

February 28, 2013

File #213019

“BY EMAIL”

County of Brant
66 Grand River Street North
Paris, Ontario
N3L 2M2

**Attn: Don Cunningham
Development Technologist**

Cc: Brant Development Services,
Cynthia Compeau, County of Brant
Mark Pomponi, County of Brant
Lee Robinson, County of Brant
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Alex Davidson, County of Brant
Rick Knap, County of Brant
Alex Donn, County of Brant
Karen Vellenga, County of Brant

**Ref: Nith Peninsula Area Study
Peer Review Comments**

Dear Mr. Cunningham:

As requested in your memorandum dated December 21st, 2012, we have reviewed the following documents:

- Traffic Impact Study, Response to Peer Review Comments, prepared by Paradigm Transportation Solutions and dated October 12, 2012.
- Water Supply Options and Potential to Expand Airport Water Supply, prepared by Azimuth Environmental and dated December 4, 2012.

The following revised/updated documents were not provided with this current submission and as such the comments from the Peer Review letter dated May 8, 2012 as prepared by Genivar remain the same:

- **Updated Functional Servicing Study (September 2011) – J. H. Cohoon Engineering Ltd.**
- **Stormwater Management Scheme (September 5, 2011) – J. H. Cohoon Engineering Ltd.**
- **Supplementary Hydrogeological Study (September 29, 2011) – LVM**
- **Response to GRCA Comments of March 1, 2011 (September 5, 2011) – J. H. Cohoon Engineering Ltd.**
- **Updated Draft Plan of Subdivision (October 2011) – MHBC Planning**
- **Updated Groundwater Contour Map (October 2011) – LVM**
- **Paris Rail Yard Noise Impact Analysis (October 20, 2010) – Valcoustics Canada**

- **MHBC Response to Public Works Department and Engineering Peer Review Comments (October 28, 2011) – MHBC Planning**
- **Comments on the Geotechnical Investigation (October 2008) – Naylor Engineering**
- **Comments on the Slope Stability Setback (February 2007) – Naylor Engineering**
- **Comments on the Hydrogeological Investigation (June 2008) – Naylor Engineering**

TRAFFIC IMPACT STUDY

With regards to the Traffic Impact Study component, it is understood that an original traffic impact study was prepared by Paradigm Transportation Solutions in October of 2008. Genivar then reviewed the traffic impact study and provided comments on August 20, 2010. Subsequently, Paradigm prepared a response to the comments on September 29, 2010 (Addendum to the traffic impact study). Genivar provided comments on the Addendum on May 8, 2012 and our office provided additional comments on the Addendum on June 12, 2012. The latest submission by Paradigm on October 12, 2012 is in response to our comments from June of 2012.

As a result of our review, we provide the following comments for consideration:

1. With regards to Genivar's Peer Review letter dated May 8th, 2012:
 - a) Comments #64, 65, 66, 74, 75, 77, 78, 79, 81, and 82 have been satisfied.
 - b) Comment #67 has not been addressed. The 10% site trip reduction for transit uses should be 1%.
 - c) Comment #68 on the existing traffic volumes has not been addressed. Original traffic count data has not been provided. A seasonal variation factor should be considered to reflect the peak summer conditions (traffic counts conducted in February 2008).
 - d) Comments #69, 70, and 71 on the future horizon year have not been addressed. Future horizon year should be five years beyond the full built-out of the site. Given the number of the units proposed (456), the site will probably take 10 years to be built. If the site started to be built in 2008, the future horizon year should be 2023 (2008 + 10 + 5). As per Genivar's comments, the traffic impact study assesses the 2017 horizon instead.
 - e) Comment #72 on rationale for the selection of a two percent annual growth rate, a two percent annual growth rate is considered acceptable.
 - f) Comment #73 on the total traffic volumes has not been addressed. The eastbound total through volume on Dundas Street at Gort Avenue during the AM peak hour in the Addendum is incorrect. The total traffic volumes should be higher than the one that is shown in Figure 2 of the Addendum if the above comments are addressed.
 - g) Comment #76 has not been addressed. Volume to capacity (v/c) ratio and level of service detail should be provided.

- h) Comment #80 has not been addressed. Although, a traffic signal is not warranted at the intersection of Dundas Street eastbound approach at King Edward Street based on MTO signal warrant criteria, a traffic signal should be considered given the high delay and poor level of service on Dundas Street eastbound approach.
2. In addition to the previous comments provided by Genivar and as a result of our review of the October 12, 2012 letter prepared by Paradigm, we have concerns with the area that encompasses the intersections of Dundas Street West at King Edward Street; Dundas Street East at King Edward Street; and Hanlon Place at King Edward Street. Our concerns are further described below:
- The three aforementioned intersections are currently “T” intersections with stop control on the “side streets” (i.e. Dundas Street West, Dundas Street East, and Hanlon Place). There is also a pedestrian signal on King Edward Street south of the Dundas Street eastbound approach. Although, most of the traffic from both the Dundas Street eastbound and westbound approaches may travel north and south on King Edward Street, it will be problematic in the future in the area given the increase in site traffic and background traffic. A poor level of service “F” will occur on the eastbound approach of Dundas Street and there is a less than desirable distance between these intersections especially between the intersection of the Dundas Street eastbound approach and the intersection of the Dundas Street westbound approach.
 - The Traffic Impact Study Addendum recommends a 30 m northbound left turn lane on King Edward Street at the Dundas Street eastbound approach; however, this may extend beyond the intersection of Hanlon Place at King Edward Street, assuming that a taper will be provided. Thus, the operation of the Hanlon Place intersection will be impacted.
 - The Traffic Impact Study Addendum has not addressed any mitigating measures for the poor level of service “F” on the Dundas Street eastbound approach at King Edward Street, although the original Traffic Impact Study recommends a traffic signal at the intersection.

In order to address these concerns, the Traffic Impact Study needs to evaluate several alternative solutions for this area, which may include combining the Dundas Street westbound approach intersection with the Dundas Street eastbound approach intersection, including realignment; eliminating left turns from King Edward Street on to Hanlon Place; and signaling the Dundas Street eastbound approach intersection, including providing turn lanes to accommodate queue lengths as well as the realignment of the Dundas Street westbound approach to increase the distance between the eastbound and westbound approaches.

In summary, we note that there have been several reviews of various pieces of correspondence related to the Traffic Impact Study and there are several outstanding comments that still need to be addressed. To facilitate future review, we suggest that a comprehensive updated Traffic Impact Study be prepared (i.e. not an Addendum or Response Letter) that incorporates all of the original information as well as all changes made to address the various review comments provided to date.

WATER SUPPLY OPTIONS

With regards to the Azimuth Letter on the Water Supply Options, it is understood that the County and Genivar provided comments on the Azimuth hydrogeological review of available water supply in May of 2012. Azimuth subsequently provided a brief summary report in December of 2012 in response to the previously noted comments.

We have reviewed the recent Azimuth report of December 4, 2012 in conjunction with the previous questions posed by the County and Genivar regarding the Hydrological Review of Sustainability of the Paris Water Supply.

Based on our review of that correspondence and other background information, we provide the following comments for consideration:

1. With regards to Genivar's Peer Review letter dated May 8th, 2012:
 - a) Comment #43 is simply a statement of facts and can; therefore, be considered to be addressed.
 - b) Comment #44 (previously Comment #1) has not been fully addressed. As previously noted on several occasions the population forecast should be consistent with the latest Functional Servicing Study or latest Draft Plan submission. (i.e. We note that the summary bases the population forecast on a range of 408 to 461 units. However, the latest draft plan dated October 19, 2012 has a range of 394 to 441 units.)
 - c) Comment #45 (previously Comment #2) has not been fully addressed. As previously noted on several occasions, the potable water demand is to be based on a maximum day peaking factor of 2.75, and a maximum hour demand factor of 4.
 - d) Comments #46, 47, 58, and 60 (previously Comments #3, 4, and 14) have not been addressed as a complete updated report has not been submitted.
 - e) Comments #48, 52, 53, 54, 55, and 56 (previously Comments #5, 8, 9, 10, 11, and 12) have been satisfied.
 - f) Comment #49 (previously Comment #6) has not been addressed.
 - g) Comment #51 (previously Comment #7) has now been addressed as the County has revised their Per Capita Design Flow Rate to 350 L/c/d.
 - h) Comment #57 (previously Comment #13) has not been addressed. The limitations of using the Airport well field as a source of supply need to be identified, including the currently allocated and future water servicing requirements of the Airport/Oakhill area and any water servicing requirements to augment the development of the Bethel well field, which includes the Southwest Paris Area Study lands and the Brant 403 Business Park.
 - i) Comment #59 (previously Comments #15 and 16) is simply a retraction of comments and can; therefore, be considered to be addressed.

2. In addition to the previous comments provided by Genivar and as a result of our review of the December 4, 2012 report prepared by Azimuth, we note that:
 - a) It is unclear as to why the report includes an assumption of local employment for those residing in the Zavarella development and assigns additional water demand, but this is not done for the water demand forecast for the Airport well field. The report provides no basis for a link between any employment land areas currently being served or to be served by the Airport well field.
 - b) In Section 1, applying the County's standard values in Table 1 would result in an Average Daily Demand of 748,300 L not 773,500 and a peak hour demand of 34.6 L/s not 33.6 L/s. The Maximum Day Demand would be 23.8 L/s not 22.4 L/s (i.e. 1,933,750 L/day).
 - c) In Section 2, the report still refers to the capacity of the Airport Well Supply system of 50 L/s. As previously noted by the County, this capacity has not been confirmed and the report should not assume more than 26.5 L/s from this well field. In previous comments from Azimuth they agree with a strategy that water infrastructure be designed for maximum day demand and that the maximum hour demand be met from storage. The analysis provided in Section 1 shows that the capacity of that system will nearly be exceeded when compared to the well field capacity of 26.5 L/s. In addition, we note that the 26.5 L/s should be further reduced to account for the water from this system that has currently been allocated as well as water required to service future development in the Airport/Oakhill areas and water required to augment the Bethel Well Field, which includes the Southwest Paris Area Study and the Brant 403 Business Park.
 - d) Section 4 provides a general estimate on ultimate ground water supplies in the Airport Area. It is very general in nature and does not take into account any geologic or hydro-geological specific mapping of the area. We acknowledge that this is just an estimate of the theoretical capacity of the ground water supply and its purpose is to show that only a small portion is required. However, perhaps a more critical analysis would be the other side of the equation and the remaining assimilative capacity of the Grand River to accommodate additional development.
 - e) Sections 5 and 6 provide only general comments that additional wells and storage are required to support the development. However, no information is given to attempt to quantify the deficiencies nor any comment on proposed location of any required wells and storage.
 - f) As noted previously by Genivar and the County an assessment for a second water supply connection is required to confirm whether the system will require a pressure reducing valve as well as to determine the location for that valve. To this end, the requirement to provide a water distribution layout and modelling will be addressed via a draft plan condition at the time of application for a plan of subdivision. The modelling should include fire flows.

In summary, we once again note that there have been several reviews of various pieces of correspondence related to the Water Supply Options and there are several outstanding comments that still need to be addressed. To facilitate future review, we suggest that a comprehensive updated overall report be prepared (i.e. not an Addendum or Response Letter) that incorporates all of the original information as well as all changes made to address the various review comments provided to date.

We trust that this is satisfactory and we would be pleased to meet with the County as well any other parties to further discuss these comments, if necessary.

Yours truly,

AINLEY & ASSOCIATES LIMITED



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