



Australian Government

BUILDING OUR FUTURE



M12 Motorway

Amendment Report - Appendix C

Urban design, landscape character and
visual impact assessment supplementary
technical memorandum

October 2020

Architecture
Interior Design
Landscape Architecture
Planning
Urban Design

Australia
China
Hong Kong
Singapore
United Kingdom
United States of America

Memorandum

Issued by Joshua Small, Hassell

Subject M12 Motorway amendment report - Urban design, landscape character and visual impact assessment (UDLCVIA) supplementary technical memorandum

Client Transport for NSW

Project M12 Motorway

Date July 2020

1. Introduction and background

1.1 Overview

Transport for New South Wales (TfNSW; formerly Roads and Maritime Services) proposes to build the M12 Motorway between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham (the project), over a distance of about 16 kilometres. The project would provide the main access from the Western Sydney International Airport at Badgerys Creek to Sydney's motorway network and is expected to be opened to traffic before the opening of the Western Sydney International Airport.

TfNSW is seeking approval under Part 5, Division 5.2 of the Environmental Planning and Assessment Act 1979 (EP&A Act) to construct and operate the project. An environmental impact statement (EIS) was prepared to assess the potential impacts of the project and recommend management measures to appropriately address those impacts. The key features of the project as described in the EIS is provided in Section 1.1 of the amendment report. This EIS was placed on public exhibition from 16 October to 18 November 2019.

TfNSW proposes to amend the project following further design development since the exhibition of the EIS. The proposed changes include design changes and construction updates. These provide functional improvements to the design and improved integration with surrounding major transport infrastructure projects and potential future development. They also respond to issues raised in community and stakeholder submissions, and, in some instances, further reduce the potential impacts of the project as described in the EIS.

The proposed changes are described in Section 1.3.

1.2 Purpose of document

This supplementary technical memorandum has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued 30 October 2018 to support the amendment report. The purpose of this memo is to identify and assess the potential construction, operation and cumulative landscape character, visual impact assessment impacts of the proposed design changes against the impacts documented in the M12 Motorway EIS and where required, recommend any changes or feasible and reasonable additions to the management measures.

1.3 Design changes

The proposed changes to the project as described in the EIS are summarised below and are described in detail in Chapter 3 and Chapter 4 of the amendment report:

- _ Amendments to the motorway-to-motorway interchange at the M7 Motorway, including:
 - _ Changes to Elizabeth Drive and Cecil Road intersections, proposed exit ramps, the Wallgrove Road connection to Elizabeth Drive and proposed shared user path realignments
 - _ The widening of Elizabeth Drive under the M7 Motorway and approaches
- _ An option to provide a new connection between the M12 Motorway and Elizabeth Drive near the M7 Motorway interchange
- _ Two new signalised intersections into the Western Sydney International Airport, with provisions for future connection to potential developments north of the Western Sydney International Airport
- _ Additional ancillary facilities to support the delivery of the project.

Refinements have also been made as part of the ongoing development of the project since the EIS was exhibited. Refinements are changes that are consistent with the parameters of the project description as described in the EIS. For completeness, however, these refinements have been factored into the amended construction and operational footprint and included in the impact assessment described in this supplementary technical memorandum. The refinements include:

- _ Lowering the height of the M12 Motorway in and around the Western Sydney International Airport interchange
- _ Reduction in the scope of work associated with the M12 Motorway and The Northern Road intersection
 - _ This intersection would still be constructed, but the main infrastructure work would be delivered as part of The Northern Road upgrade project
- _ Relocation of utilities
- _ Changes to property access and acquisition
- _ Changes to drainage
- _ Adjustments to construction access, hours, haulage, timing and material quantities.

The project with all proposed changes is referred to as the amended project.

1.4 Amended project

Overview

The amended project would continue to provide the main access from the Western Sydney International Airport at Badgerys Creek to Sydney's motorway network and be located between The Northern Road in the west and the M7 Motorway in the east. The amended project includes an option for a direct connection between the M12 Motorway and Elizabeth Drive at the eastern extent of the project. This option would include some realignment of Wallgrove Road and widening of Elizabeth Drive at the motorway-to-motorway interchange at the M7 Motorway to facilitate the connection. Therefore, two options are being proposed for the amended project at the interchange with the M7 Motorway.

The two options for the amended project would be consistent from The Northern Road in the west until Duff Road in the east. At the motorway-to-motorway interchange with the M7 Motorway, the project is proposed to be either:

- Option 1 – Without Elizabeth Drive connection
 - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramps
- Option 2 – With Elizabeth Drive connection
 - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

This section of the amended project is shown in Figure 1-1, with the Elizabeth Drive connection associated with option 2 shown in a different colour and detailed in inset A. The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This will be determined during the detailed design and construction phase of the project. The key features of each option are described in the following sections.

The proposed changes (see Section 1.3) would result in an amended construction footprint (Figure 1-2) and an amended operational footprint (Figure 1-3). The

footprints would be the same for both options, with each footprint assuming the worst case scenario (ie option 2).

The assessment of potential impacts relates to the worst case scenario and covers both options, unless stated otherwise.

The key features of the amended project are listed in Section below and include both options.

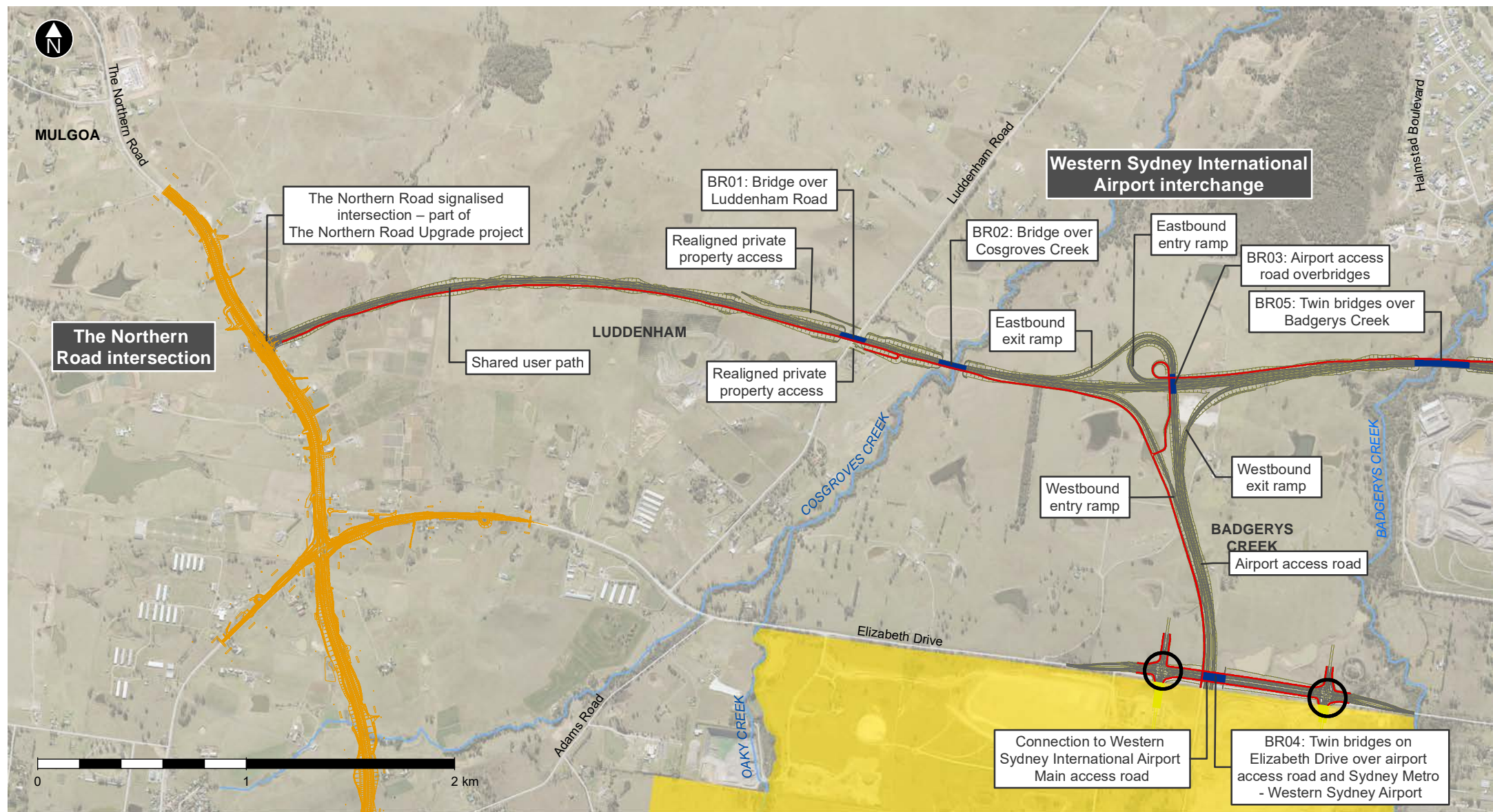
Key features of the amended project

The key features of the amended project are listed below. Where the description of the proposed amended project key features differs from the description listed in the EIS (see Section 1.1 of the amendment report), those changes are shown in bold text:

- A new dual-carriageway motorway between the M7 Motorway and The Northern Road with two lanes in each direction with a central median allowing future expansion to six lanes
- Motorway access via three interchanges/intersections:
 - A motorway-to-motorway interchange at the M7 Motorway and associated works (extending about four kilometres within the existing M7 Motorway corridor) **with the following options:**
 - **Option 1 – without connection between the M12 Motorway and Elizabeth Drive**
 - **Option 2 – with connection between the M12 Motorway and Elizabeth Drive**
 - A grade-separated interchange referred to as the Western Sydney International Airport interchange, including a dual-carriageway four-lane airport access road (two lanes in each direction for about 1.5 kilometres) connecting with the Western Sydney International Airport Main Access Road
 - A signalised intersection at The Northern Road with provision for grade separation in the future
 - Bridge structures across Ropes Creek, Kemps Creek, South Creek, Badgerys Creek and Cosgroves Creek
 - A bridge structure across the M12 Motorway into the Western Sydney Parklands to maintain access to utilities, including the existing water tower and mobile telephone/other service towers on the ridgeline in the vicinity of Cecil Hills, to the west of the M7 Motorway
 - Bridge structures at interchanges and at Clifton Avenue, Elizabeth Drive,

Luddenham Road and other local roads to maintain local access and connectivity

- Inclusion of active transport (pedestrian and cyclist) facilities through provision of pedestrian bridges and an off-road shared user path, including connections to existing and future shared user path networks
 - Modifications to the local road network, as required, to facilitate connections across and around the M12 Motorway including:
 - Realignment of Elizabeth Drive at the Western Sydney International Airport, with Elizabeth Drive overpassing the airport access road and rail infrastructure
 - **Two new signalised intersections from Elizabeth Drive into the Western Sydney International Airport, with provisions for future connection to potential developments to the north**
 - **Widening of Elizabeth Drive under the M7 Motorway and approaches**
 - Realignment of Clifton Avenue over the M12 Motorway, with associated adjustments to nearby property access
 - Relocation of the Salisbury Avenue cul-de-sac, on the southern side of the M12 Motorway
 - **Realignment of Wallgrove Road to connect to Cecil Road, including a connection between Elizabeth Drive and Wallgrove Road via Cecil Road with a signalised intersection with Elizabeth Drive**
 - Adjustment, protection or relocation of existing utilities
 - Ancillary facilities to support motorway operations, smart motorways operation in the future and the existing M7 Motorway operation, including gantries, electronic signage and ramp metering
 - Other roadside furniture, including safety barriers, signage and street lighting
 - Adjustments of waterways, where required, including Kemps Creek, South Creek and Badgerys Creek
 - Permanent water quality management measures including swales and basin
 - Establishment and use of temporary ancillary facilities, temporary construction sedimentation basins, access tracks and haul roads during construction
 - Permanent and temporary property adjustments and property access refinements as required.
- An overview of the amended project is shown in **Figure 1-1**.



- The amended project
- Existing roads
- Part of The Northern Road upgrade project
- Waterways
- Shared user path
- Bridges
- Western Sydney International Airport
- Signalised intersections into the Western Sydney International Airport
Note: Indicative, subject to detailed design



Page 1 of 4

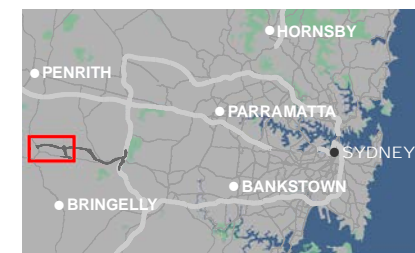
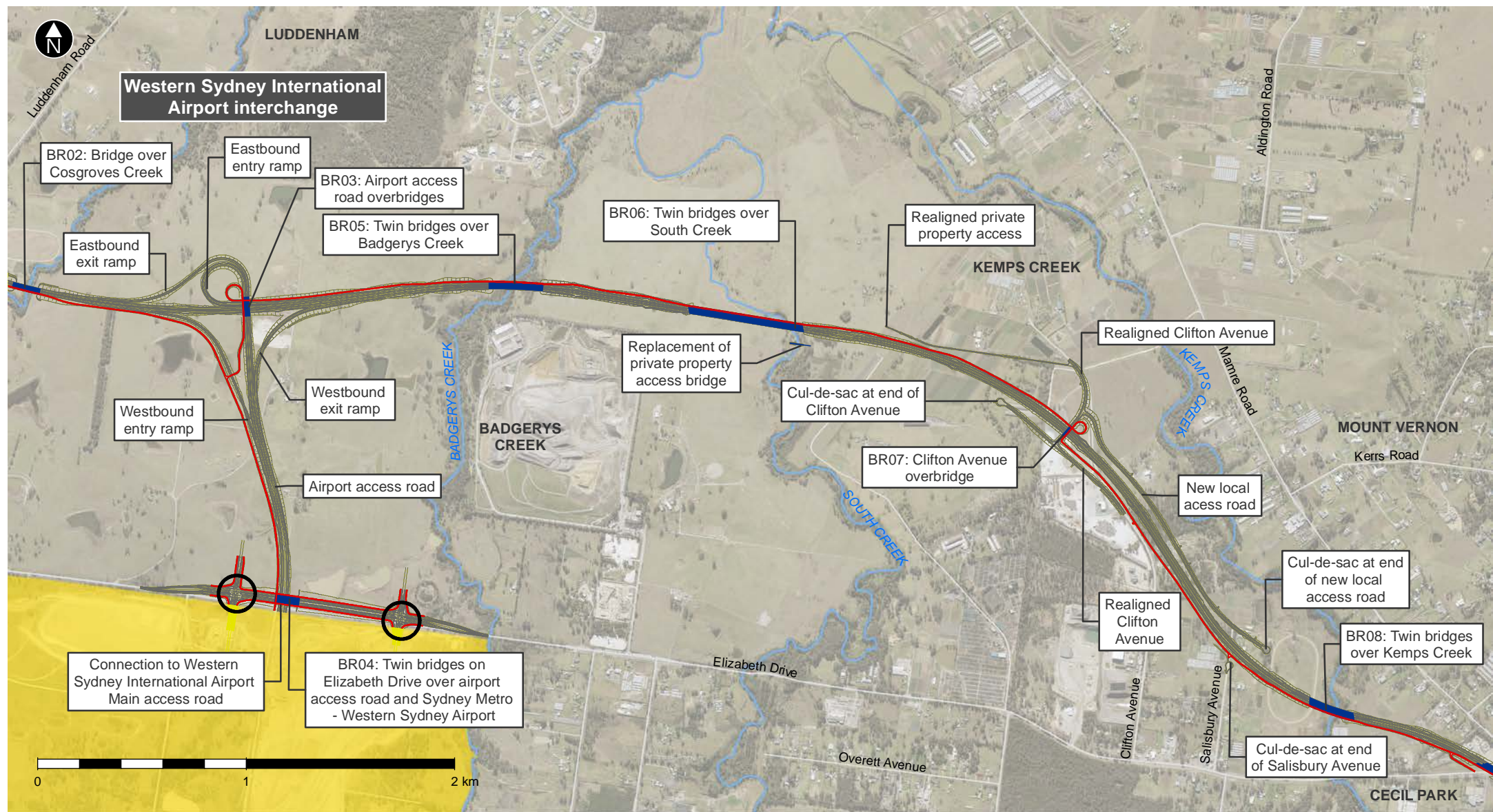
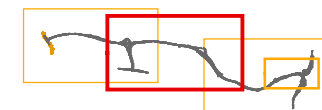


Figure 1-1 Key features of the amended project



- The amended project
- Existing roads
- Western Sydney International Airport
- Shared user path
- Waterways
- Signalised intersections into the Western Sydney International Airport
- Note: Indicative, subject to detailed design
- Bridges



Page 2 of 4

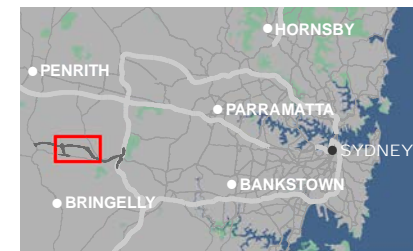
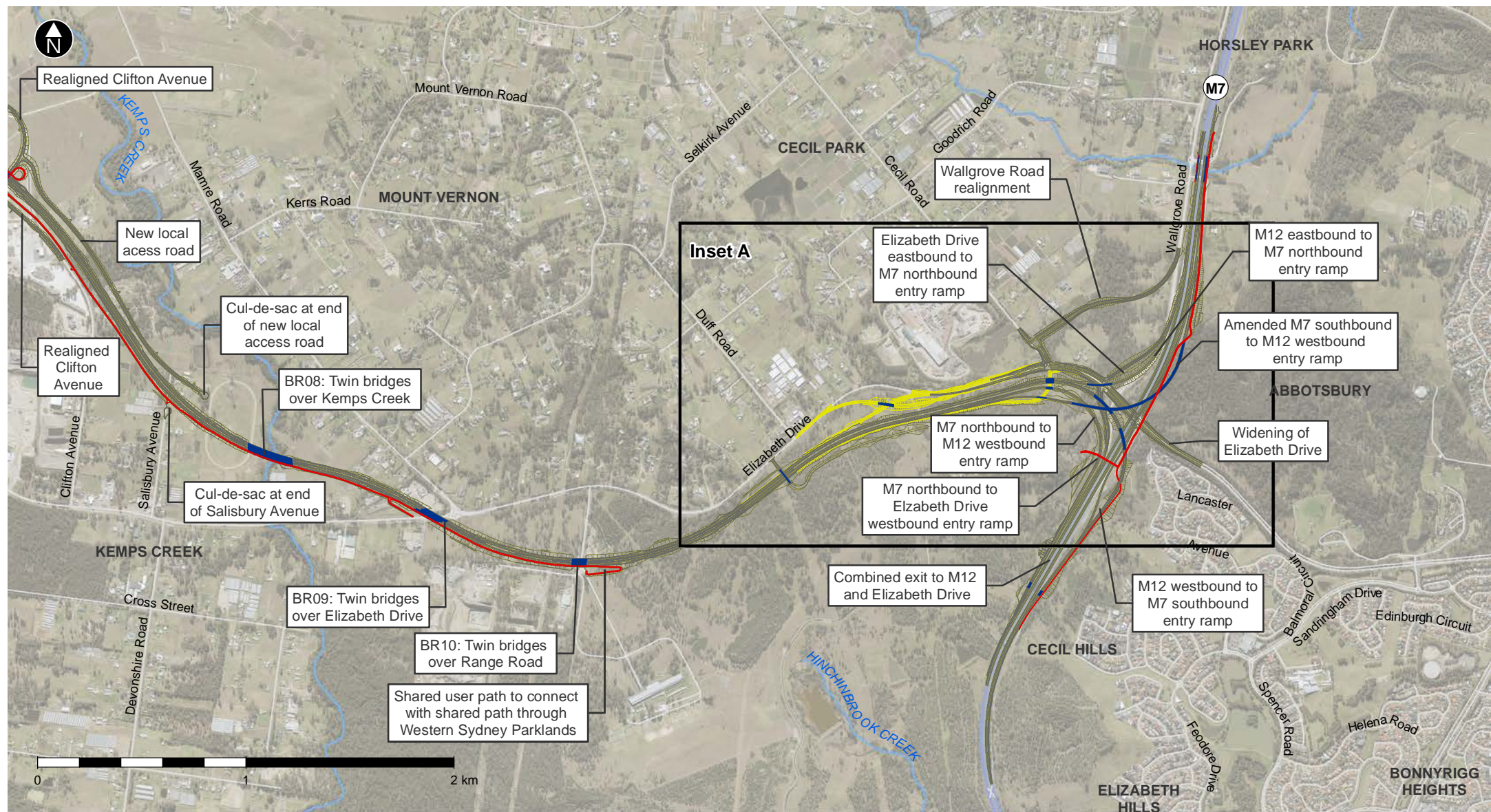
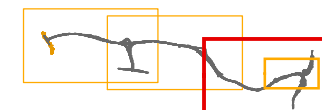


Figure 1-1 Key features of the amended project

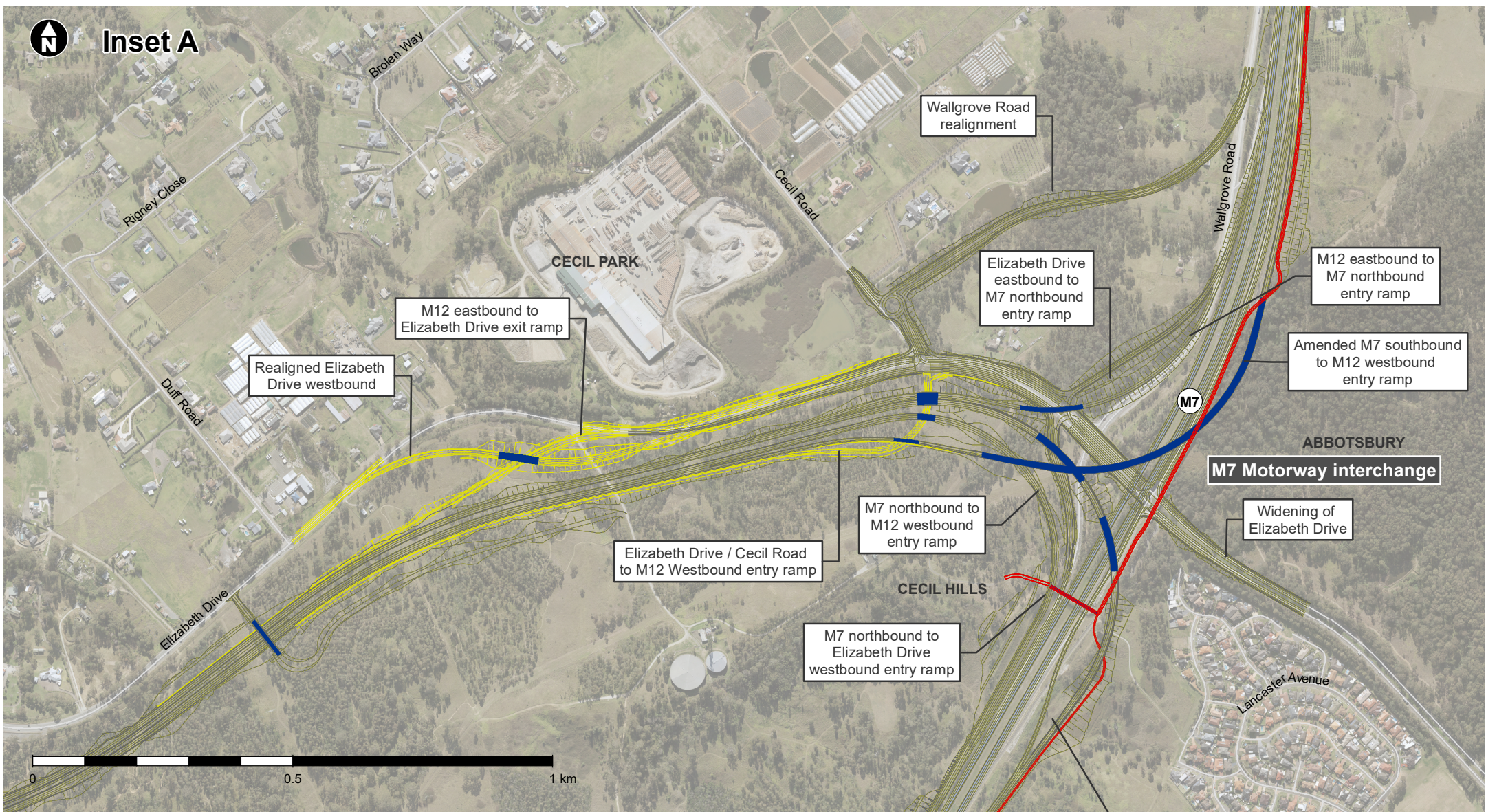


- The amended project
- The amended project (Elizabeth Drive connection)
- Shared user path
- Bridges
- Motorway
- Existing roads
- Waterways

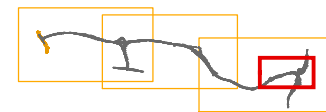


Page 3 of 4

Figure 1-1 Key features of the amended project



- The amended project
- The amended project with Elizabeth Drive connection
- Shared user path
- Bridges
- Motorway
- Existing roads



Page 4 of 4

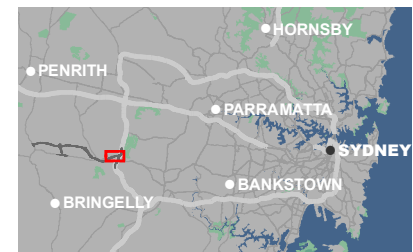
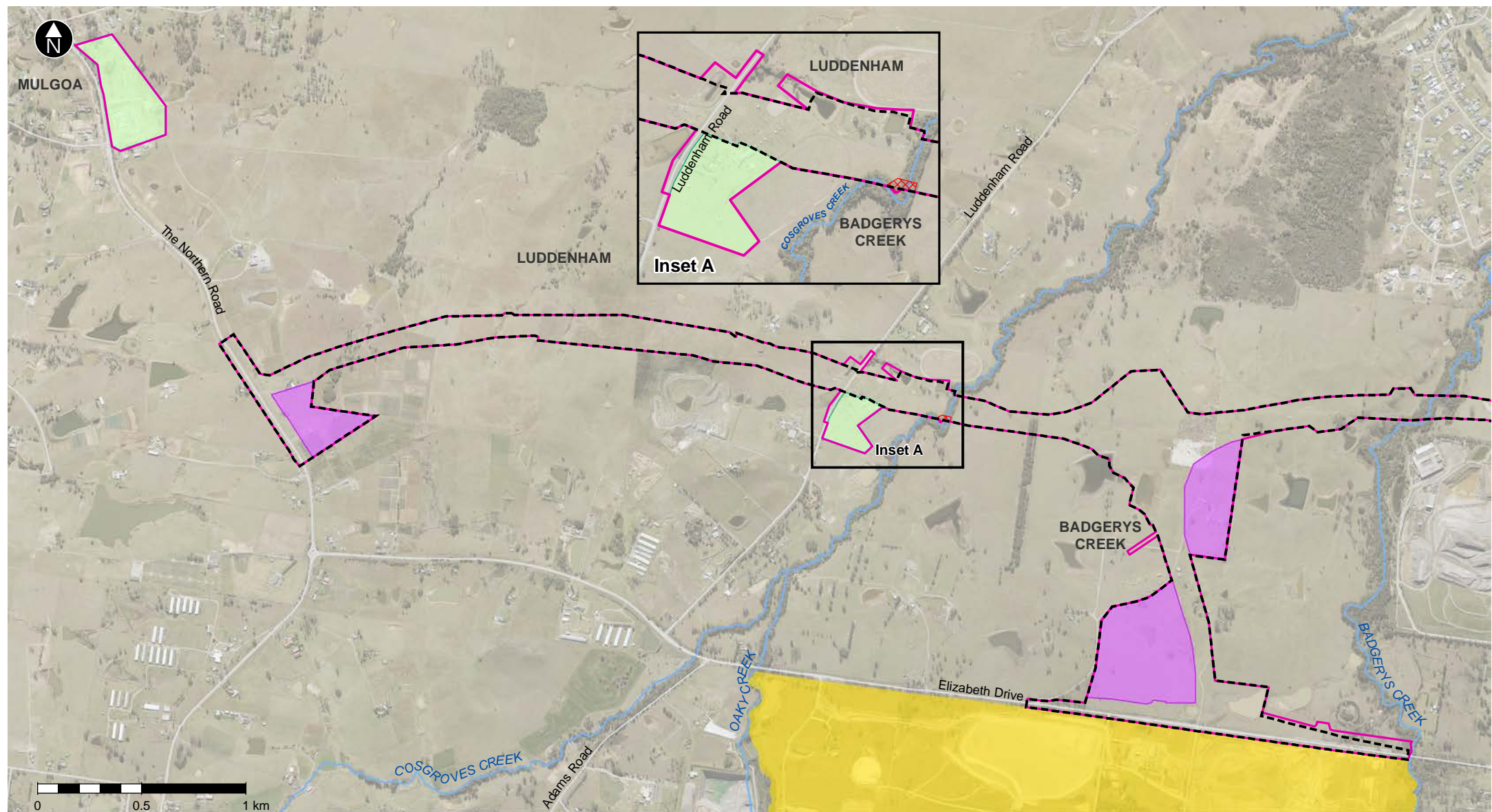
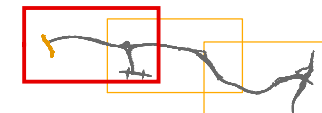


Figure 1-1 Key features of the amended project



- The project construction footprint as per the EIS
- The amended project construction footprint
- The amended project exclusion zones

- Ancillary facilities as per the EIS
- Additional ancillary facilities
- Western Sydney International Airport
- Waterways
- Motorway
- Existing roads



Page 1 of 4

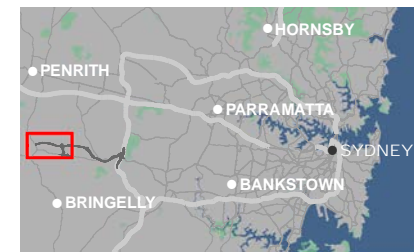
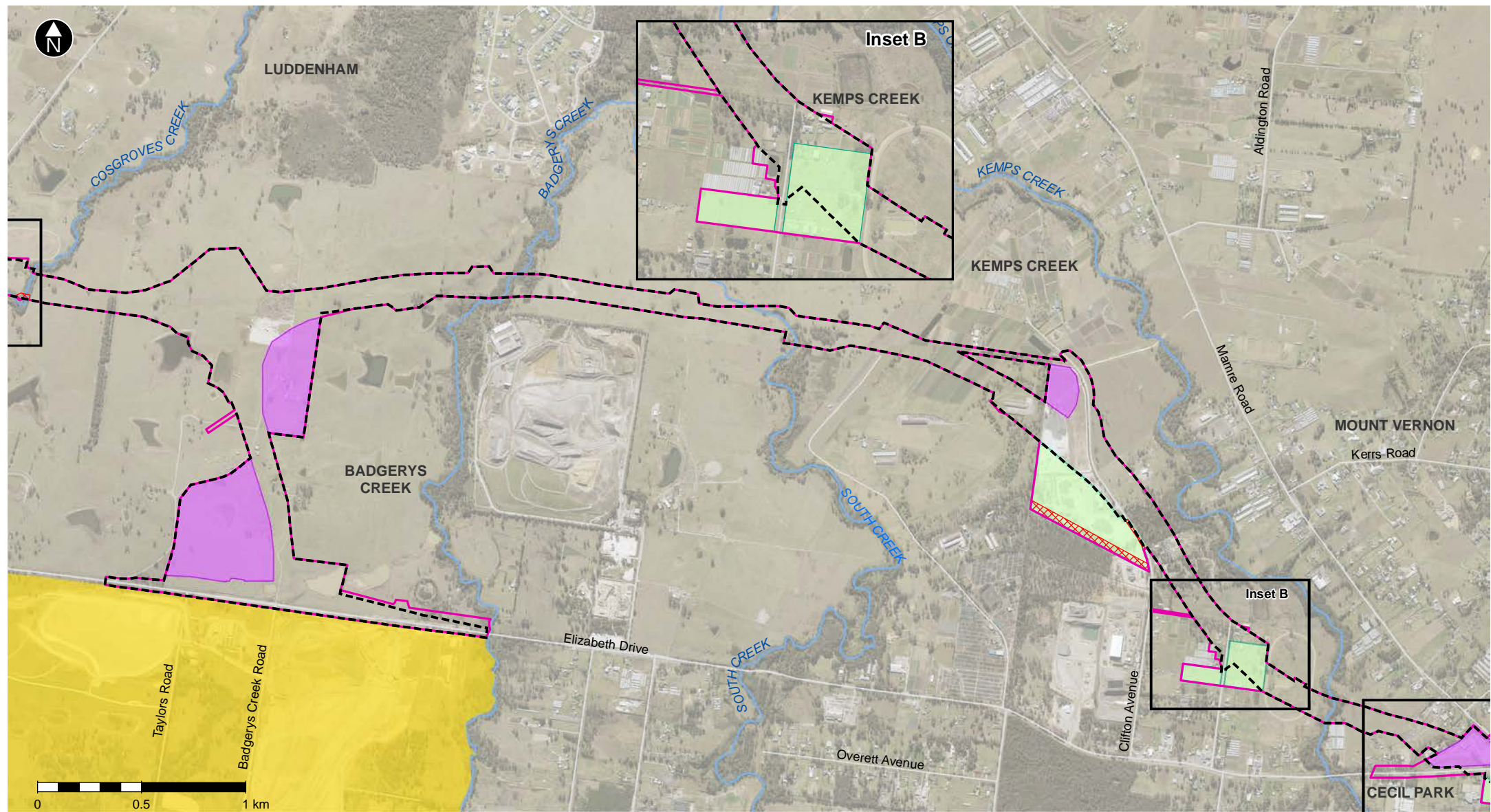
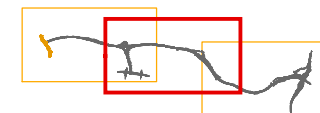


Figure 1-2 Construction footprints of the amended project and the project as described in the EIS



- The project construction footprint as per the EIS
- The amended project construction footprint
- The amended project exclusion zones

- Ancillary facilities as per the EIS
- Additional ancillary facilities
- Western Sydney International Airport
- Waterways
- Motorway
- Existing roads



Page 2 of 4

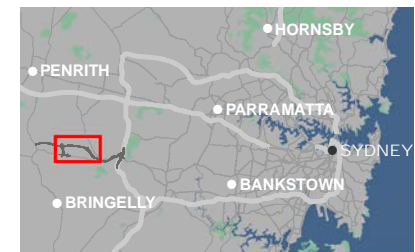
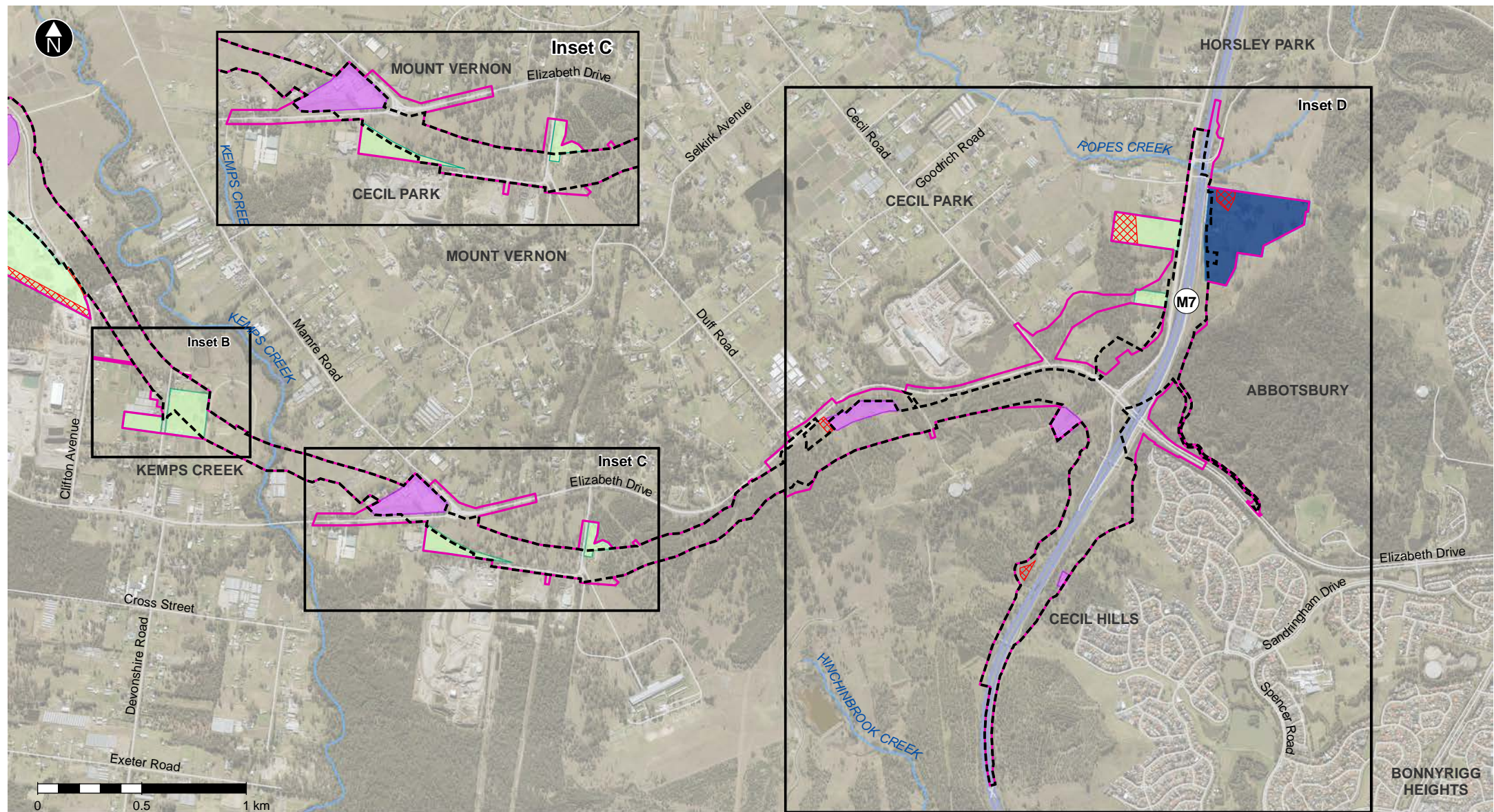
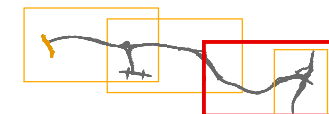


Figure 1-2 Construction footprints of the amended project and the project as described in the EIS



- The project construction footprint as per the EIS
- The amended project construction footprint
- The amended project exclusion zones

- Ancillary facilities as per the EIS
- Additional ancillary facilities
- Amended ancillary facilities
- Waterways
- Motorway
- Existing roads



Page 3 of 4

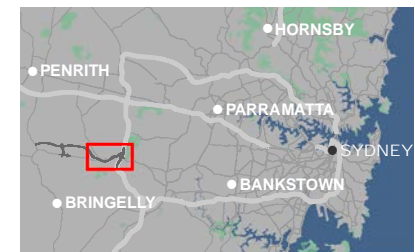
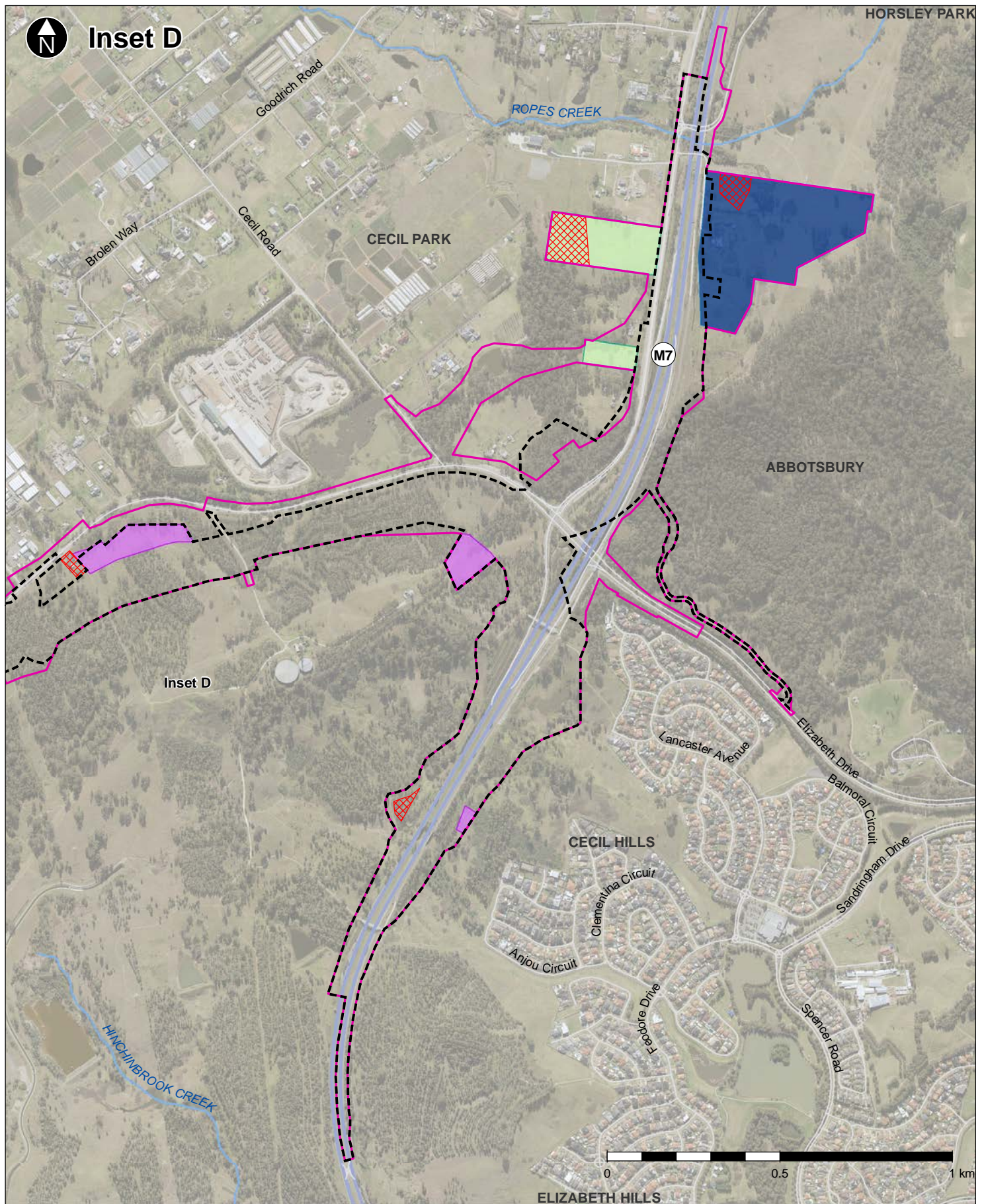
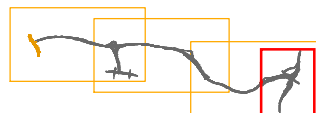


Figure 1-2 Construction footprints of the amended project and the project as described in the EIS



- The project construction footprint as per the EIS
- The amended project construction footprint
- The amended project exclusion zones
- Ancillary facilities as per the EIS
- Additional ancillary facilities
- Amended ancillary facilities



Page 4 of 4

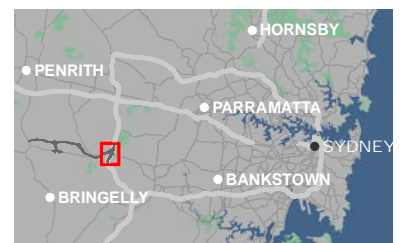
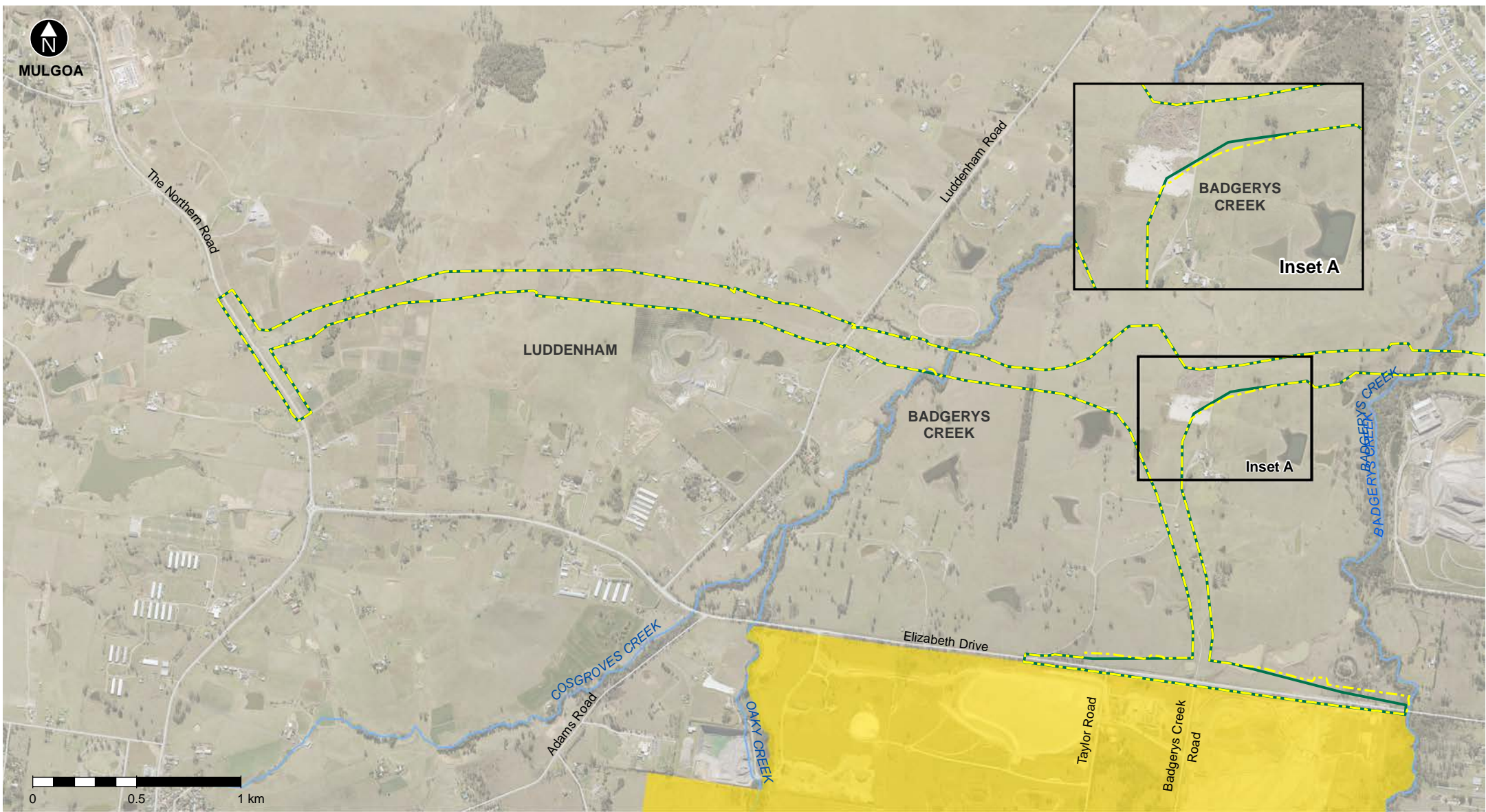
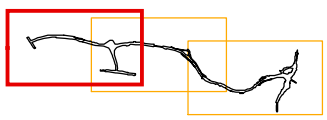


Figure 1-2 Construction footprints of the amended project and the project as described in the EIS



- The project operational footprint as per the EIS
- The amended project operational footprint
- ~~~~~ Waterways
- Western Sydney International Airport
- Existing roads



Page 1 of 3

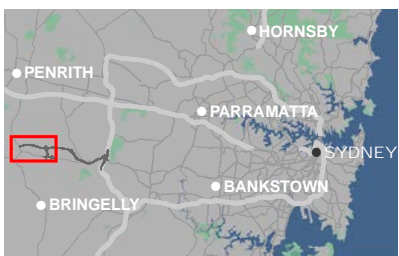
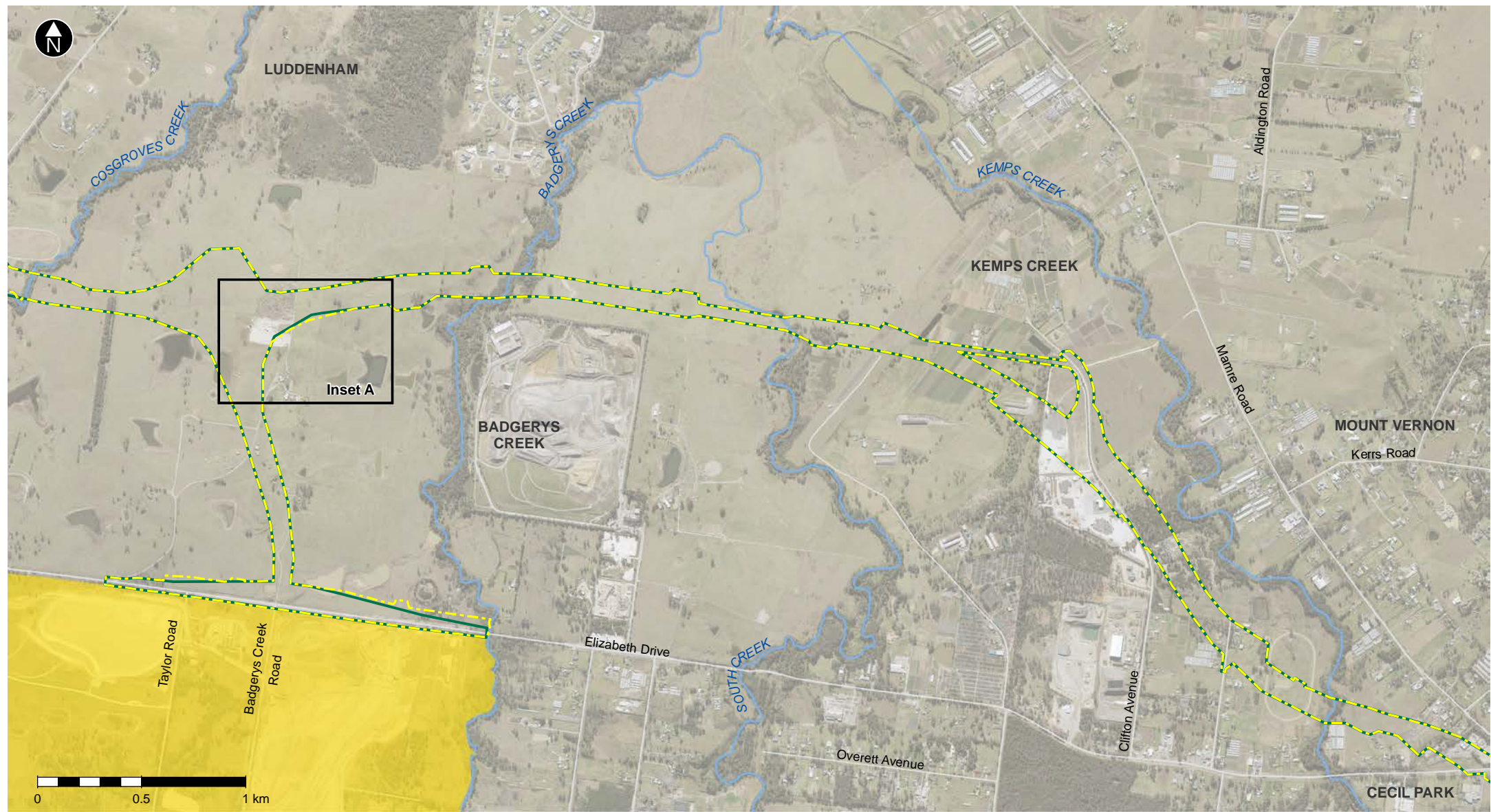
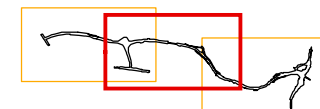


Figure 1-3 Operational footprints of the amended project and the project as described in the EIS



- The project operational footprint as per the EIS
- The amended project operational footprint
- ~~~~~ Waterways
- Western Sydney International Airport
- Existing roads



Page 2 of 3

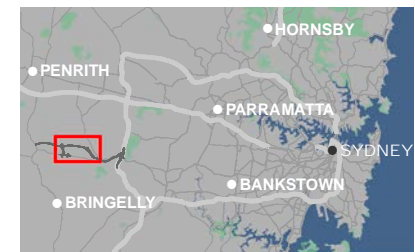
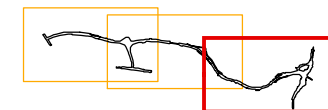
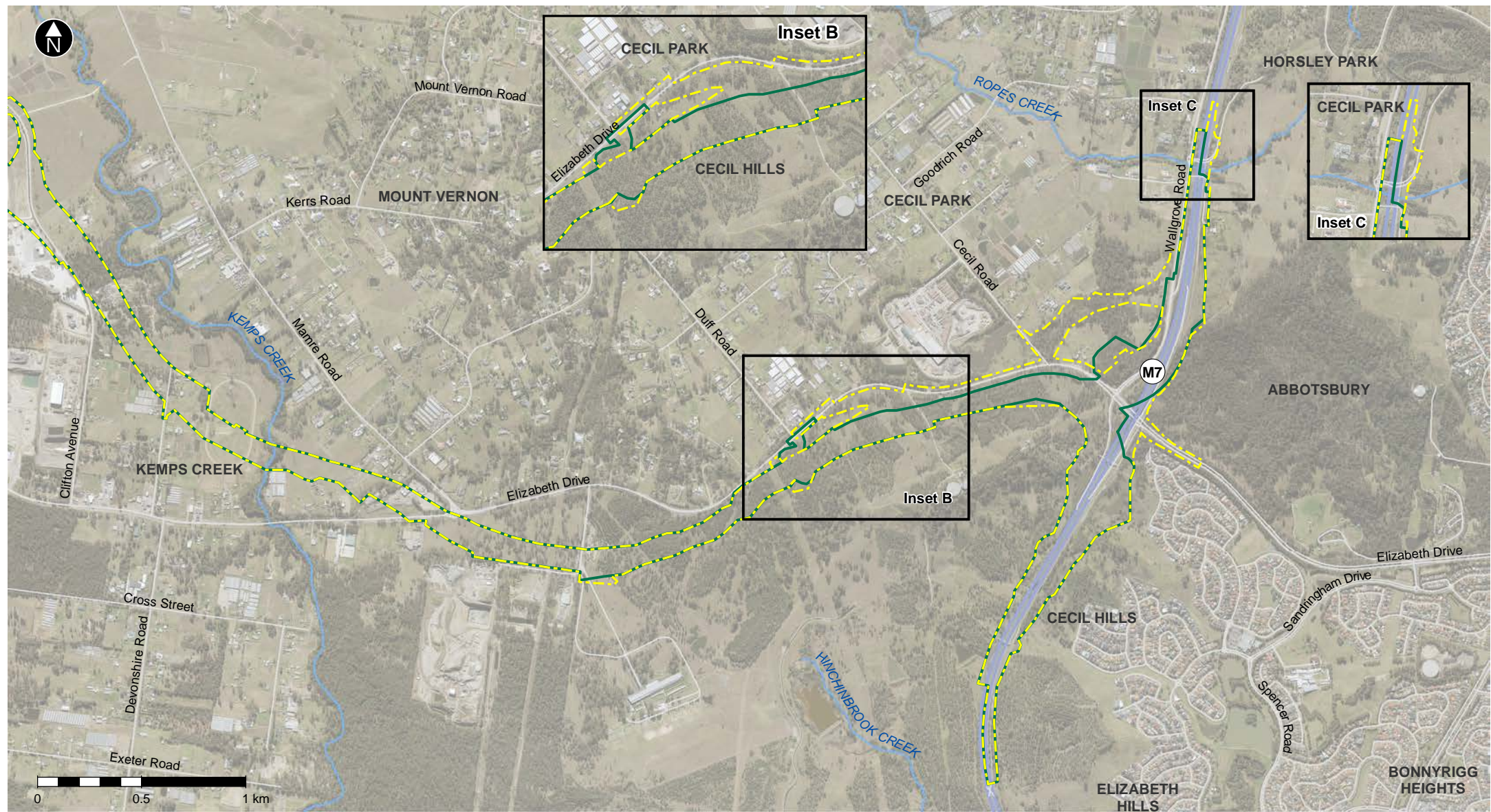


Figure 1-3 Operational footprints of the amended project and the project as described in the EIS



Page 3 of 3

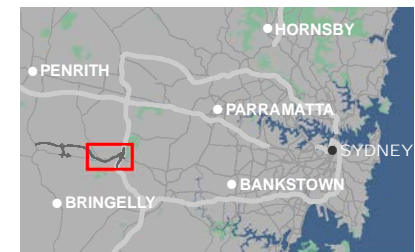


Figure 1-3 Operational footprints of the amended project and the project as described in the EIS

2. Assessment methodology

2.1 Assessment methodology

This supplementary technical memorandum has been completed in accordance with the policy and planning setting detailed in Section 2 of the EIS and the assessment methodology described in Section 3 of the M12 Motorway Environment Impact Statement Appendix G Landscape character, visual impact assessment and urban design report (RMS, 2019). The assessment has been completed in accordance with the Environmental Impact Assessment Practice Note: Landscape Character and Visual Assessment EIA-NO4 (RMS, 2018).

The report differentiates between landscape character assessment - the overall impact of a project on an area's character and sense of place, and visual impact assessment - the effect on views.

Through an integrated urban design process, this memo seeks to address how the amended project fits into the study area to support local connections and contribute to the quality of the built outcome and how the amended project differs from the project as described in the EIS.

The following section describes the approach taken to achieve an integrated urban design outcome through the assessment and mitigation of potential landscape character and visual impacts. The assessment involved the following:

- _ Review and update of Landscape Character Assessment:
 - _ Updated mapping / diagrams as required
 - _ Updated assessment / review
 - _ Updated conclusion as required
- _ Review and update of Visual Impact Assessment:
 - _ Updated visibility diagram
 - _ Updated viewpoint location diagram
 - _ Viewpoint assessment and updated / new visualisations for the following viewpoints to determine how the amended project differs from the

project as described in the EIS:

- Viewpoint 7 - View east along Elizabeth Drive
- Viewpoint 22 - View south from Duff Road
- Viewpoint 24 - View south from Cecil Road
- Viewpoint 25 - View north-west toward M7 - M12 Interchange
- Viewpoint 26 - View north along the M7 Motorway
- Viewpoint 28 - View west from Jaquetta Close
- Viewpoint 29 - View west along Elizabeth Drive
- Viewpoint 30 - View south along shared user path and M7 Motorway
- _ New viewpoints, assessment and visualisations for six new locations:
 - Viewpoint 31 - View south from Elizabeth Drive, west of Duff Road
 - Viewpoint 32 - View south-east from Elizabeth Drive, east of Duff Road
 - Viewpoint 33 - View south from Cecil Road, north of Elizabeth Drive
 - Viewpoint 34 - View south from Wallgrove Road
 - Viewpoint 35 - View north from Isabel Street
 - Viewpoint 36 - View west from Isabel Street
- _ Updated summary of visual impacts
- _ Updated cumulative impacts
- _ Updated conclusion.

Landscape character impact assessment

The landscape character impact assessment methodology is as follows:

- _ Review Landscape Character Zones (LCZ) identified in the EIS
- _ Identify LCZs where proposed design changes occur
- _ Assess whether there are changes on the magnitude of the impact for each LCZ because of the proposed design changes.

The landscape character impact assessment considered proposed design changes both from option 1 – Without Elizabeth Drive connection and option 2 – With Elizabeth Drive connection.

Visual impact assessment

The visual impact assessment methodology is as follows:

- _ Review viewpoints identified in the EIS and identify those where proposed design changes would be visible. For those where proposed design changes are visible, revise magnitude of change and overall visual impact
- _ Identify additional viewpoints potentially impacted by the proposed design changes. For these new points, identify: elements that would be visible, viewers, frequency as well as visual sensitivity, magnitude of change and overall visual impact.

The visual impact assessment considered design changes both from option 1 – Without Elizabeth Drive connection and option 2 – With Elizabeth Drive connection.

Cumulative Impact Assessment

Cumulative impacts are those that result from successive, incremental, and/or combined effects of a project when added to other existing, planned, and/or reasonably anticipated future projects. The cumulative effect of multiple projects may decrease or intensify the landscape and visual impacts on a particular receiver or area.

A review of the cumulative impacts of the amended project has been completed taking into account other transport projects in the vicinity of the project that have been:

- _ Approved but where construction has not commenced
- _ Commenced construction
- _ Recently completed.

In addition, a general discussion is provided describing the implications of future land use initiatives that may result in a cumulative impact.

The cumulative impact assessment is provided in **Section 07** of this report.

Environmental Management Measures

Review and if required, update environmental management measures outlined in the EIS to be incorporated during detailed design.

3. Existing environment

Chapter 4 of the M12 Motorway Environment Impact Statement Appendix G - Landscape character, visual impact assessment and urban design report (RMS, 2019) provides a detailed description of the existing environment within which the project is located including land use, soils, topography, hydrology and flooding, vegetation, heritage and landscape character. The existing environment has not changed since the preparation of the EIS.

4. Urban design concept

Chapter 5 of the M12 Motorway Environment Impact Statement Appendix G - Landscape character, visual impact assessment and urban design report (RMS, 2019) provides details of the urban design concept for the project including urban design principles and objectives, connection to country design, urban design elements and concept plan. These are relevant and applicable to the amended project.

5. Landscape character impact assessment

Based on the amended project and where the associated proposed design changes occur across the Project, the following Landscape Character Zones (LCZs) were reassessed:

- _ LCZ 3 - Rural plains
- _ LCZ 6 - Ridgetop woodlands
- _ LCZ 7 - M7 Motorway
- _ LCZ 8 - Cecil Hills residential.

The updated Figure 5-1 below shows the amended project alignment and Landscape Character Zones across the project.

Outcomes from the assessment are shown within this section.

5.1 Amended project assessment

Given the similarities in scope and base infrastructure (road elements, bridges and landscaping) between the project as described in the EIS and the amended project, the impact on the landscape character zones LCZ 3, LCZ 6, LCZ 7 and LCZ 8 remains unchanged from the impact assessment described in Section 7.3.5 in the EIS.

5.2 Amended projects impacts during construction

The construction footprint has been amended to accommodate the proposed design changes as well as additional construction ancillary facilities.

Landscape character impacts from the amended construction footprint and additional construction ancillary facilities would be comparable to the impacts described in Section 7.3.5 in the EIS.

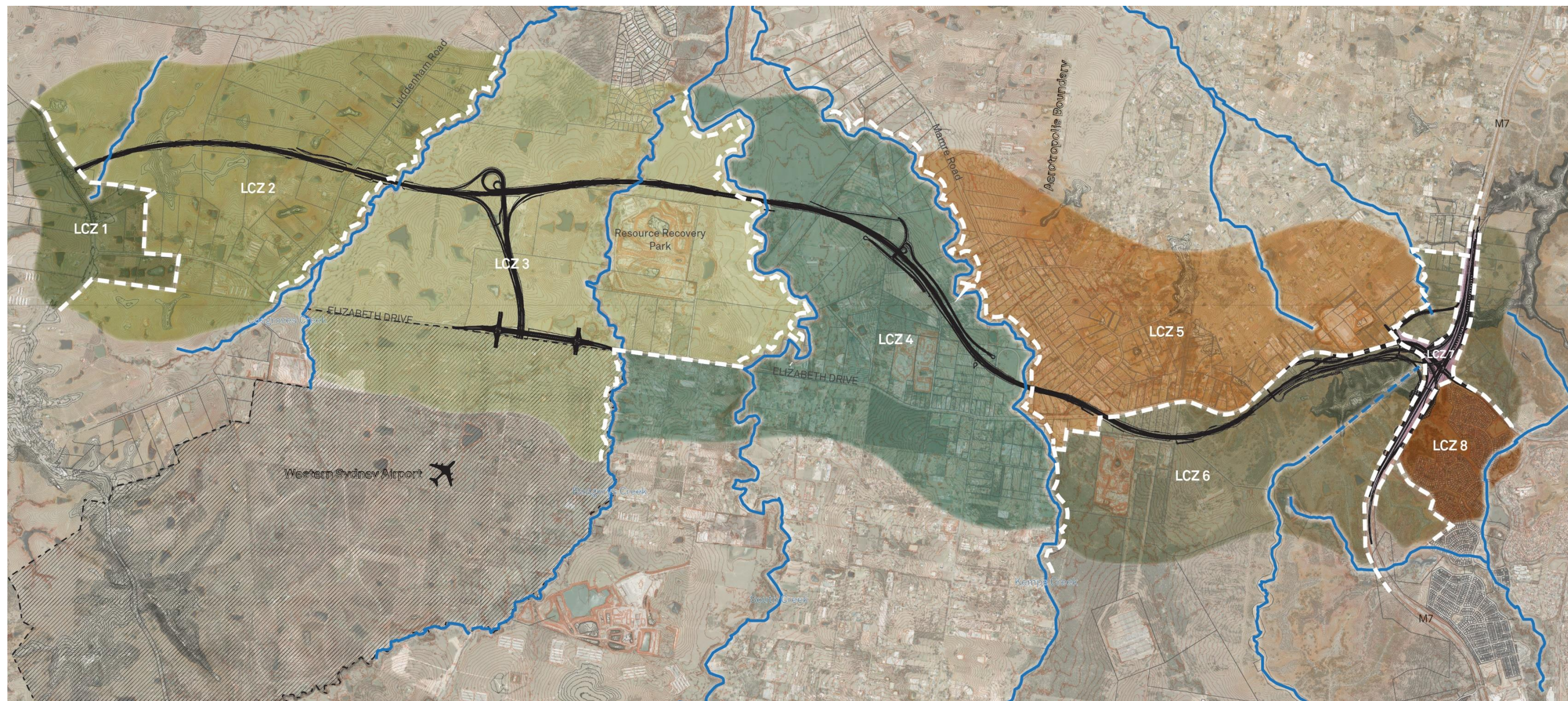


Figure 5-1 Landscape Character Zones across the amended project

6. Visual impact assessment

This section provides an assessment of the potential visual impacts that may result due to the construction and operation of the amended project. It compares the impacts identified in the EIS to the impacts of the amended project.

These impacts are discussed in relation to the landscape character, visual impact assessment impacts documented in the EIS. The assessment of potential impacts described in this section relates to both options described in Section 1.3 unless stated otherwise.

Based on the amended design, the following viewpoints from the EIS have been reassessed:

- _Viewpoint 7 - View east along Elizabeth Drive
- _Viewpoint 22 - View south from Duff Road
- _Viewpoint 24 - View south from Cecil Road
- _Viewpoint 25 - View north-west toward M7 - M12 Interchange
- _Viewpoint 26 - View north along the M7 Motorway
- _Viewpoint 28 - View west from Jaquetta Close
- _Viewpoint 29 - View west along Elizabeth Drive
- _Viewpoint 30 - View south along shared user path and M7 Motorway.

The following six new viewpoints were also required to assess the amended project:

- _Viewpoint 31 - View south from Elizabeth Drive, west of Duff Road
- _Viewpoint 32 - View south-east from Elizabeth Drive, east of Duff Road
- _Viewpoint 33 - View south from Cecil Road, north of Elizabeth Drive
- _Viewpoint 34 - View south from Wallgrove Road
- _Viewpoint 35 - View north from Isabel Street
- _Viewpoint 36 - View west from Isabel Street.

6.1 Visibility of the project

The visual catchment or visibility of the project is the extent from which the project can be seen within the study area.

The updated Figure 6-1 shows the amended project alignment and updated visibility envelope mapping across the Project.

6.2 Viewpoint locations

Viewpoint locations are publicly accessible places where full or screened views of the project can be seen and there is human activity. This activity may include residential, industrial, business, schooling, recreation or road users themselves.

The following Table 6-1 outlines the viewpoint locations, and those viewpoints that required updated or additional new assessments.

Based on the amended project, viewpoints 1 to 30 are the same locations as per the EIS assessment, with updated assessments required at eight locations. Additional visual assessments were required at six locations, which are viewpoints 31 to 36.

The following Figure 6-1 shows the amended project alignment and location of the viewpoints across the project.

Table 6-1 Viewpoint locations

Viewpoint	Location	Updated or additional assessment
01	View east along The Northern Road	
02	View east along The Northern Road	
03	View north near Luddenham Raceway	
04	View north along Luddenham Road	
05	View north-west along Luddenham Road	
06	View south along Luddenham Road	
07	View east along Elizabeth Drive	Updated
08	View north from Badgerys Creek Road	
09	View south from Twin Creeks Golf and Country Club	
10	View west along South Creek (Sydney University Lands)	
11	View south along Clifton Avenue	
12	View west from Mamre Road	
13	View west from Mamre Road	
14	View east from Clifton Avenue	
15	View south from Salisbury Avenue	
16	View north from Elizabeth Drive	
17	View east along Elizabeth Drive	
18	View south from Mamre Road	
19	View south from Elizabeth Drive	
20	View north from Range Road	
21	View north-west from Sydney International Shooting Centre (SISC)	
22	View south from Duff Road	Updated
23	View from Western Sydney Parklands (beauty spot)	
24	View south from Cecil Road	Updated
25	View north-west toward M7 - M12 Interchange	Updated
26	View north along the M7 Motorway	Updated
27	View west from Anjou Circuit	
28	View west from Jaquetta Close	Updated
29	View west along Elizabeth Drive	Updated
30	View south along shared user path and M7 Motorway	Updated
31	View south from Elizabeth Drive, west of Duff Road	Additional
32	View south-east from Elizabeth Drive, east of Duff Road	Additional
33	View south from Cecil Road, north of Elizabeth Drive	Additional
34	View south from Wallgrove Road	Additional
35	View north from Isabel Street	Additional
36	View west from Isabel Street	Additional

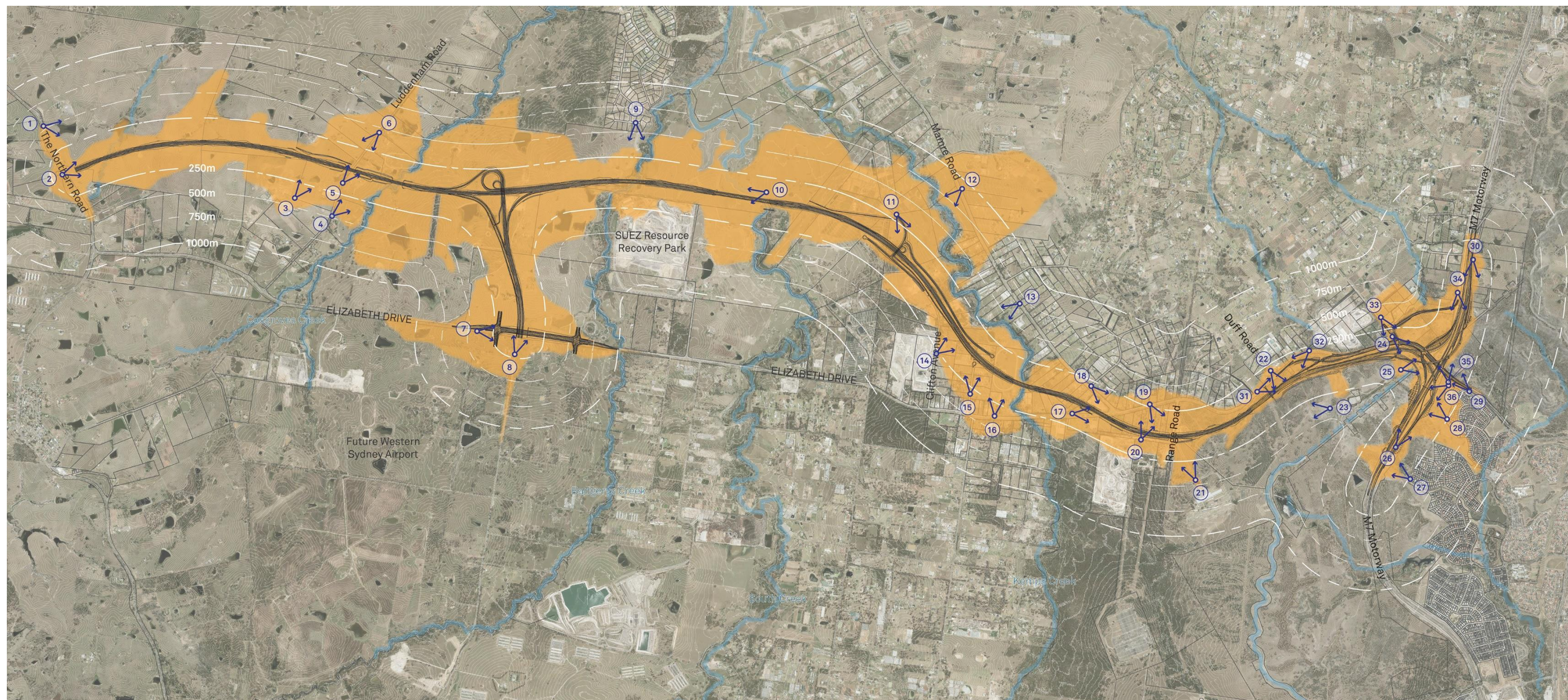


Figure 6-1 Visibility envelope mapping for the amended project and key viewpoints (not to scale)

6.3 Visual impact assessment

This section includes an assessment of the amended project from the amended or additional viewpoints identified in Table 6-1, with a rating given for magnitude and sensitivity, and provides the overall visual impact assessment for each viewpoint location.

Viewpoint 07 07 - View east along Elizabeth Drive

Viewpoint 07 is located along Elizabeth Drive looking east towards the proposed overbridge from Taylors Road. Views from this location are typical of the roadside experience along this portion of Elizabeth Drive, near the future airport site.

Project elements visible

- _ Road widening including major fill embankments along Elizabeth Drive leading towards the overbridge
- _ Airport access roads from Elizabeth Drive into the Airport precinct
- _ Road furniture
- _ Minor vegetation clearing
- _ Landscape works.

Potential viewers

Predominantly motorists travelling along Elizabeth Drive, as there are few residential dwellings within the visual catchment of this viewpoint.

Frequency

A high frequency for motorists.

Duration

A short to medium duration.

Distance

The view is taken in the foreground zone at the corner of Taylors Road.

Construction Activities

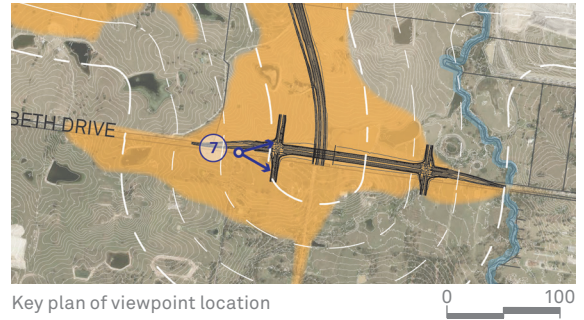
A temporary construction site (Ancillary Facility - AF 3) may be located on the northern side of Elizabeth Drive and may be visible in the background of this view. The site would be surrounded by temporary fencing and may include temporary buildings (generally prefabricated), hardstand parking areas, materials handling areas, and bridge construction support areas.

Operational lighting

New road lighting from the airport interchange and along Elizabeth Drive, would be visible from this viewpoint.



Viewpoint 07 - View of existing condition



07 - Visual impact assessment		
VISUAL SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL IMPACT
<p>MODERATE</p> <p>The subtle changes in elevation along Elizabeth Drive offer contextual views toward Mount Vernon, however, roadside furniture and degraded verge conditions detract from the overall quality of this view.</p> <p>The landscape has the ability to partially absorb the introduction of major new project infrastructure as the combination of the relatively flat topography, roadside furniture and distant vegetation obscure contextual views to the ridge lines of Western Sydney Parklands in the background.</p>	<p>MODERATE</p> <p>The project would introduce larger project infrastructure to what is currently visible in this view along Elizabeth Drive which includes a new over-bridge, road widening, access roads and realignments to facilitate a direct motorway connection to the airport.</p> <p>With consideration of the existing quality of the roadside environment, the amenity of this view would not be severely affected.</p> <p>The impact would likely reduce over time as land use and development change.</p>	<p>MODERATE</p> <p>It is noted that planned land use changes including the Northern Gateway priority precinct and Western Sydney International Airport would lead to a reduction in visual impact over time.</p>

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, the overall assessment impact remains as **MODERATE**.



Viewpoint 07 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 22

22 - View south from Duff Road

Viewpoint 22 is located along Duff Road near the corner of Elizabeth Drive, directly adjacent to Irfan College and looks in a southerly direction toward the project.

Project elements visible

- _ Major road infrastructure including major cut and fill embankments
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Residents from nearby properties, travellers along Duff Road and Irfan College.

Frequency

Nearby residences and visitors would experience a low frequency of views.

Duration

View would be of a long duration for nearby residences and visitors.

Distance

The view is located within the foreground zone, approximately 200 metres from the project.

Construction Activities

During construction, temporary safety barriers and fencing which would create a safe work zone would be visible in this view.

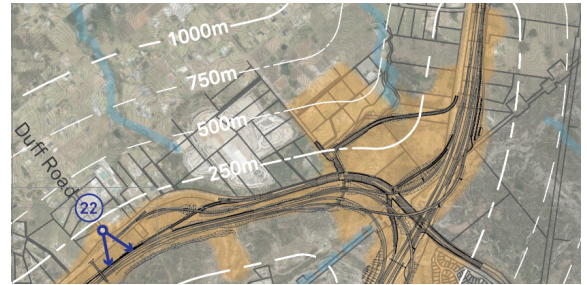
A temporary construction site (AF 6) may be located to the south of Elizabeth Drive opposite Duff Road and may be visible in this view. The site would be surrounded by temporary fencing and may include temporary buildings (generally prefabricated), hardstand parking areas, materials handling areas, and bridge construction support areas.

Operational lighting

There would be road lighting and pedestrian lighting in this part of the project. However, given the distance and existing vegetation, lighting would not be highly visible from this viewpoint.



Viewpoint 22 - View of existing condition



Key plan of viewpoint location

22 - Visual impact assessment

VISUAL SENSITIVITY

MODERATE

The streetscape in this view has a rural-residential character with a backdrop of the Western Sydney Parklands. The view has a moderate capacity to absorb the proposed introduction of new project infrastructure.

Along with nearby residents, a considerable number of viewers would be generated by Irfan College for a long duration who would experience a similar outlook to this roadside view.

MAGNITUDE OF CHANGE

LOW

The project would introduce new built elements that are of a similar scale and proportion to existing elements in this view but are likely recessed within the parklands.

Any visual impacts would likely reduce over time as vegetation establishes.

In consideration of the scale of the infrastructure in this location, which is commensurate with the existing rural-residential quality along Duff Road, a **LOW** magnitude of change was recorded.

VISUAL IMPACT

MODERATE-LOW

Assessment changes on the amended project design

Given the proposed design changes in this location are likely to not be visible when compared to the design as described in the EIS, the overall assessment impact is reduced from **MODERATE** to **MODERATE-LOW**.



Viewpoint 22 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 24

24 - View south from Cecil Road

Viewpoint 24 has been located at the corner of Cecil Road and Elizabeth Drive looking in a southerly direction towards the project. In this view, the roadside environment provides little visual amenity and detracts from the scenic backdrop of the Western Sydney Parklands.

Project elements visible

- _ Major road infrastructure including fill embankments grading towards the motorway to motorway interchange at the M7 Motorway
- _ Road furniture
- _ Extensive vegetation clearing
- _ Landscape works.

Potential viewers

Residents from nearby properties, and travellers along Cecil Road.

Frequency

High frequency of views from residences where there are few inhabitants and visitors to private properties.

Duration

Long duration view from arterial road where the duration of the view is short, and adjacent residential views.

Distance

Foreground zone view with maximum discernment of new infrastructure and landscape details.

Construction Activities

During construction temporary safety barriers and fencing which would create a safe work zone would likely be visible in this view as construction of embankments and bridge structures are completed through the Western Sydney Parklands.

Operational lighting

There would be new road lighting along the main carriageways leading to the motorway to motorway interchange at the M7 Motorway which would be partially visible from this viewpoint.



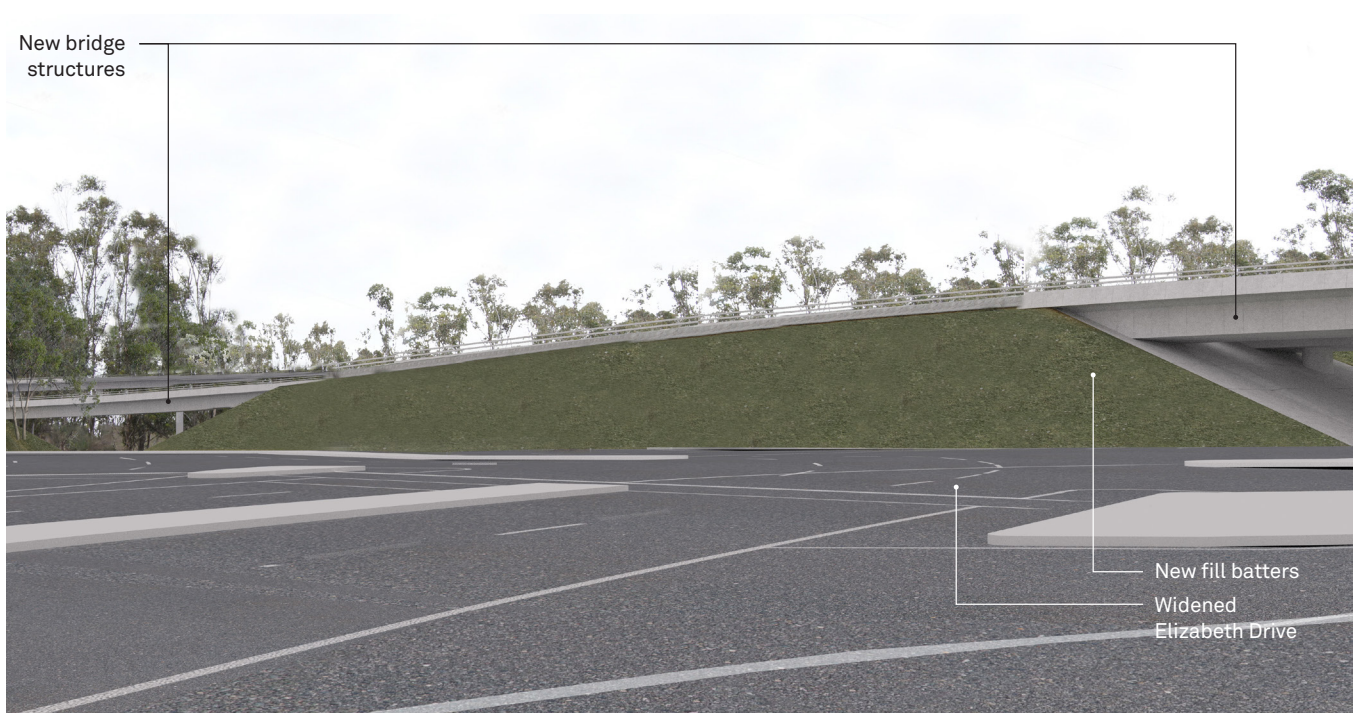
Viewpoint 24 - View of existing condition



24 - Visual impact assessment		
VISUAL SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL IMPACT
<p>MODERATE</p> <p>The outlook from this view is of generally lower visual amenity comprising mostly of road pavement and furniture.</p> <p>The view is taken from the roadside (and generally the same view from nearby residences) where viewers would be moderately sensitive to a change in the setting, with views into Western Sydney Parklands.</p>	<p>MODERATE</p> <p>The project would introduce major new built elements into the woodland setting of the Western Sydney Parklands adjacent to Elizabeth Drive. New bridge structures, new connection roads and fill embankments would require clearing of vegetation and modification to existing landform within close proximity to Elizabeth Drive.</p>	<p>MODERATE</p>

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, and residences are located some distance from the project, the overall assessment impact remains as **MODERATE**.



Viewpoint 24 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 25

25 - View north west toward M7-M12 interchange

Viewpoint 25 has been located along the ridge line within the Western Sydney Parklands where there is a break in tree canopy allowing for direct views to the M7 Motorway and Elizabeth Drive.

Project elements visible

- _ Major road infrastructures including major fill embankments for motorway interchange on and off ramps
- _ New interchange bridges over the existing M7 Motorway
- _ Road furniture
- _ Extensive vegetation clearing
- _ Landscape works.

Potential viewers

Visitors (pedestrians and cyclists) to Western Sydney Parklands.

Frequency

Visitors to the parklands would be of low frequency.

Duration

A short duration of views for pedestrian and cyclist travelling through the parklands.

Distance

In close proximity (about 100 metres) to the project within the foreground zone.

Construction Activities

During construction temporary safety barriers and fencing which would create a safe work zone would be visible from this elevated vantage point.

Construction of major embankments and motorway interchange bridges would be visible for the duration of the project.

Operational lighting

New road lighting would be highly visible along the interchange bridges from this viewpoint.



Viewpoint 25 - View of existing condition



Key plan of viewpoint location

25 - Visual impact assessment

VISUAL SENSITIVITY

MODERATE

The landscape in the foreground of this view is of high visual amenity however the existing clearing within the view allows a direct line of sight to the existing M7 Motorway infrastructure and Elizabeth Drive.

The existing road infrastructure and existing woodlands would provide some ability to absorb the proposed introduction of major new project infrastructure in this view.

MAGNITUDE OF CHANGE

HIGH

The project would introduce a large motorway-to-motorway interchange over the existing roads in the middle of the view.

New bridges, on/off ramps and cut and fill embankments would be visible in this view.

The parkland and vegetation in the foreground would be mostly unaffected which obscures the majority of the project from view except through the existing clearing.

VISUAL IMPACT

HIGH-MODERATE

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, the overall assessment impact remains as **HIGH-MODERATE**.



Viewpoint 25 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 26

26 - View north along M7 Motorway

Viewpoint 26 is located along the southbound M7 Motorway looking in a northerly direction.

Project elements visible

- _ Major road infrastructure including fill embankments grading towards the motorway to motorway interchange at the M7 Motorway
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Travellers along the M7 Motorway and parkland users.

Frequency

High frequency of view for motorists.

Duration

Short duration of views for motorists.

Distance

Foreground zone view with maximum discernment of new infrastructure and landscape details.

Construction Activities

During construction temporary safety barriers and fencing which would create a safe work zone that is isolated from the operation M7 Motorway.

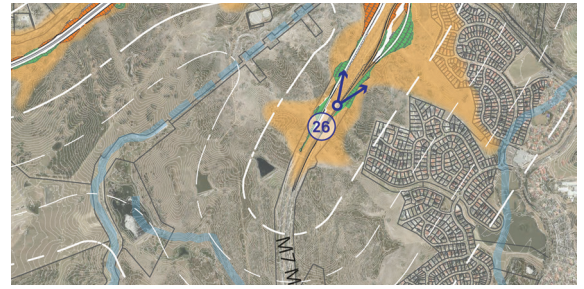
Staged construction of interchange bridges, on and off ramps and modified embankments would be visible from this viewpoint.

Operational lighting

There would be new road lighting at the motorway to motorway interchange at the M7 Motorway which would be visible from this viewpoint.



Viewpoint 26 - View of existing condition



Key plan of viewpoint location

0 100

26 - Visual impact assessment

VISUAL SENSITIVITY

LOW

From this view the existing M7 Motorway infrastructure dominates the view, flanked by dense woodlands as part of the Western Sydney Parklands.

The view is taken from the roadside (and generally the same view for pedestrians and cyclists through the parklands), where viewers would not be overly sensitive to change in setting.

MAGNITUDE OF CHANGE

LOW

The project would increase the amount of infrastructure already present from this viewpoint. A new on-ramp would result in the widening of existing pavements and connects to new bridges in the background of the view. The project would require modification to existing fill embankments to facilitate the new motorway-to-motorway interchange.

VISUAL IMPACT

LOW

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, the overall assessment impact remains as **LOW**.



Viewpoint 26 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 28

28 - View west from Jaquetta Close

Viewpoint 28 is located on Jaquetta Close looking upward in a westerly direction toward the project.

The outlook in this view has a picturesque quality that forms part of the broader Western Sydney Parklands and Cumberland Plain Woodlands. The view provides high visual amenity to nearby residents of Cecil Hills, buffering any visual impacts associated with the existing M7 Motorway.

Project elements visible

- _ New major road infrastructure including major embankments for the M12 Motorway to M7 Motorway off ramp
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Primarily residents and visitors to nearby houses along the edge of the Cecil Hills housing estate.

Frequency

Nearby residences would experience a low frequency of views.

Duration

Views would be of a long duration.

Distance

View is located in the foreground zone approximately 250 metres from the project.

Construction Activities

During construction temporary safety barriers and fencing which would create a safe work zone would likely be visible.

Due to the angle of the view, majority of construction work would likely not be visible.

Operational lighting

There would be new road lighting that may be visible from this viewpoint. Pedestrian lighting along shared user paths may also be visible from this viewpoint.



Viewpoint 28- View of existing condition



Key plan of viewpoint location

0 100

28 - Visual impact assessment

VISUAL SENSITIVITY

HIGH

The landscape, which currently screens the existing M7 Motorway from residents' view, has a low capacity to absorb the proposed introduction of major new project infrastructure.

MAGNITUDE OF CHANGE

MODERATE

The project would introduce new fill embankments into this view with vehicles and road furniture possibly visible at this distance.

Existing vegetation provides some ability to screen the infrastructure which would improve over time as new plantings are established.

VISUAL IMPACT

HIGH-MODERATE

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, the overall assessment impact remains as **HIGH-MODERATE**.



Viewpoint 28 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 29

29 - View west along Elizabeth Drive

Viewpoint 29 has been located about 300 metres west of the M7 Motorway along Elizabeth Drive. The visual environment of Elizabeth Drive is relatively poor and typical of views in the area experienced largely by travellers. Strongly defined roadside vegetation frames the view and provides visual relief for motorists.

Project elements visible

_ New motorway infrastructure including major interchange bridges

Potential viewers

Pedestrians and travellers along Elizabeth Drive.

Frequency

A high frequency of views would be experienced.

Duration

A short duration of views would occur from this viewpoint location.

Distance

This view is located on the edge of the foreground zone approximately 250 metres from the proposed interchange.

Construction Activities

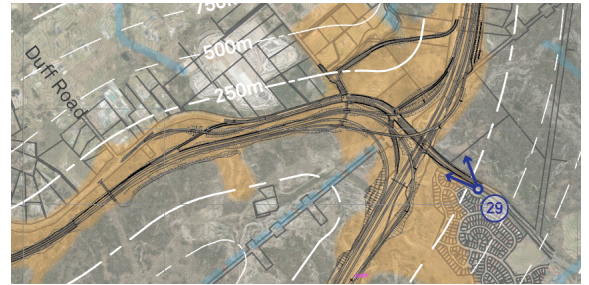
During construction, Elizabeth Drive would remain operational but may require temporary diversions or closure to facilitate stage construction of motorway-to-motorway interchange.

Operational lighting

New road lighting at the motorway to motorway interchange at the M7 Motorway bridges would be visible from this viewpoint.



Viewpoint 29 - View of existing condition



Key plan of viewpoint location

0 100

29 - Visual impact assessment

VISUAL SENSITIVITY

LOW

From this viewpoint, existing vegetation narrows the field to the project. The outlook along the road corridor is a low quality view, dominated by existing road and motorway infrastructure, and mostly experienced by travellers.

As a result, it has been considered that this viewpoint has a high capacity to absorb a change in view.

MAGNITUDE OF CHANGE

LOW

The project would introduce a single bridge structure over the existing M7 Motorway overbridge.

The new bridge elements would be visually contained by existing woodland vegetation on either side of Elizabeth Drive.

VISUAL IMPACT

LOW

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, the overall assessment impact remains as **LOW**.



Viewpoint 29 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 30

30 - View south along shared user path & M7 Motorway

Viewpoint 30 has been located along the existing shared user path that runs along the eastern side of the M7 Motorway. The visual environment in this view is dominated by motorway infrastructure. Landscaped medians and roadside embankments offer important visual relief for viewers.

Project elements visible

- _ New shared user path alignment including cut embankments
- _ New motorway infrastructure including the motorway to motorway interchange at the M7 Motorway bridges and on/off ramps,
- _ Road furniture
- _ Minor vegetation clearing
- _ Landscape works.

Potential viewers

Shared user path users and travellers along the M7 Motorway.

Frequency

Low frequency for pedestrians and cyclist and high frequency for motorists.

Duration

Predominantly short duration of views.

Distance

Foreground zone located at the proposed start of the modified shared user path location. Background views of the proposed over bridges visible to approximately 800 metres in the distance.

Construction Activities

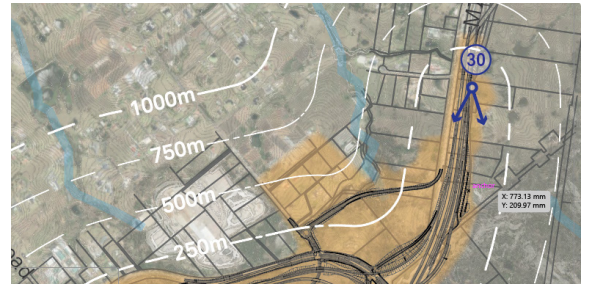
During construction temporary safety barriers and fencing which would create a safe work zone would be visible and limited to the eastern side of the existing M7 Motorway carriageways.

Operational lighting

A large amount of new road lighting would be visible from this viewpoint, associated with the motorway to motorway interchange at the M7 Motorway. Existing pedestrian lighting would be reinstated following the shared user path realignment.



Viewpoint 30 - View of existing condition



Key plan of viewpoint location

0 100

30 - Visual impact assessment

VISUAL SENSITIVITY

LOW

The existing motorway environment in this view has a high ability to absorb the proposed modifications required to support the motorway to motorway interchange at the M7 Motorway.

MAGNITUDE OF CHANGE

LOW

The project would introduce additional infrastructure to the existing M7 Motorway already in this view as part of the motorway-to-motorway interchange.

The existing corridor would be widened to accommodate new intersection configuration and on / off ramps. Re-profiling of adjacent batters would require new landscape works on modified areas to match in with the existing woodland character.

VISUAL IMPACT

LOW

Assessment changes on the amended project design

Given the proposed design changes in this location are similar in nature to the design as described in the EIS, the overall assessment impact remains as **LOW**.



Viewpoint 30 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 31

31 - View south from Elizabeth Drive, west of Duff Road

Viewpoint 31 is located along Elizabeth Drive, just west of Duff Road, adjacent the 66 KV power easement and looks in a southerly direction toward the project.

Project elements visible

- _ Major road infrastructure including major cut and fill embankments
- _ New access road entry to Western Sydney Parklands
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Limited residents from nearby properties, and travellers along Elizabeth Drive.

Frequency

Nearby residences and visitors would experience a low frequency of views.

Duration

View would be of a long duration for nearby residences and visitors.

Distance

The view is located within the foreground zone, approximately 50 metres from the project.

Construction Activities

During construction, temporary safety barriers and fencing which would create a safe work zone would be visible in this view.

A temporary construction site (AF 6) may be located to the south of Elizabeth Drive opposite Duff Road and may be visible in this view. The site would be surrounded by temporary fencing and may include temporary buildings (generally prefabricated), hardstand parking areas, materials handling areas, and bridge construction support areas.

Operational lighting

There would be road lighting and pedestrian lighting in this part of the project. However, given the distance and existing vegetation, lighting would not be highly visible from this viewpoint.



Viewpoint 31 - View of existing condition



Key plan of viewpoint location

31 - Visual impact assessment

VISUAL SENSITIVITY

MODERATE

The streetscape in this view has a rural-residential character with a backdrop of the Western Sydney Parklands. The view has a moderate capacity to absorb the proposed introduction of new project infrastructure, whilst there would be limited views from nearby residences of the proposed works.

MAGNITUDE OF CHANGE

MODERATE

The project would introduce new built elements that are of a similar scale and proportion to the existing elements in this view.

A new access road over the project along with new cut batters would require clearing of existing woodland which would affect the visual amenity in this view. Impacts would likely reduce over time as vegetation establishes.

In consideration of the scale of the infrastructure in this location, which is commensurate with the existing rural-residential quality along Elizabeth Drive, a **MODERATE** magnitude of change was recorded.

VISUAL IMPACT

MODERATE



Viewpoint 31 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 32

32 - View south-east from Elizabeth Drive, east of Duff Road

Viewpoint 32 is located along Elizabeth Drive, at the entry to 2057 Elizabeth Drive adjacent Western Sydney Parklands.

Project elements visible

- _ Major road infrastructure including major cut and fill embankments
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Limited residents from nearby properties, and travellers along Elizabeth Drive.

Frequency

Nearby residences and visitors would experience a low frequency of views.

Duration

View would be of a long duration for nearby residences and visitors.

Distance

The view is located within the middle ground zone, approximately 400 metres from the project.

Construction Activities

During construction, temporary safety barriers and fencing which would create a safe work zone would be visible in this view.

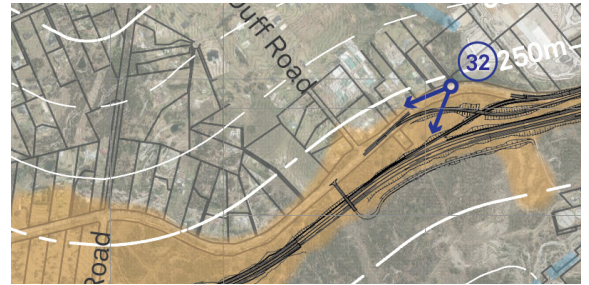
A temporary construction site (AF 6) may be located to the south of Elizabeth Drive opposite Duff Road and may be visible in this view. The site would be surrounded by temporary fencing and may include temporary buildings (generally prefabricated), hardstand parking areas, materials handling areas, and bridge construction support areas.

Operational lighting

There would be road lighting and pedestrian lighting in this part of the project. However, given the distance and existing vegetation, they would not be highly visible from this viewpoint.



Viewpoint 32 - View of existing condition



Key plan of viewpoint location

0 100

32 - Visual impact assessment

VISUAL SENSITIVITY

MODERATE

The streetscape in this view has a rural-residential character with a backdrop of the Western Sydney Parklands. The view has a moderate capacity to absorb the proposed introduction of new project infrastructure, whilst there would be limited views from nearby residences.

MAGNITUDE OF CHANGE

MODERATE

The project would introduce new built elements that although are similar in nature, are of a much larger scale and proportion to the existing elements in this view.

A new access ramp from Elizabeth Drive to the M12 Motorway would require clearing of existing woodland within Western Sydney Parklands which would affect the visual amenity in this view. Impacts would likely reduce over time as vegetation establishes.

In consideration of the scale of the infrastructure in this location, a **MODERATE** magnitude of change was recorded.

VISUAL IMPACT

MODERATE



Viewpoint 32 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 33

33 - View south from Cecil Road, north of Elizabeth Drive

Viewpoint 33 is located on Cecil Road, looking south towards Elizabeth Drive. In this view, the rural residential lots are dominant with Elizabeth Drive in the mid ground with the backdrop of the Western Sydney Parklands beyond.

Project elements visible

- _ Major road infrastructure including new widened road and major roundabout
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Residents from adjacent and nearby properties, travellers along Cecil Road.

Frequency

Nearby residences and visitors would experience a medium frequency of views.

Duration

View would be of a long duration for adjacent and nearby residences and visitors.

Distance

The view is located within the foreground zone, approximately 50 metres from the project.

Construction Activities

During construction, temporary safety barriers and fencing which would create a safe work zone would be visible in this view.

Operational lighting

There would be road lighting in this part of the project which would be highly visible from this viewpoint.



Viewpoint 33 - View of existing condition



Key plan of viewpoint location

33 - Visual impact assessment

VISUAL SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL IMPACT
<p>HIGH</p> <p>The streetscape in this view has a rural-residential character with a backdrop of the Western Sydney Parklands, and therefore has a lower capacity to absorb the proposed introduction of new project infrastructure.</p> <p>Adjacent and nearby residents would experience a similar outlook to this roadside view.</p>	<p>HIGH</p> <p>The project would introduce new built elements that are considerably larger in scale and proportion to existing elements in this view.</p> <p>A new access road and roundabout would require clearing of existing woodland which would affect the visual amenity in this view. Impacts would likely reduce over time as vegetation establishes.</p> <p>In consideration of the scale of the infrastructure in this location, which is a significant change from the existing condition, a HIGH magnitude of change was recorded.</p>	<p>HIGH</p>



Viewpoint 33 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 34

34 - View south from Wallgrove Road

Viewpoint 34 has been located along Wallgrove Road, adjacent to the entry to 90 Wallgrove Road looking south. The visual environment in this view is dominated by Wallgrove Road and the adjacent M7 Motorway corridor.

Project elements visible

- _ Major road infrastructure including cut and fill embankments
- _ Twin lane access road towards Cecil Road
- _ Realigned Wallgrove Road and M7 Motorway access
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Residents from adjacent and nearby properties, travellers along Wallgrove Road.

Frequency

Nearby residences and visitors would experience a medium frequency of views.

Duration

View would be of a long duration for adjacent and nearby residences and visitors.

Distance

The view is located within the foreground zone, approximately 20 metres from the project.

Construction Activities

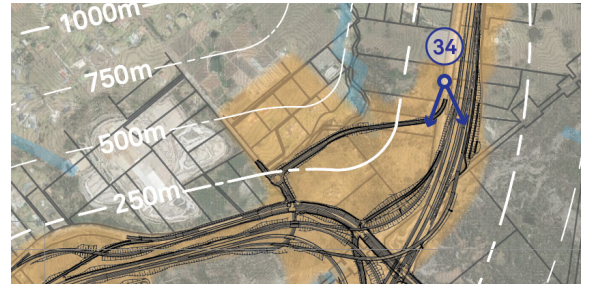
During construction, temporary safety barriers and fencing which would create a safe work zone would be visible in this view.

Operational lighting

There would be road lighting in this part of the project which would be highly visible from this viewpoint.



Viewpoint 34 - View of existing condition



Key plan of viewpoint location

0 100

34 - Visual impact assessment

VISUAL SENSITIVITY

LOW

The existing road environment in this view is of lower quality and has a high ability to absorb the proposed modifications required to support the proposed alignments within this area.

MAGNITUDE OF CHANGE

MODERATE

The project would introduce additional infrastructure to the existing corridor already in this view as part of the motorway-to-motorway interchange and updated Elizabeth Drive connections.

The existing corridor would be widened to accommodate new configuration and on / off ramps. Re-profiling of adjacent batters would require new landscape works on modified areas to match in with the existing woodland character.

VISUAL IMPACT

MODERATE-LOW



Viewpoint 34 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 35

35 - View north from Isabel Street

Viewpoint 35 is located on Isabel Street looking upward in a northerly direction toward the project.

The outlook in this view has a picturesque quality that forms part of the broader Western Sydney Parklands and Cumberland Plain Woodlands. The view provides high visual amenity to nearby residents of Cecil Hills, buffering any visual impacts associated with the existing M7 Motorway.

Project elements visible

- _ New major road infrastructure including major embankments for the M12 Motorway to M7 Motorway off ramp
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Primarily residents and visitors to nearby houses along the edge of the Cecil Hills housing estate.

Frequency

Nearby residences would experience a low frequency of views.

Duration

Views would be of a long duration.

Distance

View is located in the foreground zone approximately 50 metres from the project.

Construction Activities

During construction temporary safety barriers and fencing which would create a safe work zone would likely be visible.

Due to the angle of the view, the majority of construction work would likely not be visible.

Operational lighting

There would be new road lighting that may be visible from this viewpoint. Pedestrian lighting along shared user paths may also be visible from this viewpoint.



Viewpoint 35- View of existing condition



Key plan of viewpoint location

35 - Visual impact assessment

VISUAL SENSITIVITY

HIGH

The landscape, which currently screens some of the existing Elizabeth Drive from residents' view, has a low capacity to absorb the proposed introduction of major new project infrastructure.

MAGNITUDE OF CHANGE

MODERATE

The project would introduce new fill embankments into this view with vehicles and road furniture possibly visible at this distance. Vehicles and road furniture are currently visible at this distance.

Existing vegetation provides some ability to screen the infrastructure which would improve over time as new plantings are established.

VISUAL IMPACT

HIGH-MODERATE



Viewpoint 35 - Visualisation of the project (Basic form and arrangement - Subject to design development)

Viewpoint 36

36 - View west from Isabel Street

Viewpoint 35 is located on Isabel Street looking upward in a westerly direction toward the project.

The outlook in this view has a picturesque quality that forms part of the broader Western Sydney Parklands and Cumberland Plain Woodlands. The view provides high visual amenity to nearby residents of Cecil Hills, buffering any visual impacts associated with the existing M7 Motorway.

Project elements visible

- _ New major road infrastructure including major embankments for the M12 Motorway to M7 Motorway off ramp
- _ Road furniture
- _ Vegetation clearing
- _ Landscape works.

Potential viewers

Primarily residents and visitors to nearby houses along the edge of the Cecil Hills housing estate.

Frequency

Nearby residences would experience a low frequency of views.

Duration

Views would be of a long duration.

Distance

View is located in the foreground zone approximately 50 metres from the project.

Construction Activities

During construction temporary safety barriers and fencing which would create a safe work zone would likely be visible.

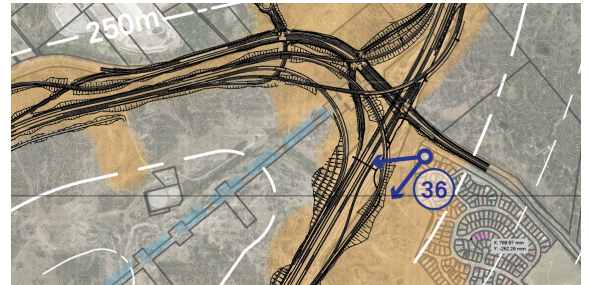
Due to the angle of the view, the majority of construction work would likely not be visible.

Operational lighting

There would be new road lighting that may be visible from this viewpoint. Pedestrian lighting along shared user paths may also be visible from this viewpoint.



Viewpoint 36 - View of existing condition



Key plan of viewpoint location

0 100

36 - Visual impact assessment

VISUAL SENSITIVITY

HIGH

The landscape, which currently screens the existing M7 Motorway from residents' view, has a low capacity to absorb the proposed introduction of major new project infrastructure.

MAGNITUDE OF CHANGE

HIGH

The project would introduce new fill embankments into this view with vehicles and road furniture visible at this distance.

Existing vegetation provides some ability to screen the infrastructure which would improve over time as new plantings are established.

VISUAL IMPACT

HIGH



Viewpoint 36 - Visualisation of the project (Basic form and arrangement - Subject to design development)

6.4 Summary of visual impacts

Visual impact helps to define the day to day visual effects of development on people's views. The potential impacts of the project on each viewpoint were assessed based on a composite of the sensitivity of the view and magnitude of the project in that view.

For a project of this scale and complexity, it is difficult to summarise the individual ratings determined for each of the viewpoints into a single, overall visual assessment.

The major benefit of visual impact assessment is to identify the areas of high impact in order that they can be addressed through engineering and urban design changes and mitigation strategies. In this way, we can be sure that areas of high impact are addressed in the best way possible.

A total of thirty-six viewpoints have been assessed across the project. Viewpoint locations were focused around the areas of the highest anticipated magnitude and the areas where there are the most people in the most sensitive settings.

Out of the thirty six viewpoints, visual impacts were determined as follows:

- _ Six viewpoints would have a **HIGH** visual impact
- _ Ten viewpoints would have a **HIGH-MODERATE** impact
- _ Six viewpoints would have a **MODERATE** impact
- _ Six viewpoints would have a **MODERATE-LOW** impact
- _ Three viewpoints would have a **LOW** impact
- _ Five viewpoints would have a **NEGLIGIBLE** impact.

When compared to the assessment impacts in the EIS and acknowledging that there are six more viewpoints within the updated assessment, the overall visual impact across the amended project is similar.

The range of visual impacts resulted in a generally broad spread of impacts across the study area.

Ratings of **HIGH** impact occur where the project would traverse through areas where existing, high quality rural views are relatively undisturbed and within close proximity to residential receptors or where the scale of the project significantly impacts the integrity of the view.

MODERATE-HIGH impacts were recorded in areas where high quality views would generally not be as affected by the project.

MODERATE impacts result from a variety of conditions where magnitude or sensitivity ratings are high.

MODERATE-LOW impacts were recorded in less sensitive areas where low quality views would be reasonably affected by the project.

LOW impacts generally occur in less sensitive agricultural areas where the views of the project would be at a distance.

6.5 Visual impacts during construction

The construction footprint has been amended to accommodate the proposed design changes as well as additional construction ancillary facilities.

Visual impacts from the amended construction footprint and additional construction ancillary facilities would be comparable to the impacts described in Section 7.3.6 in the EIS.

Table 6-2 Summary of visual impacts

Viewpoint	Location	Visual impact assessment as per the EIS	Amended project updated or additional assessment	Amended project visual impact assessment
01	View east along The Northern Road	Moderate		Moderate
02	View east along The Northern Road	High		High
03	View north near Luddenham Raceway	High-Moderate		High-Moderate
04	View north along Luddenham Road	High-Moderate		High-Moderate
05	View north-west along Luddenham Road	High-Moderate		High-Moderate
06	View south along Luddenham Road	High		High
07	View east along Elizabeth Drive	Moderate	Updated	Moderate
08	View north from Badgerys Creek Road	Moderate-Low		Moderate-Low
09	View south from Twin Creeks Golf and Country Club	Negligible		Negligible
10	View west along South Creek (Sydney University Lands)	High		High
11	View south along Clifton Avenue	Moderate-Low		Moderate-Low
12	View west from Mamre Road	Negligible		Negligible
13	View west from Mamre Road	Negligible		Negligible
14	View east from Clifton Avenue	Negligible		Negligible
15	View south from Salisbury Avenue	Moderate-Low		Moderate-Low
16	View north from Elizabeth Drive	High-Moderate		High-Moderate
17	View east along Elizabeth Drive	High-Moderate		High-Moderate
18	View south from Mamre Road	Moderate-Low		Moderate-Low
19	View south from Elizabeth Drive	High-Moderate		High-Moderate
20	View north from Range Road	High-Moderate		High-Moderate
21	View north-west from Sydney International Shooting Centre (SISC)	High		High
22	View south from Duff Road	Moderate	Updated	Moderate-Low
23	View from Western Sydney Parklands (beauty spot)	Moderate		Moderate
24	View south from Cecil Road	Moderate	Updated	Moderate
25	View north-west toward M7 - M12 Interchange	High-Moderate	Updated	High-Moderate
26	View north along M7 Motorway	Low	Updated	Low
27	View west from Anjou Circuit	Negligible		Negligible
28	View west from Jaquetta Close	High-Moderate	Updated	High-Moderate
29	View west along Elizabeth Drive	Low	Updated	Low
30	View south along shared user path & M7 Motorway	Low	Updated	Low
31	View south from Elizabeth Drive, west of Duff Road		Additional	Moderate
32	View south-east from Elizabeth Drive, east of Duff Road		Additional	Moderate
33	View south from Cecil Road, north of Elizabeth Drive		Additional	High
34	View south from Wallgrove Road		Additional	Moderate-Low
35	View north from Isabel Street		Additional	High-Moderate
36	View west from Isabel Street		Additional	High

7. Cumulative impacts

The cumulative landscape character and visual impacts would be likely to remain unchanged from the assessment undertaken as part of the EIS and described in Section 8 of the M12 Motorway Environment Impact Statement Appendix G Landscape character, visual impact assessment and urban design report (RMS, 2019).

8. Revised environmental management measures

Landscape character, visual impact assessment impacts associated with the proposed design changes are generally consistent with impacts described in the EIS and would therefore be managed through the implementation of the proposed management measures described in Chapter 7 of the amendment report.

The proposed design changes would not require any additional or revised environmental management measures.

9. Summary and conclusions

Overall, the landscape character, visual impact assessment impacts during construction of the amended project would be similar to that of the project as described in the EIS.

The landscape character, visual impact assessment impacts during operation of the amended project would be similar to that of the project as described in the EIS.

It has been concluded that the amended project would not lead to unacceptable landscape character, visual impact assessment impacts, and that the need for more detailed assessment would not be required. This conclusion is based on the determination of potential impacts to landscape character, visual impact assessment during both construction and operational stages, including potential cumulative impacts, of both options 1 and 2 of the amended project. With the application of the appropriate safeguards it is anticipated that landscape character, visual impact assessment impacts from the project would be effectively managed.

This urban design, landscape character and visual impact assessment (UDLCVIA) supplementary technical memorandum has considered the existing landscape character, detailed the urban design aspects of the project and assessed changes to landscape character zones and visual impact assessment overlaid with local community sensitivities and cultural associations at selected viewpoints along the project footprint.

The key landscape character impacts of the project relate to sensitive landscape character zones that are likely to experience a noticeable change in outlook as a result of new operational infrastructure or landscape elements. These areas include LCZ 3 - Rural Plains and LCZ 6 - Ridgetop Woodlands.

Visual impacts arising from the proposed design changes primarily relate to new, permanent operational infrastructure and landscape elements impacting on existing views. Key visual receptors subject to HIGH visual impacts include:

- _Residential viewers within close proximity to the project (often in elevated locations), such as those in Luddenham Hills and Kemps Creek
- _Travellers' views along scenic roads such as Luddenham Road
- _Recreational viewers within Western Sydney Parklands.

Updated and new visual impact assessments based on the design changes proposed to the project were generally of a similar impact to those assessed in the EIS. New assessment location outcomes ranged from High-Moderate to Low.

Impacts during construction primarily relate to residential receptors and result from building and tree removal, visibility and overshadowing of residences from construction facilities, temporary noise barriers and hoardings, and the visibility of construction activities such as spoil haulage. These impacts are generally low due to the rural nature of the existing environment.

Construction impacts are temporary in nature and would be mitigated where possible through appropriate siting of infrastructure, selection and use of appropriate materials and finishes of sheds and hoarding, and the management of dust dispersal and light spill.

The landscape and urban design recommendations nominated in the EIS, including the range of TfNSW guideline documents referenced throughout this report need to form the basis of all future detailed design activities associated with the project.

10. References

Reference

-
- Australian Standard AS1428.1 Design for access and mobility.
-
- Benson, D. and Howell, J. (1990) Taken for granted: the bushland of Sydney and its suburbs (Kangaroo Press: Kenthurst).
-
- Bodkin, F. and Robertson, L. (2006) D'harawal Season and Climatic Cycles.
-
- Department of Planning and Environment (2016). Western Sydney Airport Plan.
-
- Department of Planning and Environment (2018). Western Sydney Aerotropolis - Land Use and Infrastructure Implementation Plan. Stage 1: Initial Precincts, Department of Planning and Environment.
-
- NSW Government Architect Office (2017). The Sydney Green Grid.
-
- Office of environment and Heritage (2015). Technical guideline for Urban Green Cover in NSW.
-
- Queensland Government (2007). Crime Prevention through Environmental Design (CPTED).
-
- Roads and Maritime (2018). Guideline for landscape character and visual impact assessment, Environmental impact assessment practice note EIA-N04.
-
- Roads and Maritime (2018). Landscape design guideline, Design guideline to improve the quality, safety and cost effectiveness of green infrastructure in road corridors.
-
- Roads and Maritime (2014). Beyond the Pavement, Urban Design Policy, Procedures and Design Principles.
-
- Roads and Maritime (2012). Bridge Aesthetics, Design guideline to improve the appearance of bridges in NSW.
-
- Roads and Maritime (2016). Noise Wall Design Guideline, Design guideline to improve the appearance of noise walls in NSW.
-
- Roads and Maritime (2019). M12 Motorway Environment Impact Statement, Appendix G - Landscape character, visual impact assessment and urban design report.
-
- Western Sydney Parklands Trust (2017). Western Sydney Parklands: Southern Vision 2036.
-
- Western Sydney Parklands Trust (2018). Western Sydney Parklands Plan of Management 2030.
-