



Meeting Summary

Date: December 19, 2017
File #: TPB178106
Meeting Date & Time: December 12, 2017 @ 9:30 a.m.
Meeting at: Conservation Halton Head Office
Subject: Vision Georgetown (South) Subwatershed Study and Secondary Plan
Tributary A Management
Town of Halton Hills

Attendees:

Matt Howatt, Conservation Halton (CH)	Steve Burke, Town of Halton Hills
Amy Mayes, CH	Aaron Farrell, Amec Foster Wheeler
Steve Grace, Town of Halton Hills	Ron Scheckenberger, Amec Foster Wheeler

MATTERS DISCUSSED

ACTION BY:

1. Meeting purpose to seek clarity on management and analytical requirements associated with the establishment of preliminary corridors for Tributary A in support of Vision Georgetown Secondary Plan (SP).
2. Amec Foster Wheeler scope reviewed specific to supporting watercourse management planning for the on-going SP. It was indicated that Amec Foster Wheeler was advancing its work under four (4) phases:
 - i. Peer Review / Initial Assessment and Modelling
 - ii. CH Consultation
 - iii. Detailed Modelling
 - iv. OMB Support

Noted that based on consultation with Town staff (November 21, 2017), questions arose related to Performance Standards and interpretation of use, hence establishing the basis for the subject meeting.

3. Town noted its perspective that Subwatershed Study was endorsed for use by CH. CH advised that “existing conditions” and related basis for targets has been supported by CH, however concerns remain with “future conditions” assumed, including analytical processes / applications (specific to hydrology and hydraulics and other technical matters) (ref. Draft Comments provided in advance of meeting). Furthermore, it

PLEASE NOTE: If there is any comment or amendment to be made to these meeting notes, they should be brought to the notice of Amec Foster Wheeler within five (5) business days of issue and confirmed in writing.

3450 Harvester Road
Burlington, Ontario L7N 3W5
Tel +1 905 335 2353
amecfw.com

Amec Foster Wheeler Environment & Infrastructure
Registered office: 2020 Winston Park Drive, Suite 700, Oakville, Ontario L6H 6X7
Registered in Canada No. 773289-9; GST: 899879050 RT0008; DUNS: 25-362-6642

Continued...

Meeting Date: December 12, 2017

MATTERS DISCUSSED

ACTION BY:

was indicated that final version of Performance Specifications (AECOM-Town, March 24, 2017) was not circulated to CH, hence concerns remain as detailed in Draft Comments.

- 4. Noted that for system of watercourses constituting Tributary A, preservation of storage and application of same to the design of the future corridors is of primary interest to the Authority given its mandate and particularly the flood risk centre downstream of the Vision Georgetown development area.

Due to concerns with the Performance Specifications and the analytical approach to establish existing system storage, it was decided that it would be necessary to recreate Table V1 using the following approach:

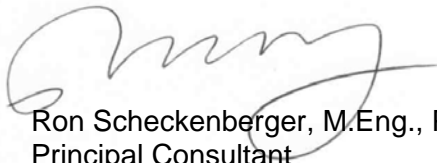
- i. Steady state peak flows for each tributary to the main branch numerically added by hydrograph (Excel or equivalent)
- ii. Incorporate flows into existing HEC-RAS model and develop reach specific storage at flow increments per modelling by AECOM.
- iii. Compare updated results per described approach in foregoing methodology and determine if adjustments to methodology or assumptions is required.
- iv. Meet with CH / Town to review updated Existing Conditions for Tributary A (Post Meeting: Set for January 9, 2018). At upcoming meeting, review methodology to conduct analytical assessment of Tributary A corridors using HEC-RAS, including geometry, longitudinal gradient and width.

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Wheeler**

All

Meeting Summary prepared by:

Amec Foster Wheeler Environment & Infrastructure
A division of Amec Foster Wheeler Americas Limited



Per: Ron Scheckenberger, M.Eng., P.Eng.
Principal Consultant

RBS/cc

/all present



Meeting Summary

Date: January 16, 2018
File #: TPB178106
Meeting Date & Time: January 9, 2018 @ 9:30 a.m.
Meeting at: Conservation Halton Head Office
Subject: Vision Georgetown (VG)
Conservation Halton (CH) Consultation regarding Subwatershed Study Guidance and Performance Specifications

Attendees:

Matt Howatt, CH	Tara Buonpensiero, Town of Halton Hills
Amy Mayes, CH	Aaron Farrell, Amec Foster Wheeler
Steve Grace, Town of Halton Hills	Ron Scheckenberger, Amec Foster Wheeler

MATTERS DISCUSSED

ACTION BY:

1. Introduction

Ron Scheckenberger conducted summary of background as related to Amec Foster Wheeler's role in peer review and implementation support studies. Ron Scheckenberger reviewed outcomes of December 12, 2017 meeting as related to need to update Table V1 detailing the Riparian storage volumes per agreed upon methodology.

Ron Scheckenberger indicated Amec Foster Wheeler is also involved in supporting Town on the Stormwater Management Planning and Water / Wastewater Servicing for VG.

Amy Mayes expressed concerns with the proposed Stormwater Management Planning in light of CH technical issues related to Subwatershed Study analysis tools. Ron Scheckenberger suggested a pre-planning meeting with CH be arranged once Amec Foster Wheeler has conducted a fulsome review of Subwatershed Study modelling and received CH's updated (final) correspondence.

All

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MATTERS DISCUSSED

ACTION BY:

2. Updated Riparian Storage Assessment

Aaron Farrell conducted a review of the hydrology and hydraulics associated with the refined riparian storage assessment. Aaron outlined the methodology for hydrograph addition and the target inflow points to the hydraulic model using the Regional Storm event hydrographs generated by the PCSWMM hydrologic model. Amy suggested that for Reach A-3a, the targeted location may more appropriately be located slightly further upstream (section 1764.95). Upon reflection, all present agreed; Aaron Farrell updated the model (live at the meeting) using conservative addition of peaks directly which increased riparian storage by 10 % (+/-), however still yielded a storage value less than that reported by AECOM.

Amy Mayes also expressed some concern with the storage accounting at the junctions; she will review both the updated model and junction modelling approach and advise of the acceptability of the refined values.

CH

Aaron Farrell advised of some issues and possible confusion related to difference in nomenclature for reach naming and limits between the HEC-RAS model and the subcatchment boundary plan. All present agreed that representing these more explicitly by section location would be more clear and allow for greater flexibility in future refinements as part of plain implementation.

Amy questioned how impacts upstream of Trafalgar Road would be assessed given the likelihood of higher tailwater elevations downstream of the creek crossing. Steve Grace advised that the Class EA has recommended conveyance of the Regional Storm without overtopping, upsizing the crossing from 750 mm \emptyset (+/-) to a 5 m (+) span. As such, Ron Scheckenberger suggested that the impacts of the new system of watercourse within VG and Trafalgar Road / culvert, would likely result in a decrease in flood depths; Amec Foster Wheeler will review accordingly.

3. Watercourse Corridor Planning

Ron Scheckenberger indicated that contingent on CH support for the updated Regulatory Riparian Storage targets, Amec Foster Wheeler will execute the balance of events as per previous modelling.

**Amec Foster
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In terms of the exercise to set the corridors and associated dimensions for the planning to support the Secondary Plan, the following was discussed:

- i. Side slopes 3:1
- ii. Top of bank setbacks 15 m
- iii. Roughness 0.035 Channel 0.080 overbank
- iv. Meander beltwidth per Subwatershed Study
- v. Alignment per Secondary Plan
- vi. Channel lowering (as needed) to take guidance from grading strategy from DSEL. CH staff noted that if reaches are flattened,

Continued...

Meeting Date: January 9, 2018

MATTERS DISCUSSED

ACTION BY:

there may need to be a review of stability criteria by a Stream Morphologist

4. Stormwater Management Planning

In preparation for the next component of the assessment, as related to stormwater management planning, Amy Mayes offered the following high-level concerns with respect to the current modelling and analysis approach as background [which will be formally documented in a letter from CH in two (2) weeks (+/-)].

CH

- i. Erosion control targets for Tributary C need to be re-evaluated
- ii. Future conditions hydrologic routing used existing characteristics versus future conditions
- iii. Pond locations need to consider maintaining supply of clean water to sensitive features; this will require ecological input
- iv. LID BMPs (10 mm +/- in right-of-ways and 5 mm +/- on private land) have been credited for quantity control (erosion and flood management) in the hydrologic analysis. This requires a discussion on how to protect long-term function.

Town

5. Next Steps

- i. CH to review amended Riparian Storage calculations.
- ii. Pending (i), Amec Foster Wheeler to conduct analysis for full range of events.
- iii. Amec Foster Wheeler to conduct watercourse corridor assessment to define size and geometry.
- iv. Amec Foster Wheeler to review stormwater management planning objectives in Subwatershed Study and conduct preliminary scan of objective.
- v. Meeting with CH and Town and Amec Foster Wheeler to review (iii) and (iv)

CH

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All

Meeting Minutes prepared by:

Amec Foster Wheeler Environment & Infrastructure
A division of Amec Foster Wheeler Americas Limited

Per:  Ron Scheckenberger, M.Eng. P.Eng.
Principal Consultant

RBS/cc

Farrell, Aaron

From: Matt Howatt <mhowatt@hrca.on.ca>
Sent: Wednesday, February 07, 2018 4:17 PM
To: Farrell, Aaron; Amy Mayes; Tara Buonpensiero; 'Stevebu@haltonhills.ca'; Steve Grace
Cc: Scheckenberger, Ron
Subject: Re: Vision Georgetown SWS Addendum Study for Southwest Floodplain Area Meeting 2

Aaron,

Thank you for following up. CH confirms the key outcomes and actions in your summary of yesterday's conference call.

Regards,
Matt

From: Farrell, Aaron <aaron.farrell@woodplc.com>
Sent: February 6, 2018 4:36:19 PM
To: Matt Howatt; Amy Mayes; Tara Buonpensiero; 'Stevebu@haltonhills.ca'; Steve Grace
Cc: Scheckenberger, Ron
Subject: RE: Vision Georgetown SWS Addendum Study for Southwest Floodplain Area Meeting 2

Hello all.

Just following-up on yesterday's conference call to summarize and confirm the key outcomes and actions:

-) Meander belt width assessments are to be completed for reaches C1, C2, C3, C4, A2-1, A2-2, and A5-1; Town to engage a fluvial geomorphologist to complete the assessments.
-) Riparian storage calculations for proposed watercourse is to include the riparian storage for Reach A4-3 within the total "target" volume; final documentation to note that this has been required as a condition of Conservation Halton agreement for classifying the reach as a low constraint watercourse, and also include reference to Table 5.9.2 of the Subwatershed Study for supporting justification and rationale.
-) Riparian storage is to be maintained on a system basis and evaluated on a reach basis to confirm no major discrepancies/differences; Amec Foster Wheeler to complete the riparian storage assessment accordingly.
-) Town to follow-up with AECOM to confirm accuracy of mapping (i.e. vertical and horizontal accuracy), and advise Conservation Halton; Conservation Halton to determine whether the accuracy is sufficient for establishing the corridor dimensions upon receipt and review of the information from AECOM.
-) Conservation Halton to provide comments on final report (anticipated February 13), as well as any ecological requirements to be addressed in establishing watercourse and floodplain management.

Let us know if we've missed or misunderstood anything in the above.

Thanks in advance.

Aaron.

From: Matt Howatt [mailto:mhowatt@hrca.on.ca]
Sent: Friday, February 02, 2018 1:48 PM
To: Farrell, Aaron <aaron.farrell@woodplc.com>

Farrell, Aaron

From: Matt Howatt <mhowatt@hrca.on.ca>
Sent: Friday, May 04, 2018 2:39 PM
To: Steve Grace
Cc: Farrell, Aaron; Scheckenberger, Ron; 'Stevebu@haltonhills.ca'; Tara Buonpensiero; Rick Reitmeier (Rick.Reitmeier@halton.ca); Kellie McCormack
Subject: Vision Georgetown, Tributary A Management - Riparian Storage Assessment and Watercourse Corridor Planning, CH Comments
Attachments: 18-05-04_WoodTribAMgmt_CH Final Comments.pdf

Good afternoon Steve,

Please see Conservation Halton's comments regarding the Tributary A Management - Riparian Storage Assessment and Watercourse Corridor Planning technical memos attached.

If you have any questions, please contact me.

Regards,
Matt

Matt Howatt
Environmental Planner

Conservation Halton
2596 Britannia Road West, Burlington, ON L7P 0G3
905.336.1158 ext. 2311 | Fax 905.336.6684 | mhowatt@hrca.on.ca
conservationhalton.ca

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905.336.1158
Fax: 905.336.7014
2596 Britannia Road West
Burlington, Ontario L7P 0G3
conservationhalton.ca

Protecting the Natural
Environment from
Lake to Escarpment

May 4, 2018

Steve Grace, C.E.T
Program Manager, Water Resources
Town of Halton Hills
1 Halton Hills Drive
Halton Hills, ON L7G 5G2

BY MAIL AND BY EMAIL

Dear Mr. Grace,

**Re: Vision Georgetown (South) Subwatershed Study and Secondary Plan, Tributary A Management – Riparian Storage Assessment and Watercourse Corridor Planning
CH File: MPR 634**

Conservation Halton (CH) staff has reviewed the following items and offers comments below:

- *Vision Georgetown (South) Subwatershed Study and Secondary Plan, Tributary A Management – Riparian Storage Assessment and Watercourse Corridor Planning Memo*, prepared by Wood Environment & Infrastructure Solutions, dated April 19, 2018.
- *Vision Georgetown – Meander Belt Assessment for Select Reaches of Tributary A and Tributary C*, prepared by Palmer Environmental Consulting Group Inc., dated March 29, 2018.

CH staff understands that Wood's hydrologic and hydraulic analysis was completed to support the sizing of watercourse corridors through the Vision Georgetown Secondary Plan area and that Alternative 3 is being advanced as the preliminary preferred alternative for the reconstructed Tributary A to maintain riparian storage.

CH staff has no outstanding concerns with the hydraulic analysis completed by Wood to determine the riparian storage replication targets for Tributary A, as shown in Table 4.1, and the application of these targets to size watercourse corridors at the Secondary Plan level. We agree that Alternative 3 approximates the flood storage volume target and that the discharge approach utilized by Wood provides a level of conservatism in the watercourse corridor sizing. However, it is our understanding that this analysis was not intended to demonstrate that the preferred alternative could meet the requirements of Appendix R – Management Approach and Criteria for Stream Systems and Appendix V – Proposed Tributary A Realignment Performance Specifications of the Southwest Georgetown Subwatershed Study (SWS). While CH staff supports the Vision Georgetown Secondary Plan advancing with the Alternative 3 watercourse corridor widths, we note that future studies will need to confirm that these widths are sufficient to achieve other targets identified in the SWS and, as a result, may be subject to change.

The future Environmental Implementation Reports will need to demonstrate that the proposed watercourse corridors meet the SWS requirements and that proposed floodplain alterations can be permitted by CH pursuant to Ontario Regulation 162/06. The watercourse corridor designs will need to mitigate potential offsite impacts, encompass natural channel design and include regulatory setbacks in addition to other SWS and CH regulatory requirements.

CH staff support the proposed meander belt widths for Tributary C (e.g. C-1, C-2, C-3, C-4), Tributary A2 (e.g. A2-1, A2-2) and Tributary A5-1, as determined through the meander belt assessment.

CH comments on the Vision Georgetown Draft Secondary Plan will be provided under separate correspondence shortly, recognizing the Town of Halton Hills needs to move toward Secondary Plan approval.

We trust the above is of assistance. Please contact the undersigned at extension 2311 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Howatt', with a stylized, cursive script.

Matt Howatt
Environmental Planner

CC (by email): Aaron Farrell, Wood Environment & Infrastructure Services
Ron Scheckenberger, Wood Environment & Infrastructure Services
Steve Burke, Town of Halton Hills
Tara Buonpensiero, Town of Halton Hills
Rick Reitmeier, Halton Region
Kellie McCormack, Conservation Halton