



March 9, 2023

Township of Douro-Dummer
894 South Street, P.O. Box 92
Warsaw, Ontario
K0L 3A0

Attention: Martina Chait, Deputy Clerk

Dear Ms. Chait,

**Re: 162 County Road 4 – Draft Plan of Subdivision
Township of Douro-Dummer
Technical Peer Review – 3rd Submission
D.M. Wills Project No. 20089-008**

D.M. Wills Associates Limited (Wills) has been retained by the Township of Douro-Dummer to complete a Technical Peer Review of the proposed Draft Plan of Subdivision located at 162 County Road 4. The proposed Draft Plan of Subdivision was prepared by Innovative Planning Solutions on behalf of Gerry Clancy.

The following information was received as part of this Peer Review:

- Comment Response Matrix, prepared by Innovative Planning Solutions, dated March 9, 2022.
- Draft Official Plan Amendment and Schedule, prepared by Innovative Planning Solutions, dated August 24, 2022.
- Draft Zoning Bylaw Amendment and Schedule, prepared by Innovative Planning Solutions, dated August 24, 2022.
- Preliminary Stormwater Management Report, prepared by WMI & Associates Limited, dated October 2022.
- Environmental Impact Study Response, prepared by Cambium, dated March 1, 2022.
- Traffic Impact Study, prepared by J.D. Engineering, dated December 22, 2021.
- Hydrogeological Assessment, prepared by Wilson Associates Limited, dated January 14, 2022.
- Draft Plan of Subdivision, prepared by Innovative Planning Solutions, dated March 4, 2022.
- Preliminary Engineering Design Drawings, prepared by WMI & Associates Limited, dated October 7, 2022.



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All items were reviewed as background information; however, the scope of this Technical Peer Review is limited to the Preliminary Stormwater Management Report, Engineering Design Drawings and Hydrogeological Assessment.

Comments

Based on the information provided, we have the following comments regarding the proposed design.

1.0 Preliminary Stormwater Management Report

All outstanding comments with respect to the Preliminary Stormwater Management Report have been satisfactorily addressed for Draft Plan Approval. During detailed design, the following comments should be addressed.

- 1.1 Hydrologic calculations were not provided for catchment **POST1**. In review of the model output the following concerns were noted:
 - The STANDHYD command should not be used for catchments with less than 20% impervious.
 - The directly connected impervious ratio modelled is only 1%, which is not representative of the developed lots or roadway.
 - The impervious manning's n value should be 0.013.
 - The impervious flow length should be reviewed and should represent a typical impervious flow path for the STANDHYD command. For this catchment it should represent half the roadway width as the roadway does not propose curbs or gutters.
- 1.2 Provide capacity calculations for the roadside ditches, rear yard swales and driveway culverts.
- 1.3 Provide culverts at the proposed entrances in accordance with County of Peterborough standards.
- 1.4 The proposed hicken-bottom outlet structure should be revised to prevent standing water from being trapped within the outlet pipe. Based on the current outlet detail, the outlet pipe will be prone to freezing and has the potential to burst. Furthermore, the orifice plate should be mounted to the upstream side of the concrete headwall to reduce the force on the lag screws.

- 1.5 Provide a stand-alone Stormwater Management Operation and Maintenance manual. The manual should summarize the stormwater management objectives of the development and provide an overview of each stormwater and low impact development feature proposed to achieve these objectives. A description of the operation, inspection and maintenance requirements shall be provided for each feature that is to be assumed by the Township. Maintenance requirements shall include routine and non-routine items, with an estimated frequency. An inspection checklist shall also be provided for Township staff to use during site visits.
- 1.6 If low impact development features are proposed on private property, a home owner's guide is to be prepared outlining the purpose, operation and maintenance requirements of the proposed features.
- 1.7 A detailed landscaping and pond planting plan shall be provided.

2.0 Hydrogeological Assessment

All outstanding comments with respect to the Hydrogeological Assessment have been satisfactorily addressed. We have no further comments at this time.

3.0 Grading and Servicing Design

- 3.1 Please provide a typical roadway cross-section to confirm that the proposed 20.0 m right-of-way is of sufficient width. If easements are anticipated to be required to accommodate utilities, please advise on the anticipated easement width.

We trust that this information is suitable for your purposes at this time. Please contact our office if you have any questions or require clarification.

Respectfully submitted,



Chris Proctor-Bennett, P.Eng.
Assistant Manager,
Water Resources



Ian Ames, M.Sc., P.Geo.,
Group Leader,
Environmental Management

CPB/IA