

Report to Council



Date: August 22, 2022
To: Council
From: City Manager
Subject: Knox Mountain Geotechnical Engineering Project Budget
Department: Utility Services

Recommendation:

THAT Council receives for information, the report from Utility Services dated August 22, 2022, regarding budget required for the Knox Mountain Geotechnical Engineering Project;

AND THAT the 2022 Financial Plan be amended to include the addition of \$2,600,000 to the Knox Mountain Geotechnical Engineering Project with Funding of \$1,850,000 from the Slope Stability Reserve, and \$750,000 from the Community Works Fund Reserve as noted in the Financial/Budgetary Considerations section below.

Purpose:

To allocate the appropriate budget required for the Knox Mountain Geotechnical Project to meet financial requirements to commence the works in 2022.

Background:

Between 2020 and 2022, Council approved \$2,750,000 of funding towards the rehabilitation of a slope failure above 930 Bay Avenue (Knox Mountain Metals) that potentially impacted both that property and buried utilities along Royal View Avenue above. A consultant team was engaged through a competitive process to complete a preliminary design, detailed design and bid package for a geotechnical solution to mitigate this problem and to improve public safety. All project components were to be constructed on public lands.

In 2022, the project Consultant completed their preliminary design and provided an estimated cost of final design and construction at approximately \$6,000,000 to meet City scope objectives. Staff became concerned during the design review and identified significant construction and inflationary risks that could result in even higher construction costs. Key concerns were the quantity of earthworks and waste materials handling, as well as an uncertainty of being able to secure the specialized contractors necessary to complete this complex type of work. It was felt that to better control costs, that the City directly engage a design-build contractor specializing in this type of work in the hopes of obtaining an equivalent technical solution at a lower cost and with a better mitigation of construction risks.

In early spring 2022, staff conducted a value review with GSI International, a reputable and well-known design-build contractor of similar type geotechnical solutions. This contractor reviewed the quantities, cost estimate and other construction risks of concern of the proposed original design. This contractor subsequently presented an alternative design and construction package resulting in a lower construction cost of \$4,830,000 with a high degree of accuracy of that estimate.

Staff have reviewed the alternate solution and now feel confident that the solution will lead to better cost management, and meet our construction timing concerns. To meet the project requirements while incorporating ongoing construction inflation, completion of ancillary testing and contingency for potential scope items and funding staff costs, staff are requesting \$2,600,000 of budget to allocated to complete the project (refer to Tables 1 and 2).

Discussion:

The current project budget requires funding before staff can proceed with an award of a construction services contract. Staff recognize that this project is complicated both technically and legally. The City recognizes this opportunity to achieve a viable solution after years of monitoring, investigations, studies and reports. The project and cost estimate as proposed are exposed to the current inflationary conditions of the heavy construction industry. Further delay in project delivery would likely result in higher costs. Staff have determined this to be the best path forward.

Financial/Budgetary Considerations

Delays and deferrals of other capital projects in 2022 have resulted in sufficient capital funding to be in place for the recommended project timing. Tables 1 and 2 below summarize the estimated budget amendment requirements:

Table 1. Cost Estimate and Budget Shortfall

Item	Amount	Notes
Expenditures to Date	\$520,000	Geotechnical Investigation, Instrumentation Installation, Monitoring and Reporting, Solution Development, Preliminary Design and Cost Estimating
Projected Construction Cost	\$4,316,000	Design-Build Estimate – GSI International
Contingency & Administration	\$514,000	Applied 10% + administrative costs
Updated Project Cost	\$5,350,000	
Original Budget	(\$2,750,000)	From 2020, 2021 and 2022 Financial Plans
Shortfall	\$2,600,000	

Table 2. Funding Sources

Item	Amount	Notes
Slope Stability Reserve - R058	\$1,850,000	Reserve funds specific to these types of projects
Community Works Fund Reserve R837	\$750,000	Advanced from 2023 in the 10 Year Capital Plan
Total	\$2,600,000	

Conclusion:

By increasing the project's budget as proposed in this report, City staff will be able to initiate a Notice of Intent process to award final design and construction services, and move forward with the purchasing and construction phases of project delivery. Construction on the project is possible to commence in the fall 2022 and be completed by summer 2023.

Internal Circulation:

Community Engagement
Financial Planning
Infrastructure Delivery
Capital Planning & Asset Management
Risk Management
Purchasing

Considerations not applicable to this report:

Alternate Recommendation
Communications Comments
Legal/Statutory Authority
Existing Policy
External Agency/Public Comments
Personnel Implications

Submitted by: R. MacLean, Utility Planning Manager

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cc: Acting Divisional Director, Financial Services
City Clerk