

BRFM – City Bowness Barrier Project Team Meeting

August 17, 2018

6618 Bow Crescent NW

Attendees:

Vania Chivers, Program Manager, The City of Calgary Water Resources
Denise Nogueira, Project Manager, The City of Calgary Water Resources
Gregory Kozhushner Leader, Project Engineering-Underground, Infrastructure Delivery, Water Resources
Adelle Palmer, Public Engagement Consultant, The City of Calgary
Jean Woeller, Resident and Bowness Responsible Flood Mitigation Society (“BRFM”) Chair
Jason New, Resident and BRFM Society Co-Chair
Frank Mele, Resident and BRFM Board Member
Rob Nieuwesteeg, Resident and BRFM Board Member
Hank Vrielink, Resident and BRFM Board Member, Technical Lead
Sherry Vrielink, Resident
David Burton, Resident and BRFM Technical Committee Member

Meeting Purpose:

To seek to establish a cooperative and collaborative working relationship between The City of Calgary Bowness Barrier Project team (the “City Bowness Barrier Team”) and Bowness Responsible Flood Mitigation Society (“BRFM”).

Agenda:

- 1) Project Background & update (Denise)
- 2) Discuss the stages of design, including timelines and the engagement process (Denise)
- 3) Share the BRFM mission with the City Bowness Barrier Team

Meeting Minutes:

Denise made a slide deck available to meeting attendees: The City of Calgary Bowness Flood Barrier, Project Update (the “Presentation”). These same slides were presented to the Bowness Community Association on August 15, 2018 – refer to attachment (also available on the project website).

Initial Discussion

Initial conversation was regarding note taking and minutes of meetings between BRFM and The City of Calgary. It was agreed that BRFM would take minutes and those minutes would be distributed to The City of Calgary (Denise) and edited to ensure clarity of information and minutes agreed on by both parties would be posted on the BRFM [webpage](#).

BRFM clarified that they are not connected to the Bowness Community Association even though there are members from the community association in their organization.

The Presentation

1) Project Background & Update (slide 2)

- In 2016, The City hired external consultants to assess and recommend future resiliency and mitigation measures. Recommendations include a combination of watershed-, community- and property-level mitigation solutions to create a flexible and adaptable flood risk management program. The Bowness flood barrier project was one of the recommendations from this study.
- Conceptual design studies that started in 2016 were completed to determine feasibility & estimate cost of permanent flood barriers (i.e. the AE Report)
- During the conceptual design phase, design is roughly 10 per cent complete.
 - High level studies were completed using already existing data available from the City; there were no visits to impacted properties and there was no ground water (GW) analysis conducted
 - The cost estimate is categorized as class 4-5¹, meaning an expected accuracy range of 50-100% (implying additional costs can be expected)
 - The cost was estimated at \$24M
 - City projects estimated at greater than or equal to \$25M undergo a “value engineering session”. Value engineering sessions are at discretion depending on the complexity of the project so dollar value is not always the factor for holding this session. during preliminary design
 - The City explained that the proposed flood barrier is a part of the overall strategy to improve Calgary’s flood resilience and improve mitigation efforts in riverfront communities like Bowness. In the long term, these barriers will work in collaboration with the Province’s existing agreement with Trans Alta for modified operations to the Ghost Reservoir, as well as any upstream reservoir that the Province may build in the future. The City believes that together these measures will help to significantly decrease the impact of large flood events such as the 2013 flood. In the short term, The City believes that the barriers will immediately increase community level flood protection and reduce the impact of the smaller, more frequent flood events that we’re predicting as a result of climate change.
- Since January 2018, the City has, for the Bowness barrier project:
 - Hired an engineering consulting firm (Klohn Crippen Berger) as the prime consultant and will be responsible for GW testing
 - Subconsultants include O2 Planning for landscape design, and Matrix Solutions for storm water

¹ Class 1 being the most definite cost estimate.

- Hired an engagement consulting firm (Context Research) who will be planning and supporting the work of the reaching out to the community
- Recruited an internal project team; all consultants report to Denise, as Project Manager
 - Denise monitors the BownessBarrier@ email address and is responsible for ensuring that replies are sent
- Vania is the Program Manager overseeing 3 barrier projects, including Bowness
- Ultimate goal of the City is to make Bowness flood resilient from both a GW and overland flooding perspective

2) Stages of Design (Denise, slide 3 & 4)

- Conceptual design phase completed
 - There was no field level ground water analysis completed during this stage, only conceptual analysis based on available information.
 - The City has evaluated other barrier options for the Bowness berm that include the installation of temporary barriers, the use of Bow Crescent (the road) as a location for a flood barrier as well as the option to include groundwater dewatering as options. The City Bowness Barrier Team indicated that concept screening was done on each of these options including pros and cons and high level cost/benefit analysis of these options. The City Bowness Barrier Team has committed to make these screening reports available to us for our review.
 - BRFM understands that the key decision metric for approval of the Bowness barrier is the Benefit/Cost ratio (BCR) for 6 return period flows. From a review of the AE Report, it is not clear as to the methodology used to compute neither the BCR nor the return period flow used for their recommendation of the barrier.
- Preliminary Design initiated now (August 2018) to Fall 2019
 - 10 companies responded to the RFP for preliminary design work; 3 companies were selected to move the barrier projects forward
 - Preliminary Design is funded entirely by the City
 - Ground water will be studied; requires drilling of 12 wells that will be monitored for at least one year
 - A desktop study will be used to recommend the location of the wells
 - The City needs to access properties to drill and monitor
 - BRFM requested that wells be drilled on both riverside and non-riverside properties as there was ground water flooding in other parts of the community
 - BRFM also requested that the impacts of flow from Canada Olympic Park (COP) and the development that is taking place on the lands near COP be considered
 - BRFM would like to understand if the development near COP is likely to add more pressure to what's going on here in Bowness

- BFRM would like to understand if there are any similarities to Sunnyside in terms of flows from communities above.
 - For other work included during preliminary design see slide 4
 - At the request of BRFM, the City Bowness Barrier Team agreed to allow the BRFM Environment Committee to work collaboratively with the City to assess the scope for Environmental assessments
 - Detail Design is expected to require 1 year and will start after Preliminary Design is complete
 - Land aspect (i.e. Negotiations for land acquisition) is the driver for this stage
 - As BRFM expressed concern over the security and access to their properties both during and after the construction phase, the City Bowness Barrier Team committed to looking into this issue
 - Final Design
 - Refer to slide 3
 - General discussion about stages of design
 - There are checkpoints/gates at the end of each phase to decide whether to proceed with a project
 - The City confirmed that they will review the cost benefit analysis at each stage (including the preliminary design) using their Triple Bottom Line analysis (TBL) that includes economics, social and environmental criteria
 - The City “must do engineering to decide to go forward”
 - BRFM requested that the decision making criteria to be made known in advance
 - As BRFM indicated that it was questionable whether the social aspect of the TBL was considered during conceptual design, the City Bowness Barrier Project Team confirmed that that the social aspect of the Triple Bottom Line analysis be considered in the preliminary design.
- 3) Timelines and Decision Making Process (Denise, slide 5)
- A general discussion occurred on a number of topics including the impact of the barrier without upstream mitigation in place. There was general recognition by all that upstream mitigation is the most effective flood mitigation technique
 - The City Bowness Barrier Team proposed that City River Engineering group meet with BRFM Technical committee to review technical reports
- 4) **Working together, moving forward (Adelle, slide 7)**
- The City is planning a meeting in September for riverside residents to learn about the design and engagement process; at the meeting there will be an opportunity to sign up for site visits
 - There will be a mail drop notifying of the date and time
 - The City has a chain of communication in place

- The City will announce meetings and post presentations on the City's Bowness Barrier website
- BRFM advised that the neighborhood is multi generational and some residents are not comfortable with the City Website or use of email communications
- BRFM requested standing meetings where members of the Board meet with the City Bowness Barrier Team members
 - Minutes from meetings should be reviewed for accuracy and agreed to by attendees before sharing with the community
 - BRFM aims to be accurate and transparent and is willing to assist the City in reaching out to the community so that it is informed
 - The City has the ultimate responsibility to inform the community
- About BRFM Society
 - Incorporated in Alberta as a Society in May 2018
 - We believe that responsible upstream and other effective mitigation strategies on the Bow River are the best solution to preserving and protecting the natural river environment and our community.
 - We represent concerned Bowness residents who are aligned with the BRFM vision and mission:
 - By 2024, BRFM will have gained commitment to deliver responsible and effective flood mitigation for the Bow River basin system;
 - Our mission is to advocate on behalf of residents with the City and Province to ensure that our vision and principles are met:
 - 1) We seek upstream solutions that will protect vulnerable communities from devastating flooding.
 - 2) We seek effective mitigation, which is both long term and a prudent use of Government funds.
 - 3) We seek to retain our community's natural environment and animal habitat, through minimal human made impact.
 - 4) We seek to be treated fairly, equally and with transparency.
 - Currently BRFM Society has an email distribution list of at least 150 Bowness Residents, with whom we are in regular communication; we expect that this list will increase as we reach out to more Bowness Residents
 - Our website is www.bownessrfm.ca

Follow-up Questions and Issues

The outstanding questions arising during the meeting, and in a BRFM debrief after the meeting that was held on August 17, are listed below

- 1) How do we schedule regular occurring meetings between the City Bowness Barrier Project team and members of BRFM Board and subcommittees?
- 2) How does the BRFM Technical Committee meet with City River Engineering group to review together the technical reports, including but not limited to option screening analysis and detailed benefit/cost ratio methodology?
- 3) How does the BRFM Environment Committee meet with the City Bowness Barrier Project to assess the scope of the preliminary design?

- 4) What is the benefit cost ratio used by the City to decide to proceed or cancel a project? Is it 1 or some other number?
- 5) Are there additional factors considered during the decision to proceed? If so, please identify all of the decision-making criteria and their relative weights?
- 6) Who at the City ultimately makes that decision to proceed with the implementation of the barrier?
- 7) Will the City review the flow of water from COP and consider the impact of the development that is taking place on lands near COP?
- 8) It is questionable whether the social aspect of the TBL was considered during conceptual design. Given that, how will the social aspect of the Triple Bottom Line analysis be considered in the preliminary design?
- 9) BRFM would like to understand how the cost of land acquisition was calculated for the Bowness Barrier.