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Clayton County Iowa
Board of Supervisors and
Zoning Board of Adjustment
Elkader, Iowa

Re: Pattison Sand Company Recommended Conditions and
Review Comments to the Recommendations of the
Clayton County Mine Reserve Expansion Study Committee
Clayton County, Iowa

Dear Board Member:

Pattison Sand Company, LLC ("PSC") and GZA GeoEnvironmental, Inc. (GZA) have reviewed the July 25, 2016 Final Report Recommendations of the Clayton County Mine Reserve Expansion Study Committee (the "Committee"). Like all industries, PSC is not opposed to reasonable regulations, but they must be technically valid, based on science, and there is no need to duplicate the existing regulations and authorities of the Federal, State and Local government. We believe that several of the recommended Regulations should be deleted and others modified to make them reasonable to allow an opportunity for compliance. Regulations based on arbitrary standards have no merit in a zoning permit. The Final Recommendations by the Study Committee are included below followed by PSC's recommended condition and rationale.

Committee Final Restriction #1: Vent shaft setback, monitoring porthole, and closure

"Vent shafts shall be no closer (setback) than 1,500 ft to any adjoining property line, unless the owner of said location agrees to a lesser setback distance. Exhaust vent shafts shall have a portal or other means built to Iowa DNR specifications that will allow for monitoring of exhaust air quality. When air vents/vent shafts are no longer needed, they shall be closed by the mine operator or property owner. In the case of a vertical vent shaft, it shall be permanently closed in the same manner as a water well is plugged. The closures shall be done to protect persons or animals on the property; prevent infiltration by ground water, storm water and other possible sources of contaminants into the mine; and shall return the site to its pre-mining condition."

PSC Recommended Condition #1

Vent shafts shall be no closer (setback) than 500 feet to any adjoining property line, unless the owner of said location agrees to a lesser setback distance. When ventilation shafts are no longer needed, they shall be closed by the mine operator or property owner. The closures shall be done to protect persons or animals on the property and prevent infiltration of surface water.

Rationale for Changing or Deleting Final Committee Restriction #1

1. The recommended 1,500-foot setback is completely arbitrary and capricious as there was no scientific data or actual case history reviewed by the Committee to develop the recommendation. The setback should be based only on facts and science.



2. The Committee should base the setback on technical facts developed from ventilation shaft air quality studies at similar underground mines. Failure of the Committee to identify and review data from previous studies should not become a penalty on Pattison Sand. Should the Committee have identified and reviewed air quality studies of similar ventilation shafts in the area, it would be clear that air quality is not a concern and that setbacks greater than 100 to 200 feet are not necessary.
3. A setback distance of 500 feet is sufficient based on actual sampling results at Pattison Sand Mine and studies performed at other underground sand mines in the region as reported in the GZA report Mine Vent Exhaust Air Sampling Report-Maiden Rock, December 19, 2013 and the Ambient PM4 Crystalline Silica Sampling Report prepared for Wisconsin Industrial Sand Company, Maiden Rock, Wisconsin mine by Air Control Techniques, P.C. (ACT), May 19, 2014
4. The purpose of underground mine ventilation shafts is to protect miner safety and health and the locations are determined based on the dynamics of the underground mine, atmospheric conditions, and air flow. Because of the importance of ventilation shafts, their locations must be determined by mine engineering and safety professionals, and should not be unnecessarily restricted by a Committee.
5. The recommended 1,500-foot setback is unreasonable and unnecessarily sanitizes as much as 50 percent of the proposed underground mining properties for ventilation shaft installation potentially putting the miner's health and safety at risk.
6. Based on actual experience at underground mines and ventilation shaft sampling, a typical mine ventilation shaft exhaust fan has a noise decibel level less than about 80 dBA based on observations that individuals can carry on a conversation adjacent to the fan. Conversation speech is about 60 dBA. The sound level 200 feet from a fan operating at 80 dBA is predicted to be about 30 dBA; equivalent to a library or quiet bedroom at night.
7. There is no technical justification for requiring an arbitrary distance of 1,500 feet. Dr. O'Shaughnessy's comment in an email "I would consider 1/4 mile [1,320 ft] a safe distance and 1/2 mile [2,640 ft] to be a very protective distance" does not qualify as technical justification for 1,500 feet any more than it does for 1,320 feet. If Dr. O'Shaughnessy's opinion was based on a review of similar underground mine ventilation study data and experience included work at underground mine ventilation shafts there could be some value. Without that data and experience, the opinion is valid, but does not warrant reference as the source of justification for setback selection.
8. Thompson Environmental Consulting, Inc. performed an assessment of a proposed ventilation shaft at the Pattison Sand mine. Monitoring data collected during a blast in the mine were modeled using AERMOD dispersion analysis software developed by the USEPA. The results were compared to applicable National Ambient Air Quality Standards (NAAQS), specifically; the 24-hour PM10, 1-hour NO2 standard, and the 1-hour CO standard.

Pollutant gas concentrations were measured during a blasting event through monitors set at various locations in the mine. An estimated emission rate was established outside the mine for the modeling analysis from the monitored concentrations. The modeling completed for the facility provides a conservative prediction of estimate gas concentrations in ambient air outside the mine approximately 500 feet from a vent shaft following a typical blast. The dispersion modeling results shows compliance with NAAQS standards 500 feet from a proposed ventilation shaft based upon the measured concentrations in the mine at the time of the blast and modeled emissions.

The modeling data determined following USEPA sampling and modeling procedures provides a technical basis for determination of proposed ventilation shafts.



9. Underground mine exhaust ventilation shafts are commonly 10 to 15 feet in diameter and covered by a wire mesh that allows air to flow freely and prevent animals from entering. Collection of air samples from near a ventilation shaft is a straight forward process.
10. The recommendations of Mr. Stuart Schmitz apparently included in an email regarding periodic monitoring of respirable dust and silica appears to have little or no relevance to the ventilation setback or ability to monitor air quality from a ventilation shaft.
11. Ventilation shaft closure when no longer needed is a reasonable expectation. The recommendation that vertical ventilation shafts be closed similar to water wells is unreasonable and not necessary and demonstrates a lack of understanding of ventilation shafts and existing Iowa Code. Ventilation shafts should only need to be filled with earthen materials and not cement, bentonite or other sealing materials as require under Iowa Administrative Code 567 Chapter 39, Requirements for Properly Plugging Abandoned Wells.
12. The requirement that a mine operator “shall return the site to its pre-mining condition” is an overextension of power and places unwarranted restrictions on the use of private property. Plugging unneeded mine shafts is reasonable, requiring a property owner to restore the ground surface to farming, pasture, forest, or any previous use is not appropriate. For example, the pre-mining condition may have been farming and the post-mining land use may be a gravel pad, pasture, building or shallow pond.

Committee Final Restriction #2: Vent exhaust monitoring

“Vent exhaust monitoring Vent shaft exhausts shall be monitored to make sure the exhaust meets regulation emission limits. The test results from this monitoring shall be sent to the DNR, Bureau of Air Quality, Des Moines, IA. Each vent shaft shall be monitored at its initial use during a blast operation. If the test results are within regulation emission limits, then the monitoring frequency shall remain at once a year during a blast event. If the test results exceed the regulation emission limits, then the monitoring frequency must be changed to every blast occurrence. If the test results exceed the regulation emission limits three times consecutively, then a filter system must be installed to bring the exhaust within regulations. If subsequent test results are within the regulation emission limits three times consecutively, then the monitoring frequency can be changed back to once a year.”

PSC Recommended Condition #2

If ventilation exhaust creates a documented concern from a neighbor to the mine, Pattison Sand will monitor near the ventilation shaft to assess the concern raised. If monitoring results confirm there is a concern with the air quality that may impact a neighbor, Pattison Sand will evaluate the cause, correct the problem, and perform additional monitoring.

Rationale for Changing or Deleting Final Committee Restriction #2

1. The previously referenced studies by GZA and ACT demonstrates that there is no need for continuous monitoring of the ventilation shafts.
2. Existing state regulations exist to prohibit harmful emissions from crossing the property line.
3. Pattison Sand will monitor air quality near newly installed ventilation exhaust shafts under worse case circumstances and as significant changes in the mine occur that may warrant additional monitoring.



4. Underground blasting is on a much smaller scale than surface quarry blasts which have no monitoring requirements. If ventilation exhaust creates a documented concern from a neighbor, Pattison Sand will monitor the air quality near the ventilation shaft exhaust for parameters such as carbon dioxide, carbon monoxide, nitrogen dioxide, nitric oxide, sulfur dioxide and particulate matter. If monitoring results confirm there is a concern with the air quality, Pattison Sand will evaluate the cause, correct the problem and perform additional monitoring.

Committee Final Restriction #3: Truck trailer coverage

“To lessen the dispersion of silica sand particles into the atmosphere and along public roads, Pattison Sand/Mine Operator agrees that all truck trailers used for transport of sand must be covered by an appropriate ‘covering system’ that will prevent the loss of any material from the cargo area. This is required whether the trailer is considered to be ‘loaded’ or ‘empty’ and shall apply to owned and contracted trucks or trailers. Pattison Sand/Mine Operator shall refuse to load any truck/trailer that is not compliant with this condition.”

Reason for motion: The reason for this motion was to lessen the dispersion of sand, for health and safety.

PSC Recommended Condition #3

None - The Committee Final Restriction #3 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #3

1. Existing state DOT regulations require that product does not fall from or blow out of trucks, so there is no reason for adding duplicative regulations.
2. Pattison Sand will not be hauling sand above ground on the new proposed M2 zoned property. The Committee restriction does not apply to the currently zoned M2 property.
3. Pattison Sand covers trucks hauling finished product from the currently zoned property and intends to continue to require trucks hauling finished product be covered.
4. Requiring empty dump trucks to be tarped is not necessary. The tarps cannot be used when there is no load in the truck.
5. We have had no complaints from our dump truck practices and it is consistent with the aggregate industry.

Committee Final Restriction #4: Well damage

“Pattison Sand/Mine Operator agrees to be responsible for any well damage, including the lowering of the static water level, that can be attributed to mining activity.”

PSC Recommended Condition #4

Pattison Sand/Mine Operator will be responsible for any well damage, including the lowering of the static water level, which can be attributed to mining activity.



Rationale for Changing or Deleting Final Committee Restriction #4

1. GZA prepared a well protection agreement for Pattison Sand use to address this matter. Pattison Sand is confident that the proposed Water Supply Well Monitoring Program and Well Protection Agreement satisfy this restriction.

Committee Final Restriction #5: Testing of private wells

“Pattison Sand/Mine Operator agrees to provide annual well water testing for water wells that are within the proposed rezone area and are located on property adjoining the rezoned area. Adjoining property wells shall include all wells located within 1/4 mile of the area expected to be mined within a year. Landowners may collect their own water samples and shall utilize Keystone Labs for the water testing supplies and lab testing. The samples shall be analyzed for all ingredients or compounds sampled for in the April 11, 2016 hydrology assessment conducted by Pattison Sand. In addition, the testing shall include acrylamide and any other chemicals used by Pattison Sand/Mine Operator in the mining operation. At least one year prior to any mining occurring in the rezoned area, Pattison Sand/Mine Operator will contact well owners in or within 1/4 mile of the area to be mined within 1 year and will invite/allow well owners to complete a baseline test of their well, if desired by well owners. A copy of this notice shall be given to the County. Pattison Sand/Mine Operator shall be provided a copy of the results of said well test and shall be responsible for the costs of said well testing. Pattison Sand/Mine Operator agrees to address and mitigate any well contaminated by mining activities or as a result of mining activity and shall prepare and submit to the County a plan for well contamination mitigation prior to final approval of the zoning change.”

PSC Recommended Condition #5

Pattison Sand will implement the proposed Water Supply Well Monitoring Program and Well Protection Agreement.

Rationale for Changing or Deleting Final Committee Restriction #5

1. Water quality testing of water supply wells is a reasonable recommendation. However, for consistency, water samples must be collected by experienced professionals following USEPA sampling and analytical testing methodologies including but not limited to appropriate decontamination procedures, chain-of-custody documentation, sample handling, sample bottles and sample preservation. While sampling can certainly be performed by landowners, for purposes of evaluating the potential for mining impact on groundwater and water supply wells, samples should only be collected by or under the supervision of a Professional Geologist or Certified Ground Water Professional.
2. The recommendation requiring the use of Keystone Laboratories, Inc. should be deleted. Keystone may be certified, but they are 1 of 38 laboratories certified by the State Hygienic Laboratory at the University of Iowa for drinking water / Safe Drinking Water Act (SDWA) analytical testing and it is inappropriate for the Committee to single them out as a sole provider.
3. The April 11, 2016 hydrology assessment report by Leggette, Brashears & Graham, Inc. (LBG) included samples from at least 20 water wells and an inconsistent and varied list of analytes. The stated purpose of the LBG work was to provide information on the geologic units, groundwater levels, and groundwater flow direction in the Study Area. The LBG work was not designed to evaluate the existing and proposed mining conditions, consider the geologic and groundwater conditions and then design and implement a groundwater study that evaluates the



potential impact to groundwater quality. LBG collected and reported on a one-time collection and analysis of water samples over a widespread area from several aquifers and that data provides some indication of water quality in those wells. The data does not provide a road map for future testing to follow.

For example, LBG tested wells that are installed above and below the mining horizon for bacteria, fluorine, nitrogen, nitrate, chloride, metals, volatile organic compounds, and pesticides. Most of the analytes analyzed were not detected and are not expected to be present or released as a result of mining. Therefore, it is not appropriate to require testing of that list of analytes.

Rather than recommend or require testing for an arbitrary list of analytes, the recommendation should include preparation of an appropriate groundwater monitoring plan by a Professional Geologist or Certified Ground Water Professional with experience at underground sandstone mines that considers the hydrogeologic setting, water well construction, mine plan, chemicals used and understanding of the risks.

4. As with all parameters to be considered for analytical testing, the recommendation that water supply wells be analyzed for acrylamide and any other chemicals used only makes sense if it is understood where the analyte is used relative to a well to be sampled as well as the fate of the analyte. A broad recommendation that all wells be analyzed for acrylamide is not technically valid.
5. The “Reasons for motion” states that “acrylamide testing follows a recommendation by Chad Stobbe, Iowa Dept. of Natural Resources” and provides a footnote (3). Quoted in the footnote (3) is a request that Pattison Sand continue periodic testing for acrylamide. That request was not a recommendation that acrylamide be analyzed for in every water supply well near the mine as the recommendation #4 suggests, which is certainly not warranted or technically justified.
6. It is important to recognize that Pattison Sand has a spill response plan for the facility that includes surface and underground operations. The spill response plan is used to assess the risks and include measures to confine a spill, stop the source, evaluate the incident and implement cleanup.
7. GZA prepared a groundwater monitoring plan for Pattison Sand that provides appropriate protection to groundwater resources near the mining operations. In that plan, based on the current and future mining practices, there is limited justification for the selection of chemicals for analytical testing. The following parameters were selected for the reasons provided below:
 - a. Total suspended solids (TSS) - TSS in water is caused by suspended matter such as clay, silt, and organic matter that interfere with the passage of light through the water affecting water clarity. Suspended or colloidal particles, commonly referred to as TSS, are the extremely small suspended solids in water which will not settle out by gravity. TSS is measured on a sample of water (which has been settled) and are those particles which will not pass through a very fine filter (usually 0.45 micron). The filter is pre-weighed prior to passing through water, and post-weighed and the difference in the two weights is the TSS concentration. TSS is used as an indicator test to determine the general quality of the water.
 - b. Total dissolved solids (TDS) - Water is a good solvent and picks up impurities easily. TDS in drinking-water originate from natural sources, sewage, urban run-off, industrial wastewater, and chemicals used in the water treatment process, and the nature of the piping or hardware used to convey the water. Dissolved solids refer to any minerals, salts, metals, cations or anions dissolved in water. TDS comprise inorganic salts (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides, and sulfates) and some small amounts of organic matter that are dissolved in water. TDS test provides a qualitative measure of the amount of dissolved ions but not the nature or ion relationships. TDS is used as an indicator test to determine the general quality of the water.



Committee Final Restriction #6: Testing of surface waters for acrylamide

“Pattison Sand/Mine Operator agrees to test for acrylamide in any surface water discharge in addition to, and in conjunction with, the testing required as part of the National Pollutant Discharge Elimination (NPDES) permit currently regulated by the Iowa Department of Natural Resources.”

PSC Recommended Condition #6

None - The Committee Final Restriction #6 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #6

1. The water soluble polymer, PAM polymer, is used in the processing of the sand at the River Plant; it is not used in the underground mine or in any other mining activity.
2. Industrial sand mining operations that use the PAM polymer typically add about 6 to 7 ppm to the wash water. The PAM polymer is an emulsion with an average of about 30% PAM polymer. The acrylamide monomer is present at concentrations less than 0.05% of the PAM polymer portion of the emulsion. That calculates to an acrylamide monomer concentration in the wash water of approximately 1 part per billion (ppb).
3. Environmental fate studies by the US EPA report that acrylamide degrades rapidly in the environment – in a matter of a few days in both soil and water. The estimated half-lives range from 22 to 36 hours. Degradation in river water occurred within 2 to 12 days, depending on the availability of microorganisms that utilize the acrylamide.
4. Water from the processing of the sand at Pattison Sand that may contain acrylamide at a concentration of about 1 ppb is held in the permitted storage pond which is lined to eliminate groundwater infiltration.
5. Sampling of water dating back to 2013 within the PSC pond shows NO DETECTION of acrylamide in the water or in the clay within the permitted storage pond.
6. Pattison Sand is required by the DNR to sample the water from the permitted outfall if water is discharging. The parameters required to be tested represent the concerns of the DNR for this storage location and does not include acrylamide as a parameter for testing.
7. Pattison Sand agrees to test for acrylamide once a year at the permitted storage location outfall.

Committee Final Restriction #7: Blasting hours and notification

“In the proposed rezone area, Pattison Sand/Mine Operator shall only permit blasting to occur at a time of day that is no earlier than 6:00 AM and no later than 8:00 PM, Central Standard Time. At least three days in advance of blasting, Pattison Sand/Mine Operator shall notify the owners of all property within 1/4 mile, of the dates and times that blasting will occur. This notification shall be by regular mail or another method acceptable to the recipient.”



PSC Recommended Condition #7

None - The Committee Final Restriction #7 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #7

1. No rationale was provided for limiting blasting hours. Pattison Sand has blasted underground since 2008 with no restrictions and no documented issues with neighbors.
2. Restricting the blasting hours for underground is not needed and may result in restricting mining and processing rates.
3. Requiring notification of neighbors prior to underground blasting is not warranted as a zoning condition. PSC normally blasts daily underground at approximately 5:30 pm. As the mine advances, if there is a complaint, PSC will have a third party monitor the area using a seismograph and if determined to be helpful, limit blasting times to 6am to 8pm in that area.
4. Underground blasts are relatively small when compared to surface blasts and procedures should be based on actual impacts and discussions with affected neighbors and not fixed by an unrelated and unaffected Committee.
5. Current blasting regulations for above ground require blasting to be done during daylight hours. There is no need for duplication of regulations.
6. At the request of certain neighbors, PSC informs them a day in advance of when blasting above ground. More notice is not feasible because of weather and operations change enough that the exact day could not be consistently predicted. There have been no complaints providing a one day notice. If a neighbor has a concern PSC will discuss with the neighbor and if necessary place a Seismograph at the area of concern before blasts.

Committee Final Restriction #8: Tunnels under the Great River Road

“Pattison Sand/Mine Operator shall hire a licensed and bonded/insured engineering firm that will to design the mine tunnel(s) to be located under Clayton County right of ways for the Great River Road and will warranty that said tunnels shall not lead to collapse or subsidence of any part of the surface of said right of way. The engineering firm shall inspect and certify that the area has been mined in accordance with the design approved by said engineering firm. Pattison Sand/Mine Operator and engineering firm agree to accept responsibility and indemnify Clayton County for any damages in the right of way caused by or resulting from mining operations.”

PSC Recommended Condition #8

None - The Committee Final Restriction #8 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #8

1. Pattison Sand is working with Clayton County Engineer, Mr. Rafe Kooeman Clayton County Attorney Mr. Alan Heavens on a lease with Clayton County for mining under the Great River Road. The County Engineer and Attorney



have adequate skills to develop a lease agreement that will address the concerns of Clayton County and there is no need for a duplicative effort on this matter.

2. Pattison Sand has provided the County with a provided a certificate of insurance and a letter prepared by a licensed mine engineer documenting that “the risk of surface subsidence is negligible”. Pattison Sand does not believe a separate Engineering firm is needed to inspect and certify this area. The mine is designed and managed by PSC mining engineers and is closely regulated by MSHA with quarterly inspections. The mine has a history dating to 1931 without any surface subsidence.
3. A professional engineer working for or subcontracted by Pattison Sand has the qualifications to design the mine tunnels beneath the road and should not be disqualified from doing so.

Committee Final Restriction #9: Land uses permitted under M2 Zoning, and tunnel entrances/exits

“Pattison Sand/Mine Operator and Landowners within the proposed rezone area agree that all land use activities in the rezone are shall be limited to sub-surface mining activities only, with the exception of constructing, locating, and maintaining vent shafts. The vent shafts shall not be used as an entrance or exit from/to the underground mining area. No exits or entrances from the surface to the underground mine shall be located in the proposed rezoned area.”

PSC Recommended Condition #9

Mining activities within the proposed rezone area shall be limited to underground mining. Other aspects of underground mining will be allowed such as openings for ventilation, entrances and exits as needed to provide a safe and efficient mine. There will be no sand stored on the surface.

Rationale for Changing or Deleting Final Committee Restriction #9

1. Due to MSHA regulations Pattison Sand may be required to install an additional exit or use a ventilation shaft as a secondary emergency escape way, these would only be added as needed or required.
2. It is not reasonable to require that ventilation shafts not be used for entrance or exits or that additional entrances or exits be prohibited. There are safety and or other reasons that PSC or land owners may have a significant need for additional entrances or exits and such prohibitions would unnecessarily cause a taking from the landowner’s rights.
3. Landowners should be allowed to retain use and development of their properties presently allowed under agricultural zoning. Rezoning agricultural land to industrial is very uncommon as it creates land use issues where there should be none. That is the reason most municipalities provide conditional or special use permits for mining on agricultural land, especially for underground mining, rather than placing unnecessary restrictions on agricultural and residential land.
4. The Committee and County should not arbitrarily regulate use of a ventilation shaft as an emergency escape way from an underground mine. Additionally, the “Reasons for motion” implies that underground only includes tunnel exits and entrances.



Committee Final Restriction #10: Rezoning application changes

“Changes and initialing by petitioners on page 1 of each of the 5 2015 rezone request applications shall be completed, and wording changed at 2 locations on page 3 of the applications (i.e., answers to questions 4 and 6) to match the identical corrected wording on page 1 – namely, “to mine underground. Process, store, and ship silica sand and its by-products, all underground.” These changes shall be completed by the time of the Planning and Zoning Commission meeting at which the rezone requests will be reconsidered.”

PSC Recommended Condition #10

None - The Committee Final Restriction #10 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #10

1. Pattison Sand has already agreed to the changes in the zoning application.
2. Pattison Sand may partially process the sand underground.

Committee Final Restriction #11: Tunnel use for storage and disposal

“No entity shall store any hazardous materials in the underground mining area other than mining supplies and equipment, or sand or minerals removed from the mine as part of the mining process. The only materials that may be disposed of in the underground mining area are sand or minerals removed from the mine as part of the mining process.”

PSC Recommended Condition #11

None - The Committee Final Restriction #11 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #11

1. Hazardous material storage on private property is regulated by Federal and State regulations so there is no need for further regulating or restricting land use at the mine.
2. PSC agrees to not store materials in the mine in a manner that is inconsistent with Federal and State regulations or would create a significant risk to surrounding land owners. There are different classifications of hazardous materials and such a broad restriction is taking from land owners rights.
3. Restricting use of the underground mine tunnels for storage of dry goods, grain, tires, or clean construction demolition debris is unnecessary. Such a restriction by the Committee is an overextension of power and is an inappropriate restriction on private property use. If material stored in the mine presents no risk to human health or the environment there is no reason to restrict that use.



Committee Final Restriction #12: Site inspections, non-compliance, and corrective actions by the Zoning Administrator

“Pattison Sand/Mine Operator agrees to allow the Clayton County Zoning Administrator, or his/her representative, access to the property to observe operations or conditions of the mining and processing activities on said property. If, upon inspection, the Zoning Administrator determines that any non-compliance with the Clayton County Zoning Ordinance exists, the Zoning Administrator may issue a corrective action order detailing the non-compliance, the action needed to correct the non-compliance, and the timeframe within which it shall be corrected. Failure by the Conditional Use permit holder to comply with any corrective action order may result in a Stop Work Order or a revocation of the Conditional Use Permit and a discontinuation of all mining and processing activities.”

PSC Recommended Condition #12

None - The Committee Final Restriction #12 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #12

1. Planning and Zoning already has this authority.
2. Pattison Sand is already regulated by several agencies (MSHA, USEPA, DNR, Mines and Minerals Division, State Fire Marshal, Corps of Engineering). There is no need for the county to add duplicated regulations to the rezoned areas.

Committee Final Restriction #13: Threatened or endangered species, and archeological features

“Pattison Sand/Mine Operator shall hire a consulting firm to perform on-site surveys for threatened or endangered species and archeological features when vent shaft locations and access road locations are determined, prior to any construction or pre-construction activities. If said on-site surveys identify any threatened or endangered species or archeological features, the site shall be photographed and protected by a barrier to prevent damage to the site or species, GPS location recorded, and the vent shall be moved to another location. The survey and documentation evidence (photos/other) shall be filed with the Iowa Department of Natural Resources (for threatened or endangered species), the IA Office of the State Archeologist (for archeological features), and Clayton County.”

PSC Recommended Condition #13

None - The Committee Final Restriction #13 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #13

1. This restriction is already regulated by the IDNR and there is no need to duplicate. Pattison Sand works closely with the IDNR on Threatened and Endangered Species in compliance with existing protections under Iowa Chapter 481B for threatened or endangered species and Chapter 263B—State Archaeologist [Administrative Rules 685–11.1].



2. Where appropriate Pattison Sand flags or installs fencing around locations of Threatened and Endangered Species on the mine site to keep equipment away from those areas.
3. The Committee and County should not exclude qualified individuals from performing this work.
4. The presence of any threatened or endangered species in the area of a proposed ventilation shaft may not justify or necessarily require relocation of a proposed shaft. For example, many threatened or endangered animal species may be present in the area, such as eagles, but will not necessarily be affected by a ventilation shaft.
5. Should threatened or endangered species or archeological features be identified, the County should not specify the response and require photographs and protection by a barrier to prevent damage to the site or species. The Committee or the County obtains no rights over the property where threatened or endangered species or archeological features are identified and the rights of the property owner may not be impacted by such findings. The recommendation should reference compliance with existing protections under Iowa Chapter 481B for threatened or endangered species and Chapter 263B—State Archaeologist [Administrative Rules 685–11.1].

Committee Final Restriction #14: Long-term reclamation of mined areas

“Pattison Sand/Mine Operator shall hire a landscaping consulting firm doing business in the State of Iowa, to do an on-site survey of the total affected acres of the entire mining site. The consulting firm shall then estimate the cost to reclaim the entire site to the standards required by the Iowa Department of Agriculture and Land Stewardship (IDALS). This reclamation estimate shall also include the cost of removal of any sand piles, contaminated soils, the filling in of any storage pits, the removal of any equipment and railroad lines if necessary, and also the closure of any air vent shafts. The current bond amount, held by IDALS, shall then be deducted from this estimate, and the remainder shall be given to Clayton County as an additional bond amount.”

PSC Recommended Condition #14

None - The Committee Final Restriction #14 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #14

1. Mine reclamation is managed by the Iowa DNR Mines and Minerals Bureau and there is no need to duplicate existing regulations. Mr. Ryan Starkey from the Mines and Minerals Bureau was onsite July 20, 2016 to conduct a full site inspection. All site requirements were met and he had no recommendations for improvement.
2. Pattison Sand is required to submit a Mine Report yearly to the Mines and Minerals Bureau, this report indicates current aboveground mining operations as well as underground operations.
3. Reclamation bonding to the State is specific to aboveground mining; bonding is updated yearly to reflect current aboveground mining activities.
4. The recommendations of the Committee must only focus on the land proposed to be rezoned to allow mining, not existing mines and quarries in Clayton County.



5. The Iowa Department of Agriculture Mines and Minerals Bureau licenses more than 1,100 registered mineral sites in 26 counties. The Bureau bonds and registers each mining site and monitors each mine to assure compliance with Iowa Code Chapter 208 and adopted regulations, and assure that the reclamation bond posted is adequate to complete required reclamation in the event of default by the operator. Providing a recommendation to duplicate present state practices is unrealistic and demonstrates a lack of understanding of the extent of mining regulations by the Committee.
6. If the Committee believes that the Mines and Minerals Bureau addresses reclamation at 1,100 mines inadequately, then justification should be provided for this recommendation.

Committee Final Restriction #15: Viewshed (aesthetics) of the Great River Road National Scenic Byway

“Pattison Sand/Mine Operator agrees that sand mined from the rezoned area shall not be stored in open piles that are visible from the Great River Road.”

PSC Recommended Condition #15

Sand shall not be stored above ground in the rezoned area.

Rationale for Changing or Deleting Final Committee Restriction #15

1. Pattison Sand mining practices have and will continue to minimize visual impacts from the Great River Road.
1. When comparing the Pattison Sand operations to most other mining operations, it is easy to note that the Pattison Sand operation is nearly 100% hidden from view of primary roads and highways
2. The Committee recommendations only pertain to use of the land proposed to be rezoned.
3. Pattison Sand does not propose to use the rezoned land to stockpile sand but does intend to utilize the existing processing areas outside of the area subject to rezoning for stockpiles consistent with current practices.

Committee Final Restriction #16: Emergency plan for mine workers and neighbors of the mine

“Pattison Sand/Mine Operator agrees that an emergency plan shall be filed with Clayton County and updated on an annual, or more frequent, basis. This plan will include a map of all tunnels that show their location in relation to land parcels above the tunnels, and it will include a list of all chemicals stored on the property and the storage location.”

PSC Recommended Condition #16

None - The Committee Final Restriction #16 should be omitted and no condition is warranted for reasons summarized below.



Rationale for Changing or Deleting Final Committee Restriction #16

1. Emergency planning is already managed by MSHA, State Fire Marshal and the Clayton County emergency coordinator.
2. Tier 2 reporting is required yearly and maps of storage locations is shared with the IDNR, Clayton County Emergency Management, Garnavillo Fire Department, and Guttenberg Fire Department.

Committee Final Restriction #17: Appeals for variance

“The Committee recommends that the Board of Adjustment be given the authority to approve a variance from the conditions established as part of this zoning district change. An appeal for a variance from these conditions may be sought in the same manner as an ordinary variance from ordinance requirements (Sec 6.15-3), shall be subject to the same requirements and procedures established thereunder, and shall be in compliance with Iowa Code Chapter 335.10.”

PSC Recommended Condition #17

None - The Committee Final Restriction #17 should be omitted and no condition is warranted for reasons summarized below.

Rationale for Changing or Deleting Final Committee Restriction #17

1. Clayton County already has authority to approve a variance.

We appreciate the opportunity to submit this review. Please feel free to contact me at (262) 754-2565 or mark.krumenacher@gza.com with any questions.

Very truly yours,

GZA GeoEnvironmental, Inc.

A handwritten signature in blue ink, appearing to read "Mark Krumenacher", written in a cursive style.

Mark J. Krumenacher, PG
Senior Vice President/Senior Principal