minimize the visibility of the site so that it will not be prominently visible and difficult to be seen from the highways and the River.</p> <p>Eliminating processing takes away the ability of the Project to produce adverse impacts as described in the City’s EIS.</p>	

**Conclusion**

The City and its Planning Commission should take significant comfort from the testimony presented in the Public Hearing segment of its review of the CUP. This comes from the fact that the testimony presented did not provide any information that is materially different than that which has been presented in earlier discussions of the Project. Thus the conclusion can be reached that the City has thoroughly gathered the information available about the Project.

The City and Planning Commission can also take comfort that the considerations of the Project have identified areas where the Project could have the potential for adverse effects but only *if allowed to occur without proper mitigation by enforcing appropriate conditions in a CUP (and the Associated Annual Operating Permit)*. The corollary is also proven—***the Project can be implemented without adverse effects to the City’s interests with appropriate conditions.*** The Environmental Review proceedings and the Public Hearing testimony form the basis for development of those appropriate conditions. We look forward to working with the City in that pursuit.

**Comparison of Predicted L50 Levels with Minnesota Noise Standards (dBA)**  
**Negative numbers reflect magnitude below the applicable Minnesota Noise Standards that the maximum and average noise levels are predicted to fall within each phase of mining.**

Receptor	Phase 1		Phase 2		Phase 3	
	Maximum	Average	Maximum	Average	Maximum	Average
1	-11.3	-15.7	-18.1	-18.6	-15.7	-17.2
2	-10.3	-14	-15.2	-16.1	-14.3	-15.6
3	-8.3	-14.6	-14.2	-15.4	-14.8	-15.6
4	-10.5	-15.1	-11.1	-13.5	-13.8	-15.7
5	-19.5	-22.5	-19.3	-20.5	-13.3	-21.2
6	-18.7	-23.7	-10.1	-13	-17.8	-19.9
7	-21	-25.2	-16.8	-19.5	-17.5	-22.2
8	-21.6	-26	-16.8	-19.5	-19.2	-23.1
9	-22.2	-26.9	-16.8	-19.9	-20.8	-24.4
10	-28.6	-30.3	-26.3	-26.9	-26.1	-26.9
11	-30	-34.6	-30.2	-31	-27.8	-33.3
12	-24.3	-32.5	-27.6	-28.7	-26.4	-30.9
13	-32.7	-35.2	-29.8	-30.6	-30.2	-32.4
14	-11.9	-19.3	-21.7	-22.2	-18.3	-20.5
15	-12.9	-16.9	-18.1	-18.4	-18.1	-18.5

This table, from the EIS, illustrates that predicted noise levels at all receptors are well below the applicable state noise standards. It compares predicted L50 levels with the daytime L50 60 dBA residential noise standard and L50 65 dBA standard for park and recreational users and shows that predicted levels range from 8.3 dBA to 35.2 dBA below the applicable standard.

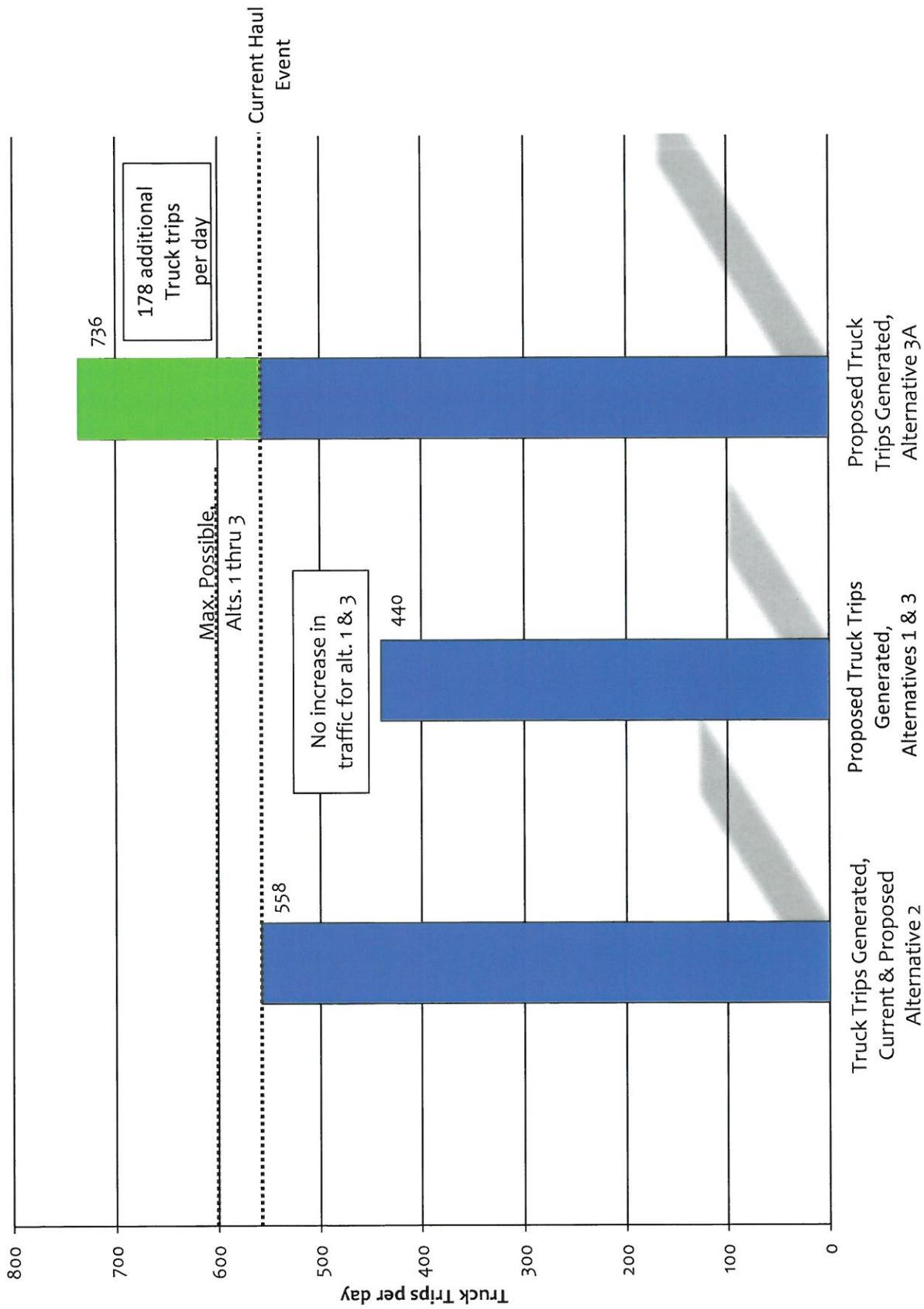
**Comparison of Average L50 levels for Mining and Haul Equipment with ambient L50 levels**

Receptor	Range for Phases 1 - 3	Ambient	Range of Differences
1 Home	41.4 to 44.3	56.0	-14.6 to -11.7
2 Home	43.9 to 46.0	61.3	-17.4 to -15.3
3 Home	44.4 to 45.4	53.2	-8.8 to -7.8
4 Home	44.3 to 46.5	53.0	-8.7 to -6.5
5 Home	37.5 to 39.5	43.3	-5.8 to -3.8
6 Home	36.3 to 47.0	43.7	-7.4 to 3.3
7 Home	34.8 to 40.5	38.2	-3.4 to 2.3
8 Home	34.0 to 40.5	38.2	-4.2 to 2.3
9 Home	33.1 to 40.1	38.0	-4.9 to 2.1
10 Home	29.7 to 33.1	34.3	-4.6 to -1.2
11 River	30.4 to 34.0	39.4	-9.0 to -5.4
12 River	32.5 to 36.3	39.4	-6.9 to -3.1
13 River	29.8 to 34.4	39.4	-9.6 to -5.0

This table, based on Table 4.6 from the EIS, shows that predicted average L50 levels for mining and haul equipment are lower than measured ambient levels along the river during all three phases of mining. Depending upon the phase, average L50 levels will be below predicted to just above ambient levels at the residential receptors located around the Project and still well below the states standards. MPCA's guide to Noise Control in Minnesota (Brian Timerson, 3/99) indicates that a +/- 3 dB change in Sound Level is at the threshold of perception.



# Daily Trips Generated - During Haul Events



# Attachment 3

## Historical Aerial Photos Depicting Development Near Two Sand and Gravel Mines in Washington County, MN

### Figure 1: Time series near the West Lakeland Township Sand and Gravel Mine

- Each image depicts the mining limit and the location of three residences developed while the mine has been in operation.

### Figure 2: A closer look at the three residences located near the West Lakeland Township Sand and Gravel Mine

- Each row of the figure depicts three pieces of information about each residence: an overview of the neighborhood, the actual residence and details about the residence<sup>1</sup>.

### Figure 3: Time series near the Denmark Township Sand and Gravel Mine

- Each image depicts the mining limit and the location of three residences developed while the mine has been in operation.

### Figure 4: A closer look at the three residences located near the Denmark Township Sand and Gravel Mine

- Each row of the figure depicts three pieces of information about each residence: an overview of the neighborhood, the actual residence and details about the residence<sup>2</sup>.

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<sup>1</sup> Washington County Parcel Information. Available online.

Figure 1

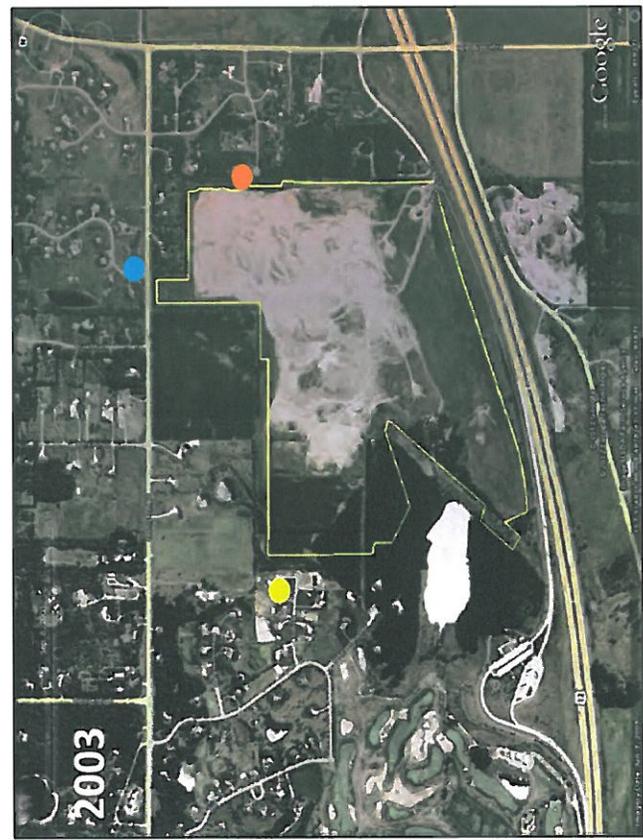
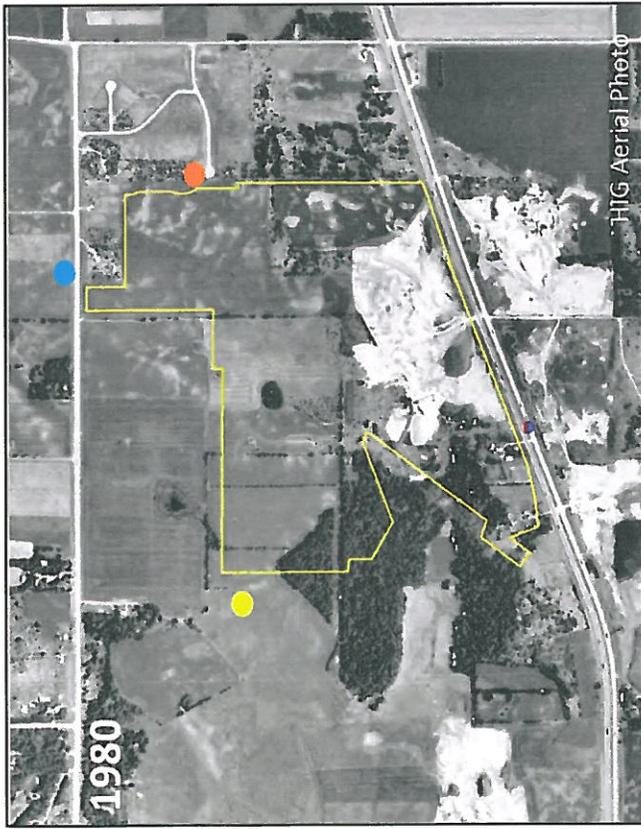
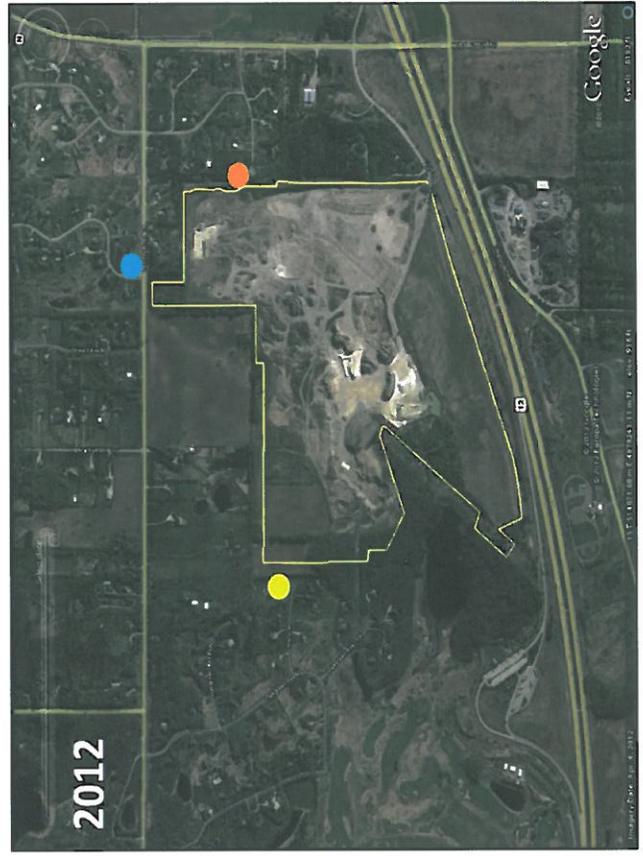


Figure 2: Three Nearby Residences to the West Lakeland Twp. Sand and Gravel Mine

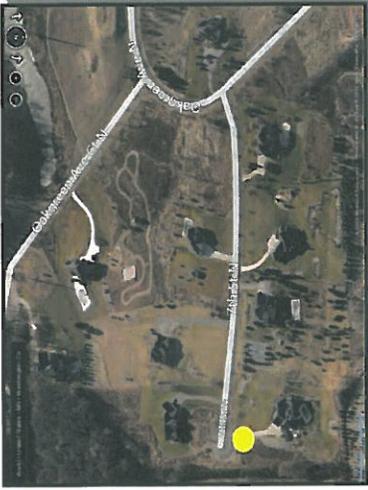
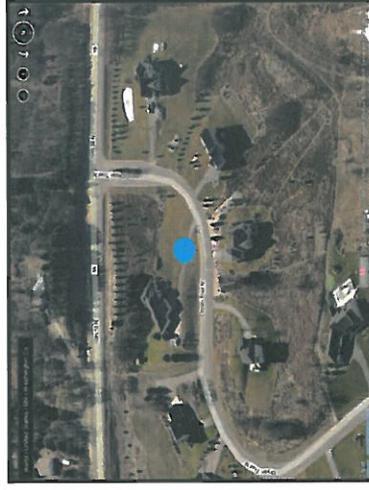
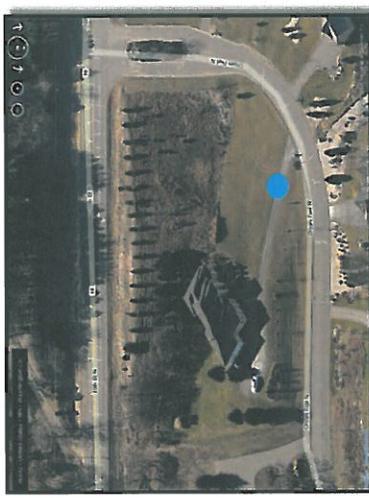
 <p>Comparison 1: Neighborhood</p>	 <p>Comparison 1: Residence</p>	<p>Total Value 2012: \$574,000                  Total Living Area: 3,918 sq. ft.                  1.55 Acres                  Year Built: 1999                  14214 7<sup>th</sup> Street North, West Lakeland Twp                  Distance to mining limit: 0.05 Miles or 265 Feet</p>
 <p>Comparison 2: Neighborhood</p>	 <p>Comparison 2: Residence</p>	<p>Total Value 2012: \$252,100                  Total Living Area: 1,664 sq. ft.                  1.50 Acres                  Year Built: 1989                  15060 8<sup>th</sup> Street North, West Lakeland Twp                  Distance to mining limit: 0.05 Miles or 265 Feet</p>
 <p>Comparison 3: Neighborhood</p>	 <p>Comparison 3: Residence</p>	<p>Total Value 2012: \$550,300                  Total Living Area: 3,754 sq. ft.                  1.50 Acres                  Year Built: 1997                  1091 Oryan Trail North, West Lakeland Twp                  Distance to mining limit: 0.10 Miles or 528 Feet</p>

Figure 3

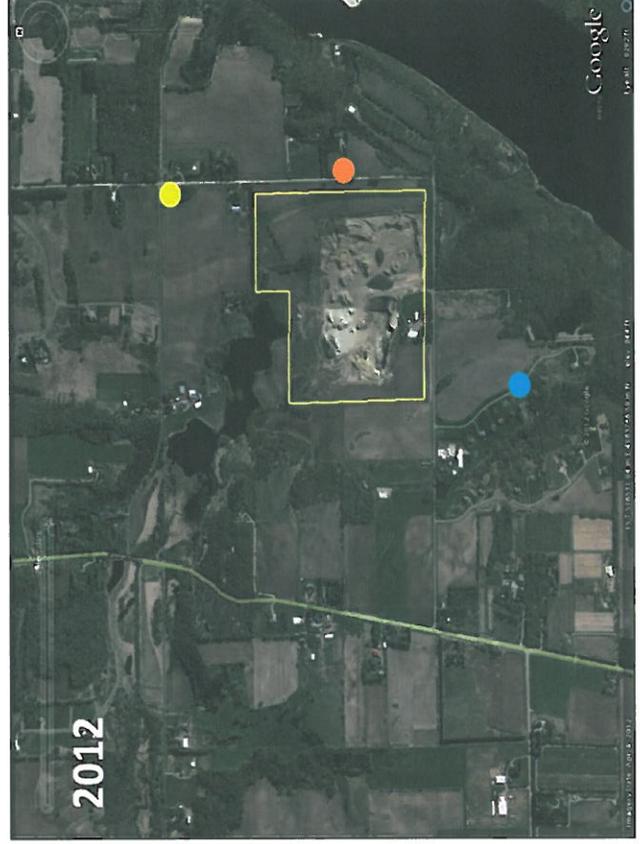
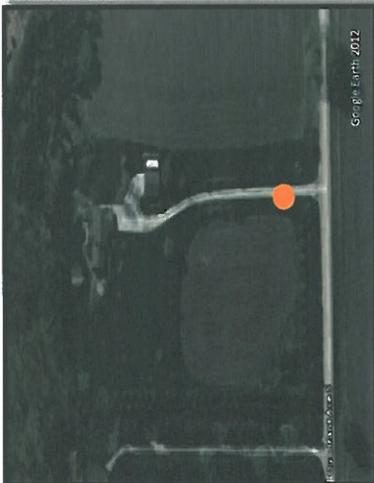
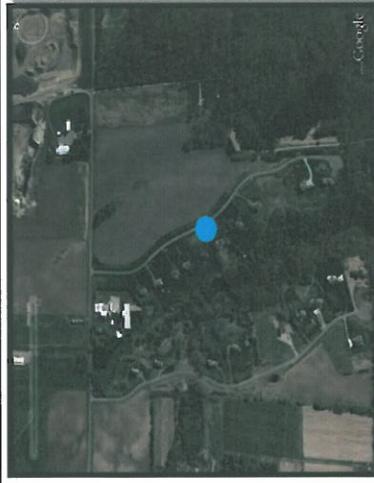
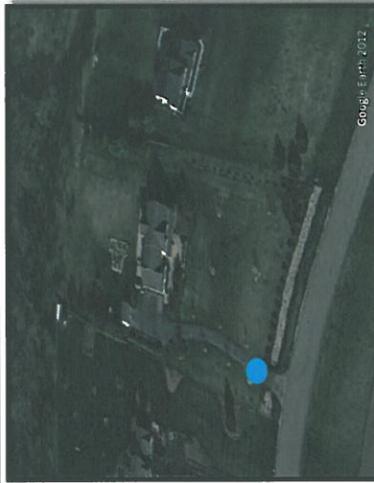
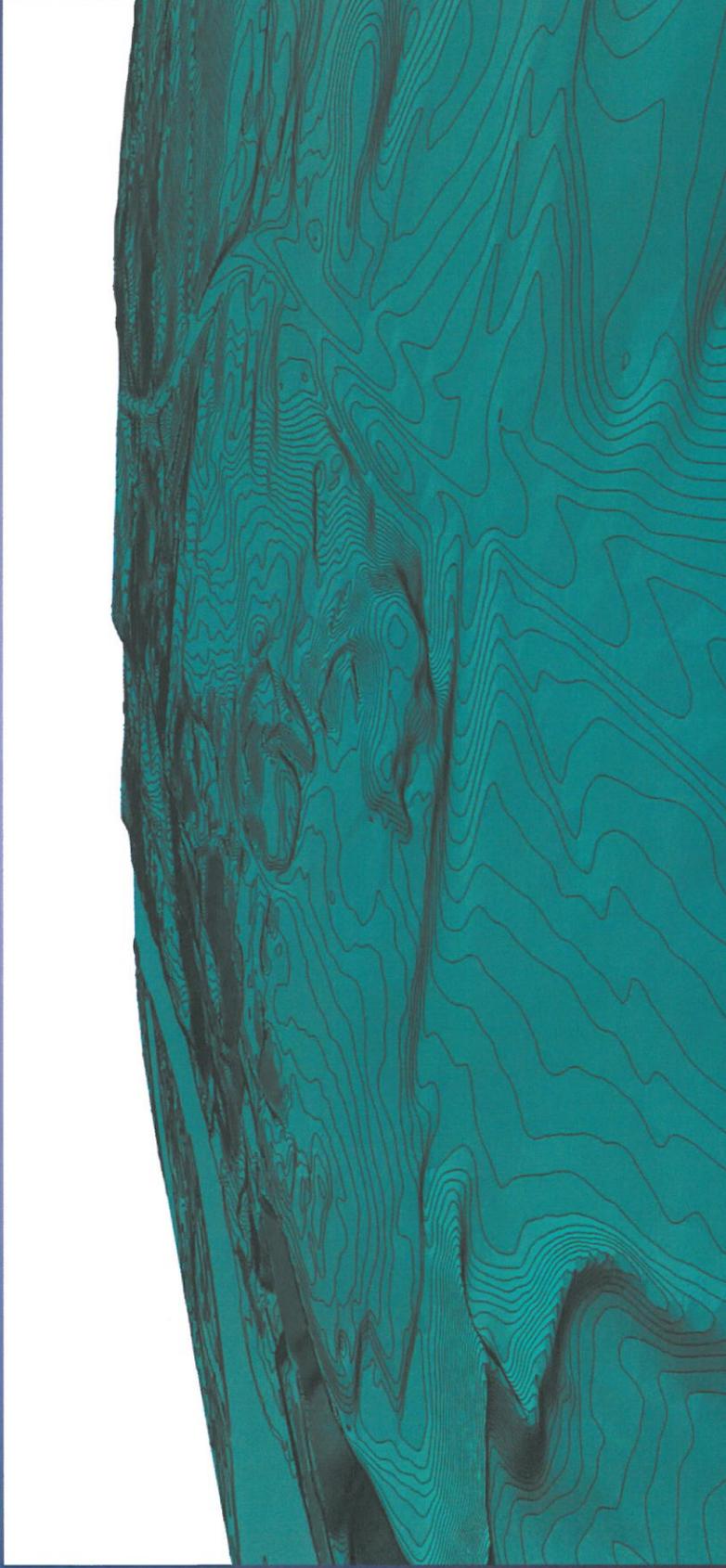


Figure 4: Three Nearby Residences to the Denmark Twp. Sand and Gravel Mine

 <p>Comparison 1: Neighborhood</p>	 <p>Comparison 1: Residence</p>	<p>Total Value 2012: \$426,600                  Total Living Area: 2,087 sq. ft.                  4.00 Acres                  Year Built: 2003                  8050 Quadrant Avenue South, Denmark Twp                  Distance to mining limit: 0.22 Miles or 1,160 Feet</p>
 <p>Comparison 2: Neighborhood</p>	 <p>Comparison 2: Residence</p>	<p>Total Value 2012: \$363,000                  Total Living Area: 1,868 sq. ft.                  3.39 Acres                  Year Built: 1988                  8501 Quadrant Avenue South, Denmark Twp                  Distance to mining limit: 0.12 Miles or 630 Feet</p>
 <p>Comparison 3: Neighborhood</p>	 <p>Comparison 3: Residence</p>	<p>Total Value 2012: \$612,200                  Total Living Area: 4,403 sq. ft.                  1.10 Acres                  Year Built: 2003                  8922 Pleasant Avenue South, Denmark Twp                  Distance to mining limit: 0.27 Miles or 1,425 Feet</p>

Attachment 4

Current view from northwest looking south  
southeast



After reclamation - view from northwest looking  
south southeast

