

Appendix A

Kiwi Point Quarry Expansion Visuals

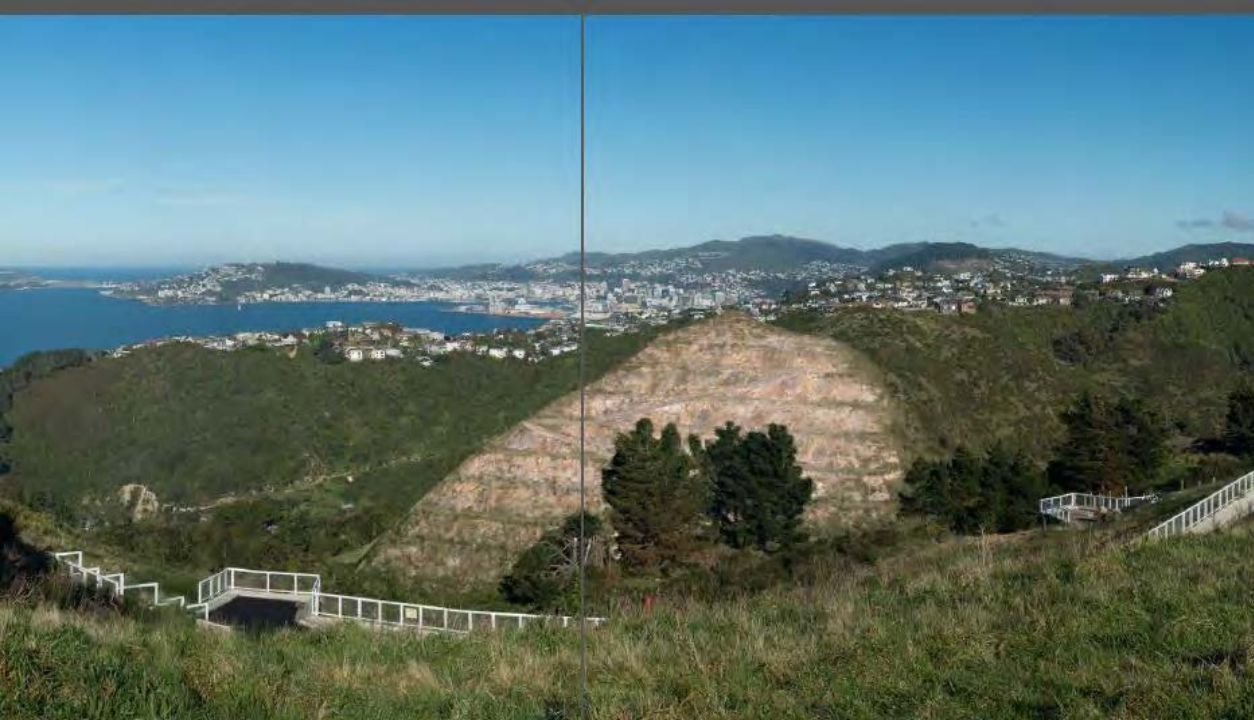
Kiwi Point Quarry
Landscape views – existing and
proposed



Intersection of
Grumman Lane
& Spenmore
Street
Existing view



Option 3
Medium
Development
Unmitigated



Option 3
Medium Development
Early Mitigation
one year



Option3
Medium Development
Mitigated
15 to 20 year



Option 4
Maximum Development
Unmitigated



Option 4
Maximum Development
Early Mitigation
one year



Option 4
Maximum Development
Mitigated
15 to 20 years



Kitchener Terrace
Johnsonville
Existing view



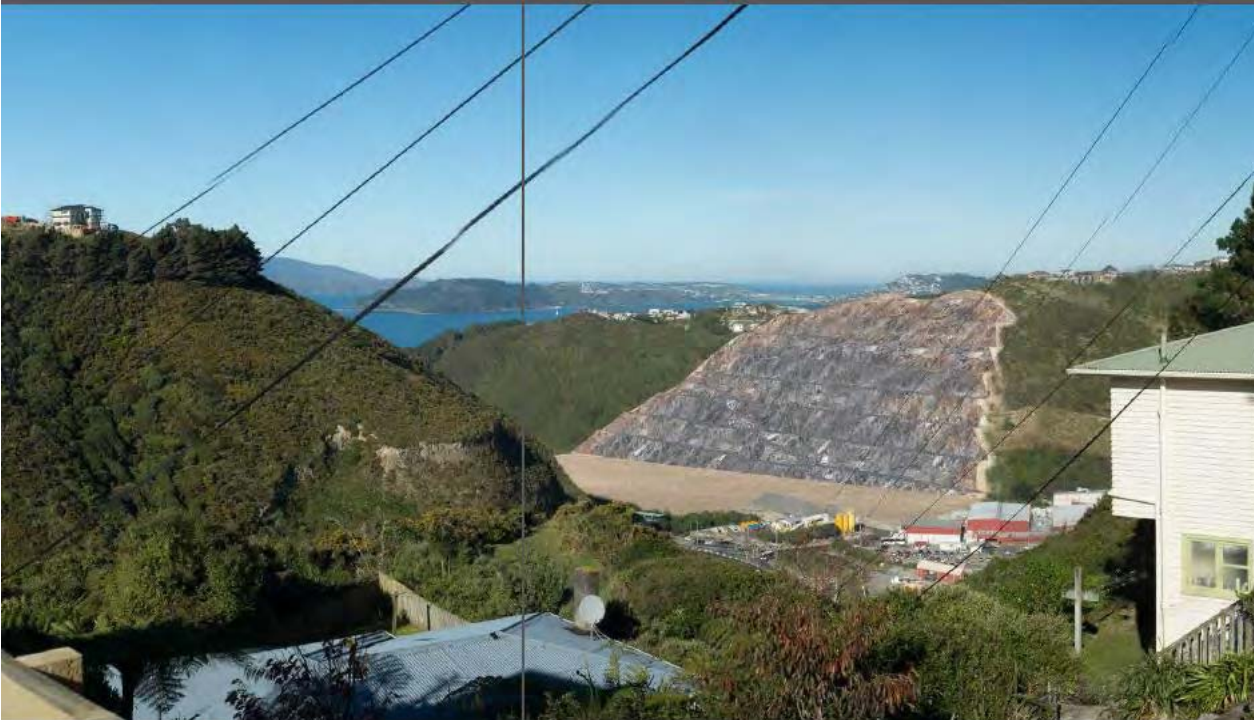
Option 3
Limited Development
Unmitigated



Option 3
Medium Development
Early Mitigation
One year



Option 3
Medium Development
Mitigated
15 to 20 years



Option 4
Maximum Development
Unmitigated



Option 4
Maximum Development
Early Mitigation
One year



Option 4
Maximum Expansion
Mitigated
15 to 20 years



Frazer Avenue
Johnsonville
Existing view



Option 3
Limited Development
Unmitigated



Option 3
Limited Development
Early Mitigation
One year



Option 3
Limited Development
Mitigated
15 to 20 years



Option 4
Maximum Development
Unmitigated



Option 4
Maximum Development
Early Mitigation
One year



Option 4
Maximum
Development
Mitigated
15 to 20 years



Shastri Terrace
Khandallah
Existing view



Option 3
Medium
Development
Unmitigated



Option3
Medium
Development
Early Mitigation
One year



Option 3
Medium
Development
Mitigated
15 to 20 years



Option 4
Maximum
Development
Unmitigated



Option 4
Maximum
Development
Early Mitigation
One year



Option 4
Maximum Development
Mitigated
15 to 20 years



SH 1
Existing view



Option 3
Medium
Development
Unmitigated



Option 3
Medium
Development
Early Mitigation
One year



Option 3
Medium
Development
Mitigated
15 to 20 years



Option 4
Maximum
Development
Unmitigated



Option 4
Maximum
Development
Early Mitigation
One year



Option 4
Maximum Development
Mitigated
15 to 20 years

Kiwi Point Quarry Expansion

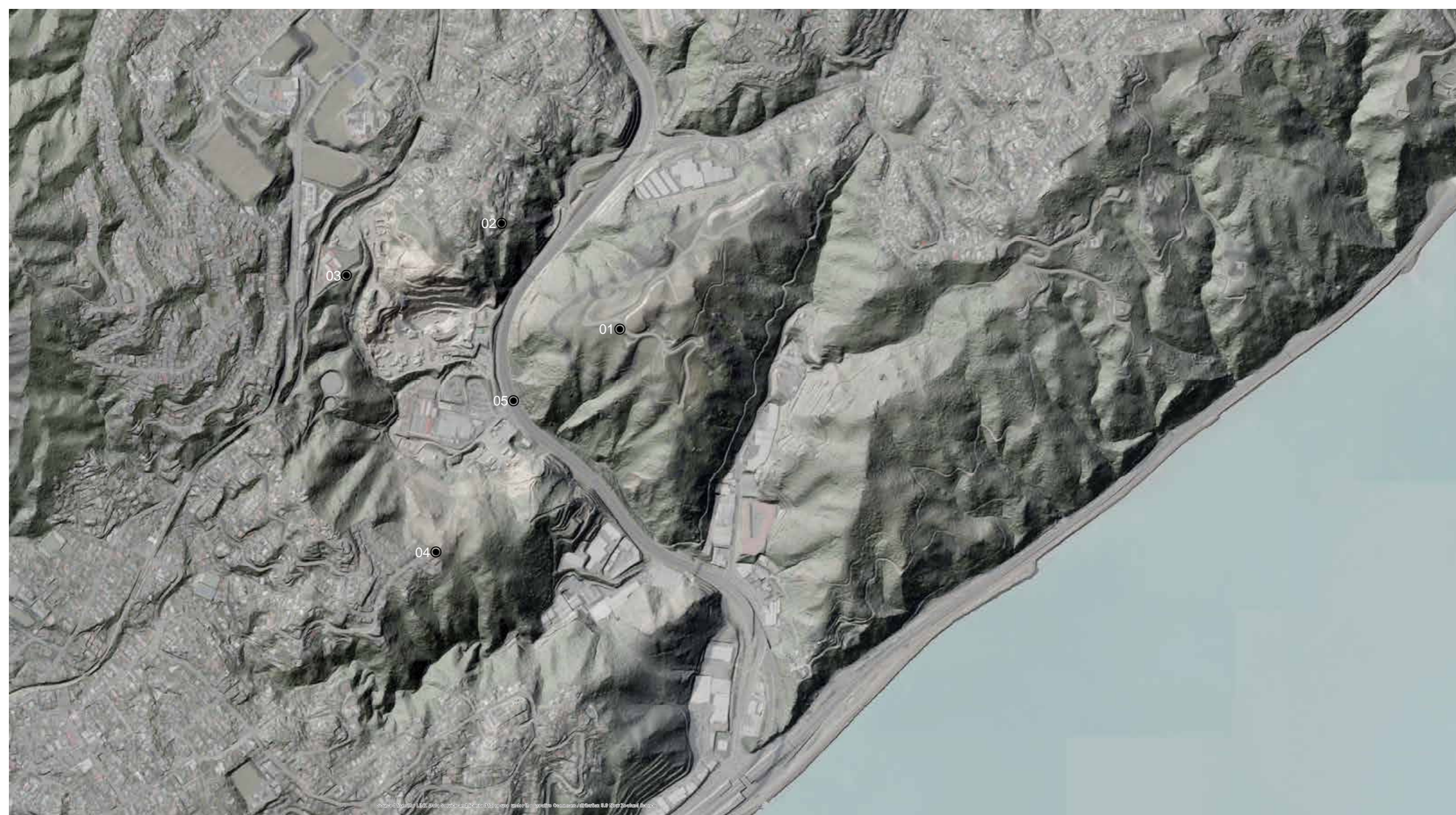
APPENDIX

July 2017

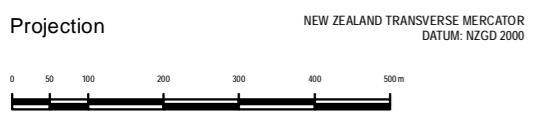
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Source: Land Information New Zealand, based on data provided by the Crown under the Official Information Act 1982.



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Courtesy: Wellington City Council

LEGEND



By
Check
Date

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

Client
Wellington City Council

Job Name
Kiwi Point Quarry

Scale
1:10,000

Drawing Title
Photo Locations 170620

@ A3

Job No.
3706

Drawing No.
1.001

Revision
A

North

Issued For



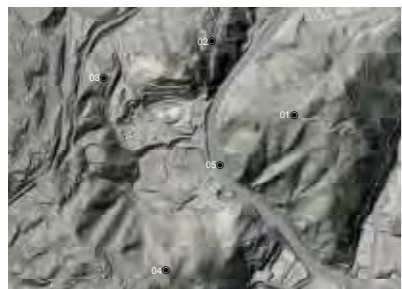
Viewpoint 1 - Existing

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

P4 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQ\B File - Drawings\B3 - Display Files\Indesign





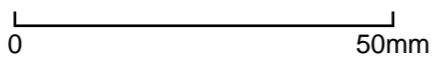
Kiwi Point Quarry

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





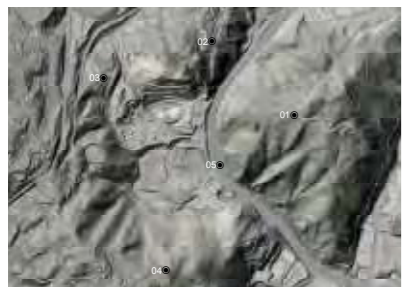
Viewpoint 1 - Medium Development - Unmitigated

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

P6 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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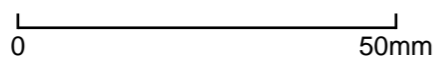
Kiwi Point Quarry

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





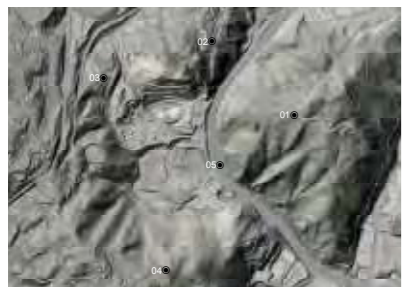
Viewpoint 1 - Medium Development - Early Mitigation
1 year after quarrying

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

P8 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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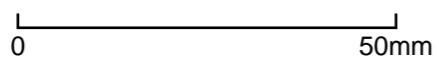
Kiwi Point Quarry

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





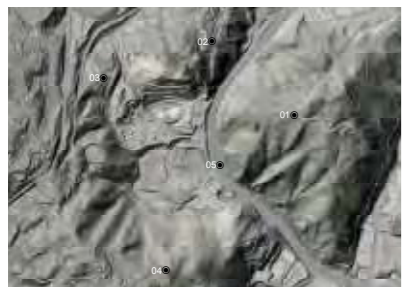
Viewpoint 1 - Medium Development - Mitigated
15 - 20 years after quarrying

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

P10 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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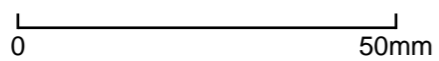
Kiwi Point Quarry

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





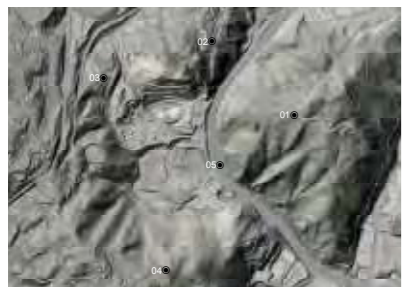
Viewpoint 1 - Maximum Development - Unmitigated

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

P12 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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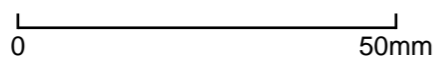
Kiwi Point Quarry

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





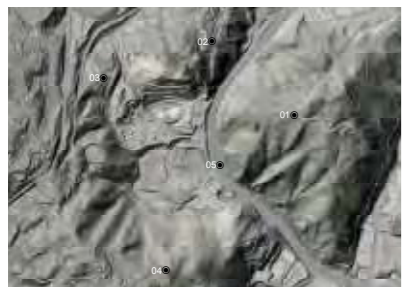
**Viewpoint 1 - Maximum Development - Early Mitigation
1 year after quarrying**

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

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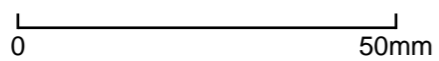
Kiwi Point Quarry

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





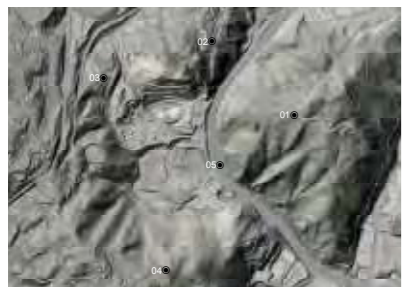
**Viewpoint 1 - Maximum Development - Mitigated
15 - 20 years after quarrying**

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

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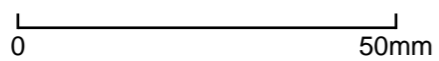
Kiwi Point Quarry

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 2 - Existing

Looking south west outside 25 Kitchener Terrace



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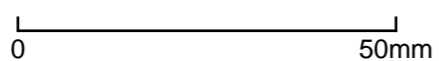
Kiwi Point Quarry

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 - Medium Development - Unmitigated

Looking south west outside 25 Kitchener Terrace

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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

0 50mm



Viewpoint 2 - Medium Development - Early Mitigation
1 year after quarrying

Looking south west outside 25 Kitchener Terrace

P22 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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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

0 50mm



Viewpoint 2 - Medium Development - Mitigated
15 - 20 years after quarrying

Looking south west outside 25 Kitchener Terrace

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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

0 50mm



Viewpoint 2 - Maximum Development - Unmitigated

Looking south west outside 25 Kitchener Terrace



P26 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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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

0 50mm



**Viewpoint 2 - Maximum Development - Early Mitigation
1 year after quarrying**

Looking south west outside 25 Kitchener Terrace

P28 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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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

0 50mm



Viewpoint 2 - Maximum Development - Mitigated
15 - 20 years after quarrying

Looking south west outside 25 Kitchener Terrace

P30 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

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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

0 50mm



Viewpoint 3 - Existing

Looking south east from Fraser Ave below Westmount School



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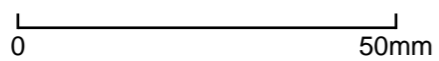
Kiwi Point Quarry

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



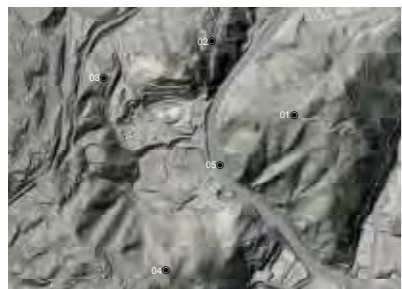


Viewpoint 3 - Medium Development - Unmitigated

Looking south east from Fraser Ave below Westmount School



P34 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY



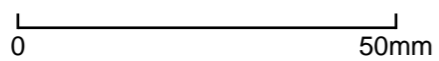
Kiwi Point Quarry

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



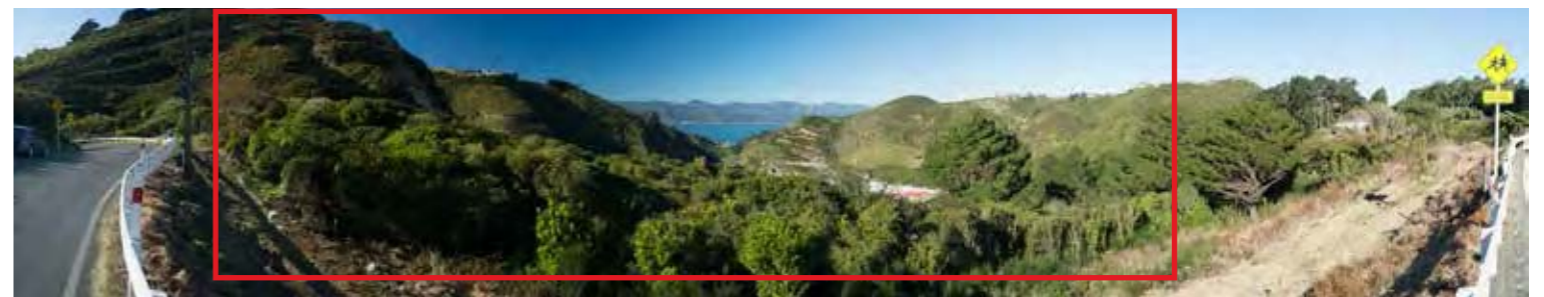


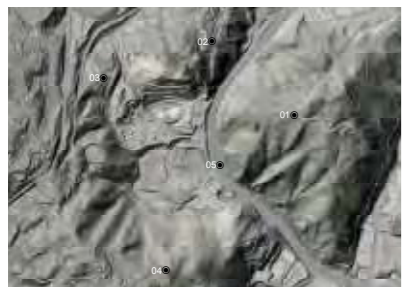
Viewpoint 3 - Medium Development - Early Mitigation
1 year after quarrying

Looking south east from Fraser Ave below Westmount School

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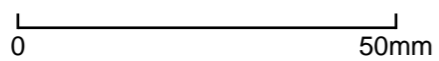
Kiwi Point Quarry

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



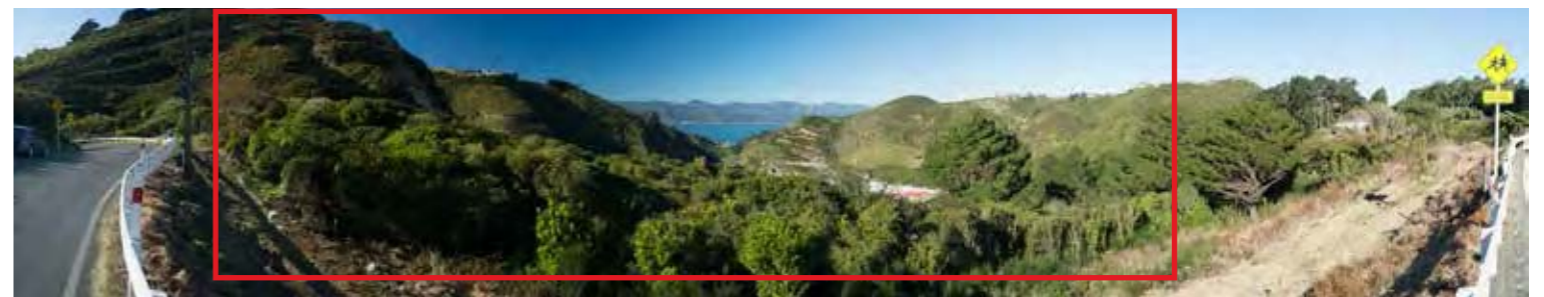


Viewpoint 3 - Medium Development - Mitigated
15 - 20 years after quarrying

Looking south east from Fraser Ave below Westmount School

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I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQB File - Drawings\B3 - Display Files\Indesign





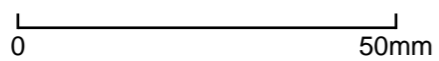
Kiwi Point Quarry

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





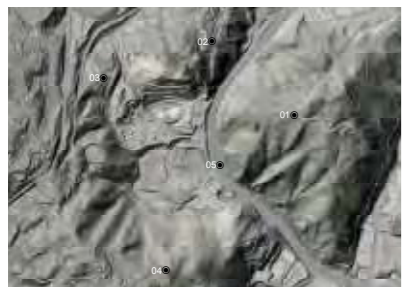
Viewpoint 3 - Maximum Development - Unmitigated

Looking south east from Fraser Ave below Westmount School



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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

0 50mm

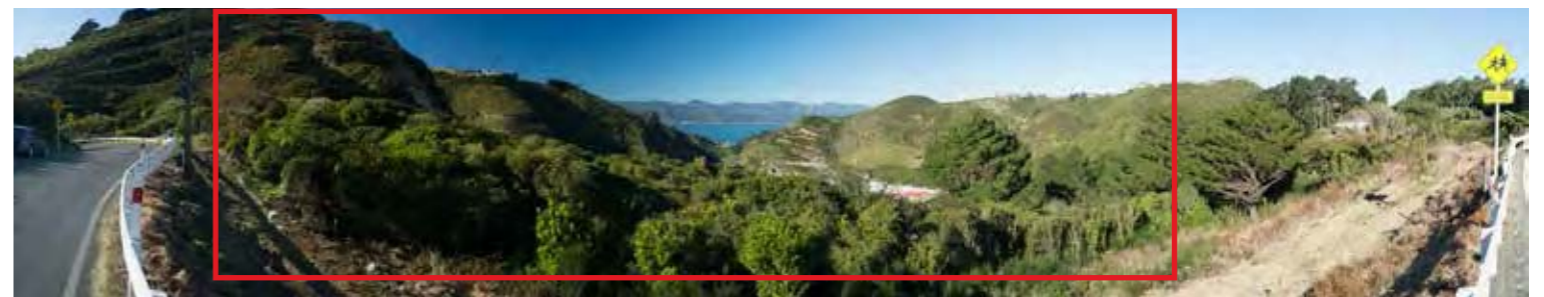


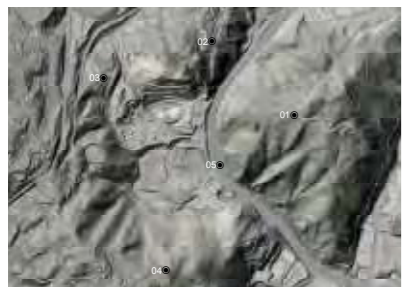
**Viewpoint 3 - Maximum Development - Early Mitigation
1 year after quarrying**

Looking south east from Fraser Ave below Westmount School

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I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQB File - Drawings\B3 - Display Files\Indesign





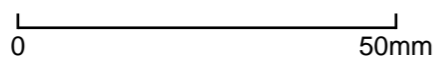
Kiwi Point Quarry

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



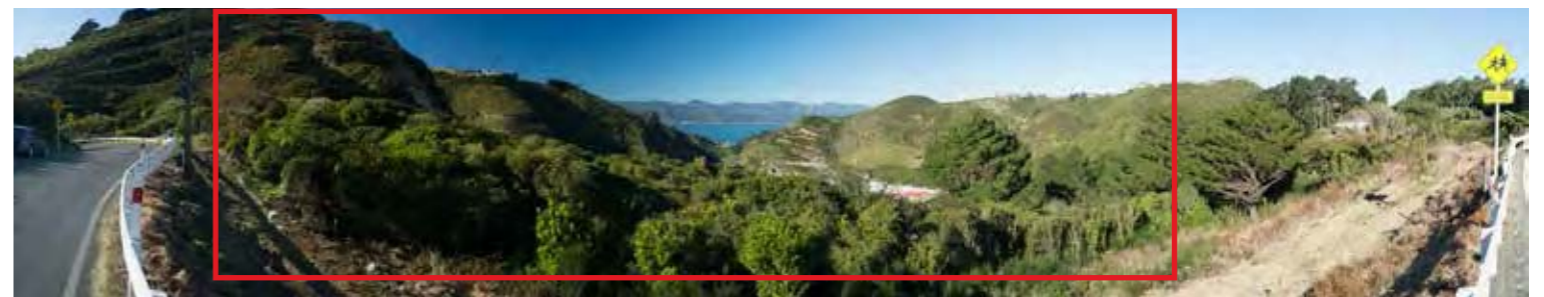


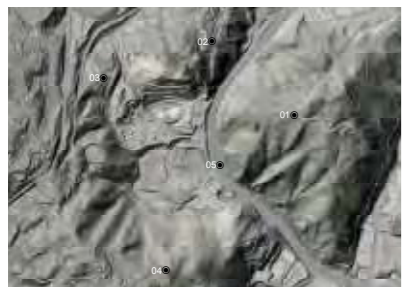
Viewpoint 3 - Maximum development - Mitigated
15 - 20 years after quarrying

Looking south east from Fraser Ave below Westmount School

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I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQB File - Drawings\B3 - Display Files\Indesign





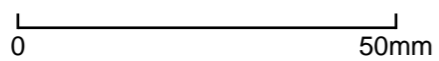
Kiwi Point Quarry

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



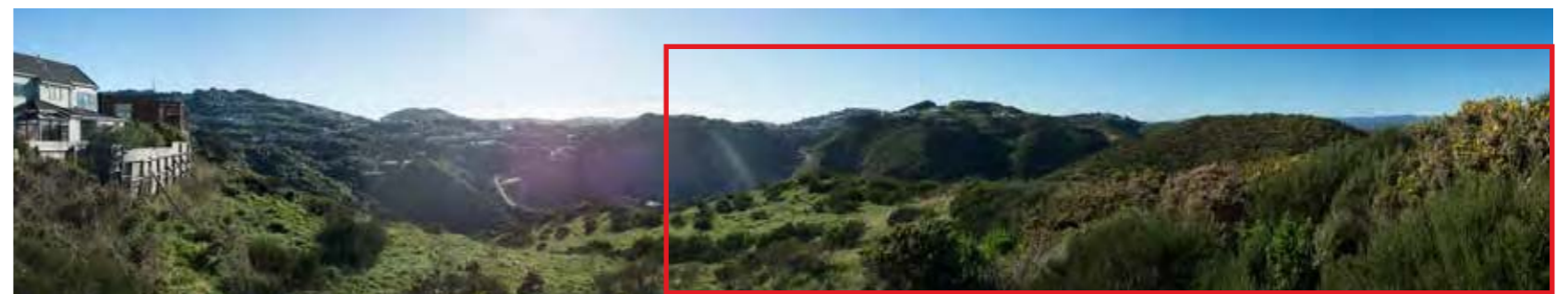


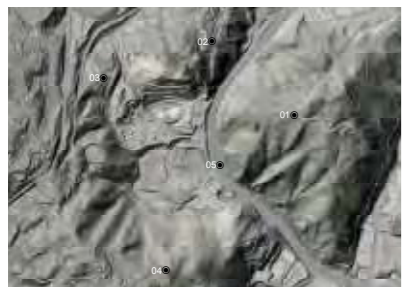
Viewpoint 4 - Existing

Looking north from reserve below Shastri Terrace

P46 July 2017 • 3706 • Kiwi Point Quarry - FOR INFORMATION ONLY

I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQ\B File - Drawings\B3 - Display Files\Indesign





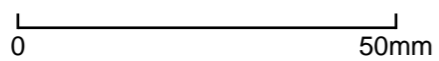
Kiwi Point Quarry

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



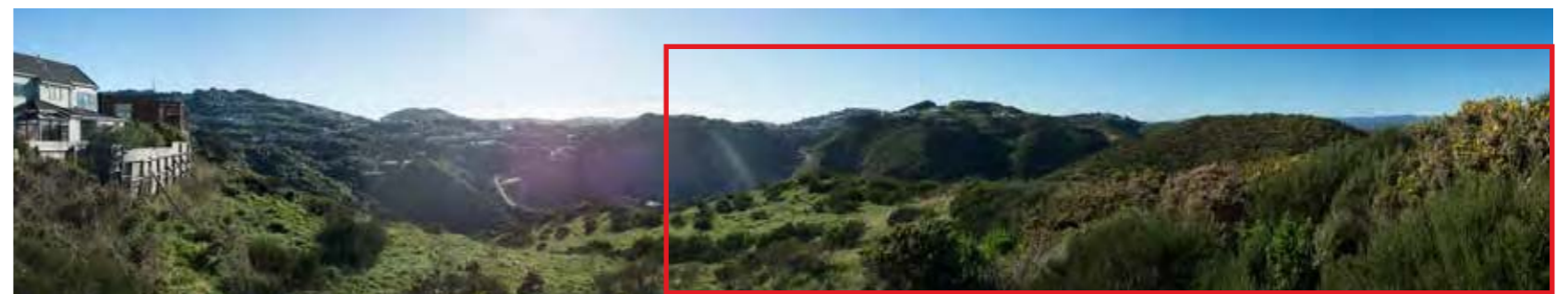


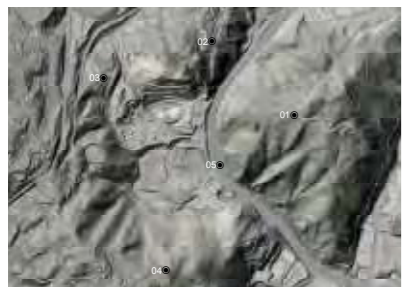
Viewpoint 4 - Medium Development - Unmitigated

Looking north from reserve below Shastri Terrace

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I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQ\B File - Drawings\B3 - Display Files\Indesign





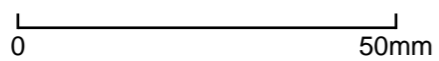
Kiwi Point Quarry

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



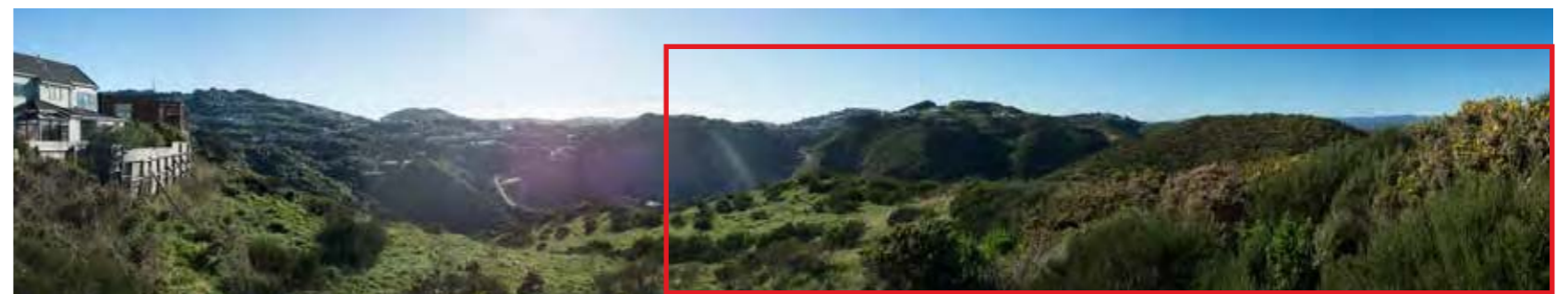


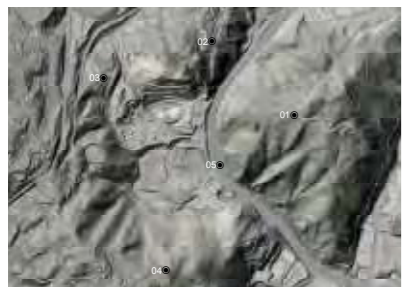
Viewpoint 4 - Medium Development - Early Mitigation
1 year after quarrying

Looking north from reserve below Shastri Terrace

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I:\Jobs\3000 - 3999\3700 - 3799\3706 KPQ\B File - Drawings\B3 - Display Files\Indesign





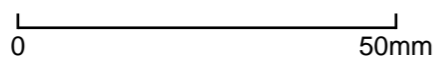
Kiwi Point Quarry

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



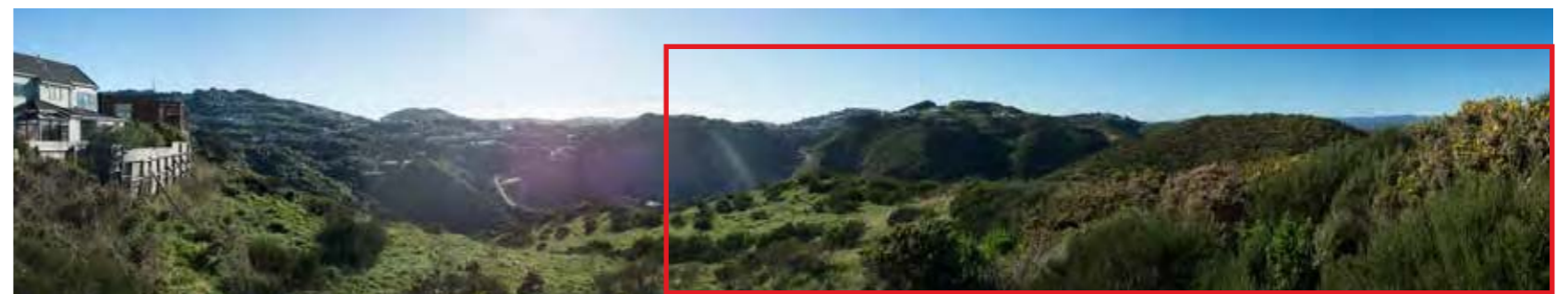


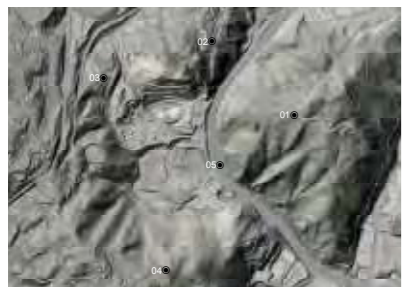
Viewpoint 4 - Medium Development- Mitigated
15 - 20 years after quarrying

Looking north from reserve below Shastri Terrace

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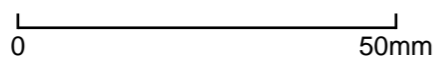
Kiwi Point Quarry

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



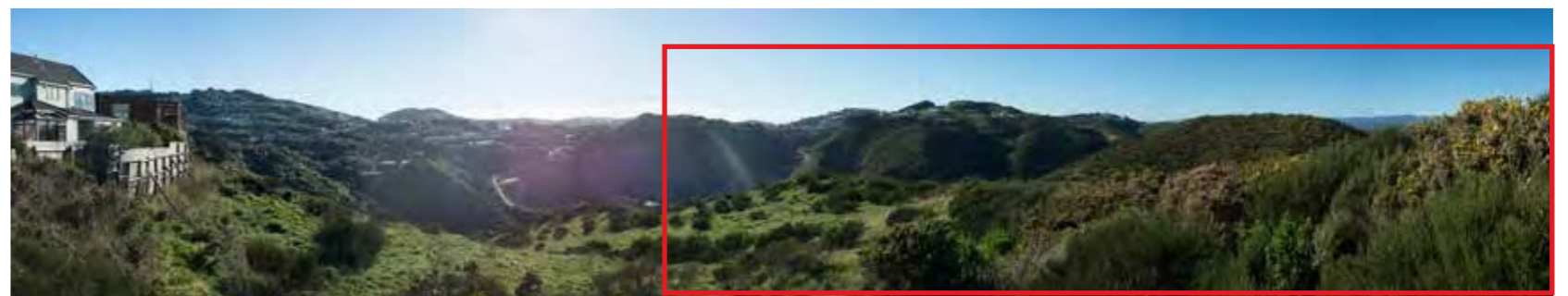


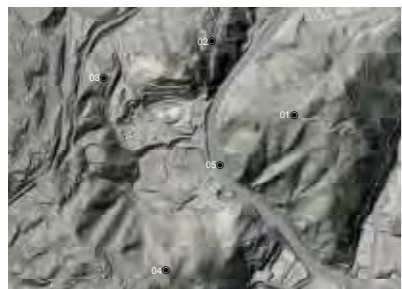
Viewpoint 4 - Maximum Development - Unmitigated

Looking north from reserve below Shastri Terrace

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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

0 50mm

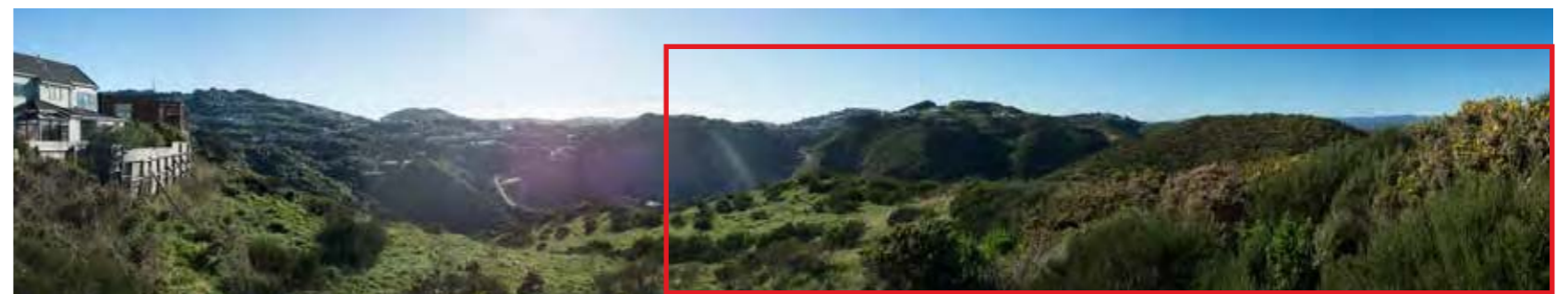


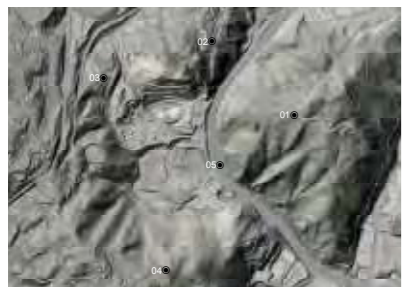
**Viewpoint 4 - Maximum Development - Early Mitigation
1 year after quarrying**

Looking north from reserve below Shastri Terrace

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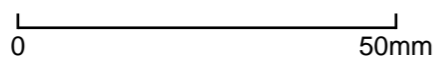
Kiwi Point Quarry

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



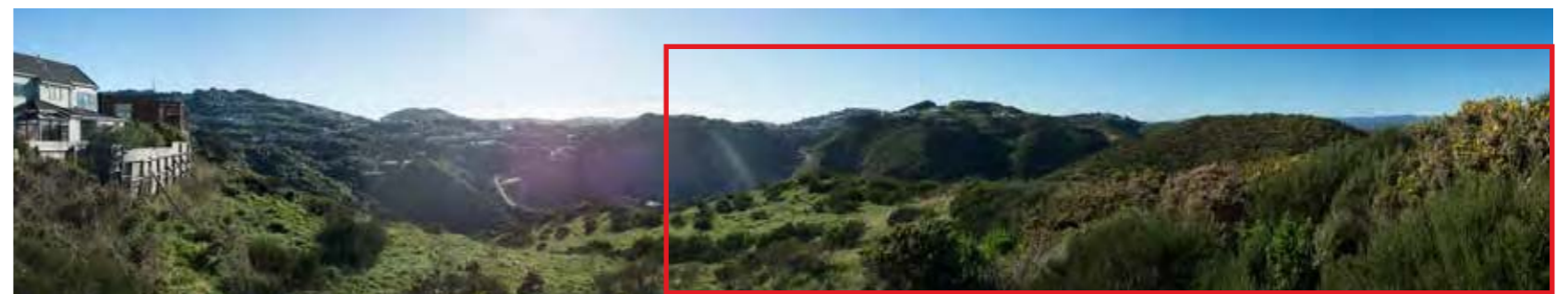


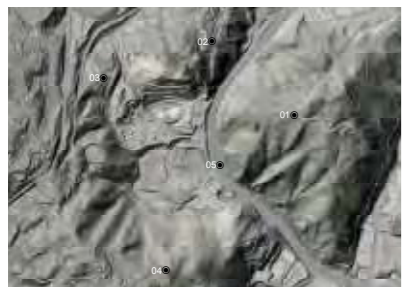
Viewpoint 4 - Maximum Development - Mitigated
15 - 20 years after quarrying

Looking north from reserve below Shastri Terrace

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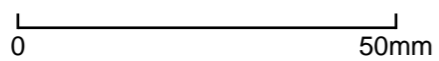
Kiwi Point Quarry

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



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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

0 50mm

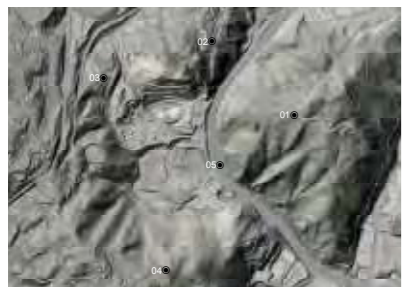


Viewpoint 5 - Medium Development - Unmitigated

Looking south from SH1



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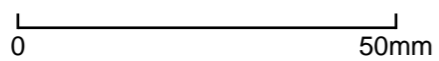
Kiwi Point Quarry

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 - Medium Development - Early Mitigation

1 year after quarrying

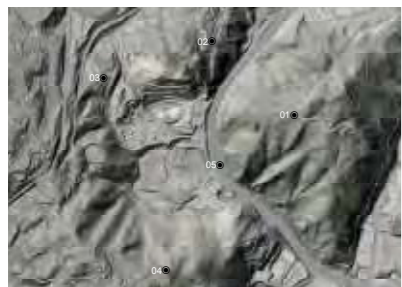
Looking south from SH1





STOCK
EFFLUENT
DISPOSAL
NEXT EXIT

 NEXT
EXIT



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

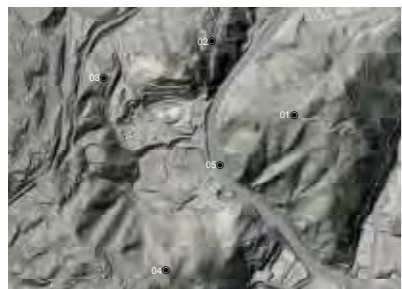
0 ————— 50mm



**Viewpoint 5 - Medium Development - 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

0 50mm



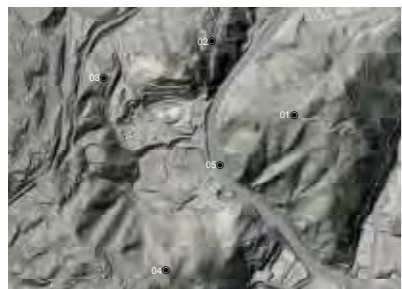
Viewpoint 5 - Maximum Development - Unmitigated

Looking south from SH1



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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

0 50mm



Viewpoint 5 - Maximum Development - Early Mitigation

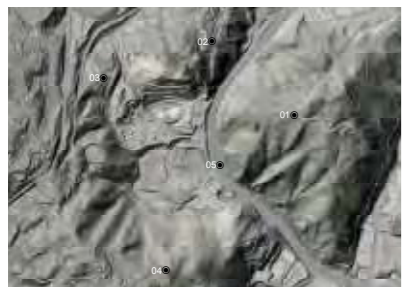
1 year after quarrying

Looking south from SH1



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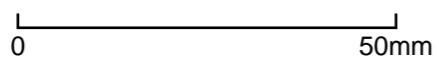
Kiwi Point Quarry

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

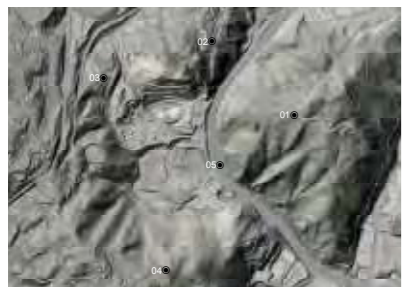




**Viewpoint 5 - Maximum development - Mitigated
15 - 20 years after quarrying**

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

0 50mm

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.

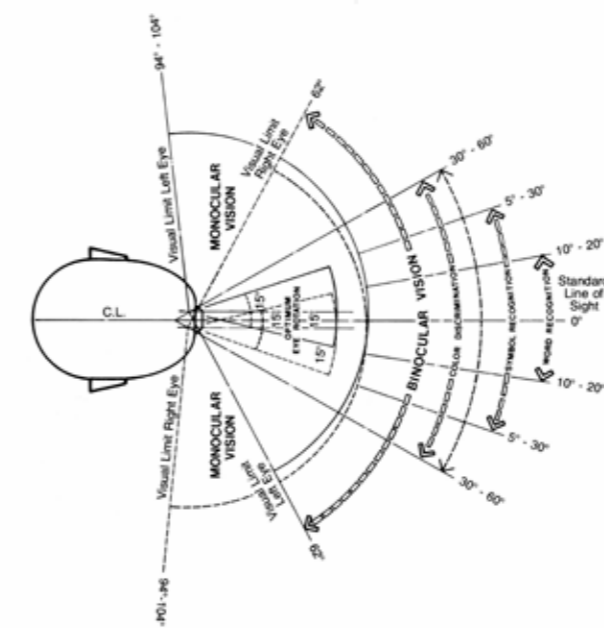
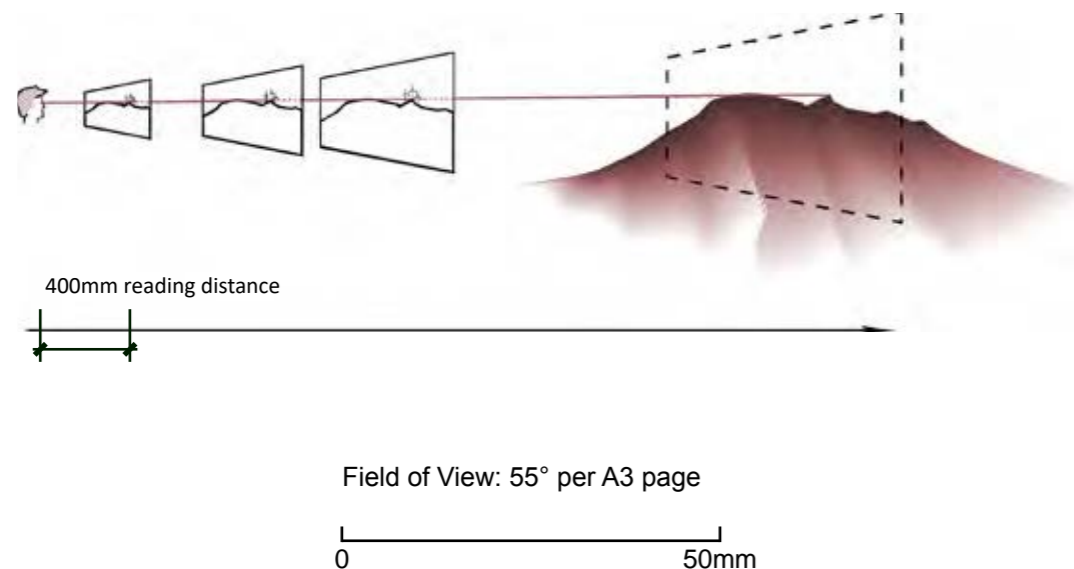


Figure 02: Binocular vision is approximately 124°. Field of view is approximately 110° across 2 x A3 pages at correct scale image for 400mm reading distance (vertical field of view is approximately 33°)

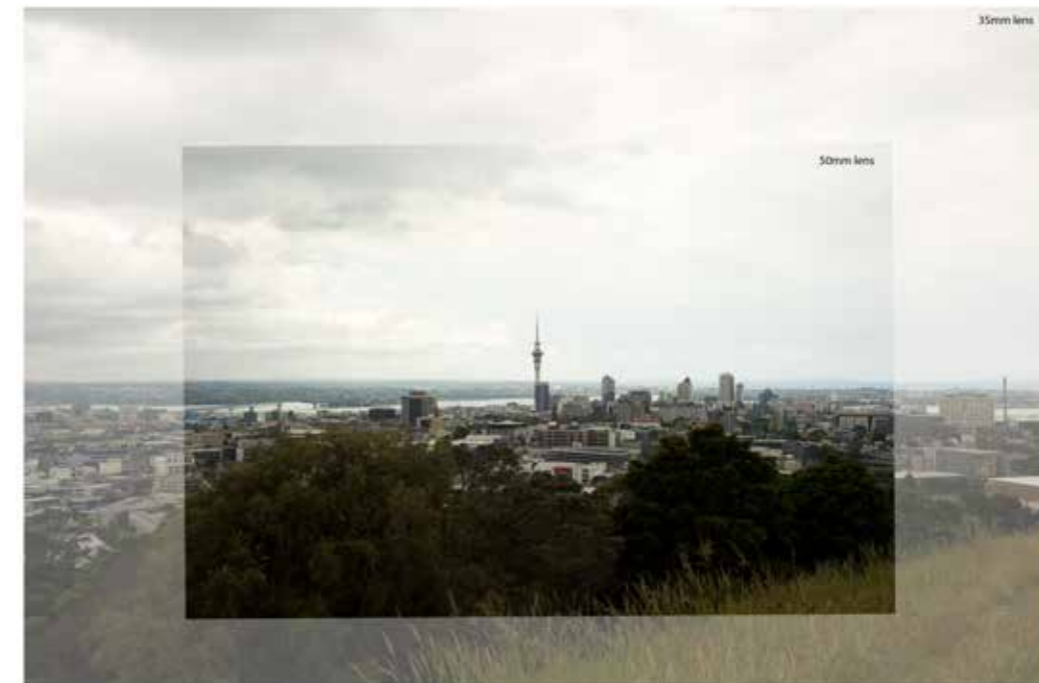


Figure 03: Comparison of 35mm lens and 50mm lens

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.