



## COUNCIL REPORT

To: Mayor and Council

Date: May 23, 2023

From: Paul Gipps, CAO

File No: 5225-05-07

Subject: **2017 Flood Recovery – Rock Ridge Phase II**

Report Prepared by: Trevor Paille, Engineering Technologist II

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### **RECOMMENDATION** to Consider and Resolve:

**THAT** Council direct staff to amend the 2023 Budget to include an additional two hundred twenty-seven thousand three hundred four dollars and ninety-five cents (\$227,304.95) in the 2017 Flood Recovery budget from the Reserve for Wildfire/Emergencies; and

**THAT** Council award the construction contract to Cabin Resources Management for eight hundred fifty-seven thousand three hundred sixteen dollars and ninety-one cents (\$857,316.91).

### **STRATEGIC AREA(S) OF FOCUS**

**Invest in Infrastructure** – We will invest in building, improving and maintaining infrastructure to meet the needs of, and to provide a high quality of life for, current and future generations.

**Foster Safety and Well-Being** – We will pursue through direct action, advocacy, and collaboration with local and regional service providers, investments in community health, needs-based housing, emergency preparedness, policing, and other services that foster safety and well-being in West Kelowna.

### **BACKGROUND**

The Central Okanagan received a large amount of snow in the late winter of 2016-2017. Normal snowmelt patterns were somewhat delayed due to a late, cold weather system. Heavy rains in March and April 2017 followed by an extreme storm cell system on May 4th and 5th caused ground saturation resulting in a change in surface flows and a deluge in local creek systems. A warming pattern that followed caused a rapid snowmelt that exceeded the ability to regulate lake levels, resulting in lakefront flooding.

As a result of this flooding, the City of West Kelowna identified 32 different recovery projects on Smith, McDougall and Powers Creeks, and other unnamed drainage ditches, and another 18 recovery projects on the shores of Okanagan Lake. Rock Ridge Park Phase II Recovery Project is the only outstanding project from this flooding event.

### **Disaster Financial Assistance Program**

Applicable Disaster and Emergency costs are divided into two categories, Response and Recovery. Through the Emergency Operations Centre, Response costs are repaid at 100%.

Recovery costs, administered through the Disaster Financial Assistance (DFA) Program, with the physical recovery being completed and managed by local government, are repaid at 80%. The local government is responsible for the remaining 20%. For projects to be eligible for funding through this Recovery Program, City staff completed an extensive condition review of the creeks and lakefront that posed a threat to City infrastructure and submitted a Recovery Plan to the Province for DFA consideration. This Recovery Plan was subsequently reviewed and approved in principle. The City then must complete technical assessments and cost estimate for further approval. Once approved, recovery work is undertaken, and close out reports detailing the as constructed works are summarized. The City then prepares a recovery claim and submits to the Province for repayment.

### **Rock Ridge Park Recovery Works**

An unnamed drainage channel flows through a forested area between Griffiths Place and Scott Crescent through Rock Ridge Park and across four private properties. High flows during the 2017 freshet event dislodged material from the bed and banks throughout the channel and blocked two stormwater culvert crossings. Recovery works restored the function of two blocked stormwater culvert crossings prior to the 2018 freshet. The close out report included a hazard assessment that highlighted a residual risk of flooding downstream from a failure of the unstable channel banks (see Table 1) that was not addressed with the first phase of recovery works. Phase II recovery works to reconstruct and stabilize the approximately 250m of degraded channel bed and banks were then added to the 2017 Flood Recovery Plan.

**Table 1: Phase I Closeout Report - Hazard Assessment Summary**

| Hazard                                                     | Risk                                                                                                                        | Risk Rating | Recommendation / Mitigation                                       | Residual Risk Rating |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------|----------------------|
| Flooding of Scott Crescent due blockage of culvert.        | Flooding of downslope residences particularly at night when the people are sleeping.<br>Water on Scott Crescent.            | High Risk   | Risk lowered by excavation of material blocking culvert entrance. | Low Risk             |
| Debris flow from failure of embankment at upstream culvert | Flooding of downslope residences particularly at night when the people are sleeping.<br>Water and debris on Scott Crescent. | High Risk   | Risk lowered by excavation of material blocking culvert entrance. | Low Risk             |
| Failure of channel banks causing a debris flow.            | Flooding downstream residents particularly at night when the people are sleeping.<br>Water and debris on Scott Crescent.    | High Risk   | Recommendation to reconstruct and stabilize channel to lower risk | High Risk            |

The following Figures 1 and 2 show photos of the channel condition since the Phase I recovery works were completed in 2018.



**Figure 1: Channel bed and banks have eroded to unstable conditions. (Photo: April 27, 2021)**



*Figure 2: Upstream (L) and downstream (R) views of the channel showing fallen trees. (Photo: March 29, 2023)*

## **DISCUSSION**

Phase II recovery works are designed to restore the drainage channel by reconstructing the channel bed and banks with erosion resistant materials and grade control boulder structures. Enhancements at the sanitary culvert crossing were also designed to reduce the risk to the sanitary main crossing. Enhancements include increasing the flow capacity with an additional culvert and installing an improved inlet structure.

Phase II design was completed in winter 2021 with construction planned for summer 2021 but was ultimately delayed due to homeowner concerns with property impacts. Homeowner concerns were resolved in spring 2022 and the construction tender was prepared for summer 2022.

The tender for the Phase II construction contract closed on August 19<sup>th</sup>, 2022, with only one bid received for \$980,321.81. Negotiations with the bidder, Cabin Resource Management, reduced the proposed contract price to \$857,316.91; a reduction of \$123,004.90 that is centered around water and traffic management plans.

Prior to tendering, the engineering consultant had estimated a total construction cost of \$466,550. The difference between the estimate and received bid is attributed to the following factors:

- Limited contractor interest in the bid opportunity due to specialized work and a summer tender.
- Use of smaller equipment due to challenging site access requires increased machine hours.
- Increased construction timeline from 8 to 11 weeks due to the use of smaller equipment.

An amendment to the DFA Cost Recovery Plan has been approved by the Province to accommodate the increased tender cost.

Construction of the Phase II recovery works is anticipated to be completed this summer following freshet.

## FINANCIAL IMPLICATIONS

Enhancements to damaged infrastructure from its pre-event functionality are considered non-recoverable by the Province and are not eligible for cost recovery. Table 2 breaks down the total recoverable and non-recoverable costs of the project's contract works.

*Table 2: Rock Ridge Phase II Project Costs - Total Recoverable vs. Non-recoverable Costs*

|                            | Recoverable           | Non-recoverable |
|----------------------------|-----------------------|-----------------|
| Construction Contract      | \$776,458.50          | \$80,858.41     |
| Engineering/Contract Admin | \$176,121.59          | \$10,769.76     |
| Contingency (10%)          | \$104,420.83          | -               |
| Subtotal                   | \$1,057,000.92        | \$91,628.17     |
| <b>Total</b>               | <b>\$1,148,629.09</b> |                 |

Within the DFA program, project costs are repaid at 80% for eligible recovery works while the City is solely responsible for the costs of non-recoverable enhancements as well as 20% of the eligible recovery works. Table 3 summarizes the project's funding allocations.

*Table 3: Rock Ridge Phase II Project Funding - CWK vs. DFA*

|                   | Project Cost           | DFA Recoverable      | CWK Portion          |
|-------------------|------------------------|----------------------|----------------------|
| Non-recoverable   | \$ 91,628.17           | \$ -                 | \$ 91,628.17         |
| Recoverable @ 80% | \$1,057,000.92         | \$ 845,600.73        | \$ 211,400.18        |
| <b>Total</b>      | <b>\$ 1,148,629.09</b> | <b>\$ 845,600.73</b> | <b>\$ 303,028.35</b> |

The Province will contribute up to a total of \$845,600.73 to the project through the DFA program.

Council has previously approved a total budget of \$1,390,107.80 (20% of \$6,950,539) for all projects in the 2017 Flood Recovery Plan funded from Capital and Gas Tax reserves. Table 4 summarizes the current standing of the 2017 Flood Recovery Plan budget.

*Table 4: 2017 Flood Recovery Budget Summary*

|                                  |                  |
|----------------------------------|------------------|
| Total CWK Approved Budget @ 100% | \$ 6,950,539.00  |
|                                  |                  |
| CWK 20% funding approved         | \$ 1,390,107.80  |
| CWK funded amount to date        | -\$ 1,250,195.74 |
| Denied amount by EMBC            | -\$ 64,188.66    |
| Remaining balance                | \$ 75,723.40     |

Rock Ridge Phase II – Channel Recovery is the final project included in the 2017 Flood Recovery Plan and the remaining budget is insufficient for the tender award. The 2017 Flood Recovery Project has a remaining budget of \$75,723.40 (Table 4) and requires \$303,028.36 (Table 3) to fund the remaining works. The funding gap of \$227,304.95 is proposed to be sourced from the Reserve for Wildfire/Emergencies.

## CONCLUSION

Council’s Purchasing Policy requires approval from Council to award when only one bid is received on public tenders or when the purchase commitment is not within the annual City budget approved by Council. Therefore, Council’s authority is required to proceed with an award. The recommended motion for Council is to increase the project funding and award the contract to Cabin Resource Management for the revised tender price.

## COUNCIL REPORT / RESOLUTION HISTORY

| Date       | Report Topic / Resolution                                                                                                                                                                                                                                                    | Resolution No. |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 2018-05-08 | <p>THAT Council amend the 2018-2027 Financial Plan to authorize the additional expenditures of \$1,697,391; and</p> <p>THAT the expenses be funded from Provincial Grants of \$1,357,913 and \$339,478 from reserves for future expenditures.</p> <p>CARRIED UNANIMOUSLY</p> | <b>C232/18</b> |
| 2017-11-14 | <p>THAT Council amend the 2017 – 2026 Financial Plan to authorize the capital expenditure of \$550,000; and,</p> <p>THAT the capital be funded from Capital Reserve in the amount of \$110,000 and \$440,000 from recoverable from the Province of BC; and,</p>              | <b>C529/17</b> |

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THAT Council amend the 2017 – 2026 Financial Plan to authorize the operational expenditure of \$2,299,524; and,

THAT the operational work be funded from Reserves for Future Expenditures in the amount of \$459,905 and \$1,839,619 from recoverable from the Province of BC; and,

THAT Council direct staff to include the \$2,393,624 in the 2018 – 2027 Financial Plan.

CARRIED UNANIMOUSLY

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**REVIEWED BY**

Rob Hillis, Engineering Manager

Allen Fillion, Director of Engineering and Operations

Lisa Siavashi, Financial Services Manager / Deputy CFO

Corinne Boback, Legislative Services Manager / Corporate Officer

**APPROVED FOR THE AGENDA BY**

Paul Gipps, CAO

Powerpoint: Yes  No