Bragg Creek
Flood Mitigation Project
Frequently Asked Questions No. 2
(March 2017)

Rocky View County held an information session on February 28th, 2017 at the Bragg Creek Community Centre. This FAQ focuses on questions asked at the information session to provide attendees and residents that could not attend an opportunity to see the questions asked during the question and answer period.

Information Session Questions:

1) If land is to be expropriated, will the County pay all associated costs such as legal bills and appraisal fees?

This question is specific to landowners who do not want to enter into a negotiated agreement for purchase of land and there are no remedies other than entering into an expropriation process. When this process is entered, the landowner is entitled to payment for reasonable legal and appraisal costs. For more information on the Expropriation Act of Alberta and to better to understand your rights, you can view this document online at no charge: http://www.qp.alberta.ca/documents/Acts/E13.pdf

2) How long is the expropriation process?

The process takes approximately 10 to 12 months from the time of the filing of the Notice of Intention to Expropriate.

3) Could the County start construction before a negotiated agreement with the landowner or a decision by the Expropriation Board?

No work will commence on privately owned lands until Rocky View County has possession of the required lands either through a negotiated agreement or through the Expropriation process.

4) The proposed riprap (rock used to armor shorelines) along the highway appears to be around the same size that was washed downstream in the 2013 flood. Why not use a larger size rock to prevent another failure of the bank?

The proposed riprap in this area has a median diameter of 800 mm, which is larger than that previously installed. It is estimated to be capable of withstanding velocities of up to approximately 5.5 m/s. The 100-year flood velocity in this area is estimated to be between 3.5 and 5.5 m/s. Concrete grouting of foundation riprap may be considered to strengthen the riprap if determined as required through ongoing assessment.

5) How is the concrete wall structure going to be designed to withstand graffiti?

The effectiveness of anti-graffiti coatings and treatments, as well as a textured concrete surface finish, is being investigated. It has not yet been confirmed if any such finish will produce the desired graffiti resistance and / or if it will be implemented.

6) The top of the berm is 4.0 to 5.0 metres wide, what type of access and uses would be allowed for the general public?

The public could use the maintenance access for walking and non-motorized transportation. Locked control gates will prohibit public vehicles or motorized vehicles from accessing the top of the berm.

7) Who is responsible to maintain the flood structures?

Rocky View County will be responsible for inspecting and maintaining the structure. Annual inspections will be conducted prior to and after flood events. An Operation, Maintenance and Inspection Manual will be developed as part of the proposed work, which will identify inspection and maintenance cycles.

8) If my basement floods during a major event, where could I pump the water without further negatively impacting my property or my neighbours?

To the extent possible, the proposed swale ditch on the land side of the flood structure will collect and convey water to areas of reduced impact and / or where the water could be pumped over the structure. The project funding and design does not provide for resolving already existing groundwater issues.

9) During heavy rains or snowmelt, localized flooding currently occurs on the east side of White Avenue; how will this project address these issues?

This issue won't be addressed by the project as it is outside of its scope. White Avenue is under the jurisdiction of Alberta Transportation.

10) What is the purpose of a freeboard zone and how is the height determined?

The freeboard zone accounts for items like climate change, river bottom sediment movement and surface waves, all of which may cause the water level to be somewhat higher or lower than the 100-year water level estimated by computer modelling methods. Freeboard of this nature is always provided for such structures (e.g. flood structures, dykes, dams, and berms) to provide a safe barrier for floods up to the design event magnitude.

11) Is there risk of damage to Redwood Meadows as a result of channelizing the water through Bragg Creek?

No. The engineering assessment indicates that there would be no additional damage at Redwood Meadows during a 100-year flood event as a result of building the Bragg Creek flood structures. Changes in water levels, velocities, and flood extent at Redwood Meadows as a result of the Bragg Creek flood structures would be negligible.

12) Was the 2013 flood event the same magnitude as the 1:100 year design being proposed for the hamlet of Bragg Creek?

No. The provincial standard for flood protection is 1:100 year flood water level plus a minimum freeboard of 0.3 m. This is a one percent probability of occurrence each year.

Amec Foster Wheeler is designing to the provincial standard but with a minimum freeboard of 0.6 m. This freeboard accounts for items like climate change, bed movement effects on flood water level and wave run-up. Amec Foster Wheeler estimates indicate that the 2013 flood was approximately 20% larger than the 100-year event but would still be contained by our proposed freeboard zone.

13) On the Balsam Avenue Bridge, what measures will be considered to address issues of scour in the riverbed with containment of all flood waters within the dyke structures?

The bridge has been inspected numerous times since the 2013 flood. No evidence of potential failure of the bridge abutments has been noted. The proposed flood mitigation structure will be incorporated into the bridge tie in with upgraded rock size being installed leading up to, under, and downstream from the bridge to protect the bridge structure including the abutments. The proposed flood mitigation structure and armouring for the bridge will be continuous.

14) Balsam Avenue Bridge was struck by debris (trees, collapsed house) during the 2013 flood, is the bridge expected to perform to the same level as in 2013 under similar debris conditions?

The bridge has only one pier, resulting in spans of near 30m. These are relatively wide openings. Water velocity is over 5m per second with force capable of crushing/clearing most debris that could catch between these spans. It is possible that a debris flow could cause some partial plugging of the bridge span openings resulting in increased upstream water level, but the probability of this occurring is estimated to be very small.

As stated at the information session on February 28th, 2017, consideration should be given to a larger clean opening and/or increased height at such time as this bridge is replaced in the future, after it has served its useful life.

If you have any project related questions, please contact Rafeal Odie from Rocky View County at 403-520-7292 or by email at ROdie@rockyview.ca.