

Memorandum

Wagga Wagga Structure Plan – Additional two sites Visual Analysis and Design and Policy Recommendations

Dear Melissa

This memorandum is in response to your request to review and provide a visual analysis and advice on recommendations (where required), for two key sites that have arisen for review as a result of the consultation of the draft Wagga Wagga Master Plan.

The focus for this advice relates to the following land parcels:

- 466 Byrnes Road, Bomen (Lot 22, DP 1265468) owned by Council; and
- Trahairs Road, Bomen (Lot 4, DP 1249028) comprising the northern former Wool Combing Ponds and owned by Riverina Warehousing Solutions Pty Ltd.

This advice is additional to the previous advice provided to these sites (clarifying the rationale for original approach taken in the Structure Plan) contained within:

- Letter dated 9th December 2020; and
- Email (to yourself) dated 21 December 2020; and
- Discussion at digital meeting held with Council representatives and yourself on 19 January 2021 which determined that the northern portion of the site be considered for Regional Enterprise Zone due to absence of infrastructure, provision for suitable buffer along East Bomen Road and reduced exposure to views from Eunony Valley (based on initial modelling done).

Our Approach

For this analysis, we have made assumptions around the development potential for the two sites in question, in the knowledge that other consultants have prepared investigations to confirm:

- the former Wool Combing Ponds site can be rehabilitated to accommodate the range of land uses envisaged for this location, subject to further Phase 2 assessments being undertaken
- the ability to service the developments for water and sewer purposes (clarifying this issue in light of some portions of the sites were previously identified as difficult to service (or may be more costly to service))
- that access is suitable for the potential anticipated development afforded by the Regional Enterprise Zone for Byrnes Road
- access can be accommodated within the road network for the possible development in the Rural Activity Zone (for Trahairs Road), noting that there are limitations to extent of areas developable and number of staff before upgrades to Byrnes Road may be required
- additional stormwater detention basin locations for these sites, having regard to modelled size and desired locations based on land form
- noise, air emissions and odour levels can be accommodated in these locations without compromising sensitive receptors outside of the established SAP boundary.

The approach taken for the visual analysis is consistent with the previous Visual Analysis work undertaken to inform the Master Plan in 2020. Specifically, this has involved the following assumptions and limitations:

- Buildings have been modelled based on assumptions about typical buildings for this type of development. Buildings are mainly warehouse-type structures of typically 10 - 15m in height to be consistent with other previous assessments done.
- For the Trahairs Road site, building height has been specifically tested using taller structures up to 20 metres, along with changes to the extent of cutting and filling for sites, in order to more thoroughly test any potential impacts to views. The intent of this was to explore the differences in visibility this creates to determine acceptable design outcomes based on a level of suitable visibility, noting that buildings from the Precinct more broadly will be visible from selected viewpoints (the intent is to reduce visual intrusion, not eliminate visual intrusion).
- Time of day was set at 11:00am. Typically sunny with a high degree of visibility.
- The views are captured at a height between 1.5m to 2m with a field of view of 70 degrees to represent a person standing.
- The views were prepared based on photo imagery captured to develop the model on 17 May 2019. The aerial photomontage does not reflect the constructed solar farms, which have separately been inputted into the model indicatively in extent of area only.

The assessment updated and utilised the same 3D Model constructed for the Wagga Wagga Structure Plan that informed the previous visual analysis. Similarly, the following viewpoints (Figure 1 below) were also utilised for the assessment, where they remained applicable to the sites in question:

- Viewpoint 5
- Viewpoint 7
- Viewpoint 16a (Bomen Axe Quarry site)

An additional new viewpoint was created to better represent the visibility of the 466 Byrnes Road site from the Eunony Valley, as previous viewpoints did not suitably cover the visibility of this site location. This viewpoint was taken from a dwelling situated at 161 Pattersons Road, Eunonareenya (Lot 10, DP 1067845).

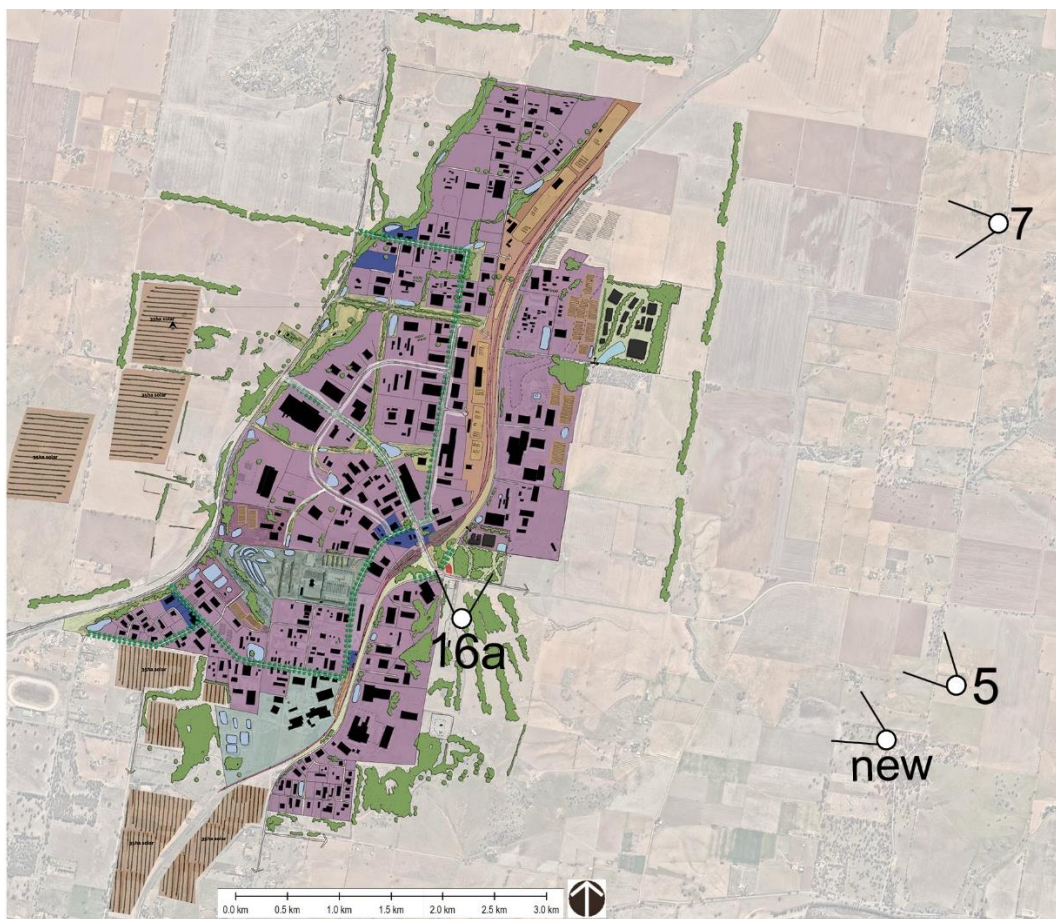


Figure 1: Viewpoint locations relative to the sites.

466 Byrnes Road (Council owned site) - Analysis

The development potential for this specific site has been guided by the following components, derived from earlier analysis informing the Structure Plan and discussions with council in January 2021.

- avoidance of the overhead powerlines and gas infrastructure running through the site
- aligning the boundary of the potential Regional Enterprise Zone to that identified for the Energi site to the east, meaning the southern portion of the site will remain in the Rural Activity Zone
- avoiding the natural watercourse in the south-eastern part of the site (noting that this is not formed, but a natural depression in the land)
- providing for a stormwater detention basin in the south-eastern corner in accordance with Rhelm's suggestion in their draft advice dated 16 February 2021
- access being provided from the northern-most extent of the Byrnes Road frontage, to avoid conflicts with the proximity of the Byrnes Road/ Merina Drive roundabout in accordance with the draft advice provided by WSP dated 19 February 2021
- avoid additional access points to East Bomen Road.

An indicative layout was developed on this basis and is represented in Figure 2 below., The buildings within this layout were plotted into the 3D model.



Figure 2: Indicative Structure Plan layout – 466 Byrnes Road, Bomen

The view from the selected viewpoint is found within Figures 3 to 9 below. A range of different options were considered in order to understand visibility of development and better refine potential mitigation strategies as a result. New buildings on the site are plotted in red, to differentiate from others indicatively proposed in the precinct.



Figure 3: 466 Byrnes Road as viewed from 161 Pattersons Road - Before



Figure 4: 466 Byrnes Road, Bomen – 161 Pattersons Road view – 15m high buildings and no vegetation plantings



Figure 5: 466 Byrnes Road, Bomen – 161 Pattersons Road view – 15m high buildings and vegetation plantings to the Rural Activity Zone along East Bomen Road



Figure 6: 466 Byrnes Road, Bomen – 161 Pattersons Road view – 15m high buildings and additional plantings provided to the rear boundary



Figure 7: 466 Byrnes Road as viewed from viewpoint 16a - Before



Figure 8: 466 Byrnes Road, Bomen – view 16a – with no buffer vegetation



Figure 9: 466 Byrnes Road, Bomen – view 16a – with buffer vegetation

The following key observations are noted from the above views:

View – 161 Pattersons Road

- Existing views are dominated by open agricultural land with scattered trees in the foreground, rising to the ridge near Byrnes Road.
- Whilst not dominating the view, the proposed built form on the site is visible and additional to that of the Precinct which “skyline” above the horizon from this part of the Eunony Valley.
- Modelled vegetation along the edge of the site will aid in partially reducing views to the built form on the site but does not completely screen structures in their entirety. This vegetation is also of greater benefit to views further south in the valley.
- Additional plantings to the rear of the site will further aid in softening and screening the built form from views in this location so that built form on the site blends more sensitively into the overall landscape at the ridge.

View – 16A

- Existing views are dominated by open agricultural land with scattered trees in the foreground, rising to the ridge near Byrnes Road.
- Whilst not dominating the view, the proposed built form on the site is visible and additional to that of the Precinct which “skyline” above the horizon from this part of the Eunony Valley.
- Modelled vegetation along the edge of the site will aid in partially reducing views to the built form on the site but does not completely screen structures in their entirety. This vegetation is also of greater benefit to views further south in the valley. This vegetation also aids in screening views to the RiFL facility and cranes further north-west.
- Additional plantings to the rear of the site will further aid in softening and screening the built form from views in this location so that built form on the site blends more sensitively into the overall landscape at the ridge.
- Views to this site further north along the valley are likely to be further screened by the land form immediately east of the site and visibility of buildings on the site are of less likely as a result of this .

What would further improve the view?

- The vegetation buffers in this location are important to the south and eastern edges of the site.

- Vegetation should provide for tall trees to establish to ensure they cover the potential height of the buildings on the site
- Buildings should be sited or designed so as not to exceed 263m AHD. This is to maintain sufficient screening from the trees, and avoid skylining over horizon from the Axe Quarry view point.
- Vegetation should be planted close enough to provide a continuous canopy and layered to provide coverage at both lower and higher levels. This is particularly important for the eastern (rear) property edge where there is less depth and space available to provide the extent of foliage coverage.
- Planting along the southern part of the Council site should occur early, so that vegetation can grow sufficiently to be an effective screen earlier in the life of any development in this location.
- The eastern and southern facades and roofing of buildings on the site should have colour selections that recede and blend into the landscape. Highly reflective materials should be avoided.

Trahairs Road (former Wool Combing Ponds) - Analysis

The development potential for this specific site has been guided by the following components, derived from earlier analysis informing the Structure Plan, as well as more recent considerations in response to accommodate further development on this land parcel:

- the extent of the Groundwater Protection Zone covering the site and resultant limitations in land uses for this location (avoidance of industry, and a range of other infrastructure works). Notwithstanding this a large building is plotted indicatively as an example of a warehouse which could potentially be allowed on this site. This will also enable testing of larger buildings in this location.
- potential location of stormwater detention basin needing to be outside of the groundwater protection zone.
- providing access which will limit construction costs, as well as visual impacts (noting that the site forms part of the broader ownership of Riverina Warehouse Solutions and could potentially gain access directly from the site to the west).
- protecting existing vegetation and paddock trees established on the land (noting that they would be able to provide more immediate and short term visual buffers).
- working with the contours across the site, noting the fall down into the valley to the east.
- potential to accommodate three benches across the site separated by vegetation, with the intent being to layer vegetation up the slope (to aid in screening) – benches set at 222m AHD, 220m AHD and 218m AHD.
- proximity of this location to the ROBE site which is highly visible and contentious for the community (and thus seeking to not further exacerbate the visibility of this location).

An indicative layout was developed on this basis and is represented in Figure 10 below. The buildings within this layout were plotted into the 3D model.



Figure 10: Indicative Structure Plan layout – Trahairs Road, Bomen

The view from viewpoint 5 is found within Figures 11 to 14 below and viewpoint 7 in Figures 15 to 18 below. A range of different options were considered in order to understand visibility of development and better refine potential mitigation strategies as a result. For ease of understanding the degree of visibility across the site, buildings on the higher bench level (222mAHD) were modelled in red, middle bench (220m AHD) in orange and lower level (218m AHD) in yellow.

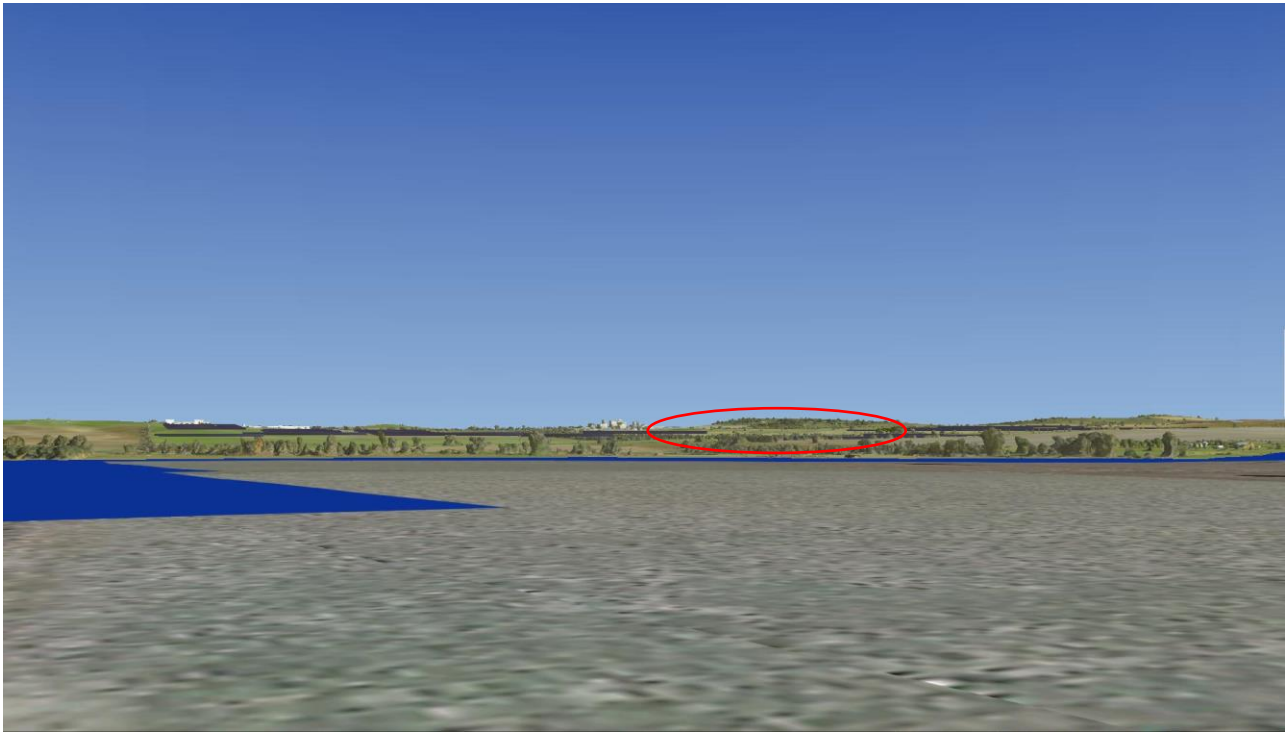


Figure 11: Trahairs Road, Bomen – View 5 – Before

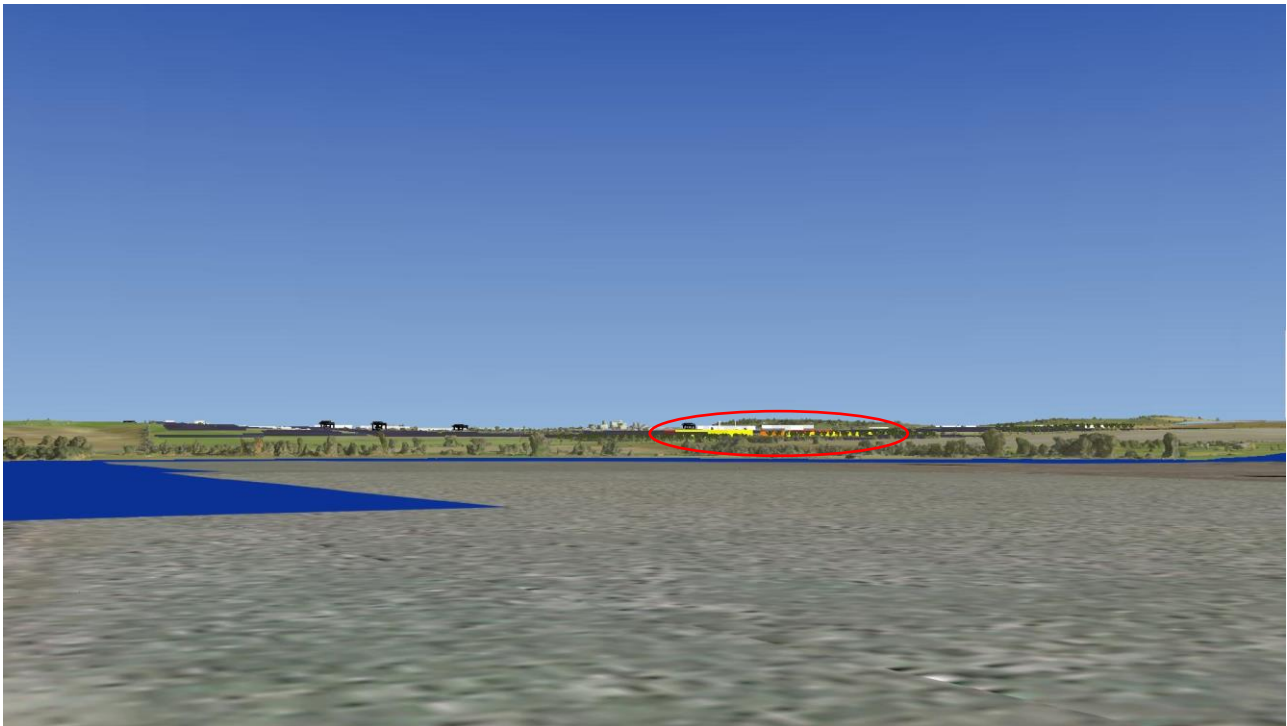


Figure 12: Trahairs Road, Bomen – View 5 - No vegetation plantings

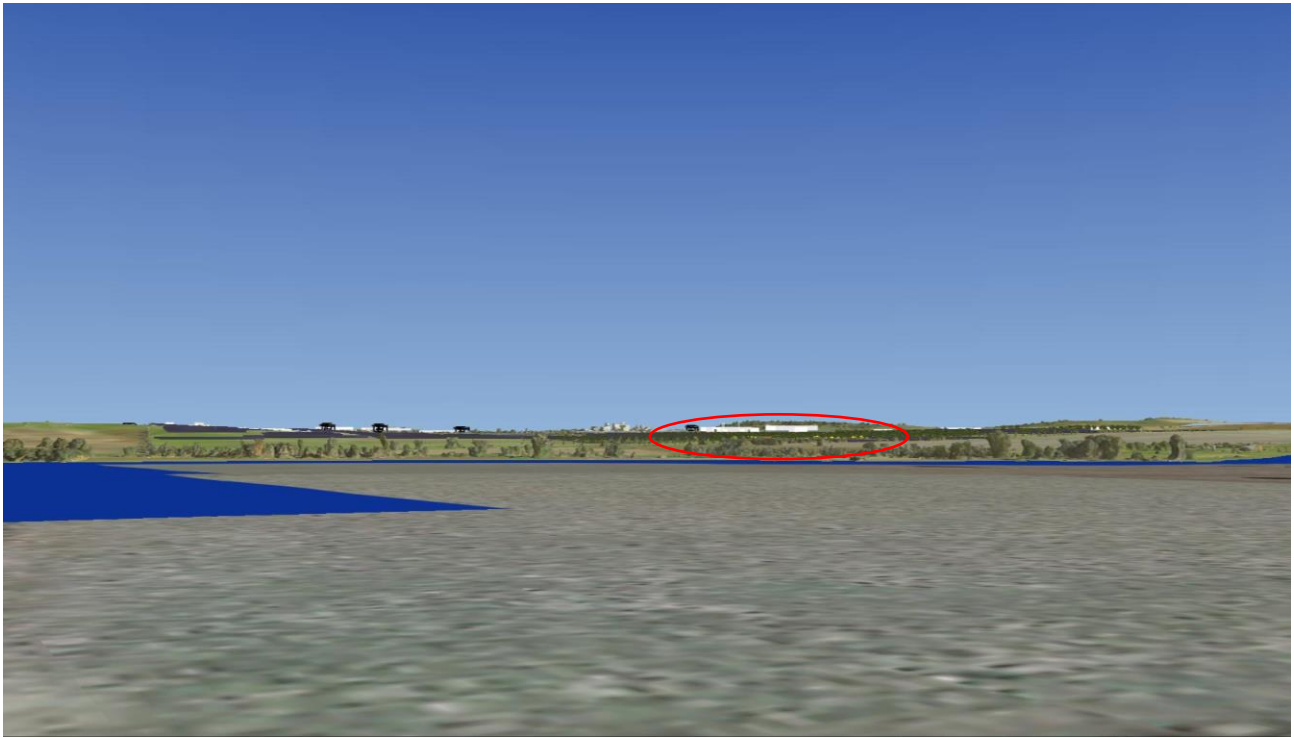


Figure 13: Trahairs Road, Bomen – View 5 Vegetation Plantings – 15m building heights

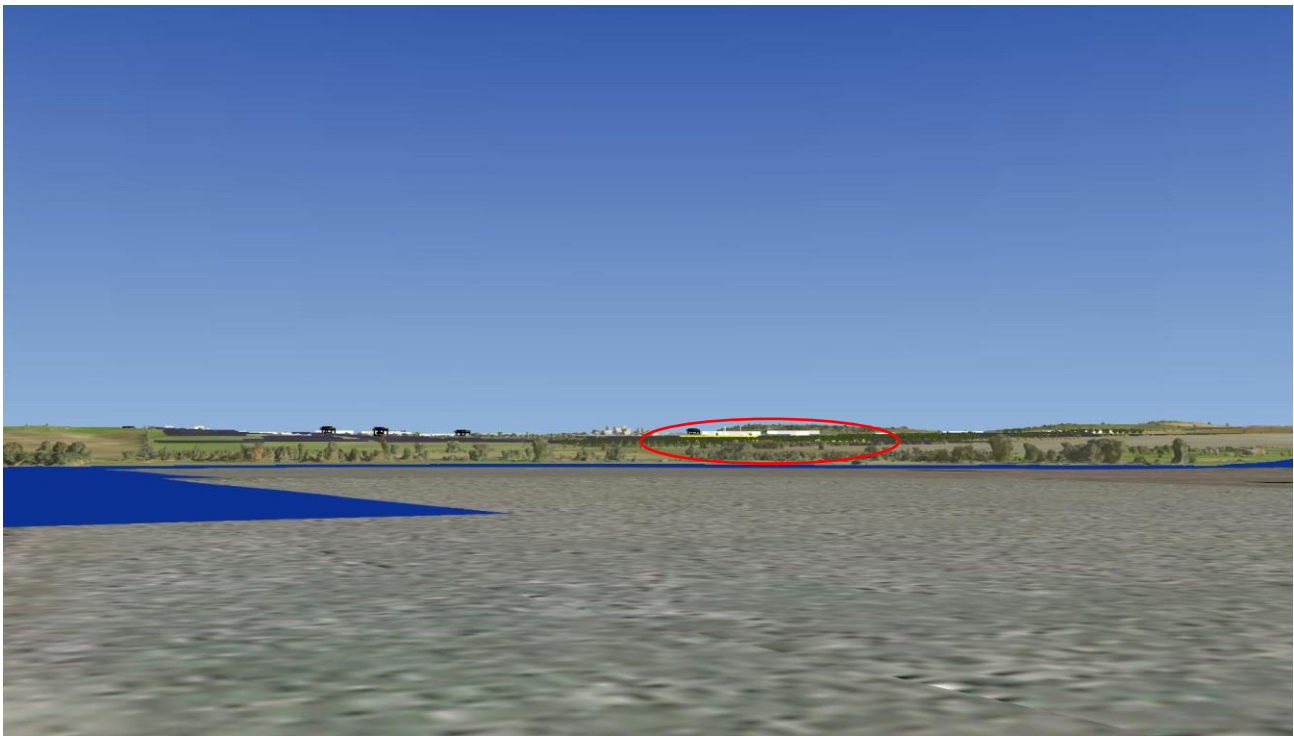


Figure 14: Trahairs Road, Bomen – View 5 - Vegetation Plantings – 20m building heights

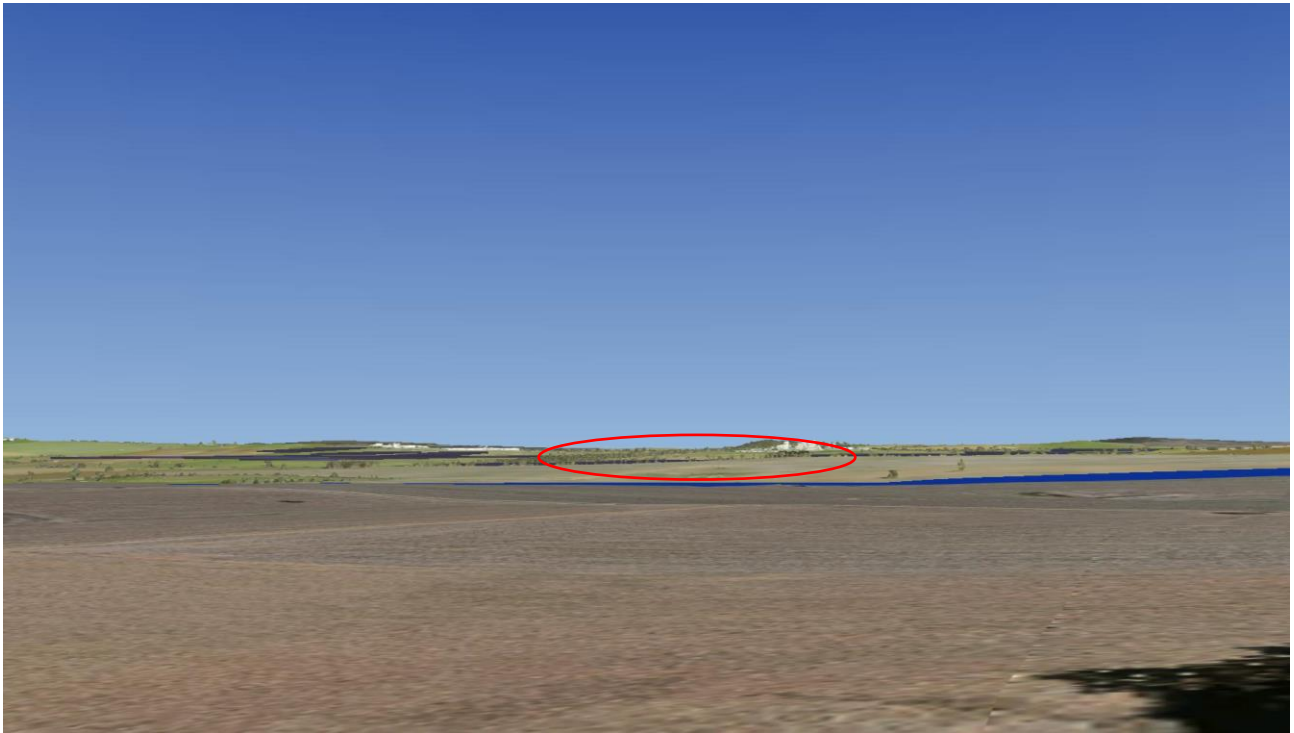


Figure 15: Trahairs Road, Bomen – View 7 - Before

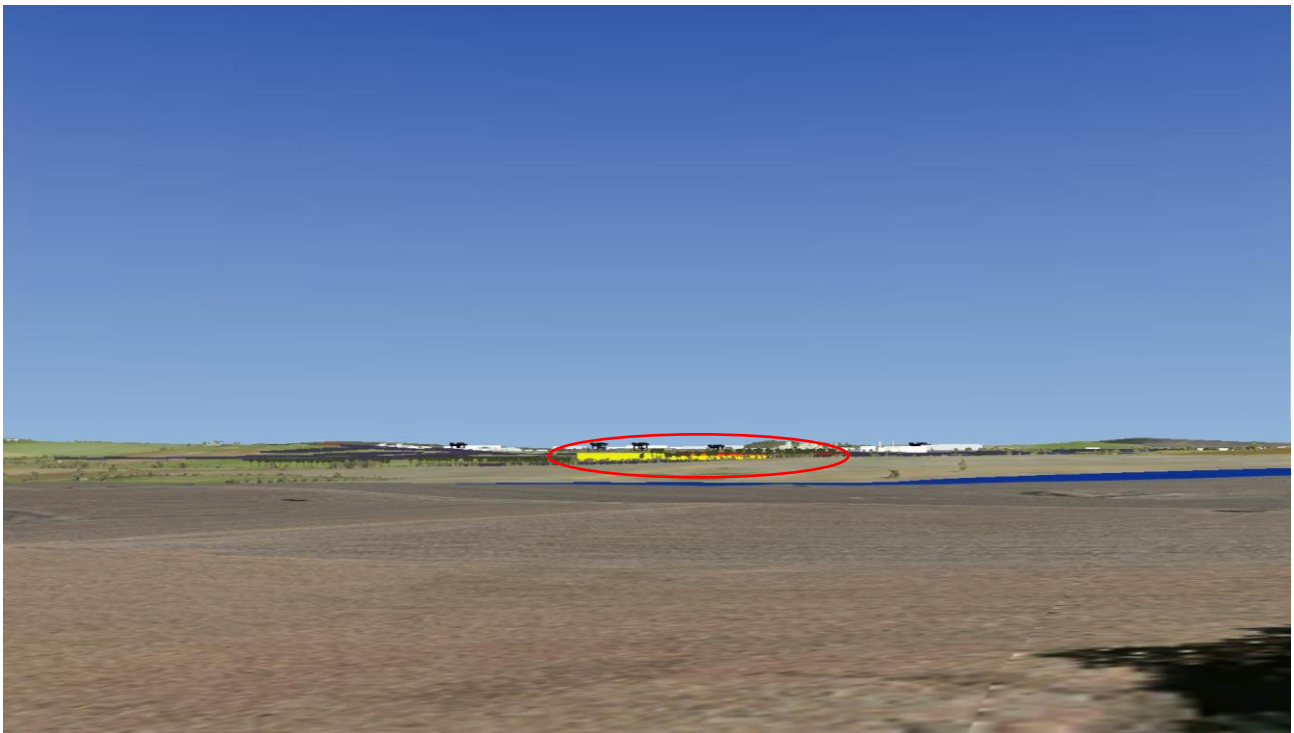


Figure 16: Trahairs Road, Bomen – View 7 - No vegetation plantings



Figure 17: Trahairs Road, Bomen – View 7 Vegetation Plantings – 15m building heights

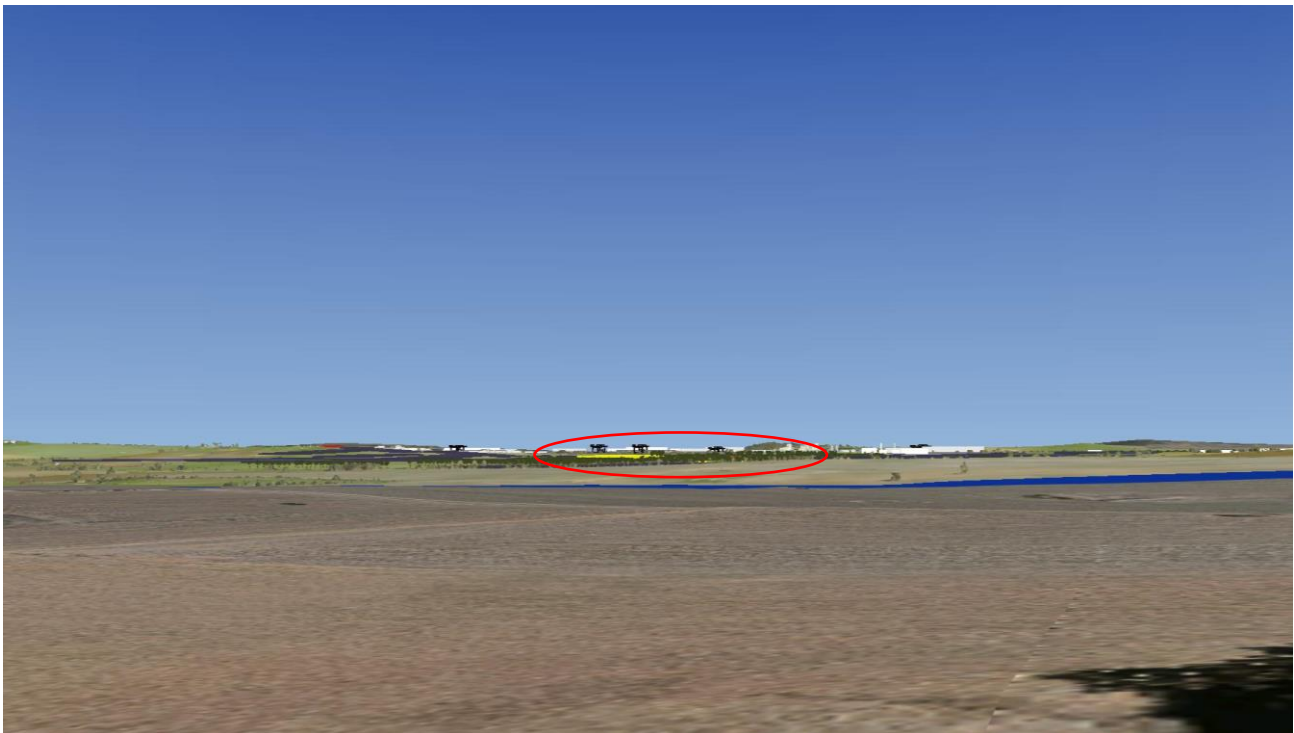


Figure 18: Trahairs Road, Bomen – View 7 - Vegetation Plantings – 20m building heights

The following key observations are noted from the above views:

- Existing views are dominated by open agricultural land with scattered trees in the foreground, rising to the ridge near Byrnes Road where existing built form and the solar farms are a visible presence at and above the ridgeline.
- Other buildings (existing and proposed within the Precinct) are visible on the ridgeline (particularly from view 5). Buildings on the Trahairs Road site without any additional vegetation are visible elements from this location and draw the built form down the hill, closer towards foreground views, despite not “skylining” above the ridge itself.

- Additional plantings along the road reserve to the east of the solar farm from previous visual assessment recommendations aid in reducing the visibility of buildings proposed on the site. Further plantings that continue along the length of the road reserve in this location will partially reduce visibility of structures on the land from the broader valley views at viewpoint 7 and surrounds, although they remain partially visible.
- Vegetation to the perimeter of the site as shown on the indicative Structure Plan, building on the existing vegetation at the base of the hill, is an effective buffer to views of buildings at 15 metres height, particularly where they are positioned on land that forms the changes in grades between bench levels across the site.
- A taller built form in the order of 20 metres is likely to protrude above vegetation when viewed from the Eunony Valley (views 5 and 7)

What would further improve the view?

- The vegetation buffers in this location are important to the eastern edge of the site and layered across the different bench levels of the site to maintain a vegetated site appearance up the hill.
- Bench levels for this site should aim to cut into the site more than fill, to make landscape buffers between the bench levels more effective in screening the built form from views from Eunony Valley.
- Vegetation should provide for tall trees that are established to ensure they cover the potential height of the buildings on the site.
- Vegetation buffer plantings between bench levels should run north-south across the site (aligned to the contours) and should be no less than 40 metres in depth.
- Vegetation to the eastern boundary of the site should maintain the depth of the established planting and extend this depth to the northern boundary (no less than 80 metres in depth).
- Vegetation to the southern and northern boundaries of the site should be no less than 20 metres in depth.
- Vegetation should be planted close enough to provide a continuous canopy and layered to provide coverage at both lower and higher levels. This is particularly important for the vegetation buffers positioned higher up the site elevation.
- Planting along the road reserve east of the solar farm should occur early, so that vegetation can grow sufficiently to be an effective screen earlier in the life of any development in this location, as well as aid in screening views of the solar farms.
- The facades and roofing of buildings on the site should have colour selections that recede and blend into the landscape. Highly reflective materials should be avoided.

I trust this assessment and suggested recommendations enable DPIE to finalise the Wagga Wagga Master Plan in response to the public submissions received.

Yours faithfully



David Barone
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Jensen PLUS