

**CORPORATION OF THE CITY OF CAMBRIDGE
HESPELER WEST SUBWATERSHEDS STUDY WORKING COMMITTEE
MEETING NO. 6
MINUTES**

Thursday, February 19, 2004
Allan Reuter Seniors' Centre, 507 King Street, Cambridge (Preston)

Committee Present: Councillor Rick Cowsill (City) (Chair), Erich Ritzmann (MGWA), Cathy Murphy (MGWA), John Vasiga (MGWA), Chris Gosselin (RMOW), Ken Cornelisse (MNR), Nancy Davy (alternate for Tricia Rosa (GRCA)), Wendy Wright (City), April Souwand (City), Brian Cunningham (Small Property Owners), Charlene Schiedel (MGWA)

Others Present: Ron McKittrick (alternate for John Vasiga (MGWA)), Gus Rungis (GRCA), Carlo Radicioni (City), Miron Docev (City), Mary Hammer and Don Hammer (landowners)

1. Call to Order

The meeting was called to order at 3:30 p.m. by Wendy Wright for Rick Cowsill who was delayed getting to the meeting.

2. Declarations of Pecuniary Interest

None

3. Confirmation of Minutes

Moved by Brian Cunningham Seconded by Erich Ritzmann

THAT the Minutes of the Hespeler West Subwatersheds Study Working Committee meeting held February 5, 2004 be amended as follows:

- The reference to the frontage of “an urban lot” on Page 1 be changed to the frontage of “several urban lots”.
- The reference to a report by “MTE” on Page 3 be changed to a report by “England Naylor Engineering”.

And adopted as amended.

CARRIED

4. Drainage Basins and Floodlines

a) GRCA - Drainage Basins and Floodlines Discussions

i) Community Concerns – Subcatchment 2125 Outlet Omission – It was explained that the drain is not a “Municipal Drain”. In general, there is a drain (200 mm clay field tile) that is connected to the municipal system (250 mm storm sewer) directed south to Freeport Creek. There is also a 900 mm storm sewer that is designed to take overflow from 2125 to Middle Creek. Miron Docev speculated that the tile is 2 feet below the surface. John Vasiga thought it was about 5 feet below the surface at Fountain Street and that the homes on Banat Road likely discharge their weeping tiles to the 200 mm field tile. Gus Rungis stated that from the Conservation Authority point of view, during the course of the study, the important thing is that there is a plan in place for this area. John Vasiga wanted clarification about the diameter of the drain. This dimension came from the England Naylor Engineering report. Carlo Radicioni explained that he had queried England Naylor Engineering about the documentation they used to determine that the drain was a municipal drain, and they have responded that this statement was based on hearsay (letter attached to minutes). John Vasiga added that it is not only his lands that are tiled, but the whole Compact Sod lands on the east side of Fountain Street were tiled and went to West Creek, with the size of the pipe increasing as it approached West Creek.

Miron Docev indicated that the City provided Compact Sod with an outlet to West Creek (storm sewer as part of Seaforth/Loblaws development). The 900 mm storm sewer to the north of Loblaws directed to Middle Creek was installed as part of this industrial development. When the field tile is removed (post development) it is planned that the drainage from 2125 would go to Middle Creek using this storm sewer. John Vasiga said he had no drainage in the year 2000 when the industrial development went in and his drainage was cut off. John Vasiga asked what would happen to the 200 mm tile if his lands are developed. Miron Docev stated that in the post-development scenario, there would be no need for a tile. Eric Ritzmann indicated that in today’s situation, drainage goes to the 200 mm (base flow/low flow that defined the hydrological boundary). Gus Rungis indicated that the 1 m contour mapping confirms what Eric is saying, the tile picks up most of the low flow condition. But this creates a problem because without a major system, you would have a 10-fold increase in flows that the existing system could not handle. Gus pointed out that in the study, the pre-existing condition was looked at and correctly identified that it went to West Creek. In the study the Regional flow contribution attributed from this catchment to Middle Creek is about 1 m³/s of an approximate total regional flow of 50 m³/s at Maple Grove Road.

John Vasiga is concerned that the City has diverted water from one creek system to another – how did they get to do this? Gus indicated that at one point, there was no outlet here, and no registered outlet (only a handshake agreement). The City has now found a proper outlet for it and municipal drainage is under the purview of the municipality.

Erich Ritzmann pointed out that in the study, the outlet for 2125 contributes 0.65 l/s to Middle Creek (base flow). In reality this flow is to Freeport Creek and in the past, it used to be to West Creek. Rick Cowsill asked what they want. John Vasiga asked what is the capacity of the 250mm drain (along Fountain St.)? Miron Docev answered it is 0.089 m³/s under head (approx 100 l/s). John Vasiga asked what is the size of the outlet of the Loblaw's pond to the storm sewer system? Miron Docev indicated that there is split drainage with two ponds. One goes to Freeport, the other to Middle, and without being able to refer to the stormwater management plans, he does not know the exact number. John Vasiga wanted to make the point that the City has spent a tremendous amount of money putting the 250 mm drain in.

Erich Ritzmann indicated that the drainage boundaries should reflect today's conditions (base flow/low flow). Regional flow is hypothetical – we don't know what is going to happen. Permeability and woodlots in the area may affect this. Rick Cowsill is asking what is the next step? Wendy Wright suggested looking at how the flows from 2125 contribute to the flows in Freeport Creek – can Freeport Creek handle the additional flows from eventual development? John Vasiga wants the flows from 2125 put back into West Creek. And finally, if it has to go into West Creek what kinds of assumptions do you make about the ultimate flows to West Creek? Gus agreed with Erich re capacity – you need a plan as it goes forward to development. He warned that if you want to limit development to what is coming out of there now, you are very limited. Erich stated that on P 17 of Appendix D it should be what is now. Wendy Wright indicated this issue would be taken back to staff and brought back to the committee. John Vasiga indicated that people should have listened to him in the first place. Brian Cunningham indicated that the study would have to be adjusted if 2125 outlet is changed.

ii) Frequency of Overtopping – Briardean Road

Gus Rungis indicated that how they are presenting capacity of the culvert is based on the modeled flood flow from the watershed (future conditions). Also, Gus made a distinction between the two year flood and two year design storm. In the ideal world, you have a long period of record. In this study they are modeling future conditions and using the design storm. The table is misleading as it shows the modeled capacity of the culvert based on the design storm. There are some inconsistencies between the report and Table B3.2.1. The cross sectional area of culvert is shown as two 1050 mm culverts but Appendix E identifies only one 600 mm culvert. HEC RAS was run on two 600 mm culverts. Gus bumped these to 1050 and had a lower overtopping frequency. Gus checked the culverts in the field and found they appeared to be larger than 600 mm diameter but were deformed, not circular and bottom portion was partially silted in.

There are inconsistencies in the HEC-RAS model and Table B3.2.1 (page B46) and Appendix E. Erich indicated that in Appendix E, the hydraulic structure data for HEC-RAS section 2618.5 on East Creek has identical UTM coordinates for 1616.5 on the next

page. But pictures at the bottom show they are both at Mohawk Road on East Creek and there is only one culvert there. In Table B3.2.1, HEC-RAS section 2618.5 is shown as a 450 mm culvert but in Appendix E it is 650 mm. Dimensions are different each time. 1615.5 should possibly be labeled as Maple Grove Road not Mohawk and sizes are wrong as well. Culvert sizes are not correctly reported all the way through the report. Every one he looked at had a problem. Rick Cowsill asked Erich to submit the details to staff to review.

Ron McKittrick thought the consultant should fix the report if it is wrong. Wendy Wright asked for the MGWA list of errors that they have come up with. John thought they should not feed back all of the errors to the consultant, as they were paid to do the study. Rick Cowsill asked, in the spirit of cooperation, if all the info could be given to the City. Cathy Murphy indicated her family has spent \$10,000 to fix shoddy work. Wendy Wright asked if staff could have the items that relate to calculation of the floodplain now, if possible. Erich will send that to Gus. The goal is to nail down the science now and hope to find areas of agreement.

Cathy Murphy asked when the floodline north of Middleblock Road will be considered. Erich Ritzmann mentioned that some of the contents of the Smart Report suggest that the HWSS was incorrect in the establishment of the northern watershed boundary. The HWSS for subcatchment 2115 assumes a single outlet to the south. Smart identifies two outlets, north and south, favouring a northerly flow. Erich stated that no additional work by the Region is required for this statement to be relevant. Wendy Wright said the work recommended in the Smart report physically needs to be done before it can be incorporated into the study. Cathy Murphy asked if the MTE report will be considered and who will be doing the modelling. Gus responded that determining the answer to this is what this committee is set up to do. Wendy Wright indicated that at this time, we don't know how MTE report fits – we need the report to know how it will be incorporated. Brian Cunningham asked what will have to take place to correct the issue of the damaged culvert on Briardean. Wendy Wright responded that the Subwatersheds Study was not for roadworks. However, the City is currently doing an inventory of City facilities. The Community Plan may eventually impact this. Appendix D (Hydrology) data was presumed to be accurate re: rainfall in the area, but no data was taken from this area. How will this be rectified? On Page 3 of Appendix D the drainage areas are listed but the totals don't add up – is this wrong? Accuracy of calculations in the whole study are now in question.

iii) Hespeler West Subwatersheds Study Nov. '03 Community Concerns

Watershed Boundaries and Floodlines. Gus Rungis proceeded to answer questions posed by the MGWA.

1. Regional flows would flow through the area, not be held back. The ponds are designed to detain up to the 100 year storm. The 100 year is based on rainfall observations in the area. The design storm is an assumed distribution, of a peaky event with volumes that are observed. 100 year is 4 inches over three or four hours. Regional storm is 285 mm over two days. The Regional storm is assigned

for certain purposes (like property damage) of about a 500 year return period. Erich Ritzmann identified that the consultant hired by the City for the public meeting on September 25, 2003 in the Beehive Room, Mark Dorfman, was incorrect with respect to the Regulatory Storm Floodline. Wendy Wright confirmed that she knew he was wrong when he stated floodlines are based on the 1:100 Year Storm, instead of the Regional Storm (Hurricane Hazel).

2. P 48 Appendix D – ponds are included in different scenarios.
3. Regarding step conditions in the HEC-RAS modeling, calibration was done on the hydrologic model to develop flows. The philosophy of modeling for the study at this scale represents a very detailed discretization versus lumped. Nonlinearities can be caught (eg wetland or storage behind a road embankment spilling) and are reflected. Appendix D provides an explanation of the background of the modeller's thought process that provides much insight and openness. This model is used a lot in Southern Ontario to do flood forecasting/flood predictions. They are not just picking parameters out of the air – there is experience using the models (e.g. Harrow storm). It was asked if at every culvert the step condition was accounted for? Gus responded that the significant ones were. It was asked if drainage basin boundaries are assumed to stay the same from low flow to regional? Gus responded yes for external boundaries, but internal boundaries could change.
4. Gus responded that he understood the drainage to north is blocked in present state. Erich will send him the specific reference referred to in the Smart report.
5. Gus responded that he will need more detail. Cathy Murphy indicated a very substantial amount of diversion shown in the MTE report from what was originally documented shrinks 2115 and obliterates 2120. MTE will contact Gus directly on this.
6. The data from GAWSER and HEC-RAS are not linked. Output from one is input to the other but some inputs are common to both. Peak hydrographs from GAWSER go into HEC-RAS.
7. Regarding expected accuracy of hydrologic/hydraulic components, Gus explained that you would have to be able to measure the inputs, but you can't do that. Map accuracy you can measure based on ground survey. For hydrology, to be able to measure you have to be able to measure rainfall, flow in stream and compare to how you modeled it. Streamflow can only be measured within 5 to 10 %. Erich noted that the study did not have good stream flow data and went out of watershed to get rainfall data. Gus explained that field data is dirty to start with – you have to screen it to get the best you can.
8. Regarding drainage boundaries, the watershed can spill in different directions depending on where it collects and flows.
9. The Delcan mapping was done for a specific development on the City industrial property. The area of City property might not have been sensitive to changes. At the time of the Delcan study, it was recognized that this study was starting and that this one would replace it. HEC-RAS is a backwater model. It is calculated from downstream to upstream, so they started downstream. Gus will look more closely why Delcan elevations were so much less.

10. The studies involving regulatory floodline is taken to the GRCA board for adoption. The floodline determination might be done on a watershed basis or on an individual permit basis. Gus reviews floodline reports, he is not responsible for how reports are presented. There is a need for agreement between the person producing the report and Gus. If there is disagreement, it can go to GRCA board (26 members), and their decision can be appealed to the Mining and Lands Commissioner.
11. Gus indicated that floodlines are open files and subject to refinement. If there is disagreement between two studies, he must decide how to proceed
12. Middle Creek watershed can be reevaluated, based on why we are here.

Scheduled Areas questions were moved on to next meeting.

b) Scheduled Areas – Presentation – Nancy Davy, Senior Resource Planner, GRCA

Delayed to next time.

5. Other Business

a) Follow-up List.

Terms of reference Section 7.3 and site visits in the spring for finalizing some wetland boundaries are outstanding.

b) Request for Information on Floodplain Determination

Memo from April Souwand. John Vasiga asked if the countryside line still existed. Wendy Wright confirmed that this is still a countryside line, determined by the Region and it goes north to Kossuth Road, but not as far east as Chilligo Creek.

c) Clarification of Wetland Mapping Techniques used in Hespeler West Subwatersheds Study.

Memo from April Souwand. The MGWA expressed disappointment that despite the accurate mapping available to the consultant, inaccuracies existed in the report. John Vasiga asked for the City's digital photography to be added to the HWSSWC lending library. Miron Docev indicated it is available free on the website <http://locator.region.waterloo.on.ca/locator.htm>.

d) List of Topics for Upcoming Meetings

Memo from Wendy Wright. The committee decided that Nancy will do the presentation on scheduling at the next meeting. Ken Cornelisse and Chris Gosselin felt that they could respond to the question about on-line ponds at that meeting as well. Brian Cunningham asked Ken to consider the priorities listed in the HWSS for aquatic rehabilitation. Chris Gosselin will do his presentation at the March 18 meeting (Erich will get his questions to

Chris before this date). On March 18, staff will come back with information answering questions on floodlines work. The newsletter will follow the review of each discipline, before we move on to protection policies – buffers, etc. It was decided that mid May is probably better for site visits. There was discussion about the desirability of asking Jim Dougan to come on site visits. This will be discussed further.

Rick Cowsill motioned to adjourn.

Meeting adjourned at 6:00 p.m.

Next meeting – Allan Reuter Seniors' Centre – 3:30 to 5:30 pm, Mar. 4, 2004

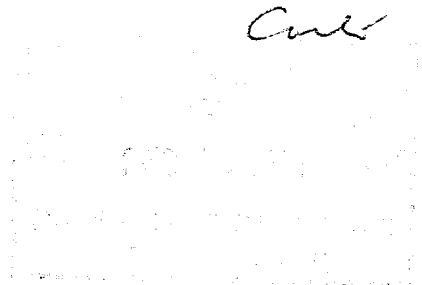


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February 17, 2004

City of Cambridge
73 Water Street North
P. O. Box 669
Cambridge, Ontario
N1R 5W8



Attention: Mr. Giancarlo Radicioni, P Eng.

Dear Sir:

**Re: Drain Identification
Banat Road and Fountain Street
Cambridge, Ontario**

Further to our recent conversations, we are providing this correspondence regarding identification of a drain located just north of the intersection of Banat Road and Fountain Street, in the City of Cambridge.

Specifically, we refer to a northwest-trending drain identified as a "200 mm municipal drain" on Drawing 3, Borehole Location Plan, of our November 1996 report entitled "Hydrogeological Investigation - Stage 1 Banat Road and Fountain Street, Cambridge, Ontario", our project number 1594H01.

Our records do not refer to any document identifying this drain as a 'municipal drain'; rather the report text suggests that 'we were told of the existence' of a drain in this general vicinity. As such, as far as can be determined at this time, the location, nature, and origin of this drain was based on hearsay.

We trust that this letter is sufficient for your purposes. If you should require further assistance, please do not hesitate to contact us.

Yours very truly,

Richard Harris, M. Sc.
Senior Hydrogeologist
cw