

The Corporation of the Township of Shuniah

Lot Grading Proposal

Discretionary Powers

The Municipal Roads Superintendent and the Building Inspector retain the right to request the proponent making grade changes and/or building improvements to a property, to provide detailed site drainage plan. A municipal permit is required for all landscaping changes that significantly change the drainage characteristics of a property. Areas that may be sensitive to drainage problems such as erosion, flooding and freeze-over will require approval by these officials prior to construction.

Public Works Department

Prior to the issuance of building permits for new structures and new plans of subdivision, site-grading plans shall be certified by a qualified engineer and approved by the Township of Shuniah Public Works Department. These plans must indicate the location of proposed buildings, structures, accesses, site drainage and existing and proposed grades.

Objective

The implementation of Lot Grading is necessary to ensure that all aspects of water control including environmental impact on receiving waters are considered when planning drainage of storm water from developed lands. The reasons for considering Lot Grading are:

- a) To minimize the possibility of injury and property damage resulting from floods exceeding the capacity of the drainage.
- b) To minimize the detrimental effects of urban development on the quality of waters in stream and lakes and
- c) To delay and/or minimize runoff and thus permit reduction in flooding and erosion control works downstream.

Minor/Major Systems

The minor system is the underground piped sewer system designed to carry away storm water from the area in accordance with design criteria. The major system is the overland flow route, which will be followed by the storm water when the capacity of the minor system is exceeded.

The route for the major storm flow shall be over publicly owned rights-of-way and open space areas and not through private property.

In the event an overland flow route entirely on publicly owned lands cannot be achieved by reasonable re-grading of the lands the design engineer may make application to the Municipality for approval to drain over privately owned lands.

Any approval to allow the major storm route to cross privately owned lands will require the developer to provide specialized drainage plans for the approved locations, wider than normal drainage easements and specialized drainage facilities as may be deemed appropriate by the Engineer.

Requirements

All development shall be designed to minimize the possibility of backup of the minor storm system into any foundation drainage system and to provide for the safe overland flow for all storm water.

The following information is to be contained in Lot Grading Plan, which shall be submitted, to the Municipality at the time the construction drawings are submitted for review.

A plan of the development showing the major/minor storm systems including all water courses, contributing areas, outfalls, as well as the major storm route and all drainage easements/rights-of -way

The design brief shall include a statement of adequacy stamped by the qualified engineer certifying the design of the storm management system(s) is in accordance with good engineering practice in accordance with MOEE Guidelines and that the storm management systems(s) will adequately handle a storm, which is equivalent to the design storm intensity.

Lot Grading Plan

A complete set of lot grading plans for each lot and the development, as a whole shall be submitted.

The lot grading plan shall show details of the grading of the lots and shall include:

- a) Existing one meter (1 M) contours and all existing natural drainage courses on the land to be developed.
- b) Existing elevations at each lot corner and at the centre of each lot and
- c) Proposed new elevations as follows:
 - Finished road elevations and grades
 - Finished grade elevations at all lot corners and at the building that is proposed for each lot.
 - Elevations at appropriate locations around the building are required for split or multi-level buildings.
 - Finished grade spot elevations along all drainage swales and at each new and existing culvert within the drainage swales.
- d) Grading details for each lot to show how rear yard drainage will be directed around the proposed building to the street or adjacent property.
- e) Details for all drainage facilities, which will be, constructed on the lots and the size and location of all proposed drainage easements.

- f) The location of the proposed septic field shall be shown along with the proposed design finished grade elevation of the septic field:
- g) The location of the Geodetic Datum used as a reference point for elevations on the lot-grading plan shall be shown on the lot-grading plan if possible or an assumed elevation can be related to the main highway or road.
- h) The recommended average slope or rear yard surfaces shall not exceed 10% and shall be measured by dividing the elevation difference by the distance using the following three measurement:
 - Between the rear of the building and the rear lot line
 - Between the rear of the building and the centre line of the rear swale and
 - From the side lot line to the side lot line on the opposite side of the lot.

The measurement giving the steepest grade shall govern.

A civil engineer shall examine extreme natural terrain elevations that exceed the recommended grades to ensure appropriate stability and erosion control.

- i) The grade difference in the rear yard shall be taken up by the use of grading as follows:
 - Generally the slope of the rear yard shall be between 1 ½ % and 5% to maximize the useable area of the rear yard
 - Slopes shall be 1:2 maximum at the extremities of the property when matching surrounding lands and
 - Retaining walls shall be used to reduce the grade differential to an acceptable amount wherever the finished grade between two adjacent properties exceeds 400 mm unless approved by the Municipality or where erosion of soil may occur.
- j) The desirable depth of a drainage swale is 200mm – 250mm. Minimum depth shall be 50 mm and the maximum depth shall be 300mm or as recommended by the engineer.
- k) The drainage flows which carry around structures shall be contained in defined swales located as far from the structure as practical and follow the property lines where possible.
- l) The type of construction for each structure on a lot shall be determined by the type of grading which is allowed by the topography of the land.

Lot Grading

The grading of the lands shall be carried out in accordance with the lot grading plans. Prior to the granting of initial acceptance for the surface work portion of the development the Developer shall supply the Municipality with a certificate signed by his qualified engineer indicating that the property as a whole has been graded in conformity with the lot grading plan.