

**APPENDIX C**

# Sediment Volume Calculations from Geotube<sup>®</sup> Bags





# Kope Drain Road (CS1) - 7 January, 2019

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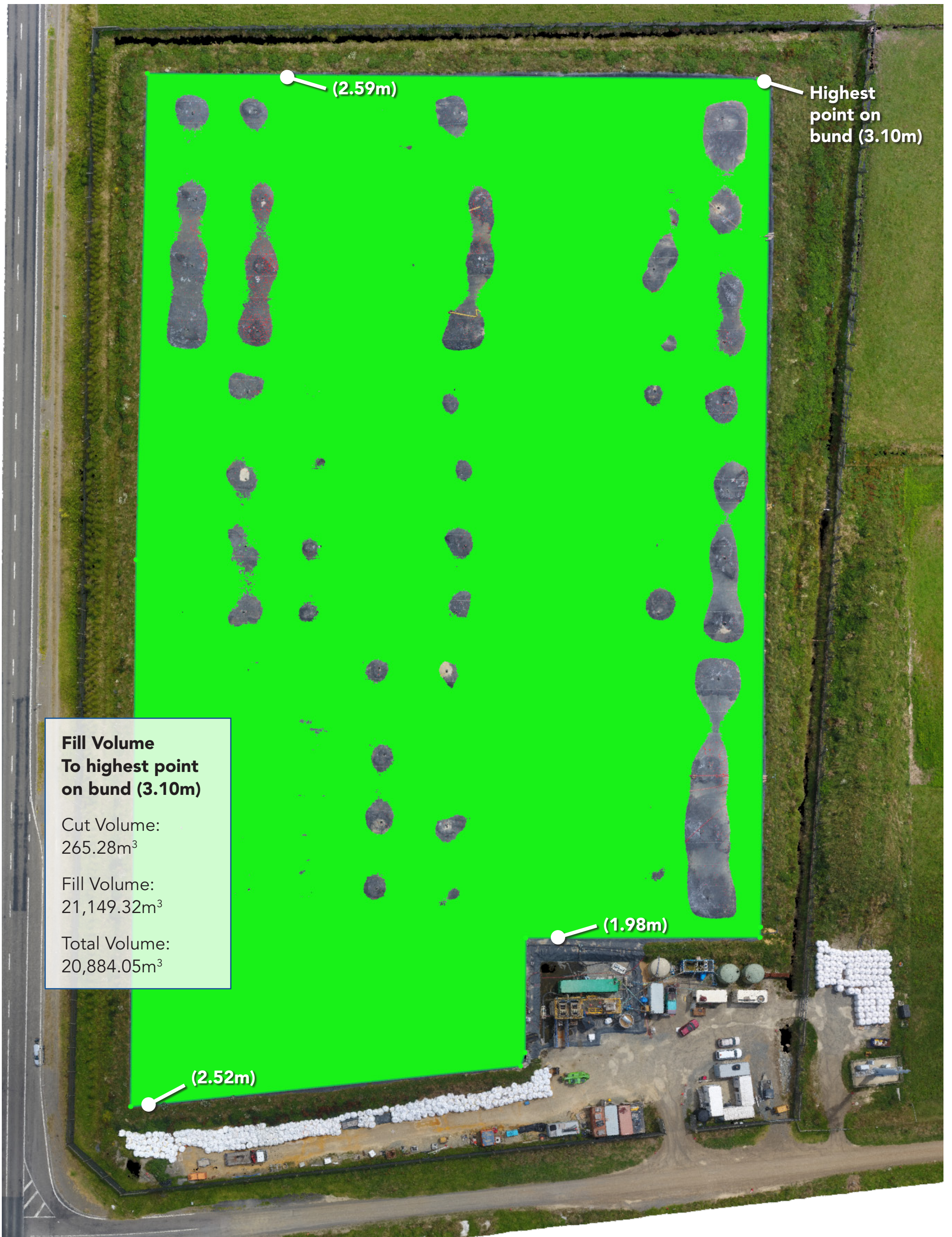




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**Fill Volume  
Triangulated to  
various heights  
on bund**

Cut Volume:  
2826.98m<sup>3</sup>

Fill Volume:  
10,597.15m<sup>3</sup>

Total Volume:  
7,770.17m<sup>3</sup>

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**Sediment area  
approximately  
25mm deep**

Surface Area:  
1360m<sup>2</sup>

Approximate  
Sediment Volume:  
34m<sup>3</sup>

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**AUGUST 2019**

### **Kope Canal Containment Site 3**

#### **FLIGHT SPECS:**

Dan flew the Drone over the Geo Bags using the following specifications: DJI Matrice 210 v2 flown at an altitude of 35m above ground level. Overlap of images was set to 80/80. Flight control using DJI Pilot.

#### **METHODOLOGY:**

Imagery and surfaces were generated using Pix4D. The calculations for volume were processed using the DSM processed in Pix4D.

This process uses the **Cut/Fill** Geo-processing tool in Pix4D to calculate the volume. Cut/Fill is a procedure in which the elevation of a landform surface is modified by the removal or addition of surface material.

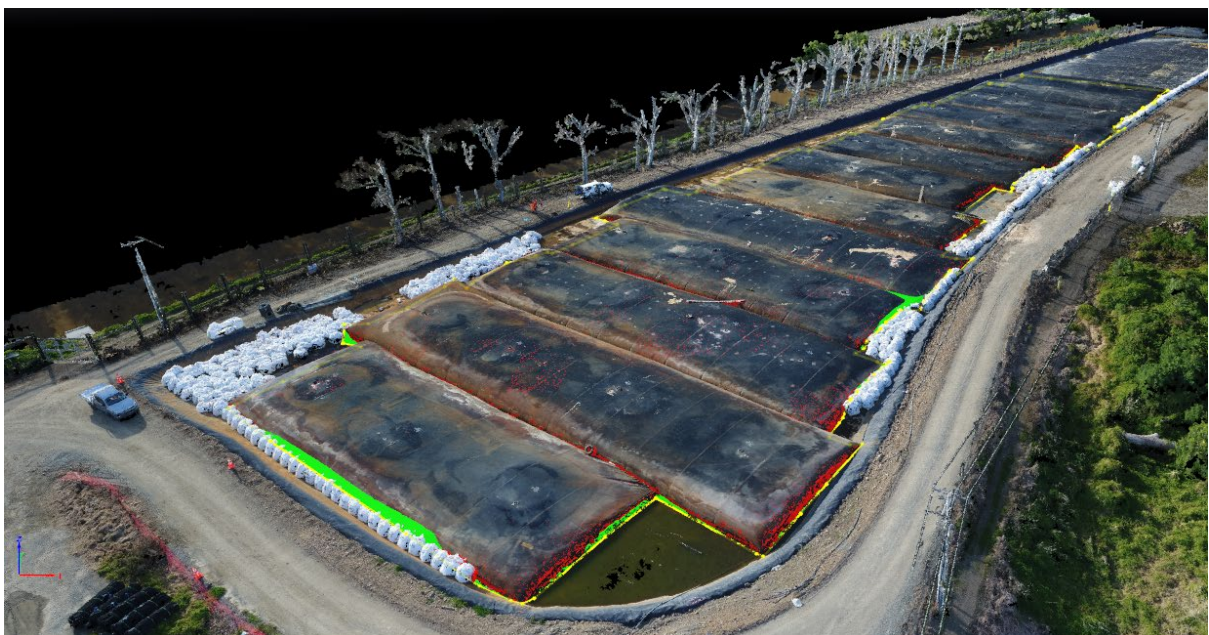
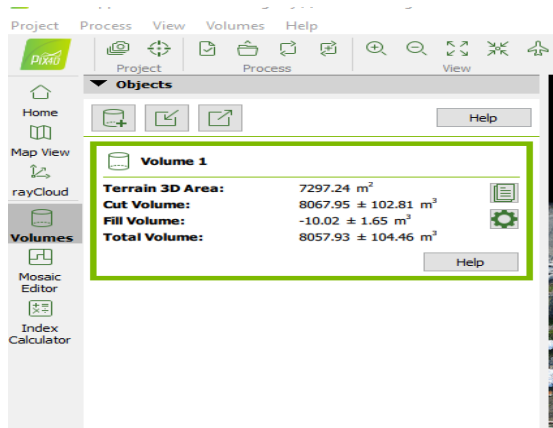
Base surface settings allows to select the base plane for the volume calculation. In this case, it is recommended to select the **Triangulated** option for the base surface. This option is recommended especially when the terrain around the volume is not flat and the entire boundary is visible.

### **The results from the flights:**

	Bags 1-13	Bags 14-16
Flight 1: 08/08 at 2:58 pm	8057.83 m <sup>3</sup> ± 104.46 m <sup>3</sup>	
Flight 2: 28/08 at 2:58 pm		1935.28 ± 27.12 m <sup>3</sup>



## FLIGHT 1





## FLIGHT 2

