

From: Diana Friesen
Cc: [Janusz Czuj](#)
Subject: Joshua Creek Flood Mitigation Study Notice of Study Commencement
Date: Thursday, August 06, 2020 3:46:18 PM
Attachments: [Joshua Creek Flood Study Notice of Study Commencement.pdf](#)

- FYI -

The Town of Oakville has initiated a study to assess flood mitigation opportunities associated with Joshua's Creek. The attached serves as the formal 'Notice of Study Commencement' for your information.

Best regards,

Diana Friesen
Water Resources Technologist
Development Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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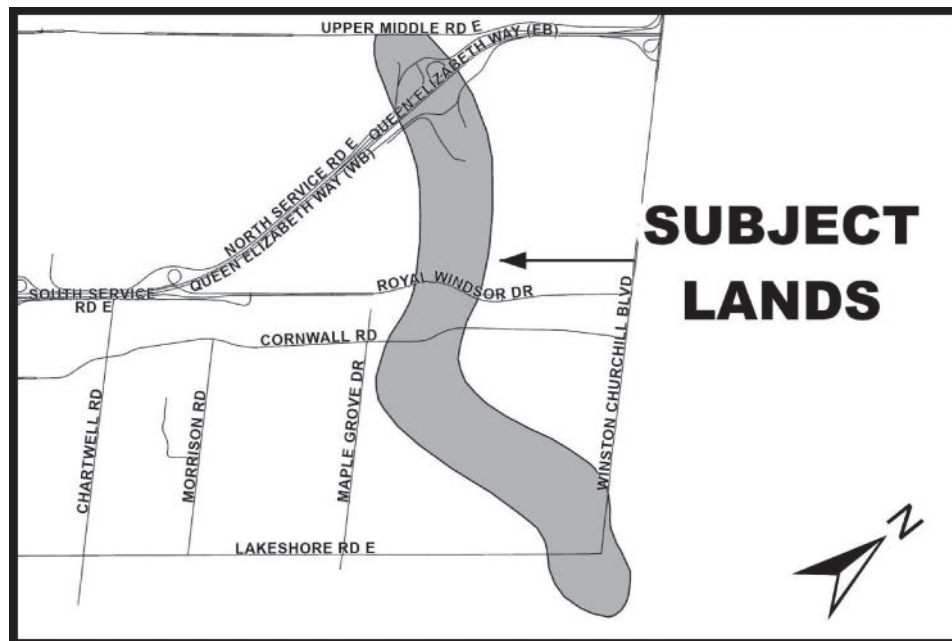
To be the most livable town in Canada.

Notice of Study Commencement

Municipal Class Environmental Assessment Joshua Creek Flood Mitigation Opportunities Study Upper Middle to Lake Ontario

The Study

The Town of Oakville has initiated a Municipal Class Environmental Assessment (Class EA) to assess flood risks along the Joshua Creek south of Upper Middle Road to Lake Ontario. The focus of this study will be to understand these risks and then establish approaches to mitigate them. This study builds on the 2008 "Town-wide Flood Prioritization Study Review," by undertaking a more detailed study of creek channel reaches with flood-prone sites in an effort to determine the most viable and responsible mitigation options.



Joshua Creek Flood Mitigation Opportunities Study Key Map

The Process

The study is being carried out in accordance with the requirements of a Schedule B project under the Municipal Engineers Association (MEA) Municipal Class EA document (October 2000, as amended in 2007, 2011 and 2015), which is an approved process under the Ontario *Environmental Assessment Act*. Two Public Information Centres (PICs) are being planned to discuss issues related to the project, including alternative solutions, evaluation criteria, environmental impacts and mitigation measures. PIC dates and details will be advertised as the study progresses. Once the study is complete, an Environmental Study Report (ESR) will be prepared and available for public review and comment. A Notice of Completion will be issued at that stage.

Comments Invited

The town appreciates your feedback and encourages you to get involved. A key component of the study is consultation with interested stakeholders, Indigenous groups, the public, landowners and regulatory agencies. You are encouraged to provide your comments so that they may be considered in the study. If you would like further information on the study, have any questions or comments, or would like to be added to the study mailing list, please contact

Diana Friesen, C.E.T

Water Resources Technologist
Town of Oakville
Tel: 905-845-6601 x 3904
email: Diana.Friesen@oakville.ca

Janusz Czuj, P.Eng.

Project Manager
GHD
Tel: 519-340-4269
email: janusz.czuj@ghd.com

Information related to the study and consultation process will also be posted on the Town of Oakville's website at <https://www.oakville.ca/environment/flooding.html>

First issued notice: August 6, 2020

From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](mailto:Janusz.Czuj@ghd.com); [REDACTED]
Subject: RE: Joshua Creek Flood Mitigation Study Notice of Study Commencement
Date: Friday, August 07, 2020 3:06:34 PM

Thanks. We will update our contact list accordingly.

From: [REDACTED]
Sent: Friday, August 7, 2020 10:06 AM
To: Diana Friesen <diana.friesen@oakville.ca>
Cc: Janusz Czuj <Janusz.Czuj@ghd.com>; [REDACTED]
Subject: Re: Joshua Creek Flood Mitigation Study Notice of Study Commencement

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Ms. Friesen, I have been assigned to support other Ford Manufacturing Plants. I have copied [REDACTED], who replaced me in the corporate environmental support role and [REDACTED] who is the Plant Environmental Engineer. Feng managed all the work done in the last two years to maintain the site stormwater system and would be the best contact.

[REDACTED]
Ford Environmental Quality Office
248.229.8920

From: Diana Friesen <diana.friesen@oakville.ca>
Sent: Thursday, August 6, 2020 1:45:18 PM
Cc: Janusz Czuj <Janusz.Czuj@ghd.com>
Subject: Joshua Creek Flood Mitigation Study Notice of Study Commencement

- FYI -

The Town of Oakville has initiated a study to assess flood mitigation opportunities associated with Joshua's Creek. The attached serves as the formal 'Notice of Study Commencement' for your information.

Best regards,

Diana Friesen
Water Resources Technologist
Development Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]
To: [Diana Friesen](#)
Cc: [Janusz Czuj](#)
Subject: RE: MCEA - Joshua Creek Flood Mitigation study - question about erosion protection
Date: Tuesday, August 18, 2020 6:09:41 PM

Thank you for the email.

Angelo

From: Diana Friesen <diana.friesen@oakville.ca>
Sent: Tuesday, August 18, 2020 4:02 PM
To: [REDACTED]
Cc: janusz.czuj@ghd.com
Subject: RE: MCEA - Joshua Creek Flood Mitigation study - question about erosion protection

Dear [REDACTED],

Thanks for your e-mail. The current study deal with riverine flooding exclusively, however any mitigation options carried forward would need to ensure that they do not aggravate creek erosion. Additionally, If there is opportunity to address erosion through the ultimate preferred alternative to address flooding, this will be considered, but erosion issues are typically looked at through separate study.

The town carries out a creek inventory and assessment periodically to prioritize erosion mitigation study/works as needed throughout the town. Joshua Creek in this area has been flagged within our most recent creek inventory in 2015 for further study, but this work is deemed lower on the priority list as compared to other sites in the town. As such potential works are far out in the future and budget has yet to be allocated. The creek inventory is scheduled to be updated next year and we will re-assess this area and others and re-prioritize if warranted.

Regards,

Diana.

Diana Friesen
Water Resources Technologist
Development Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]
Sent: Thursday, August 13, 2020 12:59 PM
To: Diana Friesen <diana.friesen@oakville.ca>
Subject: MCEA - Joshua Creek Flood Mitigation study - question about erosion protection

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Hello:

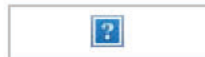
I received a notice about the above noted MCEA in the mail. Our home backs onto Joshua Creek near Cornwall. I have noted that numerous times through the year the creek water level (after severe rain events) rises well above the riprap elevation and is causing significant erosion to the banks, sending very dirty water to the lake. There is not necessarily a flood issue in my neighbourhood but I'm wondering if this erosion concern is part of the study as well?

Thanks,

[REDACTED]

[REDACTED]

[REDACTED]



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From: [REDACTED]
To: [Diana Friesen](#); [Janusz Czuj](#)
Cc: [REDACTED] Class EA Joshua Creek Flood Mitigation
Date: Tuesday, August 18, 2020 5:21:59 PM
Attachments: [image001.png](#)

Thank you Diana. We will look for the information in the fall.

All the best,

[REDACTED]

[REDACTED]

[REDACTED]

H&R REIT | 3625 Dufferin Street, Suite 320 | Toronto, Ontario M3K 1N4

www.hr-reit.com

From: Diana Friesen <diana.friesen@oakville.ca>
Sent: Tuesday, August 18, 2020 3:31 PM
To: [REDACTED] janusz.czuj@ghd.com
Cc: [REDACTED]
Subject: RE: Notice of Study Commencement: Municipal Class EA Joshua Creek Flood Mitigation

We are hoping to have information presented this fall (end of September, early October) - the first of two public "meetings" to present the results of the background information and long-list of alternatives. We would traditionally hold an open house, but due to COVID we will likely provide information on our website exclusively.

Thanks

Diana

From: [REDACTED]
Sent: Tuesday, August 18, 2020 2:11 PM
To: Diana Friesen <diana.friesen@oakville.ca>; janusz.czuj@ghd.com
Cc: [REDACTED]
Subject: RE: Notice of Study Commencement: Municipal Class EA Joshua Creek Flood Mitigation

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Hi Diana,

Thank you kindly for including us. Is there a time frame we should expect the first communication by?

Best,

[Redacted]

[Redacted]

H&R REIT | 3625 Dufferin Street, Suite 320 | Toronto, Ontario M3K 1N4

www.hr-reit.com

From: Diana Friesen <diana.friesen@oakville.ca>

Sent: Tuesday, August 18, 2020 1:57 PM

To: [Redacted] janusz.czuji@ghd.com

Cc: [Redacted]

[Redacted]

Subject: RE: Notice of Study Commencement: Municipal Class EA Joshua Creek Flood Mitigation

Good Afternoon [Redacted],

Thanks for reaching out. We have added the contacts below to our mailing list.

Regards,

Diana

Diana Friesen
Water Resources Technologist
Development Engineering

Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [Redacted]

Sent: Friday, August 14, 2020 9:51 AM

To: Diana Friesen <diana.friesen@oakville.ca>; janusz.czuj@ghd.com

Cc: [REDACTED]
[REDACTED]

Subject: Notice of Study Commencement: Municipal Class EA Joshua Creek Flood Mitigation

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Good morning Diana and Janusz,

I hope this email finds you safe and well.

I am contacting you in regards to the Notice of Study Commencement we received for the Municipal Class Environmental Assessment for Joshua Creek Flood Mitigation Opportunity Study (Upper Middle to Lake Ontario). As representatives of the property owners at [REDACTED], could you please include the following contacts to the study mailing list:

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

Thank you for your time and consideration,
[REDACTED]

[REDACTED]

[REDACTED]

H&R REIT | 3625 Dufferin Street, Suite 320 | Toronto, Ontario M3K 1N4

www.hr-reit.com

From: [REDACTED]
To: [Janusz Czuj; diana.friesen@oakville.ca](mailto:Janusz.Czuj@diana.friesen@oakville.ca)
Subject: Joshua Creek Flood Mitigation Study
Date: Saturday, August 29, 2020 12:28:28 PM

Hi Janusz/Diana,

I recently received a Notice of Study Commencement for Joshua Creek flood mitigation. I am a property owner with a large frontage in my back yard against the Joshua Creek (my house is on [REDACTED] and my back fence to the creek is 125 ft long). I am therefore very interested in the outcome of this project.

Since I moved here in 2012 I have started to worry more and more about the state of the flood mitigation structures around the creek. I have observed on several occasions as the water has raised almost all the way to the top of the embankments. I have put off fixes to my back yard that are needed as I worry about the stability of the soil behind my property.

The Notice encourages landowners to become involved. In that spirit, I want to offer some comments:

- I am sure this will be part of your conclusions but is it clear that the gabions that hold the bottom of the embankments are in very poor state due to neglect, and in some places have completely disappeared. This has contributed to extensive erosion along both sides.
- The embankments in this area were originally covered with grass when built in the late 70's. Since then a great deal of wild forest has grown on this space. This has an obvious positive environmental impact. However, from a flood standpoint, I have observed in many occasions as large tree trunks floating downstream have become lodged into the trees that have grown on the embankments, blocking the creek. It is a matter of time before one of these trees creates a dam by catching enough floating debris and causing an extensive flood.
- The city has generally failed to maintain the structures and the parkland, for example neglecting to cut the grass until enough neighbours call to complain. This has to change.

I will watch this study with interest. I would also be happy to provide any input you would like from me.

Best regards,

[REDACTED]

From: [REDACTED]
To: diana.friesen@oakville.ca; Janusz Czuj
Cc: [REDACTED]
Subject: Joshua Creek Flood Mitigation Opportunities Study
Date: Friday, September 04, 2020 11:25:58 AM
Attachments: [Joshua Creek Flood Mitigation Study Notice of Study Commencement- Oakvillegreen Comments.pdf](#)

Hello Diana,

On behalf of Oakvillegreen I would like to take the opportunity to submit the attached document. It contains our comments in regards to the Municipal Class Environmental Assessment that has been initiated by the Town to assess flood risks along the Joshua Creek.

We would like to reiterate our commitment to building a more resilient community in Oakville and our willingness to collaborate with the Town of Oakville to accomplish it.

Best regards,

--

[REDACTED]
Programs Manager
[REDACTED]

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September 4th, 2020

Diana Friesen
Water Resources Technologist
Town of Oakville

Janusz Czuj
Project Manager
GHD

Re: Joshua Creek Flood Mitigation Opportunities Study

Attn Ms. Friesen,

Thank you for the opportunity to comment on the Municipal Class Environmental Assessment which has been initiated by the Town of Oakville to assess flood risks along the Joshua Creek. Oakvillegreen Conservation Association praises the opportunity provided by the Town of Oakville to take into consideration the feedback provided by different stakeholders and community members.

As Oakville's oldest environmental resident's association, Oakvillegreen has been working successfully since 1999 to protect our environment and promote sustainable planning and urban forest stewardship in our Town. We understand that the focus of this study is to assess the risks of flood-prone areas and establish viable mitigation options to reduce flooding in the area of Joshua Creek.

In helping to address municipal stormwater challenges, Oakvillegreen would welcome the incorporation of green infrastructure approaches to stormwater management. These tools (rain gardens, bioswales, and rainwater harvesting) incorporated on private and public property have been shown to significantly increase stormwater infiltration. These systems work to capture rain where it falls, reducing flooding events while supporting the functions of traditional stormwater infrastructure.

With the support of a grant from the Ontario Trillium Foundation in 2018/19, Oakvillegreen successfully engaged the community in building 4 pilot water management projects on private property, in partnership with homeowners and community agencies. We see the importance of increasing awareness and changing ideas about the design of urban landscapes, and view the introduction of climate-resilient infrastructure as important in the evolution of our communities.

Here are the points that we would like to reinforce:

- Green infrastructure (GI) and Low Impact Development (LID) retrofits on urban landscapes have proven to be successful urban water management tools that help prevent urban and riverine flooding. Worldwide there are significant case studies of

urban water management using GI with different approaches that cover environmental protection and flood risk management¹; which can serve as examples and inspiration for Oakville. Multiple municipalities in Ontario are following those steps. Municipalities within the Credit Valley Conservation and Toronto Regional Conservation Authority watersheds, are becoming involved through the Sustainable Technologies Evaluation Program (STEP)² that provides training, resources and support to implement LID retrofits.

- In the 2008 Town-Wide Flood Study, the protection options and solutions mentioned are buying land, diversion, berming, bridges, etc³. There is no mention of community involvement or adaptations to incorporate green infrastructure on private property. Projects that involve private property are necessary due to high property costs and land coverage. It has been proven that urban water management projects that include community involvement and partnerships with community organizations, businesses and property owners have shown to be successful in increasing water diversion. Programs like the collaboration between the City of Peterborough and the community organization, Green Up, that include tax rebates to build raingardens and other LID retrofits as well as subsidies for rainbarrels have increased the city's program capacity and built more resilient communities.

As Oakville's population grows, and we develop and re-plan our municipality, we should strive to build resilient and sustainable communities. Retrofitting existing landscapes with Green infrastructure (GI) and Low Impact Development (LID) projects is a low-cost solution which we hope will be considered as a mitigation option for the flood-prone areas of Joshua Creek.

Thank you again for the opportunity to comment.

We would be pleased to provide any additional information that may be required. Please contact [REDACTED] Programs Director of the Oakvillegreen Conservation Association at [REDACTED] with any questions.

Sincerely,

[REDACTED]

[REDACTED]

Programs Director
Oakvillegreen Conservation Association

Sources:

1 See <https://www.sciencedirect.com/science/article/abs/pii/S0264275117301890>



2 See <https://sustainabletechnologies.ca/>

3 See <https://www.oakville.ca/assets/general%20%20environment/June2008FloodStudyPICBoards.pdf>

From: Diana Friesen
To: [REDACTED]
Cc: Janusz Czuj; [REDACTED]
Subject: RE: Joshua's Creek Flood Mitigation Opportunities Study - Notice of Virtual Public Information Centre No. 1
Date: Tuesday, March 09, 2021 11:45:43 AM

Dear [REDACTED],

Apologies for the delay in my response and thank you for your comments which will be considered as we move forward with the study and the evaluation of alternatives.

In regards to the Joshua's Creek trail, I would refer you to the Town's parks planning page for upcoming projects (<https://www.oakville.ca/culturerec/park-planning-projects.html>) and the town's active transportation master plan <https://www.oakville.ca/townhall/active-transportation-master-plan.html> for more information . If you'd like to discuss directly with a member of our parks department, please send a request through Service Oakville (ServiceOakville@oakville.ca) and they can refer to someone with the right knowledge on trail planning.

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]
Sent: February 9, 2021 9:24 AM
To: Diana Friesen <diana.friesen@oakville.ca>
Subject: Re: Joshua's Creek Flood Mitigation Opportunities Study - Notice of Virtual Public Information Centre No. 1

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Ms. Friesen.

Are there considerations for continuation of the trail along Joshua's Creek north of Constance Drive?

There was a west setback from the creek, north of Cornwall, to the new development. The trail could easily be continued along the creek to at least the point where it passes below the railway lines.

With a little ingenuity a pedestrian passageway could be created under the tracks. This would allow a link to be made to Wildflower Woods (behind First Canadian Title). This might well be facilitated if Alternative 2 or 4 is selected.



On Fri, Jan 29, 2021 at 2:31 PM Diana Friesen <diana.friesen@oakville.ca> wrote:

FYI

The **Joshua's Creek Flood Mitigation Opportunities Study** is an on-going Municipal Class Environmental Assessment (Class EA) being managed by the town's Community Infrastructure Commission. This study is a follow-up study to the 2008 Town-wide Flood Study. Please find attached a copy of the 'Notice of Public Consultation.

This is the first of two public consultations for the flood mitigation opportunities study. Town staff are seeking feedback on the possible alternative mitigation measures, evaluation criteria, potential environmental effects, and any other concerns.

Due to COVID 19 restriction, public consultation for this study will be carried out using a virtual format. Study material has been made available on the town's website at the following link:

<https://www.oakville.ca/environment/flood-mitigation-joshuas-creek.html>

Posted materials include background information on flood-prone sites, updates from investigations and preliminary alternatives for flood mitigation. Comments or questions can be submitted via email, mail or phone call until **March 4th 2021**.

Should there be any questions please do not hesitate to contact the undersigned.

Best Regards,

Diana Friesen

**Water Resources Technologist
Development Services**

Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](#); [REDACTED]
Subject: RE: Flood Mitigation Opportunities Study for Joshua's Creek
Date: Monday, February 22, 2021 3:47:10 PM

Good Afternoon [REDACTED],

Thank you for your comments in regards to the Joshua's Creek Flood Mitigation Opportunities Study. We can prepare higher resolution files of the maps/drawings to send to you via large e-mail transfer. I hope to have this to you tomorrow. This should allow you to zoom in further without the image getting too grainy. If you're still having issues making out details after opening up these higher resolution files, you can let us know and we can make alternative arrangements.

There is no formal comment form. You can send along any additional comments you have on the Study to the Study team (myself and Janusz Cruj (GHD)) via e-mail or mail (e-mail is preferred), so that they can be considered.

In the next phase of the study, we will be evaluating the merits of each alternative from an environmental, social, and economic perspective, taking into consideration comments received from agency stakeholder and the public. This evaluation and selection of preferred alternative(s) will be shared with the public at a future public information event later this year. The town will also be looking at the results of the Joshua's Creek Study in the overall context of other flood risk areas across the town and will be specifically looking at the risks and return on investment to prioritize flood mitigation projects moving forward.

Best Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]

Sent: February 22, 2021 1:20 PM

To: Diana Friesen <diana.friesen@oakville.ca>

Cc: janusz.czuj@ghd.com; [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Subject: Flood Mitigation Opportunities Study for Joshua's Creek

Importance: High

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Hi Ms. Friesen,

Subject: Flood Mitigation Opportunities Study for Joshua's Creek

I have undertaken a preliminary review of the posted materials on the Town website. Could you please provide larger maps as it is quite challenging to decipher the drawings and maps, given the small scale of them.

Please provide the Town link to the comment form that needs to be completed on or before March 4, 2021.

As well, although this is a preliminary document, has the Town of Oakville undertaken any Risk Management order-of-magnitude financial analysis of the various options since this is key to determining the optimum efficacy of any solution or solutions in aggregate? Based on empirical experience, it is possible to map potential and probable risk outcomes from a low to a high degree of severity.

Please acknowledge receipt of this email.

Thank you very much.

Best regards,

[REDACTED]

From: Diana Friesen
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua"s Creek
Date: Monday, March 01, 2021 2:27:55 PM

Good Afternoon [REDACTED]

Here is the link to the high resolution files as requested:

<https://oakville.box.com/s/cenrpu9ylbcnihuctr8uf9whwkmc7e0v>

Let me know if you have any issues extracting the files.

In addition, I am providing the following responses to your inquiry.

1. Definition and scope statement for the 100-YEAR Climate Change INUNDATION BOUNDARIES? If this is well defined in the Study presentation deck, please refer me to same.

The 100-Year Climate Change scenario looks at rainfall intensity, duration and frequency (IDF) under the 100-year design storm conditions, adjusted with statistics based on the Intergovernmental Panel of Climate Change (IPCC), Representative Concentration Pathways (RCP) 8.5 scenario for the 2080 -2100 time period. RCP 8.5 refers to the greenhouse gas concentration (GHG) trajectory and represents the highest projected GHG concentrations resulting from "business as usual" emissions without mitigation.

The 100-year climate change adjusted IDF was generated using the IDF-Climate Change Tool (Version 2) developed in the Facility for Intelligent Decision Support at Western University.

2. Same request: 100-YEAR INUDATION BOUNDARIES.

The 100 Year scenario is a return period storm event that has a 1% chance of occurrence in any given year. Such a return period storm event is referred to as a "design storm" that are widely used in hydrology studies and has a specific representative rainfall statistic (or intensity, duration, and frequency (IDF)) which is used to calculate peak flow rates. These rainfall statistics are generated based on a historical rainfall record.

3. Please define differentiators between item 1 and 2.

100 year and 100 year with climate change is differentiated by their intensity, duration and frequency (IDF) curves that generate differences in peak flow rates when modelled. Peak flows are then inputted into a hydraulic model to generate flood elevations (i.e. water surface elevations). The higher the peak flows, the higher the

water surface elevation. A summary of the peak flow rates generated for Joshua's, for comparison, is as follows:

Joshua's Creek peak flows at:

Highway 403:

- 100 year - 53.5 cubic metres per section (CMS)
- 100 year adjusted for CC - 67.75 CMS

CN Railway

- 100 year - 57.82 CMS
- 100 year adjusted for CC – 73.37 CMS

Ford Drive

- 100 year - 59.95 CMS
- 100 year adjusted for CC – 74.47 CMS

4. For study purposes, do the technical staff define a baseline map condition? What is it?

Yes, baseline map condition, is what we refer to as “existing conditions”. This represents current flooding condition without intervention of flood mitigation measures. What has been presented to the public to-date in the maps provided in the on-line presentation represents “existing conditions”. At the next phase of study, we will update the modelling with the various structural flood mitigation options included and look at the resulting benefit to flooding for the various scenarios (i.e. 100 year design storm, 100 year with climate change, and Regional (Hurricane Hazel) Storm condition.

5. Please request Philip Kelly to review the following and advise the priority areas that will be studied and reports completed in 2021 to 2022. Does the link include the total scope of potential environmental flooding?

The Town of Oakville previously completed the 2008 Flood Prioritization Study, which consisted of a comprehensive background review and documentation of all previously referenced flood risk areas throughout Oakville. The 2008 study included on a priority basis recommendations on undertaking additional detailed flood risk mitigation studies for individual creek systems. Studies to date include the 14 Mile/McCraney Creek systems (highest priority), Lower Morrison/Lower Wedgewood Creek systems, Sheldon Creek system, and the Munn's Creek system.

Within the 2008 Flood Study, a limited number of flood prone sites were identified within Joshua's Creek. None of these sites were identified as a high priority based the evaluation carried out with available information at that time. An electronic copy of the final report and figures for the 2008 Flood Prioritization Study is posted on www.oakville.ca/environment/flooding.html.

At that same link, if you scroll to the end, you will find links to the various follow-up Flood Mitigation Opportunities Study with details on flood risk for the various creek

system in the attachment pdf links. One flood study has been completed to date (Munn's Creek) and we anticipate finalizing the additional studies (including Joshua's Creek) later this year.

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Philip Kelly

Sent: February 26, 2021 3:57 PM

To: [REDACTED]
[REDACTED]
[REDACTED]

Subject: RE: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

[REDACTED]

Thanks for your questions and the follow up.

Diana will respond to you early next week.

Regards

Philip Kelly

From: [REDACTED]

Sent: February 26, 2021 3:23 PM

To: Philip Kelly <philip.kelly@oakville.ca>

Cc: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings

<david.gittings@oakville.ca>; [REDACTED]

Subject: RE: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

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Hi Philip,

Any progress? I'd like to provide final comments on or before the March 4th deadline. Separately, I requested exploded images from Diana Freisen as she offered.

Thanks.

Best regards,

[REDACTED]

From: [REDACTED]

Sent: Thursday, February 25, 2021 4:46 PM

To: 'Philip Kelly' <philip.kelly@oakville.ca>

Subject: FW: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

Hi Philip,

Please review and advise.

Thanks very much.

Best regards,

[REDACTED]

From: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>

Sent: Thursday, February 25, 2021 4:23 PM

To: [REDACTED]

Cc: David Gittings <david.gittings@oakville.ca>; [REDACTED]

[REDACTED]

Subject: RE: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

[REDACTED]

Feel free to write directly to Phillip and just cc us. philip.kelly@oakville.ca

Best regards
Janet

From: [REDACTED]
Sent: February 25, 2021 4:14 PM
To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>
Cc: David Gittings <david.gittings@oakville.ca>; [REDACTED]
[REDACTED]
Subject: FW: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

Please forward my thanks to Philip Kelly, Janet.

Could Philip please provide:

1. Definition and scope statement for the 100-YEAR Climate Change INUNDATION BOUNDARIES? If this is well defined in the Study presentation deck, please refer me to same.
2. Same request: 100-YEAR INUDATION BOUNDARIES.
3. Please define differentiators between item 1 and 2.
4. For study purposes, do the technical staff define a baseline map condition? What is it?

Please request Philip Kelly to review the following and advise the priority areas that will be studied and reports completed in 2021 to 2022. Does the link include the total scope of potential environmental flooding?

<https://www.oakville.ca/environment/flooding.html>

Thank you.

Best regards,

[REDACTED]

From: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>
Sent: Thursday, February 25, 2021 3:23 PM
To: [REDACTED]
Cc: David Gittings <david.gittings@oakville.ca>
Subject: FW: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

Good afternoon [REDACTED]
Phillip has provided some additional notes to your notes.

I trust you will find these helpful
Take care
Janet

From: Philip Kelly <philip.kelly@oakville.ca>
Sent: February 25, 2021 3:06 PM

Councillor Haslett-Theall:

Thanks for forwarding [REDACTED] notes.

We have gone through same and added some notes from the Town to add some clarity at the end of [REDACTED] statements where appropriate. We have not edited [REDACTED] notes.
We're glad that [REDACTED] found the meeting useful.

Please feel free to reach out to us in the future if we may be of further assistance.

Sincerely

Philip Kelly

My key takeaways

1. The Town will be studying flood mitigation for most, if not all areas in Oakville. *(Town Note: The Town is generally focusing on priority areas which tend to be in the older areas, south of the QEW)*
2. **The Joshua Creek Study** will probably be completed in 2022. *(Town Note: We hope to complete the Joshua Creek study in 2021, but it could be 2022)*
3. Other study areas may or will be completed in 2022. *(Town Note: Some of the other study areas may be completed in 2021, but some could be in 2022)*
4. The Town will update its overall 10 year program and project list to include priority projects.
5. The 10 year plan includes capital investment estimates for the projects.
6. The Town will implement these projects over the 10 year plan and beyond subject to capital funding availability from the Town.
7. The Town will focus on priority projects based on due diligence efforts that identify critical infrastructure requirements or pressure points to mitigate potential flooding in priority areas of Oakville. Not all projects may be funded due to funding availability and a risk assessment by the Town of the probability of a negative flood impact and the resultant outcome to make good after the flooding occurrence (cost-benefit analysis).
8. I suggested that the Town consider engaging peer review content knowledge experts to

minimize any gaps in the Town analyses.

9. **Flood Mitigation Opportunities for Joshua Creek.**

10. There are **Hurricane Hazel** Flood maps that identify the potential for significant flooding. Note: Hurricane Hazel occurred in 1954 and was a significant event.
11. Town staff advised that a future Hurricane Hazel type event is unpredictable (i.e. could happen next week, or 250 years from now).
12. There are **100 year Flood** maps that identify the potential for less significant flooding compared to Hurricane Hazel.
13. The Town does not develop flood mitigation strategies and implementation plans in partnership with private sector landowners. *(Town Note: The Town works with Conservation Halton (who regulates floodplains on behalf of the Province) when development applications are being processed. New developments cannot worsen flooding on other properties. There is no requirement for new developments to improve downstream conditions.)*
14. For example, **Ford Of Canada, located in the Joshua Creek watershed**, will not be requested by Oakville to develop an on-site flood mitigation strategy even though it may mitigate potential downstream watershed issues. This type of flood mitigation will be reviewed in future should Ford of Canada make changes to the facilities as defined by the Ontario Building Code and other jurisdictional authorities. *(Town Note: See 13)*
15. **H&R REIT**
 - a. Should have or may have reviewed 100 year Flood maps and [REDACTED] has mitigation measures in place including a storm water retention facility to the 'west' of the building near Joshua Creek.
 - b. Does not have Hurricane Hazel Flood storm water mitigation measures in place or proposed including storm water retention pond(s). *(Town Note: See 16)*
16. The municipal Site Plan Application process does not account for Hurricane Hazel type events. *(Town Note: There is no requirement during the site plan process for the proponent to analyze the Hurricane Hazel event on their site. There is a requirement to ensure the site functions properly during the 100 year event. The 100 year event governs on small drainage areas. Hurricane Hazel is the typical design event in southern Ontario for creek and river systems such as Joshua Creek, Credit River, Humber River, etc.)*

-

-
17. **H&R REIT:** If the [REDACTED] and site work proceeds, I suggested that the Town propose to H&R REIT-
 - a. Install Hurricane Hazel event type Storm Water Retention Pond(s) between the building and the Cornwall Road. Moving earth is the most cost-effective solution. There may be associated infrastructure costs for effective on-site water retention.

- b. Install permeable or pervious paving (water flows through) on the new parking lot surface since it may assist in retaining water on-site away from storm drains thus alleviating peak loading on the taxed underground storm water system. Note: TTC has employed permeable paving in its parking lots.
- c. This is potentially important as it may minimize water outflows onto Cornwall Road and into the neighbouring residential, industrial and commercial community.
- d. Town staff advised that the underground storm water system including catch-basins on Cornwall Road and presumably neighbouring streets are not sized to accommodate flooding and the road network will have surface water. Please see Hurricane Hazel maps and 100 Year Flood maps for the different potential flooding conditions.
- e. As I recall, I expressed concern wrt:
 - i. Emergency vehicle access including ambulance and fire trucks. Town staff noted there will be surface water on Cornwall Road. This will impede commercial, industrial and residential traffic that may lead to temporary road closures. This may concern Oakville since Cornwall Road appears to be a major thoroughfare. *(Town Note: During a Hurricane Hazel type event the Town expects many roads will have water on the surface. This isn't unique to Cornwall Road or to Oakville. Roads are not typically designed to be "dry" during large events. However, ponding levels should still allow emergency vehicles to pass through, especially on major roads)*
 - ii. Power outages due to water infiltration at building electrical panels.

Philip Kelly, M.Sc, P.Eng

**Manager - Development and Environmental Engineering
Transportation and Engineering**

Town of Oakville | 905-845-6601, ext.3298 | f: 905-338-4414 | www.oakville.ca

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From: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>

Sent: February 24, 2021 9:07 AM

To: Philip Kelly <philip.kelly@oakville.ca>; Jill Stephen <jill.stephen@oakville.ca>

Cc: Phoebe Fu <phoebe.fu@oakville.ca>; David Gittings <david.gittings@oakville.ca>

Subject: Re: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

Good morning [REDACTED]

I have forwarded your comments to Phillip and Jill. They will advise of any ' errors or omissions' .
Thank you for joining the call.

Janet

Sent from my iPhone

On Feb 24, 2021, at 7:55 AM, Janet Haslett-Theall <janet.haslett-theall@oakville.ca> wrote:

Good morning

Please see [REDACTED] notes and a request for confirmation of accuracy of his notes. Could you verify please?

Thank you again for your time yesterday

Janet

From: [REDACTED]

Sent: February 24, 2021 6:28 AM

To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>

Cc: David Gittings <david.gittings@oakville.ca>; Jane Clohecy <jane.clohecy@oakville.ca>; [REDACTED]

Subject: RE: TOWN OF OAKVILLE: Climate Change -j Flood Mitigation Opportunities Study for Joshua's Creek

Hi Janet,

Climate Change - Flood Mitigation Opportunities Study for Joshua's Creek

Thank you for inviting me to your meeting with Town staff Tuesday February 23, 2021 at 3:40 p.m. Although I have not had an opportunity to review the **Flood Mitigation Opportunities Study for Joshua's Creek** in detail before this meeting, it was helpful in gaining a better understanding. Please feel free to correct any errors and omissions since I did not have a note taker.

My key takeaways

1. The Town will be studying flood mitigation for most, if not all areas in Oakville.
2. **The Joshua Creek Study** will probably be completed in 2022.
3. Other study areas may or will be completed in 2022.
4. The Town will update its overall 10 year program and project list to include priority projects.

5. The 10 year plan includes capital investment estimates for the projects.
6. The Town will implement these projects over the 10 year plan and beyond subject to capital funding availability from the Town.
7. The Town will focus on priority projects based on due diligence efforts that identify critical infrastructure requirements or pressure points to mitigate potential flooding in priority areas of Oakville. Not all projects may be funded due to funding availability and a risk assessment by the Town of the probability of a negative flood impact and the resultant outcome to make good after the flooding occurrence (cost-benefit analysis).
8. I suggested that the Town consider engaging peer review content knowledge experts to minimize any gaps in the Town analyses.

9. **Flood Mitigation Opportunities for Joshua Creek.**

10. There are **Hurricane Hazel** Flood maps that identify the potential for significant flooding. Note: Hurricane Hazel occurred in 1954 and was a significant event.
11. Town staff advised that a future Hurricane Hazel type event is unpredictable (i.e. could happen next week, or 250 years from now).
12. There are **100 year Flood** maps that identify the potential for less significant flooding compared to Hurricane Hazel.
13. The Town does not develop flood mitigation strategies and implementation plans in partnership with private sector landowners.
14. For example, **Ford Of Canada, located in the Joshua Creek watershed**, will not be requested by Oakville to develop an on-site flood mitigation strategy even though it may mitigate potential downstream watershed issues. This type of flood mitigation will be reviewed in future should Ford of Canada make changes to the facilities as defined by the Ontario Building Code and other jurisdictional authorities.
15. **H&R REIT**
 - a. Should have or may have reviewed 100 year Flood maps and [REDACTED] [REDACTED] has mitigation measures in place including a storm water retention facility to the 'west' of the building near Joshua Creek.
 - b. Does not have Hurricane Hazel Flood storm water mitigation measures in place or proposed including storm water retention pond(s).
16. The municipal Site Plan Application process does not account for Hurricane Hazel type events.
17. **H&R REIT:** If the [REDACTED] facility and site work proceeds, I suggested that the Town propose to H&R REIT-
 - a. Install Hurricane Hazel event type Storm Water Retention Pond(s) between the building and the Cornwall Road. Moving earth is the most cost-effective solution. There may be associated infrastructure costs for effective on-site water retention.
 - b. Install permeable or pervious paving (water flows through) on the new parking lot surface since it may assist in retaining water on-site away from storm drains thus alleviating peak loading on the taxed underground storm water system. Note: TTC has employed permeable paving in its

- parking lots.
- c. This is potentially important as it may minimize water outflows onto Cornwall Road and into the neighbouring residential, industrial and commercial community.
 - d. Town staff advised that the underground storm water system including catch-basins on Cornwall Road and presumably neighbouring streets are not sized to accommodate flooding and the road network will have surface water. Please see Hurricane Hazel maps and 100 Year Flood maps for the different potential flooding conditions.
 - e. As I recall, I expressed concern wrt:
 - i. Emergency vehicle access including ambulance and fire trucks. Town staff noted there will be surface water on Cornwall Road. This will impede commercial, industrial and residential traffic that may lead to temporary road closures. This may concern Oakville since Cornwall Road appears to be a major thoroughfare.
 - ii. Power outages due to water infiltration at building electrical panels.

Please extend my thanks to Town staff and Dave Gittings for their time – much appreciated.

Best regards,

██████████

From: ██████████
Sent: Friday, February 19, 2021 2:40 PM
To: 'Janet Haslett-Theall' <janet.haslett-theall@oakville.ca>
Subject: RE: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

Thanks Janet.

I explained the difference so that anyone reading my email (in this instance my contact list), who may not be well-versed in the definitional differences will easily understand the information. It usually reduces confusion.

Best,

██

From: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>
Sent: Friday, February 19, 2021 2:10 PM
To: ██████████

Subject: RE: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

■
For clarity I do understand the difference between drainage and the ramifications of the 100 year flooding impact. I was simply pointing out that some due diligence has been done and I am following up to ensure the different staff members who work in the same department have connected to ensure flooding was considered as well. I will not hear back before next week at this point.

Janet

From: [REDACTED]

Sent: February 19, 2021 1:21 PM

To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; [REDACTED]

Cc: David Gittings <david.gittings@oakville.ca>

Subject: RE: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

Hi Janet,

Thanks for the update. It is fortunate that the Town is looking at 100 year flood or even worse or catastrophic conditions since Intact Insurance has provided reports on this significant issue in 2015 and 2020 assuming the news articles are correct. This is much more material than on-site driveway drainage which by its very nature is limited to site specific solutions (I.e. site owners are required to keep all water runoff drainage on their site and utilize storm water retention ponds, storm drains and possibly other mitigation measures subject to municipal requirements) whereas Flood Plain Mitigation is global and holistic taking in a much broader geographic area which is admirable.

Conservation Authorities (CA) have historically been on top of this issue, but it more probably rests with municipalities at the local level, especially given the recent mandate changes by the provincial government wrt CA's.

I was pleased that [REDACTED] included this in JCRA's Newsletter.

I hope that the Town of Oakville staff and councillors considered this significant Flood Mitigation challenge and suitable mitigation strategies in its comprehensive due diligence of the [REDACTED] Site Plan Application and that staff mitigation recommendations were included. If not, I trust it can be included in any final discussions with H&R REIT as the implications for the residential, commercial and industrial area are immense. Please advise.

If you are unable to advise soonest, and given that the Town is awaiting the Minister's decision wrt any action on [REDACTED] I will seek MMAH's input before the

Minister renders a decision today.

Thank you.

Best regards,

██████████

From: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>

Sent: Friday, February 19, 2021 12:15 PM

To: ██████████
██████████

Cc: David Gittings <david.gittings@oakville.ca>

Subject: RE: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

Hi ██████

Glad you have taken a look at the Flood Mitigation information.

I am not sure what your statement below referencing I “did not mention the issue “ means. If you meant it was not in our newsletter; correct we do have it in the one scheduled for this week and in addition to JCRA, the Town did publicize the study.

In regards to the impact to ██████ we did answers questions related to stormwater over the last year and got updated reports.

<https://www.oakville.ca/assets/2011%20planning/sp-160400601-eiaaddendum-november2020a.pdf>

<https://www.oakville.ca/assets/2011%20planning/sp-160400601-SWIMReport-november2020.pdf>

I have asked the Flood Mitigation team to confirm they are aware of the Site plan for ██████ though this is the same department that looked at the stormwater. Also note that part of the assessment of driveway access changes includes evaluating drainage needs.

Hope that helps

Janet

Janet Haslett-Theall
Councillor

Office of the Mayor & Council

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From: [REDACTED]

Sent: February 19, 2021 10:33 AM

To: [REDACTED]

Cc: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings <david.gittings@oakville.ca>

Subject: FW: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

[REDACTED]

Please see the email that I issued to my contact list. Please note that I added bolded highlighting to:

...” **if the current building is retained.**”

... **“before anything is built by H&R REIT, if anything.”**

Best regards,

[REDACTED]

Hi XXX,

IMPORTANT

If you haven't read [REDACTED] Newsletter yet, this Flood Mitigation information is contained in the Newsletter. I do not recall Janet Haslett-Theall mentioning this issue.

[REDACTED]

From: [REDACTED]

Sent: Friday, February 19, 2021 9:58 AM

To: [REDACTED] 'Janet Haslett-Theall' <janet.haslett-theall@oakville.ca>; 'David Gittings' <david.gittings@oakville.ca>

Cc: 'membersofcouncil@oakville.ca' <membersofcouncil@oakville.ca>; 'Mayor Rob Burton' <Mayor@oakville.ca>; 'Jane Clohecy' <jane.clohecy@oakville.ca>; 'minister.mah@ontario.ca' <minister.mah@ontario.ca>; 'stephen.crawford@pc.ola.org' <stephen.crawford@pc.ola.org>; 'Watt, Heather (MMAH)' <Heather.Watt@ontario.ca>; 'Tulloch, Lorelea (MMAH)' <Lorelea.Tulloch@ontario.ca>;

'Mackay, Neil (MMAH)' <Neil.Mackay@ontario.ca>

Subject: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

Hi [REDACTED]

TOWN OF OAKVILLE: Flood Mitigation Opportunities Study for Joshua's Creek

<https://www.oakville.ca/environment/flood-mitigation-joshuas-creek.html>

Thanks for including this link in the JCRA Newsletter dated February 13, 2021.

Janet and Dave, I may be providing comments on or before the March 4, 2021 deadline once I review this in more detail. As well, I may request some larger maps since some are challenging to decipher (i.e. orientation).

My initial **Take Away:** One of the worst case flooding scenarios shows flooding onto nearby streets including Cardiff, Dunvegan and Blenheim.

One of the potential **Mitigation Options** is to create Flood Storage Area(s) as shown in this link: [Joshua's Creek Flood Mitigation Opportunities Study Presentation](#)

In my personal opinion, which needs content expert input by inhouse Town staff or external consultants engaged by the Town, a logical place to create a **Flood Storage Area** may be in front of the building at [REDACTED] **if the current building is retained.**

It appears to me that the water may be migrating overland from the [REDACTED] [REDACTED] site north of the Cardiff/Cornwall intersection onto Cardiff, Dunvegan and Blenheim. This may be **mitigated** by 'berming' the length of the [REDACTED] frontage with the exception of driveways (which require large trench drains or bridging over a Flood Storage Area) and eliminating any vehicular access from [REDACTED] Road to the existing T-intersection at Cardiff/Cornwall. Since this proposed driveway access by JCRA may be under consideration by Town staff with H&R REIT as part of the Town's SPA agreement with H&R REIT, it is important to consider flood plain mitigation issues now **before anything is built by H&R REIT, if anything.** Flood Storage Areas are quite common in Florida and may actually enhance the landscape environment.

Thank you.

Best regards,

[REDACTED]

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<REGIONAL INUNDATION BOUNDARIES_Panel 12.pdf>

<100-YEAR Climate Change INUNDATION BOUNDARIES_Panel 11.pdf>

<100-YEAR INUNDATION BOUNDARIES_Panel 10.pdf>

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From: [REDACTED]
Sent: April 1, 2021 5:22 PM
To: Diana Friesen <diana.friesen@oakville.ca>
Subject: FW: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments & [REDACTED]
[REDACTED]

Latest email for the file

[REDACTED]

From: Bill McCreery <billmccreery@cogeco.ca>
Sent: April 1, 2021 4:48 PM
To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>
Cc: David Gittings <david.gittings@oakville.ca>; Jane Clohecy <jane.clohecy@oakville.ca>; Philip Kelly <philip.kelly@oakville.ca>; Leigh Musson <leigh.musson@oakville.ca>
Subject: FW: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments & [REDACTED]
[REDACTED]

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Janet,

Town of Oakville - Joshua's Creek Flood Mitigation Study (Study): Comments & [REDACTED]
[REDACTED]

Thank you for the update (Philip Kelly, as well). Please see the following self-explanatory email that I issued to my contact list this afternoon.

"Additionally flooding in the study area occurs mainly" ... I note your comment, however

...*"mainly"*... does not mean never, so it will be appreciated if Study Report 2 effectively defines the probability of potential flooding that may exceed ...*"flooding scenarios for the 2, 5, 10, 25, 50, 100 year, 100 year + climate change"*... If the Study's assumptions (inputs) are flawed, then the Study outcomes and recommendations may be incorrect. Assumptions need to have measurable robust technical defenses and the filtering process needs to be validated (trust but verify).

Peer Review: Conservation Halton will bring expertise to the table. This Study scope of work is comprehensive involving a range of different skill sets and technical expertise from many diverse professional disciplines. If the town wishes to reduce the risk of any unintended errors and omissions to minimize any real world flooding failures, a diverse peer review team will be a value add. Since the scale of the study is smaller, according to town staff, the added costs are most probably outweighed by the value the consultants can bring to the table (like the [REDACTED] traffic and noise study).

"I will follow up later in the study if Ford Canada or other businesses should have a further role in mitigation." This is encouraging. I'm looking forward to your future response including other businesses as an all-inclusive response may serve all parties.

Thank you.

Best regards,

[REDACTED]

P.S. I hope you enjoy the holiday weekend.

Hi XXX,

Please see Janet Haslett-Theall's and the town staff's response below to my previous enquiries. I have highlighted some of Janet's information using red typeface. Once you have had the time to review same, including any concerns that you may have, at your discretion, you may wish to submit any additional comments to our local and regional councillors prior to the Phase 2 Study Report and to Philip Kelly, Town of Oakville, who is managing the file (to the best of my knowledge).

For your convenience, I have attached the flood plain maps (by the town) and the excel spreadsheet that I generated and issued as attachments to my March 13, 2021 11:38 AM email that I addressed to the councillor and the town.

According to Janet, the Phase 2 study report is anticipated later in 2021.

Thanks.

flooding. This will be very beneficial to all commercial, industrial and residential occupants because **Cornwall Road** will not need to be temporarily closed to all traffic including emergency vehicles (duration unknown). No business interruptions will occur if the Town plans to mitigate this significant issue before a **health and safety crisis** develops. The Town indicated this will not occur as there will only be patches of water on the road. However, this is their assumption and needs to be backed up with facts. For verification of the Town staff's assumptions, a scalable computer probability analysis may provide more certainty to verifiable inputs and outputs.

9. **Hardscaping and Softscaping:** As an example, I previously suggested that the Town consider pervious paving (water flows through paving) be utilized for [REDACTED]. It has been successfully used by the TTC to reduce on-site surface water flows to storm drainage systems to better stay within existing storm drain capacity limits. This type of solution should be factored in when the Study moves through the process to the next Study report. It needs to be considered in any ongoing Town SPA discussions with H&R REIT wrt the [REDACTED] [REDACTED] site if and only if the Minister, MMAH removes the MZO's agricultural designation. What other creative practical solutions can be brought to bear from the Stormwater Management toolkit? Excerpt from Town staffs' response to **JCRA wrt [REDACTED]**:
"As per town requirements, any new development must provide for stormwater management controls for storm events up to and including the 100 year design storm level to ensure there are no negative impacts both onsite and off-site."

10. **Attached Spreadsheet**

- a. **"Acknowledged"** Town staff have acknowledged a number of my comments which is a good start. However, missing - What is the proposed action plan by the Town Council including the Mayor, where it is the elected officials responsibility to provide direction to Town staff to go beyond the limits of the Study and what is the Town's staff's resultant action plan to effect meaningful change to address Joshua Creek Flood issues and climate change.

Again, thank you for this opportunity to comment – much appreciated.

Best regards,

[REDACTED]
[REDACTED]

From: Diana Friesen <diana.friesen@oakville.ca>

Sent: Wednesday, March 10, 2021 4:05 PM

To: [REDACTED]

Best regards,

[REDACTED]
[REDACTED]

From: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>

Sent: Thursday, April 1, 2021 9:02 AM

To: [REDACTED]

Cc: David Gittings <david.gittings@oakville.ca>; [REDACTED]
[REDACTED]

Subject: RE: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments & [REDACTED]
[REDACTED]

[REDACTED]

Thank you for continuing to explore your concerns in regards to Flooding in our area. As you may recall from the call, the study looks at flooding scenarios for the 2, 5, 10, 25, 50, 100 year, 100 year + climate change, and the worst case scenario, the Regional storm event. In my follow up with staff I am advised the study team is confident that the analysis to date has appropriately captured a reasonable level of flood risk due to riverine flooding.

Additionally flooding in the study area occurs mainly during the Regional storm event; thus mitigation alternatives will specifically be looking at the benefits of relieving flooding during this less frequent storm event.

In regards to a peer review, staff advise that on a larger more complex Class EA study they may be used but not one of the scale of Joshua Creek Flood Mitigation study. It may give you some comfort to know that Conservation Halton does participate in Town's mitigation studies and plays a valuable regulatory role in the management of floodplains. CH regulates riverine floodplains on behalf of the Province. From a flood mitigation perspective, CH would serve as a "double check" to ensure that any proposed works to reduce flooding does not worsen flooding on others. CH also reviews proposed works from an ecological perspective to determine if the works can be supported.

Staff generated a long list of flood mitigation alternatives generated based on flood risks identified through the modelling exercise. High level screening, which included preliminary calculations, of the long list of alternatives was carried out by the study team in order to determine which alternatives to carry forward into more detailed analysis. The determination on which options were screened out from further consideration was based on potential benefit realized, technicality of implementation, and potential cost. I am advised this preliminary level of screening is common in Class EA studies. Details of the screening will be available in the final EA report. At the next phase of study, they will update the modelling with the various structural flood mitigation options included and look at the resulting benefit to flooding for the various scenarios (i.e. 100 year design storm, 100 year with climate change,

and Regional (Hurricane Hazel) Storm condition.

The next opportunity for public input on Joshua Creek Flood Mitigation Study will be at our second Public Information Centre (PIC) where Staff will be presenting the detail evaluation of the alternatives and the recommended preferred alternative. Following that there is also an opportunity for public input at the end of the project. Public comments received including yours will also be included in the final project documents/report for all to see.

I am advised Ford Canada is on the Town's contact list for this Class EA study. Upon initiation of the study, town staff coordinated with Ford for access to their facility to carry out surveys and obtain information on drainage structures and natural areas on these private lands. This work provided background information to properly characterize the study area. The Town has had discussions with Ford in the past regarding their stormwater management controls that are currently in place on their site. **I will follow up later in the study if Ford Canada or other businesses should have a further role in mitigation.**

Based on my follow ups with Town staff at this time we need to give them the latitude to complete Phase 2 and use their expertise as well as the consultants they work with. **We anticipate this study reporting back in later in 2021.** With this additional information and work, Council can then determine if additional analysis or action outside the current scope of the study would be beneficial in ensuring public safety.

Take Care
Janet

Janet Haslett-Theall
Councillor
Office of the Mayor & Council
Town of Oakville | 289-837-3923, ext.6005 | www.oakville.ca

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From: [REDACTED]
Sent: March 31, 2021 5:34 PM
To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>
Cc: David Gittings <david.gittings@oakville.ca>; [REDACTED]
[REDACTED]
Subject: FW: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments & [REDACTED]

Hi Janet,

Have you received responses to your questions yet? If yes, when do you anticipate responding to my email to you and Diana Friesen with my attached excel spreadsheet (c.c. Philip Kelly)?

Thanks very much.

Best regards,

From: Philip Kelly <philip.kelly@oakville.ca>

Sent: Wednesday, March 31, 2021 5:09 PM

To: [REDACTED]

Cc: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings <david.gittings@oakville.ca>; Jill Stephen <jill.stephen@oakville.ca>; Phoebe Fu <phoebe.fu@oakville.ca>; Jane Clohecy <jane.clohecy@oakville.ca>; Diana Friesen <diana.friesen@oakville.ca>

Subject: RE: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments & [REDACTED]

[REDACTED]

Thank you for your latest comments.

Your comments will be added to the project file and will be considered as this Class Environmental Assessment study proceeds.

Please note that there will also be future opportunities for public comments/feedback, and for the Joshua Creek Flood Mitigation Study the next opportunity for public input will be at our second Public Information Centre (PIC) where staff will be presenting the detailed evaluation of the alternatives and the recommended preferred alternative. Following that there is also an opportunity for public input at the end of the project. Please note that public comments received are also included in the final project documents/report.

Sincerely

Philip Kelly

Philip Kelly, M.Sc, P.Eng
Manager - Development and Environmental Engineering
Transportation and Engineering

Town of Oakville | 905-845-6601, ext.3298 | f: 905-338-4414 | www.oakville.ca

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From: [REDACTED]

Sent: March 13, 2021 11:38 AM

To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; Diana Friesen <diana.friesen@oakville.ca>

Cc: David Gittings <david.gittings@oakville.ca>; Jane Clohecy <jane.clohecy@oakville.ca>; Philip Kelly <philip.kelly@oakville.ca>; Mayor Rob Burton <Mayor@oakville.ca>; _Members of Council <MembersofCouncil@oakville.ca>; Jill Stephen <jill.stephen@oakville.ca>; Phoebe Fu <phoebe.fu@oakville.ca>; Leigh Musson <leigh.musson@oakville.ca>; minister.mah@ontario.ca; stephen.crawford@pc.ola.org; Heather.Watt@ontario.ca; Loralea.Tulloch@ontario.ca; Neil.Mackay@ontario.ca; [REDACTED] <janusz.czuj@ghd.com>

Subject: RE: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments & [REDACTED]

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Good morning Janet,

Re: Joshua's Creek Flood Mitigation Study (Study)

I appreciate the March 10, 2021 **"Study Team Comments"** provided by Diana Friesen, Town of Oakville (Town) staff and our recent discussion. I want to thank both of you. The following comments are respectfully submitted. I look forward to a fulsome response by Town staff and you. Should I have misinterpreted or misunderstood anything including errors and omissions, please feel free to amend my comments.

As one of our elected officials in Ward 3, I am addressing the following comments to your attention as I have great confidence in Dave Gittings and you for your continuing commitment to constituents and the Town to obtain buy-in from the Mayor and Councillors on a much-needed action plan that needs to extend beyond the scope of work contemplated in the Study. To effect optimal flood mitigation, Town staff need direction by Council to go beyond the Study Environmental Assessment

limitations and expand staff's mandate. Silos need to be broken. The Site Plan process needs to be considered in this process for all sites including the [REDACTED] proposal. Since [REDACTED] is addressed, I have taken the liberty of copying the Minister, MMAH staff and the MPP in the interests of transparency.

Additionally, I am including Diana Friesen in the "To" line item since Town staff provide Councillors and the Mayor with valuable technical and financial advice.

Good morning Diana and Janet,

Should I have misinterpreted or misunderstood anything including errors and omissions, please feel free to amend my comments.

1. **Study Scope of Work:** In reviewing the Town staff's response to my comments on the attached spreadsheet dated March 10, 2021, it has become increasingly clear to me that Town staff appear to be limiting their comments to legislative and jurisdictional requirements based on their current mandate. By staying in their lane with its limiting guardrails (guidrails), the Town is missing many opportunities to look for creative solutions that may be beyond the self-imposed limits of the Joshua Creek Flood Mitigation Study scope of work. In my view, the Study it is only a good starting point.
2. **Study Approach:** *"Thank you for your comments. They will be considered as we move forward into the evaluation of alternatives and as we take a closer look at the cost-benefits of each alternative. Results will be presented at a second public information event planned for later this year." Diana Friesen, Water Resources Technologist, Town of Oakville, March 10, 2021.*

If issues aren't addressed sooner (i.e. now) in a continuous learning and exploratory process before the issuance of the second Study report (...*"second public information event..."*), it will be challenging for all stakeholders including residents to minimize potential gaps in the Study as the Town will have unintentionally created a peak loading of activity. Town staff need to resource level activities. Ongoing meaningful dialogue that extends beyond ticking boxes is required. In my previous experience in realty development, we developed a proven graphic curve that clearly showed if you investigate and plan well in single or multi-projects' early stages, you avoid spending a significant amount of extra time and extra money/funding at later stages up to and including very expensive change orders during construction. This approach helps to ensure an optimal success rate while minimizing errors and omissions.

3. **Peer Review & Public Consultation:** As a layperson myself, given the perceived lack of a global technical knowledge base in the community with regard to (wrt) effective stormwater management, I am again suggesting that the Town consider engaging an independent third party Peer Review content expert(s) to address any potential gaps in the Town's Study. Although the Study has a disparate group of different jurisdictional inputs (matrix management), the group may lack the focused leadership of a project management business model and the input parties may get too close to the file and miss issues that arms-length Peer Review consultants may best capture. For example, the [REDACTED] **Peer**

Review Traffic Study effectively demonstrated its great value add, hopefully resulting in better solutions.

4. **Public Communication & Consultation:** As well , the **Peer Review** will facilitate effective public consultation and encourage **engagement** by constituents and stakeholders who may not be able to effectively contribute due to the technical language that is employed in the Study. The current Study doesn't work very well wrt public consultation if no one understands the technical language employed by technical staff. This is not their fault, as the technical world is their 'fieldhouse', but the technical language needs to be supplemented by lay-persons' language, where possible.
5. **Missing Supporting Analysis & Financial Analysis:** The Study has an Alternatives matrix that identifies checks denoting probable future study and X's denoting not to be considered for future study. This Town Study conclusion is premature as no financial analysis has been provided to be able to assess the Alternatives nor has the Study provided effective supporting documentation including the robust rationale for the Alternatives. To my layperson's eyes, there appears to be a vacuum of supporting rationales. Alternatives need to be considered in whole and in part since one Alternative may not mitigate potential flooding whereas a number in concert will probably have a better success rate.
6. **Missing Supportive Documentation:** In the attached spreadsheet, Town staff have dismissed some of my comments, initially as my comments were out of the Study scope and currently, for example, because it is not technically viable to store water temporarily in **Storm Water Retention Ponds** at the **Ford of Canada and [REDACTED]** sites during a flood condition as the Town staff claim there is too much water to store. There needs to be supporting documentation, otherwise, there is no way to verify the subjective statement by Town staff or me. Wherever possible, assumptions need to be verified to avoid costly mistakes, especially wrt **health and safety**.
7. **Scenario Analysis – Computer Modelling:** The **JCRA** has identified some historical floods in their recent comments to the Town wrt the Study (**JCRA: Climate change is a critical factor in flood mitigation, March 4, 2021**). This is excellent commentary because it gives credence to the need to effectively analyze a series of scenarios for the different flooding scenarios: 100 Year Inundation Boundaries; 100 Year Climate Change Inundation Boundaries; and Regional Inundation Boundaries such as 1954's Hurricane Hazel event. The Study needs to undertake scalable computer generated analyses considering many different iterations up to and exceeding the snapshot floodplain maps included in the Study given that the maps only represent best estimates and are not absolute. This is especially relevant since Town staff are unable to predict whether a Regional flood may occur next week or 250 years hence.
8. **Business Interruption and Residential Disruption:** In my comments, I note that mitigating potential flood waters on the **[REDACTED]** site and the **Ford of Canada** site will probably avoid Cornwall Road and residential streets and sites to the south and possibly Maple Grove plaza and industrial and commercial sites to the north of Cornwall Road

flooding. This will be very beneficial to all commercial, industrial and residential occupants because **Cornwall Road** will not need to be temporarily closed to all traffic including emergency vehicles (duration unknown). No business interruptions will occur if the Town plans to mitigate this significant issue before a **health and safety crisis** develops. The Town indicated this will not occur as there will only be patches of water on the road. However, this is their assumption and needs to be backed up with facts. For verification of the Town staff's assumptions, a scalable computer probability analysis may provide more certainty to verifiable inputs and outputs.

9. **Hardscaping and Softscaping:** As an example, I previously suggested that the Town consider pervious paving (water flows through paving) be utilized for [REDACTED]. It has been successfully used by the TTC to reduce on-site surface water flows to storm drainage systems to better stay within existing storm drain capacity limits. This type of solution should be factored in when the Study moves through the process to the next Study report. It needs to be considered in any ongoing Town SPA discussions with H&R REIT wrt the [REDACTED] **Road** site if and only if the Minister, MMAH removes the MZO's agricultural designation. What other creative practical solutions can be brought to bear from the Stormwater Management toolkit? Excerpt from Town staffs' response to **JCRA wrt [REDACTED]**: *"As per town requirements, any new development must provide for stormwater management controls for storm events up to and including the 100 year design storm level to ensure there are no negative impacts both onsite and off-site."*

10. **Attached Spreadsheet**

- a. **"Acknowledged"** Town staff have acknowledged a number of my comments which is a good start. However, missing - What is the proposed action plan by the Town Council including the Mayor, where it is the elected officials responsibility to provide direction to Town staff to go beyond the limits of the Study and what is the Town's staff's resultant action plan to effect meaningful change to address Joshua Creek Flood issues and climate change.

Again, thank you for this opportunity to comment – much appreciated.

Best regards,

[REDACTED]
[REDACTED]

From: Diana Friesen <diana.friesen@oakville.ca>

Sent: Wednesday, March 10, 2021 4:05 PM

To: [REDACTED]

From: [REDACTED]
Cc: [Jane Clohecy](#); [Philip Kelly](#); [Janet Haslett-Theall](#); [David Gittings](#); [Rob Burton \(InTouch\)](#); [Members of Council](#); ["minister.mah@ontario.ca"](#); ["stephen.crawford@pc.ola.org"](#); ["Heather.Watt@ontario.ca"](#); ["Loralea.Tulloch@ontario.ca"](#); ["Neil.Mackay@ontario.ca"](#); [REDACTED]; [Janusz Czuj](#); [Jill Stephen](#); [Phoebe Fu](#)
Subject: RE: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments
Date: Wednesday, March 10, 2021 4:05:42 PM
Attachments: [Copy of Joshua's Creek Flood Mitigation Study. Comments 21-03-02 Town Comments 21-03-10.xlsx](#)

[REDACTED]

Thank you for your comments. They will be considered as we move forward into the evaluation of alternatives and as we take a closer look at the cost-benefits of each alternative. Results will be presented at a second public information event planned for later this year.

See attached for comment matrix responses.

Best Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
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From: [REDACTED]
Sent: March 2, 2021 6:13 PM
To: Diana Friesen <diana.friesen@oakville.ca>
Cc: Philip Kelly <philip.kelly@oakville.ca>; Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings <david.gittings@oakville.ca>; Jane Clohecy <jane.clohecy@oakville.ca>; Mayor Rob Burton <Mayor@oakville.ca>; _Members of Council <MembersofCouncil@oakville.ca>; minister.mah@ontario.ca; stephen.crawford@pc.ola.org; 'Watt, Heather (MMAH)' <Heather.Watt@ontario.ca>; 'Tulloch, Lorelea (MMAH)' <Loralea.Tulloch@ontario.ca>; 'Mackay, Neil (MMAH)' <Neil.Mackay@ontario.ca>; [REDACTED]
Subject: Town of Oakville - Joshua's Creek Flood Mitigation Study: Comments

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Hi Diana,

I want to thank Town staff and in particular Philip Kelly and you for providing background information at the recent 'zoom' type call initiated by Janet Haslett-Theall and Dave Gittings as well as your subsequent email to me wrt further background information and 'exploded' images for my easier viewing and understanding. It is greatly appreciated.

Attached are my draft comments for your review. Should you wish to respond, please add another column to this existing excel spreadsheet as it will greatly facilitate understanding for all if there is more than one future iteration.

I have taken the liberty of copying the Ministry of Municipal Affairs and Housing and the MPP since the abovementioned document also captures my comments on [REDACTED], Oakville.

Best regards,

[REDACTED]

"Public Information Centre #1 Joshua's Creek Flood Mitigation Study"(Study) Comments by Resident		Issue Date: 21-09-20	10-Mar-21
Item #	DRAFT		
1.0.	<p>World 3 Update, Feb. 24, 2021: Global Covenant of Mayors (GCoM) for Climate and Energy Showcase Cities pilot</p> <p>"Global cities around the world have already committed to doing their part to solve the climate crisis. Now they are calling for a green recovery and ensuring that cities are the centerpiece in the effort to grow back greener, healthier and more resilient."</p>	<p>Resident Comments: [REDACTED]</p> <p>As a resident of the Town of Oakville I view this as an opportunity for Oakville's elected officials to demonstrate their commitment to the future economic and public health of the community by looking beyond the constraints of the Flood Mitigation Study as per the Class Environmental Assessment Process. The Study need not be the end but the beginning of a commitment to leadership on this important generation define issue.</p>	<p>Study Team Comments</p> <p>Acknowledged</p>
2.0.	<p>I have excerpted what I consider to be key issues/takeaways from the Town Study</p> <p>CLASS ENVIRONMENTAL ASSESSMENT PROCESS</p> <p>The Study will be conducted in accordance with the planning and design process for Schedule B projects as outlined in the Municipal Class Environmental Assessment document [October 2000 amended in 2015] which is approved under the Ontario Environmental Assessment Act. Schedule B projects involve Phase 1 and Phase 2 of the Municipal Class Environmental Assessment process as illustrated to the left.</p>	<p>Resident Comments: [REDACTED]</p> <p>Please see my self-explanatory statement immediately above.</p>	
3.0.	<p>The "Regional Storm is the focus of this Study."</p> <p>a. Town staff advised that a Regional Storm is unpredictable and may occur next week or 250 years from now.</p> <p>b. "STUDY AREA AND DESCRIPTION": "Spans approximately 11 km from its headwaters near Lower Baseline Road to Lake Ontario just east of the Oakville-Mississauga border."</p> <p>c. "Study Area": "Along Joshua's Creek from Upper Middle Road to Lake Ontario."</p>	<p>a. Hurricane Hazel (1954) is the Regional Storm Flood Map. It exceeds the 100 Year Flood Map and 100 Year Flood Map adjusted for Climate change. All three maps are included in the Study.</p>	<p>Acknowledged</p>
4.0.	<p>"PROBLEM OPPORTUNITY": "The Study goals are to enhance public safety and reduce property and environmental damages, economic losses, social disruption, public and private expenditures and impacts to critical infrastructure."</p> <p>a. "Flood inundation of the industrial, commercial and residential areas downstream of the CN Railway during the Regional Flood event."</p> <p>b. Overlapping of Royal Windsor Drive during the 25-year to Regional flood events."</p> <p>c. Spill to the Wedgewood Creek system near the Royal Windsor Drive and CN Railway crossings during the 100-year climate change and Regional flood events."</p>		
5.0.	<p>Creek Flow</p> <p>a. 100-year storm event - 1% chance of occurrence in a given year.</p> <p>b. Regional storm event - 1954 historical storm which is the largest storm on record in Southern Ontario and produces flows that are significantly greater than the 100-year flows in Joshua's Creek."</p>	<p>Please review storm surge (like tsunami waves) for the Regional Flood Map, the 100 Year Flood Map and the 100 Year Flood Map adjusted for Climate change. Recently another conservation authority advised me that structure (building) door sills need to be located 12" (300mm) above the high water flood line due to potential storm surge (i.e. wave action). If correct, this means that all maps need to consider the additional extent of the high water flood line considering the storm surge flood area.</p>	<p>When infrastructure is designed within the vicinity of computed Regional flood levels a "freeboard" or safety factor is often used and this often varies between municipality and conservation authority. Designing a door sill 0.3 m above a Regional flood elevation is one example. In this study the Town is working in conjunction with Conservation Halton and our consultant to determine the flood levels (100 yr and Regional etc.). Safety factors if required would be applied later at the design stage.</p>
6.0.	<p>"Climate Change"</p> <p>a. The 100-year flows were adjusted to represent a worst-case future scenario with respect to increased greenhouse gas emissions"</p> <p>b. 100 Year and 100 Year With Climate Change Differentiation</p> <p>Excerpt from Town email dated March 1, 2021: "100 year and 100 year with climate change is differentiated by their intensity, duration and frequency (IDF) curves that generate differences in peak flow rates when modeled. Peak flows are then inputted into a hydraulic model to generate flood elevations (i.e. water surface elevations). The higher the peak flows, the higher the water surface elevation.</p> <p>Joshua's Creek peak flows are:</p> <p>Highway 403 100 year - 53.3 cubic metres per second (CMS) 100 year adjusted for CC - 67.75 CMS</p> <p>CN Railway 100 year - 37.82 CMS 100 year adjusted for CC - 73.97 CMS</p> <p>Ford Drive 100 year - 39.93 CMS 100 year adjusted for CC - 74.47 CMS"</p>		
7.0.	<p>"HYDROLOGIC MODELLING OF JOSHUA'S CREEK: A more refined model (2-D unsteady) that is capable of modelling flows in two dimensions typical in flat areas outside of the creek system, confirmed there is a spill to the Wedgewood Creek system during the 100-year climate change and Regional Flow Events"</p>		
8.0.	<p>"POTENTIAL ALTERNATIVE SOLUTIONS TO REDUCE FLOOD RISK: The flood risk sites identified through hydrologic and hydraulic modeling were the result of reduced capacities and/or configurations of creek crossing structures under the Royal Windsor Drive and the CN Railway and the flat topography of the floodplain."</p>	<p>Question: Are there any additional Study elements that the Town considers to be key to the Study?</p>	<p>In regards to floodplain characterization, there are a number of key "elements" or parameters that are looked at, including those mentioned here as well as others such as impervious area and landuse.</p>
9.0.	<p>"ALTERNATIVE SOLUTIONS"</p>	<p>General Comments</p> <p>1. As I understand the Town of Oakville's response, it advises that the following is not part of the scope of the Study and is therefore beyond the Town's jurisdictional responsibility. The Town should pro-actively consider better technical and cost-effective approaches to mitigate flooding than some of the constrained Study Alternatives as defined in the Study mandate. If the Town took a pro-active approach beyond the Study's scope, limits, it will benefit all parties immeasurably.</p> <p>1. For example, if the Town worked in partnership with Ford of Canada, it is quite possible to maintain flood water on the Ford site. It would minimize or eliminate the flood waters flowing to the south that may not be effectively contained within the Joshua Creek riverbed.</p> <p>2. If pinch points were mitigated at creek crossing structures, then the need for mitigation downstream may be minimized. If storm water retention ponds were implemented at the Ford of Canada site and 2173 Cornwall Road, this may minimize or eliminate the need to mitigate creek crossing structures, i.e. build a costly new CN bridge and/or build a new culvert under Royal Windsor Drive.</p> <p>3. Another example: 2173 Cornwall Road. Please see Regional Storm map contained in the study. Containing water on the site would probably eliminate flood migration onto Cornwall Road and neighbouring residential streets such as Cardiff Drive, Dunvegan Avenue and Blenheim Crescent and possibly neighbouring industrial and commercial sites such as the Maple Grove Plaza. Eliminating flood water on Cornwall Road will leave this thoroughfare open for emergency, industrial, commercial and residential traffic, reducing impacts to public safety and facilitating ongoing economic activity.</p> <p>4. Contamination: Most importantly, it would eliminate any downstream groundwater and water table contamination emanating from the agricultural headwaters and any known and unknown contamination from industrial users on the banks of Joshua Creek. This is based on pro-active empirical experience. This pro-active approach will effectively align with the Study Goals: "... to enhance public safety and reduce property and environmental damages, economic losses, social disruption, public and private expenditures and impacts to critical infrastructure."</p> <p>Excerpt from February 25, 2021 email response from Town: The Town does not develop flood mitigation strategies and implementation plans in partnership with private sector landowners. "[Town Note: The Town works with Conservation Halton (who regulates floods plus on behalf of the Province) when development applicant are being processed. New developments cannot worsen flooding on other properties. There is no requirement for new developments to improve downstream conditions."</p> <p>Excerpt from February 25, 2021 email response from Town: The municipal Site Plan Application process does not account for Hurricane Hazel type events. "[Town Note: There is no requirement during the LIR also possible for the applicant to analyze the Hurricane Hazel event on their site. There is a requirement to ensure the site functions properly during the 100 year event. The 100 year event governs on small drainage areas. Hurricane Hazel is the typical design event in southern Ontario for creek and river systems such as Joshua Creek, Credit River, Huron River etc."</p> <p>b. "Alternative 1" - Do Nothing, Study benchmark for comparative purposes.</p>	<p>Acknowledged.</p> <p>Acknowledged.</p> <p>Mitigation measures associated with crossing have been considered as part of the list of alternatives. Flood storage was considered within the study area and was screened from further consideration due to the impracticality of storing such a large volume of water that would be needed to reduce expected peak flows and provide any noticeable benefit to flood risk for the 100 year and Regional storm conditions.</p> <p>Refer to comments above on flood storage.</p> <p>Any flood risk mitigation measure imposed is unlikely to eliminate point source contamination from upstream as pathways for entry into creeks and stormwater system would remain.</p> <p>This is a missed opportunity - unfortunate.</p> <p>Acknowledged</p>
	<p>c. "Alternative 2" - Increase the Capacity of the CN Rail Bridge</p>	<p>i. Based on empirical experience, this proposed option will take a significant time to implement since CN may be quite protective of its jurisdiction.</p> <p>ii. It will be very disruptive to rail traffic including Go Train service.</p> <p>iii. The capital cost will be quite expensive.</p> <p>iv. It seems contradictory to consider this alternative private sector Alternative owned by CN but not the private sector owned Ford of Canada proposed option that was previously rejected by the Town. Why? Please clarify the Town's very narrow approach to mitigation. From a business case perspective, I find it quite surprising.</p>	
	<p>d. "Alternative 3" - Construct Flood Control Berms on the North Side of Constance Drive and the Pathway Along the South Side of Joshua's Creek East of Constance Drive.</p>	<p>i. This appears to be very disruptive at Constance Drive and expensive.</p>	
	<p>e. "Alternative 4" - Install a Relief Culvert Under Royal Windsor Drive "...reduce overtopping of the road during the 100-year flow event."</p>	<p>i. Flooding: Cardiff Drive, Dunvegan Avenue and Blenheim Crescent: What is the Town proposing to mitigate this condition as per the focus of the Study?</p> <p>ii. May be better to resolve this site is under control of fewer jurisdictions with authority. May be more cost-effective than Alternative 2, CN Rail Bridge.</p>	

<p>f. "Alternative 5" – Provide Flood Storage</p> <p>g. "Alternative 6" – Implement Low Impact Development Measures (LIDs)</p>	<p>Please see a. General Comments.</p> <p>i. Are LIDs effective for 100 Year and 100 Year Climate Change mitigation?</p>	<p>LIDs offer opportunities for mitigation at the most frequent storm events and have not been proven to provide relief for the more extreme rainfall events.</p>	<p>Acknowledged comments will be considered as we advance to the evaluation of alternatives.</p>
<p>h. "Alternative 7" – Construct Flow Diversion</p>	<p>i. No comment.</p>		
<p>i. "Alternative 8" – Implement Non-Structural Measures</p> <p>i. Flood control structures such as berms, dikes and dams provide flood mitigation by removing certain areas from the floodplain.</p>	<p>1. Where would this be planned in the Joshua Creek area?</p>	<p>There are currently no flood control structures such as berms, dikes and dams within the Joshua Creek catchment. This bullet point is meant to capture means of modifying operation of these existing measures to implement flood mitigation. This bullet should be removed.</p>	
<p>i. Policies are non structural mitigation measures. Policies currently exist to mitigate flood risk by</p>	<p>1. Where are these areas in the Joshua Creek area.</p>	<p>Areas regulated by Conservation Helton. Information and mapping can be found on their website.</p>	
<p>10.0. 3. "SCREENED ALTERNATIVE SOLUTIONS"</p>	<p>The Study appears to be lacking any financial analysis that forms the core of any robust business case rationale for the Study.</p>		
<p>11.0. 4. "PLANNED NEXT STEPS"</p> <p>a. Excerpt from Town email dated March 1, 2021: "Yes, baseline map condition is what we refer to as "existing conditions". This represents current flooding condition without intervention of flood mitigation measures. What has been presented to the public to-date in the maps provided in the on-line presentation (Study) represents "existing conditions". At the next phase of study we will update the modeling with the various structural flood mitigation options included and look at the resulting benefit to flooding for the various scenarios [i.e. 100 year design storm, 100 year with climate change and Regional (Hurricane Hazel) Storm condition."</p>	<p>The current Study does not address any financial analysis of the Alternatives in part or in whole. Will this be addressed in the Planned Next Steps?</p>		<p>The evaluations of alternative will include cost benefit analysis at the next stage of the EA process.</p>
<p>12.0.</p>	<p>Risk Management</p> <p>1. What is the Town's risk management methodology?</p> <p>2. Will the Town be providing order-of-magnitude capital cost estimates for each Alternative?</p> <p>3. Will the Town be identifying ongoing operating costs if any for each alternative?</p> <p>4. Will the Town be creating a Risk Register matrix identifying solutions ranging from Low Risk, Low Cost to High Risk, High Cost analyses and undertaking a computer generated iterative probability assessment?</p>	<p>A flood risk prioritization strategy is currently in development to consider all the mitigation works recommended through the five follow up flood studies. This strategy will consider both the costs of the work and the resulting benefits to the areas.</p>	
<p>END</p>			

From: Diana Friesen
To: [REDACTED]
Cc: [Kristina Parker](#); [Janusz Czuj](#)
Subject: RE: Joshua Creek Flood Mitigation Study
Date: Wednesday, March 03, 2021 9:05:35 AM

Hello [REDACTED]

Thank you very much for your comments. They will be considered as we move forward into the evaluation of alternatives.

Best regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca
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From: [REDACTED]
Sent: March 2, 2021 10:22 PM
To: Diana Friesen <diana.friesen@oakville.ca>
Subject: Joshua Creek Flood Mitigation Study

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Thanks so much for providing me with the 23-page Joshua Creek Flood Mitigation Study and the very interesting Alternative Solutions which are being considered.

I am a retired Business Development Executive who has lived with my wife (now deceased) and four children on [REDACTED] Oakville since 1986. I hold a Masters Degree in Organic Chemistry and also a Business Development qualification.

Our house backs onto Joshua Creek and it has often occurred to me ,could be vulnerable to flooding problems if the Creek's water level were to rise suddenly and significantly.

Solutions 3 and 4 appear to me to be the most practical ones for this beautiful residential area. However, it is not clear regarding what is intended with Sol'n No 8. Also, costs will be an important consideration.

Thank you again for allowing the residents to be brought into the decisions.

Another issue which should be addressed in residential areas such as ours is electricity failure,

particularly in winter and other emergencies such as flooding. (This winter we have already had three electricity failures of half-an-hour or more.)

Previous power failures have led me to install a back-up electricity generator large enough to run the fridge and the freezer.

Thank you again for including me in the Flood Mitigation Study.

[REDACTED]

From: [REDACTED]
To: diana.friesen@oakville.ca; Janusz Czuj
Subject: Joshua Creek Flood Mitigation Study
Date: Wednesday, March 03, 2021 5:26:42 PM
Attachments: [IMG_0629.JPG](#)

You don't often get email from bruno.eidenberg@gmail.com. [Learn why this is important](#)

[Feedback](#)

Dear Ms. Friesen and Mr. Czuj,

Our property at [REDACTED] is directly adjacent to Joshua Creek on the South side of the bridge. We have been residents here since 2004.

I would like to provide three observations and some comments regarding the presentation of the study:

1. While the wildlife description in the study lists birds, bats, racoons and the like, it does not include mention of frogs and turtles which, like the fish migrating upstream in springtime to spawn, are directly dependent on the undisturbed condition of the creek habitat for their survival. I am attaching a photo I made in August 2011 depicting a large snapping turtle laying its eggs close to the road at the South-East side of Brookmill Road bridge. Some weeks later we witnessed with excitement as the baby turtles hatched. A group of neighbourhood children under the direction of their parents collected the baby turtles in boxes and carried them down the embankment to the creek so that they would not be in danger of being run over trying to cross the road.
2. The study does not address the significant impact which recent upstream development has had on the water quality and flow patterns of the creek. These developments include first the residential development along the creek South of Dundas and then the commercial development of the lands of the former golf driving range East of Joshua Creek Drive and South of Upper Middle. From my personal observation, these developments and the resulting increased drainage volumes seem to have been the main factor in raising flood levels and increasing water turbidity during the last 8-10 years, more so than any perceived or real change in the severity of individual rain storm events.
3. The study does not mention flood risk as a result of snow melt, particularly when combined with more intense rainfall. Even without any significant rainfall as last weekend, the creek will these days usually burst its banks at any time when snow begins to melt. From my personal recollection, this did not seem to happen as regularly and not to the same degree in the early years of our time here, before the above mentioned developments were built.

In addition to addressing increased flood risk, the study should include an investigation of measures to remedy the negative impact on the natural creek habitat from the upstream developments. We notice that there are significantly fewer fish migrating upstream in the spring and we have not seen the turtles back since 2011. They were regular visitors on and next to our property in our early years here.

Please do not hesitate to contact me if you have any questions or would like to discuss further.

Best regards,



From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](#); [Kristina Parker](#)
Subject: RE: Joshua Creek Flood Mitigation Study
Date: Wednesday, March 10, 2021 4:07:43 PM

Good Morning [REDACTED]

Thank you for your comments and observations. I'd like to offer some additional information:

1. While the wildlife description in the study lists birds, bats, racoons and the like, it does not include mention of frogs and turtles which, like the fish migrating upstream in springtime to spawn, are directly dependent on the undisturbed condition of the creek habitat for their survival. I am attaching a photo I made in August 2011 depicting a large snapping turtle laying its eggs close to the road at the South-East side of Brookmill Road bridge. Some weeks later we witnessed with excitement as the baby turtles hatched. A group of neighbourhood children under the direction of their parents collected the baby turtles in boxes and carried them down the embankment to the creek so that they would not be in danger of being run over trying to cross the road.

While the presentation materials may have not been all inclusive of wildlife possible within the study area, rest assured that the Environmental Assessment Study (EA) does look at both aquatic terrestrial and fisheries habitat. This aquatic characterization of the study area is completed at a high level for the EA phase as the study itself is considered high level. The characterization at this phase includes gathering of background data, sampling records, and incidental observations. More detailed aquatic habitat characterization and field work may be required at the design phase depending on the chosen solution in order to quantify specific potential impacts and mitigation measures. The detailed reporting of the natural environment carried out for the EA will be available to the public for review once the project is ready to be filed later this year.

2. The study does not address the significant impact which recent upstream development has had on the water quality and flow patterns of the creek. These developments include first the residential development along the creek South of Dundas and then the commercial development of the lands of the former golf driving range East of Joshua Creek Drive and South of Upper Middle. From my personal observation, these developments and the resulting increased drainage volumes seem to have been the main factor in raising flood levels and increasing water turbidity during the last 8-10 years, more so than any perceived or real change in the severity of individual rain storm events.

The purpose of the study is primarily to look at flood risk mitigation mainly as a result of extreme rainfall events. While we recognize that water quality is an important topic, looking at specific improvements to existing water quality is beyond the scope of the study purpose. The town's recent Stormwater Master Plan does take a more detailed look at alternatives to improve water quality within the town. This information can be

found on the town's website at <https://www.oakville.ca/environment/stormwater-sewers.html>. That said, we will still be considering water quality as well as impacts to creek processes as part of the overall environmental impacts when we go to evaluate alternatives to address to flood mitigation.

3. The study does not mention flood risk as a result of snow melt, particularly when combined with more intense rainfall. Even without any significant rainfall as last weekend, the creek will these days usually burst its banks at any time when snow begins to melt. From my personal recollection, this did not seem to happen as regularly and not to the same degree in the early years of our time here, before the above mentioned developments were built.

The study's evaluation of flood risk includes a variety of rainfall scenarios from the more frequent occurrences to the extreme more intense rainfall events. Snow melt coupled with intense rainfall is also an important consideration. While the floodplain modelling exercise does not specifically input snowmelt parameters, we do look at ground saturation to mimic more intense runoff when ground is saturated as it would be in early spring. Hurricane Hazel (Regional storm event) represents the worst case extreme rainfall scenario in terms of total rainfall volumes and for this event full ground saturation is assumed at the start of the event which then maximizes runoff volumes from the land and peak flows in the creeks which is then used to fully characterize flood risk areas.

I trust this information is of assistance and thank you again for your contribution to the study. Your e-mail contact information has been added to the study mailing list and you will be notified of further updates as the study progresses.

Best Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](#); [Kristina Parker](#)
Subject: RE: Joshua's Creek Flood Study
Date: Wednesday, March 10, 2021 4:07:23 PM

Dear [REDACTED],

Thank you for reaching out to the study team and providing your observation and comments. They will be considered as we move forward with the study.

The study's evaluation of flood risk includes a variety of rainfall scenarios from the more frequent occurrences of a 2-year storm event to the extreme more intense rainfall events (existing 100-year rainfall and future scenario) as well as simulation of an actual storm event (Hurricane Hazel) which represents the worst case scenario for this creek system. All will be considered as we move into the evaluation of alternatives.

In addition, here are answers to your specific questions:

- Why does the study area only extend as far north as Upper Middle Road (UMR), when approximately 13 square kilometers of the Joshua's Creek catchment area lie north of UMR? It would seem possible that some mitigation could be achieved with appropriate engineering north of UMR, particularly north of Dundas Street, where reference to Google Earth indicates some broader areas of undeveloped land.

The study area selection is meant to capture existing areas of flood risk (identified through the previous town-wide flood study). Areas of flood risk were primarily recognized south of the QEW and are the result of the era of development where buildings and communities were built near or within natural hazards. Development north of Upper Middle Road occurred much later when policies and regulations were in place to ensure development occurred outside the Regional Storm floodplain (aka. Hurricane Hazel Storm event). This is evident when you compare the size of the creek blocks and buffer areas for Joshua's Creek north of Upper Middle vs. areas south of the QEW.

The study does look at the entire Joshua's Creek watershed in our hydrologic modelling exercise to fully characterize flood risk. The study team also looked at mitigation options to the north of the study area to relieve flooding in the south. In particular flood storage was considered immediately upstream of Upper Middle Road, however this option was screened out for further consideration as the storage volume requirements would be significant from a cost and land requirement perspectives and have significant impact to an environmentally sensitive area. Mitigation measures north of Dundas Street were also screened out early on due to the fact that here you are in the headwaters of Joshua Creek where there is less contributing drainage area and controlling this smaller drainage area will have a negligible

impact on peak flows as you get further downstream.

- I assume that the flood extent map “Using Historical Climate Data” excludes Hurricane Hazel. What period of data was used in generating this map?

Slide # 10 titled “ Draft 100 Year flood Map” Using Historical Climate Data: The 100-year flood map is based on the intensity, duration, rainfall (IDF) curves generated using Toronto Bloor Street station, which has continuous rainfall data for the last 50 years. The Hurricane Hazel flood map is generated using a rainfall distribution based on that particular storm event occurrence and the resulting flood map can be found on Slide # 12.

I trust this information is of assistance and thank you again for your contribution to the study. Your e-mail contact information has been added to the study mailing list and you will be notified of further updates as the study progresses.

Best Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]
Sent: March 3, 2021 10:23 AM
To: Diana Friesen <diana.friesen@oakville.ca>; janusz.czuj <janusz.czuj@ghd.com>
Subject: Joshua's Creek Flood Study

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Diana Friesen, BSc. C.E.T
Water Resources Technologist
905-845-6601 ext. 3904
diana.friesen@oakville.ca

Janusz Czuj, P.Eng.
Project Manager
GHD
janusz.czuj@ghd.com

Re: Joshua's Creek Flood Study

Dear Diana Friesen and Janusz Czuj,

A few observations/comments:

Why does the study area only extend as far north as Upper Middle Road (UMR), when approximately 13 square kilometers of the Joshua's Creek catchment area lie north of UMR? It would seem possible that some mitigation could be achieved with appropriate engineering north of UMR, particularly north of Dundas Street, where reference to Google Earth indicates some broader areas of undeveloped land.

I assume that the flood extent map "Using Historical Climate Data" excludes Hurricane Hazel. What period of data was used in generating this map?

What parameters (or Climate Model Scenarios) were used to calculate the future extent of flooding due to climate change? Although this information would have been helpful in this introductory document, the question is moot, because we know from the historical data presented by GHD that we can expect another Hurricane Hazel type of event which produced more extensive flooding than would GHD's 100 year climate change model.

The result of GHD's flood modeling exercise is thus quite ironic, in that climate change computer models once again are proven to be wrong, but in this case by underestimating the potential impact of a severe weather event! In any case, the models are known to be less than perfect in projecting precipitation and are not down-scalable to regional models. It is an interesting problem for planners – do you simply write off Hurricane Hazel as a black swan or Hurst event that is now passed and unlikely to recur within planning time-frames, or should you assume – quite reasonably – that it could happen again at any time in the near future?

Conclusions

1. Examine the potential for further mitigation measures north of Upper Middle Road.
2. Ignore climate models. Construct flood mitigation plans based on known severe events such as Hurricane Hazel. This becomes a cost-benefit exercise. Is it feasible to attempt to make vulnerable areas completely bullet-proof against such Hurst events, or simply construct comprehensive emergency/contingency plans to deal with the aftermath?

Regards,

[Redacted]

[Redacted]



From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](#); [Janet Haslett-Theall](#); [David Gittings](#); [Philip Kelly](#); [REDACTED]
Subject: RE: JCRA Feedback - Joshua Creek Flood Mitigation
Date: Wednesday, March 10, 2021 4:06:59 PM

Dear [REDACTED]

Thank you for the comments on behalf of the JCRA board. These comments will be considered as we move forward into the evaluation of alternatives. Results will be presented at a second public information event planned for later this year.

In addition, a flood risk prioritization strategy is currently in development to consider all the mitigation works recommended through the five follow up flood studies throughout the town, including Joshua's Creek. This strategy will consider both the costs of the work and the resulting benefits to the areas.

In regards to comments pertaining to subject matter expertise, please note that consultation with agencies is required as part of the Environmental Assessment process and those with expertise on floodplain and environmental management have been consulted. Conservation Halton is the local experts on floodplain management for Halton Region and are fully engaged in the study process. Information and input provided by agencies will be included in the Project File that will be available for public review later this year.

Lastly, while the study team is not directly associated with Site Plan matters associated with [REDACTED], we have shared the updated flood maps with town planning and development engineering staff and Conservation Halton. Dealing with drainage impacts from development will be looked at as part of the Site Plan review process as part of the stormwater management requirements. As per town requirements, any new development must provide for stormwater management controls for storm events up to and including the 100 year design storm level to ensure there are no negative impacts both onsite and off-site.

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]

Sent: March 4, 2021 4:59 PM

To: Diana Friesen <diana.friesen@oakville.ca>

Cc: janusz.czuj <janusz.czuj@ghd.com>; Janet Haslett-Theall <janet.haslett-theall@oakville.ca>;
David Gittings <david.gittings@oakville.ca>

Subject: JCRA Feedback - Joshua Creek Flood Mitigation

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Good afternoon Diana,

Thank you for the public input opportunity on the Joshua Creek Flood Mitigation Study undertaken by the Town.

Feedback from the JCRA board on this study is more general rather than specific recommendations.

Our comments include:

Climate change is a critical factor in flood mitigation

- The study refers to 100-year storms and Regional Storm Event, specifically Hurricane Hazel. However, 100-year storms appear to be occurring more frequently. Per a Toronto Life May 2019 article (link below), there have been six 100-year storms in the GTA in the period 1999-2019, including:
 - Toronto, July 2013 storm with rainfall of 126 ml in a 3-hour period.
 - Burlington, August 2014, with rainfall 192 ml in 5 – 7 hours.
 - Toronto, August 2018, with rainfall 70 ml in 2 hours.
- Flood mitigation alternatives must be able to withstand increased frequency of severe storms given the experiences here in the GTA of 100 year' storms occurring in much less than 100 years.
- As well, multiple flood mitigation options may be required to adequately address the flooding risk.

<https://torontolife.com/city/the-age-of-the-flood>

Subject Matter Expertise

- The presentation does not include any information from experts in this area i.e., Conservation Authorities, Environment Canada, Ontario Ministry of Natural Resources,

such as best practices and examples of where these types of alternatives have been implemented.

- Residents do not have the knowledge and understanding of the presented alternatives to recommend one over another, particularly given the range of alternatives. For example, Alternatives #2 and #4 seem significantly different from Alternative #8. What is the context in which any of these alternatives could be recommended?
- Including more information from experts as to how these would differ in practice, including current examples in which these types of alternatives were implemented, would be helpful and likely would impact residents' feedback.

Cost/Benefit Analysis

- There is no information about the costs associated with each alternative.
- While cost should not be an overriding factor, it is a consideration and typically has an impact on making a recommendation.

Site Plan Application

- The above SPA includes a significant increase in paved footage on the above property. The parking space area is proposed to increase 300%.
- While drainage issues on the property have been considered, has the Town run scenarios for the rainfall in any or all the above noted flood situations using the current amount of hardscaping and the proposed amount? What happens to Cornwall Rd and the areas to the south of this property under these different scenarios? Can any portion of costs associated with flood mitigation be assigned to H&R REIT as the property owner?

Thank you again for the opportunity to provide feedback. We appreciate the time and effort Town staff give to public engagement and we look forward to next steps and continued dialogue.

Regards,

[Redacted Signature]

President, Joshua Creek Residents Association

From: [REDACTED]
To: [Diana Friesen; janusz.czu@qhd.com](mailto:Diana.Friesen;janusz.czu@qhd.com)
Cc: [REDACTED]
Subject: FW: Joshua Creek Study
Date: Thursday, August 26, 2021 4:37:09 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

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I forward this to you as you are indicated as key contacts. Apologies for the lateness but I don't subscribe to the newspaper where this may have been exposed for citizen input. Although belated, I suggest you take this input as serious because the exposure to residents involves their financial well-being and health as written by MoE around 1990. You might personally invite me to make a presentation at your next "public" meeting. I look forward to such an opportunity.

I require email correspondence for my records.

Yours,

[REDACTED]

From: [REDACTED]
Sent: Thursday, August 26, 2021 2:08 PM
To: Mayor@oakville.ca; 'Tom Adams' <tom.adams@oakville.ca>; 'Natalia Lishchyna' <natalia.lishchyna@oakville.ca>; 'stephen.crawford@pc.ola.org' <stephen.crawford@pc.ola.org>; 'gary.carr@halton.ca' <gary.carr@halton.ca>
[REDACTED]
Subject: FW: Joshua Creek Study

All

Maybe this study (below) and any subsequent or pending community input based on it should be redone recognizing that the area above UMR is being paved over constantly with the complete elimination of the Joshua's Creek watershed and that the hugely increased flows in the creek will erode the 2 massive Ford dumps which are full of chemicals and all these will be flowing into Lake Ontario. That is the water supply for 30% of Ontario. This undated study is so far out of date that any continuing work using it as base information today borders on being purposefully deceptive. I have provided you with photos of JC concrete canyons where a single weed will never grow.

May I have your input, considering all the new information which includes Infrastructure Ontario abandoning its 10+ year development plans for The Parkway which was declared surplus. IO knows the truth but continues to hide it, kicking the can down the road. The JC flood plain seems to involve,

if not surround, the two Ford dumps which MoE has described to me in writing as a) do not exist and b) were tested and present no problem. Something is very far amiss. I am hoping that all this ends up integrated with the class action lawsuit because it clearly shows that all politicians involved are playing with the lives of residents. If so, \$1 billion dollars will fall far short of the damages caused.

Sooner or later the truth will flow, hopefully before the floods.

Replies?

Cheers,

I got this by asking for it from

Subject: Joshua Creek Study

[https://www.oakville.ca/assets/general%20-%20environment/11211778%20Joshuas_Creek_PIC1-Rev1%20\(2\).pdf](https://www.oakville.ca/assets/general%20-%20environment/11211778%20Joshuas_Creek_PIC1-Rev1%20(2).pdf)



Certified as an Expert in Civil Litigation



[REDACTED]
SENIOR LAW CLERK

T: [REDACTED]



[REDACTED]
www.willdavidson.ca

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From: [REDACTED]
To: [Diana Friesen](mailto:diana.friesen@oakville.ca)
Cc: "Michael Reid"; Philip Kelly; gary.carr@halton.ca; stephen.crawford@pc.ola.org; [REDACTED]; janusz.czu@ghd.com
Subject: RE: Ford dump locations and Joshua Creek flooding potential
Date: Friday, September 10, 2021 3:25:06 PM

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You have what I submitted and I wish to make a presentation via video, whatever your system accommodates. I trust you will take what I provided and circulate it.

From: Diana Friesen <diana.friesen@oakville.ca>
Sent: Friday, September 10, 2021 3:17 PM
To: [REDACTED]
Cc: 'Michael Reid' <MReid@willdavidson.ca>; Philip Kelly <philip.kelly@oakville.ca>; 'gary.carr@halton.ca' <gary.carr@halton.ca>; 'stephen.crawford@pc.ola.org' <stephen.crawford@pc.ola.org>; Mayor Rob Burton <Mayor@oakville.ca>; Tom Adams <tom.adams@oakville.ca>; Natalia Lishchyna <natalia.lishchyna@oakville.ca>; 'LMcGuinty@ibc.ca' <LMcGuinty@ibc.ca>; Jorge Gomez <jorge.gomez@oakville.ca>; janusz.czu@ghd.com
Subject: RE: Ford dump locations and Joshua Creek flooding potential

Mr. [REDACTED]

We acknowledge receipt of your emails on this matter. The Joshua Creek Flood Mitigation study will have its second Public Information Centre (PIC) this fall. The PIC will likely be "on-line," allowing residents to view the available information and an opportunity to provide written comment. Please note that PIC's are not a forum for the public to make presentations.

Following completion of the second PIC and a review/assessment of the information/feedback received, a report will be prepared for Town Council recommending that the study be posted for public review as per the Municipal Class Environmental Assessment guidelines. Members of the public can speak to items on the council agenda at that time.

Sincerely

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: [REDACTED]
Sent: September 3, 2021 1:26 PM
To: Diana Friesen <diana.friesen@oakville.ca>; janusz.czu@ghd.com
Cc: [REDACTED]
Subject: FW: Ford dump locations and Joshua Creek flooding potential

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I have not received a reply and realize I forgot you so here you are. Please reply about a receipt.

Also, inform me when I may appear to make a presentation.

Yours, [REDACTED]

From: [REDACTED]
Sent: Thursday, September 2, 2021 6:21 PM
To: Mayor@oakville.ca; 'gary.carr@halton.ca' <gary.carr@halton.ca>; 'stephen.crawford@pc.ola.org' <stephen.crawford@pc.ola.org>
Cc: [REDACTED]
Subject: Ford dump locations and Joshua Creek flooding potential

All

Consider this as input to your request for public participation into “Joshua’s Creek Flood Mitigation Study” at whatever stage you have arrived at. Oakville’s airing of this study has been limited and most citizens are completely unaware of what has been going on.

Please circulate this email and its contents to whomever is involved in attempting to rationalize a serene future for Joshua’s Creek so that further over-development can be forced into Oakville’s growth plans. Assure me that you have forwarded the information and please inform me of the next opportunity to speak to this subject. The current \$990 million class action lawsuit summarizes very well what the consequences will be. I point out once again that none of any Oakville planning ever addresses the 3 hidden, closed, untested and toxic dumps located near my house in NE Oakville. I attach a page from your environmental summary which clearly misses the newer Ford Motor dump which I have marked on the page. Note how Joshua’s Creek abuts the dump. A similar situation exists upstream with Oakville’s illegally expanded Ninth Line Dump. These Joshua’s Creek and dump interactions are a huge liability should the creek ever run over as we have witnessed in NYC yesterday. They probably have been leaching chemicals for decades.

In my opinion the study (<https://www.oakville.ca/assets/2011%20planning/da-130904-eir.pdf>) is totally inadequate because it does not recognize the severe runoffs which could occur from over building the Joshua's Creek watershed nor the hidden dumps along its banks. These dumps could be eroded to the extent that large parts of them end up in Lake Ontario.

Here are the steps we face because of your continued inaction and obvious unwillingness to recognize the very existence of the dumps:

- Overbuilding leads to loss of flood plain. (you have photos)
- Ground cannot absorb water.
- Excess water (ever increasing) flows to Storm Water Setting Ponds and then overflows into small creeks.
- More building equals more torrents of water. (repeat this step)
- Floods rip open huge untested "closed" industrial dumps containing toxins. (think Hurricane Hazel from thunder storms) (and Ford Motor Co dumping over 20 years, 8 private trucks a day, zero testing!).
- All such dumps are hidden on purpose from residents – full court press!
- Not only will large areas of homes and commercial facilities be flooded but they will be flooded with toxic chemicals.
- Finally the toxins will end up in Lake Ontario, our water supply.

This logic is sound and has been set aside for 5 years by every politician and government ministry contacted to date. I want to be on record once again so that when the true story becomes known, the public will know the characters who have led them down a very dangerous path, both from health and financial aspects.

I attach my calculations outlining the huge water flows which could come from a large stationary storm well within the 100 year storm which the changed by-laws have now loosened up on.

Yours,



PUBLIC INPUT TO JOSHUA'S CREEK FLOOD MITIGATION STUDY

oxygencontaminant effects - Google | feet mile - Google Search | How to avoid broken formulas | GHD Branded Presentation Template | X +

oakville.ca/assets/general%20-%20environment/11211778%20Joshuas_Creek_PIC1-Rev1%20(2).pdf

Apps | Bookmarks | Official MapQuest | Google News | Make Google Your... | Suggested Sites | 10 Reasons You Ne... | google - Google Se...

6 / 23 - 36% +

NATURAL ENVIRONMENT

WILDLIFE

- Wildlife observed during surveys include grey squirrel, raccoon, American robin, Baltimore oriole, blue jay, gray catbird, killdeer, northern flicker, red-tailed hawk, and turkey vulture.
- The majority of species observed in the Study Area are tolerant of urban conditions.
- A variety of other wildlife dependent on wetlands and tree habitats are expected to occur throughout the Study Area (e.g. wetland foraging insectivores such as bats)




FORESTS

- The northern region is dominated by sugar maple - white elm deciduous forest (FODM5-4) and white pine - sugar maple mixed forest (FODM2-2).
- The southern region is dominated by sugar maple - white elm deciduous forest running parallel to Joshua's Creek.
- These mature forests may provide potential maternity roosts for Endangered bats such as little brown myotis, northern myotis, and the-coloured bat.




WETLANDS

- Although the Study Area has Joshua's Creek flowing through it's entirety, there is

AQUATIC HABITAT

- Joshua's Creek has a warm thermal regime and flows from northwest to southeast throughout the Study Area

21°C Sunny 5:26 PM 9/27/2021

Type here to search

N.B. How JOSHUA'S CREEK UNDERCUTS THIS HUGE DUMP, MAJOR HIDDEN CLOSED OLD PRIVATE UNTESTED FORD MOTOR CO DUMP FROM 1963 -> ? THIS IS SUBJECT TO THE ENVIRONMENT & ANY STUDIES. NO STUDY SHOULD PROCEED W/O A FULL DISCLOSURE & UNDERSTANDING

Estimated Water Run-offs for JOSHUAS CREEK

watershed area (km2) 5 3 15
 watershed area (m2) 3.11 1.86 5.78

watershed area (ft2) 5280 161,265,811 ft2

Rainfall over 8 hours	inches	feet	ft3 of water	over 1 hour	2 hours	4 hours	8 hours
1	0.083	0.083	13438818	13438818	6719409	3359704	1679852
2-Jan	0.167	0.167	26877635	26877635	13438818	6719409	3359704
3	0.250	0.250	40316453	40316453	20158226	10079113	5039557
4	0.333	0.333	53755270	53755270	26877635	13438818	6719409
5	0.417	0.417	67194088	67194088	33597044	16798522	8399261
6	0.500	0.500	80632905	80632905	40316453	20158226	10079113
7	0.583	0.583	94071723	94071723	47035861	23517931	11758965
8	0.667	0.667	107510541	107510541	53755270	26877635	13438818

RUNOFF ft3 per hour

ft3 per minute	ft3 per minute	SPEED (divide by 60)	Feet/sec of a wall of water 10 deep by 100 feet wide
223980	111990	4	7
447961	223980	7	11
671941	335970	11	15
895921	447961	15	19
1119901	559951	19	22
1343882	671941	22	26
1567862	783931	26	30
1791842	895921	30	30
		4	4
		2	2
		1	1
		0	0

Flood Wall of water	Divide by 1000	TOTAL ft3 travel through 10 by 100 foot flood area/minute
Can be 100 by 10	224	112
or	448	224
200 by 5	672	336
or	896	448
500 by 2 feet	1120	560
	1344	672
	1568	784
	1792	896
		56
		112
		168
		224
		280
		336
		392
		448
		28
		56
		84
		112
		140
		168
		196
		224

Example of speed = divide by 60 (sec in min) 30 ft/sec for wall of water 100 wide by 10 deep

RED ARE MAJOR FLOODS FOR JOSHUAS CREEK (read GOODBYE GARBAGE DUMPS)

From: [REDACTED]
To: [Diana Friesen; stephen.crawford@pc.ola.org](mailto:diana.friesen@pc.ola.org); "Premier of Ontario | Premier ministre de l'Ontario"
Cc: ["Hallford, Emily \(MECP\)"; minister.mecp@ontario.ca](mailto:Hallford_Emily@MECP); gary.carr@halton.ca; Anita.Anand@parl.qc.ca; [Rob Burton \(InTouch\)](#)
Subject: merry go round
Date: Tuesday, September 21, 2021 11:46:22 AM
Attachments: [mystery land.pdf](#)

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I have been told in writing 3 times by MoE that until I can id the land's geographic coordinates shown in the attached they cannot help me. To date no politician or government employee will help. MoE has written that it has been on the land, sampled it and says there is no problem with the chemical test results. It also wrote that the dump does not exist and that the unidentified "owners" say there is no waste on the land. All this is in writing and waiting to air in courts. So how or why is no one willing to help? This is like me finding a fire, calling the fire department and having it ask how the fire started before it sends a fire truck. I have provided all of you with an Oakville historical photo of the land before Ford Motor Co arrived and it was then flat farmland. The large mountain arrived after 1963 when Ford had to close The Ninth Line Dump which was overfilled. The map's circled area is 50 feet high, 400 feet long and 200 feet wide at the minimum. A reminder, it abuts Joshua's Creek which presents a possible major flooding problem of contaminating Lake Ontario with carcinogens.

The Halton Land Title office's files (on the web) do not identify the circled land with a lot number – it sits blank in its files. Can you tell me the owner's name (Ford?, Oakville?, Halton?, Ontario?)? Or provide the lot number if you have one? Surely someone pays taxes on this land? MoE and others are all playing a very dangerous and illegal game with MoE's stupid refusal to even send an employee to verify the land's existence. I am not a lawyer but I suspect this is part of a continuing string of criminal offenses, all well documented. MoE has repeatedly violated the FOI Act's provisions.

Maybe it is time to bring Erin Brockovich back? She will address not only this dump situation, but all 3000 similar Ontario hidden and closed dumps, many industrial from tanneries and other bad industries. This is 4th world stuff. Shameful.

RSVP. [REDACTED]

P.S. [REDACTED] – Joshua's Creek is a Federal Waterway which falls under your responsibility.

WHO OWNS THE CIRCLED LAND

Starkey & Associates Inc. X Mine Engineer.Com provi... X GHD Branded Presentatio... X Google Earth X Google Earth X

earth.google.com/web/@43.49288128,-79.66916921,118.05562722a,2393.49264917d,35y,0h,0t,0r

Apps ★ Bookmarks Official MapQuest ... Google News 8 Make Google Your... Suggested Sites 10 Reasons You Ne... Google Earth



From: [REDACTED]
To: [Diana Friesen](#); [Janusz Czuj](#); [Rob Burton \(InTouch\)](#); gary.carr@halton.ca; stephen.crawford@pc.ola.org; minister.mecp@ontario.ca; "Premier of Ontario | Premier ministre de l'Ontario"; Anita.Anand@parl.gc.ca; "Velez, Mia (IO)"
Cc: mtanweer@metroland.com
Subject: Oakville Flooding of Joshua's Creek - There is a much bigger story being withheld from the public!
Date: Saturday, October 09, 2021 12:44:15 PM

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Below are the comments/input of [REDACTED] re Joshua's Creek flooding (see these articles):

<https://www.oakville.ca/townhall/pn-21oct07.html>

and <https://www.insidehalton.com/news-story/10494486-town-of-oakville-seeking-the-public-s-input-on-flood-mitigation-in-joshua-s-creek-area/>

To:

Mansoor Tanweer/Oakville Beaver/Town of Oakville/Many Others that s/b concerned

Here is my input as you have asked (or will be asking). Please include it as public input available to all Oakville residents. I will be sending it to the many local residents who have expressed the same concerns to deaf ears for 3+ years. I am available to support my input in any way possible e.g. meetings, interviews, provide FOI-obtained materials, etc. I think it is an obligation of The Beaver to follow up its surface-scratching story. I dare some action.

The Joshua's Creek (and many other local creeks) flooding will happen and be much worse because of what is being done ABOVE Upper Middle Road (CA lawsuit material) with overdevelopment and destruction of the watershed of Joshua's Creek. The laxities created by Council's removal of the 100-year-storm criteria by-laws for developers will open up the flood gates due to over-paving and loss of natural watershed. **This is a cover-up, typical of Oakville and its leaders – create smoke and diversion from the real issues.** How can citizens offer sane input when they are not told of the problem's background, real causes and many details? And you have to address the very real problem of the closed, unmonitored and untested (and also unknown or hidden) large waste industrial landfills which abut Joshua's Creek and which will wash out into our water supply, Lake Ontario. The same closed dumps have been leaching into our water table since at least 1953. Preliminary calculations show that Joshua's Creek can flood to a wall of water 100 feet wide by 10 feet high moving at 30 feet/second if a storm like the one experienced by NYC/NJ a few weeks ago hits Oakville. The Beaver article has opened up 10% of the problem so now it has an obligation to roll out the rest with the real causes and effects. Tell the real truth and look beyond what Oakville releases to you and the rest of the media. Stop being a pawn. Maybe start by printing this

letter from me and then ask for your own public feedback?

This problem is not new to me as I have been aware of it for at least 4 years. In fact, there are many problems, all piled on top of each other. No politician contacted, many dozens of times, nor Ministries like Environment or Infrastructure, will accept the problem, return calls or show concerns and many have taken to providing misinformation (I am being kind). MoE, for example, has written some dumps do not exist, that it visited all the dumps, tested all of them and found no issues with contamination. Yet, it has been fighting my FOI requests for over 9 months to keep private its test results. Further, it wrote that it spoke to the "owners" (a mystery!) who stated they were aware that no dumping had taken place on their properties i.e. the dumps! Yet, MoE will not visit the dump sites with me! We live in a Disneyland where some of what has been withheld is criminal activity.

██████████ your move?

Respectfully submitted,

██████████
██████████

From: [REDACTED]
To: [Diana Friesen](#)
Subject: new building zone parameters in Oakville north of Dundas in JC area
Date: Sunday, October 10, 2021 3:01:12 PM

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide whatever updated enacted info exists re the 100 year flood parameters used in what you referred to and distributed to the public (below). It is my understanding that Council relaxed its development constraints so that a 100 year flood condition no longer needs to be the controlling constraint. What are the new rules that allow development above Dundas? How is this change passed down to developers in the fine purchase contract language to appease their concerns?

RSVP.... Thank you.... [REDACTED]

Here is what residents were told existed:

Your Input is Important! Comments due March 4, 2021

Town staff are seeking public input related to this project, including alternative mitigation measures, evaluation criteria, potential environmental effects, and any other concerns. This is the first of two public consultation opportunities for the Flood Mitigation Opportunities Study

The following materials available for review include background information on flood-prone sites, updates from investigations and preliminary alternatives for flood mitigation.

- [Joshua's Creek Flood Mitigation Opportunities Study Presentation](#) (pdf)
- [100 Year Flood Inundation Map](#) (pdf)
- [100 Year Adjusted for Climate Change Flood Inundation Map](#) (pdf)
- [Regional Storm Flood Inundation Map](#) (pdf)

Please direct all comments, concerns, and input on this project to the following contacts via e-mail or mail by March 4, 2021.

Project contacts

Diana Friesen, BSc. C.E.T
Water Resources Technologist
905-845-6601 ext. 3904
diana.friesen@oakville.ca

From: [REDACTED]
To: [Diana Friesen](#); [Janusz Czuj](#); [Rob Burton \(InTouch\)](#); gary.carr@halton.ca; stephen.crawford@pc.ola.org; minister.mecp@ontario.ca; "Premier of Ontario | Premier ministre de l'Ontario"; Anita.Anand@parl.gc.ca; "Velez, Mia (IO)"
Cc: [REDACTED]
Subject: The kind of flooding that can occur with Joshua's Creek
Date: Sunday, October 10, 2021 2:43:17 PM
Attachments: [watershed.xlsx](#)

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

All

Here is some more input for you, something that all the consultants and Oakville staff should have done years ago before releasing the Joshua's Creek watershed lands north of Dundas to development by relaxing away from the 100 year storm constraints. Jobs and greed overrode common sense and logic once again. The fine print with government sale documents still have Ontario guaranteeing the sales to developers who are absolved from water and waste aftershocks. We are all on the hook, at least our heirs will be because collectively, our governments have kicked the can down the road. Taking away what comprises the Joshua's Creek watershed has consequences, as there are with every other nature-planned watershed. The Joshua's Creek situation is many times worse than some other cases because it involves 3 purposefully hidden, mostly untested (and unknown to MoE!!!!) industrial waste dumps with Ford Motor Co. being a then legal waste contributor from the 50's to the 70's. The attached model shows that there are many flood scenarios that will end up with the dumps slashed open and drums of benzene, toluene, paint sludge and such toxic materials flowing by expensive homes in East Oakville directly into Lake Ontario. This calamity, although pending, will be to your account only. When anything happens, Oakville and its politicians (and staff who caved in) should be held 100% responsible. And no solution should be to the account of Oakville taxpayers! No citizens have ever had any input to this obscene planning. Asking for belated innocent input now will get citizens "involved" and surely set up to assume or share blame. This is a slow sucker punch.

One big model interpretation is 100 feet by 10 feet running at 30fps OR 200 feet by 5 feet running at 30fps or 1000 feet by 1 foot at 30fps or any combination of these where the time can also be varied i.e. to say half speed allowing slower rainfall accumulation speeds. I am comfortable that there are no major errors but you should check it. But why, the cat is out of the bag! Anything I marked in RED looks serious.

I expect that I will be allowed to speak in any public forum planned by Oakville and at the very least (because Covid will be allowed to help hide this mess), that what I have provided to you/your committee will be published along with any other resident inputs. RSVP to assure you have my input, as you requested.

[REDACTED]

P.S. The flooding can be looked as stand-alone but directly relates to the dumps. Understand that these dumps have been leaching into the water table and Joshua's Creek, some since the 1930's i.e. they are their own problem even if Joshua's Creek did not exist so they need immediate attention.

watershed area (km2) **Estimated Water Run-offs for JOSHUAS CREEK**

5 3 15
 watershed area (m2)
 3.11 1.86 5.78

watershed area (ft2) 5280 161,265,811 ft2

Rainfall over 8 hours inches	5280	161,265,811 ft2	RUNOFF ft3 per hour			
	feet	ft3 of water	over 1 hour	2 hours	4 hours	8 hours
1	0.083	13438818	13438818	6719409	3359704	1679852
2-Jan	0.167	26877635	26877635	13438818	6719409	3359704
3	0.250	40316453	40316453	20158226	10079113	5039557
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5	0.417	67194088	67194088	33597044	16798522	8399261
6	0.500	80632905	80632905	40316453	20158226	10079113
7	0.583	94071723	94071723	47035861	23517931	11758965
8	0.667	107510541	107510541	53755270	26877635	13438818

ft3 per minute

223980	111990	55995	27998
447961	223980	111990	55995
671941	335970	167985	83993
895921	447961	223980	111990
1119901	559951	279975	139988
1343882	671941	335970	167985
1567862	783931	391966	195983
1791842	895921	447961	223980

Flood Wall of water

Divide by 1000	TOTAL ft3 travel through 10 by 100 foot flood area/minute			
Can be 100 by 10	224	112	56	28
or	448	224	112	56
200 by 5	672	336	168	84
or	896	448	224	112
500 by 2 feet	1120	560	280	140
	1344	672	336	168
	1568	784	392	196
	1792	896	448	224

Example of speed =

1792 divide by 60 = 30 ft/sec
 (sec in min) for wall of water 100 wide by 10 deep

SPEED (divide by 60)
Feet/sec of a wall of water 10 deep by 100 feet wide

4	2	1	0
7	4	2	1
11	6	3	1
15	7	4	2
19	9	5	2
22	11	6	3
26	13	7	3
30	15	7	4

RED ARE MAJOR FLOODS FOR JOSHUAS CREEK
 (read GOODBYE GARBAGE DUMPS)

From: [REDACTED]
To: [Diana Friesen](mailto:Diana.Friesen@metroland.com)
Cc: insidehalton@metroland.com
Subject: Further to Oakville's request for citizen input regarding expected increased flooding in Joshua's Creek
Date: Tuesday, October 12, 2021 3:11:18 PM
Attachments: [JoshuasCreekMissingInfo.docx](#)

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

The attached is clear and self-explanatory and is time sensitive. I believe that all Oakville citizens deserve to know details about this topic because their lives, financial well-being and healths are threatened. Newspapers have a responsibility in parallel with our governments. Please deal with accordingly.

If you need proof of any statement in my letter please challenge me by asking for backup. I will provide government reports and letters as proof – all factual, no emotions. The Beaver has had most of this information for over 2 years.

RSVP receipt, thanks, [REDACTED]

insidehalton@metroland.com (as a letter to the editor)

Your ad requesting citizen participation in mitigating Joshua's Creek flooding should provide some very basic inputs. Please also inform respondents with your October 14th information package of the following that:

- 1) The expected new flooding below Upper Middle Road (UMR) will have little to do with global warming and next-to-nothing about what citizens could do to prevent it. Only smart planning can do that
- 2) Recent changes to former restrictive development by-laws (e.g. 100-year storms) applying above Dundas were relaxed by Council to allow development which would otherwise never have proceeded
- 3) The Joshua's Creek watershed and wetlands of approximately 3km by 5km will be destroyed by paving over 60% to 70% of its natural environment
- 4) With the loss of the land's ability to "hold" water, that water will be rushed via the storm sewer system down Joshua's Creek through East Oakville's mansions to Lake Ontario, our water supply
- 5) Water flow calculations show that a wall of water 100 feet wide by 10 feet high could result flowing at 30 feet/second along the Joshua's Creek channel
- 6) Joshua's Creek, both above and below Upper Middle Road, abuts huge hidden untested industrial dumps which the violent water flow will rip open, picking up the dumps/land-fills contents
- 7) The contents contain benzene, toluene, paint sludge and other carcinogenic chemicals placed (legally, according to laws of that time) by Ford Motor Co. into the dumps between 1953 and 197x
- 8) These chemicals have probably been leaching into Joshua's Creek since the 1930's from older dumps
- 9) The Ninth Line Dump (known to MoE) is now shared (?) and co-owned (?) by Oakville and Infrastructure Ontario (IO) and the Ford Dump (unknown to MoE) at Ford Drive and The South Service Road is owned by Ford Motor Co on land ceded to it secretly by Ontario
- 10) Oakville permitted dumping by Ford Motor Co. onto IO lands (The Parkway) when its original Ninth Line Dump was full, thereby creating huge legal liabilities for polluting public lands
- 11) IO and Oakville, secretly, planned for 10+ years to develop commercial and residential housing on top of 2 dumps (in The Parkway) to hide the dumps 'forever'
- 12) None of the dumps have been properly tested for contents and leachates and the minimal results (or supposed results) have been purposefully misrepresented and/or withheld to/from the public
- 13) The main focus of the study should be on what has been done above Upper Middle Road, and not just below UMR, because that is the area where 90% of the causes for flooding will originate

Unless all of the above information is conveyed to citizens with your promised October 14th information package you cannot possibly expect intelligent and concerned input. Further, providing partial information is dishonest and not in keeping with your sworn mandate to the public. Also, because the study you are proposing has its origins in The Ontario Environmental Assessment Act, the study must include all variables related to the environment and that must include the dumps, both above and below UMR. These dumps will become horribly mixed with any dramatic flooding that has been forecast due to overdevelopment. To that end, you should also provide citizens access to the unproven \$990 million Class Action lawsuit brought on the mayor and all levels of government for mismanaging the use of our lands, the root cause of the now excess predicted flooding.

The right citizen information gathering process must include providing all the factual information, not just a few diversionary items. Again, this is 99% removed from global warming and has our politicians' hands all over it. I suggest that if not all information in your possession is provided, the value of any work you do with citizens is worthless and will be challenged as such. Controlling survey results with skewed information has had its day.

██████████, concerned Oakville resident since 1981, ██████████

From: [REDACTED]
To: [Diana Friesen](#)
Subject: ?
Date: Tuesday, October 12, 2021 9:55:13 AM

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern:

What format is acceptable for resident input to the request for such on the Joshua's Creek flooding problems?

Also, will any resident input become public information which I believe it should be?

And how will the public participate thereafter i.e. will it benefit from the opinions of fellow residents or will the solution, if any, be the sole responsibility of staff?

This is not clear from your announcement. The problems are serious enough that Covid should not be used to prevent public airing of what lies behind your concerns. No study by IO or Oakville or Halton over decades has ever brought in the hidden dumps which abut Joshua's Creek. That time has come because Environmental Assessment studies require such details.

[REDACTED]

From: [REDACTED]

To: [Diana Friesen](#)

Cc: [REDACTED]

Subject: can you explain how the 100 year flood by-laws were changed to allow development north of Dundas?

Date: Thursday, October 14, 2021 12:45:14 PM

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Residents, of whom I have copied are asking. None of your passed out material relates to over development and paving of 70% of Joshua's Creek watershed due to the by-law changes, etc. Our review has nothing to do with 100 year situations and surely more like 10 year storms of which there are many more.....

Please copy everyone with your answer.

[REDACTED]

From: [REDACTED]
To: [Diana Friesen; insidehalton@metroland.com](mailto:insidehalton@metroland.com)
Cc: [REDACTED]
Subject: Joshua's Creek mitigation ???
Date: Thursday, October 14, 2021 1:05:43 PM

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Diana – none of my major inputs to the Joshua's Creek flooding potential and outcomes are in your information package. I am writing to tell you anything that comes from a citizen survey will have been manipulated at the start because you/Oakville have provided insufficient information. Your study and results will be challenged as being bogus and part of the continuing boondoggle being perpetrated on citizens.

Mention to residents at the least:

1. The almost complete removal and alteration of the Joshua's Creek watershed and
2. The council's voting to allow high density development north of Dundas and
3. The presence of the 3 large industrial hidden toxic dumps which lie abutting Joshua's Creek

That will qualify severely what you are trying to do with citizen involvement with citizens that do not have the facts that you have and will not distribute.

I can tell you right now that your first suggested solution (not included in your summary) should be to shut down all development plans in all watersheds above Dundas. That would account for 90% of the pending flooding problems.

[REDACTED]

From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](#)
Subject: RE: Joshua Creek flood mitigation
Date: Monday, November 22, 2021 10:11:51 AM

Ms. [REDACTED]

Thank you for your comments regarding the Joshua Creek Flood Mitigation Opportunities Study.

The Study looks at both existing and future land-use (in accordance with the town's official plans and zoning) when assessing flood risk.

In regards to all new development, it must be designed to ensure that there is no increased risk to flooding. This is carried out by ensuring that flows from a site are controlled through stormwater management best management practices such as incorporating on-site ponding areas and detention tanks into the design.

In regards to your query regarding tree loss, we encourage you to review the town's [Urban Forest Strategic Management Plan](#) for more information on the town's long-term strategy and canopy targets.

Regards

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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[Canada's Best Place to Live \(MoneySense 2018\)](#)

Please consider the environment before printing this email.

<http://www.oakville.ca/privacy.html>

From: Diana Friesen
Sent: October 19, 2021 10:40 AM
To: [REDACTED]
Cc: 'Janusz Czuj' <Janusz.Czuj@ghd.com>
Subject: RE: Joshua Creek flood mitigation

Good Morning [REDACTED]

Thank you for your comments regarding the Joshua Creek Flood Mitigation Study. All comments received will be collected and compiled over the next few weeks and we will

provide responses to questions in that same time frame.

Best Regards,

From: [REDACTED]
Sent: October 14, 2021 4:32 PM
To: Diana Friesen <diana.friesen@oakville.ca>
Subject: Joshua Creek flood mitigation

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Diana,

I saw your notice in today's edition of The Beaver. Does the scope of your study include the effects of the deforestation and paving over of green space for the proposed Amazon parking lot on Cornwall Road? I am a resident of the area and continue to be very concerned about the permanent loss of natural resources.

[REDACTED]

From: [REDACTED]
To: [REDACTED]
Cc: [Diana Friesen](#)
Subject: Joshua's Creek Mitigation Survey - Missing Info - Missing Leadership
Date: Saturday, October 23, 2021 4:04:21 PM
Attachments: [JoshuasCreekMissingInfo.docx](#)

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Oakville Beaver, if you care about your community, you might consider publishing these facts:

I provided my input to the town (a bit early) as requested by the town on Oct 12, 2 days before the town released its vital information to residents so they may better respond to the survey seeking input about mitigation of forecasted flooding for Joshua's Creek. The town chose to leave out my suggested information input points and thereby gave residents maybe 20% of any relevant information. Garbage in, garbage out.

I offer this again as my contribution as requested and agree that my suggestions must be made public along with any other submissions. Without full information and disclosure, the town's survey result has been prearranged and probably will show biased outcomes. I will assure that it will be declared as BOGUS. I suggest that the town comes clean and presents its role in causing the unnecessary and prior impossible flooding levels now foreseen in several consultants' reports. All earlier hydrology reports have missed key points as I note below and should be regarded as suspicious. Whatever happens can not be pinned on the global warming trends as the town input infers.

When you pave over 70+% of a 3km by 5km watershed, replace it with large storm water sewer systems and SWSP's, the rainwater and/or melt water will collect almost as fast as the water materializes and end up in Joshua's Creek, the only exit vehicle more or less all at once. There is no buffer. Run some simple water accumulations as from say 2" rainfall (over this area) an hour and see what will flow down the creek. I am sure the residents should also know that this is very possible and that Oakville politicians and planners are 100% responsible. Then for more honesty, tell residents that Joshua's Creek abuts two huge closed, untested, industrial waste dumps primarily filled by Ford Motor Co between 1953 and 1975. The dumps are 100% downstream of the development. The Creek will cut into these dumps and take their contents down a raging river via East Oakville to Lake Ontario and our water supply. An ex-Oakville senior employee said that 7 Ford trucks a day, 7 days a week, every year for this time period filled these dumps! Live witnesses can attest to this practice. I am sure the insurance industry with its naïve ad campaign ("Unflood Ontario") telling residents to catch water in rain barrels is playing at ostrich because it knows what is coming. By being so innocently public, insurance companies and their lobbyist, The Insurance Bureau of Canada, are setting up to get off the hook and will not cover claims because government withheld vital information, especially when the damage is complemented by carcinogenic chemicals. That is called "risk management" in financial circles. The insurance industry is already mitigating its downstream life (pun!). It is just that we citizens live on mushroom farms and government likes to keep us that way.

You may use my comments at any time. They are yours for the record but far more important for our fellow residents who I cannot reach en masse. The tail needs to be hung on the real donkeys.

Please ask anyone to challenge what I have written - a public forum would be best. Watch for the COVID excuse. Trust us won't cut it.

Last – the only sure way to mitigate flooding is to stop the development as now planned. Back off, take a breath and rethink.

Yours,



insidehalton@metroland.com (as a letter to the editor)

Your ad requesting citizen participation in mitigating Joshua's Creek flooding should provide some very basic inputs. Please also inform respondents with your October 14th information package of the following that:

- 1) The expected new flooding below Upper Middle Road (UMR) will have little to do with global warming and next-to-nothing about what citizens could do to prevent it. Only smart planning can do that
- 2) Recent changes to former restrictive development by-laws (e.g. 100-year storms) applying above Dundas were relaxed by Council to allow development which would otherwise never have proceeded
- 3) The Joshua's Creek watershed and wetlands of approximately 3km by 5km will be destroyed by paving over 60% to 70% of its natural environment
- 4) With the loss of the land's ability to "hold" water, that water will be rushed via the storm sewer system down Joshua's Creek through East Oakville's mansions to Lake Ontario, our water supply
- 5) Water flow calculations show that a wall of water 100 feet wide by 10 feet high could result flowing at 30 feet/second along the Joshua's Creek channel
- 6) Joshua's Creek, both above and below Upper Middle Road, abuts huge hidden untested industrial dumps which the violent water flow will rip open, picking up the dumps/land-fills contents
- 7) The contents contain benzene, toluene, paint sludge and other carcinogenic chemicals placed (legally, according to laws of that time) by Ford Motor Co. into the dumps between 1953 and 197x
- 8) These chemicals have probably been leaching into Joshua's Creek since the 1930's from older dumps
- 9) The Ninth Line Dump (known to MoE) is now shared (?) and co-owned (?) by Oakville and Infrastructure Ontario (IO) and the Ford Dump (unknown to MoE) at Ford Drive and The South Service Road is owned by Ford Motor Co on land ceded to it secretly by Ontario
- 10) Oakville permitted dumping by Ford Motor Co. onto IO lands (The Parkway) when its original Ninth Line Dump was full, thereby creating huge legal liabilities for polluting public lands
- 11) IO and Oakville, secretly, planned for 10+ years to develop commercial and residential housing on top of 2 dumps (in The Parkway) to hide the dumps 'forever'
- 12) None of the dumps have been properly tested for contents and leachates and the minimal results (or supposed results) have been purposefully misrepresented and/or withheld to/from the public
- 13) The main focus of the study should be on what has been done above Upper Middle Road, and not just below UMR, because that is the area where 90% of the causes for flooding will originate

Unless all of the above information is conveyed to citizens with your promised October 14th information package you cannot possibly expect intelligent and concerned input. Further, providing partial information is dishonest and not in keeping with your sworn mandate to the public. Also, because the study you are proposing has its origins in The Ontario Environmental Assessment Act, the study must include all variables related to the environment and that must include the dumps, both above and below UMR. These dumps will become horribly mixed with any dramatic flooding that has been forecast due to overdevelopment. To that end, you should also provide citizens access to the unproven \$990 million Class Action lawsuit brought on the mayor and all levels of government for mismanaging the use of our lands, the root cause of the now excess predicted flooding.

The right citizen information gathering process must include providing all the factual information, not just a few diversionary items. Again, this is 99% removed from global warming and has our politicians' hands all over it. I suggest that if not all information in your possession is provided, the value of any work you do with citizens is worthless and will be challenged as such. Controlling survey results with skewed information has had its day.

██████████, concerned Oakville resident since 1981, ██████████

From: Diana Friesen
To: [Janusz Czuj](#)
Subject: FW: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study (Study) for Joshua's Creek
Date: Monday, November 22, 2021 10:26:08 AM

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Diana Friesen
Sent: November 22, 2021 10:19 AM
To: [REDACTED]
Cc: Philip Kelly <philip.kelly@oakville.ca>
Subject: RE: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study (Study) for Joshua's Creek

[REDACTED]

Your comments regarding the Joshua Creek Flood Mitigation Opportunities Study have been received and will be documented and included as part of the Class Environmental Assessment project file

Thank-you for the information provided which will be considered when finalizing the study.

Upon completion of the study, there will be an opportunity for the full project file to be available to the public as part of the mandatory 30 day review period

You will note that the full project report has additional information and we hope that you find this additional information to be helpful. At the public information sessions, we provide only core information to the public for review and information as the final report is not yet complete.

Several riverine flood mitigation studies either have been completed or are nearing completion within the next 6 to 12 months, which will have recommendations that will also have budgetary demands on the capital flood mitigation program. These studies include Munn's Creek, Fourteen Mile /McCraney Creek, Lower Morrison and Wedgewood Creek and Joshua's Creek. Once all studies are completed, a prioritization of flood mitigation works will be carried out and implemented with consideration of level of risk, return on investment and funding availability.

Regards,

From: [REDACTED]
Sent: November 3, 2021 12:18 PM
To: Diana Friesen <diana.friesen@oakville.ca>
Subject: TOWN OF OAKVILLE: Flood Mitigation Opportunities Study (Study) for Joshua's Creek

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Town of Oakville Documentation

1.0. Flood Mitigation Opportunities Study (Study) for Joshua's Creek: stakeholder comments by November 5, 2021

<https://www.oakville.ca/environment/flood-mitigation-joshuas-creek.html>

1.1. Alternative 2 Schematic: Source – Study Contact

<https://oakville.app.box.com/s/xnmiuzkzoysdhjwy2egm8xxxedhw20qc/file/880308572263>

1.2. Alternative 3 Schematic: Source – Study Contact

<https://oakville.app.box.com/s/xnmiuzkzoysdhjwy2egm8xxxedhw20qc/file/880297933647>

Attention: Study Contact

Diana Friesen B.Sc. C.E.T.
Water Resources Technologist
Transportation and Engineering

Excerpt from Flood Mitigation Opportunities Study for Joshua's Creek

"The Town of Oakville is undertaking a detailed study of the Joshua's Creek system south of Upper Middle Road to Lake Ontario. The focus of the study is to identify flood-prone sites in an effort to determine the most viable and responsible mitigation options to reduce flood risk.

The study is being carried out in accordance with the Schedule B project requirements as described in the Municipal Engineers Association's Municipal Class Environmental Assessment (EA) document (October 2000, as amended in 2015), approved under the Ontario Environmental Assessment Act."

Dear Ms. Friesen,

As a resident in the affected area, thank you for this opportunity to comment on the Study.

Lack of Study Supporting Documentation

The Town is only providing slide deck presentations with little if no granular supporting documentation, making an already challenging assessment by lay stakeholders even more challenging, especially given that there are no actual order-of-magnitude capital and ongoing operational costs (dollar values) provided to be able to measure the cost-benefit of potential solutions.

Governance

The Study Terms of Reference do not appear to have established best practices with regard to effective governance. The Town and its consultants who report to town staff under the direction of the town's senior leadership team do not appear to have created any arms-length evaluation process that is transparent for public consultation. In my personal opinion, this is very poor from a governance perspective as the evaluation criteria are established by this in-house team including consultants and then evaluated by the same individuals. As a consequence, the Study process may not be credible in the eyes of the public.

Please provide a copy of the Study organizational leadership team including the Study's sponsor.

Third Party Independent Peer Review Request

Given this, in my personal opinion, the Town needs to undertake an independent third-party peer review which will be very useful given the complex technical nature of the study. Most people, myself included, probably have no inkling of the seriousness of the risk management issues and how they should be optimally mitigated for the benefit of the province, the town, industrial, commercial and residential owner's and occupants. People's health and life safety are of paramount importance in the event of a catastrophic flood, be it regional in nature or otherwise.

Alternative 8, Emergency Preparedness Plan

In my personal opinion, it is incomprehensible that the Town study went with the last line of defense, **Alternative 8 - Emergency Preparedness Plan** which will rely on all local land owner's 'rowing their own boats' in unison. Is this realistic and practical (For example: Study photo of labour intensive sandbagging at the time of flooding). The Town study is kicking the can down the road and hoping for the best while failing to mitigate the risks, including key life health and safety issues, in a meaningful material way.

Optimal Solution

Given the significant lack of detailed supporting information provided by the Town, it is very challenging to comment on the optimal technical solution. However, under the circumstances, in my personal opinion, viable Alternatives include in concert and/or separately but not limited to:

- **Alternative 2 - Increase Capacity of the Metrolinx Railway Bridge**
- **Alternative 3 - Construct Flood Control Infrastructure**

In my personal opinion, the Town action plan needs to consider implementing solutions that are do-able now and establishing a quick turn-around timetable for all approved alternatives. The Town needs to identify a path forward to resolve all material obstacles including funding, jurisdictional issues, et al. Why now: based on a comment by a town staff member that flooding could occur at any time including a regional event.

Although the Study has eliminated **Alternative 4 - Install Relief Culvert under Royal Windsor Drive;** **Alternative 5 - Provide Flood Storage and Alternative 7 - Construct Flow Diversion** from further Study consideration, given the dearth of Study information, and pending receipt of a more fulsome Study including supporting documentation, it is premature to eliminate these alternatives.

I look forward to your meaningful responses.

Thank you.

Best regards



From: Diana Friesen
To: [REDACTED] [Janusz Czuj](#)
Cc: [Philip Kelly](#)
Subject: RE: Joshua Creek Flood Mitigation Study Feedback
Date: Monday, November 22, 2021 10:20:21 AM

[REDACTED]

Thank you for your comments regarding the Joshua Creek Flood Mitigation Opportunities Study.

The purpose of the Town's study is to assess flood risk to establish recommended municipality-led capital work to reduce flood risks. As part of the analysis carried out, the study team looked at a range of potential storm events from a 1 in 2-year storm event up to the 1 and 100-year storm event, including the Hurricane Hazel event, which is the largest storm on record for Southern Ontario.

A determination of floodplain Regulatory boundaries is the responsibility of Conservation Halton, pursuant to the Conservation Authorities Act. Should you wish to receive information about the floodplain boundaries as it relates to your property visit www.conservationhalton.ca.

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca
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From: [REDACTED]
Sent: November 5, 2021 6:44 PM
To: Diana Friesen <diana.friesen@oakville.ca>; janusz.czuj@ghd.com
Subject: Joshua Creek Flood Mitigation Study Feedback

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Diana and Janusz,

I am the owner of [REDACTED]. I am writing to let you know that my

family strongly opposes the proposal to include our location, [REDACTED] in the flood risk area.

We've been living here for many years; no matter how heavy the rain or storm volume is, we've never had any flood incidents or ever experienced any water accumulation issues on our location or our surrounding areas.

I am asking you to please confine the flooding area only to the absolute necessary regions to avoid any **significant non-necessary negative** impact on homeowners' property values!

Thank you for taking our feedback into consideration.

Regards,

[REDACTED]

From: Diana Friesen
To: [REDACTED] [Janusz Czuj](#)
Cc: [Philip Kelly](#)
Subject: RE: Joshua Creek Flood Proposed Area
Date: Monday, November 22, 2021 10:21:14 AM

Thank you for your comments regarding the Joshua Creek Flood Mitigation Opportunities Study.

The purpose of the Town's study is to assess flood risk to establish recommended municipality-led capital work to reduce flood risks. As part of the analysis carried out, the study team looked at a range of potential storm events from a 1 in 2-year storm event up to the 1 and 100-year storm event, including the Hurricane Hazel event, which is the largest storm on record for Southern Ontario.

A determination of floodplain Regulatory boundaries is the responsibility of Conservation Halton, pursuant to the Conservation Authorities Act. Should you wish to receive information about the floodplain boundaries as it relates to your property visit www.conservationhalton.ca.

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca
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From: [REDACTED]
Sent: November 7, 2021 8:02 AM
To: Diana Friesen <diana.friesen@oakville.ca>; undefined <janusz.czuj@ghd.com>
Subject: Joshua Creek Flood Proposed Area

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Hello,

I am [REDACTED], and I have been living in the southeast Oakville area for 10+ years. With regard to your proposed flood risk area, I would like to bring my serious concern to you.

A lot of the residents have lived in the neighbourhood for many years including many seniors. The houses they live in are the single biggest assets they have and are an important source of funding for retirement. The proposed flood area once approved would have a significant negative impact on their property values, tens of thousands, and in some cases exceeding more than half a million. This definitely needs to be taken into considerations. If it's not absolutely needed, I do not think it's a good idea to move forward with this proposal knowing it will wipe out lifetime savings for a lot of the residents.

Please re-consider your proposed plan, and try to modify it in a way that would have the least impact on the number of residents, and less impact for those who would be impacted.

Thank you !!

[REDACTED]

From: Diana Friesen
To: [REDACTED]
Cc: [Janusz Czuj](#); [Philip Kelly](#)
Subject: RE: Town of Oakville Flood Mitigation Opportunities Study
Date: Monday, November 22, 2021 10:24:32 AM

Good Morning,

Your comments regarding the Joshua Creek Flood Mitigation Opportunities Study have been received and will be documented and included as part of the Class Environmental Assessment project file

Please note that the Joshua's Creek Flood Mitigation Opportunities Study is not a tool for review of specific development applications as those are subject to requirement under the Planning Act.

Nevertheless, in regards to all new development, it must be designed to ensure that there is no increased risk to flooding. This is carried out by ensuring that flows from a site are controlled through stormwater management best management practices such as incorporating on-site ponding areas and detention tanks into the design.

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Residents for a LivableOakville [REDACTED]
Sent: November 8, 2021 10:05 AM
To: Diana Friesen <diana.friesen@oakville.ca> [REDACTED]
Subject: Town of Oakville Flood Mitigation Opportunities Study

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Please find attached a submission to the noted Study.
Thank you for the opportunity to express our concerns.

As noted in the submission, Conservation Halton is included because we had communicated earlier and wished to clarify some points, continue to express our concerns and thank [REDACTED] for CH's reply.

[REDACTED]

From: Janet Haslett-Theall
To: [REDACTED]
Cc: [Diana Friesen](#); [Janusz Czuj](#); [REDACTED]
Subject: RE: Joshua Creek Flood Mitigation Study
Date: Saturday, November 20, 2021 11:19:13 AM

You don't often get email from janet.haslett-theall@oakville.ca. [Learn why this is important](#)

[REDACTED]
Thank you for this feedback; very helpful!

I have also copied our Parks and Open Space Director who may be of assistance.

Best Regards

Janet

Janet Haslett-Theall

Councillor

Office of the Mayor & Council

Town of Oakville | 289-837-3923, ext.6005 | www.oakville.ca

Vision: To be the most livable town in Canada

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From: [REDACTED]
Sent: November 20, 2021 11:04 AM
To: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings <david.gittings@oakville.ca>
Cc: Diana Friesen <diana.friesen@oakville.ca>; janusz.czuj@ghd.com
Subject: Joshua Creek Flood Mitigation Study

Thank you for the recent news you sent out. The Joshua Creek Flood Mitigation triggered me to send you this which I had been meaning to send for a week or so.

Ever since the recent high rainfall I have noticed this blockage on Joshua Creek that I believe should be removed to prevent any serious issues.

As of yesterday the dam was still there

Regards

[REDACTED]
[REDACTED]
[REDACTED]

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Blockage on Joshua Creek

about 40 metres south of Constance Drive

In recent very high rainfall the water was backed up behind this and there was a waterfall over the logs and debris.

Apart from build up of water upstream, the danger in really high rainfall is a sudden release of the water due to the "dam" giving was catastrophically. This could really cause problems in areas of Joshua Creek without a ravine as in this location and with the trail level close to water level.



The higher level of water behind the "dam" may be visible in the photo above.

Main support for blockage is a tree across the creek as in the photo below.

But other debris has built up. Dark area in photo is actually a grocery store cart that is within the blockage debris.



Approximate location of blockage



From: Diana Friesen
To: [Janusz Czuj](#)
Subject: FW: JCRA Feedback Joshua Creek Flood Mitigation Study
Date: Monday, November 22, 2021 10:26:29 AM

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Diana Friesen
Sent: November 22, 2021 10:22 AM
To: [REDACTED] Philip Kelly
<philip.kelly@oakville.ca>
Cc: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings
<david.gittings@oakville.ca>
Subject: RE: JCRA Feedback Joshua Creek Flood Mitigation Study

Thank you for your comments on behalf of the JCRA regarding the Joshua Creek Flood Mitigation Opportunities Study

The information provided which will be considered when finalizing the study.

Upon completion of the study, there will be an opportunity for the full project file to be available to the public as part of the mandatory 30 day review period

You will note that the full project report has additional information and we hope that you find this additional information to be helpful. At the public information sessions, we provide only core information to the public for review and information as the final report is not yet complete.

In regards to your specific recommendation regarding external partners to share cost with the town, please note that the town is always looking for funding and cost sharing opportunities, which may include partnership with Metrolinx in regards to Option # 2

Regards,

Diana

From: [REDACTED]

Sent: November 9, 2021 11:22 AM

To: Diana Friesen <diana.friesen@oakville.ca>; Philip Kelly <philip.kelly@oakville.ca>

Cc: Janet Haslett-Theall <janet.haslett-theall@oakville.ca>; David Gittings <david.gittings@oakville.ca>

Subject: JCRA Feedback Joshua Creek Flood Mitigation Study

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Hello Diana,

Thank you for this 2nd public input opportunity on the Joshua Creek Flood Mitigation Study undertaken by the Town.

The JCRA board is disappointed that the only flood mitigation option recommended by this study is Option #4 Emergency Preparedness. This option does not appear to be sufficiently robust to be the only recommendation for flood mitigation of Joshua Creek for the below reasons:

- Effectiveness of the options was not included as an evaluation criterion.
- The reliance on individual residents to implement flood mitigation measures at their own discretion is poor public policy.
- Emergency Preparedness appears to have come out of the evaluation criteria as the best option based on Constructability.
- The need for multiple options to reduce flood risk is a reasonable and logical conclusion given the statement on Options #2 and #3 “Flood risk to the residential area is reduced, but not eliminated”; however, the study has recommended a single option.
- The study does not appear to provide supporting evidence that Option #4 will eliminate flood risk.
- There is no financial information included in the presented material.
- There is no reference to working with external stakeholders so that a more robust flood mitigation plan can be undertaken with shared costs.
- There is no reference to best practices in other municipalities, including Burlington and Toronto where significant flooding resulted from massive storms in the 2014, 2013 and 2018.

- Reducing Risk of Contamination in the creek system was not included in the study.

JCRA suggestions:

1. Add Effectiveness of each option as a Key Evaluation Criteria, including effectiveness at reducing risk of possible contamination in a flood scenario.
2. Consideration of external partners to share costs with Town.
3. Consideration of layering options to create a more robust action plan to reduce flood risk.

Thank you again for the opportunity to provide feedback. We appreciate the time and effort Town staff give to public engagement.

We would be pleased to answer any questions or discuss our comments in more detail at your convenience.

Regards,



President, Joshua Creek Residents Association

From: [REDACTED]
To: [Diana Friesen](mailto:diana.friesen@oakville.ca)
Subject: RE: Joshua Creek Flood Mitigation Study Comments Received
Date: Monday, November 22, 2021 10:41:22 AM

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Thank you

From: Diana Friesen <diana.friesen@oakville.ca>
Sent: Monday, November 22, 2021 10:17 AM
To: [REDACTED]
Cc: Philip Kelly <philip.kelly@oakville.ca>
Subject: Joshua Creek Flood Mitigation Study Comments Received

[REDACTED]

Your comments regarding the Joshua Creek Flood Mitigation Opportunities Study have been received and will be documented and included as part of the Class Environmental Assessment project file

Thank-you for the information provided which will be considered when finalizing the study.

Upon completion of the study, there will be an opportunity for the full project file to be available to the public as part of the mandatory 30 day review period

Regards,

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Diana Friesen
To: [REDACTED] [Janusz Czuj](#)
Cc: [REDACTED]
Subject: RE: Joshua Creek Flood Mitigation Study
Date: Monday, November 22, 2021 10:06:29 AM

[REDACTED]

Thank you for your comments regarding the Joshua Creek Flood Mitigation Opportunities Study. Creek maintenance to address debris jams is carried out on a routine basis and in response to calls received by the public. We will relay the concern to our operations group. If there are any additional concerns with debris jams in the creek, you can report this information to Service Oakville by email at service@oakville.ca or by phone at 905-845-6601.

By copy of this message, I am forwarding your comments to our Forestry group who look after tree and invasive species management in our urban forests.

Best Regards

Diana Friesen
Water Resources Technologist
Transportation and Engineering
Town of Oakville | 905-845-6601, ext.3904 | www.oakville.ca

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From: Diana Friesen
Sent: October 19, 2021 10:39 AM
To: [REDACTED] 'Janusz Czuj' <Janusz.Czuj@ghd.com>
Subject: RE: Joshua Creek Flood Mitigation Study

Good Morning [REDACTED]

Thank you for your comments regarding the Joshua Creek Flood Mitigation Study. All comments received will be collected and compiled over the next few weeks and we will provide responses to questions in that same time frame.

Best Regards,

From: [REDACTED]

Sent: October 18, 2021 10:11 AM

To: 'Janusz Czuj' <Janusz.Czuj@ghd.com>; Diana Friesen <diana.friesen@oakville.ca>

Subject: Joshua Creek Flood Mitigation Study

SECURITY CAUTION: This email originated from outside of The Town of Oakville. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello: I'm following up re the flood mitigation information that has been provided publicly via the Oakville town newsletters and website. It invites residents to comment on the study and plan for flood mitigation along Joshua Creek. Please consider my comments below.

I live on [REDACTED]

[REDACTED].

[REDACTED] What concerns me is the state of the ravine between Brookmill Road and the Constance Drive Bridge. This narrow stretch of Joshua creek has been left to grow wild for at least the past 16 years. The ravine has become a huge mess of live (but mostly dead) stands of the invasive species Buckthorn and other invasive ground spreading and climbing species that are choking out the natural local tree species.

More concerning, is the ravine has been used for years as a dumping ground by some of the residents, past and present, disposing from their properties to the ravine fallen branches, large amounts of brush, Christmas trees, leaves and garden waste. There's even a aluminum extension ladder behind one property tangled up in the mess. I have on many occasions pulled large pieces of wood and other debris from the creek to leave it by the Parks garbage bin to dispose of properly.

So, here's my question. Does not all this ravine mess pose a 'damming' problem particularly against the Brookmill bridge should we ever have a storm that drops so much water that should wash down the ravine and into the lake but is blocked by a growing amount of debris?

Should part of any solutions being considered include a plan to clean up the ravine? In the meantime, perhaps it's time for a reminder official town letter sent to all residents along Joshua Creek warning not to dump into the ravine?

There are other services offered either by the town, region, or private contractors to remove fallen branches, trees, brush, and junk. Nothing but the natural fall of leaves from healthy trees along the ravine should be allowed to accumulate in the ravine.

Thank you for the opportunity to offer my comments, I trust will be kept in confidence.

Yours truly,

[REDACTED]
[REDACTED]
[REDACTED]

Sent from [Mail](#) for Windows 10



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Sarah Irwin

Sarah.Irwin@ghd.com
519.340.3904

Janusz Czuj

Janusz.Czuj@ghd.com
519.340.4269

www.ghd.com