

IN THE MATTER of the Resource Management Act 1991
AND
IN THE MATTER of Proposed Plan Change 83 to Wellington City District Plan

26 November
2018
— Rev B

Figures attached to the evidence of Gavin Lister

Isthmus.



**Land.
People.
Culture.
Isthmus.**

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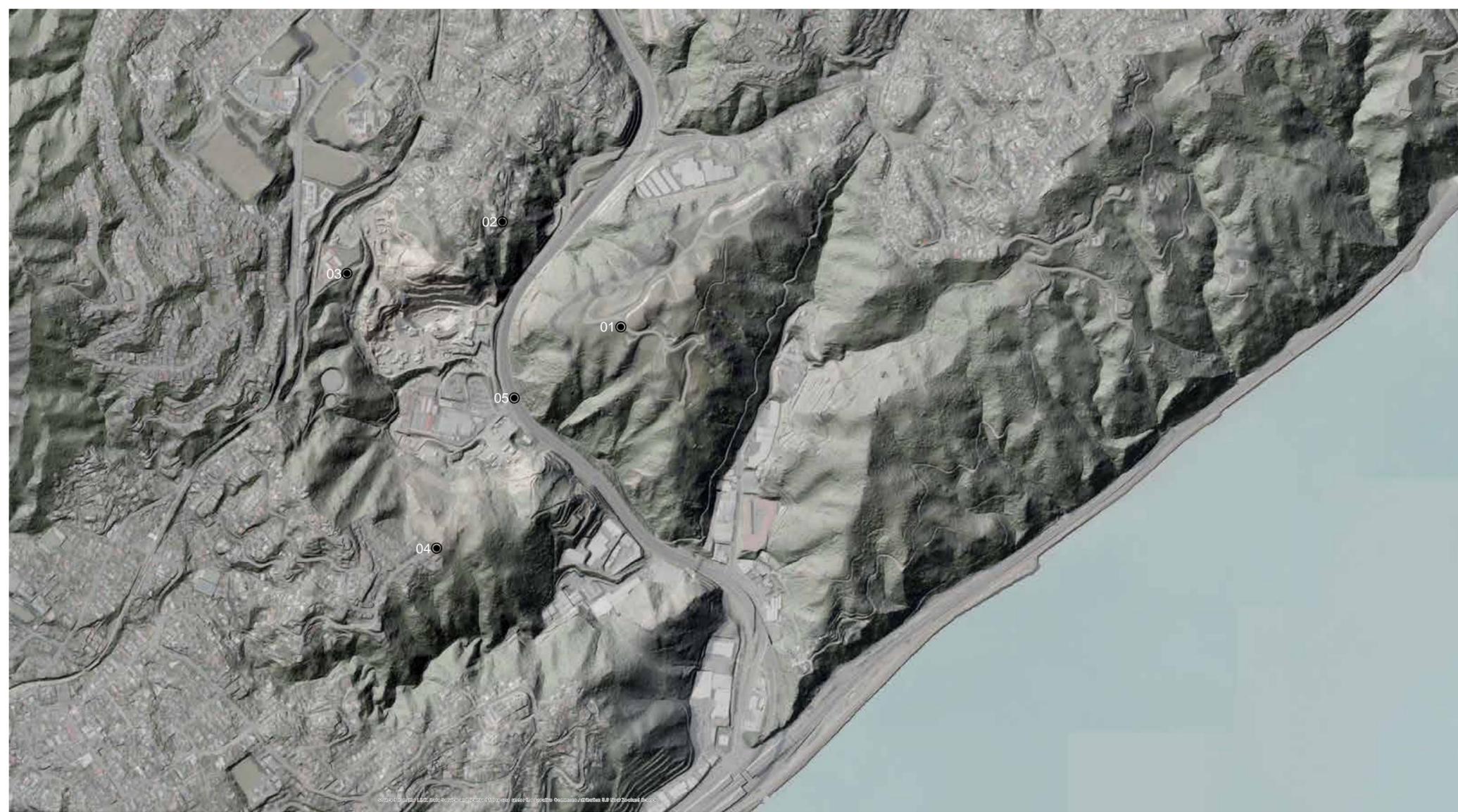
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Isthmus.

Document record

Issue	Revision	Author	QA	Date
Draft	A	BB	AE	13.08.2018
	B	AE	GL	26.11.2018

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Projection
NEW ZEALAND TRANSVERSE MERCATOR
DATUM: NZGD 2000



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Courtesy: Wellington City Council

LEGEND



Photo Locations

By

Check

Date

4/07/2017

Isthmus.

AKL 09 309 9442 | WTN 04 499 9832
www.isthmus.co.nz

Job Name

Kiwi Point Quarry

Client
Wellington City Council

Scale
1:10,000

Drawing Title
Photo Locations

@ A3
170620

Job No.
3706

Drawing No.
1.001

Revision
A
Issued For



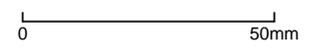
W:\Jobs\3000 - 3999\3700 - 3799\3706 KiwiPoint Quarry\B File - Drawings\B1 - Working Drawings\06 GIS\mxd\Kwi_Point_Quarry_Photo_Location_A3L.mxd
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Viewpoint 1 - Existing
 Looking south west near the intersection of Grumman Lane and Spenmoor Street



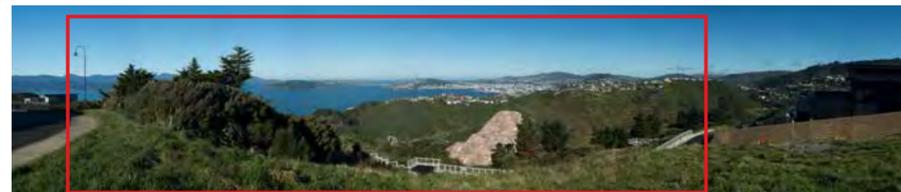
Kiwi Point Quarry
 Original Photo Alan England | 50mm | DSLR Nikon D800 | 11:26pm 20 June 2017 | N 5433431 E 1751619 (NZTM)
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 224m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 1 - Option 2 (Permitted) - Unmitigated

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME

Reading distance for correct scale: 400mm | Viewpoint Elevation: 224m

Photomontages should be used as a guide to field observations.

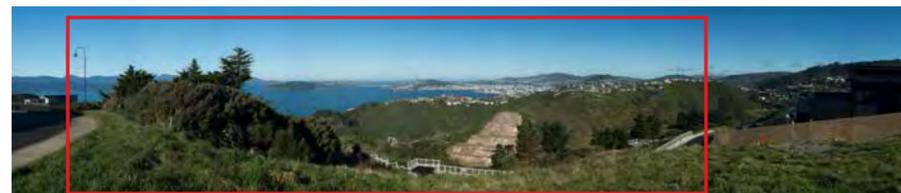
Field of View: 55° per A3 page





**Viewpoint 1 - Option 2 (Permitted) - Early Mitigation
1 year after quarrying**

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME

Reading distance for correct scale: 400mm | Viewpoint Elevation: 224m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page



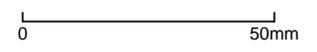


**Viewpoint 1 - Option 2 (Permitted) - Mitigated
15 - 20 years after quarrying**

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 224m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 1 - Option 3 (Medium expansion) - Unmitigated

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 224m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





**Viewpoint 1 - Option 3 (Medium expansion) - Early Mitigation
1 year after quarrying**

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 224m

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**Viewpoint 1 - Option 3 (Medium expansion) - Mitigated
15 - 20 years after quarrying**

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry

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Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page



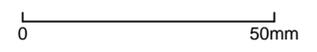


Viewpoint 1 - Option 4 (Maximum expansion) - Unmitigated

Looking south west near the intersection of Grumman Lane and Spenmoor Street



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
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1 year after quarrying**

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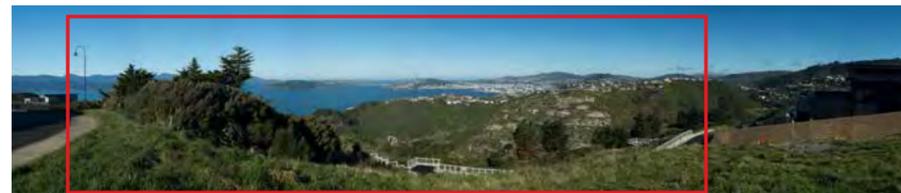
Field of View: 55° per A3 page





**Viewpoint 1 - Option 4 (Maximum expansion) - Mitigated
15 - 20 years after quarrying**

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Kiwi Point Quarry

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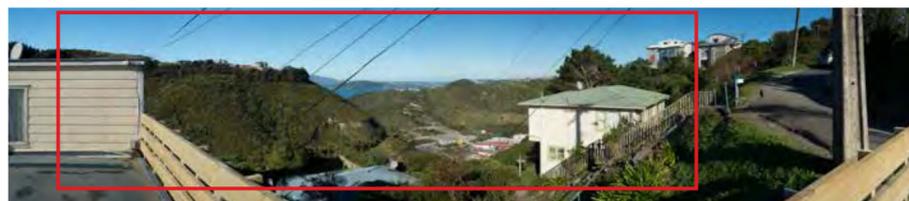
Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





Viewpoint 2 - Existing
Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry
Original Photo Alan England | 50mm | DSLR Nikon D800 | 11:37pm 20 June 2017 | N 5433730 E 1751285 (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 176m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page





Viewpoint 2 - Option 2 (Permitted) - Unmitigated

Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME

Reading distance for correct scale: 400mm | Viewpoint Elevation: 176m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page

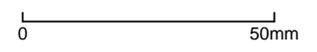




Viewpoint 2 - Option 2 (Permitted) - Early Mitigation
1 year after quarrying
 Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 176m
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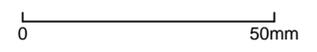




Viewpoint 2 - Option 2 (Permitted) - Mitigated
15 - 20 years after quarrying
 Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry
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 Field of View: 55° per A3 page





Viewpoint 2 - Option 3 (Medium expansion) - Unmitigated

Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 176m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page

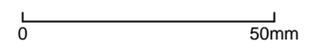




Viewpoint 2 - Option 3 (Medium expansion) - Early Mitigation
1 year after quarrying
 Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry
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Viewpoint 2 - Option 3 (Medium expansion) - Mitigated
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Viewpoint 2 - Option 4 (Maximum expansion) - Unmitigated

Looking south west outside 25 Kitchener Terrace



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**Viewpoint 2 - Option 4 (Maximum expansion) - Early Mitigation
1 year after quarrying**

Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

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 Looking south west outside 25 Kitchener Terrace



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 176m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 3 - Existing

Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry

Original Photo Alan England | 50mm | DSLR Nikon D800 | 11:47pm 20 June 2017 | N 5433582 E 1750846 (NZTM)

Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





Viewpoint 3 - Option 2 (Permitted) - Unmitigated

Looking south east from Fraser Ave below Westmount School



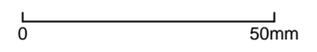
Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME

Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





**Viewpoint 3 - Option 2 (Permitted) - Early Mitigation
1 year after quarrying**

Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page

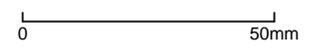




Viewpoint 3 - Option 2 (Permitted) - Mitigated
15 - 20 years after quarrying
 Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME
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 Field of View: 55° per A3 page





Viewpoint 3 - Option 3 (Medium expansion) - Unmitigated

Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
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 Field of View: 55° per A3 page





**Viewpoint 3 - Option 3 (Medium expansion) - Early Mitigation
1 year after quarrying**

Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m
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 Field of View: 55° per A3 page

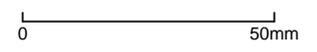




**Viewpoint 3 - Option 3 (Medium expansion) - Mitigated
15 - 20 years after quarrying**
Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry
Simulation: 3DS Max + Photoshop | Chris Combrink
Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page





Viewpoint 3 - Option 4 (Maximum expansion) - Unmitigated

Looking south east from Fraser Ave below Westmount School



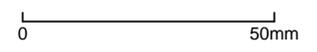
Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page



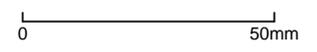


**Viewpoint 3 - Option 4 (Maximum expansion) - Early Mitigation
1 year after quarrying**

Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





**Viewpoint 3 - Option 4 (Maximum expansion) - Mitigated
15 - 20 years after quarrying**

Looking south east from Fraser Ave below Westmount School



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 145m

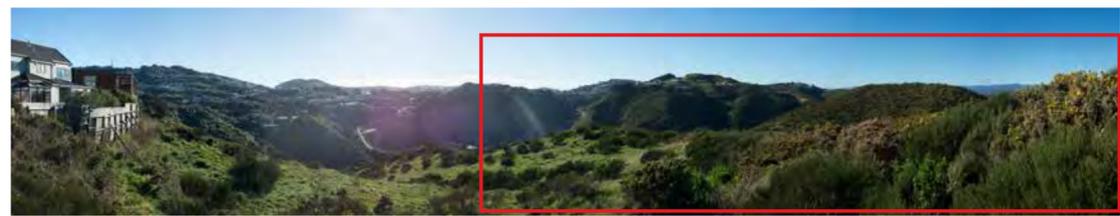
Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page

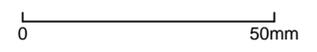




Viewpoint 4 - Existing
Looking north from reserve below Shastri Terrace



Kiwi Point Quarry
Original Photo Alan England | 50mm | DSLR Nikon D800 | 13:21pm 20 June 2017 | N 5432801 E 1751098 (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page





Viewpoint 4 - Option 2 (Permitted) - Not visible

Looking north from reserve below Shastri Terrace



Kiwi Point Quarry

Original Photo Alan England | 50mm | DSLR Nikon D800 | 13:21pm 20 June 2017 | N 5432801 E 1751098 (NZTM)

Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m

Photomontages should be used as a guide to field observations.

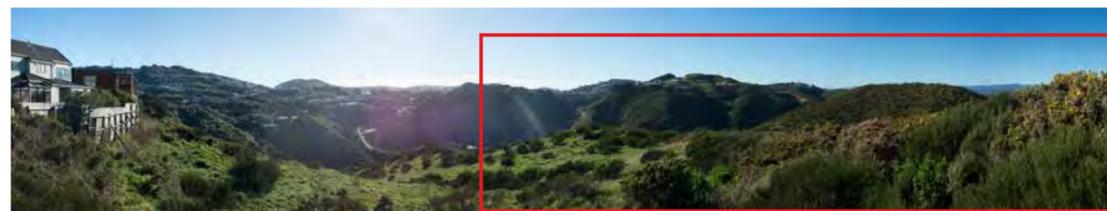
Field of View: 55° per A3 page





Viewpoint 4 - Option 3 (Medium expansion) - Unmitigated

Looking north from reserve below Shastri Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m

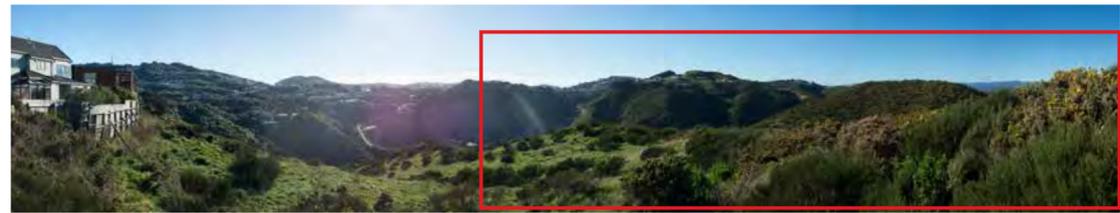
Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page

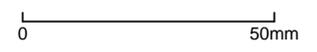




**Viewpoint 4 - Option 3 (Medium expansion) - Early Mitigation
1 year after quarrying**
Looking north from reserve below Shastri Terrace



Kiwi Point Quarry
Simulation: 3DS Max + Photoshop | Chris Combrink
Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page





**Viewpoint 4 - Option 3 (Medium expansion) - Mitigated
15 - 20 years after quarrying**

Looking north from reserve below Shastri Terrace



Kiwi Point Quarry

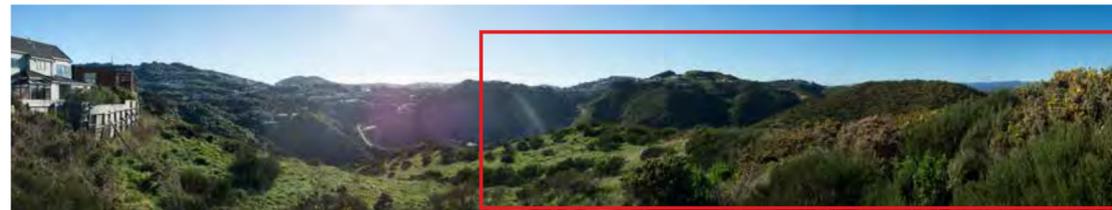
Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 4 - Option 4 (Maximum expansion) - Unmitigated

Looking north from reserve below Shastri Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m

Photomontages should be used as a guide to field observations.

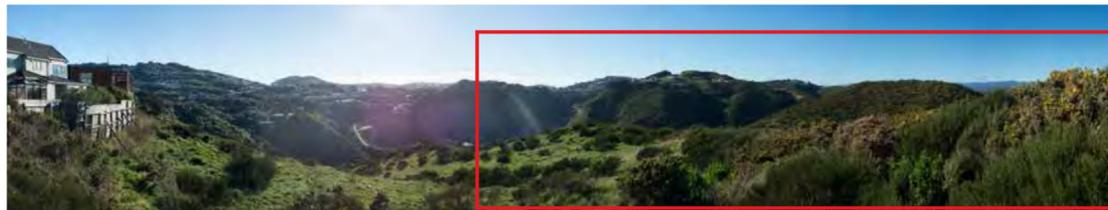
Field of View: 55° per A3 page





**Viewpoint 4 - Maximum Development - Early Mitigation
1 year after quarrying**

Looking north from reserve below Shastri Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m

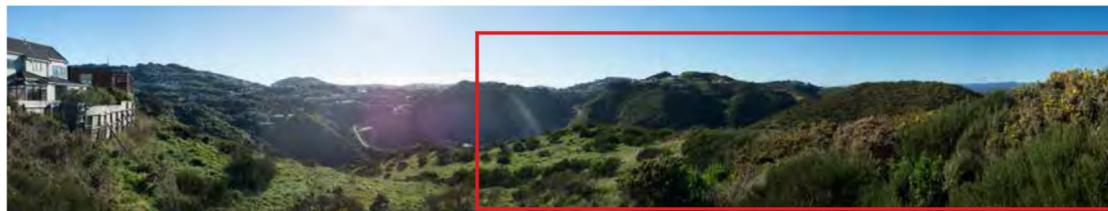
Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





**Viewpoint 4 - Option 4 (Maximum expansion) - Mitigated
15 - 20 years after quarrying**
Looking north from reserve below Shastri Terrace



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink
Reading distance for correct scale: 400mm | Viewpoint Elevation: 183m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page





Viewpoint 5 - Existing

Looking south from SH1



Kiwi Point Quarry

Original Photo Lisa Rimmer | 50mm | DSLR Nikon D700 | 14:56pm 29 June 2017 | N 5433356 E 1751302 (NZTM)

Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





Viewpoint 5 - Option 2 (Permitted) - Unmitigated

Looking south from SH1



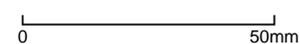
Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME

Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





**Viewpoint 5 - Option 2 (Permitted) - Early Mitigation
1 year after quarrying**
Looking south from SH1



Kiwi Point Quarry
Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME
Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page





Viewpoint 5 - Option 2 (Permitted) - Mitigated
15 - 20 years after quarrying
 Looking south from SH1



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Drawn: AE Checked: GL AB ME
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 5 - Option 3 (Medium expansion) - Unmitigated

Looking south from SH1



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





**Viewpoint 5 - Option 3 (Medium expansion) - Early Mitigation
1 year after quarrying**
Looking south from SH1



Kiwi Point Quarry
Simulation: 3DS Max + Photoshop | Chris Combrink
Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m
Photomontages should be used as a guide to field observations.
Field of View: 55° per A3 page

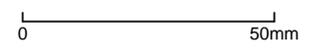




Viewpoint 5 - Option 3 (Medium expansion) - Mitigated
15 - 20 years after quarrying
 Looking south from SH1



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 5 - Option 4 (Maximum expansion) - Unmitigated

Looking south from SH1



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink

Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m

Photomontages should be used as a guide to field observations.

Field of View: 55° per A3 page





Viewpoint 5 - Option 4 (Maximum expansion) - Early Mitigation
1 year after quarrying
 Looking south from SH1



Kiwi Point Quarry
 Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page





Viewpoint 5 - Option 4 (Maximum expansion) - Mitigated
15 - 20 years after quarrying
 Looking south from SH1



Kiwi Point Quarry

Simulation: 3DS Max + Photoshop | Chris Combrink
 Reading distance for correct scale: 400mm | Viewpoint Elevation: 84m
 Photomontages should be used as a guide to field observations.
 Field of View: 55° per A3 page



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Printing Instructions

- Full bleed on double sided A3
- No scaling (100%)
- Min 100gsm paper

Photosimulation Methodology Statement

- Photos were taken with a fixed lens on DSLR camera. Locations were fixed using a handheld GPS unit with accuracy of 5m. Reference points in the landscape were also located to assist referencing of photo to digital terrain model.
- A sequence of photos was taken from each viewpoint and stitched to form panoramas. Photos were overlapped by approximately 30% and edges cropped prior to stitching to eliminate edge distortion.
- A digital terrain model was created incorporating 3D models of the proposed development. Computer images were generated within the digital model from the same locations as the photos. The image was overlaid and aligned with the photo using reference points and visual matching. (Photos were imported in RAW format to avoid degradation of the image, requiring resizing to match the computer image).
- The wire-frame digital terrain was then switched off leaving the proposed development in its correct location and scale relative to the photo. Lower parts of the proposed development were erased using Photoshop software where they would be behind foreground topography or vegetation.
- The time and weather when the photo was taken was entered to the programme in order to replicate lighting conditions.
- The completed photomontage is presented over two pages:
 - o The photos are produced to replicate correct scale at the nominated reading distance (in this case 400mm).
 - o Each photomontage is printed across two facing pages to illustrate a field of view of approximately 110° at a reading distance of 400mm. This approximates the field of human binocular vision. (But not peripheral vision which extends to approximately 200°)

Notes on use of Photosimulations:

- The Photosimulations are a useful tool but they cannot not precisely reproduce real life for the following reasons:
 - o 2D Photography flattens an image compared to binocular vision.
 - o Photography is static, whereas the human vision can scan and remember information.
 - o Photographs are passive, whereas the eye seeks out detail.
 - o The human eye can see more contrast than can be reproduced through photography.
 - o Physical resolution of photography and printing is less than that of the human eye.

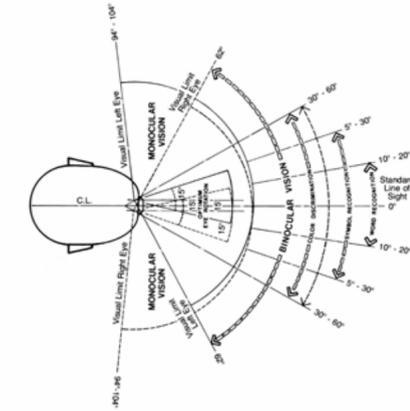
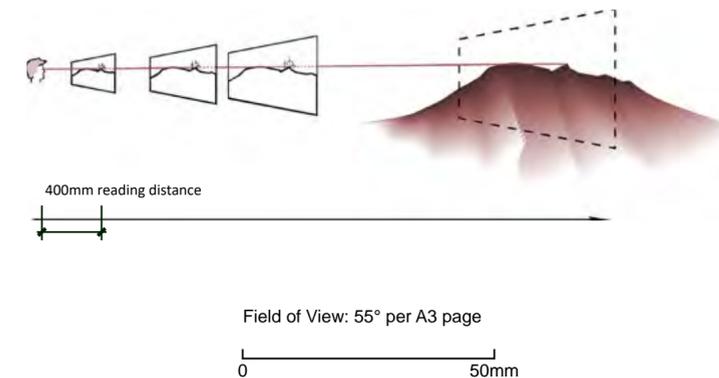


Figure 02: Binocular vision is approximately 124°. Field of view is approximately 110° across 2 x A3 pages at correct scale image for 400mm reading distance (vertical field of view is approximately 33°)

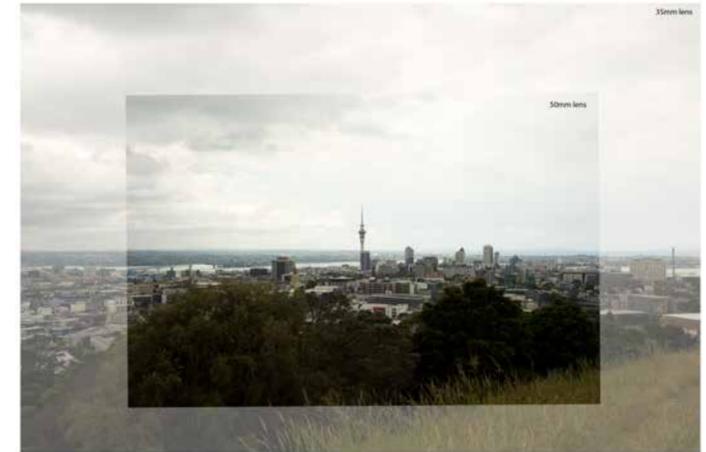


Figure 03: Comparison of 35mm lens and 50mm lens

Two images from the same location. With 35mm and 50mm lenses perspective is influenced by field of view, not by lens focal length. The overlaid portion is identical.

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- Legend**
- Viewpoint Location
 - 1m Contours
 - Parcels

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Client
WCC

Scale
1:5,000

Drawing Title
Mandalay Tce

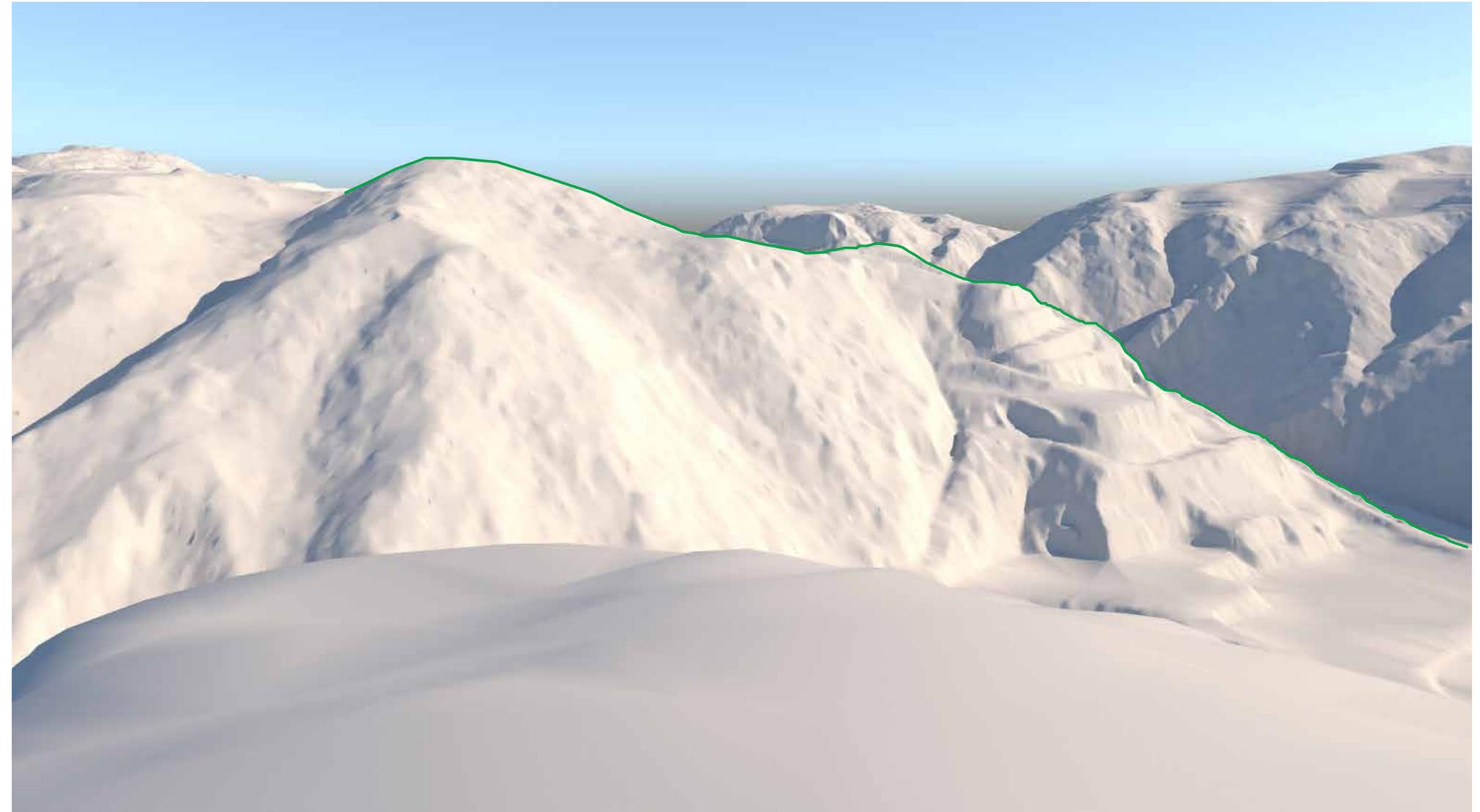
@ A3

Job No.
3706

North

Job Name
Kiwi Point Quarry

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Projection NEW ZEALAND TRANSVERSE MERCATOR DATUM NZGD 2000 Existing Landform from near 146 Mandalay Terrace



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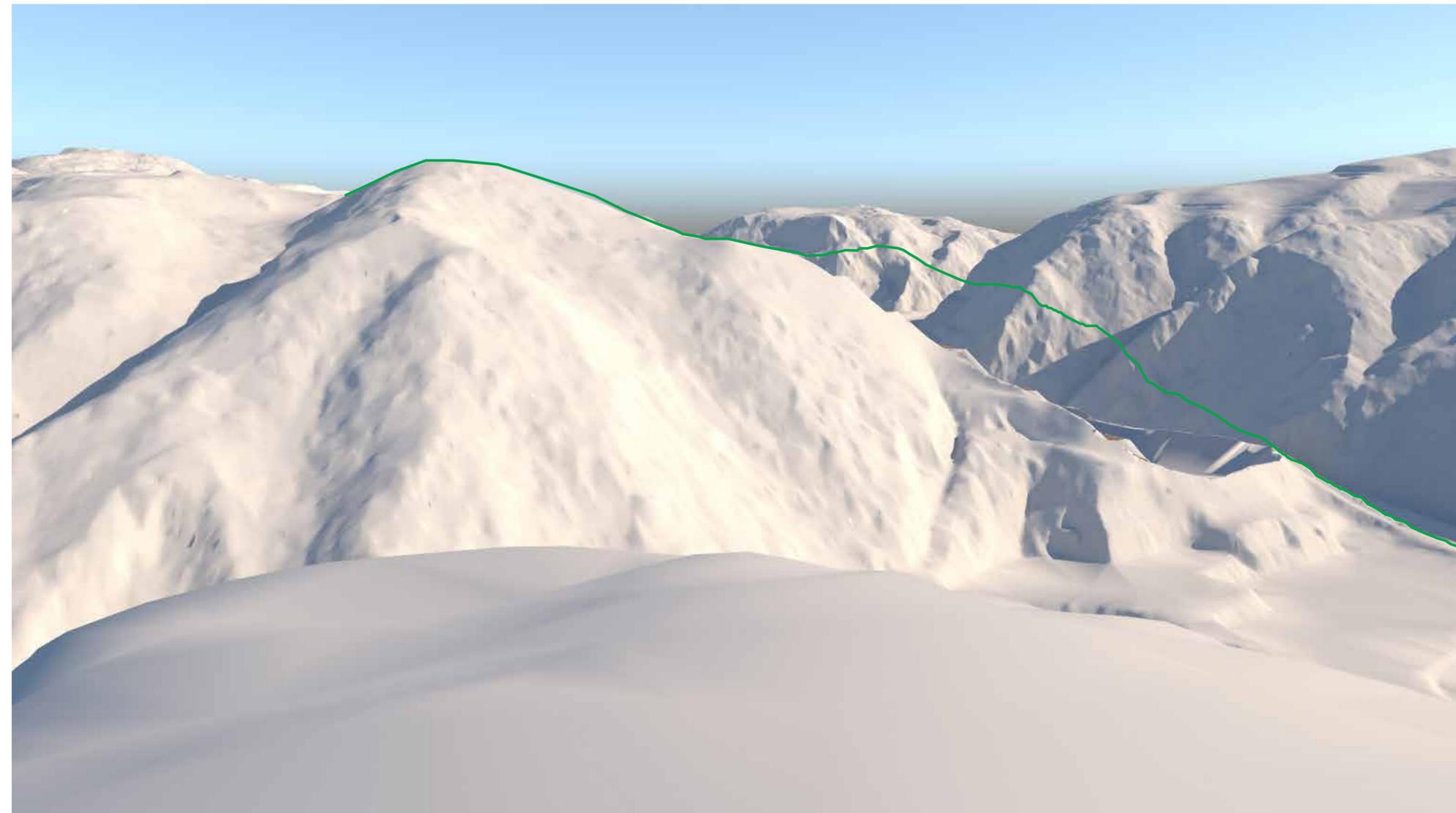
Kiwi Point Quarry

Scale

Job No. 3706

Drawing Title **Mandalay Tce**

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Projection NEW ZEALAND TRANSVERSE MERCATOR DATUM NZGD 2000 Option 2 landform from near 146 Mandalay Terrace

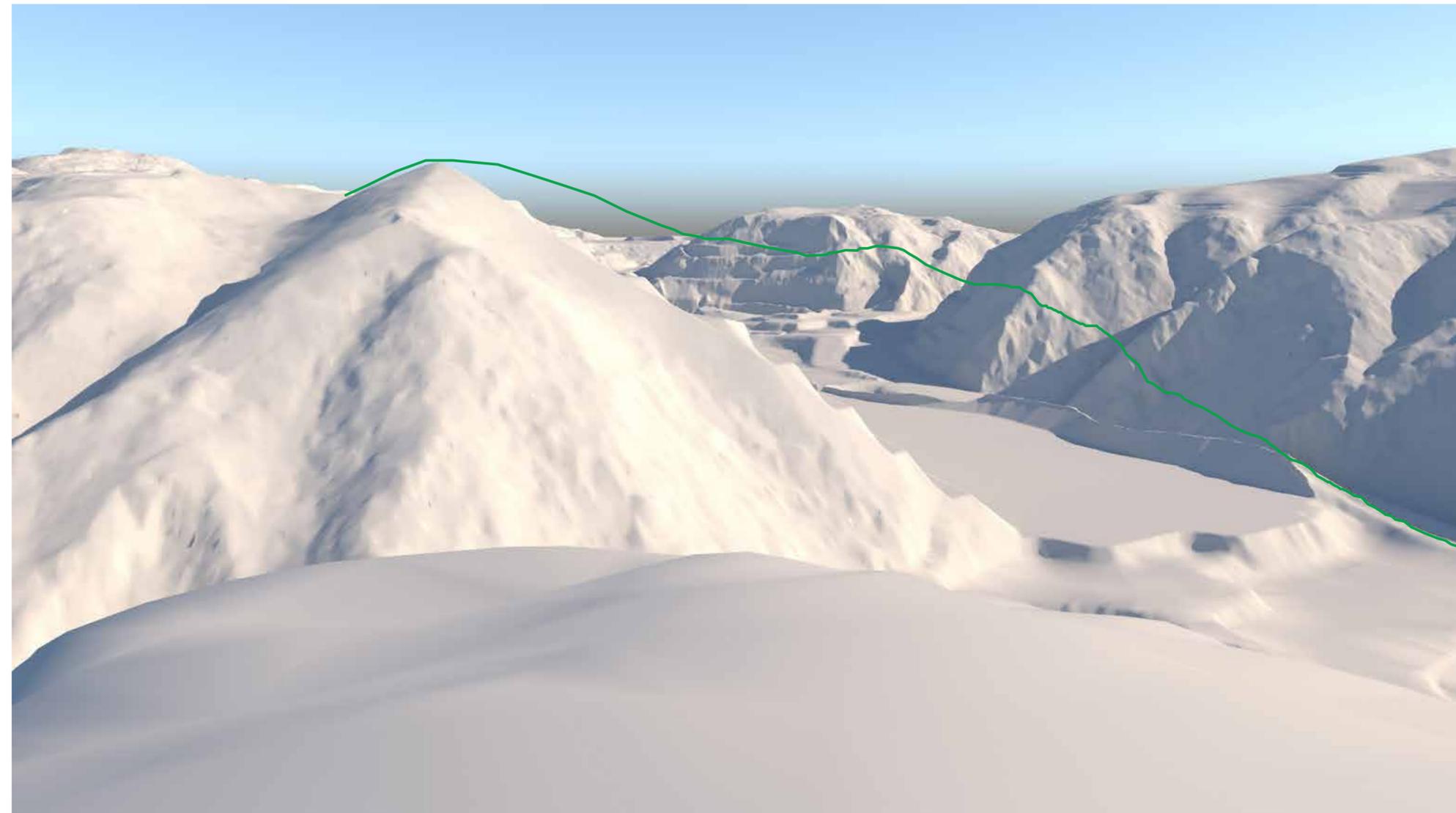


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Job Name Kiwi Point Quarry	Job No. 3706		
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Projection NEW ZEALAND TRANSVERSE MERCATOR DATUM NZGD 2000 Option 3 landform from near 146 Mandalay Terrace

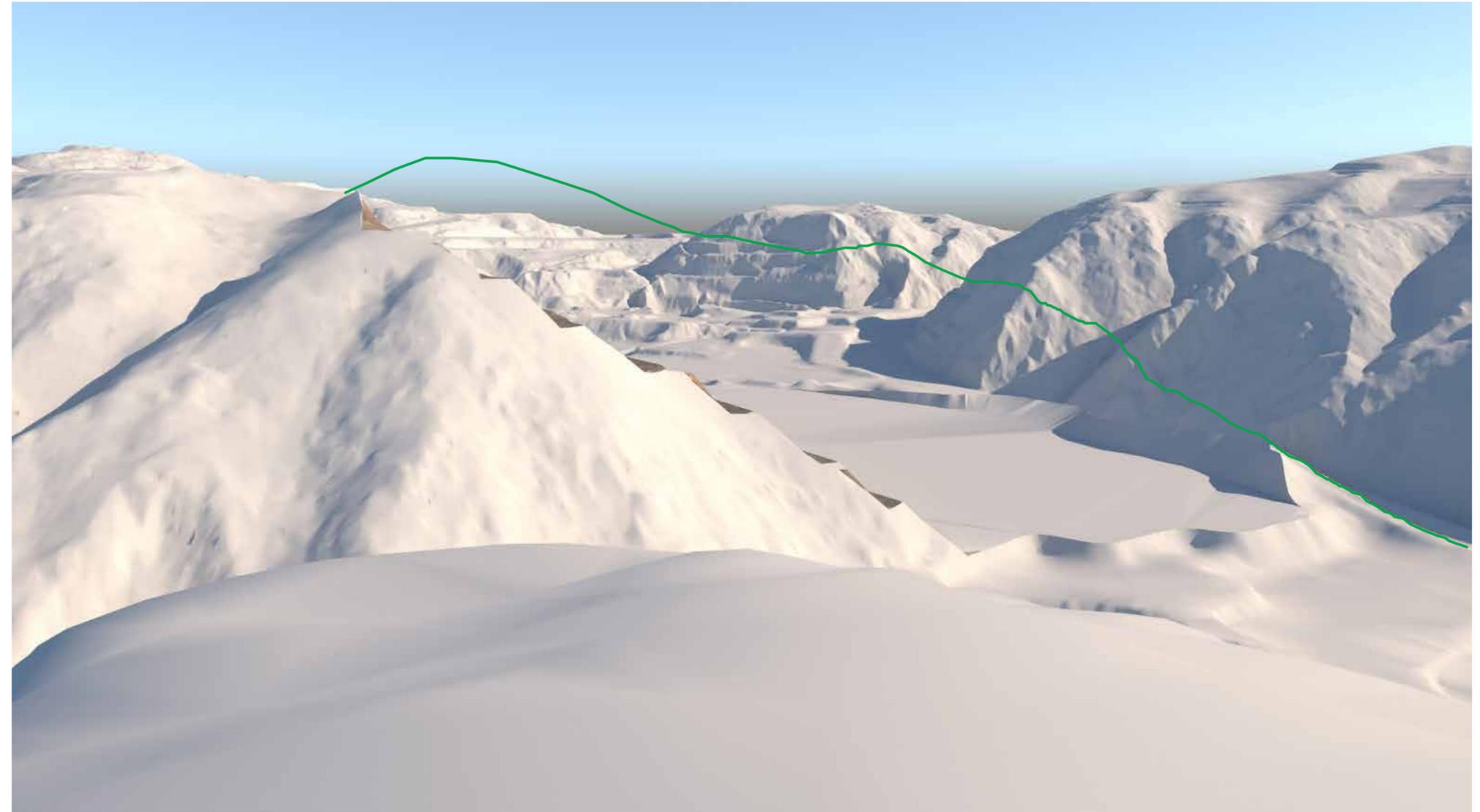


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Option 4 landform from near 146 Mandalay Terrace

Existing ridgeline

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Job Name

Kiwi Point Quarry

Scale

Job No.
3706

Drawing Title
Mandalay Tce

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1:4000 @A3



**Cross Sections
Existing Contours**

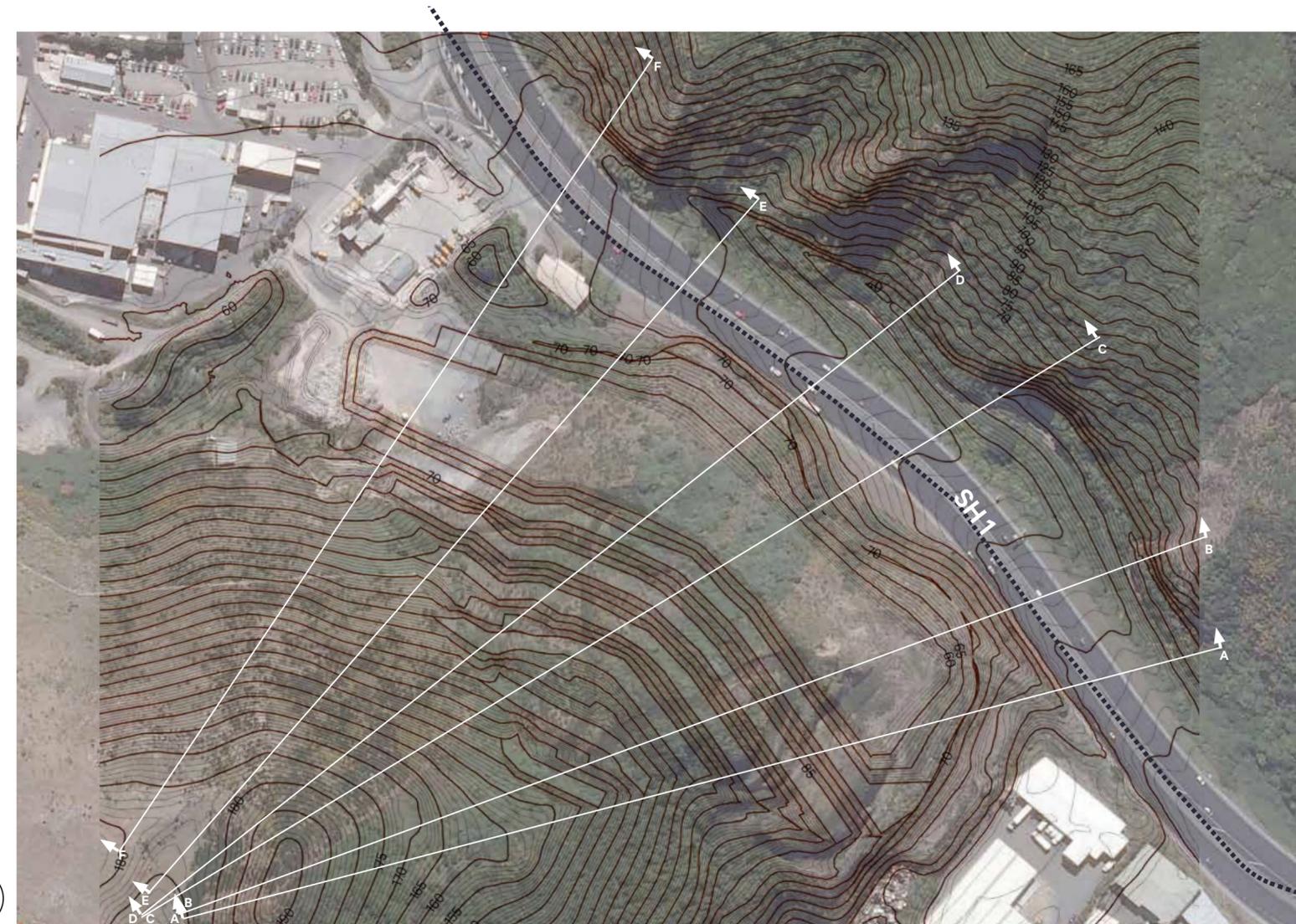


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**Cross Sections
Option 2 (Permitted)**



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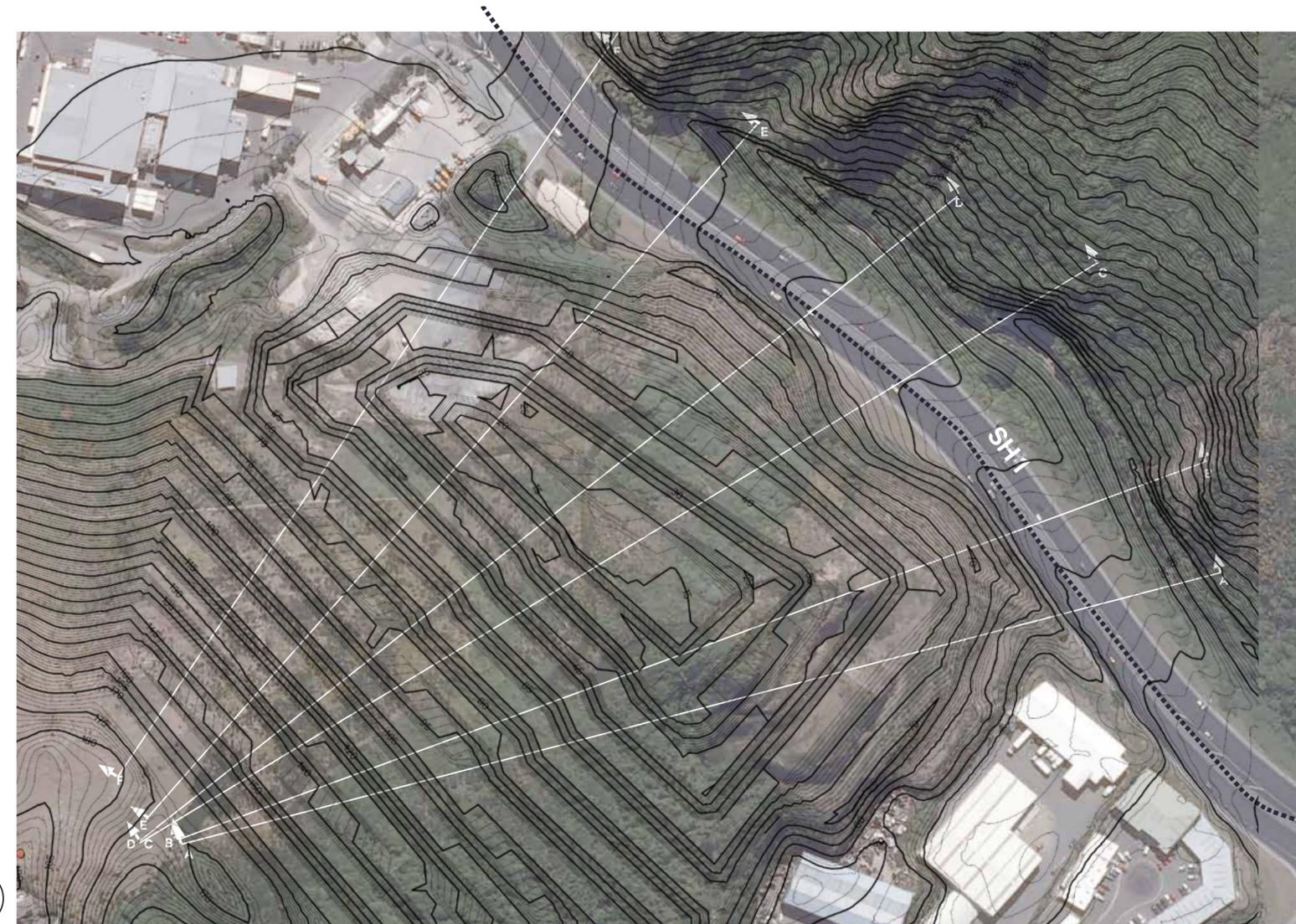
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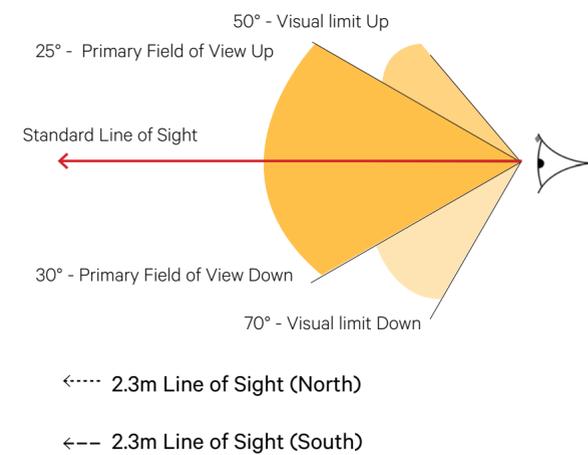
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Option 3 (Medium Expansion)**

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1:4000 @A3



**Cross Sections
Option 4 (Maximum Expansion)**

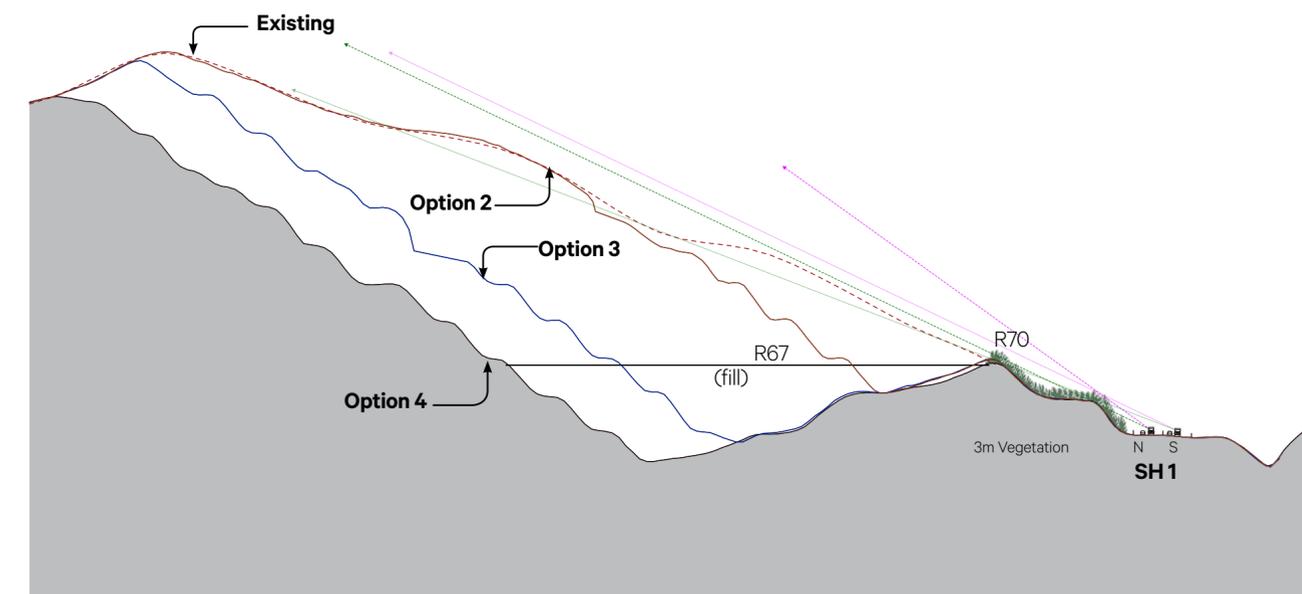


SIGHTLINE STUDY

Legend:

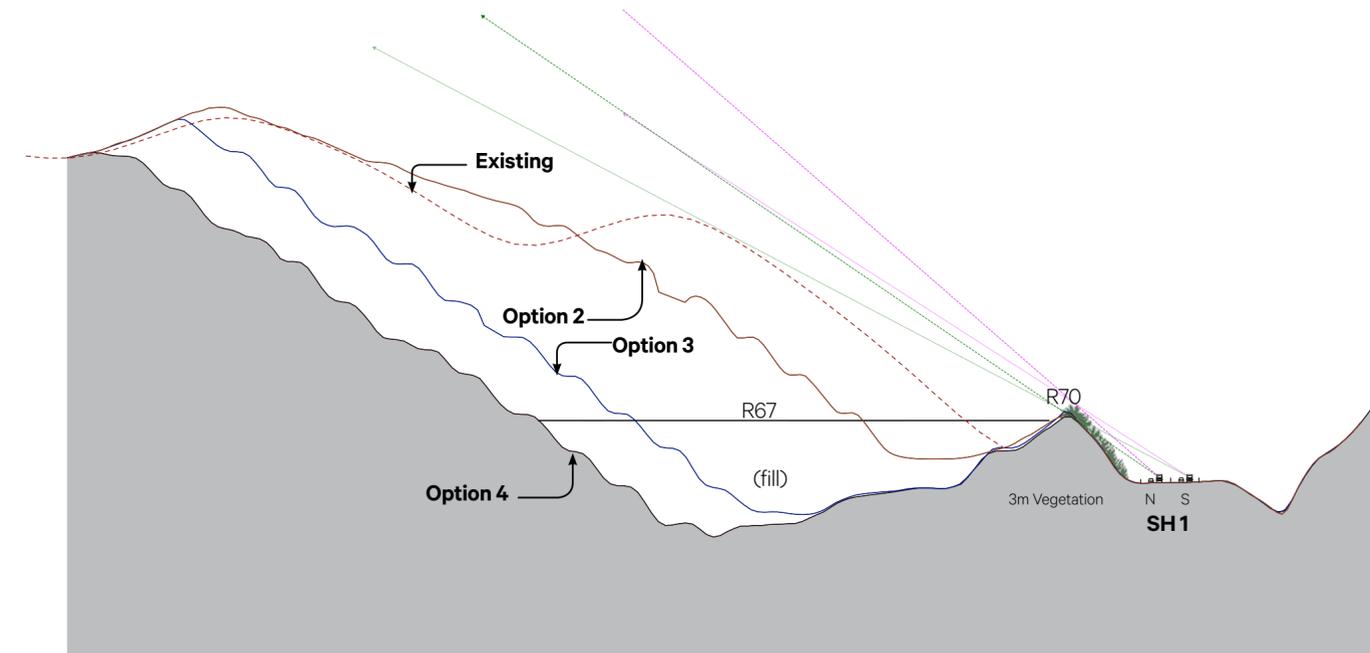
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	SH 1 Extents
	Line of Sight (various)
	Option 2
	Option 3
	Option 4
	Existing Level

SECTION STUDIES



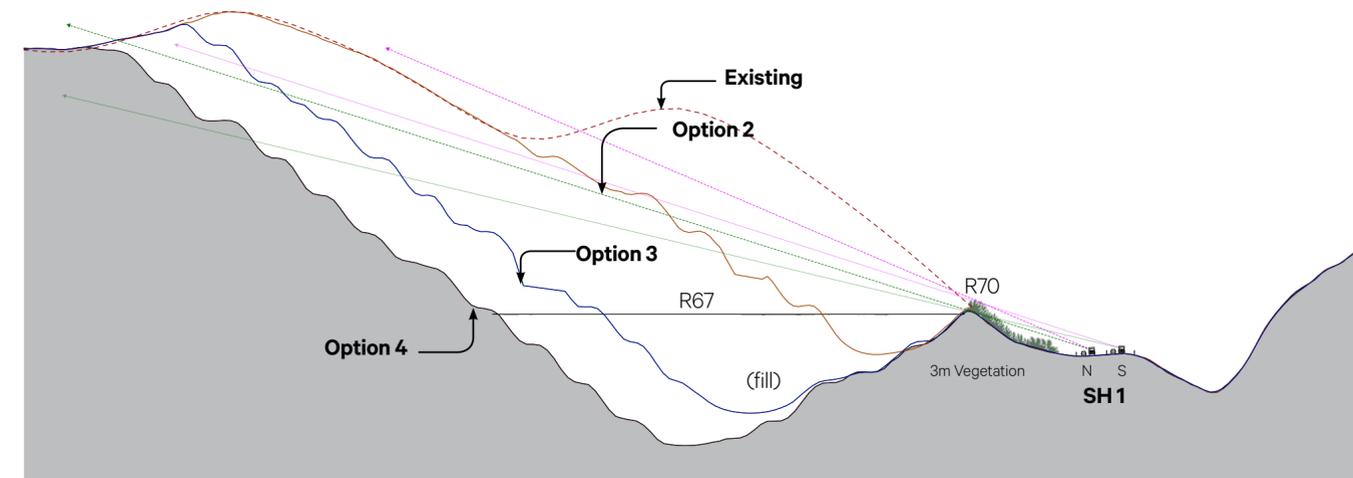
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1:2000 @ A3

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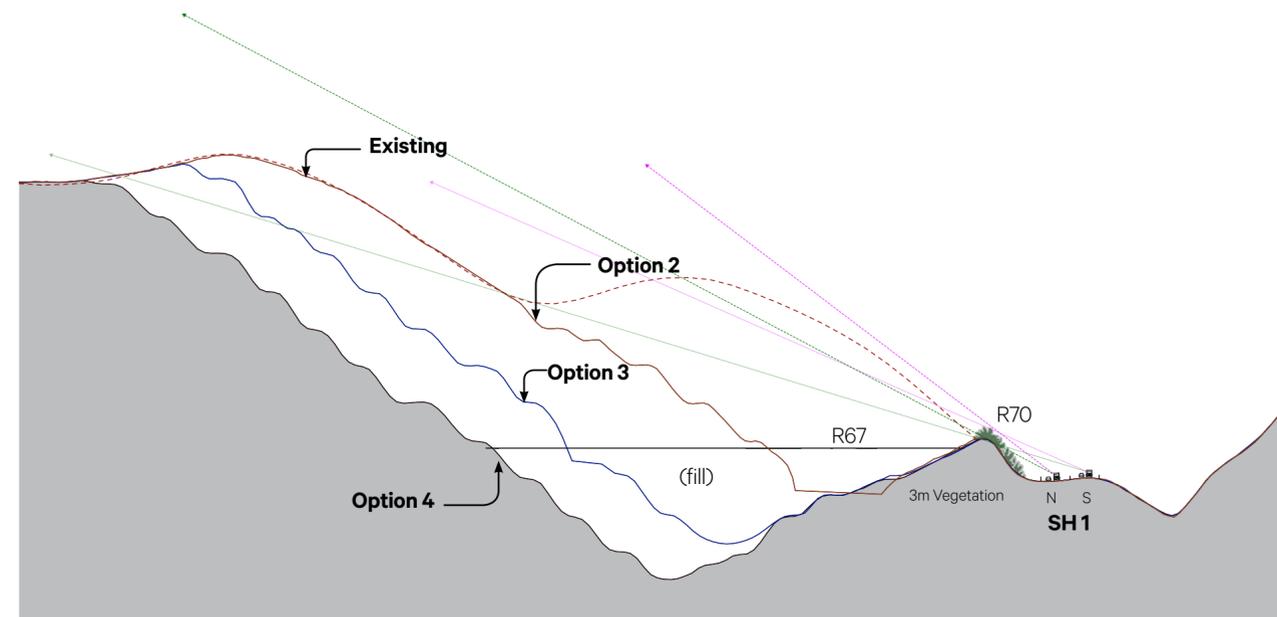
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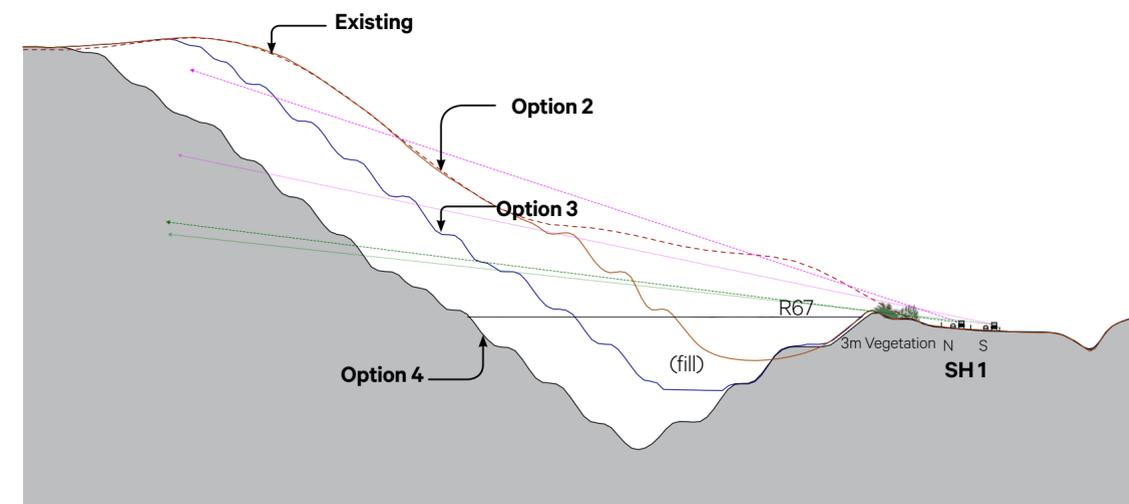
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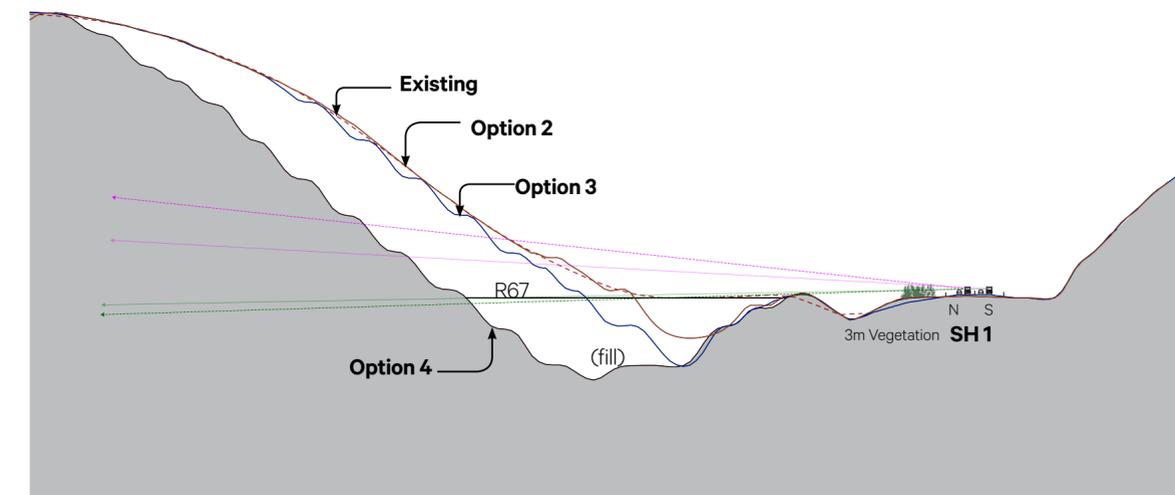
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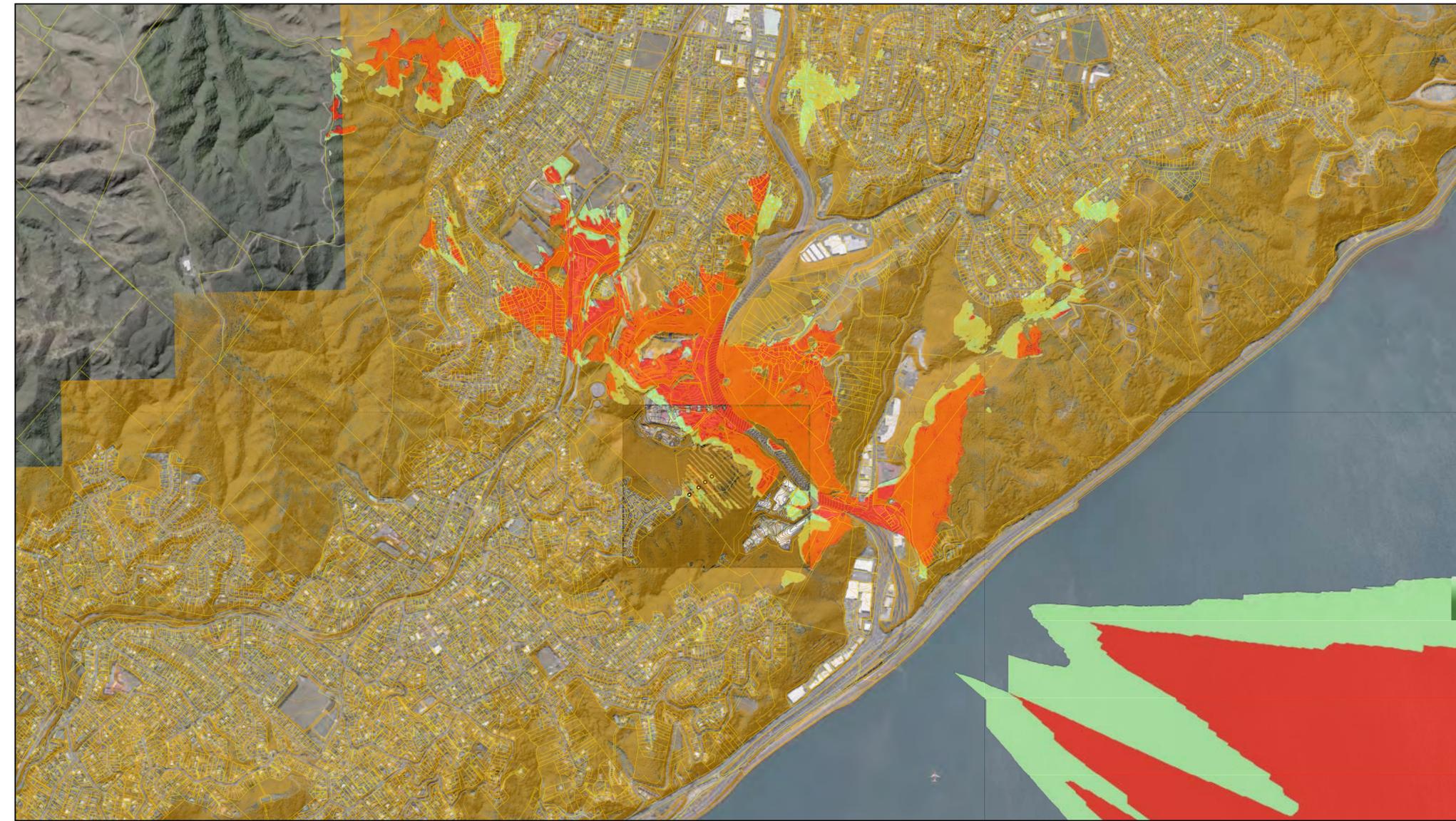
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Cross Section FF
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Legend

Parcels

• Opt4_FacePoints

Value



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Job Name

Kiwi Point Quarry

Client
WCC

Scale
1:15,000

@ A3

Job No.

3706

North

Drawing Title

Option 4 ZTV

Drawing No.

1.003

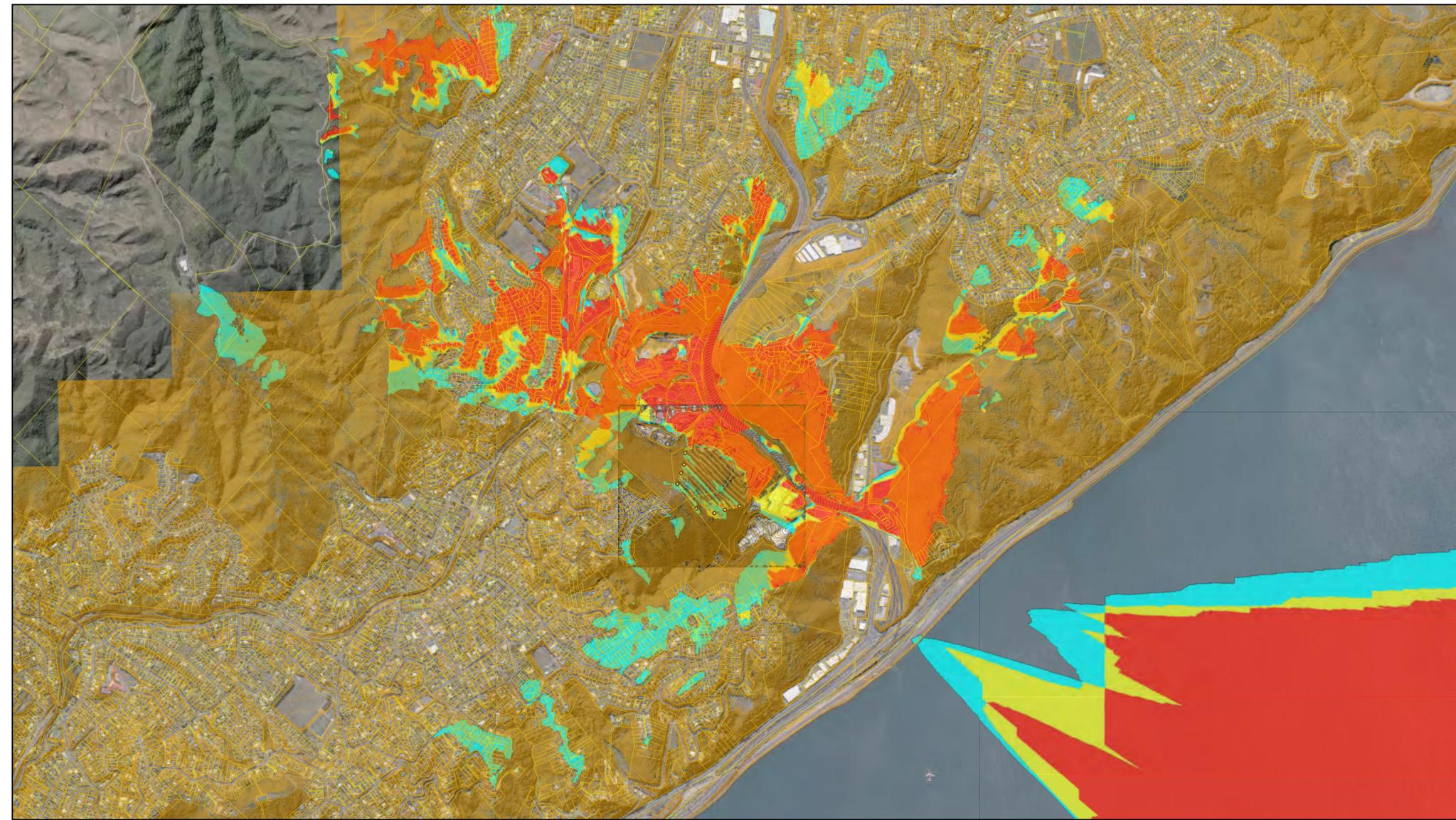
Revision

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Legend

- Parcels
 - Opt 4 Edge Observer Points
- Value
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Kiwi Point Quarry

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Job No.
3706
North

Drawing Title
Option 4 ZTV

Drawing No. 1.003
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