



October 1, 2013
MTE File No.: 10339-100

Mr. Don Cunningham
Manager of Development Engineering Review
County of Brant
Development Services Department
66 Grand River Street North
Paris, ON L3L 2M2

Dear Mr. Cunningham;

**Re: Response Letter to comments from Ainley & Associates Ltd.
St. George Area Study**

The following is in response to comments received from the County regarding reports prepared by MTE Consultants Inc. (MTE) in support of the St. George Area Study.

Comments from Ainley & Associates Limited dated May 15, 2013 are shown below, followed by MTE's response in bold italics. The item numbers below correspond to the item numbers in the Ainley letter.

1.0 Preliminary Water Supply and Distribution Study (September 2012) – MTE

1.1. In general, in our opinion, the recommendations on preferred water source locations, treatment options, costing, etc. are premature until various alternatives have been identified, all potential impacts considered, consultation has been completed, and mitigation measures have been identified through the completion of the Municipal Class EA process.

The purpose of this report was to demonstrate that there was a feasible alternative for upgrading the water supply in St. George to accommodate new development. We acknowledge that a Municipal Class EA needs to be completed to evaluate water supply alternatives and to determine the preferred alternative. The County is in the process of requesting proposals from consultants for the St. George Water and Wastewater Servicing Municipal Class EA.

1.2. The report recommends that the County immediately prioritize the upgrade of some of the existing watermains to ensure that adequate fire flows are supplied to the existing village, entirely at the County's expense. We note that the provision of adequate fire protection from the piped water supply system is not a

County requirement as alternative methods of fire protection are available. Therefore, this recommendation is not acceptable and the report is to be revised accordingly.

We will revise the recommendation of the report to indicate that if the County wishes to provide fire protection from the piped water supply system, the recommended upgrades to the existing watermains will be required.

1.3. In Section 1.0, Introduction:

There is a slight discrepancy in the proposed LOG unit counts provided in Table 1-1 when compared to Table 1 in the Background Area Study. The appropriate unit counts should be confirmed.

Table 1-1 in the MTE water supply report will be amended to correspond with Table 1 in the Background Area Study.

1.4. In section 3.2, Water Treatment Requirements:

a) Further investigation will be required to determine and confirm ground water levels, influence, and quality. We recommend that the investigation be done over a longer period of time to gather data on any seasonal variations that may be present.

b) We note that the initial development, operation, and maintenance of a GUDI water supply system will be more onerous and costly for the County than one that is non-GUDI. We anticipate that as part of the Municipal Class EA process, other available options that are non-GUDI sources will be appropriately evaluated and considered.

Water treatment requirements will be reviewed and confirmed through the completion of the St. George Water and Wastewater Servicing Municipal Class EA.

1.5. In Section 4.0, Design Criteria:

The average daily consumption rate of 400 L/c/d is conservative and higher than the minimum County design criterion of 350 L/c/d.

The County changed their criteria for average daily consumption to 350 L/c/d, in 2013, after our report was completed. The report will be updated/amended accordingly.

1.6. In Section 4.3, Fire Flow Requirements:

The County's Development and Engineering Standards indicates that the minimum Fire Flow Requirements are 37.9 L/s for a one hour duration for general residential areas; 56.8 L/s for a two hour duration in general industrial, commercial, and institutional areas; and 75.8 L/s for a two hour duration in special case industrial areas. However, it also states that consideration will be given to the requirements of the latest publication by the Fire Underwriters Survey. The report should discuss the requirements for infrastructure improvements based on both the County's minimum design standards as well as the Fire Underwriters Survey requirements, so that a determination of which standard is to be followed can be made by the County.

The report will be updated/amended to include a comparison of the County's minimum standards and the recommendations of the Fire Underwriters Survey.

1.7. A water storage analysis (including operating) is required to be provided for the study area.

Water storage requirements will be addressed through the completion of the St. George Water and Wastewater Servicing Municipal Class EA.

1.8. We suggest that twinning of the existing watermains should be considered as an alternative to upsizing. In addition to providing system redundancy, this would provide an opportunity to investigate the options and advantages of making use of full life cycle benefits of the existing infrastructure.

As previously stated, the purpose of this report was to demonstrate that there was a feasible alternative for upgrading the water/supply in St. George to accommodate new development. At the detailed design stage, other alternatives can be considered such as twinning existing watermains instead of upsizing. Since all of the watermains in question are part of the local distribution system (vs. major transmission mains), we feel it is unlikely that there will be any significant cost savings associated with maintaining the existing mains and installing slightly smaller second mains. This would have to be weighed against increased maintenance costs for 2 mains, and long term life cycle replacement costs for the 2 mains. At this preliminary stage in the development process, assuming upsizing (replacement) of the existing mains provides a conservative estimate of the financial impacts of the proposed system improvements.

- 1.9. Similarly, consideration for twinning should be investigated instead of abandoning the existing 250mm diameter watermains between J137 & J162 as well as along Highway 5 between J120 & J132 and J55 & J56.

The response to item 1.8 above also applies to this item.

- 1.10. To avoid dead ends and provide system redundancy, we recommend that the possibility of looping J131 to J130 and J134 to J138 be investigated.

These dead end mains are part of the existing local distribution system, and are not affected by proposed development. Elimination of these dead end mains is an issue for the County to consider, and is beyond the scope of this study.

- 1.11. To avoid service disruptions constructability issues, and unnecessary cost of removals, existing 150mm watermains could be abandoned and decommissioned when the new watermain is in service.

Abandonment of existing watermains when new mains are constructed is site specific and should be considered at the detailed design stage. The estimated construction costs provided are considered appropriate for this preliminary stage in the development process, and provide a conservative estimate of the financial impacts of the proposed system improvements

An addendum to Preliminary Water Supply and Distribution Study (September 2012) is attached that addresses the various items referred to above.

2.0 Wastewater Conveyance Review (September 2012) – MTE

- 2.1 We note that this report appears to contradict the WPCP Optimization Report prepared by Gamsby and Mannerow in terms of the potential servicing of lands outside of the urban settlement boundary. Clarification is required.

This report only commented on previous comments from the County regarding servicing areas outside the urban area. We agree that clarification is required, as noted in recommendation #2 on page 12 of the report. This issue should be resolved through the completion of further study as proposed in recommendation #5 on page 12 of the report.

- 2.2 In general, we concur that further investigation is necessary to determine the configuration of the wastewater collection system and confirm the appropriate Municipal Class EA schedule for this component.

Agreed, no further comment required.

- 2.3 In Section 1.1, Background Information:
There is a slight discrepancy in the proposed LOG unit counts provided in Table 1-1 when compared to Table 1 in the Background Area Study as well as Table 1-1 in the Water Supply and Distribution Study. The appropriate unit counts should be confirmed.

A revised Table 1-1 is provided below. Going forward, these revised unit counts will be used in any future studies recommended in this report.

Table -1: Potential Development Lands – Areas and Unit Count Summary (Revised 2013)

Land Owner	Total Area (ha)	Developable Area (ha)	Number of Units	% of Total Units
Empire Communities	66.5	49.8	891	74.7%
Activa Group	26.3	17.6	212	17.8%
Riverview Highlands Development	8.7	8.7	89	7.5%
Subtotal	101.5	76.1	1,192	100%
Other Developers	19.4	16.7	257	
Total	120.9	92.8	1,449	

- 2.4 In section 2.0, Design Criteria:
In Table 2.2, we note that the minimum County design criterion for average daily flow is 350 L/c/d and not 400 L/c/d.

The County changed their criteria for average daily consumption to 350 L/c/d in 2013, after our report was completed. The current criteria will be used in any future studies recommended in this report.

- 2.5 In Sections 3.0 and 4.0, Analysis of Existing System and Proposed Upgrades:
We suggest that an assessment of the condition of the existing infrastructure should be completed. An inflow/infiltration reduction study, for example, may provide an opportunity to create some additional capacity within the existing system through system repairs and could potentially postpone the need or timing for some infrastructure.

Agreed, see recommendation #3 on page 12 of the report.

Yours truly,

MTE CONSULTANTS INC.



Ward A. Wilson, P. Eng.
Senior Project Manager

WAW: emw

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