

**CORPORATION OF THE CITY OF CAMBRIDGE  
HESPELER WEST SUBWATERSHEDS STUDY  
WORKING COMMITTEE  
MEETING AGENDA  
Thursday, August 5, 2004  
Allan Reuter Seniors' Centre, 507 King Street,  
Cambridge (Preston)  
3:30 p.m. to 6:00 p.m.**

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1. Call to Order
2. Declarations of Pecuniary Interest
3. Confirmation of Minutes (Attached)

THAT the Minutes of the Hespeler West Subwatersheds Study Working Committee meeting held July 22, 2004 be considered for errors and/or omissions.

4. Countryside Line – Kevin Eby, RMOW
5. Review Draft Final Report Re: Buffers/Enhancement Areas/  
Stewardship Areas/ Implementation To Be Distributed
6. Other Business
  - (a) Follow-up List Attached
  - (b) List of Topics for Upcoming Meetings Attached

Next Meeting Date – Thursday, September 2, 2004  
Allan Reuter Seniors Centre, 507 King Street  
3:30 p.m. to 5:30 p.m.

**CORPORATION OF THE CITY OF CAMBRIDGE  
HESPELER WEST SUBWATERSHEDS STUDY WORKING COMMITTEE  
MEETING NO. 15  
MINUTES**

Thursday, July 22, 2004  
Allan Reuter Seniors' Centre, 507 King Street, Cambridge (Preston)

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**Committee Present:** Councillor Rick Cowsill (City) (Chair), Erich Ritzmann (MGWA), John Vasiga (MGWA), Charlene Schiedel (MGWA), Nancy Davy (GRCA), Wendy Wright (City), April Souwand (City), Brian Cunningham (Small Property Owners), Ian Rawlings (Large Property Owners), Cathy Murphy (MGWA), Chris Gosselin (Region of Waterloo)

**Others Present:** Ron McKittrick (alternate (MGWA)), Mary Hammer (landowner), Gus Rungis (GRCA), Mitch Wilson (MNR), Diane Schwier (MNR), Wendy Leighton (MNR)

**1. Call to Order**

The meeting was called to order at 3: 35 p.m. by Rick Cowsill.

**2. Declarations of Pecuniary Interest**

None

**3. Confirmation of Minutes**

Moved by     John Vasiga                      Seconded by     Cathy Murphy

THAT the Minutes of the Hespeler West Subwatersheds Study Working Committee meeting held July 8, 2004 be amended as follows:

- On page 2, last paragraph, first sentence, change to: "Erich Ritzmann pointed out that the north/south secondary (not primary since it does not go to the Grand River as the study indicates) linkage...".
- On page 3, first paragraph, last sentence, change to: "Nancy Davy said, should it stay PSW..."
- On page 3, last paragraph, change "August 6<sup>th</sup>" to "August 5<sup>th</sup>".

And adopted as amended.

CARRIED

#### 4. Discussion – Aggregate Licenses

- a) Overview of Extraction Licenses – Diane Schwier, Aggregate Technical Specialist, Ministry of Natural Resources outlined the pit licenses in the Middle Creek subwatershed (presentation attached to minutes). The older site plan (license #5537 – southerly pit) is quite vague, but typical of its vintage. There were questions about the rehabilitation of the pit and what would be left after extraction. There were questions about the depth of the water table and impacts of extraction “to” the water table. Diane Schwier indicated that a condition could be imposed on a license, which can be appealed to the OMB by the licensee, however, a lot of detailed information would be needed to back up such a requirement. Wendy Wright indicated that there is a 1986-approved draft plan of subdivision on this pit license area for residential development. Mitch Wilson, Area Supervisor, MNR, indicated that serious impacts to groundwater might be a case where conditions of a license could be changed. He gave an example of a pit in Puslinch Township where conditions of a pit license were being changed, based on significant amounts of monitoring data. He also indicated that the MNR has no compliance issues with the licenses being discussed today, so there is nothing compelling the Ministry to collect baseline data. Wendy Wright indicated that Arriscraft has indicated that they do not plan to pursue the draft plan as it is approved on individual septic systems and municipal water. The developer has not submitted a new draft plan, but has had some preliminary concept plans discussed with residents in the area. The City has indicated that these plans were premature until the subwatersheds study and community plan are done. The final grades of the pit extraction will affect servicing of the development. Diane Schwier indicated the license must be surrendered and rehabilitation completed per the site plan before houses could be built there.

The newer site (license #46162 – northerly pit) groundwater level is at approximately 306 metres. There are some conditions on this license, unlike the older one. The pit floor must remain 1.5 metres above the water table. There are well protection agreements with the residents that oblige Arriscraft to address any impacts to drinking water wells within 120 m of the site (as a precaution). There is no draft approved plan of subdivision on these lands. The overburden and topsoil is kept on-site and used for rehabilitation.

Ian Rawlings indicated that the extraction is not yet complete on either license. Extraction on the first pit was halted to allow for some long range planning to take place and the second pit was applied for in order to “buy time”. Erich Ritzmann asked about the quality of the sand in the northerly pit, which Ian explained was suitable for Arriscraft’s purposes. Mitch Wilson indicated that currently, pit license applications are not extending into PSWs, and most often have some amount of setback of extraction from the PSWs.

- b) Potential Pit Impacts on Middle Creek – Gus Rungis, Senior Water Resources Engineer, Grand River Conservation Authority gave a generalized presentation of the potential impact of aggregate extraction on the hydrological system (attached to the minutes). Erich Ritzmann indicated that impacts are likely more complex than the generic diagram can show. Gus Rungis agreed and indicated that the pit license application process today is much more involved and complicated than in the past. He also indicated that very extensive monitoring is occurring in the Mill Creek Subwatershed. Erich Ritzmann indicated that there is approximately 90 ha of licensed pit in 900 ha of the subwatersheds (10% of the subwatersheds). Cathy Murphy indicated that impacts on Middle Creek should not be minimized. Wendy Wright indicated that the subwatersheds study has to be completed as background information to assist in the decision making process for what is going to happen.

Erich Ritzmann wondered if there could be a map that shows the tertiary sand and gravel mentioned on page B-81 of the Subwatersheds Study. He also wants the source of the information about the primary and tertiary significant sand and gravel deposits in the summary report. He wants the whole topic of aggregate expanded in the study. He pointed out that on Page 3 of the “Assessment of Aggregate Resources and Groundwater Protection Background Report No. 2 – Final” included in today’s agenda package it says that there is no technical rationale for the standard 1.5 metres separation distance from the water table. Mitch Wilson explained that in the face of limited funding, terms of reference of subwatersheds studies must prioritize what studies are done. There was discussion about the PPS and how priorities are set in the face of competing resources. It was suggested that the summary report identify potential aggregate impacts from the Blair, Bechtel, Bauman study. Charlene Schiedel requested a technical analysis with a number when Ken takes out the wetland areas covered by the Arriscraft pit from the Maple Grove PSW. Ian Rawlings requested the wetland evaluation data and score sheets for the Maple Grove Wetland Complex so his consultant can conduct the same analysis. Mitch Wilson indicated that this would be shared with the group.

- c) Potential Pit Impacts on PSW - Wendy Wright indicated that the City of Cambridge staff report on the northerly pit might have some information that will be useful for potential impacts of extraction on areas immediately adjacent. Charlene Schiedel indicated that the letters in the agenda today are old and she is very concerned that the working committee had not seen them before today’s agenda. Wendy Wright indicated that she thought they were part of the staff reports in the past and information has not been hidden from the committee.

## 5. Other Business

- a) MGWA News. – Erich Ritzmann indicated that the group would like to send out the Association's next newsletter. Wendy Wright indicated some suggestions for the newsletter (Draft #3). There was discussion about the wording around buffers to be put in the newsletter. Erich Ritzmann will continue to edit and get the newsletter to Wendy for a final look and then it will be sent out.

Brian Cunningham left the meeting.

Nancy Davy left the meeting.

- b) Follow-up List – no change.
- c) List of Topics for Upcoming Meetings – The Wanner Mennonite Church has been booked for the public meeting in September. Rick Cowsill asked what ideas there were for meeting format. John Vasiga indicated that there should be presentations, not just a static display. Wendy Wright suggested that a similar format to the recent open house by the province could be used. It was decided to book the church for 6 p.m. for the static display, with a presentation scheduled for 7 p.m. and questions afterward.
- d) Countryside Line – Kevin Eby from the Regional Municipality of Waterloo will be in attendance at the next meeting to discuss. Wendy Wright suggested that the committee plan to meet until 6:00 p.m. at this meeting.

Rick Cowsill motioned to adjourn.

Meeting adjourned at 6:00 p.m.

**Next meeting – Allan Reuter Centre – 3:30 pm to 6:00 pm – Thursday, August 5, 2004**

## Working Committee - Hespeler West Subwatershed Study

### **Aggregate Licence information**

#### **Licence # 5537 – Pit Above Water**

- Emilyharper Corporation – originally licensed to Arriscraft Corporation (Angelstone Limited) in 1972 under the Pits and Quarries Control Act
- The tonnage limit at the property is 160,000 tonnes per annum
- No other licence conditions exist except for tonnage
- In 1996 a portion of the licence (Phase III) was surrendered and removed from the licence boundary.
- The current licenced area is 48.43 hectares and the extraction area is 43.73 ha
- According to the Compliance Reports (1997 – 2003) the pit has been inactive (no active extraction).
- There is no groundwater monitoring program for the site and no Permit to Take Water

#### **Site Plan Notes of Interest**

- There are two operating phases and before extraction occurs in Phase II, Phase I must be rehabilitated.
- Existing streams and ponds are not to be disturbed
- Maximum depth of extraction in Phase I is expected to be 17metres with lesser depths occurring in Phase II.
- Extraction can not occur below the water table and dewatering is not permitted.

#### **Rehabilitation**

A large part of Phase I and II are to be planted with a grass legume mixture and subdivided into building lots subject to municipal approval and the remainder is to be rehabilitated to Green Belt.

### **Licence # 46162 – Pit Above Water**

- Licenced in 2000 under the Aggregate Resources Act
- Has a list of Prescribed Conditions as per the Provincial Standards that apply today.
- The tonnage limit is 100, 000 tonnes annually and for 2004 they are permitted to remove 130,000 tonnes (recently granted a temporary increase)
- The Licenced area is 31.92 hectares and the extraction area is 16.71ha
- There is no groundwater monitoring program for the site and no Permit to Take Water

### **Site Plan Notes of Interest**

- Must maintain a 1.5metre separation between the watertable and excavation
- They can only operate Monday to Friday (7:00 to 6:00) during October 1st thru March 31<sup>st</sup>.
- No extraction to occur in woodland areas

### **Rehabilitation**

Grass seed mixture suitable for pasture land

### **5.1.1 Potential Environmental Impacts of Aggregate Extraction**

ABB SWR  
CHZMHU, 1997

The nature and extent of aggregate extraction impacts on environmental processes is not well documented. Potential impacts may be classified as relating to water quantity, water quality or terrestrial features. Impacts may be described as positive or negative depending on local conditions. Each are described below.

Potential impacts from aggregate extraction related to water quantity issues are:

- Changes to groundwater levels from:
  - drawdown related to pumping activities
  - seepage at perched water tables
  - increased local recharge in exposed areas
- Changes in surface water volumes from:
  - pumped discharges to watercourses
  - reduction of runoff and baseflow to watercourses
  - increased capture of precipitation and local runoff in flooded/ponded areas
  - increased evaporation rates from the water surface of flooded/ponded areas
- Changes in groundwater and surface water flow patterns from:
  - modification of local groundwater hydraulic gradients
  - modification of local groundwater flow rates
  - modification of material permeabilities
  - diversion and rechannelization of water courses

Potential impacts from aggregate extraction related to water quality are:

- Increased temperatures from:
  - increased water surface area and shallow water depth
  - decreased water velocities and impoundments
  - decreased vegetation cover
  - decreased attenuation of seasonal fluctuations through groundwater flow
- Increased sedimentation from:
  - dragline extraction methods
  - increased erosion from stripped and excavated areas
  - water pumping to adjacent watercourses
  - material washing and processing activities
- Introduction of contaminants from:
  - fuel and other material spills during operations
  - waste disposal
  - dust suppressants
  - secondary processing sites
  - waterfowl fecal coliform inputs

Potential impacts from aggregate extraction on terrestrial features, and especially wetlands, are:

- decreased vegetative cover either through direct removal or indirectly through edge loss
- warmed groundwater (from ponded areas) discharging to wetlands areas
- decreased surface runoff to wetlands due to local increases in recharge
- flattening of hydraulic gradients/flow patterns between extraction areas and adjacent wetland/terrestrial features

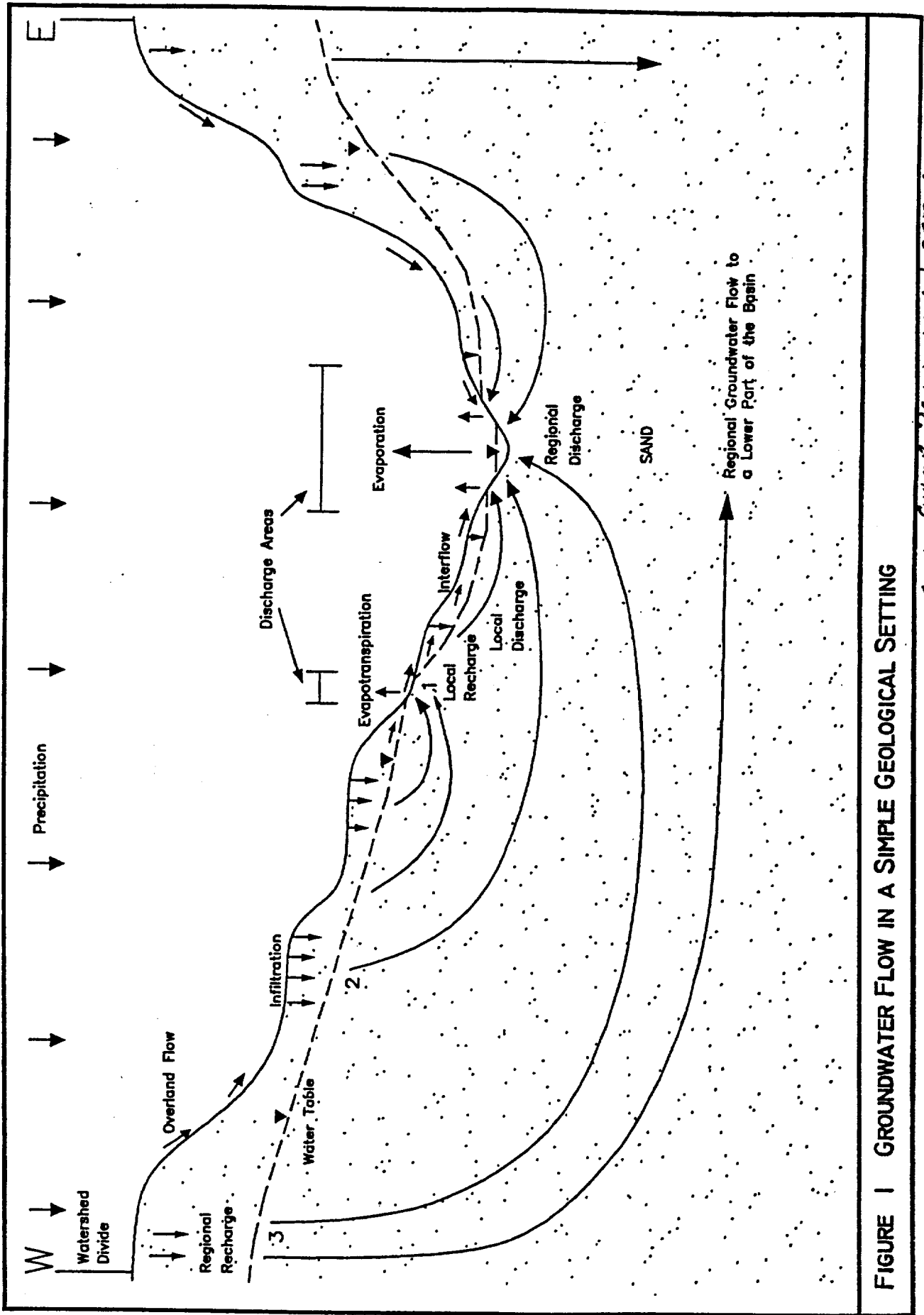
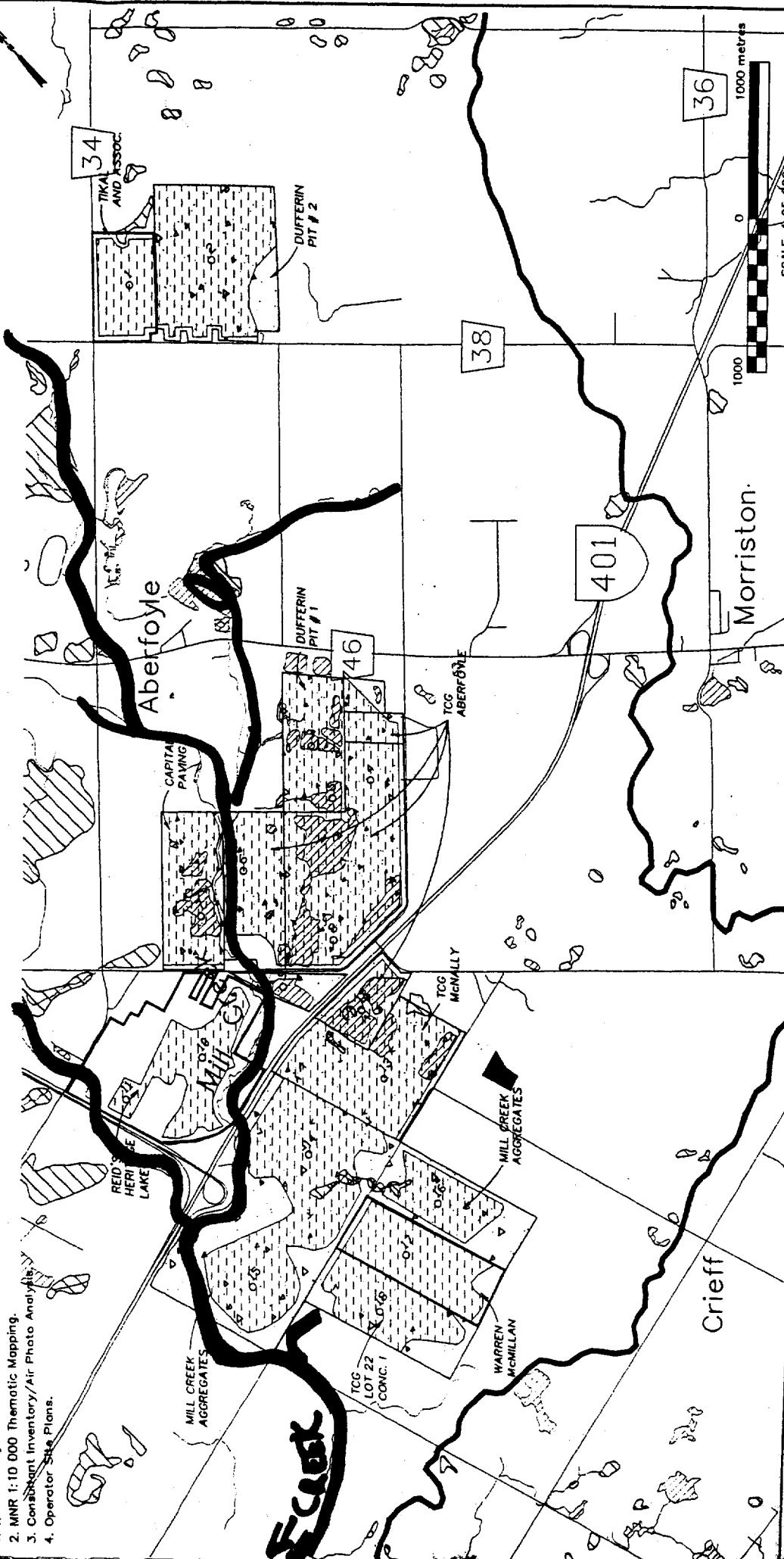


FIGURE 1 GROUNDWATER FLOW IN A SIMPLE GEOLOGICAL SETTING

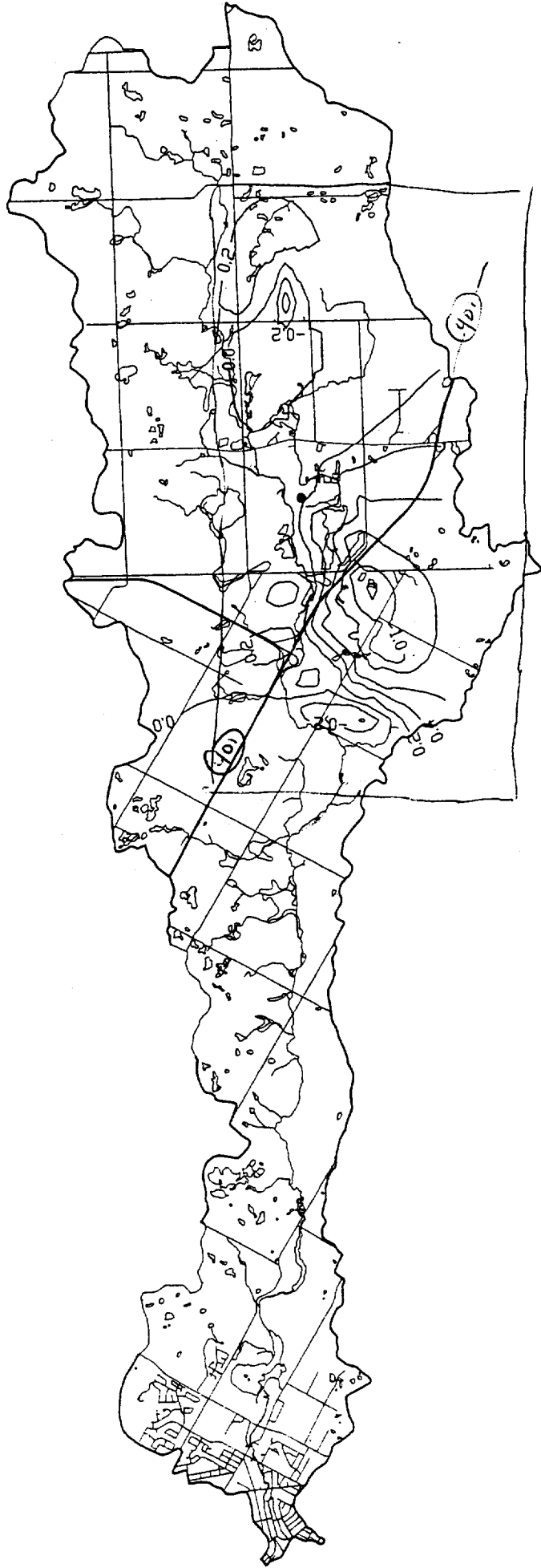
FROM: FISHERIES "BASINS" ATTACHED TO THE MANAGEMENT OF FISH 1988, 2000

- Sources:
- 1: 1:10 000 Digital Ontario Base Map Series MNR (1982 data).
  - 2: MNR 1:10 000 Thematic Mapping.
  - 3: Consultant Inventory/Air Photo Analysis.
  - 4: Operator Site Plans.



<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>Subwatershed Boundary</li> <li>Railway Corridor</li> <li>Marked Boundary</li> <li>Boundary of Property Licensed Under Aggregate Resources Act</li> <li>Boundary of Property Proposed Under Aggregate Resources Act (Subject to Approval)</li> <li>Intermittent Stream</li> <li>Permanent Stream</li> <li>Lease</li> <li>Moraine</li> </ul>	<p>Approximate Location of Licensed Pit Operations Area Under Wayleave Permit</p> <p>Area Subject to Extraction or Subject to Proposed Extraction within boundaries of Licence or Proposed Licence *</p>	<p>* Note: Area not subject to extraction (in outline form of extraction) <b>PLEASE</b> to ensure additional safety property boundaries due to site limitations.</p>
<p><b>MILL CREEK SUBWATERSHED STUDY</b></p> <p><b>Figure 6-1</b></p> <p><b>PROPOSED AND LICENSED AGGREGATE RESOURCES EXTRACTION AREAS</b></p>	<p><b>Grand River Conservation Authority</b></p> <p>CH2M HILL Engineering Ltd.          Gardner Lee Ltd.          Planning Consultants Ltd.          Salter Ross &amp; Associates Ltd.          Schrecks &amp; Associates Ltd.          A. Wayne Coston Consulting Services Ltd.</p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>Subwatershed Boundary</li> <li>Railway Corridor</li> <li>Marked Boundary</li> <li>Boundary of Property Licensed Under Aggregate Resources Act</li> <li>Boundary of Property Proposed Under Aggregate Resources Act (Subject to Approval)</li> <li>Intermittent Stream</li> <li>Permanent Stream</li> <li>Lease</li> <li>Moraine</li> </ul>

- Sources:
- 1: 1:10 000 Digital Ontario Base Map Series MNR (1982 data).
  - 2: MNR 1:10 000 Thematic Mapping.
  - 3: Consultant Inventory/Air Photo Analysis.



**MILL CREEK  
SUBWATERSHED STUDY**

**Figure 6-6  
SIMULATED GROUNDWATER DRAWDOWN  
(AGGREGATE SCENARIO 4)**

**Grand River Conservation Authority**



CH2M HILL Engineering Ltd.  
Gortner Lee Ltd.  
RBA Planning Consultants Ltd.  
Schroter & Associates Ltd.  
A. Wayne Coston Consulting Services Ltd.

**LEGEND**

— Drawdown Contours (0.2 m Interval)

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**CITY OF CAMBRIDGE  
HESPELER WEST SUBWATERSHEDS STUDY WORKING COMMITTEE  
FOLLOW-UP LIST**

<b>SOURCE/ MEETING DATE</b>	<b>ITEM</b>	<b>ASSIGNED TO</b>	<b>COMMENTS</b>	<b>DUE DATE</b>	<b>DONE</b>
HWSSWG Oct. 30/03	Provide full hard copy versions of the HWSS to working committee	April Souwand	Nov. 2003 version to be distributed as soon as it is available from PEIL	Nov. 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Finalize Terms of Reference: <i>Section 7 Time Frame and Work Plan</i> - process for review of community concerns - meetings with individual property owners - review of revised report <i>Section 8 Public Consultation/Information</i> <i>Section 12 Dispute Resolution</i>	Wendy Wright	Wording to be revised based on discussion at meeting	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Choose representative of small property owners	Wendy Wright and Erich Ritzmann	Choose someone who is not represented by MGWA	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Provide name of an alternative representative to committee	Each committee member	An alternative is necessary in cases where member is not able to attend meeting	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Process for review of community concerns	Wendy Wright	Item for discussion on Nov. 19, 2003 Review draft with MGWA – Approved per memo dated Nov. 19, 2003	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Provide list of people wanting site visits	MGWA/City	City has provided MGWA will provide, if needed	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Produce a map of property owners in the study area	April Souwand	Map will be used to keep track of site visits	Nov. 19/03	<input checked="" type="checkbox"/>

Follow-up List  
City of Cambridge  
Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWG Oct. 30/03	Invite City Clerk to next meeting to discuss pecuniary interest	April Souwand	City Clerk attended meeting	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Produce list of previous studies done in HWSS	April Souwand	Examples are Cambridge Business Park Stormwater Management Report	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Develop media protocol	April Souwand	See Pesticides Working Group Protocol	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Schedule of Meetings	April Souwand	Next committee meeting	Nov. 19/03	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Updated List of Members and Alternates	April Souwand		Dec. 18/03	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Establish a Lending Library of Reports	April Souwand		Dec. 1/03	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Add media protocol to Terms of Reference	Wendy Wright	See Revised Terms of Reference	Dec. 18/03	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Invite Ken Cornelisse to present Wetland Evaluation and Classification info.	April Souwand		Dec. 18/03	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Inquire into using City's website to distribute agendas	Wendy Wright/ April Souwand	Will continue to send .pdf files by e-mail due to administrative difficulties	Dec. 18/03	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Terms of Reference Section 7.3 – Review of Specific Areas of Community Concern	Wendy Wright	Review following Presentation/ Discussion of Provincially Significant Wetlands		

Follow-up List  
City of Cambridge  
Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWC Jan. 15/04	Provide a map of Scheduled Areas to MGWA	Nancy Davy	May be followed up with a presentation on the Conservation Authority's Fill, Construction and Alteration to Waterways Regulation	Feb. 5/04	<input checked="" type="checkbox"/>
HWSSWC Jan. 15/04	Refine wetland evaluation mapping for PSW	Ken Cornelisse	Some areas require site visit in spring to make a final determination. Four additional areas identified by MGWA will also be looked at for any changes needed.	Spring 2004	<input checked="" type="checkbox"/>
HWSSWC Feb. 5/04	Provide reference from HWSS to the fact that floodline determination was based on full development scenario.	April Souwand	Memo to Committee	Feb. 19/04	<input checked="" type="checkbox"/>
HWSSWC Feb. 19/04	Report on floodplain determination.	Wendy Wright	Memo to Committee	Mar. 18/04	<input checked="" type="checkbox"/>
HWSSWC Feb. 19/04	Subcatchments 2115, 2120 and 2125 boundary revisions	Wendy Wright	Review as part of Floodline recalculation		
HWSSWC Mar. 4/04	Discussion on channel buffers	April Souwand Nancy Davy	Deferred to discussion on buffers in general	Apr. 1/04	<input checked="" type="checkbox"/>
HWSSWC Mar. 4/04	Placement of Fill on S/E corner of Fountain and Maple Grove to build a parking lot (Toyota)	Wendy Wright Nancy Davy	Check the approval process for this	May 6/04	<input checked="" type="checkbox"/>

Follow-up List  
City of Cambridge  
Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWC Mar. 4/04	Fill placement in floodplain of Middle Creek for City Industrial Subdivision Phase II	Wendy Wright	Check the approval process for site servicing by the City of Cambridge		
HWSSWC Mar. 4/04	Fill placement on island in Speed River, east of Speedville Road bridge.	Nancy Davy	Check whether GRCA is aware of this and if it is a regulated activity.	May 6/04	
HWSSWC Mar. 4/04	Questions arising from Ken Cornelisse's presentation on dams and ponds.	MGWA	Compose a list of questions for Ken.	May 6/04	<input checked="" type="checkbox"/>
HWSSWC Mar. 4/04	Update List of Topics for Upcoming Meetings	Wendy Wright	Update list after discussion with MGWA	Mar. 18/04	<input checked="" type="checkbox"/>
HWSSWC Apr. 1/04	Definition of Development	Wendy Wright	Definition from PPS	Apr. 15/04	<input checked="" type="checkbox"/>
HWSSWC Apr. 1/04	Context Sensitive Buffers	Wendy Wright	Review requirements for 30 m buffers	May 6/04 May 20/04	<input checked="" type="checkbox"/>
HWSSWC Apr. 15/04	Greenspace Management Strategy Map – August 2002 version changes to final draft	April Souwand	Memo to Committee	May 6/04	<input checked="" type="checkbox"/>
HWSSWC Apr. 15/04	John Vasiga's request for Ken Cornelisse to clarify his statement regarding determination of wetland boundaries in April 1/04 minutes	Ken Cornelisse	To provide clarification at May 6/04 meeting as he was not present at April 15/04 meeting when question arose	May 6/04	<input checked="" type="checkbox"/>

Follow-up List  
 City of Cambridge  
 Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWC May 6/04	Moffat Creek Buffers	April Souwand	To provide information on why buffers less than 30 m used in the Moffat Creek Subwatershed Study were not used in HWSS	May 20/04	<input checked="" type="checkbox"/>
HWSSWC May 6/04	Small and/or Man-Made Wetland Buffers	Nancy Davy/ Wendy Wright	To provide information on policy affecting small and/or man-made non-PSW wetlands	June 3/04	<input checked="" type="checkbox"/>
HWSSWC May 6/04	Impact of Pit Licensed Areas on PSW Wetland Score	Ken Cornelisse	To review the PSW score to determine how it would be affected should the extraction of sand eliminate the PSW on the Arriscraft property		
HWSSWC May 6/04	Rationale for Differences in Width of Creek Corridor Enhancement Areas	April Souwand	To provide information on the rationale for corridor widths of East/West and Middle Creeks.		<input checked="" type="checkbox"/>
HWSSWC June 17/04	Review of Proposed Buffer Policies	Rick Cowsill/ Wendy Wright			
HWSSWC July 8/04	Review of PSW west of Fountain Street with respect to complexing	Ken Cornelisse	To provide further information on complexing of this wetland unit.		
HWSSWC July 8/04	Evaluation of Potential ESPA's	Chris Gosselin	To complete field work evaluation of potential ESPAs.		



The Corporation  
of the City  
of Cambridge

**MEMORANDUM**

**To:** Hespeler West Subwatersheds Study  
Working Committee

**Date:** August 3, 2004

**From:** Wendy Wright  
Commissioner of Planning Services

**Our File:**

**Your File:**

**Re: Topics for Upcoming Meetings**

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August 5/04	<ul style="list-style-type: none"><li>• Countryside Line</li><li>• Review Draft Final Report Re: Buffers/Enhancement Areas/ Stewardship Areas/Implementation</li></ul>
September 2/04	Complete Review of Draft Final Report/Newsletter
September 9/04	Public Open House – Wanner Church – 7:00 p.m.
September 14/04	Special Council Meeting – 7:00 p.m.

**CORPORATION OF THE CITY OF CAMBRIDGE  
HESPELER WEST SUBWATERSHEDS STUDY  
WORKING COMMITTEE**

**ADDENDUM AGENDA**

**Thursday, August 5, 2004  
Allan Reuter Seniors' Centre, 507 King Street,  
Cambridge (Preston)  
3:30 p.m. to 6:00 p.m.**

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1. Protection of Natural Heritage Features – Draft for Discussion
  
2. Hespeler West Subwatersheds Study Summary Report 2004 – Report Outline - Discussion



**CITY OF CAMBRIDGE**  
**Planning Services Department**  
73 Water Street North, 3rd Floor,  
P.O. Box 669,  
Cambridge, Ontario N1R 5W8  
Telephone: (519) 740-4650 ext: 4576  
Fax: (519) 622-6184  
Email: wrightw@city.cambridge.on.ca

## Memorandum

**File No.:**

**Date:** August 3, 2004

**To:** Hespeler West Subwatersheds Study Working Committee

**From:** Wendy Wright, Commissioner of Planning Services

**Re:** Protection of Natural Heritage Features

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Attached is the draft section of the final report on protection of natural heritage features using buffers, enhancement land uses and a stewardship program. Copies of the map showing the buffer areas were previously distributed but cannot be finalized until the changes that are the result of the changes to the PSWs and the Floodlines are available. At this point we need to rely on the earlier drafts. A similar situation applies to the Enhancement Mapping as we were going to revisit the review of 3 areas when we knew the floodline mapping. However, I think there was a consensus on the other changes.

Again I apologize for the lateness of the information because of serious computer problems and lost documents. If there is any good news, I am getting a new computer! Thank you for your patience.

Wendy Wright

## PROTECTION OF NATURAL HERITAGE FEATURES

### BACKGROUND

Having identified the core features of the **Natural Heritage System**, (Provincially Significant Wetlands, potential Environmentally Sensitive Policy Areas, Locally Significant Wetlands, Floodplains and Other High Constraint Areas), it is necessary to develop a **Greenspace Management Strategy** in order to maintain the ecological features and functions of these environmentally significant areas after serviced urban development occurs. The requirement to do this is set out in the Provincial Policy Statement, the Grand River Conservation Authority Wetland Policy, the Regional Official Policies Plan, and the Cambridge Official Plan. The “tools” for protecting the Natural Heritage System include Buffers, Enhancement Areas and Stewardship Areas. The “process” of establishing the extent of the protection required for the Natural Heritage System includes the preparation of an Environmental Impact Study, the strategic location of compatible land uses, and compatible natural plantings.

The Hespeler West Subwatershed Study is considered to be a ‘comprehensive’ Environmental Impact Study as part of developing the Greenspace Management Strategy. In order to protect the features of the East, Middle and West Creek Subwatersheds, the following buffers, enhancement corridors and stewardship areas were proposed:

- 15 m Aquatic (creek) Buffers;
- 30 m Buffers around other natural features;
- Enhancement Corridors of at least 50 m for East Creek, 200 m for Middle Creek and 50 m for West Creek;
- Stewardship Areas for compatible natural plantings.

Since the Subwatershed Study is carried out at a broad scale, it also provides for the preparation of a more detailed Environmental Impact Study to refine the requirements for the protection of the natural heritage features during preparation of the Community Plan and/or the review of specific development proposals should a developer wish to develop within the buffers. During the preparation of the Community Plan, compatible land uses and natural plantings are key to the implementation of the Enhancement Corridors and Stewardship Areas.

The Maple Grove Wetland Association on April 4, 2004, expressed its concerns with the extent of the area proposed to protect the core features of the natural heritage system and proposed the following:

- Context sensitive buffering which considers the quality of features being protected and which acknowledge the advanced state of human disturbance existent;
- Wetland buffers that don’t exceed the 15 m;
- Upland forest buffers that don’t exceed 3 m;
- Plantations buffered by 1 m;
- No buffering of other cultural features;

- Enhancement recommendations need to be removed/reduced in cases where core feature already meets the 50 m (local) or 200 m (primary) width criteria;
- Enhancement recommendations for areas adjoining or crossing anthropogenic units and major impediments such as roadways must be re-evaluated.

They also expressed concern with singling out individual properties with a Stewardship Area designation in order to maintain or enhance the natural heritage features.

The HWSSWC spent several meetings reviewing how to adequately protect the Natural Heritage System and explored several options. There is consensus that the features do need to be protected so that they can maintain their ecological features and functions after serviced urban development occurs.

## **OPTIONS FOR THE PROTECTION OF THE NATURAL HERITAGE SYSTEM**

### **BUFFERS**

Buffers are the spatial distance between the natural heritage feature and an area of urban development. They are put in place so that the ecological features and functions of these natural areas are maintained after serviced urban development occurs. The widths of buffers can vary depending on the nature of the natural feature (sensitivity), the depth to the water table, the hydrologic and hydraulic characteristics of the subwatershed, the nature of the soils, the type and density of development, and the extent of regrading and change that occurs during the actual servicing and development of an area. The 'comprehensive' Environmental Impact Study carried out through the Subwatershed Study considered the above noted factors. However, until the Community Plan and development applications are considered, only the fact that urban development will occur is known. The type of use, density of development, servicing plans and location of compatible land uses is not yet available. As a result, buffers in the Hespeler West Subwatersheds Study were recommended to protect the natural heritage features in the absence of more detailed information relating to the specific development that will occur.

The Subwatersheds Study concluded that 30 m buffers with Enhancement Areas would generally protect the natural heritage system. The Study provided for the preparation of an Environmental Impact Study should development be proposed within 30 m of the natural heritage feature and specifically suggested that buffers adjacent to upland woodlots could be reduced to 15 m with the completion of an Environmental Impact Study. The Study also recommended 15 m aquatic buffers on either side of streams.

One of the main issues related to establishing buffers in a Subwatershed Study is the width of the buffers needed to protect the Natural Heritage System. The Subwatershed Study takes a broad look at the natural features of the subwatershed and the potential impacts of urban development on those natural features. Because the Subwatershed Study is the first step in implementing the development approval process for serviced urban development, it generally sets the parameters of where urban development can and cannot occur. As a result, the

buffers established in the Subwatershed Study may be considered more generous than the buffers that will ultimately be required when the details of the development are known. The development process anticipates that as more details are known about a development, a more detailed Environmental Impact Statement will be able to refine the buffer widths in conjunction with consideration of the density of development, grading and servicing information. At both the Community Plan stage and subdivision stage, it is contemplated that the buffer widths will be refined. On occasion buffer widths do become larger when an area is studied in more detail.

The results of the Hespeler West Subwatershed Study were accepted by MNR and GRCA in terms of the extent of protection required for the Natural Heritage System after serviced urban development occurs. Without the 'comprehensive' Environmental Impact Study of the HWSS, they would have required an Environmental Impact Study for any development within 120m of a wetland.

Subwatershed Studies completed in the early to mid 1990's often did not include a specific buffer width or identify an enhancement area but more recent subwatershed studies have done so. All of the studies have relied on a requirement for the preparation of an Environmental Impact Study to either establish a buffer and enhancement area as part of a subwatershed study and/ or to refine the extent of a buffer as part of the review and approval of urban development.

Four subwatershed studies have been completed in Cambridge since 1995. (See Table 1) Where buffers were not specified as part of the Subwatershed Study, an EIS was required within 120m of the significant natural features. In two of the studies buffers were identified. In the case of the Forbes Creek Subwatershed Study, buffers of 50m were recommended with the opportunity to reduce them to 30m subject to completion of an Environmental Impact Study. In the case of the Moffat Creek Subwatershed Study buffers ranging from 120 m to 10 m were recommended, based on the amount of information and type of feature being protected.

Cambridge Council has approved all of the above Subwatershed Studies and implemented the results of these studies through development applications. Most developers have prepared an Environmental Impact Study to establish and/or reduce the buffers. The approved subwatershed studies cover only a small part of the City, so Council also deals with development applications in the absence of a subwatershed study. In these cases, an Environmental Impact Study is required. Examples of recent development approvals where buffers have been established through the submission of an EIS are contained in Table 2.

Development has already taken place in some areas of the Hespeler West Subwatersheds. The Idylwild Subdivision was developed by 'Arriscraft' in the 1980's/1990's as an estate residential development. No formal buffers were required and the changes, if any, to the wetlands were not recorded. Current conditions indicate that areas in the Middle Creek Subwatershed and along the Speed River adjacent to the estate residential lots are still Provincially Significant Wetlands. The same situation exists adjacent to other estate

residential lots developed in the former Township of Waterloo. If there is no significant intensification of these areas, no buffers will be required as it has been demonstrated that one is not needed by virtue of the fact that the significant natural features and the estate residential development coexist.

Development of the City's industrial lands north of Maple Grove Road and east of Fountain Street included a 15m aquatic buffer along Middle Creek. There were no wetland or woodlot features on the balance of the property so no other buffers were required.

Development of the Toyota lands at Maple Grove Road and Fountain Street during the mid 1980's saw the relocation of a portion of West Creek and rerouting of flows from the area west of Fountain Street to Freeport and Middle Creeks. The current requirements for the preparation of Subwatersheds Studies and the protection of significant natural features were not in place so specific buffers were not required.

The other significant 'development' approved in the Middle Creek subwatershed is the aggregate extraction license on the Arriscraft lands, north and south of Briardean Road.

The process that has been used to establish buffers has been the preparation of an Environmental Impact Study. It is a process that is familiar to Council, the environmental agencies (MNR, GRCA, Region) and the development industry. **The current policy of the Province, GRCA, the Region and the City requires the preparation of an Environmental Impact Statement if development is proposed within 120 m of a significant natural feature.** If the Hespeler West Subwatersheds Study had been approved with the recommended 30 m buffer, development would be permitted up to the 30 m limit and an EIS would have been required if development was proposed within 30 m of a significant natural feature.

Where the process of establishing or refining buffers through the use of an Environmental Impact Study has been proposed, it is important that the scope of an EIS can be readily determined. Where necessary, some subwatershed studies (e.g. Warren Creek in Niagara Falls) have included the requirements for the preparation of an EIS. In the case of the Hespeler West Subwatersheds Study, the GRCA has an adopted wetland policy for all wetlands in the Grand River watershed and they are developing guidelines for the preparation of an implementing EIS. The Region of Waterloo does have guidelines for the preparation of an EIS adjacent to an Environmentally Sensitive Policy Area and has over 25 years of experience in reviewing and approving them. The City is planning to develop guidelines for the consideration of development adjacent to Locally Significant Natural Areas. It may be similar to those of the Region.

It seems appropriate to relate the buffer policies to existing Provincial, Regional and City policies and processes currently in place for processing development applications because the purpose of the buffer policies is to protect the natural heritage features after development occurs, develop appropriate context sensitive buffers and give more certainty to the known amount of developable land.

Responsibility for the protection of the significant natural heritage features lies with MNR and GRCA for Provincially Significant Wetlands, GRCA for all other wetlands, and the Region of Waterloo for Environmentally Sensitive Policy Areas. Generally there is a shared responsibility with the City of Cambridge for the protection of the other significant natural features (upland woodlots, plantations, steep slopes, seepage areas) through the development approval process including the preparation of the Community Plan.

## PROPOSED BUFFER POLICY

- Aquatic buffers of 15 m for East, Middle and West Creeks.
- No buffers where the natural heritage feature/buffer and proposed development are separated by an existing roadway, regardless of the width.
- No buffers for significant natural heritage features adjacent to existing estate residential development where no significant intensification is proposed as a result of the community plan.
- No buffers (established in the HWSS) for the Other High Constraint Areas (upland woodlots, plantations, steep slopes, seepage areas) listed on Table 3, and shown in white on draft Buffer Map dated May 20, 2004, until a more detailed EIS is completed as part of the preparation of the Community Plan. Most of these areas are south of Maple Grove Road along the creek corridors and in the existing Cambridge Urban Area. Buffers could be considered in conjunction with Enhancement Land Uses, servicing Environmental Assessments and the 15 m aquatic creek buffer. Context sensitive buffers would be developed as more detailed information on the density and type of urban development is known.
- 30 m buffers adjacent to a Provincially Significant Wetland, Regional Environmentally Sensitive Policy Area or Locally Significant Wetland in the HWSS. If a developer proposes development within the 30 m, they would be required to complete an Environmental Impact Statement requiring approval of the GRCA and/or the Region.
- **Another alternative for the protection of the natural heritage features is to adopt no buffer policy as part of the HWSS. An Environmental Impact Study would still be required for any development proposal but the study area would be extended to 120m from these areas and would still require approval of the GRCA and/or the Region.**

The proposed policy has the following advantages over that originally recommended in the Hespeler West Subwatersheds Study:

- Clearly provides for more detailed analysis during the development approval process (community plan or subdivision).
- Identifies agencies that have jurisdiction for the approval of buffers related to high constraint natural areas including GRCA and the Region of Waterloo.
- Requires further study as part of the development of the Community Plan for determining buffers in areas where the City has more flexibility to establish buffer widths, no clear policy currently exists and/or impacts of development may be more readily mitigated.

The MGWA preferred that specific buffers be established now. The Association supports context sensitive buffers which consider the quality of the features being protected and which acknowledge the advanced state of human disturbance existent:

- Wetland buffers that do not exceed 15 m.
- Upland forest buffers that do not exceed 3 m.
- Plantations buffered by 1 m.
- No buffering of other cultural features.

The proposed buffer policy is intended to provide developers with the option of accepting the 30 m buffer for protecting a Provincially Significant Wetland, Regional Environmentally Sensitive Policy Area or a Locally Significant Wetland. The developer has the option of undertaking an EIS when development is proposed within 30 m of such a feature. Context sensitive buffers will be established as part of the preparation of the Community Plan for the other high constraint areas including upland forests and plantations.

## **ENHANCEMENT LAND USES AND STEWARDSHIP PROGRAM**

The next set of 'tools' for the protection of the significant environmental features and function are Enhancement Corridors (Land Uses) and a Stewardship Program. In order to implement the requirements of the Provincial Policy Statement, Regional Official Policies Plan and the Cambridge Official Plan, the Hespeler West Subwatersheds Study needs to not only protect the significant environmental features and functions but also use a system wide approach in order to sustain the whole natural system after serviced urban development occurs not just individual features.

The Provincial Policy Statement requires that the diversity of natural features in an area, and the natural connections between them, be maintained, and improved where possible. Along the same lines, the Regional Official Policies Plan requires that interconnections among significant natural areas be recognized, maintained and enhanced to prevent further fragmentation and degradation of the ecological integrity of the landscape. The Regional Official Policies Plan also requires that development should be viewed as an opportunity for enhancement of the natural features and functions of the Natural Habitat Network.

The Cambridge Official Plan contains a more general policy to maintain and improve the City's natural environment, including the linked open space system ... in the interests of overall ecosystem integrity.

Buffers alone are inadequate to maintain existing levels of wildlife movement or the presence of significant wildlife species. An agricultural land use does not constrain wildlife movements but urban land uses generally reduce habitat linkages. Therefore, there is a need to maintain habitat corridors and linkages after urban development.

The intent of Enhancement Corridors/Linkages is to:

- create connectedness among habitat patches;
- allow plants and animals to sporadically or regularly intermingle and exchange genetic material;
- allow populations to recolonize should extinction occur;
- consolidate forest interior habitat (100 m from any edge) and successional meadows for breeding bird species; and
- reduce heat island effects of urban development.

Recommended Enhancement Land Uses include:

- active/passive recreation;
- stormwater management facilities; and
- complementary land uses. These could include schoolyards or large landscaped features associated with industrial/commercial development (e.g. campus style).

A Stewardship Program will help to maintain/enhance the system connectedness by:

- 1) encouraging property owners to plant native species and avoid invasive species;
- 2) make property owners aware of the significance and sensitivity of the Natural Heritage Features to avoid inadvertent impacts; and
- 3) create a community partnership to maintain and enhance the natural heritage features.

The recommended Enhancement Land Use Areas are shown on Figure C3.3.1. Generally the Hespeler West Subwatersheds Study is working to achieve a 50 m enhancement corridor along West and East Creeks and a 200 m corridor along Middle Creek.

The corridor/linkage area along West Creek is currently of sufficient width (over 50 m) and of an incised natural such that the local linkage function can be maintained by the 30 m buffer outside the LSW. Enhancement Land Uses located east of Boxwood Drive would assist in linking isolated features.

The Middle Creek corridor has the opportunity to link the Speed and the Grand Rivers. Chilligo Creek is also considered to be a primary/corridor link. Given the proposed urban development in north Cambridge, it may be more realistic to look to Chilligo Creek to perform that function. Therefore, maintaining the linkages north of Maple Grove Road becomes very important. When considering development north of Maple Grove Road, on current agricultural lands, habitat cover in the corridor could be enhanced through enhancement land uses and floodplain revegetation. South of Maple Grove Road where there has been moderate urban development (particularly estate residential), a corridor could be enhanced through a stewardship program. On agricultural lands, the corridor/linkage can be achieved through Enhancement Land Uses and floodplain revegetation. This will need to be considered in more detail when preparing the Community Plan.

Together the Enhancement Land Uses and Stewardship Program, after urban development occurs, will minimize:

- impacts to core vegetation communities
- fragmentation of natural habitats
- impacts to wildlife
- impacts to ecological functions
- impacts to future urban land uses

Table 1: Subwatersheds Studies Within Cambridge – Buffer Recommendations

Study Name	Prepared For	Prepared By	Date	Buffer Recommendations	Enhancement Areas?
Mill Creek Subwatershed Plan	GRCA	CH2M Gore and Storrie Limited	June, 1996	Undefined buffers – require EIS within 120 m of Core Greenspace for development to set buffer widths	Yes – “Greenspace Opportunity Areas”
Moffat Creek Watershed Plan and Comprehensive Environmental Impact Study	City of Cambridge	Cambridge Engineering and Planning Consultants Limited	November, 1996	4 levels of buffer, depending on amount of information available and field work – 120 m from classified wetland and 50 m from significant woodland needing more information – 30 m from classified wetlands where information is available (generally turns out to be PSWs) and 10 to 15 m from classified wetlands and adjoining forested features where wetland units or woodlots have limited dependency on adjoining surface runoff and interflow	Yes – “Potential Enhancement Zone”

Study Name	Prepared For	Prepared By	Date	Buffer Recommendations	Enhancement Areas?
Blair, Bechtel, and Bauman Creeks Subwatershed Plan	GRCA	CH2M Gore and Storrie Limited	January, 1997	Undefined buffers – require EIS within 120 m of Core Greenspace for development to set buffer widths	Yes – “Greenspace Opportunity Areas
Forbes Creek Subwatershed Study	City of Cambridge	Planning and Engineering Initiatives Limited	August 2002	S. of Blackbridge Road, 50 m buffers with provision to reduce to 30 m with a site-specific study of shallow groundwater and affected biological resources N. of Blackbridge Road, 30 m (assumes low intensity rural development) – EIS requirements are detailed similar to HWSS	Yes – Enhancement Areas

**TABLE 2  
BUFFERS ESTABLISHED THROUGH APPROVAL OF DEVELOPMENT PROPOSALS**

<b>Development Application</b>	<b>Subwatershed Study</b>	<b>EIS</b>	<b>Recommended Buffer</b>	<b>Type of Development</b>
30T-88026 BLI Development Inc. Council Approved June 29, 2004	Yes – Blair Bechtel Bauman SWS	Yes	15 m to 30 m buffer adjacent to PSW	22 lot estate residential development on 42.21 ha (104 ac) site
Challenger Council Approved March, 2004	No – Freeport Creek Subwatershed	Yes	<ul style="list-style-type: none"> <li>• 15 m aquatic buffer from Freeport Creek</li> <li>• 3 m buffer from a dripline of upland woodlot. Woodlot and buffer rezoned from Industrial to Open Space</li> </ul>	Large industrial lot 20.8 ha (51.5 ac)
Queenston Estates Council Approved January 11, 1993 and July 9, 2001	No – Master Drainage Study & Implementation Report for Hespeler East	Yes	10 m buffer from a natural storm water management pond/wetland with added mitigation measures (i.e. removal of invasive species)	424 to 462 residential lots 32.02 ha (79.12 ac)
30T-03102 Greengate – Proposed Plan	Yes – Moffat Creek Subwatershed Study	No	30 m buffer	624 residential units on 42.08 ha (104 ac)

Development Application	Subwatershed Study	EIS	Recommended Buffer	Type of Development
30T-02101 Lotco II – South of Myers Road Council Approved September 16, 2002	Yes – Moffat Creek Subwatershed Study	No	<ul style="list-style-type: none"> <li>• 30 m as per consultant’s planning report, no dimensions on plan</li> <li>• near PSW</li> </ul>	76 lots for one family detached dwellings, 3 future development blocks and 2 storm water management blocks including an existing wetland on the west side of the property. The property is a portion of 6.819 ha (16.85 ac)
R11/98 Aircraft Pit Council Approved March 9, 2000	No	Yes	No recommended buffer in EIS. However, mitigative measures included protective fencing (the current standard of post and paige wire) with attached filter cloth fabric be installed 1-5 m from the dripline of the trees along the western and southern edges of the Class 1 Open Space.	The addition of the “(E)” prefix to the zone symbols applying to the lands to permit a mineral extraction operation to a 9.5 ha (23.5 ac) of land located northwest of Briardean Road
30T-88052 Mattamy Council Approved August 29, 2002	No – Portuguese Swamp ESPA/PSW	Yes	5 m – 10 m buffer along wetland boundaries and 2 m along ESPA and transitional slopes – mostly 30 m+.	784-1,149 units at various densities on 77.07 ha (190.43 ac) of land
Camrock Council Approved February 26, 2001/ April 17, 2001	No	Yes	A 15 m wetland (unclassified) buffer which provides for a 20 – 40 m setback from Freeport Creek – SWM facility abuts the wetland buffer.	Industrial subdivision 26.53 ha (65.56 ac) 5 industrial lots, 1 commercial & 1 open space

**TABLE 3**  
**VEGETATION COMMUNITY**  
**ATTRIBUTES AND CONSTRAINT RANKINGS**  
**FOR HIGH CONSTRAINT AREAS NOT PSW OR LSW OR POTENTIAL ESPA**

Map. No.	Community Series Code	Community Series	ELC Code	ELC Ecosite	Constraint Score	Seepage/Drainage Conditions	Slope	Significant Plants	Constraint Ranking	Floodplain	Comments
1.17	FOD	Deciduous Forest	FOD7	Fresh-Moist Lowland Deciduous Forest Ecosite	6	3	1		High	Yes	Hammer
2.13	MAM	Meadow Marsh	MAM2	Mineral Meadow Marsh	3	3	1		High	Yes	Non PSW Now
2.25	SWD	Deciduous Swamp	SWD3	Maple Mineral Deciduous Swamp	7	3	1		High		Isolated Wetland
2.41	MAM	Cultural Meadow	CUM1	Mineral Cultural Meadow	3	2	1		High (Medium)	Yes	Middle Creek Corridor - Linkage Function - Floodplain
5.03	FOD	Deciduous Forest	FOD6	Fresh-Moist Sugar Maple Deciduous Forest	8	2	1	Yes	Medium		City-owned 2.73 ha Boxwood Woodlot
5.09	FOD	Deciduous Forest	FOD6	Fresh-Moist Sugar Maple Deciduous Forest	6	1	3		High		City owned 0.2 ha isolated
5.11a	SWT	Swamp Thicket	SWT2	Mineral Thicket Swamp	7	3	1		High		City-owned 0.23 ha isolated
5.13b	CUT	Cultural Thicket	CUT1	Mineral Cultural Thicket	7	2	3		High		City-owned - West Creek Corridor
5.14c	FOD	Deciduous Forest	FOD6	Fresh-Moist Maple Deciduous Forest	9	1	2		High	Part	City-owned - West Creek Corridor
5.14f	FOD	Deciduous Forest	FOD	Deciduous Forest	7	1	3		High		City-owned - West Creek Corridor
5.21	FOD	Deciduous Forest	FOD7	Fresh-Moist Lowland Deciduous Forest	8	2	3	Yes	High	Part	West Creek Corridor
6.01a	FOD	Deciduous Forest	FOD8	Fresh-Moist Poplar Deciduous Forest	7	3	1		High	Yes	Reszetnik
6.12c	CUW	Cultural Woodland	CUW1	Mineral Cultural Woodland	7	3	2		High	Part	East Creek Corridor
6.20c	MAS	Shallow Marsh	MAS2	Mineral Shallow Marsh	4	3	1	Yes	High		Ariscraft
6.20g	CUM	Cultural Meadow	CUM1	Mineral Cultural Meadow	5	3	1		High	Yes	Middle Creek Corridor
6.28a	FOM	Mixed Forest	FOM2	Dry-Fresh Maple-Oak Mixed Forest	8	1	3		High	Part	Middle Creek Corridor
6.29b	FOD	Deciduous Forest	FOD5	Dry-Fresh Sugar Maple Deciduous Forest	9	1	2		High	Part	Middle Creek Corridor
6.29c	CUP	Cultural Plantation	CUP3	Coniferous Plantation	6	1	3		High		Ariscraft
6.31a	CUP	Cultural Plantation	CUP3	Coniferous Plantation	6	1	3		High		Middle Creek Corridor
6.31b	FOD	Deciduous Forest	FOD5	Dry-Fresh Sugar Maple Deciduous Forest	8	1	3		High		Middle Creek Corridor
6.32b	CUW	Cultural Woodland	CUW1	Mineral Cultural Woodland	6	3	1		High	Part	Middle Creek Corridor
6.37e	FOD	Deciduous Forest	FOD7	Fresh-Moist Lowland Deciduous Forest	6	3	1		High	Yes	Speed River
6.47	FOC	Coniferous Forest	FOC4	Fresh-Moist White Cedar Coniferous Forest	9	2	1		High	Yes	Speed River
7.03a	CUW	Cultural Woodland	CUW1	Mineral Cultural Woodland	7	3	3		High	Part	East Creek Corridor

# HESPELER WEST SUBWATERSHEDS STUDY SUMMARY REPORT 2004

## REPORT OUTLINE

### INTRODUCTION

Introduction to Process (AS)

Community Concerns (MGWA?)

Revisions to PEIL Report (list of errata and corrections)

### KEY CHANGES (Summary of Review by HWSSWC)

Wetland Evaluations (AS)

Potential ESPAs (AS)

Hydrology and Hydraulics (Floodline Report) (AS)

Protection of Natural Heritage Features (WW)

Aggregates/Arriscraft Subdivision (AS)

Countryside Line (AS)

Scheduled Areas (AS)

Ponds and Dams (AS)

Conceptual Trail Strategy (AS)

### KEY FINDINGS OF SUBWATERSHEDS STUDY

#### Lands Inside the Greenspace Management Strategy

Existing Environmental Policy Areas (AS)

Environmental Constraint Areas (AS)

Buffers (WW)

Enhancement and Stewardship Areas (WW)

Aquatic Remediation Strategy (AS)

Aggregate Resources (AS)

Lands Outside the Greenspace Management Strategy

Groundwater Recharge (AS)

Water Management

Stormwater Quality (GR)

Stormwater Quantity (GR)

Infiltration (GR)

IMPLEMENTATION OF SUBWATERSHEDS STUDY

Interim Land Use Management Strategy (WW)

Greenspace Management Strategy (WW)

Aquatic Rehabilitation Strategy (AS)

Environmental Impact Studies (AS)

Community Plans (WW)

Best Management Practices (AS)

Tree Protection (AS)

Adaptive Management Strategy (Monitoring) (AS)

FUTURE PUBLIC CONSULTATION (WW)

CONCLUSIONS/SUMMARY

## **MAPS**

B2.3.2 Subcatchment Boundaries  
B3.2.1 Regulatory Floodlines  
B7.4.1 Licensed Aggregate Areas  
B8.3.2 Evaluated Wetlands  
B8.3.3 Natural Heritage Constraints  
C1.2.1 Conceptual Watershed Linkage and Enhancement Areas  
C2.1.1 Countryside Line  
C3.1.3 Aquatic Rehabilitation Strategy  
C3.3.1 Greenspace Management Strategy  
Map 1A to 1F – 1:2000 Floodline Mapping  
Map 2 Existing Natural Heritage System  
Map 3 Greenspace Management Strategy

## **TABLES**

B8.3.1 ELC Community Series Present in the Hespeler West Subwatersheds  
D2.5.1 Scoped and Full Site EIS Requirements  
D2.9.1 Monitoring Programs Part A: Creek Systems and Part B: Natural Heritage System

## **APPENDICES**

Letter From MGWA Proposing Committee

Hespeler West Subwatersheds Study Working Committee Terms of Reference

Hespeler West Subwatersheds Study Working Committee Members

### **Presentations**

- How Does Planning Work in the Public Interest? - Mark Dorfman – September 25, 2003
- Land Use Planning and Development Approval Process- Tom Lebrun – September 25, 2003
- Pecuniary Interest – David Calder – November 19, 2003
- Wetlands – Ken Cornelisse – December 18, 2003
- Maple Grove Wetland Complex – Ken Cornelisse – January 15, 2004
- Drainage Basins and Floodlines – Gus Rungis – February 5, 2004
- Impacts of Dams on Watercourses - Ken Cornelisse – March 4, 2004
- Scheduled Areas – Nancy Davy – February 19, 2004 (actually given March 4, 2004)
- Regional Municipality of Waterloo Issues - Chris Gosselin – March 18, 2004
- Natural Heritage System Buffers - April Souwand – April 1, 2004
- Natural Heritage System Enhancement and Stewardship Areas – Wendy Wright – April 15, 2004
- Aggregate License Information – Diane Schwier – July 22, 2004
- Potential Impacts of Aggregate Extraction – Gus Rungis – July 22, 2004

MGWA News

MGWA Submissions on Issues

Hespeler West Subwatersheds Study Working Committee Minutes

Appendix J6 Vegetation Community Attributes and Constraint Rankings

Appendix J5 and J6 Vegetation and Wildlife Constraint Assessment Methodologies

## **REFERENCES**

Ontario Geological Survey and Planning and Engineering Initiatives Limited 1998. Aggregate Resources Inventory of the Regional Municipality of Waterloo, Townships of North Dumfries, Wellesley, Wilmot and Woolwich and the Cities of Cambridge, Kitchener and Waterloo; Ontario Geological Survey, Aggregate Resources Inventory Paper 161, 64p.

City of Cambridge Official Plan (1997)

Regional Official Policies Plan

Southern Ontario Wetland Evaluation Manual March 1993, revised May 1994

Provincial Policy Statement

GRCA Wetland Policy