

November 22, 2013
Our Ref: L09-301

Town of Newmarket
PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L37 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham:

Re: 2nd Submission of Draft Plan and Supporting Technical Documents
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket

On behalf of our client, Marianneville Developments Limited, we are pleased to provide our 2nd complete submission of technical reports in support of the updated Draft Plan, revision dated November 15, 2013, prepared by Zelinka Priamo Ltd.

The following list summarizes the updated and resubmitted technical reports prepared by Cole Engineering:

- **Functional Servicing Report**, dated November, 2013
- **Traffic Impact Study**, dated November 2013
- **Phase 1 Environmental Site Assessment**, dated November 2013
- **Phase 2 Environmental Site Assessment**, dated November 2013
- **Hydrogeological Report**, dated November, 2013

To provide clarification with respect to which sections have been revised within the above noted reports, we enclose a series of detailed response letters which address the technical issues raised by the Town, Region and Lake Simcoe Region Conservation Authority subsequent to their review of the original submission of technical reports, dated March 2012, which were included with the circulated OPA/ZBA/DP Applications.

The following list summarizes Cole Engineering's response letters to technical comments:

- A. Response letter to Town (RJB) – Water Supply & Distribution System, dated Nov. 22/13
- B. Response letter to Town (RJB) – Storm Drainage & Stormwater Management, dated Nov. 22/13
- C. Response letter to Town (IBI Group) – Sanitary Sewage & Sub-Trunk Hydraulic, dated Nov. 22/13
- D. Response letter to Town (RJB) – Traffic Impact Study, dated Nov. 22/13
- E. Response letter to Town (RJB) – Phase 1 & 2 Environmental Site Assessments, dated Nov. 22/13
- F. Response letter to Town (RJB) – Hydrogeological Study, dated Nov. 22/13
- G. Response letter to LSRCA – Stormwater Management, dated Nov. 22/13
- H. Response letter to LSRCA (Genivar) – Hydrogeological Study, dated Nov. 22/13
- I. Response letter to Region of York – Water, Traffic, Wastewater, dated Nov. 22/13

In addition to the detailed response letters, we also enclose an updated **spreadsheet matrix “Summary of Outstanding Issues and Comments”**, as originally compiled and distributed by the Town which includes a new column indicating which report/sections/pages contain the revisions to address municipal and agency comments.

We trust this comprehensive resubmission of technical reports and response letters will assist the Town with their review.

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P. Eng.
Project Manager

c.: Joanne Barnett, The Kerbel Group Inc.

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PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L37 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham:

**Re: 2nd Response to Water Supply & Distribution Comments – Functional Servicing Report
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket**

Cole Engineering Group Ltd. is pleased to provide updated responses to the technical comments provided by the Town of Newmarket, authored by R.J. Burnside's office, within their letter dated July 13, 2012 with respect to the Water Supply and Distribution (Section 4.0) subsequent to their review of the original Functional Servicing Report, dated March 2012.

The Town's July 13/12 comments related to Water Supply were originally responded to via a letter prepared by Cole Engineering, dated October 1, 2012.

The purpose of this letter is to provide the Town with updated responses based on more recent information received and analysis completed, corresponding to the resubmission of the Draft Plan and updated Functional Servicing Report, dated November 2013.

The Town/R.J. Burnside original comments have been re-iterated below (shown in italics) for reference purposes. In addition, our original responses from Oct. 1/12 and updated responses are provided below (in blue).

Comments on the Sanitary Sewers section of the FSR:

We acknowledge the original letter from the Town/R.J. Burnside on July 13/12 included comments pertaining to the sanitary sewage and downstream sanitary sub-trunk capacity analysis. These sanitary sewage related comments were responded to through two separate response letters by Cole Engineering on: 1) October 1, 2012 and 2) November 26, 2012. We understand that no further addressing of the R.J. Burnside issued sanitary comments is required, provided that Cole Engineering addresses the 'Sanitary Sub-Trunk System Hydraulic Review' comment letter, prepared on behalf of the Town by IBI Group, dated March 7, 2013. The response to IBI Group's comments forms part of this current submission and is the subject of a separate letter.

Comments on the Water Distribution section of the FSR:

1. *Drawing WAT-2 – The drawing needs to be updated to reflect the actual pressure district boundary between the CPD and WPD. The watermains on John Bowser, Fairway Garden and Crossland Gate north of south leg of Fairway Garden are now in the WPD.*

Original Response (Oct. 1/12): We have discussed the alignment of the water pressure district boundary with the Town and received a figure depicting the current pressure boundaries. The FSR Figures and report text will be revised to reflect the correct pressure districts and boundaries.

Updated Response (Nov. 22/13): Figure 4-1 'Water Pressure Districts' within the Functional Servicing Report has been updated accordingly to suit the actual pressure boundary noted in the comment above and verified by a pressure district figure provided by the Town of Newmarket.

2. *The proposed development plan conflicts with the existing 300mm that crosses in an easement between Kirby Crescent and Crossland Gate and the 300mm watermain that crosses from Fairway Garden to John Bowser Crescent. The report must address how these connections will be routed through their proposed development plan. (dwg WAT-2)*

Original Response (Oct. 1/12): The intent is to maintain existing watermains that cross through private property within their current easement. The proposed development lot layout has been designed to accommodate the existing easements. Proposed house sitings for each lot containing an existing easement will be shown within the re-submission to demonstrate no conflict between proposed units and existing easements or services.

Updated Response (Nov. 22/13): Since the original response of Oct. 1/12, there have been no revisions to the strategy of routing existing watermains through proposed lots. The project Planner has prepared building envelope designs for specific lots which will be encumbered by existing watermains and associated easements to demonstrate constructability of proposed homes; these lots are: Lots 25, 26 on Street A and Lots 91, 92, 101, 102 on Street B. The proposed building envelopes for these lots are shown on Drawing WAT-1 'Watermain Network Layout'.

3. *The Town does not permit private watermains to loop to municipal watermains. On Block 169, drawing WAT-2 shows a check valve with circulation by-pass line. The by-pass line will not be permitted.*

Original Response (Oct. 1/12): The by-pass line will be removed and the proposed Medium Density Block (no. 169) will be provided a single connection to either a proposed or existing municipal watermain.

Updated Response (Nov. 22/13): Proposed Condo Block 159 (formerly numbered Block 169) will be supplied water via one connection to the proposed municipal watermain on Street B, which will be connected to the West Pressure District. No looping (secondary connection) of the private watermain within Block 159 is proposed. Refer to Drawing WAT-1 'Watermain Network Layout' for a depiction of the proposed watermain alignment.

4. *For the north south road section on Block 170, the drawing WAT-2 shows a watermain within a municipal easement. The Town do not typically permit municipal watermains under a private road. Either the road would need to be made a public road or the watermain would need to be a private watermain. Drawing WAT-2 also shows a municipal watermain on the east west private road. This watermain must either be a private watermain (without looping to the existing municipal watermains) or the road would need to be a municipal road.*

Original Response (Oct. 1/12): The intention is to maintain the roads within Block 170 as private. Therefore, Block 170 will be serviced with private watermain connections to the adjacent municipal watermain network. Since the units in Block 170 are situated within two separate pressure districts, the north-south road will contain one connection from the proposed municipal watermain within the west pressure district and will service units 1-7 and 18-24. A second private water connection will be extended from the existing watermain on Eagle Street (Central Pressure District) and will extend westerly into the site to service units 8-17.

Updated Response (Nov. 22/13): Since the Oct 1/12 response, the proposed private road layout has been revised such that only the north-south private road remains within Condo Block 158 (formerly numbered Block 170). The units within Condo Block 158 will be supplied water from the municipal watermain on Street B, which will be connected to the West Pressure District. No looping (secondary connection) of the private watermain within Block 158 is proposed. Refer to Drawing WAT-1 'Watermain Network Layout' for a depiction of the proposed watermain alignment.

5. *Drawing WAT-2 shows a private watermain for Block 167 that connects to proposed watermains on Crossland Gate and Street B. This watermain will need to be either a private watermain with only one connection to the municipal distribution system or the roads will need to be a municipal road.*

Original Response (Oct. 1/12): Block 167 will contain private roads and will utilize one private water connection from Crossland Gate or Street B, whichever location demonstrates better pressure and flow characteristics. To provide a looped municipal water distribution network between Crossland Gate and Street B, we will review a proposed municipal watermain alignment along the south side of Davis Drive.

Updated Response (Nov. 22/13): Proposed Condo Block 156 (formerly numbered Block 167) will be supplied water via one connection to the proposed 300mm dia. watermain extending through Street A and along Crossland Gate. No looping (secondary connection) of the private watermain within Block 156 is proposed. To achieve a looped water distribution system, a new watermain is proposed along the south side of Davis Drive connecting Crossland Gate and Street B. Refer to Drawing WAT-1 'Watermain Network Layout' for a depiction of the proposed watermain alignment.

6. *Drawing WAT-2 shows looping between the private watermains servicing Block 168 and 171. These watermains cannot be interconnected unless the development proceeds as a single site plan with a single connection. Otherwise, two separate connections will be required for each block that are not interconnected.*

Original Response (Oct. 1/12): For the intent of the Functional Servicing Report, separate private water connections to Blocks 168 and 171 will be shown with a note stating that these water connections can be combined if the Blocks proceed as a single site plan.

Updated Response (Nov. 22/13): Separate water connections have been shown to Mixed Use Block 161 and High Density Block 160 (formerly numbered Blocks 168 and 171, respectively), with a note indicating these connections can be combined if the Blocks proceed as a single site plan. Refer to Drawing WAT-1 'Watermain Network Layout' for a depiction of the proposed watermain alignment.

7. *Water is also supplied to the CPD from Aurora with feeds on Yonge Street and Bayview Avenue (FSR pg. 8)*

Original Response (Oct. 1/12): The Report text and Figures will be updated accordingly.

Updated Response (Nov. 22/13): The Report (Section 4.1.1, page 8, third paragraph) has been updated to indicate the Newmarket Central Pressure District also receives water from Aurora via Yonge Street and Bayview Avenue. No revision to the Figures was necessary.

8. *Water is also supplied to the WPD from Aurora with feed on Bathurst Street (FSR pg. 8)*

Original Response (Oct. 1/12): The Report text and Figures will be updated accordingly.

Updated Response (Nov. 22/13): The Report (Section 4.1.1, page 8, fourth paragraph) has been updated to indicate the Newmarket West Pressure District also receives water from Aurora via Bathurst Street. No revision to the Figures was necessary.

9. *The watermains on John Bowser, Fairway Garden and Crossland Gate north of south leg of Fairway Garden are now in the WPD (FSR pg.10)*

Original Response (Oct. 1/12): The pressure districts and existing watermains indicated in the Report and Figures will be updated accordingly.

Updated Response (Nov. 22/13): Figure 4-1 'Water Pressure Districts' and the Report text (Section 4.1.2, page 10) have been updated to reflect the current pressure districts for existing watermains along John Bowser, Fairway Garden and Crossland Gate.

10. *The commercial water demand of 28m³/ha (2.8 L/d/m²) used in the report is less than the retail and office demand rate of 4 L/d/m². The Town demand rate of 4 L/d/m² should be used to calculate the water demand (FSR pg. 11)*

Original Response (Oct. 1/12): Calculations contained in the report will be updated to use the Town demand rate.

Updated Response (Nov. 22/13): The water demand rate of 4L/d/m² has been used for commercial areas and the previous (MOE guideline) water demand rate of 2.8 L/d/m² has been removed from the text. Refer to Section 4.2.4 from the updated Functional Servicing Report.

11. System Pressure under Normal Operating Conditions and Pressure under Fire Flow – *The consultant is relying on the results of the hydrant flow test to give operating pressures for both normal conditions and fire flow conditions. While the hydrant flow test results give the anticipated pressure at the location of the hydrant flow test, it does not necessarily provide the anticipated pressures at all locations throughout the distribution system. The consultant must complete water distribution modelling of proposed distribution system to confirm the pressures throughout the existing and proposed development areas to confirm that the proposed watermain sizes are adequate for the proposed development. Without water distribution modelling, the Town will not be able to determine if the proposed distribution system will be adequate to service the proposed development and will not be able to determine the impact the proposed development will have on the existing residents surrounding the proposed development (FSR pg.14-17)*

Original Response (Oct. 1/12): We have discussed the use of the Region's existing water model and have been advised by the Region that we will be permitted to use their model at their office and input the proposed water demands from the re-development area to assess the water network response (pressure and flow). Modeling output will be included within the updated FSR.

Updated Response (Nov. 22/13): Town staff originally advised that a hydraulic analysis should be completed by using the water levels to be provided at the pipeline connection points representing the water supply boundary conditions. Several requests for these perimeter water levels were sent to the Town's water supply consultant, however no data has been received to date. Nevertheless, we completed our hydraulic water distribution model and analysis on the assumption that the water supply is provided from the Glenway Reservoir and pumping station with the detailed model results discussed within Section 4.1.3.2 of the updated Functional Servicing Report and backup details provided within Appendix A.1.

12. The distribution modelling shown determine the locations where pressures are outside the Town's preferred pressure range of 350kPa to 550 kPa. Where pressures are below 350 kPa in the Central Pressure District, the consultant should review the possibility of servicing the lots from the West Pressure District. The consultant should also identify in the report any lots that will have pressures exceeding 550 kPa as the building code requires any unit with pressures exceeding 550 kPa to be fitted with a PRV." (FSR pg.14-17)

Original Response (Oct. 1/12): Several updates to the proposed water distribution network will be completed in the revised FSR, including re-adjusting of existing pressure district boundaries, removal of looping through private roads and utilizing the Region's water model to analyze the system response. We will examine the appropriate connection locations for the proposed development area based on the pressure ranges once all other updates have been completed. Individual unit PRV's will continue to be an option for any units connected to a watermain that exceeds the maximum pressure and will be noted accordingly.

Updated Response (Nov. 22/13): As per MOE guidelines, for static pressures exceeding 700 kPa (100 psi), pressure reducing devices (PRV) should be provided on distribution watermains or service

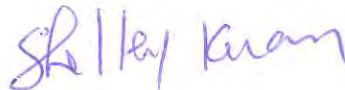
connections in the distribution system. The majority of the proposed development area exhibits static pressure below 700 kPa, except for a small pocket of proposed development within Condo Block 158. The slight over pressure condition within Block 158 occurs during the Glenway NW pumps in operation when the NW reservoir is near its high water level. System head at NW pumps discharge and the Town's model shall be reviewed to confirm the high system head in the vicinity of the subject site and to determine if there is a need for a PRV to be installed at the Block 158 boundary. While the Functional Servicing Report (and subsequent water pressure analysis at the detailed design stage) identify zones where higher water pressure may exist within local distribution mains, the requirement for individual pressure reducing valves for units based upon Ontario Building Code will be addressed by the Builders at the building permit application stage.

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P. Eng.
Project Manager



Shelley Kuan, P. Eng.
Water Supply and Distribution

c.: Joanne Barnett, The Kerbel Group Inc.

November 22, 2013

Our Ref: L09-301

Town of Newmarket
PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L3Y 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham:

**Re: 2nd Response to Stormwater Management Comments – Functional Servicing Report
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket**

Cole Engineering Group Ltd. has received two technical comment letters from the Town of Newmarket, authored by R.J. Burnside's office, with respect to their review of the Stormwater Management (Section 7) from the Functional Servicing Report. Two iterations of the Functional Servicing Report (Section 7) have been prepared by Cole Engineering and submitted to the Town. The dates of these Report iterations along with the subsequent technical comment letters are noted below:

- Original Functional Servicing Report submission, March 2012
 - Technical Comment Letter from Town/R.J. Burnside, dated July 13, 2012
 - Response Letter from Cole Engineering, dated September 26, 2012
- Revised Section 7 – Stormwater Management – from the Functional Servicing Report, July 2013 (this revised Section 7 was issued 'Without Prejudice')
 - Technical Comment Letter from Town/R.J. Burnside, dated September 27, 2013

The purpose of this letter is twofold: 1) to update the previously submitted responses provided by Cole Engineering on September 26, 2012 with current information and 2) to respond to the Town/R.J. Burnside technical comment letter from September 27, 2013. To address these two technical comment letters, this letter is structured accordingly into two separate parts with all responses corresponding to the current resubmission of the Functional Servicing Report, dated November 22, 2013.

The Town/R.J. Burnside comments have been re-iterated below (*shown in italics*) for reference purposes and our detailed responses have been included in [blue text](#).

Part 1) Technical Comments from the Town/R.J. Burnside Letter dated July 13, 2012

1. Cole are proposing to modify four existing private ponds which exist in the former Glenway Golf Course to accommodate drainage from the proposed subdivision. The modified ponds are proposed on Blocks which would remain in private ownership. These ponds would provide quantity and quality control for lands in both public and private ownership and would control drainage from the proposed development and existing lands. These ponds will collect drainage from storm sewers servicing existing public roads. The Town's current practice is to own and maintain any ponds which accept drainage from public lands. Accordingly all four of these ponds should be conveyed to the Town and be designed to meet the Town's current standards for side slopes and maintenance access. The ponds as shown in the FSR do not meet these requirements.

Original Response (Sept. 26/12): The existing SWM facilities are currently under private ownership as part of the existing golf course operations. As a significant portion of the proposed development is proposed to be controlled by a condo corporation, it is not unusual for the condo corporation to retain ownership of the SWM facilities. It should be noted that private ownership of the SWM facilities offers certain advantages to the Town in that maintenance and upkeep of these facilities will become the responsibility of the condo corporation as the holder of the C of A from the Ministry of the Environment (MOE). This will provide financial relief for the Town in that ongoing maintenance and future cleanout of these facilities will be the responsibility of the condo corporation and not the Town. The fact that SWM will be provided for both public and private property could be dealt with in agreements between the Town and condo corporation and represents no deviation from the existing condition.

It is noted that due to the significant constraints on the site, certain elements of the SWM facilities deviate from the Town's design standards. However, all ponds have been designed using good engineering practise and consideration for public safety and are consistent with the MOE's guidelines on SWM facility design. Where possible, given space constraints such as existing lots and the requirement of new access ways and roads around the proposed ponds, the ponds have been designed to be compliant with the Town standards (i.e. Pond 4) and at a minimum all ponds were designed in compliance with MOE guidelines. Important safety aspects of the Town standards such as safety shelf slopes were incorporated into all pond designs.

Updated Response (Nov. 22/13): Please note that the draft plan has been revised. While the ownership of the SWM Ponds is outside of the technical matters addressed in the FSR, it is our understanding that as part of the revised draft plan Marianneville Developments Ltd. will be conveying the modified SWM Ponds to the Town of Newmarket. As such, the revised SWM Ponds are proposed to be designed to Town of Newmarket Standards. Please refer to Section 7.0 of the revised FSR for details on the design standards and proposed design of the SWM Facilities. Also, please refer to Figures 7-3 to 7-6 which illustrate the proposed design concepts.

2. We note the tops of ponds and 100-year ponding limits are very close to the surrounding lots and roadways. Some areas will require excessively steep slopes, or retaining walls (Ponds 6 and 9). The 100-year water level may have a significant impact on the foundation drains in areas where the ponding level is close to the surrounding lot grades. Greater separation should be provided between the ponds and surrounding development.

Original Response (Sept. 26/12): All water levels in the proposed SWM facilities provide reasonable vertical and horizontal buffer from the existing private properties. Vertical freeboard and safe overland flow paths have been considered to ensure that existing private properties using a safe fail approach for instances where the ponds are not able to contain a rain event that exceeds its design or should the ponds operation be compromised. Emergency overflow weirs and routes will be provided such that in the event that the pond overtops, surrounding properties will not be negatively impacted.

We are not clear how the proximity of the SWM ponds to the existing lot lines at all impacts the foundation drains of the existing residents. A hydraulic grade line analysis can be prepared to determine the potential risk of surcharge within the sewer systems to ensure existing and proposed homes are protected. However, the majority of homes in Newmarket utilise a sump pump system and are typically separated from the sewer system. Additionally, should it be found that there is a risk of flooding a foundation drain collector system or sump pumps will be considered.

Updated Response (Nov. 22/13): Since the September 26/12 response, the proposed retaining walls have been removed from the stormwater management pond design and typical Town standards are employed for side sloping. With respect to the high water elevations in the pond under emergency spill conditions, we analyzed the freeboard between expected basement elevations and maximum water elevations for each of the four stormwater management ponds (# 4A/4B, 6, 8 & 9) and provided either a strategy to mitigate the hydraulic impacts on basements or provided a preliminary 100-year design sheet to demonstrate that gravity foundation drains will be feasible. This analysis has been added to the updated Functional Servicing Report and can be found entirely under Section 5.1.1, which provides references to supporting Figures 5-1, 5-2 and 5-3 and Appendices B.2, B.3 and B.4. No analysis was completed to review hydraulic grade line impacts on existing homes as the Glenway Community is serviced by sump pumps and basements are not affected by surcharging storm sewers.

- 3. The report states existing storm infrastructure is assumed to accommodate existing drainage. The ability of the existing storm infrastructure to accept proposed drainage throughout the site should be confirmed. We also note proposed lots east of Ponds 8 and 9 conflict with the existing storm sewers to the extent that they are likely not developable.*

Original Response (Sept. 26/12): We believe that it is reasonable to assume that the existing drainage system is capable of handling the existing development that is in the area. In all instances we have limited flow from the proposed retrofitted SWM facilities to existing rates or less. We do agree that an analysis to confirm the capacity of the existing storm sewers would be beneficial and can be easily incorporated into the report.

We note that there are instances where the existing storm sewers conflict with proposed lots. The site architect has explored the opportunity of laying out these lots to avoid the existing drainage infrastructure and easements would be required. Alternatively, these existing services could be relocated into the proposed right-of-way to avoid conflicts with the proposed lots.

Updated Response (Nov. 22/13): As described under the response to comment number 2 above, the existing storm sewers surrounding the site were analyzed for 5-year and 100-year impacts if proposed development sewers are intended to connect to existing pipes. The analysis is provided under Section 5.1.1, which provides references to supporting Figures 5-1 and 5-2 and Appendices B.2 and B.3.

With respect to the noted conflict between existing storm sewers and proposed lots east of Ponds 8 and 9, please note that the draft plan has been revised and the servicing conflicts identified in your comment above no longer apply to the proposed plan.

4. *Proposed pond overflow weirs should be shown on Figures 7-3 to 7-6, illustrating the location of the emergency discharge. As per Town standards, the weirs should be designed to convey 0.10 m³/s/ha.*

Original Response (Sept. 26/12): Noted, these requested changes will be made.

Updated Response (Nov. 22/13): Figures 7-3 to 7-6 have been updated to illustrate the emergency overflow weirs at each of the Ponds. Section 7.6.3 of the report provides discussion on the sizing.

5. *Determination of the major/minor split flows is unclear. The "minor" discharge rate varies from the 10-year to 100-year flows. Drainage to off-site should be considered in the pre-post peak flow comparison.*

Original Response (Sept. 26/12): Major / minor flow splits were determined using as-Built drawings provided by the Town for the existing subdivision. Largely the major and minor flow divisions are consistent and are illustrated on the storm drainage plans. However, if further clarification is required we can make revisions to the plans / maps. Additionally, it should be noted that external drainage, where it was identified, has been considered in the stormwater management calculations. However, it should also be noted that these external areas are not proposed to change in land use and should not influence the SWM control or facility sizing requirements.

Updated Response (Nov. 22/13): The drainage area plan (Figure 7-2) has been updated and colour coded to aid in review. Anywhere there is a major / minor flow split has been hatched and labelled for clarity.

6. *We note the upstream existing development draining to the proposed ponds is excluded from quality control calculations. Quality control volumes for the ponds have been determined using only the proposed development lands. We question this logic. It should be demonstrated that the untreated existing drainage will not impact the quality of the stormwater leaving the site.*

Original Response (Sept. 26/12): Stormwater management for the upstream areas is provided for in the existing SWM facilities located on the existing Glenway golf course to the west of the proposed development lands. Given the current wet facility configuration, it is reasonable to consider the water quality control for the existing areas as being accommodated in these existing ponds. The proposed changes to the SWM plan are being driven by the proposed development. As such, the proposed SWM Plan accommodates for these changes in land use. The upstream conditions are not being altered as part of this development application and SWM will continue to be provided by the upstream facilities.

If necessary, bathymetric surveys of the upstream ponds located on the golf course could be conducted to ensure that adequate volume is available to determine if maintenance is required to meet the original intended design of the SWM facilities.

Updated Response (Nov. 22/13): All four (4) of the proposed ponds have provided adequate permanent pool to account for quality treatment of all upstream drainage areas, existing and proposed. The outlet storm sewer that connects Pond 1 discharge to Pond 4 is proposed to be disconnected and routed to discharge directly to the Davis Drive ditch. The drainage area discharging to Ponds 1 and 2 are not proposed for development, therefore Pond 4 is not required to provide quality treatment for this area. This diversion of flow was discussed, and agreed to in principle, at a meeting with the Town (January 25th, 2013) as an alternative to providing excessive permanent pool in Pond 4. See Section 7.7 of the Functional Servicing Report for permanent pool sizing details.

7. *Section 5.2 of the FSR discusses major storm drainage. It states that the final design will analyse the conveyance capacity of the proposed municipal roads and ensure that the major storm will be fully contained within the street right-of-way. Where major flows are to be conveyed through private blocks (Blocks 169 and 170) Cole proposes to carry out an analysis which takes into consideration the distances from the overland flow limits to proposed structures. They note that if required, major flows can be captured by underground mains before entering the condominium areas. The Town will not permit any overland flow from public roadways to discharge overland across private lands.*

Original Response (Nov. 22/13): The proposed major overland drainage plan has maintained existing drainage patterns and is limited based on the existing topography of the area. All necessary easements and agreements can be provided where new overland flow routes or pond overflows are directed through private lands.

Updated Response (Nov. 22/13): The updated FSR has identified that the 100 year flow will be captured and conveyed to stormwater management ponds 4B and 6 via storm sewers in locations where public surface drainage is directed through private property. This situation occurs at two locations, specifically at the southern end of Street B and the western end of Street C. Drawing No. STM-1 illustrates the locations proposed for major system capture and the text within Section 5.2 has been updated to reflect the principle of full storm capture of public drainage.

Part 2) Technical Comments from the Town/R.J. Burnside Letter dated September 27, 2013

1. *Section 7.0 of the FSR states that the Glenway re-development will be serviced by four private stormwater management ponds. The revised draft plan of subdivision shows four ponds located on the following Blocks;*

- *Pond 4 located on the proposed private medium density Block 167;*
- *Pond 6 located on what is referred to as a Park and Stormwater Management Block 174 which will be in public ownership;*
- *Pond 8 located on what is referred to as a Park and Stormwater Management Block 175 which will be in public ownership; and*
- *Pond 9 located on what is referred to as a Park and Stormwater Management Block 174 which will be in public ownership.*

All ponds will accept storm drainage from public lands and should be conveyed to the Town.

Response (Nov. 22/13): Noted. While the ownership of the SWM Ponds is outside of the technical matters addressed in the FSR, it is our understanding that as part of the revised draft plan Marianeville Developments Ltd. will be conveying the modified SWM Ponds to the Town of Newmarket. The ultimate ownership of the SWM Facilities will be based on an agreement between Marianeville Developments Limited and the Town of Newmarket.

2. *Section 7.6.1 of the FSR identifies a number of physical features and buffers as constraints and states the Town requested that they be retained. Town staff are not aware of where the direction to retain these features came from. We were directed to carry out our review with the main focus of reviewing the pond configurations for conformity with the Town Standards rather than preservation of features.*

Response (Nov. 22/13): The revised FSR has maximized the available lands that we have previously reserved for the use of the proposed SWM facilities. This allows for the SWM Ponds to be graded to Town of Newmarket Design Standards. Please refer to Section 7.6 of the revised FSR for details on the design standards and proposed design of the SWM Facilities. Also, please refer to Figures 7-3 to 7-6, which illustrate the proposed design concepts.

3. *Cole's July 31, 2013 letter summarizes which ponds conform to the Town's Design Standards and describes deviations for the ponds that do not conform.*

Cole's letter states that ponds 6 and 9 deviate from Town Standards as the side slope requirements are not met. Based on our review it appears the ponds can be revised to conform to Town Standards with what we consider to be minimal impact on the overall footprint. Adjustments will also be required to pond 8. We have attached marked up copies of Figures 7-4, 7-5 and 7-6 which illustrate the required pond areas based on our calculations. Cole should review the attached marked up plans and reconfirm the pond areas required.

The final design will require that emergency overflow outlets be provided for ponds 8 and 9. Reconstruction of some downstream storm sewers may be required to provide adequate pond overflow outlets. Cole are to review the design and demonstrate how emergency overflow outlets will be provided.

Pond 4 is currently proposed to be in private ownership on Block 167. This pond will accept drainage from public lands and should be in public ownership. It appears that significant modifications will be required to the layout of Block 167 to create a separate pond block with access to public roads. Cole should review this matter further and propose a pond layout which will meet Town Standards and be in Town ownership. We have included a marked up copy of Figure 7-3 with some suggested changes noted on the figure.

Access for maintenance vehicles in the form of an access road is required to all manholes. It appears that access can be provided by way of access roads or combined trail/access roads. This will be dependent on the final park/trail conveyances that are agreed to.

Response (Nov. 22/13): As noted in our response to comment #2 above, the Pond grading has been adjusted to accommodate the Towns pond grading standards. Please refer to Section 7.6 of the revised

FSR for details on the design standards and proposed design of the SWM Facilities. Also, please refer to Figures 7-3 to 7-6, which illustrate the proposed design concepts.

With respect to emergency overflow, pond 8 spills to a local low point in the road along Eagle Street at elevation 272.55m, at the intersection with Millard Avenue and ponds in the road low point until it spills south down the proposed R.O.W., Street D. This emergency spillway route is identified as the most feasible alternative to discharging directly south, through existing residential lands, as is currently the case. The emergency spillway for Pond 9 is situated in the southeast corner of the pond and spills to elevation 267.85m, where spillway discharge improvements incorporate partially reconstructing/lowering of the existing sidewalk in the spillway vicinity, to reduce impacts to private residential lots. We understand that the comment regarding the potential for existing sewer reconstruction downstream related to an attempt in lowering the pond maximum water levels to alleviate the hydraulic grade line impacts on proposed units/lots. We have analyzed the expected HGL impacts under maximum water elevations, i.e. spill elevation and determined that gravity foundation drains will be feasible for the majority of proposed units. The only location where high water elevation causes an issue with respect to proposed basements is on the southern portion of Street D, where approximately 20 proposed lots near pond 9 cannot achieve gravity foundation drains.

The ultimate ownership of the SWM Facilities will be based on an agreement between Marianneville Developments Limited and the Town of Newmarket. However, it is our understanding that as part of the revised draft plan Marianneville Developments Ltd. has agreed to convey the modified SWM Ponds to the Town of Newmarket.

Access for maintenance, as needed for Ponds 4A and 4B will be provided through an access easement allowing the Town to utilize the proposed condominium roads for maintenance purposes. The proposed extent of the maintenance access easement is illustrated on Figure 7-3.

- 4. Our July 13, 2012 comment letter stated that the ability of the existing storm infrastructure to accept proposed drainage from this development is to be confirmed. Cole has indicated that an analysis will be provided although this has yet to be submitted. This analysis is to be provided prior to draft plan approval to ensure the impact of this development on the downstream system is understood and any potential required improvements are identified.*

Response (Nov. 22/13): The existing storm infrastructure consists of ponds and storm sewers. The ponds receiving flow from proposed development will be re-configured to accommodate the increased runoff and be designed to Town standards. Existing storm sewers will largely remain unaffected due to the proposed development considering that post-development release rates from the ponds outletting to existing sewer are designed to meet pre-development release rates, thus no increased demand on existing storm sewer capacity, with one exception. A proposed connection to an existing storm sewer is intended to service Condo Block 157 and Street A, along Alex Doner Drive, adjacent to the hydro corridor. This existing storm sewer has been analyzed under proposed 5-year and 100-year conditions from the point of connection to the outlet in pond 6, with analysis found under Section 5.1.1. Minor surcharging under 5-year conditions were identified in the last leg of storm sewer within the pond block itself. In addition to this specific storm sewer connection, each pond outlet was analyzed for expected hydraulic grade line constraints under maximum water elevations, also found under Section 5.1.1 which provides references to supporting Figures 5-1 and 5-2 and Appendices B.2 and B.3.

5. *The original draft plan of subdivision proposed that an emergency access road be provided for Street B through the proposed condominium blocks 169 and 170. Under the current proposal these blocks no longer provide a continuous connection which can be used for emergency access. An emergency access connection should be provided from Street B to either Eagle Street or Crossland Gate. This access road is to be accessible year round and will require winter maintenance.*

Response (Nov. 22/13): Provisions for emergency access have been provided at two locations through combined maintenance/emergency access roads accommodated for in the plan adjacent to the proposed SWM Ponds. The proposed emergency route would allow for continuous access to Street B, from either Crossland Gate or Eagle Street. Please refer to the revised SWM Pond Figures 7-3 to 7-6, which illustrate the proposed emergency access roads. The Traffic Impact Study also includes a section discussing the emergency access provisions.

6. *We have reviewed the comments dated September 18, 2013 prepared by the Lake Simcoe Region Conservation Authority. Further revisions to the pond sizes may be required to address these comments.*

Response (Nov. 22/13): Noted. We have addressed the Lake Simcoe Region Conservation Authorities comments directly and provided responses under a separate letter, dated November 22, 2013.

We trust our responses provided within this letter in addition to the updated and resubmitted Functional Servicing Report dated November 2013 adequately address the Town/R.J. Burnside comments.

Should you have any questions, please contact either of the undersigned.

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P. Eng.
Project Manager



Geoff Masotti P. Eng.
Water Resources Engineer

DM:kb

c.: Joanne Barnett, The Kerbel Group Inc.

November 22, 2013

Our Ref: L09-301

Town of Newmarket
PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L37 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham:

Re: Response to IBI Group Comments – Downstream Sanitary Sub-Trunk, Issued March 7, 2013
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket

On behalf of our client, Marianneville Developments Limited, we are pleased to provide responses to a comment letter prepared by IBI Group and addressed to the Town of Newmarket (Rick Bingham, Manager of Engineering and Technical Services), dated March 7, 2013. The comment letter is in regards to IBI's review of Cole Engineering's Functional Servicing Report, dated March 2012, commenting only on the hydraulic capacity analysis of the existing Western Sanitary Sub-Trunk, downstream of the proposed development.

IBI Group's comments have been re-iterated (*shown in italics*) for reference purposes and our detailed responses are provided below (*in blue*).

1.1 We note that the study includes only the lands east of the hydro corridor. The applicant owns the golf course lands to the west. Any additional development will add further flow to the Western sub-trunk.

Response: Acknowledged. No response required.

1.2 The RVA Study included Figure 3-4 Servicing Standards for Foundation Drains. The existing development within Glenway Estates was shown as "Residential-Sump Pumps are Utilized". RVA determined that an I/I flow was 0.70 L/s/ha for this condition, (Table 5-2). Using the RVA I/I values, it is estimated that this would add approx. 30 L/s to the Cole determined peak design flow. This should be considered in the Cole assessment.

Response: While the original sanitary capacity analysis from the March 2012 Functional Servicing Report did not consider an I/I rate of 0.70 L/s/ha, this rate has been considered and inputted into the current assessment completed within the updated FSR, dated November 2013. The current FSR includes

a new section (**Section 6.3, Existing Sanitary Flow Analysis – Update to Downstream Theoretical Flow Model**) which analyzes a capacity model previously completed by R.V. Anderson as part of their Master Sanitary Sewer Hydraulic Study, dated May 2008. The I/I rate of 0.7 L/s/ha is used for any existing areas “Residential-Sump Pumps are Utilized” however an I/I rate of 0.3 L/s/ha is used for new development areas.

The flow monitoring program will ultimately provide greater guidance with respect to measuring dry and wet weather flows throughout the Western Sub-Trunk and will be used to determine the realistic I/I rate within the Sub-Trunk.

1.3 *The RVA Study is based on flows to the Newmarket PS during a storm on Sep 13, 2006. Approximately 100mm of rain fell during a 6 hour period. When compared to historical data, it exceeded a 100 year event in the 2-6 hour time frame. The Town of Newmarket considered this an appropriate storm for sub-trunk sanitary sewer assessment. This storm should be considered further when discussing the monitored flow data that included storm events up to 48mm.*

Response: This storm event will be considered in our pending analysis and discussion of actual flow monitoring data currently being collected within the Western Sub-Trunk, however it will not be used to calibrate the model to be prepared.

1.4 *The RVA Study indicated that 30 basements were flooded during that storm. It should be identified if any of these basements were within the Western sub-trunk or West Central trunk and resulted from sub-trunk surcharging.*

Response: The RVA Study suggests that the basements that are within the Western Sub-Trunk (Avenue Road, Lewis Drive, Julia Court, Simcoe St. and Charlotte Street North) were not flooded due to sanitary sewer backup.

1.5 *The RVA Study was based on spatial distribution of census data and non-residential land use data rather than Town criteria. This should be considered in the Cole work. We also note that RVA used a net method of land use rather than gross areas.*

Response: Since dry weather flows are being measured throughout the Sub-Trunk, accurate population data is not required since we will be inputting the actual dry weather flows into the model. We will evaluate the population counted via Town Criteria to ensure the values are reasonable.

1.6 *The RVA Study profile for the Western sub-trunk terminated at MH 704 although the Town sub-trunk continues to MH 727, (or perhaps MH 726). No comment has been made by Cole Engineering on the impact of increased flow on this section of Town sewer. Existing plans show that this area has very shallow sewers.*

Response: The updated Functional Servicing Report includes a new section (**Section 6.3, Existing Sanitary Flow Analysis – Update to Downstream Theoretical Flow Model**) which discusses the sanitary capacity analysis within the Western Sub-Trunk based on an update to the RV Anderson model, including proposed development flows, up to the Newmarket Sewage Pumping Station. The calibrated

model based on actual flow monitoring data will also include an assessment of sanitary flows and capacity from MH 704 to the pump station.

1.7 *There is a need to undertake an up-to-date analysis of this sewer system, to determine surcharging levels and any remedial works to accommodate development in this sewershed. The Town prefers that the Development Engineer undertakes the study and that Town Consultants peer review the work. We are prepared to provide all data to Cole that we have on these systems. Cole stated that they did not have access to the RVA InfoSewer data used in the RVA study. We understand that this data could be made available to Cole. It may be useful to meet prior to the start of the study.*

Response: We have received RVA's InfoSewer model and have completed an updated analysis of the Western Sub-Trunk which includes the sewage flow rates from the original May 2008 Study plus proposed development flows from Estates of Glenway. This updated assessment is discussed under a new section (**Section 6.3, Existing Sanitary Flow Analysis – Update to Downstream Theoretical Flow Model**) within the revised FSR.

In addition to this update of the theoretical model, we are also undertaking a sewage flow/rainfall monitoring program with the intention of calibrating a new model to assess predicted peak flow conditions based on actual flow data. This actual flow and capacity analysis program will be completed by the end of 2013.

1.8 *An analysis of the Western sub-trunk should take into account all proposed and possible future development within this sewershed. For example, it is proposed to intensify the York Region Central Services site at the northwest of Yonge St. and Prospect St. to a coverage of over 1.0. Planning Department input is required for any sub-trunk update.*

Response: For the updated analysis of the R.V. Anderson InfoSewer theoretical model, we have only considered the inclusion of the sewage flow from the proposed Estates of Glenway development and have not considered other current or future development applications or intensification areas. The Functional Servicing Report is in support of our Client's application and we do not consider it appropriate to provide analysis or commentary on sewer capacity or lack thereof on behalf of other applicants.

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P. Eng.
Project Manager



Chris Stebbing, P. Eng.
Project Engineer (Sanitary Sewers)

c.: Joanne Barnett, The Kerbel Group Inc.



November 22, 2013
Our Ref: T11-441

Experience Enhancing Excellence

Town of Newmarket
PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L3Y 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham

Re: 2nd Response to Traffic Impact Study Comments
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket

Cole Engineering Group Ltd. is pleased to provide updated responses to the technical comments provided by the Town of Newmarket, authored by R.J. Burnside's office, within their letter dated July 13, 2012 with respect to the Traffic Impact Study (Section 3.0) subsequent to their review of the original Traffic Impact Study, dated March 2012.

The Town's July 13/12 comments related to the Traffic Impact Study were originally responded to via a letter prepared by Cole Engineering, dated September 24, 2012.

The purpose of this letter is to provide the Town with updated responses based on more recent information received and analysis completed, corresponding to the resubmission of the Draft Plan and updated Transportation Study, dated November 2013.

The Town/R.J. Burnside original comments have been re-iterated below (shown in italics) for reference purposes. In addition, our original responses from Sept. 24/12 and updated responses (if required) are provided below (in blue).

1.0 Town Meeting – September 10, 2012

Comment 3.0 – 5th Bullet: *"In Servicing comments and urban design – use of private and public roads connecting is raising major flags. Concerns about by-passing and detours..."*

Original Response (Sept. 24/12): The series of proposed private roads accessed via future Street 'B' may either be gated or bollered at one end to allow for emergency access and to preclude traffic infiltration through the proposed condominium parcels.

Updated Response (Nov. 22/13): A Transportation Management Plan (TMP) has been prepared to discourage infiltration throughout the subdivision. In addition to the TMP, the draft plan has also been re-designed to discourage cut-through traffic while maintaining emergency access.

Cole Engineering Group Ltd.

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2.0 Burnside Peer Review Comments – June 25, 2012

Comment 1: *"We note that the new public roads being proposed in this subdivision have 20 metre wide road allowances. The typical road allowance widths based on the current Town Standards are 18 metres for Local Roads, 21 metres for Minor Collector Roads and 26 metres for Primary Collector Roads. All public roads should be revised to conform to Town Standards."*

Original Response (Sept. 24/12): The right-of-way widths will be adjusted on the revised draft plan to reflect the Town Standards.

Updated Response (Nov. 22/13): The right of ways within the proposed development have been reduced to 18 meter local road standards.

Comment 2: *"The primary intersections with the arterial roads (i.e. Davis Drive, Yonge Street, Bathurst Street) are under the jurisdiction of the Region of York. Comments should be obtained from the Region and reviewed."*

Original Response (Sept. 24/12): Acknowledged.

Comment 3: *"The traffic counts at the intersection of Bathurst Street / Davis Drive and Bathurst Street / Sykes Road do not balance. For example, in the AM peak hour southbound direction, the counts show 886 vph leaving the Davis Drive intersection, but 1593 vph arriving at the Sykes intersection. Similarly, in the AM northbound direction, the counts show 1255 vph leaving the Sykes intersection but only 591 vph arriving at the Davis intersection. It is suggested that the counts be checked."*

Original Response (Sept. 24/12): The traffic volumes will be reviewed and confirmed in the addendum study and appropriate revisions completed, if necessary.

Comment 4: *"The horizon period considered in the TIS is 5 years after build-out. The Region's guidelines for large developments and multi-phase development require consideration of 10 years after the last phase. We suggest that horizon year 2031 be considered."*

Original Response (Sept. 24/12): Based on the York Region Transportation Impact Study Guidelines, a multiphase development requires analysis after each development phase and 5 years after the last phase. Large multiphase developments require an additional horizon analysis 10 years after the last phase of the development. The subject development is generating a total of 390 two-way trips during the a.m. peak and 498 two-way trips during the p.m. peak hour and therefore should be classified as a small development requiring only the 5 year after completion horizon which has already been included. Therefore, an additional 10 year traffic horizon will not be included in the analysis.

Updated Response (Nov. 22/13): We continue to support the five-year post development analysis and are undertaking a future (2026) total analysis horizon .

Comment 5: *“The assumed growth in background traffic (i.e. 2% per annum, compounded) is based on historical AADT growth on the area roadways, which varies significantly (i.e. range of -0.4% to +5.1%). The growth along these corridors is being significantly impacted by developments in the immediate area, as well as road improvement projects in this area. We defer to the Region, through their EMME/2 macro transportation model, to confirm whether the proposed growth rate is appropriate. Proposed Regional projects (e.g. proposed 4-laning of Bathurst Street from Green Lane to Highway 11) will have significant impacts on traffic patterns in this area.”*

Original Response (Sept. 24/12): We await a recommended growth rate from the Region based on their EMME/2 model; however, we are comfortable with a 2% growth rate as assessed. Particularly with the significant amount of background developments that are included in the assessment.

Updated Response (Nov. 22/13): EMME/2 outputs were consulted and we continue to support a 2% growth rate.

Comment 6: *“The trip generation rates used for the single family units are based on a single day of traffic counts at two proxy intersections in the existing Glenway Subdivision. These proxy rates are only about 60% of the unit rates recommended in the Trip Generation Manual (Institute of Transportation Engineers) and about 75% of the rates that have been used in other area developments (e.g. Northwest Newmarket Neighbourhood, which has been subject to ongoing traffic monitoring over an extended time period). Considering the limited monitoring at the proxy site, we suggest that the proxy rates used are too low for planning purposes, and should be revised upward.”*

Original Response (Sept. 24/12): When available, it is desirable to utilize proxy surveys from as near the proposed development as possible to approximate the local conditions of the new development. If a conservative assessment is desired, the trip generation rate can be replaced with the rates contained in *Trip Generation, 8th Edition* published by the Institute of Transportation Engineers (ITE); however, we continue to support the use of local proxy data.

Updated Response (Nov. 22/13): We have revised the trip generation to reflect ITE equation trip rates which reflect a more conservative traffic analysis.

Comment 7: *“The TIS assumes 150 units at the intersection of Davis Drive / Bathurst Street, whereas a recent TIS (Dillon, March 2012) is proposing 200 units. Also the TIS shows a direct access onto Bathurst Street for this development, whereas the recent TIS shows access to Sykes Road. Also the Davis Drive / Bathurst Street development proposes an additional intersection with Davis Drive (potentially signalized), which may impact operations at the existing Glenway intersection (i.e. Crossland Gate). The TIS should be updated to take into account the most recent plans, as well as to confirm any impacts that the Glenway Subdivision development may have on the operations of the proposed access to the Davis Drive / Bathurst Street Subdivision from Sykes Road. “*

Original Response (Sept. 24/12): Our Transportation Impact Study was prepared in March 2012, with the most recent information available at the time being utilized. The traffic analysis can be updated to include the modest, increased unit count.

Updated Response (Nov. 22/13): The study has been obtained and included in the updated report.

Comment 8: *"Tables 4.2 and 4.3 list potential "other developments" to be included in the traffic generation analysis, however the Phase 2 development at Yonge Street / Davis Drive (i.e. 24 storey residential tower, plus commercial/retail) is not listed (i.e. as identified in the TIS in Appendix F). Also Tables 4.5 and 4.6 do not include the traffic from the proposed residential developments at Yonge Street / Davis Drive or at Yonge Street / Millard Avenue (total of 800 units, as per Table 4.2). The traffic analysis should be revised to include all identified developments within the horizon periods considered."*

Original Response (Sept. 24/12): The background developments will be reviewed and confirmed in the addendum study and appropriate revisions completed, if necessary.

Comment 9: *"We understand that the Region is proposing works that may impact the operations at the Bathurst Street / Davis Drive intersection. Since operations at this intersection have been identified to be problematic, such proposed works should be considered as part of the TIS analysis."*

Original Response (Sept. 24/12): The improvements scheduled by the Region will be confirmed and included in the addendum study, if necessary.

Comment 10: *"Not all of the developments proposed in the immediate area have been accounted for in the analysis. For example, the Lowton Phase 7 development (234 units), located on Bathurst Street, immediately north of Woodspring Avenue, will have an impact on traffic in the study area. The proponent should confirm with the Town that all active planning applications have been considered in the calculation of background traffic."*

Original Response (Sept. 24/12): Sufficient background developments, some not even having planning status have been considered in the assessment.

Updated Response (Nov. 22/13): The background developments have been confirmed with the Town.

Comment 11: *"The basis for the traffic forecasts on the roads to the north of Davis Drive (ie. Ford Wilson Boulevard and the Toth Subdivision access) should be confirmed, to ensure consistency with any previous TIS work, or ongoing monitoring work, for those areas."*

Original Response (Sept. 24/12): There are no background traffic studies available for review. We ask that the Town to provide as available.

Updated Response (Nov. 22/13): We have obtained the relevant TIS documents.

Comment 12: *"The TIS applies an 11% reduction in trips (i.e. from medium and high density residential, commercial, office uses, seniors' facilities), to reflect the potential increased modal split towards transit. This reduction is based on the non-auto modal split (11%) in the 2006 Transportation Tomorrow Survey. The unit trip generation rates do not typically include the impact of transit facilities. While some reduction in car trips may be applicable, due to a more aggressive transit program proposed in this area, the basis of the quantification of such a reduction is not clear. Based on the information presently available, we believe that the proposed reduction in trips may result in an under-estimation of car trips in this area. Additional analysis should be provided to confirm if any reduction in trips should be applied, for planning purposes, or to support any forecasted impact of transit facilities. As noted in Section 5.3 of the TIS, York Region has been operating rapid transit services on Yonge Street, between the Newmarket terminal and Finch Station (Toronto) since 2005. For comparison, the impact of such additional transit*

services may be able to be identified in the 2011 Transportation Tomorrow Survey, once that data is available.”

Original Response (Sept. 24/12): The non-auto modal split reduction is based on the most recent information available while incorporating engineering judgement to estimate current and future travel trends in proximity of two transit corridors (Yonge Street and Davis Drive). The 2011 Transportation Survey Results will not be available until 2013 at the earliest.

Updated Response (Nov. 22/13): The modal split has been reduced to 10% for the high density development and the removed for low density development resulting in a conservative analysis.

Comment 13: “The TIS notes that the Bathurst Street / Davis Drive and Yonge Street / Davis Drive intersections are built-out presently (Section 4.6.2). However the TIS (Section 10.0, Conclusions) notes that dual NB left turn lanes are required at both of these intersections, which is not consistent with the earlier observation. Considering the high northbound left turn movement at the Bathurst Street / Davis Drive intersection (i.e. 517 vph NBL), we would concur that the implementation of a second northbound left turn lane may provide some mitigation for traffic operations at that intersection. For the Yonge Street / Davis Drive intersection, a maximum of 296 vph is forecast for the NBL movement, which is below the Region’s threshold for double left turn lanes (i.e. 400 vph).”

Original Response (Sept. 24/12): The recommended lane configurations will be reviewed in conjunction with the revised trip generation for the proposed development.

Comment 14: “The TIS suggests that the unsignalized intersections will operate below capacity and with short delays under 2021 background traffic conditions. However we note that there are a number of movements that will operate above capacity, some with considerable delays (e.g. under 2021 background traffic conditions, the NBL at the GO Terminal access / Davis Drive is forecast to operate with 574 seconds of delay and the SBL at the Toth Subdivision / Davis Drive intersection is forecast to operate with 479 seconds of delay). While the recommended signalization of the Toth Subdivision intersection will mitigate the operational deficiencies at that location, no mitigation is recommended for the GO Terminal access. We assume that the minor volume of traffic using the NB left movement from the GO terminal would divert to the Eagle Street access under such conditions, however this should be confirmed in the TIS.”

Original Response (Sept. 24/12): This will be confirmed in the revised study; however, the subject accesses are serving a modest volume of traffic which exists today.

Updated Response (Nov. 22/13): Due to the small amount of traffic utilizing the NB left movement at the GO Terminal, mitigation is not recommended for the movement.

Comment 15: “Section 5.5 of the TIS notes that the proposed clubhouse for the golf course and the proposed commercial block in the Glenway development will have primary access from the Regional roads (i.e. Bathurst Street and Davis Drive). Considering the congestion along the Region’s arterial roads, they may prefer that these facilities access the municipal roads, with access to the Region’s roads via the signalized intersections in those areas. Access constraints should be confirmed with the Region.”

Original Response (Sept. 24/12): Based on the draft plan provided, the proposed golf course club house and commercial block are to have access via municipal roadways.

Comment 16: *“The TIS suggests that traffic infiltration in the existing neighbourhoods is mitigated by the placement of the higher traffic generators in close proximity to the Regional arterial roads. However no quantification of overall daily traffic volumes or speeds (i.e. before and after development) has been provided to assess whether traffic calming issues may be a concern in the established neighbourhoods. In addition a number of private, gated roads are proposed within the development, to reduce traffic infiltration (i.e. short-cutting). The TIS should provide additional analysis of internal traffic circulation issues, including the internal traffic volumes, the proposed interface between the public and private roads, emergency access etc..”*

Original Response (Sept. 24/12): Typically, the level of detail being requested is undertaken in an Internal Functional Design Study.

Updated Response (Nov. 22/13): Internal intersections are included in the analysis.

Comment 17: *“The TIS has an inconsistency in the recommendation for the storage for the westbound left turn lane at the intersection of Street B / Davis Drive, and appears to use the wrong design graph.”*

Original Response (Sept. 24/12): The left turn lane warrant will be reviewed and confirmed in the addendum study and appropriate revisions completed, if necessary.

Comment 18: *“The traffic signal warrant criteria, applied to the intersection of Street B / Davis Drive, should be confirmed with the Region. A sensitivity analysis should also be provided for the traffic operations at this intersection under unsignalized conditions (2021 Total Traffic).”*

Original Response (Sept. 24/12): The signal warrant will be reviewed and confirmed in the addendum study and appropriate revisions completed, if necessary.

Comment 19: *“The forecasted poor LOS and/or over-capacity operations, for some movements, should be addressed in the TIS for the following unsignalized intersections: Crossland Gate / Eagle Street, Millard Avenue /Eagle Street, GO Terminal Access / Davis Drive. In addition the traffic operations at the Street D / Millard Avenue intersection should be reviewed, including the impacts that traffic operations at adjacent intersections may have on this intersection.”*

Original Response (Sept. 24/12): Comment to the operation of the unsignalized intersections will be made in the addendum study and appropriate revisions completed, if necessary.

Comment 20: Comment should be provided on the turning sight distance requirements (both directions) at the intersection of Street B / Davis Drive, as well as the stopping sight distance and decision sight distance to the west at this intersection (Le. only the east was considered). However, considering that this intersection will likely be signalized, the sight distances available are considered to be adequate.

Original Response (Sept. 24/12): The turning sight distance will be reviewed; however we concur that since the intersection will be signalized, the sight distance will be adequate.


Comment 21: *“The TIS should provide back-of-queue reports/analysis for the signalized intersections, to ensure that conflicts do not occur between intersection operations.”*

Original Response (Sept. 24/12): The back-of-queues will be assessed where there is potential for conflict between intersections and confirmed in the addendum study, if necessary.

We trust that the updated responses provide clarity to the Transportation Study – Update. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

COLE ENGINEERING GROUP LTD.



Joseph E. Gowrie, P.Eng.
Transportation Engineer



Grace Nzainga
Transportation Analyst

JG:

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November 22, 2013

Our Ref: L09-301

Town of Newmarket
PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L37 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham:

Re: Updated Response to Phase I & II ESA Comments
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket

Cole Engineering Group Ltd. has received one technical comment letter from the Town of Newmarket, authored by R.J. Burnside's office, with respect to their review of the Phase I & II Environmental Site Assessment (ESA) Reports. Phase I & II ESA Reports have been prepared by Cole Engineering and submitted to the Town. The dates of the reports along with the subsequent technical comment letter are noted below:

- Original Phase I ESA submission, March 2012
- Original Phase II ESA submission, April 2012
- Technical Comment Letter from Town/R.J. Burnside, dated July 13, 2012
- Response Letter from Cole Engineering, dated September 26, 2012

The purpose of this letter is to update the previously submitted responses provided by Cole Engineering on September 26, 2012 with current information. To address this technical comment letter, this letter is structured with all responses corresponding to the current resubmission of the Phase I & II ESA reports, dated November 22, 2013.

Furthermore, as more than 18 months have elapsed since the issuance of the initial Phase I ESA, an update was conducted in November 2013.

The Town/R.J. Burnside comments have been re-iterated below (*shown in italics*) for reference purposes and our detailed responses have been included in **blue text**.

1. *The Phase II ESA report notes in Section 4.2 "Groundwater samples were also collected from existing monitoring wells installed on-site during the Hydrogeological Investigation being conducted concurrently by CEG". A report documenting this investigation was not listed in the Phase II ESA references and was not provided for review. Due to importance of hydrogeological information to the assessment of the site, a copy of the report from the hydrogeological investigation should be provided for review.*

Original Response (Sept. 26/12): Acknowledged. The references will be updated in the final report for both the Phase I and II ESAs. The Hydrogeological Investigation has recently been completed and has been submitted for review.

Updated Response (Nov. 22/13): The references sections in the final Phase I & II ESA reports (Section 9.0 – Phase I ESA report, Section 8.0 – Phase II ESA report) have been updated to include a reference to the Hydrogeological Investigation conducted by CEG for the Site. The Hydrogeological Investigation has been submitted to the Town.

2. *The purpose of the Phase I ESA was not explicitly stated, however it was submitted to the Town in support of a proposed Draft Plan and Zone Change Application, to build a residential subdivision on the property which is currently a golf course.*

Original Response (Sept. 26/12): Acknowledged. The final report for the Phase I ESA will be updated to include this purpose statement.

Updated Response (Nov. 22/13): Section 2.2 of the Phase I ESA report has been updated to include the following statement: "The purpose of the Phase I ESA report is to support a Draft Plan and Zone Change Application, submitted to the Town of Newmarket, to build a residential subdivision on the Site which has most recently been used as a golf course".

3. *Ontario Regulation 153/04 as amended by O.Reg. 511/09 and as per Section 168 of the Environmental Protection Act requires the filing of a Record of Site Condition (RSC), when the use of a property is to change from "commercial use" to "residential use". In this case a land use change has been proposed, therefore an RSC will be required.*

Original Response (Sept. 26/12): Acknowledged. A Record of Site Condition (RSC) is currently being compiled to satisfy the Town of Newmarket and the Phase I ESA final report will be updated to include this. However, according to the Town of Newmarket Official Plan, the land use in this area is considered to be "parks and open space" not "commercial".

Updated Response (Nov. 22/13): As stated in the original response, according to the Town of Newmarket Official Plan, the land use of the Site is considered to be "parks and open space". A change in land use from "parks and open space" to "residential" does not constitute a change to a more sensitive land use. According to the latest amendment of O. Reg. 153/04, a Record of Site Condition is not required by the MOE to be filed for the Site. However, if a Record of Site Condition is required for the Site by other parties, the Phase I & II ESA reports have been written in accordance with the latest amendments of O. Reg. 153/04 so that they may support the submission of a Record of Site Condition.

4. In Section 2.0, Scope of Investigation of the Phase I ESA report, it states "The Phase I ESA was conducted in accordance with the guidelines and procedures established in the CSA document Z768-01 and incorporated the requirement of O.Reg. 153/04 as amended as a guideline". It is not clear from this statement if the scope of work was to meet the requirements of O.Reg. 153/04 as amended by O.Reg. 511/09 or not, however a review of the content of the Phase I and Phase II ESA reports indicates they do not meet the requirements of the regulation.

Original Response (Sept. 26/12): The Phase I ESA was conducted in accordance with the guidelines and procedures established in the CSA document Z768-01 as well as the requirements of O.Reg. 153/04 as amended. This statement will be updated in the final report for the Phase I ESA.

Updated Response (Nov. 22/13): Sections 1.0 and 3.0 of the Phase I ESA report has been updated to include the following statement: "The Phase I ESA was conducted in accordance with the latest requirements of O.Reg. 153/04 (as amended by O. Reg. 269/11) as well as the guidelines and procedures established in the CSA document Z768-01".

5. Section 3.3.8 notes "There are no creeks on the site....", however Figure 6 shows a tributary of Ansnorveldt Creek. This needs to be assessed to determine if it is a "sensitive site" as defined by regulation.

Original Response (Sept. 26/12): Acknowledged. According to Ministry of Natural Resources data for watercourses, the tributary of Ansnorveldt Creek which passes through the north-western corner of the Site is considered to be "intermittent". The definition of a 'water body' under Section 1 (1) of the regulation is as follows: ..."a permanent stream, river or similar watercourse or a pond or a lake, but does not include a pond constructed on the property for the purpose of controlling surface water drainage". As such, the Site would not be considered 'sensitive' as defined by the regulation. Section 3.3.8 will be updated in the final report to address the nature of the watercourse flowing through this portion of the Site.

Updated Response (Nov. 22/13): Section 4.3.5 of the Phase I ESA report has been updated to include the following statement: "A small, tributary of Ansnorveldt Creek is located in the north-western portion of the Site, however according to Ministry of Natural Resources data for watercourses, it is listed as 'intermittent' and thus is not considered as a 'water body' as defined by O. Reg. 153. As such, the Site is not considered a sensitive site".

6. The airphoto review only goes back to 1955. Older airphotos are readily available for the area.

Original Response (Sept. 26/12): It is acknowledged that airphotos are available for the area for the period prior to 1955, however for the purposes of the Phase I ESA, Schedule D, Part II Section 9 of the regulation states: "Make all reasonable inquiries to obtain a series of aerial photographs of the phase one study area that, as a whole, illustrate as much as possible of the period from the phase one property's first developed use to the time of the phase one environmental site assessment." It was determined through the Chain of Title search that the property was owned by individual land owners and used for agricultural uses until approximately 1956 when it was transferred to investment companies. It was determined that the 1955 aerial photograph, as well as the 1969 and 1975 aerial photographs, sufficiently captured the period of the property's first developed use – agricultural use.

Updated Response (Nov. 22/13): As discussed in the original response, airphotos taken prior to 1955 are not required for the Site as the first developed use of the Site has been sufficiently captured in the 1955, 1969 and 1975 airphotos. Airphotos taken prior to 1955 would not contribute any additional meaningful information about the Site that is not already conveyed through the selected airphotos in the Phase I ESA report. No changes have been made to the Phase I ESA report.

7. *Draft borehole logs by Soil Engineers Ltd. dated December 2011 are included in the Phase II ESA report but not referenced as a source of information in the Phase I ESA report dated March 2012.*

Original Response (Sept. 26/12): Acknowledged. The references will be updated in the final report for both the Phase I and II ESAs to include the Soil Engineers Ltd. report.

Updated Response (Nov. 22/13): The references sections in the final Phase I & II ESA reports (Section 9.0 – Phase I ESA report, Section 8.0 – Phase II ESA report) have been updated to include a reference to the Soil Investigation conducted by Soil Engineers Limited for the Site.

8. *The Site has some areas of filling as shown on the borehole logs and airphotos, which is contrary to the statements made in the Phase I report.*

Original Response (Sept. 26/12): Discussions with the historical owner indicated that no fill has been placed on the Site. It is expected that any materials described as “fill materials” have been moved from on-site sources during cut and fill activities during development of the Site. The terminology “fill” as used in the geotechnical boreholes does not describe material as defined by O.Reg. 153/04.

Updated Response (Nov. 22/13): As discussed in the original response, any materials identified as “fill materials” from airphotos or in literature regarding the Site (including borehole logs) are actually soils that have been moved from on-site sources during cut and fill activities during the original development of the Site. Section 4.3.4 of the Phase I ESA report has been updated to reflect this sentiment.

9. *The conceptual site model should include interpreted groundwater flow directions. At least one cross section is needed to illustrate the subsurface as described by the conceptual site model.*

Original Response (Sept. 26/12): Acknowledged. Cross sections for the Site have been developed as part of the Hydrogeological Investigation and can be included in the Phase One Conceptual Site Model once completed. Interpreted groundwater flow directions will also be included in the Conceptual Site Model.

Updated Response (Nov. 22/13): An east-west cross section figure, developed through the Hydrogeological Investigation conducted for the Site by CEG, has been included in the updated Phase I ESA report as Figure 11. Interpreted shallow groundwater flow patterns, also developed through the Hydrogeological Investigation conducted for the Site by CEG, have been included as Figure 12 of the updated Phase I ESA report.

10. *Refer to Schedule E of O.Reg. 511/09 for the detailed requirements of a Phase I ESA.*

Original Response (Sept. 26/12): Schedule E of O.Reg. 511/09 (which has since been amended to O.Reg. 269/11) refers to Phase II ESAs. Schedule D of O.Reg. 153/04 (as amended) will be followed.

Updated Response (Nov. 22/13): The requirements of Schedule D of O. Reg. 153/04, as amended by O. Reg. 269/11 have been adhered to during the Phase I ESA investigation.

11. The Phase II ESA report notes "The purpose of the Phase II ESA was to investigate potential soil impacts as a result of historical and current land use on site for due diligence purposes. The future land use of the site is proposed to be residential and a Record of Site Condition (RSC) will be required". In Section 1.4 the scope of work does not include reference to O.Reg 153/04 as amended by O.Reg. 511/09.

Original Response (Sept. 26/12): Acknowledged, however, the latest amendment to the regulation is O.Reg. 269/11. Referencing O.Reg. 153/04 includes all amendments. The final report will be updated to state that the latest amendment to the regulation have been included.

Updated Response (Nov. 22/13): Section 2.0 of the updated Phase II ESA report has been updated to include the following statement: "The Phase II ESA was conducted in accordance with the latest requirements of O.Reg. 153/04 (as amended by O. Reg. 269/11) as well as the guidelines and procedures established in the CSA document Z769-00".

12. The report is unsigned and the borehole logs are "draft".

Original Response (Sept. 26/12): Acknowledged. The final reports will contain signatures. The borehole logs provided by Soil Engineers Ltd. contain the word "draft" across the middle of the page as they were obtained from reports that were not yet finalized. Final borehole logs will be provided in the final report.

Updated Response (Nov. 22/13): The updated Phase II ESA report has been updated to contain signatures. Borehole logs obtained from the Soil Engineers Ltd. report entitled "A Soil Investigation for Proposed Residential Subdivision, Estates of Glenway, Newmarket, March, 2012" have been included in Appendix B of the updated Phase II ESA report and the watermark "draft" has been removed.

13. The site outline has changed between the Figure 1 in the Phase I ESA versus Figure 1 on the Phase II ESA.

Original Response (Sept. 26/12): Acknowledged. It was decided following the Phase I ESA report that a small portion at the southern end of the property would not be included in the study as it is not located on the Phase I property. This small portion of land will be removed from the Phase I ESA final report.

Updated Response (Nov. 22/13): The Site outline has been changed in Figure 1 of the Phase I ESA report to be consistent with Figure 1 of the Phase II ESA report and with established Site boundaries.

14. No borehole log was provided for the borehole drilled during the Phase II ESA.

Original Response (Sept. 26/12): Acknowledged. This will be included in the final Phase II ESA report.

Updated Response (Nov. 22/13): A borehole log for BH1 has been added to Appendix B of the updated Phase II ESA report.

15. A Hydrogeological Investigation undertaken concurrently was not referenced in the report.

Original Response (Sept. 26/12): Acknowledged. The references will be updated in the final report for both the Phase I and II ESAs. The Hydrogeological Investigation has recently been completed and has been submitted for review.

Updated Response (Nov. 22/13): The references sections in the final Phase I & II ESA reports (Section 9.0 – Phase I ESA report, Section 8.0 – Phase II ESA report) have been updated to include a reference to the Hydrogeological Investigation conducted by CEG for the Site. The Hydrogeological Investigation has been submitted to the Town.

16. No sieve or pH data was provided as part of the determination of the appropriate comparative standards.

Original Response (Sept. 26/12): CEG used a conservative approach when selecting appropriate standards. The Geotechnical Report for the Site provided by Soil Engineers indicates that the majority of the soils on-site are considered silty to sandy clay which would indicate a fine-grained nature. The coarse-grained standard was used in order to take a conservative approach. A sample from the borehole advanced on-site during the Phase II ESA has been submitted for pH analysis and the results will be discussed in the final report.

Updated Response (Nov. 22/13): Section 2.4 of the updated Phase II ESA report has been updated to include a discussion regarding the choice of applicable site condition standards. The following two statements have been included to address sieve and pH data as they relate to selection of applicable site condition standards: “Soil texture – coarse-grained textures. In order to take a conservative approach, the coarse-grained texture criteria will apply” and “Soil pH measured during this Phase II ESA was within the applicable range of 5 to 9 for surface soils and 5 to 11 for subsurface soils”.

17. A shallow groundwater divide was indicated in Figure 6 of the Phase I ESA but has been ignored in the Phase II ESA. Groundwater flow has only been shown for half the site.

Original Response (Sept. 26/12): Acknowledged. The figure in the final report will be updated to illustrate groundwater flow direction for the northwest portion of the Site.

Updated Response (Nov. 22/13): Figure 4 in the updated Phase II ESA report has been updated to include groundwater flow direction information obtained from the Hydrogeological Investigation conducted on-site by CEG. Relevant sections within the Phase II ESA report have also been updated to include this information.

18. The presence of a water course through the site as shown on Figure 2 has been ignored in the rationalization of the appropriate comparative criteria.

Original Response (Sept. 26/12): Acknowledged. According to Ministry of Natural Resources data for watercourses, the tributary of Ansnorveldt Creek which passes through the north-western corner of the Site is considered to be “intermittent”. As such, Table 2 criteria were used as per the rationalization above. This will be included in the discussion in the final submission.

Updated Response (Nov. 22/13): Section 2.4 of the Phase II ESA report has been updated to include the following statement: “*Within 30 m of a Water Body* – A small tributary of Ansnorveldt Creek is located in the north-western portion of the Site, however according to Ministry of Natural Resources data for watercourses, it is listed as ‘intermittent’ and thus is not considered as a ‘water body’ as defined by O. Reg. 153.”.

19. The presence of fill identified in the 2011 borehole logs was not discussed in the Phase I or Phase II ESA.

Original Response (Sept. 26/12): Discussions with the historical owner indicated that no fill has been placed on the Site. It is expected that any materials described as “fill materials” have been moved from on-site sources during cut and fill activities during development of the Site. A discussion on this subject will be included in the final report.

Updated Response (Nov. 22/13): As discussed in the original response, any materials identified as “fill materials” from airphotos or in literature regarding the Site (including borehole logs) are actually soils that have been moved from on-site sources during cut and fill activities during the original development of the Site. Section 4.3.4 of the Phase I ESA report has been updated to reflect this sentiment.

20. Refer to Schedule E of O.Reg. 511/09 for the detailed requirements of a Phase II ESA.

Original Response (Sept. 26/12): Acknowledged.

Updated Response (Nov. 22/13): The requirements of Schedule E of O. Reg. 153/04, as amended by O. Reg. 269/11 have been adhered to during the Phase II ESA investigation.

21. The Phase I and Phase II reports need to be completed as per O.Reg. 153/04 as amended by O.Reg. 511/09.

Original Response (Sept. 26/12): Acknowledged, however, the latest amendment to the regulation is O.Reg. 269/11. The final reports will be completed to adhere to the requirements of the latest amendment to the regulation.

Updated Response (Nov. 22/13): The Phase I & II ESA reports were conducted in accordance with the latest requirements of O.Reg. 153/04 (as amended by O. Reg. 269/11) as well as the guidelines and procedures established in the CSA documents Z768-01 and Z769-00.

22. The reports will need to be suitable to support a Record of Site Condition for each parcel being developed.

Original Response (Sept. 26/12): Acknowledged. An RSC is currently being compiled and the Phase I & II ESA final reports will be updated to include all information required for submission of the RSC.

Updated Response (Nov. 22/13): The Phase I & II ESA reports have been updated to adhere to the latest requirements of O.Reg. 153/04 (as amended by O. Reg. 269/11). The information provided in the Phase I

& II ESA reports is sufficient to support a Record of Site Condition for each parcel being developed. However, a separate RSC application will need to be prepared for each non-contiguous parcel.

23. *The Town should be included as a party that is able to rely on the reports.*

Original Response (Sept. 26/12): Acknowledged. The final Phase I & II ESA reports will be updated to include reliance for the Town of Newmarket.


Updated Response (Nov. 22/13): The updated Phase I & II ESA reports have been updated to include reliance for the Town of Newmarket. The following statement has been included in the Limiting Conditions sections of the Phase I & II ESA reports: "This report was prepared solely for use by Ms. Joanne Barnett of The Kerbel Group Inc. on behalf of Marianneville Developments Ltd and the Town of Newmarket".

We trust our responses provided within this letter plus the updated and resubmitted Phase I & II ESA reports dated November 22, 2013 adequately address the Town/R.J. Burnside comments.

Should you have any questions, please contact the undersigned.

Yours truly,

COLE ENGINEERING GROUP LTD.



Tabitha Lee, M.A.Sc., P. Eng.
Project Engineer

/ao

c.: Joanne Barnett, The Kerbel Group Inc.

November 22, 2013
Our Ref: L09-301

Town of Newmarket
PO Box 328, Station Main
395 Mulock Drive
Newmarket, ON L37 4X7

Attention: Mr. Rick Bingham, C.E.T.
Manager, Engineering & Technical Services

Dear Mr. Bingham:

Re: Response to Comments on Hydrogeological Investigation Report
Estates of Glenway
Town of Newmarket

Cole Engineering Group Ltd. is pleased to provide responses to R.J. Burnside's comments dated November 8, 2012 on the Hydrogeological Investigation Report related to the proposed residential re-development of Glenway Golf Course. R.J. Burnside's comments have been re-iterated below (*shown in italics*) for reference purposes and our detailed responses are provided below (*in blue*).

RJ Burnside Comments, November 8, 2012

- 1. Best Management Practices can mitigate the majority of short term and long impacts identified by the author in this report. The most significant issue would be whether these watercourses would have the assimilative capacity to handle the increased runoff from this development from a water quality and quantity perspective. The water balance was completed for the entire block which includes already developed areas (e.g. golf course, residential, commercial). The increase in run off seems high (increasing from 569,152 to 680,366 m³/year or 111,214 m³/year, which is equivalent to 211 L/minute). A surface water specialist should determine whether this additional runoff can be assimilated.*

Response: An off-site investigation of the assimilative capacity of Ansnorveldt Creek or Western Creek has not been completed as part of the Hydrogeological Report as the analysis for surface water runoff is typically not analyzed in depth as part of a groundwater investigation. We have prepared a detailed stormwater management assessment for both the pre- and post-development conditions, which analyzes increases in surface water runoff and includes the proposed enlargement of existing on-site stormwater ponds to accommodate and address water quality and quantity control requirements under post-development conditions. A detailed stormwater management plan has been prepared as part of the Functional Servicing Report (updated November 2013) to mitigate the increase in runoff generation from the proposed development. The SWM Plan limits the release of surface stormwater runoff from the proposed development to existing rates or better including improvements to water quality through

improvements to sediment removal through the proposed improvements to the existing stormwater management ponds and the use of best management practises such as increased topsoil depth. As a result there is an implicit improvement to water quality and an overall reduction of surface water runoff rate from the proposed development when compared to existing conditions.

2. *It is proposed that 9 holes of the existing 18 hole golf course will be converted into residential, commercial uses as detailed in Section 1. The report documents that the Glenway Golf Course has two surface water Permits to Take Water for irrigation. **The water budget analysis needs to take into account for changes in golf course irrigation needs when the course size diminishes.***

Response: The main focus of the water budget for the Hydrogeological Investigation was natural contributions and losses to the property. As the golf course size decreases, irrigation needs will also decrease. As the source of water supplied through irrigation is anthropogenic and the destination for the water is for plant root uptake, it would be inappropriate to include artificial contributions such as lawn watering towards the water balance calculation.

3. *The site falls within the 5, 10, 25 year well head protection area (WHPA) zones for the Newmarket water supply wells 1 and 2. As noted by the author, the York Region Official Plan policies limit or restrict certain land uses within the WHPA that may potentially impact ground water quality and drinking water quality. York Region may require a Risk Assessment as prescribed by the Clean Water Act, 2006, and a Risk Management Plan prior to certain land uses that involve the storage and use of certain materials. **The applicant must be prepared to accommodate Region of York requirements.***

Response: A Source Water Impact Assessment and Mitigation Plan has been prepared in Appendix I of the Hydrogeological Investigation Report.

4. *The water well records are plotted on Figure 13 and the MOE well record summary is presented in Appendix G. There is no way relate the dots on Figure 13 with the well records in Appendix G because the points on the Figure are not labelled and the wells actually shown on Figure 13 are not identified in Appendix G. The author did not provide a summary of well details (i.e. depth, yield, use) although Section 3.2 pg. 9 indicates that 21% of the wells are used for domestic supply. Furthermore it is not clear which well within 500 m of the site is currently in use (i.e. the residence that took part in the water well inventory survey)*

Response: Figure 13 has been updated to include labels of the MOE well records so they can be correlated with the well records provided in Appendix F. An additional table with further well details can be found in Table 7. The results of the water well survey were not to be released to the public as it was intended to be kept confidential in our agreement with the homeowner in exchange for information regarding their water well.

5. *The stormwater management ponds are not clearly shown on the Figures. If they were either clearly labelled or shown in blue, it would be easier to differentiate them from surface topography lines.*

Response: The figures have been updated to more clearly show the stormwater management ponds.

6. The PTTW users listed in Table 9 are not clearly identified on the Figures. Some of the municipal wells are shown and it can only be inferred that the two surface water permits on Glenway are shown as Ponds 4a and 6.

Response: Figure 13 was updated to show the Permit Number and ID for each PTTW holder currently shown in the Figure. The text in Section 3.2.2 was updated to clearly state that Ponds 4a and Pond 6 are the on-site surface water takings.

7. Page 13 refers to the Newmarket Till whereas the cross section, Figure 5 and earlier portions of the text (page 4) refer to the Halton Till. The author should clarify this discrepancy.

Response: Based on information from the Lake Simcoe Region Conservation Authority (LSRCA), Nottawasaga Valley Conservation Authority (NVCA), and Severn Sound Environmental Association (SSEA), both the Halton Till and Newmarket Till units underlie the site, and the Newmarket Till is thicker than the Halton Till. Page 12 refers to the screened units for the municipal wells (Thornccliffe Formation and Scarborough Formation). These are deeper formations that underlie the Newmarket Till. As the Newmarket Till is believed to be thicker in this area, and construction of the proposed development is expected to remain relatively shallow, it is this unit that is expected to protect the deeper aquifers. The text in the report will be revised to provide clarity on this matter.

8. Table 6 should provide some brief rationale/additional information as to why each of these species would or would not be affected by the development.

Response: The purpose for conducting a search of the MNR Natural Heritage Information Centre (NHIC) database in the Hydrogeological Investigation report was to identify if any groundwater dependent species and features such as wetlands or Redside Dace were mapped within the study area. Table 6 provided a listing of all of the species found within that search, for reference purposes only, but no groundwater dependent species or features were identified. Based on our findings, Table 6 will be removed from the report as it serves limited to no purpose with regards to a Hydrogeological Report and the text will be amended to reflect this point. It should be noted that no visual on-site work concerning species identification was conducted as part of the Hydrogeological Investigation.

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P.Eng.
Project Manager



Tabitha Lee, M.A.Sc., P.Eng.
Senior Hydrogeologist

c.: Joanne Barnett, The Kerbel Group Inc.

November 22, 2013

Our Ref: L09-301

Lake Simcoe Region Conservation Authority
PO Box 282
120 Bayview Parkway
Newmarket, ON L3Y 4X1

Attention: Beverley Booth, MSc., MCIP, RPP
Manager of Planning, Regulations and Enforcement

Dear Ms. Booth:

Re: 2nd Response to Stormwater Management Comments – Functional Servicing Report
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket

Cole Engineering Group Ltd. (Cole Engineering) has received two sets of technical comments from the LSRCA regarding the review of the Functional Servicing Report, dated March 2012. We acknowledge receipt of a third comment letter from the LSRCA, dated May 2, 2013 regarding the submitted Hydrogeological Report, however, the response to Hydrogeological comments is provided under a separate letter.

The LSRCA's comments with respect to the Functional Servicing Report were provided in letter format on the following dates:

- July 27, 2012 (first LSRCA comment letter)
- June 14, 2013 (second LSRCA comment letter)

Cole Engineering provided a written response letter to the LSRCA's first comment letter on September 26, 2012 which prompted the issuance of LSRCA's second comment letter. The purpose of this letter is to respond to the LSRCA's second comment letter of June 14, 2013. Our current responses correspond to our re-submission of the Functional Servicing Report, dated November 22, 2013.

For consistency and ease of reference, both sets of LSRCA's comments have been re-iterated below (*shown in italics*) plus we also include our original responses from September 26, 2012. Our current detailed responses to the second comment letter are labelled and have been included in [blue text](#).

Comments on the Stormwater Management Section of the FSR

- 1. *July 27/12 Comment:*** *The flow targets established in Section 7.2 are to be based on the more conservative pre-development flows, which appear to be primarily the 12-hour SCS Distribution. In addition, the Authority will be looking for some degree of over control for outlet #2 due to potential capacity issues downstream. The available capacity for both outlets should be demonstrated and discussed with the Town of Newmarket.*

Sept. 26/12 Response: Our analysis indicates that the 24-hour SCS storm distribution requires the largest storage volume for the proposed development which we feel is a more appropriate approach. We will check the 12 hour distribution when preparing a resubmission to ensure that this is correct.

Through our circulation to the Town of Newmarket no specific downstream constraints have been identified in relation to outlet #2. Given that we are proposing to limit discharge from the proposed ponds to existing flows or better, we would not anticipate an increase in flows to the receiving system. If the authority has knowledge of specific constraints of the receiving system, we'd like to discuss these in more detail with the LSRCA and Town. If any constraints are identified, a hydraulic analysis can be prepared to ensure that the system functions adequately to the satisfaction of the Town of Newmarket.

June 14/13 Comment: The response indicated that the 12-hour SCS Distribution will be assessed (with respect to flow targets) when preparing a resubmission. With respect to potential capacity issues downstream, the LSRCA will require written confirmation from the Town of Newmarket indicating that they have no concerns with capacity issues in the receiving storm sewers. Please include this information with your resubmission for our review and comment.

Nov. 22/13 Response: Our review of the Town's sewer information indicates that the existing sewer system outlets immediately south of Crossland Gate. The Town or their consultant have not expressed that there are any capacity issues related to Outlet #2. As the proposed discharge from the proposed subdivision controls flows to existing conditions or better, we consider that the item has been addressed. In addition, we note the existing storm sewers on Eagle Street, downstream of Outlet #2 are 1050mm dia. and 1950mm dia. and operate at 30% and 76% of their full flow capacity under 5-year conditions, based on the original G.M. Sernas design sheets. The updated FSR has considered the use of the 12 hr SCS Distribution, however the Town standard 24 hour SCS distribution was found to require greater controls and more storage. The pre-development peak flows and modelling output can be found in Section 7.2 and Appendix D for your reference.

2. July 27/12 Comment: *It appears from Section 7.3 that the Storage-Discharge rating curves for the existing ponds were taken from the 1983 SWM Study. A rating table is to be developed for each existing facility based on a current site survey to verify existing conditions/flows.*

Sept. 26/12 Response: The stage storage discharge relationship for the existing SWM facilities were obtained from the 1983 SWM Report. Given that the proposed receiving system was designed to accommodate the existing pond designs, it is reasonable to assume that these stage-storage relationships are appropriate to use as targets for the proposed ponds. However, if the Authority has rationale that deems it necessary, such as downstream capacity constraints, we can revise our Storage – Discharge targets to accommodate any hydraulic constraints based on the detailed survey of the existing SWM facilities.

June 14/13 Comment: The Authority will require that the storage-discharge rating curves taken from the 1983 report are to be verified by a current topographic survey. This will ensure that the pre (existing) and post development hydrology model accurately reflects the existing storage-discharge of the facilities. Please provide this topographic plan and existing condition rating tables with your next resubmission.

Nov. 22/13 Response: As requested, the outlet structures of the existing ponds were field verified on March 19th, 2013. The field surveys are included in Appendix C of the FSR as a list of points. The existing conditions SSD tables were not revised as elevations were not specified in the Lathem report. Designing to existing conditions based on current conditions would not be appropriate, as the receiving storm sewer network would have been designed as per the proposed Storage-Discharge rating curves described in the Lathem report. Over time, the storage will have diminished and outlets will have begun to fail. Using the original Storage-Discharge ratings will provide more accurate targets for meeting the expected capacities of the Town's infrastructure.

3. July 27/12 Comment: *Additional information and calculations are required in Section 7.5 to demonstrate the conveyance capacity and the flow route for the Pond overflow weirs. Please demonstrate that the weir and receiving system has the conveyance to accommodate the 100 year uncontrolled flow from the facilities.*

Sept. 26/12 Response: Pond emergency overflow weirs will be designed to convey 0.10 m³/s/ha, as per Town of Newmarket standards. However, we can ensure that the impacts of the 100 year uncontrolled flow can either be accommodated in the SWM facility or the emergency overflow weir can be adjusted to accommodate a higher flow if necessary. Calculations will be included to demonstrate that both the weir and emergency overflow flow route will have capacity to accommodate the emergency overland flows.

June 14/13 Comment: *The response indicated that calculations will be included to demonstrate the pond overflow weirs and emergency overflow route will accommodate the 100-year uncontrolled flow from the facilities. Please provide these calculations and include with the referenced resubmission.*

Nov. 22/13 Response: The emergency overflow weirs have been designed to convey 0.10 m³/s/ha as per Town of Newmarket Standards. The calculations can be found in Section 7.6.3 of the revised FSR and accompanying Flowmaster Output in Appendix H.

4. July 27/12 Comment: *Further to the above, the pond overflow should not be directed through the rear-yard of the proposed lots as noted for Pond 9.*

Sept. 26/12 Response: The proposed major overland drainage plan has maintained existing drainage patterns and is limited based on the existing topography of the area. All necessary easements and agreements can be provided where new overland flow routes or pond overflows are directed through private lands.

June 14/13 Comment: *The LSRCA is concerned that some of the proposed pond overflows will be directed through the rear-yards of some of the proposed lots. Please provide written confirmation from the Town of Newmarket that the proposed pond overflows are acceptable to the Town.*

Nov. 22/13 Response: Note that the proposed draft plan has been revised. As such no overflow is proposed to be directed through the rear-yards of any of the proposed lots and we anticipate the Town will find the revised stormwater management design satisfactory.

5. **July 27/12 Comment:** Section 7.5.3 and 7.5.4 mentions that Pond 8 & 9 overflows will remain in the same location; however there does not appear to be any details with respect to the existing overflow for any of the ponds.

Sept. 26/12 Response: Further discussion related to the existing emergency overland flow patterns will be added to the report to more clearly identify how these patterns are being maintained. These will also be added to the storm drainage area plans and proposed pond block figures, Figures 7-1 through to 7-6. Additionally, overland flow path calculations and details will be provided.

For reference, the existing pond overflow location for pond 8 is south through existing residential lots, however, this location has been amended to outlet east to Eagle Street to reduce flooding risk to the existing home owners. The existing overflow location for Pond 9 is east to eagle street.

June 14/13 Comment: The response indicated that additional clarification will be added to the reports and figures to identify existing pond overflows. It was also noted that overland flow path calculations and details will be provided. Please include within the referenced resubmission for our review and comment.

Nov. 22/13 Response: The emergency overflow weir descriptions can be found in Section 7.6.3 of the revised FSR and the calculations can be found in Appendix H.

6. **July 27/12 Comment:** Please demonstrate impacts to Pond 4B, should the connecting pipe to 4A be blocked.

Sept. 26/12 Response: The connecting pipe shall be regularly inspected and maintained as part of the condo grounds maintenance program. Surface runoff is directed to both Pond 4A and 4B so both ponds will collect and retain stormwater regardless of the connecting pipe. Should the pipe become blocked during a large event, an emergency overflow path will allow water to spill from Pond 4B, across the private drive, into Pond 4A. The emergency overflow path will follow the same alignment of the connecting pipe and sized so as to not impact the adjacent townhouses by passing the 100 year flow. This overflow path detail will be shown on the revised Figure 7-3 and calculations will be provided.

June 14/13 Comment: The response provided with respect to the Pond 4B overflow should be included in the report text. The response also indicated that the overflow path will be shown on a revised Figure 7-3 along with calculations. Please include within the referenced resubmission for our review and comment.

Nov. 22/13 Response: The requested text has been added and can be found in Section 7.6.3 of the revised FSR. Due to grading constraints from the existing Alex Doner Drive, the road grades would be too steep approaching the elevation required for the an emergency spillway between pond cell A and B, therefore an emergency overflow culvert is proposed instead. This emergency overflow culvert is sized to convey 0.10 m³/s/ha as per the Town's emergency spillway requirements. The emergency spillway culvert has also been illustrated on Figure 7-3 and the calculations included in Appendix H of the revised FSR.

7. July 27/12 Comment: *The permanent pool storage volume calculations referenced in Section 7.6.2 must include external drainage areas. Alternatively a separate pipe system can be provided from each facility. Please call Authority staff for further clarification/discussion.*

Sept. 26/12 Response: Water quality considerations through permanent pool calculations have considered external drainage that is currently not serviced by the existing SWM facilities. Areas that are currently serviced by the existing wet facilities, stormwater management for these upstream areas is currently provided for in the existing SWM facilities located on the existing Glenway golf course to the west of the proposed development lands. Given the presence of permanent pools in the upstream wet facilities, water quality considerations for the existing areas should be accommodated for in these existing ponds. These SWM facilities in series provide the benefits of a treatment train approach which is promoted to improve water quality. Hydrologic considerations of the discharge from these facilities have been considered in the new ponds that are proposed to be expanded for the additional development.

Furthermore, the proposed changes to the SWM plan are being driven by the proposed development. As such, the proposed SWM Plan accommodates for these changes in land use. The upstream conditions are not being altered as part of this development application and SWM will continue to be provided by the upstream facilities. If necessary, bathymetric surveys of the upstream ponds located on the golf course could be conducted to ensure that adequate volume is available to determine if maintenance is required to meet the original intended design of the SWM facilities.

Additional clarification from the LSRCA would be beneficial in relation to this comment.

June 14/13 Comment: *The LSRCA will require that the permanent pool storage volume calculations be based on the total tributary area (including drainage from upstream ponds) draining to each facility. Any upstream (existing or proposed) development drainage must be included in the permanent pool calculations in accordance with MOE guidelines.*

Nov. 22/13 Response: All four (4) of the proposed ponds have provided adequate permanent pool to account for quality treatment of all upstream drainage areas, existing and proposed, which includes drainage areas contributing to existing SWM Ponds, upstream of the proposed SWM ponds. The outlet storm sewer that connects Pond 1 discharge to Pond 4 is proposed to be disconnected and routed to discharge directly to the Davis Drive ditch. The drainage area discharging to Ponds 1 and 2 are not proposed for development and proposed to no longer route through Pond 4, therefore it is no longer necessary for Pond 4 to provide quality treatment for this area as well. This diversion of flow was discussed, and agreed to in principle, at a meeting with the Town (January 25th, 2013) as an alternative to providing excessive storage volume and permanent pool in Pond 4. See Section 7.7 of the Functional Servicing Report for permanent pool sizing details.

8. July 27/12 Comment: *The forebay sizing calculations for Pond 4 do not appear to include calculations for the existing inlets. Further to this, the Pond 4A forebay berm appears to be quite close to one of the existing inlets.*

Sept. 26/12 Response: The peak flow into the forebay is a summation of the existing and proposed inlet flows, where the forebay length was determined from the nearest inlet to the berm. The existing inlet discharging flows into forebay 4A from the south is proposed to be rotated 90 degrees to discharge in a northerly direction instead of easterly, as shown on the revised figure 7-3. We believe this alignment will allow the facility to operate more effectively.

June 14/13 Comment: A revised Figure 7-3 is referenced in the response; however the LSRCA did not receive this with the submission. The report text and figure 7-3 are to be revised to show the revised inlet configuration.

Nov. 22/13 Response: The revised Figure 7-3 has been included in the updated FSR for your reference with a relocated inlet on the west side of the west forebay.

9. July 27/12 Comment: Please demonstrate how the proposed ponds will be accessed for maintenance.

Sept. 26/12 Response: Figures 7-3 through to 7-6 will be revised to show proposed access routes for pond maintenance. These access routes will provide access for cleaning maintenance and be designed to meet the Town of Newmarket standards for grading. Given that all of the proposed facilities are adjacent to or have direct access to either a public road or condo road, we do not anticipate access as being a difficulty.

June 14/13 Comment: The response indicates that Figures 7-3 to 7-6 will be revised to show proposed access routes for pond maintenance. Please provide these revised Figures for our review.

Nov. 22/13 Response: The revised Figures 7-3 to 7-6 have included the maintenance access roads in the updated FSR for your reference.

10. July 27/12 Comment: Figure 2-1 identifies proposed development on Street D (approx. lots 133-158) however the report and storm drainage figures 7-1 and 7-2 do not appear to address this area.

Sept. 26/12 Response: The proposed development of lots 126 to 165 along Street D are shown as drainage areas 9.3 and 9.03 in Figures 7-1 and 7-2. Runoff from these areas is proposed to be captured via a 100 year capture grate and storm sewer, which contributes to Pond 9 (see Table 7.14 in the report). Quantity and Quality control for this area is addressed by Pond 9.

June 14/13 Comment: Addressed with this response.

Nov. 22/13 Response: Thank you.

11. July 27/12 Comment: The report did not appear to address SWM requirements for the proposed lots 1-6 on Figure 2-1.

Sept. 26/12 Response: The proposed lots 1-6 are included in the post development drainage area 4-ex1.1. The impervious area will increase by approximately 2.0% for 4-ex1.1. Permanent pool capacity in

SWM pond 4 has been calculated to include this area and will provide adequate quality treatment. The roof area and rear yard runoff here can also be considered as 'clean' runoff.

June 14/13 Comment: *The report and impervious for area 4-ex1.1 (on figure 7-2) should be revised accordingly as noted in the response.*

Nov. 22/13 Response: During post development conditions, there will be a 1%-2% increase in imperviousness for catchment 4-ex1.1. The total impervious will be less than 20% (refer to section 7.2). The roof and rear yard runoff can be considered clean and do not require any additional quality control.

12. July 27/12 Comment: *The proposed pond block figures are to include the following for further review:*

- a. *Some spot elevations within the ponds, existing/proposed ROW and lots to demonstrate grading, overland flow and overflow routes.*
- b. *Overflow outlet locations and flow routes with spot elevations.*

Sept. 26/12 Response: The additional requested details will be included on Figures 7-3 through 7-6 as part of a revised report.

June 14/13 Comment: *The response noted that the items requested above (a. and b.) will be included on Figures 7-3 to 7-6 as part of a revised report. Please provide this revised information to the LSRCA for our review and comment.*

Nov. 22/13 Response: Figures 7-3 to 7-6 have been revised in the updated FSR as requested. Spot elevations, sloping and pond contour lines have been provided.

13. July 27/12 Comment: *In addition to the studies/reports submitted in support of this application, the applicant is requested to submit a water balance.*

Sept. 26/12 Response: Water balance calculations will be provided for the proposed development as part of a revised report.

June 14/13 Comment: *The response noted that water balance calculations will be provided for the proposed development as part of a revised report. Please provide this information for our review and comment.*

Nov. 22/13 Response: A water balance mitigation section has been included in Section 7.9 of the updated FSR. Note that the pre and post development water budgets are included in the Hydrogeological Investigation, prepared by Cole Engineering, dated November 2013 and included with this circulation of reports.

We trust our responses provided within this letter plus the updated and resubmitted Functional Servicing Report dated November 22, 2013 adequately address the LSRCA's comments. Should you have any questions, please contact either of the undersigned.

Yours truly,

COLE ENGINEERING GROUP LTD.



Geoff Masotti P. Eng.
Water Resources Engineer



Peter Slama, P. Eng.
Project Manager

DM:kb

c.: Joanne Barnett, The Kerbel Group Inc.

November 22, 2013
Our Ref: L09-301

Lake Simcoe Region Conservation Authority
120 Bayview Parkway, P.O. Box 282
Newmarket, ON L3Y 4X1

Attention: Ms. Beverly Booth, M.Sc.
Senior Planner

Dear Ms. Booth:

**Re: Response to Comments on Hydrogeological Investigation Report
Marianneville Developments Limited (Estates of Glenway, Newmarket)
Town of Newmarket, York Region**

Cole Engineering Group Ltd. (CEG) is pleased to provide responses to comments received from the Lake Simcoe Region Conservation Authority (LSRCA) in their letter dated May 2, 2013 on the Hydrogeological Investigation Report related to the proposed residential development of Glenway Golf Course. CEG's response numbers correspond with technical comments provided by an external peer reviewer, GENIVAR in a letter addressed to the LSRCA on April 26, 2013.

1. The Draft Plan of Subdivision is provided in Appendix A of the report. A Re-development Boundaries figure was available in the Functional Servicing Report (March 2012). A general description of the proposed development was provided in Section 1.2 of the Hydrogeology Report.
2. A figure showing planned changes of grade was provided in Appendix A. Specific wording discussing the importance of maintaining the water balance will be provided in Section 4.0.
3. From seasonal water level trends, discussions from residents, and Town of Newmarket design criteria, it is anticipated that a Permit to Take Water will be required for the construction of the development. The elevations of proposed development infrastructure will be provided at the detailed design stage and are expected to be incorporated into the Permit To Take Water Application at a later date.

Some recommendations were provided in Section 5.0 to address potential impacts of the development and proposed mitigative actions.

4. Figure 5 was updated to include a key map along with a note indicating the approximate distance the site lies to the west of the cross-section and a note that there is a potential for local geology to be different beneath the site from that represented in the regional cross-section.
5. Based on the available mapping and borehole logs, we believe that the surficial geology appears to be a mix of weathered Halton Till and Newmarket Till. The Oak Ridges Aquifer Complex (ORAC) was

not encountered in the boreholes and thus may be locally discontinuous. The underlying regional aquifer unit is therefore the Thorncliffe Aquifer, which was not encountered in the boreholes. Section 2.5 was updated to clarify our understanding of the geology.

6. Figure 9A presents a geologic interpretation from boreholes logs, which has inherent uncertainty. Information shown between and beneath boreholes is uncertain due to the heterogeneous nature of the underlying materials. Information from MW11 and MW12 suggests the potential for a silty clay layer beneath BH18 and it was extrapolated as such.
7. A revised Figure 10 (which was revised to Figure 10A and Figure 10B) was provided to clarify interpreted direction of groundwater flow based on our understanding of monitored groundwater levels and potential boundary conditions. Not all surface water features are necessarily reflected in the groundwater regime, only those which are likely to affect the groundwater system will be incorporated.
8. The Hydrogeological Investigation provides a discussion on the likely impacts of the development on the groundwater system from the perspective of its hydrologic form and function. Quantitative values for infiltration for pre- and post-development scenarios are calculated and a qualitative description of the groundwater interactions is provided. The study does not focus on the behaviour for pre- and post-development gradients and water levels at each monitoring location and the preservation of these specific criteria, rather the overall function of the groundwater system for the site.
9. The hydraulic conductivity (K) values shown in Table 4 were the geometric average of the early and late time K values calculated in Appendix D. The difference in early and late time estimates are likely attributed to the factors that were proposed in Comment 9. Further discussion and rationale was provided in Section 2.5.3.
10. The criteria used for comparison was the Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (MOE, April 15, 2011). Table 2 criteria for O.Reg. 153/04 applies to a potable groundwater condition.
11. The water quality sampling was conducted to determine general groundwater quality characteristics underlying the site. MW-1S/D and MW-11 are located in different areas to provide good site coverage. The same land use and historical activities apply to the entire site; therefore, the sampling conducted provides a good general representation of the groundwater quality of the site. Provided that no contamination has occurred, groundwater quality across the site is not anticipated to vary significantly. The Phase I Environmental Site Assessment (ESA), Phase I ESA Update, and Phase II ESA go into further detail outlining potentially contaminating activities and the likely impact for the site. None were identified as part of those investigations.
12. Potential contamination including pesticide application is addressed in the Phase I Environmental Site Assessment (January 2012), Phase II Environmental Site Assessment (April 2012), and Phase I Environmental Site Assessment Update (November 2013) reports prepared by CEG.
13. A Source Water Impact Assessment and Mitigation Plan has been prepared by CEG in accordance with the York Region Official Plan (2010) and York Region document "Guidance for Proposed

Developments in Wellhead Protection Areas in The Regional Municipality of York" (May 2013). This document is provided in Appendix I.

14. The water balance was conducted for the entire site using the method set out in the document Hydrogeological Assessment Submissions – Conservation Authority Guidelines to Support Development Applications (June 2013). Pre- and post-development drainage areas vary slightly. Mitigation measures will be developed as part of the stormwater management work in the Functional Servicing Report update (November 2013).

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P.Eng.
Project Manager



Tabitha Lee, M.A.Sc., P.Eng.
Senior Hydrogeologist

c.: Joanne Barnett, The Kerbel Group Inc.

November 22, 2013
Our Ref: L09-301

Regional Municipality of York
17250 Yonge Street
Newmarket, ON L3Y 6Z1

Attention: Heather Konefat, MCIP, RPP
Director of Community Planning

Dear Ms. Konefat:

Re: Response to Preliminary Technical Comments Issued January 7, 2013
Proposed Residential Redevelopment (Estates of Glenway)
Marianneville Developments Limited
Town of Newmarket, Region File No.'s: D06-D9NP1210 & 19T-12N10

Cole Engineering Group Ltd. (Cole Engineering) is in receipt of a comment letter issued by the Region of York to the Town of Newmarket (Richard Nethery, Director of Planning), dated January 7, 2013 which provides technical review comments with respect to a Hydrogeological Study, Traffic Impact Study and Functional Servicing Report all prepared by our office.

On behalf of our client, Marianneville Developments Ltd., we are pleased to provide the Region of York with our detailed responses to comments which corresponds to our re-submission of the Traffic Impact Study and Functional Servicing Report, dated November 22, 2013.

For ease of reference, the Region's comments from the January 7, 2013 comment letter have been reiterated below (*shown in italics*) with our detailed responses included in **blue text**.

Water Resources Comments (related to Hydrogeological Study)

- 1. All development on the subject property should adhere to the Wellhead Protection Policies outlined in Section 7.3.39 and 7.3.45 of the York Region Official Plan. Should activities noted in the York Region's Official Plan Policies 7.3.39 occur on the site, Water Resources will require that a Risk Assessment and Risk Management Plan be prepared for submission and review.*

Response: A Source Water Impact Assessment and Mitigation Plan has been prepared by Cole Engineering Group and is submitted in Appendix I of the Hydrogeological Investigation Report.

- 2. Given the proximity of the site to Newmarket municipal wells No. 1 and No. 2, construction activities such as deep excavation that may require dewatering or groundwater depressurization have the potential to interfere with the quantity of groundwater available for municipal supply. While the risk of interference to the municipal water supply at this particular location is low, should dewatering be*

required during site development, we recommend that a dewatering plan be prepared by a qualified professional and submitted to the Region for approval.

Response: From seasonal water level trends, discussion from residents, and Town of Newmarket design criteria, it is anticipated that a Permit To Take Water will be required for the construction of the development. The elevations of proposed development infrastructure will be provided at the detailed design stage. Together with the data in the Hydrogeological Investigation Report, a dewatering plan will be prepared. This information will be incorporated into a Permit To Take Water Application at a later date.

Transportation Comments (related to Traffic Impact Study)

1. *The study calculates the trip generation for the proposed single detached residential units in the study area based on the trip rates calculated from traffic in/out surveys at the existing residential neighbourhood, However, our review indicates that these trip rates are approximately 40% lower than those published in the ITE Trip Generation Manual and approximately 8% lower than those applied to the proposed apartment use in the same study area, The Region requires clarification to justify these trip rates and why the rates are appropriate for this area. Confirmation counts or more detailed information should be provided in order to verify the reasonableness of these trip rates.*

Response: ITE Trip Generation equation trip generation rates were used in the analysis resulting in a conservative assessment.

2. *An 11% of transit modal split is applied in the study to calculate the trips generated from both the background and proposed developments, The report indicates that the 10% of transit reduction was derived from the data in the 2006 TTS. It is not clear how this modal split can be applied to senior living, office commercial and retail commercial uses as the 2006 TTS does not include trip data for these specific land uses. This assumption must be clarified and background supporting information/source must be included in the report for further review,*

Response: The application of the non-auto modal split to the analysis is only applied to the high density residential use in the analysis and reflects a conservative analysis.

3. *It is advised that York Region's TIS Guidelines require developments generating 500 peak total auto trips or more to assess transportation impacts for horizon years of opening year and 5 years (:0:500 and < 1000 peak total trips) or 10 years (:0:1000 peak total trips) after the opening year. The TIS report, as submitted, has applied low trip rates for single detached residential units and discounted the travel demands based on several factors to achieve a net trip generation in the PM peak hour of 498 trips. Consideration should be taken to assess a longer term study horizon year given the resulted trip generation estimates.*

Response: Based on the York Region Transportation Impact Study (TIS) Guidelines for Development Applications, the proposed subdivision is classified as a medium development and requires analysis for the opening year and five (5) years after opening.

4. *It is not clear why the distribution percentages outlined in Tables 4.7 and 5.3 can be used for all the land uses proposed on the subject site and other development sites in this study area, Trip distribution shall be specific to each type of land uses.*

Response: *The trip distribution has been revised with the commercial distribution based on existing traffic patterns in the area and the residential distribution based on 2006 TTS data.*

5. *A summary of the queuing analysis under the future total traffic conditions shall be included to assess whether estimated queue lengths for critical movements can be accommodated within available storage length and/or spacing at the signalized intersections,*

Response: *A queuing analysis has been undertaken and is included in the analysis and is provided in Section 9.0.*

6. *Some TDM measures (e.g. prepaid Presto cards, welcome informational package for residents, etc) are briefly mentioned in Section 9.0 (Transportation Demand Management Program) to reduce travel demands, However, in addition to the recommended TDM programs/measures outlined in the report, the following requirements must be added to the recommended TDM program/measures:*

Response: *The TDM section has been updated and a Transportation Management Plan added to the report.*

Water and Wastewater Servicing Comments (related to Functional Servicing Report)

1. *The proposed water system design by Cole Engineering based on servicing from Newmarket West pressure district is not acceptable. The subject lands are to be serviced by Newmarket Central pressure district, unless it can be demonstrated that this option is not possible. Accordingly, the FSR should be revised and resubmitted for Region's review.*

Response: *As per the Town's pressure district information, the majority of the subject site is within the service area of the Newmarket West Pressure District, based on proposed ground elevation range. Our modelling results indicate that the majority of the site would have low system pressure if they are connected to the Newmarket Central Pressure District. Our proposed design is generally in agreement with the Town's pressure district delineation and is the basis for the proposed water distribution system. Refer to Section 4.1.3.2 from the updated Functional Servicing Report for the water distribution network modeling analysis and updated Figure 4-1 Water Pressure Districts depicting the majority of the proposed development area within the West PD, while Street D is connected to the Central PD.*

2. *Prior to final approval, the local area municipality must grant servicing capacity allocation to the development, within the limit of the Region's capacity assignment and associated triggers.*

Response: *Acknowledged. The granting of servicing capacity allocation from the local municipality to the development is understood to be one of the requirements prior to final approval (Registration), however allocation is outside the scope of discussion of a technical document such as the Functional Servicing Report and no revisions to the FSR have been completed to address this comment.*

1. *In accordance with York Region's servicing protocol respecting subdivision plans receiving draft approval, prior to complete servicing allocation being available, staff are requesting that all*

residential lands be subject to various restrictions (i.e. Holding 'H' zone) to ensure that the water and wastewater servicing are available prior to occupancy.

Response: Acknowledged. However, this policy matter is outside the scope of discussion of a technical document such as the Functional Servicing Report and no revisions to the FSR have been completed to address this comment.

We trust our responses provided within this letter plus the updated and resubmitted Hydrogeological Study, Functional Servicing Report and Traffic Impact Study, all dated November 22, 2013 adequately address the Region of York's comments. Should you have any questions, please contact either of the undersigned.

Yours truly,

COLE ENGINEERING GROUP LTD.



Peter Slama, P. Eng.
Project Manager



Joseph Gowrie, P. Eng.
Traffic Engineer

c.: Joanne Barnett, The Kerbel Group Inc.

Summary of Outstanding Issues and Comments

(Glenway) – Marianneville Developments Limited

Official Plan Amendment – D9NP1210
 Zoning By-Law Amendment – D14NP1210
 Draft Plan of Subdivision – D12NP1210

Tree Inventory Report by York Urbanist (Peer Reviewed by Arbourvalley)			
Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response prepared by York Urbanist
With respects to the tree inventory, all significant trees are to be measured individually and exactly. Significant trees are to be measured at 1.4 metres. Significant trees on neighbouring properties and abutting municipal properties need to be identified.	Pending	York Urbanist is required to provide information on significant trees on neighbouring properties.	A visual assessment of significant trees within 4.5m on neighbouring properties was completed, included in updated Inventory report
Tree Preservation Plan and Replacement Plan required	yes	Tree Preservation and Tree Replacement Plans are required.	Refer to Preservation, Replacement and Enhancement Plan

Shadow Impacts by Zelinka Priamo (Peer Review by iPLANcorp)			
Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response prepared by Zelinka Priamo
Part of proposed Lot 168 to the immediate west would be impacted by proposed development. Further assessment of the impact of the proposed apartment development on proposed detached, medium-density and existing development is required.	Pending	Revised submission required	Refer to Report on Shadow Impacts - Technical Addendum



Parks and Recreation Assessment (Peer Reviewed by Town of Newmarket)

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response prepared by Zelinka Priamo
Recommends two small parks be located near Blocks 166 and 167.	Pending	Under discussion	Refer to Parks & Recreation Assessment – Technical Addendum
Recommends that parks and green spaces be connected to new and existing housing through series of sidewalks and trails.	Pending	Under discussion	
Recreation and Culture Department prefers that large segments of parkland be located in close proximity to existing stormwater management ponds (blocks 169 and 170) and that a minimum of 5% of the land for parks purposes be provided in accordance with the Planning Act Monteith Brown’s letter informed that the area to the east of block 173 is underserved for parkland.	Pending	Under discussion	
Upcoming Parks Policy Manual should be considered.	Pending	Under Discussion	
Directions report recommendations regarding parkland requirements for North west corner of City	Pending	Needs to be addressed in next submission.	

Functional Servicing Report by Cole Engineering – Water Supply & Distribution System (Peer Reviewed by MMM Group)

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding Water Supply and Distribution Comments
Report must address how connections will be routed through the proposed development to avoid conflicts.	Pending	Further information is required of the applicant.	Refer to Drawing WAT-1, no conflicts expected. Ex. watermain easements and proposed building envelopes shown accordingly.
Town does not permit private watermains to loop to municipal watermains.	Yes	The by-pass line will be removed and the proposed medium density block (No. 169) will provide a single connection to the proposed or existing watermain. Plans need to be updated.	Previously resolved; refer to Drawing WAT-1.
Issues regarding municipal or private watermains under municipal or private roads.	Partially	The Applicant will need to update plans to reflect changes to watermain configurations. Further, the Applicant needs to conclude direction for municipal watermain along south side of Davis Drive for water distribution between Crossland Gate and Street B.	Private blocks to receive one water connection only; refer to Section 4.3.3 and Drawing WAT-1.
Consultant should complete water distribution modeling of the proposed distribution to confirm the pressures.	Pending	Further information is required from the applicant.	Water distribution modelling completed. Refer to: <ul style="list-style-type: none"> • Section 4.1.3.2; and • Appendix A1 in FSR dated November 2013.

**Functional Servicing Report by Cole Engineering – Grading
(Peer Reviewed by RJ Burnside and Associates)**

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding Storm Drainage and Stormwater Management Comments
The retaining walls proposed in the stormwater management ponds are unacceptable and should be redesigned to allow the side slopes to conform to Town Standards.	Pending	Outstanding	All retaining walls removed, refer to Figures 7-2 to 7-6 in FSR dated Nov. 2013 for new configuration. Side slopes confirm to Town Stds.
Retaining walls proposed in some rear yards should be reviewed and minimized at detailed design stage.	Pending	Outstanding	All previously proposed ret. Walls within lots removed and replaced with sloping; refer to Drawing GR-1.

**Functional Servicing Report by Cole Engineering – Storm Drainage and Stormwater Management
(Peer Reviewed by RJ Burnside and Associates)**

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding Stormwater Management Comments
Existing private ponds should be conveyed to the Town and designed to meet Town standards.	Pending	Ponds need to be designed to Town standards. Applicant to provide additional information	Ponds are designed to Town Stds. Refer to Section 7.0 and Figures 7-3 to 7-6 in FSR dated Nov. 2013.
Concern was expressed regarding the water levels proposed in the ponds and the impact the hydraulic grade line would have on foundation drains for the homes. All homes should be protected from flooding for major storm events.	Pending	Applicant required to provide further analysis. Sump pumps are not permitted. Foundation drains will need to have gravity connections.	HGL Analysis completed based on pond max water levels. Refer to: <ul style="list-style-type: none"> • Section 5.1.1; • Figures 5-1, 5-2, 5-3; • Appendices B.2, B.3, B.4 in FSR dated November 2013.



		<p>Cole is to provide a hydraulic grade line (HGL) analysis which shows all existing and proposed homes will be protected.</p> <p>Cole indicates that if the HGL analysis indicate that flooding of homes may be an issue a foundation drain collector system (FDC) will be considered. Cole is to confirm that a viable outlet exists for the FDC system.</p>	<p>A gravity foundation drain will be feasible for the vast majority of proposed lots. A very small pocket of lots are proposed for sump pumps if conventional basements are proposed at the design stage for several lots on Street D adjacent to Pond 9. A foundation drain collector system is not proposed to service this small section of proposed development.</p>
Need confirmation that the existing storm infrastructure is able to accept drainage throughout the site.	Pending	Applicant required to provide further analysis.	Capacity analysis completed for existing storm sewers and deemed adequate to accommodate. Refer to Section 5.1.1, Figures 5-1, 5-2; and Appendices B.2, B.3.
Proposed lots east of Ponds 8 and 9 conflict with existing storm sewers to the extent they are likely not developable.	Pending	Applicant to provide further analysis or provide greater detail on alternative layouts.	No longer an issue with revised stormwater pond configurations. Refer to Figs. 7-5 and 7-6.
Location of discharge from proposed pond overflow weirs should be provided. Emergency overflow capacity must meet Town Standards (0.10 cu.m./s/ha.)	Pending	Applicant required to provide further analysis.	Prop. overflow spillways shown on Figures 7-3 to 7-6. Overflow analysis provided in Section 7.6.3;
Quality control volumes must include existing upstream drainage.	Pending	Town will defer to LSRCA on this issue. Outstanding.	Proposed Ponds accommodate ex. upstream drainage for quality control. Refer to Section 7.7 and response letter dated November 22, 2013 for detailed discussion.
Town will not permit any overland flow from public roadways to discharge overland across private lands.	Partially	Cole agrees that overland flow will be directed through piping. Waiting on the revised report to verify.	Discussion regarding full capture of public overland flow through private property provided in Sec. 5.2 and shown on Drawing STM-1.

**Functional Servicing Report by Cole Engineering – Sanitary Sewage
(Peer Reviewed by RJ Burnside)**

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding Water Supply & Distribution Comments
<p>The use of MH 110A as the critical hydraulic constraint is questioned. Confirmation that adequate capacity exists in the downstream sewers including the pumping station operated by the Region of York is required.</p>	<p>Pending</p>	<p>IBI is carrying out an analysis of the downstream sewers for the Town.</p> <p>The Applicant is to address issues in IBI comments letter and determine what improvements are needed to the downstream infrastructure and enter into an agreement for those improvements to be made.</p> <p>Applicant to provide confirmation from Region of York that adequate capacity exists to handle flows from this development.</p>	<p>The Water Distribution response letter includes a discussion regarding R.J. Burnside’s original comments related to sanitary sewage, which have all been responded to in previous letters. We have addressed the IBI response letter with respect to downstream capacity analysis. Refer to Section 6.3, and the separate response letter to Town dated Nov.22/13 with respect to IBI comments.</p>

**Traffic Impact Study by Cole Engineering Group
(Peer Reviewed by R.J. Burnside & Associates Limited)**

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding the Traffic Impact Study Comments
<p>All roads should be revised to conform to Town standards.</p>	<p>Pending</p>	<p>To be addressed in next submission.</p>	<p>Completed. Refer to revised Draft Plan of Subdivision.</p>



Region should review primary intersections with arterial roads under their jurisdiction.	Pending	Intersection lane configurations, left lane turn configurations, left lane delays, sight distances, queuing and inconsistencies in recommendations, will be reviewed in conjunction with revised trip generation counts for proposed development. Applicant to review and update in addendum study.	Acknowledged.
Traffic counts for Bathurst/David Drive and Bathurst/Sykes Road do not balance.	Pending	Applicant to update in addendum study.	Refer to Section 3.0 in Traffic Impact Study dated November 2013.
Suggest a 10 year horizon.	No	Applicant to confirm the required horizon period with the Region.	Refer to Section 4.3 in Traffic Impact Study dated November 2013.
Assumed growth in background traffic may be impacted by developments in the immediate area & the proposed Regional projects.	Pending	Waiting for the Region to confirm growth rate based on their transportation model.	Refer to Section 4.1 in Traffic Impact Study dated November 2013.
Suggests that trip generation rates used for the single family units are too low for planning purposes and be revised upwards.	No	Burnside recommends the use of ITE rates. Outstanding.	Refer to Section 5.1 in Traffic Impact Study dated November 2013.
TIS should take into account the most recent plans and confirm any impacts that the proposed development may have on proposed access to Davis Drive/Bathurst from Sykes Rd.	Pending	Burnside requires comments on impact to Sykes Road access to the external development. Outstanding.	Refer to Section 4.2 in Traffic Impact Study dated November 2013.
Phase 2 development at Yonge Street not listed in the analysis.	Pending	Applicant to update in addendum study.	Refer to Section 4.2 in Traffic Impact Study dated November 2013.
TIS needs to consider proposed works by the Region on Bathurst/Davis Dr.	Pending	Applicant to update in addendum study.	Refer to Section 6.1.3 in Traffic Impact Study dated November 2013.

Proposed reduction in trips may result in an under-estimation of car trips in the area.	No	Directions needed if Applicant has to review Regions Class EA for Yonge Street rapid transit facilities and their EMEE/2 transportation model, and Towns Secondary Plan for Yonge/Davis area.	Refer to Section 5.2 in Traffic Impact Study dated November 2013.
No quantification of overall daily traffic volumes or speeds have been provided to determine whether traffic calming should be a concern for the existing neighbourhood.	No	Cole outlines that this work is completed in an Internal Functional Design Study. Burnside states that the TIS should provide additional details to identify impacts of proposed development on the existing internal roads/neighbourhoods. Outstanding.	Refer to Section 6.0 in Traffic Impact Study dated November 2013.
TIS has not taken into account all of the active developments in the study area.	No	Outstanding	Refer to Section 4.2 in Traffic Impact Study dated November 2013.
TIS should confirm that it is consistent with traffic forecasts for development to the north of Davis Drive (Toth Subdivision, Ford Wilson Boulevard).	Pending	Outstanding	Refer to Section 4.2 in Traffic Impact Study dated November 2013.

**Environmental Site Assessment – Phase 1 by Cole Engineering
(Peer Reviewed by R.J. Burnside and Associates)**

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding the Phase I & II ESA Comments
Missing analysis with respect to whether the tributary of Ansnorveldt Creek constitutes a 'sensitive' area.	Pending	Applicant will update Section 3.3.8 in the final report to address the nature of the watercourse flowing through the site.	Refer to Section 4.3.5 in Phase I ESA which indicates MNR records do not consider this a 'water body' and such is not sensitive.

Site contains areas of filling shown in borehole logs and air photos which is contrary to statements made in the ESA.	Pending	Historical land owner has indicated that no fill has been placed on the Site. Materials described as “fill materials” have been moved from on-site sources during development of the site. To be confirmed	Discussed within Section 4.3.4 in Phase I ESA. Updated to include statement that identifies ‘fill materials’ are actually soils moved from on-site sources.
Site model should include interpreted groundwater flow directions.	Pending	Applicant to include new cross sections for groundwater flow direction in Phase One Conceptual Site Model.	East-west cross section included. Refer to Figures 11 & 12.
Phase 1 Report is to be completed as per O.Reg. 153/04 as amended by O.Reg. 511/09.	Pending	Final report to be completed to adhere to the requirements and latest amendment to the regulation.	Phase 1 ESA Report adheres to the requirements of O.Reg. 153/04 (as amended by O.Reg. 269/11)

Environmental Site Assessment – Phase 2 by Cole Engineering (Peer Review by R.J. Burnside and Associates)

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Town dated November 22, 2013 by Cole Engineering regarding the Phase I & II ESA Comments
Borehole logs are “draft”, a Hydrological Investigation undertaken was not referenced.	Pending	Applicant to finalize borehole logs and provide signatures on final report.	Draft watermark removed from borehole logs. Reports are signed.
No sieve data was provided.	Pending	Applicant will provide pH results from borehole in final report.	Section 2.4 in Phase II ESA is updated to address sieve and pH.
Shallow groundwater divide was indicated in the Phase 1 ESA but ignored in Phase 2.	Pending	Figure in the final report will be updated to illustrate groundwater flow direction for the northwest portion of the Site.	Refer to updated Figure 4 in Phase II ESA which includes groundwater flow direction obtained from HydroG Report.
Presence of a water course through the site was shown on Fig. 2 but ignored in the rationalization.	Pending	Applicant will include this in the discussion in the final submission.	The ‘intermittent’ tributary is discussed in Section 2.4 in Phase II ESA.

Presence of fill identified in the 2011 borehole logs was not discussed.	Partially	Applicant to include a discussion on the subject in the final report.	Discussed within Section 4.3.4 in Phase I ESA. Updated to include statement that identifies 'fill materials' are actually soils moved from on-site sources.
Phase 2 Report is to be completed as per O.Reg. 153/04 as amended by O.Reg. 511/09.	Pending	Final report to be completed to adhere to the requirements and latest amendment to the regulation.	The Phase 2 ESA adhered to O.Reg. 153/04 (amended by O.Reg. 269/11).
The reports need to be suitable to support a Record of Site Condition for each parcel being developed	Pending	Applicant to prepare Record of Site Condition.	Phase 2 is suitable to support an RSC.
The Town should be included as party that is able to rely on the Phase 1 and 2 reports.	Pending	Applicant to prepare final Phase 1 and 2 Reports.	A statement in the 'Limiting Conditions' has been included to extend reliance of the Phase 1 and 2 ESA's to the Town.



Planning Justification Report by Zelinka Priamo

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response prepared by Zelinka Priamo
Additional information required on the interrelationship with the proposed planning options for the Yonge Street Corridor Urban Growth Centre	Pending	Outstanding	Refer to Planning Justification Report – Technical Addendum
Revisions required to address design issues regarding private/public road connects, park and trail facilities, conformity with OP.	Pending	Outstanding	
Additional analysis of community facilities required.	Pending	Waiting on analysis.	
Additional information regarding the interrelationship between these lands and the remaining lands to the West.	Pending	Waiting on analysis.	
Additional information requested regarding proposed zoning standards for proposed uses	Pending	Outstanding	
Report to be updated to address outcomes of resolution of other issues and response to public comments as required.	Pending	Response to public comments included	

Environmental Impact Statement

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response prepared by Beacon Environmental
<p>The application is within 50 metres of a Woodlot designated part of the Town’s Natural Heritage System. We will require a scoped <i>Environmental Impact Study</i> that addresses the impact, if any, of the proposed development on the identified Woodlot.</p> <p>This is in keeping with the requirement outlined in the Town’s Official Plan policy 9.0 and 9.2 Policy 9.2 states, “Development and site alteration are not permitted on lands adjacent to a Meadow, Woodlot or Wetland as depicted on Schedule B, Natural Heritage System, unless the ecological attributes and function(s) of the adjacent lands have been evaluated through an EIS and it has been demonstrated that there will be no negative impacts on natural features or ecological functions. Adjacent lands are considered to be those lands within 50 metres of a Meadow, Woodlot or Wetland. The requirements for an EIS are found in Section 9.4.”</p>	<p>Pending</p>	<p>Report preparation underway</p>	<p>Report by Beacon forthcoming</p>

York Region District School Board, Planning & Property Development Services

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response prepared by Zelinka Priamo
<p>The York Region District School Board identifies the need for an elementary school site to accommodate new development in the northwest quadrant of Newmarket. A site has been identified along Davis Drive with interior access off of Street B. Due to the land configuration, the site identified is not ideal and the Board will continue to pursue other sites that better meet their needs. Should a better site be secured, the School Board will withdraw its Glenway site request. The proposed location is within Blocks 171, 172 and lots 123, 124 and 125. The School Board has indicated support for dual zoning for these lands to allow the reuse of the site without a further planning approval if the site is not acquired for a school.</p> <p>The York Catholic District School Board reviewed the without prejudice offer and states that they have no comment or objection to the proposed development.</p>	<p>Yes</p>	<p>Requirements have been identified. School Board will notify the Town if they determine an alternate site location.</p>	<p>2 blocks and 3 lots In the area adjacent to the GO station have been dual-zoned to permit both residential units and a public school. The school board will continue to look for a site in the area which is superior, and discussions with the school board are ongoing.</p>

Central York Fire Services

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Response
Central York Fire Services has advised that Street B is a long dead end street A secondary emergency egress from Street B. Perhaps through Block 169 or 170 is required. A truck turning template on drawing for an Aerial Fire vehicle is required to show maneuvering from Street B both southbound and northbound onto Street C and along Street A both southbound and northbound at 90 degree turns at Lots 34 and 51.	Yes	Revisions to draft plan. Additional comments will be provided once more details are known regarding the siting of structures and access roads for the development proposed on the blocks on the plan.	2 emergency access routes to the Street B cul-de-sac are provided through the private Condo Blocks from the east (Eagle Street) and south (Crossland Gate) and designed with minimum 6m width and 12m centerline radius for fire truck access. Refer to discussion within Section 8.0 in Traffic Impact Study and Drawing GR-1 (Grading Plan) within the Functional Servicing Report.

Functional Servicing Report by Cole Engineering Group (Reviewed by LSRCA)

On June 14, 2013 the LSRCA provided comment to Cole Engineering letter of response to the LSRCA's letter dated July 27, 2012. The bulk of the June 14, 2013 comments were requests for further information from Cole (please consult LSRCA comment letter for further details).

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to LSRCA dated November 22, 2013 by Cole Engineering regarding Stormwater Management Comments
Flow targets in Section 7.2 are to be based on more conservative pre-development flows. LSRCA requires some degree of over control for outlet #2. Available capacity for both outlets should be demonstrated and discussed with the Town.	Pending	Outstanding	The FSR considers both the 12-hr and 24-hr SCS Distribution and the 24-hr was chosen as more conservative. Refer to Section 7.2; and Appendix D in the FSR.

A rating table is to be developed for each existing facility based on a current site survey to verify existing conditions/flows.	Pending	Outstanding	The outlet structures of the ex. Ponds were surveyed to verify the rating tables. Refer to response letter for discussion and Appendix C for survey data in table format.
Demonstrations that the weir and receiving system has the conveyance capacity to accommodate the 100 year uncontrolled flow from the facilities.		Outstanding	Emerg overflow weirs are designed accordingly per Town Stds. Refer to Section 7.6.3; and Appendix H.
The pond overflow should not be directed through the rear-yard of the proposed lots as noted for Pond 9.		Outstanding	No longer an issue due to the re-configuration of stormwater ponds.
There does not appear to be any details with respect to the existing overflow for any of the ponds.		Outstanding	Pond overflow discussion is provided in Section 7.6.3; and calculations in Appendix H.
Demonstrate impacts to Pond 4B should the connecting pipe to 4A be blocked.		Outstanding	An overflow culvert sized to Town Stds is provided between 4A and 4B. Refer to Section 7.6.3, Figure 7-3 and Appendix H.
The permanent pool storage volume calculations must include external drainage areas or a separate pipe system can be provided from each facility.		Outstanding	Permanent pool storage calculation include external drainage areas. Refer to Section 7.7.
The forebay sizing calculations for Pond 4 do not appear to include calculations for the existing inlets. Further Pond 4 forebay appears to be quite close to one of the existing inlets.		Outstanding	Refer to Figure 7-3 with a relocated inlet on the west side of the west forebay.
Demonstrate how the proposed ponds will be accessed for maintenance.		Outstanding	Maintenance access roads are shown on all ponds. Refer to Figures 7-3 to 7-6.
Fig. 2-1 identifies proposed development on Street D however the report and storm drainage fig. 7-1 and 7-2 do not appear to address this area.		Resolved	Previously resolved.
Report did not appear to address SWM requirements for the proposed lots 1-6 on Fig. 2-1.		Outstanding	Refer to response letter for detailed discussion and Section 7.2.

Proposed pond block figures are to include the following for further review: 1. Some spot elevations within the ponds, existing/proposed ROW and lots to demonstrate grading, overland flow and overflow routes. 2. Overflow outlet locations and flow routes with spot elevations.	Pending	Outstanding	Refer to Figures 7-3 to 7-6 for additional design details for each re-configured stormwater pond.
Applicant is requested to submit a water balance.		Outstanding	Refer to a new Section 7.9 in FSR dated November 2013.

Hydrological Investigation by Cole Engineering Group (Reviewed by Genivar, on behalf of the LSRCA)

A June 3 email by Sara Brockman of the LSRCA informed that the applicant has not provided any response to these comments/issues. There is still an issue of outstanding fees that needs to be addressed by the applicant.

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to LSRCA dated November 22, 2013 by Cole Engineering regarding Hydrogeological Investigation Report Comments
The report does not include sufficient images to demonstrate future conditions and propose site alterations.	Pending	Outstanding	Refer to Section 1.2 for a general description of the proposed development and Appendix A.
The report does not demonstrate proposed future grades or potential changes to drainage catchments resulting from re-grading.		Outstanding	Refer to Appendix A for a plan indicating proposed grading and Section 4.0 for discussion.
The report does not illustrate where proposed development infrastructure may be placed below the water table, if necessary, and affect existing groundwater flow system or water balance.		Outstanding	Refer to Section 5.0 which includes discussion on potential groundwater impacts and mitigative actions.
The location of the main aquifer unit in Section 2.5 is inconsistent with the observations based on data presented in the borehole records and cross-sections. Additional work recommended.		Outstanding	Refer to updated Figure 5 which includes a key map with a note indicating that local geology may be different at the site compared to the regional cross section.

Figure 9A is not supported by borehole information.	Pending	Outstanding	Figure 9A presents a geologic interpretation from borehole logs. Refer to Section 2.5.
Recommends that the interpretation of Figure 10 be revisited to take into account the surface water divide.		Outstanding	Refer to revised Figures 10A and 10B in Hydrogeology Report.
There is no discussion on how the proposed site development will affect vertical hydraulic gradients.		Outstanding	Refer to response letter for detailed discussion.
Some inconsistency in values used for Table 4.		Outstanding	Refer to Section 2.5.3 in Hydrogeology Report.
Need confirmation on whether the groundwater values in Table 2 are compared to a standard for potable or non-potable.		Outstanding	Refer to response letter for detailed discussion.
Section 2.5.4 does not provide justification for selective sampling of the monitoring wells to characterize groundwater conditions.		Outstanding	Refer to response letter for detailed discussion, and also refer to Phase I ESA, Phase II ESA and Phase I ESA update.
Shallow groundwater samples do not illustrate whether there may be other potential contaminants in the groundwater flow system.		Outstanding	Refer to response letter for detailed discussion, and also refer to Phase I ESA, Phase II ESA and Phase I ESA update.
The Water Balance summary in Section 4.0 could use additional information to provide a better understand of potential changes to the water balance to be confident that the proposed mitigation will be effective.		Outstanding	Refer to Appendix I in Hydrogeology Report.

Sanitary Sub-Trunk System Hydraulic (Reviewed by IBI Group)

Subsequent to the IBI report there was some dialogue with Cole regarding it. IBI has not been provided a response by the applicant

Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter dated to Town November 22, 2013 by Cole Eng. regarding Downstream Sanitary Sub-Trunk Comments
Infiltration I/I values from RVA Sanitary Sewer Study are 0.70 L/s/ha. It is estimated that this would add approximately 30 L/s to peak flow determined by Cole.	Pending	Outstanding	The I/I rate of 0.7 L/s/ha has been utilized for appropriate areas in the updated RVA Downstream Theoretical Capacity Model. Refer to a new Section 6.3 in the FSR.
The RVA study is based on a storm during Sept 13, 2006 in which 100mm fell. This storm should be considered further when discussing the monitored flow data that included storm events up to 48 mm.		Outstanding	This rainfall data has been utilized for the updated RVA Downstream Theoretical Capacity Model. Refer to Section 6.3 and response letter for detailed discussion.
The RVA Study indicated 30 basements were flooded in the above storm. It should be identified if those basements were within the Western sub-trunk or West Central trunk.		Outstanding	Based on the RVA Study, May 2008, these basements were not flooded due to sanitary sewer backup.
The RVA study was based on spatial distribution of census data and non-residential land use. This should be considered in the Cole report.		Outstanding	Gathering data on actual dry weather flows is currently in progress through monitoring.
No comment was given by Cole Engineering on the impact of increased flow on the MH704 to MH727 section of the Town sewer.		Outstanding	The updated RVA Downstream Theoretical Capacity Model includes analysis of this sewer. Refer to Section 6.3.
There is a need to undertake an up-to-date analysis of the sewer system, to determine surcharging levels and any needed remedial works to accommodate development. This is to be carried		Outstanding	An update of the RVA Theoretical Model has been completed. Refer to Section 6.3 and Figures 6.12 – 6.17 in the FSR.

out by Cole.			
Analysis of the West sub-trunk should take into account all proposed and possible future development within this sewershed.	Pending	Outstanding	Only sewage flow from the proposed development, Estates of Glenway has been considered in the updated model. Sewage from other current or future applications should not be the focus of this application and study.

Region of York – Preliminary Comments			
The Region has not been provided a formal response letter to date on the matters provided below. Robert Patridge had met with Cole Engineering earlier this year to discuss transportation matters.			
Original Issue Identified by Review Agent(s)	Is the issue resolved?	Required Next Steps	Refer to response letter to Region dated November 22, 2013 by Cole Eng. regarding Water, Traffic and Wastewater Comments
OPA Comments			
Should the ToN adopt the OPA and draft approval of DPOs, the Region of York requests the DPOs be subject to the attached Schedule of Pre-Considerations and Schedule of Conditions.	To be dealt as conditions of approval		No response.
Water Resources			
All development the subject property should adhere to the Wellhead Protection Policies outlined in Section 7.3.39 and 7.3.45 of the YOP.	Pending	Outstanding	A Source Water Impact Assessment and Mitigation Plan has been prepared. Refer to Appendix I of the Hydrogeological Investigation.
Should “de-watering” be required, York recommends a dewatering plan be prepared by a	Pending	Outstanding	Agreed. A dewatering plan will be completed should dewatering be



qualified professional.			requirement at the detail design stage.
Detailed Subdivision Comments			
Trips rates are approximately 40% lower than those published in the ITE Trip Generation Manual and approximately 8% lower than those applied to the proposed apartment use in the same study area. Region requires clarification.	Pending	A conversation with Robert Partridge on June 5, 2013 informed that the Region will be providing an additional comment to the applicant. The comment will address the Region's requirement to align their proposed access road ("Street B") with the future minor collector proposed in Schedule C of the Town OP north west of Eagle and Davis. Mr. Partridge is to provide this requirement in writing in the near future.	To be addressed when requirement becomes available in writing from York Region. The Traffic Impact Study has been updated using the ITE Trip Generation rates for analysis.
Further information required regarding modal split for senior living, office commercial and retail commercial uses.		Outstanding	Refer to Section 5.2 in the Traffic Impact Study by Cole Engineering.
Consideration should be taken to assess a longer term study horizon year given the resulted trip generation estimates.		Outstanding	Not required based on <i>York Region Traffic Impact Study Guidelines</i> . The proposed development is classified as 'medium' and requires analysis for 5 years after opening.
Trip distribution shall be specific to each type of land uses.		Outstanding	Trip distribution is revised for commercial and residential. Refer to Section 5.3 in the Traffic Impact Study Update.



<p>A summary of the queuing analysis under the future total traffic conditions shall be included to assess whether estimated queuing lengths for critical movements can be accommodated within available storage length and/or spacing at the signalized intersections.</p>	<p>Pending</p>	<p>Outstanding</p>	<p>A queuing analysis has been completed. Refer to Section 9.0 in the Traffic Impact Study by Cole Engineering.</p>
<p>The TDM program must include the additional measures listed by the Region as per Condition No. 7 for final approval.</p>		<p>Outstanding</p>	<p>A TDM program and a Transportation Management Plan has been completed. Refer to Section 10.0 in the Traffic Impact Study by Cole Engineering.</p>
<p>Water Servicing</p>			
<p>Proposed water system based on servicing from Newmarket West pressure district is not acceptable. Subject lands are to be serviced by Newmarket Central pressure district, unless demonstrated that this is not possible.</p>	<p>Pending</p>	<p>Outstanding</p>	<p>Per Town pressure district boundaries, the proposed development is within the Newmarket West Pressure District. Our hydraulic modelling indicates the site would have low system pressure if connected to the Central Pressure District. Detailed modeling has been completed. Refer to Section 4.1.3.2, Figure 4-1 and Appendix A.1 from the Functional Servicing Report.</p>
<p>Local area municipality must grant servicing capacity allocation to the development, within the limit of the Region’s capacity.</p>		<p>Outstanding</p>	<p>Outside scope of FSR.</p>
<p>Staff request that all residential lands be subject to various restrictions (i.e. Holding “H” zone) to ensure that the water and wastewater are available prior to occupancy.</p>		<p>Outstanding</p>	<p>Outside scope of FSR.</p>

