

## SECTION 7: POST LOT DEVELOPMENT ISSUES

### 7.0 INTRODUCTION

This section covers issues related to utility infrastructure constructed or installed after lot servicing takes place. This includes lot grading and sump pumps. This information is provided for information only, since the land developer may or may not be the owner, home builder or the landscaper of each lot after sale of the said lot.

### 7.1 GENERAL

The overall design principles described in the introduction to these standards are the basis on which all construction is undertaken in the City of Prince Albert. Often a combination of principles will come into play when designing a particular component of the system.

### 7.2 LEVEL OF SERVICE OBJECTIVES

Lot grading and drainage control within the City of Prince Albert has evolved from the following needs:

- i. To reduce the amount of stormwater inflow entering the Wastewater Collection System via foundation drains.
- ii. To ensure functional surface drainage to protect private property from flooding caused by stormwater runoff.

### 7.3 LOT GRADING AND DRAINAGE DESIGN CRITERIA

- i. Lot grading design is based upon the Overall Major (Overland) Drainage System Grading Plan prepared for a development area at the preliminary planning stage and in conjunction with the Stormwater Management Plan for the area.
- ii. The minimum Finish Grade Elevation at the building(s), for all lots adjacent to trapped lows is to be a minimum of 300 mm above the 1:100 year ponding elevation for the trapped low.
- iii. Split-drainage is the recommended drainage arrangement for lots in the City of Prince Albert.
- iv. Lots can be dishd out to a maximum of 0.5 m below the highest finished lot grade elevation. The City would prefer the subgrade outside the building envelope drain away from the center of the lot.
- v. Fixed grade control must be provided at the back of each lot. The grade control may take the following forms:
  - a) The finished lane for lots backing onto lanes.
  - b) The finished grade on the Lot Grading Plan for lots draining front to back, or having split drainage, except where the lots back onto a linear open space.
  - c) The finished grade on the Lot Grading Plan for lots draining back to front.

- vi. Positive swale drainage must be provided between lots draining from front to back, and from back to front. The swale may be in the form of sod (grassed), asphalt, concrete, or other approved material.
- vii. Design elevations must be provided at the following critical boundary locations on each lot:
  - a) All lot corners.
  - b) Any point along the property line where a grade change occurs.
  - c) For easement grading see Standard Detail Drawing 00-06-01.
  - d) For typical lot grading see Standard Detail Drawing 00-06-02.
  - e) For split drainage, back to front or walk out basements see Standard Detail Drawing 00-06-03.
  - f) Reverse driveways are not permitted unless the runoff can be directed away from the structure and off the property in a controlled fashion.

#### **7.4 LOT GRADING CONTROL**

- i. Lot Grading Control Procedures have been developed by the City of Prince Albert in an attempt to control the vertical elevation, and proper lot grading, for buildings constructed in subdivisions.
- ii. Developers will be responsible for Lot Grade Control on lots serviced after January 1, 2016. The City will assign a portion of the Developers Letter of Credit (or an alternate form of credit acceptable to the City) as required by the subdivision Service Agreement as a performance bond for Lot Grade Control.
- iii. The Developer may obtain a security deposit from the builder or home buyer to ensure Lot Grading is completed as per design.
- iv. The Developer's Project Engineer provides the lot grading design to the City for approval. The Developer's Contractor then rough-grades the subdivision and constructs the underground utilities and surface features. After construction is complete, the Project Engineer then confirms any changes to the lot grading design, and submits any changes to the City for approval.
- v. The Developer provides the approved Lot Grading Design information to builders, home designers, and legal surveyors. The builders, home designers, and legal surveyors then prepare house and plot plans for submission to the Developer or his/her representative for approval. The builder will then submit the house and plot plans, along with the Service Connection Note Drawing 00-01-20, to the Planning and Development Department for approval.
- vi. All plot plans are required to have a completed Service Connection Note. It is the responsibility of the builder to ensure that the building is constructed and the lot graded according to the specified elevations. It is the responsibility of the developer to ensure the purchaser of the lot is fully aware of the specified elevations.

**7.5 DOWNSPOUT DISCHARGE**

- i. It is recommended that downspouts discharge to a splash pad, or a surface of concrete or other impervious materials, that is positively graded to convey the runoff a minimum of 1.2 m horizontally away from the building and adjacent properties.
- ii. Splash pads are to be securely anchored to the foundation wall at the design finish grade elevation.
- iii. Except for commercial buildings, industrial buildings and multi-family apartments containing more than 6 units, downspouts and roof leaders shall not be connected directly to the storm sewer system but shall discharge to the surface of the ground and flow overland before entering the stormwater system. Downspouts may not be connected to the Wastewater Collection (Sanitary Sewer) system by any means.

**7.6 FOUNDATION DRAINAGE**

**7.6.1 Foundation Drainage (Weeping Tile) Requirements**

The bottom of every exterior foundation wall shall be drained as per the Building and Plumbing Codes.

**7.6.2 Discharge of Foundation Drainage Water**

- i. All buildings are required to drain foundation water into a sump, which in turn discharges the water through surface to such sewers designated as storm sewers or foundation drainage collectors.
- ii. Sumps discharging through surface to storm sewers or foundation drainage collectors shall be pumped to the main by a pressure service connection as per detail drawing Sump with Pumped discharge to Storm Sewer or Foundation Drain Collector, Standard Detail Drawing 00-01-11.
- iii. Properties zoned for non-residential land uses and for medium and high density multi-family residential (excluding lots less than 2500 m<sup>2</sup>) must retain runoff volumes of the 1 in 5 year return period on site. The excess runoff control may take the form of parking lot, rooftop, or underground storage, as well as wet or dry ponds. The Department of Public Works shall approve runoff control designs.
- iv. Sump pump outlets and roof leaders shall discharge flows no closer than 1.0 m from the property line, sidewalk, road, park, alley or surface drainage facility. Where possible, drainage across property lines shall be spread to encourage sheet flow and reduce concentrated erosive flows.