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WATER SERVICES

May 19, 2010

Ms. Amanda Sills
Planner
Regional Municipality of Waterloo
Planning, Housing and Community Services
150 Frederick Street
Kitchener, Ontario
N2G 4J3

Dear Ms. Sills:

**PROPOSED CLASS A, CATEGORY 3 ARA LICENCE
KUNTZ TOPSOIL, SAND AND GRAVEL LTD. - PROPOSED JIGS HOLLOW PIT
PART LOT 3, CROOKS TRACT WGR, WOOLWICH TOWNSHIP**

Further to Ms. Laurel Gibson's February 2, 2010 hydrogeological comments related to the Hydrogeological Assessment prepared by Mitz and Associates for the proposed Jigs Hollow Pit, please find attached hereto the applicable response from C. Mitz, (dated April 5, 2010). At this time I would request that you review the attached and please provide your internal clearance to Ms. Laurel Gibson.

Should you have any questions, please do not hesitate to contact me.

Yours truly

IBI GROUP

David R. Sisco, BA, MCIP, RPP
Associate, Principal – Planning

DRS/baw
Encl.

cc: Ray Kuntz, Kuntz Topsoil, Sand & Gravel Ltd.

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Mitz & Associates Inc.

April 5, 2010

Mr. David Sisco
The IBI Group Inc
650 Weber Street North
Waterloo, Ontario
N2V 2N2

**Subject: Hydrogeological Study Report
Proposed Jigs Hollow Pit
Woolwich Township, Ontario**

As requested I have reviewed the February 2nd, 2010 comments from Ms. Laurel Gibson of the Region of Waterloo regarding the Zone Change Application made on behalf of Kuntz Topsoil, Stone, and Gravel as part of their Jigs Hollow aggregate pit application. The following numbered points correspond to the Region numbered comments.

1. Although the initial test wells were surveyed, the elevations of the current permanent wells were obtained from a detailed topographic survey of the site completed by the IBI Group. These elevations were combined with a survey of the initial monitoring well locations and the resulting elevation estimates have a high degree of accuracy. Expressing water level elevation data in metres above sea level (mASL) is considered appropriate. However, as part of our spring round of monitoring, we will have the top of the well casings surveyed-in to confirm same.
2. The thickness of the sand and gravel unit was previously estimated in an unpublished report completed by Planning and Engineering Initiatives Ltd. (now part of the IBI Group). It is not known whether the total thickness was identified in this report but three of the Mitz & Associates Ltd. monitoring wells were reconstructed and deepened in 2009 and these wells found a total sand and gravel thickness of approximately 8 metres below which a stratum of clayey silt till was encountered. The new monitoring wells were screened immediately above the till deposit.

The monitoring wells were taken deeper than the original wells to reduce the chance that surface water run-off would affect measured groundwater levels and to determine whether a deeper screened level might indicate a lower groundwater level. This phenomenon is frequently encountered in sites having a downward hydraulic gradient. In the case of the Jigs Hollow site, the groundwater elevations remained essentially unchanged reflecting the influence of the lower aquitard and indicating a dominantly lateral hydraulic gradient.

3. Regular monitoring of water levels has been continuing at the Jigs Hollow site. The most recent readings were taken in early December, 2009 and show the water table at approximately 5 m below ground surface.
4. We agree that the in situ hydraulic conductivity measurements are of limited use because of the partially saturated conditions (i.e. the water table occurring within the screened interval) which

invalidate the Hvorslev assumptions. The issue of potentially disturbed soils is of lesser importance as the integrity of any seal above the screened zone is immaterial if the top of the screen is above the water table. That said, estimates of hydraulic conductivity are consistent with those referenced in literature for similar materials and adequate for the purposes of assessing potential impact.

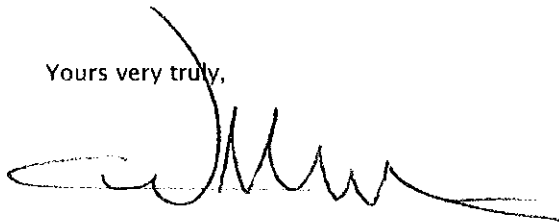
5. We agree with the Region's recommendation that baseline conditions be established in the closest wells prior to beginning operations at the site. This should include measurement of groundwater levels and chemical/bacteriological testing in the three closest wells to the site (i.e. the residences immediately north and east of the site as well as the farmhouse on the property itself). Mitz & Associates carried out a physical inspection of the closest residences but did not include an interview with the homeowners.
6. We have no objection to geochemical sampling twice per year in accordance with the Region's Guidelines. As such, the Site Plan note referred to as Hydrogeological Recommendation - Note 2 be revised as follows:

2. Groundwater samples shall be obtained from the wells yearly and analyzed for general water quality parameters, major cations and anions as well as geochemical sampling bi-annually in accordance with the Region of Waterloo's Guidelines.

7. Lake Huron and Georgian Bay cause a moderating influence on the climate in the area. Lakes Ontario and Erie may also influence climate in the area but because of the prevailing wind directions such influence occurs only rarely.
8. Water well records for the area show the majority of wells to be screened within deep overburden or bedrock. Confined conditions exist for deep wells in this area based on the known stratigraphy and Region hydrogeological mapping. There is relatively little discussion of the deep aquifer in the report since most wells are located at considerable distance or are on the opposite side of the Grand River and hence any impact of water quality would be exceedingly unlikely.

I trust that this report is complete within our terms of reference and sufficient for your present requirements. If you have any questions or comments regarding this document, please contact me at your convenience.

Yours very truly,

A handwritten signature in black ink, appearing to read 'C. Mitz', with a long horizontal flourish extending to the right.

Charles W. Mitz, M.Eng., P.Geo.