

March 1, 2024

## OAKVILLE HOME FLOOD EDUCATION AND PROTECTION PROGRAM

- 1. PREPARED FOR:** **Will Davidson LLP**  
Gary Will, Gordon Marsden and Michael Reid
- 2. PREPARED BY:** **Intact Centre on Climate Adaptation**  
Dr. Anabela Bonada, Manager and Research Associate  
Dr. Blair Feltmate, Head  
Cheryl Evans, Director, Flood and Wildfire Resilience

This proposal responds to a request from **Will Davidson LLP**, to create a flood preparedness education program aimed at property owners in the **Class Area**, as identified in the Court File No. CV-20-00001582-00CP.

### 1) PURPOSE

The purpose of this project is for the **Intact Centre on Climate Adaptation** (“Intact Centre”), **University of Waterloo**, to develop a customized flood preparedness education program (“**Oakville Home Flood Education and Protection Program**”) for 1,643 residential properties (addresses provided by Will Davidson LLP) located within the Regulatory Flood Hazard, within the Town of Oakville, bounded by Burloak Drive, Lake Ontario, Winston Churchill Blvd., and Dundas Street in the Town of Oakville, Ontario (see Appendix).

Given the risk of flooding events in the Regulatory Flood Plain, the Intact Centre's education program is specifically designed to provide Class Members with **user-friendly** and **action-oriented** information on flood resilience measures, thereby enhancing the overall resilience of their properties. Through the Oakville Home Flood Education and Protection Program, the Intact Centre will disseminate flood resilience resources to Class Members utilizing various channels, encouraging proactive implementation of these measures. By providing the necessary tools, the Intact Centre aims to “help homeowners to help themselves” **to reduce flood risk and minimize damage in the event of a flood.**

### 2) DELIVERABLES

The Intact Centre will develop a **customized Oakville Home Flood Education and Protection Program** encompassing a range of initiatives strategically designed to engage and empower Class Members to undertake measures to reduce flood risk on their own properties. The initiatives are described below:

1. **Solicitation of local homeowner input:** identify and meet with a group of **six Class Members** to whom we will present our planned course of action for the Oakville Home Flood Education and Protection Program. The objective is to collaboratively identify any distinct or unique features specific to their area that should be integrated into residential flood risk protection.
2. **Infographic Distribution:** infographics are effective tools for consolidating and conveying practical solutions identified in flood risk mitigation guidance.
  - a. The Intact Centre will **customize** the [Three Steps to Cost-Effective Home Flood Protection](#) for distribution to Class Members. Customization will include unique features identified with six Class Members.
  - b. Class Members will receive infographics through mailings twice in the program year, as part of the education directive—once preceding the Fall flood season, and again in anticipation of the Spring flood season.
  - c. Infographics will be distributed at a community event **targeted** to Class Members (see point 5).
3. **Infographic Companion Guide:** the Intact Centre will create a guide to complement the infographics, providing **detailed instructions on the actions Class Members can take at the level of their home to mitigate flood risk.**
  - a. The guide will include a comprehensive list of available programs, subsidies, contractors, professional home flood protection assessors, etc., **specific to Class Members** that will support them in their resilience efforts.
4. **Online Course:** the Intact Centre will create a **customized password-protected interactive online home flood protection course for Class Members.**
  - a. The course will feature educational material that is specific to the unique features of the homes of the Class Members.
  - b. The course will include concise modules comprising video and graphic content, along with insightful case studies.
  - c. Upon completing the course, **Class Members will have a better understanding of the practical, step-wise actions they can take that may reduce the risk of flood damage on their property.**
5. **App:** course content will also be made available via a **password-protected app exclusive to Class Members.**
  - a. Users will not only have access to all course materials but will also receive timely “**home flood protection**” reminders to complete actions before each flood season.
  - b. The app will provide an action-focused checklist, guiding Class Members through a series of stepwise actions, and enable progress tracking of implemented actions.

- c. At each step, participants will receive targeted prompts directing them to resources for accessing funding, performing tasks themselves, hiring a contractor, and/or engaging with their insurance provider to seek a discount for risk reduction efforts.
- 6. **Community Outreach Event:** the Intact Centre will host a community event at a local venue, to promote the launch of the online course and app.
  - a. Intact Centre staff will deliver presentations addressing flood risk and proactive measures to reduce risk.
  - b. Intact Centre staff will provide practical demonstrations on navigating and utilizing both the course and app effectively.
  - c. Local stakeholders, including the fire department (to speak on emergency preparedness), contractors specializing in more intricate upgrades (such as depaving, grading, and installing a backwater valve), and home flood protection assessment providers, will be invited to set up exhibits and offer information to Class Members.
- 7. **Flood Risk Reduction Door-to-Door Campaign:** the Intact Centre will launch a **Flood Risk Reduction Door-to-Door Campaign** meant to engage Class Members to,
  - 1) understand their flood risk, and
  - 2) provide educational material to apply simple actions around their home and property to reduce their flood risk.
  - a. **Home flood protection trained professionals will visit all 1,643 households** to distribute the Oakville Home Flood Protection infographic and Infographic Companion Guide (Note: the Intact Centre has had success in this form of community outreach across Canada).
  - b. **Each household will receive an easy-to-install flood alarms**, which will also serve as a tool to initiate conversations about Home Flood Protection.
  - c. The practitioners will conduct a **survey**, inquiring whether homeowners have implemented any actions to limit flood risk.
  - d. The practitioners will provide practical tips, **direct residents to the Oakville Home Flood Education and Protection online resources** and invite participation in a follow-up survey.
  - e. **Post-Campaign Follow-up:** the practitioners will conduct phone surveys to assess the degree to which flood protection measures were implemented, and to **address any challenges or barriers** to implementation one-to-two months after the conclusion of the door-to-door campaign.
- 8. **Final Report on Program Evaluation:** the Intact Centre will provide a final report that summarizes the implementation of the **Oakville Home Flood Education and Protection Program**, analyzes the actions taken by Class Members through each initiative outlined in the program.

### 3) BUDGET and WORK PLAN

Deliverable	Task	Timeline	Budget
<b>Project management</b>		July 2024 - October 2025	\$20,000
<b>Notice of Settlement Approval to the Class Members</b>	<i>Will Trial Lawyers will provide the Notice of Settlement Approval</i> Intact Centre will mail out the document	June-July 2024	\$2,000
<b>Solicitation of local homeowner input</b>	Restaurant	July 2024	\$1,000
<b>Infographic distribution</b>	Customize infographics	August 2024	\$4,000
	Print infographics (4,000 copies)	September 2024	\$3,000
	Prepare mail	September 2024	\$1,000
	Distribute infographics through mail twice (cost of mailing)	October 2024 and March 2025	\$3,500
<b>Infographic Companion Guide</b>	Develop guide	September 2024	\$4,000
	Graphic design of guide	October 2024	\$10,000
	Print guide (2,000 copies)	October 2024	\$10,000
<b>Online Course and App</b>	Course development	September - November 2024	\$45,000
	Integrate content into online platform	December 2024 - February 2025	\$100,000
	Integrate content on app	February - March 2025	\$100,000
	Launch course and app through email campaign	April 2025	\$1,000
<b>Community Outreach Event</b>	Venue rental	April 2025	\$4,000
	Light refreshments for attendees		\$1,500
	Promotional material		\$1,000
	Meals and expenses for exhibitors		\$500
	Supplies		\$500
<b>Flood Risk Reduction Door-to-Door Campaign</b>	Salary for home flood protection professionals (includes hiring, training, post campaign survey)	May - August 2025	\$140,000
	Flood alarm for 1,643 homes (\$20/alarm)		\$32,000
	Custom tote bags for distribution materials (about \$4/bag)		\$7,000
	Supplies		\$4,000
<b>Final report</b>	Development	October 2025	\$5,000
<b>Total</b>			<b>\$500,000</b>

#### 4) INTACT CENTRE PROJECT TEAM

**a) Project Lead – Dr. Anabela Bonada, Manager and Research Associate, Intact Centre on Climate Adaptation**

Dr. Bonada is responsible for the management, communications, and operations of the Intact Centre. She oversees the day-to-day functions of the Centre and leads key relationships with stakeholders at the University of Waterloo and externally. She also supports research projects such as the production of a national wildfire guide, infographic development and formulating recommendations for scaling up nature-based solutions at the home, community, and landscape levels.

Dr. Bonada brings extensive experience and education in the field of climate science. She holds a Ph.D. in Geography from the University of Guelph, where her research focused on the effect that climate change has on tree growth, which gave her insights on the repercussions of extreme events, such as drought, on forest ecosystems. Furthermore, Dr. Bonada earned her B.Sc. in Environmental Science from the University of Waterloo and holds a Diploma in Ecosystem Management from Fleming College. At the University of Waterloo, she serves as the Staff Representative on the President's Advisory Committee on Environmental Sustainability.

Recognized as a subject matter expert on climate adaptation measures, Dr. Bonada is frequently sought after by the media for her insights, particularly regarding wildfire, extreme heat, and flooding.

**b) Project Director - Dr. Blair Feltmate, Head, Intact Centre on Climate Adaptation**

Dr. Feltmate is the Head of the Intact Centre on Climate Adaptation, University of Waterloo. Previous positions he has held include Vice President, Sustainable Development, Bank of Montreal; Director, Sustainable Development, Ontario Power Generation; Partner, Sustainable Investment Group/YMG Capital Management. Blair has written textbooks on Sustainable Banking and Aquatic Ecology.

He is on the Advisory Table, National Adaptation Strategy, Canada. He is Sustainable Finance Council member, Global Risk Institute, and he is a member of Climate Proof Canada (Insurance Bureau of Canada). Dr. Feltmate is Expert Member, International ISO Strategic Advisory Group, ESG, and he is on the Science, Innovation and Policy Board of Canada's Forest Trust. He is on the Climate Advisory Board, Minister of Environment (Ontario). He was Chair, Federal Government of Canada Expert Panel on Climate Adaptation.

Dr. Feltmate was a NSERC Postdoctoral Fellow (University of Waterloo). He holds a Ph.D. in Theoretical and Applied Ecology (University of Toronto), Master's in Sustainable Development (Wilfrid Laurier University), Master's in Zoology (University of Toronto), and Hon. Bachelor's Biology (University of Toronto). He is generally interviewed by the media 100 times per year on climate change/ESG related issues.

**c) Technical Advisor - Cheryl Evans, Director, Flood and Wildfire Resilience**

Cheryl is the Director of Flood and Wildfire Resilience. Cheryl leads the program development, oversight, and continuous improvement of a variety of initiatives whose primary objective is to mobilize on-the-ground action to improve the resilience of Canadian homes, businesses, and communities to flooding

and wildland-urban interface wildfires. Cheryl collaborates with a wide range of governments, professional associations, non-governmental organizations, and community groups to create and deploy flood risk assessment tools, user-friendly outreach materials, and action-focused flood and wildfire risk reduction training programs.

Cheryl has over 20 years of community engagement and program management experience in the fields of stormwater management, flood risk mitigation, home energy conservation and youth environmental education. She served as a technical committee member on CSA's Guideline on Basement Flood Protection and Risk Reduction (CSA Z800) and was a lead curriculum developer for the Ontario College's Flood Risk Assessment Training Program. She currently serves as a member of the City of Toronto Flood Resilience Working Group and is a Climate Change Committee Member for the Canadian Water and Wastewater Association. Cheryl's team is the recipient of Canada's Clean50 Top Project Award for 2020. Cheryl holds a B.E.S. in Environment & Resource Studies from the University of Waterloo.

## 5) CONTACT

Questions regarding this proposal should be directed to **Dr. Anabela Bonada**, Manager and Research Associate, Intact Centre on Climate Adaptation, **Email:** [abonada@uwaterloo.ca](mailto:abonada@uwaterloo.ca) **Telephone:** 519-574-3631



## 6) APPENDIX



**Figure 1** – Map showing approximate geographic boundary of Oakville Home Flood Protection Program. 1,643 properties within this area will be targeted through the program.