



# **Albion Flats Development Water Servicing Summary**

**Report  
September 2010**

## **1. INTRODUCTION**

### **1.1 PURPOSE OF THIS REPORT**

The District of Maple Ridge (District) is coordinating a public process for the development of a concept plan for the Albion Flats area. The process includes conducting a public design charrette for the development of the Albion Flats. The purpose of this report is to summarize potential onsite and offsite water servicing requirements for the study area based upon a range of typical land uses.

### **1.2 STUDY AREA**

The study area (Albion Flats) and current surrounding watermain network is shown on Figure 1. Albion Flats is located in the lowlands of the Albion neighbourhood in Maple Ridge which is serviced by the 84 m Centre pressure zone. The study area is bounded by residential development to the north and east, industrial lands to the south and Kanaka Creek to the west.

The gross area of the study area is 133 Ha, ranging in elevation from 3 to 10 m geodetic.

The study area currently includes the following land uses:

- A hockey arena (Planet Ice);
- Recreational playing fields (baseball diamonds);
- Agricultural (low-impact fields);
- Residential large lot acreages along Lougheed Highway; and
- Institutional (elementary school).

### **1.3 PROPOSED DEVELOPMENT**

The proposed development concept is to be determined as part of the public planning process. To assist with understanding servicing implications three land-use intensity scenarios have been developed.

Scenario A - High intensity land uses including:

- Commercial Centre with large scale retail;
- Multi-Family Residential including townhouse and garden apartment (4 storey) forms;
- Industrial park.
- Agricultural with accessory processing such as greenhouse, or irrigation system; and
- Incorporates existing fairgrounds and recreational facilities.

Scenario B – Moderate intensity land uses including:

- Commercial in a boutique style complex;
- Townhouse and single detached residential housing;
- Non-irrigated agricultural uses; and
- Expansion of outdoor recreational facilities such as the fairgrounds and playing fields.

Scenario C – Low intensity land uses including:

- Large lot single detached residential; and
- Expansion of fairgrounds and playing fields.

## 2. WATER SERVICING REQUIREMENTS

The Albion Flats area is relatively easy to service as it fits inside the currently serviced gravity-supplied portion of Maple Ridge and is adjacent to existing industrial land uses with similar fireflow requirements.

Typical design criteria were used to determine the demands and required fireflows. Using the DMR Water Model, Scenario A was analyzed to determine the required upgrades to service the proposed development. Servicing requirements for Scenarios B and C were then determined by comparing flow requirements with Scenario A. The following table summarized the different levels of upgrades and estimated costs.

**Table 1: Servicing Requirements**

	<b>Scenario A – High Intensity</b>	<b>Scenario B – Medium Intensity</b>	<b>Scenario C – Low Intensity</b>
Design Fireflow Requirement	250 L/s	150 L/s	75 L/s
Demands (max. day)	36 L/s	22 L/s	22 L/s
On-site Servicing	300 mm dia. backbone watermain with 200 mm dia. looping	250 mm dia. backbone watermain with 200 mm dia. looping	200 mm dia. backbone watermain with 150 mm dia. looping
Off-site Servicing	<ul style="list-style-type: none"> <li>▪ River Road Upgrade: 50 m of 300 mm dia. watermain to replace 200 mm cast iron.</li> <li>▪ 104 Avenue - Stratford Place to 240 St.: 170 m of 250 mm dia. to replace existing 150 mm dia.</li> <li>▪ Portion of 240 Street Transmission Main Twinning – 500 m of 500 mm dia. watermain.</li> <li>▪ PRV Station Upgrades at 240 Street.</li> </ul>	Reduced 240 St. watermain upgrades (300 m of 500 mm dia.)	<ul style="list-style-type: none"> <li>▪ Reduced 240 St. watermain upgrades.</li> <li>▪ No upgrades on River Rd. or 104 Ave.</li> </ul>
Estimated Off-site Servicing Cost	\$604,000	\$424,000	\$308,000

Servicing requirements for Scenario A are shown on Figure 2.

### **3. CONCLUSION**

Based upon the three land-use intensity options upgrades would be required to the existing system to service the proposed developments. Service requirements and estimated costs are summarized in Table 1.

#### 4. REPORT SUBMISSION

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#### **REVISION HISTORY**

<b>Revision #</b>	<b>Date</b>	<b>Status</b>	<b>Revision</b>	<b>Author</b>
0	Sept 9, 2010	Draft	Original	MDD/NW
1	Sept 13, 2010	Draft	Summary (shortened)	MDD/NW
2	Sept 15, 2010	Draft	Revisions from Stephen Judd (DMR)	MDD/NW
3	Sept 16, 2010	Final	Revisions from Stephen Judd (DMR)	MDD/NW







