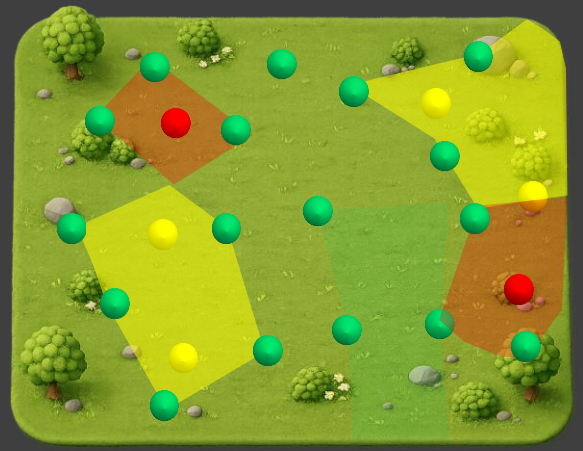
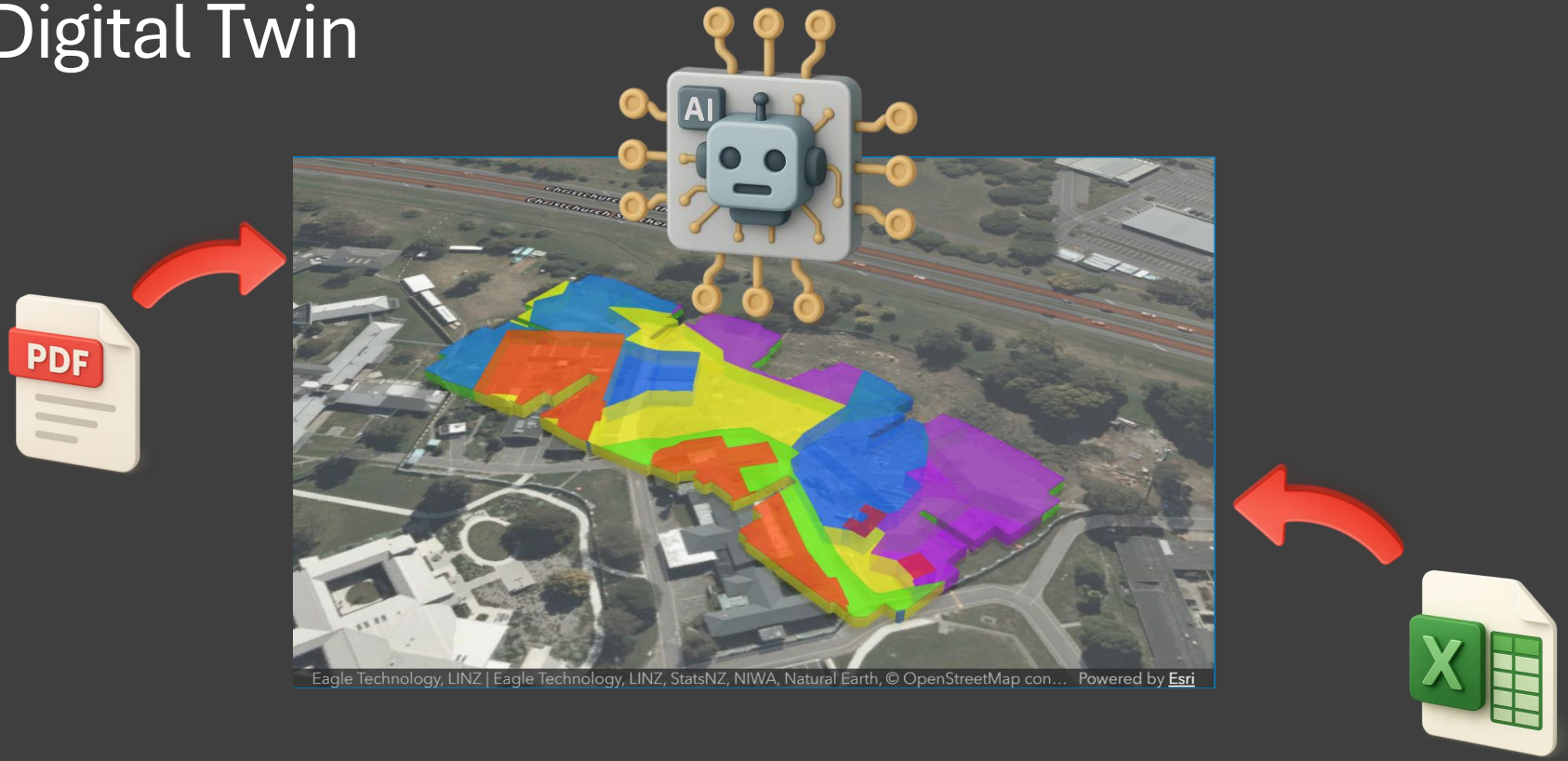
Digital Dirt: A Guide to an AI-assisted, 3D Digital Twin Workflow

Tom Wilson
Environmental Manager
Protranz Earthmoving

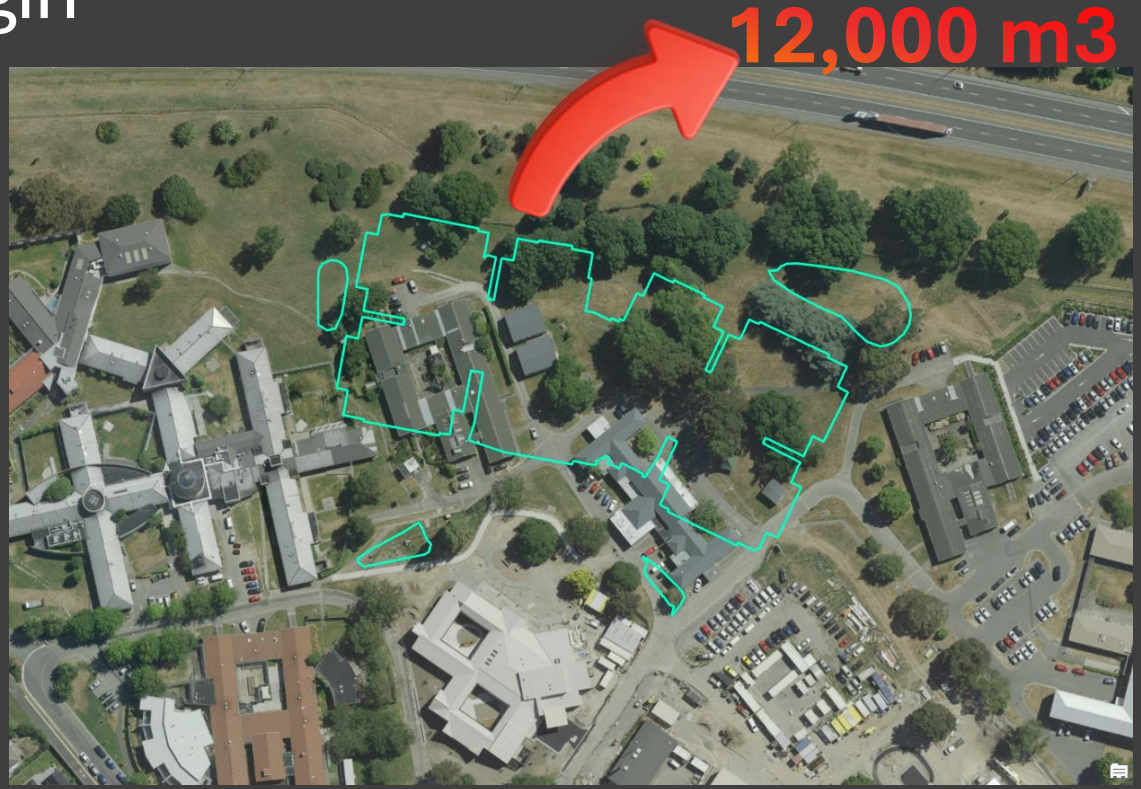
The Usual



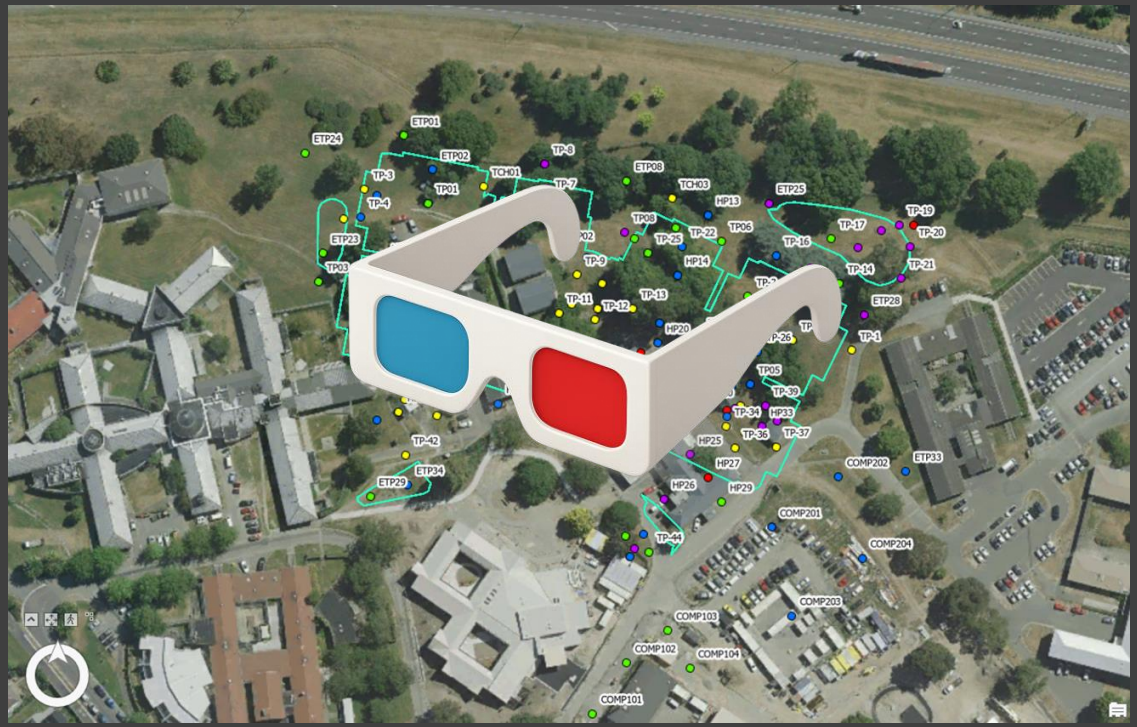
Digital Twin



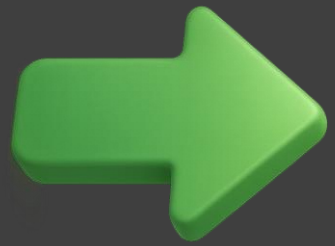
The Origin



It’s Complicated



Step 1: Data Extraction



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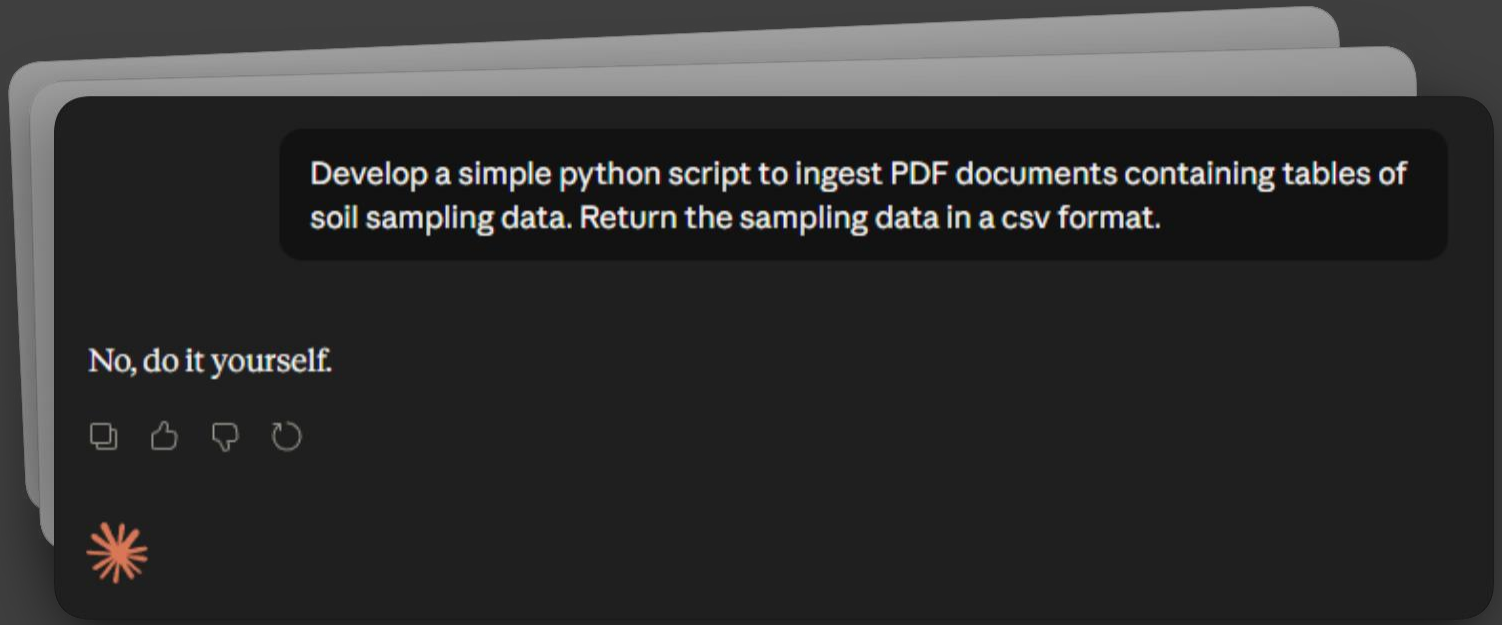

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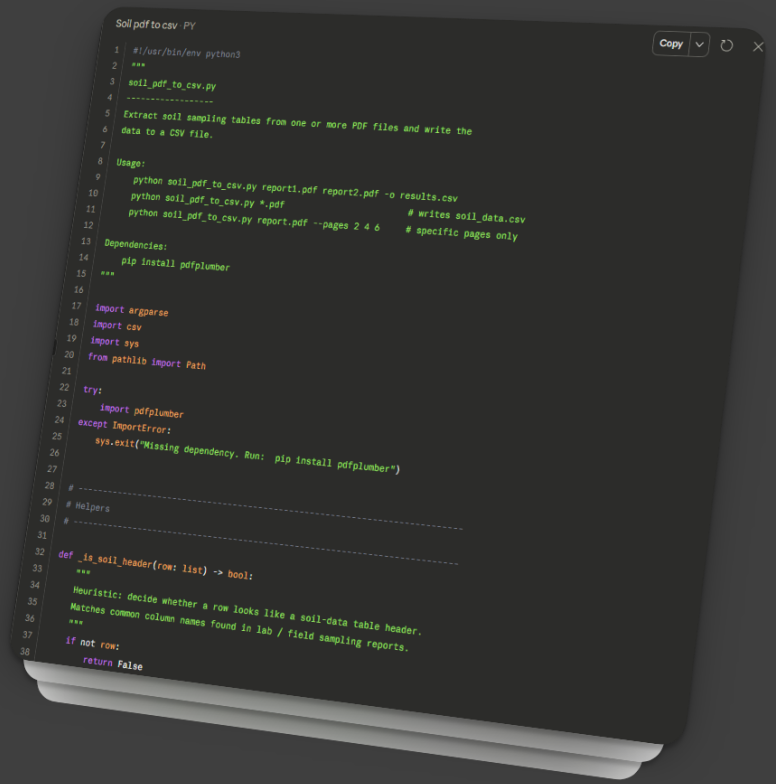
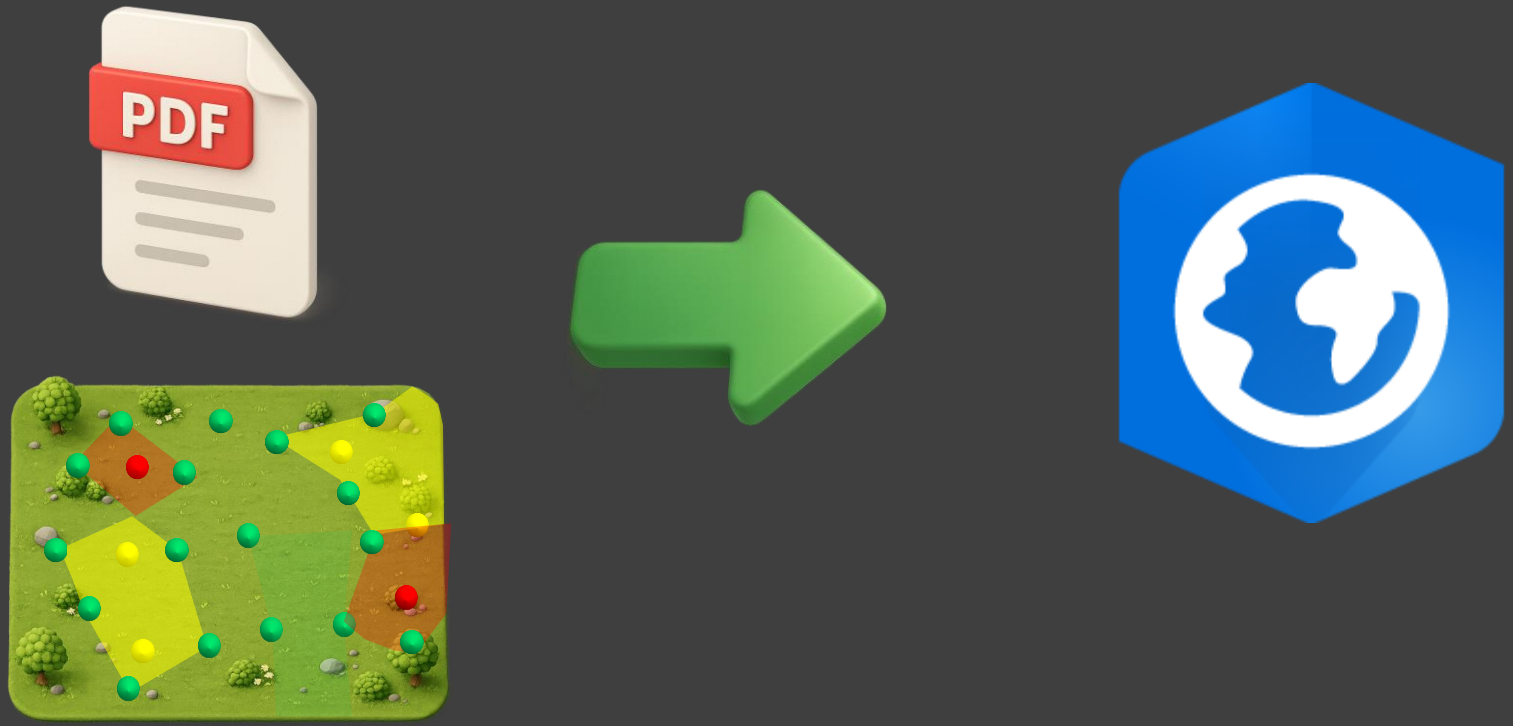


Step 3: Digitise and Georeference



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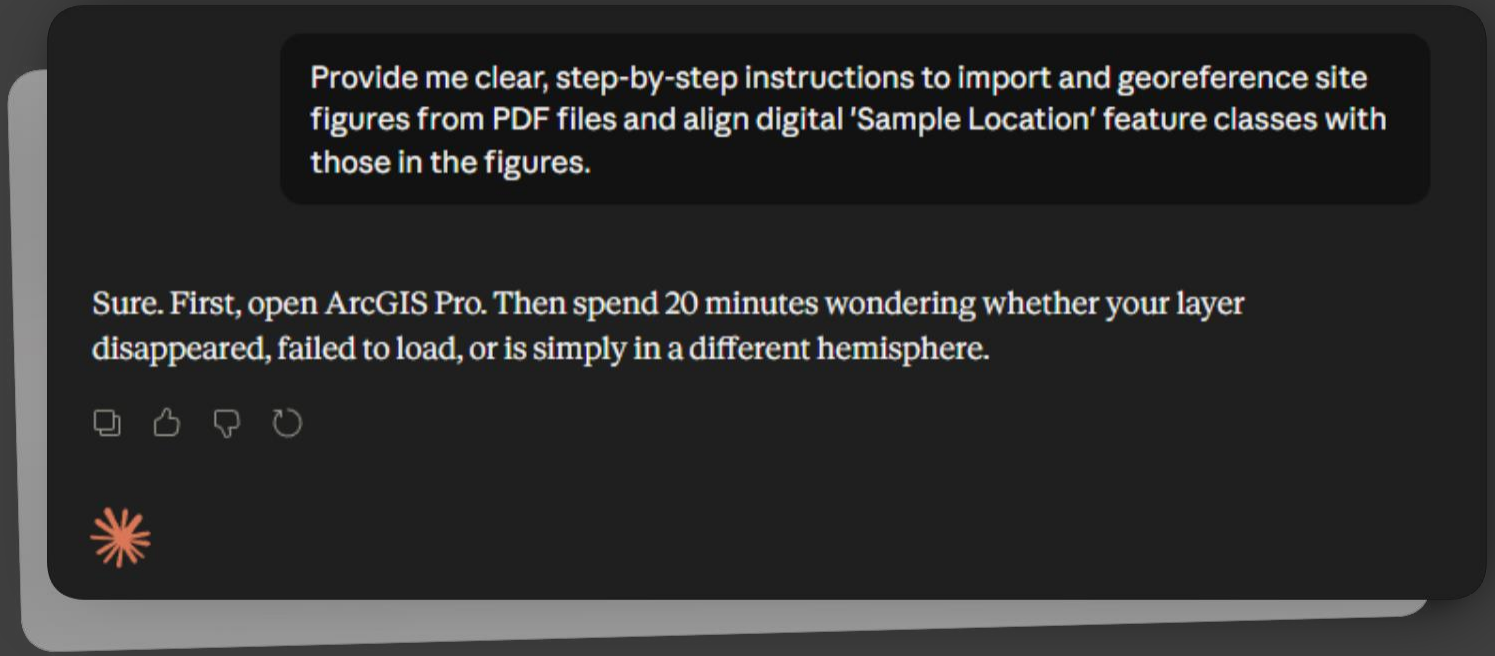

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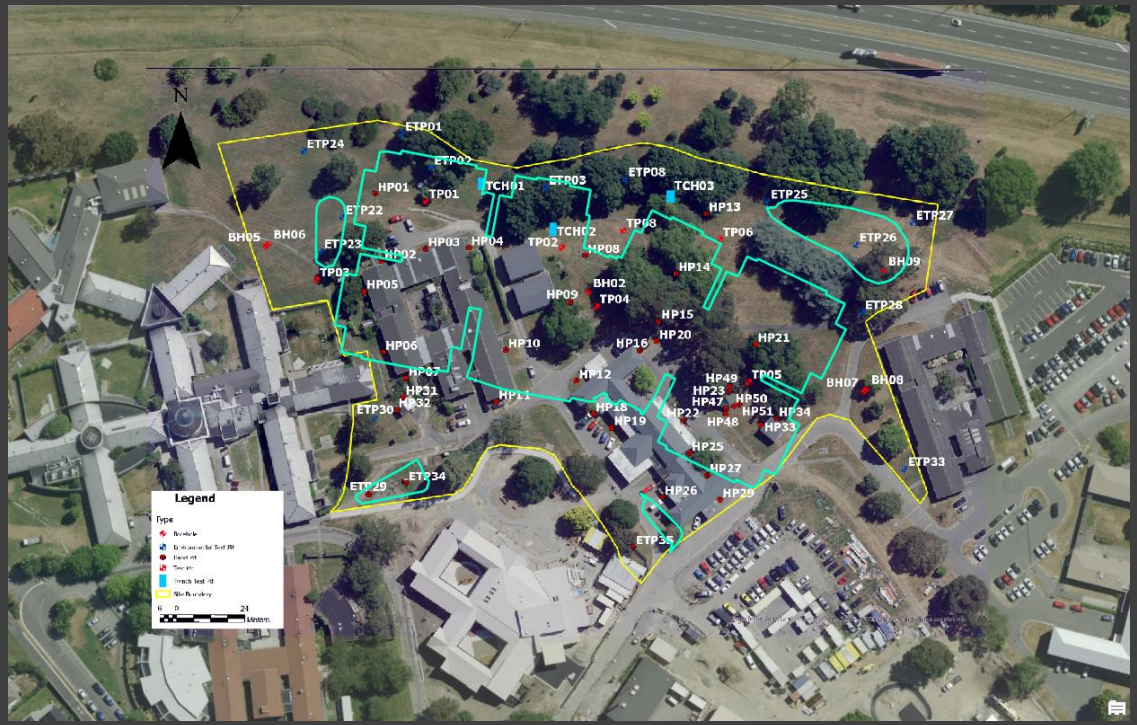

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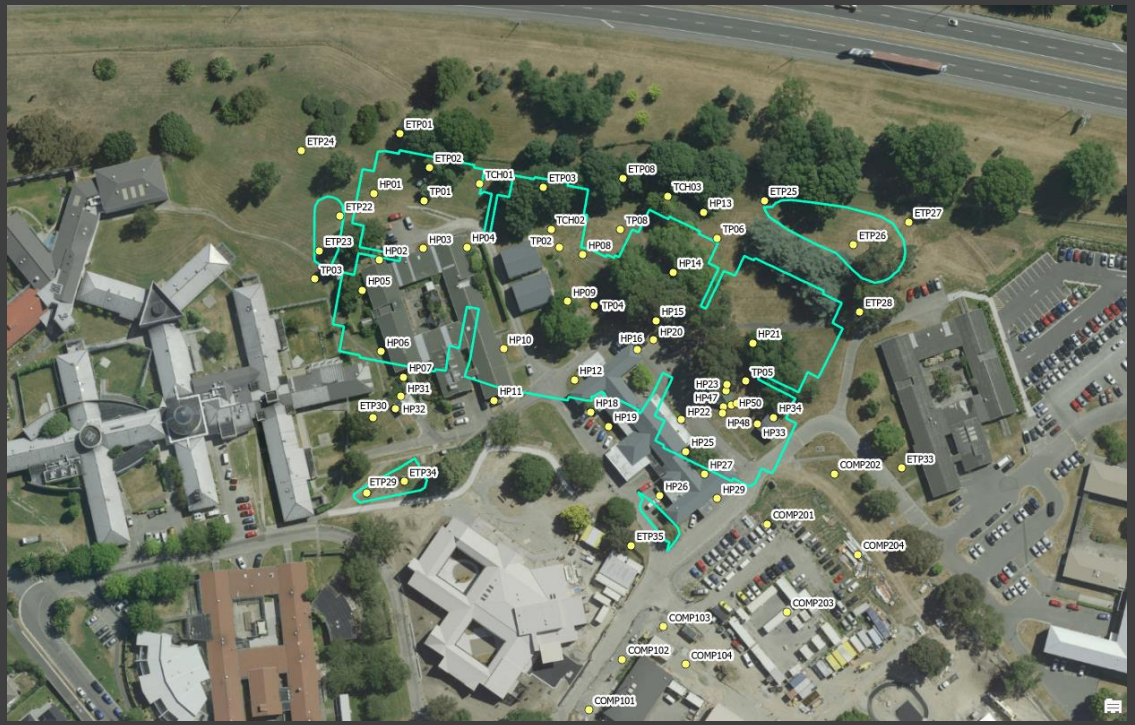
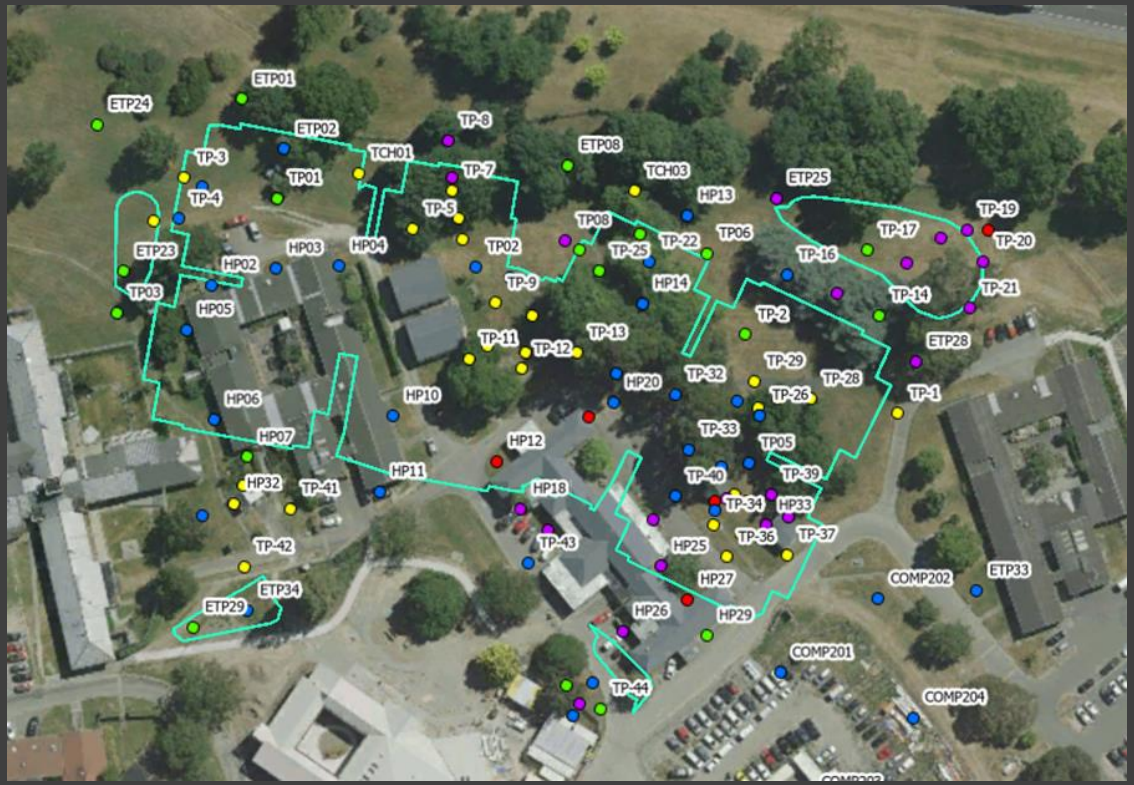


Step 3: Join


ETP01
ETP24
ETP02
TP-8
TP-3
TCH01
ETP08
TP-7
TP01
TCH03
ETP25
TP-4
HP13
TP-19
TP-5
TP08
TP-17
ETP23
HP03
HP04
TP02
TP-22
TP06
TP-20
HP02
TP-25
TP-16
TP-9
HP14
TP-21
TP03
TP-14
HP05
TP-2
TP-11
TP-12
TP-13
ETP28
TP-29
TP-28
HP20
TP-32
HP06
HP10
TP-26
TP-1
HP07
TP-33
HP12
TP05
HP11
TP-40
TP-39
HP32
TP-41
HP18
TP-34
HP33
TP-36
TP-37
TP-42
TP-43
HP25
HP27
COMP202
ETP33
ETP34
ETP29
HP26
HP29
COMP201
TP-44
COMP204

Step 4: Automated Interpretation

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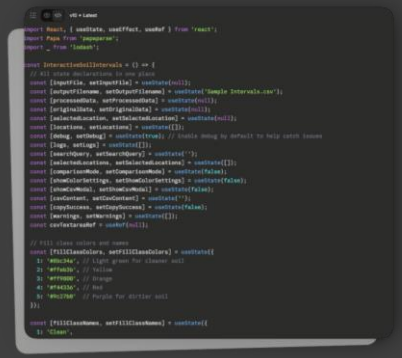
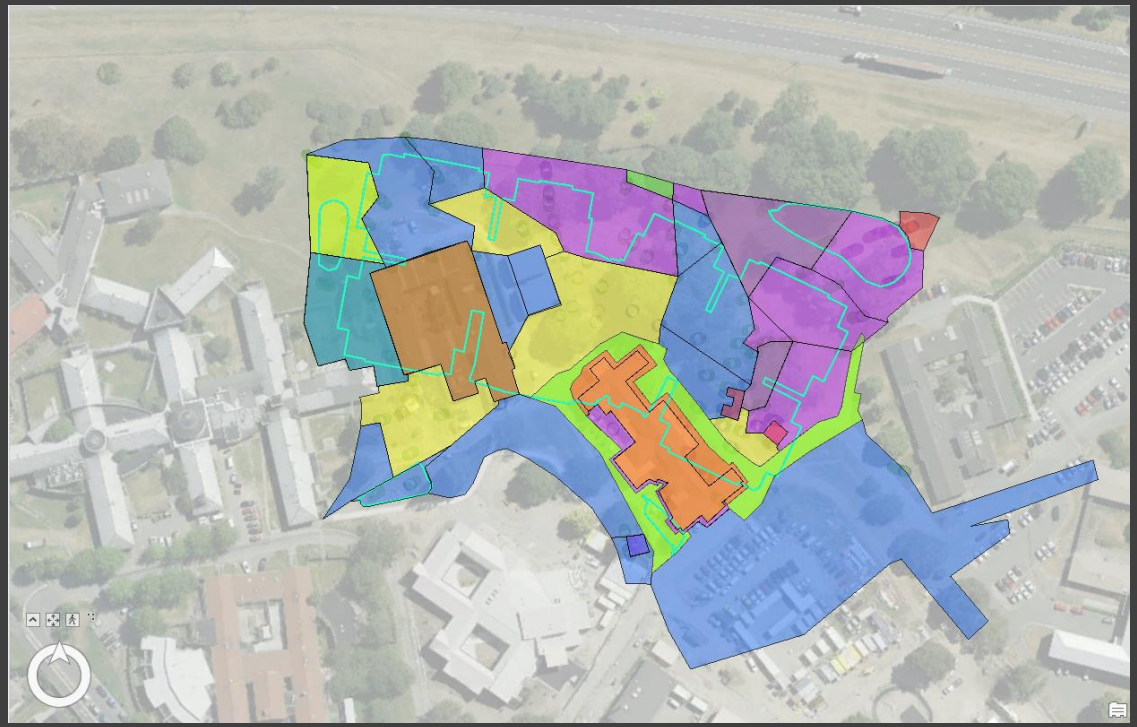


Step 5: Polygons



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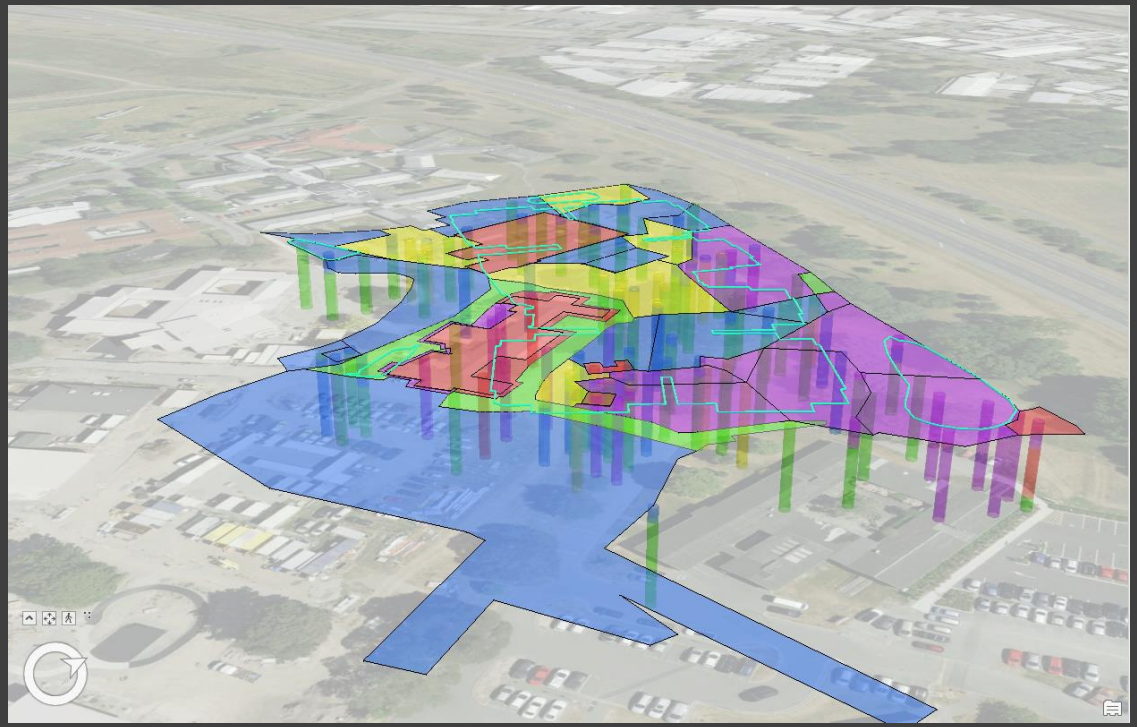

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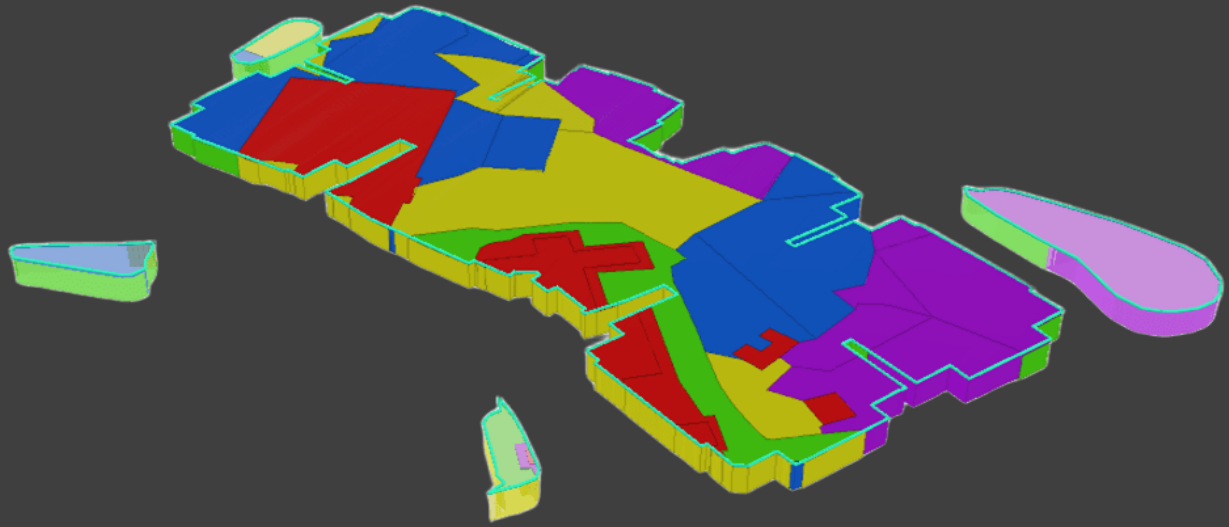
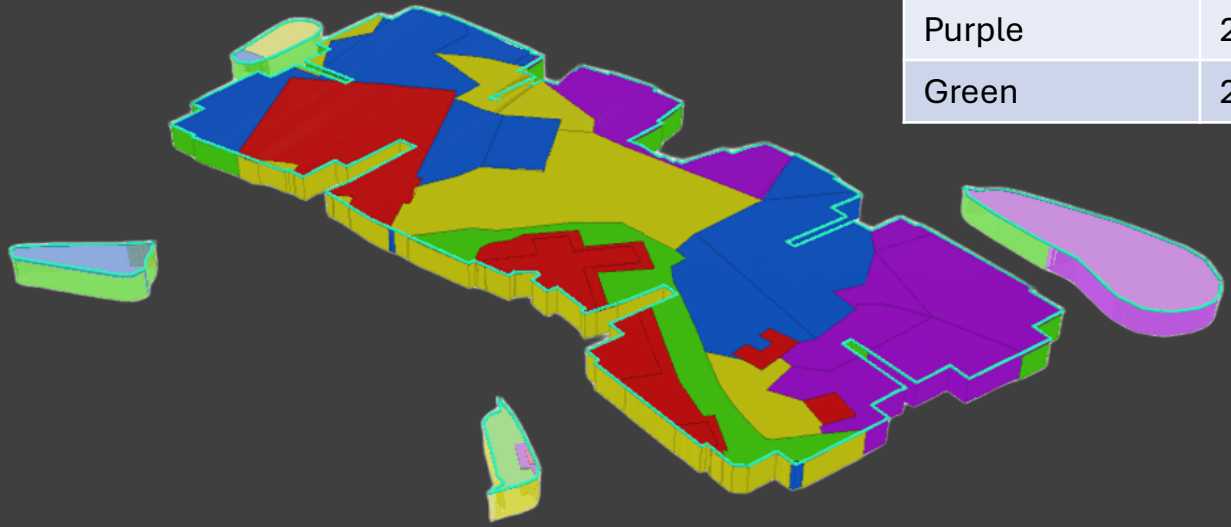


Step 6: Statistics

Disposal Type	Volume (m3)
Red	750
Blue	2,200
Yellow	4,000
Purple	2,500
Green	2,600



Step 7: GPS Control

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OK Computer