

mount cottrell, visual impact assessment | hansen partnership Pty Ltd

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1 Introduction

Hansen Partnership was engaged by Western Water to undertake a visual impact assessment of the proposed construction of water tanks on Mount Cottrell to service urban growth areas around Melton, including Toolern. The water storage tanks will have a combined total capacity of 29,114L.

To assess the visual impacts of the proposed water storage tanks, Hansen Partnership prepared photomontages to obtain an accurate representation of the manner in which the tanks would appear in the landscape, and to use these photomontages as the basis for determining the visual impact of the proposed development.

Determining where view locations would be located involved desktop analysis and viewed modelling, discussions with Melton City Council Officers about desktop analysis and viewed modelling findings, followed by determining on site where the most prominent view locations are, taking into account the screening effects of buildings, vegetation and other elements within the landscape.

A series of criteria for assessing the visual impact were defined, as a means of understanding the visual impact of the proposed tanks. This report summarises these impacts.

2 The subject site

The subject site is located at 1665-1715 Mount Cottrell Road in Mount Cottrell. The site is irregular in shape, comprising:

- An irregular shaped rectangle area approximately 165 metres by 280 metres; and
- An access track approximately 600 metres long and offset 15 metres south from the northern boundary of 1665-1715 Mount Cottrell Road.

The subject site has access to Mount Cottrell Road and shared boundaries with three adjoining properties. The total area of the site is 5.103 hectares.

The site slopes down from its eastern boundary in a predominantly westerly direction. From a high point of approximately 181 metres AHD, the site falls approximately 13 metres to its western boundary.

The site is presently pasture land.



Figure 1 - subject site

2.1 Planning framework

The subject site is affected by a number of planning controls within the Melton Planning Scheme.

2.2 Zoning

The subject site is included within the **Green Wedge Zone (GWZ)**.

The purpose of this zone is to:

- To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies;
- To recognise, protect and conserve green wedge land for its agricultural, environmental, historic, landscape, recreational and tourism opportunities, and mineral and stone resources;
- To encourage use and development that is consistent with sustainable land management practices;
- To encourage sustainable farming activities and provide opportunity for a variety of productive agricultural uses;
- To protect, conserve and enhance the cultural heritage significance and the character of open rural and scenic non-urban landscapes;
- To protect and enhance the biodiversity of the area.

2.3 Overlays

The site is affected by **Significant Landscape Overlay 1 (SLO1)**

The statement of nature and key elements of landscape notes:

The Mt Cottrell, Mt Atkinson and Mt Kororoit Volcanic Hills and Cones provide visual relief in an otherwise flat landscape. In order to protect these volcanic cones from development, buildings and works will be discouraged above the following contour lines:

- Mount Cottrell, 160 metres
- Mt Kororoit, 180 metres
- Mount Atkinson, 120 metres

The landscape character objectives of this overlay are:

- To conserve the existing pattern of vegetation, landscape quality and ecosystems within the area and encourage the re-generation of vegetation;
- To protect and conserve volcanic hills and cones from inappropriate development and to help to conserve the existing visual amenity and rural landscapes.

4 Methodology and assessment criteria

The methodology for undertaking the visual impact assessment comprises a 4-step approach: firstly to undertake a viewshed analysis as a means of identifying and mapping the visual catchment of the sites; secondly to identify and describe the landscape character of the site and its visual catchment; thirdly to identify and select view locations within the visual catchment; and lastly, to prepare photomontage images to provide an accurate representation of how the proposed storage tanks would appear in the landscape.

The methodology utilised is a standard approach which our organisation has developed over a number of years. It is consistent with the requirements of VCAT (refer Appendix 1 of the *Austcorp Group v Moirash CC (Red Dot)* [2006] VCAT 682 (27 April 2006)) for photomontage preparation and is based upon a number of recognised methodologies, such as *Visual Landscape Planning in Victoria Australia: A manual for evaluation, assessment, siting and design* (2007).

The viewshed analysis was undertaken for all land within 5 kilometres of the proposed locations of the water tanks. The decision to limit the viewshed analysis to a distance of 5km was made on the basis that the overall dimensions of the water tanks did not warrant the assessment of any impact on views beyond that distance, the assumption being that beyond 5km any visual impact would be negligible by virtue of distance alone, regardless of any other contributing factor. By way of comparison, our office has prepared visual impact assessments for a number of Wind Energy Facility projects, and even allowing for the significantly greater size of typical wind turbines in comparison to the proposed water tanks, numerous Victorian Planning Panels have asserted that beyond distances of 3km, the visual impact resulting from wind turbines decreases markedly.

During initial discussions with officers from Melton City Council, a concern was raised regarding the potential for visual impact on views from the public vantage point at the summit of Flinders Peak in the 'You Yangs Regional Park, resulting from the proposed tanks. Given that the distance from this vantage point to the location of the proposed tanks is in excess of 27 kilometres, and that photomontages prepared for view locations within 5km demonstrate a negligible visual impact, we did not consider it necessary to visit that vantage point nor did we consider it necessary to prepare a photomontage image from that vantage point.

In adopting a series of criteria for assessing the visual impact it is important to define a range of terms which provide some indication of the extent to which a view location may be impacted upon visually by the proposed development. In determining this range we have adopted a grading system of visual impact categories described below. This grading system is based on the recommendations of Planning Panels Victoria (refer *Bald Hills Water Farm Project*, EES, EES Supplement and *Caibin Permits Panel Report 24 June 2004*, p.220 and *Wulaba Water Farm Planning Permit Call in: Application nos 050150 & 050152*, March 2005, p.66) in identifying and describing the visual impact of wind energy facilities, but is equally applicable to other forms of major infrastructure.

Extreme: entailing close proximity in an exposed location incapable of effective mitigation, where in principle we would consider the proposed structures as impacting unacceptably on visual amenity, with limited opportunity for the implementation of mitigation measures.

Substantial: where impacts will be substantial, with the proposed structures forming a major element in the view. There will be a tendency for proposed structures to be more dominant than other landscape elements. Consideration of the feasibility and appropriateness of mitigation measures will determine whether or not the development results in unacceptable impacts on visual amenity.

Moderate: proposed structures will typically be visible, sometimes obviously so. Notwithstanding this, the generally greater distances involved, together with the contribution to visual screening typically provided by topography or vegetation, results in situations where proposed structures will not be a dominant element in the view. Mitigation measures are generally not necessary.

Limited: proposed structures are visible but form only minor elements in a viewable view as a result of distance and/or screening by vegetation and/or topography. Mitigation measures are considered unnecessary.

Negligible: proposed structures are visible in clear conditions and may be recognisable, but conversely may sometimes not even be noticed. Mitigation measures are considered unnecessary.

5 Assessment of the proposal

In order to undertake an assessment of the visual impact of the proposal the following tasks, have been undertaken:

- Viewshed analysis
- Landscape character description
- Viewshed verification
- Preparation of photomontage views

5.1 Viewshed analysis

A viewshed analysis is undertaken as a means of identifying all land within a predetermined area which has the potential to afford views of the subject site, and hence also the potential to afford views of future development on the subject site.

The preparation of the viewshed analysis involved the preparation of a computer-generated 'terrain model', utilising a combination of data obtained from Western Water (proposed development drawings) and data purchased from Land Victoria (topographic information, comprising 1 metre contours and property information). The locations of the subject site and proposed development are referenced to the terrain model, after which proprietary software is used to generate a map of all land within 5 kilometres of the subject site from which views of the site are 'theoretically' available.

It is important to note that the viewshed mapping identifies all areas with potential views of the subject site. The mapping is based on cadastral and topographic data only, and as such does not take into account the screening effect of existing vegetation, building and other structures. In this regard, the viewshed mapping presents as a 'worst case scenario'.

A total of ten view locations were identified through the processes of desktop analysis and viewshed modelling, discussions with Melton City Council Officers about desktop analysis and viewshed modelling findings, followed by determining on site where the most prominent view locations are, taking into account the screening effects of buildings, vegetation and other elements within the landscape.

A Viewshed Analysis Map was generated for the three proposed water tanks (on the basis of reference points at the highest point of each of the three proposed water tanks) to allow consideration of the viewshed extent.

The Viewshed Analysis Map is provided as figure 5.

5.2 Landscape character description

Mount Cottrell is by virtue of its elevated topography a landmark within the context of the broader landscape within which it sits. As a volcanic cone, it provides an important geological and topographical example of the evolution of the landscapes of western Melbourne.

The landscape character of the study area – comprising Mount Cottrell itself and land within 5km of the Mount – is best described as an open, sparsely vegetated pastoral landscape, which is generally flat with the exception of a small number of locally-prominent topographical features. These features include Mount Cottrell itself, as a local high point, and also the Werribee River corridor, which is a deeply incised river valley set into the basalt plains which it flows through.

The land is generally agricultural in appearance, although there are areas of remnant grassland, and a major grassland reserve is planned for land to the southwest of Mount Cottrell, on both sides of the Werribee River corridor.

By virtue of its openness, the land is susceptible to visual impact resulting from the introduction of new elements into the landscape. Because of this, it is critical for any mitigation measures required to address visual impact to be especially considerate of the landscape character of the surrounding area, and to ensure that measures are undertaken to minimise any visual contrast between existing landscapes and proposed planting or other landscape treatments associated with proposed development such as the proposed tanks.

5.3 Viewshed verification

The process of viewshed verification involves visiting the primary vantage points identified through the viewshed analysis process and observing the actual views toward the subject site from those vantage points, as a means of developing an awareness of the extent to which potential views are affected by screening afforded by existing vegetation, buildings and other structures.

Site visits for the process of viewshed verification were undertaken on Tuesday 18th October 2011.

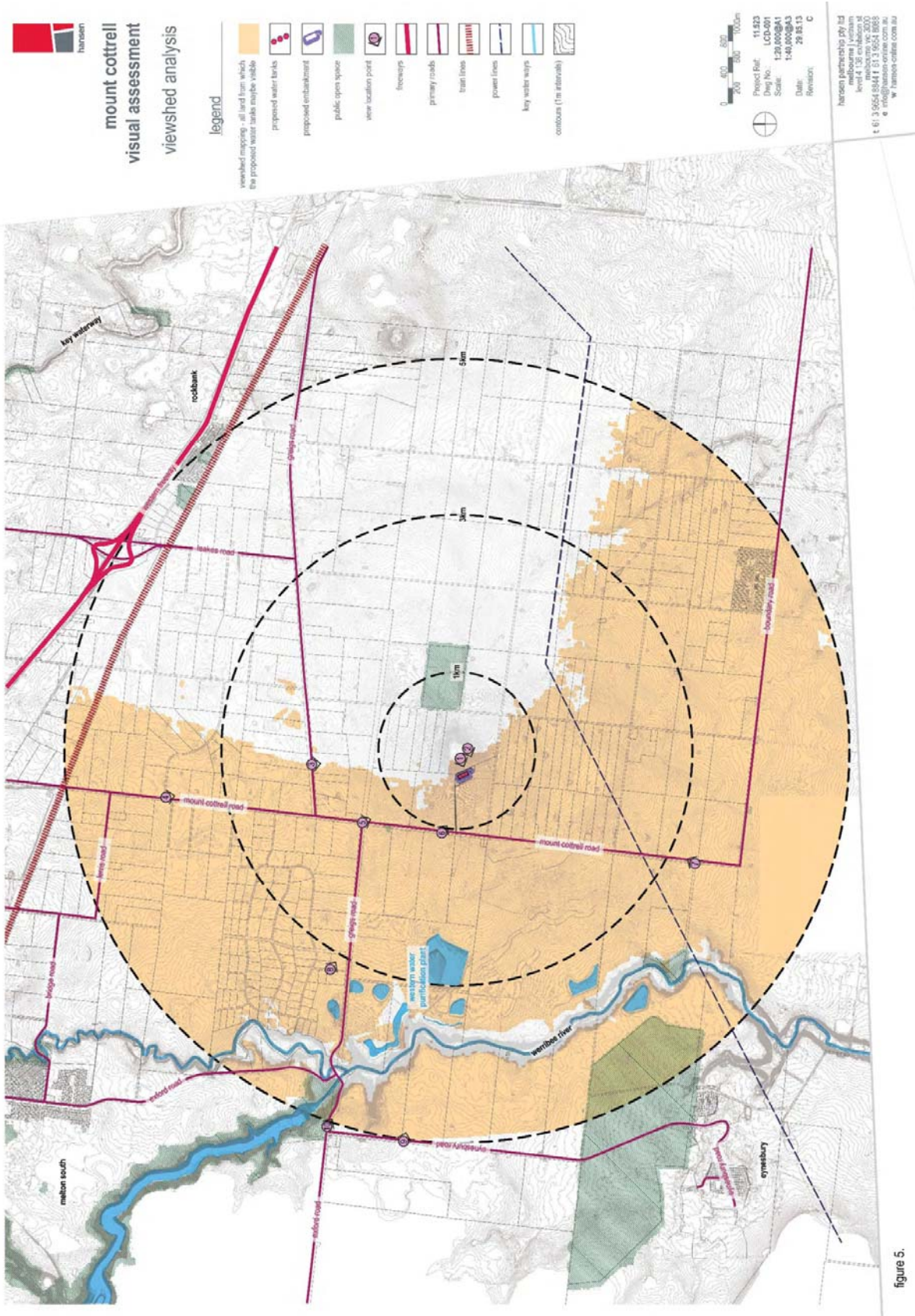


figure 5.

5.4 Preparation of photomontage images

Ten vantage points were selected as being representative of views available to the subject site, for which photomontage imagery could be prepared to demonstrate the following:

- The existing view.
 - The existing view with the proposed development superimposed.
- The photomontage imagery is provided as Figures 6 - 15 and should be read in association with the following explanatory text.

View/location 1

The view/location was taken at a high point on Mount Cottrell, at GPS coordinates 0290495E / 5617908N and an elevation of AHD 204m.

This view/location was taken approximately 200m away from the proposal, with a prominent view towards the west to the distant 'You Yangs'. The view/location was selected as a potential location for the development of a viewing platform by Council, with the intention of providing views across the future grassland reserve and the Warrabee River to the distant 'You Yangs'.

It was noted during the site inspection that the proximity of existing infrastructure on Mount Cottrell would potentially reduce the amenity and hence suitability of this location for a future viewing platform.

The following is a summary of findings from the photomontage for view/location 1.

- Tank 1 - 2: not visible.
- Tank 3, embankment and security fence: visible.

Extent of anticipated Visual Impact:

- Tank 3, the embankment and the security fence are partly visible from view location 1. The visual impact is substantial.

Recommendations:

- Ensure the materials of the water tank and security fence are in a neutral colour tone similar to their surroundings and non-reflective.

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).

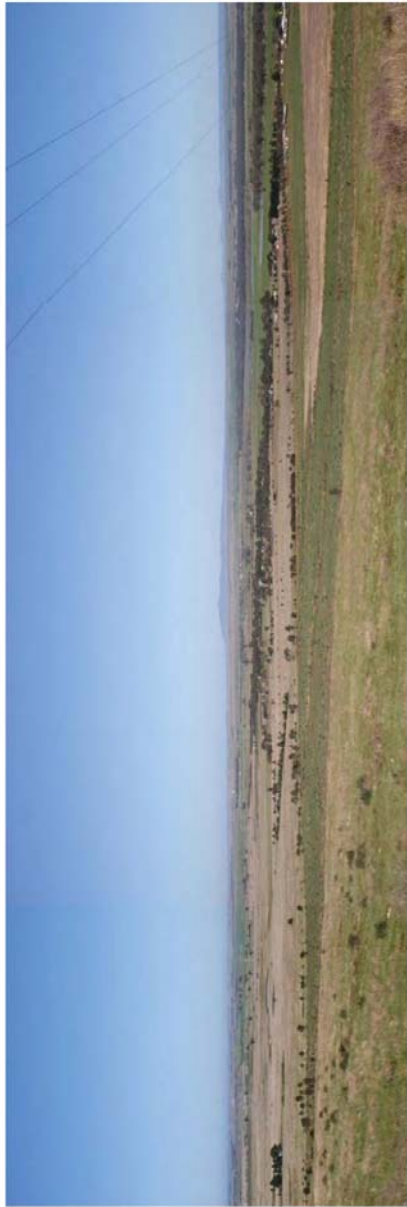


**western water, mount cottrell
visual impact assessment
view location 1**

photo manage created by:
Kevin Lee - BPAch
images created using:
photoscape 4.0, autoCAD 2014 L, Adobe state CSS
metadata used to collect relevant data:
photo locations obtained on site by Hansen partnership
PL: site plan prepared by western water architecture
containing group
camera:
Canon EOS 300D Digital SLR
lens:
Canon EF-S 18-55mm f/3.5-5.6 IS II
focal length: 50mm
shutter speed: 1/1250
ISO: 100
date: 11/3/2011
time: 11:34am
photo taken at:
160cm above ground level
reconstructed or modified elements:
proposed water tanks main height is 184m top of
water tank
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-401, revision C

View location 1:
e: 0290495 n: 5817808
fl: 204m

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view location 1 (mount cottrell) - existing view



view location 1 (mount cottrell) - proposed water tanks with embankment photo montage

20° vertical field view
-18°
18°

| orientation of view | distance 210m |
|---------------------|---------------|
| 230° | 259° |
| 240° | |
| 248° | |

project ref: 2011.623
orig no.: 04-001
date: 24.05.13
revision: A

| water tank | bank 1 | bank 2 | bank 3 |
|---------------------------|---------|---------|---------|
| water tank capacity: | 9.57ML | 9.57ML | 9.57ML |
| water tank diameter: | 110.07m | 110.07m | 110.07m |
| distance from water tank: | 22.0m | 21.6m | 21.0m |
| water tank top level: | 184m | 184m | 184m |
| water tank base level: | 172m | 173m | 172m |

figure 6.

View location 2

The view location was taken on a high point on Mount Cottrell, at GPS coordinates 036060E / 561773N and an elevation of AHD 204.6m.

This view location was taken approximately 300m away from the proposal, with a prominent view towards the west to the distant You Yangs. The view location was selected as a potential location for the development of a viewing platform by Council, with the intention of providing views across the future grassland reserve and the Werribee River to the distant You Yangs. The following is a summary of findings from the photomontage for view location 2.

- Tank 1 - 3, not visible.
- Security fence and embankment, visible.

Extent of anticipated visual impact:

- The security fence and embankment is partly visible from view location 2. The visual impact is limited.

Recommendations:

- Ensure the materials of the security fence are in a neutral colour tone similar to its surroundings and non-reflective.
- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 2**

photo montage created by:
Kevin Lee - Ditch
Images created using:
Autodesk 4.0, AutoCAD 2014, Adobe Photoshop CS5
Method used to collect relevant data:
photo locations obtained on site by Hansen partnership
P.L. site plan prepared by western water and C/D
consulting group
camera: EOS 350D Digital SLR
lens: 18mm
camera view:
camera height: 1.5m
50mm focal length
photograph taken:
11.54am on the 18th of October 2011
photo taken at:
166cm above ground level
recommended or modified elements:
proposed water tanks maximum heights: 184m (top of
water tank)
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C

view location 2:
e: 0290390 p: 3817737
tl: 204.6m

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view location 2 (mount cottrell) - existing view



view location 2 (mount cottrell) - proposed water tanks with embankment photomontage

20° vertical field view
-18°
-18°



| water tank: | bank 1 | bank 2 | bank 3 |
|--------------------------|---------|---------|---------|
| viewpoint capacity: | 5.07MA | 9.57MA | 9.57MA |
| viewpoint elevation: | 112.07m | 112.07m | 112.07m |
| distance from viewpoint: | 251m | 325m | 386m |
| viewpoint top level: | 184m | 184m | 184m |
| viewpoint base level: | 112m | 112m | 112m |

project ref: 2011.623
diag no.: VIA-002
date: 24.03.13
revision: A

figure 7.

View location 3

The view location is within the Greigs Road road reservation, at GPS coordinates 0290399E / 5619704N and an elevation of AHD 128.07m.

This view location was taken approximately 4.5km away from the proposal, with a prominent view towards Mount Cottrell. The following is a summary of findings from the photomontage for view location 3.

- Tank 1 - 3, not visible.

Extent of anticipated visual impact;

- No tanks are visible, as the proposed embankment screens them. The visual impact of the embankment is limited.

Recommendations;

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 3**

photo montage created by:
Kevin Lee - BPAch
images created using:
photoscan 4.0, autoCAD 2014, Adobe Suite CS5
method used to collect relevant data:
photo locations obtained on site by hansen partnership
PL site plan prepared by western water in collab-
orating group
camera EOS 500D Digital SLR
camera lens:
Canon EFS 18-55mm f/3.5-5.6 IS II
photo taken at:
12.31pm on the 18th of October 2011
160cm above ground level
reconstructed or modified elements:
proposed water tanks main height is 18.4m top of
water tank
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C.

View location 3:
e: 0290399 n: 3619704
rl: 128.07m

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view location 3 (Greggs road) - existing view



view location 3 (Greggs road) - proposed water tanks with embankment prominent

| water tank: | bank 1 | bank 2 | bank 3 |
|---------------------------|--------|--------|--------|
| water tank capacity: | 5.57ML | 9.57ML | 9.57ML |
| water tank dimension: | 11.03m | 11.03m | 11.03m |
| distance from water tank: | 470m | 472m | 474m |
| water tank top level: | 188m | 133m | 186m |
| water tank base level: | 172m | 173m | 172m |

project ref: 2011.623
diag no.: 04-003
date: 28.05.13
revision: A

figure 6.

View location 4

The view location is within the Mount Cottrell Road road reservation, at GPS coordinates 0500398E / 5819704N and an elevation of AMD 123.07m.

This view location was taken approximately 4.5km away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings for the prominence for view location 4.

- Tank 1 - 3, not visible

Extent of anticipated visual impact;

- No tanks are visible, as it is screened by a row of existing vegetation along the southern boundary of 1165 – 1203 Mount Cottrell Road. The visual impact is non-existent.

Recommendations:

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 4**

photo montage created by:
Kevin Ier - BDP
images created using:
rhinoceros 4.0, autoCAD 2014, Adobe Photoshop CS5
material used to collect relevant data:
photo locations obtained site by Hansen partnership
PL site plan prepared by western water and C/Eng
consulting group
camera EOS 500D Digital SLR
lens EF 18-55mm f/3.5-5.6 IS II
camera view:
height 1.6m
50mm focal length
photograph taken:
12.50pm on the 18th of October 2011
photo taken at:
160cm above ground level
reconstructed or modified elements:
proposed water tanks main tank height is 184m top of
water tank
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C.

View location 4:
e: 0209382 n: 5821561
rl: 121.00m

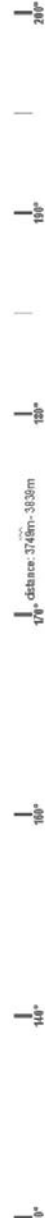
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view location 4 (mount cottrell road) - existing view



view location 4 (mount cottrell road) - proposed water tanks with embankment photo montage



| water tank: | bank 1 | bank 2 | bank 3 |
|---------------------------|--------|--------|--------|
| subtotal capacity: | 5,27ML | 9,57ML | 9,57ML |
| subtotal dimensions: | 110.7m | 110.7m | 110.7m |
| distance from water tank: | 318m | 318m | 318m |
| subtotal top levels: | 184m | 184m | 184m |
| subtotal base levels: | 172m | 172m | 172m |

| project ref: | 2011.623 |
|--------------|----------|
| diag no.: | 04-004 |
| date: | 28.05.13 |
| revision: | A |

figure 9.

View location 5

The view location is within the corner of Mount Cottrell Road and Greigs Road road reservation, at GPS coordinates 0239657E / 331906N and an elevation of AHD 126.90m.

This view location was taken approximately 1.3km away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings from the photomontage for view location 5.

- Tank 1 - 3, not visible.

Extent of anticipated visual impact;

- No tanks are visible, as the proposed embankment screens them. There is also an existing dwelling which partially screens the proposed embankment.

The visual impact of the embankment is limited.

Recommendations;

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



western water, mount cottrell
visual impact assessment
view location 5

photo montage created by
Kevin Lee - Ditch
Images created using
Autodesk 4.0, AutoCAD 2014, Adobe Photoshop CS5
rendered using 3ds Max 2014
photo locations obtained on site by Hansen partnership
P.L. site plan prepared by western water partnership
consulting group
© Hansen
cases E06 3/600 Digital SLR
camera lens
aperture f/8
ISO 100
50mm focal length
photograph taken:
1. 8/11/11 from the 15th of October 2011
photo taken etc.
160cm above ground level
reconstructed or modified elements:
proposed water tanks maximum heights (184m) top of
water tank
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C.

view location 5:
e: 028 9537 n: 581 5005
rl: 126 597m

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view location 5 (corner of greigs road and mount cottrell road) - existing view



view location 5 (corner of greigs road and mount cottrell road) - proposed water tanks with embankment photo montage

| water tank: | bank 1 | bank 2 | bank 3 |
|---------------------------|---------|---------|---------|
| water tank capacity: | 5.97ML | 9.57ML | 9.57ML |
| water tank dimensions: | 11.257m | 11.027m | 11.027m |
| distance from water tank: | 1388m | 1412m | 1458m |
| water tank top level: | 184m | 184m | 184m |
| water tank base level: | 112m | 112m | 112m |

project ref: 2011/623
diag no.: VIA-009
date: 24.03.13
revision: A

figure 10.

View location 6

The view location is within the Mount Cottrell Road road reservation, at GPS coordinates 0389523E / 581 8038N and an elevation of AMD 132.97m.

This view location was taken approximately 1km away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings for the prominence for view location 6.

- Tank 1 - 3, not visible.
- Security fence and embankment, visible.

Extent of anticipated visual impact;

- No tanks are visible, as the proposed embankment screens them, however the security fence is partially visible. The visual impact of the security fence and embankment is moderate.

Recommendations:

- Ensure the materials of the security fence are in a neutral colour tone similar to its surroundings and non-reflective.
- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).

View location 7

The view location is within the Mount Cottrell Road road reservation, at GPS coordinates 0289140E / 5814618N and an elevation of AHD 92.92m.

This view location was taken approximately 1km away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings for the prominence for view location 7.

- Tank 1 - 3, not visible.
- Security fence and embankment, visible.

Extent of anticipated visual impact;

- No tanks are visible, as the proposed embankment screens them, however the security fence is partially visible. The visual impact of the security fence and embankment is limited.

Recommendations:

- Ensure the materials of the security fence are in a neutral colour tone similar to its surroundings and non-reflective.
- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 7**

photo montage created by:
Kevin Lee - E.Dech
Images created using:
Autodesk 4.0, AutoCAD 2014, Adobe Suite CS5
Method used to collect relevant data:
photo locations obtained on site by Hansen partnership
P.L. site plan prepared by western water and C/DG
consulting group
camera:
Canon EOS 350D Digital SLR
camera lens:
Canon EF 55mm (1:1.8) lens
50mm focal length
photograph taken:
1:25pm on the 15th of October 2011
photo taken at:
156cm above ground level
reconstructed or modified elements:
proposed water tanks mean heights: 184m (top of
water tank)
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C.

View location 7:
e: 0289140 p: 3814816
rl: 92.92m

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view location 7 (mount cottrell road) - existing view



view location 7 (mount cottrell road) - proposed water tanks with embankment photo montage



| water tank: | bank 1 | bank 2 | bank 3 |
|---------------------------|--------|---------|---------|
| water tank capacity: | 5.57ML | 9.57ML | 9.57ML |
| water tank elevation: | 113.7m | 112.07m | 112.07m |
| distance from water tank: | 470.0m | 472.2m | 474.7m |
| water tank top level: | 184m | 184m | 184m |
| water tank base level: | 112m | 112m | 112m |

project ref: 2011.623
diag no.: VIA-007
date: 24.05.13
revision: A

figure 12.

View location 8

The view location is within the Redgum Drive road reservation, at GPS coordinates 0287782E / 5619465N and an elevation of AHD 108.63m.

This view location was taken approximately 30m away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings for the prominence for view location 8.

- Tank 1 - 3, not visible

Extent of anticipated visual impact;

- No tanks are visible, as it is screened by the proposed embankment and a row of existing vegetation along an eastern boundary section of the Western Water Purification Plant on Greigs Road. The visual impact is negligible.

Recommendations:

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 8**

photo montage created by:
Kevin Lee - 10/2/14
images created using:
photoshop CS6
rendered using: 3ds max 2014 L, subo, sbs, CSS
rendered using: 3ds max 2014 L, subo, sbs, CSS
photo locations obtained on site by Hansen partnership
P.L. for plan prepared by western water and c/o
consulting group
K.L.
cases: EGS 3/6/09 Digital SLR
camera lens: 18mm
camera height: 1.5m
photo taken at:
1:42pm on the 18th of October 2011
photo taken at:
160cm above ground level
reconstructed or modified elements:
proposed water tanks maximum height is 184m (top of
water tank)
view point locations map:
for view locations refer to viewpoint locations: diag no.
LCD-001, revision C.

view location 8:
e: 0287782 n: 3819465
rl: 108.63m

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view location 8 (redgum drive, off greigs road) - existing view



view location 8 (redgum drive, off greigs road) - proposed water tanks with embankment, photo montage



| | | | |
|-----------------------|--------|--------|--------|
| water tank: | bank 1 | bank 2 | bank 3 |
| vertical capacity: | 5.97M | 9.57M | 9.57M |
| vertical elevation: | 110.7m | 110.7m | 110.7m |
| distance from viewer: | 285m | 302m | 303m |
| vertical top level: | 184m | 184m | 184m |
| vertical base level: | 112m | 112m | 112m |

| | |
|--------------|----------|
| project ref: | 2011.623 |
| diag no.: | VIA-008 |
| date: | 24.03.13 |
| revision: | A |

figure 13.

View location 9

The view location is within the Eynesbury Road road reservation, at GPS coordinates 0365594E / 5818533N and an elevation of AMD 102m.

This view location was taken approximately 4.7km away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings for the photomontages for view location 9.

- Tank 1 - 3, not visible

Extent of anticipated visual impact;

- No tanks are visible, as the proposed embankment screens them. The visual impact of the embankment is negligible.

Recommendations;

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 9**

photo montage created by:
Kevin Lee - Ditch
Images created using:
Autodesk 4.0, AutoCAD 2014, Adobe Adobe CS5
method used to collect relevant data:
photo locations obtained on site by Hansen partnership
P.L. site plan prepared by western water and C/D
consulting group
client:
cases EGS 3/003 Digital SLR
camera lens:
camera lens focal length:
50mm
photograph taken:
1:54pm on the 18th of October 2011
photo taken at:
160cm above ground level
reconstructed or modified elements:
proposed water tanks maximum heights (184m) top of
water tank
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C.

View location 9:
e: 0235394 n: 3818333
H: 102.00m

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view location 9 (Eynesbury road) - existing view



view location 9 (Eynesbury road) - proposed water tanks with errihan kreant photomontage



| | | | |
|--------------------------|--------|--------|--------|
| water tank: | bank 1 | bank 2 | bank 3 |
| view tank capacity: | 5.07ML | 9.57ML | 9.57ML |
| view tank elevation: | 110.7m | 110.7m | 110.7m |
| distance from view tank: | 471m | 473m | 403m |
| view tank top level: | 184m | 184m | 184m |
| view tank base level: | 112m | 112m | 112m |

| | |
|--------------|----------|
| project ref: | 2011.623 |
| diag no.: | VIA-009 |
| date: | 24.03.13 |
| revision: | A |

figure 14.

View location 10

The view location is within the corner of Exford Road and Eynesbury Road road reservation, at GPS coordinates 0285784E / 3316609N and an elevation of AHD 109.50m.

This view location was taken approximately 4.7km away from the proposal, with a prominent view of Mount Cottrell. The following is a summary of findings from the photographs for view location 10.

- Tank 1 - 3, not visible

Extent of anticipated visual impact:

- No tanks are visible, as the proposed embankment screens them. The visual impact of the embankment is negligible.

Recommendations:

- Ensure the embankment is landscaped to achieve visual and physical integration with its surrounds. All planting should comprise indigenous species, selected from the appropriate Ecological Vegetation Class (EVC 132 – Plains Grassland – Victorian Volcanic Region).



**western water, mount cottrell
visual impact assessment
view location 10**

photo montage created by:
Kevin Lee - B.Pack
images created using:
photoscan 4.0, autoCAD 2014 L, Adobe Suite, CSS
method used to collect relevant data:
photo locations obtained site by Hansen Partnership
P.L. site plan prepared by western water in conjunction
with Hansen Partnership
camera EOS 300D Digital SLR
camera lens:
Canon EF-S 18-55mm f/3.5-5.6 IS II
focal length: 50mm
aperture: f/5.6
ISO: 100
photograph taken:
2.1.14pm on the 18th of October 2011
photo taken at:
160cm above ground level
reconstructed or modified elements:
proposed water tanks main height is 184m (top of
water tank)
view point locations map:
for view locations refer to viewpoint locations, diag no.
LCD-001, revision C.

View location 10:
e: 0205784 n: 3819509
rl: 109.50m

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view location 10 (corner of exford road and eynesbury road) - existing view



view location 10 (corner of exford road and eynesbury road) - proposed water tanks with entankment photomontage

28° vertical field view
-18°
9°
-18°



project ref: 2011.623
orig no.: WA-010
date: 28.05.13
revision: A

| water tank: | bank 1 | bank 2 | bank 3 |
|---------------------------|---------|---------|---------|
| water tank capacity: | 5.07ML | 9.57ML | 9.57ML |
| water tank diameter: | 110.27m | 110.27m | 110.27m |
| distance from water tank: | 477.0m | 4384m | 4035m |
| water tank top level: | 184m | 184m | 184m |
| water tank base level: | 172m | 172m | 172m |

figure 15.

6 Conclusion

In summary, the visual impact assessment suggests that the visual impact of the proposal ranges from negligible to substantial depending upon the view/location, as shown in the summary table below.

| View/location | Visual impact | Mitigation required |
|---------------|---------------|---------------------|
| 1 | Substantial | Yes |
| 2 | Limited | No |
| 3 | Limited | No |
| 4 | Non-existent | No |
| 5 | Limited | No |
| 6 | Moderate | No |
| 7 | Limited | No |
| 8 | Negligible | No |
| 9 | Limited | No |
| 10 | Negligible | No |

We understand that Melton City Council has a long-term aspiration to develop a viewing platform (or lookout) on the summit of Mount Cottrell and to allow public access to this viewing platform. It is our understanding that there is no defined timeframe for this to occur, nor has a master plan or concept design been prepared. On that basis we identified 2 potential locations on the summit which allowed for the provision of panoramic views across the future grassland reserve and the Weribee River towards the distant You Yangs (refer View/Locations 1 & 2).

Whilst both locations afforded panoramic views to the west and south, view/location 1 is constrained by the presence of existing infrastructure on top of Mount Cottrell, including overhead powerlines and various telecommunications facilities, including aeronautical navigation infrastructure. View/location 2 also provides panoramic views, with unobstructed views from the north-east through to the west, covering a viewing arc of over 200 degrees, and including views to Melbourne's CBD, Port Phillip Bay, the future grassland reserve, Weribee River corridor and the distant You Yangs. View/location 2 is some distance from existing infrastructure on the summit, and as such is not constrained by its proximity to that infrastructure.

For these reasons it is our recommendation that view/location 2 is the preferred location for a future viewing platform, regardless of whether or not the proposed water tanks are constructed. It is on the basis of that recommendation that we conclude that the 'substantial' visual impact affecting view/location 1 can be discounted, as that view location is not currently publicly accessible, and any master planning and/or concept design for future improvements on Mount Cottrell to facilitate public access to a viewing platform at view/location 2 can be designed in a manner to restrict access in the vicinity of view/location 1 and the existing infrastructure.

With regard to view/locations 3 to 10, all of which are located in publicly accessible areas, the photomontage imagery demonstrates that the visual impact of the proposed development on these publicly accessible areas will be moderate, limited or negligible, using the criteria described in Section 4 of the report.

In summary, it is our conclusion that the visual impact on publicly accessible areas likely to result from the development of the proposed water storage facility on Mount Cottrell is acceptable.

The purpose of this report has been to determine the visual impact resulting from a proposal to develop a water storage facility on the slope of Mount Cottrell, within the City of Melton. The report has outlined a description of the subject site, the proposed development, the methodology for undertaking a visual impact assessment followed by the presentation and analysis of a series of ten photomontage images depicting before and after views as a means of illustrating the manner in which the proposed development would appear in the context of the surrounding landscape.

View locations 1 and 2 are located on the peak of Mount Cottrell itself, and as such deal with views from the Mount to the broader surrounding landscapes, whereas view locations 3 to 10 are located off Mount Cottrell and deal with views towards the Mount.