

Goodhue County Mining Study Committee

Summary Report
May 2013

Goodhue County Board of Commissioners:

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District 2: Richard Samuelson
District 3: Dan Rechtzigel
District 4: Jim Bryant
District 5: Ted Seifert

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2 nd (Richard Samuelson)	John Hobert
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4 th (Jim Bryant)	John Tittle
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Mining Experts:
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*Members of the 2002 committee studying Mineral Extraction Facility ordinance updates

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Lisa M. Hanni, L.S.	Director
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Kristi Gross, AICP	Zoning Assistant

Other Goodhue County staff from Land Use Management, Geographic Information Systems, Assessors, Public Works, and the County Attorney's offices provided valuable insight and information as part of this study process.

Mining Study Committee

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Introduction

This document is the second report prepared by the Mining Study Committee (MSC).

At the August 16, 2012 County Board meeting the Goodhue County Board of Commissioners approved a one year extension of the citizen request to put a moratorium on the issuance of any Conditional Use Permit for a new silica/frac sand mining operation (Mineral Extraction Facility) within rural Goodhue County.

The County Board accepted and approved the Planning Advisory Committee's (PAC) findings and recommendation, which included the MSC's report and recommendations. In addition to extension, the County Board listed eighteen other items for the MSC to review:

1. Relationship between economic and recreational value
2. Explore statewide study with the legislature
3. Existing mines not grandfathered
4. Pros/Cons of banning silica sand mining
5. Hours of operation
6. Setbacks to dwellings and sensitive features
7. Quantity limits on mining
8. High, medium and low impact mining classification
9. Meeting with Township Officials
10. How to evaluate silica sand differently, based on intensity and size, and create a definition and specific rules for it
11. Disenfranchisement of the landowners who currently own this resource
12. Land reclamation
13. Defining best practices
14. Emergency fund
15. Comprehensive Plan and silica sand
16. More definition for the reclamation funds (how to estimate, provide a three year projected amount)
17. Explore production tax or other revenue-capture financial options
18. Evaluate if there are areas that would be inappropriate for mining

As a number of these items had similar discussions, we grouped the items under the following headings:

Relationship between Economic and Recreational Value (1)

Coordinating with State Agencies and Legislature (2, 17)

Existing Registered Mines (3)

Pros/Cons of Banning Silica Sand Mining (4)

Hours of Operation (5)

Location Restrictions (6,10,18)

Limit Silica Sand Operation Sizes (7,8,10)

Meeting With Township Officials (9)

Disenfranchisement of Landowners with the Silica Sand Resource (11)

Defining Best Practices (13)

Reclamation (12,16)

Emergency Funds (14)

Comprehensive Plan and Silica Sand (15)

Through this process, the committee has consolidated their discussions, research, and suggested ordinance changes with this document. It was felt that some of the background information and discussion would be beneficial to those not

directly involved in the process to understand the thoughts and reasons behind the suggested wording changes and, why some of the ordinance wording has not changed.

Please refer to the additional information concerning the Committee's work at:

<http://www.co.goodhue.mn.us/countygovernment/committees/MiningCommittee/Miningcomm.aspx>

Relationship between economic and recreational value

This issue was discussed in the last report of the Mining Study Committee. The County has mapped existing dwelling locations and its extensive historical, cultural, and recreational features dataset. Staff provided individual maps of the County's existing registered mining parcels showing a one mile buffer and all of the aforementioned datasets.

Wording was added to the ordinance to include additional requirements for screening barriers between the operation and certain features:

Article 14, Section 6, Subd.4 J. Mineral Extraction Facilities Performance Standards.

J. **Screening Barriers. Screening barriers shall be subject to the approval of the permitting authority.**

1.To minimize problems of dust and noise and to shield mining operations from public view, a screening barrier may be required between the mining site and adjacent properties.

2.A screening barrier may be required between the mineral extraction facility and any public road.

3 .**A screening barrier may be required to mitigate visual impacts of the mineral extraction facility from existing historical, cultural, recreational features and dwellings, including but not limited to trails, navigable waters, and sites identified in the State Historic Preservation Office (SHPO) and County's cultural and archeological databases.**

In addition to the above wording, as part of Map A in the ordinance, any proposed application must include the "Location of existing historical, cultural, and archeological features identified in the SHPO and County's databases and those not identified but discovered onsite."

Through the application review process, other information such as haul routes and hours of operation are presented in order to ascertain if restrictions to any part of the operation should be added as conditions, or if the operation is such that it does not fit in the location as proposed, the application can be denied.

The tourism industry in Goodhue County has been shown to have significant importance to the economic health of the community. There are also economic benefits from the current mining operations in the County. Both industries bring jobs and revenue into the County. As in all land use decisions, it is important to find the right balance and location for proposed uses.

The last few decades in Goodhue County have seen the local economy supported primarily through the agricultural and tourism industries. The MSC recommends that the PAC address recognition of the economic value of tourism and recreational facilities and opportunities in the County's Comprehensive Plan.

Coordinating with the State Agencies and Legislature

As the topic of silica sand mining increases throughout the state and region, it was suggested that County become engaged in a conversation with the legislators about various state-wide initiatives.

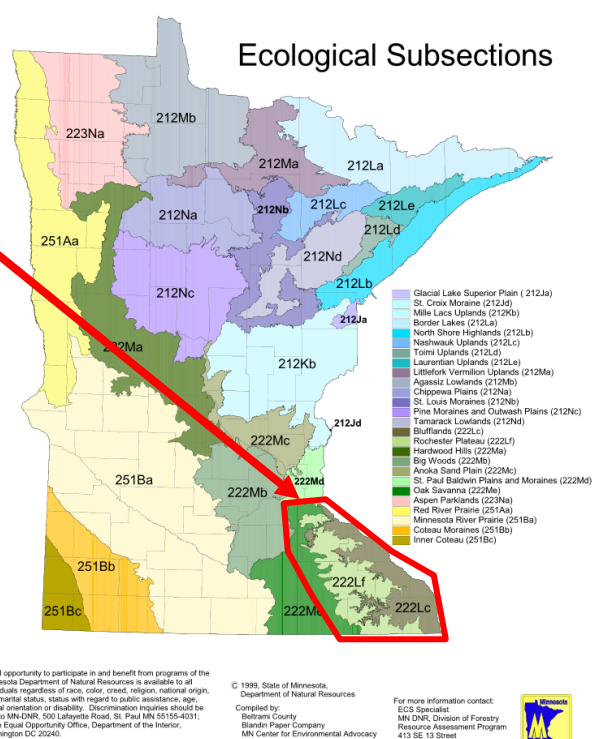
One initiative proposed by opponents of silica sand mining was to petition the Minnesota Environmental Quality Board (EQB) to order a statewide Generic Environment Impact Study (GEIS) and to recommend a statewide moratorium on silica sand mining during the study.

One bill (SF 425, HF0425) that has been introduced in the 2013 legislative session is to request appropriations from bond proceeds to fund the acquisition of land or interests in land as scientific and natural areas where industrial silica sand resources are likely to be mined; and to appropriate funds from bond proceeds to acquire permanent easements to prevent industrial silica sand mining in wellhead protection areas. Other bills concerning restrictions on silica sand mining are expected to be introduced.

Another bill (SF 796, HF742) restricts silica sand mining within one mile of any spring, groundwater seepage area, fen, designated trout stream, class 2a water, or any perennially flowing tributary of a designated trout stream or class 2a water within the DNR designated Paleozoic Plateau Ecological Section. It also prohibits the DNR from issuing any water use permits associated with silica sand mining within this designated area, and prohibits silica sand mining within 25 feet of the static water level within this designated area.

Other Revenue capturing options:

One area that could be addressed would be in the existing aggregate tax legislation (MS 298.75) which sets the amount of production tax on aggregate material (including silica sand) and how the tax is distributed to different funds within the county and townships. The rate is 21.5 cents per cubic yard or 15 cents per ton of material excavated or imported into a County that has adopted the tax. The market value for silica sand is significantly higher than other aggregate and could have a different rate imposed upon it.



As the topic continues to be debated, the County will monitor the various legislative activities proposed.

Existing Registered Mines

It is recognized that the Existing Registered Mines (ERM) have rights and conditions that pre-date the current ordinance adopted in August 2012, that may be in conflict with this ordinance. It is also recognized that the County understands the importance and significance that our ERM operations play as an essential partner in County and Regional construction projects.

Because of the similarities between the mining processes of silica sand mining and other non-metallic mining operations, the MSC, PAC, and the County Board maintained one ordinance for all non-metallic mining operations. However, due to the uncertainty of some of the potential health concerns, the ordinance has outlined additional requirements specifically for silica sand mining.

Non-Conforming ERM

Staff has reviewed the ERM's to understand if any of them would have non-conforming aspects to their operation as compared with the current ordinance. Below is a summary of the items:

- Some of the operations registered numerous contiguous parcels
- Seven had platted residential property within 300 feet
- Five operations had hours of operation different than what is listed in ordinance
- Of the eleven mines that are closest to the Jordan formation:
 - Five are designed/mining at the 300 foot setback from a dwelling
 - 0-17 cultural features (listed in the County's dataset) are within one mile of the mine
 - Eight have water features within 400 feet
 - Ten are either mining bluffs or are surrounded by bluffs

Setbacks

When the pre-August 2012 ordinance was reviewed, it was noted that the existing mines and any new mines had the same setback wording. For efficiency, one proposed change was to have the existing mines language simply refer to the section for setbacks under the new mines. At that time, the setbacks to dwellings and platted residential properties was at 300 feet. When the County Board altered the distance to dwellings and residential platted property to 1000 feet, it also affected the ERM setback. It is believed that it was not the intention to affect the ERM in that manner.

To avoid potential conflict with existing registered mine setbacks a suggested wording for discussion could be as follows:
Section 4. MINERAL EXTRACTION PERMIT REQUIRED Subd. 3 ~~Excavation Setbacks shall be in compliance with Section 6, Subdivision 4, L of this Article. Setbacks and performance standards for Registered Mines existing prior to the adoption of the August 2012 mining ordinance shall be governed by the terms of their existing conditional use permits or other permits, prior zoning regulations and performance standards in existence at the time of their initial operation, but shall be obligated to conform to all health and safety standards.~~

Existing Registered Mines and Silica Sand Mining

Some counties are currently reviewing this same issue about allowing existing mines to begin silica sand mining operations. As we have learned from past experiences, when enforcing Land Use or Conditional Use Permits, specificity is important. Although the mines that registered in the 2002 ordinance provided the necessary information, listing what they intended to mine did not have the importance as it does today – it was all non-metallic mining.

Part of this discussion includes our definition of “Accessory Uses” which are described as follows and permitted with Mineral Extraction Facilities:

Article 14, Section 2. Definitions

Subd. 1. **ACCESSORY USES:** Accessory uses of a mineral extraction facility include the manufacture, storage and sale of products made from minerals on the premises and storage and sale of minerals, recycled asphalt, recycled

concrete and topsoil not extracted on the premises. In addition, the storage and manufacture of explosives may be permitted as an accessory use of a mineral extraction facility-subject to approval of a conditional use permit.

If an existing registered mine begins to mine silica sand, it would have to be determined if the action has significantly gone beyond their permitted conditions. Some questions to ask to determine if it has significantly changed are:

- Does the operation meet the Performance Standards listed in Section 6, Subd. 4?
- Is there an increase in traffic, noise, dust, hours of operation, etc. (even if an accessory use is a permitted use)?
- Is it a temporary or permanent change?
- Will it affect the neighboring landowners in a different way?

If it is determined that a use has changed significantly, the County would require either the permit to be amended or come completely under the new rules. In either case, the action would require public hearings at the PAC and the County Board.

Suggested wording to address this concern would be:

Article 14, Section 4. Mineral Extraction Permit Required

Subd. 6. Any significant change (such as a change in the primary product excavated or processed, increase in noise, dust, hours of operation, blasting, etc.) to the operations or use of the land approved under a current existing registered mineral extraction facility permit shall require an amended conditional/interim use permit and all procedures shall apply as if a new permit were being issued.

Understanding that some of the ERMs were established years ago by use or land use permits and not Conditional Use Permits, staff will coordinate with them in the future to ensure that they provide additional information including more detailed reclamation plans and securities.

Pros/Cons of banning silica sand mining

The MSC discussed the pros and cons of banning silica sand mining many times throughout the course of the nearly 18 months of meetings, and more specifically at length after receiving the County Attorney's opinion. This moratorium was a citizen request by those who do not wish to have silica sand mining in the County. Their major concerns range from known and unknown issues involving water, dust, transportation, and potential negative tourism effects. Some of the committee felt that a simpler solution would have been to ban the specific type of mining (silica sand) from the County rather than rewrite the mining ordinance which they felt would have had less of a negative impact on current mining operations within the County.

It was reported that others such as truck drivers, other ancillary businesses, and landowners are waiting to see if they will get jobs or other financial benefits from the mining activity. Some members of the committee felt that the limitations placed in the ordinance including the zoning designations, the setbacks, and the higher standard of operations required by the ordinance, will sufficiently regulate mining operations and gives the County adequate tools and information to address future situations where health, safety, or public welfare impacts are currently unknown, contested, or unsubstantiated.

Throughout the meetings and as part of the banning discussions, it appeared that the size of the mine was of particular concern. The MSC discussed that 40 acre limitation in the 2004 Ordinance already discouraged large mines such as the Unimin mine in Le Sueur County, or even smaller silica sand operations on the scope of the Menomonie mine in Wisconsin, which the MSC toured in 2011. The clarification of the 40 acre limit is discussed in the section entitled Limit Silica Sand Operation Sizes.

At the conclusion of the discussion, there was no movement from the committee to recommend a complete ban of silica sand mining from Goodhue County.

Below is the legal opinion presented to and released from confidentiality by the County Board from County Attorney Steve Betcher concerning this topic:



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MEMORANDUM

TO: The Goodhue County Board of Commissioners
Mr. Scott Arneson, Goodhue County Administrator

FROM: Mr. Stephen N. Betcher, Goodhue County Attorney *Stephen N. Betcher*

RE: Further Development of Goodhue County Land Use Regulations Concerning
Non-Metallic Mineral Mining

DATE: April 15, 2013

CONFIDENTIAL LEGAL ADVICE - DO NOT DISCLOSE

As with earlier legal advice in other Land Use matters, the Board may wish to make this opinion public following the meeting.

Goodhue County has the legal authority to regulate mining of non-metallic minerals in areas within Goodhue County, Minnesota, outside of incorporated cities. This authority is inherent in the general authority delegated to counties by Minnesota Statutes 394.21, and it derives from the Constitutional authority of government to enact reasonable regulations that protect the health, safety, morals, and general welfare of the public. This regulatory authority is limited by statutes that prescribe how the county may exercise its authority, by statutes that delegate the regulation of some aspects of non-metal mining to federal or state agencies, and by provisions of both the Minnesota and the U.S. Constitutions which prohibit taking private property for public use without compensation.

Regulatory Authority

County authority to carry out planning and zoning is delegated in Minnesota Statutes Chapter 394.21.

“394.21 AUTHORITY TO CARRY ON COUNTY PLANNING AND ZONING.

Subdivision 1. Except most populous counties.

For the purpose of promoting the health, safety, morals, and general welfare of the community any county in the state having less than 300,000 population according to the 1950 federal census is authorized to carry on county planning and zoning activities.

Subd. 1a. Amortization prohibited.

Except as otherwise provided in this subdivision, a county, regardless of population, under this chapter or under a special or local law, must not enact, amend, or enforce an ordinance providing for the elimination or termination of a use by amortization which use was lawful at the time of its inception. This subdivision does not apply to adults-only bookstores, adults-only theaters, or similar adults-only businesses, as defined by ordinance.

Subd. 2.

[Repealed, 1974 c 571 s 51]

Subd. 3. Nuisance.

Subdivision 1a does not prohibit a county from enforcing an ordinance providing for the prevention or abatement of nuisances, as defined in section 561.01, or eliminating a use determined to be a public nuisance, as defined in section 617.81, subdivision 2, paragraph (a), clause (2), items (i) to (x), without payment of compensation.”

Statutes require that the county develop and adopt a comprehensive plan as the basis for any specific official controls on development.

“394.23 COMPREHENSIVE PLAN.

The board has the power and authority to prepare and adopt by ordinance, a comprehensive plan. A comprehensive plan or plans when adopted by ordinance must be the basis for official controls adopted under the provisions of sections 394.21 to 394.37....”

The comprehensive plan and any specific official controls must be adopted by ordinance. When a county is considering and in good faith pursuing studies and possible adoption or amendment of a comprehensive plan or official controls, the county may adopt an interim resolution, i.e. a moratorium, to temporarily classify and regulate uses of property.

“...Such an interim resolution shall be limited to one year from the date it becomes effective and to one year to renewal thereafter.” M.S. 394.34

In addition to these statutory limits on county government’s authority to conduct planning and zoning, there are requirements in both the Minnesota Constitution and the U.S. Constitution which restrict all levels of Minnesota government authority to take private property for public use.

The U.S. Constitution provides in the Fifth Amendment:

“No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.”

This obligation is made applicable to state and local governments by the Fourteenth Amendment to the U.S. Constitution. The Minnesota Constitution provides similar but distinct requirements in Article 1, Section 13. The U.S. Supreme Court and the Minnesota Supreme Court have issued several opinions interpreting their respective Constitutional language.

“The paradigmatic taking requiring just compensation is a direct government appropriation or physical invasion of private property.” *Lingle v. Chevron, U.S.A., Inc.*, 1255.ct.2074 (2005) (citing *Pennsylvania Coal Company v. Mahon*, 260 U.S. 393 (1922).

Additionally, and more problematically, the United States Supreme Court in *Pennsylvania Coal Company v. Mahon*, 260 U.S. 393 (1922) offered this formula stating that “property may be regulated to a certain extent, [but] if regulation goes too far, it will be recognized as a taking.” Following principles enunciated in these cases, courts have found that takings requiring compensation have occurred when, 1) regulation requires an owner to allow a physical invasion of his or her property, however slight, and/or, 2) regulation denies the owner of all economically viable use of the property.

In 1978 the U.S. Supreme Court decided the case of *Penn Central Transportation Company v. New York City*, 438 U.S. 104 (1978). In this case, historical preservation regulations of the City of New York regulated and limited the development options for the Penn Central Railroad Station in New York City. The U.S. Supreme Court used a three-part test to analyze the impact of regulations on the property as a whole. The Court considered:

1. The economic impact on the owner.
2. The extent to which the regulation interfered with the legitimate, investment-backed expectations of the owner.
3. Whether the regulation resulted in the equivalent of a physical invasion of the property.

The Minnesota Supreme Court has applied a similar analysis to that adopted by the U.S. Supreme Court with an additional area of protection for private property rights. When a government regulation limits development and causes a substantial, measurable decline in the market value of regulated private property for the benefit of a government enterprise, such as an airport, the Minnesota Supreme Court has held that such regulations do constitute compensable taking of private property value for public use. In *DeCook v. Rochester International Airport Zoning Board*, 796 NW2d 299, the Minnesota Supreme Court acted to protect the private

property owners' investment-backed expectation of value by requiring compensation for loss of a property value reduced by increasing airport zoning restrictions. As in the Penn Central analysis, the existing value of property owned prior to regulation was compared to the estimated market value of the property after the regulation was adopted.

**What may Goodhue County legally do to regulate
mining of silica sand on property under its zoning jurisdiction?**

Goodhue County may continue existing regulations previously adopted pursuant to comprehensive planning and applied to all mining operations in Goodhue County. This means that existing restrictions banning new mining from bluff faces, residential areas, and other designated protection zones may continue and that existing non-conforming mines may be prohibited from reopening if the mining use is discontinued.

The County Board may consider expanding such protected areas if it finds that there are sound factual and policy reasons for such an expansion. New scientific facts developed by researchers, regulators, state or federal authorities may be used to support additional regulatory restrictions which the Board deems necessary to protect the public health, safety, and welfare. However, in *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922), the U.S. Supreme Court established the principle that subsurface mineral rights had value even if the mining would put the surface property owners' lives and home at risk. The State of Pennsylvania could not prohibit mining coal which the coal company owned without paying for the value of coal. The court refused to treat the mining as a public nuisance even though the State of Pennsylvania wanted to ban mining to protect (safety and welfare) the public from falling into the subsurface mine.

The Goodhue County mining sub-committee has conducted extensive review of existing information and policy alternatives. Along with the Planning Advisory Commission and the County Board they have sought and received advice and comment from experts and the public. The record of proceedings is on-line. The Land Use Department has met and consulted with representatives of each town board individually and a joint meeting for all township representatives and the public is scheduled for April 18, 2013. I have recommended to Land Use that all information gathered and all comments received be collected and made available to the Planning Advisory Commission and the Goodhue County Board to establish the complete record of the county process prior to public hearings at the Planning Commission and the Board. I encourage all decision makers in the ordinance adoption process to apply their judgment to the issues and facts presented to reach an outcome that protects the public and preserves investment backed expectations of private property owners.

The County Board, on the recommendation of the PAC, has already adopted many changes in the Goodhue County Zoning Ordinance at the conclusion of the first year of the Goodhue County mining moratorium. Those changes increased setbacks from neighboring residences and established very comprehensive requirements for providing information for site review of any proposed new mine. They also established requirements for collecting data before and after a mine begins operation. Additionally, the ordinance now provides for negotiations with any operator of a proposed new mine to attempt to achieve a development agreement which

would more completely address issues unique to the property, such as road wear, traffic flow, surface water impoundments, and potential adverse impacts on neighboring property values and wells.

Some areas suggested for possible additional regulation include sand washing operations, concentrations of multiple mines, trout streams, environmentally sensitive areas, residential areas along haul routes, historic or culturally significant areas and view sheds. The comprehensive plan and zoning ordinance have some definitions relevant to these topics but more detailed definitions and delineations on maps will be needed if the Board wishes to adopt regulations governing these subject matter areas. The Board may wish to designate zones, overlay districts or setbacks from protected areas or similar mining operations.

Any regulations should focus on the elements of the mining operation over which the County has direct authority. Some types of non-metallic mineral mining are valuable and necessary components of Goodhue County's resource infrastructure. Many town boards specifically requested consideration for the effects county mining regulations could have on the availability and price of road materials sold to township government. The Goodhue County Public Works Department expressed similar concerns. Members of the Goodhue County Mining Sub-Committee indicated that mining silica sand raised issues of greater concern than existing mining of aggregate and limestone. They cited concerns about health and safety posed by pure crystalline silica, the scale of mining currently necessary for economic viability, the reduced cost to benefit ratio of a type of extractive mining which exported very large quantities of product while leaving increased environmental costs behind. Some members of the committee and many members of the public were particularly concerned about the use of large quantities of water from the aquifer, impounding large quantities of surface water treated with coagulants and flocculants and the prospects for quantities of crystalline silica dust to contaminate ambient air adjacent to silica sand mining, processing, transportation and storage sites.

Some members of the committee pointed out that certain aspects of mining pose concerns to one extent or another in all non-metallic mining situations. Blasting, truck traffic, road dust, hours of operation, wash stations, stockpiles of mined materials, overburden and stored equipment are common regulated components of mining as it occurs in Goodhue County. The DNR, MPUC, MNDOT, EPA, OSHA, MSHA, and USDOT have regulations which regulate some aspects of non-metallic mineral mining and transportation in Minnesota. I, respectfully, recommend that the goal of any additional regulations adopted by the Goodhue County Board should be to enhance the public health, safety, and welfare by bridging the gaps that currently exist between county, state, and federal regulations to protect Goodhue County citizens from bearing the costs of under enforcement of existing state and federal statutes and rules while regulatory agencies perform the complex science necessary to document rule changes or implore their respective branches of government for additional enforcement personnel. Goodhue County has the expertise to review proposed mining locations and site plans, to conduct environmental reviews as mandated by current Minnesota Statutes and Rules, and to supervise collection of relevant data from mining sites and facilities. The Planning Advisory Commission and the County Board have experience and expertise in developing requirements for Conditional Use Permits coupled with an updated Comprehensive Plan and Zoning Ordinance developed during the moratorium process. Utilizing this existing expertise in the public zoning regulation process is the most efficient, effective, and legally defensible way to protect Goodhue County's resources and its citizens of the present and the future.

Please contact me if you have questions regarding this memorandum or would like to discuss these matters further.

SNB/dad

Hours of operation

During the public hearings, there was discussion about the hours of operation listed in the current ordinance. Below are the references to hours of operation in the current ordinance:

SECTION 4. MINERAL EXTRACTION PERMIT REQUIRED

Subd. 2. Land Use Permits/Registration of Existing Mineral Extraction Facilities

The following items shall be submitted to the Zoning Administrator:

- I. Estimated time frame facility has been operated, to include **hours per day**, days per week, months per year, number of years in operation.

SECTION 5. CONDITIONAL/INTERIM USE PERMIT APPLICATION REQUIREMENTS FOR NEW MINERAL EXTRACTION FACILITIES

Subd. 1. Application Form: An application for a mineral extraction permit shall be submitted to the County on a form supplied by the County. The required maps and application Information shall include but not be limited to the following:

- F. Estimated time frame to operate facility, **to include hours per day**, days per week, months per year, number of years in operation.

Subd. 4. Permitting Procedure for Conditional/Interim Use Permits:

- E. Recommendation. The Planning Commission shall make a finding of fact and recommend such actions or conditions relating to the request to the County Board. The County may impose such additional restrictions or conditions as deemed necessary to protect the public interest. These conditions may include, but are not limited to the following:

2. **Hours of operation**

SECTION 6. APPLICATION REQUIREMENTS FOR REGISTRATION/LAND USE PERMITS AND CONDITIONAL/INTERIM USE PERMITS

Subd. 4. Mineral Extraction Facilities Performance Standards. The following performance standards apply to all mineral extraction facilities in the County:

- A. **Recommended Hours of Operation.** Mineral extraction facilities shall operate only between the hours of 6:00 a.m. and 10:00 p.m., Monday through Saturday unless specified otherwise in the conditional use permit for the facility.
 1. Operators are allowed a maximum of five (5) one-day extensions to the hours of operation for evening work in a calendar year. Operators must notify the County three working days in advance of the proposed extension.
 2. Other exceptions to the hours of operation must be approved by the County Zoning Administrator. Approval may only be granted in conjunction with the furnishing of material for a public improvement, public safety or a public good project, that is underway during hours that the mineral extraction facility is not otherwise allowed to operate. Approval will be limited to those functions that cannot occur during normal hours of operation.

The existing wording sets the standard hours between 6am and 10pm Monday through Saturday. The operator is asked during the permit process numerous questions about their business plan which includes information about their projected hours of operation – especially if it differs from the standard.

The original discussion of the hours of operation in 2002 centered around the typical mining facility which was a seasonal operation, in which the mining, blasting, and trucking occurred during the daylight hours, and allowed trucking to job sites working during those times.

There may be reasons to deviate from the standard with more restrictive hours. Considerations to restrict or add conditions can be based upon the individual mining facility's operation and location. Items considered can be:

- Distance to the nearest neighbor

- The amount of noise produced
- The frequency of truck trips
- The trucking routes (if going by schools may restrict start and end of school day traffic)
- When and how often blasting can occur

The MSC discussed the standard hours of operation and the majority felt that the County needed the flexibility to adjust the hours based upon the specific mining operation. The existing wording allows the Planning Commission to make recommendations to the County Board to add conditions or restrict the hours of operation based upon the individual mining extraction facility's proposed operation.

Location Restrictions

Some of the concerns brought forth in the public meetings were to review the setbacks to dwellings, sensitive features, and if any areas within the County would be completely restricted from mining.

The current language for setbacks is as follows:

Section 6, Subd. 4, L.2: One thousand (1000) feet from any existing dwelling or platted residential subdivision, not owned by the operator or owner. The setback may be reduced down to three hundred (300) feet if written consent of the owner of the adjoining property is first secured, recorded with the county recorder and a copy submitted to the Zoning Administrator. This paragraph is not applicable for Mineral Extraction Facilities in operation before and has been used annually since a subdivision within 300 feet of the Mineral Extraction Facilities was platted.

After public comment at the August 16, 2012 board meeting, the County Board determined that the previous set back of 300 feet from a dwelling was not a sufficient distance. Their findings included the fact that the 1000 foot distance was consistent with another provision in our ordinance that sets feedlots at a minimum of 1000 feet from a dwelling, excluding the feedlot operator's dwelling.

Some of the discussion during the MSC's meetings centered around separating silica sand mining operations from other non-metallic mining operations. The issues of noise, dust control, blasting, and truck traffic are similar and no consensus was reached to allow non-silica mining operations closer setbacks.

Although the setback has increased to 1000 feet, the County Board allowed a provision for Mineral Extraction Facilities to operate as close as 300 feet from a dwelling if the Facility secures a written agreement stating such from the affected landowner. This provision is similar to the County's Wind Energy Conversion Systems Regulations (Article 18 of the Zoning Ordinance) which allows the setback to be waived under written agreement.

Underground Facilities:

Section 5, Subd. 3 lists additional setbacks for any proposed Underground Facilities:

- E. Residential and farm wells will be centered inside a 500 foot radius of undisturbed ground
- G. Mining or tunneling must maintain a 200 foot vertical extension setback from permanent surface structures

Sensitive Features:

The MSC viewed a live demonstration of the County's Environmental Constraints Land Use (ECLUE) model which identified key natural resource factors, regulatory factors and various additional considerations that should be taken into account when determining the appropriateness of various land uses in rural Goodhue County. The organization of the ECLUE into the following three sub-models including various data layers was presented to the Committee.

ECLUE Sub-models and data layers

Natural Resources	Regulatory	Additional Considerations
1. High Quality Ecological Areas 2. Riparian Habitat 3. Bluff Land 4. Water Features - rivers and lakes 5. Streams	1. Steep Slope & Hydric Soils 2. Cannon River Wild & Scenic Area 3. Shoreland Areas (around protected water features) 4. Floodplain Areas 5. Areas Around Bluff Land	1. Aggregate Resources 2. Registered Mining Locations 3. Prime Agricultural Soils 4. Potential Green Corridors 5. Wind Power Potential 6. Publically-owned Land

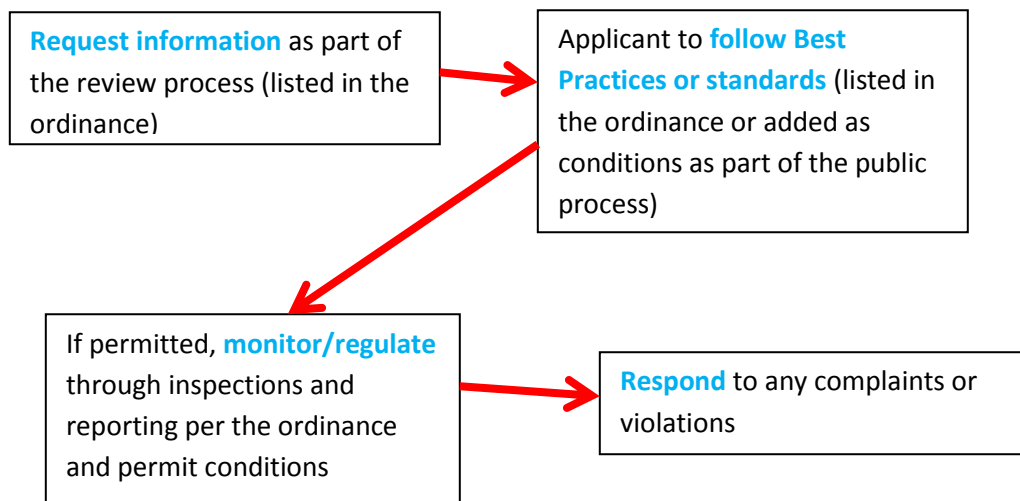
ECLUE Sub-models and data layers

Natural Resources	Regulatory	Additional Considerations
6. Wetlands 7. Sinkholes 8. Sensitivity to Groundwater Pollution 9. Geologic Edges	6. Registered Feedlots	

The Mining Study Committee was briefed on how the ECLUE would be used as part of the environmental review and permitting processes related to Mineral Extraction Facilities.

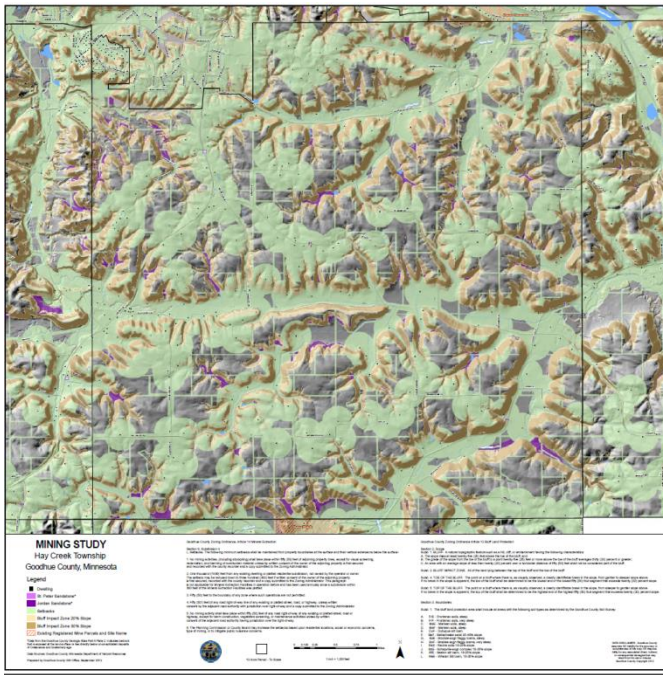
After viewing the demonstration the committee reviewed aspects of our current ordinance where many of these features and concerns are addressed in our Conditional Use Permitting process. The committee was asked if there were additional features beyond Bluff Impact Zones (See MSC Summary Report July 2012 pages 23-26) that should be automatically restricted from mining; if they felt there was sufficient review of the existing site-specific built and natural environments through the proposal process; and if they felt that any additional restrictions could be added as part of the conditional use process.

Staff discussed the typical Conditional Use Permitting process as follows:

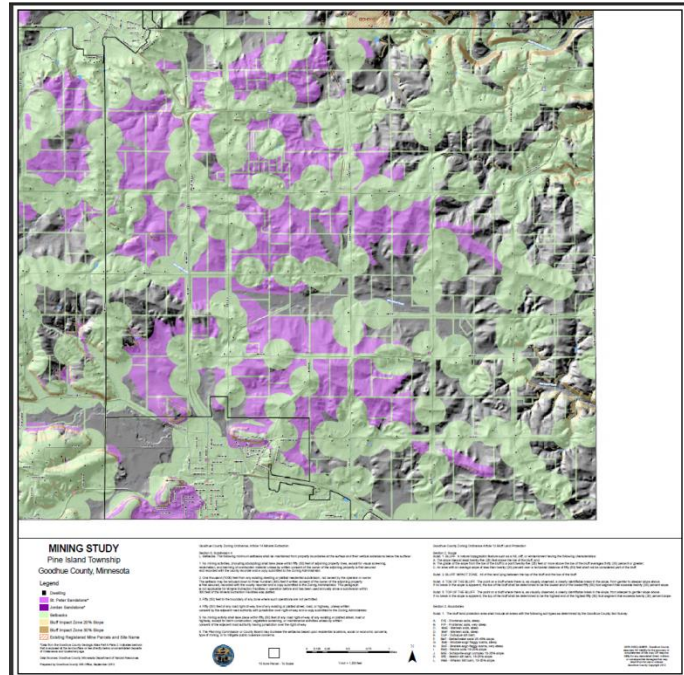


The MSC felt that the process provided appropriate oversight and review with the knowledge that applications would be scrutinized on an individual basis and could result in additional setbacks, conditions, or complete denial.

When reviewing the township resource maps with the regulatory setbacks and bluff restrictions, it is apparent that some townships have little if any potential for mining the silica resource, while others may have more potential (purple color is the potential resource):



Hay Creek Township



Pine Island Township

Although mining is a conditionally permitted use in Agricultural districts, the MSC was asked to study if there are areas that should not be open to mining, as well as areas that should be open to mining – in essence creating a mining overlay district. Some public comments have indicated that an overlay district will forever determine if an area is open for mining or not. If an overlay district was established, it would not preclude a landowner from applying for a zoning district change for their parcel to a zoning district that would allow mining.

Instead of using a rudimentary determination by section or township, we have mapped the physical aspects of the natural and built environment to guide us in our analysis. The mapping suggests that the regulatory setbacks and restrictions, the location of the potential resources, and the financial feasibility of mining the resource (depth and transportation networks) have essentially created areas where mining can and cannot occur.

As the MSC heard at individual township meetings and the larger township meeting in April, not all residents or townships are in favor of banning or limiting the right to mine silica sand. As the County Attorney explained, County ordinances paint with a broad brush to cover the entire County, as the resources the County has need to be used across the whole County. However, as discussed previously, townships can be more restrictive and in some townships such as Hay Creek and Florence, they have chosen to create their own ordinances to restrict silica sand mineral extraction facilities from being allowed to be permitted in their townships. If an operator were to propose a facility in townships with more restrictive regulations, the townships would have to process the applications and make a determination. An applicant would have to follow the most restrictive of rules.

The topic of additional setbacks from Trout Streams and other water features was discussed as proposed in one of the legislative bills currently being debated. This recreational activity is very active in parts of Goodhue County and the sensitivity of these streams have been well documented. The proposal of imposing a one mile buffer seemed to be an arbitrary setback, knowing that each site and operation is different. If there is no blasting, or mining below the water table, is a one mile buffer necessary? If there is blasting or mining below the water table near a spring that feeds into a trout stream perhaps a one mile buffer is not far enough.

In response to the concern the MSC suggests (Article 14, Sec. 6, Subd. 4, L):

7. Mineral extraction facilities must conform to shoreland and DNR regulated trout stream regulations. Setbacks from shoreland areas, trout streams, and other water resources such as sinks, springs, and seeps may be imposed based upon the proposal and potential risks to these areas.

Limit Silica Sand Operation Sizes

The MSC was asked to research the possibilities of limiting Silica Sand operations by impact and intensity (low, medium, or high), and if so, to establish recommendations for those limits.

The current ordinance already sets a limit on the size of mines in a number of ways. First, Section 3 of the ordinance outlines exceptions from the permitting requirements under certain conditions:

A mineral extraction permit shall not be required for the following:

- Subd. 1. Excavation for structure if a building permit has been issued.
- Subd. 2. Excavation in a right-of-way, temporary easement, or utility corridor by state, county, city or township authorities in connection with construction or maintenance of public improvements.
- Subd. 3. Excavations not exceeding four hundred (400) cubic yards annually.
- Subd. 4. Excavation for agricultural purposes if the excavated material is not moved off-site.
- Subd. 5. Excavation for public utility purposes.
- Subd. 6. Temporary excavations associated with road construction....

These exceptions are relatively small, one-time excavations typically associated with projects in which the only way to complete the project is to excavate some material as part of the design. These exceptions separate site-specific projects from those activities intended solely for mineral extraction operations. Regardless of reason for this work, the operation may still be subject to other local and state regulations and/or permits.

Secondly, another size limit is the forty acre threshold. If a mineral extraction facility is forty acres or more in size, a mandatory Environmental Assessment Worksheet (EAW) is required and referenced in the Ordinance in Sec. 5, Subd2, F. Below is a list of the EAW Item-by-item guidance topics, along with Goodhue County's ordinance references in italics (see link in the Appendix for the full document titled *EAW Guidelines, Preparing Environmental Assessment Worksheets* published by the Minnesota Environmental Quality Board) :

1. Project title
2. Proposer [*Sec.5, Subd1,B,C*]
3. RGU
4. Reasons for EAW preparation
5. Project location [*Sec.5, Subd1,A,D*]
6. Description [*Sec.5, Subd1,A-C*]
7. Project magnitude data [*Sec.5, Subd1,F*]
8. Permits and approvals required [*Sec.5, Subd2,F*]
9. Land use [*Sec.5, Subd1,A*]
10. Cover types [*Sec.5, Subd1,A*]
11. Fish, wildlife and ecologically sensitive resources [*Sec.5, Subd1,A*]
12. Physical impacts on water resources [*Sec.5, Subd1, A2-3; Subd2, D,G-I,L,P; Sec. 6, Subd. 4,I,P,S9*]
13. Water use [*Sec.5, Subd1, A2-3; Subd2, D,G-I,L,P; Sec. 6, Subd. 4,I,P,S9*]
14. Water-related land use management districts [*See County Zoning Districts*]
15. Water surface use
16. Erosion and sedimentation [*Sec. 5,Subd 1A,Subd 2G; Sec.6, Subd 4,5*]
17. Water quality: surface water runoff [*Sec. 5, Subd 2H; Sec. 6, Subd 4I*]
18. Water quality: wastewaters [*Sec.5, Subd 2Q; Sec. 6, Subd 4 O-P*]
19. Geologic hazards and soil conditions [*Sec. 5, Subd 1 A*]
20. Solid waste, hazardous waste, storage tanks [*Sec. 5, Subd1, A-B; Sec. 6 Subd 4O*]
21. Traffic [*Sec.5, Subd 1 F-H; Sec. 6 Subd 5A, Traffic Study*]
22. Vehicle-related emissions
23. Stationary source air emissions [*Sec. 5, Subd1 A*]

24. Odors, noise and dust [Sec. 6, Subd 4, D-F,J]
25. Nearby resources [Sec. 5 Subd 1A]
26. Visual impacts [Sec. 6, Subd 4 J]
27. Compatibility with plans and land use regulations [Sec.5, Subd2 B]
28. Infrastructure and public services [Sec. 5, Subd 2 Q]
29. Cumulative impacts [Traffic Study]
30. Other potential environmental impacts
31. Summary of issues

The forty acre threshold is also listed in the County's Ordinance in Section 4, Subd. 5 where it states:

Mining operations shall be conducted so active extraction operation of the existing Mineral Extraction Facility exposes no more than forty (40) acres at any one time, unless approved by county staff.

To clarify this statement as to what is considered in the 40 acres, the MSC suggests the following wording:

Mineral extraction facility operation sites (including extraction, processing, stockpiling, roads), shall be limited to no more than forty (40) acres of exposed or uncovered ground at any one time.

The MSC discussed this statement at length and the importance of keeping a 40 acre threshold. This threshold has been the limit expectation for new facilities for the past 10 years. The MSC reviewed maps of existing registered mines and concluded that the clarified statement of the 40 acres fairly describes the current practice for the majority of the mines in the County.

Thirdly, at the one hundred and sixty acre or more size, an Environmental Impact Statement (EIS) must be prepared. As stated in the *Guide to Minnesota Environmental Review Rules* (see link in the Appendix for the full document):

The primary purpose of the Minnesota environmental review program is to prepare an Environmental Impact Statement for each project with "potential for significant environmental effects," as mandated in Minnesota Statutes, section 116D.04, subdivision 2a. Although prepared much less frequently than an EAW, the EIS is the heart of the program.

The EIS provides information about the extent of these potential environmental impacts and how they may be avoided or minimized. Intended primarily for government decision-makers who must approve the project, the information is used by the proposer and the general public as well.

A key point: the EIS is not a means to approve or disapprove a project, but is simply a source of information to guide approval decisions. Occasionally, the information results in an alternative site or design being selected. More commonly, the information suggests changes or mitigative measures to minimize potential impacts that can later be imposed via governmental approvals. However, the legal basis for choosing an alternative other than the proposer's preference or for imposing mitigative measures comes from other statutory authorities. Again, the EIS can only point out problems and solutions, it cannot enforce them.

Because the County continues to limit the size of exposed or uncovered site operations to 40 acres, we have not seen nor have we allowed large open mines as what is witnessed in other counties or states. In essence, the County has not allowed large, industrial-scaled, exposed mines to be permitted since 2004.

The EIS gives the RGU information to limit the size or operation through conditions based upon the determination of the EIS.

As a final thought in the discussion of limiting the size of mining operations by levels, the bigger question becomes: What information listed in the current Mineral Extraction ordinance should not be answered or addressed by any applicant? For instance, should an applicant not answer questions about traffic, dust, noise, operations? Additionally, as in all application processes, items that do not pertain to a proposed operation are not addressed – if no proposed blasting is occurring, obviously the questions and regulations concerning blasting do not apply.

Meeting with Township Officials

Because the MSC, Planning Commission, and County Board have heard very little from the majority of the Townships, it was felt that the best approach to try to engage them would be to visit each of them individually. County staff and MSC members have scheduled attendance at all of the County's townships between January and April 2013 as follows:

<u>Date:</u>	<u>Township:</u>	<u>Date:</u>	<u>Township:</u>
2/6/2013	Belle Creek	2/13/2013	Cannon Falls
2/11/2013	Warsaw	2/19/2013	Stanton
	Hay Creek	2/20/2013	Wanamingo
2/12/2013	Kenyon	2/25/2013	Florence
	Featherstone	2/26/2013	Pine Island
	Vasa		Leon
	Zumbrota	3/4/2013	Wacouta
	Minneola	3/7/2013	Welch
<u>Date:</u>	<u>Township:</u>		
3/18/2013	Goodhue		
4/8/2013	Roscoe		
4/9/2013	Holden		
	Cherry Grove		
4/11/2013	Belvidere		

MSC members that have attended meetings were John Litsenberger, Joan Volz, John Hobert, Bernie Overby, and John Tittle. County Board members Richard Samuelson, Jim Bryant, and Ron Allen have also attended meetings.

The purpose of the meetings was to discuss the background of the moratorium, where the MSC was in the process of completing their research and recommendations, and the next steps for the County. The Townships were given a brief background summary update, a copy of the existing Mineral Extraction ordinance, and a large map showing of their Township (depicting where the St. Peter and Jordan layers were the uppermost bedrock layer within their township, existing registered mines, and regulatory setbacks from dwellings, roads, and property lines).

It was also an opportunity for Townships to be informed of the County's website where the MSC's work is available for downloading, and to ask any questions about the moratorium.

Additionally, the MSC organized another public informational meeting for all the Townships on April 25, 2013 at the Zumbrota VFW. This allowed yet another opportunity for the Township officials and MSC to discuss any issues concerning the ordinance prior to the public hearings at the PAC and County Board meetings.

Disenfranchisement of landowners with the silica sand resource

Concerns were expressed at the Planning Commission regarding the potential disenfranchisement of the landowners who have this valuable resource should the County ban the mining of the product, or create such onerous regulations that in essence, bans the mining of the product.

Minnesota Statutes **93.001 POLICY FOR MINERAL DEVELOPMENT** states:

It is the policy of the state to provide for the diversification of the state's mineral economy through long-term support of mineral exploration, evaluation, environmental research, development, production, and commercialization.

On the one hand, the state supports mineral development and landowners have a bundle of land rights as it pertains to the use of their property. However, as a caveat to the support and recognition of property rights, land uses may be subject to zoning and other regulation restrictions in order to protect the health, safety, and welfare of the public.

As part of this discussion, the MSC examined the basic concepts of zoning as it pertains to the principles of arbitrary and capricious decisions. As in any type of decision or action by an administrative agency, the determination must be reasonable, supported by findings, and not seen as erratic or inconsistent.

At this point, the County has regulations in place for mineral extraction facilities to locate and operate within certain zoning districts of the County. Through the application process, the aspects of the operation and location of a proposed facility are scrutinized to ensure not only responsible, reliable, and safe operations, but also to determine compatibility with surrounding land uses and any potential conflicts.

As outlined in other sections of this report and in the previous report, mining is allowed within certain zoning districts in the County and under certain restrictions. Some requests may undoubtedly be denied, some may be approved, and some may be approved with additional conditions placed upon them. Regardless of the final recommendation and decision, the determination must be made in a circumspect, rational manner with supported findings for the decision.

Defining best practices

Staff has researched other ordinances, studies, and industry documentation to gather a library of what would be regarded as Best Practices or standards to be considered as a part of any Mineral Extraction application review. (See Appendix: Sources of Best Management Practices).

The list of references identified as sources of Best Management Practices (BMP's) for Non-Metallic Mineral Extraction Facilities offers a thorough cross-section of ideas, recommendations and BMP's that will serve as a tool box to help shape and inform Mineral Extraction Projects in Goodhue County. BMP's to address key concerns related to development, operations, and reclamation of Mineral Extraction Facilities are addressed in these various documents. Issues addressed include: Surface and Ground Water Management, Dust Control, Prevention of Silicosis, Protection and Mitigation of Environmental Impacts, and Mine Reclamation.

These sources include specific recommendations and BMP's already crafted for Goodhue County by a multi-discipline team of consultants led by Summit Envirosolution, Inc. Also included are specific standards, requirements and BMP's that would relate to satisfy specific Federal, State or Local Government Rules, Regulations or Permit Requirements. Some of the documents included in this list relate to mining occurring in other states or are intended to address BMP's applicable to mining activities throughout the Country.

In order to address this issue the following language should be added to Article 14, Section 6:

Section 6, Subd. 4

T. Best Practices

The County expects applications to incorporate Best Practice standards into the design, operation, and reclamation of Mineral Extraction Facilities. A list of Best Practice documents is available through the Zoning Administrator. The County reserves the right to update the list as appropriate.

Requiring periodic review of the operation and the reclamation plan (see Reclamation discussion) also allows the County to work with mining facilities to incorporate new technology and Best Practices in their management plans as time goes by.

Reclamation

The Reclamation Plan is one of the crucial components of the Mineral Extraction Facility application. According to an article by Ivan Weber *Actualizing Sustainable Mining: “Whole Mine, Whole Community, Whole Planet” Through ‘Industrial Ecology’ and Community-Based Strategies*,

‘Restoration’ must not be viewed as literal replication of what preceded mining, but rather the implementation of what is necessary for prevention of further environmental releases or public health endangerment. Restoration, consequently, pursues the highest-and-best alternative that benefits ecosystems, community or planet, preferably all.

Keeping this in mind, through best practices as listed in the Summit Envirosolutions report (see link in Appendix) and other sources, the reclamation plan should consider the best sustainable land value, and how to use integrated solutions with the grading, vegetation, habitat, and built environments.

The MSC reviewed the tools staff will be using to estimate restoration costs according to an applicant’s reclamation plan. Based upon a number of factors including the amount of acreage, type of plants, soil amendments, grading, and mobilization costs, staff can estimate the cost of reclamation and require that amount to be placed in an account as security in the event the operator fails to perform according to the plan. The estimated costs per acre or per unit will be adjusted according to current prices.

Understanding that many Mineral Extraction Facilities are long-term operations and final restoration may not be completed for generations, it is important to periodically review the phased reclamation plans in an iterative manner. Adjustments to the financial securities and incorporation of current Best Practices may be necessary as the excavation process proceeds over the years.

Below are the suggested changes to the current ordinance regarding reclamation:

Section 6. MINERAL EXTRACTION PERFORMANCE STANDARDS Subd. 4

S. Land Reclamation. The reclamation plan is a crucial component of this ordinance and shall follow Best Practices and approved plans. It is expected that reclamation will be occurring in phases and completed in step with the opening of new excavation areas of the facility.

1. Land shaping. For sand and aggregate facilities, final grades may not exceed one (1) foot vertical to three (3) feet horizontal slope except for rehabilitated areas in existence at the time of adoption of this Ordinance. In completing final grading in each phase, the top of the slope may begin twenty (20) feet from property lines. Proposed topography shall fit in with regional topography and mirror landforms typical of Goodhue County
2. Soil restoration, vegetation, and stabilization.
 - a. If the reclamation plan includes areas intended for plant growth, topsoil depth shall be replaced within 2 inches of the original undisturbed depth, with a minimum thickness of 4-6 inches. If the land use following reclamation is intended for row crop agricultural production, a minimum topsoil thickness may need to be increased.
 - b. Seeding and mulching shall be consistent with approved plans, permits and Best Practices.
 - c. Soil restoration, seeding, and mulching must occur within each phase as soon as final grades, or interim grades identified in the phasing plans, have been reached.
 - d. Soil erosion and sedimentation control plans shall be submitted to the County and be consistent with MPCA’s General Storm Water Permit and NPDES/SDS permits.
 - e. Description of fill material, including any chemicals, or chemically treated materials.
3. Reclamation plan review. A comprehensive review of the reclamation plan is necessary to remain current with the progress of the facility, address issues, adjust financial securities, and incorporate current Best Practices.

Reclamation plans may be required to be amended in order to address these concerns.

- a. Reclamation plans will be reviewed after the first year of permitting, and as needed thereafter, yet no more than three years between the reviews.
- b. Site visits may be required as part of the review and evaluation.
- c. As-built surveys, soil borings, or other testing may be required as part of the review to ensure phased reclamation is completed according to the approved or amended reclamation plan.
- d. Amended reclamation plans may need to be reviewed by the Mining Technical Evaluation Panel.
- e. Amended reclamation plans must be approved by the Planning Commission, or may be approved administratively if the changes are consistent with the overall final concept.
- f. All final grades and restoration must be consistent with the approved and amended reclamation plans.

- ~~1. For gravel pits, final grades may not exceed one (1) vertical to three (3) horizontal slope except for rehabilitated areas in existence at the time of adoption of this Ordinance. In completing final grading in each phase, the top of the slope may begin twenty (20) feet from property lines.~~
 - ~~a. Proposed topography shall fit in with regional topography and mirror landforms typical of Goodhue County~~
 - ~~b. For rock quarries, the permittee shall submit a plan to explain how the quarries are to be rehabilitated.~~
- ~~2. A minimum of three (3) inches of topsoil shall be placed on all graded surfaces.~~
- ~~3. Seeding and mulching shall be consistent with Minnesota Department of Transportation specifications for rights-of-way. Areas returned to agricultural production are exempt from the seeding and mulching requirements.~~
- ~~4. Soil restoration, seeding, and mulching must occur within each phase as soon as final grades, or interim grades identified in the phasing plans, have been reached.~~
 - ~~a. Land shall be reclaimed to native vegetation unless inconsistent with final proposed land use.~~
 - ~~b. Proposed land uses shall be consistent with the Comprehensive Plan, Zoning requirements and applicable local, state, and federal regulations in effect at the time the plan is submitted, and may be required to be amended over time.~~
- ~~5. Soil erosion and sedimentation control measures shall be consistent with MPCA's Protecting Water Quality in Urban Areas and MPCA's General Storm Water Permit.~~
- ~~6. Unless otherwise amended or approved by the County, all final grades and site restoration efforts shall be consistent with the Reclamation Plan.~~
4. Within twelve (12) months after completion of mineral extraction or after termination of the permit, all equipment, vehicles, machinery, materials, and debris shall be removed from the subject property.
5. **Site reclamation must be completed** within twelve (12) months after completion of mineral extraction, or after termination of the permit, **or according to an approved plan schedule.** ~~site reclamation must be completed.~~ Failure to annually register the mineral extraction facility will be considered termination of the mineral extraction facility and the twelve (12) month period begins.
- ~~9. All water areas resulting from excavation shall be addressed upon reclamation of the site. In unique instances where the County Board has reviewed proposals for water bodies at the time of approval of the overall plan and has determined that such would be appropriate as an open space or recreational amenity in subsequent reuse of the site, water bodies may be permitted.~~

Emergency Funds

There is concern from the public that if a mineral extraction facility has a failure in pond design, or if a natural event occurs that compromises the facilities erosion control structures, or any other such unplanned breakdown, that an appropriate emergency fund can be accessed to cover the costs for repair or initial mitigation.

Because each mineral facility is unique in its design and operation, it is important to review each application to determine if it is being designed to cover failures or natural events that could cause erosion, pollution, or destruction of property.

The current ordinance allows for the County to negotiate a road impact security fund to cover any repairs or necessary adjustments to the haul routes used by a mineral extraction facility. Depending on the proposed operation, the routes, the amount of traffic, and other factors, the road authority will determine an appropriate amount for the proposed facility to set aside in a bond, or other financial security that could be accessed under certain conditions.

The current ordinance also allows for a separate Development Agreement to be entered into. A Development Agreement may be required as one condition of a Conditional Use Permit. The requirement, the purpose, and the extent of any Agreement would be based upon the proposed operation. For instance, if it is believed that the operation has an increased risk to the environment due to a settling pond or use of chemicals, an emergency funding mechanism could be incorporated into the Development Agreement or as a separate condition in the permit. Depending on the proposal, some facilities may not require any additional emergency funds beyond those negotiated in a possible road impact agreement.

It is important to keep in mind this additional tool when reviewing any Mineral Extraction Facility proposal.

Comprehensive Plan and silica sand

This proposed amendment to the Goodhue Comprehensive Plan would expand on the current Element 1, Goal 7 that focuses solely on aggregate resources with the intent of keeping that particular non-metallic mineral resource available for future needs. The revised Element 1, Goal 7, recognizes that there are additional non-metallic mineral resources present in Goodhue County including silica sand and establishes a broader planning framework to guide responsible planning and regulation of various non-metallic mineral extraction facilities.

GOAL 7: PRESERVATION OF AGGREGATE DEPOSITS

~~Manage and maintain aggregate resources in future growth zones.~~

SUMMARY

~~The Twin Cities have been challenged with the dilemma of diminishing aggregate resources due to urban development over those resources. It has proved to be excessively expensive to haul aggregate long distances. Managing our aggregate resources will ensure adequate economical quantities to meet Goodhue County needs.~~

Policy

- ~~1. Discourage mining in environmentally sensitive areas.~~
- ~~2. Discourage mining in prime farmable agricultural areas.~~
- ~~3. Ensure each mining site has a reclamation plan.~~
- ~~4. Consider the preservation of aggregate deposits when approving added housing density.~~

Replace Element 1, Goal 7 with the following:

GOAL 7: Management of Non-Metallic Mineral Resources

SUMMARY

Various non-metallic mineral resources of commercial value are present in Goodhue County. These include clay, peat, sand, gravel, limestone, dolomite, and silica sand. The mining and use of some of these resources has played an important role in the development of Goodhue County and will continue to be in demand in future development and construction projects.

Heightened interest in non-metallic mineral extraction has arisen in recent years due to increased demand for silica sand for use in the oil and natural gas industries. Increased public awareness regarding the potential for negative environmental impacts related to mineral extraction facilities and related transportation of various non-metallic mineral products emphasizes the need to thoughtfully plan and responsibly regulate this land use that has the potential to bring significant change to the Goodhue County Landscape.

County policies to guide management of Non-Metallic Mineral Resources are needed to support official controls including land use regulations and infrastructure investment programs and projects to protect the public health safety and welfare. Policies should strive to minimize land use conflicts and degradation of the County's scenic, recreational and natural resources while allowing limited opportunities for development of mineral extraction facilities.

In addition, it remains essential that the County's rural land use policies recognize the need to keep aggregate resources needed to supply local and regional infrastructure and development projects accessible into foreseeable future.

Policy

1. Protect environmentally sensitive areas. Utilize the County's Environmental Constraints Land Use Model (ECLUE)

and all other available data resources as tools to evaluate the potential impact on environmentally sensitive areas from mining of non-metallic mineral resources and utilize that information as part of Best Practice management of facilities.

2. Establish and administer official controls to responsibly regulate non-metallic mineral extraction, processing and transportation facilities. This shall include any official controls that may be needed to address specific health issues or potential environmental impacts of mining, processing, and transportation of the materials.
3. Evaluate any proposed new Mineral Extraction Facility or any proposed changes to any existing Mineral Extraction Facility to determine if the proposed project would be subject to requirements of the Minnesota Environmental Review program pursuant to Minnesota Statutes, section 116D.04 and 116D.045 and the administrative rules adopted by the EQB as Minnesota Rules, chapter 4410, parts 4410.0200 to 4410.7070.
4. Ensure that Environmental Review and/or Permitting Procedures for Non-Metallic Mineral Extraction Facilities follow the steps defined in the Minnesota State Historic Preservation Office (SHPO) Standards and Guidelines for the entire Area of Potential Effect (APE) for any proposed mineral extraction facility.
5. Plan and regulate the development, operation and reclamation of non-metallic mineral extraction facilities to be compatible with other rural land uses, understanding the priority and importance of maintaining an agricultural farming community.
6. Require non-metallic mineral extraction, processing and transportation facilities to adhere to best management practices as recognized by Goodhue County.
7. Plan and regulate the use of land in rural Goodhue County to ensure on-going cost effective availability of aggregate to meet County and Regional needs.
8. Work closely with Goodhue County Townships and Cities to best determine areas within the county where various types of non-metallic mineral extraction and related activities may be most suitable from both land use compatibility and public acceptance standpoints.
9. Periodically analyze and evaluate demand versus supply of aggregate resources necessary to meet local needs.

APPENDIX A- Sources of Best Management Practices

The following list of references identified as sources of Best Management Practices (BMP's) for Non-Metallic Mineral Extraction Facilities offers a thorough cross-section of ideas, recommendations and BMP's that may serve as a tool box to help shape and inform Mineral Extraction Projects in Goodhue County. BMP's to address key concerns related to development, operations and reclamation of Mineral Extraction Facilities are addressed in these various documents. Issues addressed include: Surface and Ground Water Management, Dust Control, Prevention of Silicosis, Protection and Mitigation of Environmental Impacts, and Mine Reclamation. These sources include specific recommendations and BMP's already crafted for Goodhue County by a multi-discipline team of consultants led by Summit Envirosolution, Inc. Also included are specific standards, requirements and BMP's that would relate to satisfy specific Federal, State or Local Government Rules, Regulations or Permit Requirements. Some of the documents included in this list relate to mining occurring in other states or are intended to address BMP's applicable to mining activities throughout the Country. The Sources of Best Management Practices for Non-Metallic Mineral Extraction Facilities included below are kept on file with the Goodhue County Land Use Management Department.

SUPPLEMENTAL INFORMATION REGARDING NONMETALLIC MINING IN GOODHUE COUNTY, MINNESOTA, prepared for Goodhue County by Summit Envirosolutions, Inc., June 2012.

This document prepared by a multi-disciplined team of consultants led by Summit Envirosolutions, Inc., include Best Management Practices (BMP's) applicable to the planning, permitting, operation and reclamation of Non-Metallic Mineral Mining and Processing Facilities. The following chapters of this report include specific recommendations and BMP's directly applicable to Goodhue County Mineral Extraction Facilities: Chapter 2 (Regulatory Summary), Chapter 3 (Non-Metallic Mining Environmental Impacts and Chapter 4 (Reclamation Issues). As the Mining Study Committee is aware this document is a product of consultant services to address various issues identified under the "Interim Ordinance to Establish a Moratorium on the Permitting of New Silica Sand Mining Operations" adopted by the Goodhue County Board of Commissions in September, 2011. The Consultant ideas, recommendations and BMP's included in this document were discussed and review by the MSC, the PAC and the County Board and should be very applicable to any new Non-Metallic Mineral Extraction Facilities that may be proposed in the County.

Best Practices for Dust Control in Metal/Nonmetal Mining, IC 9521 Information Circular 2010, US Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (NIOSH).

In light of on-going silica overexposures and reported silicosis deaths in metal/nonmetal miners, an ongoing threat to miners' health is evident. This handbook was developed to identify available engineering controls that can assist the industry in reducing worker exposure to respirable silica dust. The controls discussed in this handbook range from long-used controls which have developed into industry standards, to newer controls, which are still being optimized. The intent of the handbook is to identify "best practices" that are available for controlling respirable dust levels in underground and surface metal/nonmetal mining operations. The handbook provides general information on the control technologies along with extensive references. Specific recommendations and BMP's are offered for both mining and materials processing activities.

Template Best Management Practices of Fugitive Dust Control Plans for the Ledge Rock Quarry and Industrial Sand Mining Industries The control of fugitive dust is required under section NR 415.04, Wisconsin Administrative Code, for all affected facilities. Section NR 415.075(2), Wis. Adm. Code, has specific requirements for fugitive dust control for ledge rock quarries and industrial sand mines. This template has been developed to help the facility reduce or eliminate fugitive dust emissions from these operations.

National Industrial Sand Association (NISA) Guide to Silicosis Prevention Program

The scope of this guide is to outline the seven steps set forth in the National Industrial Sand Association's (NISA) Silicosis Prevention Program to eliminate silicosis among its workforce. It does not address in detail the seven steps involved in the total program, but aims to give explanation to the seven steps that can be put in place by management to eliminate silicosis. NISA has prepared for its member companies other information sources and conducted training on silicosis prevention to include dust sampling, medical surveillance, engineering controls, respiratory protection, and other measures which supplement this guide.

A Handbook for Reclaiming Sand and Gravel Pits in Minnesota, Minnesota Department of Natural Resources , Division of Lands and Minerals, July 1992.

This handbook focuses on reclamation of sand and gravel mines of surficial deposits as opposed to crushed stone, industrial sand (silica sand) or dimension stone. Some of the concepts for reclamation and habitat restoration set forth in the handbook are applicable to reclamation of sites associated with other types of mining or processing of non-metallic minerals. Numerous existing surficial sand and gravel mining sites could benefit from application of mine reclamation BMP's set forth in this handbook.

Aggregate Mining Fact Sheets Prepared by the Minnesota Department of Natural Resources Division of Lands and Minerals, January 2001.

Fact Sheet 1: Environmental Regulations for Aggregate Mining

Fact Sheet 2: Mining Plans for Aggregate Operations

Fact Sheet 3: Reclamation at Aggregate Mining Sites

Fact Sheet 4: Using Native Prairie Species for Reclaiming Aggregate Mining Sites

These Aggregate Mining Fact Sheets explain various regulatory standards and highlight best practices related to planning, operation and reclamation of Aggregate Mines.

Best Management Practices for Reclaiming Surface Mines in Washington and Oregon, Washington Division of Geology and Earth Sciences, Oregon Department of Geology and Mineral Industries, December 1997.

This manual provides information about planning a mine from start up to final reclamation, incorporating water and erosion control during operation and reclamation, soil salvage and replacement, land shaping and re-vegetation. This document offers ideas and BMP's for Surface Mine Reclamation as practiced in another part of country for some perspective and breadth. It is useful to compare the BMP's recommended in this document to the Minnesota Handbook for Reclaiming Sand and Gravel Pits.

The Human Factor in Mining Reclamation, United States Geologic Survey (USGS) Circular 1191, 2000

This review of the literature for actual and proposed reclaimed mine sites may enable land planners, industry and the public to recognize that innovative designs exist in both past and present. Although some mines sites with serious problems are described in this document, in notes that attention needs to be drawn to thoughtful reclamation projects

for better future management. The human perception of mining can bring about possible confusion from a historic perspective, with regards to regulation, and from varying definition of landscape. Selected sites in this report provide information in terms of their history, landform, design approach and visual discernment. Examples in Colorado are included as a jumping-off place for the broader issue of regions soundly developing mining sites, permitting the best utilization of natural resources, and respecting the landscape. It notes that only in seeing and recognizing our own visual prejudices can we hope to evaluate land-use wisely.

Minnesota Stormwater Manual Version 2, Created by the Minnesota Stormwater Steering Committee, published by the Minnesota Pollution Control Agency, January 2008.

This manual was initiated by the Minnesota Stormwater Design Team, which evolved into the Minnesota Stormwater Steering Committee. The manual offers a useful product that helps the everyday user better manage storm water. Although not geared specifically to mining and mineral extraction related facilities the manual does offer specific design standards, recommendations and BMP's to manage stormwater generated on industrial sites. The manual is well written, well-illustrated and well documented. It is a tool used by many stormwater system design professionals to comply with federal, state and local stormwater management requirements.

Minnesota Pollution Control Agency Industrial Division National Pollutant Elimination System (NPDES)/State Disposal System (SDS) General Permit MNG490000 for Nonmetallic Mining and Associated Activities

MODIFICATION DATE: March 20, 2012 EXPIRATION DATE: October 31, 2016

This Permit may authorize storm water discharge for a variety of mining related activities including the following:

- Discharge stormwater from the construction sand and gravel, industrial sand, dimension stone, crushed and broken limestone, crushed and broken granite, crushed and broken stone (not elsewhere classified) mining and quarrying areas, hot mix asphalt production areas, (including portable hot mix asphalt plants), concrete block and brick, concrete products (other than block and brick), and ready mix concrete, as well as aggregate dredging operations and uncontaminated asphalt and concrete rubble recycling at sites already listed.
- Discharge mine site dewatering from construction sand and gravel, industrial sand, dimension stone, crushed and broken limestone, crushed and broken granite, and crushed and broken stone (not elsewhere classified) mining and quarrying areas.
- Non-stormwater discharges that meet the requirements of this permit and occur at the abovementioned facilities.

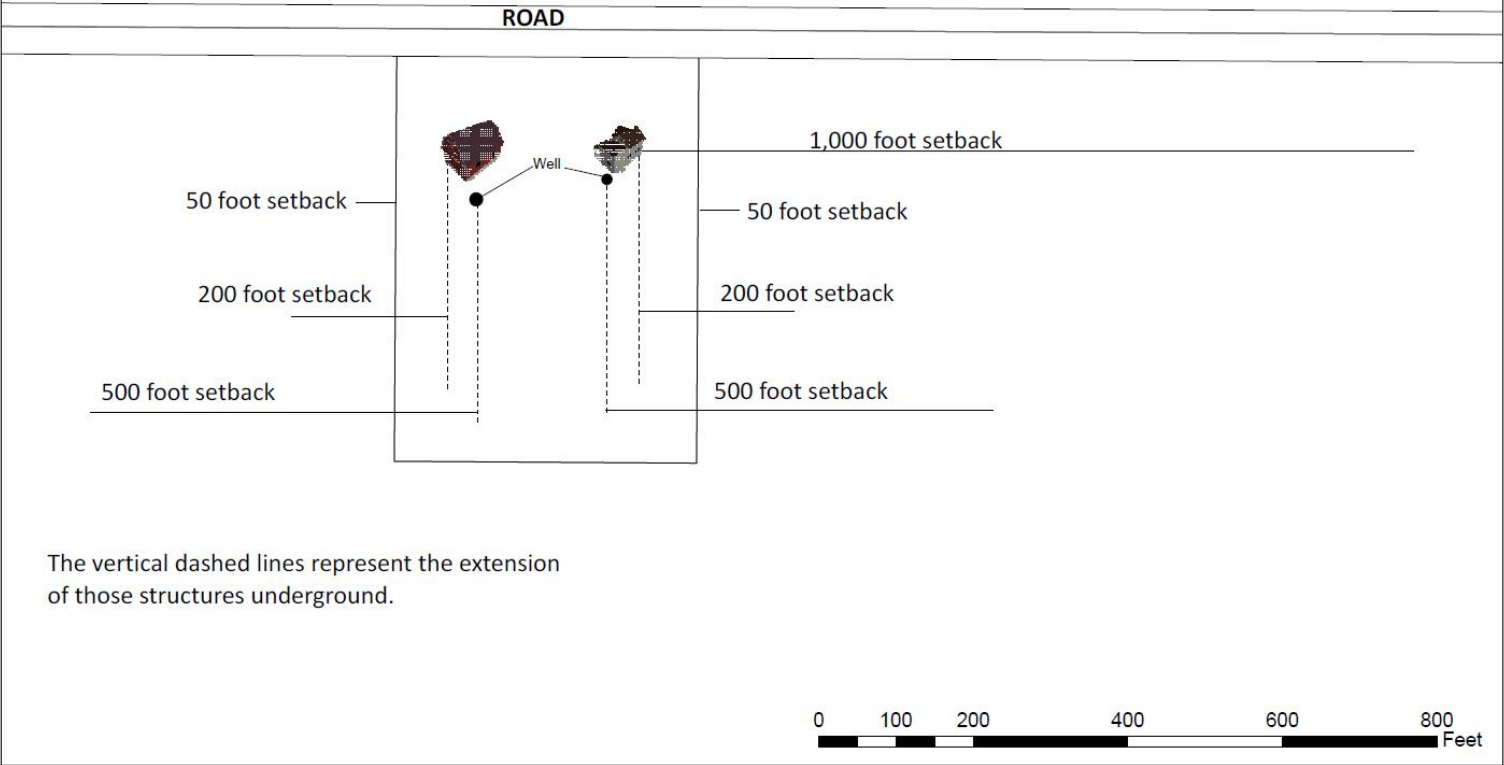
This General Permit document includes many performance standards and best management practices that current or prospective Goodhue County Mineral Extraction Facilities may be subject to and offers insight on State of Minnesota Storm Water Management requirements for Non-Metallic Mineral Extraction Facilities.

Interim Sediment control Water Application of Polymers, State of Wisconsin Department of Natural Resources, November 2002

This document outlines various issues and concerns, references applicable laws and regulations and identifies various considerations pertaining to the use of products containing polymers for use in sediment control structures. These chemicals may be used in association with wash operations in conjunction with mining.

APPENDIX B- Maps

Article 14: Mineral Extraction
Section 6: App. Req. for Registration/Land Use Permits and Conditional/Interim Use Permits
Subd. 4: Mineral Extraction Facilities Performance Standards
L: Setbacks



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MINING STUDY
Goodhue County, Minnesota

Legend

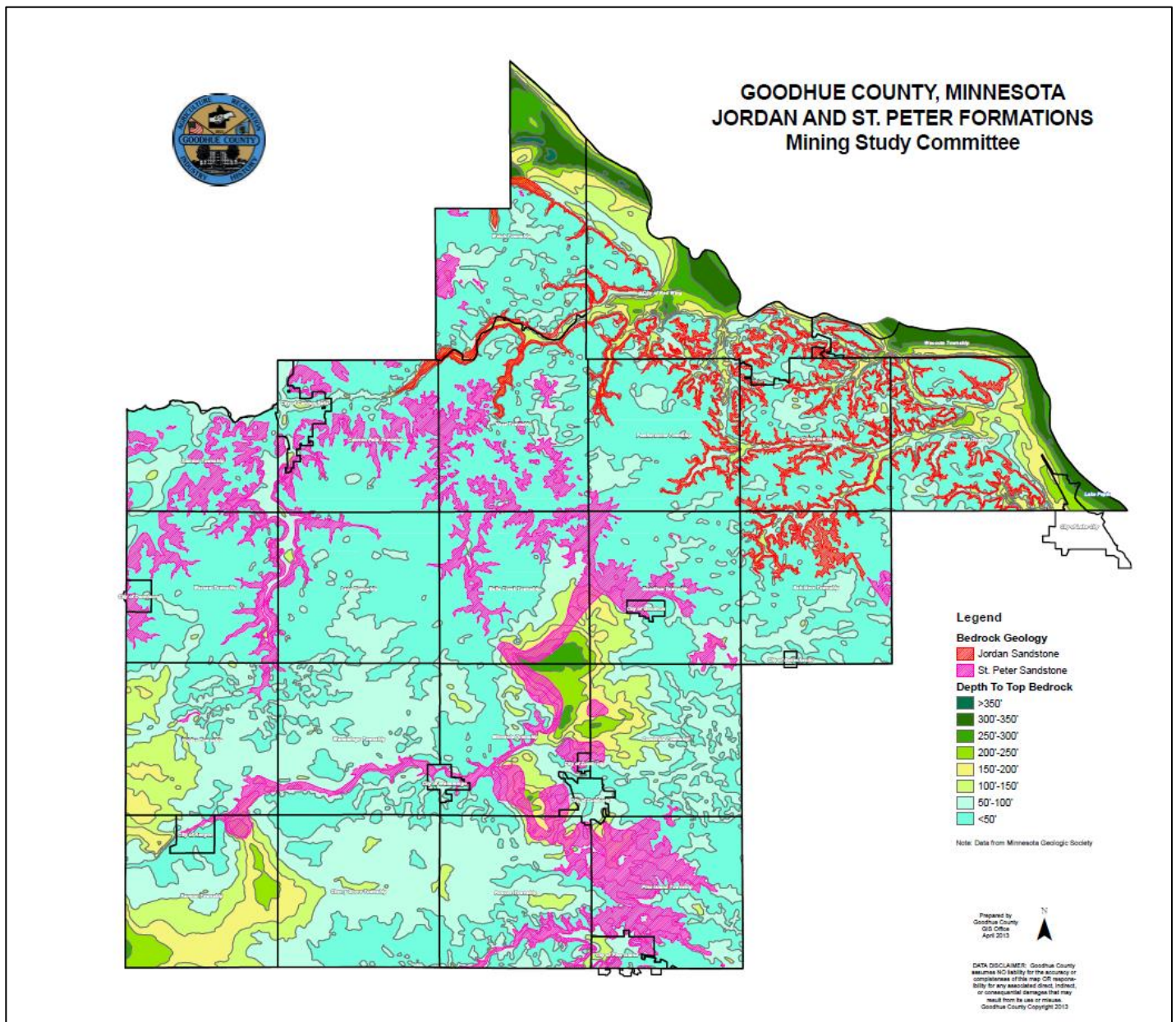
- Dwelling
- St. Peter Sandstone*
- Jordan Sandstone*
- Setbacks
- Bluff Impact Zone 30% Slope
- Bluff Impact Zone 30% Slope
- Existing Registered Mine Parcels and Site Name

*Data from the Goodhue County Geological Atlas Part A Plate 2. Indicates bedrock that is exposed at the surface or has already been demonstrated impacts of Ordovician and Silurian age.

Data Sources: Goodhue County, Minnesota Department of Natural Resources
Prepared by Goodhue County GIS Office, April 2013

1 inch = 0.25 miles

DATA DISCLAIMER: Goodhue County does not warrant the completeness or accuracy of this map. It is for informational purposes only. Goodhue County is not responsible for any damages or losses resulting from the use of this map.



One mile buffer around designated Trout Streams in Goodhue County, MN

