



## Village of Fruitvale

### Kelly Creek Dam Reservoir Slope Restoration

Fruitvale, BC

Scope of Work

#### Civil Works

**BBA Document No. / Rev.:** 7857003-000000-41-ESW-0001-R00

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**FINAL**

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## 1. Introduction

BBA Field Services Ltd. (BBA) has been retained by the Village of Fruitvale (the Village) to provide engineering support for completing a slope remediation earthworks project located at the Village's Kelly Creek reservoir. The slope remediation design was completed by BBA in 2023. As part of the 2024 engineering scope, BBA is providing support to the Village in procuring a contractor to complete the construction works for the Kelly Creek reservoir slope restoration. Previously BBA had been supporting the Village in completing a dam safety inspection of the Kelly Creek dam infrastructures.

An approximately 10-meter-wide section of the Kelly Creek reservoir bank located near the left abutment of the concrete dam was identified as a potential future slope instability hazard due to the steep slope and the high erosion potential of the granular surface slope soils. BBA's design is detailed in BBA drawing no 7857001-000000-41-D20-0001-R0. The design generally includes re-grading the slope and the placement of granular filter bedding, TECCO wire mesh, and riprap on the surface of the slope.

The purpose of this document is to provide a reference scope of work (SOW) for the Kelly Creek slope restoration works (the Work) based on the design. The following sections detail the contractor's responsibilities to construct slope restoration works.

### 1.1. Definitions

<b>Client:</b>	Refers to the Village of Fruitvale (The Village)
<b>Client's Representative or Engineer:</b>	Refers to BBA or Engineer of Record
<b>Contractor:</b>	Refers to the construction Company that has entered into an agreement with the Client to execute construction work on site
<b>Subcontractor:</b>	Refers to the company that has entered into an agreement with the Contractor to provide goods and services
<b>Work:</b>	All activities, methods, materials, processes, plans, requirements, and other descriptions outlined in this Scope of Work and in associated documentation and drawings pertaining to this project

### 1.2. Conflicting requirements

All clarifications and discussions between the Client, the Client's Representative/Engineer, and the Contractor must be documented in writing. The Contractor must assume the risks in



execution of any work if clarification or confirmation has not been obtained by writing, in advance, from the Client or the Client's Representative.

### **1.3. Work package documents**

1. 7857003-000000-41-ESW-0001
2. 7857001-000000-41-D20-0001-R0

## **2. General requirements**

### **2.1. General**

The Contractor and Subcontractors are responsible for the provision of all materials and equipment necessary to perform the work. Material and equipment used to complete the work shall be as outlined in Section 4 and per design drawings or, if not noted, shall be at the discretion of the Contractor and/or Subcontractor and subject to approval by the Engineer and the Client's Representative.

The Contractor is responsible for dimensions in the field and in fabrication to suit and shall measure and control the production of work on site and elsewhere to fulfill the intent of this work plan and associated drawings.

The Contractor is responsible for the quality of work and workmanship to achieve the full intent of this work plan and associated drawings. Any inadequate or incorrect work shall be removed and replaced at the Contractor's expense.

All cleanup and removal of waste materials is the responsibility of the Contractor and/or Subcontractor. Upon completion of work, all remnants, waste, and spatter shall be removed, and all areas of construction must be returned to a reasonable level of cleanliness.

### **2.2. Units of measurement**

All calculations must be shown using the International System of Units (SI). All dimensions shown on drawings, technical files, and measurement scales must be in SI units.



### **3. Battery limits**

The work limits are as shown on the drawing and as specified in the contractual documents.

### **4. Work included**

The Work includes, but is not limited to, site management, supervision, surveying, supplying labour, materials, and equipment and quality control and testing services required to complete the work, unless where indicated "as supplied by others".

The Work to be performed under this contract must be performed in accordance with the specification and drawing included with this document.

It is the responsibility of the Contractor to perform dimensional checks and provide final and accurate measurements to ensure the slope restoration will integrate seamlessly with the existing slope and meet the requirements of the design.

This scope of work, special conditions, general conditions, detailed specifications, technical documents, and drawings are interrelated. Any element displayed on a single document or drawing, but not explicitly specified on another, is interpreted as part of the set of documents or drawings.

#### **4.1. Submittal of documentation**

The Contractor must provide the required documentation according to the contractual documents.

At least two (2) weeks prior to the beginning of the work, the Contractor must submit for approval, and without limitations, the following documents:

- Construction schedule
- Construction plan
- Inspection test plan (ITP)
- TECCO Mesh data sheet
- Gradation figures for backfilling materials



## 4.2. Description of work included

The Work involves re-grading a portion of the existing reservoir slope and installing granular filter bedding material, wire mesh, and rip rap to protect the area from further erosion. The Work has been broken down into the following stages:

### Stage 1 – Pre-construction

1. Contractor to provide a schedule for the Work to the Client's Representative for review.
2. Contractor to perform site work to measure, confirm, and record final measurements of the existing reservoir slope.
3. Contractor to provide a work plan outlining methods and equipment proposed for use to complete the work.
3. The contractor is to provide an inspection test plan (ITP) to support the work.
4. Contractor to provide final measurements to the Engineer for review and approval prior to initiating construction.

### Stage 2 – Construction

The Contractor shall also submit daily the results of on-site testing during construction as well as all quality control laboratory testing results.

1. Topsoil, vegetation cover, and debris removal:
  - a) Remove organic matter as encountered.
  - b) Temporarily stockpile organic material, ensuring safe piling and preventing runoff into the reservoir.
  - c) Load, transport, and unload excavated materials for reuse or disposal according to the material/soil management section of this document.
2. Earthworks excavation:
  - a) Conduct earth excavations and regarding of the subgrade elevations and slope grades indicated on the drawing.
  - b) Excavate the lock block keyway. Consider safe temporary slope for the keyway trench.
  - c) Load, transport, and unload excavated materials for reuse or disposal according to the material/soil management section of this document.
3. Excavation surface compaction and backfilling with filter bedding:
  - a) Nominally compact the excavation surface below the lock block keyway and the TECCO mesh area.
  - b) Place granular filter bedding in 200 mm thickness where required in the drawing.





4. Installation of TECCO mesh and placement of riprap:
  - a) Install TECCO mesh with anchoring to the lock block keyway.
  - b) Anchor the TECCO mesh to the lock blocks as specified in the IFC drawing.
5. Placement of riprap:
  - a) Place riprap in 250 mm thickness across the mesh area.
6. Materials/soil management:
  - a) Load, transport, and unload reusable excavated soils from sorted stockpiles for backfill where required.
  - b) Load, transport, unload, and stockpile non-reusable or surplus excavated soils and blasted rock to a designated area on site for off-site disposal.
7. Final grading:
  - a) Grade the finished surfaces as defined in the drawing.
8. Site cleaning:
  - a) Once the work is completed, transport and dispose of surplus materials surplus that cannot be reused as fill, backfill, levelling material, or landscaping, as well as any debris, according to the current laws and jurisdiction. Restore any disturbed surfaces to their initial state before work started.

## For all other work

The Contractor is to provide a plan and references for the following:

1. Water management (surface and underground) and erosion control plan
2. Granular materials sieve analyses and intrinsic properties
3. TECCO wire mesh data sheet

### 4.3. Hold points for engineering inspections

Hold points for engineering inspections are required after the completion of the following works:

1. Earthworks excavation to the underside of the filter bedding
2. Placement of filter bedding (prior to riprap placement and TECCO wire mesh installation)
3. Following installation of the TECCO wire mesh and prior to placement of riprap
4. Final inspection prior to contractor demobilization

Approval by the Engineer of Record (EOR) is required following each Hold point in order to proceed with the subsequent construction steps.



## 5. Limitations

The Contractor shall review the proposed scope of work and notify the Client of any foreseeable constraints that may adversely affect the project schedules or budget.

The Contractor understands and accepts that the following site and operational constraints may exist or occur and shall notify the Client of potential changes in budget costs:

1. Unforeseen changes in weather and site conditions may occur during the work, requiring standby time.
2. Other work scheduled in this area or nearby may conflict with mobility or access, thus scheduling should be reviewed and adjusted accordingly.
3. Process related hazards may exist or arise and could prevent access or cause delays.



## Appendix A: Construction Drawing