

# Photomontage 01A - Dawson Highway, Mount Alma



Photomontage is to be viewed at an arms length from the image to gain the best impression.

Note:

- A visualisation can never show exactly what the wind farm will look like in reality due to factors such as: different lighting, weather and seasonal conditions which vary through time and the resolution of the image;
- The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
- A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move.

This bar is 10cm when printed

Source: Scottish Natural Heritage Visual Representation of Wind Farms, Version 2.2 February 2017.



# Photomontage 02A - Inverness Road, Mount Alma



Photomontage is to be viewed at an arms length from the image to gain the best impression.

Note:

- A visualisation can never show exactly what the wind farm will look like in reality due to factors such as: different lighting, weather and seasonal conditions which vary through time and the resolution of the image;
- The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
- A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move.



# Photomontage 02B - Inverness Road, Mount Alma



Photomontage is to be viewed at an arms length from the image to gain the best impression.

Note:

- A visualisation can never show exactly what the wind farm will look like in reality due to factors such as: different lighting, weather and seasonal conditions which vary through time and the resolution of the image;
- The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
- A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move.

This bar is 10cm when printed

Source: Scottish Natural Heritage Visual Representation of Wind Farms, Version 2.2 February 2017.



# Photomontage 03A - Dawson Highway, Callide



Photomontage is to be viewed at an arms length from the image to gain the best impression.

- Note:
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  - The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
  - A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move.

Source: Scottish Natural Heritage Visual Representation of Wind Farms, Version 2.2 February 2017.



# Photomontage 04A - Tognolini Baldwin Road, Biloela



Photomontage is to be viewed at an arms length from the image to gain the best impression.

- Note:
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  - The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
  - A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move.

This bar is 10cm when printed

Source: Scottish Natural Heritage Visual Representation of Wind Farms, Version 2.2 February 2017.



# Photomontage 05A - Burnett Highway, Jambin



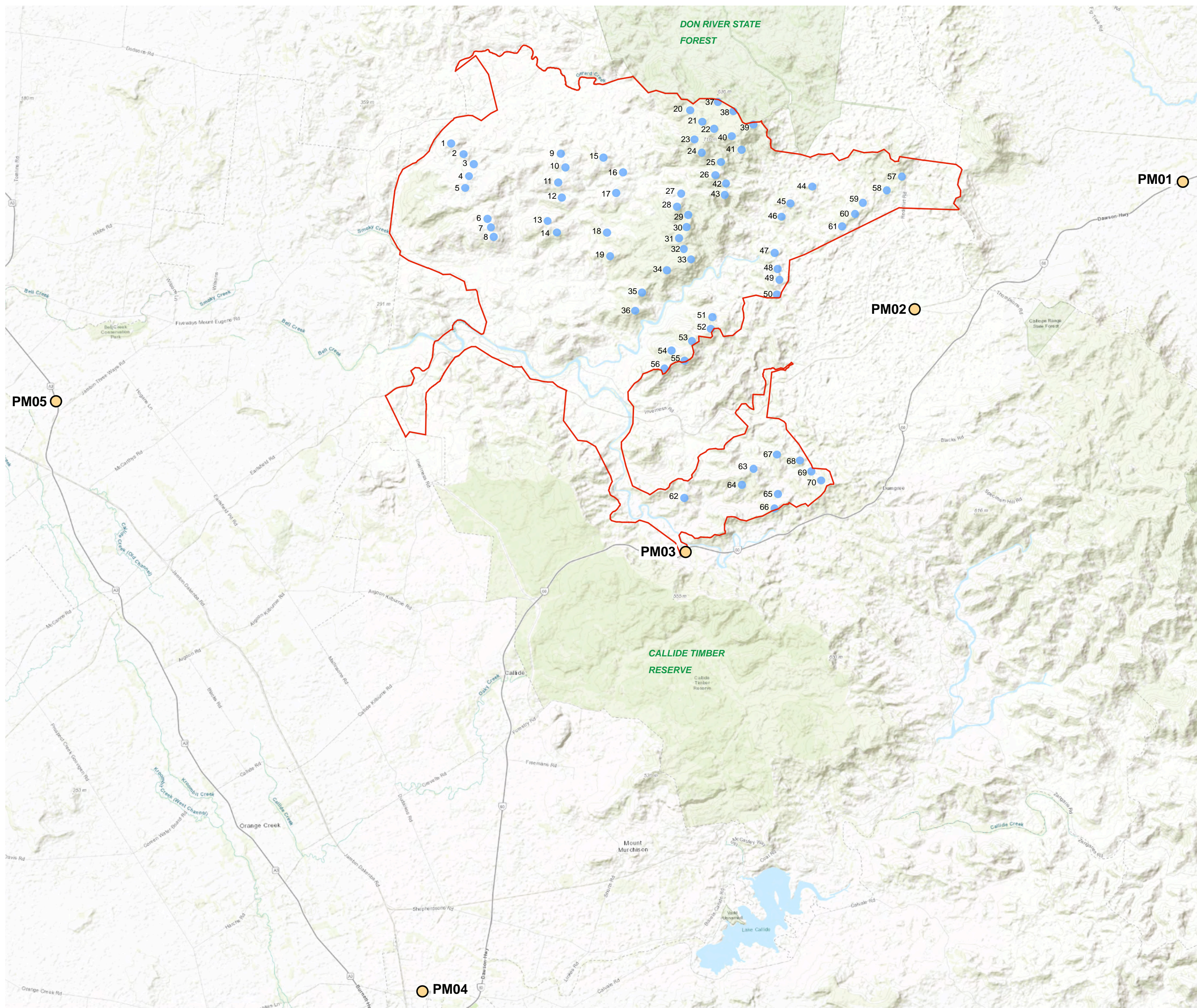
Photomontage is to be viewed at an arms length from the image to gain the best impression.

- Note:
- A visualisation can never show exactly what the wind farm will look like in reality due to factors such as: different lighting, weather and seasonal conditions which vary through time and the resolution of the image;
  - The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
  - A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move.

Source: Scottish Natural Heritage Visual Representation of Wind Farms, Version 2.2 February 2017.



# Callide Wind Farm Photomontage Locations



## LEGEND

- Project Site Boundary
- Turbine Location
- Photomontage Location

## Photomontage Selection Process

Indicative viewpoints have been selected for the preparation of photomontages from public locations and private dwelling locations to best illustrate the potential appearance of the proposed wind farm from varying distances and locations with differing views in public locations (refer to **Figure 01**).

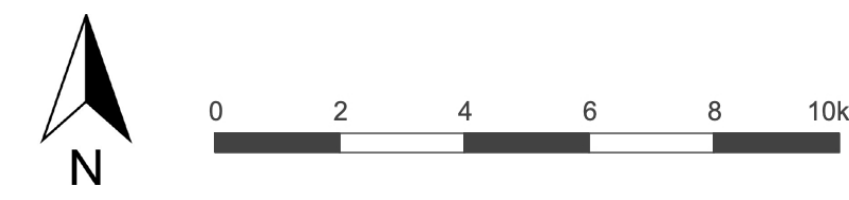


Figure 01 Photomontage Locations

## Wind Turbine Modelling Parameters

The photomontages prepared use a blade tip height of 235 metres.

**Table 1** below provides an overview of dimensions of the turbine components that have been used for this assessment. A hub height of 145 metres has been used for modelling and visualisation purposes in this report. **Figure 02** illustrates the turbine parameters utilised for this report.

Wind Turbine Components		
Project Component	Dimensions used in LVIA:	Quantity
Uppermost Blade Tip	235 metres AGL	70
Tower (hub) height	145 metres	
Blade length	90 metres (including nacelle)	
Swept Area	25,447 m	

Table 1 Wind Turbine Parameters for Visual Assessment

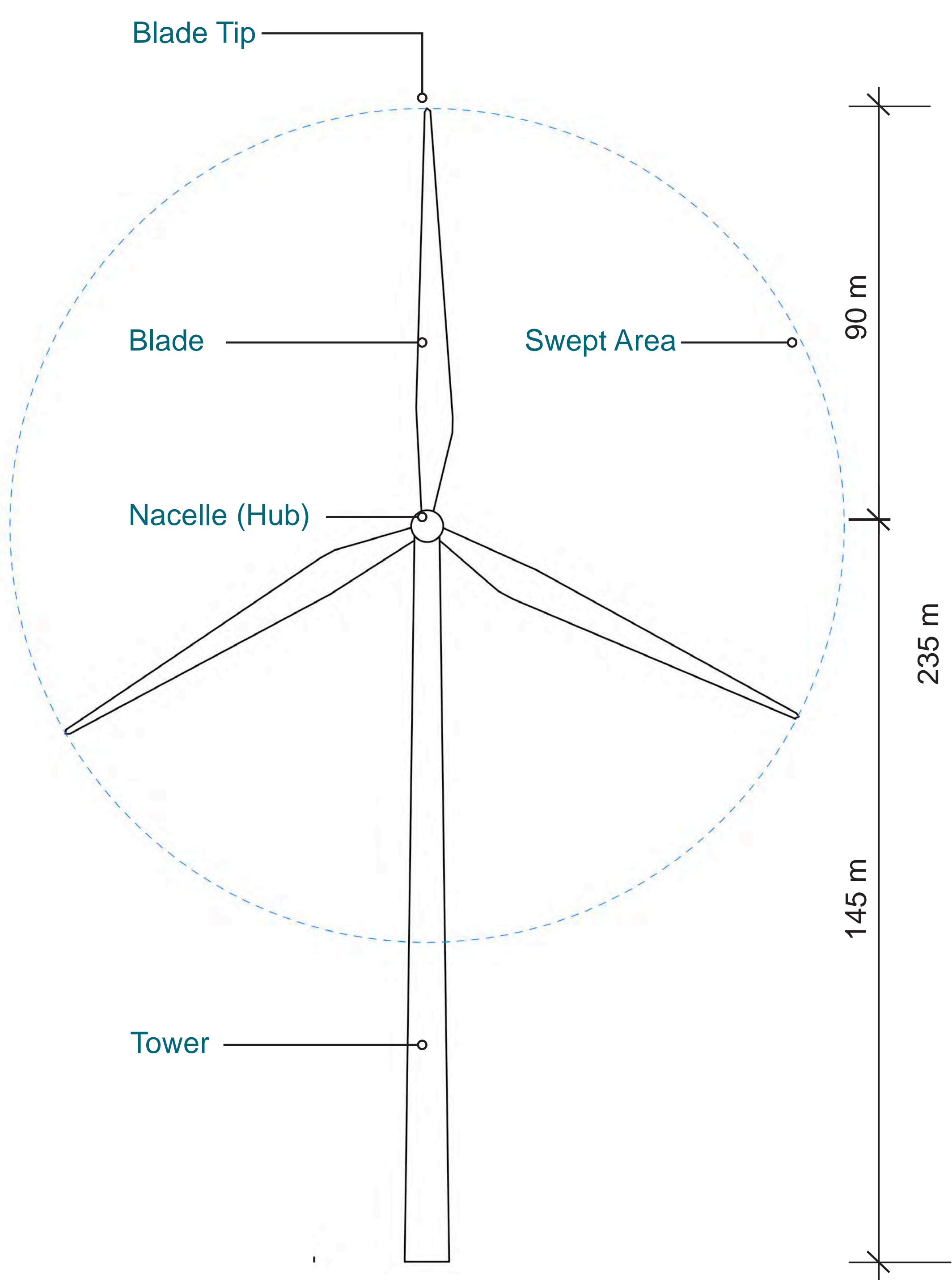


Figure 02 Wind Turbine Parameters

## Photomontage Development Methodology

The process for generating the photomontages involves computer generation of a wire frame perspective view of the Wind Turbines and the topography from each viewpoint. Moir Landscape Architecture have prepared the photomontages using the most current available version of Wind Pro software using the following process:

### Step 1: Develop 3D Model

Detailed 3D model of the Site is developed in Wind Pro. The wind turbines are modelled and sited in the 3D model to scale.

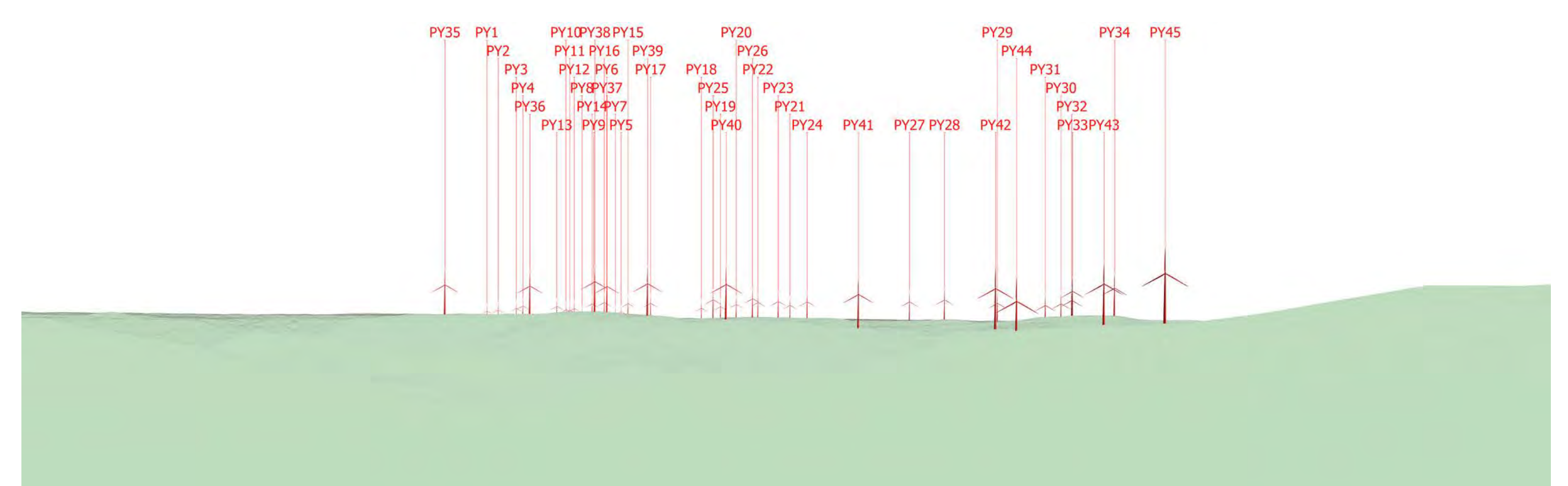
### Step 2: Align Photograph and Model

The digital panorama is imported into Wind Pro and EXIF properties of the file are inserted automatically defining all relevant visualization information as e.g. type of camera lens used, field of view for panoramas, the position and direction. Topography, control points, obstacle objects, existing wind masts can be used as reference to calibrate the camera model precisely.

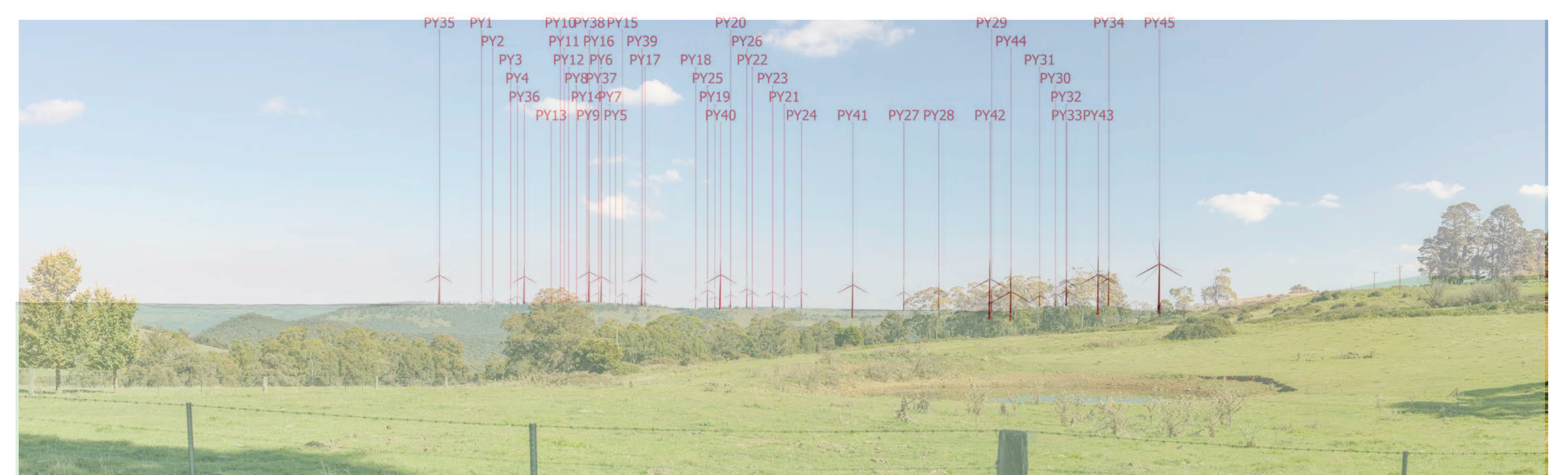
### Step 3: Render Photomontage

The software calculates the position of the sun based on the time and date of photograph and renders the wind turbines in accordance with the specific weather conditions and position of the sun. Once rendered, detailed removal of intervening elements (such as vegetation) is undertaken to provide an accurate representation of the Project.

## Step 1: Develop 3D Model (Wire Frame Diagram)



## Step 2: Align photograph and model



## Step 3: Render Photomontage

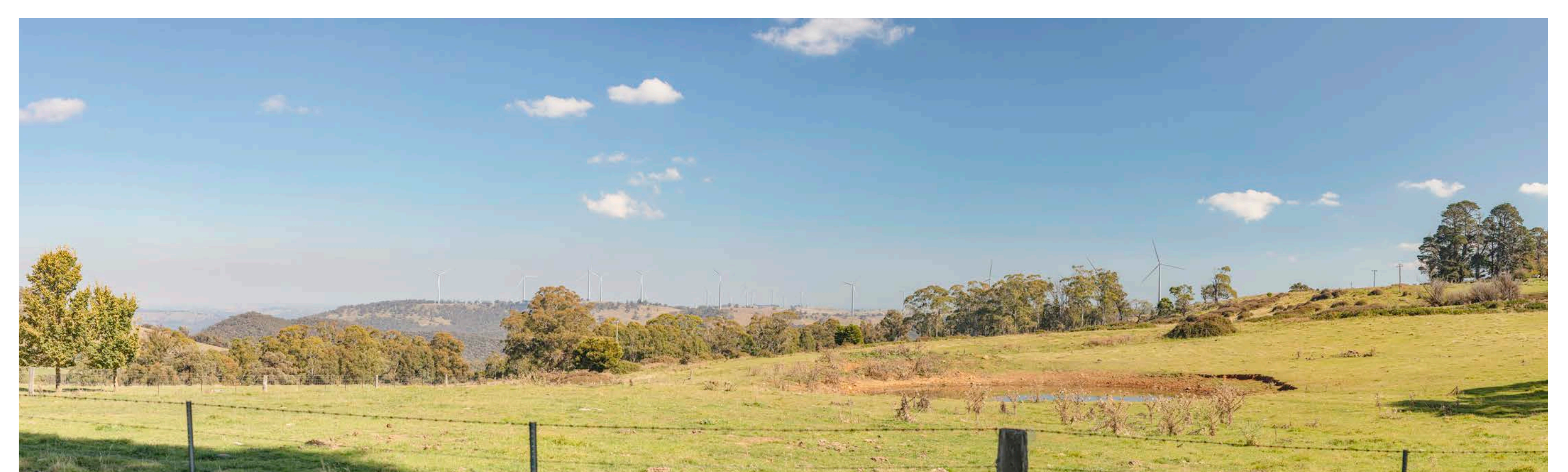
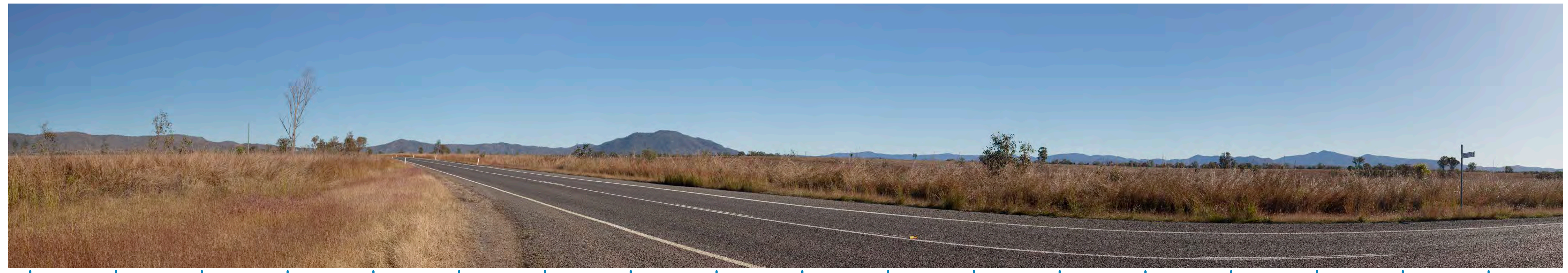


Figure 03 Photomontage Development Process



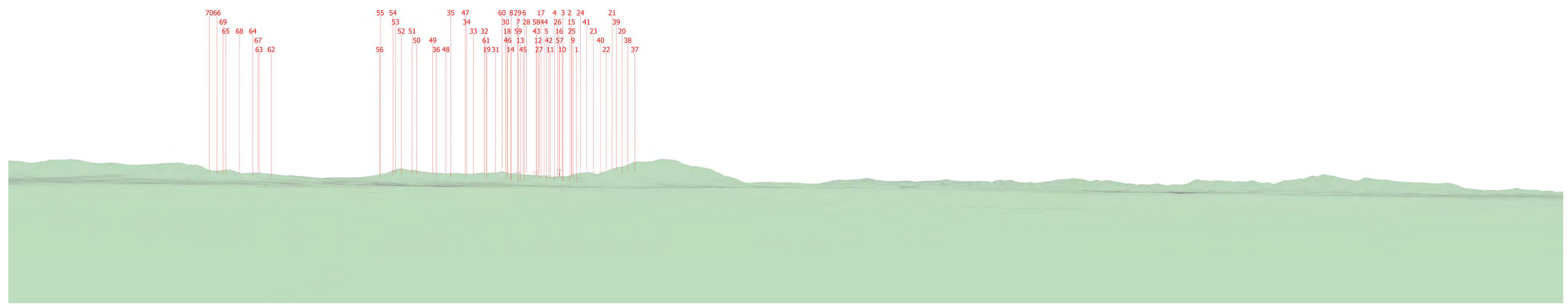
# Photomontage 01 - Dawson Highway, Mount Alma



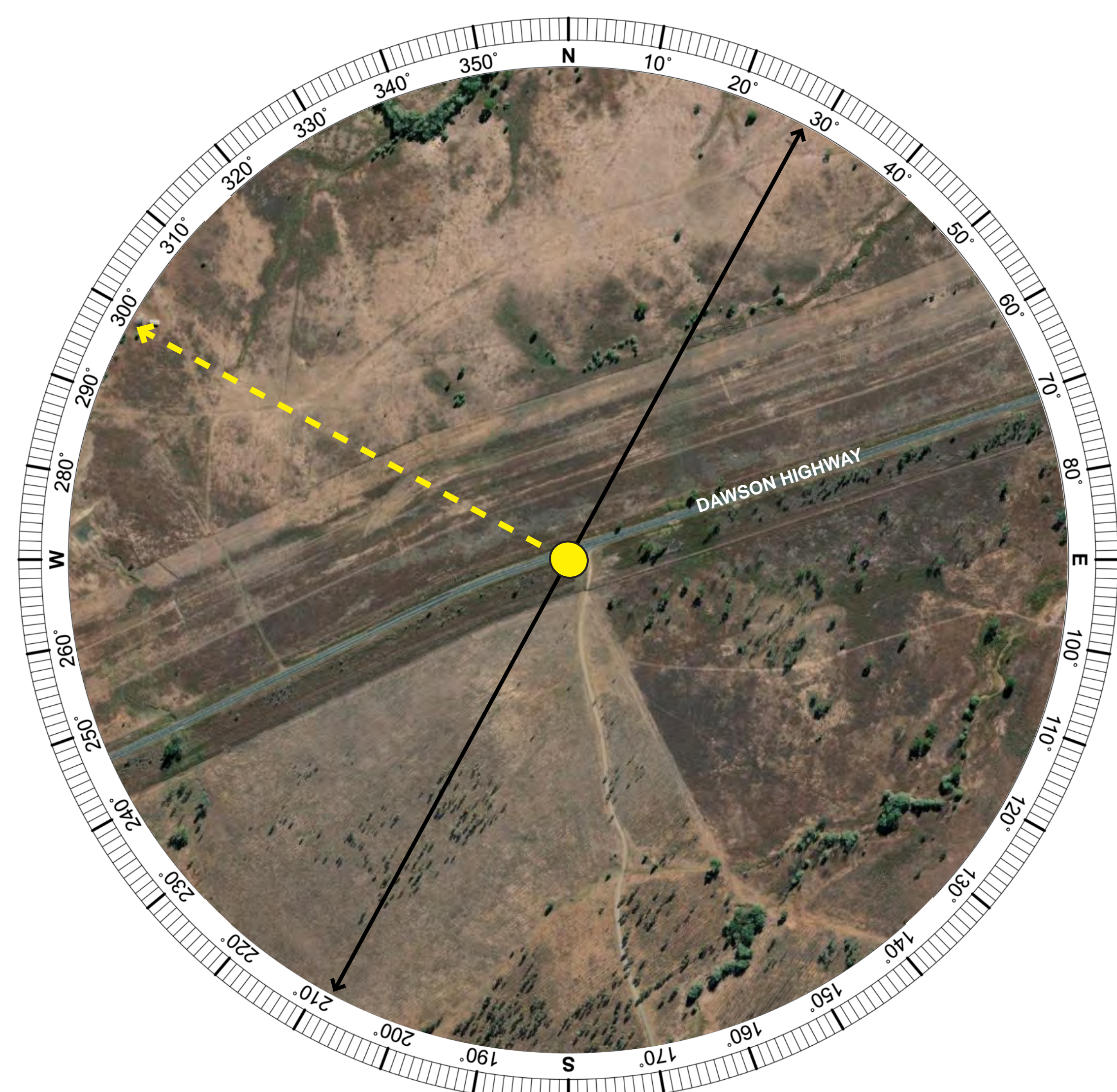
1. Existing View | 180° Baseline Panorama



2. Proposed View | 180° Photomontage - Provided for Context



3. 180° Wire Frame Diagram



## Photomontage 01

Location:	Dawson Highway, Mount Alma
Photograph Date and Time:	11th July 2022 09:25am
Coordinates:	24° 6'4.89"S 150°48'14.46"E
Distance to Nearest Visible WTG:	10.90km
Viewing Direction:	West-Northwest
Elevation:	92.6m
Uppermost Blade Tip:	235m
Tower (Hub) height	145m

An explanation of each of the images included in the photomontage package is provided below:

### 1. Existing View - 180 Degree Field of View (Baseline Panorama)

The first image required from each viewpoint is a baseline panorama. This shows the existing view and captures the overall landscape and visual context. This information is essential to underpin the LVIA and to provide those who cannot visit the viewpoint with an understanding of the wider context within which the wind farm would sit.

### 2. Proposed View - 180 Degree Field of View (Photomontage)

A photomontage combines a photograph of an existing view with a computer-rendered image of a proposed development. Photomontages are used to illustrate the likely view of a proposed development as it would be seen in a photograph (not as it would appear to the human eye in the field).

Although photomontages are based on a photograph of the existing landscape, it is important to stress that they are not a substitute to visiting a viewpoint in the field. They are only one tool to aid assessment. They provide a two-dimensional image that can be compared with an actual view of the landscape to provide information, such as the scale and potential appearance of a proposed development.

### 3. Matched Wire Frame Diagram - 180 Degree Field of View

Wire frame diagrams have been included from each photomontage location to illustrate the potential visibility based on a bare ground scenario (with no vegetation). Wire Frame Diagrams are computer generated renders, based on a Digital Terrain Model, that indicate the three-dimensional shape of the landscape in combination with proposed Turbines. Wire frame images can be seen as a worst case scenario as they do not take into account factors such as vegetation, building structures.

### A1 Panorama

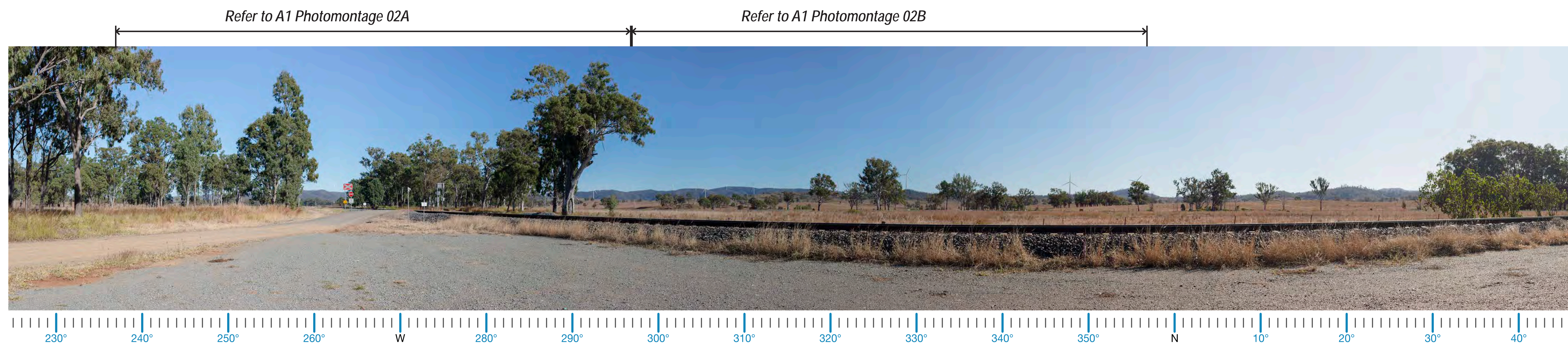
The A1 panorama is intended to provide the best impression of the apparent size of the turbines and the distance to the development from the viewpoint location. Only images at this scale, held at a comfortable arms length, should be used when trying to understand the size of the development and its distance from the viewpoint.



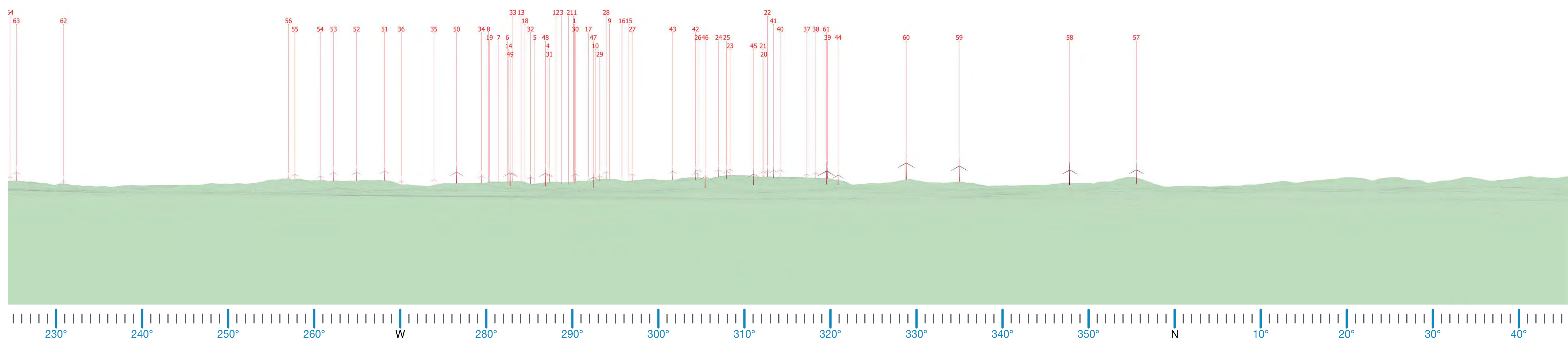
# Photomontage 02 - Inverness Road, Mount Alma



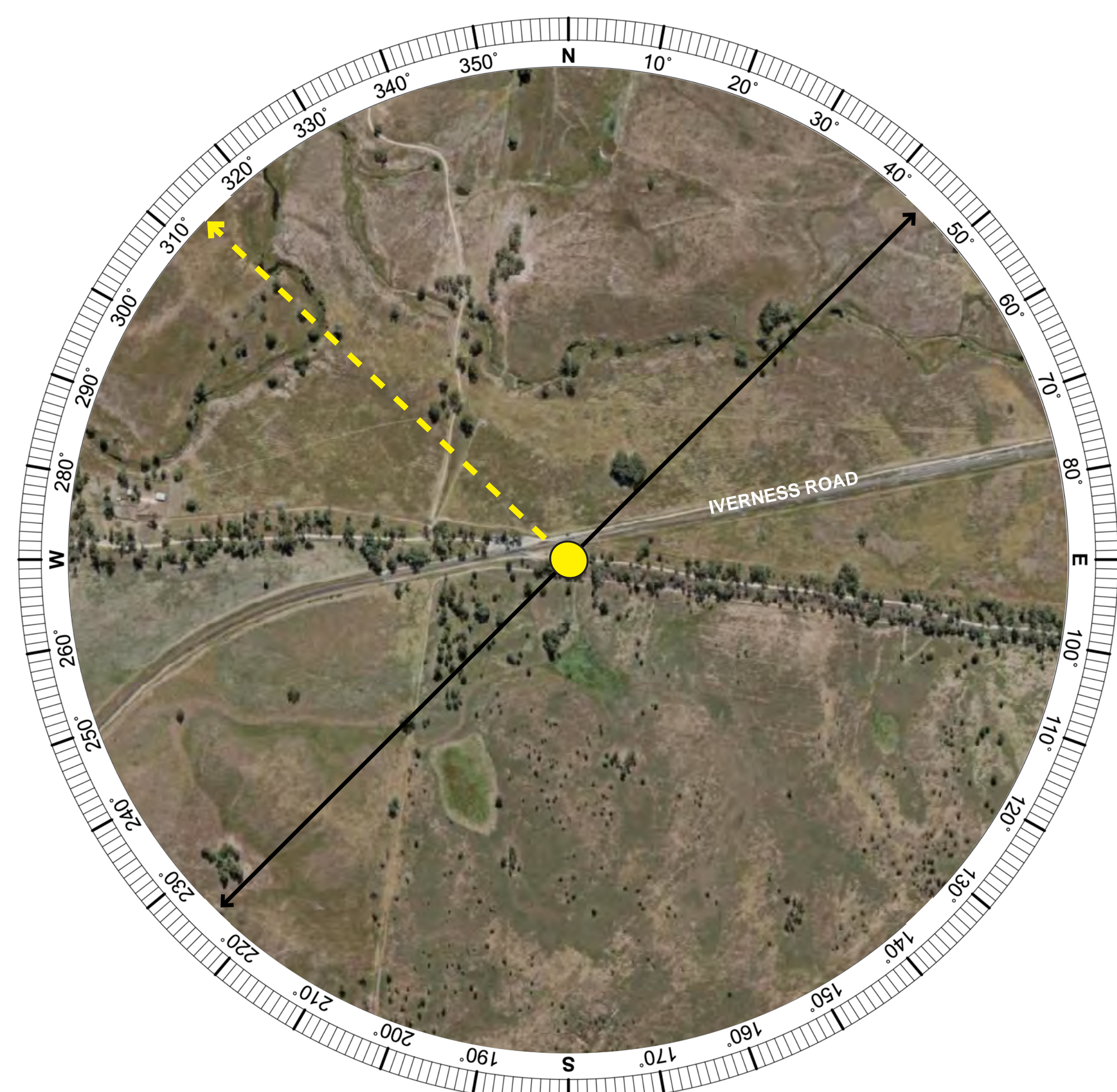
1. Existing View | 180° Baseline Panorama



2. Proposed View | 180° Photomontage - Provided for Context



3. 180° Wire Frame Diagram



Photomontage 02	
Location:	Inverness Road, Mount Alma
Photograph Date and Time:	11th July 2022 09:57am
Coordinates:	24° 8'40.20"S 150°42'2.97"E
Distance to Nearest Visible WTG:	4.27km
Viewing Direction:	Northwest
Elevation:	305m
Uppermost Blade Tip:	235m
Tower (Hub) height	145m

An explanation of each of the images included in the photomontage package is provided below:

### 1. Existing View - 180 Degree Field of View (Baseline Panorama)

The first image required from each viewpoint is a baseline panorama. This shows the existing view and captures the overall landscape and visual context. This information is essential to underpin the LVIA and to provide those who cannot visit the viewpoint with an understanding of the wider context within which the wind farm would sit.

### 2. Proposed View - 180 Degree Field of View (Photomontage)

A photomontage combines a photograph of an existing view with a computer-rendered image of a proposed development. Photomontages are used to illustrate the likely view of a proposed development as it would be seen in a photograph (not as it would appear to the human eye in the field).

Although photomontages are based on a photograph of the existing landscape, it is important to stress that they are not a substitute to visiting a viewpoint in the field. They are only one tool to aid assessment. They provide a two-dimensional image that can be compared with an actual view of the landscape to provide information, such as the scale and potential appearance of a proposed development.

### 3. Matched Wire Frame Diagram - 180 Degree Field of View

Wire frame diagrams have been included from each photomontage location to illustrate the potential visibility based on a bare ground scenario (with no vegetation). Wire Frame Diagrams are computer generated renders, based on a Digital Terrain Model, that indicate the three-dimensional shape of the landscape in combination with proposed Turbines. Wire frame images can be seen as a worst case scenario as they do not take into account factors such as vegetation, building structures.

### A1 Panorama

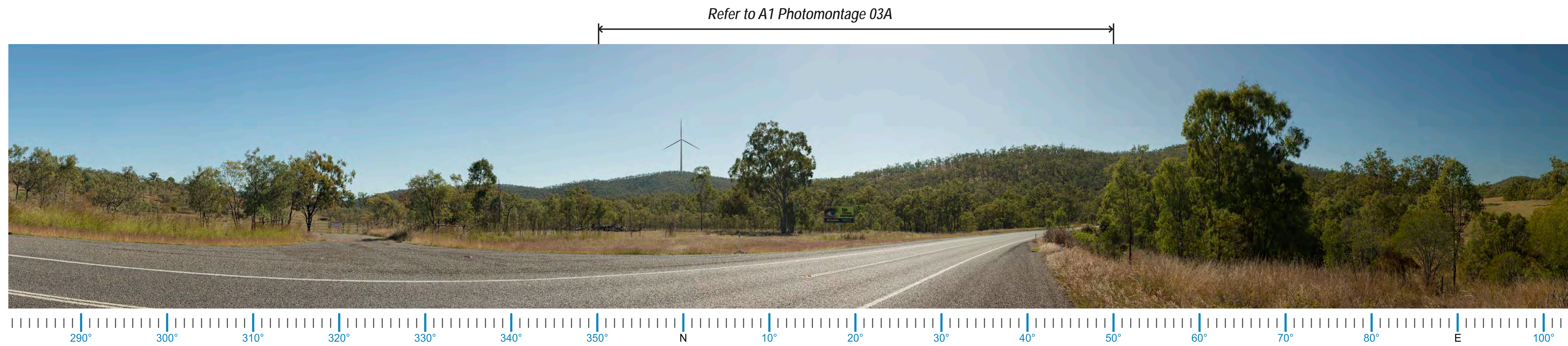
The A1 panorama is intended to provide the best impression of the apparent size of the turbines and the distance to the development from the viewpoint location. Only images at this scale, held at a comfortable arms length, should be used when trying to understand the size of the development and its distance from the viewpoint.



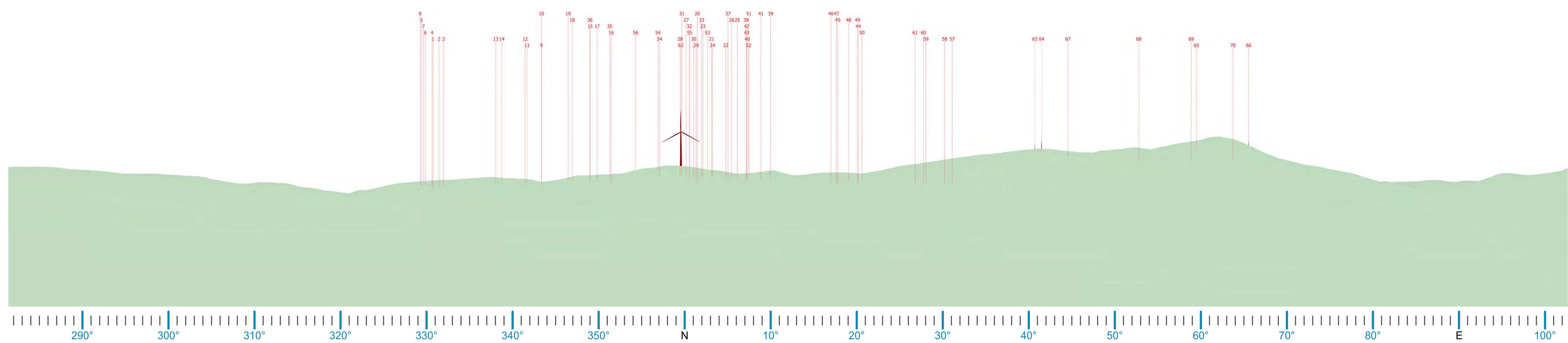
# Photomontage 03 - Dawson Highway, Callide



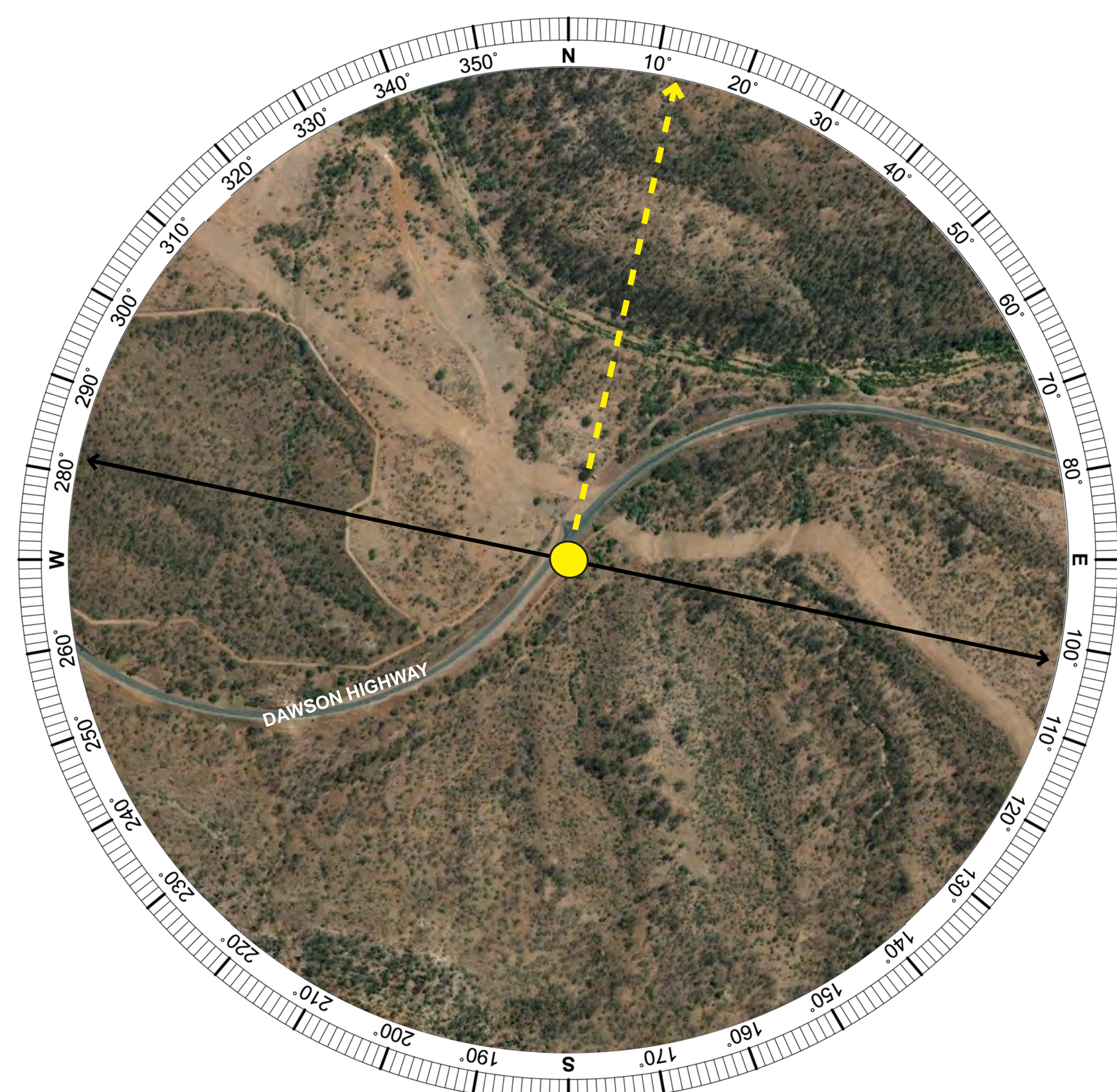
1. Existing View | 180° Baseline Panorama



2. Proposed View | 180° Photomontage - Provided for Context



3. 180° Wire Frame Diagram



## Photomontage 03

Location:	Dawson Highway, Callide
Photograph Date and Time:	11th July 2022 10.55am
Coordinates:	24° 13'40.57"S 150°36'42.53"E
Distance to Nearest Visible WTG:	2.08km
Viewing Direction:	North
Elevation:	281m
Uppermost Blade Tip:	235m
Tower (Hub) height	145m

An explanation of each of the images included in the photomontage package is provided below:

### 1. Existing View - 180 Degree Field of View (Baseline Panorama)

The first image required from each viewpoint is a baseline panorama. This shows the existing view and captures the overall landscape and visual context. This information is essential to underpin the LVIA and to provide those who cannot visit the viewpoint with an understanding of the wider context within which the wind farm would sit.

### 2. Proposed View - 180 Degree Field of View (Photomontage)

A photomontage combines a photograph of an existing view with a computer-rendered image of a proposed development. Photomontages are used to illustrate the likely view of a proposed development as it would be seen in a photograph (not as it would appear to the human eye in the field).

Although photomontages are based on a photograph of the existing landscape, it is important to stress that they are not a substitute to visiting a viewpoint in the field. They are only one tool to aid assessment. They provide a two-dimensional image that can be compared with an actual view of the landscape to provide information, such as the scale and potential appearance of a proposed development.

### 3. Matched Wire Frame Diagram - 180 Degree Field of View

Wire frame diagrams have been included from each photomontage location to illustrate the potential visibility based on a bare ground scenario (with no vegetation). Wire Frame Diagrams are computer generated renders, based on a Digital Terrain Model, that indicate the three-dimensional shape of the landscape in combination with proposed Turbines. Wire frame images can be seen as a worst case scenario as they do not take into account factors such as vegetation, building structures.

### A1 Panorama

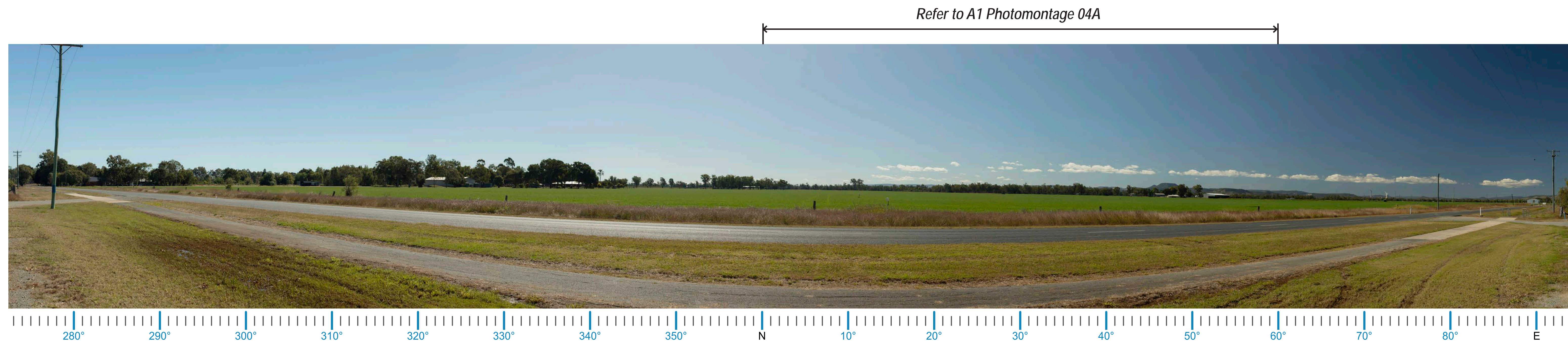
The A1 panorama is intended to provide the best impression of the apparent size of the turbines and the distance to the development from the viewpoint location. Only images at this scale, held at a comfortable arms length, should be used when trying to understand the size of the development and its distance from the viewpoint.



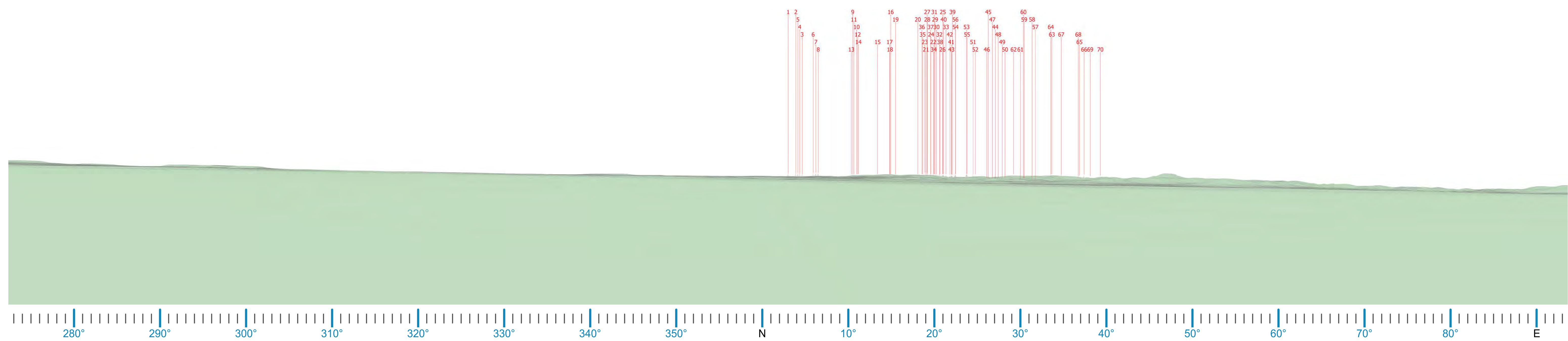
# Photomontage 04 - Tognolini Baldwin Road, Biloela



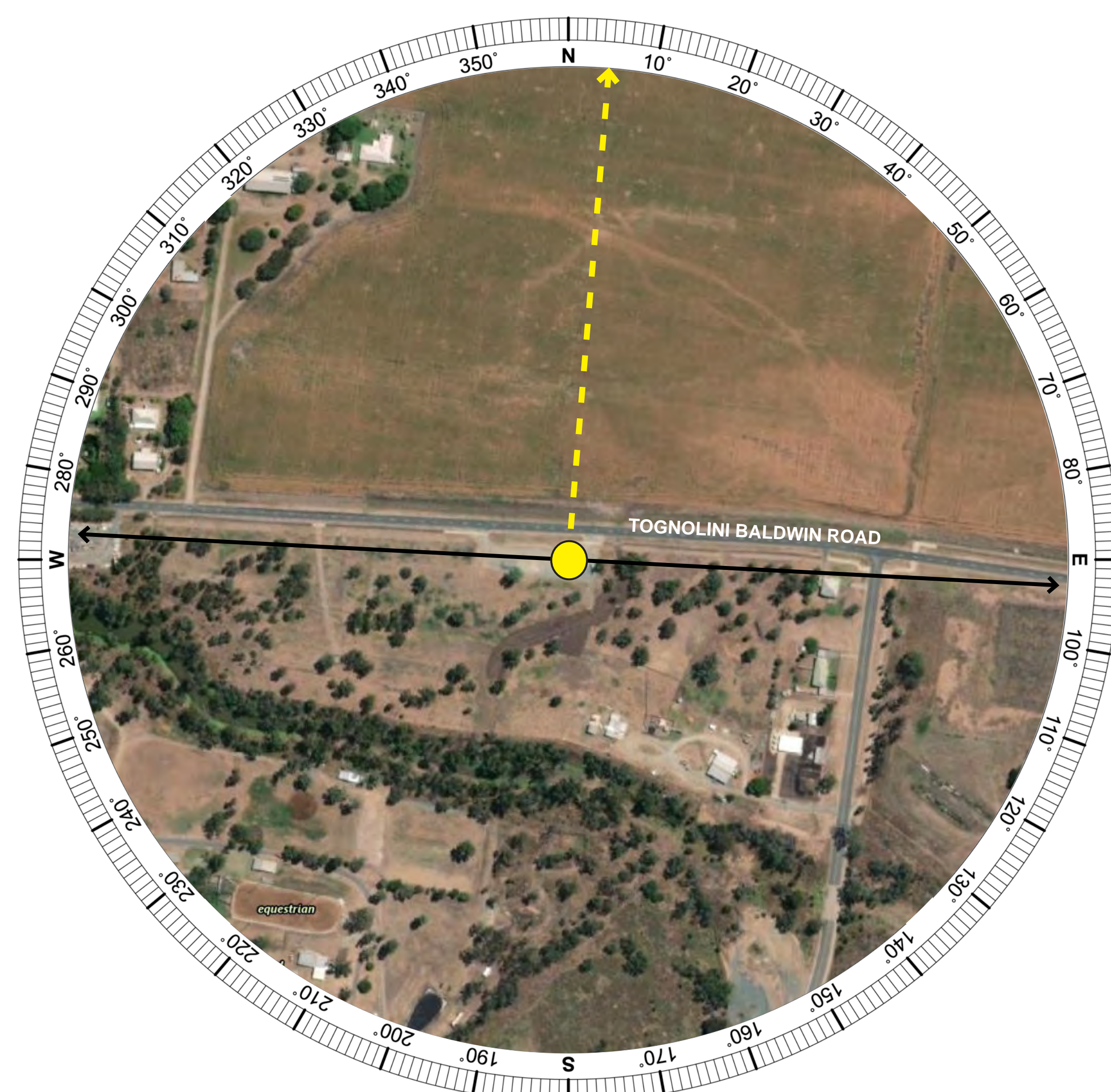
1. Existing View | 180° Baseline Panorama



2. Proposed View | 180° Photomontage - Provided for Context



3. 180° Wire Frame Diagram



## Photomontage 04

Location:	Tognolini Baldwin Road, Biloela
Photograph Date and Time:	11th July 2022 12:50pm
Coordinates:	24°22'49.36"S 150°30'29.96"E
Distance to Nearest Visible WTG:	21.75km
Viewing Direction:	West-Northwest
Elevation:	171m
Uppermost Blade Tip:	235m
Tower (Hub) height	145m

An explanation of each of the images included in the photomontage package is provided below:

### 1. Existing View - 180 Degree Field of View (Baseline Panorama)

The first image required from each viewpoint is a baseline panorama. This shows the existing view and captures the overall landscape and visual context. This information is essential to underpin the LVIA and to provide those who cannot visit the viewpoint with an understanding of the wider context within which the wind farm would sit.

### 2. Proposed View - 180 Degree Field of View (Photomontage)

A photomontage combines a photograph of an existing view with a computer-rendered image of a proposed development. Photomontages are used to illustrate the likely view of a proposed development as it would be seen in a photograph (not as it would appear to the human eye in the field).

Although photomontages are based on a photograph of the existing landscape, it is important to stress that they are not a substitute to visiting a viewpoint in the field. They are only one tool to aid assessment. They provide a two-dimensional image that can be compared with an actual view of the landscape to provide information, such as the scale and potential appearance of a proposed development.

### 3. Matched Wire Frame Diagram - 180 Degree Field of View

Wire frame diagrams have been included from each photomontage location to illustrate the potential visibility based on a bare ground scenario (with no vegetation). Wire Frame Diagrams are computer generated renders, based on a Digital Terrain Model, that indicate the three-dimensional shape of the landscape in combination with proposed Turbines. Wire frame images can be seen as a worst case scenario as they do not take into account factors such as vegetation, building structures.

### A1 Panorama

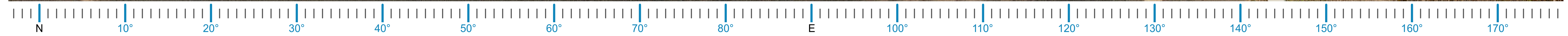
The A1 panorama is intended to provide the best impression of the apparent size of the turbines and the distance to the development from the viewpoint. Only images at this scale, held at a comfortable arms length, should be used when trying to understand the size of the development and its distance from the viewpoint.



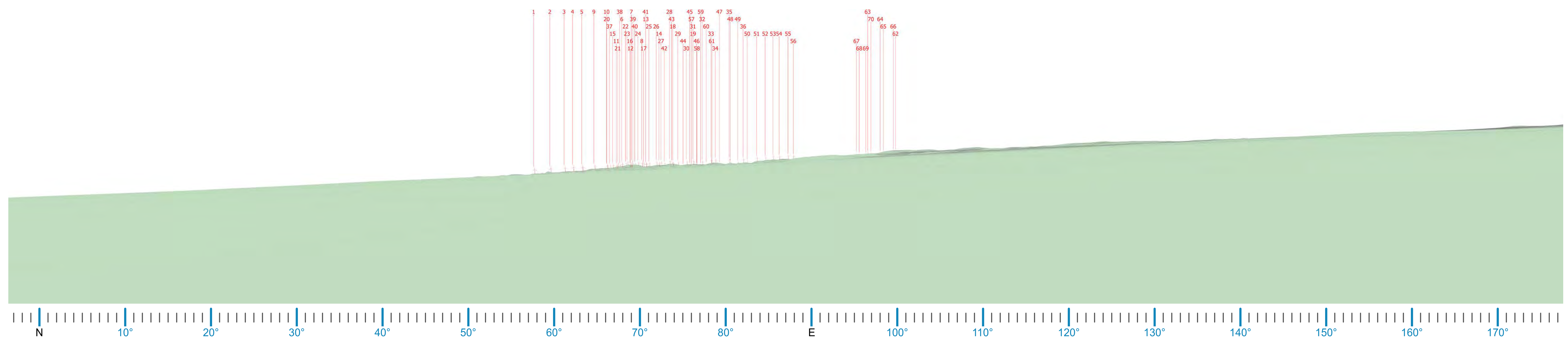
# Photomontage 05 - Burnett Highway, Jambin



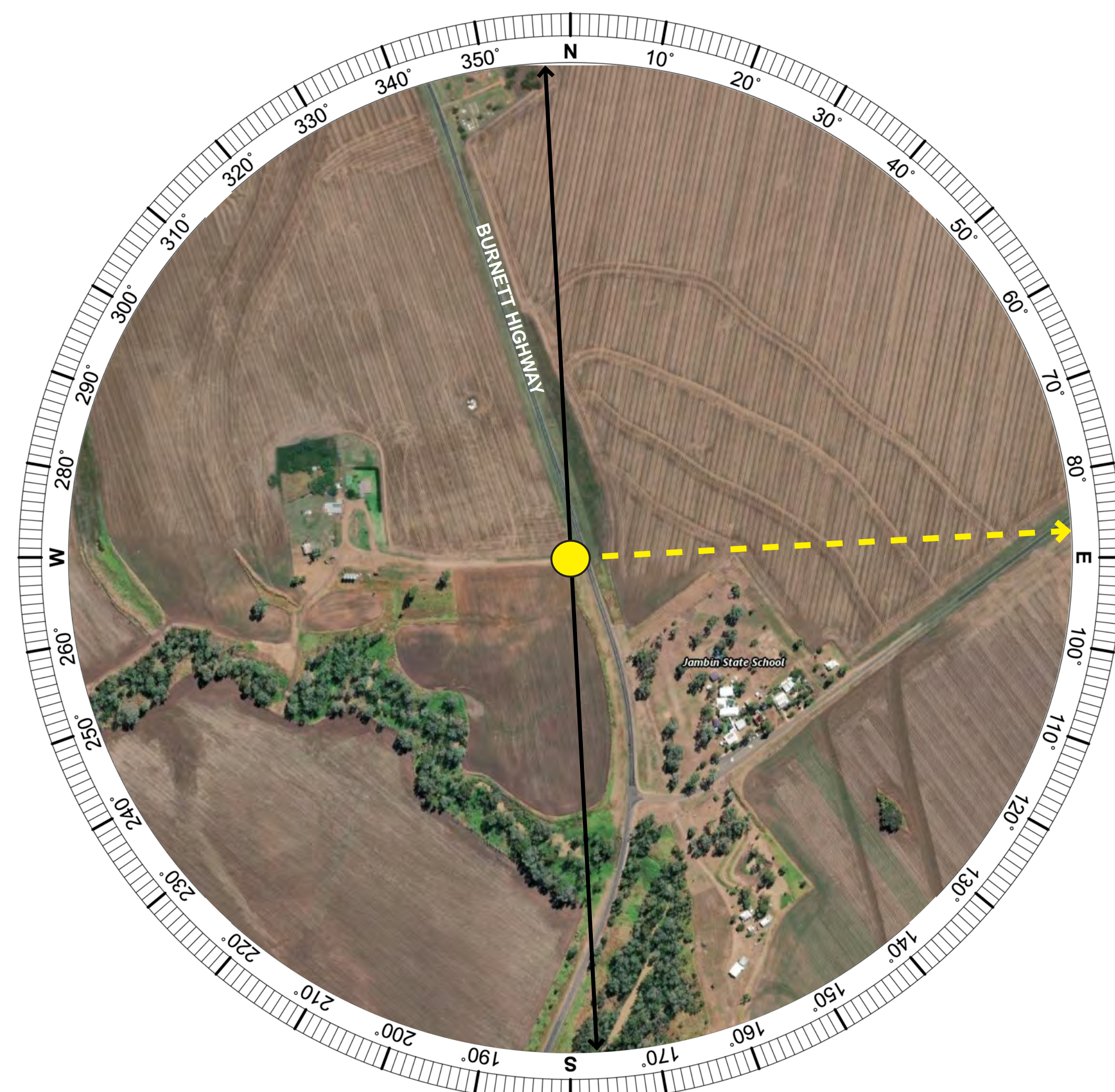
1. Existing View | 180° Baseline Panorama



2. Proposed View | 180° Photomontage - Provided for Context



3. 180° Wire Frame Diagram



Photomontage 05	
Location:	Burnett Highway, Jambin
Photograph Date and Time:	11th July 2022 01:55pm
Coordinates:	24°10'17.35"S 150°22'22.13"E
Distance to Nearest Visible WTG:	17.89km
Viewing Direction:	East
Elevation:	136m
Uppermost Blade Tip:	235m
Tower (Hub) height	145m

An explanation of each of the images included in the photomontage package is provided below:

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### 2. Proposed View - 180 Degree Field of View (Photomontage)

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### 3. Matched Wire Frame Diagram - 180 Degree Field of View

Wire frame diagrams have been included from each photomontage location to illustrate the potential visibility based on a bare ground scenario (with no vegetation). Wire Frame Diagrams are computer generated renders, based on a Digital Terrain Model, that indicate the three-dimensional shape of the landscape in combination with proposed Turbines. Wire frame images can be seen as a worst case scenario as they do not take into account factors such as vegetation, building structures.

### A1 Panorama

The A1 panorama is intended to provide the best impression of the apparent size of the turbines and the distance to the development from the viewpoint location. Only images at this scale, held at a comfortable arms length, should be used when trying to understand the size of the development and its distance from the viewpoint.