

## **EAWard1 - Tomi Neilson**

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**From:** Sam (TOC) <st@toc.ca>  
**Sent:** Tuesday, May 14, 2019 11:55 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Importance:** High

**Categories:** Purple

To the Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS):

As survivors of the flood, it is known that the 2005 and 2013 floods were definitely due partially human error, our household did not suffer overland flooding but did have 4 to 5 feet of water as a result from groundwater flooding. Common sense indicates if you increase the hydrostatic pressure with a berm our household in an event of a similar flood would have 6 – 8 feet of water as a result. The berm proposals do not address ground water protection in Bowness. Sunnyside on the other hand is being provided with total protection from ground water flooding. Elbow also got unique and special flood protection.

On the face, this is just a blatant attempt to instill a dyke / berm / bicycle path that offers no protection to us in Bowness. To date, none of the proposals will give us any more protection than we have had since 2013. Our position is that the berm offers little to NO protection, and in fact will ensure that we have far worse flooding issues with the berm; therefore, we vigorously OPPOSE the proposed berm.

We do NOT agree to the berm! Further, upstream mitigation protection and water preservation for droughts is the only answer. Upstream mitigation is the only way to protect All of Calgary. The berm in Bowness is a total waste of money; providing nothing to Calgary, Bowness. It is a blatant attempt to steal prime property.

Sincerely  
6208 Bow Cr NW  
Joseph Breslawski / Samantha Trociuk



## **EAWard1 - Tomi Neilson**

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**From:** Vera Kruger <verakruger@yahoo.ca>  
**Sent:** Tuesday, May 14, 2019 1:35 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson  
**Subject:** [EXT] submissions for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Dear Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (USC)

Please register my opposition to building a burm on Bow River on Bow Crescent N.W. I am not in favor of the burm due to the fact that :

1. I do not believe that edequate independent research by qualified personnel, especially those that are educated and qualified in the area of environment impact, has been done and researched. In view of the fact that there is now more emphasis on environmental impact of any removal of natural shrubbery, grasses, trees . It is proven that the natural environment such as shrubbery and trees stop the erosion of the bank, it is hard to understand why this would be done on Bow Cr. as we need to preserve the bank from eroding.
2. Some of the flooding, especially in my 6638 block next to the playground, the water did not come over the bank. It came from ground water underneath through our sewer. So having a berm will not fix that. In fact, having a berm will stop the drainage of excess water back into the river. How is that going to be dealt with?
3. Having a berm will grossly devaluate the value of our properties, because we are there precisely to be able to see the water, not look at a concrete structure.
4. The privacy of our back yards will be compromised. It is hard enough to keep people from trespassing into our yards, without giving them even more opportunity. I have had to deal in the past with young people using drugs, alcohol and just wanting a "secret" place to hang out by the river by my back yard, as well as having to go to court to be a witness to a rape at the playground by the river, without adding egress to the back of our properties. One only has to look at the records of the local police department to see how many times they have been called to intervene in these trespassings
5. I believe that we are not being treated with equitability that same has been offered to areas on Elbow river and other S.W. more affluent areas.
6. I have been a resident of Bow Cr. and Bow Village Cr. since 1978 and only had one flood issue coming from the ground water and not over the bank. At this time I own two properties on Bow Cr. and one of them is tenant occupied and they are as well agreeing with my opinion on this.

It is my belief that a larger and better control up river from the dam is a solution to any potential future flooding.

Please register me (2) x as to the "NO" to the burm.

Respectfully yours,

Vera Kruger

## **“Without Prejudice”**

May 15th, 2019

Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)  
The City of Calgary  
[committeeclerk@calgary.ca](mailto:committeeclerk@calgary.ca)

We would like to make our position on the Bowness flood barrier project (“the project”) very clear. We believe the project is ill conceived and we strongly oppose the City of Calgary’s (the City’s) proposal to construct a flood barrier through the community of Bowness.

We believe the City has been negligent in not communicating its intentions transparently to affected stakeholders prior to committing tax payer dollars to the project.

We believe the project will cause increased security / safety issues for the river side residents of Bowness.

We believe the project will have a significant negative impact on the environment.

### **The Project is ill Conceived**

The Flood Mitigation Measures Assessment (FMMA) report, commissioned by the City, provided that “if a new Bow Reservoir is not built, fortification of the Bow River by barriers is not desirable as it would require higher barriers with large footprints along the length of the Bow River within Calgary, resulting in dramatic impacts on the community”.

There are no plans that we are currently aware of for a new reservoir on the Bow River. Based on its own report the minimum conditions for a berm through the community of Bowness are not present.

The stated objective for the project is to protect the Community of Bowness from flood damage.

The project does little to protect private property or public infrastructure along the river and it has the potential to be more damaging as it does not account for the inevitable groundwater flooding that occurs in every high-water event. Approximately eighty percent (80%) of the damage caused by the 2013 flood in our area was not caused by overland flooding, but by groundwater inundation and sewer back-ups.

After the 2013 flood, the Province of Alberta contracted with TransAlta to lower reservoir levels at the Ghost and Bears paw dams. If this arrangement was in place during 2013, the high-water flow on the Bow River would have been reduced by thirty percent (30%), effectively negating any damage in our area, except for groundwater and sewer back-ups.

In reviewing the preliminary design for the City’s proposed berm, this plan will ultimately do more harm to property than good, as it will trap groundwater behind the berm and create erosion issues. Groundwater will not have an easy path to return to the river, even during times when the river is not particularly high.

Also, we believe, not unlike the Olympic bid that was rejected by Calgarians, the costs for this project are grossly understated and the benefits are grossly overstated.

The proposed barrier will not provide effective mitigation in the event of another 2013-type flood. We urge the City of Calgary to reconsider and discontinue its plan to construct a barrier/berm along the Bow River in our area.

### **The City Has been Negligent**

We were displaced for four years and nine months and finally moved back into the community in March of 2018. Although the project had been in the works for years prior to us moving back, we were not advised of the City’s intention to build a berm until we noticed the public sign near the Hextall Bridge advertising the information session that was held on January 16<sup>th</sup>, 2018.

We went through a rigorous permitting process before we could start construction, yet throughout the permitting process there was not one note or comment from the City regarding the project. We spent many hundreds of thousands of dollars on this rebuild. If the City informed us of their intentions during the permitting process, we would have decided not to continue with the rebuild. As a direct result of this over-sight, we are unable to sell the property for fair market value and a very large portion of our net worth is essentially frozen. Our financial future is now in jeopardy and we believe the City

has been negligent in not communicating its intentions transparently to us while we were communicating with them during the building permitting process.

### **Increased Security / Safety Issues**

Bow Crescent is a well-lit, well-travelled residential road which is regularly patrolled by the police. Despite this, numerous break-ins and thefts that have occurred on the crescent. Not to mention that our neighbor was car-jacked, robbed and assaulted right out in front of our homes.

We believe the earthen berm being planned by the City will create an increased opportunity for those individuals in our society with nefarious intentions.

Currently, we walk unimpeded back-and-forth between the river and our house. In order to protect our property and our family, we will need to build a significant fence parallel to the toe of the berm. The type of fence required to protect ourselves will sever our unimpeded access to the river and completely disrupt the way we currently enjoy our property.

### **Negative Environmental Impacts**

The project, as planned, will require the removal of thousands of mature trees, shrubs and plants along the entirety of the route, to be replaced by bare earth. With the potential for ground water to be trapped behind the berm and increased current along the berm itself, the loss of cover will lead to increased erosion and bank instability. The loss of cover will also lead to an increased carbon foot print in a time when Governments are imposing carbon taxes at both the federal and provincial level.

### **Expectations**

The proposed barrier will not provide effective mitigation in the event of another 2013-type flood. We believe this project is not an effective use of tax payers' money and we urge the City of Calgary to reconsider and discontinue its plan to construct a barrier/berm along the Bow River in the community of Bowness.

If the City of Calgary pursues its plan to construct a barrier for flood protection along the Bow River, and specifically on our property, we will carefully consider our options. We will expect to be "made whole" in the event this barrier is constructed; We will expect all trees, shrubs and plants removed during construction to be replaced; We will expect the lawn be returned to the state in which it was prior to the project (sodded and weed free); We will expect the City to indemnify us and assume all responsibility to resolve any erosion and river bank destabilization that may occur on our property both during the construction of and in perpetuity once the project has been completed.

We reserve the right to expand upon our expectations as the project processes and we look forward to a favourable reply to our current concerns and expectations.

Yours Truly,



Tobin Walker  
6012 Bow Crescent NW  
Calgary, AB T3B 2B9

## EAWard1 - Tomi Neilson

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**From:** Rowe, Timothy S.  
**Sent:** Tuesday, May 14, 2019 11:10 AM  
**To:** EAWard1 - Tomi Neilson  
**Subject:** FW: Submission For Annual Flood Mitigation Update to SPC-UCS on May 15, 2019

**Categories:** Purple

-----Original Message-----

**From:** Marguerite Stawowski [mailto:Mas@stawowskimcgill.ca]  
**Sent:** Monday, May 13, 2019 8:09 PM  
**To:** Committee Clerk <CommitteeClerk@calgary.ca>; ewardl@calgary.ca; info@bownessfrm.ca  
**Subject:** [EXT] Re: Submission For Annual Flood Mitigation Update to SPC-UCS on May 15, 2019

Sent from my iPad

- > On May 13, 2019, at 5:35 PM, Marguerite Stawowski <Mas@stawowskimcgill.ca> wrote:
- >
- > Members of the Standing Policy committee (SPC) on Utilities and Corporate Services (UCS)
- >
- > I would like to express my concerns regarding the proposed flood barriers in our community of Bowness.
- >
- > It has been nearly six years this spring since the Alberta 2013 flood and this is where we are NOW...just at the beginning! How does it take nearly five plus years to arrive at this outcome??? This "surprise" proposed barrier project/berm idea is unacceptable and a waste taxpayer dollars when the only solution lies elsewhere, upstream, as experts have said. This barrier project is a bandaid on an open wound!
- >
- > As I understand, Bowness was built on a gravel pit, so ground water flooding was enviable during an overland flood like 2013, so how will the proposed barrier/berm protect us from that issue? How is this going to protect our property and our fellow Bownesians from potentially greater flooding due to ongoing climate change? Climate change is becoming too large an issue for a berm to protect us from a river like the Bow.
- >
- > When prospective new homeowners apply for building permits from the City to build in our area does the City make them aware that they are building in a major flood zone?
- > And that possibly they might not qualify for certain insurance policies? And if the proposed barrier failed, the new homeowners property value would decline like ours has. If transparency is truly one of of the City's mandates, then do what you say you do already...communicate, be responsible and accountable!
- >
- > One of the REAL concerns is our insurance policies. Not only have we been flooded by overland, sewer and ground water in 2013, and now the insurance companies have a great opportunity to deny us coverage or reduce their coverage. And what if the proposed barrier fails? Is the City prepared to take over the responsibility for our insurance? Is the City in the insurance business? Why would the insurance provider have any reason to believe the City? And why would I?
- >

> The emotional trauma left behind when a natural disaster the magnitude of the Alberta flood in 2013 has caused severe depression in some people. Calgary's mental health community sees patients with trauma return in the early spring for ongoing support to cope with their anxiety around the trauma of another flood. Who would want to live like that?

>

> Hopefully, the City of Calgary will "do the next right thing" for the residents of Bowness.

>

> Respectfully,

> Marguerite Stawowski

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> Sent from my iPad

## **EAWard1 - Tomi Neilson**

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**From:** David Robertson <jwd.robertson@gmail.com>  
**Sent:** Monday, May 13, 2019 4:09 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; Ward1 - Christine Louie  
**Subject:** [EXT] Berm Bowmess

**Categories:** Purple

We are away now and just heard about your meeting

We are opposed to a berm as it would of done us no good in 2013 all our flooring was from sewer back-up so was our neighbor across the street. If the city had kept the sewer lift station going many people would have had little damage

Your plan seems ill concerved it will result in distribution of an eco system and loss of many large trees that act as a carbon sink. The city has posted trees as small as 4" in diameter not to be cut now the city wants to cut many 2 and 3 foot diameter trees. Replacement value is many thousands

Better alternative is to dredge the river

What is more important the life of a fish or that of a citizen. Better still do as you are doing on the Elbow stop the water from flooding Calgary.

We have lived in Bowness since 1976 and our original two neighbor since 1946. We have not been flooded before and based on last flooring it was a combination of human error and the city and Provence not draining the system in early spring

Stop spending my tax money on something that will probably not happen again

Fortier/Robertson  
6226 Bow Cresent NW  
Calgary Ab  
T3B 2B9  
4038290600

## **EAWard1 - Tomi Neilson**

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**From:** alanemarie@shaw.ca  
**Sent:** Monday, May 13, 2019 3:18 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca; Alane Boudreau  
**Subject:** [EXT] submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Rene and Alane Boudreau  
6132 Bow Crescent NW  
Calgary, Alberta T3B 2B9

May 12, 2019

Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

Cc: Ward Sutherland  
Office of the Councilors  
P.O. Box 2100  
Station M 8001  
Calgary, Alberta  
T2P 2M5  
Email: [Ward01@calgary.ca](mailto:Ward01@calgary.ca)

Re: Bowness Flood Barrier

Dear Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

We are very concerned about the Bowness barrier that is being considered by the City of Calgary.

In fact, although we and our neighbors were all directly and personally impacted by the 2013 flood in a way that most of the people planning this barrier can only imagine, we have not seen one argument or presentation (and we have read all of the information provided and attended all of the meetings) that makes us see this as the best way forward. We trust that it is a well-intentioned attempt to address the risk of flooding in the future, but it does not adequately address the most pressing issue of groundwater flooding, and the true financial and environmental costs will ridiculously outweigh what limited protection the barrier could offer. In these difficult times, we urge the City of Calgary to stop spending precious tax money in pursuit of this problematic and ill-conceived project.

Even though our home was flooded in 2013, we chose not to move. We stayed because our family loves to live by the river, and we now know that that decision includes a recognition that there is a risk of flooding again in the future. We have been good stewards of our riverine forest. We have not disturbed the native vegetation and shrubs that lead right to the water, which did and has continued to protect the riverbank. We have noticed that whenever a neighbor has removed a tree or shrub in the bank area, the bank begins a process of erosion, even if they have tried to replant something else in its place. There is no substitution for the stabilization benefits of the established root system of mature trees and shrubs. We enjoy sharing the riverine forest with abundant wildlife. We fully recognize the destruction and disruption that would be caused by construction through that riverine forest beltway. We have not seen an accurate assessment or reasonable plan from the City on how it would protect that incredibly delicate and vital environmental area. Science recognizes that ecosystems are all interconnected, and it must be recognized by the City

that any disruption or loss in our area would cause negative repercussions downstream as well as for the aquatic life throughout the waterways.

After reviewing the material provided by the City, we also see this as an insufficient answer to the major problem for the majority of the people, which is groundwater flooding. Even if the province does follow through on upstream mitigation, which the modest effectiveness of this expensive barrier is predicated upon, we are still not actually protected. The best and most effective solution from a financial and environmental viewpoint is *two* upstream reservoirs. The City should use its resources to effectively lobby and convince the Province of this measure, which would protect the entire City, rather than using its resources to focus on this costly and deficient concept. The city must be even more fiscally responsible in these difficult financial times.

The City has grossly underestimated the true cost of the barrier project; the cost of compensation for the landowners and the cost of construction and environmental remediation are underestimated, and the anticipated benefit of reducing the impact of overland flooding in future years in the area is exaggerated. Even the forecast of future flooding that was presented was flawed; it included data from years before the dam. The City also did not consider and assess how many private measures have been taken by individual landowners to protect their homes and property from future flood risks, which would impact the true cost benefit of the barrier.

These are our primary concerns, but they are certainly not all of our concerns. Clearly the barrier, as proposed, is ill-conceived.

Sincerely,

Rene and Alane Boudreau  
6132 Bow Crescent NW Calgary

## **EAWard1 - Tomi Neilson**

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**From:** GEOFF WILCOX <geoffwilcox@shaw.ca>  
**Sent:** Monday, May 13, 2019 2:44 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson  
**Subject:** [EXT]  
**Attachments:** AUDIO\_20190513\_134028\_623.3gp

**Categories:** Purple

Geoff Wilcox  
5840 Bow Cres NW,  
Calgary, Alberta

May 13, 2029

Attn: Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

Re: Submission for annual flood mitigation update

Dear Members,

Flood resiliency planning significantly impacts the people of Bowness.

My wife and I lost our home and most of our treasured generational artifacts to the flood of 2013. We have since built a new home on the property, meeting flood mitigation parameters. As a longterm resident of Bowness, I would like to personally thank the city of Calgary and its employees for their efforts during and after that devastating event.

As taxpaying citizens of Calgary and directly impacted residents, we have a vested interest in the success of flood resiliency strategy and planning. We are particularly keen to learn the status of barrier planning in Bowness.

Plans for a barrier in Bowness were initially obtained by directly effected residents through a FOIP.

Understably, considerable opposition emerged from residents living along the Bow river once the scope and design of the initial barrier plan was obtained. Subsequently, many residents were informally told by the lead engineer during on sight visits that the original barrier design had been abandoned. I would like to know the status of any revised plan, the current estimated time of completing this new plan and when it is anticipated to be released to the public.

As part of this update, I think it is reasonable to ask what additional cost the city has incurred as a result of plan revision, the entire expenditure incurred to date related to the Bowness barrier and if the City is within budget for this component of its flood resiliency planning.

The last year has seen the formation of an active, well funded association for responsible flood mitigation in Bowness. Many important concerns such as the ongoing effect on home sales and property values/taxes have been raised by this group of concerned citizens. I am curious how resistance to barrier development has changed projected costs for a barrier, and how planning has been altered by technical concerns this association has raised.

Groundwater incursion was responsible for the majority of damage to Bowness residences during both the 2005 and 2013 flood events. The type of barrier that is ultimately constructed will either reduce or increase groundwater incursion. In order to address this issue and gain a better understanding of groundwater flow, the City appears to have undertaken the drilling of additional groundwater monitoring wells. How many additional

wells have been drilled and how has this impacted overall costs in the last twelve months? Misleading information appeared concerning groundwater flow on a short video prepared by the City. In order to reduce or eliminate elevated water tables caused by barrier construction, it is commonly understood that barriers must be constructed to a depth encountering an impermeable substrate. Such construction is considerably more costly than simply building a berm on existing ground. I would like to know if the City has incorporated this knowledge into any revised planning within the last year.

Finally, I would like to know if the City has established or modified a cost benefit target that must be achieved in order to justify the building of a barrier in Bowness.

The ability for concerned citizens and elected officials to ask questions and receive answers on the progress of government projects is a democratic privilege. Achieving a technically successful solution, be it upstream mitigation, a barrier or a combination of both, and understanding and avoiding irresponsible expenditure is crucial to the future well-being of Calgary and her residents.

Thank-you for addressing my questions.

Sincerely,

Geoffrey Wilcox PGeol (Life Member)

Submission for Annual Flood Mitigation Update  
SPC UCS on May 15th.

"Members of the Standing Policy Committee on  
Utilities and Corporate Services" May, 9th 2019

I am writing this letter to express my concerns regarding the Bowness Barrier Project. This is a personal letter based on research and professional knowledge and experience in the field of horticulture. I am not a novice. I recently received a service award for 2019 from Houzz. I do understand the concerns regarding flood mitigation as it is a concern for all Calgarians. I am not in support of this project.

Each area of the city that was flooded is unique in its need for a plan that not only fixes the problem but fits the problem. We also think the Bow River Corridor is different in many ways and presents the city with an opportunity to examine the uniqueness of Bowness before proceeding with this project.

The Bow River Corridor is a natural habitat that enters the city and is a home not only for fish and wildlife but to thousands of mature trees, shrubs and wildflowers. This is the beauty of the Bow and its surroundings. The riverbanks of Bowness are very different from the city core, untouched and pure! Based on this, it also provides the city with an opportunity to look at this with a different set of eyes.

Riverbanks, are the best habitat for for wildlife to feed and travel through the area. We live in Bowness because we as a community love nature and are caretakers of the Bow River Corridor. The riverbank with many mature trees stabilize the bank and act as filters. This did not get disturbed even in the 2013 flood event.

The city's plan to build a barrier will destroy the area where many trees have created habitat, shade and a home for fish and wildlife. Mother Nature has done an amazing job of providing these needs. We have seen what happened to the slopes of Paskapoo. With the removal of habitat the wildlife is now pushed into traffic.

Rip Rap, or as biologists call it "bank armouring" Is an unnatural pathway for wildlife to retain their homes on the river. It is a detriment to their safety as deer get trapped and break their legs. This also, gives road traffic a route for them to travel.

My question to city council is " What do we want the Bow River to look like in the future ?"

The proposal of the removal of 3.9 kms of trees and shrubs at 30' wide would be catastrophic! There are many Spruce, Balsam Poplar, River Birch and Douglas fir that have extensive root systems and large root balls. How does the city plan to repair the damage to the ecosystem and microclimate? A clay/ loam mixture will not replace what has been on the river for decades. A good example of this is Dale Hodges Park. The soil used for this project was contaminated with a weed infestation. Workers were hand picking weeds... for an entire summer? What is the cost of that gross error for tax payers? What is the maintenance plan going to be for the barrier? I am a small business owner and have worked in Garden Design and Horticulture for 30 plus years. I graduated from Fairview College in Turf Management and hold a Journeyman ticket in Horticulture. Working on many large projects I do understand the process of removal and replacement. I also have worked on projects that have had city trees onsite, witnessing trees with values of \$12,000.00 and up. Is the city going to use the same template to put a value on our urban forest?

Bowness, in 2013 experienced 80% ground water flooding. This project even in the early stages of planning doesn't address groundwater. As a professional, I never start a design project without looking at the land itself and study the environment. Drainage is everything! Its simple chemistry when the river rises so does the groundwater. The barrier will give Bowness a false sense of security. An example of this is the 6400-6500 block of Bow Crescent. This part of the street didn't flood, its on the highest part of the street. One block away on Bowness Road, Bow Cycles basement flooded with groundwater, which is on even higher ground.

According to research from Environment and Energy Collaborative (NPR) regarding Mississippi floods, "Levees make Mississippi flood worse, but we still keep building them". When barriers fail, breach and push water in places that it naturally wouldn't go we are in big trouble. An example of this is in the 2013 event an earthen barrier was installed at the Safeway (Elbow Dr. + 4th St. Sw)It pushed the water into Roxboro. Yes, it probably would have flooded but not full basements 1 km away. If trapped behind the barrier how will the water find its way back to the river or will it create a new leg of the river?

Research recommends upstream mitigation as the answer. We should be thinking of the future with water conservation, storage, hydro and recreation. Thinking forward, not just spending money because it is available.

It has been a huge disappointment for the Bow Crescent residents to discover 1 week before Christmas in 2017, that this project had been proposed. Through freedom of information we found out this project had been in the works for years with a barrier detailed drawing already in place. The city always has a comeback that this is the design stage. Why not be transparent in the first place? Is it the job of the councillor in this ward to keep the citizens informed of major projects? Less than a year ago the city planning department was still giving out building permits not informing people of this major proposed project. Many families would never have spent hundreds of thousands of dollars to do their own flood mitigation to end up with a barrier that will not help their situation. An example of this is a landscape project my company had on Bow Crescent. It took the home owners almost 5 years to decide to rebuild and get possession of their new home. The home is on screw pilings ready for a 1:200 year flooding event. When their home was getting finished and they we excited to move back to Bowness they found out that the barrier project was in the works. They said " We never would have built our new home and spent a huge amount of money if we knew this was proposed". The property value will decrease and will they have access to the river with rip rap? If this project is approved, the social impact and stress of 4 years of chainsaws falling trees, dump trucks, heavy equipment, dust, workers on our properties will be devastating and never be the same. Many of us have lost a lot of sleep already in the last year. This project is always on our mind.

This is a sign in Bowmont Park that has been put up by the City Parks Department....It pretty much sums up my thoughts.

#### THE ROOTS OF A HEALTHY RIVER

Balsam Poplar forests like this one along our river valleys help support wildlife and maintain water quality.

Think of the river, forest and wildlife as part of a triangle. If one side disappears the whole thing collapses. This Balsam Tree forest offers important habitat for wildlife, with many different opportunities for food and shelter. Plant roots help filter rain and melting snow, improving water quality. Overhanging branches shade fish from the hot summer sun.

HABITAT, the natural environment of a living thing.

ALWAYS REMEMBER MOTHER NATURE BATS LAST!

Joyce and Harold Wills

6432 Bow Cres. N.W.

From: Hank Vrielink  
6816 Bow Cres N.W.  
Calgary, Alberta  
T3B-2B9

To City of Calgary  
Members of the Standing Policy Committee (SPC)  
Utilities and Corporate Services (UCS)  
Sent Via Email to [committeeclerk@calgary.ca](mailto:committeeclerk@calgary.ca)  
cc Ward 1 Councillor - Ward Sutherland's at [eaward1@calgary.ca](mailto:eaward1@calgary.ca)  
cc Project Manager Bowness Barrier – Denise Nogueira and [BownessBarrier@calgary.ca](mailto:BownessBarrier@calgary.ca)  
cc Bowness Responsible Flood Mitigation Society BRFM at [info@bownessrfm.ca](mailto:info@bownessrfm.ca)

Re: Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

Dear Committee Members

I have been a resident of Bowness for my entire 58 years and have owned our current home at 6816 Bow Cres for 35 years, raising a family, caring for our community and the riparian ecosystem. Through our experience of living adjacent to the Bow River during this period, extensively engaging with our neighbors, and review of every flood mitigation and Bow River hydrology study that has been released by the Province of Alberta and City of Calgary over the past 10 years, I would assert that I have a very good understanding of the river and how flooding occurs. This experience and technical review has led me and my neighbors to the current conclusion that as an overland flood barrier, the Bowness Barrier will not protect us or our neighbors from property damage or personal safety hazard, and that the premise within the City of Calgary's Flood resiliency plan (Flood management mitigation assessment or FMMA), that planned and controlled flow rates exceeding the current threshold of 800 m<sup>3</sup>/sec is irresponsible. During the flood of 2005 with a flow rate of 791 m<sup>3</sup>/sec, I witnessed the bridge that was in Bowmont Park, upon which a 15 year old girl was swept to her death, flow down the river after being ripped from it's foundation. I have seen no evidence to conclude that flow rates 50% higher than this can be safely discharged as claimed within the FMMA. I have had at least 10 expert hydrologists and hydrogeologists at my property conclude that with an overland flood barrier, the proposed design release rate within the FMMA of 1230 m<sup>3</sup>/sec will result in increased flood damage and harm to us and our neighbors in Bowness relative to the existing situation with a flow rate of 800 m<sup>3</sup>/sec. I am providing this letter to voice my opposition to the way that the city of Calgary has engaged/consulted us as property owners and residents of the community of Bowness regarding the proposed flood mitigation programs approved within the Flood Management Mitigation Assessment (FMMA) and in particular the Bowness Flood Barrier. Given that the city has not provided a clear technical case that the barrier will provide both overland and groundwater flood protection, and has not addressed our recommended alternative upstream mitigation plan for the Bow River that would provide a higher level of protection to our community and the City of Calgary and negate the need for these barriers, I have no intent to enter land access negotiation with the City of Calgary for this project and will utilize whatever means are available to me to oppose this development.

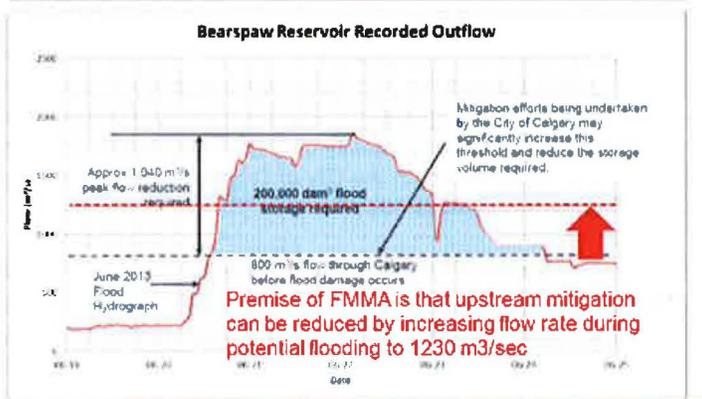
The lack of transparency and consultation around this barrier project has been extremely stressful and has extracted a huge emotion cost that is impacting our health and our families, and in our case has far exceeded what we experienced from the 2013 flood. During the 2013 flood, our home was subject to overland flooding. Our basement had 4-5 ft of water, but we, like the vast majority of Bowness homes did not experience mainfloor flooding, and the damage that we did incur would be the same if the barrier were in place in 2013 or in the future if the river flow was increased to 1230 m<sup>3</sup>/sec with the FMMA proposals in place. Our basement was gutted out and drying such that one week from the flood our home was dry and secure and we were able to continue with our plans to walk the West Coast Trail, without significant stress or concern. In 6 months our home was restored. In over 50 years of existence this was the only year that flooding damage occurred to our home. Although the flood was a tragic event for us and for Calgary, we never lost sleep, it was clear what we needed to do to restore our property, and this was all in our control. We were thankful that some compensation was afforded through the DRP and insurance, but even without this we had the means and ability to rebuild. This has not been our experience since we have been notified in January 2018 of the city's intent to construct the flood barrier on our properties. The city's lack of honesty, transparency and responsiveness to our concerns has caused huge anxiety and stress within the entire community. For me personally this has culminated recently

in me suffering a seizure which I attribute almost entirely to the stress that has been placed on me and my community by the way the city is pushing this project on us and has not completed the consultation that is required under your own process. Consultation is about communicating and sharing idea and concepts BEFORE a decision is made. As a property owner I believe I should have been given standing and been informed and CONSULTED before the FMMA was approved. The lesson learned from the 2013 flood and more recently in Quebec is that effective mitigation that will mitigate stress during these difficult events will require keeping the water from the city, not containing the river using weak barriers that we hope will hold.

The city has been unwilling to slow down the process and allow for technical discussion and engagement from the community. The community has consistently told the city that the prevalent flooding mechanism in Bowness is groundwater, not overland flooding. We have been told by city staff that the city values their relationship with TransAlta, and that provided an overland flood barrier is in place, Bowness residents can continue to live in their groundwater flooded homes. When we have asked for a design and cost to construct a proper barrier that will mitigate groundwater, we are told that the city will not commit to provide us such a design. This level of protection is afforded to the Elbow River communities and Sunnyside through the FMMA and has been provided to the hippos at the zoo. Why are we not worthy of this protection? The expert panel report in 2014 recommended that Flood Barriers not be constructed on private property on the Elbow River due to surface access complexity and social cost to property owners and communities. Despite this finding, the City of Calgary approved in the FMMA the plan to build such a flood barrier on my property without any notice or consultation. For the past 18 months we have been trying to get the city engineering team to explain to us HOW WILL THE BARRIER PROTECT US AND OUR NEIGHBORS? This question has never been addressed by the city. It is very clear that the Bowness Barrier project is not about protecting Bowness, but rather about allowing the city to proactively flow high rates of water through the city to protect downtown and other river front communities (who have been assured that their flood mitigation projects, including barriers and upstream mitigation will address groundwater flooding) from larger severity floods. It is not equitable to make Bowness pay the price of flood mitigation for the rest of the city without getting full and equal service. This is clearly presented below.

## Storage Volumes Required to Mitigate 2013 Flood

### Bow River Requirements to Mitigate the June 2013 Flood



FMMA solution involves increasing trigger flow rate for storage to 1230 m<sup>3</sup>/sec

- BRFM Does not accept this option We have not been consulted on this
- There is no evidence provided that Bowness Barrier will facilitate flow of 1230 m<sup>3</sup>/sec without significant increased Groundwater flood damage

From City of Calgary Slide Presentation – Originally from AMEC Study

The city had no justification to approve the FMMA with the plan to increase the design discharge rate through Calgary before the technical work was completed, including the groundwater study. The expert panel also provided a recommendation that the city engage academic and industry expertise to develop a groundwater model (comprehensive groundwater model) that predicts groundwater movement in Calgary during flooding. Although the city closed off this finding through this same standing committee in 2016, such a model does not exist. When we ask questions related to groundwater mobility and inundation, the city engineering team

informs us that no groundwater study is complete for this area and they still need to collect the relevant data to create such a model. The current groundwater study that is currently ongoing, should have been completed and the information used to create a groundwater model that informed the city as to the viability of using an overland flood barrier in this community. This work is of utmost importance in Bowness and further work on the Bowness barrier should be suspended until this model is in place as recommended by the expert panel. The city had no basis to commit to the community barriers within the FMMA without this foundational understanding. The project should not have been handed over to the infrastructure delivery team who with our councillor informs us that the decision has been made to construct this flood barrier and the only consultation that we are given is related to how the barrier will look, not function. In the ongoing site visits, the delivery team has made clear that it's mandate is to build a flood barrier and the consultation that is currently being done is to determine the most cost effective and least socially disruptive barrier alignment. That the city is retaining a landscape architect to discuss with us how a barrier will look, while telling us that there is insufficient information to tell us how the barrier will function with respect to groundwater articulates this point.

As a concerned citizen I have not been given fair representation. When I approached our councillor regarding my concerns for this flood barrier and a desire to discuss alternatives, I was told that the city has their experts, where are our experts?? In order to get an objective understanding of technical issues and property rights, me and my community are being forced to expend hundreds of thousands of dollars. This would not have been required had the city engaged in consultation as per your policy and allowed us fair access to the expertise that our taxes have funded. This lack of consultation and engagement has resulted in the community having a very low level of trust in the city's experts. As a concerned community member and a retired engineer who has spent countless hours reviewing and studying the technical reports issued to and by the city and province, I have been asked to attend many (likely about half) of the site visits because the community does not trust the input from the city and has concerns regarding the technical information being commutated.

I continue to believe that the city needs effective flood mitigation. Relying on weak surface barriers to control the Bow River, which caused over 55% of the property damage in the 2013 flood will be folly, as has been learned in Quebec, New Orleans and countless other areas. The learning from surface barriers is it is not a question of if they will fail, but rather when they will fail. I cannot understand why the city wants to be the proponent for this surface barrier and accept the liability when it fails. This problem is a water shed problem and it should be moved back to the province to address. I have presented to the City an upstream mitigation project that will provide sufficient storage to attenuate a 100 or even 200 year return period flooding event while retaining the flow rate in Calgary below the 800 m<sup>3</sup>/sec threshold as per the figure above. In addition to providing flood mitigation, this system would also provide for water security, drought mitigation and green hydro power storage to allow integration of increased green power.

I hope that myself and my neighbors with BRFM Society will be engaged in a more collaborative way than has occurred in the past 18 months. My ask is that

- Following the completion of the current preliminary engineering phase, including the groundwater, stormwater and erosional studies, and release of the report, that the city allows for at least a 12 month recess to allow for consultation with stakeholders and a full understanding of the information within the report and the potential benefits and consequences. This should be done before the city starts any discussion with landowners regarding property access.
- That the city communicates clearly and transparently how the proposed flood mitigation infrastructure will be operated with respect to river flow rates. We need to understand what the notice and response protocols will be to initiate upstream storage and attenuate flow in Calgary. This needs to be presented based on both the Golder 100 year and 200 year return period flood hydrographs. This basic analysis has not yet been completed by the city. My analysis of this indicates that, given any one of the 3 potential upstream reservoirs being evaluated, the system will not be able to attenuate the Golder 200 year return period event with a residual flow rate of 1230 m<sup>3</sup>/sec in Calgary.
- That until the engineering work is completed and it is confirmed that flow rates of 1230 m<sup>3</sup>/sec can be safely transmitted through Calgary with NO increase in flood damage (overland or groundwater) and no increase in erosion damage relative to what is experienced today at 800 m<sup>3</sup>/sec, that the city refrain from communicating this as an established flood resiliency mechanism under the FMMA.

- That given the city has required our community to obtain independent technical and legal support to understand the impacts to our properties and has not been transparent with us, we would ask that the city, as the proponent of the project, provide intervener funding to BRFM Society. A reasonable amount would include \$150K for legal and \$150K for Technical support.
- That the city will advocate with the province to provide sufficient upstream storage to attenuate the peak flow rate through the city of Calgary to the same 800 m<sup>3</sup>/sec threshold that was previously being managed to in flood emergency response protocol. We would also ask that the city partner with BRFM in completing an engineered concept study related to the Ghost River Hydro-Storage Flood Mitigation Scheme as shared with the City of Calgary.
- That the city communicates the project management and governance framework for the project that clearly defines the decision points for progressing and for terminating the Bowness Barrier project and transparently communicate within this framework how private property access will be expedited.

Respectfully Yours

Hank Vrielink

**Patricia & Bryan Peck**  
6032 Bow Crescent NW  
Calgary, Alberta, T3B 2B9  
c) 403-606-9472  
e) pguttek@hotmail.com

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**Re: Opposition to the Bowness Barrier Project**

May 11, 2019

To Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

We are writing this letter to make it known that we are in opposition of the Barrier Project. We believe the project is premature and it has not demonstrated to us that the Bowness Barrier Project is necessary or economically feasible or environmentally responsible. The two key questions remain unanswered: **Why?** and **At what cost?**

The vague 'to protect the community of Bowness from overland flooding' is not an adequate answer to the question 'Why'. We need a real transparent answer that is consistent and supported by independent experts. To answer the question 'At what cost' we need a truly transparent triple bottom line cost benefit analysis of the Bowness Barrier specifically. The environmental and social costs of this project are staggering and were not even considered in the initial analysis that was presented to Council. Supporting the barrier comes at a significant personal cost to us and we need real information to make these decisions.

We fully understand and respect that the Project Team is in preliminary design and does not have the reports completed to present their rationalization for the project at this time. In turn, we ask that the City acts on the concerns of our community as expressed by individuals and the Society we formed (BRFM) during this preliminary design. If we do not feel the design phase has been robust enough with the right assumptions and criteria as inputs, we will not be comfortable in even *considering* support of the project.

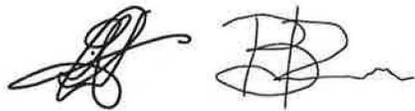
We have received strong messaging that a barrier in Bowness will be built. We believe that decisions to move forward were based on cost projections and designs that were so significantly flawed that the Barrier Team has openly abandoned the conceptual design. So, in a sense, the Barrier Team is at square one in determining whether the project is viable and although they are only now doing ground water testing, environmental evaluations, landowner consultations, cost estimates, etc., the messaging is still very much that the barrier will be built. This has fundamentally eroded our trust in the process.

Further to our key questions, we do not understand the timing of this project and the design phase. All the reports discussing the option of a barrier in Bowness have the barrier working in conjunction with an additional upstream reservoir. It does not make sense to us to spend money on preliminary design when many of the key pieces of information required to evaluate the project thoroughly depend on the design of the upstream mitigation and how much water it can retain. Proceeding with preliminary design without the concrete numbers and commitment of upstream mitigation is simply guess work.

As landowners along a treasured river, we take our role as stewards of the riverbank very seriously. Further, as taxpayers and member of the Calgary community we take a keen interest in how public money is spent and cannot support projects where it cannot be empirically proven that the benefits outweigh the costs.

Thank you for your time and the opportunity to share our position and concerns.

Yours truly,

Two handwritten signatures in black ink. The first signature on the left is a stylized, cursive signature that appears to be 'P'. The second signature on the right is a more complex, cursive signature that appears to be 'B'.

Patricia & Bryan Peck

## **EAWard1 - Tomi Neilson**

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**From:** PAUL HOOD <hoodie@shaw.ca>  
**Sent:** Monday, May 13, 2019 10:29 AM  
**To:** EAWard1 - Tomi Neilson  
**Subject:** [EXT] Fwd: Submission for Annual Flood Mitigation Update for SPC-UCD

**Categories:** Purple

Begin forwarded message:

**From:** PAUL HOOD <hoodie@shaw.ca>  
**Date:** May 13, 2019 at 7:40:15 AM PDT  
**To:** [committeeclerk@calgary.ca](mailto:committeeclerk@calgary.ca)  
**Subject:** **Submission for Annual Flood Mitigation Update for SPC-UCD**

Attention: Members of the Standing Policy Committee on the Utilities and Corporate Services.

I am writing this submission to state my position and concerns on the proposed flood mitigation plans for Bowness.

I am a resident of Bowness (6056 Bow Crescent NW) and was affected by groundwater flooding during the 2013 flood.

I am against the building of a berm in Bowness until sufficient upstream mitigation is in place which will prevent the berm breaching in the event of similar flood levels to 2013.

A berm built to withstand a 1:20 flood plus freeboard will be breached and create a path of destruction as the river flows into Bowness at the point where the berm disintegrates.

A wall of water, which will then be followed by severe flooding inside the berm.

Headlines such as “path of destruction in Bowness as berm collapses and wall of water cuts through residential neighbourhood. “ Followed by “ what were they thinking, millions of tax dollars spent on berm without an effective upstream dam to control flood waters.”

Having been affected by groundwater flooding in 2013, I have seen at various new home excavation sites, thick beds of silts, sands and gravels are often exposed. These porous layers are conduits for underground streams as the water level rises in the river. In 2013, water was starting to appear in areas away from the river around the time we were evacuated (6pm), this was clearly groundwater flooding.

If the berm cannot stop groundwater, then it’s effectiveness at lower flow rates (up to 1280m<sup>3</sup>/sec), will be an embarrassment. It is reported that Bow Crescent has experienced groundwater flooding once river levels rise above 880m<sup>3</sup>/sec which becomes extensive at 1280m<sup>3</sup>/sec river levels.

What is needed is an upstream dam solution, which together with a solid TransAlta agreement, will keep flow rates below a critical value that will protect Bowness and the rest of Calgary. If a berm is needed, it should be designed after or alongside the upstream mitigation and with the appropriate consultation of residents, with fisheries and wildlife, environmental groups.

Your truly  
Paul Hood and Leslie Archibald  
6056 Bow Crescent NW

Jason New & Elizabeth Duerholt  
5902 Bow Cr NW  
Calgary, Alberta, T3B 2B7

May 13, 2019

Standing Policy Committee on the Utilities and Corporate Services  
Via [committeeclerk@calgary.ca](mailto:committeeclerk@calgary.ca)  
P.O. Box 2100, Stn. M  
Calgary, Alberta  
T2P 2M5

CC: Frank Frigo, Ward Sutherland, via email

**RE: City of Calgary Proposed Bowness Barrier**

Dear Committee members,

The City of Calgary has made two decisions on the proposed Bowness barrier, 1) to complete a conceptual design of the barrier to be built on private property, and 2) to move forward with a subsequent preliminary design on private property.

The conceptual design was completed for the City in early 2017, and was finalized and released to us via FOIP request in April 2018.

The City's own policy on engagement states:

*"The City commits to conduct transparent and inclusive engagement processes that are responsive and accountable"*

*"Engagement at The City of Calgary is defined as purposeful dialogue between The City and citizens and stakeholders to gather information to influence decision making."*

*"Stakeholders for the purpose of this policy are defined as anyone (person or group of people) who can impact or can be impacted by the results of a decision made by The City, and may include: citizens, the public, customers, businesses, community organizations and partners, other government agencies and any other body interacting with The City"*

By the City's own definition, we are stakeholders. We were not consulted on either of those two decisions and neither were most of our neighbors. This project consists of directly building on 90 properties and affects an additional 300 as demonstrated by the maps in the Associated Engineering "Permanent Flood Barrier Protection Assessment" report ("AE report").

It is unfathomable to us that the City wishes to build on private property, and consciously chose not to consult directly with the very few property owners which would be directly impacted, prior to making those two decisions. If the City's assessment department can go door to door and send out RFI forms for the purposes of evaluating damage after the 2013 flood, we see no reason why the City could not have done the same for the above two decisions.

A review of the AE report and data in the public domain yields the following:

1. The AE report claims a benefit costs ratio(BCR) of 1.4 for the Bowness barrier
2. The AE conceptual report indicates the City chose not to include costs in the BCR. The City has yet to answer why it chose not to include historically known costs.
3. The City has verbally indicated that most properties' main floor are above the 1:100 level, but the AE report assumes main floors are 0.3M above grade. The AE report shows curves where the main floor damage is multiple times higher than basement flooding. This choice of assumption (0.3M) artificially inflates main floor damage in the event of a flood for those properties with 1:100 year flood elevations above 0.3M and consequently would artificially inflate the BCR for the barrier. For instance, on our property the proposed barrier elevation is 1.2M above grade. The report then assumes I would have main floor flood damage in the event of a flood. However, our main floor is 2.16M above grade. The report's assumptions are erroneous.
4. The land costs estimated by the City have no basis stated. A review of the Inglewood barrier land compensation board case (LCB order 479) in a conservative nature, would lead to an estimated land acquisition cost to the City of \$20M for the Bowness barrier, where the AE report has estimated \$13M(at the direction of the City).
5. The AE report chooses the shortest barrier path possible and cheapest type of barrier, whereas the barrier constructed by the City in Inglewood has 20% more barrier than a straight line to accommodate the property owners' choice of path, and is a mix of berm and wall. The AE costs do not account for more length or barrier type due to owner requests, further inflating the BCR.
6. The estimate of construction costs for the Bragg Creek barrier which is similar in length is significantly higher (40%) than what the City has estimated for the Bowness barrier
7. The AE report shows the difference between those overland flooded without the barrier and those flooded by ground water, with the majority still being flooded by groundwater with a barrier in place, making it unclear why this barrier is even being proposed.

Our position on the barrier is,

- Until such time as the City halts this project, and restarts the consultation process including the question of if the barrier should be built, and if it should be built on private property, we do not support this project . This proposed barrier is not analogous to the ring road or the green line where hundreds of thousands of people benefit. The AE report shows a possible benefit to approximately 400 homes.
- From an outsider's viewpoint, it appears that the City has knowingly underestimated the costs and overestimated the benefit, causing a Benefit Cost Ratio to be above 1.0. Until such time as the City provides industry standard basis for its estimates including accurately estimating all historically known costs, we do not support this project
- Until such time as the City commits to affording Bowness residents with the same or better design flexibility of Inglewood residents, and the same groundwater protection as the Elbow river residents, we do not support this barrier.
- The City claims the AE report has an accuracy of +50%. Until such time as the City can provide accuracy of the underlying components which make up the estimate including basis for the accuracy, we do not support this project.
- If the City accurately estimates all costs and gives Bowness equal or better treatment and the costs outweigh the benefits for the Bowness barrier, we expect the City to not proceed with the uneconomical project.

We would also like to state that the City's continued publishing of erroneous or inaccurate statements do not serve to advance the progress of this project. A simple example is on the City provided questionnaire form for the site visit, which states:

*"To reduce Calgary's flood damage risk, a combination of watershed, community, and property level mitigation solutions are necessary"*

Any of those items can reduce the risk, a combination is not necessary. In fact, the FMMA report which the City adopted, has different scenarios, some which are NOT a combination of all three. As well, the City could buyout properties to reduce the damage risk. The three described are simply what the City has chosen to go forward with.

Another example is the City continuing to publish the current flood risk in Bowness as being 12%. We have confirmed with the province it is 5%. The City's own AE report interpolates to 4%. Our position is the City publishing of 12% or 2.4 times what the real risk is, compromised the City's consultation process. I have requested the City send a correction to all parties it communicated this 12% number to as well as update the City's websites to 5%. Unfortunately, instead of the City updating the Bowness Barrier website to state the current risk is 5%, it was then altered to state:

*"Without upstream mitigation, there is a 12 per cent chance of this occurring each year."*

As most people familiar with the risk would know, 12% represents the risk with no dams and no Transalta agreement. This is essentially the risk from the early 1900s.

It was not until BRFM members met with the new acting water director a couple months ago that the website has now been clarified to include the actual risk, six months after the initial request, and a year after the issuance of the AE report.

It is unclear to us why the City chose to obfuscate the current risk for more than a year, when it could have chosen to use plain English to state the current risk.

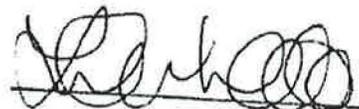
Another recent example is the City issued a newsletter a few weeks ago which states:

*"The proposed flood barriers in Bowness are on piece of a multi-pronged approach that will help protect the ENTIRE community from overland flooding"*

The entire community is not at risk of flooding. The City's own maps and the provincial maps show that flooding only affects approximately 400 homes.

Statements such as the above only serve to erode trust in the information the City provides to residents. We believe that these types of misinformation would not be perceived in the City's favour if any regulatory proceedings occurred, and we once again request the City refrain from publishing misleading, obfuscated, or inaccurate data.

Sincerely,



Jason New & Elizabeth Duerholt  
Owners, 5902 Bow Cr

May 10<sup>th</sup>, 2019

Candace & Evan Truman  
6932 Bow Crescent, NW  
Calgary, T3B 2B9

**Re: Submission for Annual Flood Mitigation Update to SPC-UCS on May 15<sup>th</sup>**

To:

The Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS);

We, Candace and Evan Truman, believe the proposed berm along the river in Bowness is a waste of tax payer's money at a time when The City of Calgary and Alberta need that money most. The proposed design will not stop ground water flooding through the porous gravel bed which most of Bowness, and our house, is built upon. Furthermore, if the berm is built, we are concerned that increasing the flow of water down river will cause more ground water flooding by raising the height of the water table. This will inevitably flood our basement every time.

The conceptual design of the berm that was first presented as a highway through our backyard and the Bow Crescent riverfront properties would be a tragedy. There are hundreds of mature trees and shrubs along the river bank which provide a complete ecosystem for all sorts of wildlife that we see daily: from bats, birds, eagles, fish, foxes, bobcats, deer, to just name the obvious few. The trees themselves stabilize the river bank from vast erosion and support sensitive fish habitat which would all be threatened if the berm highway was bull dozed through.

We have worked and saved **VERY HARD** in order to purchase this property in the fall of 2016, and we made that choice understanding the risks we were taking living along the river. This choice was not made lightly, but we could not find anywhere else that provided us with full river access, mature trees, and unobstructed views of the river from the main floor of our house. The proposed berm threatens everything we enjoy most about our property, while still not providing us any groundwater protection. We are also concerned about the huge loss of property value as a result of how the berm is installed.

***We are opposed to the berm as it is presently proposed and suspect that the current ground water testing will prove that it will be ineffective in its intent. An upstream reservoir like the one proposed for the Elbow in Springbank seems much more logical for flood mitigation and other potential benefits for the Bow River basin.***

Regards,

The image shows two handwritten signatures in black ink. The signature on the left is 'Candace Truman' and the signature on the right is 'Evan Truman'. Both are written in a cursive, flowing style.

Candace & Evan Truman

## **EAward1 - Tomi Neilson**

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**From:** Margaret Jessop <margjessop@gmail.com>  
**Sent:** Sunday, May 12, 2019 10:54 PM  
**To:** Committee Clerk  
**Cc:** EAward1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] Bowness Barrier

**Categories:** Purple

My name is Margaret Jessop, I live at 7108 Bow Crescent NW.

My biggest concerns are:

- (1) we don't want the berm
- (2) the berm won't work
- (3) the taxpayers are paying a lot for a plan that won't work
- (4) our property taxes will go up again and the value of our house will go down
- (5) the main reason we bought the house was for the location - on the river - if the berm is built, we won't have that
- (6) our trees will be taken down
- (7) the wildlife will be gone
- (8) 4 years of construction
- (9) a 2 metre wall taking up half of our yard
- (10) loss of the river, trees and animals

In 2013, we bought our house in Bowness to be closer to our children, a son with his family and a daughter who was dying of cancer. Our other children moved to Bowness with us to be close to their sister. We moved in June 2013, two weeks before the flood. After the flood, we found that we had to rebuild. So, we built a berm and built a new house on top so that we would never have to deal with a flood again. We brought in 150 truckfuls of dirt to bring us up 8 1/2 feet higher than before, well above the flood levels of 2013. We also chose to forgo having a basement, again to avoid floods at all costs. We managed to move back into our home in Bowness in June 2016 - three years after we first moved in. The insurance company helped to repair our basement, but they didn't give us enough to replace our house. We had to empty our savings and take out yet another mortgage.

Meanwhile, in 2014, our oldest daughter died as well as my mother. We planted two new trees in our yard, one for each of them burying the ashes under the trees. Katy loved camping and swimming so her tree is planted between our campfire and the river (where the berm is apparently going to go).

We were very surprised when we received a flyer from the city in December 2017 telling us that they were planning to build a berm in our backyard. When we flooded, most of the water came through the ground and up from the sewer. If there was a berm there, the water would have no place to go, and we would have a pool. This plan would not help us: it would just make it worse. Also, we have already mitigated against the flood; the water will not reach us. We are safe. The berm is a complete waste of time and money for us and for taxpayers. We write letters, we go to meetings, we had our site visit; the message is not getting through.

While this was going on, we have been under pressure from other outside issues. Our son's business failed, my father in law had an attempt on his life, we moved three parents into assisted living and long term care, several

family deaths and illnesses. We do not want to spend time, money, or energy fighting the city on such an ill-fated plan.

We are very concerned about losing over 3500 trees (I was in the group that documented the trees), as well as all the animals and birds that count on those trees for their existence. Plus, up to four years of construction!!! This was not in the plan when we moved to our dream house by the Bow river.

Please reconsider this colossal waste of taxpayers money.

Margaret Jessop

## EAWard1 - Tomi Neilson

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**From:** Marcus McConnach <marcus.mcconnach@gmail.com>  
**Sent:** Sunday, May 12, 2019 10:46 PM  
**To:** Committee Clerk; EAWard1 - Tomi Neilson  
**Cc:** chelseymcconnach@gmail.com; Bowness Flood Mitigation  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15  
**Attachments:** Geese1.jpg

**Categories:** Purple

To the Members of the Standing Policy Committee on Utilities and Corporate Services:

The purpose of this letter is to voice our concerns regarding the proposed Bowness Flood Barrier Project -- specifically the component of the project that results in a berm cutting through private property in the shape of what looks like a future sidewalk (for the purposes of this letter, the "berm").

Here are six concerns we have with this proposed berm:

- **WILDLIFE** - The wildlife in our backyard is incredible -- we never quite realized how many creatures live along the banks of the Bow River until we moved here. We have attached a picture with this letter, from just yesterday, of a family of geese with their goslings sitting on the intended location of the berm. We are deeply concerned about how the berm will devastate this habitat.
- **PROPERTY VALUE** - The berm will interfere with our property value, landscaping and views. We acquired the land and built a house for these very reasons. We knew the risks of flooding upfront and were willing to bear such risks.
- **INTERFERENCE** - Would the City have to secure land rights for this berm by annexing it from tax paying citizens, who paid a lot for this land? If so, that is astonishing.
- **COST VS BENEFIT** - the residents who choose to live in Bowness (or their insurers) are responsible for repairing flood damage. We fail to understand the motivation for why the City is so interested in this berm. Accordingly, there appears to be a mismatch between the cost and the benefit. There has to be more in it for the City than just protecting a couple hundred houses from basement flooding. Would be interesting to know what that is.
- **GROUNDWATER** - The berm attempts to prevent overland flooding, but from what we understand, groundwater was a primary culprit. Imagine a circumstance where land rights are taken from us for a berm and our house still gets flooded anyway.
- **TAXES** - taxes continue to escalate. We are in year five of a local recession. Collapsing downtown real estate values and low oil prices are forcing residents to fund the shortfalls. We think the Governments should reconsider unnecessary major projects in order to ease the tax burden for the taxpayers.

For the reasons listed above, we think the proposed berm should be abandoned before any more taxpayers' money is spent on this campaign.

Marcus & Chelsey McConnach  
5868 Bow Crescent NW

Calgary, Alberta  
403-200-8052

## Dawn Graham

7340 - 34 Avenue NW, Calgary, AB T3B 1N4  
Phone: (403) 288-3108 Fax: (403) 288-6280

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May 7, 2019

Bowness Barrier Group  
Denise Nogueira, Project Engineer  
Infrastructure Delivery, Water Resources  
The City of Calgary  
Unit 4119, 625 25 Avenue SE  
Calgary, AB T2G 4K8  
Email: [bownessbarrier@calgary.ca](mailto:bownessbarrier@calgary.ca)

To Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS):

### **RE: Submission for Annual Flood Mitigation Update to SPC-UCS on May 15**

Please accept my comments to put forward to the SPC regarding the planned Bowness river barrier. I have lived or owned property on the river in Bowness and Montgomery for my whole life and only 4 times, in 75 years, have I had flood waters threaten my home. As a person who purposely purchased a river lot, I understand the risks involved for the "100 year flood" and I just don't see the value of constructing a flood barrier on my property that, effectually, won't protect me from a flood.

I am opposed to the construction of a barrier behind my property (**7232 Bow Crescent NW**) for several reasons:

#### **1. Barrier not effective for groundwater flooding**

During the 2013 flood event, my property was not affected by over ground flooding, only by groundwater. A barrier will diminish my ability to enjoy the river behind my property, but won't alleviate any groundwater flooding.

#### **2. Destruction of trees, vegetation, water fowl & mammal habitation**

My property has many different species of plants and animals that would be negatively affected by the berm. There is an active beaver dam that would be destroyed and a wild marsh area that houses many different birds, frogs and other wildlife.

#### **3. Property values have already degraded**

Until a decision is made to build or to scrap the berm, potential buyers are not going to pay proper market value for a river property in Bowness. People buy river properties so they can access and enjoy the river. A berm will defeat that purpose.

#### **4. Riparian Rights**

When we purchased the property, we were told that we had riparian rights, which meant we owned into the river and, if we wished, we could fence right into the water. If there is to be a berm built, how does that affect our water rights?

#### **5. Public access to private property**

Although the City has “promised” that the berm will not be accessible to pedestrians and bicycle traffic, I cannot see how that will be the case, now or in the future. We already have trouble with trespassers through our property and a berm will just make it worse.

In conclusion, I am not in support of a berm behind my property for any reason. The city keeps saying that a berm in Bowness is for the good of all the community (some 400 properties), but the cost vs benefit that the city says will be a deciding factor hasn't taken enough consideration for the river owners, who paid good money for their river properties. A berm will definitely decrease their property enjoyment and value, while not protecting us from the actual flood that will take place via the gravel under the berm.

Sincerely,

Dawn Graham

## **EAWard1 - Tomi Neilson**

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**From:** Dale Jessop <jessopdb@gmail.com>  
**Sent:** Sunday, May 12, 2019 8:45 PM  
**To:** Committee Clerk; EAWard1 - Tomi Neilson; Bowness Flood Mitigation  
**Subject:** [EXT] submission for Annual Flood Mitigation update for SPC-UCS on May 15th

**Categories:** Purple

Hello

I am very concerned about the ill conceived "berm" that has been thrust upon the owners and residents of Bow Crescent in Calgary. I grew up in Calgary , as did my parents , my children , and now my Grandchildren. We , as a family , have all enjoyed what the Bow River and its environs have to offer , both visually and spiritually. Having grown up playing in and around the Bow River , I remember the city asking riverfront residents to not cut down any trees or shrubs on the banks of the Bow , as they were the best defense for flood mitigation. Imagine my surprise upon learning of the City planning a berm , without resident consultation , along the Bow in Bowness! This earth berm would necessitate the removal of approximately 3500 trees and shrubs along its path. Because of "maintenance" , no trees or shrubs would be planted on this earth berm. An earth berm with no protective latticework of roots from trees and shrubs would only last until the next flood , and then would promptly be breached and/or cut through.

One of the major concerns with the proposed berm is that it does not address ground water flooding and drainage - it actually works against the properties in this aspect.

The cutting down of 3500 trees and shrubs - the community members counted , GPS located , and identified the species of each - would also erase a very important wildlife corridor in Calgary.

Upstream mitigation is all important. The 2013 flood could have been mitigated by approx. 1/3 , had the contract with TAU been in place. I can only shake my head in astonishment that this agreement had lapsed! My father spoke of the 1932 flood , and the agreement that was eventually put into place to mitigate these floods every May/June. Shame on any government that would forget this protective contract to increase the coffers of a corporation!

We rebuilt our home starting in 2014 - raising the property by 8 feet , and doing a "slab on grade" structure. I have mitigated for a 200 year flood for both my neighbours and myself. A redundant berm , wholly on my property , would be not only redundant , but would act against normal drainage , and create further groundwater problems by toploading the area next to the river.

The cost of this poorly planned berm would be far more than the numbers that have been stated by the city to its taxpayers. I have mitigated my property from this flood , as have a few of my neighbours , with no taxpayer money , only my own as a good minded citizen of Calgary.

Regards , Dale Jessop  
7108 Bow Crescent NW

Jean Woeller & Dale Cole  
6138 Bow Crescent NW  
Calgary, AB. T3B 2B9

**Re: Opposition to Bowness Barrier Project**

May 9, 2019

To members of SPC-UCS, City of Calgary  
By email to [EAWard1@calgary.ca](mailto:EAWard1@calgary.ca)

We wish to make our position respecting the Project quite clear to Ward 1 Councillor, Mr. Sutherland and members of the standing policy committee for Utilities and Corporate Services. In short, we strongly oppose the Project and The City's proposal to construct a flood barrier along the Bow River through the community of Bowness and specifically on our property located at 6138 Bow Crescent NW.

**Background**

In March 2016, we decided to purchase our current home on Bow Crescent. That decision was not made lightly. After careful research into the flood risk of this particular property and taking the necessary steps to understand the reduction of flood risk offered by the TransAlta operating agreement we were able to accept the residual risk of flood. Had we known about The City's plans to build a flood barrier through this property we would never have made this decision.

**Failure of Proper Consultation**

We believe that The City did not follow its own engagement policy (Policy Number CS009) and that the Project should not continue until The City completes engagement that is in keeping with their policy. The City's policy states the following:

*"The City commits to conduct transparent and inclusive engagement processes that are responsive and accountable."*

*"Engagement at The City of Calgary is defined as purposeful dialogue between The City and citizens and stakeholders to gather information to influence decision making."*

*"Stakeholders for the purpose of this policy are defined as anyone (person or group of people) who can impact or can be impacted by the results of a decision made by The City, and may include: citizens, the public, customers, businesses, community organizations and partners, other government agencies and any other body interacting with The City."*

We understand that The City held workshops in the fall of 2016 where flood mitigation concepts were broadly discussed. We are not aware of a single riverside property owner affected by this Project that was directly asked to have purposeful dialogue with The City, before Council purported to approve the Project on April 10, 2017. We feel that the Project

should not have progressed this far and that it should be stopped until proper consultation, as per The City's own policy, has been completed.

### **The Project is Ill-Conceived**

We believe that the Project, at this time, in addition to failing for lack of meaningful consultation, is ill-conceived. After careful consideration of the reports that have been commissioned by The City (e.g. Flood Mitigation Measures Assessment report (FMMA); City of Calgary Permanent Flood Barrier Protection Assessment, April 2018, "the AE Report") and Province of Alberta (e.g. Advice to Government on Water Management on the Bow River, May 2017) as well as attending The City information sessions on January 16, 2018 and September 20, 2018, and a one-on-one site visit, we believe that The City has decided to undertake a project that will do nothing to mitigate against flooding of our home and will be destructive to the natural river environment and the general enjoyment of our property.

First, we believe the Project is premature. The FMMA states:

The Assessment confirmed that to provide an equitable level of service on the Bow as on the Elbow, a new reservoir on the Bow River upstream of Calgary is recommended, along with complementary barriers in select communities and continuation of the Provincial-TransAlta operational agreement.

Based on its own report, the minimum conditions to make the proposed berm on the Bow River appropriate are not present. Most importantly, there are no concrete plans we are aware of for a new reservoir on the Bow River. The City's Flood Mitigation Measures Assessment provided that "if a new Bow Reservoir is not built, fortification of the Bow River by barriers is not desirable, as it would require higher barriers with large footprints along the length of the Bow River within Calgary, resulting in dramatic impacts on the community".

Further, the evidence is that the Project will not work. The AE Report provides a general assessment of groundwater flooding potential and uses conservative inputs for their groundwater flood modelling; for example, the study assumes a standard subsurface for all community berms planned along the Bow River, yet any of our Bow Crescent neighbours who have built a fence or installed irrigation knows that the extent of the gravel and silt is deep. Neighbours who have rebuilt their homes have found deep deposits of gravel, 30-40 feet or more, when driving piles into the bedrock. The AE Report confirms that significant additional groundwater and subsurface characterization is required to validate the proposed berm design and the economics.

The AE Report shows through flood modelling (using its conservative inputs) that groundwater flooding for a 1:20 year event with a berm in place will do very little to protect homes in the area from groundwater flooding. Figure 1 and 2 show that even with the berm in place (red line), extensive groundwater flooding will occur in Bowness given a 1:20 unmitigated flood. The dark blue areas of the map in Figure 2 shows the homes that would not experience groundwater flooding.



We believe that the most effective and responsible solution to flooding from the Bow River in Calgary is to keep the water out of the City by focusing resources on upstream flood mitigation strategies. This would have two major benefits – protecting the City during times of higher flow on the Bow and creating a water reserve in times of drought, which is almost always a more significant issue in southern Alberta.

### **Negative Impact of the Project**

It seems highly irresponsible to us for The City to proceed with the Project in these circumstances, given the significant impact on the community at large and our property. The entire community of Bowness, stands to see the natural ecosystem along the Bow River to be negatively changed forever. We along with other residents along the Bow River conducted a tree census where we recorded and mapped over 5000 trees and shrubs that lie within the conceptual barrier alignment. These trees and shrubs will need to be removed to make way for the proposed barrier as described in the conceptual design. The removal of trees will result in loss of habitat for the wildlife that lives in our backyards and along the river. Among other benefits, this vegetation also serves as a form of natural flood mitigation by slowing the movement of water during flood events.

The Project as proposed does little to protect private property or public infrastructure along the river from flood and it has the potential to be more damaging as it does not account for the inevitable groundwater flooding that occurs in every high water event. We are concerned about the conductance of groundwater below the berm. BRFM has retained Dr. Tad Dabrowski, Senior Hydrogeologist for independent advice and he believes that our concerns are valid.

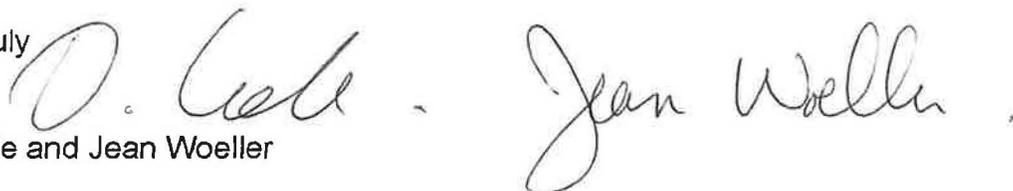
Our home is far above the “elevation of protection”, offered by the planned barrier and our property has been included as an “access route only” according to the current design. So, as homeowners we are forced to accept all the costs as stated above and will receive no benefit from construction of this flood barrier.

In addition to future costs that we will shoulder if the Project proceeds, today we are consumed by worry and the uncertainty that this Project has forced on us. We spend many a sleepless night and distraction during the day while considering the negative impacts of the Project on our overall happiness in our home.

Given the situation we ask that The City focus its energy and resources on advocating to the Provincial and Federal Governments for upstream flood and drought mitigation on the Bow River.

Thank you for the opportunity to share our position on the ill-conceived and costly Bowness Barrier Project.

Yours truly



Dale Cole and Jean Woeller

cc: bownessbarrier@calgary.ca

## **EAWard1 - Tomi Neilson**

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**From:** John Fitzgerald <john@bigeyedfish.ca>  
**Sent:** Sunday, May 12, 2019 4:07 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

To the Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS),

I am writing this letter to and ask that you please consider my concerns regarding the proposal for local flood barriers in the community of Bowness.

I own 3 properties on the riverfront and I am fully against the proposed Bowness water barrier for the following reasons:

- It will not protect the entire community as the City's propaganda states repeatedly. This is offering protection to a small number of homes, in a geographically limited area most people being offered protection do not want it. The City is deliberately mudding the waters by consulting and engaging non-affected parties at a community-wide level
- It will only offer limited overland flood protection in our area. Many properties will be affected that do not need protection at the City proposed berm height. This plan provides protection from a small flood event and does nothing of benefit in a major flood event
- It will not prevent groundwater flooding in our area
- Upstream flood mitigation is the only answer to effective flood mitigation for our neighbourhood and the City of Calgary on the Bow River.
- The berm will pose serious environmental damage to all of the properties, from substantial tree loss to animal habitat loss (coyotes, eagles, bats, osprey, many other bird species, deer, bobcats, red fox, to name a few)
- This is private property that the City is wanting to disturb - during construction alone this will cause large scale environmental damage to over 100 properties
- The cost benefit analysis of the project and budget done by the City is grossly underestimated to make the project look like it is financially feasible. The wide spread opposition will surely drive up the cost of the project as expropriation seems like the only way forward for the majority of property owners. Perhaps the next step should be an independent assessment of the expropriation costs including all parties legal fees as per provincial regulations
- The City has continually falsely advertised this project to the public as a barrier that will protect properties from flooding - it will not do so and should not be advertised in such a manner
- The City has continually ignored the concerns and questions from the property owners. They have engaged landscape designers before asking permission to use

- private property. This seems to indicate that the consultation is merely a hurdle to moving forward and that the City is not actually doing proper due diligence
- The City is generating its own studies only to confirm their plans to proceed with building a barrier that will not prevent flooding
  - At least 20 new homes have been built or are in progress in the flooded area of Bow Crescent and the surrounding streets since the 2013 flood. Most or all of these homes (I have not been in them all so cannot speak to each one) have self-mitigated for future flooding with higher homes, no basements, raised mechanical items, etc, and have spent their own money doing to protect their properties. The City's proposed barrier is not needed on these properties and is not acceptable to force upon property owners who have spent their valuable time, effort and money on protecting themselves already.
  - The City of Calgary Planning & Development department recognizes and has put in writing that Bow Crescent has high groundwater levels yet the City barrier project insists that a groundwater study is needed to assess groundwater. There is available test well data that proves the porosity of the underlying gravel layers. Why ignore available information and waste tax payers money on another study? Perhaps they are looking to generate different information to support their position.
  - The proposed barrier project team is downplaying this or ignoring the fact that groundwater flooding was the primary cause of property damage in the 2013 flood event. with the proposed berm groundwater flooding will still occur, and could conceivably be exaggerated in a heavy rainfall event
  - The City Planning and Development department has pushed forward with re-zoning flood fringe properties and continues to hand out permits for basement developments in flood fringe areas. The City has in fact increased flood risk in Bowness by millions of dollars since 2013, how do they square that with berm proposals to mitigate risk.
  - The City is now adjusting the severity and scale of the project now that they are confronting opposition. Has the effectiveness been reduced too? Has the anticipated cost been adjusted?
  - I cannot speak directly to the groundwater studies and budget items specifically, others from Bow Crescent will do so who have more knowledge in these areas, but this whole project has provided false and misleading information from the City throughout.
  - This proposed barrier has caused great uncertainty and risk to property values in the area. As a realtor working in the area, I have directly worked with buyers who have not put in offers or who wanted to offer substantially less to property listings on Bow Crescent because of the proposed berm. This is the last thing owners need now 5 years after the flood, more risk to their property value because of this proposed barrier and loss of yard, threat of expropriation, environmental damage.

This berm is more of an environmental threat to the community than a benefit in any way. Please stop this berm project now and support upstream mitigation which can make a true positive impact on our community and the City of Calgary.

Sincerely,  
John Fitzgerald

May 11, 2019

To the Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services  
(UCS)

Regarding the proposal for local flood barriers in the community of Bowness

I write today to express my concerns regarding the proposal for local flood barriers in the community of Bowness. It is my belief that the process by which this proposal has been undertaken displays a blatant disregard for those that it affects most directly, and that the process has been fundamentally flawed.

I have long admired the Bowness community, and for almost 10 years had looked for a home there. I was finally able to acquire a home on Bow Crescent in late 2017. While this was a very expensive purchase for me and committed me to a lengthy period of work and payments, it was nonetheless a joyous occasion; I had obtained the property which I hoped to become my forever home. However, within the first week of ownership I received a letter informing me of plans for a large berm or wall to go through my property, as well as the properties of my neighbors. This came as a shock, as there had been no prior notice that this was even being considered.

While the city has claimed to have undertaken community consultation and engagement, it is clear that no efforts were made to involve the property owners directly affected by these plans in forming them. The Bowness Community was an afterthought in the City of Calgary's machinations. Those attempts made to engage the property owners affected by these plans have been made after designs have been produced, and have impressed us as placatory. There is nothing to suggest that our voices or opinions warrant any consideration, despite the fact that we are being asked to sacrifice many of the things that we value most about our homes. This has been a flawed process which quite clearly does not meet the City's standards and requirements for public consultation and engagement.

Rather, the City has adopted a paternalistic and dictatorial stance, assuming the values and opinions of those that it seeks to seize land from, or disregarding those values and opinions. For instance, during engagement sessions the city has dismissed the idea of building a berm along the publicly owned land of Bow Crescent. Representatives have stated that this strategy was dismissed because it would not provide protection to those on the river side of Bow Crescent. However, the city did not consider whether those property owners desired or wanted flood protection from a berm. Indeed, numerous affected property owners have suggested this option with full understanding that they would not derive any benefit from it, beyond the ability to maintain the privacy and ownership of their own property.

Our elected member of council has been dismissive of concerns raised by affected property owners, suggesting that he believes that a berm or wall would be good for the city. Realistically, however, there is little evidence to confirm that a berm or wall as currently proposed will provide a significant degree of protection from flooding. Groundwater flooding, which is clearly identified as a major contributing factor to the 2013 flood by those who directly suffered from it in Bowness, will not be mitigated. Moreover, in the absence of more effective upstream

mitigation strategies it is almost a certainty that the current plans will not even be effective in preventing overland flooding over a lengthy period of time. Indeed, while current predictions are based on historical hydrological observations, in an era with human-affected climate change on the rise we can have little confidence that historical observations will accurately predict future phenomena. Indeed, one should consider that the flooding event of 2013 was in no small part related to human upstream mismanagement, such as inappropriate retention and release of dammed water without adequate foresight or planning. It is quite clear that the solution to concerns regarding flooding is in fact utilization of more effective upstream mitigation. This would help to mediate the consequences of both increased water flow as well as increased frequency of drought conditions, both of which are predictable consequences of ongoing patterns of climate change.

Meanwhile, it is evident to even those with little to no experience in project planning that those conducting the project regarding the local flood barriers in the community of Bowness are drastically underestimating the fiscal cost of this work. In doing so, they are misrepresenting the true financial costs of this project to the City of Calgary and its public as a whole. Their estimates around property acquisition costs are so low as to be comedic, while estimates of construction costs likewise appear to be a blatant underestimate. Moreover, the lack of engagement of affected property owners dictates that an impersonal cookie cutter model of construction is employed in cost estimates, and that this will not reflect the true costs of negotiating and obtaining easements. Instead, the city may quickly resort to expropriation of privately owned property in an attempt at cost mitigation. However, such a plan fails to recognize requirements that expropriation occur in the least restrictive way possible, rather than the manner felt to be most cost effective for construction of a large project. Expropriation costs, then, are likely to represent another comedic underestimate of the true costs. Furthermore, the costs of legal challenges will likely be substantial. Of the approximately 100 affected properties, virtually all of which are waterfront, the vast majority of owners have expressed their resistance to this project as it currently stands, during discussions within our community. New government legislation is likely to dramatically increase actual costs above those estimated. The new provincial government has expressed a plan to enact legislation enshrining the right to property in the Constitution of Alberta. I would refer the reader to page 87 of the "Alberta Strong and Free" United Conservative Party of Alberta Platform. It should be expected that the City will need to make significant alterations in the legal process around any necessary expropriation. Further, it may be expected that the City's current undervaluation of the property it needs to expropriate will not be adequate in meeting the regulations of new or pending legislation.

Overall it has appears that the City has set its mind on a grand and sweeping design, one which is ill conceived and likely ineffective, yet has committed a great degree of resources to this. Those undertaking the planning work on behalf of the city appear to be misrepresenting information in a manner that underestimates the true fiscal and social costs of these interventions. They have done so with an evident disregard for those most heavily impacted by both flooding and their proposed solutions. The reckless pattern in which this project has evolved, and the lack of responsivity to feedback from affected individuals once sought, suggests that those organizing the project may be motivated by an alternate agenda, such as enhancing the City's pathway system, rather than a genuine desire to address the real problem of flood mitigation. Unfortunately, in doing so they are proposing to commit the entire City of Calgary to a project

which dramatically underestimates the true fiscal costs, disregards the heavy social costs, and will ultimately prove ineffective at accomplishing anything worthwhile regarding flood mitigation. It is likely that the only people to truly benefit from the attempt to install local flood barriers in Bowness will be the lawyers, engineers and construction companies that profit from this project, as well as the organizers who will record this on their CV.

This project lacks value, cost-effectiveness, realistic financial planning, and appropriate fiscal restraint at a time when the City of Calgary and the Province of Alberta do not have an excess of resources or an abundance of finances. The tax payers of Alberta do not want continued increases in their taxes to pay for ill-conceived, poorly planned, and ineffective projects of large scale. They desire effective, cost-effective, high value projects from their governments. As do I. The answer to the problem of flooding, then, is to dedicate what resources we do have to upstream mitigation in areas of lower population density. We should not utilize expensive temporary measures that are ineffective now, and will ultimately be useless once the appropriate solution is achieved.

Personally, I have found the City's approach to this project devastating. I can no longer envision the same future in the home that I have committed a great degree of my life to obtaining. Indeed, my home has become a burden, and I have felt impotent and defenseless in the face of the City's plans. I have derived no support from municipally elected representatives, who appear to have forgotten that their job is to represent the interests of their constituents, rather than that of the city. But I, like many others in my community, will nevertheless continue to stand against this ill-conceived and poorly planned project.

That said, I encourage the members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS) to consider my arguments fully, and to support flood mitigation through effective upstream mitigation solutions rather than wasteful and ineffective local flood barriers.

Sincerely,

Reilly Smith  
7036 Bow Crescent

## **EAWard1 - Tomi Neilson**

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**From:** Janice Cook <jcook@ucalgary.ca>  
**Sent:** Sunday, May 12, 2019 12:48 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Dear Members of SPC-UCS,

As residents along the Bow River in Bowness, we have concerns about the proposed Flood Barriers. Our flooding was caused by ground water not overland flooding. We do not feel the barriers will prevent the groundwater flooding and that they will have many other negative effects.

We are specifically concerned about the loss of trees and wildlife habitat for birds and other native species. We are also concerned about loss of property values and the disruption the construction will cause for the peace and tranquility along the river. We strongly believe the cost of the barrier is not justified for its limited effectiveness.

Thank you,

Janice Cook & Bob Clarke  
6216 Bow Cres. NW  
Calgary

## **EAWard1 - Tomi Neilson**

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**From:** Rob Nieuwesteeg <rob@mudmaster.ca>  
**Sent:** Sunday, May 12, 2019 12:03 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.com; sc@bownessrfm.ca  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS - May 15th

**Importance:** High

**Categories:** Purple

Attention : Members of the Standing Policy Committee on Utilities and Corporate Services

Dear esteemed members,

As a 8+ year resident on Bow Crescent, a 5 year + board member for the Calgary Rivers Community Action Group (CRCAG), I realize my remarks below may at first blush be at odds with my work on CRCAG. As you read on, you'll see some alignment.

In 2012 in the aftermath of the worst natural disaster in Canadian history at that time, I became a vocal advocate for effective flood mitigation for both rivers to protect ALL of Calgary from the devastating flooding that occurred. The advocacy work is based upon effective UPSTREAM mitigation to keep the water of Calgary in the first place. In the case of the Bow river, it is clearly understood that in addition to the current operating agreement that the provincial government has in place with TransAlta for management of the Ghost reservoir, a major piece of infrastructure is required on the Bow River for both flood and drought mitigation.

With that stated, I'll keep my general remarks brief and concise why I am against the city's proposed berm for Bowness.

### **EFFECTIVENESS:**

The berm is will not afford homeowners on the crescent (both sides of the street I would add) much if anything in the way of protection against groundwater inundation. As someone who suffered only groundwater damage, I contend that an overwhelming number in the high 80+ percent range of homes damaged suffered damage from groundwater, and only groundwater.

A 1:20 year berm would also not protect again the flow rates experienced in 2013, and the very real concern of over topping leading to potentially even further damage.

### **ECONOMICS:**

In order to completely protect residents on our community, two things, very expensive things would need to happen. The berm would need to incorporate designs against groundwater protection, something that would significantly add to the cost of the project, or something so massive in height and design, that it would essentially render our properties worthless and come at such an enormously high cost, as to rendered non-feasible. I don't believe the costs, even for what is currently being proposed, will be remotely close to the initial \$25M number.

### **ENVIRONMENT:**

Our community has data on a recent tree/shrub census for the backyards in questions, and the damage to the natural environment with the removal of thoughts/trees and plants, would be devastating to the natural habitats of fish, birds, etc, say nothing of a creating a lengthy and ugly scar along the Bow.

Dear members, since the 2013 flood, many homeowners in Bowness, have take many steps, often expensive steps towards self mitigation. From building higher with undeveloped basements, to taking expensive overland flood insurance polices, to relocation of critical house infrastructure to higher ground, we as individuals have all taken steps to protect our homes. Even though the berm would have only a minor physical impact on my property beyond my remarks above, I have a number of issues with the city's potion. From the initial consultation, to the current economics, this taxpayer does not see this as a sound use of public dollars, to solve something it won't really solve. I also believe that berm construction could serve to have a the near term of effect of rendering our homes unsellable with our backyards and the backyards of neighbouring homes becoming construction zones.

I would like the city and province to continue to expeditiously work towards moving forward on a major of piece of upstream mitigation that would serve the ultimate benefit of protecting ALL of Calgary by keeping the water out of the city in the first place. I appreciate that it takes a certain level of fortitude to stand up against expediency, so I hope this committee and all of council moving forward, shelves this project and earmarks the planned funds (which will no doubt end up being much more than proposed and arguably well beyond what is acceptable for the triple bottom line or cost benefit analysis) towards a MAJOR upstream piece of infrastructure.

Sincerely,

Rob Nieuwesteeg  
6310 Bow Crescent

## **EAward1 - Tomi Neilson**

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**From:** Brenda Parai <brenda@paraiwhyte.com>  
**Sent:** Sunday, May 12, 2019 11:25 AM  
**To:** Committee Clerk  
**Cc:** EAward1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] submission for Annual Flood Mitigation Update to SPC-UCS on May 15  
**Attachments:** PastedGraphic-1.pdf

**Categories:** Purple

To the Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS),

I am writing this letter to and ask that you please consider my concerns regarding the proposal for local flood barriers in the community of Bowness.

I own 3 properties on the riverfront and I am fully against the proposed Bowness water barrier for the following reasons:

- It will not protect the entire community as the City's propaganda states repeatedly. This is offering protection to a small number of homes, in a geographically limited area most people being offered protection do not want it. The City is deliberately mudding the waters by consulting and engaging non-affected parties at a community-wide level
- It will only offer limited overland flood protection in our area. Many properties will be affected that do not need protection at the City proposed berm height. This plan provides protection from a small flood event and does nothing of benefit in a major flood event
- It will not prevent groundwater flooding in our area
- Upstream flood mitigation is the only answer to effective flood mitigation for our neighbourhood and the City of Calgary on the Bow River.
- The berm will pose serious environmental damage to all of the properties, from substantial tree loss to animal habitat loss (coyotes, eagles, bats, osprey, many other bird species, deer, bobcats, red fox, to name a few)
- This is private property that the City is wanting to disturb - during construction alone this will cause large scale environmental damage to over 100 properties
- The cost benefit analysis of the project and budget done by the City is grossly under-estimated to make the project look like it is financially feasible. The wide spread opposition will surely drive up the cost of the project as expropriation seems like the only way forward for the majority of property owners. Perhaps the next step should be an independent assessment of the expropriation costs including all parties legal fees as per provincial regulations
- The City has continually falsely advertised this project to the public as a barrier that will protect properties from flooding - it will not do so and should not be advertised in such a manner
- The City has continually ignored the concerns and questions from the property owners. They have engaged landscape designers before asking permission to use private property. This seems to indicate that the consultation is merely a hurdle to moving forward and that the City is not actually doing proper due diligence
- The City is generating its own studies only to confirm their plans to proceed with building a barrier that will not prevent flooding
- At least 20 new homes have been built or are in progress in the flooded area of Bow Crescent and the surrounding streets since the 2013 flood. Most or all of these homes (I have not been in them all so cannot speak to each one) have self-mitigated for future flooding with higher homes, no basements, raised mechanical items, etc, and have spent their own money doing to protect their

properties. The City's proposed barrier is not needed on these properties and is not acceptable to force upon property owners who have spent their valuable time, effort and money on protecting themselves already.

- The City of Calgary Planning & Development department recognizes and has put in writing that Bow Crescent has high groundwater levels yet the City barrier project insists that a groundwater study is needed to assess groundwater. There is available test well data that proves the porosity of the underlying gravel layers. Why ignore available information and waste tax payers money on another study? Perhaps they are looking to generate different information to support their position.
- The proposed barrier project team is downplaying this or ignoring the fact that groundwater flooding was the primary cause of property damage in the 2013 flood event. with the proposed berm groundwater flooding will still occur, and could conceivably be exaggerated in a heavy rainfall event
- The City Planning and Development department has pushed forward with re-zoning flood fringe properties and continues to hand out permits for basement developments in flood fringe areas. The City has in fact increased flood risk in Bowness by millions of dollars since 2013, how do they square that with berm proposals to mitigate risk.
- The City is now adjusting the severity and scale of the project now that they are confronting opposition. Has the effectiveness been reduced too? Has the anticipated cost been adjusted?
- I cannot speak directly to the groundwater studies and budget items specifically, others from Bow Crescent will do so who have more knowledge in these areas, but this whole project has provided false and misleading information from the City throughout.
- This proposed barrier has caused great uncertainty and risk to property values in the area. As a realtor working in the area, I have directly worked with buyers who have not put in offers or who wanted to offer substantially less to property listings on Bow Crescent because of the proposed berm. This is the last thing owners need now 5 years after the flood, more risk to their property value because of this proposed barrier and loss of yard, threat of expropriation, environmental damage.

This berm is more of an environmental threat to the community than a benefit in any way. Please stop this berm project now and support upstream mitigation which can make a true positive impact on our community and the City of Calgary.

Sincerely,

**Brenda Parai**, BA, MBA, Realtor®

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Re/Max Realty Professionals

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## EAward1 - Tomi Neilson

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**From:** Brian Gill <bgillcalgary@gmail.com>  
**Sent:** Sunday, May 12, 2019 3:12 AM  
**To:** Committee Clerk  
**Cc:** EAward1 - Tomi Neilson; info@bownessrfm.ca; Ana Val  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Dear Members of the Standing Policy Committee on Utilities and Corporate Services,

My wife and I would like to bring to your attention some concerns we have about the proposal for local flood barriers in the community of Bowness.

Our concerns are based on information we have gleaned from several meetings about the proposed Bowness Barrier, some called by the City and others by the BRFM group, as well as from documents and other information provided by the City, especially on the Bowness Barrier Group's very useful website. Since we own a house on Bow Crescent that would be affected by a barrier, we also hosted a site visit by Denise Nogueira and other members of her group, and obtained more information from them.

We should say to begin with that as property owners along the river in Bowness, we are extremely conscious of the importance of effective and responsible flood mitigation. The City must clearly find a way to protect lives and property from the effects of serious flooding. However, we do not find that the proposed barrier is a good way to do the job.

We do not support the building of a barrier along the Bow in Bowness for many reasons, including the following:

1. **It would be ineffective.** It appears that it would not substantially mitigate groundwater flooding in the community. Reports show that the most damage in the 2013 flood was caused by groundwater flooding. As a flood protection measure, the sort of barrier that is presently envisioned would fail.
2. **It would waste money.** Because the barrier would not provide protection from groundwater flooding, the money spent on building it would be wasted. At best, the City now envisions a very modest cost-benefit for the proposed barrier. It seems likely that including presently excluded costs, as well as the likelihood of cost overruns, would result in costs outweighing the benefits.
3. **It would be environmentally disastrous.** Even with the best efforts of the City to minimize environmental and aesthetic degradation by a barrier, the damage done to the riverbank area and its ecosystem would be unacceptable to Calgarians. At a time in this country when the importance of good environmental policies is widely recognized, it would be irresponsible to start destroying habitat which is so essential to our city's well-being.

We are expressing our concerns even though the site visit suggested that our property would be minimally affected by the construction of a barrier. This is not just about us, it is about our neighbours and all Calgarians. The City needs to be fiscally and environmentally responsible, and building this barrier would be a waste of money. We realize that upstream mitigation, which is the best solution to Calgary's flood problem, is many years away, and comes with its own set of difficulties. Nevertheless, we believe it is the way to go. It often pays off to take the long view.

Thank you for your hard work on this matter. We hope you will do the right thing. ☺

Ana Val and Brian Gill (6410 Bow Crescent)

Submission For Annual Flood Mitigation Update to SPC-UCS on May 15

Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

We would like to express our concerns regarding the proposed local flood barriers in the community of Bowness.

In various emails and face to face discussions we have repeatably made it clear to members of the City of Calgary that we have numerous concerns with the proposed barrier project. The proposed barrier, as currently presented by the City of Calgary is completely unacceptable, and leaves residents in the dark and on their own. Information has not been presented in either a timely nor an acceptable manner. The City did not once meet with us prior to the announcement of the barrier project. On top of this, the City has repeatably refused access to information under FOIP requests by either outright denying requests, or putting the information behind such costs, in a clear attempt to dissuade residents from requesting further information. Through our interactions with the City it has been clear they are not interested in being transparent, and are rather interested in only pushing further political agendas, in order to advance careers. Due to my interactions with the municipal government during this process, I have lost faith and belief in not only my local representatives, but also the very processes meant to protect citizens. I no longer feel as though my voice matters.

After the 2013 flood, I sat on the City of Calgary's Community Advisory Group. Throughout all of meetings, we were constantly reassured by City officials that the City would never allow the construction of a berm along the Bow Crescent riverbank. The fact that the city has now proposed the exact thing they promised they were not going to implement, has led to a great feeling of distrust among neighbours, who no longer know what information to trust, even if coming from a reputable source. In fact, two city officials, Pamela Reid and Carolyn Bowen assured me there was a 100% chance that no berm was going to be constructed along the Bow Crescent riverbank. Even more concerning is the fact that the City does not appear to have a consistent idea of what is occurring across departments. The aforementioned assurance came after an open house on Bowness flood mitigation was attended by a resident on the street, who noticed that one of the proposed projects was a berm. Having not been

consulted, the resident was justifiably very concerned about the plan, as no other resident had heard of the idea. When I presented Pamela and Carolyn with this concern there were very adamant that a berm was not on the table for Bow Crescent. I therefore, as a contact between the City and street, assured my neighbours that no such project was in the works. As a result, the announcement for the proposed berm not only came as complete shock, but also hurt my credibility with my neighbours. I now feel as though my neighbours no longer fully trust me. The City should be embarrassed in the manner in which it has handled the consultation with residents. At no point before the announcement were any of the residents consulted, making a complete mockery of the City's own commitment to transparent and inclusive engagement processes. Quite frankly, the City should be ashamed of its conduct at the beginning of this project.

In our opinion, the engagement by the City of Calgary to this point has been a complete affront to their own engagement policies. As the City's promises:

**The City commits to conduct transparent and inclusive engagement processes that are responsive and accountable”**

**“Engagement at The City of Calgary is defined as purposeful dialogue between The City and citizens and stakeholders to gather information to influence decision making.”**

**“Stakeholders for the purpose of this policy are defined as anyone (person or group of people) who can impact or can be impacted by the results of a decision made by The City, and may include: citizens, the public, customers, businesses, community organizations and partners, other government agencies and any other body interacting with The City.”**

None of this happened with the proposed barrier in Bowness and this has been very disappointing. This has bred an environment of distrust for the residents and stakeholders, who have been directly affected by this decision.

One of our largest concerns, and arguably one of the most important, is the consequences to our insurance policies. As proposed,

our insurance company has several concerns, that may result in the inability for the companies to continue their coverage of our property. In 2013 it took a significant amount of pressure and lobbying, in order to get any type of coverage at all, and this a major sticking point for us. Who is liable? What happens if the barrier fails, more damage will occur if this happens as the water has no where to go. Who is liable if the barrier traps waters on our properties or if our property happens to be one of those with a culvert as the only water exit point in the event the barrier is breached. Based on our dealings with Trans-Alta and insurance companies during 2013, we know that no one wants to take responsibility and liability. And based on our recent dealings with the City, why should we hold anything the City promises as true. Why do we have any reason to believe what the City says?

We have emailed these comments and concerns to the City staff working the Bowness Flood Barrier Project. On several occasions we were met with a response of "We will have to get back to you." What happens if our insurance company declines to cover us for flood insurance whether overland, sewer, ground water? Does the City take over the responsibility for our insurance? Can they answer that before they start with construction on this proposed barrier? If the City doesn't provide information in a timely fashion to our insurance provider on what the proposed berm may actually look like, and our insurance provider will no longer cover us what happens? Is the City willing to become our insurance provider? At the writing of this letter, we are waiting for a letter from our insurance provider that indicates their concerns regarding the proposed berm, which will be made available to the City.

In light of all of the recent climate protests, and an ever increasing focus on our environmental impact, the fact the City has done no preliminary environmental study is an embarrassment. The river is the primary drinking water supply for several major cities downstream of Calgary, and the City has done absolutely no research on how the barrier could effect the natural water cycle of the watershed.

Living along the river we feel a certain responsibility to protect the river and the wildlife that relies upon it. How do we ensure that the work the City does along the banks of our homes does not adversely affect the wildlife and fish? Is the City willing to do an environmental study to satisfy that no harm will be done to the health of the river as it flows through this

area? As some areas of the proposed berm will close to the river's edge, does Fisheries not have to be involved in this project?

Does the proposed berm along Bow Crescent give the City the ability to adjust its agreement with TransAlta to increase the flow of water through the City? It would seem from some of the technical information that we have had to FOIP, that is what will happen if the proposed barrier goes ahead. How would this affect the spawning of the fish in the river, we know they spawn during May and June? The increased flow also raises concerns on how this will effect the bank stability along the area of the proposed barrier. If the water flow is increased, then one would assume that the bank will erode at a greater rate and if there is a barrier which will not allow the water to flow as it naturally would, then there will be an even greater erosion of the bank. So would this not increase the threat of overland flooding?

This is compounded by the fact that the proposed barrier does absolutely nothing to deal with the ground water. This was the main issue that over 85% of homes on the street were affected by. A further 5000 homes are currently being built that are upstream of the street's current waste-water pipes. This will increase the risk of sewage backup and ground water affecting homes during another high water event. What has been done to mitigate this? Again who is liable? There is no indication of how the barrier will provide protection against that threat. How will the ground water studies that are being done on almost all City property, be used to properly represent this?

Thank you for taking the time to read my letter, and I hope you will take the concerns I raised to heart. It is my hope that you can use this letter to better help determine how this project will proceed.

Thank you,

Carla Betzner  
6120 Bow Cres NW

## **EAWard1 - Tomi Neilson**

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**From:** Thomas Wilson Swaddle <swaddle@ucalgary.ca>  
**Sent:** Saturday, May 11, 2019 8:41 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; jwoeller@shaw.ca; info@bownessrfm.ca; Shirley Swaddle  
**Subject:** [EXT] Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Dear Members of the Standing Policy Committee on Utilities and Corporate Services and Councillor Sutherland:

As a resident of 7132 Bow Crescent NW since 1975, I wish to make the following brief points for your consideration:

1. The proposed shallow berm along the river bank on Bow Crescent would have negligible effect in mitigating a major flood - upstream mitigation is the only effective policy for that, and is the exclusive prerogative of the Province of Alberta;
2. It would, however, interfere seriously with the presently efficient natural drainage of rainwater and snowmelt through the porous soils of the littoral;
- 3: It would also result in the unnecessary destruction of trees and other vegetation which presently protect the shore against erosion and provide an excellent habitat for the flourishing wildlife of the area;
- 4: No attention seems to have been paid to the experience of the perennially flood-threatened Dutch, who have learned (the hard way) that effective flood mitigation starts with what they appropriately call GIVING ROOM FOR THE RIVER. In the Bowness context, this means accepting that the lowest-lying portions of residential lots should be allowed to flood naturally in all but extreme floods such as the 2013 event for which control lies outside the City's jurisdiction anyway. The 2005 flood, for example, came and went with no damage to my property beyond loss of my compost heap. The proposed berm would actually work against this concept, and the proposal should be scrapped before any more damage is done or more taxpayers' money is spent.

I was very favourably impressed with the professionalism and friendly understanding shown by Ms. Nogueira and her site visit committee last September; unfortunately, they are obliged to work within the policy laid down by the City, and I submit that this policy is seriously flawed.

Respectfully,

Thomas W. ("Tom") Swaddle  
403-286-4280  
7132 Bow Crescent NW  
Calgary, AB T3B 2B9

May 11, 2019

To: Members of Standing Policy Committee (SPC)  
Utilities and Corporate Services (UCS)

Re: Submission for Annual Flood Mitigation Update to SPC-UCS on May 15, 2019.

We live at 7023 Bow Crescent, NW on the railway tracks side of the Crescent. In 2013 we experienced flooding from the river, groundwater and sewer. The greatest damage was from groundwater and sewer.

Groundwater is our greatest threat. The water table usually matches the height of the river. As the floodwaters rise, the water table rises and begins to enter basements.

We do not believe the planned barrier will have a positive affect on the water table levels. In fact, we believe the barrier may increase water table levels by containing the river within the bounds of the barrier. In our area the river will loose about 150 meters of flood plain. When 150 meters of about 1 meter deep floodwater is confined into the new river basin the flood levels will be increased. This will increase the water table. An increase of water table could actually cause us to loose our home.

We are also concerned with the massive tree and vegetation removal. The loss of over three thousand trees will have a significant impact on the wildlife along the river. The deep roots of these trees help secure the river bank. The river bank will loose the protective web of the roots of this lost vegetation. This will allow for greater erosion in the next flood.

Property value loss has already affected homes along Bow Crescent. Since this project has been announced, property values have dropped up to 30%. We are both recently retired and it was not our intent to have to live here until property values recover. It could take many years for this project to be settled. If the berm is build, property values could be permanently lower on Bow Crescent. The City should be accountable for this loss.

We believe upstream mitigation is the only mitigation that will protect our property and all the properties in the Bow River basin. The proposed berm deflects focus from the work that needs to be done. It will not protect the the intended areas. The proposed berm is a waste of our tax money and is an insult to our intelligence.

Margo and Illyas Pagonis

7023 Bow Crescent, NW  
Calgary, Alberta T3 2C9  
403 805-4797  
403 809-6919

## **EAWard1 - Tomi Neilson**

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**From:** Barry Olson <barryeolson@gmail.com>  
**Sent:** Friday, May 10, 2019 4:46 PM  
**To:** Barry Olson  
**Cc:** Committee Clerk; EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] Re: Annual Flood Mitigation Update to SPC-UCS

**Categories:** Purple

I respectfully would like to submit my input on the City of Calgary Flood Mitigation Plan. By way of background, I am an engineer, I live on Bow Crescent with a home on the banks of the Bow River. We experienced the 2013 floods, did not get either overland or groundwater flooding due to the fact our home is in a higher elevation and has a relatively shallow basement. We acquired our home in 2012 to experience the tranquility, serenity and natural appreciation of the Bow River, but also knowing that at some point in time we could experience a flood event. We were and are prepared to deal with it if and when it happens and acknowledge we could experience expensive restoration as a result. We also extensively landscaped our yard to take full advantage of the wonderful beauty of the Bow River itself, its myriad of wildlife that cohabitates along with us, and the amazing vegetation and trees that exist the entire length of the Bow throughout the community of Bowness. Any construction of a berm or barrier will cause extensive destruction of vegetation and trees, immeasurable damage to animal and fish habitats, and massive destruction of value to all homeowners throughout Bowness - not just the homeowners on the river . . . everyone. Additionally, please be mindful that the 2013 floods was a caused by a rare confluence of events with extensive rain locked over the city and foothills along with accelerate snow melt in the mountains. It's questionable that we should be spending hundreds of million to protect against such rare events when we now have a more considered river management program in place with TransAlta that was not in place prior to the 2013 flood.

We are opposed to the Flood Mitigation Plan as proposed by the City for several reasons. First we do not see a cohesive plan to mitigate groundwater flooding, which directly effected over 80% of the homes flooded in Bowness in 2013. As we are certain that the City's test hole drilling program will attest, Bowness is situated on an extremely permeable rock/cobble/sand base that is actually necessary to reduce even more extensive overland flooding. It is simply not feasible to attempt to mitigate overland flooding without a plan to mitigate groundwater flooding. Put another way, a simple berm to prevent overland flooding would not have protected any homes from extensive groundwater flooding during the 2013 flood. And we have not been presented any plans that would be feasible to mitigate groundwater flooding without consideration to the impact that it would have on actual river flow during a flooding event. Second, we do not see a cohesive integrated plan for upstream mitigation via diversion dams or water throttling with the existing dams.

We appreciate it is a complicated issue but also are not prepared to support plans that are not thoroughly understood. I also appreciate that the City and Province needs time to perform the many studies required, all at a significant expense to taxpayers. Meanwhile, substantial stress exists with homeowners as their plans for living, selling, buying in Bowness are constantly put on hold while no concrete plans are in place - 6 years after the flood occurred We also appreciate that significant damage occurred to downtown Calgary and other areas along the Bow and Elbow and support stronger measures to protect Downtown.

Thank you in advance for listening to our concerns.

**Barry Olson**  
6748 Bow Crescent NW, Calgary

[barryeolson@gmail.com](mailto:barryeolson@gmail.com)

403-660-7833

Barry Olson

[barryeolson@gmail.com](mailto:barryeolson@gmail.com)

403-660-7833

## **EAWard1 - Tomi Neilson**

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**From:** t fullerton <tfullerton02@gmail.com>  
**Sent:** Friday, May 10, 2019 3:16 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca; Barry Olson  
**Subject:** [EXT] Annual Flood Mitigation Update to SPC-UCS

**Categories:** Purple

I would like to take this opportunity to provide input on the city flood mitigation plan for Bowness. It is my belief that the most effective flood mitigation for our community as a whole and for the City of Calgary must occur upstream of the city limits. The present proposal will not be effective in any material way without the upstream dam and mitigation in place. It would seem that it would be best to campaign the province to implement upstream mitigation and after that has been put in place augment it if necessary with community based safeguards.

The present proposal does not address the significant groundwater issues and concerns which were experienced in 2013. It has been said that upwards of 80% of damage and costs were associated with this type of water damage and less than 20% resulted due to overland flooding. Given the depth of gravel (and permeable zones) in the Bowness area, estimated up to 20metres in depth, there will unlikely be a financially feasible berm plan that can effectively guard against both overland and groundwater flooding. If the project does not provide both it will effectively be a waste of taxpayers dollars!!!!!! Beyond the issue of throwing money away on a project that will be ineffective a berm proposed as it is today will do irreparable harm to the landscape of Bowness, the river valley, wildlife habitat and the urban forest that exists along the banks of the Bow.

I would like to formally object to the City proposal in its present form as it will provide no reasonable protection from groundwater, will not adequately mesh with the provincial solution to protecting Calgary from flooding on the Bow (as no formal proposal has been approved by the province) and will do irreparable harm to the banks of the Bow.

Thank you in advance,  
Terry Fullerton  
6748 Bow Cres. N.W.

**“Without Prejudice”**

May 09, 2019

Members - Standing Policy Committee  
Utilities and Corporate Services  
City of Calgary

**Re: Submission for Annual Flood Mitigation Update to SPC-UCS on May 15**

Dear SPC Members,

This letter is to communicate my concerns regarding the proposed Bowness Barrier.

Please make note in your register: I am in OPPOSITION to the barrier.

For brevity please see my following reasons in point form. I can expand on details should you wish to discuss:

1. Ground water issues – most residents weren't flooded via overland
2. High flow rates – flow over 800m<sup>3</sup>/sec are too high in any condition
3. Efficacy – where is the proof this will actually help Bowness
4. Cost benefit – numbers just don't make sense
5. Budget – berm vs other solutions like mitigating homes at risk
6. Upstream solution – not yet determined and built
7. Potential future issues – breaching causing greater damage
8. Environmental and ecosystem upheaval
9. Recreational concerns for fisheries
10. Disrupts enjoyment of private land
11. Disruption of privacy
12. Possible safety and security issues with increased access

I believe the city is overarchingly well intentioned. And I thank you for that. Let's build on those intentions together for the benefit of Bowness.

What would be wonderful is for all the brilliant minds on Bow Crescent and within City departments to join together as a team and create impactful solutions for our community of Bowness.

We are all in this together.

Regards,  
Deborah Dias  
6116 Bow Crescent NW

## EAWard1 - Tomi Neilson

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**From:** Lonny Balbi <lonnybalbi@familylaw-balbi.com>  
**Sent:** Friday, May 10, 2019 11:21 AM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** Purple

To: Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

I am writing to express my concern about the City of Calgary's proposal to construct a barrier/berm on the Bow River that will negatively impact my property in the community of Bowness. This planned barrier is ill-conceived. It does little to protect private property or public infrastructure along the river and it has the potential to be more damaging as it does not account for the inevitable groundwater flooding that occurs in every high water event. Approximately 80% of the damage caused by the 2013 flood in my area was not caused by overland flooding, but by groundwater inundation and sewer back-ups.

After the 2013 flood, the Province of Alberta contracted with TransAlta to lower reservoir levels at the Ghost and Bears paw dams. If this arrangement was in place during 2013, the high water flow on the Bow River would have been reduced by 30%, effectively negating most damage in my area, except for groundwater and sewer backups.

In reviewing the preliminary design for the City's proposed berm, this plan will ultimately do more harm to property than good, as it will trap groundwater behind the berm and create erosion issues. Groundwater will not have an easy path to return to the river, even during times when the river is not particularly high.

I believe that the best resolution to flooding in Calgary, and a far better use of government funding, is to construct additional reservoir capacity upstream on the Bow River. This would have a two-fold benefit: 1) protecting the City during times of higher flow on the Bow; and 2) creating a water reserve in times of drought, which is almost always a more significant issue in southern Alberta.

The proposed barrier will not provide effective mitigation in the event of another 2013-type flood. I urge the City of Calgary to reconsider and discontinue its plan to construct a barrier/berm along the Bow River in my area.

If the City of Calgary pursues its plan to construct a barrier for flood protection along the Bow River, and specifically on my property, I will carefully consider my options. I expect to be "made whole" in the event this barrier is constructed. This includes the following:

1. I can sit in my garden room, kitchen and dining area at present and see the river. I expect that after a barrier is constructed, arrangements will be made so that I will continue to be

able to see the river while sitting in my home.

2. I expect that a barrier will not block, sever or restrict my access to the river and some access will be built into the barrier plan that will allow me to get to the water's edge, as is the case currently.

3. I prefer a wall, rather than a berm, so this will negate the bike path/walking path scenario the City seems to be planning. If the City is not planning a bike path behind or along my property, then it should be prepared to construct a wall, rather than an earthen berm. Inglewood residents had a choice of wall or berm some years ago and I should receive similar treatment.

4. Another option is to construct a temporary inflatable berm to be used only during a flood event.

5. If the City insists on an earthen berm, I expect that I will be able to construct a non- scalable, but easily movable fence on my property line, so that the berm will not become a bike/walking path and the City's required maintenance will be facilitated.

6. I expect all the trees/shrubs removed during construction to be replaced.

7. I expect the City will have planned and be able to explain how water drainage will be facilitated on my property during heavy rain days or quick snow melts.

8. I expect the City will indemnify me and assume all responsibility to resolve any erosion that occurs on my property as a result of trapped groundwater/surface water that is not able to quickly drain to the river because of the barrier.

There may be additional matters that arise during discussions and I reserve the right to expand this list of issues as necessary.

I look forward to a favourable reply to my current concerns and expectations.

Yours truly,

Lonny Balbi  
5832 Bow Crescent NW

**Lonny Balbi, Q.C.** | FELLOW, INTERNATIONAL ACADEMY OF FAMILY LAWYERS | BALBI & COMPANY  
LEGAL CENTRE

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May 9, 2019

**ATTENTION:** Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

**RE:** Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

Dear Sirs:

I am writing to express my concerns regarding a potential berm placement on my property in Bowness. The following points highlight my concerns and question the effectiveness of the berm in preventing damage due to a flood of the 2013 nature:

- **Ineffective in flood magnitude of 2013: ineffective without upstream mitigation**
- **Increased groundwater both in flood and non-flood times**
- **Destruction of natural property, landscaping in yard**
- **Loss of mature trees and shrubs which provide not only visual aesthetics but also wildlife habitat and riverbank stabilization**
- **Decreased ability to enjoy our yard and river access (both visual and physical)**
- **Misuse of taxpayers' money**
- **Construction disruption: disruption to wildlife, noise, access to property/gardens**
- **Loss of property value/ inability to sell at fair market value due to potential barrier or existing barrier**
- **Inability for the City to prevent public access along the Berm**

I respectfully request the City of Calgary to reconsider the construction of a berm which will not provide adequate protection but will also cause major disruption to the environment, wildlife and personal usability of the riverbank.

Regards,

Jackie St George-Rennie  
6048 Bow Cres NW  
Calgary, AB  
T3B 2B9

To: Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS) [committeeclerk@calgary.ca](mailto:committeeclerk@calgary.ca)

cc: Ward Sutherland [eaward1@calgary.ca](mailto:eaward1@calgary.ca)  
BRFM [info@bownessrfm.ca](mailto:info@bownessrfm.ca)

Re: **Submission for Annual Flood Mitigation Update to SPC-UCS on May 15, 2019**  
6018 Bow Crescent NW, Calgary, Alberta

Unfortunately we will be unable to attend the above captioned meeting on May 15<sup>th</sup>, 2019. Please accept this letter in our absence.

We had a site visit in February of this year and quite frankly, we probably had more questions than answers after the visit. The discussion indicated the barrier would be approximately 2 feet high, including freeboard, on our property. The exact height, dimensions, design or location of the barrier were unknown. I did however learn that the barrier could be much closer to the house than I had anticipated. I also believe that ground water will not be addressed by the barrier. This completely negates any protection from basement flooding as we had no physical breach of our house but there was definitely water in the basement.

I appreciate this is early in the process and accordingly there is a very real lack of detail. Accordingly at this time we must remain opposed to the project.

In addition, I have a number of questions, concerns and objections which I have listed below.

1. Loss of a flat yard
2. Decrease in usability of yard
3. Segmentation of yard
4. Sterilization of portions of yard
5. Decrease in aesthetics
6. Loss of established and mature shrubbery, trees and vegetation
7. Loss of animal habitat
8. Decreased accessibility of yard
9. Obstruction of or interference with view.
10. Loss of control of property
11. Increased erosion
12. Increased groundwater seepage
13. Liability concerns regarding people injured on barrier
14. Maintenance concerns
15. Decrease in property value
16. Obstruction/interference with running of utilities
17. Fencing
18. Increased costs to homeowner because of barrier
19. Interference/complication of irrigation patterns
20. Trespassing
21. Exacerbation of ground water flooding
22. Altered flow patterns and channels in the event of over flooding or breach

23. What insurance will be in place to protect the home owner
24. Cost of project
25. Benefit derived from this use of tax payer dollars
26. Assumptions used to determine height
27. Effect on neighbours further from river
28. Lack of a comprehensive plan
29. Terms of any easement/right of way
30. Loss of privacy

More issues may be raised in the future, especially as more details are released.

Thank you for your consideration of the above.

Yours truly,

John Rothwell

Desiree Kadelbach

Cc

Ward Sutherland  
Office of the Councilors  
P.O. Box 2100  
Station M  
8001 Calgary, Alberta  
T2P 2M5  
Email: [Ward01@calgary.ca](mailto:Ward01@calgary.ca)

**Date:** May 9, 2019

**Attention :** Members of the Standing Policy committee (SPC) on Utilities and Corporate Services (UCS)

**From:** Dr. David and Joanne Chalack [dchalack@altagenetics.com](mailto:dchalack@altagenetics.com)

**To:** [committeeclerk@calgary.ca](mailto:committeeclerk@calgary.ca); [eaward1@calgary.ca](mailto:eaward1@calgary.ca); [infor@bownessrfm.ca](mailto:infor@bownessrfm.ca)

**Venue:** City Council Chambers May 15, 2019

My wife and I moved into our dream location on Bow Crescent May 1, 2013 and were evacuated June 19<sup>th</sup> 2013—we never returned to our residence. The loss emotionally and materially is hard to quantify and there was minimal insurance and Disaster Relief Program payments from our insurer and the province.

We loved the location and the community because it is like living in the country—wildlife, trees and vegetation of all descriptions and of course the beautiful river. We waited 2.5 years to rebuild and worked with all necessary city departments and permitting processes in order to meet new building codes and guidelines. It is interesting to note that not once did anyone from the city discuss with us the possibility of a berm being built between our beautiful new home and the river—very strange indeed because after the Bow River Flood Mitigation Society FOIPed the city it became evident that these plans have been in place beginning in 2013.

Additionally, I will comment not once did anyone from the city come to our door or attempt to place a phone call to communicate in a meaningful way with us about these plans—if engagement and consultation is an important and necessary step before plans being formulated it would not have been difficult to work directly with the 90 residents who are property owners along this stretch of the Bow River. Virtually all other proposed or berms built are not on private property which would in my mind command more consideration.

I have discussed our situation with multiple experts from hydrologists to water engineers and environmentalists who believe this proposed initiative is folly and that we must have a solution to address the water before it gets to the city. Frank Frigo and our councilor Ward Sutherland consistently in written pieces or

interviews or meetings state that this berm is effective and necessary. My research rejects their conclusions as folly.

**My wife Joanne and I vehemently oppose a berm on our property.**

We concur with the BRFM society that the best solution for flood water damage mitigation, be it overland or from groundwater incursion, is upstream flood mitigation which ideally constricts flow rates adjacent to our property to less than 800 m<sup>3</sup>/s. I am confident that a flow rate not exceeding this would result in zero damage to our property due to the self mitigation initiatives we adopted (at significant cost) after the flood.

Respectfully submitted by;



Dr. David Chalack cell # 403-585-2455

Thomas & Christina Kenny  
7008 Bow Crescent NW  
Calgary, AB. T3B 2B9

**“Without Prejudice”**

September 20, 2018

City of Calgary  
c/o City Barrier Design Team  
“Hand Delivered”

We are writing to express our concern about the City of Calgary’s proposal to construct a barrier/berm on the Bow River that will negatively impact our property. This planned barrier is ill-conceived. It does little to protect private property or public infrastructure along the river and it has the potential to be more damaging as it does not account for the inevitable groundwater flooding that occurs in every high water event. Approximately eighty percent (80%) of the damage caused by the 2013 flood in our area was not caused by overland flooding, but by groundwater inundation and sewer back-ups. Specifically, our home was not affected by overland flooding.

After the 2013 flood, the Province of Alberta contracted with TransAlta to lower reservoir levels at the Ghost and Bearspaw dams. If this arrangement was in place during 2013, the high water flow on the Bow River would have been reduced by up to thirty percent (30%), effectively negating any damage in our area, except for groundwater and sewer back-ups.

In reviewing the preliminary design for the City’s proposed berm, this plan will ultimately do more harm to property than good, as it will trap groundwater behind the berm and create erosion issues. Groundwater will not have an easy path to return to the river, even during times when the river is not particularly high.

We believe that the best resolution to flooding in Calgary, and a far better use of government funding, is to construct additional reservoir capacity upstream on the Bow River. This would have a two-fold benefit – protecting the City during times of higher flow on the Bow and creating a water reserve in times of drought, which is almost always a more significant issue in southern Alberta.

The proposed barrier will not provide effective mitigation in the event of another 2013-type flood. We urge the City of Calgary to reconsider and discontinue its plan to construct a barrier/berm along the Bow River in our area.

If the City of Calgary pursues its plan to construct a barrier for flood protection along the Bow River, and specifically on our property, we will carefully consider our options. We expect to be “made whole” in the event this barrier is constructed. This includes the following:

1. We can sit in our family room at present and see the river. We expect that after a barrier is constructed, arrangements will be made so that we will continue to be able to see the river while sitting in our family room.
2. We expect that a barrier will not block or “sever” our access to the river and some access will be built into the barrier plan that will allow us to get to the water’s edge, as is the case currently.
3. We prefer a wall, rather than a berm, so this will negate the bike path/walking path scenario the City seems to be planning. If the City is not planning a bike path behind our property, then it should be prepared to construct a wall, rather than an earthen berm. Inglewood residents had a choice of wall or berm some years ago and we should receive similar treatment.
4. If the City insists on an earthen berm, we expect that we will to be able to construct a non- scalable, but easily movable fence on our property line, so that the berm will not become a bike/walking path and the City’s required maintenance will be facilitated.
5. We expect all the trees/shrubs removed during construction to be replaced.
6. We expect the City will have planned and be able to explain how water drainage will be facilitated on our property during heavy rain days or quick snow melts.
7. We expect the City will indemnify us and assume all responsibility to resolve any erosion that occurs on our property as a result of trapped groundwater/surface water that is not able to quickly drain to the river because of the barrier.

There may be additional matters that arise during discussions and we reserve the right to expand this list of issues as necessary. We look forward to a favourable reply to our current concerns and expectations.

Yours truly

Original Signed  
Christina Kenny

Original Signed  
Tom Kenny

Thomas & Christina Kenny  
7008 Bow Crescent NW  
Calgary, AB. T3B 2B9

**“Without Prejudice”**

May 08, 2019

Members - Standing Policy Committee  
Utilities and Corporate Services  
City of Calgary

**Re: Submission for Annual Flood Mitigation Update to SPC-UCS on May 15**

We are opposed to the proposed berm along Bow Crescent, as presented by the City of Calgary at its meetings with residents on January 16 and September 20, 2018 respectively. We are Bow Crescent residents and members of the Bowness Responsible Flood Mitigation Society (BFRM). We have lived on the Crescent for the past fifty-one (51) years.

We shared our concerns at the September 20 meeting in a letter hand-delivered to Ms. Vania Chivers, Program Manager and member of the City’s barrier design team [copy of letter attached].

We will not comment again on the deficiencies in the City’s design. We are comfortable that the BFRM group is better able to speak and respond to these matters with its engineering and hydrologic expertise. However, we would ask the members of this Standing Policy Committee to evaluate the direct and collateral costs associated with expropriation and/or easements on privately-owned properties along the river. We believe the potential costs should be carefully assessed and added to the City’s anticipated project budget. We believe these costs will be substantial and could actually eclipse the costs of construction.

While we only represent ourselves, we anticipate that most property owners who live along the river choose to stay here for one reason – THE RIVER. It is our prime focus and we accept certain risks associated with where we choose to live. This barrier will “sever” access to the river from our bank, effectively blocking us from enjoying the river in many different ways. Given our attachment to the river, we (and we anticipate all of our riverbank neighbours) will be seeking and expecting to be “made whole” by the City if this barrier project is completed as proposed. The Supreme Court of Canada stated that the purpose of the statutory compensation scheme for injurious affection is:

to ensure that individuals do not have to bear a disproportionate burden of damage flowing from interference with the use and enjoyment of land caused by the construction of a public work.

If the City proceeds with this project, it should be able to estimate "ballpark costs" of ensuring that riverbank property owners are "made whole". The considerations will vary by property. As only one of the approximately one hundred (100) property owners, our list of considerations to be "made whole" includes the following:

1. *We can sit in our family room at present and see the river. We expect that after a barrier is constructed, arrangements will be made so that we will continue to be able to see the river while sitting in our family room.*

We are not sure how this will be accomplished, but if the City builds a berm/barrier that is approximately twenty (20) inches above the current bank, then we expect to either be able to see through this barrier or as an alternative, that our house will be raised. Perhaps the City should consider a removable barrier that could be set up when river levels are predicted to be high and removed when the possibility of flooding is minimal. Timing could be aligned with the Province's Ghost Lake reservoir arrangement.

2. *We expect that a barrier will not block or "sever" our access to the river and some access will be built into the barrier plan that will allow us to get to the water's edge, as is the case currently.*

The City's design should include a path or stairs to allow each property owner to be able to access the river.

3. *We prefer a wall, rather than a berm, so this will negate the bike path/walking path scenario the City seems to be planning. If the City is not planning a bike path behind our property, then it should be prepared to construct a wall, rather than an earthen berm. Inglewood residents had a choice of wall or berm some years ago and we should receive similar treatment.*

We acknowledge that a concrete wall will not be as conducive to retaining the natural appearance of the riverbank, but that loss of the natural look may be the price we have to pay to ensure that the barrier will not become a public pathway

4. *If the City insists on an earthen berm, we expect to be able to construct a non- scalable, but easily movable fence on our property line, so that the berm will not become a bike/walking path and the City's required maintenance will be facilitated.*

If the City insists on an earthen berm, then we want the right to extend fencing over the berm to ensure the berm will not become an undesignated, but nevertheless, well used public pathway. We anticipate extending our property title to include the berm and are prepared to enter into an easement agreement with the City to allow for maintenance on the berm.

5. *We expect all the trees/shrubs removed during construction to be replaced.*

6. *We expect the City will have planned and be able to explain how water drainage will be facilitated on our property during heavy rain days or quick snow melts; and*
7. *We expect the City will indemnify us and assume all responsibility to resolve any erosion that occurs on our property as a result of trapped groundwater/surface water that is not able to quickly drain to the river because of the barrier.*

We do not believe the plan has contemplated how groundwater will dissipate after spring run-off or as a result of heavy rain or snow. Groundwater issues have to be resolved in any plan to build a barrier along the river. Groundwater control means going to bedrock during construction, and we know that will be very expensive.

There may be additional matters that arise during discussions and we reserve the right to expand this list of issues as necessary.

Finally, we understand the City may use the concept of easement, rather than expropriation, relative to the construction of this proposed barrier. This may be seen as limiting the compensation available to landowners through the Alberta Land Compensation Board or via the civil courts. We note there are two forms of injurious affection associated with expropriation (1) where land is taken; and (2) where no land has been taken ie., easement. In this light, we would recommend a review of two cases: In recent years, the Supreme Court of Canada ruled on a case where no land was taken/expropriated, but an award was made for injurious affection in *Antrim Truck Centre Ltd. v. Ontario (Transportation)*, 2013 SCC 13. The Alberta Land Compensation Board ruled on restricted or severed access to water rights in *Riebel (Estate) v Alberta (Environment)*, 2007 CanLII 81377 (AB LCB). In both decisions, the principles of establishing and evaluating damages for affected property owners are clearly articulated.

In closing, we are all concerned about flood mitigation, but that will not be solved by a barrier along Bow Crescent. Building or expanding an existing upstream reservoir on the Bow River is the right solution. Such a reservoir will help in times of flood or drought. Please spend public money on the right solution.

Respectfully Submitted

Sent by e-mail only  
Christina Kenny

Sent by e-mail only  
Tom Kenny

## **EAWard1 - Tomi Neilson**

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**From:** nantaisj@telus.net  
**Sent:** Thursday, May 9, 2019 2:46 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; Bowness Flood Mitigation  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** Purple

Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

Dear Members

I have been a resident of Bow Village for the last 39 years, and in that time have observed and enjoyed the river's environmental vibrancy. During that time, there have been periods of both high and low river flow as well as flooding. My property was flooded, my dwelling was not.

Recommendations: 1. Do Not proceed with the destruction of the riparian environment to build a berm. The environmental damage is irreversible. Floods are natural occurrences, are not permanent, and have largely economic costs which can be dealt with.

2. Proceed by working with individual property owners to deal with particular causes of flooding, be it overland or ground water, with a focus on protecting structures while limiting environmental damage.

3. Resist the urge to proceed with large scale environmental damaging engineering solutions.

4. Consider that the berm decision is really a values decision. Should we choose an environmentally enlightened approach or not.

4. Calgary might wish to demonstrate that it is capable of arriving at truly innovative solutions to natural events.

Some of the immediate areas considered for the construction of a berm are relatively untouched in terms of development, and as such, support a range of plants and animals that may not always be associated with inner city environs. These species are present largely because of the river, and the still semi-natural areas that exist on its banks. These remaining natural areas require no regular maintenance, and make no contribution to noise or air pollution, in contrast to an area to the west on the other side of the railway tracks (Bow Green) which is landscaped in a manner that might be expected to follow the large scale berm building proposed for flood mitigation. This particular area requires regular maintenance, (lawn cutting and clean up ( noise and air pollution as well as maintenance costs) and is devoid of any natural habitat thus being home to few living creatures.

The area that did flood allowed the water to spread out and thus helped to reduce the velocity of the flow slightly. A berm will concentrate the water within the defined channel and contribute to increasing the velocity and destructive force of the water, which will be felt downstream.

The cause of flooding damage was mostly either overland or ground water related. Some properties have already been protected by individual owners; New construction has been permitted to proceed, I would hope on the basis of individual flood mitigation rules.

After 5 years, most if not all of the effects of the flood have been mitigated. The cost of the flood was mostly monetary, temporary, and repairable.

The building of a berm is a permanent event. The natural environment will be sacrificed for the foreseeable future at huge cost both economically and environmentally. It will require regular maintenance which presents an access and cost issue. The species displaced will not return to a sanitized, regularly maintained environment. The habitat destruction and species that will no longer be present are not limited to the most visible.

In the end, this comes down to a values argument. In an age where the destruction of habitat and loss of species has at last become a common topic of discussion, we are about to make a choice for our own small area that houses species that may not be rare (yet, although some may be) but are part of our environment.

Species observed: Last week, two deer were munching on my strawberry plants. (Perhaps not that great!) A few minutes ago, an immature bald eagle landed on it's regular perch to survey it's river. If that tree is lost, the eagle will have one less place to perch. Other species observed over the years include moose, raccoon, porcupine, beaver, red squirrel, black squirrel, hare, red fox, Osprey, Geese (of course), numerous species of ducks, many small song birds, little brown bats(threatened in many parts of the continent), frogs(in a private pond, much of which was destroyed in the building of Bow Village, and potentially a threatened species), garter snake(first observed last summer) and the many other species that are unseen and unknown, but that will lose in the building of a berm.

Thank you for reading and considering my submission.

James Nantais  
36 Bow Village Cr NW  
403.247.6201

## EAWard1 - Tomi Neilson

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**From:** owen fahey <faheyowen@hotmail.com>  
**Sent:** Thursday, May 9, 2019 2:19 PM  
**To:** info@bownessrfm.ca; Bowness Barrier; EAWard1 - Tomi Neilson  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** Purple

Re: Bowness Barrier Project

May 9, 2019

City of Calgary

Dear Councillors

My wife and I reside at 6426 Bow Crescent N.W. and are opposed to the construction of a barrier/wall/berm along Bow Crescent.

We have been to several city "information sessions" on the berm and we are very disappointed in the city's apparent disregard for the overwhelming opposition to this structure.

At the meeting in late 2018, the spokesperson for the berm project very clearly stated that if the residents did not want a berm, there would be no berm. Meanwhile, the process continues toward approving the construction of the berm. The city invited community input and then apparently ignored it. Also, our city councillor, our representative, Ward Sutherland, allegedly stated on radio, before any public engagement, **not** that there might be a berm, or a berm was a consideration, but that there would be a berm built.

We have lived at our current residence just over 45 years and have experienced water problems just once, that being **flooding, due to ground water in 2013**. It is our understanding that **in Bowness, in excess of 80% of the damage from the high water in 2013 was due to groundwater flooding**.

**A berm will not alleviate groundwater flooding**, indeed, it could very well make matters worse. With a barrier in place there would be less impetus for upstream controls to keep the water flow as low as possible. The higher the water flow, the greater the chance of high groundwater problems developing.

Our residence is one lot away from the west end of the east segment of the proposed berm. Our concerns regarding the construction of a berm are:

1. Any extension of the east segment of the berm in a westward direction would then include our property and require the removal of at least ten (10) mature trees, each towering at least fifty (50) feet as well as four (4) gardens, thirty-five (35) feet of hedge and our paved barbeque area and pathway. Our backyard area would be reduced from eighty (80) feet to less than forty (40) feet.
2. With a berm, the real potential for increased river flow velocity (with increased river bank erosion) and elevated groundwater levels (with resultant flooding)
3. The imminent loss of wildlife habitat with the stripping of the berm terrain of everything but grass.
4. Increased security concerns at the river end of our property, despite city assurances of no public access to the proposed berm (with or without the berm extension).

5. With regard to past river level control upstream (particularly 2013), concerns over mismanagement of the spring river levels by TransAlta.

6. Taxpayer money currently being directed toward berm construction would be more efficiently used if applied to upstream solutions.

7. **The city's proposed berm does not address the elevated ground water and its resulting damage.**

The **Flood Mitigation Measures Assessment report commissioned by the City of Calgary** confirmed that to **provide an equitable level of service on the Bow as on the Elbow**, a new reservoir on the Bow River upstream of Calgary is recommended, along with complementary barriers in select communities and a continuation of the provincial TransAlta operational agreement.

**If the City is serious about the flood issue, why is it not petitioning the Alberta Government to stop dragging its feet in the establishment of additional reservoir(s) upstream from Calgary?**

**The high spring flow of the Bow River has to be dealt with BEFORE it hits Calgary not with an inadequate bandaid after it hits.**

I appreciate the opportunity to provide input and hope that the committee on UCS consider my concerns regarding the proposal for local flood barriers in the community of Bowness.

Sincerely,

Owen Fahey

## **EAWard1 - Tomi Neilson**

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**From:** TELUS <ron.parent@telus.net>  
**Sent:** Thursday, May 9, 2019 9:30 AM  
**To:** Committee Clerk; EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Cc:** Bowness Barrier  
**Subject:** [EXT] Bowness Barrier Concerns

**Categories:** Purple

May 9, 2019

The City of Calgary

We would like to make our position on the Bowness flood barrier project very clear. We believe the project is ill conceived and we strongly oppose the City of Calgary's (the City's) proposal to construct a flood barrier through the community of Bowness.

We believe the City has been negligent in not communicating its intentions transparently to affected stakeholders prior to committing tax payer dollars to the project.

We believe the project will cause increased security / safety issues for the river side residents of Bowness.

We believe the project will have a significant negative impact on the environment, our property value plus our personnel enjoyment of the River view.

We find a 5 foot wall or road allowance through our back yard and 4 years of construction as unacceptable. Standard engineering is 1 in 100, the City wants this design to be 1 in 200, this puts the berm at a level which is 2 feet higher than the 2013 flood on our property. If the city lets the water rise to fill this new berm capacity, we are going to have more problems than 2013.

The project does little to protect private property or public infrastructure along the river and it has the potential to be more damaging as it does not account for the inevitable groundwater flooding that occurs in every high-water event. Approximately eighty percent (80%) of the damage caused by the 2013 flood in our area was not caused by overland flooding, but by groundwater inundation and sewer back-ups.

Mistakes were made in 2013, but with the new water management plan in place today, the high-water flow on the Bow River can be reduced by thirty percent (30%), effectively negating any damage like 2013 in our area, except for groundwater and sewer back-ups. We believe that if an additional dam is built upstream, there will be no need for a berm at all.

We believe the costs for this project are grossly under stated and the benefits are grossly over stated. The cost benefit analysis should also take into consideration the amount of mitigation the home owner have taken since 2013.

## Conclusion

The proposed barrier will not provide effective mitigation in the event of another 2013-type flood. We believe this project is not an effective use of tax payers' money and we urge the City of Calgary to reconsider and discontinue its plan to construct a barrier/berm/wall along the Bow River in the community of Bowness.

If the City of Calgary pursues its plan to construct a barrier for flood protection along the Bow River, and specifically on our property, we will carefully consider our options. We will expect to be properly compensated for the inconvenience of construction, loss of river front property, view, Real Estate value and the emotional impact on our lives.

Yours Truly,

Ron and Glenda Parent  
6008 Bow Crescent NW  
Calgary, AB T3B 2B9

To : City of Calgary Bowness Barrier Group

Denise Nogueira, Project Engineer

From : Fred Hemmerling, 6206 Bow Cr Nw, T3B2B9

Re : Opposition to the Bowness Berm Project

submission for Annual Flood Mitigation Update to SPC-UCS on May 15

I strongly oppose the City of Calgary's plan to construct berms along the Bow R. in Bowness As a long time (34 yrs) resident on Bow Cr NW, and a steward of this unique and historic natural environment, I feel that the City's plan will have a devastating impact by destroying hundreds of trees and shrubbery, severely compromising wildlife habitat. Why is this so necessary when upstream mitigation will be the most significant prevention method ?

This project is ultimately about loss for residents along Bow Cr. versus supposed benefit to the City. If there is any future cost/benefit advantage to the City, it cannot be supported due to the physical loss of this unique environment, and the deep social impact of residents and Bow R. users.

#### LOSSES EXPECTED

- This project is akin to the "pave paradise and put up a parking lot" manifesto. We will lose a significant ecological and psychological benefit if the City bulldozes 3-4 km of riverside trees and shrubs for the berm footprint. We should be planting more trees/shrubs for soil retention and groundwater absorption. The City has made no friends in past projects where trees were removed. The great exception was during the "Snowtember" storm, when the City spent much money preserving and fixing damaged trees. So, trees do matter !
- Habitat Loss for birds, animals, insects, amphibians, and fish species. Less vegetation = less food for those critters
- Loss of residents peaceful nature setting and view. What is the City's conclusion about this social and psychological well-being impact on people's lives? Increased stress leads to potential health issues and bitterness towards the City administration adds to this stress.
- View loss, landscaping loss, access to river loss. All are daily intrinsic losses . This "peaceful, easy feeling" will disappear from our lives.
- Loss of property value. When I bought my house in 1985, this was not a well known destination community. Over the next 3 decades since, it has become so, due to it's unique and peaceful environment. The value loss will impact the heritage for my kids and will have an impact on my retirement plans.

## BENEFITS

Are there really any benefits to the City at large with 3-4 km of berms in people's backyards? Upstream mitigation will supposedly put our flood risk at about 5%. This is perfectly acceptable to the residents and our insurance providers.

The City seems overly focussed on berms "come Hell or High Water". The City has protected the downtown and it's neighboring communities, where the greatest cost/benefit scenario resides. We don't need berms in Bowness.

Thank You

Fred Hemmerling

SUSAN BALDREY

Submission for Annual Flood Mitigation Update

SPC UCS on May 15th.

6504 BOW CRESCENT  
NW. CALGARY, AB  
T3B2B9

“Members of the Standing Policy Committee on  
Utilities and Corporate Services” May, 9th 2019

I am writing this letter to express my concerns regarding the Bowness Barrier Project. This is a personal letter based on research and professional knowledge and experience in the field of horticulture. I am not a novice. I recently received a service award for 2019 from Houzz. I do understand the concerns regarding flood mitigation as it is a concern for all Calgarians. I am not in support of this project.

Each area of the city that was flooded is unique in its need for a plan that not only fixes the problem but fits the problem. We also think the Bow River Corridor is different in many ways and presents the city with an opportunity to examine the uniqueness of Bowness before proceeding with this project.

The Bow River Corridor is a natural habitat that enters the city and is a home not only for fish and wildlife but to thousands of mature trees, shrubs and wildflowers. This is the beauty of the Bow and its surroundings. The riverbanks of Bowness are very different from the city core, untouched and pure! Based on this, it also provides the city with an opportunity to look at this with a different set of eyes.

Riverbanks, are the best habitat for for wildlife to feed and travel through the area. We live in Bowness because we as a community love nature and are caretakers of the Bow River Corridor. The riverbank with many mature trees stabilize the bank and act as filters. This did not get disturbed even in the 2013 flood event.

The city's plan to build a barrier will destroy the area where many trees have created habitat, shade and a home for fish and wildlife. Mother Nature has done an amazing job of providing these needs. We have seen what

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happened to the slopes of Paskapoo. With the removal of habitat the wildlife is now pushed into traffic.

Rip Rap, or as biologists call it “bank armouring” Is an unnatural pathway for wildlife to retain their homes on the river. It is a detriment to their safety as deer get trapped and break their legs. This also, gives road traffic a route for them to travel.

My question to city council is “ What do we want the Bow River to look like in the future ?”.

The proposal of the removal of 3.9 kms of trees and shrubs at 30’ wide would be catastrophic! There are many Spruce, Balsam Poplar, River Birch and Douglas fir that have extensive root systems and large root balls. How does the city plan to repair the damage to the ecosystem and microclimate? A clay/ loam mixture will not replace what has been on the river for decades. A good example of this is Dale Hodges Park. The soil used for this project was contaminated with a weed infestation. Workers were hand picking weeds...for an entire summer? What is the cost of that gross error for tax payers? What is the maintenance plan going to be for the barrier?

I am a small business owner and have worked in Garden Design and Horticulture for 30 plus years. I graduated from Fairview College in Turf Management and hold a Journeyman ticket in Horticulture. Working on many large projects I do understand the process of removal and replacement. I also have worked on projects that have had city trees onsite, witnessing trees with values of \$12,000.00 and up. Is the city going to use the same template to put a value on our urban forest?

Bowness, in 2013 experienced 80% ground water flooding. This project even in the early stages of planning doesn’t address groundwater. As a professional, I never start a design project without looking at the land itself and study the environment. Drainage is everything! Its simple chemistry when the river rises so does the groundwater. The barrier will give Bowness a false sense of security. An example of this is the 6400-6500 block of Bow Crescent. This part of the street didn’t flood, its on the highest part of the street. One block away on Bowness Road, Bow Cycles basement flooded with groundwater, which is on even higher ground.

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According to research from Environment and Energy Collaborative (NPR) regarding Mississippi floods, "Levees make Mississippi flood worse, but we still keep building them". When barriers fail, breach and push water in places that it naturally wouldn't go we are in big trouble. An example of this is in the 2013 event an earthen barrier was installed at the Safeway (Elbow Dr. + 4th St. Sw) It pushed the water into Roxboro. Yes, it probably would have flooded but not full basements 1 km away. If trapped behind the barrier how will the water find its way back to the river or will it create a new leg of the river?

Research recommends upstream mitigation as the answer. We should be thinking of the future with water conservation, storage, hydro and recreation. Thinking forward, not just spending money because it is available.

It has been a huge disappointment for the Bow Crescent residents to discover 1 week before Christmas in 2017, that this project had been proposed. Through freedom of information we found out this project had been in the works for years with a barrier detailed drawing already in place. The city always has a comeback that this is the design stage. Why not be transparent in the first place? Is it the job of the councillor in this ward to keep the citizens informed of major projects? Less than a year ago the city planning department was still giving out building permits not informing people of this major proposed project. Many families would never have spent hundreds of thousands of dollars to do their own flood mitigation to end up with a barrier that will not help their situation. An example of this is a landscape project my company had on Bow Crescent. It took the home owners almost 5 years to decide to rebuild and get possession of their new home. The home is on screw pilings ready for a 1:200 year flooding event. When their home was getting finished and they were excited to move back to Bowness they found out that the barrier project was in the works. They said " We never would have built our new home and spent a huge amount of money if we knew this was proposed". The property value will decrease and will they have access to the river with rip rap?

If this project is approved, the social impact and stress of 4 years of chainsaws falling trees, dump trucks, heavy equipment, dust, workers on our properties will be devastating and never be the same. Many of us have

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lost a lot of sleep already in the last year. This project is always on our mind.

This is a sign in Bowmont Park that has been put up by the City Parks Department....It pretty much sums up my thoughts.

#### THE ROOTS OF A HEALTHY RIVER

Balsam Poplar forests like this one along our river valleys help support wildlife and maintain water quality.

Think of the river, forest and wildlife as part of a triangle. If one side disappears the whole thing collapses. This Balsam Tree forest offers important habitat for wildlife, with many different opportunities for food and shelter. Plant roots help filter rain and melting snow, improving water quality. Overhanging branches shade fish from the hot summer sun.

HABITAT, the natural environment of a living thing.

ALWAYS REMEMBER MOTHER NATURE BATS LAST!

Best,

Susan Baldrey

Vintage Garden Design

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“WITHOUT PREJUDICE”

May 8<sup>th</sup>, 2019

Dear Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS),

I write to request that the Committee please consider my concerns regarding the proposal for local flood barriers on privately-owned land in the community of Bowness.

I am a Bowness riverfront property owner. I have owned my home on Bow Crescent since 1991, and have always felt incredibly fortunate and privileged to live in such a beautiful natural environment so close to a city centre.

I am strongly opposed to the City of Calgary’s Bowness Barrier project. The reasons, that have already - and repeatedly - been put forward by me and many of my neighbours include:

- Failure of the City to follow its own engagement policy (CS009), particularly with those stakeholders whose private property would be directly impacted
- Lack of stakeholder engagement prior to the decisions to complete a conceptual design and move forward with a preliminary design
- Lack of responsiveness to stakeholder input
- No acknowledgement that over 80% of Bow Crescent residents had groundwater flooding only, so a barrier is useless
- Inaccurate and incomplete cost-benefit analyses,
- Incorrect assumptions in the Associated Engineering report,
- Environmental destruction that will likely cause ecological imbalances
- Lack of any solution to address the problem of groundwater flooding
- Inconsistent/unfair treatment of Bowness riverfront residents versus our counterparts in Inglewood and Elbow Park
- Lack of published decision criteria or process for proceeding with subsequent stages of the project.

For the purposes of this letter, though, I would like to describe to you the significant social cost of this project and the personal toll it is taking.

Many of us Bow Crescent residents were traumatized by the flood event in 2013. We all worked hard, however, to recover from it. Many of us spent considerable time and effort, and significant amounts of money, to repair and restore our homes and yards to a livable and enjoyable condition once again.

Can you imagine how traumatizing it then was to discover that the City is planning to bulldoze those same backyards that we just repaired? And to permanently impact the natural environment that we all treasure? This is trauma on top of trauma. I personally have started to suffer from chronic insomnia and anxiety since the news that the City had already begun this project first broke in December 2017. I now take daily medication for migraine headaches.

My home has always been a refuge to me; one where I retreat to for peace and quiet, where I can enjoy being immersed in nature, and enjoy the privacy afforded by trees, bushes and hedges. Yet now, instead of a refuge, it has become a source of immense stress. Every time I look at my beautiful backyard and

river view, I can't help but imagine it with construction machinery covering it and the resultant decimation that would occur. It is truly unimaginable.

As if those issues weren't enough, I also have new and acute financial concerns as a result of this project. I will be retiring this year, and the equity built up in my home has always been a significant part of my retirement financial planning. As a result of the threat of this project, my home currently has significantly less liquidity and has a decreased market value. This means that my retirement is now potentially looking very different. I have been able to afford to live here only through sheer hard work and financial sacrifice, and I know it is the same for many of my neighbours. How is it fair that, on the whim of the City of Calgary, some of the net worth that I have worked hard to build over the past few decades can just be wiped out?

To add to the senselessness of all this, my home was NOT IMPACTED BY OVERLAND FLOODING at all during the 2013 flood, due to the elevations of both my house and my backyard landscaping. Therefore, I am having to endure this intolerable situation for no good reason.

To be absolutely clear, I DO NOT agree to a barrier being built in my backyard.

I urge the Committee to cancel this ill-conceived project immediately and let us all get back to living happy, normal, financially-whole lives.

Yours sincerely,

Sally Grattidge  
6060 Bow Crescent

Heidi Schwab  
5976 Bow Crescent, NW  
Calgary, AB T3B2B9  
heidischwab09@gmail.com / 403-383-0882

Re: Bowness Barrier Project

May 8, 2019

City of Calgary  
Ward Sutherland  
Naheed Nenshi  
City Barrier Design Team

Dear City of Calgary,

I am writing a letter to express my concern about the City of Calgary's proposal to construct a barrier/berm on the Bow River that will negatively impact my property while not affording a benefit to it or my surrounding community. I believe this to me a frivolous expenditure of taxpayer's money at a time when Alberta and Calgary are suffering economically.

My dad, Paul Schwab, built my house in 1960 and it has been in my family since. When Paul built the house, he purposefully set the house 6 inches higher because he was concerned about the underground streams. As a result, despite my house being in one of the hardest hit areas on Bow Crescent, my main floor was unaffected by the high water; the water missed my main floor by 4 inches. However, Paul did get 4 inches of water in the basement in 2005. This, I assume, was due to groundwater flooding. As the river rises, the water table rises and it's difficult to keep a river out of your basement. I've known about this danger all of my life and still choose to live here.

My backyard and river bank were left largely unaffected by the 2013 flood. I believe this was due to the high tree and shrub population I have on my bank and in my back yard. The proposed berm would require that these trees (about 10) be removed. This does not make sense to me. Tree roots are known to stabilize soil and prevent erosion. How can a man-made berm be better than an established root system? One should consider the lack of success American engineers have had in trying to control water erosion and flooding in the United States.

I will be retiring soon and, like most people in Canada, my house is my most valuable asset. I am facing the possibility of an extreme devaluation of my property. Over the years, I have paid high taxes to the City for the privilege of living here. Despite my basement being destroyed by the 2013 flood, the City chose to raise the assessed value of my house. I could live with this because I know how much the City helped me after the flood and how lucky I am to be living here. However, how many buyers are going to want to purchase my home now knowing that they will no longer have a view of the river sitting on their deck or that all of the trees will be torn down or that they will lose half of their back yard?

I am against the building of the berm/barrier. Alberta/Calgary tax payers could get more value for their money on other projects. How would the taxpayers of Calgary react if, in these tough economic times, they knew that so many dollars were being spent on a berm/barrier that will do little to protect Bowness or the communities downstream from Bowness?

Sincerely,

A handwritten signature in black ink, appearing to be 'HS' with a large flourish, written over a faint, illegible stamp.

Heidi Schwab

## **EAWard1 - Tomi Neilson**

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**From:** Dubetz, Jeannie  
**Sent:** Wednesday, May 8, 2019 11:41 AM  
**To:** EAWard1 - Tomi Neilson  
**Subject:** FW: [EXT] RE: SUBMISSION FOR THE ANNUAL FLOOD MITIGATIN UPDATE TO SPC-UCS ON MAY 15

**Categories:** Purple

**Jeannie Dubetz**  
T (403) 268-4658

**From:** Dr Beth Hedva [mailto:drbeth@hedva.com]  
**Sent:** Tuesday, May 07, 2019 9:45 PM  
**To:** Committee Clerk <CommitteeClerk@calgary.ca>  
**Cc:** info@bownessrfm.ca  
**Subject:** [EXT] RE: SUBMISSION FOR THE ANNUAL FLOOD MITIGATIN UPDATE TO SPC-UCS ON MAY 15

TO WHOM IT MAY CONCERN,

I AM WRITING TO MAKE MY POSITION CLEAR EGARDING FLOOD MITIGATION IN MY NEIGHBORHOOD IN BOWNESS.

THIS IS A SUBMISSION FOR THE ANNUAL FLOOD MITIGATIN UPDATE TO SPC-UCS ON MAY 15

THE RIVERFRONT RESIDENTS OF BOWNESS HAVE THE RIGHT TO A BARRIER WHICH MAINTAINS OUR PRIVACY SUCH AS THEY HAVE IT IN CANMORE AND MOST LOCATIONS.

WE DEMAND THAT IF A BARRIER IS CREATED IN BOWNESS IT DOES NOT AFFECT THE PRIVACY OF OUR YARDS AND HOMES, NOR INTRUDE UPON THE GRANDFATHERED RIGHTS OUR COMMUNITY WAS GRANTED BY THE CITY OF CALGARY.

BETH HEDVA, PH.D.

**Dr. Beth Hedva**  
Ph.D. Psychology, M.A. Clinical Psychology,  
M.A. Transpersonal Counselling Psychology  
Registered Psychologist, Alberta #3212  
Marriage, Family and Child Counsellor, California# MFT MA18470

Director of Training and Counselling, Finkleman Communications LTD.  
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<http://www.facebook.com/DrBethHedva>

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## EAWard1 - Tomi Neilson

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**From:** hohm@telusplanet.net  
**Sent:** Tuesday, May 7, 2019 8:36 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS);

Regarding the proposal for local flood barriers in the community of Bowness, I oppose installation of flood barriers in Bowness for the following reasons:

1. Bowness is built on a high permeability gravel bed. Consequently the majority of houses that suffered water damage in 2013 were inundated by ground water before over land flooding reached the house, if it did at all. I trust that test data collected this spring and summer from boreholes throughout Bowness will be made available to everyone. This will demonstrate whether above grade barriers will be effective without below grade barriers as well. And below grade barriers will present a whole new set of issues, as snow melt and summer rain will pool against the barrier instead of draining into the river. The barrier will be more trouble than its worth.
2. Upstream mitigation will be more effective. I understand if Ghost dam had be operated to mitigate flooding instead of to maximise water storage for power generation, the peak flood could have been shaved noticeably. There are additional upstream dams and the same applies to them. What's really needed is better flood modeling and forecasting so that dam levels can be controlled accordingly. That will have a much better pay back than building a barrier on top of a gravel bed.
3. Many of the houses that were affected by flooding have been re-built at higher elevation or without a basement or both. These people have invested in flood mitigation only to loose a substantial portion of the their backyard to a barrier that will block their view of the river valley and impede their access to the river. It will not be possible to fairly compensate these people for their loss.
4. The barrier will damage the ecosystem in our back yards. No trees will be allowed to grow on the berm as tree roots create flow paths for water to breach the berm. Any existing trees in the vicinity of the berm will be cut down and their roots dug out for the same reason. No trees means no shade for trout and other inhabitants of the river bank. Not to mention loss of bird and bat habitat, and no more Saskatoons!
5. The berm will be a highway to my back yard for any ne'er do well who chooses to use it. Now at least people have to make their way through bush and over uneven ground to get to my place. A berm will be easier to use than the sidewalk I don't have out front by the street.

Best regards  
Tim Hohm  
6616 Bow Crescent NW T3B 2B9  
403-270-4174

## EAWard1 - Tomi Neilson

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**From:** burtonjd <burtonjd@telus.net>  
**Sent:** Tuesday, May 7, 2019 5:22 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.com; Janet Davies; burtonjd@telus.net  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

To: Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

Re: Proposed Bowness Barrier

As a resident profoundly affected by the proposed construction of this structure, I feel compelled to write to you to convey the serious issues identified by both my co-owner Janet Davies and I which call into question why it is being funded. As individuals with technical backgrounds and decades of experience in the petroleum industry, even a cursory review of this project led us to conclude that The City has moved it to the design and delivery stage without having gathered the necessary technical data to confirm that it will perform its intended function, that being the relief of Bowness residents, particularly those along Bow Crescent, from financial losses due to flood damage.

As one of the technical members of the Bowness Responsible Flood Mitigation Society (BRFM), I have reviewed all of the studies commissioned by the The City. Those studies suggested that the major challenge in Bowness would be the prevention of groundwater flooding owing to the local surficial geology, a conclusion that I firmly support. The significant local thicknesses of high permeability sediments, predominantly sands and gravels, are simply not conducive to the prevention of subsurface water movement with a barrier which will not be rooted in the relatively impermeable bedrock. We are all in agreement that undertaking this this height of barrier in Bowness, as was done at the zoo, would be prohibitively expensive; the gravel is simply too thick. The incredible ability of elevated river levels to affect groundwater elevations in Bowness was well illustrated in 2013 by the flooding of basements at Bow Cycle and the Irish Cultural Center, *hundreds of meters from the river!*

The City does plan to install groundwater flood mitigation downtown and to protect Hillhurst-Sunnyside however, raising the specter of inequitable treatment between those communities and Bowness. This was **not** what was envisaged in the Flood Mitigation Measures Assessment (FMMA) report of 2017. And let's not forget, the communities on the Elbow will be protected from both overland and groundwater flooding by the construction of the Springbank dry dam, so again, where is the equitable treatment for Bowness? A post-2013 flood study undertaken by hydrogeology professor Dr. C. Ryan of the University of Calgary concluded that over 80% of flood damage in the communities along the Elbow was due to groundwater flooding. Clearly, the final recommendation for the Elbow was to keep the flood flow rate below a certain level to protect residents from **all** forms of floodwater damage, **and this is exactly what we should be provided in Bowness via a similar form of upstream mitigation.**

The proposed barrier has numerous problems besides the aforementioned, some of them site specific, and I outlined them for Ms. Denise Nogueira following my site visit with The City earlier this year. They are summarized as follows:

## **1. Ineffectiveness of barrier for financial loss prevention**

I had our home constructed in 1992 with projected water depths for the 100 year flood level in mind. As such, there was only basement damage in 2013 with water depth at the foundation of less than 30 cm. While we had been evacuated prior to overland flooding at that time and as such have no data on the timing of groundwater inundation, I did observe the basement water depth receding in accordance with river level decreases, with significant water flows into both the sump and two graveled areas through those areas of the basement floor left uncemented for future bathroom plumbing sanitary line placements. This implies high permeability proximal to and beneath the house and a good hydraulic connection to the river. Considering the first floor elevation of our home, its proximity to the river and the known presence of nothing but gravel in the back yard (observed during construction), the net financial benefit to us will be zero for anything under a 1:100 flood (and probably higher) event. Furthermore, the likely presence of high transmissivity gravels between our house and the neighbors across the street means that they will suffer rapid groundwater flood damage even if the berm were not breached. Exacerbating this could be the seepage of groundwater to surface through surface gravels and/or stormwater pipe invasion resulting in overland flooding by groundwater (as suggested in the Associated Engineering report). Note that the elevations of homes by the river, and therefore their basements (such as ours), frequently exceed that of those across the street (such as our neighbor directly opposite), potentially worsening the groundwater incursion problem for our neighbors.

So, in short, a structure is proposed which will do little to nothing for our neighbors or us respectively, but we are expected to bear all of the downside of this undertaking. This is simply not acceptable.

## **2. Life disruption and property/property value destruction with no benefit**

I have just retired and our plan was to sell this house this year. No buyer is going to accept the risk that the City has plans to tear up their back yard for no demonstrable benefit, an undertaking which, should it proceed, will take years to complete. So, the property, along with those of all affected riverside property owners, has been 'sterilized' and rendered unsellable until this project has either been cancelled or is completed. Despite the mounting evidence for this assertion, the City's assessors maddeningly continue to hold a grossly inflated view of our properties' values, with property taxes levied accordingly. And one final issue; we have been advised that there is always the possibility that a future City council can legally attempt to construct a public access path along the proposed easement, something past municipal governments have attempted on more than one occasion.

## **3. Tree and vegetation removals, destruction of stable natural environment**

The construction of the berm will result in the immediate destruction of many mature trees and the demise soon thereafter of numerous others between the berm and the bank edge owing to the disruption of their unidirectional root systems. These trees and innumerable smaller ones have stabilized the bank for decades, with no erosion observed since the seventies nor during the 2013 event. This vegetation, along with that of neighbors' properties, reduced the 2013 flow rate in the yard to well under 1 m/s, with higher flow rates only seen at the bank edge and

beyond. In most of the yard I observed almost standing water. The result of the loss of this vegetation will be the commencement of property shrinkage due to annual erosion at the bank edge. If a (bioengineered?) structural solution to mitigate this likely erosion at the bank edge will be required, perhaps the berm/wall should simply be placed there. It would be just as ineffective from a groundwater incursion/financial loss mitigation standpoint but would involve far less property disruption and perhaps environmental impact as well.

So, in addition to the obviously detrimental effects on the aesthetics of our yard, there will almost certainly be damaging hydrological consequences from the disruption of the long-standing stable natural environment there.

#### **4. Modified surface hydrology implications**

An expert in river hydrology and erosion mitigation consulted by the BRFM society has indicated to us that in general, the only good reason to construct a berm is if it is felt that potentially damaging channel avulsion is a real possibility. This is clearly not the case at our end of Bow Crescent. More importantly, he pointed out that if such a feature is breached (as it would be in a 2013 scenario), there will be rapid high velocity flow and flow volumes inboard of the berm, which will be of course unvegetated by design. In our case this high velocity flow would exist *against our foundation*, with potentially catastrophic results, a situation which cannot possibly occur currently with the abundant vegetative baffling. In my view, knowledge of this likely scenario exposes the City in future to lawsuits by all affected property owners for willful negligence once the berm is invariably breached (i.e. it is not designed to even prevent a repeat of 2013 flow rates).

As I mentioned to Chuck Slack of KCB (and he indicated that this had occurred to him as well), perhaps diverting any flood-level flow volumes to a deepened and widened flood-way in the east limb of the river (i.e. the other side of the island across from us) at the north end of Bow Crescent would be simpler option to prevent overland flooding for virtually all residents there. In my view this could involve the installation of a (water-inflatable?) berm within the river at the north end of the island activated only during flood-level events and but I obviously must leave the engineering details to those qualified to assess the viability of this.

The aforementioned summarize important concerns which I feel are relevant not only to Janet and I as homeowners, but in some cases to all riverside residents. The other concerns already expressed by the BRFM society relating to stormwater management, trapping of floodwater behind the berm, induced overland flooding inboard of the berm due to groundwater seepage to surface in lower areas, the City's alarmist overstatement of damage-level flood frequency probability distributions with the TA Agreement in place, grossly underestimated construction/land acquisition costs and a dubiously positive benefit cost ratio for this project, are held by us as well and can negatively impact all Bow Crescent residents.

We concur with the BRFM society that the best solution for flood water damage mitigation, be it overland or from groundwater incursion, is upstream flood mitigation which restricts flow rates adjacent to our property to less than 800 m<sup>3</sup>/s, a number which approximates the 2005 'flood' flow rate. I am confident that a flow rate not exceeding this value will result in zero damage to our property, as was the case in 2005.

In summary, we are vehemently opposed to the funding of the construction of this barrier as it is technically ill-conceived, will not protect us from financial losses during the next flood, and in no way represents equitable treatment for Bowness residents. Only upstream mitigation, as is being undertaken for communities along the Elbow river, can provide this protection.

Sincerely,

J David Burton P Geo, and

Janet M Davies P Eng

## **EAWard1 - Tomi Neilson**

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**From:** Todd Greiner <toddgreiner@outlook.com>  
**Sent:** Tuesday, May 7, 2019 3:41 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson  
**Subject:** [EXT] Submission for Annual Flood Mitigation Update to SPC-UCS on May 15

**Categories:** Purple

Dear Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)"

I request that the committee consider my concerns regarding the proposal for local flood barriers in the community of Bowness. After my site visit with the City and Klone Krippen, I have some very serious concerns about the viability of the berm in Bowness and therefore must OPPOSE it. It became apparent that building a berm prior to upstream mitigation completion, may in fact put my home (and others) at a higher risk of more severe flood damage as acknowledged by the Klone Krippen engineer.

My house was a new built after the 2013 flood damaged my previous home beyond economical repair. It was built to withstand a 1:500 year flood event with minimal damage. If a berm is constructed without upstream mitigation completed first, it would try to restrict the high flow of floodwaters to a narrow channel that would easily breach at 2013 levels or less which would wipe out my main floor of my house with estimated damages approaching \$1M. Currently, without a berm, there is no risk to my main floor.

Secondly, the high flow rates as proposed in the flood mitigation design is TOO high at 1230 m<sup>3</sup>/second. I had 2' of basement flooding in 2005 at 800 m<sup>3</sup>/second. I will have triple that height of water at 1230m<sup>3</sup>/second. A berm designed to withstand this high of a flow rate, will only allow and condone higher flows along the Bow during peak flow season – which would cause very significant groundwater damage along Bow Crescent. I cannot understand why designs to limit flow rates to 800m<sup>3</sup>/second or less have not been put forth or more seriously considered. This would be more in line with what other communities have been afforded as far as limiting flow rates upstream vs. trying to deal with higher flow rates once the water hits the City limits. I believe that Bowness should be treated equally with residents of Elbow Park and Sunnyside where Flow rates are minimized or ground water mitigation is being completed.

I do agree that flood mitigation is essential for our neighbourhood and that things should be done for the greater good. However, things do need to be done properly and cost effectively. Tax-payers funds should not be spent simply because they are available, they have to truly realize benefits greater than their costs. I cannot see how this is happening with this project and I continue fail to get any disclosure from the City on this economic analysis. Per the AE report that recommended the berm (as part of 3 step mitigation), they state that 78% of the flood damage was due to groundwater flooding. The City has confirmed that we will still be exposed to the same groundwater flooding with a berm (but will try to not make it worse with higher flow rates and heights). That means the benefit of the berm will only mitigate 22% of the expected damage, while the costs of the berm look to escalate.

I also struggle to see how the flooding was a huge cost to the City or even the Provincial Government as my home was not economically repairable and I received a grand total of \$28k from DRP while my equivalent home build costs were well in excess of \$1M which I had to shoulder personally. This has been a huge financial benefit to the City as my property taxes are now more than double what they were pre-2013.

I also have serious environmental concerns about the design of the berm and how many trees it would wipe-out. The environmental impact along the river would be significant and must be a major factor in determining costs and impact. I have at least 13 very mature trees in my yard alone that would have to be removed if the conceptual design is used. This would be totally unacceptable and take a generation to replace.

Thank you for your consideration to these valid concerns of why I am OPPOSED to the berm. I regret that I am unable to be there on the 15<sup>th</sup>, but would be very open to answer any questions or concerns you might have with the issues that I have addressed. I can be reached at this email or at 403.862.5902.

Thanks again.

Todd & Kellie Greiner.

## **EAWard1 - Tomi Neilson**

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**From:** David Allan <daveallan41@gmail.com>  
**Sent:** Tuesday, May 7, 2019 12:57 PM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] submission for Annual Flood Mitigation Update to SPC-UCS on May 15"  
**Categories:** Purple

To: Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

My wife and I have spent the last several months reading, listening and attending all of the proposed Flood Barrier events and info sessions.

i have had the committee in my backyard assessing where and how the barrier might be constructed.

i could write many paragraphs and share info that is known now by all,

**BUT, my simple message to you is that We do not want the Barrier! it will serve no purpose, the project is a waste of everyone's tax dollars!**

I have already taken the appropriate action related to future Flood prevention, as most Bow River residents have. We know the risks of living on the Bow River

I received basically zero assistance from the so called "disaster relief fund" when the flood of 2013 happened. Lost my entire home and my children lost everything they owned!

**We will do everything in our power to prevent the Barrier from being constructed!**

**Its time for the City to start listening to what the residents on the Bow River are saying! NO, to the Barrier**

Regards  
David Allan

cdn-403 519 3833

## **EAWard1 - Tomi Neilson**

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**From:** Karl Walther <waltherk@telus.net>  
**Sent:** Tuesday, May 7, 2019 11:24 AM  
**To:** Committee Clerk  
**Cc:** EAWard1 - Tomi Neilson; info@bownessrfm.ca  
**Subject:** [EXT] submission for Annual Flood Mitigation Update to SPC-UCS on May 15  
  
**Categories:** Purple

To the "Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)"  
for consideration of our concerns regarding the proposal for local flood barriers in the community of Bowness :

35 years ago we moved to this location near the Bow River knowing of the risk related to extreme high flow rates.

We love it here and would like to see the river frontage remain as is.

We had many sleepless nights, and still have, just visualizing a flood barrier and how we would deal with the construction site over many years.

The process for flood mitigation along the Flood Line of the Bow River in Bowness was flawed from the beginning.

One City Councillor announcing in early 2018 through Social Media "... this Berm will be built..." followed month later by a statement

"I hear you loud and clear that you feel the City has not sufficiently engaged Bow Crescent residents on the flood mitigation, including berms along your stretch of the river..."

! The proposed flood barrier/berm would affect our privacy from the start of construction and many years during construction. The property value will be greatly reduced immediately, the house almost impossible to sell during construction and thereafter, if it becomes necessary due to unforeseen circumstances.

The recent "Calgary's Flood Mitigation Plan" clearly indicates/**quotes**

:

**"...there is no way to mitigate floods bigger than 2013 without upstream flood mitigation including a reservoir on the Bow River and modified operation of existing reservoirs on the Bow River..." !**

Furthermore, in the Flood Mitigation Assessment it is stated/**quoted:**

**"...if a new Bow reservoir is not built, fortification of the Bow River by barriers is not desirable, as it would require higher barriers with large footprints along the length of the Bow River, resulting in dramatic impacts on the community ...."**

It is indicated that the Province has also initiated further study of potential locations for a new reservoir and has committed 1 Billion Dollars over 10 years to this project.

I cannot support the proposed Bow River/Bowness Flood Barrier due to the fact that it will not  
protect me and others from future flooding equal or  
higher than the 2013 flood!

Karl Walther  
6812 Bow Crescent NW  
Calgary, AB  
403,286-7444

May 7, 2019

To: Members of the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS)

Re: submission for Annual Flood Mitigation Update to SPC-UCS on May 15

Bowness Flood Barrier

I am not in support of the City of Calgary's Bowness Flood Barrier project as it stands and have a number of questions including:

- How did the City determine the social costs determined in the AE report without directly engaging riverside property owners on the social effects of a barrier?
- How will you manage
  - Surface water flow/drainage?
  - Bank erosion?
  - Construction access?
  - Groundwater flooding
- What is the impact of a soil berm vs a flood wall on my property?
- Will you explore the viability of a crib wall for bank protection?
- The Bow River is a significant corridor for wild life. Loss of habitat will have a detrimental impact on the birds, fish, and mammals. What is your mitigation plan?
- Effective upstream mitigation is essential. What is being done to expedite this?
- What is the budget for the Bowness Flood Barrier project? Does this factor in expropriation costs? What has been spent to date?

Regards,

Theresa Lende

5968 Bow Crescent NW