



Summary Notes

Hogg's Hollow
Stormwater Management and Road Improvement
Study

OPEN HOUSE #2

September 25, 2003

**WORKS and
EMERGENCY SERVICES**

Hogg's Hollow Stormwater Management and Road Improvement Study

OPEN HOUSE #2

Agricola Finnish Lutheran Congregation
25 Old York Mills Road, Toronto

Thursday, September 25, 2002
6:30 p.m. to 9:45 p.m.

ATTENDANCE

Meeting Facilitator:

Ann Marie Weselan – WES / PC&CO Unit

Consultants:

Dave Maunder – Aquafor Beech Limited
Brian Worsley – Aquafor Beech Limited
Jim Weir – Morrison Hershfield Ltd.

City of Toronto:

Samuel Jebakumar – WES / Technical Services (District 3)
and Project Manager
Les Arishenkoff – WES / Water and Wastewater,
Infrastructure Asset Mgmt
Uwe Mader – WES / Technical Services,
Environmental Assessment & Policy Development
Penelope Palmer – WES / Transportation Services,
Infrastructure Planning
Trevor Tenn – WES / Transportation Services,
Road Operations (District 3)
Paul Clements – WES / Water and Wastewater Services,
Inspection Services (Districts 3 & 4)
William Snodgrass – WES / Water and Wastewater Services,
Infrastructure Asset Mgmt
Dave Nagler – WES / PC&CO Unit
William To – WES / PC&CO Unit

Meeting Notes:

J. E. Simpson, ERH Associates
Toronto WES / PC&CO

(audio recording & 1st version of Draft Summary Notes)
(editing, printing, distribution of final version Draft Summary Notes)

OPEN HOUSE #1

1. SYNOPSIS

The Hogg's Hollow Stormwater Management and Road Improvement Study is being conducted in response to the history of drainage problems, flooding and poor road conditions in the project Study Area during heavy rain fall events.

The purpose of the Study is:

"to determine the extent and causes of flooding within the Hogg's Hollow area, and define a program consisting of stormwater management, drainage and road improvement works to alleviate flooding."

The Study is being conducted under the Municipals Class Environmental Assessment Process as a Schedule 'B' project.

The Study will produce recommendations applicable to the Study Area on the preferred method(s) for addressing problems related to Stormwater, and on any needed alterations to the road infrastructure.

This Open House and Public Meeting event, the second to date for this project, was held to provide the public, members of the community and residents of the Study Area with information on, and receive their input concerning:

- The results to date of the field investigations;*
- Explanations of the results of flooding analyses, and the causes of flooding;*
- A presentation of the Long List of Alternative Solutions for resolving the flooding problem;*
- Evaluation factors (criteria) to use for the analyses of the Alternative Solutions.*

2. THE OPEN HOUSE and PUBLIC MEETING

The meeting room at the Agricola Finnish Lutheran Congregation facility was open to the public from about 6:30 p.m.

A series of display boards erected around the back end of the room provided information on the results of the field investigations into the causes of flooding in the Study Area, and possible mechanisms for addressing it. The mechanisms included a variety of road cross-section configurations, sewer system modifications the City could implement, and some measures that can be implemented by private property owners. Project consultants and City staff were on-hand to answer any questions from members of the public that arose in connection with the material on the display boards.

Ann Marie Weselan called the Public Meeting portion of the Open House to order at 7:35 p.m.

Ann Marie introduced herself, welcomed the members of the public and area residents who had turned out to the Open House, then attended to some housekeeping items. These included: the availability of refreshments in the reception area; the location of washroom facilities; advice regarding the printed meeting Agenda, additional information materials and comment forms available at the registration desk; and, reference to a Questionnaire distributed in connection with this meeting.

The intent of the Questionnaire (see: Attachment 'C') is to provide City staff and the consultants with input from area residents and members of the public into the next set of analyses and the preparations for the third Open House meeting. Attendees were requested to complete it over the course of this Open House and Public Meeting event and turn it in before they leave, if at all possible. If they were unable to do so, pre-addressed, postage-paid envelopes were available for them to return the questionnaire following tonight's meeting. Participants were asked to return the questionnaire no later than October 10, 2003.

Ann Marie advised the attendees that this Public Meeting would begin with a presentation by the consultants, and then proceed into a Question & Answer period. Attendees were asked to hold their questions until after the presentation, if possible.

Ann Marie then introduced the members of the Study project team and other City staff present:

- Samuel Jebakumar – City of Toronto, WES* / Technical Services (District 3),
and Project Manager
- Penelope Palmer – City of Toronto, WES / Transportation Services,
Infrastructure Planning
- Les Arishenkoff – City of Toronto, WES / Water & Wastewater Division,
Infrastructure Asset Management
- Uwe Mader – City of Toronto, WES / Technical Services Group,
Environmental Assessment & Policy Development
- Trevor Tenn – City of Toronto, WES / Transportations Services,
Road Operations (District 3)
- Brian Worsley – Aquafor Beech Limited
- Dave Maunder – Aquafor Beech Limited
- Jim Weir – Morrison Hershfield Ltd.

(Paul Clements and William Snodgrass were not present at the time of introduction.)

(* WES = Works and Emergency Services Department)

Brian Worsley used a PowerPoint presentation (**) to provide:

- An overview of the work performed to date;
- Information on the problems discovered to date;
- An overview of the proposed Alternative Solutions to address flooding, both in terms of actions the City can take in connection with the sewer system and roads, and those measures property owners could implement;
- Suggested Evaluation Criteria for selecting the preferred Alternative Solution(s);
- A request for feedback from the public, via the Questionnaire, as a means of input into further analyses and the evaluation of Alternative Solutions to be recommended;
- An outline of the “Next Steps” in the Study, including the analyses by the consultants towards determining the preferred Alternative Solutions, and the tentative schedule for the two future Open Houses.

(* * The slides for the PowerPoint presentation are reproduced in Attachment ‘B’)

Ann Marie Weselan facilitated a Q&A Session for the public to ask questions about the Study and the presentation, and provide feedback on the work done to date by the consultants.

A synopsis of the Q&A Session is provided in the next section of these Summary Notes.

The Q&A Session drew to a close at approximately 9:27 p.m.

Ann Marie Weselan thanked the members of the public for coming out to the meeting. She also encouraged them to make sure they had “signed in” at the Registration Desk, so they would be on the mailing list to receive a copy of the Summary Notes for this meeting, and to complete and return the Questionnaires (tonight if possible).

City staff and consultants on the project team were available for about another half-hour to provide members of the public with the opportunity to pose any additional questions they might have regarding the project, the presentation or the display boards set up at the back of the room.

###

3. SYNOPSIS OF COMMENTS/CONCERNS/QUESTIONS/SUGGESTIONS FROM THE PUBLIC

(●: Comment/Question; ◆: Responses from project team; ○: Responses/comment from public attendees)

- What do you mean by “flooding”?

- ◆ *There are two types of flooding in the Study Area. There is “surface flooding” – people may have pools of water in their front or back yard for long periods of time. There are also occurrences of “basement flooding” in about 20% of the houses within the Study Area. Typically, this is due to water coming into people’s basements via the sanitary sewer drain. We believe that storm-induced water flows in the sanitary sewer system are the cause of that basement flooding.*

Basement flooding can also occur when surface water enters through windows, door or cracks in the foundation, rather than due to water backing up from the sanitary sewer drain. Typically, this results either from water back ups in the storm sewers, due to high water levels in the river from storm conditions or, more often, from poor lot grading and landscaping that directs surface water flows towards the house rather than away from it.

A graphic (map) is provided in the display at the back of the room listing all instances for flooding identified from the City’s records and responses to questionnaires circulated in conjunction with Open House #1. The markers on the map are colour-coded to indicate the information source and whether the flooding is “surface” or “basement” in nature.

- What is the “water table”?

- ◆ *If you dig a hole in the ground, eventually you’ll hit a point where there is going to be water from there to the great depths. The surface of this water represents the water table.*

- If you lower the water table (e.g.: by constant pumping of water), won’t that do something to the homes?

- ◆ *The level of the water table in this area is not dictated on a house-by-house basis. We’re in the valley of the Don River, and water in the Don comes from the surrounding area over quite a distance. Particularly for houses close to the river, the water table is going to be high – at or near the water level in the river.*

- What is a “foundation drain”?

- ◆ *It is a drain pipe around the outside of the foundation of the house to drain away water that builds up and, essentially, stop it from coming into the house.*

- What is the difference between a “catch basin” and a “man hole”?

- ◆ *A “catch basin” is a chamber covered by a small grate such as you see along the side of the road. A “man hole” is a larger chamber (4 feet or more diameter; 6-8 feet deep), usually in or around the middle of the road, covered by a cast iron, circular lid 2-feet in diameter. That “catch basin” collects runoff locally and sends it through a small pipe to the “man hole”, which is in turn connected to the storm sewer.*

- What is a “swale”?

- ◆ *Essentially, a “swale” is a shallow ditch, 6 inches to a foot deep, running along side the road surface. It does not involve culverts running under the driveways; instead, catch basins are located in the swale that capture the water and direct it into a sewer system. The sewer ends up carrying all the water. The swales are grassed, not filled with gravel.*

- What happens if, over time, property owners perceive the swale to be part of their lawn and, for instance, just fill it in with dirt? Does the City enforce maintaining the swale?

- ◆ *Swales as part of a road cross-section are used in a number of areas throughout the City. In my experience, there has not been a need for the City to stop people from filling them in.*

One concern with swales and ditches from a maintenance point of view is that there is no curb to demark the edge of the roadway. During winter snow clearance, the plough operators have difficulty determining the edge of the paved portion of the roadway and may end up tearing up the grassed areas along side the asphalt.

- How many house are in the Study Area?

- ◆ *Approximately 400 houses in total.*

- What is the nature of the sewer system in this area? Do we have a sanitary sewer system and a storm sewer system?
 - ◆ *Currently, there is a sanitary sewer system only, which takes the sewage wastes away. However, as most of the houses in the Study Area were built prior to the 1960s, their foundation drains are also connected to the sanitary sewer since that was the policy in effect up until that time. That is not allowed in houses today.*
 - The foundation drain serves to drain away water in the ground around the building foundations that would otherwise build up, exert pressure, and crack or damage the basement floor. As a result of the foundation drains being connected to the sanitary sewer, there is substantially increased flow in the sanitary sewer during heavy rainfall events due to the rise in the water table.*
- Is the area water table at the level of the Don River?
 - ◆ *Plus or minus a bit. The actual level varies according to the types of soil in an area and a variety of other factors. It will typically be somewhat higher than the river because the water is flowing down to the river.*
- Is it true that the main sanitary sewer runs under the Don River?
 - ◆ *Yes. The main trunk sewer into which the local sewers feed runs down the Don Valley.*
- If your house backs onto the river, would you be connected straight into that main trunk?
 - ◆ *No, you would be connected to one of the local sewers, due to the depth of the main sewer.*
- Is the storm runoff from the Study Area only reaching the river along surface of the streets?
 - ◆ *There are three small stormwater sewers in the area; one on Plymbridge Crescent, and two on the other side of the river. St. Margaret's Drive has an "informal" system – a "piped ditch."*
- Is it only those houses connected to the sewer that have the problem with water backing up?
 - ◆ *All houses are connected to the sanitary sewer system. Some homes are connected to the storm sewer as well. The water that backs up into the basement comes from the sanitary sewer.*
- The water doesn't back up into the basement through the sump pump?
 - ◆ *Very few homes in the area have sump pumps. The backup first appears at the floor drain in the basement. If you have some sort of "backup preventer" installed in the floor drain, then it may appear in other fixtures in the basement connected to the sanitary system (sinks, toilets).*
 - Even if you have no floor drains or fixtures in the basement, there can be problems. If the water in the foundation drains cannot flow into the sanitary sewer (because it is full) it will build up under the basement floor. When the water level reaches about 6 inches to a foot above the basement floor, the pressure will break through the concrete pad and the water will flow into the basement.*
- Where do the sewage flows in the sanitary sewer from this area go?
 - ◆ *Ashbridges Bay Treatment Plant.*
- Aren't many of the sewage treatment plants at, or near, the maximum capacity they can process?
 - ◆ *The Alternative Solution of installing a larger sanitary sewer, shown in the displays at the rear of the room and during the presentation, is included because it is, technically, one possible way to address the flooding in the Study Area. However, that Alternative just shifts the problem elsewhere. When the treatment plants receive excessive flows during significant rainfall events (due to the amount of stormwater in the sewage flows), that increases the frequency of overflows at those plants, and that leads to more pollution.*
- Is downspout disconnection mandatory in the City?
 - ◆ *It is voluntary at this time, unless your downspouts are connected into the sanitary sewer system.*
- Does a storm sewer feed into the river, or connect to somewhere else?
 - ◆ *Ultimately, the storm sewers feed into some body of water – the river or Lake Ontario. In this area, they go into the Don River, taking the shortest route possible. The connection is made through City-owned property - a right-of-way or an easement.*

- I've heard that runoff water going into rivers lowers the water quality. Doesn't it make sense to look at mitigating the quality of the storm runoff water before it goes into the river?
 - ◆ *Yes. Just taking the water and routing it directly to the river is not conducive to water quality. That is the reason infiltration measures were mentioned a number of times as an alternative to piping water straight into the river. A number of options are available to private landowners including: rain barrels, rain gardens, soakaway pits, and so forth. A variety of options are also available to use in the sewer infrastructure including pervious pipes and pervious catch basins, whereby we're taking water from the road and putting it into the ground. A determining factor for what measures can be used is the nature of the local soils. There are areas in the Study Area with silty soils that are not conducive to infiltration of water. In some areas, though, there are underlying sandy layers where water can be infiltrated.*
- Have your investigations and analyses to date yielded an indication of what needs to be done to address the flooding problem?
 - ◆ *We have determined the nature of the problem – existing systems in the Study Area do not have sufficient capacity to handle the stormwater – and we have identified a number of possible Solutions. Now, we need input from the public on what Solutions to explore further, design and implement.*
- Will the consultants be deciding on the “best solution” for each street?
 - ◆ *We will try to develop three appropriate, technically feasible Solutions for each street, and bring that information, along with cost of implementing them, to the next meeting for review, and selection, by the residents.*
- You mentioned that you would be coming back to us at the next meeting with information, including costs, on possible solutions. Why should we be concerned about the costs? Isn't the important issue one of implementing the Solution that will best address the problem?
 - ◆ *The Environmental Assessment process requires that cost be a factor in choosing the Preferred Alternative (under the Social/Economic factors category).*
- I am so glad to see what you are doing. Finally, we're getting some attention to the flooding problem in this area. The whole city knows that this is one of the worst areas in the city as far as road conditions, and flooding is part of it because of our location. I want to commend the team for doing an excellent job ... and the sooner the better!!
 - ◆ *We're always glad to hear citizen support.*
- Most of the homes around here are older – built in the 1950s. Would they have foundation drains?
 - ◆ *Most of them have foundation drains, and the drain would be connected to the sanitary sewer. Some of the houses in the Study Area were built prior to installation of the sanitary sewer system, and used septic systems instead. As far as is known, there are no longer any houses still using septic systems within the Hogg's Hollow area; they are all connected to the sanitary sewer.*
- What would be the width of a roadway constructed according to the “Rural Section” design?
 - ◆ *The “Rural Section” would require essentially the whole width of the road right-of-way – approximately 20 metres (66 feet). Most of the other “Section” designs can be implemented in a width of approximately 7.2 metres (23.6 feet).*
- Storm sewers and sanitary sewers are the same thing?
 - ◆ *No, they are two separate things. It is an anachronism that foundation drains in this area are connected to the sanitary drains.*
- Foundations drains cannot be the problem. I have my foundation drain disconnected. I have a sump pump that drains the ground under my basement, so I can see what is happening. During the heavy rains, there was not a significant amount of water drawn out by the sump pump.
 - ◆ *There is significant variation from place to place within the Study Area in terms of the soils and the local water table levels. Graphics (maps) in the display area at the back of the room show the soil types and water table levels in the Study Area. Where the water table is high, there is a significant amount of water going into the sanitary sewer from the foundation drains even when it has not rained heavily.*

There are two primary situations that lead to basement flooding.

Firstly, in a lot of areas in the Study Area, when it rains, water goes down the outside of the basement wall and into the foundation drain. The water tries to go out to the sanitary sewer but it is already full. Therefore, the water from the foundation drains backs up your sanitary drain into your basement.

Secondly, a number of the streets in the Study Area have insufficient capacity to carry away surface water during rainstorms. The water builds up on the street, and then enters the sanitary sewer through the openings in the manhole covers, further increasing the amount of water in the sewer. One way to address this is putting a storm sewer on the street to carry away some of the surface water, thereby avoiding it getting into the sanitary sewers via the manholes.

- If any of your Solutions dramatically lower the water table, would it not also lower the homes?
 - ◆ *Nothing we would, or could, do would lower the water table – Hogg’s Hollow is “a ‘dot’ in the big picture” of what affects the water table level in the Study Area. As well, all new homes are built such that the water table is below the bottom of the foundation.*
- There is no storm sewer on our street, but there seems to be a pipe from the catch basins to the river.
 - ◆ *This is “an exception to the norm”; It was installed by the City’s maintenance department, to try to do something with the water that is flowing down your street.*
- What is the required frequency of maintenance on a Goss Trap?
 - ◆ *A Goss Trap is a device installed on the pipe exiting a catch basin to capture oil [washed off the surface of the roadway] and stop it from getting into the groundwater. The catch basins typically need to be maintained twice per year.*
[see: <www.ene.gov.on.ca/envision/env_reg/er/documents/stormwatermanual/sec_4.pdf> Fig. 4.15 on pg. 4-48]
- Are blockages in the sewer system indicative of a lack of sufficient or proper maintenance?
 - ◆ *The data for the Study Area indicates that more maintenance (clean outs) is performed here than is usual for the rest of the City. The blockages are more likely to be due to the large number of construction projects going on here, and insufficient control over dirt, silt and debris running off from those sites (versus what would typically be the case during construction of a large sub-division). The unfortunate reality is that the City’s building inspectors have a large number of projects for which they are responsible at any given time. This means they cannot be continuously on-site to “police” such practices. Their primary responsibility is ensuring adherence to the Ontario Building Code.*
- A few years ago, you redid the upper end of Donwoods Drive. You put in new sewers and new roads. How is that working out?
 - ◆ *The storm sewers built there lead to a soakaway pit system, not an outlet to the Don River. It gets rid of a certain amount of water, but if it rains hard enough ...*
- Would installation of a storm sewer necessarily entail the addition of curbs?
 - ◆ *Not necessarily. It depends, to an extent, on the road cross-section implemented. That is actually a discussion item for the next Open House and Public Meeting. Providing for more storage of water on the road may require the use of curbs. An alternative is to put a storm sewer under the road and direct the water there.*
Based on feedback from the public – on the questionnaires and from this meeting tonight – we can prepare some alternative options for review and approval by the residents.
- As a long-time resident on Knightswood Road, I don’t want to 6-inch curbs running down both sides!
 - ◆ *The requirement for curbs, if any, depends on the road cross-section chosen, and the amount of storm water that would be stored on the surface of the road.*
For instance, the “rural” cross-section with swales could be used instead, though it has impacts in terms of how much of the public roadway is required and potential impacts on tree and landscaping currently in place.
We want to develop information on the alternative designs, including their cost, and bring that information back to the residents for review.

- The “rural” road section is not the answer. From thirty years of observation, I know that the pipe under the driveway [culvert] continuously gets blocked, and it is just a bloody nuisance to keep cleaning it out.
 - ◆ *I suspect the City’s maintenance staff would not disagree with you.*
- Doesn’t the “reverse crown” road section cause problems with traffic – the slant to the road surface is the opposite of what people are accustomed to.
 - ◆ *The slope is not as drastic as that on a road with a crown in the center. It is just enough to bring stormwater into the center of the road.*
- If you’re planning to do renovations to your landscaping or driveway, who should you contact to get an idea on the City’s schedule in order to coordinate that work rather than having to re-do it?
 - ◆ *A lot of the streets will be done over a long period of time, so we don’t know when a particular street will be done. When the City comes in to do construction and that affects your driveway, the City will repair it as needed at no cost to the homeowner. A “priority list” for the work on this Study should be available by January.*
- Are houses allowed to pump water [from a sump pump] into the sewer “24 hours a day”?
 - ◆ *In the area of Maytree Road, the water table is very high. Chances are that the permanent water table is above the bottom of the house. If they have dug down below the water table, they’re going to be pumping all the time. There is no City prohibition against that.*
- Why should the taxpayers of Toronto be paying for drainage and stormwater control measures at the development at the old School Board site along Campbell Crescent where 5 condominium buildings are to be built by Urban Core Development? My lawyer at the OMB hearing into this matter told me, “Don’t worry about the drainage on the site. The City is looking after it.” They (the developers) should be looking after their own problems.
 - ◆ *There is no representative from the City’s Planning at tonight’s meeting. Speak to us after the meeting and we may be able to put you in touch with someone in that department who could better answer your question. Typically a proposed development is reviewed by City staff and either conditions are imposed on the developer that address possible problems, or the developer is required to pay money to the City (development fees) towards the cost of changes to the local infrastructure, or both. The comment that, “[t]he City is looking after it” could possibly refer to this.*
 - *A member of the public opined that perhaps the “City is looking after it” comment by the lawyer is a reference to the ‘In Lieu Of’ provisions in the City’s process for reviewing development proposals.*
 - *I will speak to you after the meeting, as you suggest, but I would like an answer in writing.*
- There has, for many years, been a very serious ponding problem on Knightswood Road. It is unsightly, and likely a health hazard due to breeding habitat for mosquitoes and other pond life. Recently, construction work in the area has greatly exacerbated the situation. Can anything be done about this?
 - ◆ *The results of another City study, the Site Plan Control Programme Study, should address that problem, but it may unfortunately take time to resolve that situation.*
- Doesn’t the “reverse crown” design present problems in winter when there is a quick freeze/thaw cycle and you end up with a patch of ice in the middle of the road?
 - ◆ *We haven’t used this design much in the former North York, but there haven’t been many problems. This road design is fairly flat and should not lead to problems unless there is a very quick thaw/freeze cycle. However even designs with catch basins at the side of the road can have problems in that situation. Each design has ‘pros’ and ‘cons’ from a maintenance point of view.*
- In the “reverse crown” cross-section, what is the approximate difference in height between the center of the road and the edge of the road?
 - ◆ *Three inches (76 mm.), plus the height of the curbs (if any).*

- I don't think the "reverse crown" cross-section is permitted under provincial law. It poses maintenance problems, and the potential for water collecting in the middle of the road raises traffic safety issues.
 - ◆ *We're dealing mostly here with low speed traffic, not provincial roadways. Any maintenance with other road cross-sections would be transferred to the center of the road. It is definitely something we have to be aware of.*
- Are you going to be providing us with information on just where street widening may be required?
 - ◆ *We have road cross-sections for the area in 100-meter segments, so that information is currently available (subject to the road cross-section that will be chosen for a given stretch of road). Sometimes, the existing roadway meets the 7.2 metre minimum width policy.*
- What provisions, or prohibitions, will there be for parking at the side of roads after they are rebuilt?
 - ◆ *The City policy is that parking is generally permitted on residential streets except where it is signed as "No Parking." Exceptions to that 'rule' are any areas where, by by-law, parking is permitted only during certain hours, or during snow clearance emergencies.*
- It seems the consultants and staff are uncertain about when the road work proposed by the Study will be done – "15 years"; "10 years"; "???" We have the flooding problems NOW. Is there something residents can do to speed up the process?
 - ◆ *The process is that the consultants develop a plan that is then reviewed and considered as part of the City's Asset Management Planning process, to determine when funds would be available to implement it. Generally, problem areas get funding first.*
In my experience, the best way to ensure fastest consideration by the City for doing the work is for residents to speak to their area City Councillor.
- Would the engineers be available to meet with the residents on a street to discuss the Solutions most applicable, and best suited, to their particular area?
 - ◆ *For Open House #3, we plan to have a plenary session to present the information developed by that time, then break the attendees out into smaller groups, one for each of 8-10 areas in the Study Area, to have further discussions.*
If after that Open House, the residents of a particular street want further information, we can look at scheduling a meeting with them.
- Isn't the questionnaire misleading in that the "Do Nothing" option is mentioned repeatedly? It is nice that you ask for our input, but, realistically, is it an option, and if so, where?
 - ◆ *The "Do Nothing" option is mandatory under the Environmental Assessment process. Where there is flooding, we would not recommend it.*
- As a resident, I would recommend that you either identify the roads where it is applicable, or take it off the table. Otherwise, it will possibly either delay finding a solution, or cause hard feelings amongst the neighbours on a given street.
 - ◆ *We will make recommendations on what should be done within the Study Area, and the prioritized order for doing it. The decision on when the monies are available to actually do the work is beyond the control of anyone in this room. The areas with flooding will probably be done first. Beyond that, the majority of the roads would need to be re-paved, and that would likely be coordinated with the City's maintenance department's schedule for work not associated with flooding.*
- You said that it is not a matter of "one size fits all" as far as the Solutions that will be implemented, and that "do nothing" is one of the options. The primary goal seems to be getting storm sewers running through the neighbourhood. What do you do if one street says, "Yes [to installing a storm sewer]" and another street says, "No."? How do you connect the first street's storm sewer to bypass the street that doesn't want one?
 - ◆ *Our primary goal is to get some stormwater conveyance throughout the Study Area. Whether that is done with a storm sewer, or with a "rural" road section and ditches, in a particular street doesn't make that much difference. Obviously there are different implications to each Alternative Solution.*
A large part of the purpose of doing this Study is developing an overall solution where the components parts that may be desired or selected for each particular local area fit together.

- ◆ *The approach of “not doing ‘one size fits all’”. The solution implemented on one street will not necessarily be implemented on other streets. The solution implemented is subject to resident approval, however a solution would not be implemented on one street if the downstream street(s) were not also being dealt with.*

Knightswood Road provides a good example of what we want to try to emphasize tonight. When a “10-year storm” occurs, there is a flow of approximately 1.4 cubic metres (49.4 cuft) per second of water running down the street. The capacity to carry off water in that area is less than 1/10 cubic meter per second. So, the water is either going to spill over onto private property and get into the homes, or it is going to get into the sanitary sewer system and cause basement flooding. There are two basic ways we can improve the capacity for handling that water. One is installing a storm sewer to convey the water under the ground. The other is that of investigating alternative road cross-sections.

We want input from the residents in that area regarding which cross-sections to consider.

- Are the Questionnaires being sent out to people who did not attend this meeting? It would be meaningless to do so - especially the road cross-sections question without pictures. I assume you want meaningful, informed input into this process.

People are afraid of change. The Questionnaire, sent without additional information, is useless. If you ask them if they want curbs or sidewalks, they'll just say, “No, no, no.” You have to tell them what the problems are, and give them an explanation of the nature and benefits of each of the possible solutions.

- ◆ *If we were to consider sending the questionnaire out we would investigate putting the diagrammes and pictures up on the City’s web-site. The breakout groups at the next Open House should help explain [the nature and benefits] as well. If people on a street still want to meet with the engineers, we can look at that too.*
- We need a list for each street of the applicable, practical, common sense, feasible engineering solutions for each street, not just a big long generic list.
 - ◆ *On some streets all 5 proposed Solutions are feasible; on others, only two or three of them. For Open House #3, we will be preparing a list of 3 applicable, technically feasible Alternative Solutions for each street. There is no simple way to determine the “best” Solution in each case. That is why we need input from you, the residents, on which criteria for evaluating the Solutions are most important to you.*
- Are answers to the Questionnaires being interpreted based on the street we live on?
 - ◆ Yes.
- Item #4 in the Questionnaire asks for our feedback on preferences for road cross-sections, but provides no information on the technical ‘pros’ and ‘cons’ of each design. It seems we are to pick them based solely on esthetics.
 - ◆ *The residents’ feedback on the esthetic value of the road designs is an important part of determining the preferred design.* [The consultants used slides from the PowerPoint presentation to show each road cross-section referred to in the Questionnaire, and describe the technical merits/drawbacks of each in terms of stormwater management issues. See: Attachment ‘B’, pp. B-26 to B-28]
- Which road cross-section does the least amount of damage to trees along the sides of the roads? What, over all, are the key characteristics of the various cross-sections?
 - ◆ *Basically, those options that don’t incorporate a ditch or swale have the least impact on trees.*

In general, the relevant characteristics of the cross-sections are as follows:

“A - Rural Section Roadway with ditches and culverts”:

This option has the most effect on landscape plantings outside the roadway.

“B - Modified Rural Section with rolled curbs, swale, ditch inlet catch basins”:

This option has the second most impact on roadside landscaping: the swale is a small ditch.

“C - Reverse-crown without curb, with catch basins along the centre line, and storm sewer”:

That design would have an effect on trees and landscaping only up to the edge of the roadway, unless we’re changing the grade of the road. It handles less stormwater than the

other designs. There may be some safety issues with the potential for water collecting at the middle of the road. It has lower impact on existing landscaping and trees alongside the road than 'A' or 'B'.

"D - Reverse-crown with shallow curb, catch basins along the centre line, and storm sewer":
Similar to 'C'. It handles less stormwater than 'C' due to the lower curbs.

"E - Conventional curb and gutter roadway":
Might not be usable in an area that is really flat – it is difficult to add a 6-inch curb to the edge of the road and still have front lawns drain onto it, unless you lower the road. It has lower impact on existing landscaping and trees alongside the road than 'A' or 'B'.

"F - Shallow curb and gutter roadway":
Similar to 'E' but with less capacity to hold stormwater, and less problems with drainage from front lawns since the curbs are lower.

Options 'D', 'E', and 'F' may involve widening of the roadway where the current road surface is less than the City's minimum requirement of 7.2 metres (23.6 feet).

- In item #6 on the Questionnaire, is "traffic safety" a 'code word' for 'sidewalks'? Does "traffic calming" mean "bumps in the road"?
 - ◆ Sidewalks are an issue with traffic safety, but not the only one. Note that you can add comments to better explain what you means by the answers you provide.
"Bumps" or "humps" are one aspect that we will be looking but, but "traffic calming" does not necessarily mean those features. There are a number of ways to achieve it.
- Is there still a "political rule" in effect in the City that you cannot have curbs installed on a street without also having sidewalks?
 - ◆ The City's policy is that streets where there are curbs shall have a sidewalk on at least one side of the roadway, unless the local area residents living along the road petition their Councillor that there be no sidewalks constructed on their street.
 - ◆ Please provide more detailed information at the next Open House meeting, in writing, on this policy and the petitioning process.
- What level of detail will you be providing in the information forthcoming at Open House #3?
 - ◆ We hope to prepare information showing the widths of roadways and their "fit" within the right-of-way, as well as a refined list of which options [Alternative Solutions] are appropriate and feasible in each sub-area within the Study Area. We won't be preparing road profiles, but can prepare detailed samples of the road cross-sections most likely to be used.
- Thank you all [staff and consultants] for your wonderful work!

--- ATTACHMENTS ---

- A. – **Announcement/Notice for Open House #2 (25 September, 2003)**

- B. – ***“STORMWATER MANAGEMENT AND ROAD IMPROVEMENT STUDY
FOR THE HOGG’S HOLLOW AREA”***
(Brian Worsley, Aquafor Beech Limited; PowerPoint presentation)

- C. – **Questionnaire**



Agenda
**Hogg's Hollow Stormwater Management &
Road Improvement Study**
Class Environmental Assessment
2nd Open House & Public Meeting
Thursday, September 25, 200
Agricola Finnish Lutheran Congregation
25 Old York Mills Road

6:30 – 7:30

Viewing of Displays and Questions for Staff/Consultants

Public Meeting

7:30 – 9:00

Welcome & Introduction of Project Team Members

Ann Marie Weselan
City of Toronto

Status of Hogg's Hollow Stormwater Management & Road
Improvement Study - Class Environmental Assessment

Brian Worsley
Aquafor Beech Limited

- Results of Questionnaire & Field Investigations
- Causes of Flooding
- Review of Long List of Alternatives
- Review of Evaluation Factors
- Next Steps

Questions & Comments for Project Team Members

9:00 - 9:30

Viewing of Displays and Questions for Staff/Consultants

IF POSSIBLE, PLEASE COMPLETE THE QUESTIONNAIRE BEFORE LEAVING THE MEETING

STORMWATER MANAGEMENT AND
ROAD IMPROVEMENT STUDY FOR THE
HOGG'S HOLLOW AREA

SECOND OPEN HOUSE AND PUBLIC
MEETING
25 SEPTEMBER 2003

STUDY AREA



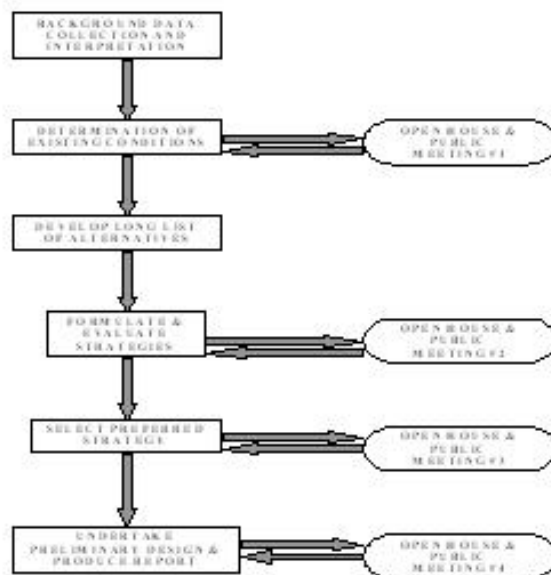
STUDY PURPOSE

- **To determine the extent and causes of flooding within the Hogg's Hollow area, and to define a program consisting of stormwater management, drainage and road improvement works to alleviate flooding**

Study Process

HOGG'S HOLLOW STORMWATER MANAGEMENT AND ROAD IMPROVEMENT STUDY

A Study Being Undertaken by the City of Toronto
under the Municipal Class Environmental Assessment Planning and Design Process



OBJECTIVES OF TODAY'S MEETING

- Present results of field investigations
- Explain results of flooding analysis / causes of flooding
- Present Long List of Alternative Solutions
- Review the evaluation factors for the analysis of alternative solutions
- Obtain Public Input

Field Investigations

- Topographic Survey
- Dye Testing Program Results
- Closed Circuit Television (CCTV) Inspection Summary
- Soil Permeability Synopsis
- Sanitary Sewer Flow Monitoring
- Tree Inventory

Field Investigations

Topographic Survey

- Approximately 15 km of road surveyed
- Sections taken ~ 100 metres
- Manhole and Catch basin locations & elevations confirmed
- Roadway hydraulic capacity data determined

Field Investigations

Dye Testing Program - Statistics

- 82 Sanitary & 23 Storm Manholes and associated sewers were tested
- 86 Catch basins were tested
- 256 houses with downspouts into ground were tested
- 7 Houses where permission to test still being sought

Field Investigations

Dye Testing Program - Results

- **No cross connections found between storm and sanitary sewer systems**
- **Lifting eyes on 75 Manholes plugged to reduce extraneous sanitary flow**
- **6 downspouts, 3 area drains, 2 backyard catch basins, 1 stairwell drain found connected to sanitary**

Field Investigations

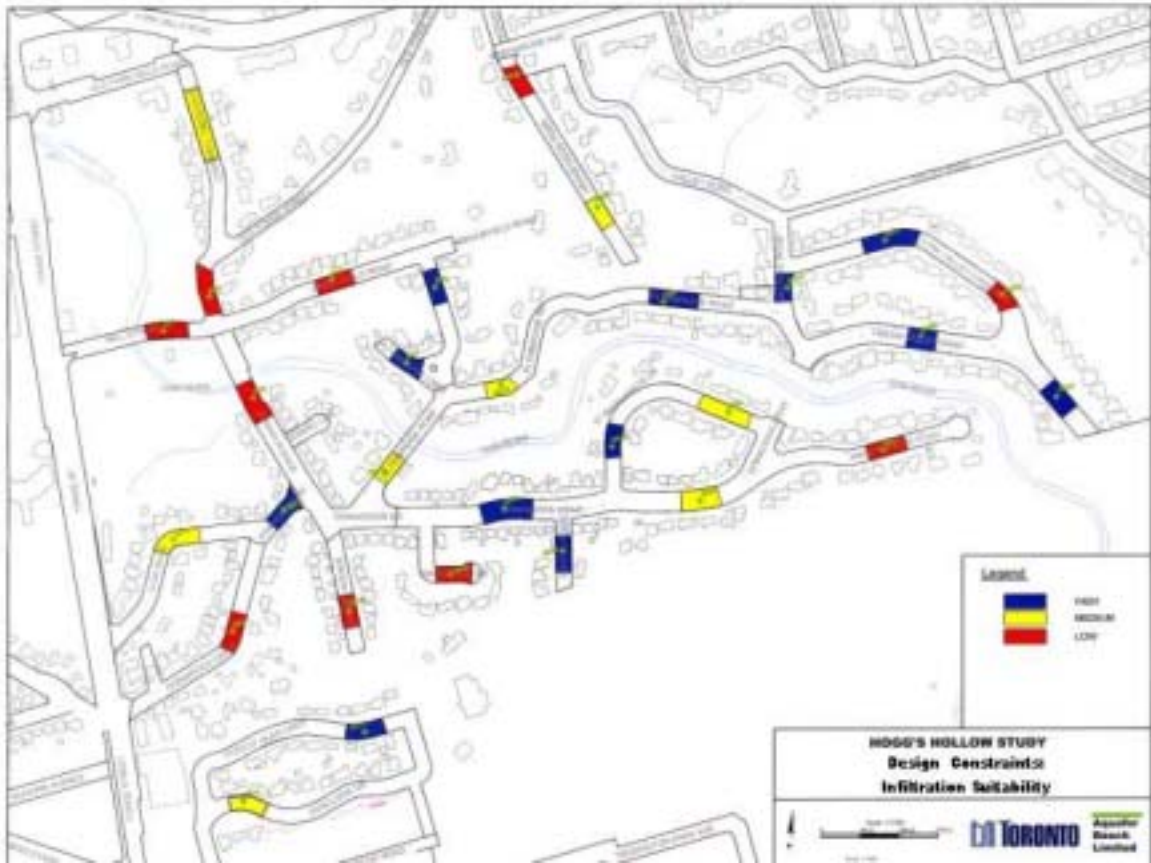
CCTV Inspection Program

- **Video taken of all Municipal Sanitary & Storm Sewers to determine internal condition**
- **Location & extent of flow impediments (construction debris) roots & scale plotted**
- **High Pressure jetting (sewer cleaning) to remove flow impediments initiated**

Field Investigations

Soil Permeability

- Network of 28 boreholes drilled to determine subsurface soil conditions
- Soil permeability assessed based upon grain size distribution and water table level
- Infiltration potential ranked based upon soil permeability and proximity of water table to surface



Field Investigations

Sanitary Sewer Monitoring

- **Sanitary Sewer Flow monitors installed on Knightswood Road and Campbell Crescent**
- **Sanitary flow patterns compared with rainfall data from a rain gauge installed at the TTC station**
- **Insufficient rainfall / flow observed to-date to correlate rainfall with extraneous sanitary flow**



Field Investigations

Tree Inventory

- **Trees located within the Municipal Road Allowance (Right of Way) were inventoried as to**
 - **Species**
 - **Girth / diameter**
 - **General Health**
 - **Approximate Age**

Causes of Flooding / Results of Flooding Analysis

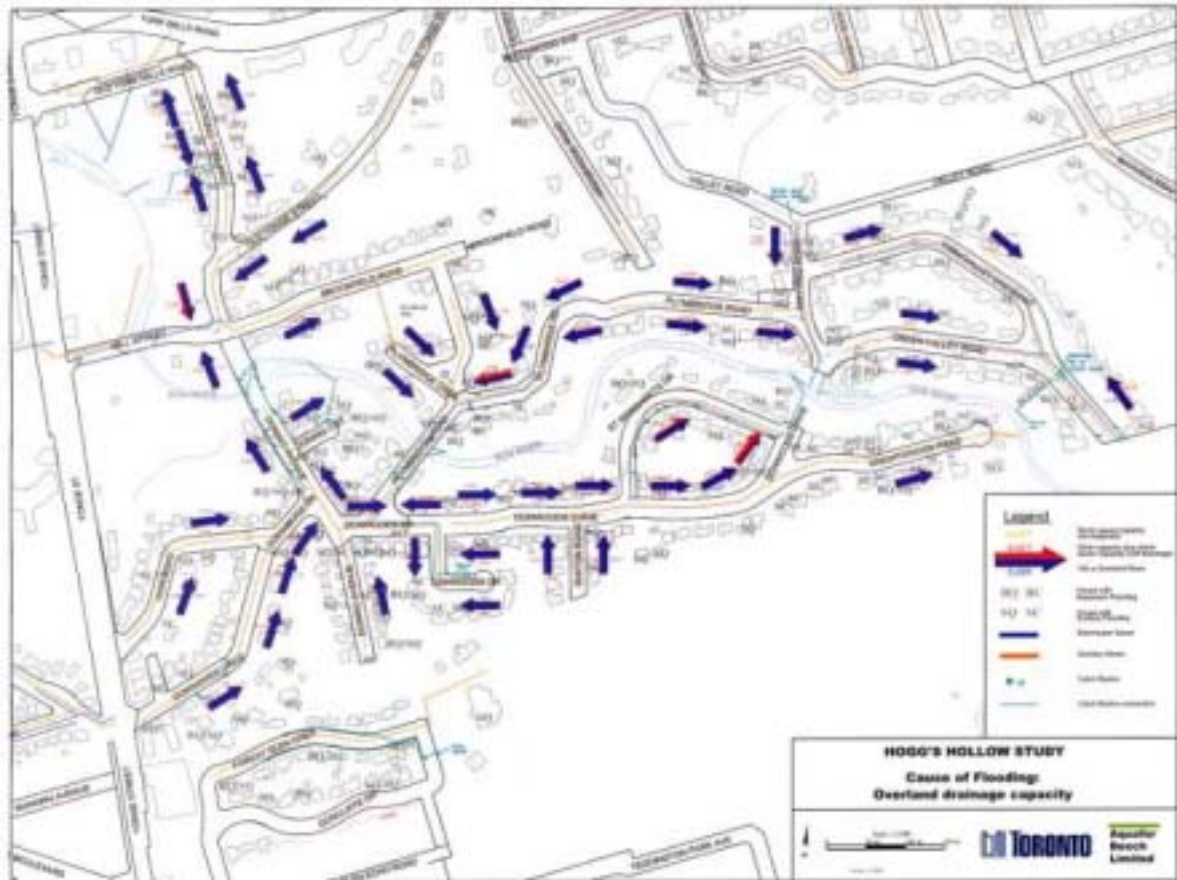
-based on questionnaire results & field investigations-

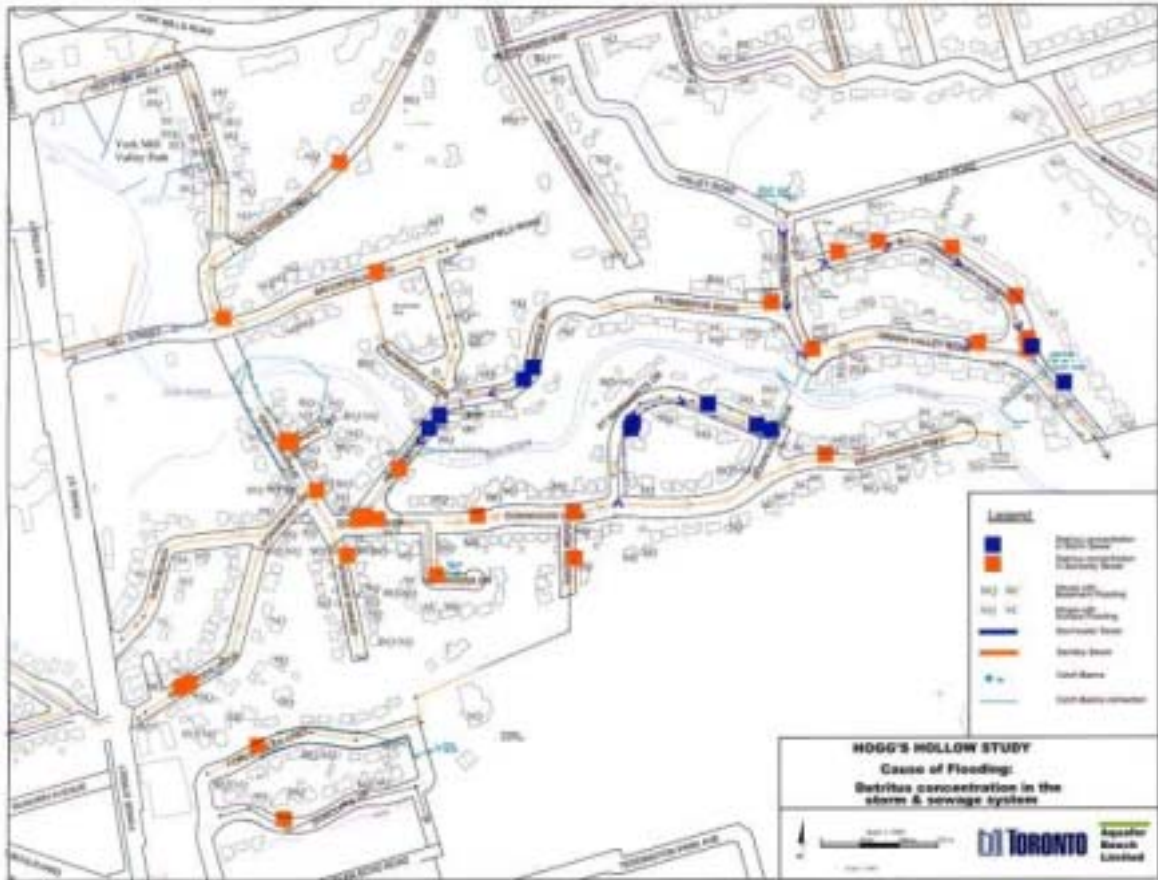
- **Storm induced runoff exceeds Storm Sewer, Ditch and Roadway capacity**
- **Storm induced sanitary flow (extraneous flow from illegal connections, inflow through manhole covers and foundation drainage) exceeds sanitary sewer capacity**
- **High River levels inundate low lying properties, and back up storm sewers**
- **Inappropriate Lot grading fails to direct runoff away from foundation walls windows and doors**
- **Foundation drain connections surcharge sanitary sewers & flood basements**

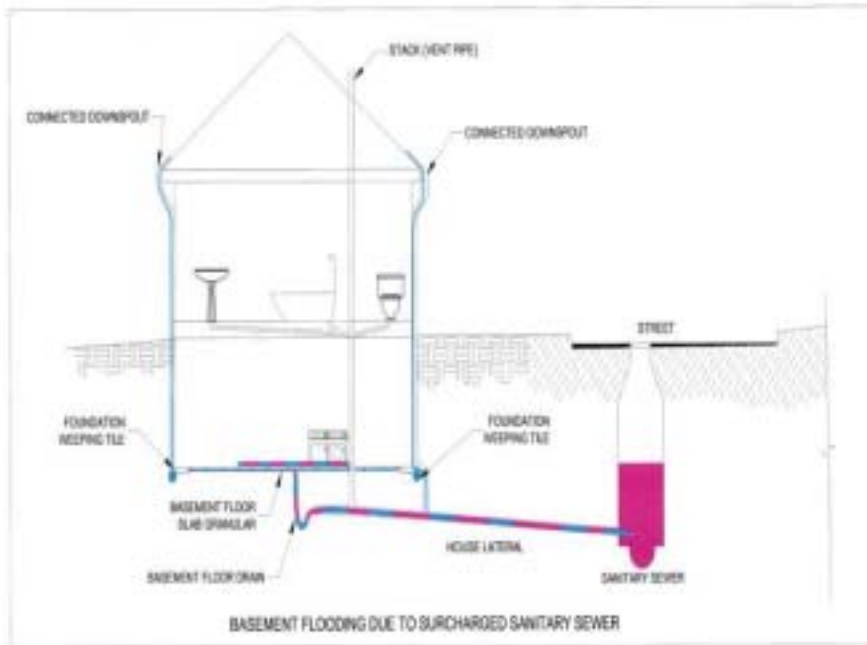
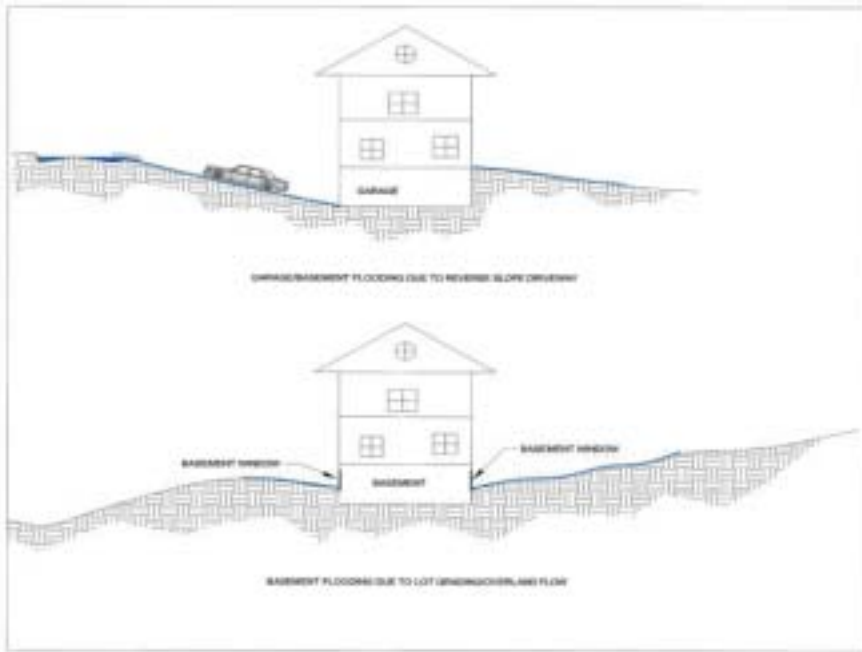
Causes of Flooding

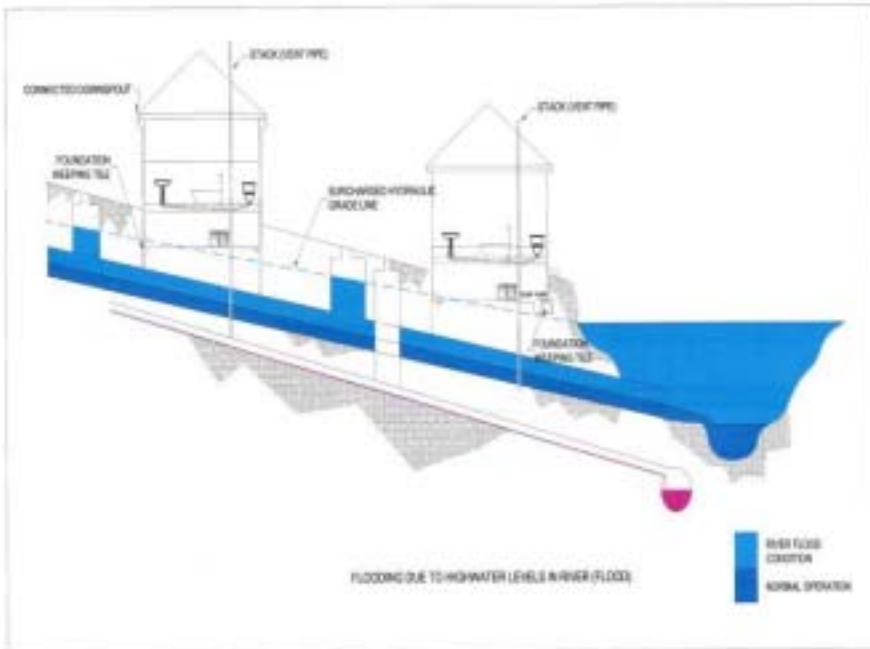
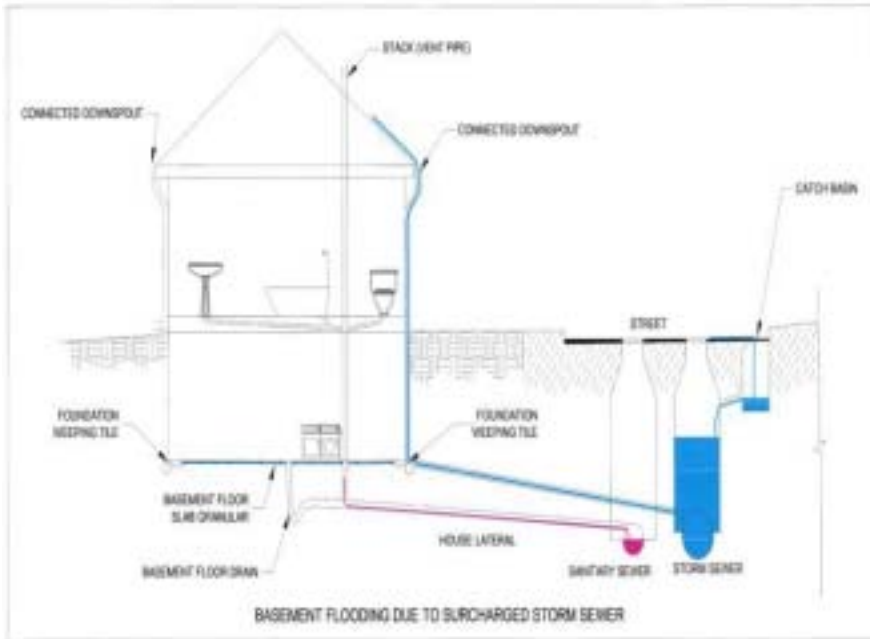
Runoff versus Capacity

- **Hydrologic modeling undertaken to determine flows**
- **Overland (road and ditch capacity) determined based upon topographic survey**
- **Storm sewer capacity determined based upon City records, topographic survey & CCTV inspection**









Alternative Flooding Solutions

in accordance with the Wet Weather Flow Management Master Plan

- **Enhanced Operational Maintenance**
- **Source Controls – *Non Structural***
- **Source Controls – *Structural***
- **Conveyance Controls - *Sanitary***
- **Conveyance Controls – *Roadway***
- **Conveyance Controls – *Storm***
- **Conveyance Controls – *Infiltration***
- **End of Pipe**

Alternative Flooding Solutions

Enhanced Operational Maintenance



Alternative Flooding Solutions

Source Controls – Non Structural

- Downspouts to Rain Barrel
- Disconnect Downspouts from Storm Sewer
- Additional trees shrubs / rain garden

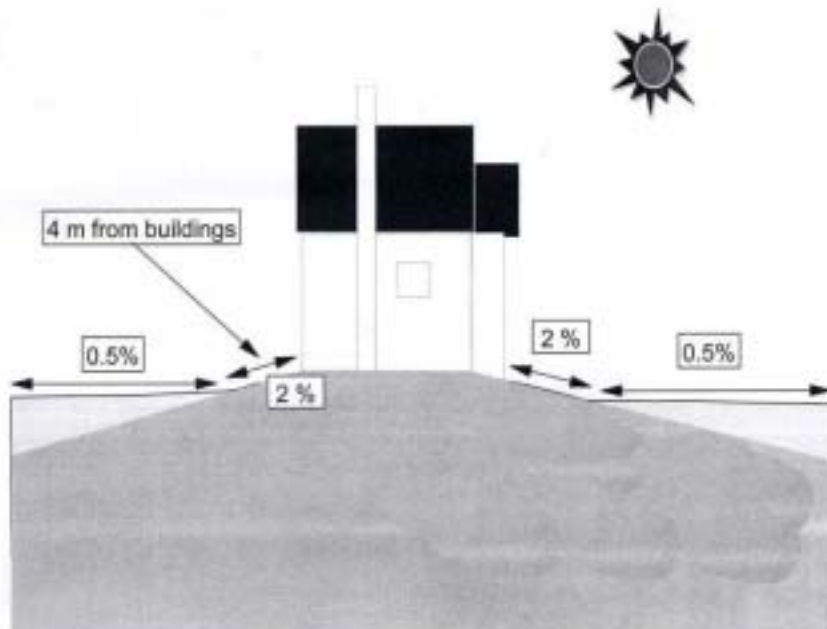


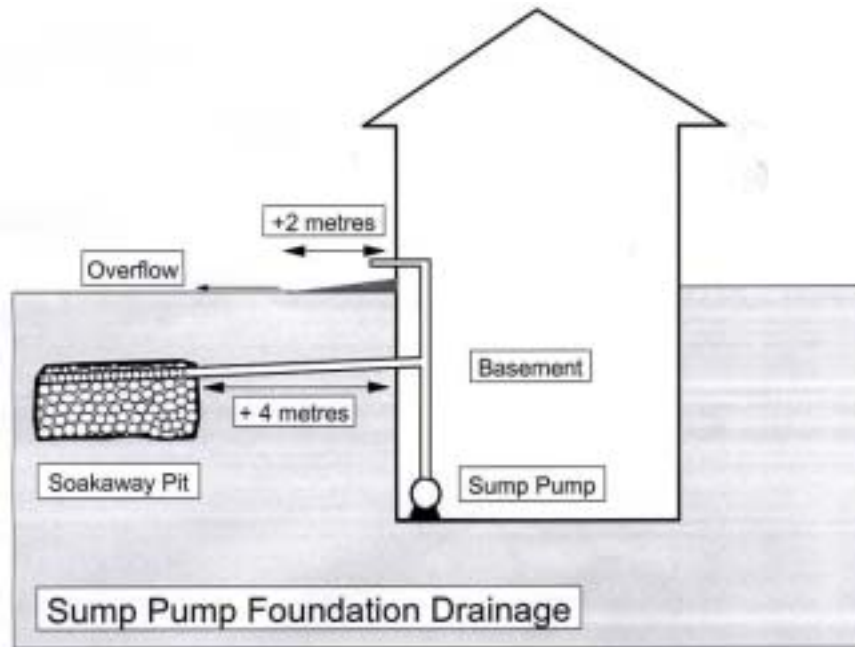


Alternative Flooding Solutions

Source Controls – Structural

- Improved Lot Grading
- Route Foundation Drains to Sump Pump
- Install Sanitary Sewer Backflow Preventer
- Replace impermeable surfaces with porous ones
- Soakaway Pits







Alternative Flooding Solutions

Conveyance Controls – Structural

- **Alter Roadway Cross Section**
- **Upsize sanitary sewer**
- **Install / upsize conventional Storm sewers**
- **Install Storm Storage Tanks**
- **Install Infiltration Pipes / Tanks**

CONCRETE CURB & GUTTER WITH CATCHBASINS



Before



After

SHALLOW CURB & GUTTER WITH CATCHBASINS



Before



After

Modified Rural Section
NO CURB WITH CATCHBASINS IN
SWALES



Before



After

REVERSE CROWN
WITH NO CURB



Before



After

REVERSE CROWN WITH SHALLOW CURB & GUTTER



Before



After

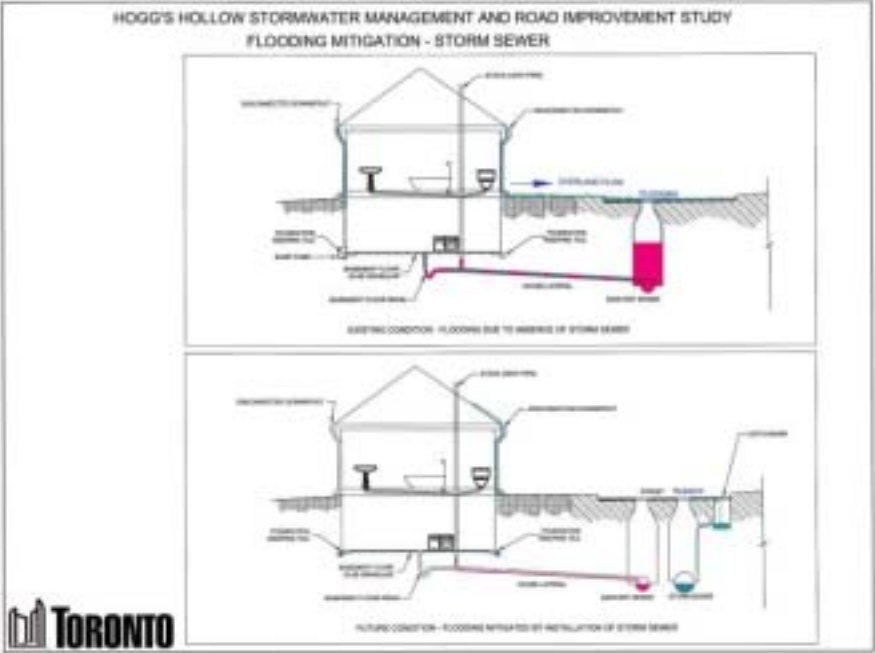
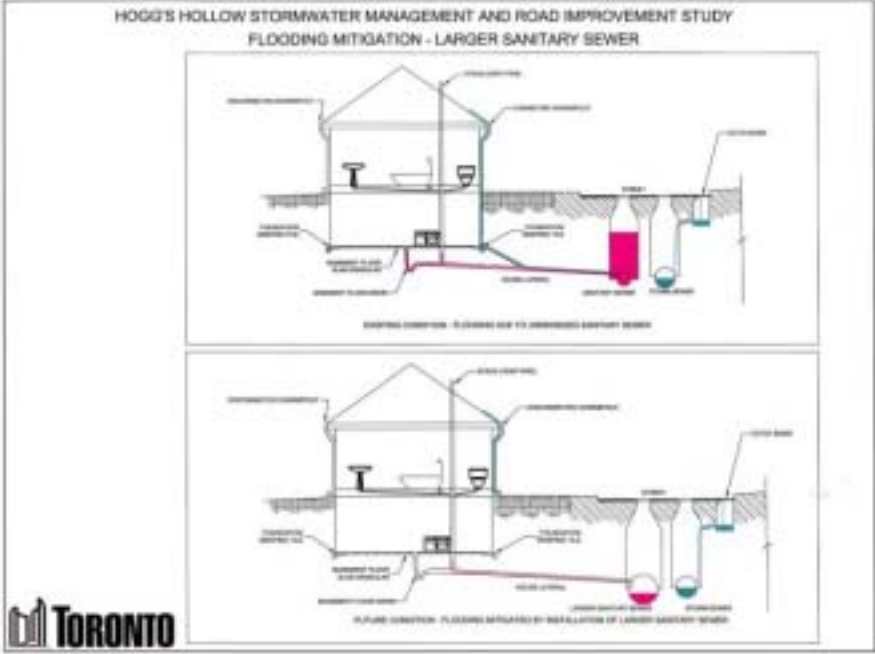
Rural Section NO CURB WITH DITCHES



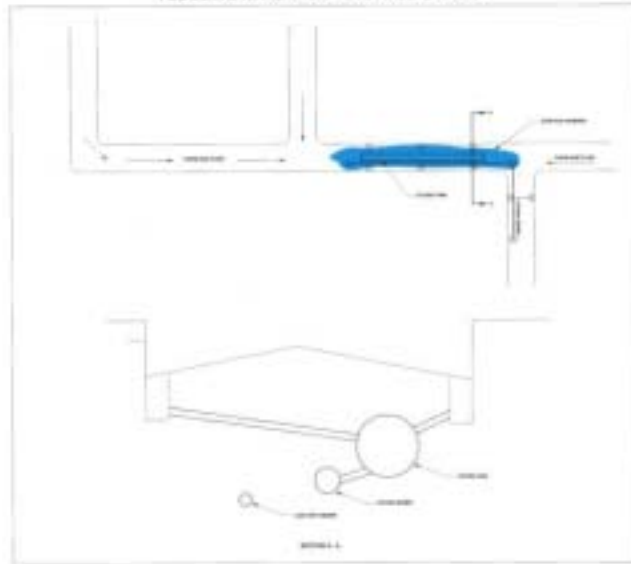
Before



After



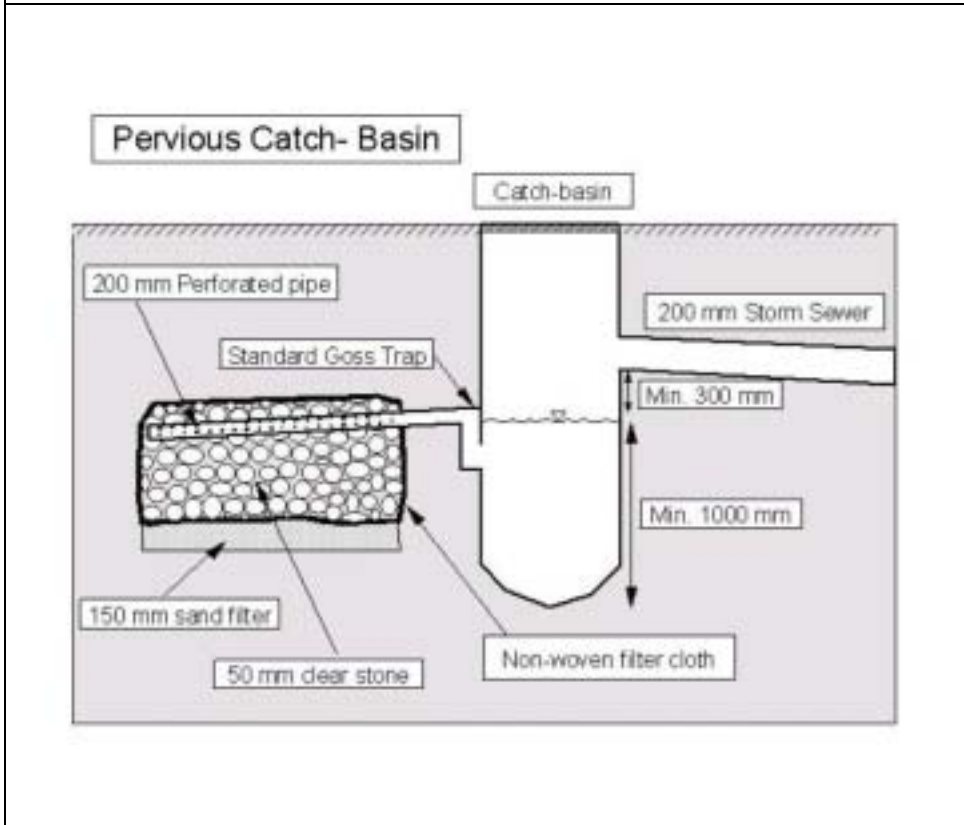
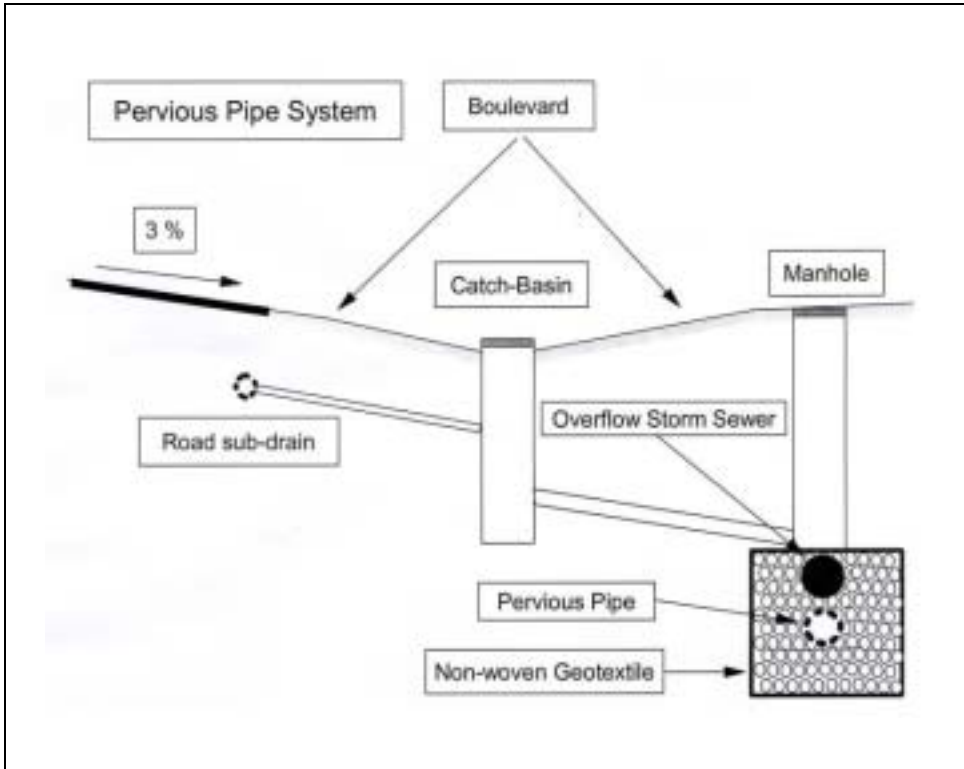
HOGG'S HOLLOW STORMWATER MANAGEMENT AND ROAD IMPROVEMENT STUDY
FLOODING MITIGATION - STORAGE OPTION

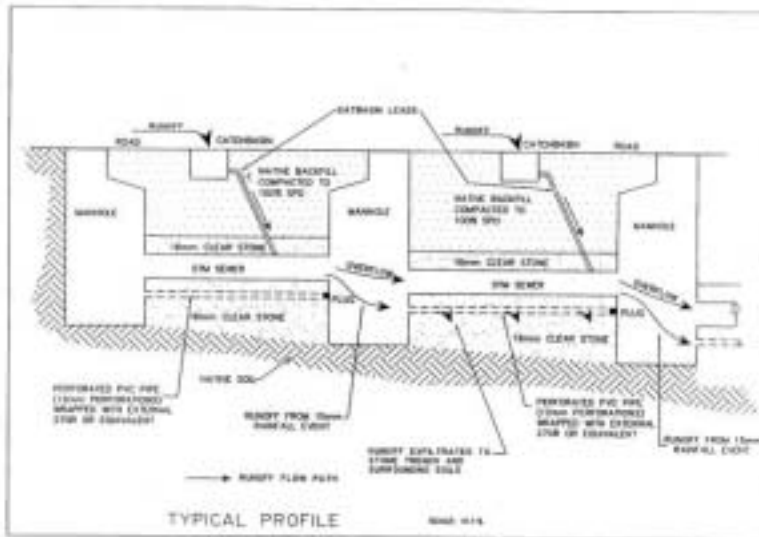


CONVEYANCE MEASURES



**Infiltration/Exfiltration
Systems**





Alternative Flooding Solutions

End of Pipe

- Natural Channel Design to Lower River Level
- Pumping Station(s) to empty sewers

Evaluation Factors for Selection of Preferred Alternatives

- Degree of Surface Runoff Flooding Mitigation provided
- Degree of Basement Flooding Mitigation provided
- Road Surface Improvement
- Water Quality Improvement
- Tree Preservation
- Traffic Safety
- Pedestrian Access

Evaluation Factors for Selection of Preferred Alternatives

- Traffic Calming
- Snow removal
- Landscaping / Property Impact
- Construction Disruption
- Operation & Maintenance
- Aesthetics
- Cost

NEXT STEPS

- **Summarize Public Input on Alternative Solutions & Evaluation Criteria**
- **Determine short list alternatives for each street within the study area**
- **Present Short Listed Alternatives at 3rd Public Open House (~ November)**
- **Select preferred design(s) & prepare Preliminary Engineering Design Drawings**
- **Present Preliminary Design at 4th Public Open House (~ January)**



HOGG'S HOLLOW STORMWATER MANAGEMENT & ROAD IMPROVEMENT STUDY

**September 25, 2003
Public Open House #2**

**QUESTIONNAIRE
September 2003**

PLEASE RETURN BY OCTOBER 10TH, 2003

Name: _____

Address: _____

Home telephone: _____

1.

Through the investigations undertaken as part of this study, we have determined that the flooding problems being experienced within the Hogg's Hollow area are caused by a combination of the following:

X Insufficient Roadway & Storm Sewer combined capacity to convey storm water runoff,

X Sanitary Sewer back up during major rainfall events,

X Inadequate Lot grading, and

X High River flood levels, which can back up storm sewers or cause private property damage.

Do you feel the above conclusion is reasonable or are you aware of any other factors contributing to the problem?

Agree with the conclusion: ()

Do not agree: ()

Other factors contributing to the problem:

No comments: ()

2. The installation of source controls (private property measures) will reduce the severity and frequency of the flooding being experienced, and enhance the quality of storm water runoff. Please indicate your interest / willingness to implement the following measures:

- a. Revised lot grading to direct runoff away from doors, windows, foundation walls;
Very willing, (); somewhat willing, (); Not interested, ()
- b. Disconnection of foundation drains away from the sanitary sewer & installation of sump pumps;
Very willing, (); somewhat willing, (); Not interested, ()
- c. Installation of a sanitary back flow preventer;
Very willing, (); somewhat willing, (); Not interested, ()
- d. Installation of soak-away pits;
Very willing, (); somewhat willing, (); Not interested, ()
- e. Installation of Rain barrels;
Very willing, (); somewhat willing, (); Not interested, ()
- f. Disconnection of roof rainwater leaders from Storm Sewer;
Very willing, (); somewhat willing, (); Not interested, ()
- g. Replacement of impermeable surfaces (asphalt / concrete) with porous (grass, interlock) ones;
Very willing, (); somewhat willing, (); Not interested, ()
- h. Planting of additional shrubs & trees.
Very willing, (); somewhat willing, (); Not interested, ()

3. Would financial incentives increase your willingness to implement the measures listed above?
Yes (____); No (____);

4. Six different roadway cross sections are being considered for the study area, along with a “do nothing” option. Please indicate your preference by ranking the proposed road cross sections for implementation on your street from 1st to 7th. *(please note; cross section selection will be subject to physical and design constraints)*

- A. Rural Section Roadway with outside ditches (No Curb) and driveway culverts
Rank _____
- B. Modified Rural Section (No Curb) with grassed swale & ditch inlet catch basins
Rank _____
- C. Reverse Crown with no curb and catch basins along the centre line of the road & storm sewer
Rank _____
- D. Reverse Crown with shallow curb and catch basins along the centre line of the road & storm sewer
Rank _____

- E. Conventional (Concrete) Curb and Gutter with catch basins
Rank _____
- F. Shallow Curb & Gutter with catch basins
Rank _____
- G. Do nothing – maintain Status Quo
Rank _____

Additional Comments:

- 5. Reconstruction of the roadway will provide an opportunity to install sidewalks to minimise pedestrian vehicular interaction / risk. Please indicate whether you feel a sidewalk should, or should not be installed.
 - A. Sidewalks should be installed: ()
 - B. Sidewalks should not be installed: ()
 - C. No preference: ()

- 6. Preferred alternatives will be presented at the next Public Open House, based upon your input and technical evaluations. Please rank the following indicating the weighting that you believe should be associated with the following factors by ranking them from 1st to 14th.
 - A. Traffic Safety;
Rank _____
 - B. Basement Flooding Mitigation;
Rank _____
 - C. Surface Runoff Flooding Mitigation;
Rank _____
 - D. Tree Preservation;
Rank _____
 - E. Snow Removal;
Rank _____

- F. Landscaping / Property Impact;
Rank _____
- G. Construction Disruption;
Rank _____
- H. Cost;
Rank _____
- I. Operation & Maintenance;
Rank _____
- J. Pedestrian Access;
Rank _____
- K. Traffic Calming;
Rank _____
- L. Aesthetics;
Rank _____
- M. Water Quality;
Rank _____
- N. Road Surface Improvement;
Rank _____
- O. Other;
Description: _____

Rank _____

Based upon analysis of causes of flooding problems within the Hogg's Hollow area, a long list of alternative solutions has been generated, and rated for applicability on a street by street basis. Please indicate the ranking (from 1st to 6th) you believe should be given to the measures indicated below:

- A. Source Control;
(Lot grading, foundation drains to sump pumps, sanitary backflow preventers, rain barrels, soak-aways, disconnection of downspouts from storm sewer, replacement of impermeable surfaces with permeable ones, rain gardens)
Rank _____
- B. Conveyance Controls;
Altered Road Cross Section
Rank _____
- C. Conveyance Controls;
Porous Pavement, Infiltration Pipes and Tanks
Rank _____

- D. Conveyance Controls;
Conventional Storm Sewers & Storage Tanks
Rank _____
- E. Conveyance Controls;
Sanitary Sewer Upsizing
Rank _____
- F. Do Nothing;
Maintain Status Quo
Rank _____

8. Additional Comments

Please provide any additional comments you may have in the space below:

Please Return The Completed Questionnaire By October 10, 2003 Using One Of The Following Means:

- MAIL IN THE POSTAGE PRE-PAID ENVELOPE
- FAX TO 416-392-2974 ATTN: ANN MARIE WESELAN
- MAILING TO:
ANN MARIE WESELAN
TORONTO WORKS AND EMERGENCY SERVICES
METRO HALL
55 JOHN STREET, 19TH FLOOR
TORONTO, ON M5V 3C6

Please note that mailing your questionnaire is the most secure method of transmission.

THANK YOU FOR YOUR INPUT!

The personal information on this form is collected under the authority of the City of Toronto Act, 1997, by-law 32-1998 and may be used to provide you with updates respecting the above noted issue. If you have indicated so, you will also receive information about other issues related to works and emergency services, the environment, and public consultation initiatives at the City. Questions about the collection and distribution of this information should be directed to Ann Marie Weselan, Senior Public Consultation Coordinator, 55 John Street, 19th Floor, Toronto, Ontario, M5V 3C6, (416) 392-2962.