Minto Communities
180 Kent Street, Suite 200
Ottawa, ON, K1P 0B6

June 20th, 2019

Attn: Beth Henderson, Senior Land Development Manager

RE: Minto Kanata North Development (936 March Road)
Memorandum – Low Impact Development Measures (LIDs)

1.0 INTRODUCTION AND BACKGROUND

McKinley Environmental Solutions (MES) was previously retained by Minto Communities to prepare a Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) to support the development of the Southeast Quadrant of the Kanata North Urban Expansion Area (KNUEA), which includes the property at 936 March Road, Ottawa, Ontario (the Study Area). The Combined EIS and TCR is entitled *Minto Communities and 2559688 Ontario Inc. Kanata North Development (936 March Road) Combined Environmental Impact Statement & Tree Conservation Report (Revised)* dated May 2019. The 936 March Road property is proposed to be developed as a future subdivision, which will include a mixture of residential, commercial, and institutional uses. Refer to the Combined EIS and TCR for additional detail.

As part of the Combined EIS and TCR, MES conducted extensive natural heritage surveys throughout the Study Area in 2017, 2018 and 2019. During these surveys, MES observed that Black Legged Ticks are common within the undeveloped portions of the Study Area, including in Woodlot S-20, Woodlot S-23, and within riparian vegetation surrounding the North Tributary of Shirley's Brook. During a typical Site visit, MES staff would typically encounter anywhere between one (1) and five (5) Black Legged Ticks each day. Ottawa Public Health has documented a high incidence of Lyme Disease within Black Legged Ticks in the Ottawa area (Ottawa Public Health 2019). Mosquitos are also common throughout the Study Area.

2.0 LOW IMPACT DEVELOPMENT MEASURES

Section 4.2.4 of the Combined EIS and TCR notes that "*Mitigation measures pertaining to the hydrological functions of the Ephemeral Farm Drainage Channels will be addressed by the stormwater management and servicing studies. The stormwater management and servicing studies will also consider Low Impact Development (LID) options, in order to mitigate impacts to the water balance of the Study Area.*"

MES has reviewed the *Memorandum - Groundwater Infiltration Review – Proposed Mixed Use Development – 936 March Road – Ottawa* (prepared by Paterson Group - June 2019). Paterson Group (2019) note that existing conditions at the subject site currently allow for only minimal volumes of recharge to occur. As such, they conclude that the applicability of secondary infiltration measures is considered limited for Low Impact Development Measures (LIDs). Paterson Group (2019) further note that previous attempts within the City of Ottawa to induce additional surface water infiltration in similarly low permeability soils have resulted in detrimental effects to both homeowners and their properties due to poorly maintained drainage systems. Lastly, Paterson Group (2019) note that while some loss of infiltration can be expected as a result of impervious surfaces, the majority of the existing infiltration potential is expected to be maintained through urban lawns and landscaped areas.

It is our opinion that in situations where low permeability soils exist and drainage problems are anticipated, the pooling of surface water associated with infiltration features (e.g. surface infiltration swales, ditches, etc.) may have a detrimental impact on the future homeowners and community by increasing the risk/incidence of mosquitos and Black Legged Ticks. While Black Legged Ticks are unlikely to directly breed within infiltration features, the presence of such features may increase the likelihood that Black Legged Ticks will occur within residential yards. The growth of vegetation and accumulation of moisture associated within infiltration features increases the likelihood that Black Legged Ticks, and associated host animals (e.g. mice, voles, deer, etc.), may enter residential yards, particularly where those properties occur close to retained natural features. Per the Combined EIS and TCR, the future development is intended to include a retained corridor 40 m wide surrounding the North Tributary of Shirley's Brook, as well as a retained portion of Woodlot S-23. Black Legged Ticks are currently common in both areas. Ottawa Public Health recommends that homeowners remove brush from yard edges and cut their grass regularly, in order to reduce the likelihood of Black Legged Ticks entering their yard (Ottawa Public Health).

Mosquitos are capable of breeding in very shallow ephemeral pools, including in ditches and infiltration swales that are not permanently hydrated (CWF 2019). The pooling of surface water associated with infiltration features (e.g. surface infiltration swales, ditches, etc.) is hence likely to directly provide mosquito breeding habitat, which will likely increase the population of mosquitos within the future residential area.

3.0 RECOMMENDATIONS AND CLOSURE

As described above, it is our professional opinion that infiltration features (e.g. surface infiltration swales, ditches, etc.), may increase the likelihood that Black Legged Ticks will enter residential yards, particularly where those properties occur close to retained natural areas (e.g. the 40 m corridor surrounding the North Tributary and the retained portion of Woodlot S-23). Similarly, it is likely that such features will directly provide breeding habitat for mosquitos. The increased presence of Black Legged Ticks and/or mosquitos may have a detrimental effect on future homeowners and the community.

It should be noted that infiltration features (e.g. surface infiltration swales, ditches, etc.) generally do not provide significant wildlife habitat values. Given their limited potential value to wildlife, coupled with their potential detrimental effects in terms of increasing the incidence of Black Legged Ticks and mosquitos, it is our professional opinion that the installation of infiltration features within the proposed development is unlikely to be beneficial to the natural features and functions of the Study Area.

We trust that the above information is sufficient; should you have any questions or require further information, please do not hesitate to contact the undersigned, at your convenience.

Sincerely,

Dr. Andrew McKinley, EP, RP Bio.

References:

Canadian Wildlife Federation (CWF) (2019) Hinterland Who's Who – Mosquito. Retrieved June 20th, 2019 from <http://www.hww.ca/en/wildlife/invertebrates/mosquito.html>

Ottawa Public Health (2019) Lyme Disease. Retrieved June 20th, 2019 from <http://www.ottawa publichealth.ca/en/public-health-topics/lyme-disease.aspx#How-can-I-reduce-the-number-of-blacklegged-ticks-around-my-home>

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