

**CHARTER TOWNSHIP OF UNION
ISABELLA COUNTY, MICHIGAN**

EXTRACTION ORDINANCE NO. _____

[An ordinance adopted under the provisions of the Charter Township Act (Public Act 359 of 1947, as amended, being MCL 42.1 – MCL42.34) to regulate and establish standards and approval procedures for extraction of non-metallic minerals on land within the Charter Township of Union, and reclamation of the land at the conclusion of the operation; to provide for the administration and enforcement thereof, and for the establishment of fees, escrow deposits, and performance guarantees to defray the administrative and enforcement costs incident thereto, and to ensure that all extraction operations and reclamation activities are completed in accordance with this ordinance and approved plans; to provide for severability, repeal, publication, and an effective date; and for other purposes.]

CHARTER TOWNSHIP OF UNION, ISABELLA COUNTY, MICHIGAN HEREBY ORDAINS:

Section 1. Short Title.

This Ordinance shall be known and cited as the Extraction Ordinance and may be referred to herein as “this Ordinance.”

Section 2. Intent and Purposes.

The Township recognizes that sand, gravel, and other non-metallic minerals within the Township’s boundaries are non-renewable natural resources necessary and beneficial to the welfare of its inhabitants and the surrounding region. To provide for utilization of these resources in a manner compatible with nearby residential uses, to protect human health and the environment, and to ensure complete reclamation for another land use at the conclusion of the extraction operation, it is the intent of this Ordinance to regulate and provide procedures and standards for extraction of non-metallic minerals and for the reclamation of the land at the conclusion of the operation.

This ordinance is necessary because extraction operations and related activities, such as the importation of fill material, can cause unique and substantial impacts upon the environment and the welfare of adjacent properties and the community as a whole. They can disrupt the environment, impair water quality and quantity, cause noise and dust nuisances, damage roads and create conditions dangerous to Township residents. Extraction of non-metallic minerals and importation of fill materials can leave land in an unsightly condition and present an unattractive and dangerous nuisance.

Extraction operations and importation of fill materials can also have serious adverse impacts on watercourses, wetlands, and groundwater resources, which are indispensable and fragile natural resources that provide many public benefits, including a supply of potable water for private and municipal systems, fish and wildlife habitat, maintenance of water quality through nutrient cycling and sediment trapping; flood and storm water runoff control through temporary water storage; groundwater recharge; and outdoor recreation. It is the further intent of this Ordinance to protect Township watercourses, wetlands, and groundwater resources located in proximity to extraction operations in a manner that preserves their hydrological, economic, recreational, and aesthetic natural resource values for existing and future Township residents.

Section 3. Authority and Scope.

The Township has authority to regulate extraction operations, reclamation activities, and importation of fill materials to protect the public health, safety, and welfare pursuant to the Charter Township Act (Public

Act 359 of 1947, as amended, being MCL 42.1 – MCL42.34), in accordance with applicable state laws. The Planning Commission has the authority under this Ordinance to administer, review, deny, approve or approve with conditions permits issued under this Ordinance. The Township Planner and Ordinance Enforcement Officer shall have authority, with the assistance of any designated Township consultants, to administer and enforce the provisions of this Ordinance and approved Extraction Permits. The requirements of this Ordinance shall be held to be the minimum necessary for promotion of the public health, safety, and general welfare.

Section 4. Prohibitions

It shall be unlawful to extract non-metallic minerals or import fill materials without complying with the provisions of this Ordinance. It shall also be unlawful for the Applicant/Owner/Operator or any other person or permit holder to conduct an activity or maintain any land area or extraction operation in violation of any approved Extraction Permit, approved plans for an extraction operation or reclamation or condition of any Permit issued under this Ordinance.

Section 5. Exemptions.

Subject to compliance with all other applicable statutes, ordinances, rules, and regulations, this Ordinance shall not apply to the following activities:

- 5.1 Ordinary and necessary grading of land for the tilling and cultivation of soils for the growing of crops and trees.
- 5.2 Ordinary and necessary grading or excavation for construction of buildings, structures or related septic systems pursuant to all required permits from the Township and any other governmental authority having jurisdiction over such activities.
- 5.3 Ordinary and necessary grading, excavation or maintenance within a public or private road right-of-way or drainage easement by an authorized contractor or governmental agency with jurisdiction, conducted in compliance with applicable regulations and permit requirements.
- 5.4 Remediation of environmental contamination.
- 5.5 Construction of a solid waste disposal facility subject to State of Michigan permits.

Section 6. Application Procedure

The following procedures shall apply when processing any application under the terms of this Ordinance:

- 6.1 **Optional Pre-Application Conference.** The Applicant/Owner/Operator may request a pre-application conference with the Township Planner. The purpose of this informal meeting is to provide information and guidance to the Applicant/Owner/Operator that will assist in preparation of a complete application. No formal action shall be taken during this meeting. The Applicant/Owner/Operator may be required to pay a fee for a pre-application conference in an amount determined by resolution of the Township Board of Trustees.
- 6.2 **Application Information.** All applications shall be on a form provided by the Township and shall be signed by the Applicant/Owner/Operator(s) and the titleholder(s) of the parcel(s) upon which the excavation is proposed. To initiate formal review by the Planning Commission, the Applicant/Owner/Operator shall submit one (1) completed and signed copy of the required application form, the required fee and any required escrow deposit, one (1) digital copy in .PDF format of the complete set of application materials, one (1) large (up to 24-inch by 36-inch maximum) printed plan set, and eleven (11) reduced 11-inch by 17-inch printed plan sets at the

Union Township Hall. All notes and plan details must be clearly legible at the sheet size. The following minimum information shall be required with any application:

- A. The name, address, and contact information for the Applicant/Owner/Operator, and the Applicant/Owner/Operator's interest in the property. If the Applicant/Owner/Operator is not the owner, the name, address, and contact information for the owner(s) and the signed consent of the owner(s) shall also be required.
- B. Signature(s) of the Applicant/Owner/Operator(s) certifying the accuracy of the information.
- C. A legal description of the property, including street address(es) and tax code number(s).
- D. The set of required base documents, including all necessary information to confirm compliance with the requirements and standards of this Ordinance.

6.3 **Application Fee Required.** The amount of the application fee shall be established and may be adjusted from time to time by resolution of the Township Board of Trustees.

6.4 **Refundable Escrow Deposit.** In addition to the non-refundable application fee provided for in subsection 6.3, the Applicant/Owner/Operator may be required to deposit with the Township at the time the application a refundable escrow deposit intended for use to defray the Township's costs for professional reviews and consultations by experts in the law, civil engineering, hydrogeology, and other fields determined necessary by the Planning Commission or Township Planner to assist with evaluation of the application and/or Permit inspections and administration. The amount of any required refundable escrow deposit shall be established by resolution of the Township Board of Trustees.

- A. **Accounting.** The Township shall annually deliver to the Applicant/Owner/ Operator an accounting that shows the debits and credits during the accounting period.
- B. **Annual Renewal of Escrow Fee.** During the period the Township is either processing the application or administering the Permit, the Applicant/Owner/ Operator shall restore the sums in the escrow account to the minimum amount established by resolution of the Township Board, or such other amount as may be established for the extraction operation by resolution of the Planning Commission. The sums needed to restore the account shall be paid by the Applicant/Owner/Operator within 30 calendar days of receipt of a written Township request.
- C. **Additional Escrow Fees.** If at any time it appears the sums in escrow are insufficient to process the application or pay the expenses to administer the Permit, the Applicant/ Owner/Operator shall be required in writing to deposit additional sums with the Township. Failure to replenish such sums within 30 calendar days shall be grounds for the Township Planner or Ordinance Enforcement Official to issue a stop work order, at which time no further processing of the application or excavation or stockpiling of materials may occur until the order is rescinded.
- D. **Interest.** The Township shall have no duty to deposit the sums in an interest-bearing account. However, if interest is earned on the sums deposited by Applicant/Owner/ Operator, such interest shall be credited to the Applicant/Owner/Operator's account.
- E. **Return of Escrow Funds.** If the application is denied, any unexpended funds shall be returned to the Applicant/Owner/Operator within 45 calendar days after all actual costs and expenses incurred by the Township have been paid. If a permit is issued, any unexpended funds shall be returned to the Applicant/Owner/Operator within 45 calendar

days after the site is completely restored and all actual costs and expenses incurred by the Township have been paid.

- 6.6 **Technical Review.** Prior to Planning Commission consideration, the application materials shall be distributed to the Township Planner for review and comment. The Township Planner or Planning Commission may also request comments from other Township departments, consultants or outside agencies with jurisdiction. Applications that are found by the Township to be incomplete or inaccurate shall be returned to the Applicant/Owner/Operator without further consideration.
- 6.7 **Public Hearing.** The Planning Commission shall hold a public hearing on the application. At least 15 calendar days prior to the hearing, notices shall be sent by mail or personal delivery to the Applicant/Owner/Operator, the titleholder of the parcel, and to the owners of all property and occupants of all structures within 2,000 feet of the subject property. The notice shall also be posted at the Township Hall, published once in the Township's newspaper of record, and placed on the Township website. The notices shall include the time, date, place, and purpose of the hearing.
- 6.8 **Standards for Permit Approval or Renewal.** The following general standards for approval shall apply to any application for Extraction Permit approval or renewal:
- A. An Extraction Permit shall be approved if the Applicant/Owner/Operator provides information, data and documentation sufficient to meet each of the following standards:
- (1) The application is administratively complete, and the Planning Commission has determined that all necessary information has been provided.
 - (2) The Planning Commission has determined that the application satisfies all applicable Township ordinance requirements necessary for Permit approval or renewal.
 - (3) The Applicant/Owner/Operator has demonstrated the legal, financial, technical, and other resources necessary to comply with this Ordinance.
 - (4) Written assurance has been provided in the form of a reclamation plan and financial guarantee that the site will be reclaimed to a condition which is safe and harmonious with surrounding land uses and consistent with the Master Plan.
 - (5) Required fees, surety bonds, and evidence of insurance have been submitted, along with any required escrow deposit.
 - (6) Copies of all federal, state, and local permits which relate to an activity on the property which were issued and in effect at the time the application was submitted to the Township.
 - (7) The extraction operation will not adversely affect groundwater (e.g., water table, water quality or supply to surrounding wells) or surface water resources.
 - (8) There will be no net loss of wetlands on-site or, where determined necessary, proposed wetland mitigation measures are acceptable and consistent with state laws and Township ordinance requirements.
 - (9) The operation will not impair the environment; pollute or degrade the air, water or other natural resources.
 - (10) The operation will not interfere with the quiet enjoyment of persons in the vicinity of the operation or adversely impact on other identifiable health, safety, and welfare interests in the Township.

- B. The burden of meeting each standard is on the Applicant/Owner/Operator. The Applicant/Owner/Operator's failure to provide the information, data or documentation necessary to meet a standard is a basis for denial of the application.
- 6.9 **Decision.** The decision rendered on the application shall be in writing, shall be supported by competent, material, and substantial evidence on the record of compliance with all applicable requirements of this Ordinance.
- 6.10 **Reapplication.** If an application is denied, a reapplication for that site shall not be filed for 365 calendar days from the date the decision was rendered, unless there is a material change in circumstances that was not present when the application was considered.
- 6.11 **Conditions of Approval.** In granting approval of an Extraction Permit the Planning Commission may impose such reasonable conditions as it deems necessary to ensure the standards are met and maintained. The following conditions shall be printed on the Extraction Permit, in addition to any others imposed by the Planning Commission:
- A. The authorization herein granted only authorizes those uses and activities specifically set forth in the Permit, is subject to the Township's right to inspect the site, and is contingent upon the Applicant/Owner/Operator(s) strict adherence to the terms and provisions of the Permit, this Ordinance, and other applicable regulations.
- B. Within 365 calendar days following cessation of the extraction operation by abandonment or otherwise, the site shall be fully reclaimed in strict accordance with the approved reclamation plan, unless an alternative timeline for completion of reclamation activities was approved by the Planning Commission as part of an Extraction Permit approval or renewal.
- C. The application and base documents are incorporated by reference into the Permit. A material misrepresentation or unauthorized change in a base document is cause for revocation of the Permit.
- D. The Applicant/Owner/Operator shall, within 60 calendar days of an initial Extraction Permit approval, record copies of the Permit, mining plan, and reclamation plan for the property at the Isabella County Register of Deeds office, and shall provide copies of the recorded documents to the Township Planner.
- 6.12 **Permit Terms.** A Extraction Permit shall state the name of the Applicant/Owner/ Operator, metes and bounds description of the site, conditions imposed and any variances granted in conjunction with the Permit, the base document titles and revision dates, and the commencement date and term for which the Permit is issued.
- A. An initial Permit issued for a new extraction operation on a site shall be valid for a period of up to three (3) calendar years, beginning from the commencement date and ending on December 31 of the third year.
- B. Any subsequent Permit issued or renewed for an extraction operation on a site shall be valid for a period of up to five (5) calendar years, beginning from the commencement date and ending on December 31 of the fifth year.
- C. A Permit is transferable to a new Applicant/Owner/Operator with prior written consent of the Planning Commission. The Planning Commission may impose conditions to ensure that the requirements and standards of this Ordinance are met. Transfers include a merger, reorganization, sale or similar business action.

- D. The Applicant/Owner/Operator shall submit an application to the Township for renewal of an Extraction Permit not less than 180 calendar days nor more than 365 calendar days before the end of the term of the Permit.

6.13 **Outside Agency Permits and Approvals.** Copies of permits and approvals issued by a governmental body or agency that regulates an aspect of the activity conducted on a site shall be promptly filed with the Township Planner. The Applicant/Owner/Operator shall also notify the Township Planner of any requests for amendments to or notices of violation of any outside agency permits.

Section 7. Base Documents

The following base document requirements shall apply to all Extraction Permit projects:

7.1 **General Provisions.** The purpose of the base documents is to define the scope and character of the activities authorized on the site and provide evidence that the standards are met. The following general requirements shall apply to all required base documents:

- A. Any modification or change intended or contemplated to the scope or character of the activities shall require Planning Commission approval, and the base document(s) shall be revised accordingly.
- B. When a change in the scope or character of the activities on a site is intended or contemplated, the base documents submitted with the application shall depict and explain the proposed change.
- C. This Ordinance requires certain documents be prepared by professionally qualified individuals such as geologists, hydrologists, engineers, architects, environmental scientists, and surveyors. In all such cases the person preparing the document shall hold the academic degree, license, registration or other credential necessary to practice in the State of Michigan.
- D. Each base document shall be signed and dated by the person who prepared the document and, if applicable, shall bear their seal.

7.2 **Waiver of Base Document Information.** Unless waived in writing in accordance with this Section, all base documents shall be submitted in compliance with this Ordinance. Upon written request by the Applicant/Owner/Operator, the Planning Commission may modify or waive the requirement for a base document or specified item(s) of information required by this Ordinance to be included on a base document, subject to the following:

- A. Determination by the Planning Commission that the modification or waiver does not adversely affect the ability of the Planning Commission to ascertain whether the applicable requirements of this Ordinance have been met. The Applicant/Owner/Operator has the burden of providing facts, data, and documents sufficient to establishing that a requested waiver meets the standards of this subsection. Failure to do so shall be grounds for denying the waiver.
- B. If the Planning Commission subsequently determines that the waived base documents are necessary for their review and action on an application, then the Applicant/Owner/Operator shall promptly take action to amend the application by providing the requested base documents.

7.3 **Summary List of Required Base Documents.** The required maps, photographs, studies, analyses, and data specified and described in the following sections of this Ordinance shall be considered to be the minimum set of base documents required under this Section:

- A. Section 8 (Public Documents)
- B. Section 9 (Survey, Base Maps, and Photographs)
- C. Section 10 (Required Studies and Analysis)
- D. Section 11 (Mining Plan)
- E. Section 12 (Reclamation Plan).

7.4 **Other Relevant Information and Documents.** The Planning Commission may require the Applicant/Owner/Operator to submit additional items of information as determined necessary to confirm that the extraction operation conforms to the requirements and standards of this Ordinance, including all of the standards for Extraction Permit approval or renewal listed in Section 6.8.

Section 8. Public Documents

At a minimum, the following public documents shall be required as part of any application for Permit approval or renewal, unless expressly waived by the Planning Commission:

- 8.1 A title commitment, together with copies of all recorded documents identified in the commitment, current to within 30 calendar days of the date of submission of the application, which evidences ownership and all easements on the site, together with a copy of the record document which vests fee title in the Applicant/Owner/Operator.
- 8.2 Copies of all existing federal, state, and county permits which are in effect and relate to an activity on the site.
- 8.3 If an Applicant/Owner/Operator is other than an individual, a copy of the public document which evidences its legal status and right to conduct business in the State of Michigan.
- 8.4 A list of names, address, telephone/facsimile number(s), and e-mail address of all persons, firms, corporations or other entities having legal or equitable interest in the property.

Section 9. Survey, Base Maps, and Photographs

The following minimum requirements shall apply to the survey, maps, and aerial photographs required by this Ordinance:

- 9.1 **General Requirements.** All survey drawings, base maps, and aerial photographs shall be provided in a bound or stapled set, and shall be of a consistent sheet size, orientation, and scale to allow for easy cross-referencing between sheets. Upon written request from the Applicant/Owner/Operator, specific mapping materials or other documentation required by this Section that contain proprietary information may be labeled as such and provided in accordance with the following:
 - A. The proprietary information shall be in a separate bound or stapled set with a cover sheet listing each map or document title, revision date, number of sheets, and the name, address, and other contact information of the firm or individual responsible for preparation.
 - B. The Township Planner and Applicant/Owner/Operator shall initial, date the cover sheet. The Township Planner shall retain a copy of the signed cover sheet for the Township's

records and shall request that all proprietary information be returned to the Applicant/Owner/Operator at the conclusion of the review process.

- C. The Applicant/Owner/Operator shall retain possession of the signed set of proprietary information and, upon written request from the Township Planner, shall promptly furnish the set to the Township for further review and inspection. Failure to retain or promptly provide the information shall be considered a violation of this Ordinance.

9.2 **Survey.** A survey shall be provided, which shall be prepared and sealed by a surveyor or engineer in accordance with applicable State of Michigan standards and shall include the following minimum information:

- A. Map scale and a north directional arrow.
- B. A legal description, with street address, township, and county; and the property's location and dimensions by metes and bounds written on the survey map from a fixed point of beginning or, if applicable, the lot and block numbers, by subdivision name and recording information.
- C. Existing means of ingress and egress to and from the property, if not by abutting road(s).
- D. Established building line(s), if any, the line of the abutting road(s) identified by names and right-of-way widths, and the location of all utility lines and connections.
- E. All structures and improvements by location, nature (including character of construction and number of stories), dimensions, distance from the property lines on all sides, and occupants.
- F. All servient and beneficial easements, if any, and all easements appurtenant to the property, if any, indicating the identity, by liber and page, if any, the origin (e.g., Deed from A to B), if applicable, and nature or purpose of the easement.
- G. Locations, dimensions, and nature of all encroachments upon the property or from the property on adjoining land.
- H. Locations of all waterways, wetlands, and established flood plains, if any.
- I. Designation of existing uses surrounding the proposed extraction area.
- J. The benchmark utilized for the survey.
- K. A signed and dated certification statement attesting to the accuracy of the survey and specifying the credentials of the preparer.

9.3 **Topographical Map.** A recent topographical map shall be provided showing two (2) foot contour intervals, unless the Planning Commission determines that a greater interval of five (5) feet would be acceptable for all or part of the site. The map shall be at a standard engineer's scale not to exceed one-inch equals two hundred feet (1" = 200'). The topographic contours shall extend at least 100 feet beyond the boundaries of the requested extraction area(s), and shall include all required setback lines, lot boundaries, and easements with dimensions and bearings correlated with the legal description and all required setback lines.

9.4 **Aerial Photograph.** A recent aerial photograph shall be provided, which shall be current to within two (2) years of the application date unless the Planning Commission waives this requirement. The aerial photograph shall be orthorectified and presented at a standard engineer's scale not to exceed one-inch equals one hundred feet (1" = 200'). The aerial photograph shall extend at least 500 feet beyond the boundaries of the requested extraction area(s), and shall include all required

setback lines, lot boundaries, and easements, with dimensions and bearings correlated to the legal description.

9.5 **Vicinity Map.** Township map that depicts the location of the extraction area and the haul route(s) to and from the site.

9.6 **Site Inventory Map(s).** Site Inventory Map(s) shall be prepared by a qualified environmental professional, certified to the Township and clearly showing the locations and types of existing natural features both on the site, and where possible, those within 200 feet beyond the site's boundary lines.

A. The site inventory shall include a written description of the quality, character, extent, and health of the natural features on the site.

B. The map(s) shall, at a minimum, depict the location, extent, and areas for the following elements of the site:

- (1) Setbacks as required by this Ordinance.
- (2) Known archeological and historical features.
- (3) Known agricultural tile drainage infrastructure.
- (4) Existing buildings, structures, and other site improvements.
- (5) Existing drainage courses, both private and under county Drain Commissioner jurisdiction, along with surface water drainage patterns.
- (6) Flood hazard area boundaries.
- (7) Watercourses and other bodies of water, with ordinary high-water marks.
- (8) Delineated wetlands.
- (9) Areas of hydric soils and highly permeable soils.
- (10) Groundwater recharge areas and depths to groundwater, generalized.
- (11) Woodlands, treerows, special habitats, and endangered flora or fauna.
- (12) Existing easements and road rights-of-way, and access points to the site.

9.7 **Reserve/Exploration Map.** A Reserve/Exploration map and cross-sections shall be prepared by an engineer or geologist, and certified to the Township as true and accurate, which depicts the extent, location, and nature of all subsurface materials on the proposed extraction site on a topographic map, including:

A. Estimated extent (outline) of deposit limits of extraction materials; Location by GIS information and identification number of all subsurface exploration locations and all data or reports however embodied or obtained from the site exploration locations; Proposed location of observation wells.

B. Depth and lowest elevations of exploration (e.g., drill holes) and the claimed deposit of materials to be extracted from the site.

C. Groundwater elevations.

D. Estimated quantity of reserves.

E. Depth and estimated quantity of topsoil to be stripped.

F. Depth, lower elevations, and estimated quantity of overburden to be stripped.

G. Two (2) foot contour intervals indicating the anticipated vertical and horizontal extent of excavation below the existing surface elevations, unless the Planning Commission determines that a greater interval of five (5) feet would be acceptable for all or part of the site.

Section 10. Additional Studies and Analysis

The following minimum requirements shall apply to hydrogeologic studies, environmental impact analyses, and other technical research and reports required by this Ordinance:

10.1 Hydrogeologic Study. A hydrogeologic study shall be prepared and sealed by a certified professional geologist who specializes in hydrogeology. The Planning Commission, at the expense of the Applicant/Owner/Operator, may have the study reviewed by a Township consultant. The hydrogeologic study is intended to document the hydrogeological conditions on the site and assess any mining plan impacts on water resources of the Township, both on and off-site. This Section provides a guide for gathering the needed data and assessing potential impacts. Different levels of investigation are required depending on site features, such as location in a watershed, proximity of existing surface water bodies, site hydrology, local geology, groundwater and surface water quality, and local land use. Some of these features are readily discernible; others, such as geology, are not. This study shall include the following minimum hydrogeological data and evaluation elements:

A. Site and Extraction Operation Description.

- (1) For all extraction operations, prepare a map showing the regional setting. At a minimum, the map should cover an area with a one-mile radius measured in all directions from the center of the property. If the size of the project is large, it may be appropriate to increase the geographic area covered by this map. The site location map must show the following features:
 - (a) Proposed limits of excavation.
 - (b) Scale and north arrow.
 - (c) Section lines and numbers.
 - (d) Township and range numbers.
 - (e) Township name.
 - (f) Location of all existing lakes, streams, drainage ditches, surface impoundments, and apparent wetlands in the geographic area.
 - (g) Water surface elevation.
 - (h) Boundaries for the property where the proposed Extraction Operation will occur.
 - (i) Location of all existing agricultural tile drainage infrastructure that crosses the subject site.
- (2) For all extraction operations, prepare a detailed site map that covers an area that extends at least 2,000 feet beyond the property boundaries subject to the Permit application. This map should show:
 - (a) Scale and north arrow.
 - (b) Applicant/Owner/Operator's property boundaries.
 - (c) Boundaries and owner names for all adjoining land parcels.
 - (d) Based on available public information, provide the location of all existing lakes, streams, drainage ditches, and apparent wetlands on-site and within 2,000 feet of the property boundaries.
 - (e) Based on available public information, provide water surface elevation for all existing lakes, streams, drainage ditches, and wetlands located on-site and within 2,000 feet of the property boundaries.
 - (f) Delineated wetlands expected to be impacted by the extraction operation.

- (g) Location of proposed extraction operation.
 - (h) Land surface elevations for the property shown by appropriately selected contour intervals.
- (3) Describe the existing land use, site conditions, and the basic scope of the operation.

B. Field Investigations.

- (1) For all extraction operations, test borings shall be required to be drilled to determine the subsurface geology. A minimum of four (4) test borings shall be located outside the perimeter of the proposed Extraction Operation. At least one boring shall be in the center of the proposed Extraction Operation. These borings must be drilled at least ten (10) feet deeper than the proposed depth of an excavation or to the existing groundwater table, whichever is greater. The locations of these borings must be clearly shown and labeled on the site topographic map. Descriptive logs for each boring should be prepared by a geologist using the Unified Soil Classification System (“USCS”) to describe the subsurface soil and sediment. Boring logs must contain the following minimum information:
- (a) Boring name.
 - (b) Land surface elevation.
 - (c) Depth of boring.
 - (d) Description of different sediments encountered to the bottom of the boring.
 - (e) Construction details for the temporary observation wells.
 - (f) Top of casing elevation.
 - (g) Depth to water.
 - (h) Elevation of water in the well.
- (2) For extraction operations that extend into the groundwater, monitor wells shall be installed near the perimeter of the site and outside of any proposed excavation or construction, subject to the following:
- (a) If more than one aquifer is encountered in the test borings, separate monitor wells must be screened in each aquifer to determine the vertical head gradient between aquifers, groundwater flow direction, and water quality in each aquifer. Include monitor well construction logs in the report appendix.
 - (b) A minimum of five (5) monitor wells shall be installed: three to determine the direction of groundwater flow and the fourth and fifth set as a cluster down gradient of the operations area to determine vertical gradient within the aquifer. The requirement for the fifth well may be waived if the aquifer thickness is determined to be less than ten (10) feet.
 - (c) Monitor wells shall be constructed to requirements of the State of Michigan and Central Michigan District Health Department, shall be capable of detecting any significant change in groundwater elevation and quality, and shall be retained for future monitoring.
 - (d) The Township may require additional monitor well locations determined necessary to verify compliance with this Ordinance.

- (3) For all extraction operations, water levels and water quality in any monitor wells and on-site wetlands, streams, and lakes shall be measured. All water levels shall be related to a common USGS datum and elevations shown on a map and in a report table. Water quality parameters shall be collected in accordance with the process outlined in subsection 10.1.C. (Base-Line Water Quality).
- (4) Existing municipal and residential wells within one (1) mile of the site shall be inventoried and located on the map. Include all well logs in the report appendix. If the number of water supply wells is exceptionally large, then a sufficient number of well logs may be selected to represent each general group of well logs, considering well depths, stratigraphy, and locations.
- (5) For extractions that extend into the groundwater, the Applicant/Owner/Operator shall determine the hydraulic conductivity, flow direction, recharge area, interrelationship with other aquifers and surface water bodies, and water quality of each aquifer within the extraction zone or that is determined by a hydrogeologic study to potentially be affected by the extraction operation.

C. **Base Line Water Quality.**

- (1) **Groundwater - Monitor Wells.** For extractions that extend into the groundwater, all required monitor wells shall be sampled and analyzed per established State of Michigan sampling and analysis protocols to establish background groundwater quality prior to commencing extraction operations. A minimum of two (2) sampling events are required [four (4) or more are preferred], with one event during a high groundwater elevation and the other during a low groundwater elevation period.
 - (a) Testing shall include the following indicator parameters:
 - i. static water level elevation.
 - ii. groundwater temperature.
 - iii. specific conductance.
 - iv. pH.
 - v. dissolved oxygen.
 - vi. redox potential.
 - vii. total dissolved solids (TDS).
 - viii. total petroleum hydrocarbons (TPH). If the TPH exceeds the method detection limit (MDL), VOC, SVOC, and MTBE must also be measured as well.
 - (b) In addition, for each well, determine the concentration of the following groundwater parameters:
 - i. chloride.
 - ii. sodium.
 - iii. calcium.
 - iv. sulfate.
 - v. bicarbonate.
 - vi. magnesium.
 - vii. manganese.
 - viii. iron.
 - ix. potassium.
 - x. phosphorus.

- xi. nitrate nitrogen.
 - xii. arsenic.
 - xiii. mercury.
 - xiv. Other chemical elements, compounds or contaminants as determined necessary by the Planning Commission.
- (c) Laboratory testing shall be conducted in conformance with current applicable United States Environmental Protection Agency testing methods, and data shall be compared to the State of Michigan's current criteria for generic residential cleanup and screening.
- (2) **Groundwater - Water Supply Wells.** For extractions that extend into the groundwater, the Applicant/Owner/Operator shall seek permission from well owners to monitor groundwater flow for all portions of the aquifer(s) from which down gradient municipal and residential wells within one (1) mile of the site extract water. All of the monitor well testing requirements in subsection 10.1.C.(1) shall also apply to these additional wells where such permission has been granted.
- (3) **Surface Water.** For all extraction operations, the number, type and locations of surface water samples shall be sufficient to identify potential surface water impacts from extraction operations, subject to the following:
- (a) Each watercourse and other body of surface water shall be sampled for the following minimum parameters:
 - i. water elevation.
 - ii. base/bed elevation.
 - iii. pH.
 - iv. conductivity.
 - v. turbidity.
 - vi. total dissolved solids (TDS).
 - vii. total suspended solids (TSS).
 - (b) The study shall evaluate the hydraulic relationship between each watercourse or other body of surface water and the groundwater (e.g., groundwater discharges to surface water or surface water discharges to groundwater).
 - (c) The Township may require additional samples or sample locations determined necessary to verify compliance with this Ordinance.

D. Data Analysis.

- (1) Prepare a contour map of the water table elevations, including water-level elevation measurements from on-site wetlands, streams, and lakes. Show the site boundaries.
- (2) Prepare a map showing the location of geologic cross-sections.
- (3) Prepare multiple geologic cross-sections passing through the proposed Extraction Operation and all areas of concern (e.g., wetlands, streams, lakes, residential wells, etc.) to a distance of approximately one mile beyond the site boundaries. On these cross-sections, show the following information:
 - (a) Vertical and horizontal scale.

- (b) Existing land surface elevations.
 - (c) Boundaries and depth of any proposed excavation.
 - (d) Well locations and logs used to prepare the cross-sections.
 - (e) Thickness and extent of the subsurface geologic strata.
 - (f) Location and depth of all residential wells, wetlands, streams, and lakes falling on and near the cross-section.
 - (g) Static water level elevations.
 - (h) Water quality data for each water body and monitor well (diagrams, such as Stiff diagrams, may be the most convenient method to depict the data).
- (4) For extraction operations that extend into the groundwater, conduct an analysis of the impact of the Extraction Operation on nearby surface water (including wetlands) and groundwater resources. Discuss the difference between the existing and post-construction conditions. The Applicant/Owner/Operator's consultant should make an assessment of the net change in water loss in the area of the Extraction Operation. If there is a net increase in water loss, this rate should be used as a stress on the aquifer, analogous to a pumping well. A simple well hydraulics or analytical model may be used to approximate the water-level decline at various distances from the center of the Extraction Operation; numerical modeling is not expected to be required.
 - (5) If the Extraction Operation creates or enlarges an excavated lake, potential impacts will be caused by increased evaporation from the new or increased lake surface and by the removal of aquifer material. The evaporation impact shall be analyzed through a water budget analysis using DEQ's applicable guidance for how to perform this analysis.
 - (6) For extraction operations that extend into the groundwater, prepare an analysis of the amount of water level decline and the associated impacts resulting from removal of the bulk/solid aquifer material.
 - (7) If multiple aquifers are encountered during test drilling, and the proposed bottom of the excavation will completely penetrate an intervening confining layer, the analysis becomes more complicated. An examination of groundwater level data from the monitoring well clusters will determine whether there will be a negative impact on either aquifer. The degree and extent of decline in either case will depend upon the hydraulic properties of the aquifers and the rates of groundwater recharge and lateral groundwater inflow from surrounding areas. An analysis of this type of problem would require a numerical model.
 - (8) For extraction operations that extend into the groundwater, prepare maps and cross-sections showing the nature and extent of the hydrogeologic impact(s) (e.g. water-level decline or increase).
 - (9) For all extraction operations, graphically depict water quality data (e.g. Stiff diagrams) and appropriately show the depictions on maps and cross-sections. Show all supporting documentation for sources of data, data analysis calculations, model input data sets, and model output, but do not fill report appendices with arrays of numbers from numerical model input and output data sets. Provide numerical model data sets in digital format.

E. **Hydrogeologic Analysis, Summary, and Conclusions.** This subsection shall document existing site conditions, identify potential short-term and long-term impacts on the Township water resources during and after the proposed Extraction Operation, and contain the following minimum elements:

- (1) Description of present land use and the relationship of the site to surrounding properties. Use either the site location or a topographic map, whichever is more appropriate.
- (2) Discussion of the proposed Extraction Operation and schedule, along with the intended future use of site. Use a topographic map showing proposed extent of the Extraction Operation and different phases, if applicable.
- (3) Presentation of measured water levels as a contour map of the water table that also shows the groundwater flow directions.
- (4) Discussion of groundwater and surface water movement through the area. Use either the site location or a topographic map, whichever is more appropriate.
- (5) Presentation and discussion of data from test borings and any required monitoring wells on cross-sections through the proposed Extraction Operation area showing land surface elevation, surface water features (if applicable), the proposed extent of any excavation, and the subsurface sediments encountered in the hydrological study.
- (6) Water quality impacts on existing surface-water and groundwater quality.
- (7) Provide a conclusion discussing the expected impact to the water quality and elevations of groundwater (e.g. project water level decline/rise in each aquifer) and surface water bodies on and proximate to the site, considering both short-term and long-term potential impacts.

F. **Additional Hydrogeological Data.** The Township may require additional data related to the site, including, but not limited to, the following:

- (1) **Surface Water Diversions.** Additional investigations may be needed to demonstrate that any proposed diversion of surface water flow will not adversely impact existing surface water bodies or wetlands located on- or off-site through reduced or excessive flows.
- (2) **Groundwater Diversions.** For extraction operations that extend into the groundwater where multiple aquifers are encountered by the test borings, monitor wells must be screened in each aquifer that is expected to be penetrated by an excavation. Measure hydraulic head (water level elevation) in each well to determine vertical differences in head between aquifers, the direction groundwater will move between aquifers, and to calculate the impacts from lowering the head in one aquifer and raising the head in the other aquifer.

10.2 Environmental Impact Analysis.

The Applicant/Owner/Operator shall prepare an environmental impact analysis addressing the impact the operation will have on the site's natural features, flora, fauna, adjacent lands, on the social and economic conditions of the Township, and any mitigation measures needed to eliminate or minimize these impacts.

- A. This section is intended to provide a detailed and thorough analysis using the assembled data required by this Ordinance, not a restatement of assembled data. The analysis should address how the various data interrelate and how the proposed operation will affect human and natural environments.
- B. Environmental impacts identified in the hydrogeological study should be incorporated into this analysis and related to the discussions of other impacts. The hydrogeological support data does not have to be re-stated, but should be referenced in this analysis.
- C. At a minimum, the analysis shall address the following potential short-term and long-term impacts, including impacts associated with the intended future use of the reclaimed site, and shall include the Applicant/Owner/Operator's planned mitigation measures to minimize the anticipated impacts:
 - (1) Noise, dust, mud, drainage, erosion, and sedimentation.
 - (2) Truck traffic and access to and from the site.
 - (3) Impacts on public road infrastructure.
 - (4) Impacts to residents near the operation and along the haul route.
 - (5) Changes in social patterns and/or economic conditions of residents.
 - (6) Views of the extraction operation site from adjacent roads and properties.
 - (7) Impacts on watercourses, other bodies of surface water, flood hazard areas, and wetlands.
 - (8) Impacts on special habitats, and endangered flora or fauna.
 - (9) Impacts on known archeological and historical features.
 - (10) Impacts on groundwater supply, level, quality, and flow on site and within 2,000 feet of the proposed extraction activity.
 - (11) Impacts on air quality within 1,000 feet of the proposed extraction; and
 - (12) Any additional impacts on the human or natural environment that the Applicant/Owner/Operator or Planning Commission determine to be significant or necessary to verify compliance with this Ordinance.
- D. In addition to the above items, the analysis shall address the following details:
 - (1) Inventory the physical environmental elements of the proposed site, with descriptions of the environment as it exists prior to commencement of extraction operations, and as projected after completion of reclamation.
 - (2) Identify whether the proposed activity is located within 1,000 feet of a residence, 2,000 feet of a school or 500 feet of a commercial development, and address compatibility of the extraction operation with these and other adjacent land uses.
 - (3) Alternatives, if any, to the extraction operation location and the reasons for the choice of the proposed location over those alternatives.

Section 11. Mining Plan

The following minimum requirements shall apply to the mining plan required by this Ordinance:

- 11.1 Plan Preparation, Content, and Detail.** The mining plan shall be prepared by a certified professional geologist, or registered professional engineer specializing in mining and shall illustrate the pattern, direction and phasing of earth moving, extraction, land shaping, and reclamation activities. The plan shall be of sufficient detail so it can be used to assess the performance of the mine operation during any site inspection. The mining plan shall be reviewed annually by the Township and the permit holder and updated, if necessary.

11.2 **Topographical Map.** Applicant/Owner/Operator shall prepare a topographical map at a standard engineer's scale not to exceed one-inch equals two hundred feet (1" = 200'), which depicts the following information:

- A. Site boundary lines, and setback lines as required under this Ordinance.
- B. Location, elevation, and area of any proposed processing plant.
- C. Location, size, and elevation of all structures and facilities.
- D. Location of outdoor storage areas including materials extracted from the site.
- E. Location and size of sediment ponds, drainage diversions, and discharge points.
- F. Location of fences and gates.
- G. Parking location and number of spaces for employees, invitees, and equipment stored on site.
- H. Location of equipment, chemical, oil, and fuel storage areas.
- I. Planned public roadway modifications needed to accommodate the extraction operation and haul route, including but not limited to paving, drainage, lane widening, and intersection improvements.
- J. Location and description of any potable water supply for human consumption and any sewage disposal system for human waste.

11.3 **Screening Plan.** The Applicant/Owner/Operator shall prepare one (1) or more maps with a scale not to exceed one-inch equals two hundred feet (1" = 200') that depict the following information:

- A. A plan for sound and visual screening of the site, with heights and locations of required berms with topographic contours at a two (2) foot contour interval; grass seed mix and application rate; fertilizer mix and application rate; species, size, location, and quantity of any required tree plantings; any existing topography, woodlands or other existing vegetation proposed to serve as part of the required screening; and installation and maintenance details.
- B. Example detail drawings of the berm, and any tree planting arrangements as required per Section 15, shall be provided at a scale not to exceed one-inch equals fifty feet (1" = 50').

11.4 **Nature of Operations.** Describe the nature and type(s) of the following site activities:

- A. Methods of excavating, including excavation equipment.
- B. Methods of transporting material from mine site to processing plant, including earth handling equipment to be used on-site.
- C. Types of processing activities, such as screening, washing, crushing, etc.
- D. Estimated quantity, use, and disposal of fines.
- E. Estimated number and size of settling ponds.
- F. Estimated annual production.
- G. Estimated type, size, and number of trucks leaving the site daily, during peak season, and annually.
- H. Other incidental activities proposed on the site accessory to the operation.
- I. Road track out control plan to alleviate mud, soils, dust, and other materials from the undercarriage and wheels of vehicles resulting from the mining operation, which may include sweeping; paving; spraying the under carriage, wheels, and wheel wells; or other best management practices. The plan shall include proposed management practices on both access roads and public roads, beyond normal maintenance conducted by the road authority with jurisdiction.

- J. Dust control plan to alleviate dust resulting from mining operations, which may include sweeping, paving, spraying water, windbreaks, strategic placement of stockpiles, or other best management practices. The plan shall include proposed management practices on both access roads and public roads, beyond normal maintenance conducted by the road authority with jurisdiction.
- K. Haul route map delineating the haul route to be used for the proposed operation.
- L. Noise control plan prepared by a qualified professional estimating the noise levels at the property boundaries containing the extraction operation and at successive stages of the operation, and proposed mitigation measures to be implemented.
- M. Erosion control plan which provides a complete description of all the soil erosion measures, including but not limited to silt fences, vegetation screens, sediment basins, and settling ponds; location of control measures on bare surfaces and steep slopes; and a schedule for installation and maintenance.
- N. Pollution prevention plan containing a complete description of proposed pollution prevention methods based on applicable national, state, and county standards.
- O. Complaint processing plan, which describes the procedures by which complaints about the operation or off-site transportation will be received and resolved.
- P. Wetland removal plan, identifying the total amount of regulated wetlands to be impacted by the operation and all required wetland mitigation measures.
- Q. If the proposed extraction activity includes beneficiation or treatment of extracted material, the application documents shall include specific plans depicting the methods, techniques, and manufacturer's material safety data sheets on all chemicals or other additives utilized in the process. The operator shall also obtain all applicable state and federal permits for the beneficiation process.
- R. Submit a lighting plan showing the location and details of exterior lighting on the site, which shall also conform to applicable Township Zoning Ordinance standards.

11.5 **Fifteen Year Extraction Plan.** The Applicant/Owner/Operator shall submit a 15-year extraction plan that describes and graphically illustrates both the overall extraction operation and the plan for each progressive cell-unit of the operation, which shall include the following minimum required information:

- A. Method and direction of extraction.
- B. Surface overburden stripping and stockpiling plans.
- C. Depth of excavation and anticipated final grade level over the entire site from which the material will be removed.
- D. Location of buildings, equipment, stockpiles, roads, or other features necessary to the extraction activity.
- E. Provisions for buffer areas, landscaping, and screening.
- F. Minimum setback distances as required by this Ordinance.
- G. For each cell or group of cells, provide the verifiable conditions which must exist before excavation of a successive cell or group of cells may commence.
- H. Location and acreage of areas presently being mined, and the amount of material being extracted, if applicable.
- I. Location and acreage of areas not presently being mined but planned for that purpose and the amount of material planned to be mined.

- J. An estimated schedule indicating when the extraction activity will begin in each area and the probable termination date of extraction activities in each area.
- K. Additional information requested by the Township.

11.6 **Wetlands; Avoidance of Loss and Mitigation Requirements.** In all cases where wetlands would be impacted by the proposed extraction operation, the Applicant/Owner/Operator shall submit a wetland mitigation plan for the Planning Commission's review and consideration, subject to the following:

- A. **Prudent Efforts to Avoid Loss of Wetlands.** Wherever wetland loss or alterations affecting the wetland's resource value are anticipated due to proposed extraction operations, mitigation shall be required. Mitigation, however, shall not substitute for pursuing all prudent efforts to avoid wetland loss.
 - (1) Prior to considering a proposal for wetland mitigation, the Applicant/Owner/Operator shall provide evidence to demonstrate that no reasonable alternatives exist to avoid impact to existing wetlands, and that the resource value of existing wetlands will be maintained through mitigation.
 - (2) Such resource value may include flood prevention, wildlife habitat, groundwater resource protection and recharge, pollution treatment, erosion control, nutrient sources, aesthetics, recreation, open space or other resource value associated with the impacted wetland.
- B. **Exception to Mitigation Requirement.** Mitigation shall not be required where the loss of wetland resource value is determined by the Township Planner or a designated Township wetlands consultant to be negligible.
- C. **Additional Requirements for Mitigation Plans.** The mitigation plan shall be in accordance with established state guidelines and the following requirements:
 - (1) Mitigation shall be provided on-site where practical and beneficial to the wetland resources. If mitigation on-site is not practical and beneficial, then mitigation in the immediate vicinity, within the same watershed, of the permitted activity may be considered. Only if all of these options are impractical shall off-site mitigation be allowed.
 - (2) The mitigation plan shall comply with all applicable federal, state, and local laws, and shall assure no net loss to the wetland resource values.
 - (3) If mitigation involves replacement of lost wetland resources, the character, function, and extent of any replacement wetlands shall be consistent with applicable State of Michigan requirements.
 - (4) A minimum five (5) year monitoring program shall be required.

Section 12. Reclamation Plan

Reclamation plans shall include the following minimum required information:

12.1 **General Plan Requirements.** Describe and graphically illustrate the progressive cell-unit reclamation plan, for both the total extraction operation and each cell-unit, including all of the following points:

- A. Provisions for grading, re-vegetation, and stabilization that will minimize soil erosion, sedimentation, and public safety problems.

- B. Location of buildings, equipment, stockpiles, roads, or other features necessary to the extraction activity and provisions for their removal and restoration of the area at extraction operation termination.
 - C. The interim use or uses of reclaimed cell-units before the cessation of the entire extraction operation.
 - D. Interim reclamation if site is to become temporarily inactive (e.g., for the next season or more) at the end of a regular season.
 - E. For each cell or group of cells, provide the verifiable conditions that require reclamation of a cell or group of cells to commence and to be completed.
- 12.2 **Upland Slope; Final Requirements.** All upland reclamation grades for extraction operations shall have a slope not steeper than one (1) foot vertical rise in a four (4) foot horizontal plane, except that the Planning Commission may approve plans that allow steeper reclaimed slopes in order to provide a smoother transition to undisturbed topographic features or the protection of existing environmental features.
- 12.3 **Submerged Slope; Final Requirements.** All final submerged slopes established by the excavation of material below the water table and the creation of a water body shall not exceed a maximum of one (1) foot vertical rise in a ten (10) foot horizontal plane down to a depth of ten (10) feet as measured from the low water elevation.
- 12.4 **Surface Water; Final Requirements.** Diverted or channeled runoff resulting from reclamation shall not adversely affect neighboring properties. Site reclamation shall be conducted and completed in a manner that assures compliance with State of Michigan water quality standards for surface waters.
- 12.5 **Groundwater; Final Requirements.** The site shall be reclaimed in a manner that does not cause a permanent lowering of the water table, adverse impacts on surface waters, degradation of groundwater quality or a reduction in the quantity of groundwater reasonably available for future users.
- 12.6 **Future Land Use and Conceptual Development Plan.** The Applicant/Owner/ Operator shall be required to provide, as a part of the reclamation plan, a future land use and conceptual development plan subject to the following minimum requirements:
- A. The plan shall demonstrate that the reclaimed site can be effectively and efficiently used for purposes consistent with the Master Plan and Zoning Ordinance.
 - B. Where the planned future land use is for agricultural purposes or a conservation area, nature preserve or similar use, the plan may consist of a written narrative addressing how the reclaimed site is anticipated to be used for these purposes.
 - C. For all other planned future residential and non-residential land uses, the Applicant/Owner/Operator shall prepare a conceptual development plan drawn to a standard engineer's scale not to exceed one-inch equals two hundred feet (1" = 200'), which:
 - (1) Depicts general use areas, proposed lots, internal roads and rights-of-way, and locations of structures and other site improvements consistent with Zoning Ordinance requirements for the anticipated end uses.

- (2) The plan shall also include a written narrative that describes the planned future land uses and anticipated site improvements, and addresses compatibility with the Township's Master Plan and Zoning Ordinance.

Section 13. Specific Operating Conditions and Regulations

All extraction operations shall comply with the following operating conditions and regulations:

- 13.1 **Setback.** No excavation, washing, stockpiling of extracted material or other extraction activity of any sort shall be conducted closer than 200 feet from the closest boundary of any road right-of-way to the site, 500 feet from any existing residence, and 200 feet from any other lot boundary.
 - A. The Planning Commission may establish a larger setback requirement upon determination that the increased separation distance is necessary for the health and welfare of adjoining property owners and other residents of the Township.
 - B. The setback area shall not be used for extraction purposes, stockpiling or any other use related to the extraction operation except access roads and public notice signs identifying the use as an excavation.
 - C. Incidental re-grading shall be allowed within the required setback areas during reclamation activities to blend the existing and reclaimed topography and provide for future use of the land consistent with approved Permit plans.
 - D. Screening shall be provided in the setback area per Section 15 of this Ordinance, and as otherwise required by the Planning Commission as a condition of Permit approval or renewal.
 - E. Before commencement of extraction operations on the site, four-inch square (4" x 4") white painted posts, a minimum of five (5) feet in height above grade, shall be placed no more than 300 feet apart along the designated setback lines around the site. The posts shall be placed at intervals so that from the location of any post two (2) additional posts are clearly visible.
- 13.2 **Fencing.** Before the commencement of any extraction operations, a hinge-joint, woven-wire, 10/47/6 standard farm fence shall be erected around the perimeter of the extraction area and maintained in good condition until excavation and extraction operations have been completed. A lockable gate shall be provided at all access points from the public road to the extraction operation, which shall be closed and locked at all times except during the permitted hours of operation.
- 13.3 **Hours of Operation.**
 - A. **Extraction Operations.** Extraction and processing operations shall be permitted only between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday, and between 7:00 a.m. and 12:00 p.m. on Saturday. Unless there is an emergency, in no event shall any noise emanate off the site, including the warming of engines, prior to 7:00 a.m.
 - B. **Transporting.** No transporting of aggregates or any materials from the site shall be permitted prior to 7:00 a.m. and after 5:00 p.m. Monday through Friday, and prior to 7:00 a.m. and after 12:00 p.m. on Saturday.
 - C. **Repair of Equipment.** Repair of equipment on-site shall be permitted as allowed under the terms of this Ordinance. Unless there is an emergency, in no event shall any noise emanate off the site prior to 7:00 a.m.

- D. **Sunday Operations.** There shall be no extraction operations or transporting of aggregates permitted on Saturdays after 12:00 p.m., on Sundays, and on the official holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas.
 - E. **Emergency Hours.** The Township Planner shall be authorized to grant limited permission for emergency hours of operation for up to a maximum of 30 calendar days upon written request from the Applicant/Owner/Operator with good cause shown. Any extension of time or request for longer than 30 calendar days shall be subject to Planning Commission authorization.
- 13.4 **Noise.** The noise generated by the operation shall conform to the requirements of the Township's Anti-Noise and Anti-Nuisance Ordinance No. 1991-10, and the following:
- A. Extraction operation vehicles, equipment, and transport trucks shall be equipped with back-up alarm technology that uses radar, white noise, strobe light or other means consistent with applicable safety laws to reduce the adverse noise impacts from back-up alarms on neighboring residents.
 - B. The Planning Commission may establish a maximum allowable decibel level noise limit at any lot boundary or road right-of-way as a condition of Permit approval or renewal to protect the health, welfare, and safety of surrounding property owners and Township residents.
- 13.5 **Odors, Smoke, Fumes, Dust, and other Air Pollution.** Any odors, smoke, fumes, or dust generated on said site by any digging, excavating, loading or processing operation and borne or apt to be borne by the wind shall be confined so as not to cause a nuisance or hazard on any adjoining property or public road.
- 13.6 **Stormwater Discharge.** No stormwater discharge shall be allowed off-site without permit and approval from the State of Michigan. A copy of all permits and approvals for offsite discharges shall be submitted to the Township Planner at the time permits and approvals are received from the State of Michigan. Additionally, a copy of the permit application shall be submitted to the Township Planner at the time of the application.
- 13.7 **Pollution of Waters.** The removing of materials shall not cause pollution of any surface water body or groundwater.
- 13.8 **Natural Drainage and Groundwater Recharge.** Extraction operations and related activities shall not adversely affect the natural drainage of the other properties in the area nor adversely affect any pre-existing groundwater recharge area or filtering mechanisms of wetlands in the area or on the extraction site.
- 13.9 **De-watering.** De-watering for extraction or any other processing on-site shall be prohibited.
- 13.10 **Elevation of Plant Site.** Any processing plant shall be located within the excavation area, at a point lower than the general level of the surrounding terrain, to reduce the visual and noise impact of such plant.
- 13.11 **Stockpiles.** Stockpiles of stripped topsoil and/or overburden shall be seeded with grass or other ground cover materials to prevent erosion. Other stockpiles shall be arranged on the site, limited in height, and treat as necessary to prevent off-site impacts from dust, sand, and other wind-blown materials.

- 13.12 **Signs.** The Planning Commission may require the posting of “Keep Out - Danger” or similar signs at designated locations or intervals along the perimeter fence.
- 13.13 **Extraction Below Groundwater Elevation.** Extraction below the groundwater elevation is prohibited unless specifically provided for in the Permit and then only to the maximum depth authorized.
- 13.14 **Blasting.** No blasting shall be allowed at any time under any extraction permit.
- 13.15 **Importation of Fill Materials Prohibited.** Importation of fill materials into an extraction area or otherwise associated with extraction operations shall be prohibited, except where a limited amount of clean, contaminant-free, natural soil fill material is determined by the Planning Commission to be necessary to allow for establishment of safe topographic and drainage conditions appropriate to the intended future use of the land.

Section 14. Ingress-Egress Requirements

All extraction operations shall conform to the following minimum ingress-egress requirements:

- 14.1 **Road Access Limitations.** All ingress and egress for the extraction operation, including the approved haul route, shall be limited to public roads paved with asphalt or concrete and designated as a state highway, arterial, thoroughfare or county primary road by the state or county road authority with jurisdiction.
- 14.2 **Internal Access Drive.** Each extraction operation shall be limited to one (1) access point and access drive into the site from the public road, which shall be subject to approvals from the Planning Commission and the state or county road authority with jurisdiction. The access road shall be paved from the edge of the roadway to the lockable gate, and for an additional minimum of 300 feet into the site from the lockable gate.
- 14.3 **Spillage.** The Applicant/Owner/Operator shall clean all spillage and trackage of material, dirt, rock, mud or any other debris onto any public roads in the Township by trucks coming to or from the site or by any other equipment. Cleaning shall occur promptly after the spillage or trackage of the material has occurred.
- 14.4 **Haul Route.** To the extent permitted by law and as deemed necessary by the Planning Commission for the health, safety, and welfare of residents of the Township, the specific haul route for all vehicles carrying materials to or from the site shall be subject to acceptance by the state or county road authorities with jurisdiction, and Planning Commission acceptance as part of any Extraction Permit approval or renewal. The Applicant/Owner/Operator shall be responsible for posting appropriate signage on the extraction operation site and at the exit point for the site specifying the approved haul route to be used by all vehicles carrying materials to or from the site.

Section 15. Screening Requirements

All extraction operations shall conform to the following minimum screening requirements:

- 15.1 **Berm Required.** Prior to the commencement of any extraction operations under any Extraction Permit the Applicant/Owner/Operator shall have completed construction of a berm in accordance with the requirements of this Section, the approved Permit plans, and any conditions of Permit approval.

- A. The berm shall extend around those areas of the site where adjacent lots and road rights-of-way are exposed to the views and noise of the extraction operation, and as otherwise required by the Planning Commission as a condition of Permit approval or renewal to protect the health, welfare, and safety of surrounding property owners and the residents of the Township.
 - B. The berm shall be of variable height, with the top and outside sides of the berm varying in slope from four (4) feet horizontal to one (1) foot vertical to ten (10) feet horizontal to one (1) foot vertical. The berms shall not be uniform or geometric in shape and shall be blended into the natural landscape.
 - C. Each berm shall be constructed so as to prevent surface water running off the berm onto any property adjacent to the site, and shall not alter or adversely impact pre-existing natural surface water runoff patterns in the area.
 - D. The berm shall be seeded with hardy groundcover plantings suitable to prevent erosion and maintained in a manner consistent with approved Permit plans.
 - E. The Planning Commission may allow existing vegetation or existing topography within the setback areas required by this Ordinance to be used to satisfy all or part of the screening requirements of this Ordinance in place of a berm upon determination that the existing vegetation is of sufficient depth, density, and health to provide year-round screening benefits and to protect the health, welfare, and safety of surrounding property owners and the residents of the Township.
- 15.2 **Unexcavated Areas.** Unexcavated areas shall be left in such a condition so as to ensure growth of vegetation, soil stabilization and erosion control.
- 15.3 **Additional Screening.** Upon determination that additional visual screening is necessary for specific areas of the site to adequately protect the health, welfare, and safety of surrounding property owners and the residents of the Township, the Planning Commission shall require the outside slope of the berm or other areas within the setbacks required by this Ordinance to be densely planted with a mix of large deciduous and evergreen trees to create an effective visual screen, and maintained in a manner consistent with approved Permit plans and the following:
- A. The size and species of any required tree plantings shall be consistent with the landscape tree standards of the Township Zoning Ordinance.
 - B. Required tree plantings shall be of sufficient size and quantity to assure effective screening as soon as disturbed areas of the site are visible from the surrounding lots or road rights-of-way, as determined by the Planning Commission after recommendation from the Township Planner.
- 15.4 **Permit Plan Details.** The location of the berm shall be noted on the Permit plans, along with representative elevation cross-section(s), topographic plan view(s) at two (2) foot contour intervals, and grading/drainage plans for the berm construction. Individual trees, groundcovers, and other plant materials shall be specified on the Permit plans by location, quantity, species, and size at planting. Plant material installation details and a maintenance plan shall also be provided on the Permit plans.
- 15.5 **Timing of Required Screening Improvements.** Prior to the commencement of any extraction operations under any Extraction Permit, the Applicant/Owner/Operator shall have completed construction of a berm and seeded to prevent erosion around those areas of the site where adjacent properties are exposed to the views and noise of the extraction operation in accordance

with approved Permit plans.

- A. All other screening and landscaping improvements shall be completed within 90 calendar days of Permit approval, unless the Planning Commission accepts an alternative date as part of a Permit approval or renewal.
- B. The Planning Commission may require submittal of a financial guarantee to cover the cost of completing required landscaping improvements and plantings by the specified date. Release of any required financial guarantee shall be subject to prior inspection and confirmation by the Township Planner, Ordinance Enforcement Official or designated Township consultant that the berm and associated plantings conform to Permit plans and Ordinance requirements.

15.6 **Maintenance and Replacement.** Failure to maintain required screening improvements, including the removal and replacement of dead or diseased plant materials, shall be a violation of this Ordinance.

Section 16. Variances

The Township Board shall have the power to vary or modify the application of the provisions of this Ordinance in accordance with the following:

- 16.1 Any Applicant/Owner/Operator may apply for a variance from any provision of this Ordinance by filing an application for variance with the Township, together with any fee established by resolution of the Township Board of Trustees.
- 16.2 Before taking action on any application for a variance, the Township Board shall hold a public hearing upon such application within 95 days from its filing, at which time the Applicant/Owner/Operator shall be provided an opportunity to address the Board, produce witnesses, and submit exhibits or other relevant materials. The Township Planner and any designated Township consultants shall be provided a like opportunity. The notices shall include the time, date, place, and purpose of the hearing.
 - A. At least 15 calendar days prior to the hearing, notices shall be sent by mail or personal delivery to the appellant, posted at the Township Hall, published once in the Township's newspaper of record, and placed on the Township website.
 - B. A copy of the notice shall also be sent by mail or personal delivery to the owners of all property within 2,000 feet of the subject property. Any party may appear and comment at the hearing in person or by agent or attorney.
 - C. The notices shall include the time, date, place, and purpose of the hearing.
- 16.3 A variance shall not be granted unless the Township Board first determines that the intent and purpose of this Ordinance shall be observed, public health and safety secured, and substantial justice can be done for the Applicant/Owner/Operator and for affected off-site residents and property owners.
- 16.4 The Township Board may attach reasonable conditions in granting a variance from any provision of this Ordinance. Failure to comply with an approved variance or conditions of approval shall be considered a violation of this Ordinance.

Section 17. Appeals

Any person aggrieved by a Planning Commission decision under provisions of this Ordinance may appeal that decision to the Township Board of Trustees in accordance with the following:

- 17.1 The appeal shall be in writing, dated and signed by the appellant. The appeal shall include a copy of the written decision, if any, copy of the meeting minutes in which the decision appears, the “date of decision,” and the grounds upon which the appeal is brought.
- 17.2 The appeal, together with any fee established by Township Board resolution, shall be filed with the Township within 30 calendar days of the “date of decision,” which is the Planning Commission meeting date at which the minutes of the prior meeting where the decision was made are approved by the Planning Commission.
- 17.3 Before taking action on any appeal, the Township Board shall hold a public hearing on the request within 95 days from its filing, at which time the Applicant/Owner/Operator shall be provided an opportunity to address the Board, produce witnesses, and submit exhibits or other relevant materials. The Planning Commission or its representative shall be provided a like opportunity.
 - A. At least 15 calendar days prior to the hearing, notices shall be sent by mail or personal delivery to the appellant, posted at the Township Hall, published once in the Township’s newspaper of record, and placed on the Township website.
 - B. A copy of the notice shall also be sent by mail or personal delivery to the owners of all property within 2,000 feet of the subject property. Any party may appear and comment at the hearing in person or by agent or attorney.
 - C. The notices shall include the time, date, place, and purpose of the hearing.
- 17.4 The decision of the Township Board shall be in writing and state the facts, analysis, and law upon which the decision is based.
- 17.5 The decision of the Township Board may be appealed to the Isabella County Circuit Court within 30 calendar days of the “date of decision,” which is the Township Board meeting date at which the minutes of the prior meeting where the decision was made are approved by the Township Board.

Section 18. Inspections

The Township, at the expense of the Applicant/Owner/Operator paid from the escrow account, may conduct such inspections and cause or perform such tests as are reasonable to ensure that activities conducted on the site comply with this Ordinance and other Township ordinances.

- 18.1 **Annual Inspection.** The Planning Commission may set an annual inspection date for the site. The Planning Commission shall provide the Applicant/Owner/Operator notice of an annual inspection at least 14 calendar days before the annual inspection.
 - A. Representatives from the Township may include but shall not be limited to the Township Planner, Ordinance Enforcement Official, other Township consultants, and members of the Planning Commission. A representative of the Applicant/Owner/Operator shall accompany the Township representatives.
 - B. The Township may take photographs of the site to establish a historic record of activities and changes on the site. The photographs shall be submitted to the Planning Commission along with a copy to the Applicant/Owner/Operator. A record shall be kept of the date of the photography and the name of the person taking the photographs.

- 18.2 **Access to Site; Other Inspections.** The Township Planner, Ordinance Enforcement Official, other Township consultants, and members of the Planning Commission shall have the reasonable right to enter the subject property, upon notification to the Applicant/Owner/Operator, to conduct necessary inspections while reviewing an Extraction Permit application. The Township Planner and Ordinance Enforcement Official shall also have the right to conduct the necessary periodic inspections to investigate possible violations of this Ordinance. Refusal to permit entry shall be a violation of this Ordinance.
- 18.3 **Inspection Deficiencies; Corrective Action.** Upon written notification from the Township Planner or Ordinance Enforcement Official of excavation operation or site deficiencies identified during an inspection and determined by the Township to be minor in character, the Applicant/Owner/Operator shall take action within 15 calendar days to resolve the deficiency. Major deficiencies, as determined by the Township Planner, shall be resolved by the Applicant/Owner/Operator within 30 calendar days. Failure to resolve such deficiencies within the required time period shall be a violation of this Ordinance.

Section 19. Annual Report

Each year, at least 30 calendar days before the March meeting of the Planning Commission, the Applicant/Owner/Operator of an extraction operation subject to the requirements of this Ordinance shall prepare and submit an Annual Report to the Township for Planning Commission review. The Report shall be subject to the following requirements:

- 19.1 **Information.** The Report shall include the following minimum required information:
- A. Tonnage and cubic yards of sand, gravel, and other materials removed from the extraction site.
 - B. Description of reclamation activities undertaken during the year.
 - C. Description of landscaping activities undertaken during the year.
 - D. Total acres of disturbed land (not restored) from one annual inspection date to the next, including processing plant area, un-seeded berms and slopes, un-reclaimed areas, un-reclaimed shorelines, areas stripped of topsoil, and water areas where active extraction is occurring.
 - (1) Total acres of wetlands removed during the year.
 - (2) Total acres of wetlands removed since operations commenced at the site.
 - E. Total acres of land reclaimed during the year, include amount and types of reclaimed land (e.g., acres of open water, acres of uplands, etc.) and total acres reclaimed since operations began at site.
 - (1) Total acres of wetlands reclaimed during the year.
 - (2) Total acres of wetlands reclaimed since operations commenced at the site.
 - F. Where the operation includes extraction below the existing groundwater table, the Applicant/Owner/Operator shall provide results of the following water quality test:
 - (1) The Applicant/Owner/Operator shall, in the presence of the Township's engineering consultant or other designated expert, collect and split with the Township's consultant surface and groundwater samples.
 - (2) The Applicant/Owner/Operator shall have an analysis of the samples performed at a state-certified water quality laboratory. Tests shall be performed on water supply and monitor wells in accordance with standards and parameters jointly established

by the Township's engineering consultant or other designated expert and the Applicant/Owner/Operator's expert, taking into consideration the type and level of extractive activities which have and/or which will occur on the site. In the event the experts disagree, then the Township's engineering consultant or other designated expert shall make the determination.

- (3) At a minimum, monitor wells shall be sampled and analyzed annually for the indicator parameters and biannually for the full list of chemical parameters identified in Subsection 10.1.C.(1), and compared to the State of Michigan's generic residential cleanup and screening criteria, as well as baseline water quality data for the site, if available.
- (4) At the option of the Township, annual residential and public water supply well sampling shall commence at a time based on consideration of groundwater flow rate, direction, and distance from the site boundaries. Water supply wells shall be sampled and analyzed for the parameters identified for baseline water quality data.
- (5) The Township, at the expense of the Applicant/Owner/Operator, may require additional testing frequency and/or analyses for additional parameters to better assess any potential water quality or quantity risks or concerns. The Township, at the expense of the Applicant/Owner/Operator, may also cause random tests to be performed on the split samples.

- G. Statement of planned extraction and reclamation activities for the next year.
- H. Statement regarding conformance to the approved extraction operations and reclamation plans and compliance with applicable federal and state regulations, including but not limited to the volume of material excavated and removed from the site, the volume of restoration material stockpiled on site, and the sufficiency of the stockpiled material to restore the then excavated site pursuant to the approved reclamation plan.
- I. Description of any complaints received during the prior calendar year and procedures used to resolve the complaints.
- J. A list of all equipment that is located on and used at the site, whether temporary or permanent.
- K. For sites with documented extraction activity during the reporting period, updated aerial photograph(s) of the entire site shall be provided at a scale not to exceed one (1) inch equals 200 feet, taken after extraction operations for the year have ceased and prior to the date of the Annual Report required under this Ordinance. Upon request by the Township Planner or designed Township engineering consultant to verify compliance with Permit plans or requirements of this Ordinance, the Planning Commission may require the submission of an updated topographic map overlay on an orthorectified photograph.
- L. Written evidence that the financial guaranties and liability insurance required pursuant to the Ordinance are in full force for a period of not less than 365 calendar days from the date of the Annual Report.
- M. Copies of all applicable permits and reports required by other governmental agencies with jurisdiction.

19.2 **Professional Evaluation.** The Township Planner shall review the Annual Report and may, at the expense of the Applicant/Owner/Operator to be paid from the escrow account, request that designated Township consultants evaluate the Report, water quality data, financial guarantees,

and/or site operations for compliance with this Ordinance, the approved Permit, and conditions of approval.

- 19.3 **Meeting(s) and Supplemental Information.** Following receipt of the Annual Report, the Planning Commission may require supplemental reports, presentations, or meetings with the Applicant/Owner/Operator to review the Annual Report and to discuss any existing or anticipated issues associated with the extraction operation.

Section 20. Financial Guarantees

To ensure compliance with this Ordinance, the approved Permit, and any conditions of Permit approval or renewal, and to ensure that the quality of water and operation of existing wells are not adversely affected by the activities conducted on the site, the Applicant/Owner/Operator shall furnish financial guarantees to the Township prior to the commencement or continuation of the extraction operation in accordance with the following requirements:

- 20.1 **Performance Guarantee.** The Applicant/Owner/Operator shall submit to the Township Planner a detailed cost estimate and scope of work for a licensed contractor to complete all required reclamation work to fully reclaim and restore the extraction site consistent with the approved Permit plans and this Ordinance. The Township Planner and/or any designated Township engineering consultant shall review the estimate and make recommendations to the Planning Commission, which may include a revised or separate estimate. The performance guarantee amount shall be set by the Planning Commission.
- A. At a minimum, the performance guarantee shall be in the amount of two hundred fifty thousand dollars (\$250,000.00) for any permitted extraction area where extraction operations have not yet been initiated. For all other extraction operations in the Township, the performance guarantee shall be not less than four hundred thousand dollars (\$400,000.00) per permitted extraction area.
 - B. Where one (1) Applicant/Owner/Operator controls two (2) or more separate extraction operations, the Planning Commission may accept one (1) unified financial guarantee that meets the cumulative requirements of this Section.
 - C. The guarantee amount associated with each approved Permit may be revised from time to time to reflect the amount necessary to cover the contingencies.
- 20.2 **Guarantee of Wells.** When the operation includes extraction below the existing groundwater table, the Applicant/Owner/Operator shall submit to the Township Planner a detailed cost estimate and scope of work for a licensed contractor to replace all wells identified in the Permit plans or by the Township as likely to be affected by the operation. The Township Planner and/or any designated Township engineering consultant shall review the estimate and make recommendations to the Planning Commission, which may include a revised or separate estimate. The performance guarantee amount shall be set by the Planning Commission.
- 20.3 **Form.** Guarantees shall be in the form of a letter of credit or surety bond payable to the Charter Township of Union executed by the Applicant/Owner/Operator and a reputable surety company. The letter of credit or surety bond must be issued by a corporate surety licensed to do business in the State of Michigan and rated AAA, as provided by the current AM Best's Key Rating Guide.
- A. The Charter Township of Union shall be named as obligee and the guarantees must be sufficient in amount and scope to allow the Township to call in and use the guarantee to complete the obligatory work covered by the guarantee in the event the

Applicant/Owner/Operator fails to do so as required by this Ordinance and any approved Permit.

- B. The letter of credit or surety bond must be renewed at least 60 calendar days prior to its expiration. In the event the guarantee is not renewed within 60 calendar days of its expiration, the Township may make a demand on all or some of the guarantee.
- C. If a guarantee lapses, all excavation activities on the site shall immediately cease and full reclamation shall be commenced.

Section 21. Indemnity Insurance

The Applicant/Owner/Operator shall secure and maintain a specific liability insurance policy issued by an insurer rated AAA, as provided by the current AM Best's Key Rating Guide, and adequate in amount and scope to cover anticipated property damage and bodily injury claims associated with the extraction operation, which shall be subject to the following additional requirements:

- 21.1 The amount of the liability insurance shall be not less than five million dollars (\$5,000,000.00) per incident for all liability claims arising out of the site.
- 21.2 The liability insurance shall name the Charter Township of Union and its elected officials, appointed officials, employees, and agents as additional named insured.
- 21.3 The Applicant/Owner/Operator shall provide a copy of this policy to the Township Planner prior to the start of any extraction operations on the site, and shall provide a minimum of 30 calendar days written notice before any policy change or cancellation.
- 21.4 Failure of the Applicant/Owner/Operator or any persons, firm or corporation named in the policy to maintain the insurance shall be considered a violation of this Ordinance.

Section 22. Violations, Penalties, and Permit Revocation

Any person, firm, corporation, or agent, or any employee, contractor, or subcontractor of same, who fails to comply with any of the provisions of this Ordinance, an approved Extraction Permit or any conditions of Permit approval, or who impedes or interferes with the enforcement of this Ordinance shall be deemed in violation of this Ordinance and shall be subject to the following:

- 22.1 **Public Nuisance.** Extraction operations carried on in violation of any provision of this Ordinance are hereby declared to be a nuisance per se and shall be subject to abatement or other action by a court of appropriate jurisdiction.
- 22.2 **Violators.** Each applicant, owner, operator or other person who commits, participates in, assists in, or maintains any violation of the Ordinance may be held responsible for a separate offense and may be subject to the penalties provided in this Section. The cost of prosecution shall also be assessed against each violator. The imposition of any penalty shall not exempt the offense from compliance with the requirement of this Ordinance.
- 22.3 **Municipal Civil Infraction.** Any person who violates or permits the violation of this Ordinance shall be responsible for a municipal civil infraction and shall be subject to a fine not to exceed the limits specified in the Township's Municipal Ordinance Violation Bureau Ordinance. Proceedings for the municipal civil infraction shall proceed as provided in that ordinance.
 - A. The imposition of a municipal civil infraction fine for any violation shall not excuse the violation or permit it to continue.
 - B. A person who violates or permits the violation of this Ordinance shall also be subject to additional sanctions, remedies, injunctions, judicial orders, penalties, enforcement costs

and expenses as provided for under Chapter 87 of the Revised Judicature Code, being MCL §600.8701, et. seq., as amended. Each day a violation of this Ordinance continues to exist constitutes a separate violation.

- 22.4 **Other Remedies.** The rights and remedies set forth above shall not preclude the use of other remedies provided by law, including any additional rights of the Township to initiate proceedings in an appropriate court of law to restrain or prevent any noncompliance with any provisions of this Ordinance, or to correct, remedy or abate such non-compliance.
- 22.5 **Rights and Remedies Preserved.** Any failure or omission to enforce provisions of this Ordinance or to prosecute a violation of this Ordinance shall not constitute a waiver of any rights and remedies provided by this Ordinance or by law, and shall not constitute a waiver nor prevent any further prosecution of violations of this Ordinance.
- 22.6 **Permit Revocation.** Failure on the part of the Applicant/Owner/Operator to correct a violation within the time period of a written notice shall also be grounds for the Planning Commission to take action to revoke the Permit in accordance with the following:
- A. Before taking action on any proposed Permit revocation, the Planning Commission shall hold a public hearing, at which time the Applicant/Owner/Operator shall be given an opportunity to present evidence in opposition to revocation.
 - B. At least 15 calendar days prior to the hearing, notices shall be sent by mail or personal delivery to the Applicant/Owner/Operator, posted at the Township Hall, and published once in the Township's newspaper of record. The notices shall include the time, date, place, and purpose of the hearing.
 - C. A Permit may be revoked by the Planning Commission upon determination that:
 - (1) The extraction operation has not been maintained in compliance with this Ordinance, the approved Permit, Permit plans or any conditions of approval.
 - (2) A material misrepresentation exists in the application or base documents; or
 - (3) The Permit is determined to be no longer relevant or necessary (such as an extraction operation where mining has concluded, and all land restoration work has been completed in accordance with approved plans).
 - D. Subsequent to the hearing, the decision of the Planning Commission with regard to the revocation shall be made and written notification provided to Applicant/Owner/Operator. Any notice of Permit revocation shall be accompanied by a demand that all activities immediately cease, and that reclamation and site restoration be done and completed as provided for in this Ordinance.

Section 23. Definitions

Applicant/Owner/Operator. An owner and/or lessee of mineral rights or any other responsible party engaged in or preparing to engage in extraction activities with respect to mineral rights within an existing or proposed extraction area. The terms "applicant", "owner", and "operator" shall include the tenants, lessees, agents, employees or assigns thereof.

Aquifer. A saturated permeable geologic unit capable of yielding a significant amount of groundwater to a well or spring.

Base Document(s). A document or set of documents required to be submitted under the applicable requirements of this Ordinance.

Beneficiation. To process (but does not include the drying process) the extracted materials for any of the following purposes: (i) Regulating the grain size of the desired product; (ii) Removing unwanted constituents; and (iii) Improving the quality and purity of the desired product.

Cell-Unit. A subunit of the total extraction project that will be reclaimed during extraction operations in another area.

Commencement Date. The date a permit is signed by the authorized representative(s) of the Planning Commission, or Township Board of Trustees, where applicable.

De-watering. The lowering of groundwater or surface water elevation by discharging water to an off-site location or to another portion of the site.

Engineering Consultant. The person, persons or firm designated by the Township to advise the Township on drainage, grading, paving, storm water management and control utilities, and other related site engineering and civil engineering issues.

Escrow fee. A sum paid to the Township to defray reasonable actual costs and expenses incurred by the Township to review an application and/or administer a permit and includes (but not limited to) costs for engineering, geologic, hydrologic, land use planning, legal, and other expert assistance and analysis; testing; inspections; publications, mailings; recording fees; and special meetings.

Extraction. The digging, dredging, quarrying, excavation, or other removal of sand, gravel, soil, or another non-metallic mineral from a site.

Extraction Area. The area, as depicted on a topographical map, from which earth materials are intended to be removed.

Extraction Operation. Extraction from the earth of mineral aggregates or non-metallic minerals for sale or use by the Applicant/Owner/Operator and includes the use of mining equipment or techniques to remove materials from the in-place non-metallic mineral deposit, as well as associated activities such as excavation, grading and dredging. Also, it includes processes carried out at a non-metallic mining site that are related to the preparation or processing of the mineral aggregates or non-metallic minerals obtained from the non-metallic mining site, such as, but not limited to stockpiling of materials, blending mineral aggregates or non-metallic minerals with other mineral aggregates or non-metallic minerals, grading, crushing, screening, and scalping; it does not include removal from the earth of products or commodities that contain only minor or incidental amounts of non-metallic minerals, such as commercial sod, agricultural crops, ornamental or garden plants, forest products, Christmas trees or plant nursery stock.

Fill. Soil, rocks, sand, waste of any kind, or any other material that displaces soil or water or reduces water retention potential.

Fixed Costs. Costs incurred by the Township generally shared by all applications as determined time to time by the Township Board of Trustees.

Groundwater. Water below the land surface in a zone of saturation.

Groundwater Elevation. The level to which groundwater will rise naturally in a well and measured in relation to sea level.

Groundwater Recharge. The process involved in the addition of water to the zone of saturation or the amount of water added.

Groundwater Recharge Area. Any area on the ground that facilitates the addition of water to the zone of saturation; generally, it is that portion of the drainage basin where the direction of groundwater flow near the surface is downward (e.g., away from the water table).

Hydrogeologic Study. A document presenting and interpreting a sufficient collection of field data and published data to identify, define, and describe groundwater and surface water (including wetlands)

resources, conditions (e.g., location, extent, depth, flow direction, and quality), interactions (e.g., groundwater discharges to surface waters or supports a wetland), and potential impacts on those resources from proposed activities.

Master Plan. The adopted comprehensive future land use and growth management plan for The Township, as adopted in accordance with the Michigan Planning Enabling Act, Public Act 33 of 2008, as amended (MCL 125.3801 et seq.).

Non-Metallic Minerals. A product, commodity or material consisting principally of naturally occurring, organic or inorganic, non-metallic, non-renewable material. Non-metallic minerals include, but are not limited to, stone, sand, gravel, clay, peat, and topsoil.

Operator. See “**Applicant/Owner/Operator.**”

Ordinance Enforcement Official. The Director of the Township’s Community and Economic Development Department and any person, persons or firm as delegated by the Director to have responsibility for investigation of violations and enforcement of this Ordinance.

Overburden. earth materials situated below the layer of topsoil and above the mineral deposit to be extracted from the site that must be removed prior to mining.

Owner. See “**Applicant/Owner/Operator.**”

Permit. A document issued pursuant to this Ordinance, which authorizes the extraction of materials on a specified parcel of land.

Person. Any individual or combination of individuals, corporations, limited liability companies, partnerships, or other legally recognized entities.

Planning Commission. The Planning Commission for the Charter Township of Union, Isabella County, Michigan, as authorized by the Michigan Planning Enabling Act and Michigan Zoning Enabling Act.

Processing. The washing, sorting, crushing, aggregating, grinding, blending, mixing, or cutting of extracted material from the extraction site.

Reclamation. To recondition, rehabilitate or restore the extraction area and associated property, or portions thereof, to a self-sustaining, long term useful purpose which is compatible with contiguous land uses, which protects the natural resources, including the control of erosion and the prevention of land or rock slides and air and water pollution, and which process shall include the re-establishment of vegetation, soil stability, and establishment of safe conditions appropriate to the intended use of the land in accordance with the Master Plan and Zoning Ordinance.

Runoff. Water from rain, snowmelt, irrigation or other source that flows over a land surface.

Sediment Basins, Settling Ponds or Settling Basins. Typically, a series of ponds that are designed to clarify (i.e., remove fine particles from) water used for processing materials extracted from the site.

Site. A parcel of land upon which activities are conducted subject to this Ordinance.

Surface Water. Water that is on the earth’s surface, such as in a stream, river, lake or reservoir.

Topsoil. The fertile, dark-colored surface soil; the upper layer of soil, usually richer than the subsoil; generally, the “A” horizon.

Township. Charter Township of Union situated in the County of Isabella, State of Michigan.

Township Board of Trustees. The elected board of trustees for The Charter Township of Union, Isabella County, Michigan. Also referred to as the “**Township Board.**”

Township Planner. The Director of the Township’s Community and Economic Development Department and any person, persons or firm as delegated by the Director to have responsibility for administration of this Ordinance.

Water Table. The surface of unconfined groundwater at which the pressure is atmospheric. The water table is found at the level at which water stands in wells that penetrate the unconfined groundwater zone. Also referred to as “**groundwater table.**”

Wetland. Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the land surface or the land is saturated with or covered by water. Some wetland areas are more commonly referred to as bogs, swamps or marshlands. Wetlands shall also have one (1) or more of the following attributes: a. At least periodically, the land supports predominantly hydrophytes. b. The substrate is predominantly un-drained hydric soil. c. The substrate is saturated with water or covered by shallow water at some time during the growing season of each year.

Wetland, Regulated. Certain wetlands as regulated by the State of Michigan, the Township’s Wetland Ordinance or other governmental agency.

Wildlife Habitat. A geographical area containing natural, climatic, physical, or biological features that are unique to a specific area generally occupied by a particular wildlife species.

Zoning Ordinance. The ordinance regulating development and use of land as adopted by the Township Board of Trustees in accordance with the Michigan Zoning Enabling Act, being Public Act 110 of 2006, as amended (MCL 125.3101 et seq.).

Section 24. Severability

This Ordinance and its various parts, sections, subsections, phrases and clauses are severable. If any part, sentence, paragraph, section, subsection, phrase or clause is adjudged unconstitutional or invalid, it is hereby provided that the remainder of this Ordinance, its parts, sections, subsections, phrases, sentences and clauses are intended to be valid, irrespective of the fact that any one or more parts, sections, subsection, phrases, sentences or clauses be declared invalid.

Section 25. Repeal

All ordinances or parts of ordinances in conflict with the provisions of this Ordinance, except as herein provided, are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

Section 26. Publication

The Clerk for the Township shall cause this Ordinance to be published in the manner required by law.

Section 27. Effective Date

This Ordinance was approved and adopted by the Township Board of Trustees, Isabella County, Michigan, on _____, 2020, after a first reading by the Township Board of Trustees on March 11, 2020, and publication after such first reading as required by Michigan Act 359 of 1947, as amended. This Ordinance shall become effective immediately upon publication of a summary of the ordinance and notice of adoption in a newspaper of general circulation in the Township, following adoption by the Township Board of Trustees.

CERTIFICATION OF ADOPTION AND PUBLICATION OF TOWNSHIP ORDINANCE

I, Lisa Cody, the duly elected Clerk of the Charter Township of Union, Isabella County, Michigan, hereby certify that the foregoing Ordinance was adopted at a meeting of the Charter Township of Union Board of Trustees on the _____ day of _____, 2020, at which the following named members of the Charter Township of Union Board of Trustees were present and voted in person as follows:

(a) Voting in favor of the Ordinance:

(b) Voting against adoption of the Ordinance:

I further certify that a summary and notice of adoption of this Ordinance were published in the Morning Sun, a newspaper of general circulation within the Charter Township of Union on the _____ day of _____, 2020 and that proof of same is filed in the Charter Township of Union Ordinance Book.

Certification Date: _____, 2020

Lisa Cody, Clerk

I, Ben Gunning, the duly elected Supervisor of the Charter Township of Union, Isabella County, Michigan, hereby confirm the authenticity of this record and Ordinance.

Ben Gunning, Supervisor

Date: _____, 2020