



ENVIRONMENTAL DESIGN AND MANAGEMENT LIMITED  
PLANNING • ECONOMICS • ECOLOGY • ENGINEERING • GEOMATICS

May 25, 2016

Luc Ouellet , Planner III, Urban Enabled Applications  
HRM Planning Applications  
Halifax Regional Municipality  
PO Box 1749  
Halifax, NS B3J 3A5

**Re: Preliminary Stormwater Strategy in Support of Rezoning and Development Agreement Applications for a Portion of PID 41255019, Dartmouth Crossing**

Dear Mr. Ouellet:

Stormwater design at Dartmouth Crossing is managed under an overall master plan for Stormwater, titled Dartmouth Crossing Tentative Stormwater Management Plan, 2006. In the master plan, the Phase 1 residential area is to drain into the Grassy Brook catchment, via a planned stormwater pond "GB-1". "GB-1" has been sized in the Plan assuming retail development. Residential development generates less surface runoff than the previously proposed retail development. The pond size as planned is therefore more than sufficient and may be reduced during final detailed design (see Figure 4.1 from the Stormwater Management Plan (Attachment 1)). Also, as required by the Plan, GB-1 will be sized and configured to release storm water over a 4 to 7 day period. Outlet pipes will extend into the riparian buffer and discharge into a man-made rock lined channel (rather than directly into the Brook) to mitigate the energy of the discharge flow.

Grassy Brook is a significant trout habitat that has been created through the development of Dartmouth Crossing. The design of the residential site has been undertaken to ensure the long term health of the Brook trout. Similar to other areas of Dartmouth Crossing, the following mitigation measures are proposed:

1. Roof water from the large tower building is proposed be collected and piped separately and directly to the Brook and/or wetland behind the site. This water

- will be distributed via a long rock-lined ditch, but will not be detained to ensure a background level of cool temperature, and clean flows into the Brook.
2. Stormceptor or similar catch basin treatment will be employed in the private surface parking lots and driveways to remove oil and grease from the water. This water will be directed either via pipe or surface ditches to pond GB-1, where flows will be balanced to match those required in the Stormwater Management Plan.
  3. Grass and other surface areas will be generally directed towards an internal bio-swale that will be planted with nutrient loving wetland plants to mitigate nutrients in the surface runoff. The bio-swale will be sized to contain the "first flush" coming from the planted and grassed areas. The bio-swale will discharge to pond GB-1 for further flow balancing.

Site management is essential for residential development to perform as well as commercial development in runoff water quality, particularly with respect to nutrient loading from pets. Future tenants will be educated about the Brook and the importance of pet feces and garbage management. Building owners/managers will be required to utilize plantings that do not require significant use of nutrients to maintain plant health.

The site is immediately adjacent to an in-stream berm that was constructed to create an upstream reservoir to equalize summer flows into the lower reaches of Grassy Brook where trout spawning occurs (see Attachment 2). This reservoir will be retained in the development. The large adjacent upstream wetland, largely on lands owned by HRM in Burnside, is also essential to the long term summer flows in Grassy Brook. To ensure the wetland is not impacted by the building construction, a trench will be constructed along the edge of the property line adjacent to the building. The trench will be filled with water impermeable clay and keyed into the bedrock. During site dewatering for footing construction the trench will be monitored to ensure it is working to retain the wetland. The trench will remain in place in the long term, ensuring the long term viability of the wetland once gravels and other porous materials are placed in the residential development area.

Sincerely,

**Original Signed**

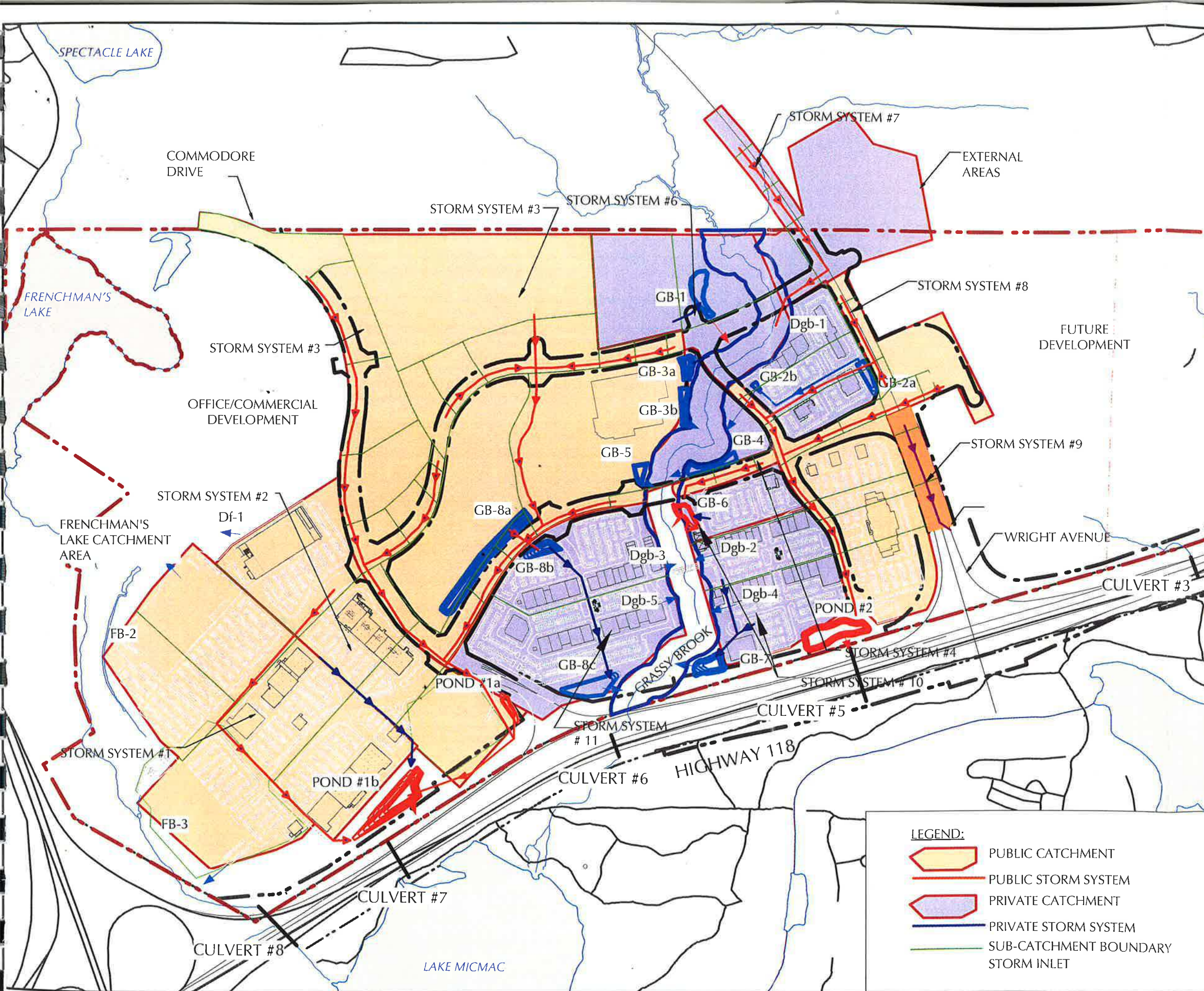
Tim Veinot, MBA, P.Eng.



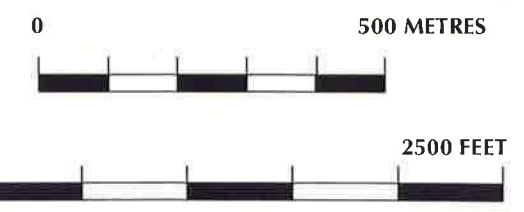
# DARTMOUTH CROSSING

TENTATIVE SUBDIVISION APPLICATION

FIGURE 4.1  
PROPOSED PUBLIC STORMWATER SYSTEM (IPIPE NETWORK)



Scale 1: 7,000



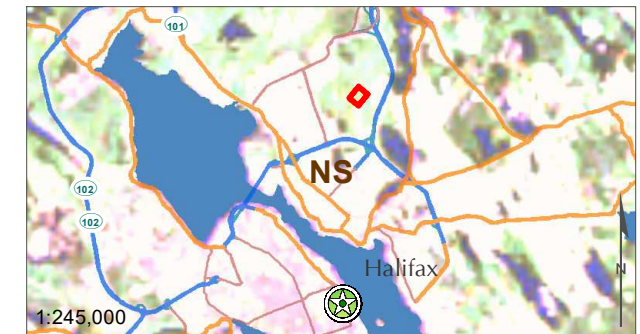
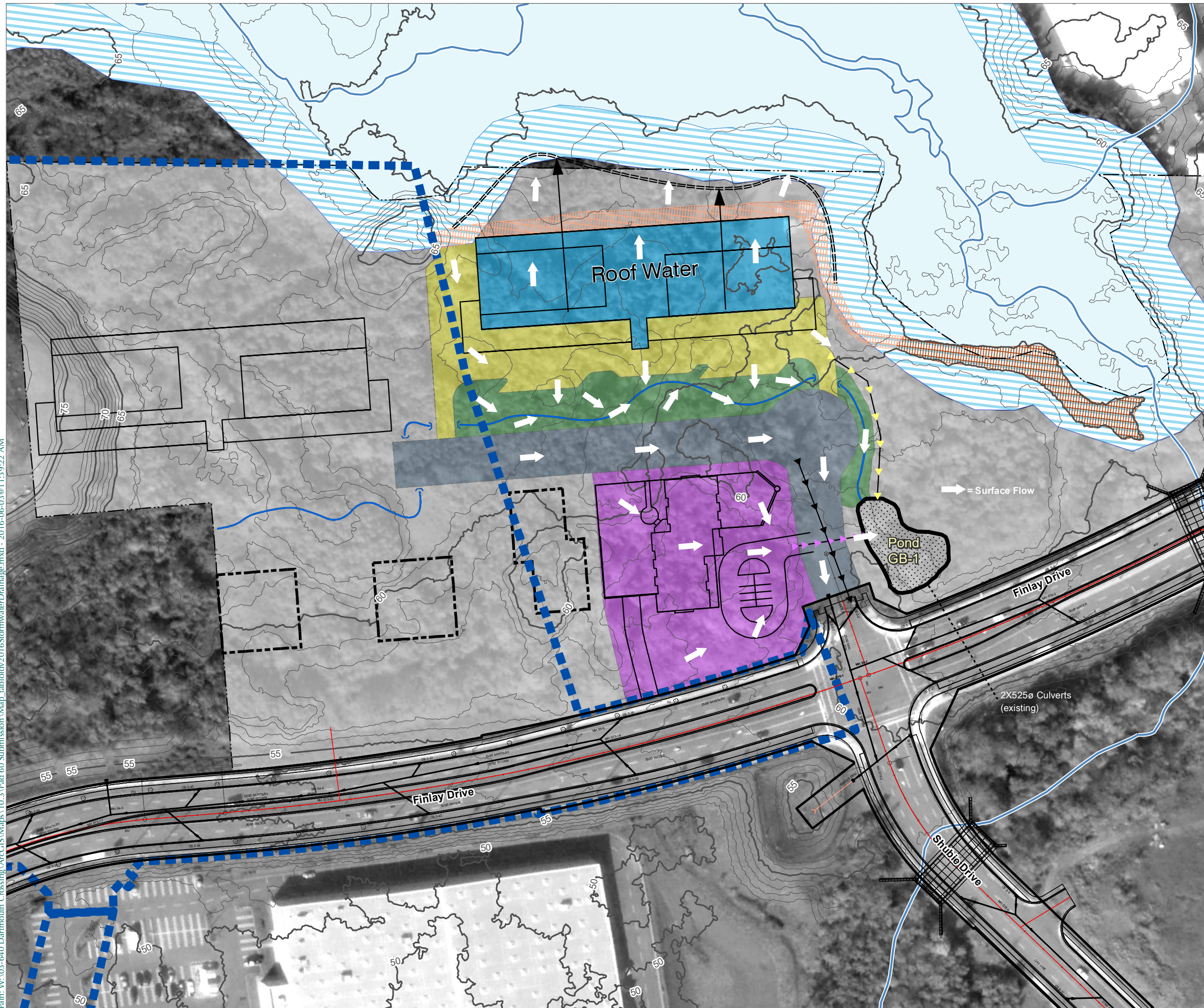
ATTACHMENT 1



FEBRUARY 15, 2006



Path: W:\03-640 Dartmouth Crossing\ArcGIS\Maps\10.3\Pad 60 Submission\Map\_10.3\2016-06-03\2016StormwaterDrainage.mxd - 2016-06-03@11:39:22 AM



**Dartmouth Crossing, Pad 60  
MAP - Concept Drainage**

- Legend**
- == Distribution Ditch for Roof Water
  - Storm Water Pipes
  - Building A Driveways
  - Building B Roof & Driveways
  - HRWC
  - Tentative Storm Water Plan Catchment Boundary
  - Streams
  - 1m Contours
  - Contours - Pad 60 (1M Index)
  - Contours - Pad 60 (1M Intermediate)
  - Pond GB-1
  - Proposed Property
  - Wetland
  - Riparian Buffer
  - Clay Berm Extension
  - Existing Instream Clay Berm
  - Bio-swale
  - Drainage Areas
  - Bio-swale
  - Building A Roof
  - Building A Private Driveways
  - Building B Roof & Driveways
  - Street to HRWC
  - Unchanged

→ = Surface Flow

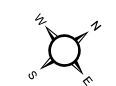
2X525ø Culverts (existing)

**ATTACHMENT 2**

Data Source: SNSMR, EDM, HRM, DCL, TCL, ESRI  
 Coordinate System: ATS 1977 MTM 5 Nova Scotia  
 Projection: Transverse Mercator  
 Datum: ATS 1977  
 Units: Meter  
 June 2016

Imagery: ©2015 Google™

The following is a graphical representation and although care has been taken to ensure the best possible quality, EDM does not guarantee the accuracy of this document.



Prepared by Prepared for

1:1,500

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