

ENVIRONMENTAL ASSESSMENT WORKSHEET
Jordan Aggregates Proposed Mining Operation
Sand Creek Township, Minnesota

| | |
|---|-----------|
| 1. PROJECT TITLE..... | 3 |
| 2. PROPOSER..... | 3 |
| 3. RGU..... | 3 |
| 4. REASON FOR EAW PREPARATION..... | 3 |
| 5. PROJECT LOCATION..... | 3 |
| 6. DESCRIPTION..... | 4 |
| 7. PROJECT MAGNITUDE DATA..... | 9 |
| 8. PERMITS AND APPROVALS REQUIRED..... | 10 |
| 9. LAND USE..... | 10 |
| 10. COVER TYPES..... | 11 |
| 11. FISH, WILDLIFE AND ECOLOGICALLY SENSITIVE RESOURCES..... | 12 |
| 12. PHYSICAL IMPACTS ON WATER RESOURCES..... | 13 |
| 13. WATER USE..... | 14 |
| 14. WATER-RELATED LAND USE MANAGEMENT DISTRICT..... | 18 |
| 15. WATER SURFACE USE..... | 19 |
| 16. EROSION AND SEDIMENTATION..... | 19 |
| 17. WATER QUALITY: SURFACE WATER RUNOFF..... | 20 |
| 18. WATER QUALITY: WASTEWATERS..... | 21 |
| 19. GEOLOGIC HAZARDS AND SOIL CONDITIONS..... | 22 |
| 20. SOLID WASTES, HAZARDOUS WASTES, STORAGE TANKS..... | 24 |
| 21. TRAFFIC..... | 25 |
| 22. VEHICLE-RELATED AIR EMISSIONS..... | 27 |
| 23. STATIONARY SOURCE AIR EMISSIONS..... | 27 |
| 24. ODORS, NOISE AND DUST..... | 28 |
| 25. NEARBY RESOURCES..... | 33 |
| 26. VISUAL IMPACTS..... | 34 |
| 27. COMPATIBILITY WITH PLANS AND LAND USE REGULATIONS..... | 35 |
| 28. IMPACT ON INFRASTRUCTURE AND PUBLIC SERVICES..... | 35 |
| 29. CUMULATIVE IMPACTS..... | 35 |
| 30. OTHER POTENTIAL ENVIRONMENTAL IMPACTS..... | 36 |
| 31. SUMMARY OF ISSUES..... | 36 |

Figures

| | |
|------------------|---|
| Figure 1 | Project Location |
| Figure 2 | Surrounding Topography |
| Figure 3 | Surrounding Land Use and Zoning |
| Figure 4 | Vicinity Map |
| Figure 5 | Bedrock Geology and Ground water Susceptibility |
| Figure 6 | Soils Classification |
| Figure 7 | Minnesota Land Cover Classification System |
| Figure 8 | Existing Natural Resources |
| Figure 9 | Aerial Photograph of Project Site and Surrounding Area & continued |
| Figure 10 | Aerial Photograph of Project Site |
| Figure 11 | Vicinity Wells |
| Figure 12 | Conceptual Geologic Cross Section |
| Figure 13 | Geologic Cross Section A-A' |
| Figure 14 | Geologic Cross Section B-B' |
| Figure 15 | Haul Routes |
| Figure 16 | TH169 Interregional Corridor |
| Figure 17 | TH169 Interregional Corridor Major Project Priorities |
| Figure 18 | Scott County 2030 Traffic Volumes and Congestion |
| Figure 19 | Existing Area Traffic Volume |
| Figure 20 | City of Jordan Transportation Plan |

Mining Plans

| | |
|----------------|--------------------------------------|
| Sheet 1 | Existing Conditions |
| Sheet 2 | Mining Plan and Phasing Plan |
| Sheet 3 | Processing Plant Layout |
| Sheet 4 | Reclamation Plan |
| Sheet 5 | Reclamation with Wetland Plan |

Attachments

| | |
|---------------------|---|
| Attachment A | Natural Heritage Information and Botanical Survey Report |
| Attachment B | Wetland Information |
| Attachment C | Draft Monitoring Plan |
| Attachment D | Noise Analysis |
| Attachment E | Archaeology / Historic Structures |

ENVIRONMENTAL ASSESSMENT WORKSHEET

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the EQB Monitor. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project title

Jordan Aggregates Proposed Mining Operation; Sand Creek Township

2. Proposer

Jordan Aggregates, LLC

3. RGU

Scott County

| Proposer | RGU |
|--|--------------------------------------|
| Contact person: Steve Hentges | Contact person: Kate Sedlacek |
| Title: | Title: Environmentalist II |
| Address: 650 Quaker Avenue | Address: 200 Fourth Ave West |
| City, state, ZIP: Jordan, MN, 55352-0069 | City, state, ZIP: Shakopee, MN 55379 |
| Phone: 952-492-5700 | Phone: 952-496-8351 |
| Fax: 952-492-5705 | Fax: 952-496-8489 |
| E-mail: steve@smhentges.com | E- mail: ksedlacek@co.scott.mn.us |

4. Reason for EAW preparation

EIS Scoping, Mandatory EAW, Citizen Petition, RGU Discretion,
 Proposer Volunteered:

If an EAW or EIS is mandatory, give EQB rule category subpart number:

4410.4300, and subpart name: 12

5. Project location

County: Scott

Section: Section 8 (South half of SW quarter) and Section 17 (North half of NW quarter)

Township: 114N

Range: 23W

6. Description

a. Provide a project summary of 50 words or less to be published in the EQB Monitor.

Jordan Aggregates, LLC proposes to mine sand and gravel from the property located at 17825 Valley View Drive in Sand Creek Township, Scott County, Minnesota. The mine will encompass 84.7 acres and is anticipated to operate for 25 years. When mining is complete a 36 acre pond will remain. Reclamation will use on-site overburden materials and imported fill.

b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes. Include modifications to existing equipment or industrial processes and significant demolition, removal or remodeling of existing structures. Indicate the timing and duration of construction activities.

Project Overview

Jordan Aggregates, LLC seeks to obtain an Interim Use Permit (IUP) under Chapter 10 of the Scott County Zoning Ordinance from Scott County in order to conduct sand and gravel mining on the property located at 17825 Valley View Drive in Sand Creek Township, Scott County, Minnesota (Property). The Property occupies 98 acres within portions of the southwest quarter of Section 8 and the northwest quarter of Section 17, Township 114 North, Range 23 West. The proposed mining operation would occupy approximately 84.7 acres of the Property. The Property's regional setting and its location relative to adjacent properties and streets are shown on Figure 1 Project Location, Figure 2 Surrounding Topography, Figure 3 Surrounding Land Use and Zoning, and Figure 4 Vicinity Map.

The project includes mining aggregate resources from the Project Site, processing the mined aggregate for commercial sale, and reclaiming the mine with overburden materials from within the mining limits as well as clean soil fill materials imported from off-site. The mining and processing portions of the project will produce sand and gravel aggregate products that are in high demand for construction and development projects in the region. The reclaimed site will include a 36 acre ground water pond and be left suitable for a two lot rural residential development provided that lots can meet all development standards in place at the time of development of the lots.

Temporary Portable Asphalt and Concrete Mixing Plant

The mining project is proposing a temporary portable asphalt and concrete mixing plant. The asphalt and concrete mixing plant will consist of a portable hot mix aggregate drum for heating-drying aggregate and mixing aggregate with asphalt cement. The temporary portable asphalt or concrete mixing plant can operate for a maximum of two hundred forty hours annually, unless an extension is approved. An Interim Use Permit separate from the Mining Interim Use Permit must be applied for each year for a temporary asphalt and concrete plant is operated in the mine. There will be recycled aggregate stockpiles. Aggregate for the production of the hot mix aggregate will come from both on-site gravel and off-site sources to meet current asphalt specification. Bituminous asphalt removed from road projects can be recycled on-site and used as future road base. Recycled bituminous asphalt will be stored and processed on site as part of

hot mix asphalt production. The recycling operation includes a conveyor, hopper, loader, grinder, and asphalt plant.

A portable temporary storage fuel tank containing diesel fuel for the temporary hot mix asphalt plant burner will be used. All tanks will meet MPCA requirements, the tanks will either be double walled or bermed with impervious liners below them. The hot mix asphalt plant is portable equipment that enters and leaves the site on wheels.

The portable asphalt and concrete mixing plant must meet Zoning Ordinance Chapter 10 Mining requirements in order to operate. The Developer shall apply to the Planning Department to locate a portable asphalt or concrete mixing plant in the gravel pit. Issuance of the permit requires a Township Board recommendation and approval of the County Board. Conditions of the permit shall consist of, but not be limited to, pollution control standards, noise regulations, hours of operation, setbacks, haul roads, area where the plant, stockpiled materials and material processing is to be located, slopes, etc. Neighboring property owners within one-quarter (1/4) mile would be notified of the public hearing at which the permit application will be considered.

Property and Project Site Information

The Property consists of agricultural and open land use and is currently rented out to two different tenants: one tenant occupies the homestead and the other farms the remainder of the acreage. Structures existing on the Property include one house and five outbuildings located generally in the center of the Property. The homestead will become an office for the mine when mining is commenced, and removed when mining is commenced at the house site. The house is currently served by a non-complying septic system, which will be brought up to code and an alternate site will also be identified and preserved until the structure is no longer used and is removed. Structural improvements to the building will be made as required to ensure the structure conforms for the proposed commercial use as an office. The well and septic tank on the property will be properly abandoned when the structure is demolished and removed at the end of the mining operation. There are no improved roads on the Property. A gravel driveway provides access to the house from Valley View Drive. The landscape on the Property is characterized by a mixture of tilled agricultural land, relatively small wooded and/or grassy areas near the homestead and along the banks of Sand Creek.

The proposed Project Site will occupy 87.5 acres in the northwest portion of the Property. Of this area, 84.7 acres will be mined and the balance will be perimeter buffer space. The Project Site is bounded by Valley View Drive to the northwest, an offset of 100 feet along Sand Creek to the southeast, and adjacent properties on the remainder of the perimeter. Existing conditions on the Project Site are shown on Sheet 1 of the Mining Plans.

The average site elevation is approximately 730 ft above mean sea level (msl). Site topography is characterized by two primary regions:

1. Upland Area located in the northwestern portion of the site – The upland area is characterized by gently rolling terrain with surface elevations ranging from approximately 727 feet to 749 feet above mean sea level (msl).

2. Lowland Area located in the southeastern portion of the site – The lowland area is located within the Sand Creek floodplain and is characterized by generally flat terrain. Surface elevations range from 724 feet to 727 feet above msl.

Site drainage flows either southeast toward Sand Creek (totaling approximately 71 acres) or northwest to the ditch along Valley View Drive. The ditch area along Valley View Drive, approximately 17 acres, is landlocked and has no direct outlet to the Minnesota River at this time. If the area were to overflow, it would drain south to Sand Creek before it could discharge to the Minnesota River. Regional drainage is toward the Minnesota River, which is approximately 0.7 miles northwest of the Project Site.

Mining Operation

Processing of minerals including recycle materials will be conducted in accordance with the County's Ordinance and will not be conducted closer than one hundred (100) feet to the property line, nor closer than five hundred (500) feet to any residential structures. Additionally, the mining operations will not be conducted closer than two hundred (200) feet to any residence or residential zoning district boundary existing on the approval date of the mining interim use permit. Mining operations will also not be conducted closer than thirty (30) feet to any property line, or within thirty (30) feet of the right-of-way line of any existing or platted street, road or highway, except that excavating may be conducted within such limits in order to reduce the elevation thereof in conformity to the existing or platted street, road or highway engineering plans. Side slopes of the mining operation will conform with the site plan.

Within the mining limits sand and gravel will be excavated down to the water table, which is anticipated to occur at approximately elevation 720 ft. Based on site topography, this results in excavation depths ranging from 4 to 49 feet. In the center of the site, excavation will continue below the water table to approximately elevation 600 ft or the top of bedrock, should bedrock be encountered above elevation 600, forming a pond of approximately 36 acres and 115 feet deep. Along the perimeter of the mine, excavation slopes will be graded to a slope of 1.5H:1V.

A Mining and Phasing Plan for the active mine is shown on Sheet 2 of the Mining Plans. The plan illustrates the excavation depths within the proposed mining boundary and provides a general phasing layout for the operation. Mining will begin in the southern half of Phase 1 and proceed within Phase 1 until the appropriate grades for the processing plant are achieved as shown in Sheet 3. Mining in Phase 1 is expected to involve excavating a moderate amount of material and smoothing out the terrain, mainly for the purpose of preparing the plant site.

Mining will then proceed into Phase 2A, with this area being mined down to the base grade of approximately elevation 720 (but not below the water table) and then brought back up to the processing plant grades shown on Sheet 3 using a combination of on-site overburden and imported reclamation fill. While mining is occurring in Phase 2A, overburden from within the Pond Phase and Phases 2B and 2C will be stripped and transported to Phase 2A for use as reclamation fill. As Phase 2A is being brought up to grade, mining will occur in Phase 3. As base grades in Phase 3 are established, at approximately 720 feet, overburden from the Pond Phase and Phase 3B will be used for Phase 3 reclamation. Imported material will not be used to reclaim below the water table

Reclamation of Phases 2B, 2C, and 3B will consist of top-dressing the mine base grades with hydric soils excavated from within the mining limits in order to create wetland areas proposed as an end use for these phases. Please see the Phasing Plan sheet 2 and Reclamation with Wetland Plan sheet 5. Phase 4 will be the last upland area to be mined. This area is likely to utilize mostly imported fill for reclamation, as most of the overburden from other areas of the Site will have been used in the reclamation of Phases 1-3. Mining of the pond area will occur continuously throughout the development and reclamation of Phases 1 through 4.

The aggregate resources on site consist of unconsolidated sand and gravel; therefore no blasting or dewatering will be required. Aggregates above the water table will be excavated and transported on-site using common heavy construction equipment such as excavators, loaders, haul trucks, and conveyors. Below the water table a barge-mounted clamshell-type excavator will be used.

Aggregate processing is expected to include crushing, screening and washing of natural aggregate products as well as recycled concrete and asphalt in order to produce desirable gradations and aggregate products. Portable hot mix asphalt and/or concrete batch plants may be operated on the Project Site through a separate Interim Use Permit applied for annually to provide material for area construction projects. Approval for operation of the plants will be sought pursuant to the provisions of Zoning Ordinance Chapter 10.

Mining will commence upon receipt of all required permits and approvals. Aggregate products will be available for commercial sale and will be exported from the site by trucks at a rate of 10,000 round-trips per year and up to 110 round-trips per day during periods of peak demand.

Reclamation

Chapter 10.5.3 of the Zoning Ordinance requires that reclamation shall begin after the mining of twenty-five (25%) of the total area to be mined or four (4) acres, whichever is less. Once these areas have been depleted of the mine deposit they shall be sloped and seeded in compliance with the End Use Plan. The Developer has indicated the Chapter 10 requirements to begin restoration efforts after 4-acres of mining will conflict with their proposed phasing of the mining operations. The Developer will request a variance from that requirement at the time of application for the IUP Mining Permit.

The plant and processing site as shown on the Mining Plans encompasses approximately 9 acres. An area of this size is needed to provide space for processing equipment and stockpiles that are necessary for producing the various aggregate products that will be made available for sale. Additionally, the lowland Phases 2B, 2C, and 3B will contribute a disproportionate amount of unreclaimed area to the total due to their low volume to area ratios and their primary use as sources of reclamation fill for the upland phases. There is very little overburden in the upland phases, so during the mining of these phases it will be necessary to have the lowland phases open in order to provide an as-needed supply of reclamation material. Depending upon the amount of imported reclamation fill used, there may be a greater or lesser need for material from the lowland phases, however it is preferable to use on-site material for reclamation fill wherever possible.

Both on-site overburden materials and imported fill will be used as needed to establish final reclamation grades. It is estimated that between 250,000 and 350,000 cubic yards of overburden

from within the site will be used for reclamation fill. An additional 550,000 to 650,000 cubic yards of fill material will be imported for use as reclamation fill. The Developer will identify the source of imported material and assess the potential for contamination. This assessment will include contacting the source site owner/operator to ascertain whether any known contamination exists and reviewing available environmental documents (Phase I ESA, etc.) if they exist. If the history of imported soil is unknown, sampling and laboratory analysis of the soil will be required to demonstrate compliance with the Soil Reference Value (SRV) limits prior to the material being accepted at the site. The reclamation fill cannot contain chemical constituents of concern that exceed the limits specified for the MPCA's Tier I SRV. Documentation of investigation and test results of imported fill will be provided to Scott County as a condition of the mining IUP. No open dumping will be allowed at the site.

Reclamation fill will be compacted in lifts as it is placed. Reclamation fill within areas designated as building pads and roadways will be compacted in lifts to at least 95 percent of Standard Proctor maximum dry density. In non-building pad/roadway areas, reclamation fill will be placed in lifts, compacted as feasible depending upon soil type and moisture condition, and allowed to consolidate naturally over time. The Developer will conduct density and moisture testing to verify adequate compaction and the test results will be reviewed by an engineer and provided to Scott County as a condition of the IUP.

A generalized reclamation plan is shown on Sheet 4 of the Mining Plans. Reclamation will begin along the northwest boundary of the Project Site and progress inward. Perimeter reclamation slopes will be graded to a slope of 5H:1V. In the upland area, reclamation grades will be established at an elevation of approximately 742 ft, which is ten feet above the 100-year flood level of approximately 732 ft. As finished reclamation grades are established, topsoil of a quality equal to or greater than the existing topsoil will be placed on the upland area and the surface will be seeded with a County-approved grass mixture.

An open area will be left in the center of the mining limits. No reclamation fill will be placed in the lowland/floodplain area; it will be left at the grades established during the mining excavation which are anticipated to range from 715 to 721 ft. With the water table occurring at approximately 720 ft, the creation of approximately 38 acres of wetlands and wetland buffer has been proposed as a potential end-use for this area. This option is discussed further in Question 12.

End Use Plan

It is anticipated that the mine will be active for 25 years. At this time the City of Jordan has not included this property in its long range land use plan because future growth is anticipated to the south and west of the city. The mining operation's End Use Plan must comply with Scott County's Comprehensive Plan. Scott County's Comprehensive Plan identifies the site as Commercial Reserve District. The purpose of this district is to reserve land for future commercial and/or industrial development with urban services.

The site will be reclaimed to accommodate future residential development. The End Use Plan proposes two residential lots. Under the current Zoning Ordinance, one (1) dwelling unit per forty (40) acres of land is allowed in the Urban Business Reserve District.

Since it is unknown when urban services will be available for this property, the End Use Plan

must identify septic system locations for the two residential lots. Municipal services would be needed for ultimate development for urban business uses.

c. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of this project is to provide aggregate resources for use in construction. There is currently a regional need to develop available aggregate resources.

d. Are future stages of this development including development on any out lots planned or likely to happen? ___ Yes X No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

No future mining stages beyond the project described herein are planned. The proposed end use for the Project Site upon completion of mining and reclamation activities includes two residential lots on the reclaimed upland area, a 36-acre pond that will be left in the center of the site, and potential wetland creation on the un-reclaimed lowland/floodplain area. Local governments are considering zoning changes that would designate the property for commercial use. The proposed end-use described herein may therefore change to conform to future zoning changes.

e. Is this project a subsequent stage of an earlier project? ___ Yes X No

If yes, briefly describe the past development, timeline and any past environmental review

7. Project magnitude data

Total project acreage: 87.5

Number of residential units: NA unattached NA attached

Maximum units per building: NA

Commercial, industrial or institutional building area (gross floor space):

NA total square feet:

Indicate areas of specific uses (in square feet):

| | | | |
|------------------|-----|------------------|-----|
| Office | N/A | Manufacturing | N/A |
| Retail | N/A | Other Industrial | N/A |
| Warehouse | N/A | Institutional | N/A |
| Light industrial | N/A | Agricultural | N/A |

Other (specify): 84.7 acres of the Project Site will be used for active sand and gravel mining. The remaining 2.8 acres of the project site constitutes the buffer between the proposed mine boundary and the north and west property lines. A portion of this buffer area will be planted with evergreen trees to screen site operations from public view.

Building height: NA

8. Permits and approvals required

List all known local, state and federal permits, approvals and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure.

| | | |
|------------------------------------|---|-------------------|
| STATE: | | |
| DNR | Ground Water Allocation – Water Appropriation Permit | To be applied for |
| Mn Pollution Control Agency (MPCA) | A MPCA Registration Permit will be required for the proposed asphalt plant for air emissions | To be applied for |
| Mn Pollution Control Agency (MPCA) | Non-Metallic Mineral Processing General Permit For Air Emissions | To be applied for |
| MN Pollution Control Agency (MPCA) | Storm Water Construction Activity National Pollutant Discharge Elimination System (Clean Water Act Section 402) Stormwater Pollution Prevention Plan (SWPPP) | To be applied for |
| Mn Pollution Control Agency (MPCA) | Air Quality Permit for Asphalt/Concrete Plant | To be applied for |
| LOCAL: | | |
| Scott WMO | WCA Wetland Banking Application | To be applied for |
| Scott County | Solid Waste Facility License for Asphalt/Concrete Plant | To be applied for |
| Scott County | Mining Interim Use Permit | To be applied for |
| Scott County | Annually an Interim Use Permit needs to be applied for the asphalt or concrete plant | To be applied for |
| Scott County | Variance from Reclamation Standards | To be applied for |

9. Land Use

Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.

Current land use at the Property is agricultural; and based on historical photos dating back to 1957, agriculture has been the primary use of the Property for at least the last 50 years. Of the Property's 98 acres, approximately 73 acres are currently used for crop production. The remainder of the acreage consists of the homestead including a house and 5 outbuildings and

several small wooded areas. The homestead on the property is currently rented out as a private occupancy and the cropland is leased to an area farmer.

The Project Site and surrounding properties are all zoned Urban Business Reserve (UBR), and land use surrounding the Project Site is discussed below. The Project Site and surrounding property zoning are shown on Figure 3. Property boundaries in the vicinity of the site are shown on Figure 4. Please see aerial photographs Figure 9 and 10 for project site and surrounding area land use.

Directly north of the Project Site is the Scott County Association for Leadership and Efficiency (S.C.A.L.E) Regional Training Facility for police and fire departments. The site is comprised of two parcels, one on the south side of Valley View Drive and one on the north side. The parcel on the north side of Valley View Drive consists of the previous jail annex building now used for training and administrative activities, as well as a maintenance building and shooting ranges. The parcel on the south side of Valley View Drive abuts the site and consists of a fenced, generally open area of approximately 2.5 acres with an uninhabited concrete structure used for fire training exercises. There is a high-capacity pumping well on site to provide water for the exercises. Immediately northeast of this site is the Scott County Juvenile Alternative Facility and the property beyond that is owned by the Metropolitan Mosquito Control District (MMCD), where it operates a district office.

Valley View Drive, an unpaved Sand Creek Township road, runs adjacent to the northwest of the Project Site. Beyond Valley View Drive is primarily open land use associated with a private residence and a federal wetland/wildlife preserve area buffering the Minnesota River.

Adjacent to the west is a private road allowing access to the parcel adjacent to the south of the Property. Beyond this access road is a private, single family residence and open, non-agricultural land use.

The parcel to the south of the Property is generally open land characterized by grassy areas used for horse pasture and wooded areas buffering Sand Creek, which runs through the parcel. Further to the southwest is the Jordan Municipal Wastewater Treatment Facility.

Adjacent properties to the east and southeast are characterized by generally open land use and consist of a mixture of undeveloped woodland, grassland and river bottom areas of Sand Creek. Further to the southeast are the Union Pacific Railroad and U.S. Highway 169, an Inter-Regional Corridor.

Due to the Property's exclusive use as farmland, there is a low likelihood of soil contamination or other environmental hazards currently on the Property. Ground water under the Property may contain elevated nitrates or traces of pesticides resulting from agricultural practices.

10. Cover types

Estimate the acreage of the site with each of the following cover types before and after development:

| Cover Type | Before Mining | After Reclamation |
|----------------------|---------------|--|
| Types 1-8 wetlands | 0 | 22 |
| Wooded/Forest | 8.8 | 0 |
| Brush/Grassland | 2.5 | 29.9 (pre-development and upland buffer) |
| Cropland | 72.4 | 0 |
| Lawn/Landscaping | 0.75 | 0 |
| Impervious surfaces | 0.25 | <1 (pre-development) |
| Other – Right of way | | |
| Other – Open water | 0 | 36 |
| Total | 84.7 | 84.7 |

Please see Figure 7 Minnesota Land Cover Classification System, Figure 8 Existing Natural Resources, and Sheet 5 Reclamation and Wetland Plan

11. Fish, wildlife and ecologically sensitive resources

a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.

The majority of the site is cropland with small woodland areas buffering Sand Creek. Although the cropland provides habitat for wildlife that have adapted to open lands, such as pheasant, meadowlark, field sparrow, cottontail, red fox, and white-tailed deer, surrounding properties provide a higher quality habitat. The mining operation will disturb 43% of the woodland areas that buffer Sand Creek. Wildlife will likely be displaced during mining.

The reclamation of the mining operation will create more wildlife habitat, than currently exists on the site now. Under the proposed reclamation plan, over 38 acres of wetlands and wetland buffer and 36 acres of open water will be created as a result of the project.

Sand Creek will be unaltered during mining operations and fish populations in the Creek will be unaffected by mining activities.

b. Are any state-listed (endangered, threatened or special concern) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial water bird nesting colonies or regionally rare plant communities on or near the site? Y

If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the DNR Natural Heritage and Nongame Research program has been contacted give the correspondence reference number: ERDB 20100053. Describe measures to minimize or avoid adverse impacts.

The Minnesota Natural Heritage and Nongame Research Program was consulted to determine if rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the project site. Based on a search of the Minnesota Natural

Heritage database, there are 18 reported occurrences of rare species or native plant communities within the one-mile search radius. However, it is the opinion of the DNR that the proposed project will not negatively affect any known occurrences of rare features.

In addition to the DNR records search, Graham Environmental Services (GES) was retained to perform a botanical survey at the Property to document whether any endangered or threatened species exist on the Project Site. Results of the survey indicated that no such species were identified on the Project Site.

Copies of the Natural Heritage and Nongame Research Program correspondence and the botanical survey report are included in Attachment A.

12. Physical impacts on water resources

Will the project involve the physical or hydrologic alteration — dredging, filling, stream diversion, outfall structure, diking, and impoundment — of any surface waters such as a lake, pond, wetland, stream or drainage ditch? No

If yes, identify water resource affected and give the DNR Protected Waters Inventory number(s) if the water resources affected are on the PWI: Describe alternatives considered and proposed mitigation measures to minimize impacts. If yes identify the DNR Protected Waters Inventory

Physical or Hydrologic Alteration

There is potential for Sand Creek to overtop and breach the natural berm that remains in place as a result of the mining operations. There will be no change in the ability of Sand Creek to access its floodplain as a result of the proposed project as the berm will retain the present natural overflow elevations. Should Sand Creek flood the mining site and inundate the open water pond contaminated surface water from Sand Creek will have a greater potential for adversely affecting adjacent wells.

Physical impacts on water resources Mitigation Measure

1) Scott County Natural Resources will include a condition in the mining IUP that in the event the berm is breached, the mine operator will be required to return the creek to its original channel and restore the berm. Scott County will also require that the berm that remains at the completion of the reclamation plan must be a minimum of 100 feet wide as measured from the top of the stream bank to the beginning of the cut to the proposed wetland and be composed of soils suitable to minimize the potential for erosion and channeling. Staff will recommend that as a condition of the mining IUP that the Developer provide securities for maintaining the berm for a period of 20 years after the cessation of mining, or for 1 year after a 100 year flood event if the berm withstands the event without damage, whichever occurs first. Staff will also review a possible condition to the IUP that addresses the potential for property damage should the berm breach and allow inundation of flood waters.

Wetlands

There are no wetlands within the mining boundary. A wetland delineation was performed by GES and concluded that the only wetlands that occur on the Property are confined to the area along Sand Creek, which is not included in the Project boundaries. There are no impacts proposed to those wetlands.

A potential reclamation and end-use option under consideration for the Project Site is the creation of approximately 38 acres of floodplain forest wetland and upland buffers within the lowland/floodplain area of the Property. This area will be excavated down to elevations ranging from 715 ft to 721 ft, leaving open land that could be restored to pre-farming floodplain conditions. As shown on Sheet 4 of the mining plans, the created wetlands would surround the area of open water in the center of the site and consist of a variety of wetland types including Type 1: floodplain forest, Type 3: shallow marsh, and Type 4: deep marsh.

The wetland delineation will be required to be approved by the Wetland Conservation Act Local Governmental Unit (WCA LGU) prior to issuing the IUP. The wetland banking application does not need to be made prior to the issuance of the IUP. Prior to implementing the wetland creation the Developer will submit a Wetland Bank Plan Application to allow banking of wetland credits. This application will contain detailed plans for design and construction, vegetation establishment, and monitoring.

13. Water use

Will the project involve installation or abandonment of any water wells, connection to, or changes in any public water supply or appropriation of any ground or surface water (including dewatering)? Yes No (see discussion below)

If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.

Ground Water Quantity

One new well will be installed to provide water for aggregate washing operations as well as dust control. The exact location of the well will be determined as part of the IUP application and MDNR appropriation permitting processes, however it is expected that the well will be located in Phase 1 of the mine within the plant processing area. Figure 11 Vicinity Wells shows a conceptual well location and location of existing wells. Figure 12 Conceptual Geologic Cross Section shows a conceptual cross section of the project. Figure 13 Geologic Cross Section A-A' and Figure 14 Geologic Cross Section B-B' show a conceptual geologic cross section.

A ground water appropriation permit will be required for the operation of this well. Water usage at the site will vary based on a number of factors including precipitation, rate of aggregate excavation, silt content of aggregate, and product demand. The anticipated annual water requirement for the site is estimated at 500,000 to 2 million gallons, and peak rate water use is

not expected to exceed 200 gallons per minute. To the extent possible, water used for aggregate washing will be recycled as described in Section 18 Water Quality, Wastewater; however, supplemental water will be needed to make up for evaporation and infiltration from the recycling basin.

The Developer provided a simple ground water flow model using Wellhead Analytic Element Model (WhAEM) to analyze the effect of the proposed water use on area wells. Wellhead Analytic Element Model is an analytic element modeling program available from the U.S. Environmental Protection Agency. The modeling report was reviewed by a qualified hydrologist with Barr Engineering retained by Scott County. The County's hydrologist recommends additional modeling to improve the accuracy of the ground water model provided by the Developer. Scott County also requested the Minnesota Department of Health review the ground water model. The Minnesota Department of Health identified as an issue the time of travel between ground water impacted by the surface water pond and nearby wells. The MDH "concern is that rapid travel times may allow pathogens present in surface water to migrate to the wells." The Developer agreed to proceed under the assumption that the private water supply wells are within the one-year travel time of the Mine Pit and the Developer has prepared a draft ground water monitoring plan and identified several mitigation options. A final monitoring and mitigation plan will be developed subject to approval by Scott County in collaboration with the Minnesota Pollution Control Agency and Minnesota Department of Health as a part of the IUP process.

The Mine Well and the Mine Pit have been identified as the two sources or conduits that could impact ground water quantity (drawdown) and quality. The model also reviewed if ground water drawdown caused by the mining project would impact Sand Creek.

Drawdown from the proposed Mine Well

The ground water model for the most conservative (or worst case) scenario occurred when all surficial aquifer wells (including the Mine Well) were being pumped at the same time. In that case, the largest draw down outside of the mine site was at the S.C.A.L.E. training well #6, located approximately 100 feet northwest of the Project Site, and it was 11.22 feet. The surface elevation of the well is 740 feet and the static water level elevation is 719 feet. Therefore, the depth to water in the well is approximately 21 feet from the surface. Thus, if the drawdown was 11.22 feet, the water level would drop to approximately 32 feet below the surface in that well. Therefore, the maximum drawdown should not have a significant impact since Well 6 is screened at a depth of 163 feet below ground surface. According to the modeling conducted, the remaining well locations affected by the mining operation would experience total drawdown of 0.2 to 4.1 feet.

The ground water model results show that pumping the Mine Well will result in an average drop of 0.6 feet in the water table elevation of Sand Creek in the project area. Sand Creek is a losing stream through this reach so the drop in ground water elevation is not likely to have a significant impact on discharge volume in the creek.

Drawdown from the Mine Pit

Excavation of material that will create the mine pit will also impact ground water quantity. The removal of the sand and gravel will include the removal of ground water. Ground water will

replace the material removed, forming a ground water pond (pit). The surface of the ground water pond will also evaporate ground water. The model was run to determine the ground water drawdown from removing material to create the Mine Pit.

The ground water model found in the worst case scenario, assuming all the surficial aquifer wells surrounding the Site are pumping and the Mine Pit pond is discharging ground water at a rate of 370 gallons per minute, the largest total drawdown is 10.89 feet at the S.C.A.L.E. training Well #6 located approximately 100' northwest of Project Site. The mine pit is responsible for 0.66 feet of the total 10.89 feet drawdown. The remaining well locations experience total drawdown of 0.26 to 4.2 feet. The largest magnitude drawdown attributable to the Mine Pit is 1.0 foot at the Mine Well; while the remaining well locations experience less than one foot of Mine Pit-attributable drawdown. The ground water model results show that pumping the Mine Well will result in an average drop of 1.8 feet in the water table elevation of Sand Creek within the project area. As noted above, the County's consultant, a recognized ground water modeling expert, has suggested that additional modeling would improve the accuracy of this information.

Ground Water Quality

The project proposes to mine in an area that has been designated by the Minnesota Geological Survey as highly susceptible to ground water contamination. The proposed mining would remove protective soils currently existing in the majority of the subject site and leave a 33 acre open water pond 115 – 120 feet deep. The mining activities will be regulated to prevent importation of contaminated soils, ensure proper storage of waste concrete and asphalt and proper management of hazardous materials used on site for the mining, concrete and asphalt production. Staff will recommend that the IUP include a condition that the Developer be responsible for the cost of monitoring the quality of import soil and routine inspections. The pond, during and after completion of the mining will expose the ground water aquifer and create a potential source and pathway for contamination to surrounding private and public drinking water supplies (wells).

The Developer prepared a ground water model to analyze the potential for the proposed ground water pond to impact ground water quality of surrounding wells. The model was also intended to determine which surrounding wells might be in an area of concern for contamination and the length of time it might take for contamination from the pond to reach a neighboring well.

As noted above, the model results prepared by the Developer were reviewed by the County's consultant, Barr Engineering, who suggested further analysis would be needed to improve the reliability of the results. In lieu of additional modeling the Developer agreed to prepare a detailed monitoring and mitigation plan for consideration by the County as part of the application for the mining IUP. For the EAW, the Developer has submitted a draft general monitoring plan and a list of mitigation options. A condition of the IUP will require an efficacy analysis, cost estimates and identification of funding sources to be secured for the final monitoring and mitigation plan. The final plan will be subject to approval by Scott County in collaboration with the MDH and MPCA and will be submitted with the Developer's application for the mining IUP. Comments received during the EAW review relative to the draft monitoring plan and mitigation options will be considered by the County and available to the MPCA and MDH for their consideration of the Developer's final monitoring and mitigation plan.

Ground water Mitigation Measures

1) The Developer will be financially responsible for monitoring during the mining operation and will continue monitoring after the mine closes. The timeframe for beginning and ending monitoring and the financial assurance to ensure that monitoring will continue after the mine closes will be established in the IUP process. Staff will be recommending that the Developer be responsible for the cost of monitoring and implementing a mitigation plan if needed for 20 years after cessation of mining or for one year after a 100 year flood event has occurred and there has been no detection of contamination in surrounding wells, whichever occurs first. Staff will recommend that the Developer provide sufficient securities prior to commencement of mining to cover the cost of long term monitoring and implementation of the mitigation plan as a condition for the IUP. Unless the Developer presents an acceptable mitigation plan, staff will recommend that the securities established by the Developer for mitigation of ground water contamination be sufficient to connect potentially affected wells to Jordan's municipal water supply.

2) Monitoring wells have already been installed along the northwest boundary of the mine, directly down gradient of the mine pit, so that periodic ground water sampling and analysis may be performed prior to mining activities. The Developer has agreed to monitor the wells at the Regional Training Facility and has agreed to request permission to monitor additional wells from the owners of other private wells identified in the draft monitoring plan.

3) A draft monitoring plan was prepared for the EAW (see Attachment C). The draft monitoring plan along with associated comments acquired during the EAW process will be reviewed as part of the IUP. The final monitoring and mitigation plan is subject to approval by Scott County and the County will consult with the MDH and MPCA in its regard. The final plan will include the following components:

- A brief description of the site background and hydrogeologic conceptual model
- A description of the monitoring network
- Monitoring frequency and parameters to be analyzed
- Sampling procedures
- A description of data analysis methods
- A reporting schedule
- A process for implementing mitigation should the mining operation contaminate the ground water.
- Establishment of securities acceptable to the County to ensure that the approved monitoring plan will be complied with for the duration of the mining activity and for a defined period after the cessation of mining activity.

Monitoring parameters are expected to include indicator parameters for mine pit pond water such as isotope ratios (H_2/H_1 and O_{18}/O_{16}), as well as water quality parameters such as nitrate, BOD, coliform bacteria and organic carbon.

4) There are several mitigation measures options available, such as:

- Installation of a ground water extraction system and/or ground water flow barrier.
- Point-of-use treatment system such as a carbon filter or disinfection treatment.
- Creation of an alternative water supply for those impacted by the contamination. Alternative water supplies could include installation of deeper well(s), a small

community publicly managed water supply or connection to a municipal water supply.

Scott County and the Developer have contacted the Minnesota Department of Health and discussed possible mitigation measures listed above. There are advantages and disadvantages to each of the possible mitigation measures.

In lieu of explaining each mitigation measure, the Developer has decided to plan for the worst case scenario and provide for connection to municipal water for neighboring parcels whose wells may be impacted if monitoring finds that the mine or pond contaminated the ground water. It is recognized that each of the other alternative mitigation options are somewhat trial and error. Financial assurance for the connection to a small community publicly managed water supply or city water will be established as a part of the IUP process.

The length of time the mining operator will need to fund monitoring and be prepared to fund implementation of mitigation (connection to an approved publicly managed water supply) after the mining operation ceases will also be determined as part of the IUP. Sufficient financial securities will be required as a condition to the IUP.

The Minnesota Department of Health will be a part of the review of the monitoring plan for IUP approval and will also review proposed mitigation plans should contamination be found.

14. Water-related land use management district

Does any part of the project involve a shore land zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district? Yes
 No

If yes, identify the district and discuss project compatibility with district land use restrictions.

Based on the flood elevation information obtained from Scott County, the 100-year flood elevation at the Property ranges from elevation 733 ft in the southwest to 731.5 ft in the northeast; therefore a significant portion of the mining area is located within the 100-year flood plain as shown on the mining plan sheets. During mining, the elevation of the excavation floor will be below the 100-year flood elevation.

Permanent structures or equipment storage will not be located below the flood elevation. Neither the mining activities nor the reclamation plan involve placing any fill below the existing floodplain level, and in fact the project results in a net increase in flood storage of approximately 390 acre-feet.

Approximately 8.6 acres of the Project Site lies within the Shoreland Zoning District. In order to perform grading and/or filling activities within the Shoreland District the user must demonstrate compliance with standards and informational requirements specified in Chapter 70 of the Scott County Zoning Ordinance.

Scott County Zoning Ordinance Chapter 70-8-12 Mining Standards requires:

1. Site Development and Reclamation Plan. A mining and reclamation plan must be developed, approved, and followed over the course of operation of the site. The plan must address dust, noise, possible pollutant discharges, hours and duration of operation, and anticipated vegetation and topographic alterations. It must also identify actions to be taken during operation to mitigate adverse environmental impacts, particularly erosion, and must clearly explain how the site will be rehabilitated after mining activities end.

2. Setbacks for Processing Machinery. Processing machinery must be located consistent with setback standards for structures from ordinary high water levels of public waters and from bluffs.

These standards and informational requirements will be addressed in the Interim Use Permit Application that is to be submitted to Scott County, thereby eliminating the need for a separate shore land district permit.

The Project Site does not encroach upon a state or federally designated wild or scenic river land use district.

15. Water surface use

Will the project change the number or type of watercraft on any water body? Yes No
If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.

Not applicable.

16. Erosion and sedimentation

Give the acreage to be graded or excavated and the cubic yards of soil to be moved: 84.7 acres; 5,385,808 cubic yards. Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.

Site soils are granular and highly erodible; however no sediment resulting from mining activities will be allowed outside of the mining limits. Please refer to Figure 6 Soil Classification for soil types. Mine slopes will be a maximum grade of 1.5H:1V, during active mining only and sediment generated from erosion of the active mining face will be contained on-site within the excavation.

Depending on the locations of processed aggregate stockpiles, additional grading and/or berm construction may be necessary to contain or redirect sediment that may erode from the stockpiles. Temporary silt fence may be used around other portions of the mine during start-up activities such as topsoil stripping. As material is excavated, the natural embankment of the mine slope will contain eroded sediment.

Perimeter reclamation slopes will be graded to a slope of 5H:1V to an elevation of approximately 742 in the upland area, which is ten feet above the site-wide average 100-year flood level of 732

ft. An area of open water will be left in the center of the mine. As finished reclamation grades are established, the surface of the upland area will be seeded with a grass mixture approved by Scott County, while the lowland/wetland area will be planted with the appropriate species of trees and plants to establish the wetlands. Upon establishment of end-use conditions, erosion carried by stormwater over reclaimed areas will be collected within ponds before run-off is released.

A Minnesota Pollution Control Agency NPDES Industrial Stormwater permit will be required for the site.

17. Water quality: surface water runoff

a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.

Existing Conditions

The site presently drains in two directions as it lies on a ridge separating drainage from the Minnesota River and Sand Creek. The majority of the site, approximately 71 acres, drains to the southeast to Sand Creek via overland flows. The northwestern portion of the site, approximately 17 acres, drains to the north to the Right of way along Valley View Drive. This area is landlocked and has no direct outlet to the Minnesota River at this time. Very little runoff from adjacent parcels enters this property due to its position along the ridge separating the Minnesota River and Sand Creek. Please see Sheet 1 Existing Condition of the Mining Plans for existing surface water flow direction.

Mining Condition

The mining activity will not increase the volume of stormwater runoff leaving the Property. During mining operations, stormwater runoff will be completely contained within the mining area and will subsequently infiltrate or evaporate. The pond that is created during mining will receive runoff during the active life of the mine.

Stormwater runoff chemical composition will not differ appreciably from current conditions. An increased sediment load can be expected for runoff from the active mining area, however this water will be contained on site and infiltrate into the subsurface so there will not be additional sediment transported to off-site water bodies.

Creation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) will be required as part of the NPDES General Stormwater Permit for Construction and Industrial Activity. Stormwater pollution prevention measures for protection of ground water resources are addressed in Item 19.

Reclaimed Conditions

The site will be reclaimed to allow for two residential lots, please see Sheet 4 Reclamation of the

Mining Plan. The majority of the site, approximately 73 acres, will drain into the ground water pond created by the mining operation. The northwestern portion of the site, approximately 26 acres, will drain to an infiltration pond with no outlet. The infiltration pond has the capacity to accept the stormwater runoff from the proposed residential use.

The proposed infiltration area is proposed in an area of high ground water contamination susceptibility. As a result, it must meet the standard outlined in Scott County Zoning Ordinance Chapter 6, Article B, Section 6B-2.5.a and b. The maximum infiltration rate allowed is 5 minutes per inch (12 inches per hour) for a constructed infiltration basin. A liner must be provided to meet this standard if shown it is required by site-specific testing (double ring infiltrometer). Please see Sheet 4 Reclamation Plan for proposed surface water flow direction.

b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact of runoff on the quality of receiving waters.

The Project Site is located in close proximity to the two main receiving water bodies in the area: Sand Creek and the Minnesota River. A series of wetlands serve as buffers to each of these water bodies. Runoff from the Project Site will be contained within the mining boundary; therefore no significant impact on receiving water bodies is expected.

18. Water quality: wastewaters

a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.

Mining operations will not generate any sanitary or municipal wastewater. Portable sanitary facilities will be provided on site for employees.

Wastewater will only be generated in the form of aggregate wash water from the processing plant. Aggregate from the proposed mine facility will undergo a washing process to remove the fine particles (silt and clay) producing a clean, washed sand. Removed fines will be suspended in the wash water and discharged to a wash water recycle basin. The fines will settle out in the recycle basin and the clarified water in the basin will be reused in the wash process when sufficient volume is available. The basin will be lined with a low permeability barrier and excess fines will be periodically removed from the basin to maintain settling capacity. Excavated fines will be blended with overburden from the site and used on-site as reclamation fill. A detailed wash basin design and analysis is beyond the scope of this EAW and will be submitted with the IUP application, but it is anticipated that the basin will measure approximately 15 feet by 42 feet by 3 feet deep.

b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies, and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.

Wash water containing fines will be treated in the recycle basin and returned to the sand washing process. The collected fines will be periodically excavated and used within the site for reclamation purposes. No sediment generated from the wash water will leave the site.

c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.

Not applicable.

d. If the project requires disposal of liquid animal manure, describe disposal technique and location and discuss capacity to handle the volume and composition of manure. Identify any improvements necessary. Describe any required setbacks for land disposal systems.

Not applicable.

19. Geologic hazards and soil conditions

a. Approximate depth (in feet) to ground water: 5 minimum 13 ft average to bedrock: 80 minimum 100 average

Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.

Based on information obtained from soil borings advanced on the Property and the Scott County Geologic Atlas, the bedrock under the northeastern two-thirds of the site consists of sandstone, siltstone and shale of the Franconia Formation; while the southwestern one-third of the site consists of fine, dolomite-cemented sandstone of the St. Lawrence Formation, please see Figure 5 Bedrock Geology and Ground Water Susceptibility. Approximately 100 feet of alluvial sedimentary deposits of sand, gravel and sandy loam occur between the top of bedrock and the ground surface.

The ground water pond that will be created from the mine pit during mining and left open for the End Use will expose the ground water aquifer to possible contamination.

Sand Creek is a losing stream in the vicinity of the Site and is considered a ground water source to the ground water aquifer. It is likely that Sand Creek is recharged mostly from surface water runoff from the upland/bluff areas where low permeability glacial sediments are predominant. Once Sand Creek enters the alluvial setting of the river valley, water begins to infiltrate and the Creek becomes a losing stream in the vicinity of the site. During high water table conditions ground water may recharge Sand Creek.

b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil granularity and potential for ground water contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.

Based on data from the Scott County Soils Survey, surface soils at the site consist of loamy fine-grained sand and silt overlying fine- to coarse-grained alluvial sand and gravel deposits. These are highly permeable soils with high infiltration rates, and the entire Project Site occurs within an area of high ground water susceptibility according to the Scott County Geologic Atlas. Please refer to Figure 5 Bedrock Geology and Ground Water Susceptibility and Figure 6 Soil Classification.

The ground water model provided by the Developer that analyzed the time of travel for contaminants was found by the County's consultant to be somewhat inconclusive. Rather than spend more time on computer models the Developer acknowledged that the mining operation may impact the ground water quality and nearby well quality. Further discussion of this issue is presented in Question 13 above.

Geologic hazards and soil conditions mitigation measures

1) In order to reduce the risk of contamination during active mining, equipment fueling and minor maintenance will be performed on undisturbed upland or reclaimed areas of the Project Site, not on the mine floor. Fuel storage is addressed in question 20. On-site personnel will monitor fueling and maintenance operations and inspect equipment regularly for fluid leaks. In the event of a release of hazardous material, the affected soil will immediately be removed and the spill will be reported to the State Duty Officer and Scott County staff.

2) The Developer will be financially responsible for monitoring during the mining operation and will continue monitoring after the mine closes. The timeframe for beginning and ending monitoring and the financial assurance that monitoring will continue after the mine closes will be established in the mining IUP process. The draft monitoring plan should not give the impression that the ground water modeling that was conducted (but viewed to be inconclusive by the County's consultant) should be represented as being definitive or relied upon for identifying the location of wells to be monitored. The final monitoring plan must include additional modeling proposed to help better determine what wells should be monitored.

3) The Developer will provide sufficient financial assurance to connect neighboring wells to a publicly managed water supply should it be found that the mine contaminated the ground water and it is determined that connection to a safe reliable water supply is needed to provide clean drinking water. Financial assurance for the connection to a publicly managed water supply will be established as a part of the IUP process. The Developer may opt to connect potentially impacted wells to a publicly managed water supply as a precautionary measure and request a reduced obligation for long term ground water monitoring.

Please see mitigation measures discussed in Section 13 Water Use for more information on ground water impact mitigation.

20. Solid wastes, hazardous wastes, storage tanks

a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.

The Developer is proposing to accept recyclable concrete and asphalt for processing and blending with sand and gravel. Please see Sheet 3 Processing Plant Layout for asphalt-concrete mix plant and stockpile locations. The mining operator will be required to obtain a solid waste facility license and provide financial security sufficient to remove and properly manage all solid waste (concrete/asphalt) that is allowed to be stockpiled on the site.

It is not anticipated that hazardous wastes will be generated as a result of mining activities. However, once the mining operation has begun, Scott County will inspect the operation to determine if the mine generates hazardous waste and will require the operation be in compliance.

A small amount of municipal-type waste will likely be generated during the course of day-to-day operations, and this waste will be collected in receptacles and removed regularly by a commercial waste-collection service.

b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating ground water. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.

Not applicable.

c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.

The facility will utilize one 1,000-gallon above-ground storage tank which will contain diesel fuel for re-fueling heavy equipment. The tank will be located near the scale house and will be located within a concrete-lined basin. Total storage of petroleum on site is not expected to exceed 1320 gallons; therefore, no Spill Prevention Control and Countermeasures Plan (SPCC Plan) will be required for the Project Site. If at any time during the project petroleum storage exceeds 1320 gallons, a SPCC Plan will be required.

21. Traffic

Parking spaces added 0. Estimated total average daily traffic generated. Estimated maximum peak hour traffic generated (if known) and time of occurrence. Provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. If the project is within the Twin Cities metropolitan area, discuss its impact on the regional transportation system.

As stated in the project description, truck traffic generated by the proposed mining operation will result in a maximum daily volume of 110 round trips per day during periods of peak production. The anticipated truck volumes stated will result in an average of 5 round trips per hour with a maximum of 11 round trips per hour during peak production.

The Developer has estimated that 80% of the traffic based on anticipated markets will be to the north and 20% will be to the east or south of the mine site. Please see Figure 15 Haul Routes. The primary regional highway route proposed to be used for distributing the product to the intended market is TH169. TH169 is a principal arterial on the Metro Highway System plan and a High Priority Interregional Corridor on the state highway system providing connections for its users to the Twin Cities Region and Southern Minnesota, see Figure 16 TH169 Interregional Corridor. County Highway 9/282 is the primary eastwest regional corridor in the vicinity of the proposed mine. It is designated as an A Minor roadway on the Metropolitan transportation system. CH 9 to the west provides access across the Minnesota River into Carver County on Carver County Road 45. The road directly serving this site is Valley View Drive. It is a township road under the jurisdiction of Sand Creek Township where it abuts the proposed project site. Valley View Drive to the south of the project site continues into the City of Jordan 1.5 miles where it intersects with County Highway 9. To the north, the site has access to TH169 via 173rd street.

The Developer is proposing loaded truck traffic to access T.H. 169 at the controlled/signalized intersection of TH169 and County Highway 9 south of the mine site. Trucks will turn left out of the site and travel southwest along Valley View Drive to the intersection of Valley View Drive and County Highway 9 (Quaker Avenue). Trucks will then turn left and proceed south on Quaker Avenue to the controlled intersection of County Road 9 and U.S. Highway 169. The primary traffic route for trucks returning to the mine site (based on the anticipated 80% – 20% traffic split) would be 173rd Street north of the site. Southbound trucks on TH 169 will turn right onto 173rd Street, proceed west to Valley View Drive, turn left onto Valley View Drive and proceed south to the site entrance. Northbound trucks on TH 169 will either turn left onto County Highway 9 (Quaker Avenue), proceed west to Valley View Drive, turn right onto Valley View Drive and proceed north to the site entrance; or proceed north on TH169 to 173rd St, turn left to Valley View Drive and on to the mine site.

In 2002, an Interregional Corridor (IRC) Management plan was developed by MnDOT, with extensive involvement of the communities and counties along the corridor TH169 from I-494 to Mankato. The TH169 Corridor Management Plan, along with some more detailed follow up studies for TH169 frontage roads and interchanges were completed by 2004 and serve as a guide for future access locations and supporting road network considerations for development related decisions on or near the corridor. The IRC Plan was adopted by cities and counties along the

corridor from Mankato to Edina upon its completion in 2002, including Scott County in January 2003. The plan was later incorporated by the County by reference into its 2030 Comprehensive Plan update adopted in 2009.

The IRC Management Plan establishes a performance based vision for the corridor that includes a transition of the expressway to a freeway from Edina through Belle Plaine. This performance based freeway vision is a data driven decision that was based on a Highway Capacity Manual gap analysis study that concluded the existing and projected traffic volumes on TH169 would necessitate, over time, limiting access points on TH169 to key intersections. Key intersections eventually may be converted to interchanges/overpasses and supported by the development/construction of a supporting road network paralleling TH169. Since 2002, significant progress has been made to transition this regional highway in critical locations through the construction of interchanges at Anderson Lakes and Pioneer Trail in Hennepin County and TH25/CH64 in Scott County, by access restrictions such as the $\frac{3}{4}$ intersection at CH3 in Scott County and the frontage road extensions near TH41 near Shakopee and in the City of Belle Plaine. Further progress will be made in implementation of this plan when the signals are removed on TH169 near I-494 when the system interchange is reconstructed beginning in 2011. Please see Figure 17 TH169 Interregional Corridor Major Project Priorities. Other frontage road improvements, planning studies and multi-modal investments have been made by Corridor Partners.

The Scott County 2030 Comprehensive Plan (2009) projects future traffic volumes on TH169 to grow to 48,000 -52,000 trips per day on TH169. Please see Figure 18 2030 Traffic Volumes and Congestion. Future traffic volumes on the northbound segment of CH9 west of TH169 are projected at 20,000 trips per day by 2030. Please see Figure 19 Existing Area Traffic Volume. The recently adopted Transportation Chapter of the City of Jordan 2030 Comprehensive Plan identifies Valley View Drive as a “Major Collector” from County Road 9 to 173rd St. Valley View Drive serves as part of the supportive road/frontage road system for the TH169 Corridor. Please see Figure 20 City of Jordan Transportation Plan.

The portion of Valley View Drive to the south of the proposed mine site includes approximately one mile of unpaved, aggregate surface in Sand Creek Township. Consistent with the IRC Plan for TH169, Sand Creek Township has secured Cooperative Agreement Funding from Mn/DOT to restrict the access point of TH169 at 173rd street to a $\frac{3}{4}$ access. This will eliminate the eastbound 173rd to northbound TH169 movement. As a part of that project to be built during summer 2011 Valley View Dr will be improved to a 10 ton standard road from 173rd street to Mendoza Street in Sand Creek Township because it serves as the parallel supporting roadway to TH169. The Mn/DOT rail office also has a project programmed for rail crossing safety improvements at the Union Pacific rail crossing just to the south of the proposed Mining Operation on this segment of Valley View Dr.

Valley View Drive extends to County Road 9 within the City of Jordan. The City of Jordan has designated this road as a Municipal State Aid Street. The pavement structural rating is not determined. Its pavement condition is currently adequate. The additional heavy truck traffic will contribute to the deterioration of the pavement and reduce its life cycle. Although discussions between the proposer and the city have occurred, and the proposer has indicated he is willing to contribute financially to the costs of upgrading the road within the city, no agreement on pavement improvements has been reached at this time.

22. Vehicle-related air emissions

Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult EAW Guidelines about whether a detailed air quality analysis is needed.

Air emissions from truck traffic is addressed in Section 23.

23. Stationary source air emissions

Describe the type, sources, quantities and compositions of any emissions from stationary sources of air emissions such as boilers; exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult EAW Guidelines for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

The main source of air emissions resulting from the proposed mining will be fugitive dust. Dust generating activities include vehicle travel on un-paved roads, dust from the materials being transported in the trucks, processing operations (crushing, stockpiling, screening, etc.), wind erosion from disturbed ground surfaces, and general mining activities. Currently, portions of Valley View Road are gravel surface that will be paved. This will help alleviate some of the fugitive dust. Fugitive dust emissions will be controlled by applying water to ground surfaces, mining faces, and stockpiles. This dust control technique is recognized by MPCA to be 99% effective in controlling fugitive dust emissions when the resulting moisture content of the soil is 6% or greater after water application. A dust emission analysis will be performed as part of the IUP application to determine whether the project will exceed the 25 ton per year MPCA threshold for which an air emissions permit is required. Additionally, a MPCA Non-Metallic Mineral Processing General Permit will be required because of the proposed aggregate processing plant. A Dust Control Plan detailing specific dust control procedures will be prepared as part of the IUP application.

Additional emissions will result from motor exhaust due to the use of heavy earth-moving equipment and over-the-road dump trucks; as well as volatile emissions from the portable asphalt drum-mix plant. These emissions contain criteria air pollutants including: volatile organic compounds (VOCs), carbon monoxide (CO), sulfur dioxide (SO₂), and Nitrogen oxides (NO_x); and hazardous air pollutants (HAPs) including: polycyclic aromatic hydrocarbons (PAHs), phenols, volatile HAPs, metal HAPs, and total HAPs. Modern asphalt plants are designed to meet applicable EPA emissions standards, and are equipped with emissions control devices including fabric filters (baghouse) and scrubbers.

A MPCA Registration Permit will be required for the proposed asphalt plant. Completion of this permit involves quantifying potential emissions and specifically identifying emissions control devices used by the plant.

24. Odors, noise and dust

Will the project generate odors, noise or dust during construction or during operation?
X Yes ___ If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)

DUST

Dust impacts are addressed under Item 23.

ODOR

It is anticipated that the asphalt plant will produce an odor, however determining if that odor will be a nuisance to neighboring properties is difficult because people react differently to different odors. While the State has the ability to measure odor, there are still difficulties in matching “annoyance level” of a particular odor to a measured concentration across a diverse population. As a result, the State has not adopted an ambient air quality odor standard which makes enforcement action to address nuisance odors problematic.

Currently, there is one permanent asphalt plant and 1 to 2 temporary plants permitted every year in Scott County. Scott County Community Development has not received odor complaints from these plants; this could be due to many factors such as operational procedures, distance from receptors, or direction of wind due to location of receptors. County staff have found other jurisdictions have received odor complaints for asphalt plants in their respective areas.

The plant will be located over 1000 feet from the nearest receptor and prevailing winds are from the west and north. However, the plant is located in the Minnesota River valley where air inversions commonly occur, concentrating air pollutants close to the ground level. There are also two group living facilities near the proposed mining operation, the Juvenile Alternative Facility and Valley View Assisted Living Facility.

NOISE

Noise will be generated from 1) operation of excavating, loading, and hauling equipment at the active mining face, 2) from operation of a rock crusher, classifying screens for aggregate production, and a portable asphalt plant/concrete mix plant at the processing area, and 3) from haul truck traffic on 173rd Street and Valley View Drive.

The Developer provided a noise analysis that simulates the noise that might be generated from the equipment at the mining operation and from the haul trucks. Jordan Aggregates intends to use either the equipment for which noise data sheets have been furnished or similar equipment with equivalent noise ratings, please see Attachment D Noise Analysis for manufacture’s noise ratings. The purpose of the analysis was to evaluate if the noise generated from the mining operation is likely to exceed State noise standards.

Noise from Mining Operation

The noise analysis assumed that two pieces of mining equipment (excavators, loaders, and haul trucks) will be operating at the same time at the active mining face, the dredging equipment will be operating in the pit, and that a rock crusher, classifying screens, and loader will be operating at the processing area. It is expected that up to four haul trucks, for customer loading, will be running at low speed or idle within the site during peak operations. Truck loading will occur adjacent to the material stockpiles along the site roads shown on the Sheet 3 of the Mining Plan. Below is a chart of the equipment and its dBA used in the analysis.

| Equipment | dBA used in analysis | dBA information from |
|-------------------------------|----------------------|-------------------------|
| Mining Operations | | |
| Excavator or Loader | 80 dBA | manufacturer |
| Haul Truck or Dozer | 76 dBA | manufacturer |
| Dredge | 80 dBA | Developer estimated dBA |
| Processing Operations | | |
| Rock Crusher | 87.2 dBA | manufacturer |
| Screening System | 84 dBA | manufacturer |
| Generator | 67.5 dBA | manufacturer |
| Asphalt/Concrete Mixing Plant | 87.5 | Developer estimated dBA |
| Customer Loading | | |
| Four customer hauling trucks | 80 dBA | Based on EPA standards |

- **Decibel levels of common noise sources** 140 = Jet Engine (at 25 meters), 130 = Aircraft (at 100 meters), 120 = Rock Concert, 110 = Pneumatic Chipper, 100 = Jackhammer (at one meter), 90 = Chainsaw or Lawn Mower (at one meter), 80 = Heavy Truck Traffic, 70 = Business Office or Vacuum Cleaner, 60 = Conversational Speech or Typical TV Volume, 50 = Library, 40 = Bedroom, 30 = Secluded Woods, 20 = Whisper

Noise Analysis Conclusion: Noise from Mining Operation

Three nearby receptors were analyzed for noise impacts from mining operations. They are the SCALE Training facility, the Scott County Juvenile Alternative facility, and the residence at 18031 Valley View Ave. The residence at 18031 Valley View Ave was chosen because it is the closest receptor along the haul route. According to State laws, the SCALE Training facility is a Noise Area Classification (NAC) 2 facility, for which daytime (7 a.m. -10 p.m.) L₁₀ and L₅₀ (noise levels exceeded 10 percent and 50 percent of the time, respectively, during a one-hour period) standards are 65 and 70 dBA, respectively. The Scott County Juvenile Alternative facility and the residence at 18031 Valley View Ave. are NAC 1 facilities, for which daytime L₁₀ and L₅₀ standards are 60 and 65 dBA and the nighttime standards are 55 and 50 respectively. Please see Table 7030.0040 Noise Standards below.

Noise will be produced from several sources at different locations within the mining site (e.g. excavation at the active mining face, dredge operations, asphalt plant operations, processing plant operations). The locations of the noise sources are shown in Figure 1 of the Noise Analysis report in Attachment D. The noise analysis shows that 18031 Valley View Ave, the Scott County Juvenile Alternative facility and the SCALE Training facility will be in compliance with noise standards. The following table summarizes these results. Details are provided in Table 1 of the Noise Analysis report in Attachment D.

| Summary of Noise Analysis for Mining Operations | | | |
|--|--|---|---|
| Receptor: | SCALE Training facility (NAC 2) | Scott County Juvenile Alternative Facility (NAC 1) | Residence at 18031 Valley View (NAC 1) |
| State Daytime L₁₀ Noise Standard | 65 dBA | 60 dBA | 60 dBA |
| Calculated Mining Noise at Receptor | 60 dBA | 60 dBA | 60 dBA |

7030.0040 Noise standards

| Noise Area Classification | Daytime | | Nighttime | |
|---------------------------|---------|-----|-----------|-----|
| | L10 | L50 | L10 | L50 |
| 1 | 65 | 60 | 55 | 50 |
| 2 | 70 | 65 | 70 | 65 |
| 3 | 80 | 75 | 80 | 75 |

Noise from Asphalt Plant

The Developer was not able to provide an actual dBA for the asphalt plant for the noise analysis; instead an estimated average dBA was provided. The asphalt plant is required to obtain a separate Interim Use Permit on an annual basis. The Developer will be required to demonstrate that any portable asphalt plant they propose to bring onto the site will meet all applicable noise regulations as part of their application for their annual Interim Use Permit. This will entail either acceptable information from the manufacturer of the portable asphalt plant or noise testing of the asphalt plant before it is allowed to operate onsite.

Often asphalt plants run during nighttime hours for large road projects. When the Developer applies for an IUP for an asphalt plant, the Developer will need to specify hours of operation. If the Developer intends to operate during nighttime hours, they will be required to demonstrate that the asphalt plant will meet nighttime noise standards.

Please see the recommended mining IUP conditions that may help mitigate noise impacts below.

Noise from Haul Trucks

The Township and City roads that will be used for the haul routes are exempt from the State Noise Standards, please refer to Minnesota Statute 116.07 Subd.2 Exemptions from Standard. Although vehicular noise on the roads are exempt from regulation by the MPCA the potential for noise impacts that might exceed state standards would still be an environmental impact that must be identified for consideration by the reviewers of this document. Thus, the Developer has analyzed noise impacts from the haul trucks.

The noise analysis used 80 dBA as the average dBA for the haul trucks in the noise model. 80 dBA was chosen because it is required by the EPA as the maximum noise emission level for newly manufactured trucks with gross vehicle weight rating of over 10,000 pounds.

Noise impacts to nearby receptors have been analyzed in accordance with the procedures of ISO 9613-2 (Acoustics—Attenuation of sound during propagation outdoors—Part 2: General method of calculation). Noise levels are naturally diminished by distance, absorption by the atmosphere and ground surfaces, and being screened by obstacles (e.g. berms, trees, and changes in ground elevation). Noise levels can be increased by reflecting off of flat, hard vertical surfaces. The procedures of ISO 9613-2 account for these effects. For this study, only the distance and absorption effects were considered in calculating the noise levels that would be experienced at nearby receptors as a result of the mining operation. Some screening effects will be present that may further reduce noise levels, however, these effects were not included in the analysis. There are no reflecting surfaces near the site that would increase the noise level.

Noise Analysis Conclusion: Noise from truck traffic

Two receptors along the traffic route to the mine site were selected for noise impact analysis. One receptor is north of the mining operation and inbound trucks will pass the receptor. The other receptor is south of the mining operation and trucks will pass the receptor inbound and outbound.

The Valley View Assisted Living Facility (NAC-1 land use) north of the proposed mining operation was evaluated because it is the closest NAC 1 receptor to the road. The noise impact boundary was established based upon observed human activity in the yard area. The boundary is located 60 feet from the road centerline, as shown on Figure 1 in Attachment D. Potential noise impacts for this receptor relative to the L_{10} and L_{50} standards were evaluated for both daytime and nighttime conditions. The Daytime hours are from 7:00 a.m. to 10:00 p.m. for the State Standards.

The closest receptor south of the proposed mining operation is located at 230 Valley View Drive E in the City of Jordan. This property is a NAC-1 residence. The boundary for noise impact analysis was established at the house since the yard area where activity would occur is located on the opposite side of the house from Valley View Drive. The distance from the house to the road centerline is 24 feet, as shown on Figure 2 in Attachment D. Potential noise impacts for this receptor relative to the L_{10} and L_{50} standards were evaluated for both daytime and nighttime conditions.

Other receptors along the routes are located farther away from the road and thus will experience a lesser noise level than the two receptors selected for evaluation.

The results of the Developer's analysis indicate that noise from truck traffic would be in compliance with the State's standards for the peak traffic rate based on the assumed number of trucks and time of travel. Actual noise compliance will depend upon the number of trucks in any given hour as well as the loudness of individual trucks, which have been assumed to be equal.

The noise modeling provided by the Developer demonstrates compliance with MPCA noise regulations based upon the assumptions used in the model. However, it is anticipated that periodically the noise from the haul trucks will exceed the Noise Standards. It is also

acknowledged that truck noise and vibration from the mining operation will likely result in undesirable additional impacts to affected residents. The State’s noise regulations limit the duration of loud noise to a number of minutes per hour, the L10 is for 10% of any given hour or 6 minutes and the L50 is for 50% of a given hour or thirty minutes. The noise levels allowed by the State do not address the disturbance factor of intermittent loud noise until the overall duration of that noise combined with the volume exceeds the established limits. Though the State rules mitigate impacts from prolonged exposure of loud noise they do not address intermittent disturbance.

Since it is assumed that all permitted activities would comply with State law it must be noted that the purpose of an EAW is to elucidate environmental impacts that might be realized, which would not otherwise be prohibited by existing regulations but should be understood and considered by the permitting authority so that they might be addressed through proposed mitigation if deemed necessary or desirable. The results of the noise modeling provided by the Developer are summarized in the following table. Details of the analysis are provided in Attachment D.

| Summary of Noise Analysis for Truck Traffic | | | | |
|--|-----------------|-----------------|---------------------|-----------------|
| Route | Daytime | | Nighttime | |
| | L ₁₀ | L ₅₀ | L ₁₀ (1) | L ₅₀ |
| North of Mining Operation (Route 1) | | | | |
| Calculated Non-Attainment | 2.5% | 4.1% | 9.8% | 16.8% |
| Allowable Non-Attainment | 10% | 50% | 10% | 50% |
| South of Mining Operation (Route 2) | | | | |
| Calculated Non-Attainment | 5.2% | 8.3% | 9.9% | 23.2% |
| Allowable Non-Attainment | 10% | 50% | 10% | 50% |

1) Results for a traffic rate of 16 trips per hour prior to 7:00 am

The noise consultant contracted by Scott County has reviewed the Developer’s noise analysis and is concerned that although the analysis shows the daytime noise standard is met for the Valley View Assisted Living Facility, it is borderline and he believed it would exceed the State's Noise Standards during the 6 a.m. to 7 a.m. hour at this location. In addition the noise consultant acknowledged that the new truck traffic from this proposed mining operation would contribute to existing noise impacts from motor vehicles for several impacted residential properties along the proposed route.

Noise Mitigation Measure

The mining Interim Use Permit (IUP) may include conditions that help mitigate noise impact. Examples of conditions include:

- 1) A condition that limits the hours of operation so that haul trucks do not arrive before 7 a.m. This permit condition would be a mitigative measure to ensure that the nighttime noise standard is not violated during the 6 a.m. to 7 a.m. hour.

- 2) A condition that limits the maximum number of trips per hour. Noise compliance depends upon the number of trucks in any given hour as well as the loudness of individual trucks. It would be difficult to regulate the loudness of each individual truck, especially trucks that arrive that are not owned by the Developer.

3) A condition that requires the Developer to establish an escrow to ensure compliance after the mining operation has begun and addresses noise complaints from the mining operation. The escrow could be used to cover the cost of 1) hiring a noise consultant to prepare background noise data, 2) establish noise testing procedures to investigate noise complaints and 3) perform noise testing if noise complaints are received and provide noise abatement recommendations. If the noise standard is violated, additional mitigation measures such as: reducing the maximum trucks per hour, further limiting hours of operation, relocating equipment or stockpiles to reduce noise, purchase new equipment or retrofit old equipment to reduce dBA could be required to continue operation. Since the State's noise regulations cannot be enforced to address truck noise on the exempt roads, complaints from residents along the road would need to be addressed by the County (if at all) through conditions established in the IUP.

4) A condition for the Interim Use Permit could be created that limits the asphalt/concrete mixing plant to operation only during daytime hours (7 a.m to 10 p.m.) or restrictions that prohibit simultaneous operation of multiple pieces of mining equipment such as the crusher which is also relatively loud. In order for the Developer to receive approval to operate the asphalt plant during the evening hours noise testing will be required to demonstrate that the State noise standard would not be violated.

The Scott County Planning Commission and the Board of Commissioners will determine what mitigation measures to implement as part of the mining IUP process

25. Nearby resources

Are any of the following resources on or in proximity to the site?

Archaeological, historical or architectural resources? Yes No

A search of the Minnesota Archeological Inventory and Historic Structures Inventory identified no archaeological sites or historic properties on the Project Site. A letter from the Minnesota State Historic Preservation Office containing the search results is included in Attachment E.

Because of the moderate to high potential for archaeological sites in the vicinity of the Minnesota River, an archaeological investigation was performed at the Project Site. Blondo Consulting, LLC was retained to perform the investigation and it was completed during July 2009. The investigation concluded that no archaeological materials were encountered on site and no additional archaeological work is required for the Project Site. There are two historic sites within one mile of the Project Site: the Valley View Assisted Living Facility, located approximately 0.7 miles to the northeast of the Project Site; and the Mudbaden Sulphur Springs Company (now the S.C.A.L.E. Regional Training Facility) located immediately north of the Project Site. The archaeological investigation report is included in Attachment E.

Prime or unique farmlands or land within an agricultural preserve? Yes No

Designated parks, recreation areas or trails? Yes No

Scenic views and vistas? Yes No

Other unique resources? Yes No

If yes, describe the resource and identify any project-related impacts on the resource.

Describe any measures to minimize or avoid adverse impacts.

Based on NRCS maps available from the Scott County website, much of the lowland/floodplain acreage of the Property is classified as “prime farmland if protected from flooding or not frequently flooded during the growing season”. This area occurs within the proposed mining boundary and will, therefore, be completely removed during the sand and gravel extraction. The loss of farmland in this area is unavoidable due to the invasive nature of mining. However; because this area will be disturbed in the latter stages of the project it may be possible to continue farming while mining is occurring predominantly on the upland area.

The Louisville Swamp Wildlife Refuge is located across Valley View Drive to the northwest of the Project Site, and will not be affected by the proposed mining operation.

Holzer Park is within the City of Jordan and is along the proposed truck haul route Valley View Drive, which is classified as a Collector Road in the City Comprehensive Plan. Please see Figure 9 Aerial Photograph of Project Site and Surrounding Areas. The park is located in the City of Jordan Industrial district. The municipal sewage treatment plant is located to the north of the park. There is a residential home to the northwest and one to the south of the park. There are several businesses to the southwest of the park. Sand Creek is on the east side of the park. Holzer Park is not the closest noise receptor to the haul route, the noise analysis evaluated the closest receptor for a worst case scenario, please see Section 24. Odor, Noise, and Dust.

26. Visual impacts

Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? Yes No

If yes, explain.

A screening barrier will be put in place along Valley View Drive and property lines. The screening barrier will meet the County Zoning Ordinance standards. The Zoning Ordinance requires a greenbelt planting strip that consists of evergreen trees and/or deciduous trees and plants and of a sufficient density to provide an eighty (80) percent opaque visual screen and reasonable buffer viewed at a ninety (90) degree angle from the greenbelt planting strip. This planting strip will be designed to provide visual screening to a minimum height of six (6) feet. The grade for determining height will be the grade elevation of the building or use for which the screening is providing protection, unless otherwise established by the Planning Department. Earth berms may be used, but will not be used to achieve more than three (3) feet of the required screen. The planting plan and type of plantings will require the approval of the Planning Department.

Intense lights and large visible dust plumes will not result from mining operations.

27. Compatibility with plans and land use regulations

Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency?

Yes No. If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.

The proposed land use is subject to the Scott County Zoning Ordinance No. 3, as amended. The Property is currently zoned urban business reserve (UBR) and mining is an allowable interim use of UBR land under the Zoning Ordinance. An Interim Use Permit Application to allow mining on the Property will be submitted to Scott County.

28. Impact on infrastructure and public services

Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? Yes No. If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the EAW; see EAW Guidelines for details.)

No additional utilities will be required at the Project Site. Only electricity and telephone use will occur in the site office and will be similar to the requirements of the existing residence.

One of the possible mitigation options should the mine operation contaminate ground water and adversely impact nearby wells would be to extend municipal water to serve the impacted residences/facilities.

The anticipated haul route will require improved roads from the Project Site entrance to U.S. Highway 169. Please see Item 21 for the discussion on necessary road improvements.

29. Cumulative impacts

Minnesota Rule part 4410.1700, subpart 7, item B requires that the RGU consider the “cumulative potential effects of related or anticipated future projects” when determining the need for an environmental impact statement. Identify any past, present or reasonably foreseeable future projects that may interact with the project described in this EAW in such a way as to cause cumulative impacts. Describe the nature of the cumulative impacts and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to cumulative impacts (or discuss each cumulative impact under appropriate item(s) elsewhere on this form).

The implementation of the Minnesota Department of Transportation’s long-term Corridor Management Plan for U.S. Highway 169 from Interstate 494 to Mankato could impact truck traffic to and from the Project site as at-grade intersections are removed and replaced with grade-separated interchanges and frontage roads.

The development of land adjacent to the project site may be impacted by concerns about ground water contamination, noise and dust.

The development of land adjacent to the project may be affected by Minnesota Rules 7030.0030, which prohibits local land use authorities from approving a land use that immediately upon establishment would result in violation of the noise standards. An example would be a use that would be classified as a Noise Area Classification 1 such as a residence or facility with sleeping quarters such as an expansion of the Juvenile Alternative Facility. However, existing zoning significantly limits the potential for such conflicts.

30. Other potential environmental impacts

If the project may cause any adverse environmental impacts not addressed by items 1 to 28, identify and discuss them here, along with any proposed mitigation.

No other environmental impacts are anticipated.

31. Summary of issues

Do not complete this section if the EAW is being done for EIS scoping; instead, address relevant issues in the draft Scoping Decision document, which must accompany the EAW. List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.

The project is anticipated to present a number of potential environmental impacts, some of which the Developer has proposed mitigative measures for and some which such mitigative measures remain to be established during the IUP process. The potential impacts identified in this EAW include:

1. Item 12: The proposed plan would leave a large deep pond on the site with a 100-foot wide strip of natural, undisturbed land between the pond and Sand Creek. The land strip which would serve as a dike between Sand Creek and the pond will be below the 100 year flood elevation and therefore subject to overtopping during floods causing the pond to be flooded by Sand Creek. This presents concerns for ground water quality in the area of the pond as well as changing the hydrology of Sand Creek and flow patterns. The developer has agreed to establish financial assurance to provide for restoration of the natural land strip in order to maintain the existing flow pattern of Sand Creek should the land strip be eroded during a flood.
2. Item 19: The excavation of a 120 foot deep pond into the alluvial aquifer serving adjacent wells presents a potential source and pathway for ground water contamination to downgradient wells. The Developer has not modeled this potential to the satisfaction of Scott County at this point, but has provided a reasonable draft ground water monitoring

plan and suggested some mitigation options. What remains to be resolved during the IUP process is development of a final monitoring plan and mitigation plan with sufficient securities provided by the Developer to ensure long term monitoring and implementation of the mitigation plan.

3. Item 21: Valley View Drive has been identified as the haul route. The public road is classified as a Collector road. Valley View into and through Jordan will need upgrading. The Developer has been cooperative in seeking resolutions to these problems which need to be addressed in the IUP process.
4. Item 22 and 23: Air emissions from the project such as dust and pollutants from an asphalt plant have been identified. The site is in the Minnesota River Valley and subject to periodic air inversions and there are nearby sensitive receptors. The project will be required to comply with MPCA Air Quality rules and obtain necessary permits
5. Item 24: There is the potential for noise impacts and nuisance noise conditions due to this proposal and possible means of mitigating noise problems have been presented. A mechanism for monitoring noise impacts has also been presented.
6. Item 28: The potential for ground water contamination that would affect adjacent private and non-community public water supply wells has been acknowledged by the Developer and the possible extension of municipal water service proposed as an option.

RGU CERTIFICATION. The Environmental Quality Board will only accept SIGNED Environmental Assessment Worksheets for public notice in the EQB Monitor.

I hereby certify that:

The information contained in this document is accurate and complete to the best of my knowledge. The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9b and 60, respectively.

Copies of this EAW are being sent to the entire EQB distribution list.

Signature Date

Title