

CHAPTER 11

MINERAL AGGREGATE RESOURCES POLICIES

Woolwich Township contains significant deposits of *mineral aggregate resources* in the form of naturally occurring sand and gravel deposits. These finite resources provide material used in the construction of buildings and *infrastructure*. They also have the potential to support secondary industries that provide employment opportunities within the township. To support the township's economic and growth needs, this Plan therefore seeks to protect *mineral aggregate resources* for long-term use

The Aggregate Resources Act establishes the overall process for the management of mineral aggregate resources, and this Plan works within this framework to provide guidance on where and how extraction can occur, while balancing other planning priorities.

The policies in this Chapter provide for the orderly extraction of *mineral aggregate resources* as to close to markets as possible. Ensuring *mineral aggregate resources* are available in proximity to demand can support the timely provision of infrastructure and reduce transportation-related greenhouse gas emissions. These policies also provide for the optimum utilization of this resource within the township, while preventing or minimizing the potential impacts of *mineral aggregate operations* on surface water and groundwater resources, surrounding communities, *cultural heritage resources*, *environmental features* and *ecological functions*, and agricultural lands and operations.

11.1 DESIGNATION AND PROTECTION

- 11.1.1 Mineral Aggregate Resource Areas are designated on Map 11.1 of this Plan. These areas have been identified by the *Province* as having a high potential to contain *mineral aggregate resources*. The identification of these resources in this Plan does not presume that all lands within these areas are suitable for *mineral aggregate operations*.
- 11.1.2 Extraction of *mineral aggregate resources* may be permitted in areas outside the Mineral Aggregate Resource Area, where there is a sufficient quantity and quality of resources to warrant extraction, as demonstrated to the satisfaction of the Province, the Region, and the Township and subject to the policies of this Plan.

- 11.1.3 The Township will prohibit *development* in areas located within or adjacent to Mineral Aggregate Resource Areas, which would preclude or hinder the establishment of *mineral aggregate operations* or access to the resources, except where
- a) Extraction would not be feasible
 - b) The proposed land use or *development* serves a greater long-term interest of the general public than does extraction; and
 - c) Issues of public health, safety and environmental impacts are appropriately addressed.
- 11.1.4 Any new *developments* proposed within a Mineral Aggregate Resource Area in accordance with Section 11.1.3 will minimize the amount of land needed for *development* to retain as much of the *mineral aggregate resource* potential as possible.
- 11.1.5 The Township encourages the recovery of *mineral aggregate resources* through the sequential use of developable land, whereby *mineral aggregate resources* are extracted prior to, or in conjunction with, *development* of the land.
- 11.1.6 The Township will plan for and regulate the subsequent use of rehabilitated *mineral aggregate operations* in accordance with the policies in this Plan
- 11.1.7 The Township will regulate uses associated with aggregate extraction through the Zoning By-law as follows:
- a) Permit *accessory uses* associated with aggregate extraction operations and processing activities such as crushing, screening, washing, stockpiling, blending with recycled asphalt or concrete materials, storage, weigh scales, parking and office facilities;
 - b) Require site specific Zoning By-law amendments to permit ancillary land uses such as asphalt plants, concrete plants and aggregate depots that blend and stockpile aggregate materials with salt and aggregate transfer except where otherwise prohibited by the policies of this Plan, subject to:
 - i) The protection of adjoining lands from the negative effects of a reduced water supply, noise, dust, odour, lighting and outdoor storage;
 - ii) The protection of the environment from negative effects of dust, chemical spills, run-off, or contamination of surface or groundwater;
 - iii) Access being obtained directly to a road capable of carrying the anticipated truck traffic; and,
 - iv) Notwithstanding Section 11.1.7 b) ancillary land uses will not be permitted where they are identified as a prohibited use in accordance with the Source Water Protection policies in Section 13.16 of this Plan and Chapter 8 of the Regional Official Plan.

11.2 EXISTING MINERAL AGGREGATE OPERATIONS

- 11.2.1 The Township recognizes existing *mineral aggregate operations* as legal uses of land and will endeavour through the policies of this Plan to ensure their continued viability and use for extractive purposes in accordance with license requirements established under the Aggregate Resources Act. The Township will ensure that appropriate zoning is maintained to recognize existing licensed *mineral aggregate operations* as a permitted use, and all new *development* in the vicinity of an existing *mineral aggregate operation* will be subject to Section 11.1.3. The Township will zone existing licensed *mineral aggregate operations* appropriately in the Zoning By-law to permit aggregate extraction.
- 11.2.2 *Development applications* to expand the boundaries of the licensed area of an existing *mineral aggregate operation*, or to increase the depth of extraction, will be subject to all policies in this Plan applicable to new *mineral aggregate operations*, as provided in Section 11.3, in addition to any requirements of the Aggregate Resources Act.
- 11.2.3 Where the licensee has circulated an application to expand an existing licensed *mineral aggregate operation* or to increase the depth of extraction which does not require the approval of a *development application*, the Township will review and provide comments on the application to the *Province* in the context of all relevant policies in this Plan that would apply to an application for a new *mineral aggregate operation*.
- 11.2.4 *Development applications* to expand an existing *mineral aggregate operation* located on lands designated as *Environmentally Sensitive Landscapes*, as shown on Map 13.1, will only be supported where:
- a) It can be demonstrated to the satisfaction of the Township, Region and the Province that substantial progress has been made in the rehabilitation to viable after-use of the disturbed area within the existing licensed area; and
 - b) The total active extraction area of the original licensed area and the proposed expansion area is not increasing over the long term. A lesser standard may be considered where it can be demonstrated that the overall rehabilitation goals of the site can be more effectively achieved by deferring rehabilitation until a later stage of the *mineral aggregate operation*.
- 11.2.5 The Township will co-operate with the aggregate industry in the development and maintenance of an inventory of all existing *mineral aggregate operations* within the Township. This inventory will be updated periodically to help monitor aggregate extraction activities in the Township.

11.3 NEW MINERAL AGGREGATE OPERATIONS

- 11.3.1 New *mineral aggregate operations* will require a site-specific amendment to the Zoning By-law, the approval of which will be subject to all applicable policies of this Plan and the Regional Official Plan, in addition to any requirements for a license under the Aggregate Resources Act. Site-specific Zoning By-law Amendments approved under this policy will apply only to the boundary of the licensed area and will limit the depth of extraction to that which is specified on the proposed *site plan*.
- 11.3.2 New mineral aggregate extraction within the *prime agricultural areas* and *rural areas* may be permitted as an interim use, subject to the policies of this Plan, provided that agricultural rehabilitation is maximized.
- 11.3.3 Within the *prime agricultural areas* as shown on Map 6.1, new *mineral aggregate operations* proposing extraction below the water table will require an amendment to this Plan and the Regional Official Plan to identify the area of extraction below the water table. Such amendment will be subject to the policies in Section 11.6 and all other applicable policies in this Plan.
- 11.3.4 An application for license to open or establish or operate a pit a new mineral aggregate operation or to expand an existing mineral aggregate operation will be considered to be in conformity with this Plan only when:
- a) The application conforms to the provisions of the Regional Official Plan; and
 - b) An application for license has been filed with the Ministry of Natural Resources and a copy of such application has been filed with the Township.
- 11.3.5 The copy of the application for license, which is filed with the municipality, will include a *site plan*, which will indicate:
- a) All of the information required to meet licence application requirements and regulations under the Aggregate Resources Act;
 - b) The local roads to be used for transporting the mined material from the mineral aggregate operation to the nearest Regional road; and
 - c) Such other information as required by the Province, the Grand River Conservation Authority, the Region or the Township to evaluate the application.

- 11.3.6 In addition to the copy of the application for license and the *site plan* referred to in Section 11.3.5, a report will be required from the applicant to outline the testing program that has been undertaken that will indicate the total estimated production of the pit or quarry and the maximum annual tonnage to be mined.
- 11.3.7 No application for license to open or establish a new mineral aggregate operation or to expand an existing mineral aggregate operation will be considered to be in conformity with this Plan where Township Council has adopted a resolution to the effect that the mineral aggregate operation would be against the interests of the public, taking into account:
- a) The preservation of the features and functions of the environment;
 - b) The need, if any, for restricting excessively large output of the mineral aggregate resources in the locality;
 - c) The traffic capacity of local roads;
 - d) Any possible *adverse effects* on surface and groundwater resources;
 - e) The nature and location of other land uses that could be affected by the mineral aggregate operation; and
 - f) The character, location and size of nearby communities.
- 11.3.8 Amendment to the Zoning By-law shall only be considered upon application made to the Township in conformity with the Township's regulations and requirements for zone change applications.
- 11.3.9 Amendment to the Zoning By-law shall only be considered when such amending By-law would conform to the provisions of this Plan.
- 11.3.10 Prior to passing an amendment to the Zoning By-law, Township Council will be satisfied that the following matters have been considered and that the Township is satisfied that these matters will be properly provided and/or regulated:
- a) That the *site plan* referred to in Section 11.3.5 is satisfactory to the Township;
 - b) That all mineral aggregate extraction uses will satisfy the requirements of the Province;
 - c) That adequate buffer space and screening will be made to provide an effective buffer between any proposed excavation and any road, existing residence or abutting property or any land use or zoning which would be adversely affected by the mineral aggregate operation;
 - d) That no new mineral aggregate operations or expansion to existing mineral aggregate operations will take place until buffer screening has been established effectively;
 - e) That the proposal complies with the Environmental Policies in Chapter 13 of this Plan;

- f) That haul routes have been established for truck traffic using the mineral aggregate operation and that the Township Road to be used as a haul route is or will be improved if necessary and maintained to standards satisfactory to the Township.
- g) That the level of the water table shall not be adversely affected by the expansion or establishment of a new mineral aggregate operation;
- h) That adequate provisions will be made for the fencing and security of the mineral aggregate operation property;
- i) That no disposal of waste will take place in worked out mineral aggregate operation sites; and
- j) That a rehabilitation plan and program have been established to the satisfaction of the Township, in consultation with the Region.

11.3.11 The amending by-law to define an "Extractive Zone" shall permit the making or establishment of a mineral aggregate operation as defined in Chapter 20 - Glossary. It is also the intent of this Plan that farming may be included as a use permitted in an Extractive Zone and that a barn, shed, building or structure (but not including a residential building or residential unit) which is accessory to the farming use may also be permitted. No other uses which might be considered as ancillary to or associated with a mineral aggregate operation will be permitted except as specifically provided for in the amendment to the Zoning By-law.

11.4 STUDY AND OTHER REQUIREMENTS FOR MINERAL AGGREGATE OPERATIONS

- 11.4.1 An application for Planning Act approval to permit a new or expanded *mineral aggregate operation* will submit, subject to Section 11.4.13(a), the following reports, information and materials prepared by qualified professionals or teams of professionals as appropriate:
- a) A Geological Resource Study as described in Section 11.4.3 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
 - b) A Transportation Impact Study as described by Section 11.4.4 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
 - c) An Environmental Impact Study as described by Section 11.4.5 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
 - d) A Visual Impact Study as described by Section 11.4.6 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
 - e) A Cultural Heritage Impact Study as described by Section 11.4.7 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;

- f) For operations which propose below water table extraction, a Water Resources Impact Study as described by Section 11.4.8 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
- g) For operations which propose above water table extraction, a Water Resources Impact Study as described by Section 11.4.9 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
- h) A Noise Impact Study as described by Section 11.4.10 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
- i) A Dust and Air Quality Impact Study as described by Section 11.4.11 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
- j) A Land Use Study as described by Section 11.4.12 which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;
- k) A rehabilitation plan which satisfactorily demonstrates how progressive rehabilitation will occur; and
- l) An operational plan which satisfactorily demonstrates how impacts will be mitigated and minimized.

11.4.2 The submission of the reports required by Section 11.4.1 shall be required in order for an application for a new or expanded mineral aggregate operation to be considered complete in accordance with Section 34 (10.2) of the Planning Act. The requirement that such reports satisfactorily demonstrate that the proposal will not have any unacceptable impacts will need to be met prior to the Township of Woolwich approving an application and not as a requirement for determining that an application is complete. Similarly, any peer reviews of the reports required by Section 11.4.1 or any requests for additional information pursuant to Section 11.4.13 d) will not constitute a requirement for determining that an application is complete.

11.4.3 A Geological Resource Study as required in Section 11.4.1(a) shall provide the following information:

- a) A detailed description, based on sufficient sampling and testing, of the nature, extent and location of the mineral aggregate resources on the subject land. The Geological Resource Study is not intended to be a supply and demand analysis as identified in Policy 2.5.2.1 of the Provincial Policy Statement (2014); and
- b) Identification of any characteristics of the resource that may result in additional social, cultural heritage or environmental impacts not addressed through the studies referred to in Sections 11.4.4 through 11.4.12.

11.4.4 The Transportation Impact Study required by Section 11.4.1 b) shall provide the following information:

- a) An identification of the policy framework which is aimed at addressing traffic impacts and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) The proposed haul route(s) which may be necessary to service potential markets;
- c) Land use, land activities and the character of *adjacent lands* including social attributes and cultural heritage and environmental resources potentially impacted along the proposed haul route and, considering the classification of the roads involved, the nature of those impacts;
- d) An evaluation of alternative haul routes, the identification of the haul routes with the least impact;
- e) The physical characteristics of the potential routes including road classification, load limits, surfacing and character (e.g. rural, scenic) and the identification of any physical constraints to heavy truck traffic, such as vertical or horizontal curves, sight lines, or deficient shoulders;
- f) Anticipated increase in traffic generated by the proposed extractive operation, including the implications of phasing of the operation, and any increase in background traffic;
- g) The horizon year that will be used in determining future impacts;
- h) Traffic impacts, both operational and physical, resulting from the truck traffic generated by the proposed operation including impacts on road structure, traffic flow and safety, and the mitigation measures required to address these impacts; and
- i) Whether improvement of the roads proposed to be used for haul routes is necessary, the costs of such improvement, any anticipated impacts on significant social attributes and economic, cultural heritage, and environmental resources affected by such improvement, and whether an Environmental Assessment is required for this improvement.

The Transportation Impact Study may be required to address impacts on transportation networks under the jurisdiction of several different authorities. Each authority may, to the extent of its jurisdiction, scope, waive or establish a peer review or other suitable evaluation process for those transportation impacts which are under the authority's jurisdiction.

11.4.5 The Environmental Impact Study required by Section 11.4.1 c) shall provide the following information:

- a) An identification of the policy framework which is aimed at protecting environmental features, areas and systems and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) An identification of the form, function and integrity of all environmental features, areas and systems that may be impacted by the proposed operation; and
- c) The nature of the impacts on environmental features, areas and systems, how they can be mitigated, the feasibility of the mitigation, the risks associated with mitigation and the remaining impacts after mitigation.

The Environmental Impact Study may be required to address impacts on environmental features, areas and systems under the jurisdiction of several different authorities. Each authority may, to the extent of its jurisdiction, scope, waive or establish a peer review or other suitable evaluation process for those aspects of environmental impacts which are under the authority's jurisdiction.

11.4.6 The Visual Impact Study required by Section 11.4.1 d) shall provide the following information:

- a) An assessment of the significant views and how they might be impacted by the proposed operation. Significant views shall include views of people living around a proposed mineral aggregate operation site that may be impacted by the proposed site together with views that more generally hold local or regional cultural sensitivity and/or recreational or scenic value;
- b) The nature of the visual impacts and how they can be mitigated through such means as berms, entrance designs, vegetation, landscaping and operational matters, such as small phases, screening of equipment or direction of extraction, which should seek to minimize visual impacts; and
- c) The feasibility of the mitigation, the risks associated with mitigation, and any remaining significant impacts after mitigation.

11.4.7 The Cultural Heritage Impact Study as described by Section 11.4.1 e) shall provide the following information:

- a) An identification of the policy framework which is aimed at protecting cultural heritage resources, and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) An identification of all cultural heritage resources, including built heritage resources, archaeological resources, and *cultural heritage landscapes*, which may be impacted by the proposed operation; and

- c) The nature of the impacts on cultural heritage resources, how these impacts can be mitigated, the risks associated with mitigation, the remaining impacts after mitigation, and an identification of the significance of the remaining impacts.

The Cultural Heritage Impact Study may be required to address impacts on *cultural heritage resources* under the jurisdiction of several different authorities. Each authority may, to the extent of its jurisdiction, scope, waive or establish a peer review or other suitable evaluation process for those aspects of *cultural heritage resources* impacts which are under the authority's jurisdiction.

11.4.8 The Water Resources Impact Study for proposed below water table extraction as described by Section 11.4.1 f) shall provide the following information:

- a) An identification of the policy framework which is aimed at protecting water resources including an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) An identification of the water resources, including surface water and groundwater, which may be impacted by the proposed operation;
- c) A justification based on an analysis of the nature, location and extent of mineral aggregate resources located below water table, for proposing below water table extraction;
- d) The nature of the impacts on water resources, as the impacts relate to potential impacts from fuel storage and handling systems, machinery storage and servicing and the use and storage of potential contaminants on the site, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation;
- e) The nature of the impacts on water resources, as the impacts relate to natural areas, features and systems (including fisheries) and the form, function and integrity of the natural features, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation; and
- f) The nature of impacts on water resources as the impacts relate to domestic wells, communal systems and existing municipal water supplies and test wells.

The Water Resources Impact Study is required to address the protection of water resources under the jurisdiction of several different authorities. Each authority may, to the extent of its jurisdiction, scope, waive or establish a peer review or other suitable evaluation process for those water resources impacts which are under the authority's jurisdiction.

11.4.9 The Water Resources Impact Study for above water table extraction as described in Section 11.4.1 g) shall provide the following information:

- a) An identification of the policy framework which is aimed at protecting water resources and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) An identification of the water resources, including surface water and groundwater, which may be impacted by the proposed operation. In identifying groundwater resources, the Water Resources Impact Study shall determine, based on an appropriate amount and duration of historical data, the appropriate water table and buffer for the purpose of determining the elevation of the pit floor;
- c) The nature of the impacts on water resources, as the impacts relate to impacts from fuel storage and handling systems, machinery storage and servicing and the use and storage of potential contaminants on the site, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation;
- d) The nature of impacts on water resources as the impacts relate to natural areas, features and systems (including fisheries) and the form, function and integrity of the natural features, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation; and
- e) The nature of impacts on water resources as the impacts relate to domestic wells, communal systems and existing municipal water supplies and test wells.

The Water Resources Impact Study is required to address the protection of water resources under the jurisdiction of several different authorities. Each authority may, to the extent of its jurisdiction, scope, waive or establish a peer review or other suitable evaluation process for those water resources impacts which are under the authority's jurisdiction.

11.4.10 The Noise Impact Study as described in Section 11.4.1 h) shall provide the following information;

- a) An identification of the policy framework which is aimed at addressing noise impacts, including provincial policy, and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) An identification of noise sources and receptors; and
- c) The nature of noise impacts, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation.

11.4.11 The Dust and Air Quality Impact Study as described in Section 11.4.1 i) shall provide the following information;

- a) An identification of the policy framework which is aimed at addressing dust and air quality impacts, and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) An assessment of background levels of dust and a modeling of additional dust contributions that can be expected from the proposed operation; and
- c) The nature of dust impacts on air quality, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation.

11.4.12 The Land Use Study as described in Section 11.4.1(j) shall provide the following information:

- a) An identification of the policy framework which is aimed at ensuring land use compatibility and ensuring other land use goals and objectives are being met, and an analysis of how this policy framework is being satisfied, or addressed as appropriate, by the subject proposal;
- b) A detailed description of the nature of surrounding land uses and permitted land uses; and
- c) A synthesis of all impacts, including where appropriate, social impacts and any relevant land use considerations not identified by the other studies required by Section 11.4.1, an assessment as to whether and how impacts and land use considerations can be sufficiently mitigated, or addressed as appropriate, so that land use compatibility is achieved, and the identification of additional mitigation, not identified by the studies required by Section 11.4.1, which may be necessary for land use compatibility to be achieved. In the context of this Section, impacts and land use considerations shall include implications that may flow from the analysis of the mineral aggregate resource as described in Section 11.4.3.

11.4.13 The reports, information and materials required by Section 11.4.1 are also subject to the following:

- a) The necessity for, and the content and scope of the studies, information and materials required by Section 11.4.1 will be determined through a pre-application consultation process including a pre-application consultation meeting with the Township, the Region and other agencies as required, and shall be in keeping with the scope and complexity of the application. The Township may, based on preliminary information provided by an applicant, and in consultation with any relevant agency as appropriate, determine that particular studies, information and materials are not required, or that a single study can satisfy all of the requirements identified by the agencies. This determination, and the content and scope of the studies, information

and materials otherwise required will be set out in a Record of Pre-Application Consultation issued by the Township pursuant to the Township's Pre-Application Consultation By-law;

- b) The reports, information and materials required by Section 11.4 shall fully address the detailed requirements for these reports, information and materials as described by the sub sections of Section 11.4 in a manner that is in accordance with professional standards;
- c) The Township will require an electronic version of the studies, information and materials submitted except where it is determined, based on the nature and location of the application, that an electronic version is unnecessary, and the Township will stipulate the format of the electronic submissions;
- d) Through the course of the review process for an application which has been determined to be complete, additional reports, information and materials may be required to address specific issues to enable Township of Woolwich Council to make informed decisions. Such requirements by the Township shall be made as early as practicable in the process;
- e) The Township may, depending on the scope and complexity of the application, require an applicant, in accordance with applicable Township by-laws, to pay reasonable costs of peer reviews of the studies, information and materials required by Section 11.4. Such peer reviews shall not include original data collection or original research of any studies required by this Plan. The Township will advise an applicant of its intent to require peer reviews and, provide an opportunity for an applicant to discuss the need for and scope of such peer reviews;
- f) For the purposes of identifying the policy framework which must be addressed by the various studies required by Section 11.4.1, it shall be understood that the policy framework will include any applicable Federal, Provincial, Regional, Township or Agency policy, legislation, regulations, standards, by-laws and guidelines; and
- g) Where the studies and materials submitted pursuant to Section 11.4.1 include operational plans, monitoring requirements or mitigation strategies, it is understood that such measures will be primarily implemented through the Aggregate Resources Act site plans.

11.4.14 The studies required by Section 11.4.1 shall:

- a) Consider any previously existing studies that are relevant to the application including broader scale contextual studies (e.g. sub-watershed studies);
- b) Consider the potential *cumulative impacts* that may result from a proposed new *mineral aggregate operation* when added to other past, present and proposed future mineral aggregate operations in the vicinity of the proposed new operation. The appropriate level of detail, analysis, boundaries and baseline data to be used in the cumulative impact's assessment will be determined by the Township, the Region, the Grand River Conservation Authority, other affected public agencies, and the applicant as part of the pre-submission consultation meeting provided for in Section 11.4.13 a); and.
- c) Provide, where appropriate, a monitoring plan that is adequate. In considering the adequacy of the monitoring plan the Township of Woolwich will consider whether the proposed plan is acceptable to the Region of Waterloo, Ministry of Natural Resources and Grand River Conservation Authority. A proposed monitoring plan will make provision for monitoring results to be provided to the Township, the Region of Waterloo, Ministry of Natural Resources, Grand River Conservation Authority and a public liaison committee if one should exist. It is understood that the requirement for monitoring will, where appropriate, verify that the level of impacts indicated by the studies required by Section 11.4.1 are not being exceeded or that regulatory requirements are not being exceeded. A proposed monitoring plan shall address the effect of changes to the operation as a result of phasing or changes to the equipment being used (such as the use of portable crushing plants). A proposed monitoring plan shall also indicate what steps will be taken to address exceedances of levels of impacts should they occur.

11.5 REVIEW CRITERIA FOR MINERAL AGGREGATE OPERATIONS

11.5.1 New *mineral aggregate operations* will not be permitted on lands designated as Core Environmental Features outlined in Section 13.7, except in accordance with the following:

- a) Within *Habitat of Endangered Species and Threatened Species* where authorized in accordance with *provincial and federal requirements*;
- b) Within *Significant Woodlands, Significant Wildlife Habitat, Environmentally Significant Valley Features* and/or *Significant Areas of Natural and Scientific Interest*, new *mineral aggregate operations* may be permitted where the features consist of habitats that can be effectively replaced or restored within a reasonable period of time, such as:
 - i) Areas of crop or pasture,
 - ii) Plantation,

- iii) Early successional habitat,
 - iv) Areas of high disturbance,
 - v) Areas of low ecological diversity with high percentage of non-native species,
 - vi) Small areas of non-Provincially significant marsh or thicket wetland;
 - vii) Old field meadow,
 - viii) Hedgerows,
 - ix) Minor areas on the perimeter of the features, or
 - x) Drainage swales;
- c) The owner/applicant must demonstrate to the satisfaction of the Region that:
- i) The portion of the Core Environmental Feature affected by the mineral aggregate extraction will be replaced or restored within a reasonable period of time with habitat of greater extent and/or ecological value as part of the rehabilitation plans, to promote, where possible, a net ecological gain, or in the case of *Habitat of Endangered Species and Threatened Species*, compliance with *provincial and federal requirements* have been achieved;
 - ii) There will be no *adverse environmental impacts* to the *environmental features* or *ecological functions* and connectivity of the residual areas of the Core Environmental Feature;
 - iii) The quantity, quality and direction of local surface water and groundwater will be maintained or enhanced; and
 - iv) The extraction of *mineral aggregate resources* will be completed, and the area will be rehabilitated, as early as possible in the life of the operation.

11.5.2 New *mineral aggregate operations* may be permitted within a Source Water Protection Area as shown on Map 13.4 of this Plan, except where such uses are prohibited in accordance with the source water protection policies in Section 8.6 of this Plan and in Chapter 8 of the Regional Official Plan.

11.5.3 New *mineral aggregate operations* proposed *contiguous* to Core Environmental Features as designated on Map 13.1 of this Plan, may be permitted, provided that there will be no *adverse environmental impacts* to their features or *ecological functions* and *Environmental Linkages*.

11.5.4 The Township Zoning By-law will include site-specific regulations to restrict extraction below the water table where hydrogeological *cumulative impacts* assessments, prepared in accordance with Sections 11.4.8 and 11.4.14 b), have not demonstrated to the Region's satisfaction the acceptability of such extraction from a surface water and groundwater perspective.

11.5.5 New *mineral aggregate operations, or wayside pits and quarries*, may be permitted within *Environmentally Sensitive Landscapes* as shown on Map 13.1, in accordance with the policies in Section 9.C of the Regional Official Plan, where it can be demonstrated to the satisfaction of the Township, in consultation with the Region, the Province, the Grand River Conservation Authority, and other affected agencies that:

- a) There will be no *adverse environmental impacts* to their features or landscape level *ecological functions* and connectivity where extraction is proposed *contiguous* to a Core Environmental Feature;
- b) Where extraction is proposed within or *contiguous* to the following features, which are not included within a Core Environmental Feature:
 - i) Rivers, stream valleys, *floodplains*, or associated *hazardous lands or hazardous sites*;
 - ii) *Fish habitat*;
 - iii) Meromictic and kettle lakes;
 - iv) *Significant Wildlife Habitat*; or
 - v) Savannas, tallgrass prairies, rare *woodland* types, cliffs, alvars, sand barrens, marl seeps, bogs and fens;there will be no *adverse environmental impacts* to their features or landscape level *ecological functions* and connectivity, although extraction may be considered in habitats which can be effectively replaced or restored in a short to medium time scale such as areas of crop or pasture land, young plantation, early successional *woodland*, small areas of non-provincially *significant* marsh or thicket *wetland*, old field meadow, hedgerows and drainage swales; and
- c) The quantity and quality of local surface water and groundwater regimes can be maintained or enhanced.

11.5.6 Where a new *mineral aggregate operation* is proposed on lands designated as an *Environmentally Sensitive Landscape* as designated on Map 13.1 of this Plan, the Township will recommend to the Province that the Natural Environment Report required under the Aggregate Resources Act also address the following objectives:

- a) Natural habitat that would be lost from the site will be replaced with equivalent habitat on the property or on adjacent lands, and no less than 35 per cent of the licensed area remaining above the water table after extraction will be rehabilitated to sustainable natural *woodland* habitat representative of the landscape in which it is located;
- b) The quantity and quality of surface and groundwater regimes and aquatic ecosystems remaining after, or created by, extraction will be rehabilitated to sustainable natural aquatic ecosystems representative of the landscape in which they are located;

- c) The health, diversity, size, *ecological function* and connectivity of major natural features remaining within the proposed licensed area will be maintained and, where possible, enhanced before, during and after the extraction of aggregate resources;
- d) The rehabilitated area will be maximized, and the disturbed area minimized on an ongoing basis during the lifecycle of the pit operation; and
- e) Rehabilitation of any area once occupied by natural features or identified as potential enhancement/restoration and/or *Environmental Linkage* areas is completed as early as possible in the life of the extraction operation.

11.5.7 *Development applications* that would establish an ancillary use to a *mineral aggregate operation* will only be permitted where applicable studies identified in Section 11.4 demonstrate to the satisfaction of the Township and/or the Region and other affected agencies that the proposed use will mitigate any potential *adverse effects*.

11.5.8 The Township will encourage the construction of intra-pit road systems and new roads to support the movement of *mineral aggregate resources* so as to lessen the impact of truck traffic on Township roads and *sensitive land uses*.

11.5.9 The Township will collaborate with the Region and the Province to ensure that all appropriate requirements resulting from the review of an application for a *mineral aggregate operation* are imposed and enforced as:

- a) Conditions on the license or notes on the *site plan* required under the Aggregate Resources Act, including but not limited to spill protection measures to prevent discharges to surface water and groundwater resources from on-site fuel storage, vehicle or equipment repair and equipment operation, and spills from salt storage, use and transfer, and other best management practices; and
- b) Regulations in site-specific Zoning By-laws, development agreements and conservation easements, as may be applicable.

11.6 EXTRACTION BELOW THE WATER TABLE

11.6.1 In addition to all other applicable policies of this Plan, including the requirement for an amendment to this Plan and the Regional Official Plan in accordance with Section 11.3.3, mineral aggregate extraction below the water table will only be permitted where:

- a) On lands identified as *prime agricultural lands* within *prime agricultural areas*, it is demonstrated to the satisfaction of the Township and the Region that there is a substantial quantity of *mineral aggregate resources* below the water table warranting extraction;

- b) In a *specialty crop area*, there is a substantial quantity of *high quality mineral aggregate resources* below the water table warranting extraction;
- c) The completion of a hydrogeological *cumulative impact's* assessment demonstrates that the removal of the resource and the subsequent rehabilitation of the lands will not negatively impact the quantity and quality of the surface or groundwater resources and relevant natural heritage features. Such studies will be completed to the satisfaction of the Township, the Region, the Province, the Grand River Conservation Authority, and other affected public agencies;
- d) If necessary and feasible to protect groundwater quality, post-extractive drainage is directed away from the resulting pond, the slopes of the pond are stabilized with appropriate native species, and a pond planting plan is prepared and implemented to the satisfaction of the Township and the Region;
- e) On lands identified as *prime agricultural lands*, other alternatives have been considered by the applicant and found unsuitable, and agricultural rehabilitation in remaining areas will be maximized. The consideration of other alternatives will include investigation as to the availability of alternative resources on lands identified as Canada Land Inventory Class 4 to 7 soils, resources on lands committed to future urban uses, and resources on *prime agricultural lands* where rehabilitation to agriculture is feasible. Where no other alternatives are found, *prime agricultural lands* will be protected in this order of priority: *specialty crop areas*, Canada Land Inventory Class 1, 2, and 3 lands; and
- f) It is demonstrated to the satisfaction of the Township and the Region that agricultural rehabilitation in remaining areas will be maximized, and that the site will be rehabilitated in accordance with the policies in Section 11.8 of this Plan.

11.6.2 Where the results of a hydrogeological *cumulative impacts* assessment indicate that mineral aggregate extraction below the water table may have a negative impact on the quantity or quality of groundwater in an area, the Township will restrict extraction below the water table by means of a site-specific Zoning By-law regulation in accordance with Section 11.5.4. The purpose of this restriction is to maintain the depth of residual over burden necessary to protect the quality and quantity of groundwater.

11.6.3 Where the extraction of a proven significant quantity of *high quality mineral aggregate resources* located below the water table is not permitted in accordance with Sections 11.5.4 and 11.6.2 this resource will continue to be protected from land uses incompatible with its future extraction.

11.7 WAYSIDE PITS AND QUARRIES, PORTABLE ASPHALT AND CONCRETE PLANTS

- 11.7.1 The removal or leveling of a hill containing aggregate for the purpose of increasing or improving lands for *agricultural uses* will be permitted in any land use designation without the need for a Zoning By-law Amendment provided that no excavation occurs below the average grade of land surrounding the hill. Such extraction is subject to support of the Region, the Township and the issuance of a wayside permit by the Ministry of Natural Resources.
- 11.7.2 The Township will request the Ministry of Natural Resources to include a notification on wayside permits for lands adjacent to Supporting Environmental Features that the Township should be contacted prior to excavation to obtain information on how to mitigate impacts on the Supporting Environmental Features.
- 11.7.3 *Wayside pits and quarries, portable asphalt plants and portable concrete plants* for the exclusive temporary use of a public road authority operating under an approved permit will be permitted on a temporary basis in all land use designations, without amendment to this Plan, or the Zoning By-law, except where:
- a) The use would be located within or adjacent to an area of existing development that would be incompatible with aggregate extraction and associated activities;
 - b) The use would be located within a Core Environmental Feature as designated on Map 13.1; or
 - c) The use is identified as a prohibited use by the policies of this Chapter.
- 11.7.4 *Portable asphalt plants and portable concrete plants* will be discouraged on lands containing active agricultural operations. If asphalt or concrete for a public road project cannot be obtained from an existing asphalt or concrete plant, attempts should be made to locate the portable plant in *wayside pits and quarries*, vacant industrial sites, or on inactive or less productive agricultural lands.
- 11.7.5 *Portable asphalt plants and portable concrete plants* will obtain appropriate approvals from the Province pursuant to the Environmental Protection Act and will include provisions to prevent spills of petroleum chemicals to surface and groundwater resources.

11.8 REHABILITATION OF MINERAL AGGREGATE OPERATIONS

- 11.8.1 The Township will co-operate with land owners, the Region, pit operators, and the Ministry of Natural Resources in efforts to rehabilitate existing and/or abandoned pits and quarries to reduce or eliminate dangerous or hazardous conditions and return the pit site to a suitable land use as determined by the Township in conformity with the policies of this Plan and the Regional Official Plan.
- 11.8.2 All proposals for new *mineral aggregate operations*, including *wayside pits and quarries*, will include a rehabilitation plan to the satisfaction of the Township and the Region, ensuring that:
- a) Progressive rehabilitation will be carried out whenever feasible so that depleted areas are restored while extraction continues in other areas of the site;
 - b) Final rehabilitation will comply with the land use designations contained in this Plan or the Regional Official Plan, and be compatible with the character of surrounding land uses;
 - c) *Comprehensive rehabilitation* will be carried out, to the extent possible, where a proposed new *mineral aggregate operation* abuts one or more existing licensed *mineral aggregate operations*;
 - d) Within the *prime agricultural areas* and *rural areas*, rehabilitation to agriculture will be the first priority, as follows:
 - i) Within the *prime agricultural area*, substantially the same land area will be rehabilitated back to an *agricultural condition* to allow for the same range and productivity of crops common in the area; and
 - ii) Within *rural areas*, rehabilitation of the site will be carried out so that substantially the same land area and same average soil quality for agriculture are restored; and
 - e) Where mineral aggregate extraction has occurred below the water table, rehabilitation will be in accordance with Section 11.6 to protect groundwater quality.
- 11.8.3 In the *prime agricultural areas'* designation, rehabilitation to agriculture will be the first priority. Notwithstanding this, complete agricultural rehabilitation within the *prime agricultural areas* and *rural areas* not be required where:
- a) The depth of extraction makes restoration of pre-extraction agricultural capability impractical;
 - b) Hydrogeological investigations completed in accordance with the policies in this Plan and the Regional Official Plan, have demonstrated to the satisfaction of the Township and the Region that agricultural rehabilitation is not desirable due to groundwater protection requirements;

- c) The Region, in collaboration with the Province, the Grand River Conservation Authority and the Township, have determined a suitable post-extractive use in conformity with the policies in this Plan and the Regional Official Plan; and
- d) Aggregate extraction would remove natural features such as *woodlands*, *wetlands* and watercourses on lands not otherwise protected by the Greenlands Network policies of this Plan and the Regional Official Plan, in which case these natural features will be restored and, where possible, enhanced.

11.8.4 Where multiple *mineral aggregate operations* are located in close proximity to one another, the Township will collaborate with the Region, the Province, the Grand River Conservation Authority and the affected applicants to jointly develop *comprehensive rehabilitation* plans for multiple properties.

11.9 CONSERVATION OF MINERAL AGGREGATE RESOURCES

The Township will ensure that *mineral aggregate resource conservation* will be undertaken, including through the use of aggregate recycling facilities within operations, wherever feasible.

11.10 CONFORMITY TO THE GROWTH PLAN (2019)

Where an application under the Aggregate Resources Act has been received and deemed complete by the Province after July 1, 2017, any applications under the Planning Act to permit the making, establishment or operation of the pit or quarry to which the Aggregate Resource Act application relates, will be subject to the mineral aggregate policies set out in the Growth Plan for the Greater Golden Horseshoe (2019) in addition to all relevant policies of this Plan.

11.11 PUBLIC PARTICIPATION

Prior to passing an amending By-law, notification of public meeting shall be advertised together with notification that the *site plan* referred to in Section 11.3.5 will be available for inspection in the Township office or other appropriate location designated by Council. At the public meeting, the *site plan* will be displayed together with other plans or documents, which the Council shall deem relevant. Opportunity shall be provided for questioning and public input. Council shall consider the results of the public input or submissions prior to passing an amending By-law.

11.12 ANNUAL REVIEW

The Township in collaboration with the Ministry of Natural Resources will review the operation of each mineral aggregate operation at least once a year for the purpose of assessing the licensee's compliance with the conditions of the license issued, the regulations, the *site plan* and the terms and conditions of the license and to report, together with recommendations, to the Minister of Natural Resources related to any breach or contravention which the municipality deems to exist.

MAP 11.1 Township of Woolwich Mineral Aggregate Resource Areas

Legend

-  Mineral Aggregate Resource Area
-  Township Boundary
-  Provincial Highway
-  Regional Road
-  Township Road
-  Private Lane
-  Rail line
-  Future Road
-  Airfield
-  Airport



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Township of Woolwich
2020



