

NSW Roads and Maritime Services

WOOLGOOLGA TO BALLINA | PACIFIC HIGHWAY UPGRADE SUBMISSIONS / PREFERRED INFRASTRUCTURE REPORT

Appendix D Ancillary facilities and design changes Aboriginal Cultural Heritage Assessment and Addendum Aboriginal Cultural Heritage Assessment

November 2013

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UPGRADING THE PACIFIC HIGHWAY

Woolgoolga to Ballina Upgrade



Ancillary Facilities and Design Changes Aboriginal Cultural Heritage Assessment

September 2013

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**Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment**

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Abbreviations

ACHAR	Aboriginal cultural heritage assessment report
ACHCRP	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
AFG/s	Aboriginal focus group/s
AHIMS	Aboriginal heritage information management system
AHIP	Aboriginal heritage impact permits
ASIRF	Aboriginal site impact recording form
DEC	NSW Department of Environment and Conservation (now the Office of Environment and Heritage)
DECCW	NSW Department of Environment, Climate Change and Water (Now the Office of Environment and Heritage)
DP&I	NSW Department of Planning & Infrastructure
EIS	Environmental impact statement
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
GIS	Geographic information system
H	High rating
ha	Hectare/s
ICOMOS	International Council of Monuments and Sites
km	Kilometre/s
L	Low rating
LALC	Local Aboriginal land council
LGA	Local government areas
m	Metre/s
M	Moderate rating
mm	Millimetre/s
n	Number

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N/A	Not applicable
NPWS	NSW National Parks and Wildlife Service (part of the OEH)
NSW	New South Wales
OEH	Office of Environment and Heritage
PACHCI	Procedure for Aboriginal cultural heritage consultation and investigation
PAD	Potential archaeological deposit
RTA	Roads and Traffic Authority of NSW
RMS	NSW Roads and Maritime Services
SKM	Sinclair Knight Merz Pty Ltd
STP	Shovel test pits
TBC	To be confirmed
UNESCO	United Nations educational, scientific and cultural organisation
working paper	Working paper - Aboriginal Cultural Heritage (SKM 2012)

1. Introduction

1.1. Introduction

New South Wales (NSW) Roads and Maritime Service (RMS) is currently seeking approval under Part 5.1 of the *Environmental Planning and Assessment Act 1979* to upgrade around 155 kilometres of the Pacific Highway from Woolgoolga to Ballina (the project). Aboriginal cultural heritage assessment has been undertaken for all works within the boundary of the project, shown in the project's environmental impact statement (EIS) submitted for project approval.

Throughout this report, the term 'working paper' refers to the Working paper - Aboriginal Cultural Heritage (SKM 2012) prepared for the project EIS. In this report the 'boundary of the project' refers specifically to the project as assessed in the working paper.

This Aboriginal cultural heritage assessment report (ACHAR) details additional Aboriginal heritage investigations undertaken following completion of the working paper. The purpose of these investigations is primarily to describe and assess potential impacts to Aboriginal cultural heritage that may occur within proposed ancillary facilities, and changes to the design beyond the boundary of the project. This report adds to and updates the working paper (SKM 2012), hence this ACHAR generally includes only information that is relevant to the additional investigations undertaken – for further detail and context, please refer to the working paper (SKM 2012).

Ancillary facilities are required for the construction of the project. Eighty-five areas have been identified across the length of the project to be assessed for their use for these ancillary activities (81 were initially identified in the working paper (see Appendix A); four additional areas have since been identified – Section 1 Additional site 5, and Section 5 Additional sites 7, 8 and 9). Ancillary facilities were identified after field investigations for the working paper had been completed, and were consequently not able to be assessed fully during the working paper. Some of these ancillary facilities fall outside the boundary of the project and hence the status of Aboriginal heritage values is unknown there as they have not been subject to field investigation.

A number of design changes are also required for the project construction that increase or decrease the extent of the boundary of the project in several places – these are also assessed in this ACHAR.

1.2. Background

As part of the cultural heritage investigation for the working paper (SKM 2012), ancillary facilities were assessed at a desktop level to determine the potential risk of impact to Aboriginal heritage. The purpose was to identify whether any further investigation was required to determine the potential risk of impact, or to recommend that their use as an ancillary facility is modified. The areas were assessed against the following criteria:

- Location outside of boundary of the project – all ancillary facilities, or part thereof, inside the boundary of the project were assessed as requiring no further investigation, as these have already been subject to desktop and field assessment as part of the working paper; any

ancillary facilities or part thereof, outside the boundary of the project were recommended for survey

- Presence of an Aboriginal archaeological site or cultural place within the ancillary facility
- Presence of an Aboriginal archaeological site or cultural place within 25 metres of the ancillary facility
- Land system – to place the ancillary facility within the predictive model developed in the archaeological assessment of the working paper; used to inform the recommendations and to provide context for any investigations recommended
- Landform – to better contextualise the ancillary facility within the predictive model; used to inform the recommendations and to provide context for any investigations recommended
- Potential archaeological sensitivity was used to inform what level of investigation was recommended

Potential archaeological sensitivity of ancillary facilities was assessed as part of the working paper based on the predictive model (see the working paper) using a combination of factors including landform, and proximity to a known site or potential archaeological deposit (PAD). This ancillary facility matrix (see Appendix A) linked into an assessment of the risk of each ancillary facility impacting upon Aboriginal cultural heritage.

Design changes were assessed similarly, with the results and summary of assessment at each proposed design change described in Appendix B.

Recommendations were then made for consultation and field assessment where the risk of impact to Aboriginal cultural values was not sufficiently known (ie were outside the boundary of the project), and/or where there was a known risk to impact Aboriginal cultural heritage values beyond the boundary of the project.

Broadly, the recommendations fell into five categories:

- 1) Survey and consultation with registered Aboriginal parties (RAPs) at a minimum where ancillary facilities or design changes are located markedly outside the boundary of the project
- 2) Survey, sub-surface testing and consultation where ancillary facilities or design changes are located outside the boundary of the project and there a higher potential archaeological sensitivity and/or a known Aboriginal archaeological site/PAD located within or immediately adjacent to the ancillary facility or design change
- 3) Further consultation with RAPs, seeking comment regarding the appropriateness of the ancillary facility or design change, where an Aboriginal cultural place is identified partially or wholly within an ancillary facility or design change
- 4) No further investigation recommended where an ancillary facility or design change is located within the boundary of the project, and not likely to impact Aboriginal cultural heritage
- 5) Review, and where necessary update, management recommendations proposed in chapter 9 of the working paper (SKM 2012) where ancillary facilities or design changes are located within the boundary of the project but are likely to impact on Aboriginal heritage (ancillary facilities or design changes may increase, decrease, or maintain the impact described in the working paper)

This process was discussed with and accepted by RAPs during Aboriginal focus group (AFG) meetings held on 13 and 14 December 2011 (see Appendix D). The desktop assessment matrix

for ancillary facilities is included in Appendix A, and the assessment for design changes is included in Appendix B.

1.3. Scope of assessment

Following a similar scope as for the working paper, broadly, the scope of this Aboriginal cultural heritage assessment is as follows:

- Comply with the Department of Planning and Infrastructure (DP&I) Director-General environmental assessment requirements
- Identify gaps in previous Aboriginal heritage assessment and address these through further desktop assessment
- Undertake consultation with RAPs (both through meetings and field investigations)
- Undertake field investigations (survey and sub-surface test excavation) with nominated site officers to investigate known Aboriginal cultural heritage sites, and to identify and sub-surface test PADs to better define the Aboriginal cultural heritage values identified near and within ancillary facilities and design changes that are outside the boundary of the project previously assessed in the working paper
- Undertake a significance assessment of the sites and places identified. This includes both scientific (archaeological) and social (determined by RAPs)
- Provide an assessment of the potential impact/harm to Aboriginal cultural heritage sites and places from proposed ancillary facilities and design changes
- Develop management recommendations in consultation with RAPs in order to ensure that prior to, during, and after construction Aboriginal cultural heritage sites and places are effectively managed. The recommendations were developed on a site-by-site basis, rather than tied to a specific threshold, to account for variability of the identified impacts, the significance of the site or place, and also the value to and requests from RAPs

1.3.1. Study requirements

The investigations and assessments were undertaken with regard to the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (NSW) (Office of Environment and Heritage (OEH) 2010), Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), the Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH 2010), the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (Department of Environment and Conservation 2005), and the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) (RMS 2011).

As mentioned above, these investigations and assessment were framed to meet the DP&I Director-General environmental assessment requirements for the project relating to Aboriginal heritage, issued on the 23 November 2011.

Table 1-1 details the Director-General environmental assessment requirements relating to Aboriginal heritage and where these are addressed within this report. These requirements require assessment of the impacts to sites and places 'within or near' the boundary of the project.

Table 1-1 Director-General environmental assessment requirements for key issue Aboriginal heritage

Requirements	Where addressed in report?
Investigation of impacts to Aboriginal heritage (including cultural and archaeological significance), in particular impacts to Aboriginal heritage sites identified within or near the project should be assessed.	Chapters 5,6,7 and 8
Where impacts are identified, the assessment shall outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of these measures), generally consistent with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (Department of Environment and Conservation (DEC) 2005).	Chapters 3 and 8
The assessment shall be undertaken by a suitably qualified heritage consultant.	See below
The assessment shall demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures).	Chapters 3, 7 and 8
The assessment shall develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations of the areas of PAD identified in a manner that establishes the full spatial extent and significance of any archaeological evidence across each area of PAD, and include the results of these excavations.	Working paper (SKM 2012) and Chapter 5

This Aboriginal cultural heritage assessment was supervised by fully qualified and experienced archaeologists and heritage consultants, primarily Joseph Brooke (Bachelor of Archaeology (Honours), seven years' experience), Andrew Costello (Bachelor of Arts (Honours-Archaeology), eight years' experience), Mike Jones (Bachelor of Arts (Honours-Archaeology), ten years' experience), and Vanessa Edmonds (Bachelor of Arts, Master of Letters-Archaeology and Palaeoanthropology), 30 years' experience). All are full members of the Australian Association of Consulting Archaeologists Incorporated.

1.3.2. Definitions

In this report, the term 'site' and 'place' are used to refer to Aboriginal archaeological sites (the same as *objects* in the *National Parks and Wildlife Act 1974*), and intangible or non-archaeological Aboriginal cultural places (not the same definition as declared *Aboriginal places* as per *National Parks and Wildlife Act 1974*), respectively. When defining a site, where artefacts and/or other features are within about 50 metres or on the same part of the landform as each other, they are generally designated to be a single site.

This document is a public version of the complete CHAR. As such, a number of changes have been made, and information excluded to ensure restricted Aboriginal cultural information is not compromised. For example, Aboriginal cultural places are not referred to by name, and their locations are not shown on maps.

1.3.3. Description of ancillary facilities

In addition to the boundary of the project, ancillary facilities are required adjacent to where construction would occur. The impact of these ancillary facilities would vary due to the differing levels of ground disturbances inherent in the activities proposed for each facility. Ancillary facilities would include the following activities (see Appendix A for activity proposed at each facility):

- Main and satellite compound areas
- Stockpile areas
- Plant and workshops
- Vehicle parking
- Bridge construction areas
- RMS site office
- Materials processing areas

1.3.4. Study area

The future delivery of the project is to be staged in sections based on upgrade need and availability of funding. For the purposes of planning this future staging, the project has been divided into 11 sections as listed in Table 1-2. As the project traverses a large area, to make consultation and communication manageable and relevant, registered Aboriginal parties have been clustered into four Aboriginal focus groups on a geographical basis¹ (final column of Table 1-2) – this also deliberately coincides with previous consultation grouping. Each ancillary facility has been given a unique identifier, which includes the project section (see Table 1-3) that it falls within, and then an incremental alphanumerical identifier from north to south, for example, Section 1, Site 1b (though only some ancillary facilities include the alphabetic identifier). Design changes have been given a basic descriptor based on their geographic location – eg Firth Heinz Road design change occurs around the area that the project traverses Firth Heinz Road.

The area subject to this assessment, 'the study area', includes all areas identified in Table 1-3 and areas within 25 metres of these (as the Director-General requirements states that sites *near* or *within* the project should be investigated). The location of the project within the context of the region is shown in Figure 1-1, and the ancillary facilities are shown in Figure 1-2 to Figure 1-12. The design changes outside the boundary of the project are shown in Appendix C. The study

¹ The working paper assessment was also divided into these four sections.

region is discussed in terms of the general landscape in which the project is located, which in the broader context is the NSW North Coast region.

Table 1-2 Summary of project sections and relevant Aboriginal focus groups

Project section	Location	Relevant Aboriginal focus group
1	Woolgoolga to Halfway Creek	Woolgoolga to Wells Crossing
2	Halfway Creek to Glenugie upgrade	Woolgoolga to Wells Crossing
3	Glenugie upgrade to Tyndale	Wells Crossing to Iluka Road
4	Tyndale to Maclean	Wells Crossing to Iluka Road
5	Maclean to Iluka Road, Mororo	Wells Crossing to Iluka Road
6	Iluka Road to Devil's Pulpit upgrade	Iluka Road to Woodburn
7	Devil's Pulpit upgrade to Trustums Hill	Iluka Road to Woodburn
8	Trustums Hill to Broadwater National Park	Iluka Road to Woodburn and Woodburn to Ballina
9	Broadwater National Park to Richmond River	Woodburn to Ballina
10	Richmond River to Coolgardie Road	Woodburn to Ballina
11	Coolgardie Road to Ballina bypass	Woodburn to Ballina

Table 1-3 Study areas, four additional ancillary facilities are in italics

Section	Ancillary facility/design change	Proposed use
1	Kangaroo Trail Road design change	Local property access
	1a	Main site compound (1 ha), batch plant(0.5 ha), workshop (0.5 ha)
	1b	Stockpile site
	<i>Additional site 5</i>	<i>Possible ancillary facility (activity yet to be determined)</i>
	2	Materials processing and stockpile site
	3	Materials processing and stockpiling
	Range Road design change	Interchange shifted north to Range Road
	4a	Stockpile site
	4b	Satellite site compound and Stockpile site
2	1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	1b	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	1c	Stockpile site
	2	Satellite site compound and stockpile site

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Section	Ancillary facility/design change	Proposed use
	3	Satellite compound and stockpile site
	4	Satellite compound and stockpile site
	5a	Stockpile site
3	2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	3b	Main site compound, stockpile site (1ha), batch plant (0.5 ha), workshop (0.5 ha)
	4	Materials processing and stockpile site (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	5	Site compound and stock pile site
	Firth Heinz Road design change	Shift road west to avoid contaminated land
	6a	Stockpile site
	6b	Materials processing and stockpile site
	Bostock Road design change	Relocation of rest area south to avoid environmentally sensitive area
	7b	Stockpile site
	8	Stockpile site
	9	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	Crowley's Road design change	Shift road east to avoid contaminated land
	10	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)
4	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)
	3	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	4a	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	4b	Stockpile site
	4c	Stockpile site
	5	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	6	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles
	Maclean Interchange design change	Two options for reconfiguration of the Maclean Interchange
	7a	Batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)
5	Koala Drive design change	Include local access road connection
	1	Site compound (1 ha), batch plant (0.5ha), workshop (0.5 ha)

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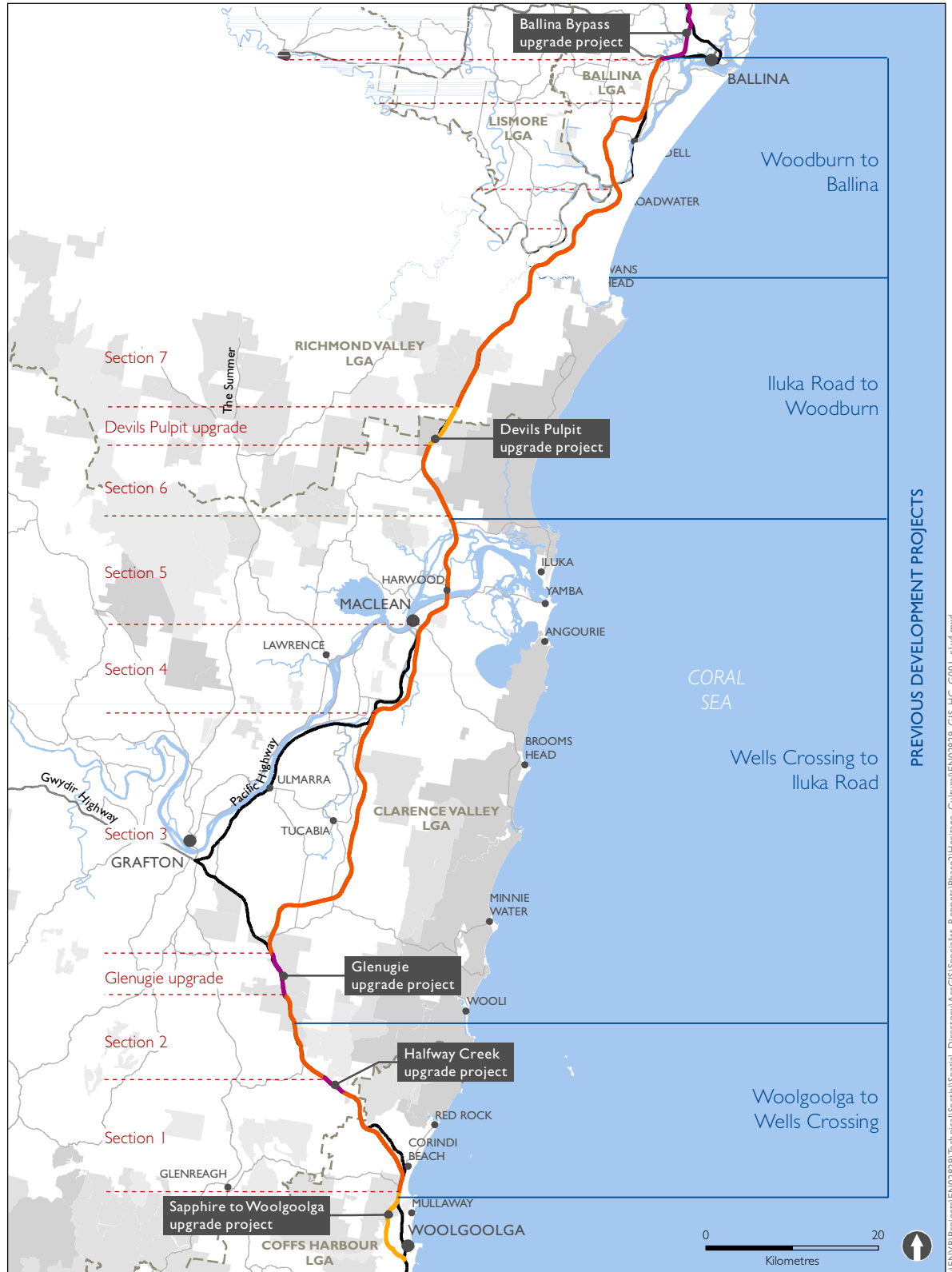
Section	Ancillary facility/design change	Proposed use
	3b	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area
	Carrols Lane design change	Overpass shifted north to Chatsworth Road/Fischers Road
	6	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	<i>Additional site 7</i>	<i>Possible ancillary facility (activity yet to be determined)</i>
	<i>Additional site 8</i>	<i>Possible ancillary facility (activity yet to be determined)</i>
	<i>Additional site 9</i>	<i>Possible ancillary facility (activity yet to be determined)</i>
6	Mororo Road design change	Increase cut size for material source
	3a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	3b	Stockpile site
7	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	3	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	4	Satellite compound, workshop (0.5 ha) and stockpile site
8	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	2a	Site compound workshop (0.5 ha) and stockpile site
	2b	RMS site office and stockpile site
	2c	Stockpile site
	Lang Hill design change	Decrease cut size for material source to decrease impact to Gittoes Jali Aboriginal cultural heritage site
	3	Site compound (1 ha), batch plant (0.5 ha) and stockpile site
9	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)
	2	Site compound workshop (0.5 ha) and stockpile site
	3	Site compound (1 ha), batch plant (0.5 ha) and 'structures lay down' area (0.5 ha)
	MacDonald St design change	Local access road connections
10	1a	Bridge construction site, batch plant and bridge materials lay down area
	1b	Site compound and vehicle parking
	3b	RMS site office and stockpile site
	Lumley's Hill design change	Increase cut size for material source
	4	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha), vehicle parking and stockpile site
	5	Site compound (1 ha), batch plant (0.5 ha), 'structures lay down' area (0.5 ha)
	6	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)

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Section	Ancillary facility/design change	Proposed use
11	1a	Main compound (1 ha), batch plant, workshop and stockpile site
	1b	Stockpile sites

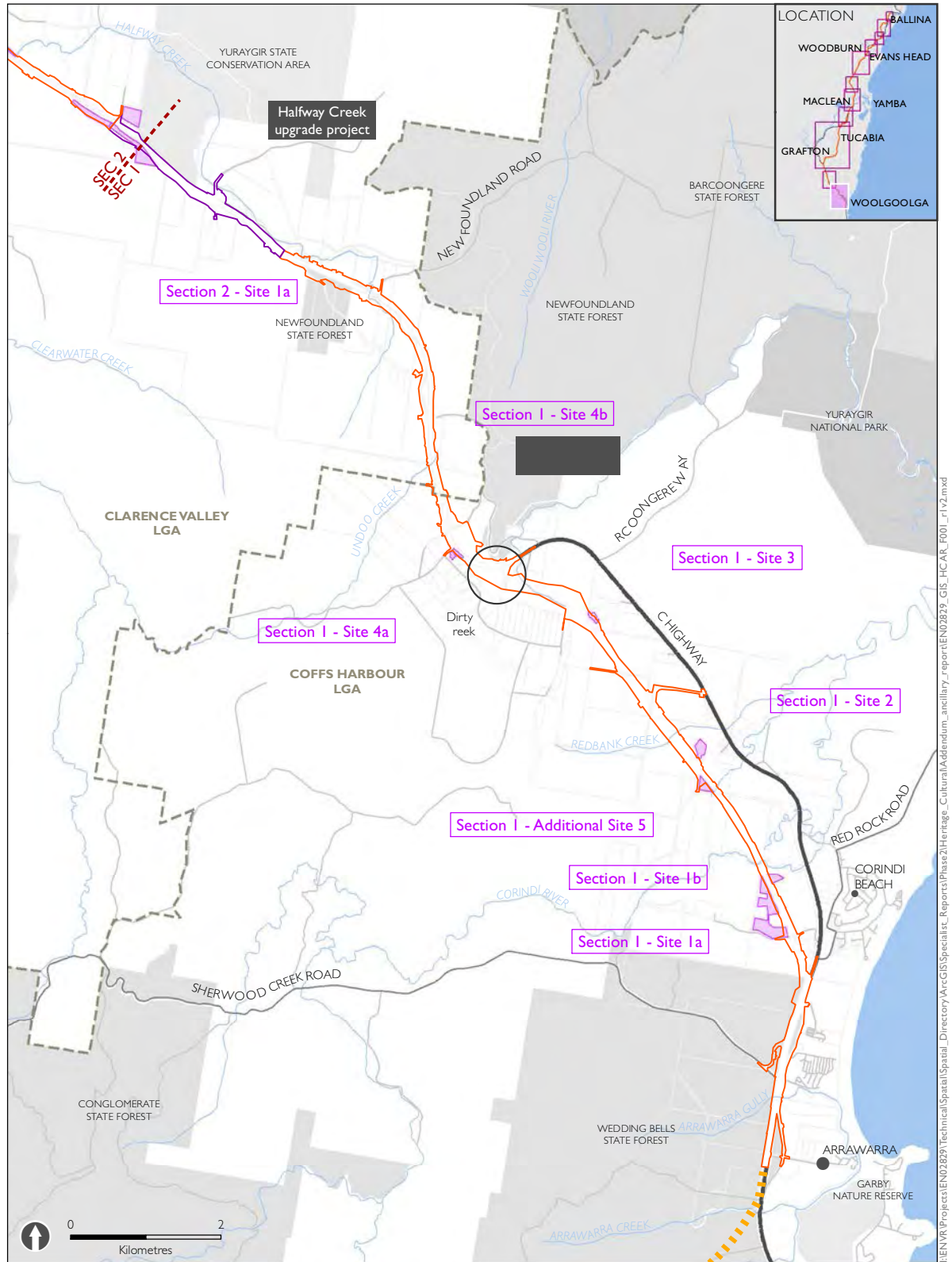
Upgrading the Pacific Highway - Woolgoolga to Ballina Upgrade

Figure I-1 Project overview



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway

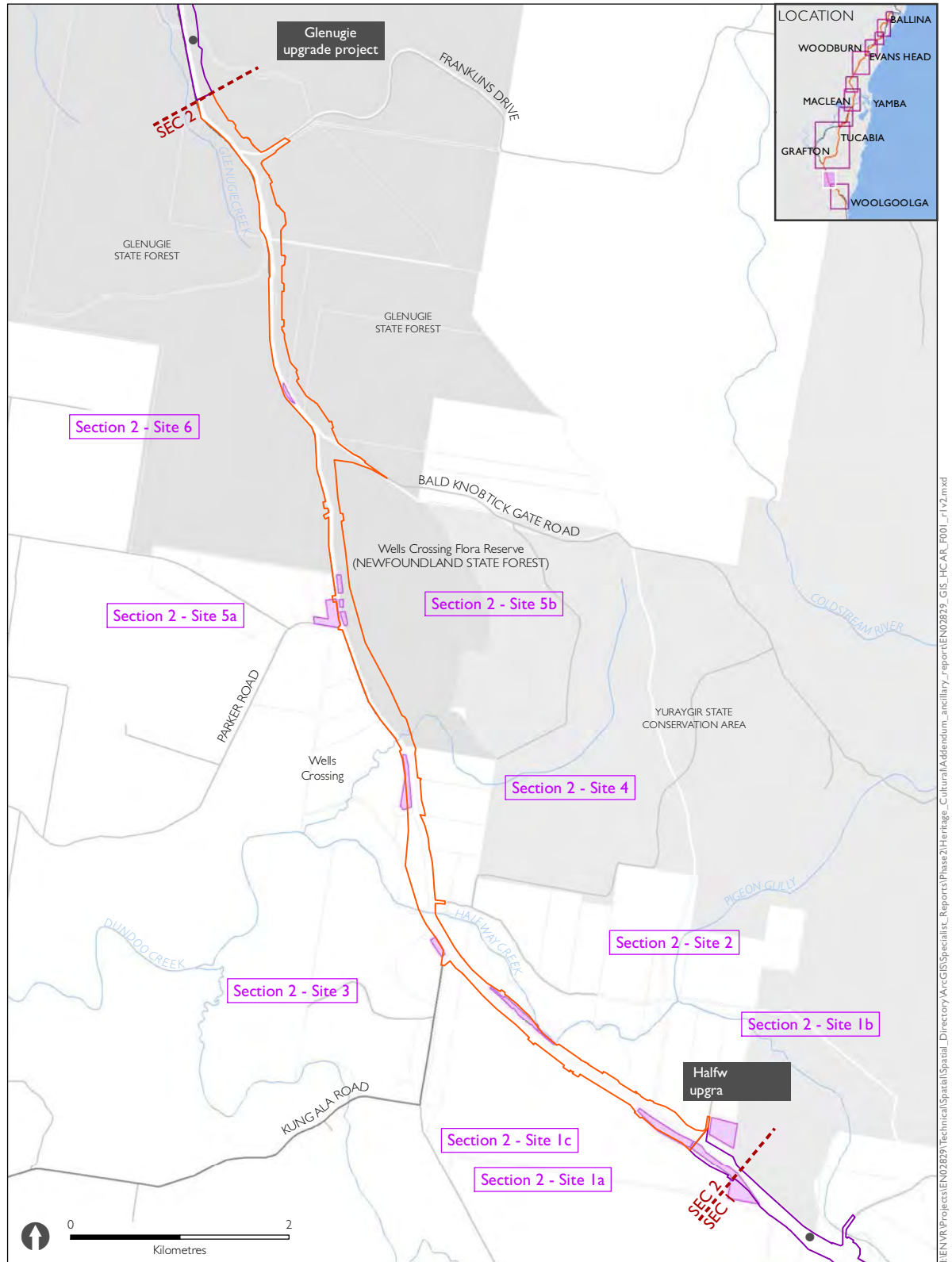
Figure I-2 Ancillary sites: Section I - Woolgoolga to Halfway Creek



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

I:\ENVR\Projects\EN2829\Technical\Spatial\Spatial_Directory\ArcGIS\Specialist_Reports\Phase2\Heritage_Cultural\Addendum_ancillary_report\EN2829_GIS_HICAR_F001_r1v2.mxd

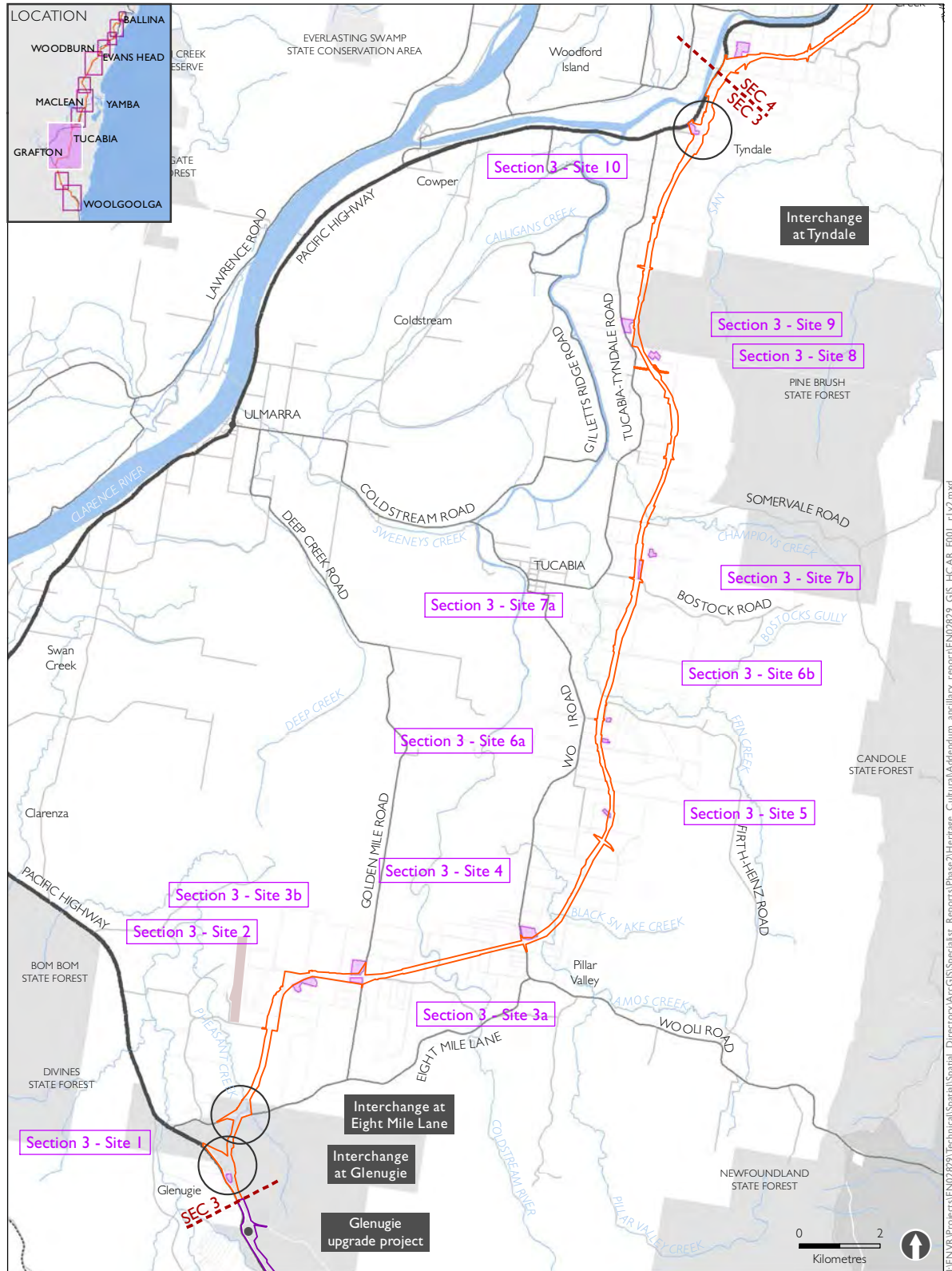
Figure I-3 Ancillary sites: Section 2 - Halfway Creek to Glenugie upgrade



- The project
- Ancillary sites
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway

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Figure I-4 Ancillary sites: Section 3 - Glenugie upgrade to Tyndale



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

Figure I-5 Ancillary sites: Section 4 - Tyndale to Maclean

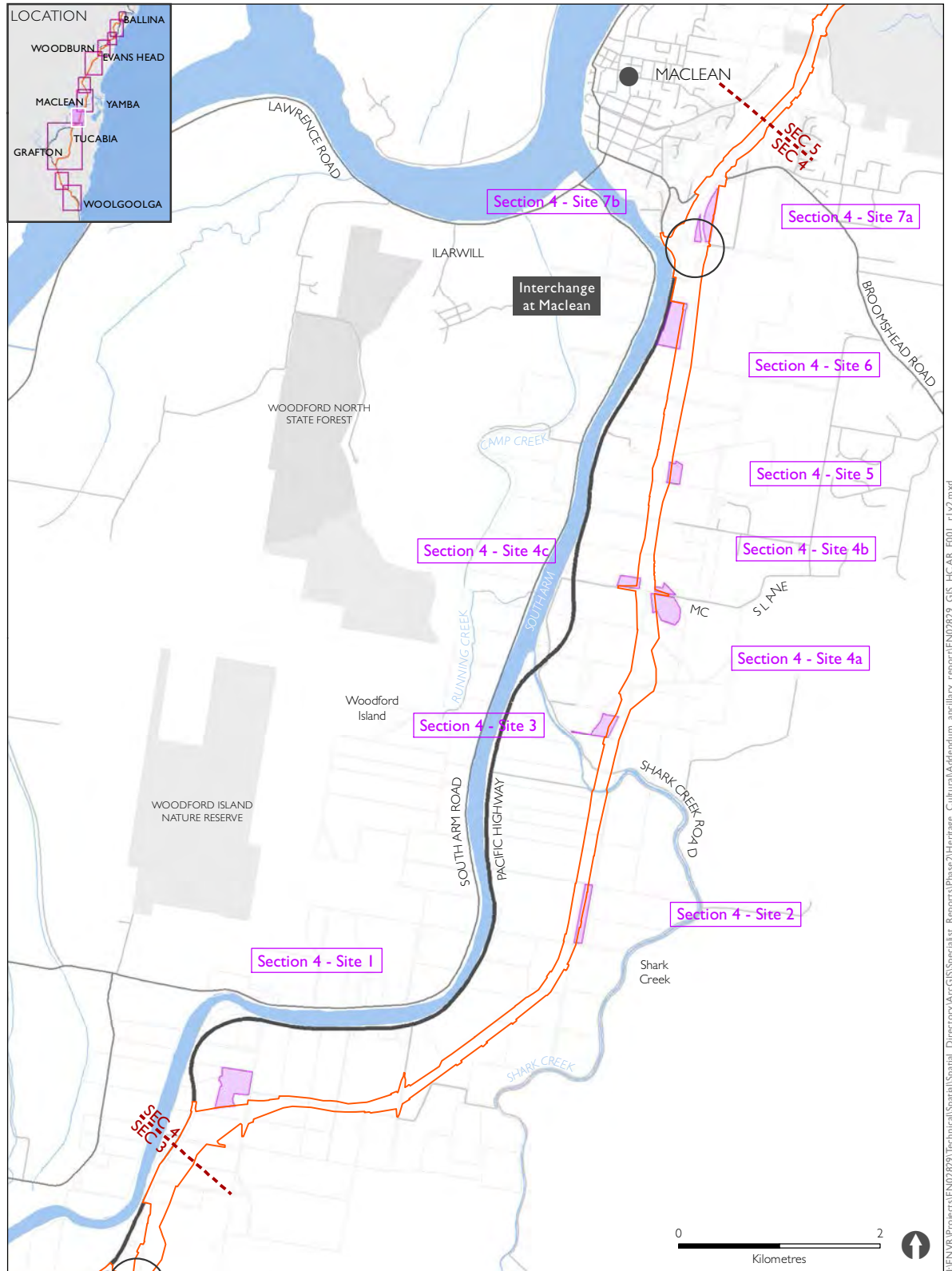
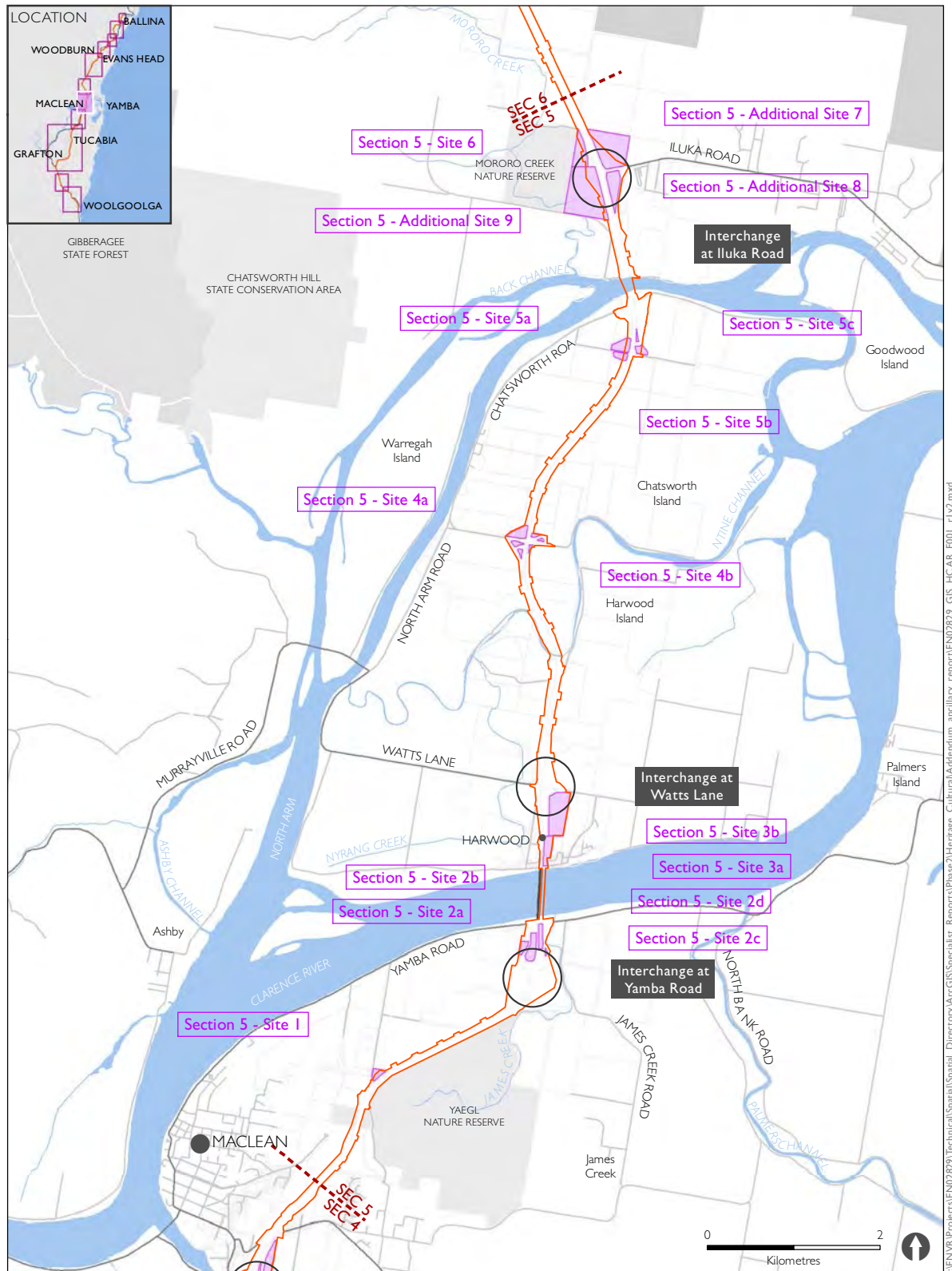
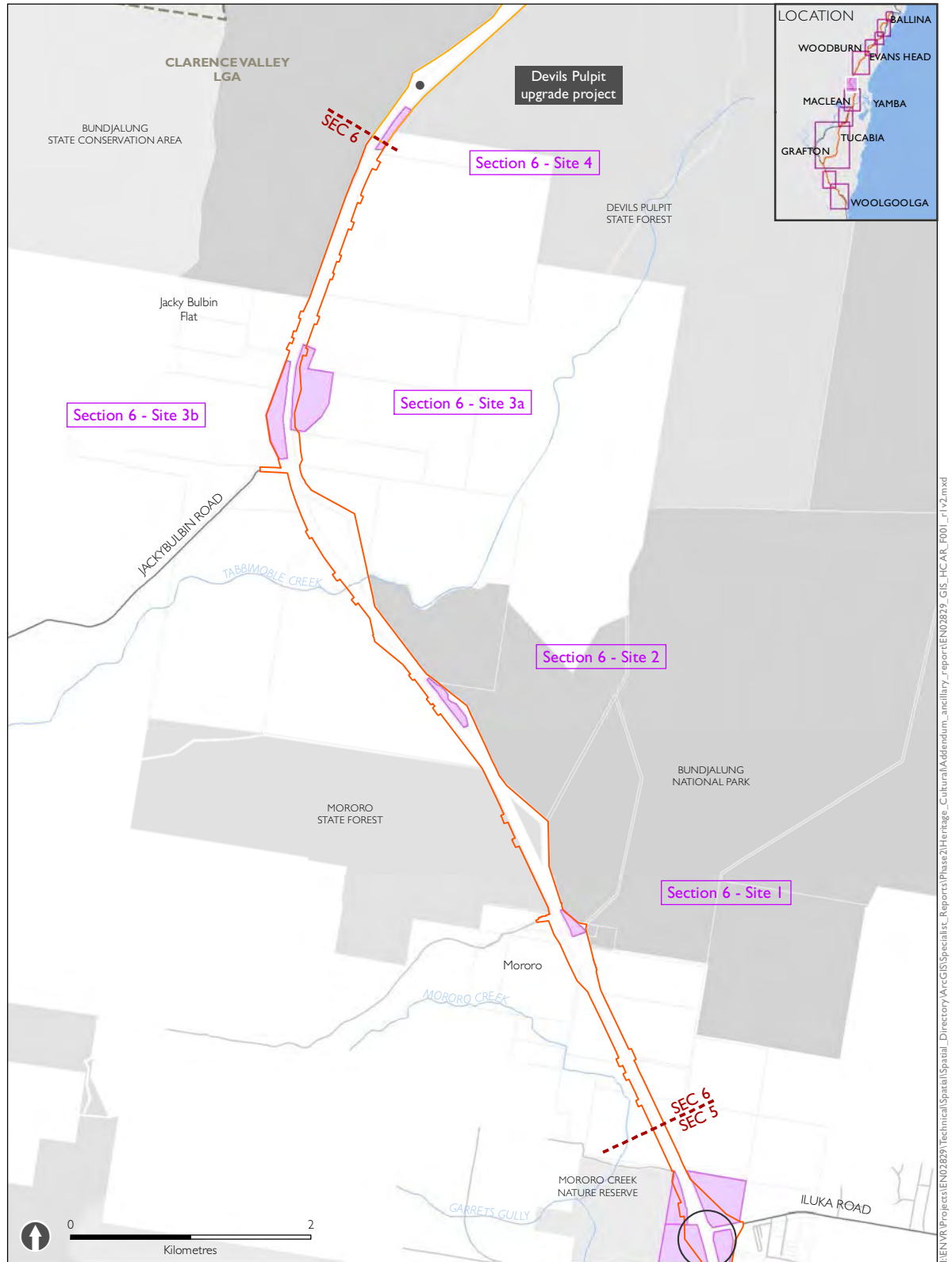


Figure I-6 Ancillary sites: Section 5 - Maclean to Iluka Road



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

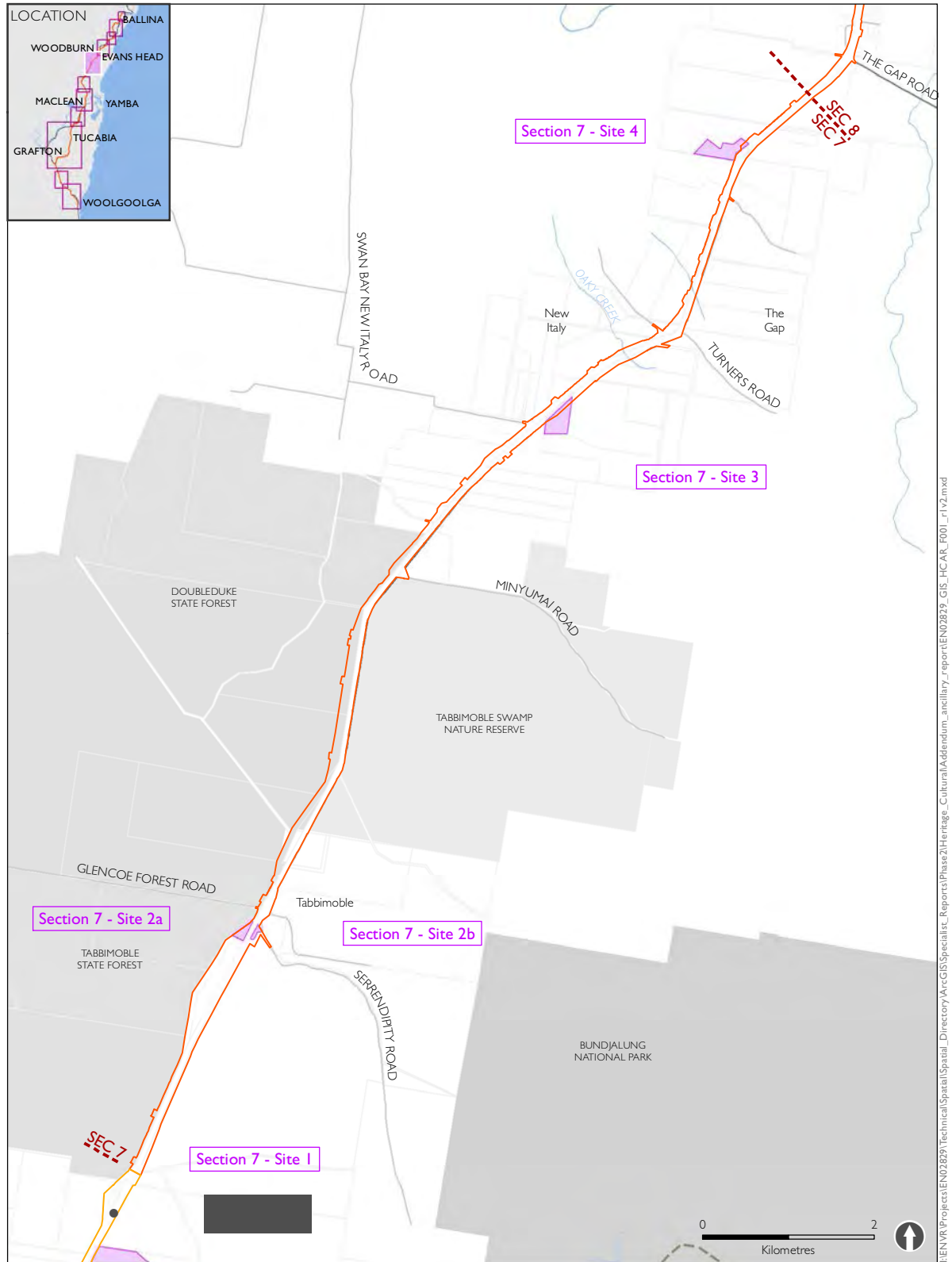
Figure I-7 Ancillary sites: Section 6 - Iluka Road to Devils Pulpit upgrade



- The project
- Ancillary sites
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway

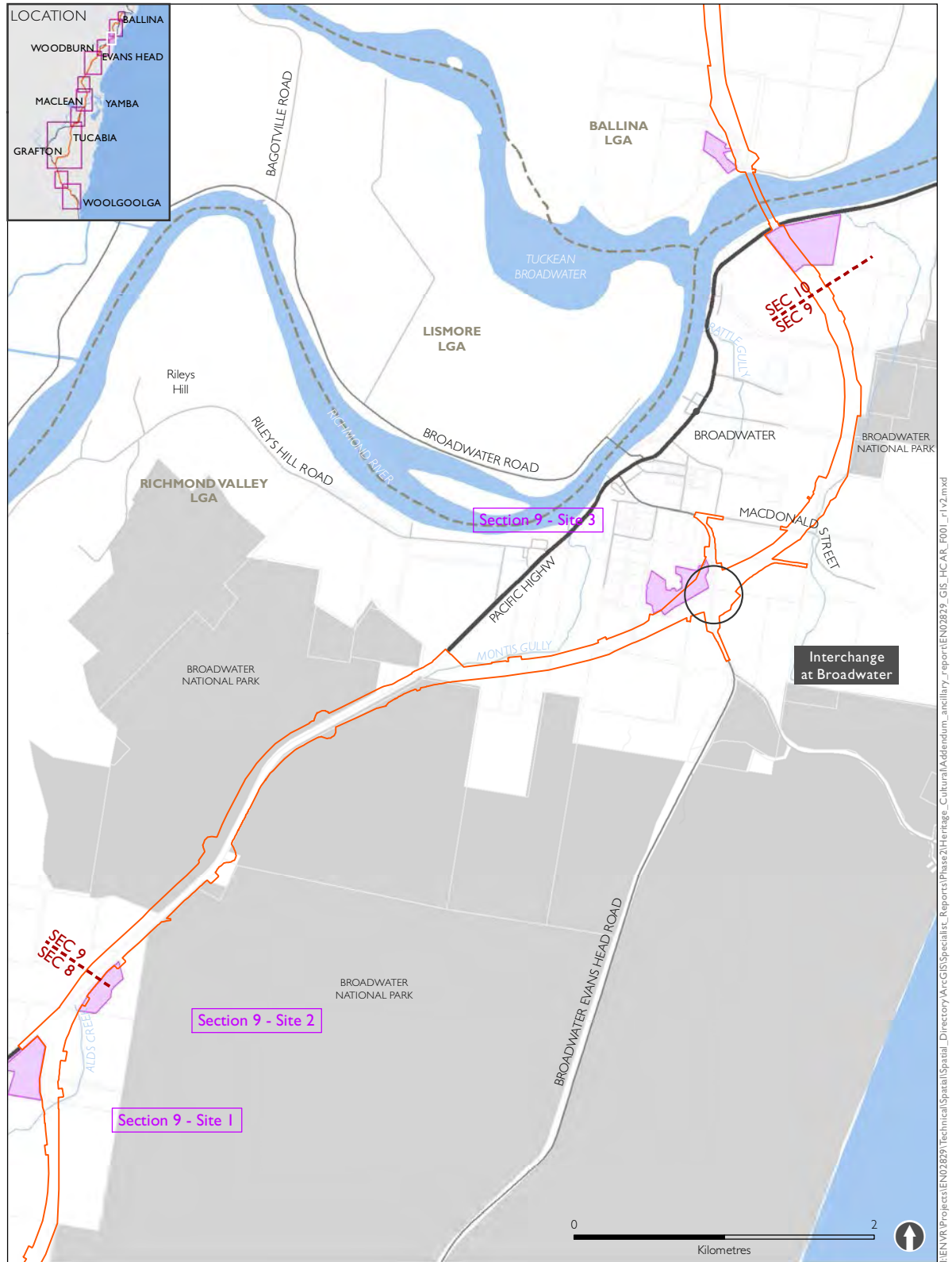
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Figure I-8 Ancillary sites: Section 7 - Devils Pulpit upgrade to Trustums Hill



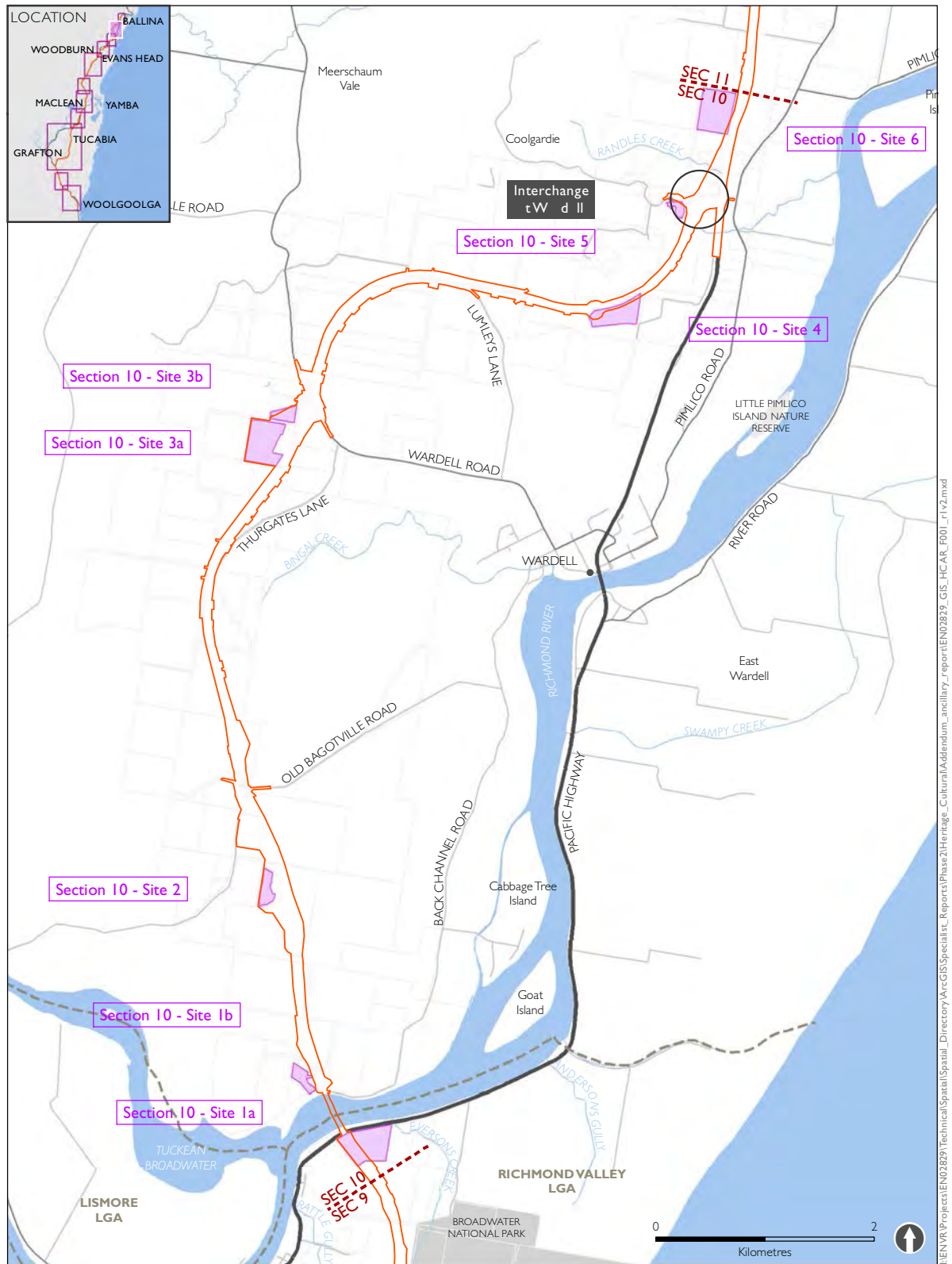
- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

Figure I-10 Ancillary sites: Section 9 - Broadwater National Park to Richmond River



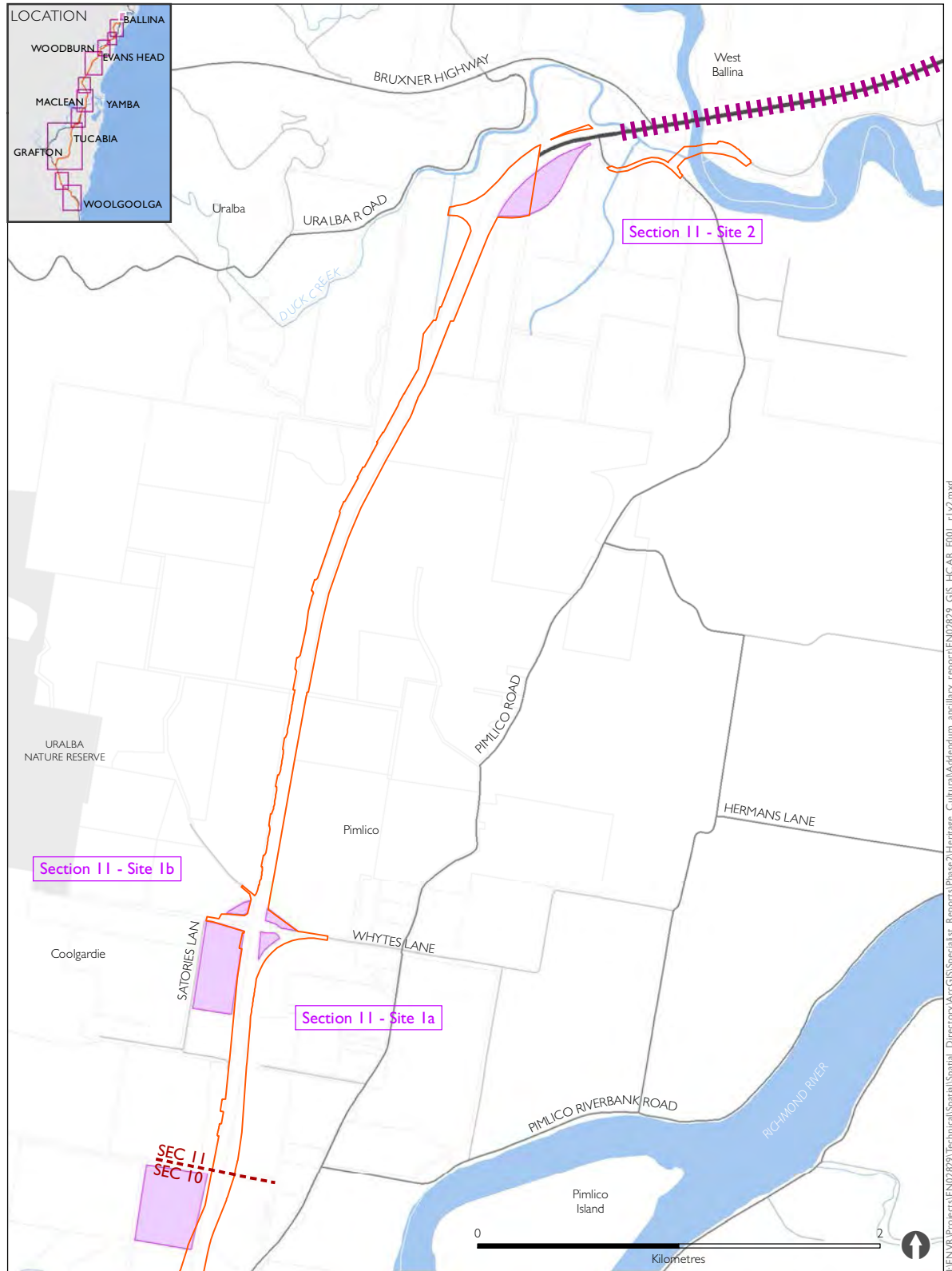
- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

Figure I-11 Ancillary sites: Section 10 - Richmond River to Coolgardie Road



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

Figure I-12 Ancillary sites: Section II - Coolgardie Road to Ballina bypass



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Ancillary sites

2. Legislative context

The following legislation is relevant to this investigation:

New South Wales

- *Environmental Planning and Assessment Act 1979*
- *National Parks and Wildlife Act 1974*
- *National Parks and Wildlife Amendment Act 2010*
- *Native Title Act (NSW) 1994*
- *Aboriginal Land Rights Act (NSW) 1983*

Commonwealth

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Native Title Act 1993*

Additionally, the United Nations' *Declaration on the Rights of Indigenous Peoples*, to which Australia is a signatory, also provides further legislative context.

These Acts and how their relevant sections and associated regulatory documents (eg codes of practice, guidelines, etc) govern the project are described in Table 2-1. It is important to note from Table 2-1 that this project has been assessed as 'state significant infrastructure' under Part 5.1 of the *Environmental Planning and Assessment Act 1979*. As such, an Aboriginal heritage impact permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* would not be required to investigate Aboriginal objects within the project provided that the investigations address the Director-General requirements (see Table 1-1).

Table 2-1 Legislative framework

Reference	Requirements
<i>Environmental Planning and Assessment Act 1979</i>	<ul style="list-style-type: none"> • Framework for environmental planning and assessment in New South Wales. Including the requirement for environmental impacts to be considered prior to development approval. • Includes requirements for Aboriginal cultural heritage items and places. • Local government areas (LGAs) prepare local environmental plans and development control plans in accordance with the Act to provide guidance on the level of environmental assessment required. • Part 5.1 of the Act applies to state significant infrastructure. • Under Part 5.1 section 115ZG, a range of approvals are not required, including a s90 Aboriginal heritage impact permit (AHIP). Once environmental assessment requirements are issued by the Director-General of Planning and Infrastructure for a Part 5.1 project, any investigative or other activities complying with the requirements are also taken to be part of the project approval.

Reference	Requirements
<p><i>National Parks and Wildlife Act 1974</i></p>	<ul style="list-style-type: none"> • Administered by the OEH. • Serves to protect Aboriginal objects and Aboriginal places in NSW. • Under the terms of the <i>National Parks and Wildlife Act 1974</i>, any person who harms an Aboriginal object is guilty of an offence. • An Aboriginal object (s5) is defined as: ‘any deposit, object or material evidence (not being a handicraft for sale) relating to Aboriginal and non-European habitation of the area that comprises New South Wales, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.’ • An Aboriginal place is an area that has been declared by the Minister as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects. • Aboriginal heritage information system (AHIMS) – Register for identified Aboriginal objects or places. • An AHIP is needed to undertake a number of activities, relevant to development are those issued under section 90 of the Act (though the project is exempt from applying for AHIPs under Part 5.1 section 115ZG of the <i>Environmental Planning and Assessment Act 1979</i>). • AHIP applications must be submitted and approved by the OEH. • New procedures that accompany the <i>National Parks and Wildlife Amendment Act 2010</i> include, the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010, the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, and the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010.
<p><i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010</i></p>	<ul style="list-style-type: none"> • The <i>National Parks and Wildlife Act 1974</i> provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an AHIP. A due diligence code of practice has been developed to guide proponents on how to take due diligence and whether or not they should apply for an AHIP. • Provisions relating to the due diligence system are effective from 1 October 2010.
<p><i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (ACHCRP)</i></p>	<ul style="list-style-type: none"> • Establishes the requirements for consultation (under part 6 of the <i>National Parks and Wildlife Act 1974</i>) with Aboriginal stakeholders as part of the heritage assessment process to determine potential impacts of proposed activities on Aboriginal objects and places and to inform decision making for any application for an AHIP. • The ACHCRP comprises 4 stages with associated timeframes which must be adhered to: <ul style="list-style-type: none"> - Stage 1 – Notification of project proposal and registration of interest (14 days from date letter sent to register as a registered Aboriginal party). - Stage 2 – Presentation of information about the proposed project (set up Aboriginal focus group [AFG] meetings, prepare info, etc). - Stage 3 – Gathering information about cultural significance (28 days for registered Aboriginal parties to provide a review and feedback to consultants’ methodology). - Stage 4 – Review of draft cultural heritage assessment report (registered Aboriginal parties have 28 days from sending of the report to make a submissions).

Reference	Requirements
<p>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010</p>	<ul style="list-style-type: none"> • The Code sets out the detailed requirements for archaeological investigations of Aboriginal objects in NSW for activities that require assessment under Part 4 or Part 5 of the <i>Environmental Planning and Assessment Act 1979</i>. An AHIP to undertake test excavation is not required if complying with this Code, as test excavations complying with this Code are excluded from the definition of harm to an Aboriginal object. • The Code sets out in detail: <ul style="list-style-type: none"> - Minimum qualifications for anyone undertaking archaeological investigation under the Code in NSW. - Assessment steps required to be undertaken for all archaeological investigation. - Assessment steps that may be required to be undertaken to adequately characterise the Aboriginal objects being investigated. <p>The Code must be used for investigation that is likely to result in an AHIP application. However, once the DP&I Director-General's environmental assessment requirements are issued, the project is exempt from the requirement to obtain an AHIP and hence also this code.</p>
<p>Native Title Act (NSW) 1994</p>	<ul style="list-style-type: none"> • The NSW <i>Native Title Act 1994</i> was introduced to ensure that the laws of NSW are consistent with the Commonwealth <i>Native Title Act 1994</i>. It validates past and intermediate acts which may have been invalidated because of the existence of native title.
<p>Aboriginal Land Rights Act (NSW) 1983</p>	<p>The <i>Aboriginal Land Rights Act</i> recognises the rights of Aboriginal people in New South Wales and provides a vehicle for the expression of self-determination and self-governance.</p> <p>The purposes of the Act are:</p> <ul style="list-style-type: none"> • To provide land rights for Aboriginal persons in New South Wales, • To provide for representative local Aboriginal land councils (LALCs) in New South Wales, • To vest land in those LALCs, • To provide for the acquisition of land, and the management of land and other assets and investments, by or for those LALCs and the allocation of funds to and by those LALCs, • To provide for the provision of community benefit schemes by or on behalf of those LALCs.
<p>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</p>	<ul style="list-style-type: none"> • Protects Aboriginal cultural property in a wider sense and includes any places, objects and folklore that "are of particular significance to Aboriginals in accordance with Aboriginal tradition". • The Act may apply to contemporary Aboriginal cultural property as well as ancient sites. • The responsible Minister may make a declaration under Section 10 of the Act in situations where state or territory laws do not provide adequate protection of heritage places.
<p>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</p>	<ul style="list-style-type: none"> • The EPBC Act includes provisions to protect matters of national environmental significance and Commonwealth land. Lists and registers made under the Act include: <ul style="list-style-type: none"> - A National Heritage List of places of national heritage significance. - A Commonwealth Heritage List of heritage places owned or managed by the Commonwealth. - Management of the Register of the National Estate. <p>An independent expert body, the Australian Heritage Council, advises the Minister on the listing and protection of heritage places.</p>

Reference	Requirements
<i>Native Title Act 1993</i>	<ul style="list-style-type: none"> • Recognises and protects native title, and provides that native title cannot be extinguished contrary to the Act. • National Native Title Tribunal is a Commonwealth Government agency set up under this Act and mediates native title claims under the direction of the Federal Court of Australia. • The National Native Title Tribunal maintains the following registers: <ul style="list-style-type: none"> - National Native Title Register. - Register of Native Title Claim. - Unregistered claimant applications. - Register of Aboriginal land use agreements.
<i>Declaration on the Rights of Indigenous Peoples</i>	<ul style="list-style-type: none"> • The Declaration makes statements regarding the rights of Indigenous peoples, and expectations of States' roles in this. This includes, in Article 11, that Indigenous peoples have the right to 'maintain, protect and develop past present and future manifestations of their cultures', including archaeological sites. The Declaration is a non-binding instrument, but there is some discussion that it may be a reflection of customary international law, which would bind States to the provisions.

3. Consultation

3.1. Introduction

Aboriginal stakeholder engagement and involvement has been important for the identification of Aboriginal cultural values of the project. This ACHAR continues with the consultation commenced in 2010 for the working paper (SKM 2012); the working paper should be referred to for full details of consultation; only an overview of the consultation process and consultation undertaken since the completion of the working paper (SKM 2012) are discussed here.

3.2. Consultation process

The consultation undertaken to date in the working paper (SKM 2012) and continued in this assessment, commenced in 2010 and has followed relevant government and RMS consultation guidelines. These same guidelines and requirements also apply to this ACHAR.

3.2.1. Director-General requirements for consultation

The Director-General has issued environmental assessment requirements for the project (Table 1-1), which include assessment of impacts to Aboriginal heritage, and mitigation and management measures that is to be generally consistent with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005). These guidelines have now been superseded by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (ACHCRP) (Department of Environment Climate Change and Water (DECCW) 2010). As the 2010 and 2005 consultation requirements are broadly similar (with the 2010 requirements being generally more rigorous), this Aboriginal cultural heritage assessment remains consistent with both the ACHCRP and the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005), and consequently the Director-General requirements. The Director-General requirements also require consultation with LALCs and Aboriginal stakeholders relevant to the project; the project also complies with this requirement.

It should be noted that there are no Native Title holders within the boundary of the project, as Native Title holders have specific rights in relation to cultural heritage. Several claimants exist for the project; see below for more discussion on this.

3.2.2. NSW Roads and Maritime Services consultation procedure

Consultation with RAPs followed the process described in the PACHCI (RMS 2011). This aimed to ensure that RAPs had the opportunity to contribute to the assessment:

- The development and design of the cultural heritage assessment methodologies.
- The identification of Aboriginal heritage constraints to be considered within the design.
- The development of recommendations for the management of archaeological sites within the ancillary facilities and design changes.

Consultation for the project is being undertaken up to and including Stage 3 of the PACHCI (RMS 2011) procedure for projects assessed under Part 5.1 of the *Environmental Planning and Assessment Act 1979*; Stage 4 would generally be undertaken after project approval has been granted, but prior to construction. The stages of PACHCI are:

- Stage 1 – Internal RMS assessment to identify key environmental issues.
- Stage 2 – Further assessment and site survey, with an archaeologist and specific Aboriginal stakeholders to assess the project’s potential cultural heritage impacts.
- Stage 3 – Where Stages 1 and 2 lead to the preliminary view that harm to Aboriginal objects or places is likely to occur, then formal consultation must be undertaken and a cultural heritage assessment report prepared. This may also include sub-surface testing where required.
- Stage 4 – Implement project mitigation measures (eg salvage) in accordance with project approval.

3.2.2.1. Consultation requirements for proponents

The ACHCRP apply to all AHIP applications submitted after 12 April 2010. This project does not require any AHIPs, as it is being assessed under Part 5.1 of the *Environmental Planning and Assessment Act 1979*, as such, these requirements do not strictly need to be applied. However, as the process outlined in the ACHCRP is good practice, it is followed anyway. Table 3-1 outlines the ACHCRP process, and a summary of how this was followed for the project.

The ACHCRP includes a process for the notification and registration of interested stakeholders, preparation for the Aboriginal cultural heritage assessment and the drafting, review and finalisation of an Aboriginal cultural heritage assessment report.

Table 3-1 Consultation process implemented, based on the ACHCRP

Stage	Steps undertaken
Stage 1: Notification of project proposal and registration of interest	<p>The following was undertaken:</p> <ol style="list-style-type: none"> 1) In 2010, consultation with OEH, relevant catchment management authorities, LALCs, Native Title Services Corporation Limited, the National Native Title Tribunal, relevant local councils, and the Registrar of Aboriginal Owners to request the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. 2) In 2010, public notice in local newspapers, in <i>National Indigenous Times</i>, and <i>Koori Times</i> newspapers, and <i>Deadly Vibe</i> and <i>In Vibe</i> magazines for any Aboriginal person who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project to register their interest in participating in each of the four Aboriginal focus groups. A period of 30 days was allowed for a response to register interest. 3) In 2010, relevant stakeholders identified in step 1 were written to, inviting any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project to register their interest in participating in each of the four Aboriginal focus groups. A period of 30 days was allowed for a response to register interest. <p>The stakeholders who registered for each Aboriginal focus group were:</p> <p>Woolgoolga to Wells Crossing</p> <ul style="list-style-type: none"> • Coffs Harbour and District LALC • Garlambirla Guuyu-girrwa Aboriginal Corporation • Grafton-Ngerrie LALC

Stage	Steps undertaken
	<ul style="list-style-type: none"> • Yarrawarra Aboriginal Corporation (incorporating the Gaabi Elders Group – previously referred to as the Garby Elders Group) <p>Wells Crossing to Iluka Road</p> <ul style="list-style-type: none"> • Birrigan-Gargle LALC • Grafton-Ngerrie LALC • Yaegl LALC • Yaegl People Native Title Claimants <ul style="list-style-type: none"> • Yarrawarra Aboriginal Corporation (incorporating the Gaabi Elders Group – previously referred to as the Garby Elders Group) <p>Iluka Road to Woodburn</p> <ul style="list-style-type: none"> • Bandjalang People #1 and #2 Native Title Claimants • Birrigan-Gargle LALC • Bogal LALC • Jali LALC • Ngulingah LALC • Yaegl LALC • Yaegl People Native Title Claimants <p>Woodburn to Ballina</p> <ul style="list-style-type: none"> • Bandjalang People #1 and #2 Native Title Claimants • Bogal LALC • Burabi Aboriginal Corporation • Jali LALC • Numbahjing Native Title Claimants • Tweed, Byron and Ballina Community Transport Inc • Gubba Gunya Aboriginal Corporation <p>The following organisations were also sent project communications, as they had been involved in consultation for earlier stages of the project prior to 2010.</p> <ul style="list-style-type: none"> • Bandjalang LALC • Bunjum Aboriginal Corporation • Burra:way Wa:jad Traditional Owners Group
<p>Stage 2: Presentation of information about the proposed project</p>	<ul style="list-style-type: none"> • Proposed methodology for investigation of ancillary facilities and design changes was distributed to stakeholders and raised at meetings of AFGs on 13 and 14 December 2011 (see working paper for details). The methodology was agreed upon by those in attendance, and a period of 40 days was allowed for further comment, though none were received.
<p>Stage 3: Gathering information about cultural</p>	<ul style="list-style-type: none"> • Fieldwork (including survey and sub-surface test excavation) of proposed ancillary facilities and sub-surface testing within a PAD identified in a design change, with nominated site officers from the RAPs, and the RMS Cultural Heritage Advisor (Northern Region)

Stage	Steps undertaken
significance	
Stage 4: Review of draft cultural heritage assessment report	<ul style="list-style-type: none"> • Draft copies of this ACHAR were provided to RAPs on 4 March 2013 with 30 days within which to provide comment. • Comments received were reviewed and incorporated into this ACHAR.

3.2.3. Gathering information about cultural significance

Numerous Aboriginal focus group (AFG) meetings were held with RAPs throughout the environmental assessment to discuss the cultural significance of the region around the project, and of specific Aboriginal places and archaeological sites near or within the project. Aboriginal focus group meetings were also held on the 6 and 7 February 2013 to discuss the results of the ancillary facilities investigation and management recommendations for the sites and places that occur near and within ancillary facilities. Clarification and inputs was also sought on cultural significance and unknown Aboriginal cultural places that may be near or within ancillary facilities and design changes.

During fieldwork, nominated Aboriginal site officers were engaged to assist with the identification and investigation of sites, PADs and Aboriginal cultural places during survey and sub-surface test excavations (see Chapter 5).

Notable comments from RAP Aboriginal site officers during that fieldwork included:

- That New Italy 1 should be called Dubaijeen Site (nominated site officers, Bandjalang People Native Title Claimants), and that this site was part of the women's area recorded nearby (IR2W5)
- Some spiritual feeling (of ancestors) was had around WWC39 and WWC37 sites by Ian Brown (Senior Site Officer, Coffs Harbour LALC), who mentioned that there were probably burials along Corindi Creek somewhere
- Anthony Dootson (Gaabi Elders) and Mark Flanders (Senior Site Officer, Coffs Harbour LALC; Chairperson, Garlambirla Guuyu-girrwa Aboriginal Corporation) spoke about the Aboriginal cultural significance of the area around Dirty Creek and Halfway Creek
- Members of many RAPs wanted to reiterate that they feel all staff and contractors involved in the project and ancillary facilities should take part in a cultural and heritage awareness induction, that is at least in part conducted by local Aboriginal people, and that all personnel have this induction with local Aboriginal people, not just managers who then pass this information on
- Ferlin Laurie and Shane McLeay (nominated site officers, Yaegl LALC) spoke about the high cultural significance placed on scarred trees, rockshelters and rock art, and stone axes
- Members of Jali LALC, Bandjalang People Native Title Claimants and Burabi Aboriginal Corporation emphasised the cultural significance of different parts of the landscape between Woodburn and Ballina

3.2.4. Aboriginal stakeholder comment on cultural heritage assessment report

Aboriginal focus group meetings were held on 6 and 7 February, with the results of the assessment to that stage presented to the AFG, and any comments sought on the process, results, or other aspects of the assessment. The final draft of this ACHAR was provided to stakeholders for comment on 4 March 2013, and a 30-day period given in which to provide comment, with a closing date of 2 April 2013. Responses received verbally in the AFG meeting are recorded in the meeting minutes and, along with the two written responses received, these are attached in Appendix B.

4. Existing conditions

Appendix A includes the desktop assessment matrix undertaken in the working paper, showing the Aboriginal cultural heritage sites and places near or within the ancillary facilities. Appendix B presents the results, existing conditions and knowledge gaps for design changes. For detail on environmental and cultural context, please refer to the working paper (SKM 2012).

5. Field assessment

This chapter summarises the field assessment undertaken as part of this report, including field survey and sub-surface testing. This section relates to all ancillary facilities and design changes that include areas outside the boundary of the project.

5.1. Aims

The aims of the field assessment were to:

- Identify sites and areas of PAD within the ancillary facilities and design changes
- Collaborate and consult with RAPs
- Determine the presence of sub-surface deposits for all areas of PAD
- Determine the nature, depth, extent and significance of archaeological deposits within the proposed ancillary facilities and design changes
- Excavate consistently with the geomorphology of the relevant landform.
- Comply with the Director-General requirements
- Undertake excavation with regard to the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010 and in accordance with the Director-General requirements
- Undertake a sufficient amount of 'control' excavations outside PADs to test predictive model accuracy

5.2. Assessment methodology

As the assessment methodology reflects that undertaken in the working paper (SKM 2012), please refer to the working paper for details on methodology. In summary, survey was undertaken on foot in teams who walked across the entire ancillary facility and/or area of design change outside the boundary of the project, generally plus a 25 metre buffer (subject to accessibility). Survey coverage figures show the extent possible for each ancillary facility (Figure 5-1 to Figure 5-11) and design change (Appendix E), including where survey was possible within the 25 metre buffer. Subsequently, sub-surface testing was undertaken in areas of PAD within ancillary facilities and/or area of design change by manually excavating 0.5 metre x 0.5 metre test pits – areas within the 25 metre buffer were not subject to test excavation.

All stages of the archaeological assessment included consultation and involvement with the RAPs, as mentioned in Chapter 3.

5.3. Timing and personnel

Field investigation was undertaken at different times between 13 June 2012 and 4 March 2013 – the staggered nature of the release of design change details and permission to access particular properties necessitated fieldwork to occur over such a protracted time period. Personnel involved in fieldwork are included in Table 5-1.

Table 5-1 Timing and personnel for field assessment

Dates	Activity	Alliance supervisors	Alliance archaeologists	Alliance assistants	RAP nominated site officers
13-15 June 2012	Survey	Joseph Brooke	-	Peter Glover	<p>Coffs Harbour LALC Mark Flanders Ian Brown</p> <p>Grafton-Ngerrie LALC Brett Duroux Rod Duroux</p> <p>Garlambirla Guuyu-girrwa Corporation Mark Ferguson</p> <p>Yarrawarra Aboriginal Corporation EJ Williams Anthony Dootson</p>
17-21 September 2012	Survey	Joseph Brooke	Alistair Carr	Peter Glover	<p>Yaegl LALC Ferlin Laurie Shane McLeay</p> <p>Birrigan-Gargle LALC Malcolm Brown Ken Laurie Jnr Angel Wilson</p> <p>Grafton-Ngerrie LALC Brett Duroux Rod Duroux</p> <p>Garlambirla Guuyu-girrwa Corporation Mark Ferguson</p> <p>Yarrawarra Aboriginal Corporation EJ Williams Anthony Dootson</p>

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Dates	Activity	Alliance supervisors	Alliance archaeologists	Alliance assistants	RAP nominated site officers
20 September 2012	Survey	Vanessa Edmonds	-	-	Bandjalang People Native Title Claimants Veronica Wilson Erica Wilson Kellie Wilson
24-28 September 2012	Survey and sub-surface testing	Andrew Costello	Alistair Carr	Peter Glover	Bandjalang People Native Title Claimants Daniel Wilson Doug Wilson Bogal LALC Daryl Knight Burabi Aboriginal Corporation Lois Cook Anthony Cook Gubba Gunya Aboriginal Corporation Rhonda Davis Andrew Taylor Jali LALC Marcus Fergusson Dean Bolt Yaegl LALC Ferlin Laurie Shane McLeay

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Dates	Activity	Alliance supervisors	Alliance archaeologists	Alliance assistants	RAP nominated site officers
2-5 October 2012	Survey and sub-surface testing	Mike Jones	Alistair Carr	Peter Glover	<p>Bandjalang People Native Title Claimants Daniel Wilson Doug Wilson</p> <p>Bogal LALC Daryl Knight</p> <p>Burabi Aboriginal Corporation Lois Cook Anthony Cook</p> <p>Gubba Gunya Aboriginal Corporation Rhonda Davis Andrew Taylor</p> <p>Jali LALC Marcus Fergusson Dean Bolt</p> <p>Yaegl LALC Ferlin Laurie Shane McLeay</p>
8-10 October 2012	Survey and sub-surface testing	Andrew Costello	-	Peter Glover	<p>Yaegl LALC Ferlin Laurie Shane McLeay</p>
22-25 October 2012	Survey and sub-surface testing	Joseph Brooke	Jared Brindley	Peter Glover	<p>Yarrawarra Aboriginal Corporation EJ Williams Anthony Dootson</p> <p>Grafton-Ngerrie LALC Brett Duroux Rod Duroux</p> <p>Coffs Harbour LALC Mark Flanders Ian Brown</p> <p>Garlambirla Guuyu-girrwa Corporation Mark Ferguson</p>
29-30 October 2012	Survey and sub-surface testing	Andrew Costello	Joseph Brooke	Peter Glover	<p>Yaegl LALC Ferlin Laurie Shane McLeay</p>

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Dates	Activity	Alliance supervisors	Alliance archaeologists	Alliance assistants	RAP nominated site officers
30 October – 2 November 2012	Survey and sub-surface testing	Vanessa Edmonds	Rani Attwood Rachael Loizou Rebecca Andrews	-	Bandjalang People Native Title Claimants Erica Wilson Veronica Wilson Kellie Wilson Teela Barker
19-23 November 2012	Survey and sub-surface testing	Vanessa Edmonds	Robyn Jenkins Rani Attwood Rebecca Andrews	-	Bandjalang People Native Title Claimants Veronica Wilson Erica Wilson Kellie Wilson Teela Barker
17-18 December 2012	Survey and sub-surface testing	Joseph Brooke	Alistair Carr	Peter Glover Tristan Minter	Yarrowarra Aboriginal Corporation EJ Williams Anthony Dootson Coffs Harbour LALC Mark Flanders Matt Flanders Ian Brown Garlambirla Guuyu-girrwa Corporation Gerry Flanders
19-20 December 2012	Survey and sub-surface testing	Joseph Brooke	Alistair Carr	Peter Glover Tristan Minter	Bogal LALC Daryl Knight Burabi Aboriginal Corporation Lois Cook Jali LALC Dean Bolt
20 December 2012	Survey and sub-surface testing	Joseph Brooke	Alistair Carr	Peter Glover Tristan Minter	Burabi Aboriginal Corporation Lois Cook
13-15 February 2013	Survey and sub-surface testing	Joseph Brooke	Alistair Carr	Peter Glover	Birrigan-Gargle LALC Malcolm Brown Shane Laurie Yaegl LALC Ferlin Laurie Shane McLeay

Dates	Activity	Alliance supervisors	Alliance archaeologists	Alliance assistants	RAP nominated site officers
18 February 2013	Survey	Joseph Brooke	Alistair Carr	Peter Glover	Yarrawarra Aboriginal Corporation EJ Williams Anthony Dootson Coffs Harbour LALC and Garlambirla Guuyu-girrwa Corporation Mark Flanders Grafton-Ngerrie LALC Brett Duroux
19 February 2013	Survey and sub-surface testing	Joseph Brooke	Alistair Carr	Peter Glover	Burabi Aboriginal Corporation Lois Cook Jali LALC Dean Bolt
20 February 2013	Survey	Alistair Carr	-	-	Yaegl LALC Ferlin Laurie Shane McLeay
25 February 2013	Survey	Alistair Carr	-	-	Yaegl LALC Ferlin Laurie Shane McLeay
28 February 2013	Survey	Alistair Carr	Vanessa Edmonds	Peter Glover	Yarrawarra Aboriginal Corporation EJ Williams Anthony Dootson Coffs Harbour LALC Mark Flanders Garlambirla Guuyu-girrwa Corporation Mark Ferguson
4 March 2013	Survey	Alistair Carr	Dave Collard	Peter Glover	Yaegl LALC Ferlin Laurie Shane McLeay

5.4. Results of the archaeological assessment

In total, 2,927,519 square metres (about 293 hectares) were subject to survey within the ancillary facility study areas (within 25 metres of ancillary facilities), totalling over 86 per cent of the ancillary facilities (Figure 5-1 to Figure 5-11). The ancillary facility survey yielded an effective coverage (accounting for visibility and proportion of the sub-surface exposed) of two per cent (see Table 5-2). This low effective coverage was offset by the high degree of accuracy in identification of PADs through prior knowledge of the archaeological sensitivity of the project landscape based on the predictive model developed and tested in the working paper (SKM 2012).

Of the design change study areas, all 781,296 square metres were surveyed (Appendix E), with a moderate (eight per cent) effective coverage. Slopes provided the best survey visibility and exposure, giving a better chance of identifying sites on these landforms.

A total of 12 new sites were identified following the ancillary facility and design change survey, including six artefact scatters (Taylors Run 1 and 2, Wells Crossing Artefacts 1, WX2I Site 8, Hirst 3, and Mororo Creek 1), four scarred trees (Lemon Tree Road 1, Old Tucabia Dump 1, and Chaffin Creek Trees 1 and 2), and one isolated artefact site (Taylors Run 3). A total of 15 new PADs were also identified, four of which were associated with sites identified through survey (Taylors Run 1, Chaffin Creek Tree 1, Hirst 3, and Mororo Creek 1), and 11 stand-alone PADs (Post Office Lane 1, Kungala Road 1, Old Six Mile Lane 1 and 2, Upper Coldstream 1, Tyndale Dump 1, New Italy 1, The Gap 1 and 2, Rileys Hill 1, and Cooks Hill 1). Two PAD components (WWC Dirty Creek 1a and 1b) previously identified through desktop analysis were surveyed and it was agreed by the archaeologists and RAP site officers present that these areas did not have sub-surface potential and were subsequently no longer considered to be PADs/sites. Appendix F provides details of the survey undertaken.

Table 5-2 Survey coverage by landform for ancillary facilities

Landform	Area within 25 m of ancillary facilities (m ²)	Survey coverage (m ² - per cent)	Visibility	Exposure	Effective coverage (m ² - per cent)
Crest	15,335	15,335 (100 per cent)	10 per cent	10 per cent	153 (1 per cent)
Flat	2,234,645	1,785,481 (80 per cent)	20 per cent	20 per cent	71,419 (3 per cent)
Lower Slope	271,704	268,443 (99 per cent)	19 per cent	20 per cent	10,200 (3 per cent)
Mid Slope	420,058	415,017 (99 per cent)	16 per cent	17 per cent	11,288 (2 per cent)
Upper Slope	373,718	369,233 (99 per cent)	14 per cent	19 per cent	9,822 (2 per cent)
Swamp	74,010	74,010 (100 per cent)	10 per cent	10 per cent	740 (1 per cent)
Total	3,389,470	2,927,519 (86 per cent)	17 per cent	15 per cent	103,622 (2 per cent)

Table 5-3 Survey coverage by landform for design changes

Landform	Area within 25 m of design changes (m ²)	Survey coverage (m ² / per cent)	Visibility	Exposure	Effective coverage (m ² / per cent)
Crest	57,049	57,049 (100 per cent)	23 per cent	10 per cent	1,291 (2 per cent)
Flat	129,564	129,564 (100 per cent)	19 per cent	10 per cent	2,438 (2 per cent)

Landform	Area within 25 m of design changes (m ²)	Survey coverage (m ² / per cent)	Visibility	Exposure	Effective coverage (m ² / per cent)
Plain	52,377	52,377 (100 per cent)	12 per cent	10 per cent	640 (1 per cent)
Gully	9,570	9,570 (100 per cent)	21 per cent	10 per cent	197 (2 per cent)
Lower Slope	138,836	138,836 (100 per cent)	42 per cent	31 per cent	18,194 (13 per cent)
Mid Slope	167,041	167,041 (100 per cent)	40 per cent	18 per cent	19,040 (11 per cent)
Upper Slope	129,858	129,858 (100 per cent)	45 per cent	33 per cent	19,085 (15 per cent)
Stream channel	27,252	27,252 (100 per cent)	21 per cent	10 per cent	585 (2 per cent)
Swamp	69,750	69,750 (100 per cent)	17 per cent	10 per cent	1,161 (2 per cent)
Total	781,296	781,296 (100 per cent)	26 per cent	16 per cent	62,630 (8 per cent)

To comply with the Director-General requirements, sub-surface assessment of PADs was required (see Table 5-4). Sub-surface testing was undertaken at 23 PAD locations (including stand-alone PADs and those associated with a site), eight previously recorded and 15 recorded during survey, with the following results:

- Six new sites were recorded as a result of sub-surface test excavations (WX2I Site 8, Upper Coldstream 1, Mororo Creek 2, New Italy 1 (Dubaijeen Site), The Gap 1, and Cooks Hill 1)
- At seven PADs (Post Office Lane 1, WWC Dirty Creek 1d, Old Six Mile Lane 1 and 2, Tyndale Dump 1, The Gap 2, and Rileys Hill 1), no artefacts were discovered from sub-surface test excavations, which as a result of the test excavation are confirmed to not be sites or PADs.
- Test excavation was undertaken at a control area (swampy area adjacent to Everson's Creek immediately south of Cooks Hill) and no finds were made, reinforcing the predictive model
- At five sites (Taylors Lane 1, WWC 37, WWC 39, Mororo Creek 1, and Site 12) sub-surface testing finds added to existing recordings for these sites, leading to better understanding of the sites and their boundaries
- Test excavation was not possible at WWC Dirty Creek 1c due to being heavily wooded, with tree roots being very close to each other blocking penetration by test excavation, even by small shovel test pits
- Two PADs (Kungala Rd 1, and the PAD component of WX2I Site 4) were not subject to test excavation due to no property access

Sub-surface testing included the excavation of 418 shovel test pits (0.5 metres x 0.5 metres) at 23 areas of PAD and one control area, and discovery of 264 stone artefacts in 11 of these PADs. The locations of shovel test pits are shown in Appendix G and the details listed in Appendix H.

5.4.1. Additional sites

Additionally, investigation not associated with design changes or ancillary facilities since the display of the EIS has resulted in the recording of one new site – Melino Artefact Collection – and the update of another – Gumi site (AHIMS ID 04-4-0180).

The presence of Melino Artefact Collection was recorded with permission of the relevant landholder, and is a collection of stone artefacts, many of which are unmodified (manuports), collected from across the landholder's property, predominantly from high ground (above flood levels). The collection is currently housed in a shed within the boundary of the project.

Further investigation of the tree at Gumi site (AHIMS ID 04-4-0180) has led to the conclusion that there is no scientific evidence that the tree here has been scarred in Aboriginal cultural traditions. As this tree was the basis for site record here, thus there is no longer scientific evidence supporting assertion for a site to be recorded in this location. An investigation of the tree by a qualified arborist using an increment borer on the scar to complement other visual assessments of the tree concluded that the scar is less than 30 years old and therefore not of cultural origin (Appendix I). Marcus Fergusson (Senior site officer, Jali LALC) disputes the findings of the arborist and argues that there is some cultural significance to the tree due to a collection of stone artefacts (Melino Artefact Collection (see above)) that he argues comes from a stone arrangement that he believes once lay at the site. Melino Artefact Collection was found to come from the general area, collected by the property owner over many years from across the entire property that Gumi (and other recorded Aboriginal heritage sites) occur on (Michael Melino pers. comm. 24 February 2013).

Table 5-4 Summary of survey and sub-surface testing undertaken

Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
Taylors Run 2	Section 1, Site 1a	New site – Artefact scatter	Two surface artefacts located on upper slope of a spur.	Survey	N/A	N/A	New site – Artefact scatter
Taylors Run 3	Section 1, Site 1a	New site – Isolated artefact	Located on mid-lower slope adjacent swampy gully	Survey	N/A	N/A	New site – Isolated artefact
Taylors Run 1	Section 1, Site 1a	New site – Artefact scatter and PAD	Located on rolling hills at the crest and upper slope landform. 18 surface artefacts were located during ancillary survey.	Survey and sub-surface testing	17 shovel test pits	3 artefacts	New site – Artefact scatter

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
WWC37 (22-1-0344)	Section 1, Site 1a	Updated site – Artefact scatter and PAD	Small artefact scatter (n=5) identified in the working paper, with mostly surface material, south of Corindi Creek on slopes of spur above floodplain. One artefact identified during ancillary survey, eroding from edge of vehicle track.	New investigation of previously recorded site – survey and sub-surface testing	65 shovel test pits	2 artefacts	Updated site – Artefact scatter

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
WWC39 (22-1-0343)	Section 1, Site 1a	Updated site – Artefact scatter and PAD	Medium-large sized surface and sub-surface artefact scatter (n=234) identified in the working paper. On prominent very gentle spur crest south of Corindi creek and adjacent gentle simple slope leading north to creek and creek flats. Several less common artefact types. 491 artefacts identified during ancillary survey in recently ploughed blueberry rows – totalling 725 artefacts now found.	New investigation of previously recorded site – survey and sub-surface testing	31 shovel test pits	5 artefacts	Updated site – Artefact scatter
Post Office Lane 1	Section 1, Site 2	New PAD	Terrace landform adjacent swampy area	Survey and sub-surface testing	21 shovel test pits	No artefacts	No material found from sub-surface testing – no longer considered to be a PAD or site

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
WWC Dirty Creek 1 (22-1-0403)	Range Road design change	PAD	Multiple components, crests of undulating rises, including a high ridge in the 1c component. Identified from geographic information systems (GIS) and property boundary due to previous restricted access.	New investigation of previously recorded PAD – survey and sub-surface testing	4 shovel test pits in 1d component	No artefacts in 1d component; in 1a and 1b components, survey confirmed no potential for sub-surface deposit and no requirement for test excavation; in 1c component it wasn't possible to undertake test excavation due to woodland and tree roots.	The PAD has been determined to only exist in WWC Dirty Creek 1c, For the remainder of the components (1a, 1b, and 1d), no material was found– and are no longer considered to be a PAD or site.
Lemon Tree Road 1 (13-4-0180)	Section 2, Site 1b	New site – Modified tree	Scarred tree situated on the mid slope of an undulating plain	Survey	N/A	N/A	New site – Modified tree
Kungala Rd 1 (13-4-0181)	Section 2, Site 3	New PAD	Located on an undulating plain, consisting of upper slope and crest.	Survey from boundary	Not possible, no access	N/A	New PAD

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
Wells Crossing Artefacts 1 (13-4-0183)	Section 2, Site 4	New site - Artefact scatter	Located on a flat plain, located in disturbed context on previous road. 3 surface artefacts (fine grained siliceous flakes) were identified.	Survey	N/A	N/A	New site – Artefact scatter
Old Six Mile Lane 1	Section 3, Site 2	New PAD	Slope adjacent swampy stream	Survey and sub-surface testing	7 shovel test pits	No artefacts	No material found from sub-surface testing – no longer considered to be a PAD or site.
Old Six Mile Lane 2	Section 3, Site 2	New PAD	Rise adjacent swampy stream	Survey and sub-surface testing	6 shovel test pits	No artefacts	No material found from sub-surface testing – no longer considered to be a PAD or site.

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
WX2I Site 8 (09-4-0108)	Section 3, Site 3b	Site and PAD	Stone artefacts were recovered from the wall of a dam within the PAD. One was a silcrete flake, the other a small jasper core. Sub-surface testing took place across the crest of a small rise. No artefacts were located.	New investigation of previously recorded PAD – survey and sub-surface testing	29 shovel test pits	No artefacts	New site – Artefact scatter
Old Tucabia Dump (13-4-0184)	Section 3, Site 6b	New site – Modified tree	Long scar probably of cultural origin on tree located on the lower slope of an undulating plain adjacent a swamp.	Survey	N/A	N/A	New site – Modified tree
Chaffin Creek Tree 1	Firth Heinz Rd design change	New site – Modified tree and PAD	Scarred tree on the southern creek bank of Chaffin Creek	Survey and sub-surface testing	11 shovel test pits	No artefacts	New site – Modified tree
Chaffin Creek Tree 2	Firth Heinz Rd design change	New site – Modified tree	Scarred tree immediately north of Chaffin Creek, on swampy floodplain	Survey	N/A	N/A	New site – Modified tree and PAD

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
Upper Coldstream 1 (13-4-0182)	Section 3, Site 9	New PAD	Undulating plain landform consisting of swamp component, mid slope and upper slope	Survey and sub-surface testing	10 shovel test pits	1 artefact	New site – Isolated artefact
Tyndale Dump 1	Crowley's Road design change	New PAD	Crest and slopes of sandy ridge with sandstone outcropping in parts	Survey and sub-surface testing	5 shovel test pits	No artefacts	No material found from sub-surface testing – no longer considered to be a PAD or site
Shark Creek 2 (13-4-0170)	Section 4, Site 4c	Site – Artefact scatter and PAD	Located on the lower slopes of a spur, above a floodplain. Three additional surface artefacts were located within the PAD. One basalt ground edge axe, one medium grained siliceous and one chert flaked artefact. Site now totals eight artefacts.	New investigation of previously recorded site – survey and sub-surface testing	14 shovel test pits	No artefacts	Updated site – Artefact scatter

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
Hirst 3 (13-1-0185)	Section 4, Site 5	New site – Artefact scatter and PAD	Consisting of terrace, mid and upper slope landform units. One flaked axe blank artefact was discovered on the surface during the survey.	Survey and sub-surface testing	17 shovel test pits	2 artefacts	New site – Artefact scatter
Mororo Creek 1 (13-1-0191)	Section 5, Additional site 9	New site – Artefact scatter and PAD	Located atop a low and flat raised sandy area adjacent to a creek, which is surrounded by swampy ground. 12 surface artefacts were found, including chert(1), quartz (2), silcrete (3), and fine grained siliceous artefacts (6).	Survey and sub-surface testing	12 shovel test pits	8 artefacts	New site – Artefact scatter
Mororo Creek 2 (13-1-0193)	Section 5, Site 6 and Additional site 9	New PAD	Located atop a low and flat raised sandy area adjacent to a creek, which is surrounded by swampy ground.	Survey and sub-surface testing	4 shovel test pits	5 artefacts	New site – Artefact scatter

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
New Italy 1 (Dubaijeen Site)	Section 7, Site 3	New PAD	Located on an undulating plain, consisting of lower, mid and crest landform units.	Survey and sub-surface testing	97 shovel test pits	194 artefacts	New site – Artefact scatter
The Gap 1 (13-1-0194)	Section 7, Site 4	New PAD	Low flat rise adjacent to swamp, and slopes of rise adjacent.	Survey and sub-surface testing	32 shovel test pits	14 artefacts	New site – Artefact scatter
The Gap 2	Section 7, Site 4	New PAD	Low flat rise adjacent to swamp, and slopes of rise adjacent.	Survey and sub-surface testing	5 shovel test pits	No artefacts	No material found from sub-surface testing – no longer considered to be a PAD or site

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

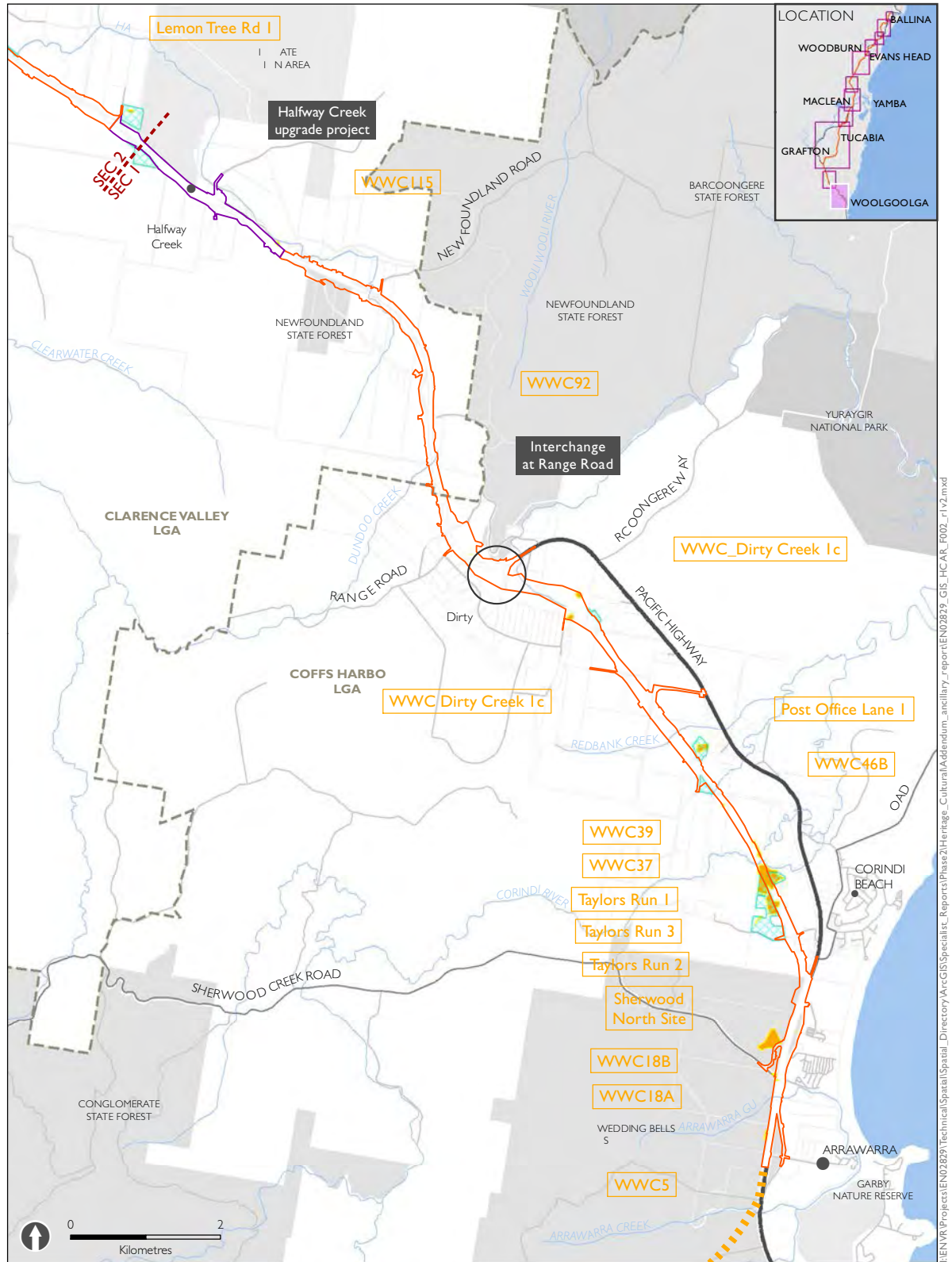
Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
Gittoes Jali (09-1-0204, 09-1-0205, 09-1-0203)	Section 8, Site 3	Site – Artefact scatter, paint wells, grinding stone	The site is situated on the crest and slope of a ridgeline. The area is cleared with clumps of trees and is currently used for grazing. Adjacent paddocks are used for farming. 411 stone artefacts (chert, fine grained siliceous, cobble, basalt, chalcedony, sandstone, crystal quartz) were discovered.	New investigation of previously recorded site – survey and sub-surface testing	5 shovel test pits	No artefacts	No additional material found, site remains as per working paper
Rileys Hill 1 (13-1-0195)	Section 9, Site 2	New PAD	Low flat rise above surrounding plain.	Survey and sub-surface testing	9 shovel test pits	No artefacts	No material found from sub-surface testing – no longer considered to be a PAD or site
Cooks Hill 1	McDonald Street design change	New PAD	Slightly raised sand plain adjacent to Everson's Creek and hillocks south of Cooks Hill.	Survey and sub-surface testing	6 shovel test pits	5 artefacts	New site – Artefact scatter

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Site name (AHIMS site ID)	Ancillary facility/design change	Site type(s) after survey	Description	Investigation	Excavation	Sub-surface testing results	Updated site type(s) after completion of fieldwork
Cooks Hill control area	McDonald Street design change	Control area	Swampy area adjacent to Everson's Creek immediately south of Cooks Hill.	Survey and sub-surface testing	3 shovel test pits	No artefacts	No material found from sub-surface testing – not considered to be a PAD or site
Site 1 (04-4-0179)	Section 10, Site 4	Site – Artefact scatter and PAD	Located on a low, flat, raised sandy area at the end of the foot slopes of the Blackwall Range and the edge of low-lying swampy area.	New investigation of previously recorded site – survey and sub-surface testing	10 shovel test pits	No artefacts	No additional material found, site remains as per working paper
Site 12 (04-4-0176)	Section 10, Site 6	Site – Artefact scatter and PAD	Located on a low deflated dune.	New investigation of previously recorded site – survey and sub-surface testing	4 shovel test pits	20 artefacts	Updated site – Artefact scatter

Upgrading the Pacific Highway - Woolgoolga to Ballina Upgrade

Figure 5-1 Survey coverage: Section I - Woolgoolga to Halfway Creek










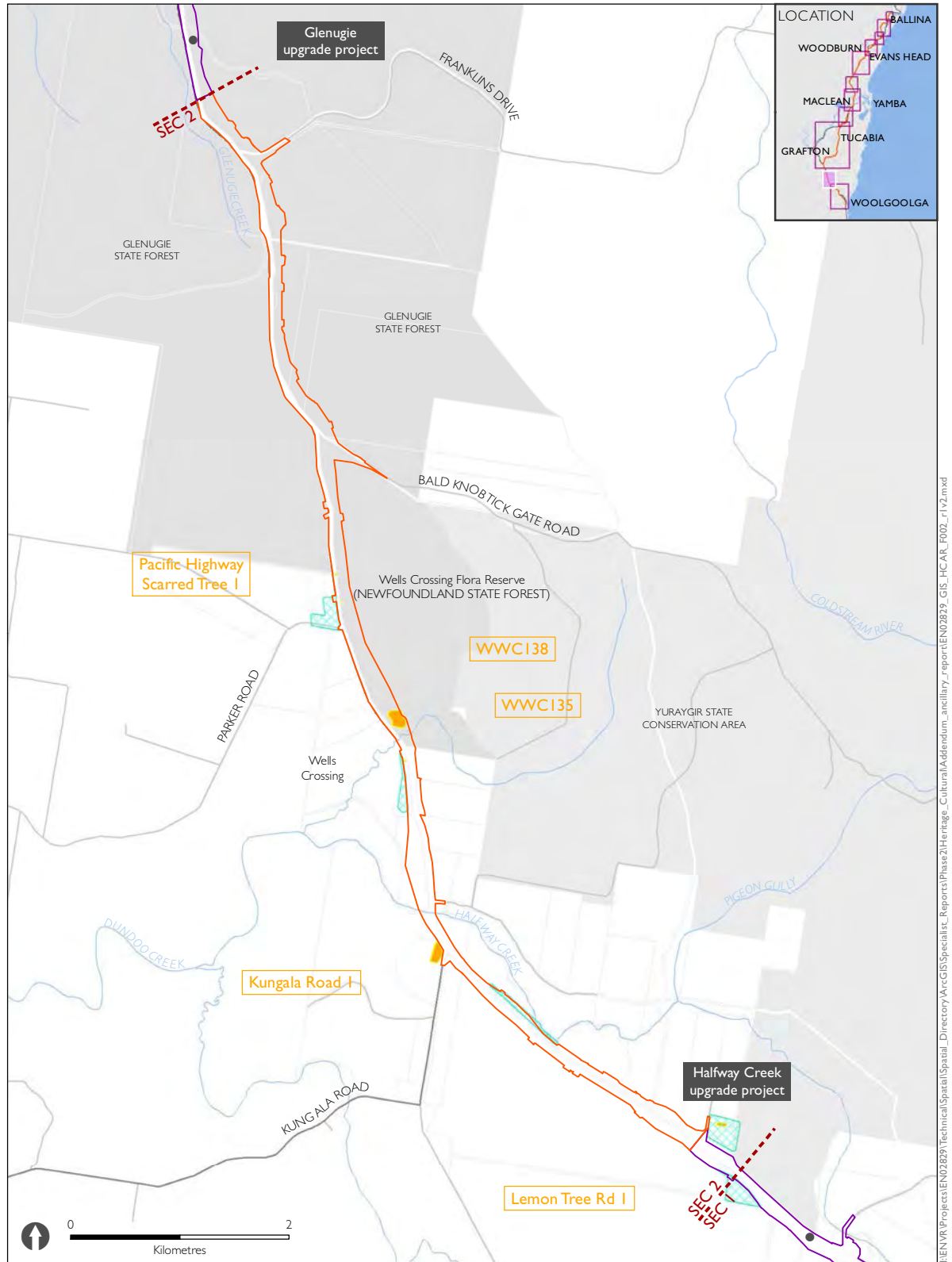







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|---|---|
|  The project |  Aboriginal heritage area |
|  Upgrade completed to dual carriageway |  PAD area |
|  Upgrade under construction |  Ancillary survey coverage |
|  Existing Pacific Highway | |

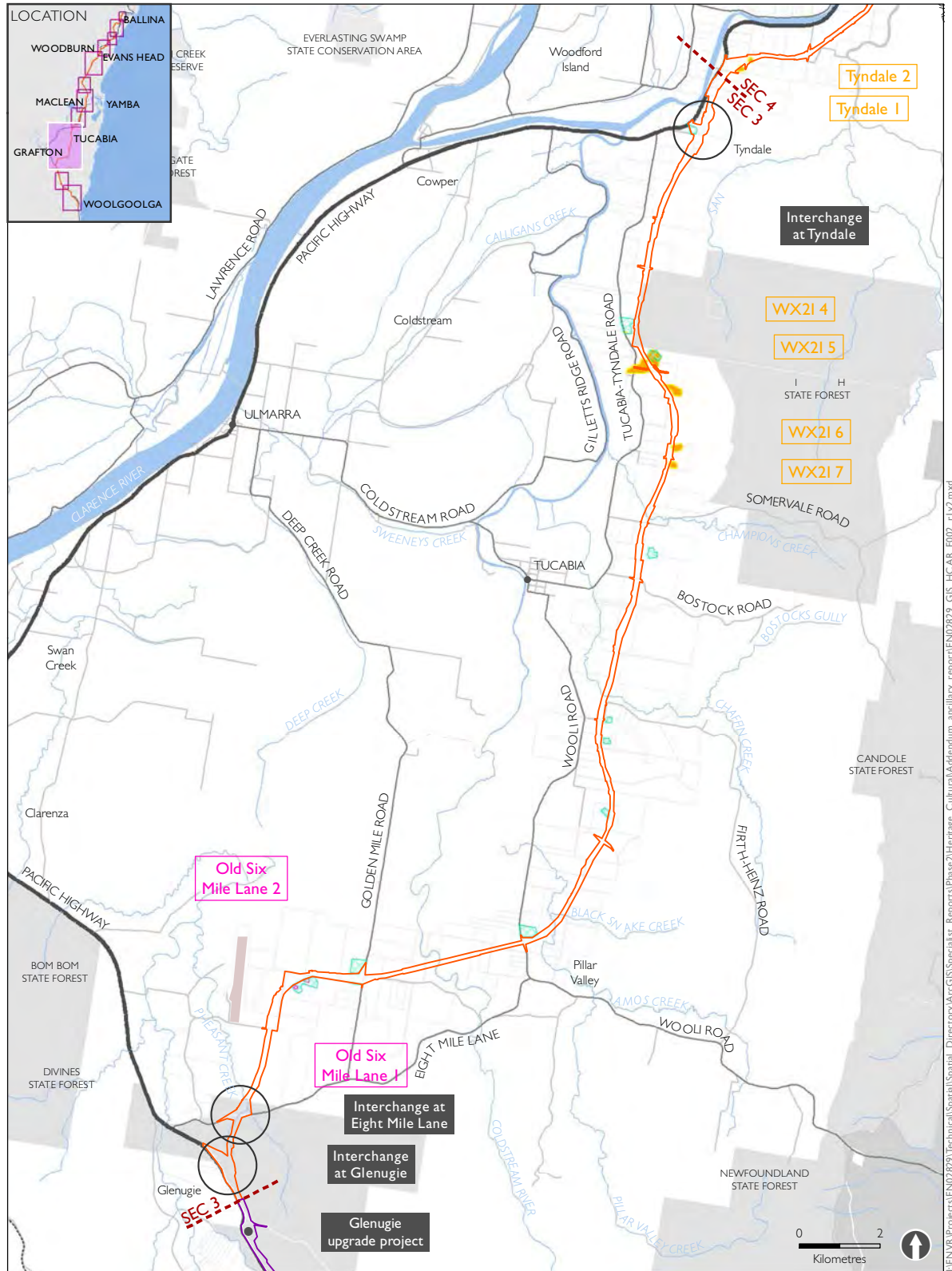
Figure 5-2 Survey coverage: Section 2 - Halfway Creek to Glenugie upgrade



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|---|---------------------------------------|---|---------------------------|
|  | The project |  | Aboriginal heritage area |
|  | Upgrade completed to dual carriageway |  | PAD area |
|  | Upgrade under construction |  | Ancillary survey coverage |
|  | Existing Pacific Highway | | |

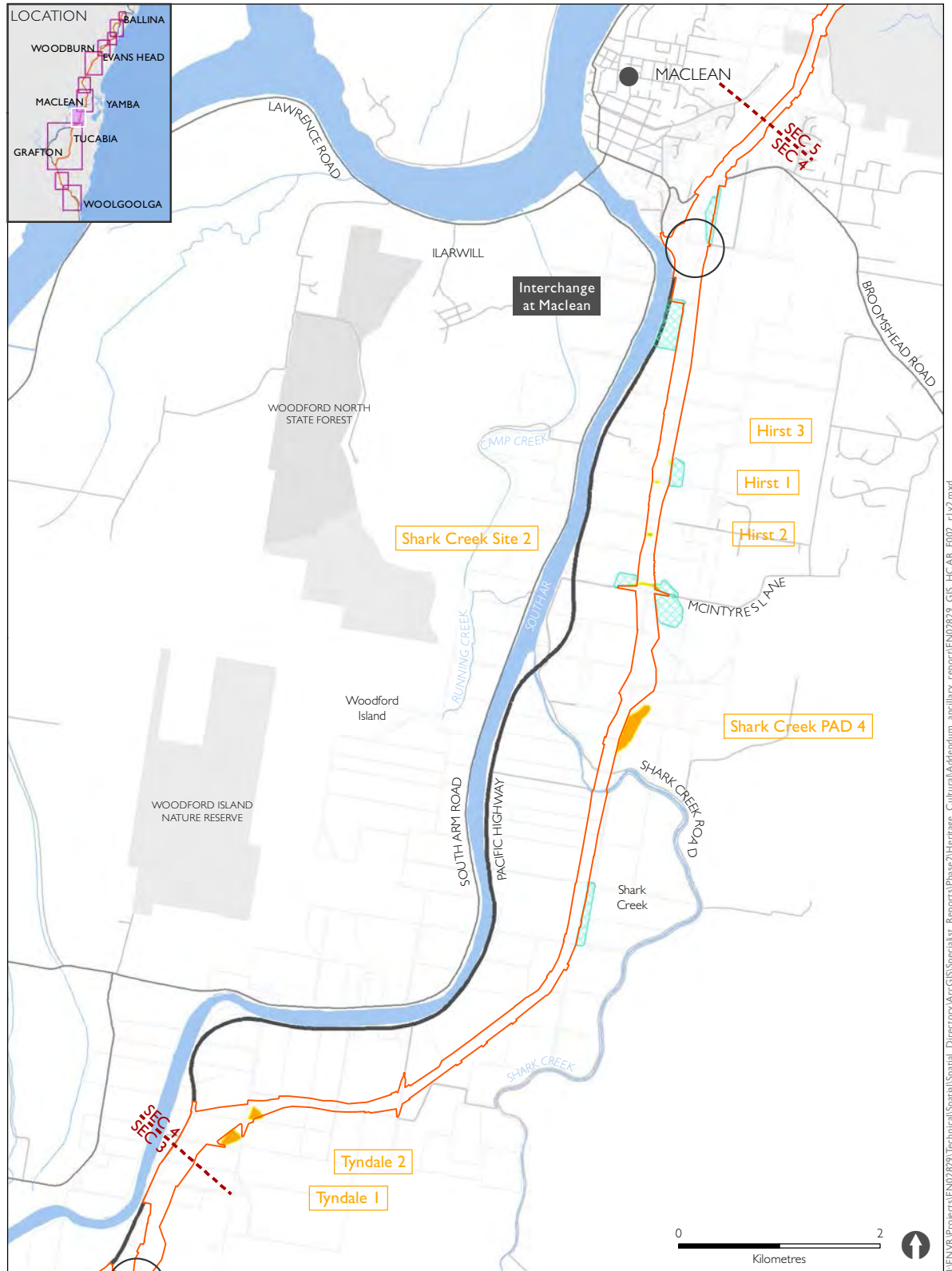
Upgrading the Pacific Highway - Woolgoolga to Ballina Upgrade

Figure 5-3 Survey coverage: Section 3 - Glenugie upgrade to Tyndale



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Aboriginal heritage area
- PAD area
- Ancillary survey coverage

Figure 5-4 Survey coverage: Section 4 - Tyndale to Maclean










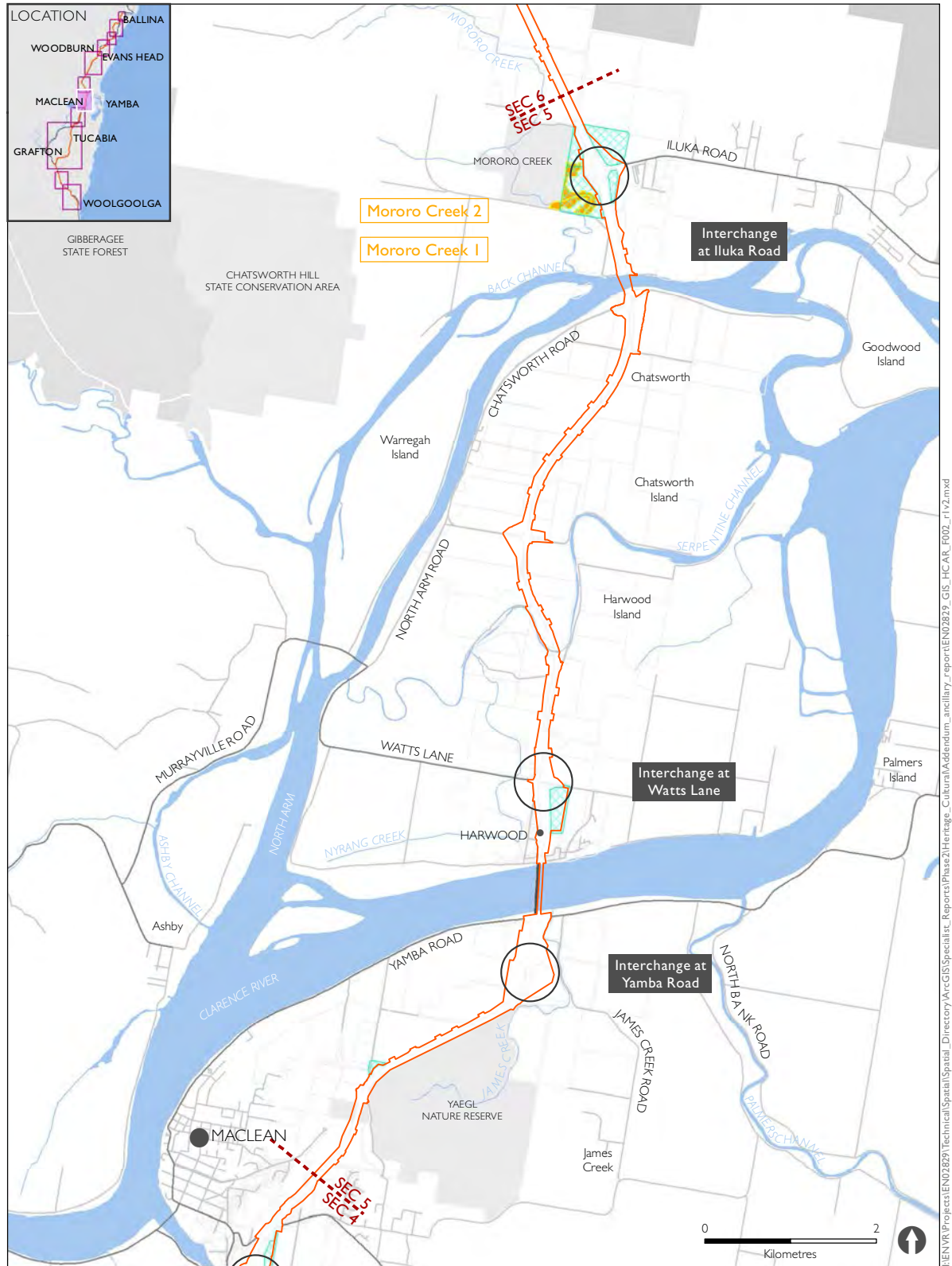
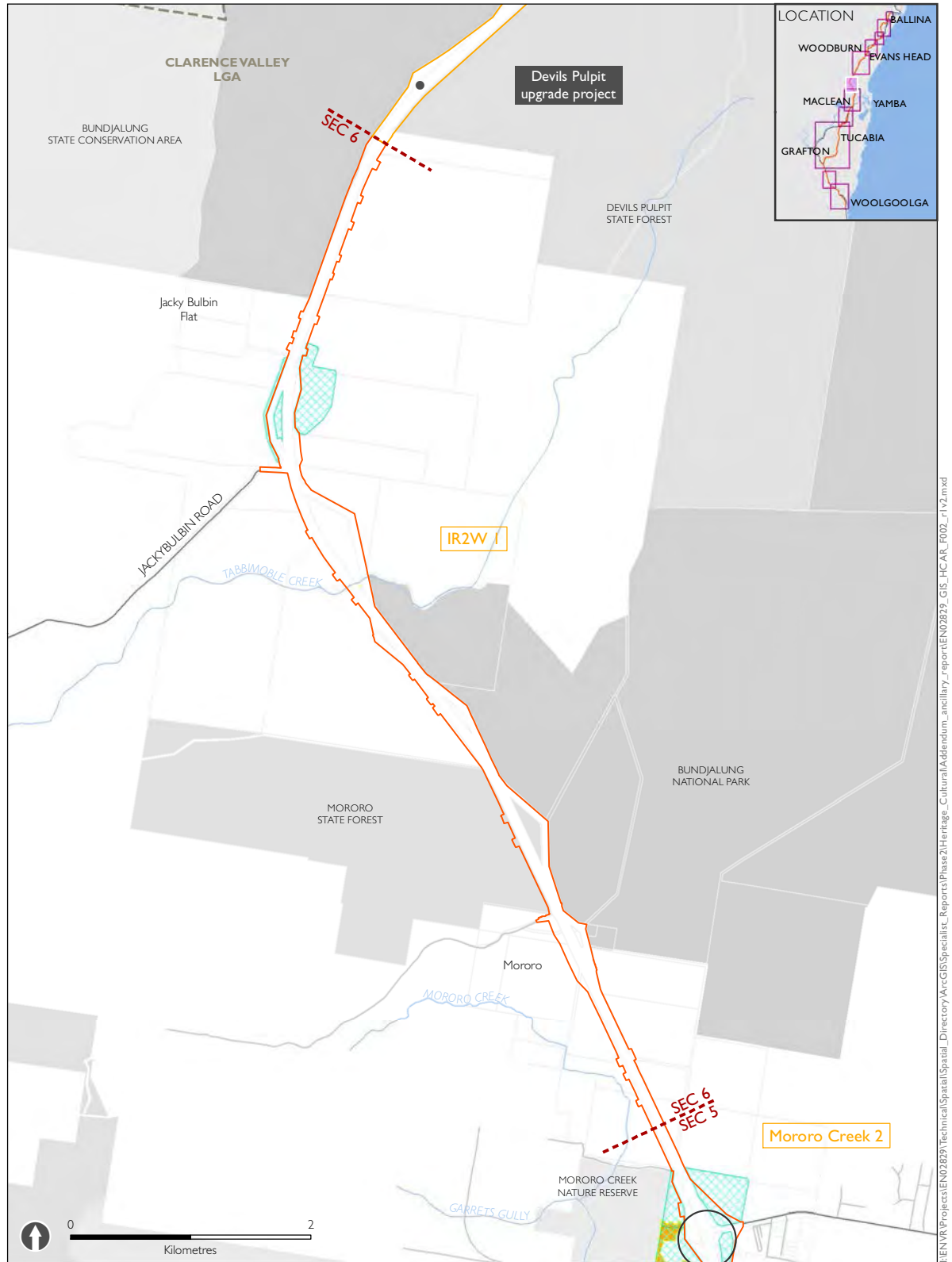
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|---|---|
|  The project |  Aboriginal heritage area |
|  Upgrade completed to dual carriageway |  PAD area |
|  Upgrade under construction |  Ancillary survey coverage |
|  Existing Pacific Highway | |

Figure 5-5 Survey coverage: Section 5 - Maclean to Iluka Road



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Aboriginal heritage area
- PAD area
- Ancillary survey coverage

Figure 5-6 Survey coverage: Section 6 - Iluka Road to Devils Pulpit upgrade










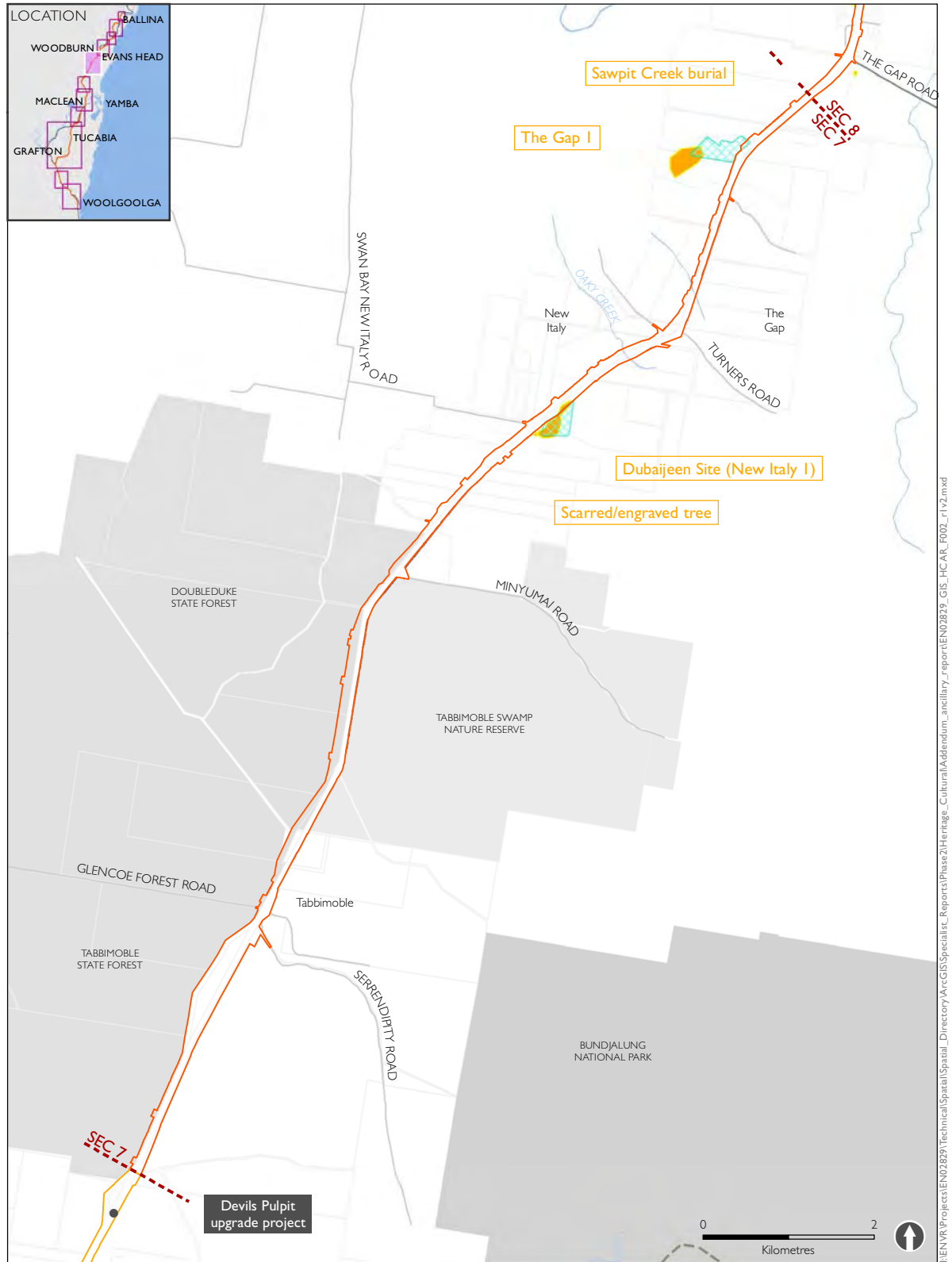
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|---|---------------------------------------|---|---------------------------|
|  | The project |  | Aboriginal heritage area |
|  | Upgrade completed to dual carriageway |  | PAD area |
|  | Upgrade under construction |  | Ancillary survey coverage |
|  | Existing Pacific Highway | | |

Figure 5-7 Survey coverage: Section 7 - Devils Pulpit upgrade to Trustums Hill










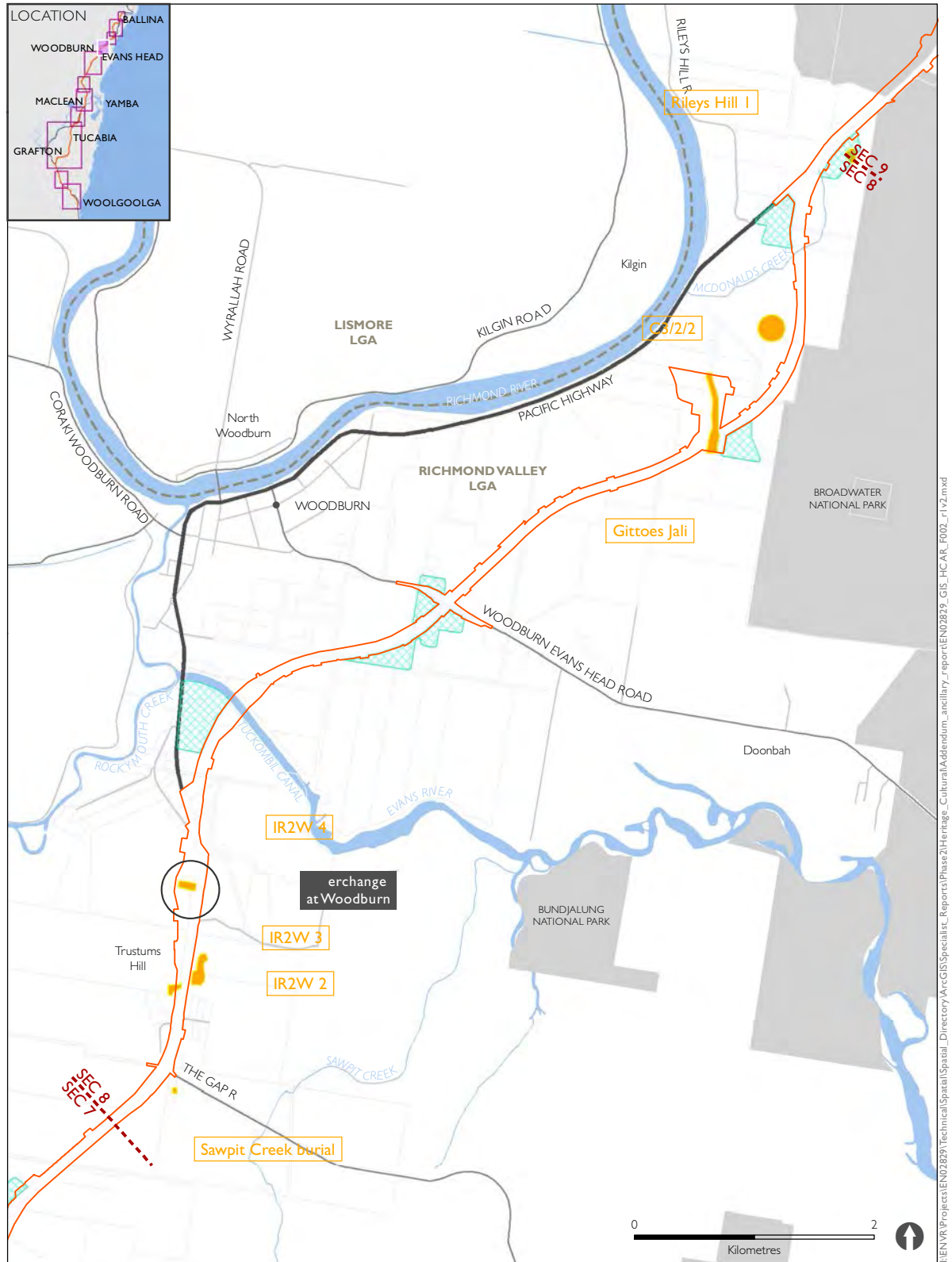
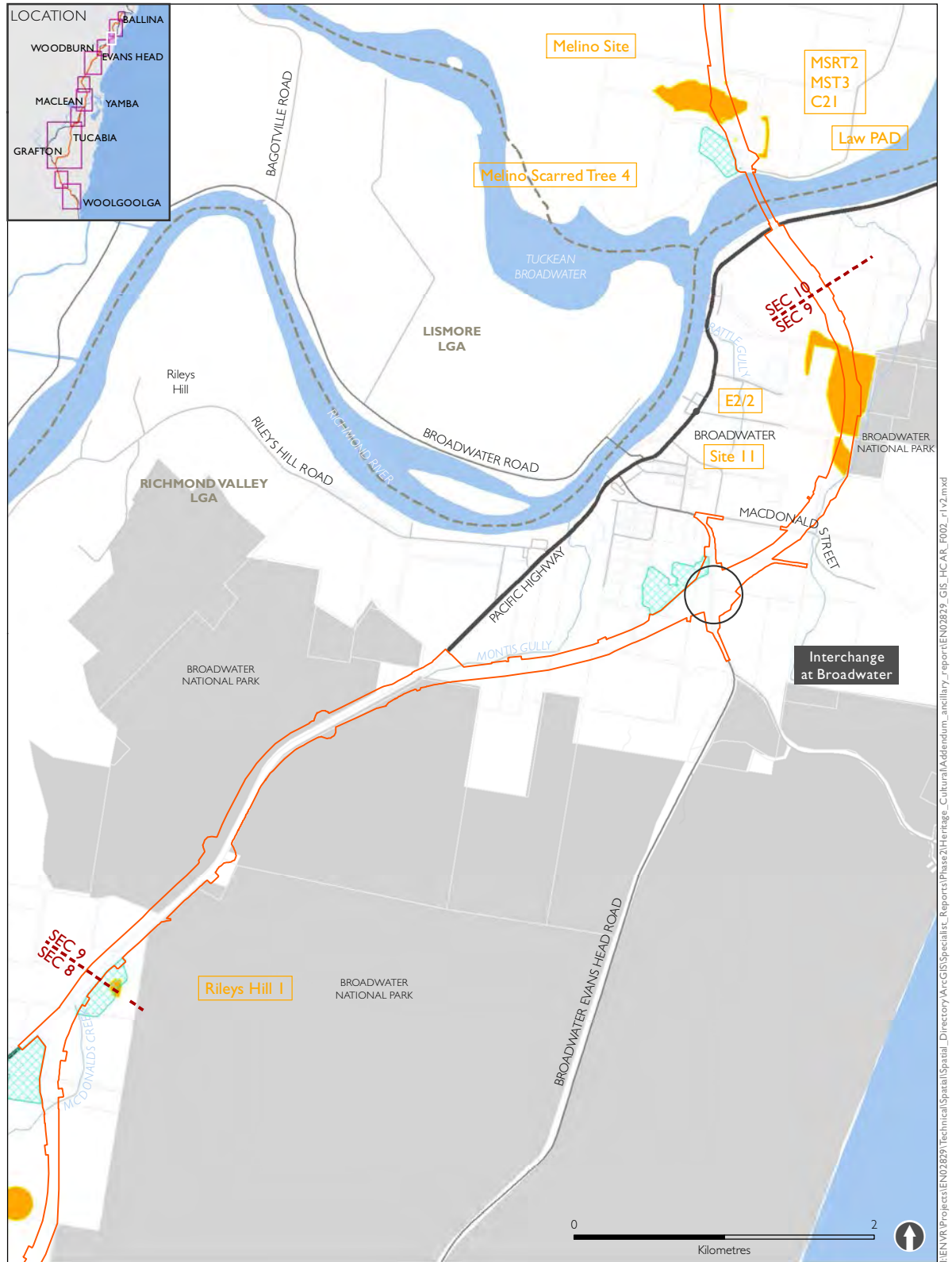
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|---|---------------------------------------|---|---------------------------|
|  | The project |  | Aboriginal heritage area |
|  | Upgrade completed to dual carriageway |  | PAD area |
|  | Upgrade under construction |  | Ancillary survey coverage |
|  | Existing Pacific Highway | | |

Figure 5-8 Survey coverage: Section 8 - Trusturns Hill to Broadwater National Park



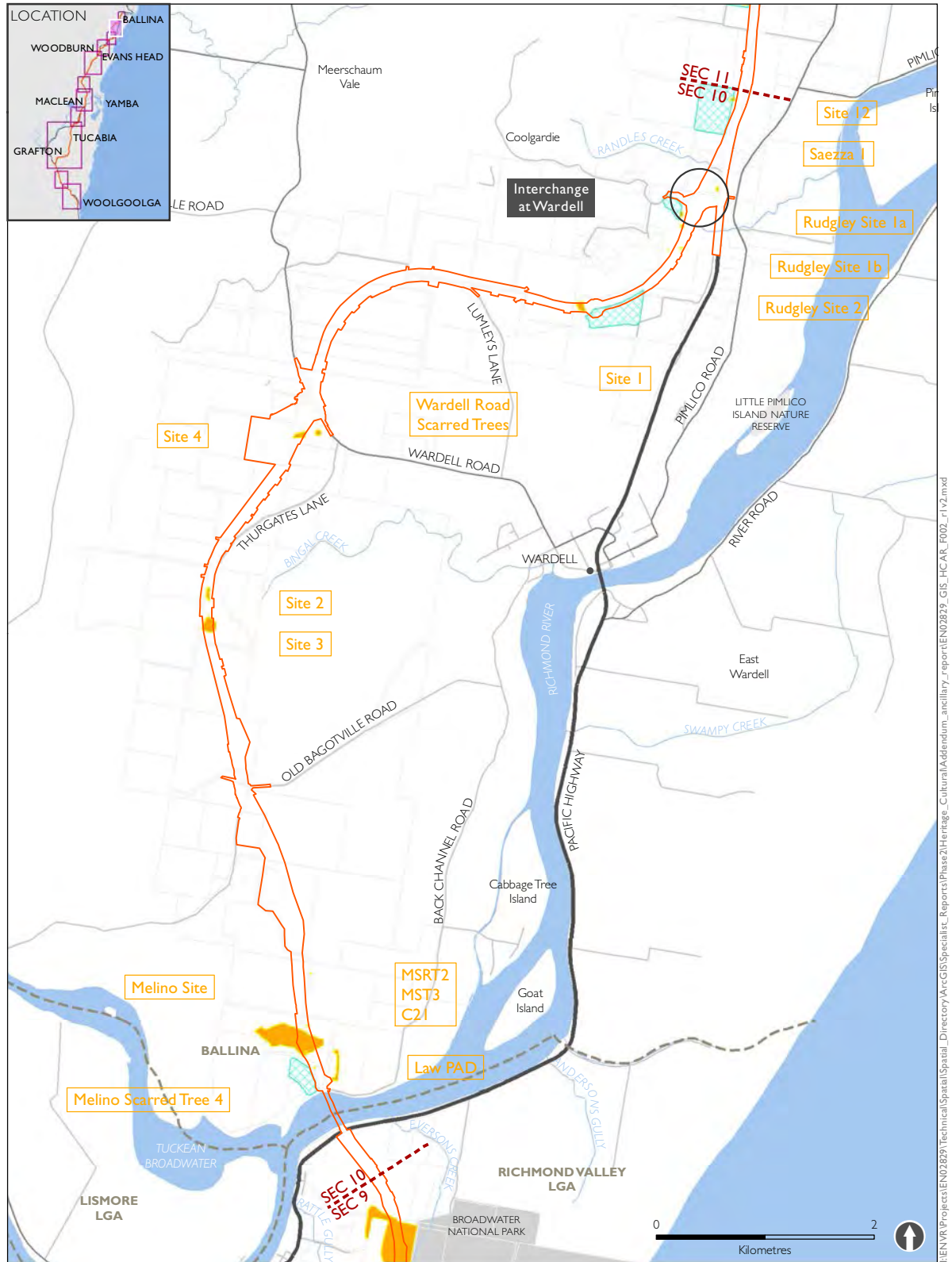
- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Aboriginal heritage area
- PAD area
- Ancillary survey coverage

Figure 5-9 Survey coverage: Section 9 - Broadwater National Park to Richmond River



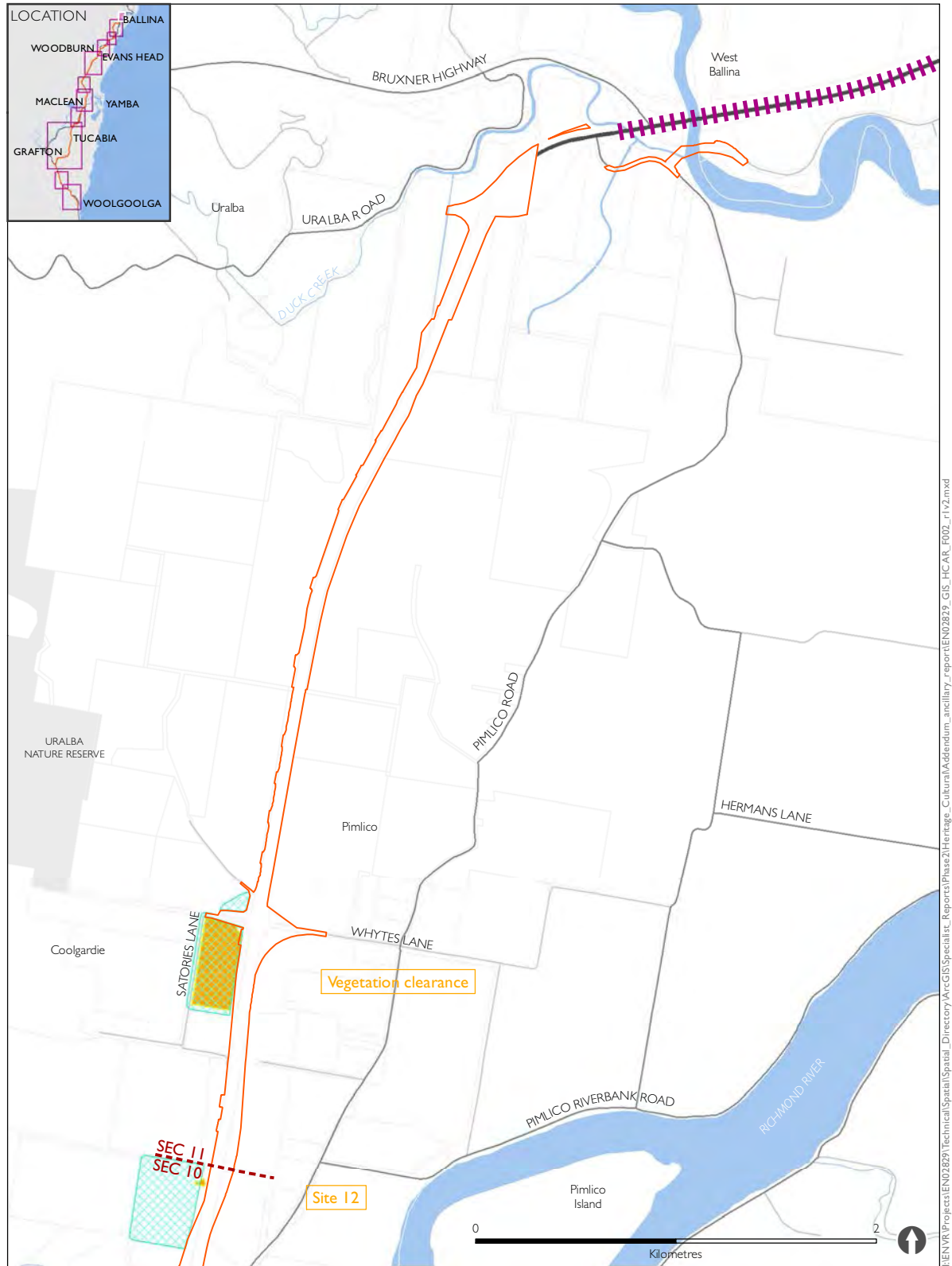
- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Aboriginal heritage area
- PAD area
- Ancillary survey coverage

Figure 5-10 Survey coverage: Section 10 - Richmond River to Coolgardie Road



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Aboriginal heritage area
- PAD area
- Ancillary survey coverage

Figure 5-11 Survey coverage: Section 11 - Coolgardie Road to Ballina bypass



- The project
- Upgrade completed to dual carriageway
- Upgrade under construction
- Existing Pacific Highway
- Aboriginal heritage area
- PAD area
- Ancillary survey coverage

5.4.2. Aboriginal cultural places

No new Aboriginal cultural places were identified in this assessment. Seven existing Aboriginal cultural places are near or within the proposed ancillary facilities and design changes.

5.4.3. Study areas not assessed

A number of proposed locations for ancillary facilities and one design change were not able to be assessed due to property access restrictions at this time. The proposed locations for ancillary facilities identified in Table 5-5 have not yet been assessed.

Table 5-5 Study areas not able to be accessed through field assessment; note that sensitivity is the potential to contain archaeological material, not significance

Ancillary facility/design change	Potential archaeological sensitivity
Kangaroo Trail Road design change – Lot3/DP806515 (outside the boundary of the project to the east)	Moderate
Section 1, Additional site 5 – Lot4/DP815051 (outside the boundary of the project to the west)	Moderate-High
Section 2, Site 3 (Kungala Rd 1 PAD) – Lot 411 and 412 DP 883976 (outside the boundary of the project to the west)	Moderate
Section 3, Site 8 (WX2I Site 4) – Lot9/DP822853 (outside the boundary of the project to the east)	Moderate
Section 4, Site 1 – Lot14/DP805843 (outside the boundary of the project to north)	Low-moderate
Section 4, Site 3 – Lot2/DP751372 (outside boundary of the project to the west)	Low-moderate
Section 7, Site 1 – Lot 7301 DP 1143242 and Lot 1 DP 796808 (outside the boundary of the project to the east)	Moderate
Section 10, Site 1a – Lot6 DP1043232 (outside the boundary of the project to the east)	Low-moderate

Additionally, two areas, although accessible, were not able to be adequately assessed by field investigations due to vegetation.

- The PAD, WWC Dirty Creek 1c, identified and partially assessed during field survey undertaken for the working paper (SKM 2012) for a late design change (Corindi Creek median widening), requires test excavation to assess its potential to contain archaeological deposits, as it is a high ridgeline with views of surrounding region. However, no test excavation is currently able to be

undertaken at WWC Dirty Creek 1c as the area was heavily wooded, and tree roots thwarted any attempt to excavate, such that shovel test-pits are not an appropriate testing methodology for this area. Through discussions in the field with nominated site officers, it was decided that to complete the assessment of WWC Dirty Creek 1c, the area should be inspected during the removal ('clear and grub') of vegetation, well prior to any other ground disturbing activities occurring

- Ancillary facility, Section 11, Site 1a, was covered in sugar cane during field investigations. This area has a low-moderate potential archaeological sensitivity – through discussions in the field with nominated site officers, it was decided that it was unlikely that any significant Aboriginal cultural material existed here, and that the area should be inspected following the clearance of vegetation, prior to any ground disturbing activities occurring to record and remove any Aboriginal archaeological material that was identified

6. Significance assessment

6.1. Methodology

All Aboriginal cultural heritage sites or places identified near or within the ancillary facilities, or within design changes are included below. Where the significance of sites or places that are discussed in the working paper (SKM 2012) remains unchanged in this ACHAR, they are not discussed here; only the significance of sites or places that are new or updated are discussed here. As previous sites were identified in the working paper that are now near or within the proposed ancillary facilities but did not require further investigation as part of this assessment, where relevant these are included below.

6.1.1. Basis for assessment

A significance assessment is made up of several significance criteria that attempt to define why a site is important. Evidently, this can be challenging as sites are important for different reasons to different people, and even at different times. The assessment of Aboriginal cultural heritage in this assessment is based upon the four values of the *Australia ICOMOS Burra Charter* (Australian ICOMOS 1999).

- Social values
- Historical values
- Scientific values
- Aesthetic values

Each of these values is assessed below, and an overall significance is then given based on an average across the values. This is inherently a reductive process, and oversimplifies what is important for different reasons to a range of different stakeholders, but is a necessary process in being able to create comparative values between sites. The significance of each site ultimately feeds the management of sites and places (see Chapter 8).

6.1.2. Social significance

The significance of a site does not relate only to its scientific or research value. Aboriginal people's views on the significance of archaeological sites are usually related to traditional, cultural and educational values, although some Aboriginal people also value any scientific information a site may be able to provide.

Aboriginal cultural significance was assessed from consultation with the nominated Aboriginal site officers and other members of the RAPs, including Elders, both during and following field assessments. It should be noted that Aboriginal significance assessed in this manner may not reflect the views of all members of the community.

6.1.3. Scientific significance

Aboriginal site significance assessments need to consider both the scientific and social or cultural values of a site. Research potential or scientific significance of an Aboriginal archaeological site can be assessed by utilising the criteria set out below. Social or cultural values of a site can only be established through Aboriginal consultation.

Criteria used for assessing scientific significance for Aboriginal archaeological sites are described below. Ratings are low, moderate or high.

- **Site integrity** – The integrity of a site refers to its state of preservation, or condition. A site can be disturbed through a number of factors among which are: natural erosion processes, destructive land use practices or repeated use of a site in the past by both humans and animals
- **Site structure** – Structure refers to a site's physical dimensions, that is, size and stratification, or sub-surface deposits. A large site or a site with stratified deposits has more research potential than small sites and/or surface scatters. Sometimes however, specific research questions may be aimed at smaller sites in which case they would be rated at a higher significance than normal. Site structure cannot be assessed for scarred trees or isolated artefacts
- **Site contents** – This category refers to the range and type of occupation debris found in a site. Generally, complex art sites, extensive quarries with associated debris and surface sites that contain a large and varied amount of organic and non organic materials are considered to have greater research potential than those sites with small, uniform artefacts, single motif art sites and small quarries with little or no debris. For scarred trees, contents may refer to the size and type of scar and/or how many scars there are on the one tree
- **Representativeness and rarity** – Representativeness refers to how much variability exists between the subject site and others inside or outside the subject area. It also considers the types of sites already conserved in the area and how much connectivity between sites exists. Rarity considers how often a particular site type occurs in an area. Assessment of representativeness and rarity requires some knowledge of the background archaeology of the area or region in which a study is being undertaken. Rarity also relates to whether the subject site or area is important in demonstrating a distinctive way of life, custom, process, land use, function or design which is no longer practiced (OEH 2011:10)

6.1.4. Aesthetic significance

This refers to the 'sensory' value of a place, and can include aspects such as form, texture, and colour, and can also include the smell and sound elements associated with use or experience of a site (Australian ICOMOS 1999). Aesthetic significance can be closely linked to the social value of a site.

6.1.5. Historic significance

The historic value of a site is determined through its association with historically important people, events or activities.

6.1.6. Scale of significance

Significance of sites and places is assigned to different geographic scales, such as local, regional, State and National, appropriate to the scale of importance. For example, Uluru is significant at a National (and World) scale, whereas a local historic building may only be significant on a local scale. This is reflected in the variety of heritage lists held by local councils, up to State and Federal government. In scale of significance, the criteria presented above as well as educational or research potential, representativeness and rarity (Australian ICOMOS 1999) have been considered in determinations of significance.

Each site has been assessed and its scale of significance has been identified as being of importance at the State, regional or local level. Each site has also been given a grading of its significance overall based on the grading of each of the individual values. The gradings of low, moderate and high have been assigned comparatively across the sites investigated in the region.

6.2. Statements of significance

6.2.1. Taylors Run 2

Social significance

- Taylors Run 2 comprises an artefact scatter of two artefacts and has low social significance as it provides evidence of the use of the area by Aboriginal people in a limited way.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, low structure, low contents and low representativeness/rarity.
- The integrity of the site is low as it was found in a disturbed context. The site has low structure ranking as it comprises only two disturbed context stone artefacts. The site has a low contents ranking as the site comprises only two artefacts and the raw material is common to the area. The site has a low representativeness ranking as small artefact scatters are common within the region. The site has no research or educational potential.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Taylors Run 2 is of low significance at the local level. It is of low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way. It has low scientific significance due to its comprising only two artefacts, made from common raw material and the overall common presence of stone artefact scatters in the region.

6.2.2. Taylors Run 3

Social significance

- Taylors Run 3 comprises an isolated artefact and has low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, no structure, low contents and low representativeness/rarity.
- The integrity of the site is low as it has been disturbed by post-contact land-use practices, namely vegetation clearance and erosion. The site has no structure as it comprises a single isolated artefact on the surface. The site has a low contents ranking as the site comprises of a single artefact. The site has a low representativeness ranking as isolated artefacts are common within the region. The site has no research or educational potential.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Taylors Run 3 is of low significance at the local level. It is of low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way. It has low scientific significance due to its comprising a single isolated artefact, made from a common raw material and the overall common presence of stone artefact scatters in the region.

6.2.3. Taylors Run 1

Social significance

- The artefact scatter at Taylors Run 1 has moderate social significance as it provides evidence of the use of the area by Aboriginal people and appears to include a knapping event of a single episode.

Historical significance

- The site does not meet this criterion.

Scientific significance

- Taylors Run 1 consists of an artefact scatter comprising twenty-three stone artefacts (five discovered during test excavation, and 18 concentrated in a small area on the surface that appear to be the result of a single knapping event) located on the crest of a spur, above gullies and the Corindi Creek floodplain. The site has low-moderate scientific significance as it is ranked as having low-moderate integrity, low-moderate structure, low-moderate contents and moderate representativeness/rarity.
- The site has a low-moderate ranking for integrity as it shows one more intact area but has generally been moderately disturbed as it has been cleared of vegetation and has previously been ploughed during its use as a banana plantation. The site has a low-moderate rating for structure as it consists of twenty-three artefacts, and there is no stratification or structure of intact archaeological deposit evident. The site has a low-moderate contents ranking as the raw materials are relatively common to the area, but there is a small range of materials worked. The site has a moderate representativeness ranking as artefact scatters are common within the region, but intact knapping events are not common in the region.
- The site has some research potential and some local educational potential for researching and teaching the way past local Aboriginal populations used this type of landform, and fashioned flaked stone artefacts. Some value for research or education would be attempting to attempt to refit the 18 surface artefacts together to examine part of the process of manufacture. This information could be used by the local Aboriginal community as an educational tool on stone artefact manufacture.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Taylors Run 1 has low-moderate level significance at the local level. It has moderate social significance and has low-moderate scientific significance due to the presence of a relatively dense concentration of artefacts that appear to represent a knapping event. The site has some research and educational potential about methods and processes of stone artefact manufacture, and the way local Aboriginal populations used this type of landform.

6.2.4. [WWC37 \(AHIMS ID: 22-1-0344\)](#)

Although new finds were made that extend the boundary of the site, the significance remains unchanged – please see the working paper (SKM 2012) for the detailed significance assessment of WWC37.

6.2.5. [WWC39 \(AHIMS ID: 22-1-0343\)](#)

Social significance

- The WWC39 site is of high social significance as it contains a relatively large quantity and range of artefacts (n=730) in moderately dense concentrations representing the activities of past Aboriginal populations, and also due to its likely association with other important cultural sites in the region including the Corindi Massacre Sites, historical burial sites, and the Corindi Corridors of Movement. This significance is an increase from moderate in the working paper

(SKM 2012), due in part to the additional 496 artefacts located during ancillary facility investigation, as well as additional consultation with the Gaabi Elders. It should be noted that the artefacts recorded to date are only a small sample of what might exist in sub-surface contexts within and beyond the boundary of the project and ancillary facilities.

Historical significance

- The site has low historical significance through its likely association with other historical period cultural sites in the region and therefore its use by Aboriginal people at this time.

Scientific significance

- The site has moderate-high scientific significance as it is ranked as having low-moderate integrity, low-moderate structure, moderate contents and moderate-high representativeness/rarity. The physical integrity and structure of the site is moderate due to some disturbance by post-contact land use practices (vegetation clearance, and ploughing for planting of blueberry orchard). The contents of the site are ranked as moderate due to the wide range of both common and less readily available raw materials, and the presence of artefacts in later stages of production. This evidence indicates heavier working of those materials, and can present when raw materials were rationed, which is a sign that the materials were either difficult to obtain, rare or were considered valuable for other reasons. This supports a moderate-high ranking of representativeness/rarity as does the presence of less common artefact types and materials. It has potential for research as there are potentially intact deposits and features in places representing specific activities. The site has potential for local educational purposes, as it could be used to educate regarding the way Aboriginal populations interacted with waterways while examining the artefacts on site, as the site is located on the banks of Corindi Creek, and also the ways in which stone artefacts were manufactured and utilised from different raw materials.

Aesthetic significance

- The site has moderate aesthetic significance due to its geographic location on a prominent very gentle ridge crest south of the Corindi River and adjacent to a gentle simple slope leading north to the creek and creek flats.

Summary statement of significance

- Overall WWC39 is of moderate-high significance at the regional level. It is of high social significance through its association to other cultural sites in the region, and is of low historical significance due to its possible use into the historical period. It has moderate-high scientific significance through the presence of less common raw materials and artefact types, and the potential for the presence of further intact archaeological deposits and features. It also has educational potential for teaching about the way Aboriginal populations interacted with waterways. The site's geographic location on a prominent ridge crest is of moderate aesthetic significance.

6.2.6. WWC Dirty Creek 1c (AHIMS ID: 22-1-0403)

Except for WWC Dirty Creek 1c, all portions of the PAD WWC Dirty Creek 1 (WWC Dirty Creek 1a, 1b and 1d) were assessed and found to have no archaeological material present (WWC Dirty Creek 1d was subject to sub-surface testing with no artefacts uncovered, and 1a and 1b were found to not be likely to contain archaeological deposits due to previous disturbance and shallow soil profile). The PAD at WWC Dirty Creek 1c was not able to be tested to determine the potential for sub-surface archaeological material to be present due to being heavily wooded and tree roots too close to each other to undertake archaeological test excavation.

Social significance

- WWC Dirty Creek 1c is of moderate social significance as it has good views of the surrounding landscape including culturally important features.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The scientific significance of this PAD cannot be assessed as further assessment is required. Any site that may be here is likely to be between low and moderate significance, due to the good vantage it provides, but limited by the shallow soil profile, history of disturbance from logging, and any objects found are likely to be stone artefacts, which are common within the region.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- The overall significance of WWC Dirty Creek 1c cannot be assessed at this time, but is likely to be of low-moderate or moderate significance at the local level. This is due to the good view of the surrounding landscape, but limited by the likelihood of common objects (stone artefacts), and shallow soils.

6.2.7. Lemon Tree Road 1 (AHIMS ID: 13-4-0180)

Social significance

- Lemon Tree Road 1 is a dead, fallen scarred tree of moderate social significance as it is an increasingly uncommon site type, and has a finite life span.

Historical significance

- The tree does not meet this criterion.

Scientific significance

- The site has moderate scientific significance as it is ranked as having low integrity, no structure (as structure cannot be assessed for scarred trees), moderate contents and moderate-high representativeness/rarity. The tree is dead, fallen and beginning to rot, and the scar face remains in a poor-fair condition giving the tree a low level of integrity and moderate contents. Scarred trees are increasingly uncommon site types locally and within NSW, therefore Lemon Tree Road 1 has a moderate-high representativeness/rarity rating. The tree has limited potential for local educational purposes as it is fallen and rotting, and would be difficult to move without losing all integrity.

Aesthetic significance

- The tree has low aesthetic significance as it would have provided some visual distinction in the landscape, though is now fallen, dead and partially rotted.

Summary statement of significance

- Overall, Lemon Tree Road 1 is of moderate significance at the local level. The site is of moderate social significance and has moderate scientific significance due primarily to the rarity of scarred trees but the significance is limited due to the tree's deteriorating condition. The tree has low aesthetic significance as it provides some visual distinction in the landscape.

6.2.8. Kungala Road 1 (AHIMS ID: 13-4-0181)

Kungala Road 1 is a PAD and hence its significance here is preliminary as currently no site exists at this location, and is subject to confirmation of the PAD as a site and any findings.

Social significance

- Kungala Road 1 is within about 1 km of a known ceremonial site, and so is afforded some potential significance to the Aboriginal community. This significance is currently rated at low-moderate, but is subject to confirmation of a site.

Historical significance

- The PAD does not meet this criterion.

Scientific significance

- Kungala Road 1 is a PAD located on the slopes of a slight rise in an undulating landscape.
- If a site was confirmed here, it would likely be a small artefact scatter of low-moderate scientific significance as its potential contents is likely to be ranked as having low integrity, low-moderate structure, low-moderate contents and low-moderate representativeness/rarity. A potential site may have some limited potential for local educational purposes in regards to stone artefact manufacture.

Aesthetic significance

- The PAD does not meet this criterion.

Summary statement of significance

- The significance of Kungala Road 1 was unable to be fully assessed due to restricted property access and was not subject to any sub-surface investigation during this project, so its potential could not be confirmed – further assessment should be undertaken of this PAD when possible prior to construction. Based on its potential scientific significance from its context within the environmental and cultural landscape, and based on the significance likely to be attributed to the PAD, if it is confirmed as a site Kungala Road 1 would likely have an overall significance of low-moderate, and would not likely exceed a moderate significance as a maximum.

6.2.9. Wells Crossing Artefacts 1 (AHIMS ID: 13-4-0183)

Social significance

- Wells Crossing Artefacts 1 comprises a small artefact scatter of three artefacts in a disturbed context and has low social significance as it provides evidence of the use of the area by Aboriginal people in a limited way.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, no structure, low contents and low representativeness/rarity.
- The integrity of the site is low as it has been completely removed from its original context by post-contact land-use practices (construction of a road). The site has no structure ranking as it comprises only three out of context stone artefacts. The site has a low contents ranking as the site comprises only three artefacts and the raw material is common to the area. The site has a low representativeness ranking as small artefact scatters are common within the region. The site has no research or educational potential.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, the Wells Crossing Artefacts 1 site is of low significance at the local level. It is of low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way. It has low scientific significance due to it comprising only three out of context artefacts, made from common raw material and the overall common presence of stone artefact scatters in the region.

6.2.10. WWC139 (AHIMS ID: 13-4-0157)

The significance remains unchanged for this item – please see the working paper (SKM 2012) for the detailed significance assessment.

6.2.11. WX2I Site 8 (AHIMS ID: 09-4-0108)

Social significance

- WX2I Site 8 comprises an artefact scatter of two artefacts and has low social significance as it provides evidence of the use of the area by Aboriginal people in a limited way.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, no structure, low contents and low representativeness/rarity.
- The integrity of the site is low as it has been completely removed from its original context by post-contact land-use practices (construction of a dam). The site has no structure ranking as it comprises only two out of context stone artefacts. The site has a low contents ranking as the site comprises only two artefacts and the raw material is common to the area. The site has a low representativeness ranking as small artefact scatters are common within the region. The site has no research or educational potential.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, WX2I Site 8 is of low significance at the local level. It is of low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way. It has low scientific significance due to its comprising only two out of context artefacts, made from common raw material and the overall common presence of stone artefact scatters in the region.

6.2.12. Upper Coldstream 1 (AHIMS ID: 13-4-0182)

Social significance

- Upper Coldstream 1 comprises an isolated artefact and has low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, no structure, low contents and low-moderate representativeness/rarity.
- The integrity of the site is low as it has been disturbed by post-contact land-use practices, namely vegetation clearance and ploughing. The site has no structure as it comprises a single

isolated artefact. The site has a low contents ranking as the site comprises of a single artefact. The site has a low-moderate representativeness ranking as isolated artefacts are common within the region, and though crystal quartz is not rare it is less common than other materials used in the area. The site has no research or educational potential.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Upper Coldstream 1 is of low significance at the local level. It is of low social significance as it provides evidence of the use of the area by Aboriginal people in a very limited way. It has low scientific significance due to its comprising a single isolated artefact, made from a relatively common raw material and the overall common presence of stone artefact scatters in the region.

6.2.13. Old Tucabia Dump 1 (AHIMS ID: 13-4-0184)

Social significance

- Old Tucabia Dump 1 is a living tree with a scar of probable Aboriginal cultural origin, and is of moderate social significance as it is an increasingly uncommon site type.

Historical significance

- The tree does not meet this criterion.

Scientific significance

- The site has moderate scientific significance as it is ranked as having low-moderate integrity, no structure (as structure cannot be assessed for scarred trees), moderate contents and moderate-high representativeness/rarity. The tree is showing some signs of insect attack and the scar though likely to be of Aboriginal cultural origins may be as a result of this. The scar face remains in a fair-good condition, displaying no axe marks, giving the tree a low-moderate level of integrity and moderate contents. Scarred trees are increasingly uncommon site types locally and within NSW, therefore Old Tucabia Dump 1 has a moderate-high representativeness/rarity rating. The tree is located on a lower slope adjacent to a large swampy area, and thus has some limited potential for local educational purposes in relation to traditional Aboriginal use of swamp resources.

Aesthetic significance

- The tree has low-moderate aesthetic significance as it provides some visual distinction in the landscape, and the scar is very long and noticeable.

Summary statement of significance

- Overall, Old Tucabia Dump 1 is of moderate significance at the local level. The site is of moderate social significance and has moderate scientific significance due primarily to the rarity

of scarred trees. The tree has low-moderate aesthetic significance as it provides some visual distinction in the landscape, and is a relatively long scar.

6.2.14. Chaffin Creek Tree 1

Social significance

- Chaffin Creek Tree 1 is a living tree with a scar of Aboriginal cultural origin, and is of moderate social significance as it is an increasingly uncommon and finite site type in the region. Its significance is intertwined with that of Chaffin Creek Tree 2, in close proximity on the opposite side of Chaffin Creek.

Historical significance

- The tree does not meet this criterion.

Scientific significance

- The site has moderate scientific significance as it is ranked as having low-moderate integrity, no structure (as structure cannot be assessed for scarred trees), moderate contents and moderate-high representativeness/rarity. The scar face remains in a fair-good condition, displaying no axe marks, giving the tree a low-moderate level of integrity and moderate contents. Scarred trees are increasingly uncommon site types locally and within NSW, therefore Chaffin Creek Tree 1 has a moderate-high representativeness/rarity rating. The tree is located on the southern bank of Chaffin Creek, and thus has some limited potential for local educational purposes in relation to traditional Aboriginal use of waterway and associated resources.

Aesthetic significance

- The tree has low aesthetic significance as it provides some visual distinction in the landscape.

Summary statement of significance

- Overall, Chaffin Creek Tree 1 is of moderate significance at the local level. The site is of moderate social significance and has moderate scientific significance due primarily to the rarity of scarred trees. The tree has low aesthetic significance as it provides some visual distinction in the landscape. The tree's significance is linked to that of Chaffin Creek Tree 2, as part of the greater cultural landscape.

6.2.15. Chaffin Creek Tree 2

Social significance

- Chaffin Creek Tree 2 is a living tree with a scar of Aboriginal cultural origin, and is of moderate social significance as it is an increasingly uncommon and finite site type in the region. Its significance is interconnected with that of Chaffin Creek Tree 1, in close proximity on the opposite side of Chaffin Creek.

Historical significance

- The tree does not meet this criterion.

Scientific significance

- The site has moderate scientific significance as it is ranked as having low-moderate integrity, no structure (as structure cannot be assessed for scarred trees), moderate contents and moderate-high representativeness/rarity. The scar face remains in a fair-good condition, displaying no axe marks, giving the tree a low-moderate level of integrity and moderate contents. Scarred trees are increasingly uncommon site types locally and within NSW, therefore Chaffin Creek Tree 2 has a moderate-high representativeness/rarity rating. The tree is located immediately north of the northern bank of Chaffin Creek on the floodplain, and thus has some limited potential for local educational purposes in relation to traditional Aboriginal use of waterway and associated resources.

Aesthetic significance

- The tree has low aesthetic significance as it provides some visual distinction in the landscape.

Summary statement of significance

- Overall, Chaffin Creek Tree 2 is of moderate significance at the local level. The site is of moderate social significance and has moderate scientific significance due primarily to the rarity of scarred trees. The tree has low aesthetic significance as it provides some visual distinction in the landscape. The tree's significance is linked to that of Chaffin Creek Tree 1, as part of the greater cultural landscape.

6.2.16. Shark Creek Site 2 (AHIMS ID 13-4-0170)

Social significance

- The artefact scatter at Shark Creek Site 2 has low-moderate social significance as it provides evidence of the use of the area by Aboriginal people and includes an important artefact type, being a ground-edge stone axe.

Historical significance

- The site does not meet this criterion.

Scientific significance

- Shark Creek Site 2 consists of an artefact scatter comprising seven stone artefacts (four recorded during this assessment and three in the working paper) located on the lower slopes of a spur, above a floodplain. The site has low-moderate scientific significance as it is ranked as having low integrity, low structure, low-moderate contents and moderate representativeness/rarity.
- The site has a low ranking for integrity the area has previously been cleared and is currently producing a sugar cane crop. The site has a low rating for structure as it consists of only seven artefacts, and there is no stratification or structure of archaeological deposit evident. The site

has a low-moderate contents ranking as the raw materials are relatively common to the area. The site has a moderate representativeness ranking as artefact scatters are common within the region, but ground-edge axes are less common in the region.

- The site has some limited research potential and limited some local educational potential for researching and teaching the way local Aboriginal populations used this type of landform. Some value for research or education would be that two artefacts can be re-fitted together to indicate part of the process of manufacture. The ground-edge axe has some educational potential as it shows particular activities, is large and can be easily handled with little chance of damage.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Shark Creek Site 2 has low-moderate level significance at the local level. It has low-moderate social significance as it provides evidence of use of the area by Aboriginal people. It has low-moderate scientific significance due to its low density, common raw material, overall common presence in the region, but the presence of a ground-edge axe does add to the significance. The site has some limited research and educational potential about the way local Aboriginal populations used this type of landform.

6.2.17. Hirst 3 (AHIMS ID: 13-1-0192)

Social significance

- The artefact scatter at Hirst 3 has low-moderate social significance as it provides evidence of the use of the area by Aboriginal people and includes an important artefact type, being a ground-edge stone axe blank.

Historical significance

- The site does not meet this criterion.

Scientific significance

- Hirst 3 consists of an artefact scatter comprising three stone artefacts located on the lower slopes of a spur, above a floodplain. The site has low scientific significance as it is ranked as having low integrity, low structure, low-moderate contents and low-moderate representativeness/rarity.
- The site has a low ranking for integrity the area has previously been cleared and is currently producing a sugar cane crop. The site has a low rating for structure as it consists of only seven artefacts, and there is no stratification or structure of archaeological deposit evident. The site has a low contents ranking as the raw materials are relatively common to the area. The site has a low-moderate representativeness ranking as artefact scatters are common within the region, but ground-edge axe blanks are less common in the region.

- The site has some limited research potential and limited some local educational potential for researching and teaching the way local Aboriginal populations used this type of landform. The ground-edge axe blank has some educational potential as it shows a particular stage in the production of stone axes, is large and can be easily handled with little chance of damage.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Hirst 3 has low level significance at the local level. It has low-moderate social significance as it provides evidence of use of the area by Aboriginal people. It has low-moderate scientific significance due to its low density, common raw material, overall common presence in the region, but the presence of a ground-edge axe does add to the significance. The site has some limited research and educational potential about the way local Aboriginal populations used this type of landform, and the way they produced stone axes.

6.2.18. Mororo Creek 1 (AHIMS ID: 13-1-0191)

Social significance

- Mororo Creek 1 has moderate social significance as it provides evidence of the use of the area by Aboriginal people in general, but also more specifically use of a particular landform and resource (Mororo Creek).

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has moderate scientific significance as it is ranked as having moderate integrity, moderate structure, low-moderate contents and moderate representativeness/rarity.
- The integrity of the site is moderate, as parts of it have been heavily disturbed by post-contact land-use practices, though parts closer to the creek remain more intact. The site has moderate structure as it comprises relatively deep deposits of stone artefacts. The site has a low-moderate contents ranking as the site comprises of a range of artefact types and the raw materials are common to the area. The site has a low representativeness ranking as artefact scatters are common within the region. The site has some educational value in regard to resource use and occupation of different elements of the landscape.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall Mororo Creek 1 is of low-moderate significance at the local level. It is of moderate social significance as it provides evidence of use of the area by Aboriginal people. It has low scientific significance as it is a low density artefact scatter, with common raw materials and the

overall common presence of stone artefact scatters in the region. The site has educational value regarding resource use and occupation of different elements of the landscape.

6.2.19. Mororo Creek 2 (AHIMS ID: 13-1-0193)

Social significance

- Mororo Creek 2 has moderate social significance as it provides evidence of the use of the area by Aboriginal people in general, but also more specifically use of a particular landform and resource (Mororo Creek).

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, low structure, low contents and low representativeness/rarity.
- The integrity of the site is low as it has been heavily disturbed by post-contact land-use practices. The site has no structure as it comprises a single component, low density artefact scatter. The site has a low contents ranking as the site comprises of a low density artefact scatter with a common range of artefact types and the raw materials are common to the area. The site has a low representativeness ranking as artefact scatters are common within the region. The site has some educational value in regard to resource use and occupation of different elements of the landscape.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall Mororo Creek 2 is of low-moderate significance at the local level. It is of moderate social significance as it provides evidence of use of the area by Aboriginal people. It has low scientific significance as it is a low density artefact scatter, with common raw materials and the overall common presence of stone artefact scatters in the region. The site has educational value regarding resource use and occupation of different elements of the landscape.

6.2.20. Dubaijeen Site (New Italy 1)

Social significance

- Dubaijeen Site (New Italy 1) comprises an artefact scatter of 194 artefacts, all recovered during sub-surface investigations. The site has moderate-high social significance as it provides a range of evidence of the use of the area by Aboriginal people, and is also nearby to a women's ceremonial carved tree.

Historical significance

- The site has moderate historical significance due to its proximity to an engraved tree used for women's ceremonies, which is likely to have been used since colonisation.

Scientific significance

- The site has moderate scientific significance as it is ranked as having moderate integrity, moderate structure, high contents and moderate representativeness/rarity.
- The integrity of the site is moderate as it has been cleared and the original context of the site has been predominantly removed by post-contact land-use practices (clearing and grazing), but the sub-surface material, particularly at depths of 250-350 millimetres appears to be less disturbed as evidenced by the occurrence of what appear to be concentrations of closely related artefacts (that is from the same core). The focus of sub-surface material across the ancillary facility landscape along the crest, upper and mid slopes indicates there has only been low to moderate horizontal (specifically down-slope) movement of artefacts across the site. Given the sandy nature of the soils vertical movement of artefacts is likely to have occurred. This is supported by the occurrence of artefact concentrations (between 250-400 millimetres) above the clayey sand basal layer and low numbers of artefacts in the upper layers (0-250 millimetres)
- The site has moderate structure ranking as it comprises 194 stone artefacts spread across several parts of the landform. These artefacts were discovered as a result of a sub-surface sampling strategy of less than 0.5 per cent, and therefore represent only a small sample of the total numbers of artefacts likely to be present. Dense concentrations of artefacts that appear to have come from the same core were noted in a small number of test pits indicating the presence of knapping floor debris and intra-site variability. Given the probable movement of artefacts downwards through sandy deposits the discovery of stratified sub-surface deposits is not impossible but unlikely.
- The site has a moderate-high contents ranking as the site comprises 194 artefacts which represents only a small sample from of the available site area. Concentrations of closely related artefacts and the occurrence of dense concentrations of artefacts in single test pits are indicative of different activity areas across the site. Raw materials noted at the site require further investigation into type and origin, but there is a wide diversity of materials and the nature of the artefacts indicate both local and imported sources.
- The site has a moderate representativeness ranking as medium artefact scatters are not common within the region. The site has some research potential in its intra-site variability and its potential to show different activity areas within the one landform, and also has the potential to inform the broader scale question of how Aboriginal populations were using the landscape in this region. It also has potential for the traditional owners of the area to use this site to educate younger generations on various aspects of cultural traditions.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall Dubaijeen Site (New Italy 1) is of moderate significance at the regional level. It is of moderate-high social significance due to its close geographic association with a carved tree that has been interpreted as a 'women's' site associated with initiation. It has moderate scientific significance due to it comprising 194 artefacts, the relative intactness of the deposits, the range of raw material form which artefacts were fashioned, and the intra-site variability that is apparent at the site.

6.2.21. The Gap Road 1 (AHIMS ID: 13-1-0194)

Social significance

- The artefact scatter of The Gap Road 1 is of moderate social significance because it is situated on a swamp verge that was part of important pathways used by Aboriginal people leading from the foothills to the coast.

Historical significance

- The site does not meet this criterion.

Scientific significance

- The site has low-moderate scientific significance as it is ranked as having low integrity, low-moderate structure, low contents and low-moderate representativeness/rarity.
- The site has a low ranking for integrity and low-moderate structure. The swamp verge is continually subject to rising and falling ground water table and is a low density small scatter. The site has a low-moderate contents ranking as the raw materials are relatively common to the area. The site has a low-moderate representativeness ranking as artefact scatters are relatively common within the region.
- The site has some limited research potential and limited local educational potential for researching and teaching the way local Aboriginal populations used this type of landform and swamp resources. The main value for education would be educating regarding the pathways which lead from the foothills to the coast.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall The Gap Road 1 has a low-moderate level of significance at the local level. It is of moderate social significance as it is located within a pathway used by Aboriginal people leading from the foothills to the coast. It has low-moderate scientific significance due to its low density, common raw material and overall relatively common presence of artefact scatters in the region. The site has limited research and educational potential about the way local Aboriginal populations used this type of landform and swamp resources.

6.2.22. Gittoes Jali (AHIMS IDs: 09-1-0204, 09-1-0205, 09-1-0203)

No new finds were made for this site, the significance remains unchanged – please see the working paper (SKM 2012) for the detailed significance assessment of Gittoes Jali.

6.2.23. Cooks Hill 1

Social significance

- The artefact scatter of Cooks Hill 1 is of low-moderate social significance because it is situated on a swamp verge next to Everson's Creek near Cooks Hill that would have been used by Aboriginal people on occasion.

Historical significance

- This site has low local historical significance due to post-contact Aboriginal occupation of this area, and several historical stories associated with this general area.

Scientific significance

- The site has low scientific significance as it is ranked as having low integrity, low structure, low contents and low-moderate representativeness/rarity.
- The site has a low ranking for integrity and low-moderate structure. The sandy swamp verge is continually subject to rising and falling ground water, likely other post-depositional processes (such as bioturbation) and comprises a small low density small scatter. The site has a low contents ranking as there are few raw material types, the raw materials are common to the area. The site has a low-moderate representativeness ranking as artefact scatters are common within the region, though the depth of this site makes it slightly less common.
- The site has some limited research potential and limited local educational potential for researching and teaching the way local Aboriginal populations used this type of landform and swamp resources, and passing on cultural and historic stories of occupation of the Cooks Hill area.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall Cooks Hill 1 has a low-moderate level of significance at the local level. It is of moderate social significance as it is in close proximity to the culturally important location of Cooks Hill. It has low scientific significance due to its low density, common raw material and overall common presence of artefact scatters in the region. The site has limited research and educational potential about the way local Aboriginal populations used this type of landform and swamp resources, and passing on stories about the Cooks Hill area.

6.2.24. Gumi Site (AHIMS ID: 04-4-0180)

Social significance

- The tree at the Gumi Site has moderate social significance. A few members of one of the Aboriginal stakeholders recognise the scarred tree as a cultural marker. Another Aboriginal stakeholder does not attribute the tree to Aboriginal cultural traditions.

Historical significance

- This site has low local historical significance due to post-contact Aboriginal occupation of this area, and several historical stories associated with this general area.

Scientific significance

- The scientific significance of the site is nil, as there is no scientific basis that this site has cultural origins – investigations have shown that the scar is only 30 years old, which would place it after known traditional Aboriginal cultural activities. De-registration of the site has been recommended.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

Overall, the Gumi site has a low-moderate level of significance at the local level, founded on the social significance attributed to it by some in the community, as scientific rationale for noting a site here has been exhausted.

6.2.25. Melino Artefact Collection

Social significance

- The Melino Artefact Collection is of moderate social significance because it is a palimpsest of Aboriginal occupation of the general area, as it is comprised of artefacts gathered generally from high ground across the finite area of the land holder's property.

Historical significance

- This site has low local historical significance due to post-contact Aboriginal occupation of this area, and several historical stories associated with this general area.

Scientific significance

- The site has low scientific significance as it is ranked as having no integrity, no structure, low contents and low-moderate representativeness/rarity.
- The site has a no ranking for integrity structure as the site is a collection, and thus doesn't have either of these criteria. The site has a low contents ranking as there are few raw material types, the raw materials are common to the area. The site has a low-moderate representativeness ranking as artefact scatters are common within the region, though collections are slightly less common.

Aesthetic significance

- The site does not meet this criterion.

Summary statement of significance

- Overall, Melino Artefact Collection has a low-moderate level of significance at the local level. Its moderate social significance comes from its association with an area known to be important to Aboriginal populations, and although out of context, is the result of Aboriginal activities in this part of the landscape. It has low scientific significance due to its common raw material and overall common presence of artefact scatters in the region. The site has limited research and educational potential about the way local Aboriginal populations used this area, as the artefacts only have general the context of the area, with no specific association with landforms or cultural material.

6.2.26. Site 1 (AHIMS ID: 04-2-0065)

No new finds were made for this site, the significance remains unchanged – please see the working paper (SKM 2012) for the detailed significance assessment of Site 1.

6.2.27. Rudgley Site 1 (AHIMS ID: 04-4-0167)

The significance remains unchanged for this item – please see the working paper (SKM 2012) for the detailed significance assessment.

6.2.28. Site 12 (AHIMS ID: 11-2-0082)

Although new finds were made that extend the boundary of the site, the significance remains unchanged – please see the working paper (SKM 2012) for the detailed significance assessment of Site 12.

6.3. Summary

The summary of the significance assessment of Aboriginal cultural places and archaeological sites is shown in Table 6-1.

Table 6-1 Summary of significance assessment of sites/places near or within ancillary facilities or design changes

AHIMS ID	Name	Scientific significance	Social significance	Aesthetic significance	Historical significance	Overall significance
	Taylor's Run 2	Low	Low	N/A	N/A	Low
	Taylor's Run 3	Low	Low	N/A	N/A	Low
	Taylor's Run 1	Low-moderate	Moderate	N/A	N/A	Low-moderate
22-1-0344	WWC37	Low	Low-moderate	N/A	N/A	Low
22-1-0343	WWC39	Moderate-high	High	Moderate	Low	Moderate-high
22-1-0403	WWC Dirty Creek 1c	Low-moderate or Moderate	Moderate	N/A	N/A	Low-moderate or Moderate

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AHIMS ID	Name	Scientific significance	Social significance	Aesthetic significance	Historical significance	Overall significance
13-4-0180	Lemon Tree 1	Moderate	Moderate	Low	N/A	Moderate
13-4-0181	Kungala Rd 1*	Low-moderate	Low-moderate	N/A	N/A	Low-moderate
13-4-0183	Wells Crossing Artefacts1	Low	Low	N/A	N/A	Low
13-4-0157	WWC139	Low	Low	N/A	N/A	Low
09-4-0108	WX2I Site 8	Low	Low	N/A	N/A	Low
	Chaffin Creek Tree 1	Moderate	Moderate	Low-moderate	N/A	Moderate
	Chaffin Creek Tree 2	Moderate	Moderate	Low-moderate	N/A	Moderate
13-4-0184	Old Tucabia Dump 1	Moderate	Moderate	Low-moderate	N/A	Moderate
13-4-0182	Upper Coldstream 1	Low	Low	N/A	N/A	Low
09-4-0104	WX2I Site 4	Low	Low	N/A	N/A	Low
13-4-0170	Shark Creek 2	Low-moderate	Low-moderate	N/A	N/A	Low-moderate
13-1-0185	Hirst 3	Low	Low-moderate	N/A	N/A	Low
13-1-0191	Mororo Creek 1	Low-moderate	Moderate	N/A	N/A	Low-moderate
13-1-0193	Mororo Creek 2	Low	Moderate	N/A	N/A	Low-moderate
	New Italy 1 (Dubaijeen Site)	Moderate	Moderate-high	N/A	Moderate	Moderate
13-1-0194	The Gap 1	Moderate	Low-moderate	N/A	N/A	Low-moderate
09-1-0204, 09-1-0205 and 09-1-0203	Gittoes Jali	High	Moderate-high	Moderate-high	High	High
	Cooks Hill 1	Low	Low-moderate	N/A	Low	Low-moderate
04-4-0180	Gumi Site	None	Moderate	N/A	Low	Low-moderate
	Melino Artefact Collection	Low	Moderate	N/A	Low	Low-moderate
04-4-0179	Site 1	Low	Low-moderate	Low	N/A	Low-moderate
04-4-0167	Rudgley Site 1a and 1b	Low	Low	Low	Low	Low
04-4-0176	Site 12	Low-moderate	Moderate	Low	N/A	Moderate

*Significance was not able to be assessed, but an estimate was made based on environmental and cultural landscape context.

7. Impact assessment

The potential impact to Aboriginal cultural places and archaeological sites recorded within or near the study area has been considered. This chapter looks specifically at those areas where:

- Avoidance of a site or place may occur, and the site may fall wholly outside ancillary facilities and/or the boundary of the project, or some portion may remain within ancillary facilities and/or the boundary of the project but be avoided by construction or ancillary activities
- A site or place may not be directly impacted, but may be at risk of indirect impacts, such as a culturally sensitive place becoming more visible or accessible due to the construction of the project
- Partial impact to a site or place may occur, with avoidance to part of the site
- Impact may be unavoidable, and the site is likely to be totally destroyed

Some of these potential impacts are avoidable through suitable management measures.

7.1. Impacts

For the purpose of this impact assessment, it is assumed that all places and sites occurring within the boundaries of ancillary facilities would be directly impacted – the real impact is likely to be slightly less, but would not be able to be determined until construction activities commence. Impact is assumed to extend 10 metres from the edge of all design changes (to allow for construction footprint activities, as for the concept design). Where a place or site occurs inside or within 25 metres of an ancillary facility or design change, the potential for indirect impact is also considered. Where sites and/or places occur within, but only near the edge of study areas, avoidance measures are suggested, and expanded upon in Section 8. Adjustments to the construction footprint within the study area may be possible to avoid impact to some of these sites – this option should be explored wherever possible, before mitigation is considered.

7.1.1. Ancillary facilities

A total of 20 ancillary facilities may impact upon 20 sites, and one PAD. One ancillary facility may also indirectly impact one site. Four Aboriginal cultural places may be impacted by ancillary facilities. Many of these impacts may be avoided by appropriate selections of ancillary facilities, minimisation of the area used within relevant ancillary facilities, and/or suitable no-go zones – see Section 8 for recommendations on impact avoidance, minimisation and mitigation.

7.1.2. Design changes

As a result of the proposed design changes, indirect impact is possible (though easily avoided) to two sites (Chaffin Creek Tree 1 and 2) from the Firth Heinz Road design change, and one site (Cooks Hill 1) is likely to be directly impacted by the design change at MacDonald Street – this impact is considered acceptable with mitigation. Impact would be reduced significantly to the Gittoes Jali site (from 95 per cent down to about 35 per cent), and impact to one Aboriginal cultural

place has been reduced, and will now be avoided. One Aboriginal cultural place may be indirectly impacted by design changes.

Table 7-1 Unmitigated potential impacts to archaeological sites and Aboriginal cultural places near or within ancillary facilities, or design changes

Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
1	Kangaroo Trail Road design change	-	-	Moderate (potential)	Yet to be assessed	Direct	This location has been identified as potentially having up to moderate significance, but was not able to be subject to field assessment due to property access. The area of potential significance would likely be impacted by approximately 30%.
1	1a, 1b	N/A	Aboriginal Cultural Place	High	Aboriginal cultural place, no specific location	None	This place would not be impacted by the ancillary activities, with no diminishing of the significance of this place.
1	1a		Taylors Run 2	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 100 per cent of the recorded extent of the site and impact to its heritage values.
1	1a		Taylors Run 3	Low	Isolated artefact	None	No direct or indirect impacts to this site are likely from the ancillary activities.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
1	1a		Taylor's Run 1	Low-moderate	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 70 per cent of the recorded extent of the site and impact to its heritage values. The higher density area of the site is outside but immediately adjacent to the ancillary facility.
1	1a	22-1-0344	WWC37	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 50 per cent of the recorded extent of the site and impact to its heritage values. Together with impacts from the project, this would likely result in impact to 100 per cent of the site and its heritage values.
1	1a, 1b	22-1-0343	WWC39	Moderate-high	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 25 per cent of the recorded extent of the site and impact to its heritage values from ancillary facility Section 1, Site 1a; and impact to 30 per cent of the recorded extent of the site and impact to its heritage values from ancillary facility Section 1, Site 4b.
1	N/A	22-1-0403	WWC Dirty Creek 1c	Low-moderate or Moderate	PAD	Direct	All of this PAD would be impacted by the project due to the design change.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
1	Additional site 5	-	-	Moderate-high (potential)	Indicative PAD (yet to be assessed)	Direct	This location has been identified as potentially having up to moderate-high significance, but was not able to be subject to field assessment due to property access. The area of potential significance would likely be impacted by approximately 80%.
2	1b	13-4-0180	Lemon Tree Rd 1	Moderate	Modified tree	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 100 per cent of the recorded extent of the site and impact to its heritage values.
2	2	N/A	Aboriginal Cultural Place	High	Aboriginal cultural place	None	No direct or indirect impacts to this place are likely from the ancillary activities.
2	3	13-4-0181	Kungala Rd 1	Low-moderate	PAD	Direct	About 40 per cent of the estimated extent of this PAD would be impacted by the ancillary facility.
2	4	N/A	Aboriginal Cultural Place	Moderate	Aboriginal cultural place	Direct	Unavoidable as traverses region, will be partially impacted by the ancillary facility; the cultural heritage values and significance of this place would be diminished partially by the impact, though the corridor of movement would not be severed by the ancillary facility.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
2	4	13-4-0183	Wells Crossing Artefacts 1	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 100 per cent of the recorded extent of the site and impact to its heritage values.
2	5b	13-4-0157	WWC139	Low	Artefact scatter	Direct	This site is within the ancillary facility, and would be impacted by the proposed ancillary activity. The result would be impact to 100 per cent of the recorded extent of the site and impact to its heritage values.
3	3b	09-4-0108	WX2I Site 8	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 100 per cent of the recorded extent of the site and impact to its heritage values.
3	Firth Heinz Road design change		Chaffin Creek Tree 1	Moderate	Modified tree	None	No direct impacts to this place are likely from the design change at Firth Heinz Road, as the tree and its canopy are located adjacent to the design change boundary.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
3	Firth Heinz Road design change		Chaffin Creek Tree 2	Moderate	Modified tree	Indirect	No direct impacts to this place are likely from the design change at Firth Heinz Road, as the tree and its canopy are located outside the proposed construction footprint, but within boundary of the design change. If not protected, there is the potential for incidental impact to the tree from associated activities, such as vehicle movement.
3	6b	13-4-0184	Old Tucabia Dump	Moderate	Modified tree	Indirect	No direct impacts to this place are likely from the ancillary activities, as the tree and its canopy are located adjacent to the ancillary facility boundary. However, the buffer around the tree which forms the boundary of the site extends partially into the ancillary facility (about 20 per cent), therefore there is the potential for indirect impact through interruption to the tree's root system.
3	8	N/A	Aboriginal Cultural Place	Moderate	Aboriginal cultural place	None	No direct or indirect impacts to this place are likely from the ancillary activities.
3	8	09-4-0104	WX2I Site 4	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 50 per cent of the recorded extent of the site and impact to its heritage values.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
3	9	13-4-0182	Upper Coldstream	Low	Isolated artefact	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 25 per cent of the recorded extent of the site and impact to its heritage values.
3	9	N/A	Aboriginal Cultural Place	Moderate-high	Aboriginal cultural place	Direct	Will be partially impacted by the ancillary facility; the cultural heritage values and significance of this place would be diminished by the impact. However, the route of this corridor of movement is not known, as this information appears to have been lost.
4	1	-	-	Low-moderate (potential)	Indicative PAD (yet to be assessed)	Direct	This location has been identified as potentially having up to low-moderate significance, but was not able to be subject to field assessment due to property access. The area of potential significance would likely be impacted by approximately 50 per cent.
4	3	-	-	Low (potential)	Yet to be assessed	Direct	This location has been identified as potentially having low significance, but was not able to be subject to field assessment due to property access. The area of potential significance would likely be impacted by approximately 20 per cent.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
4	4a, 4b, 4c	13-4-0170	Shark Creek 2	Low-moderate	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 20 per cent of the recorded extent of the site and impact to its heritage values from ancillary facility Section 4, Site 4b; and impact to 20 per cent of the recorded extent of the site and impact to its heritage values from ancillary facility Section 4, Site 4c. This is additional to the impacts from the project, which would impact on about 60 per cent of the site.
4	5	13-1-0185	Hirst 3	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 50 per cent of the recorded extent of the site and impact to its heritage values.
5	6a	13-1-0191	Mororo Creek 1	Low-moderate	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 80 per cent of the recorded extent of the site and impact to its heritage values.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
5	6, Additional site 7	13-1-0193	Mororo Creek 2	Low-moderate	Artefact scatter	Direct	Unless protected, this site is within the ancillary facilities and would be impacted by the proposed ancillary activity. The result would be impact to 90 per cent of the recorded extent of the site and impact to its heritage values from ancillary facility Section 5, Site 6a; and impact to less than 5 per cent of the recorded extent of the site and minimal impact to its heritage values from ancillary facility Section 5, Site 6.
7	1	-	-	Moderate (potential)	Yet to be assessed	Direct	This location has been identified as potentially having up to moderate significance, but was not able to be subject to field assessment due to property access. The area of potential significance would likely be impacted by approximately 70 per cent.
7	3	13-1-0111	Aboriginal Cultural Place	High	Modified tree	None	No direct or indirect impacts to this place are likely from the ancillary activities.
7	3		New Italy 1 (Dubaijeen Site)	Moderate	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 90 per cent of the recorded extent of the site and impact to its heritage values.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
7	4	13-1-0194	The Gap Rd 1	Low-moderate	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to 100 per cent of the recorded extent of the site and impact to its heritage values.
8	3	09-1-0204, 09-1-0205 and 09-1-0203	Gittoes Jali	High	Artefact scatter, Painting wells, Grinding rock	None	No additional impacts are likely to occur to this site due to the ancillary activities.
8	Lang Hill design change	09-1-0204, 09-1-0205 and 09-1-0203	Gittoes Jali	High	Artefact scatter, Painting wells, Grinding rock	Direct	<p>Due to the design change at Lang Hill, impact to the Gittoes Jali site will be reduced significantly from about 95 per cent down to about 35 per cent, with the majority (84 per cent) of denser artefact concentration areas avoided, and all of the most significant cultural and scientific features avoided.</p> <p>Gittoes Jali site will be subject to excavation to provide a road cutting about 120 m in length, and also subject to excavation in the northern portion of the site for resource extraction over about 30,000 m² (about 8,000 m² within Gittoes Jali Site). The result would be the removal of about 35 per cent of the site and irreversible impact to its heritage values.</p> <p>About 65 per cent of the site is outside the construction footprint and/or boundary of the project and will not be impacted by the project.</p>

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
9	MacDonald Street design change		Cooks Hill 1	Low-moderate	Artefact scatter	Direct	Unless avoided and protected, this site is within the design change at McDonald Street, and would likely be impacted by the proposed design change. The result (combined with the existing design outside the boundary of the project) would be impact to 80 per cent of the recorded extent of the site and impact to its heritage values.
10	All ancillary facilities and design changes within sections 10 and 11	N/A	Aboriginal Cultural Place	Moderate	Aboriginal cultural place	Direct	Unavoidable partial impact to this landscape as it encompasses whole region. The ancillary activities and design changes would result in minimal impact to the cultural heritage values additional from that proposed for the project (see the working paper).
10	1a	-	-	Low-moderate (potential)	Yet to be assessed	Direct	This location has been identified as potentially having up to low-moderate significance, but was not able to be subject to field assessment due to property access. The area of potential significance would likely be impacted by approximately 40 per cent.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
10	N/A	04-4-0180	Gumi Site	Low-moderate	Not a site	Direct	This site has no material component, and scientifically is not considered a site. Gumi site is proposed to be subject to excavation to provide a road embankment for about 40 m in length. The result would be the complete removal of this area and irreversible impact to its social heritage values.
10	N/A		Melino Artefact Collection	Low-moderate	Artefact collection	Indirect	The Melino artefact collection is just outside an area to be subject to excavation to provide a road embankment for about 40 m in length. No impact is likely to this site from construction of the road. However, associated works may impact this area. As this site is a collection with only general locational associations, removal of the collection during construction and replacement (eg reburial) in the general area would not impact the significance of this site.
10	4	04-4-0179	Site 1	Low-moderate	Artefact scatter	None	This site does not extend to near or within the proposed ancillary facility and would not be impacted by the ancillary activity.
10	5	04-4-0167	Rudgley Site 1	Low	Artefact scatter	Direct	Unless protected, this site is within the ancillary facility and would likely be impacted by the proposed ancillary activity. The result would be impact to about 90 per cent of the site and moderate impact to its heritage values.

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Section(s)	Ancillary facility or design change	AHIMS ID	Name	Overall significance	Site type	Impact	Description
10	6	04-4-0176	Site 12	Moderate	Artefact scatter	Direct	Unless protected, part of this site is within the ancillary facility and would be impacted by the proposed ancillary activity. The result would be impact to about 30 per cent of the site and moderate impact to its heritage values.

8. Management recommendations

8.1. Introduction

The following recommendations relate to new sites, sites updated by the results of field assessment described in this report, and sites previously recorded but within ancillary facilities and design changes beyond the boundary of the project. These recommendations were drafted in consultation with RAP site officers during field investigations. The general and specific management requirements in the working paper also extend to the ancillary facilities and design changes, as these would form part of the overall project – the management recommendations must therefore be read with Chapter 9 of the working paper (SKM 2012), as many relevant details are included there that are not repeated here.

8.2. Specific management requirements

8.2.1. Archaeological sites

8.2.1.1. Impact avoidance/minimisation

In general the first principle of cultural heritage management is impact avoidance, then minimisation before mitigation. *If it is not possible to completely avoid sites, then mitigation is required for parts of sites not impacted.*

Where complete avoidance of sites by the project is not possible, mitigation actions required for impacted areas of each of the archaeological sites are presented in Table 8-1. Recommendations presented in Table 8-1 add to and/or update those in the working paper (SKM 2012) – where recommendations appear for a site mentioned in the working paper, the recommendations here add to those in the working paper, or in some specified instances these recommendations supersede those in the working paper (SKM 2012). Management recommendations have been drafted in accordance with the amount of impact to the site and the significance of the site. All management recommendations have been presented to relevant registered Aboriginal parties, and their comments have been considered and where possible incorporated into the recommendations.

If avoidance of impact to any site (eg through exclusion zones and/or realignment) becomes possible after finalisation of this report, then mitigation is not required for that site. All exclusion zones established would be marked on the ground (preferably by high visibility construction webbing) and on construction plans. *Exclusion zones would be inspected prior to construction by an archaeologist and members of the RAPs to ensure that they are appropriate.*

Any impact proposed beyond those assessed in this report or beyond the boundary of the project must be subject to assessment and consultation with RAPs, consistent with the process in this report.

8.2.1.2. Salvage quotas

Salvage excavation quotas for archaeological sites are (unless otherwise specified) generally presented as a percentage of the portion of the site to be impacted, to account for the current unknown impact within ancillary facilities and design changes. This allows for reduction/avoidance of impacts to sites within the ancillary facilities.

Where the proposed impact area to a site is less than the salvage excavation quota (if the quota is stated in *square metres*), the entire impact area would be salvaged. Where the proposed impact area to a site is greater than the salvage excavation quota (if quota in *square metres*), the quota would stand. Where a *percentage* quota is stated and the proposed impact area is 10 square metres or less, the entire impact area would be salvaged, with the approximate proportions of hand and machine excavation maintained as per the excavation quota proportions (with a minimum of one square metre of hand excavation where this method is required).

Where artefact concentrations per square metre (over all depths) encountered are 50 per cent greater than previously encountered, additional hand-tool salvage excavation must be undertaken. If these artefact concentrations are encountered during machine excavation, then machine excavation must stop within 20 metres, and hand-tool excavation must proceed to define the extent of the concentration within the boundary of the project. Other features that must trigger such additional salvage excavation include, encountering:

- *In situ* lithic flaking floors
- Remains of a hearth in relatively *in situ* condition
- *In situ* non-human bone relating to Aboriginal occupation
- Midden deposit

Up to but no more than an additional six square metres must be excavated in this situation at that site, unless rare features are encountered, in which case discussions with the registered Aboriginal parties and OEH should be undertaken to agree on a suitable approach.

8.2.1.3. Salvaged material

For all salvaged material, suitable storage would be agreed upon with the RAPs prior to commencing salvage in those areas. If it is determined that the objects would be removed from the ancillary facilities to be transferred to a separate safe storage location (temporarily or permanently), the curator of these objects would be required to ensure they comply with Section 85A of the *National Parks and Wildlife Act 1974*. This would involve the submission to OEH of a Care Agreement application which must also include an accurate catalogue of any objects collected/transferred.

8.2.1.4. Aboriginal cultural heritage induction

The RAPs wanted to reiterate that they feel all staff and contractors involved in the project and ancillary facilities should take part in a cultural and heritage awareness induction, that is at least in part conducted by local Aboriginal people, and that all personnel have this induction with local Aboriginal people in order to appreciate the cultural significance to the local Aboriginal population.

Table 8-1 Management requirements for archaeological sites near or within ancillary facilities and design changes

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
1	Kangaroo Trail Road design change	-	-	Moderate (potential)	Unknown	This property could not be accessed for field investigations. As it occurs in an area of moderate Aboriginal cultural sensitivity, there is some potential for archaeological evidence to occur here. Consequently, it is recommended that survey and sub-surface testing is undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.
1	1a	Taylor's Run 2	Artefact scatter	Low	100 %	If impact is likely, all previously recorded artefacts must be recovered and removed off-site, and passed to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established. If the site is able to be avoided, an exclusion zone would be established consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site, and would be marked on construction plans. All areas within 50 m of the site proposed to be impacted would be inspected on the ground surface by Aboriginal site officers during and following vegetation clearance. Any Aboriginal heritage material identified would be collected and added to an updated AHIMS site record.
1	1a	Taylor's Run 3	Isolated artefact	Low	0 %	Site is near ancillary facility, but would not be impacted; exclusion zones would be put in place to ensure incidental damage does not occur to these archaeological deposits. Exclusion would consist of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
1	1a	Taylor's Run 1	Artefact scatter	Low-moderate	70 %	<p>The surface scatter portion of this site, which is outside the proposed ancillary facility, can be avoided. No impact would occur within 15 m of the surface artefact point (517645E/6677807N - all surface artefacts were found within 1 m of this point) using an exclusion zone that consists of fencing (eg high visibility construction webbing) such as would exclude entry by people or plant to avoid impact to the site, and would be marked on construction plans.</p> <p>If ground disturbance is necessary (this includes placing fill down, driving heavy vehicles, as well as excavation, etc) for the remainder of the ancillary facility activities, the RAPs requested that the top soil down to the sterile clay layer should be graded from within the boundary of the site and placed to the side (within a portion of the ancillary facility area), and reinstated following completion of the activity.</p> <p>Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p> <p>All areas within 50 m of the site proposed to be impacted would be inspected on the ground surface by Aboriginal site officers during and following vegetation clearance. Any Aboriginal heritage material identified would be collected and added to an updated AHIMS site record.</p>

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
1	1a	WWC37 (22-1-0344)	Artefact scatter	Low	50 %	<p>Salvage excavation of the portion of the site to be impacted would be undertaken. This would comprise:</p> <ul style="list-style-type: none"> ▪ A total of 100 m² to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Each excavation scrape would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs, but would occur within the ancillary facility, outside the boundary of the project ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis, which would be included in a technical report, including detailed discussion and interpretation.</p> <p>Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p> <p>All areas within 50 m of the site proposed to be impacted would be inspected on the ground surface by Aboriginal site officers during and following vegetation clearance. Any Aboriginal heritage material identified would be collected and added to an updated AHIMS site record.</p>

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
1	1a and 1b	WWC39 (22-1-0343)	Artefact scatter	Moderate-high	55 % (25 % from 1a and 30 % from 1b)	<p>For that part of the site within the boundary of the project, the RAPs requested that following any salvage activities, but prior to construction activities (including any ground disturbance), the top soil down to the sterile clay layer should be graded from the area and placed to the side, and used in batters (not fill) of the road/bridge. The relevant RAPs would be consulted by the contractors in regards to undertaking this and also would be engaged to direct this activity. The RAPs also requested:</p> <ul style="list-style-type: none"> ▪ That the salvage quota in the working paper to be excavated by machine be changed to 30 % of the site ▪ That the older house nearest the river within the boundary of this site be removed, with minimal ground disturbance, prior to salvage excavations being undertaken, so that this area may be included in salvage activity ▪ That their nominated site officers are present during removal of the plastic covering the blueberry bush rows, to identify artefacts on the surface under the plastic – an archaeologist would also be present to document finds <p>Where WWC39 would be subject to ground disturbance from ancillary facility activities (including placing of fill, turnarounds, or traversing by heavy vehicles and/or machinery), the RAPs requested that following archaeological salvage (described below) be undertaken, and the top soil down to the sterile clay layer should be graded from the area and placed to the side and placed in batters as above following completion of the activity.</p> <p>Where impact to WWC39 is not avoidable, salvage excavation of the portion of the site to be impacted would be undertaken, with the remainder forming an exclusion zone to be fenced and marked on construction plans. This would comprise:</p> <ul style="list-style-type: none"> ▪ About 30 % of the portion to be impacted would be undertaken with a mechanical sieve and a machine excavator (~900 mm bucket) ▪ Hand excavation of up to 50 m² of the portion of WWC39 to be impacted. This would be excavated in a controlled manner using trowels and/or shovels and 5 mm mesh hand or mechanical sieve, and targeted at areas of high artefact density previously identified or identified through machine excavation ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits, and samples taken for dating. ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed, the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis, which would be included in a technical report, including detailed discussion and interpretation.</p>

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Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
1	Additional site 5	-	-	Moderate-high (potential)	Unknown	This property could not be accessed for field investigations. As it occurs in an area of relatively high Aboriginal cultural significance, there is the potential for archaeological evidence to occur here. Consequently, it is recommended that sub-surface test excavation is undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.
1	N/A	WWC Dirty Creek 1c (22-1-0403)	PAD	Low-moderate or moderate	100 %	If ground disturbance is likely, the ground would be inspected for any Aboriginal archaeological material by an archaeologist and RAP nominated site officers during clear and grub activities (prior to other ground disturbance). Any archaeological material would be recorded, removed from the site, and a suitable location for the material determined in consultation with the RAPs. The AHIMS record would be updated with any new finds and any locations where the material is to be stored – unless reburied on or near site, establishing a care agreement would be necessary. All areas within 50 m of the site proposed to be impacted would be inspected on the ground surface by Aboriginal site officers during and following vegetation clearance. Any Aboriginal heritage material identified would be collected and added to an updated AHIMS site record.
2	1b	Lemon Tree Road 1 (13-4-0180)	Scarred tree	Moderate	100 %	This site would be avoided if possible using an exclusion zone that consists of fencing (eg high visibility construction webbing. such as would exclude entry by people or plant to avoid impact to the site. If not possible to avoid, the scarred portion of the tree trunk would be attempted to be removed to a suitable location agreed upon by the RAPs (subject to a care agreement being established). As the tree is in a degree of decay, caution would be taken to stabilise the decay prior to and after removal – advice from an arborist would be sought in relation to this.
2	3	Kungala Road 1 (13-4-0181)	PAD	Low-moderate	40 %	This property could not be accessed for field investigations. As it occurs in an area of relatively high Aboriginal cultural significance, and a PAD was identified, sub-surface test excavation would be undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs, including potentially establishing a care agreement would be necessary to enable this. Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.

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Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
2	4	Wells Crossing Artefacts 1 (13-4-0183)	Artefact scatter	Low	100 %	<p>If this site is to be impacted, salvage excavation of the portion of the site to be impacted would be undertaken. This would comprise:</p> <ul style="list-style-type: none"> ▪ A total of 20 m² to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis, which would be included in a technical report, including detailed discussion and interpretation.</p>
2	5b	WWC139 (13-4-0157)	Artefact scatter	Low	100 %	No change to recommendations in working paper
3	3b	WX2I Site 8 (09-4-0108)	Artefact scatter	Low	100 %	<p>All previously recorded artefacts would be recovered and removed off-site prior to construction, subject to a care agreement being established.</p> <p>All cultural material recovered would be subject to detailed analysis, which would be included in a technical report, including detailed discussion and interpretation.</p>
3	Firth Heinz Road design change	Chaffin Creek Tree 1	Scarred tree	Moderate	0 %	Site is near design change, but would not be impacted, as the site is outside the boundary of the project and the design change. An exclusion zone would be put in place to ensure incidental damage does not occur to this scarred tree. Exclusion would consist of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site. At a minimum, the tree and its boundary would be marked on construction plans.
3	Firth Heinz Road design change	Chaffin Creek Tree 2	Scarred tree	Moderate	0 %	An exclusion zone would be established at the boundary of Chaffin Creek Tree 2 (which includes a buffer to avoid indirect impact or damage to roots based on the drip zone). The exclusion zone would consist of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid impact to the site, and would be marked on construction plans.

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Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
3	6b	Old Tucabia Dump 1 (13-4-0184)	Scarred tree	Moderate	20 %	An exclusion zone would be established at the boundary of this site (which includes a buffer to avoid indirect impact or damage to roots based on the drip zone). The exclusion zone would consist of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid impact to the site, and would be marked on construction plans.
3	8	WX2I Site 4	Artefact scatter	Low	50 %	Due to no access permission, this property was not able to be assessed. It is likely that stone artefact scatter WX2I Site 4 extends across much of the ancillary facility. As such, it is recommended that this ancillary facility not be used due to its high impact to this site, and the importance afforded this site by the RAPs. If this ancillary facility is likely to be pursued at this location, once property access permission has been negotiated, then a full assessment including sub-surface test excavation would be conducted. As it occurs in an area of relatively high Aboriginal cultural significance, and a PAD has been identified, there is the potential for archaeological evidence to occur here. Consequently, it is recommended that sub-surface test excavation is undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.
3	9	Upper Coldstream 1 (13-4-0182)	Isolated artefact	Low	25 %	All previously recorded artefacts would be recovered and removed off-site, subject to a care agreement being established. Any portions of the site able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.
4	1	-	-	Low-moderate (potential)	Unknown	This property could not be accessed for field investigations. As it occurs in an area of relatively high Aboriginal cultural significance, there is the potential for archaeological evidence to occur here. Consequently, it is recommended that sub-surface test excavation is undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
4	3	-	-	Low (potential)	Unknown	This property could not be accessed for field investigations. As it occurs in an area of relatively high Aboriginal cultural significance, there is the potential for archaeological evidence to occur here. Consequently, it is recommended that sub-surface test excavation is undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.
4	4b and 4c	Shark Creek Site 2 (13-4-0170)	Artefact scatter	Low-moderate	40 %	These ancillary facilities would not be used due to a request from the RAPs based on the importance of the site (especially the stone-axe) afforded by them, and also due to the high impact to this site that would result from use of this ancillary facility, in addition to impacts already proposed as part of the project. It is recommended that Section 4, Site 4a is used instead of these ancillary facilities. Shark Creek Site 2 would be shown on construction plans, and if necessary, an exclusion zone established to avoid incidental impact.
4	5	Hirst 3 (13-1-0192)	Artefact scatter	Low	50 %	It is recommended that as much of this site is avoided if possible, due to the presence of a stone axe blank, which has been afforded some importance by the RAPs. Partial or complete avoidance would be achieved using an exclusion zone that consists of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid impact to the site, and would be marked on construction plans. If avoidance is not possible for part or the entire site, salvage excavation of the portion of the site to be impacted would be undertaken. This would comprise: <ul style="list-style-type: none"> ▪ A total of 10 m² to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established All cultural material recovered would be subject to detailed analysis and inclusion in a technical report, including detailed discussion and interpretation.

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5	Additional site 7	Mororo Creek 1 (13-1-0191)	Artefact scatter	Low-moderate	80 %	This site would be avoided by ancillary activities, due to the importance of the site afforded by the RAPs, based on its association with a resource zone (Mororo Creek and nature reserve). This would be achieved using an exclusion zone that consists of fencing such as would exclude entry by people or plant to avoid impact to the site (eg high visibility construction webbing) at least 5 m outside the boundary of the site that would be marked on construction plans.
5	6, and additional site 7	Mororo Creek 2 (13-1-0193)	Artefact scatter	Low-moderate	90 %	This site would be avoided by ancillary activities, due to the importance of the site afforded by the RAPs, based on its association with a resource zone (Mororo Creek and nature reserve). This would be achieved using an exclusion zone that consists of fencing such as would exclude entry by people or plant to avoid impact to the site (eg high visibility construction webbing) at least 5 m outside the boundary of the site that would be marked on construction plans.
7	Mororo Road design change	-	-	-	Unknown	As this location could not be suitably assessed due to being covered in sugar cane, the ground would be inspected for any Aboriginal archaeological material by an archaeologist and RAP nominated site officers during and following clear and grub activities. Any archaeological material would be recorded, removed from the site, and a suitable location for the material determined in consultation with the RAPs. An AHIMS record would be submitted for any finds and any locations where the material is to be stored – unless reburied on or near site, establishing a care agreement would also be necessary.
7	1	-	-	Moderate (potential)	Unknown	This property could not be accessed for field investigations. As it occurs in an area of moderate archaeological significance, there is the potential for archaeological evidence to occur here. Consequently, it is recommended that survey be undertaken to confirm that sub-surface test excavation is required, and if so, that would be undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
7	3	Dubaijeen Site (New Italy 1)	Artefact scatter	Moderate	90 %	<p>If impact to Dubaijeen Site is necessary, salvage excavation of the portion of the site to be impacted would be undertaken. Part of this site also extends into the boundary of the project – the same recommendations apply to the ancillary facility as for impact within the project corridor. This would comprise:</p> <ul style="list-style-type: none"> ▪ 20 % of the portion to be impacted to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Hand excavation of 1 % of the portion to be impacted. This would be excavated in a controlled manner using trowels and/or shovels and 5 mm mesh hand or mechanical sieve ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ Samples would be taken as encountered for radiometric (eg radiocarbon, optically stimulated luminescence) dating, and submitted for dating and the results included in interpretation and discussion in the technical report, as well as more widely as deemed appropriate by the RMS Senior Environmental Officer (Heritage) and RAPs. Where further investigation (eg geomorphological) is needed to substantiate or elaborate on dating results, this would also be undertaken ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis and inclusion in a technical report.</p> <p>Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p>

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
7	4	The Gap Rd 1 (13-1-0194)	Artefact scatter	Low-moderate	100 %	<p>If impact to The Gap Rd 1 is necessary, salvage excavation of the portion of the site to be impacted would be undertaken. This would comprise:</p> <ul style="list-style-type: none"> ▪ About 10 % of the portion to be impacted to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Hand excavation of 1 % of the portion to be impacted. This would be excavated in a controlled manner in 1 m² increments using trowels and/or shovels and 5 mm mesh hand or mechanical sieve ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis to be undertaken. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis and inclusion in a technical report, including detailed discussion and interpretation.</p> <p>Any portions of the site that are able to be avoided impacted would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p>
8	3	Gittoes Jali 09-1-0204, 09-1-0205 and 09-1-0203	Artefact Scatter, paint wells, grinding rock	High	No impact from ancillary facility	No recommendations for ancillary facility area, the site is not likely to be impacted by the ancillary facility.

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
8	N/A	Gittoes Jali 09-1-0204, 09-1-0205 and 09-1-0203	Artefact Scatter, paint wells, grinding rock	High	35%	<p>The project would directly impact on this site. Due to its high significance, where possible, impacts to this site should be reduced or avoided. Avoided areas must be fenced. If avoidance is not an option, then detailed salvage is recommended. The scarred tree is outside the boundary of the project and is not likely to be impacted.</p> <p>1. Artefact scatter</p> <ul style="list-style-type: none"> Salvage excavation must be undertaken of this site within that part of the site to be impacted by the project A total of 250 m² to be excavated by machine with an excavator (~900 mm bucket) and mechanical sieve Hand excavation of 100 m² that would be impacted. This would be excavated in a controlled manner using trowels and/or shovels and 5 mm hand or mechanical sieve Each excavation must be undertaken in 50 mm spits to sterile base deposits The location of excavations should be decided upon in the field by the archaeologist and RAPs All artefacts which have previously been recorded and reburied must be recovered All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established In acknowledgement of the social significance to Aboriginal people of the artefacts at this site, any sediment to 0.6 m depth or to the sterile clay layer (whichever comes first) from this site that is proposed to be used (eg as fill) outside the boundary of the Gittoes Jali site should be sieved to remove cultural material to ensure new sites are not recorded in fill relocation areas <p>2. Paint wells and grinding rock</p> <ul style="list-style-type: none"> No impact is proposed of this component of the site It is recommended that the location of these paint wells be accurately plotted and drawn <p>Geomorphology study A geomorphology assessment should be undertaken that encompasses this site (and Site 11, E2/2 and Melino Site). The study should be non-invasive, but can use observations of the machine salvage excavation, as necessary.</p> <p>The land There is a commitment by RMS to pass the land ownership to the local Aboriginal community in some way following construction of the highway, and possibly also provide support for a keeping place, and possibly undertake some rehabilitation of the hill following resource extraction in the northern section. This is a complex process and as such the details are not presented here, only the commitment.</p>

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
9		Cooks Hill 1	Artefact scatter	Low-moderate	80 %	<p>If impact to Cooks Hill 1 is necessary, salvage excavation of the portion of the site to be impacted would be undertaken. This would comprise:</p> <ul style="list-style-type: none"> ▪ About 10 % of the portion to be impacted to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Hand excavation of 1 % of the portion to be impacted would also be undertaken if and where artefact concentrations of 20 per square metre are encountered. This would be excavated in a controlled manner in 1 m² increments using trowels and/or shovels and 5 mm mesh hand or mechanical sieve. ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis to be undertaken. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis and inclusion in a technical report, including detailed discussion and interpretation.</p> <p>Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p>
10	1a	-	-	Low-moderate (indicative)	Unknown	<p>This property could not be accessed for field investigations. As it occurs in an area of low-moderate archaeological significance, there is the potential for archaeological evidence to occur here. Consequently, it is recommended that survey be undertaken to confirm whether sub-surface test excavation is required, and if required, the sub-surface testing would be undertaken to determine the presence and extent of potential archaeological evidence here. This would be conducted in accordance with the methodology used here and in the working paper, and would occur several months prior to ground disturbing works for the project or ancillary activities being undertaken here. Further recommendations for the site would then be made in consultation with the RAPs.</p>
10	N/A	Gumi Site (04-4-0180)	Not a site	Low-moderate	100%	<p>This site has no physical remains associated with it, and scientifically is not considered a site. The tree with a scar is considered by some of the RAPs to be of cultural significance as a marker. Consequently, it is recommended that if it's not possible to avoid the tree (leave it in situ), then it should be removed and placed in a culturally appropriate location.</p>

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
10	N/A	Melino Artefact Collection	Artefact collection	Low-moderate	100%	These artefacts would be removed from their current location until completion of construction activities. Once construction has been complete, the artefacts would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established.
10	4	Site 1 (04-2-0065)	Artefact scatter	Low-moderate	0 %	No recommendations for ancillary facility area, the site would not be impacted by the ancillary facility.
10	5	Rudgley Site 1 (04-4-0167)	Artefact scatter	Low	90 %	<p>Much of the ancillary facility would not impact Aboriginal heritage – this portion of the ancillary facility has no Aboriginal heritage constraint.</p> <p>As Rudgley Site 1a is almost entirely within the boundary of the project, to maintain consistency with the working paper (which recommends avoidance), it is recommended that this heritage site be avoided using an exclusion zone that consists of fencing such as would exclude entry by people or plant to avoid impact to the site (eg high visibility construction webbing).</p> <p>If avoidance is not possible, salvage excavation of the portion of the site to be impacted would be undertaken. This would comprise:</p> <ul style="list-style-type: none"> ▪ About 10 % of the portion to be impacted to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis and inclusion in a technical report, including detailed discussion and interpretation.</p> <p>Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p>

Project section	Name or number	Name (AHIMS ID)	Site type	Overall significance	Impact	Mitigation strategy/ recommendations
10	6	Site 12 (11-2-0082)	Artefact scatter	Moderate	30 %	<p>It is recommended that as much of this site as possible would be avoided if possible using an exclusion zone that consists of fencing such as would exclude entry by people or plant to avoid impact to the site (eg high visibility construction webbing), and would be marked on construction plans.</p> <p>If avoidance is not possible, salvage excavation of the all portions of the site to be impacted would be undertaken, as it is a small, but dense site. This would comprise:</p> <ul style="list-style-type: none"> ▪ Hand excavation of 10m² of the portion to be impacted. This would be excavated in a controlled manner using trowels and/or shovels and 5 mm mesh hand or mechanical sieve ▪ The remainder of the portion to be impacted to be excavated by machine. This would be undertaken with a mechanical sieve and an excavator (~900 mm bucket) ▪ Where suitable datable material is recovered, this would be subject to radiometric dating and the results included in the technical salvage report ▪ Each excavation would be undertaken in 50 mm spits to sterile base deposits ▪ The location of excavations would be decided upon in the field by the archaeologist and RAPs ▪ All artefacts which have previously been recorded and reburied during sub-surface testing would be recovered ▪ All cultural material recovered during salvage would be removed off-site for detailed analysis to be undertaken. Once analysed the material would be returned to the RAPs for reburial or storage at a chosen location, subject to a care agreement being established <p>All cultural material recovered would be subject to detailed analysis and inclusion in a technical report, including detailed discussion and interpretation.</p> <p>Any portions of the site that are able to be avoided would be protected by exclusion zones consisting of fencing (eg high visibility construction webbing) that would exclude entry by people or plant to avoid incidental impact to the site and would be marked on construction plans.</p>
11	1a	-	-	-	Unknown	<p>As this location could not be suitably assessed due to being covered in sugar cane, the ground would be inspected for any Aboriginal archaeological material by an archaeologist and RAP nominated site officers during and following clear and grub activities. Any archaeological material would be recorded, removed from the site, and a suitable location for the material determined in consultation with the RAPs. An AHIMS record would be submitted for any finds and any locations where the material is to be stored – unless reburied on or near site, establishing a care agreement would also be necessary.</p>

8.2.2. Aboriginal cultural places

Management recommendations for Aboriginal cultural places (as for archaeological sites) were discussed during the field, and in more detail in AFG meetings on February 6 and 7 2013. No specific recommendations were made for Aboriginal cultural places, beyond that already presented in the EIS (all Aboriginal cultural places impacted by ancillary facilities and design changes are also impacted by the project), however, discussion focussed on general mitigations for loss of cultural resource as a result of impact to Aboriginal cultural places (as well as archaeological sites). Recommendations included:

- Incorporation of acknowledgement of traditional lands along the highway
- Inclusion of area specific information at rest areas, acknowledging culturally appropriate places and sites in the nearby area, particularly those impacted by the highway, and the information gathered as part of Aboriginal cultural heritage investigations conducted for the highway upgrade
- The names of bridges to include culturally appropriate Aboriginal names put forward by the local Aboriginal community

The AFGs were informed that these were difficult to incorporate as commitments into the EIS process, but would be addressed in detailed design, where the Aboriginal community would be given the opportunity to make submissions to these effects.

Otherwise, there were no suggestions that additional mitigation was required for likely impacts to Aboriginal cultural places from ancillary facilities and design changes. This was probably because compared to the project impacts, impacts from ancillary facilities and design changes would be relatively minor.

8.3. Commitments

The measures above, combined with the management recommendations from the working paper, form part of the overall management measures for the project. All management measures for the project are included in the Submissions/Preferred Infrastructure Report.

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Appendix A Ancillary facility desktop assessment matrix

Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
1	1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	12.77	0.10	Site WWC37, Site WWC39, Historic burials	Site WWC37, Site WWC39	Coastal Range (and small portion of Coastal Plain)	Foot slopes and spurs of range adjacent valley flats	M-H	Survey and sub-surface testing
1	1b	Stockpile site	1.41	0.00	Site WWC39, Aboriginal cultural place	-	Coastal Plain	Relatively flat plain behind dune barrier on coast	M	Survey and sub-surface testing
1	2	Materials processing and stockpile site	2.39	0.00	-	-	Coastal Range	Broad alluvial valley flats	M	Survey
1	3	Materials processing and stockpiling	0.77	0.25	-	-	Coastal Range	Foot slopes and spurs of range adjacent valley flats	H	Survey
1	4a	Stockpile site	0.45	0.00	-	-	Coastal Range	Broad alluvial valley flats	M	Survey
1	4b	Satellite site compound and Stockpile site	0.20	0.54	-	-	Coastal Range	Broad alluvial valley flats	M	Survey

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Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
2	1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	3.25	3.00	-	-	Coastal Range	Broad alluvial valley flats	M	Survey
2	1b	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	4.42	0.00	-	-	Coastal Range	Broad alluvial valley flats	M	Survey
2	1c	Stockpile site	0.00	2.84	-	-	Coastal Range	Broad alluvial valley flats	M	None, within boundary of project
2	2	Satellite site compound and stockpile site	0.60	1.31	-	-	Coastal Range	Broad alluvial valley flats	M	Survey
2	3	Satellite compound and stockpile site	0.80	0.06	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	4	Satellite compound and stockpile site	1.34	1.33	Aboriginal cultural place	-	Coastal Range	Broad alluvial valley flats	M	Survey
2	5a	Stockpile site	3.04	0.00	Site WWC139	Site WWC139	Coastal Range	Broad alluvial valley flats	M	Survey
2	5b (3 areas)	Stockpile site	0.00	1.60	-	-	Coastal Range	Broad alluvial valley flats	M	None, within boundary of project
2	6	Stockpile site	0.00	0.46	-	-	Coastal Range	Broad alluvial valley flats	M	None, within boundary of project
3	1	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.00	2.23	-	-	Glenugie Creek Catchment	Low spur lines separated by tributary streamlines	L-M	None, within boundary of project

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Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
3	2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	9.25	0.00	-	-	Glenugie Creek Catchment	Low spur lines separated by tributary streamlines	L-M	Survey
3	3a	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.00	3.37	-	-	Clarence River Valley	Coastal hills (consisting of low hills, steep peaks, escarpments and well-defined ridgelines and gullies)	H	None, within boundary of project
3	3b	Main site compound, stockpile site (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	9.16	1.02	WX2I PAD 8	-	Clarence River Valley	Coastal hills (low hills)	H	Survey and sub-surface testing
3	4	Materials processing and stockpile site (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	9.07	1.00	Aboriginal cultural place	-	Clarence River Valley	Coastal hills (low hills)	H	Survey
3	5	Site compound and stock pile site	1.31	0.44	-	-	Clarence River Valley	Coastal hills (low hills)	H	Survey
3	6a	Stockpile site	1.00	0.21	-	-	Clarence River Valley	Coastal hills (low hills)	H	Survey
3	6b	Materials processing and stockpile site	0.71	0.10	-	-	Clarence River Valley	Coastal hills (low hills)	H	Survey

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Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
3	7a	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.00	2.64	-	-	Clarence River Valley	Coastal hills (low hills)	H	None, within boundary of project
3	7b	Stockpile site	2.46	0.00	-	-	Clarence River Valley	Coastal hills (spur)	H	Survey
3	8	Stockpile site	3.61	0.00	-	-	Clarence River Valley	Coastal hills (low hill / flat)	H	Survey and sub-surface testing
3	9	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	6.39	0.00	Aboriginal cultural place	-	Clarence River Valley	Floodplain / rise	L-M	Survey
3	10	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)	2.58	0.86	-	-	Clarence River Valley	Floodplain / rise	L-M	Survey
4	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	9.13	0.00	Aboriginal cultural place	-	Clarence River Valley	Floodplain / rise	L-M	Survey and sub-surface testing
4	2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)	2.00	2.00	-	-	Clarence River Valley	Floodplain	L-M	Survey

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Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
4	3	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.73	3.00	-	-	Clarence River Valley	Floodplain / Coastal hills (spur)	L-M	Survey
4	4a	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	5.71	0.30	-	Shark Creek PAD 1	Clarence River Valley	Coastal hills	M	Survey
4	4b	Stockpile site	0.90	0.09	Shark Creek Site 2	-	Clarence River Valley	Floodplain	L-M	Survey and sub-surface testing
4	4c	Stockpile site	1.97	0.20	Shark Creek Site 2	-	Clarence River Valley	Floodplain	L-M	Survey and sub-surface testing
4	5	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	2.00	0.66	-	-	Clarence River Valley	Floodplain	L-M	Survey
4	6	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	7.33	0.80	-	-	Clarence River Valley	Floodplain / river bank	L-M	Survey
4	7a	Batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)	3.00	0.65	-	-	Clarence River Valley	Floodplain	L-M	Survey and sub-surface testing
4	7b	Stockpile site	0.00	0.89	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project

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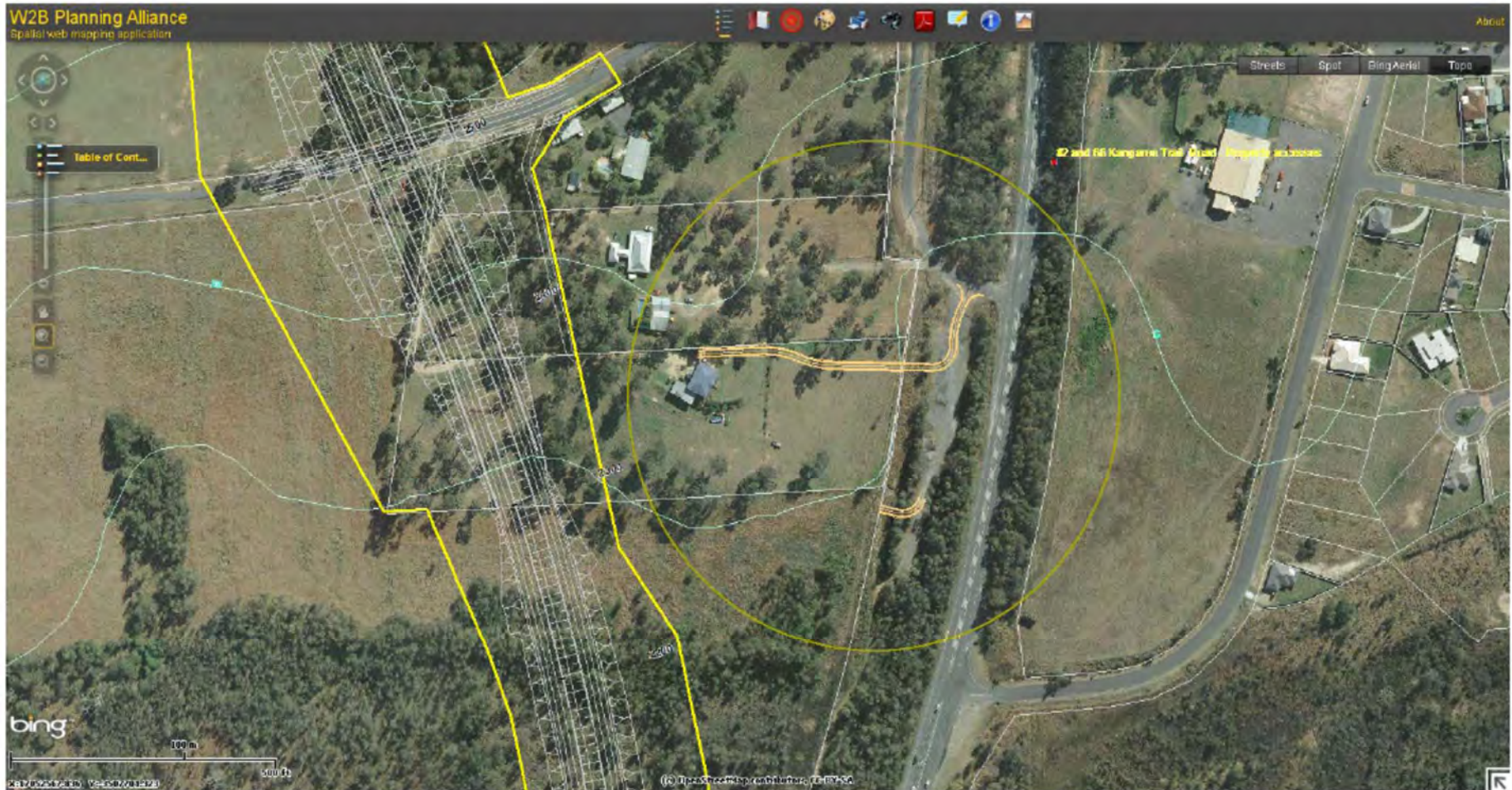
Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
5	1	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.35	0.83	-	-	Clarence River Valley	Floodplain	L-M	Survey
5	2a	Stockpile area	0.00	1.07	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	2b	Site compound (1 ha) and stockpile area	0.00	2.54	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	2c	Stockpile area	0.00	0.11	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	2d	Bridge site compound and 'structures lay down' area	0.00	1.42	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	3a	Bridge site compound and 'structures lay down' area	0.00	2.63	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	3b	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area	7.49	2.50	-	-	Clarence River Valley	Floodplain	L-M	Survey
5	4a	Stockpile sites	0.00	2.10	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project

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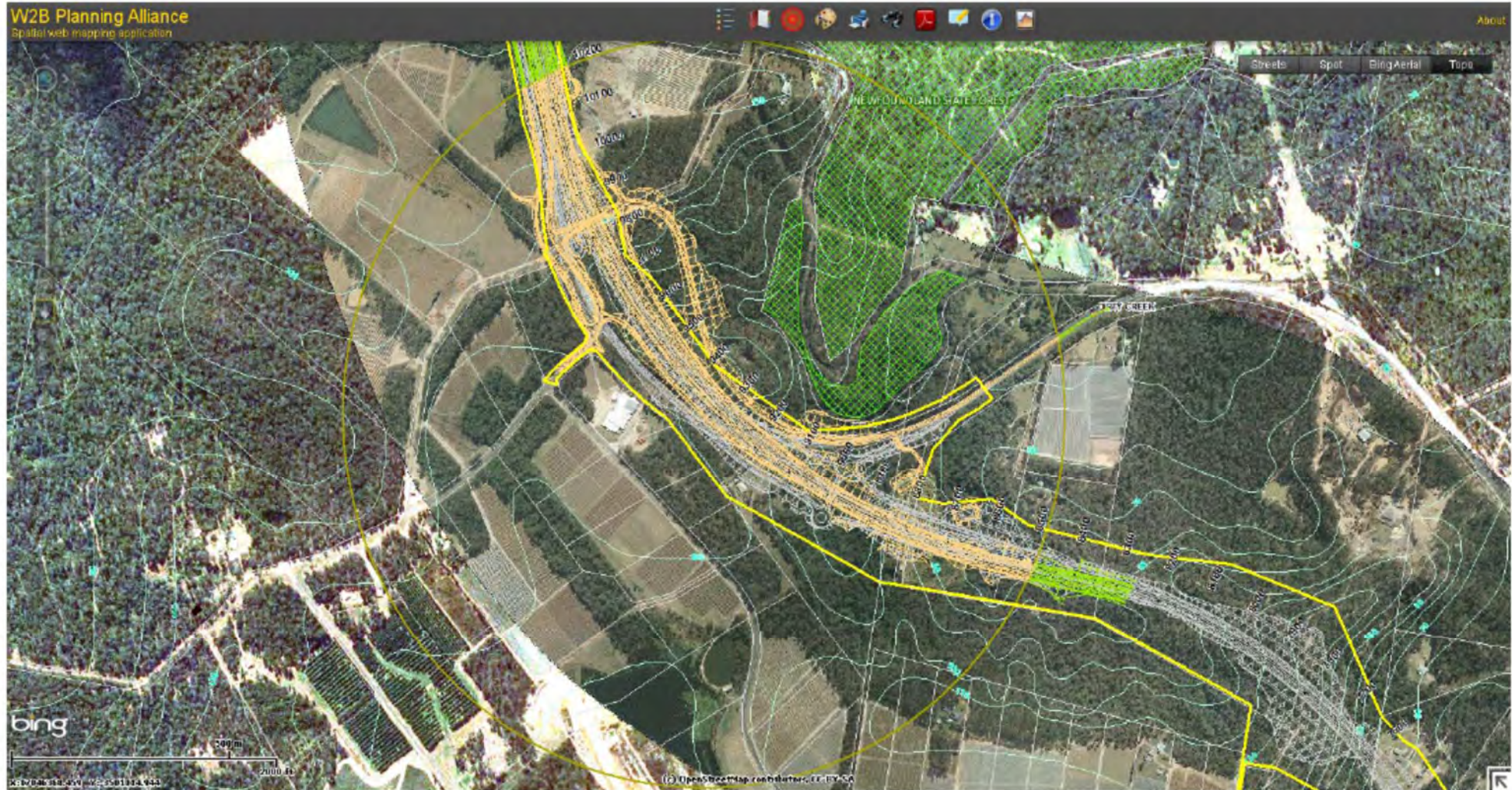
Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
5	4b (5 areas)	Stockpile sites	0.00	1.63	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	5a	Site compound (1 ha), batch plant (0.5 ha)	0.00	2.43	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	5b	Site compound (1ha), batch plant (0.5 ha)	0.00	1.09	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	5c (2 areas)	Site compound (1 ha), batch plant (0.5 ha)	0.00	1.30	-	-	Clarence River Valley	Floodplain	L-M	None, within boundary of project
5	6	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	3.84	1.00	-	-	Clarence River Valley	Floodplain	L-M	Survey
6	1	Stockpile site	0.00	1.60	-	-	Tabbimoble Rises	Low hills and undulating rises	M	None, within boundary of project
6	2	Materials processing and stockpile site	0.00	2.66	-	-	Tabbimoble Rises	Low hills and undulating rises	M	None, within boundary of project
6	3a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	13.58	2.00	-	-	Tabbimoble Rises	Low hills and undulating rises	M	Survey
6	3b	Stockpile site	1.20	6.63	-	-	Tabbimoble Rises	Low hills and undulating rises	M	Survey
6	4	Satellite compound and stockpile site	0.00	2.25	-	-	Tabbimoble Rises	Low hills and undulating rises	M	None, within boundary of project

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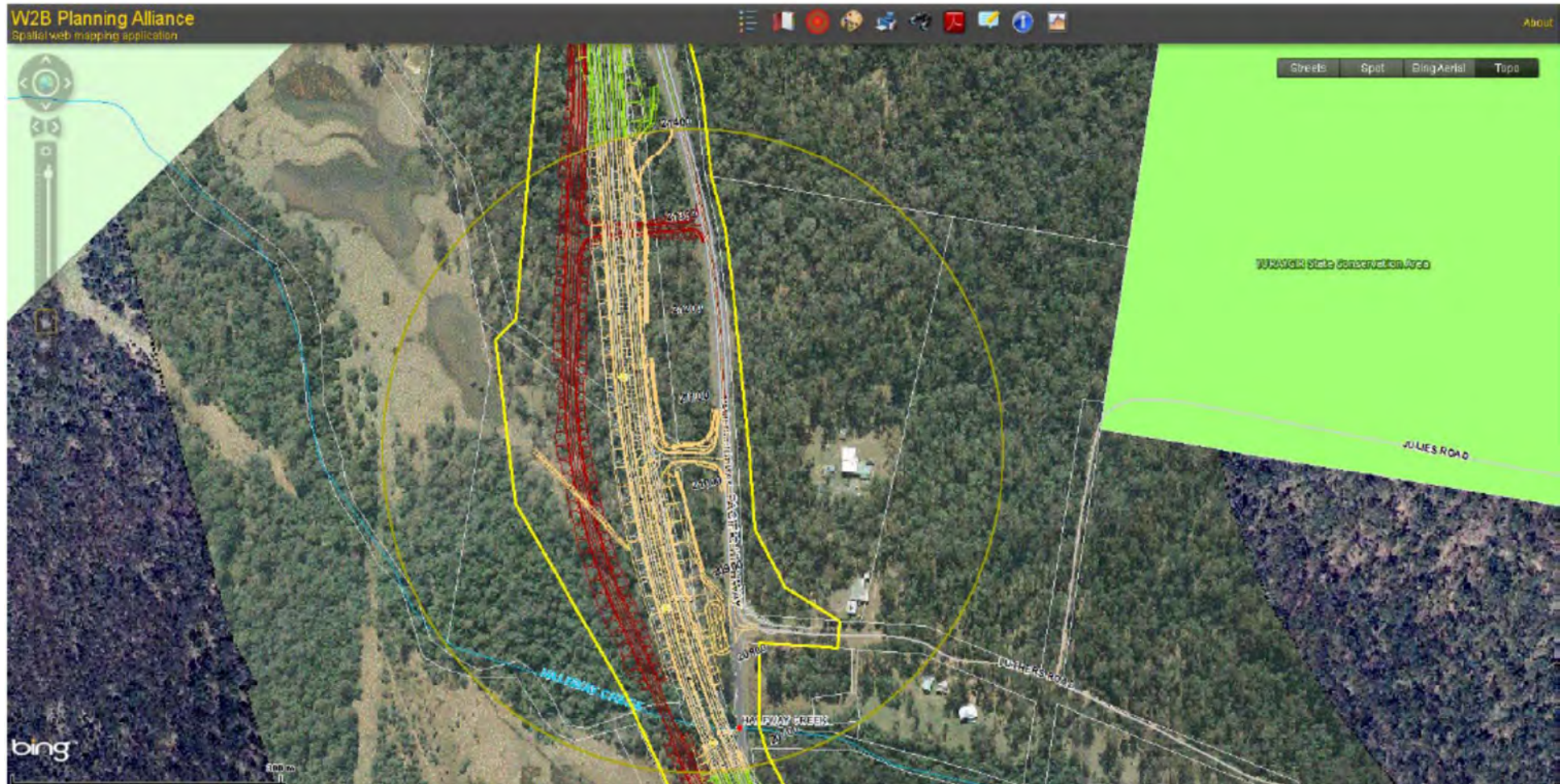
Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
6	5	Site compound (1 ha), workshop (0.5 ha)	0.00	1.99	-	-	Tabbimoble Rises	Low hills and undulating rises	M	None, within boundary of project
7	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	12.07	0.00	-	-	Tabbimoble Rises	Lowland areas	M	Survey
7	2a	Site compound and stockpile area	0.00	1.96	-	-	Tabbimoble Rises	Low hills and undulating rises	M	None, within boundary of project
7	2b	Site compound and stockpile area	0.00	0.72	-	-	Tabbimoble Rises	Low hills and undulating rises	M	None, within boundary of project
7	3	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	6.85	1.00	-	-	Tabbimoble Rises	Lowland areas	M	Survey
7	4	Satellite compound, workshop (0.5 ha) and stockpile site	8.60	0.00	-	-	Tabbimoble Rises	Lowland areas	M	Survey
8	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	14.00	0.51	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
8	2a	Site compound workshop (0.5 ha) and stockpile site	8.02	2.00	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
8	2b	RMS site office and stockpile site	2.00	0.61	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey



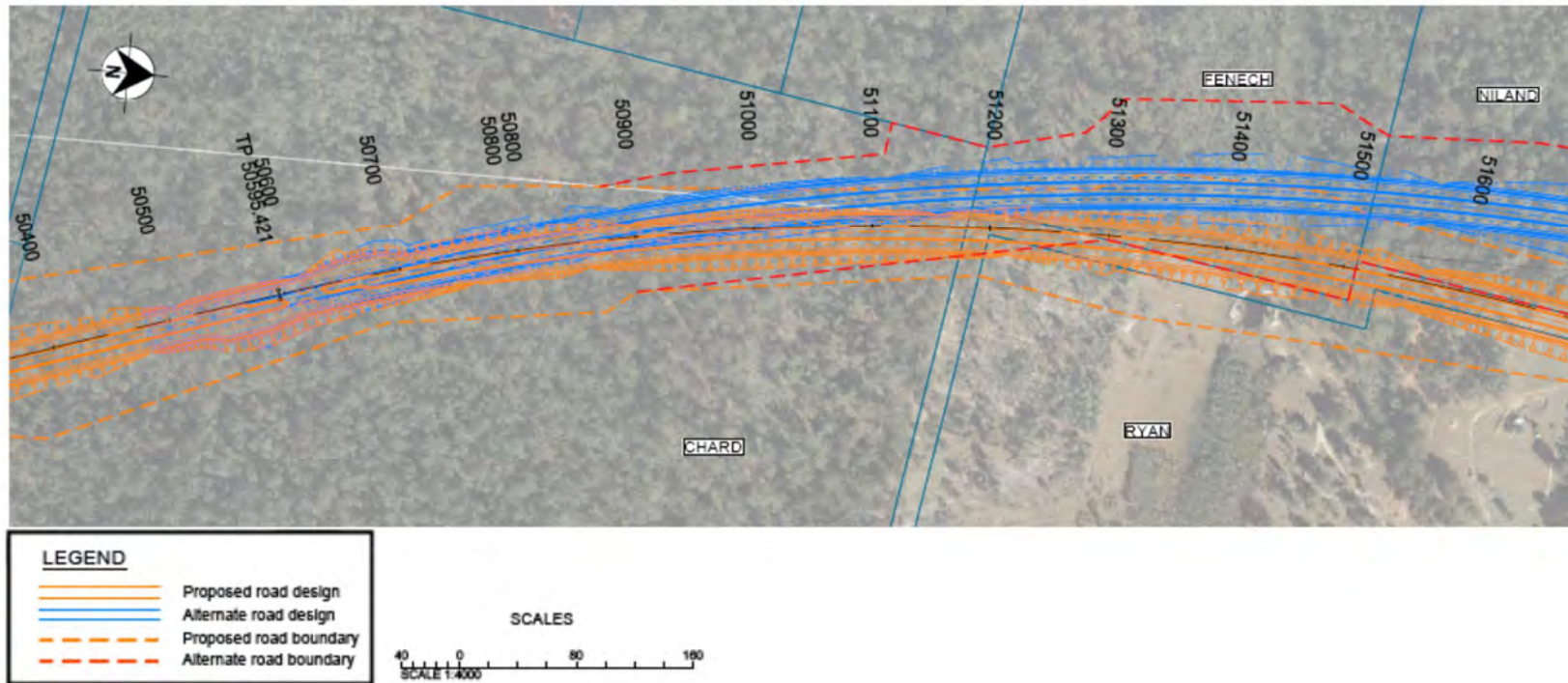
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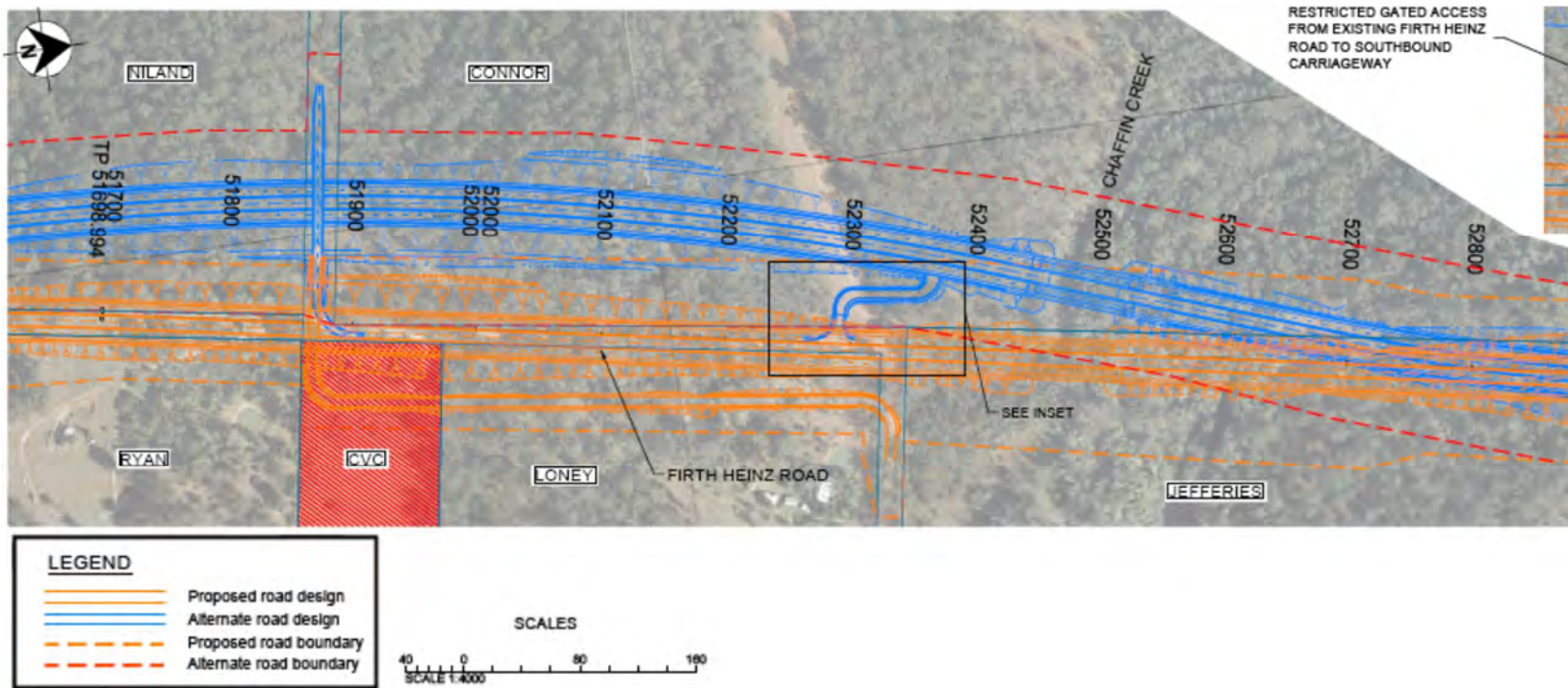
- Range Rd



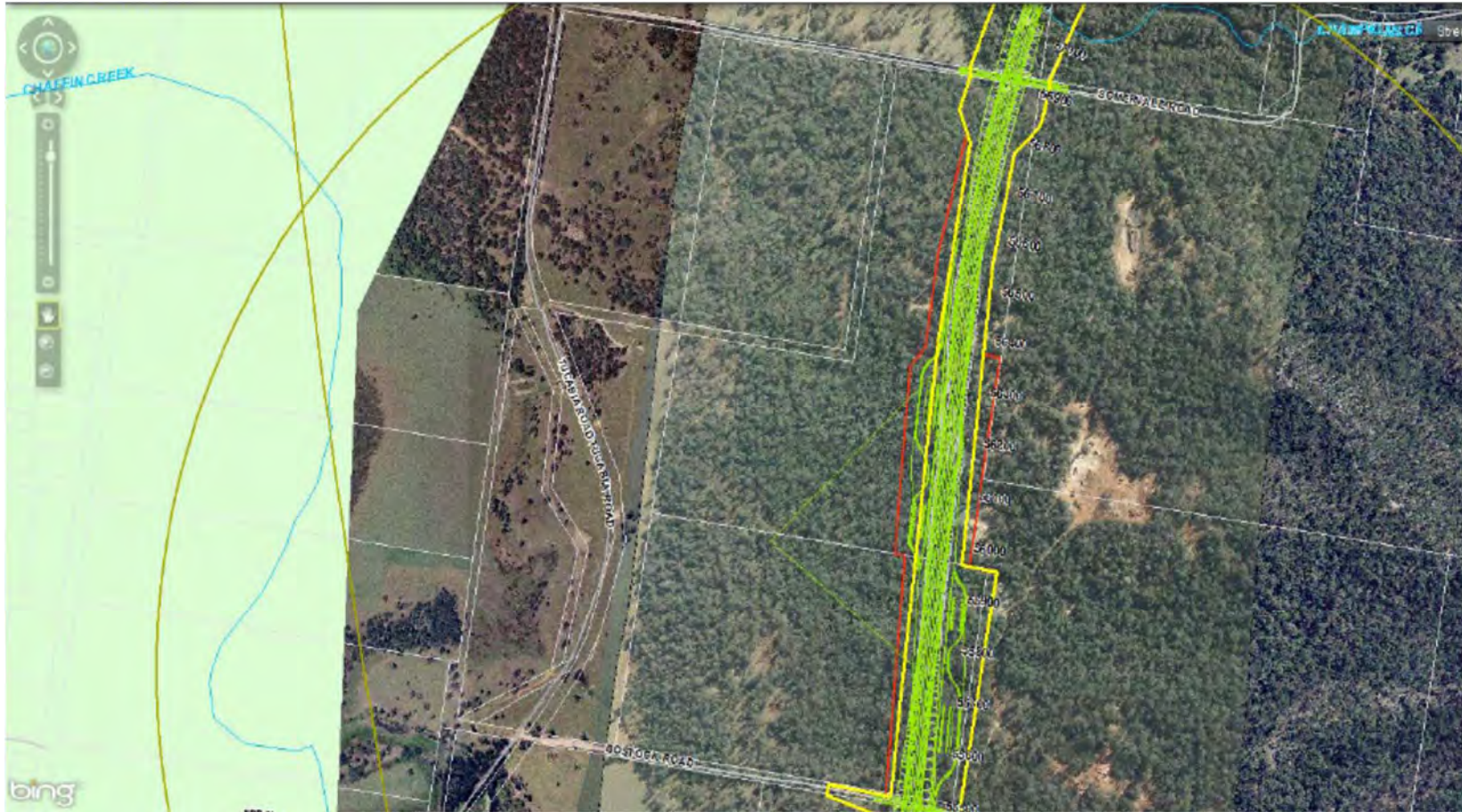
- Luthers Road



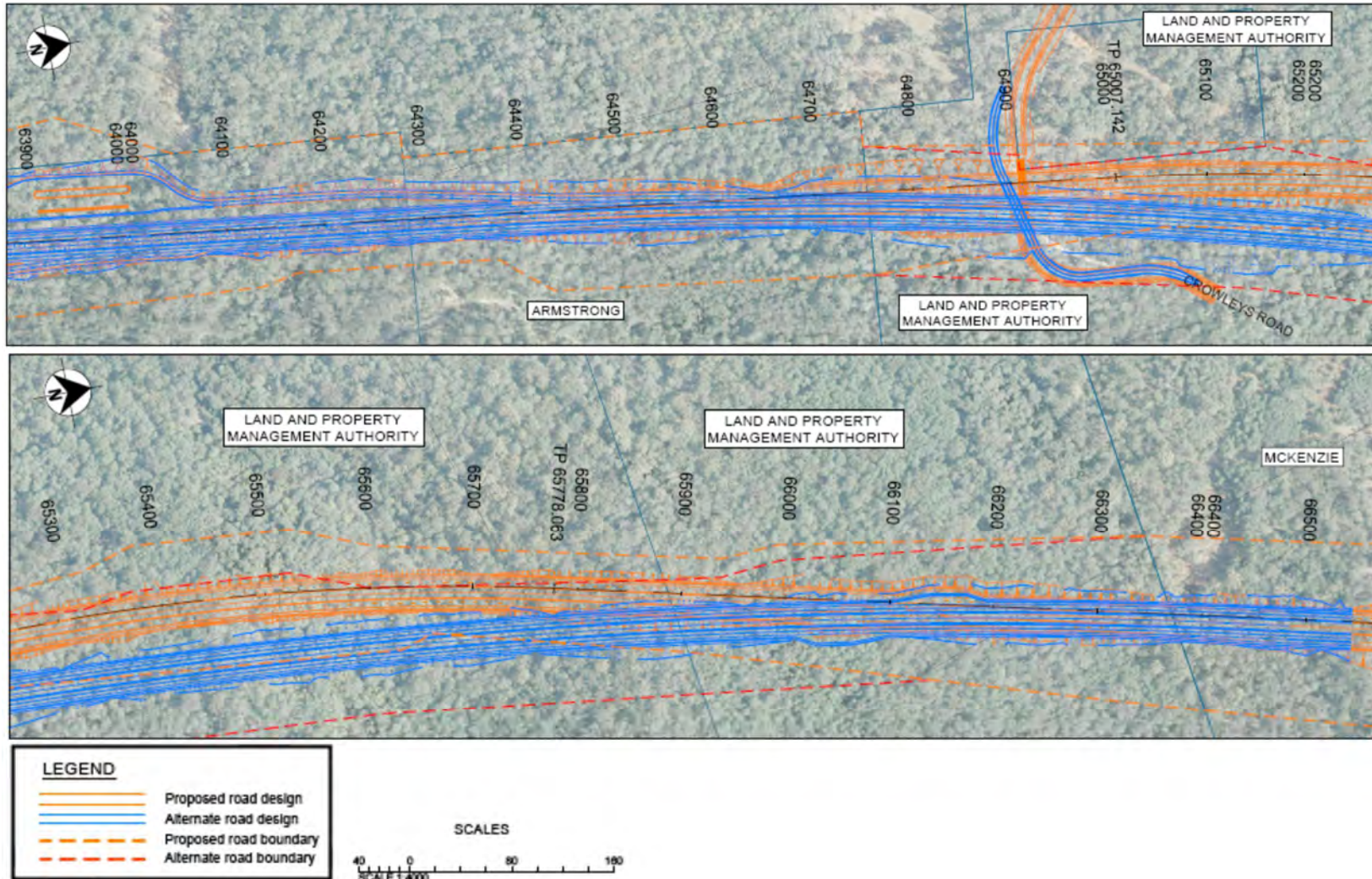
- Firth Heinz Road – part 1



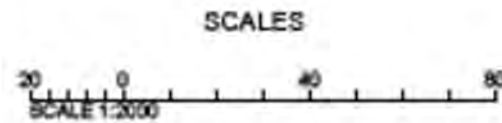
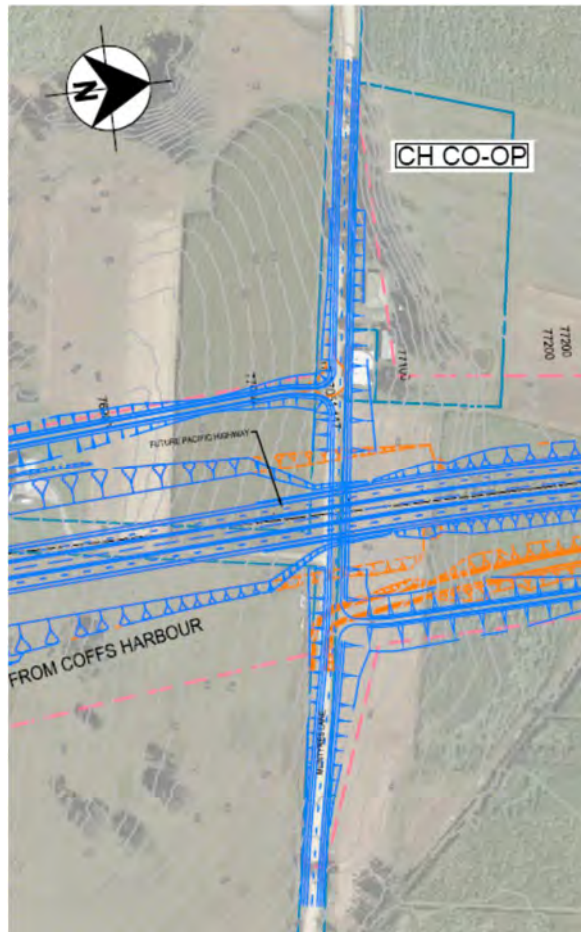
- Firth Heinz Road – part 1



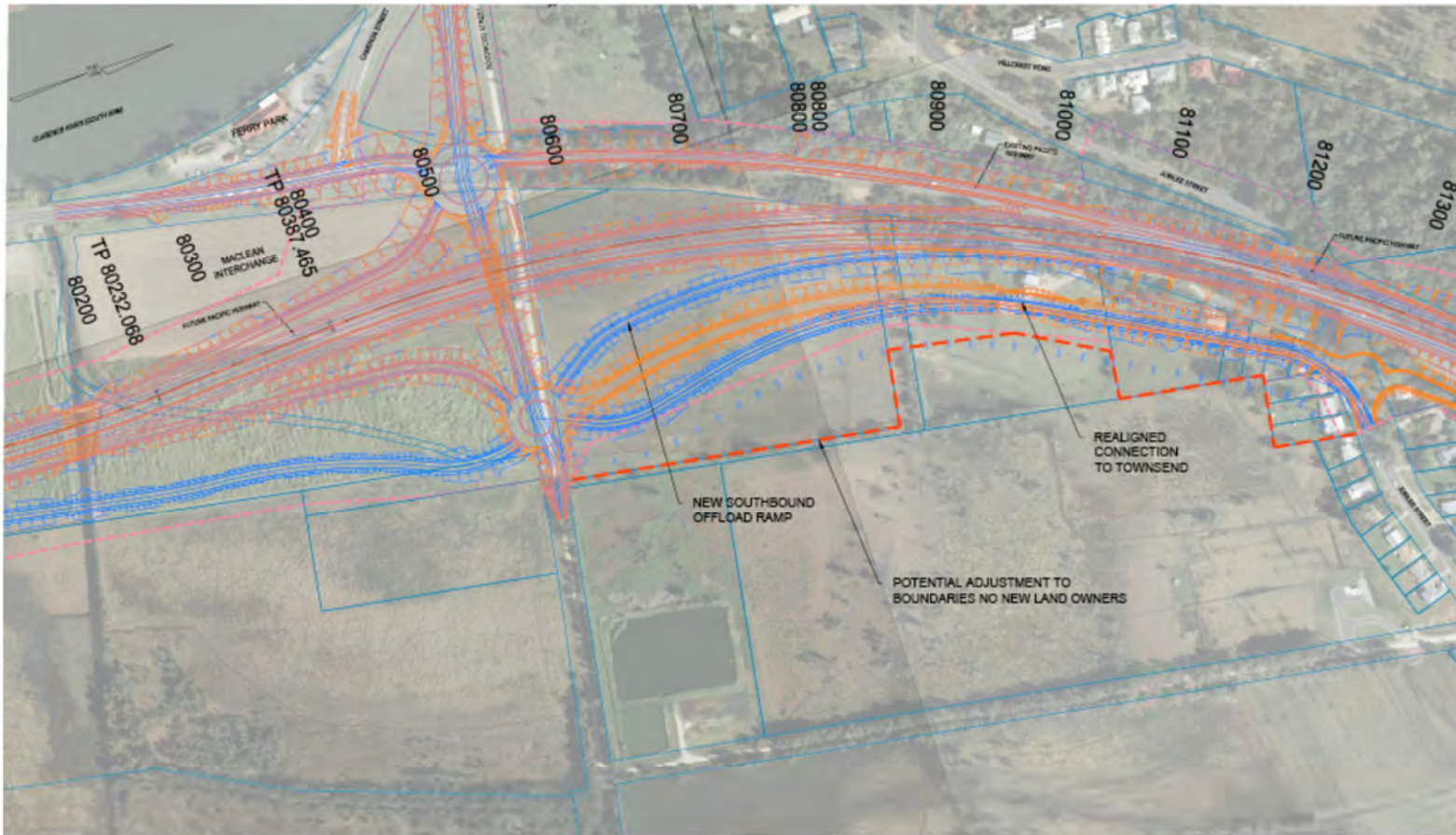
- Bostock Road



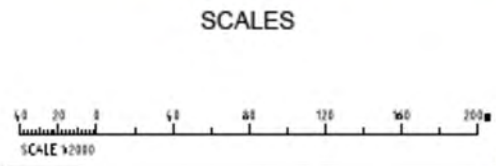
- Crowleys Road



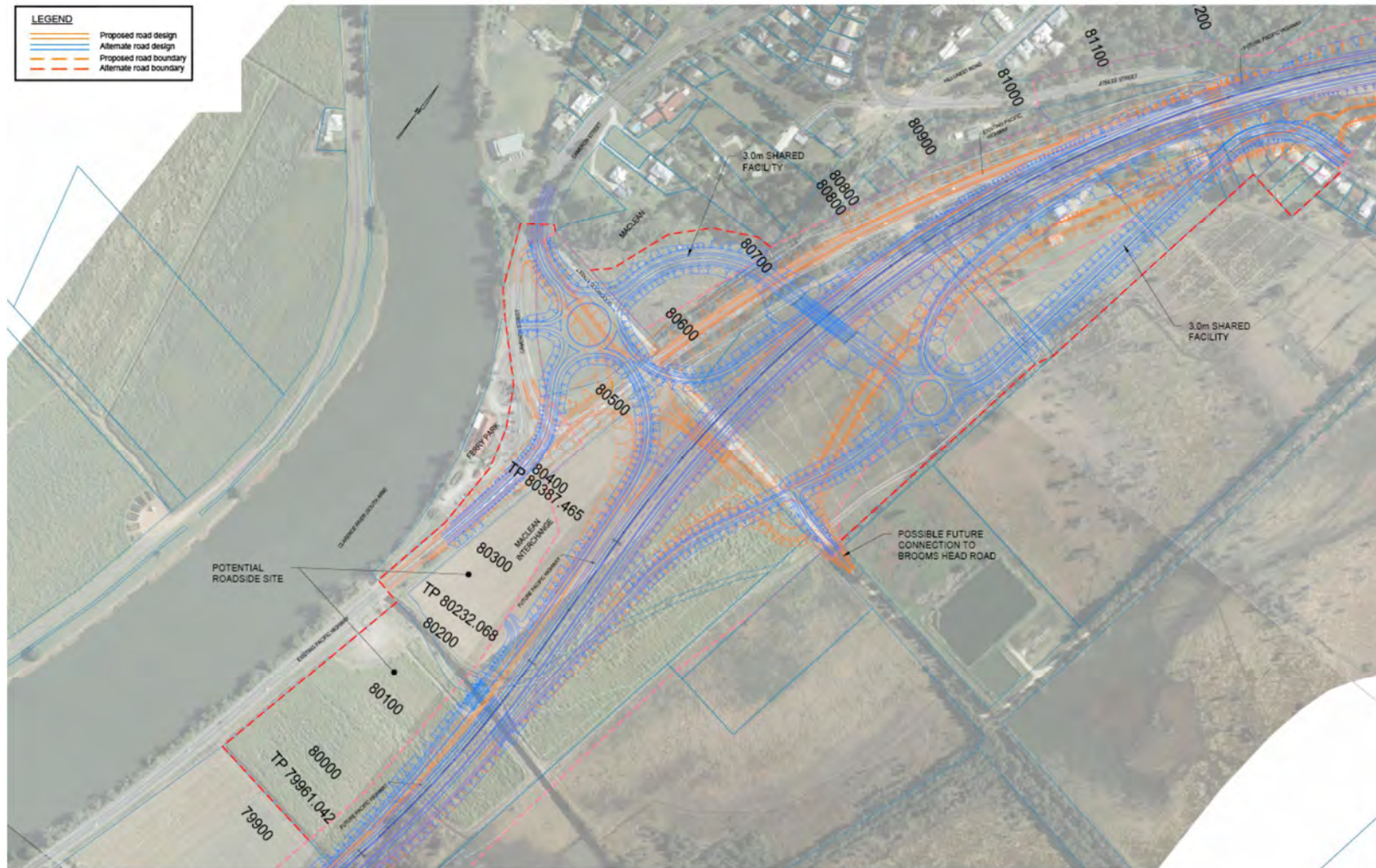
- McIntyres Lane



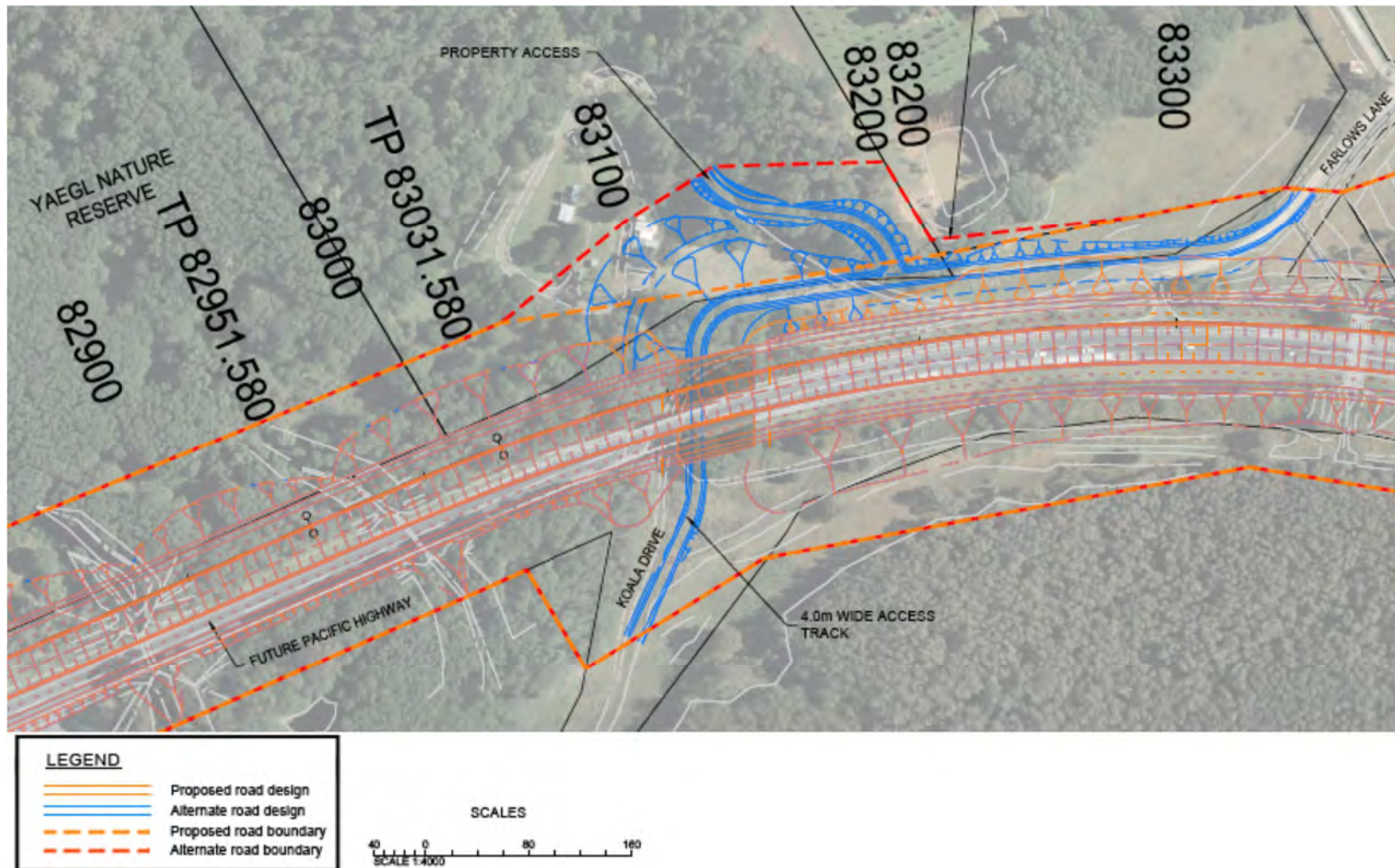
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	Alternate road design
	Class M
	Proposed road boundary
	Alternate road boundary



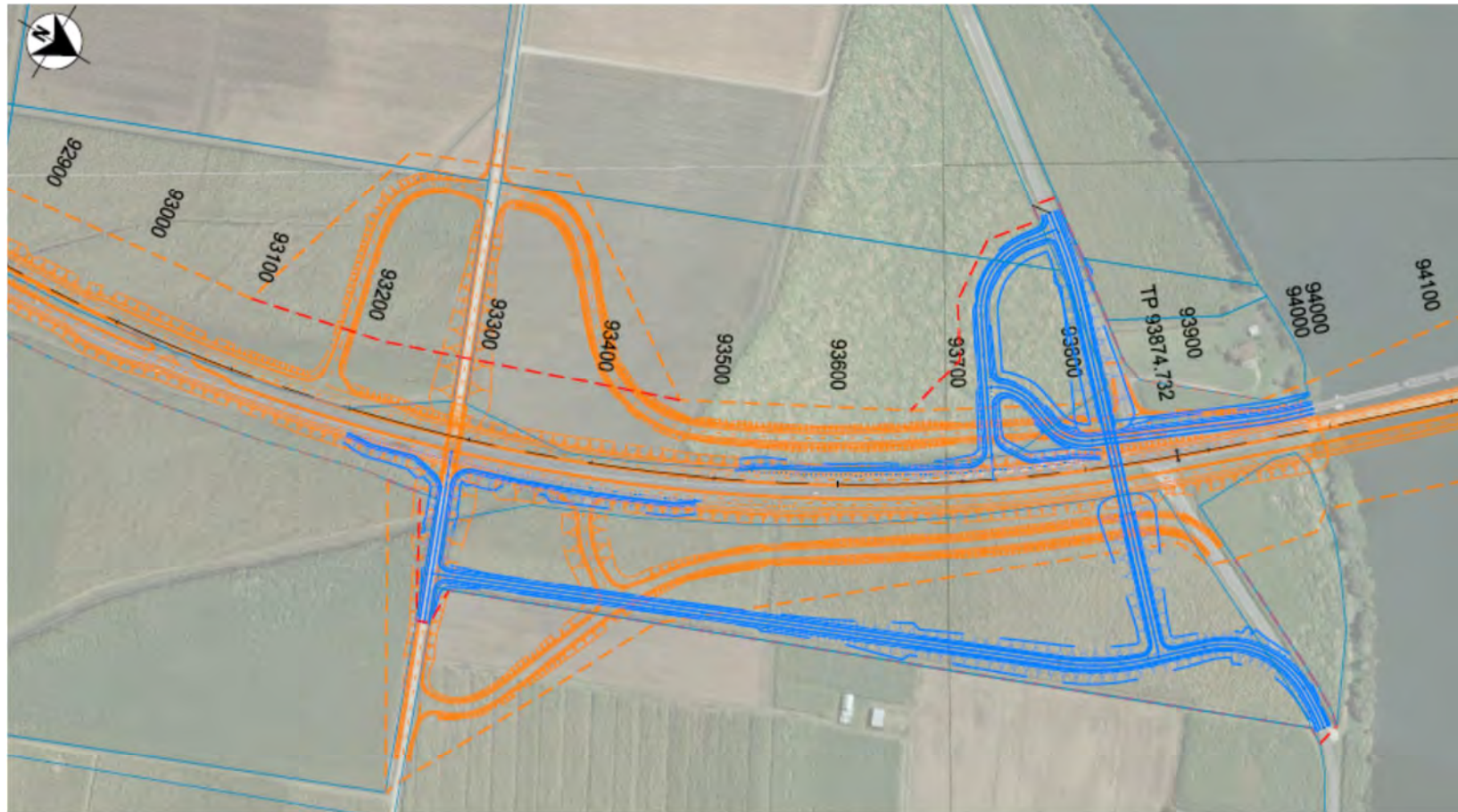
Maclean Interchange options – part 1



Maclean Interchange options – part 2

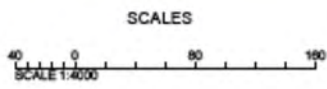


- Koala Drive

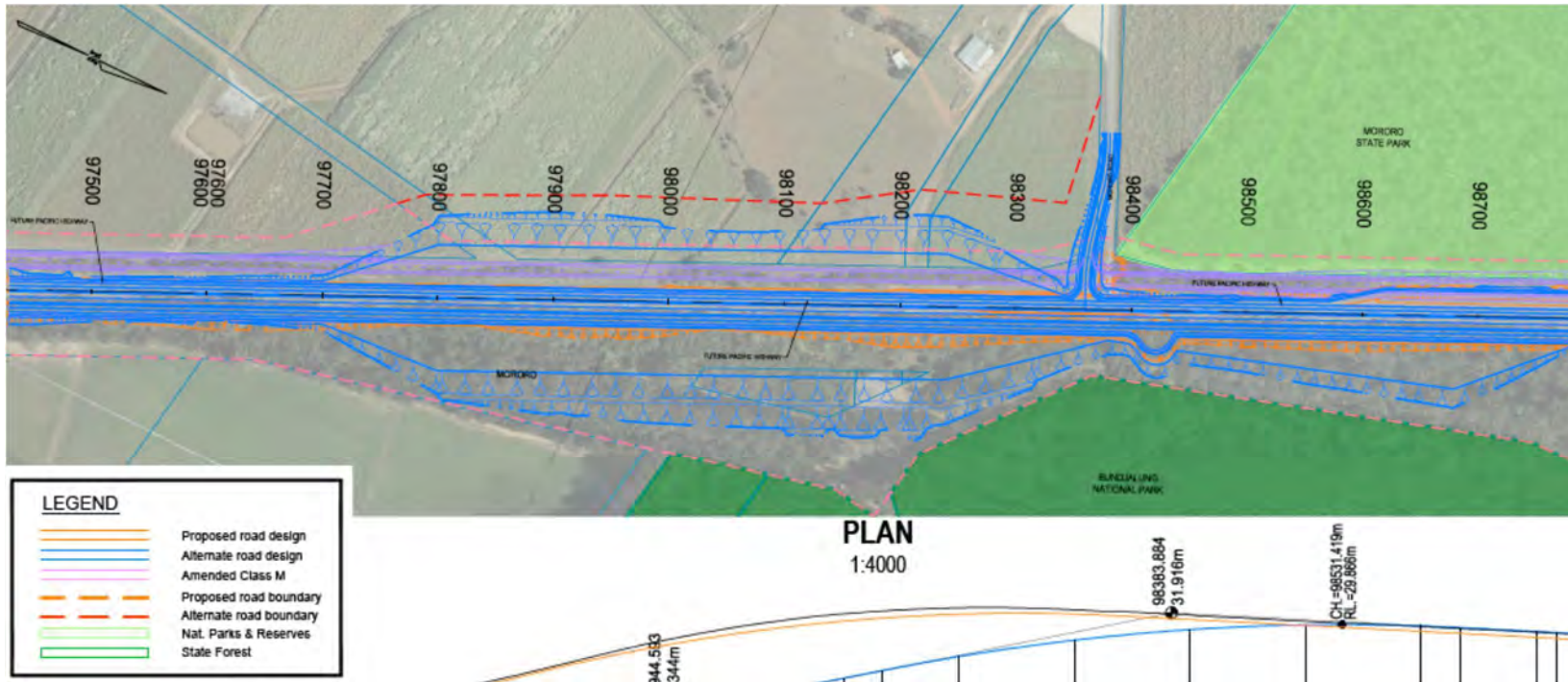


LEGEND

-  Proposed road design
-  Alternate road design
-  Proposed road boundary
-  Alternate road boundary



- Carols Lane

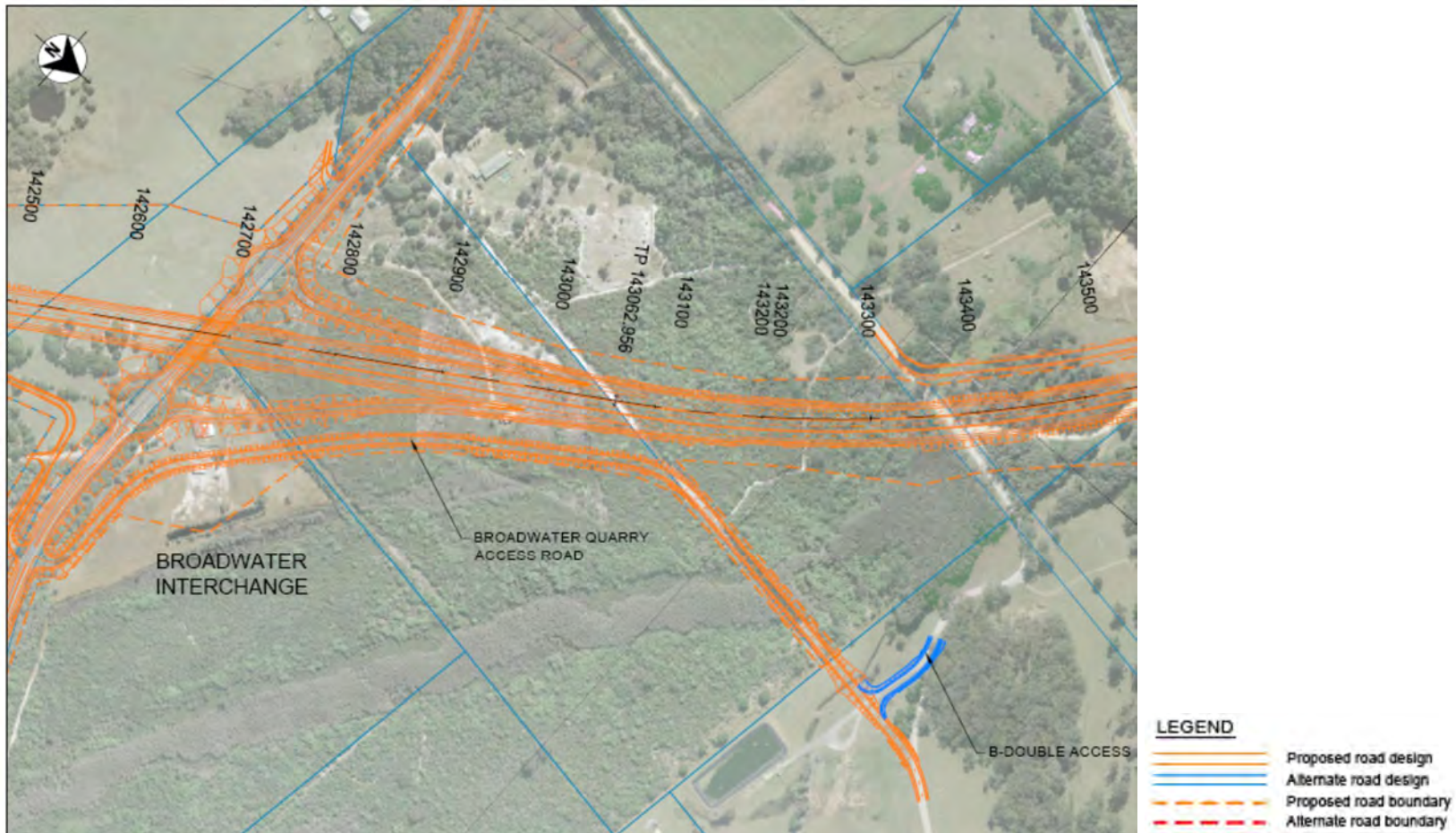


- Mororo Cut

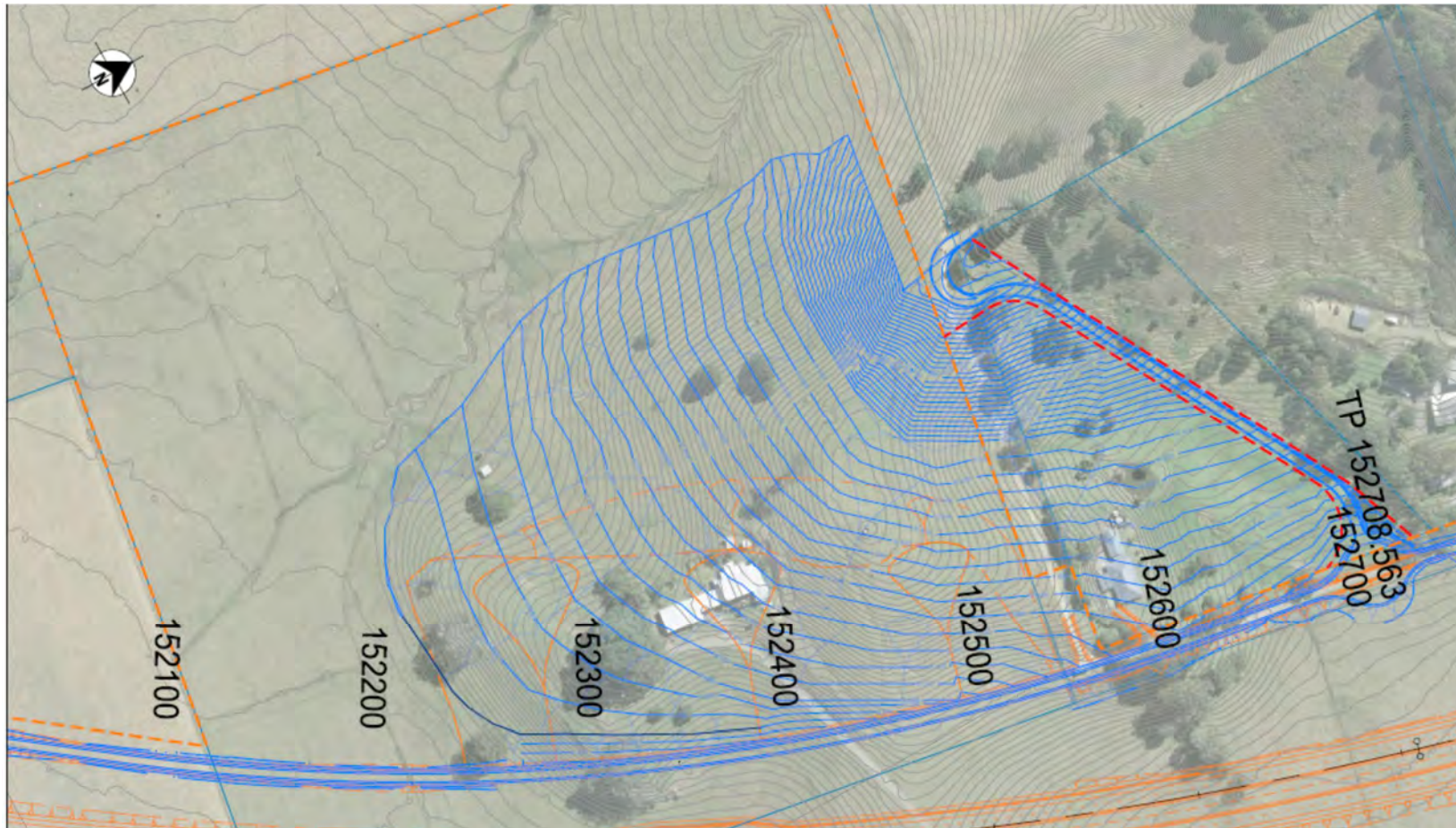
Has been removed to protect cultural information



- Lang Hill



- MacDonald Street

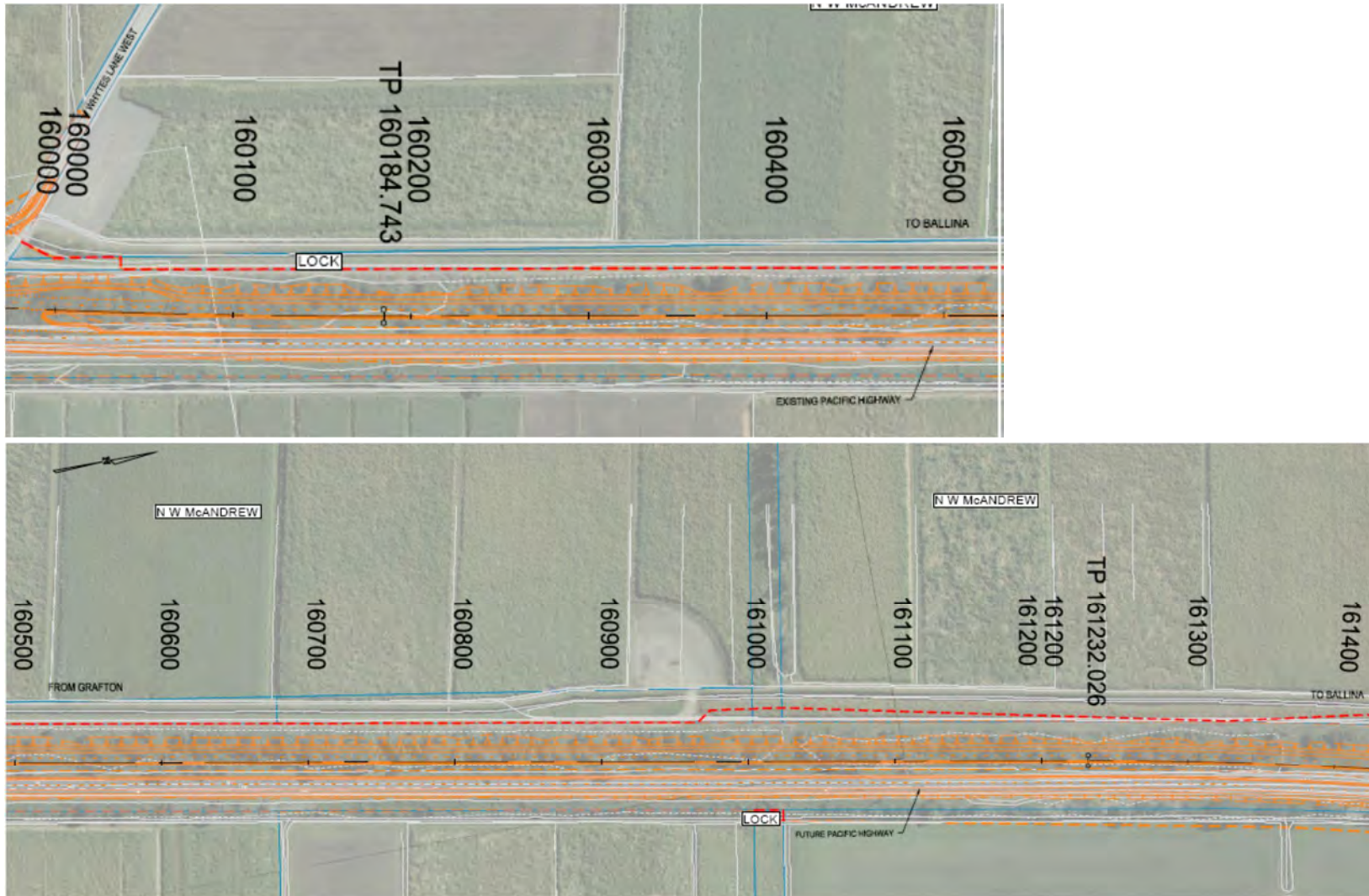


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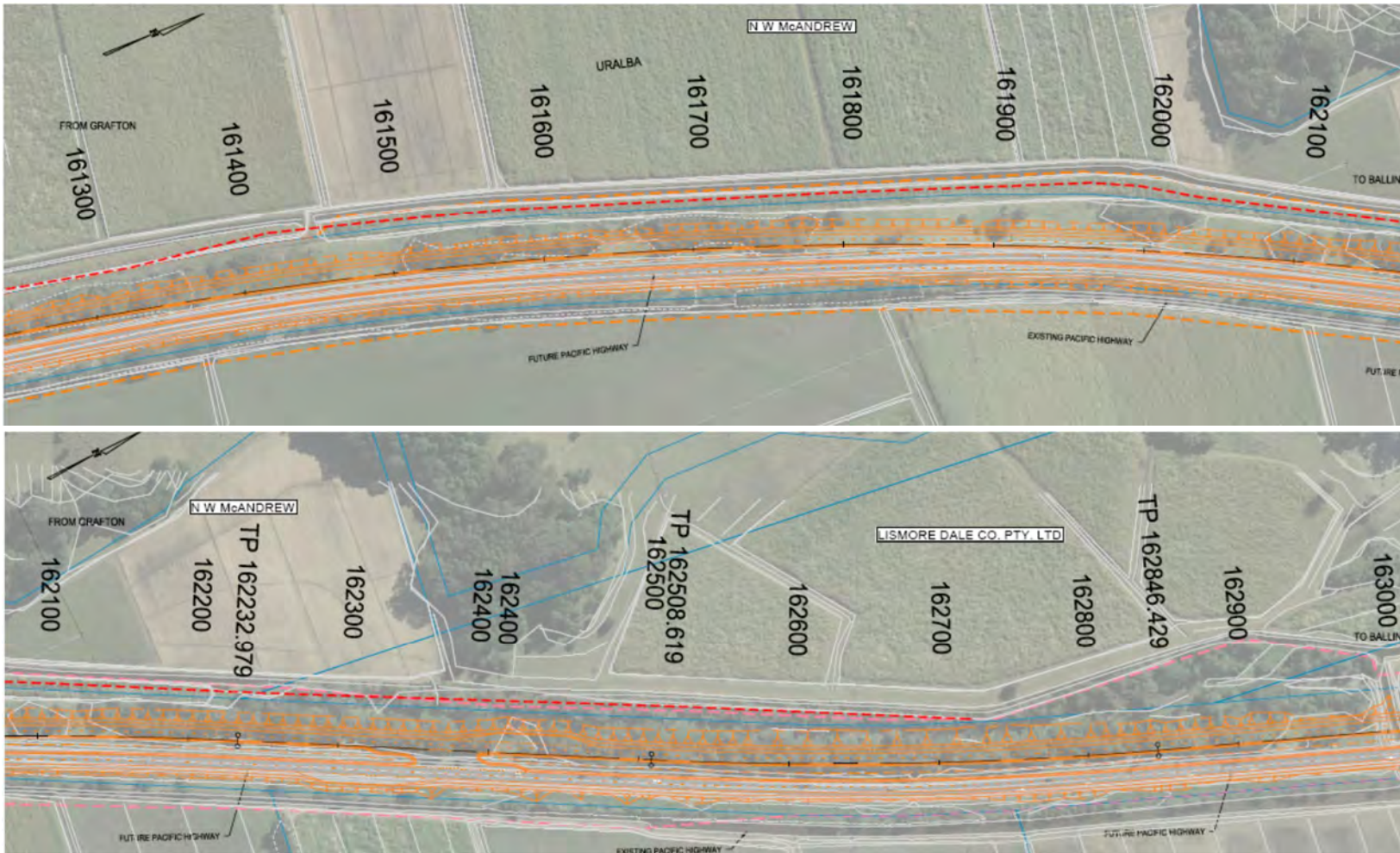
-  Proposed road design
-  Alternate road design
-  Proposed road boundary
-  Alternate road boundary



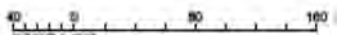
Lumley's Hill



- Pimlico parts 1 and 2



- Pimlico parts 1 and 2



Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
8	2c	Stockpile site	1.24	0.00	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
8	3	Site compound (1 ha), batch plant (0.5 ha) and stockpile site	4.70	0.00	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
9	1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	7.05	0.00	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
9	2	Site compound workshop (0.5 ha) and stockpile site	3.85	0.00	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
9	3	Site compound (1 ha), batch plant (0.5 ha) and 'structures lay down' area (0.5 ha)	5.00	2.48	-	-	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
10	1a	Bridge construction site, batch plant and bridge materials lay down area	3.00	8.74	Aboriginal cultural place	Aboriginal cultural place	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
10	1b	Site compound and vehicle parking	2.39	0.00	Aboriginal cultural place	Aboriginal cultural place	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
10	2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.00	3.10	Aboriginal cultural place	Aboriginal cultural place	Costal Ramp	Low relief erosional landscape of rolling hills, undulating rises and low gradient slopes	M-H	Consultation with RAPs
10	3a	Main central site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	0.00	11.30	Site 4, Aboriginal cultural place	Aboriginal cultural place	Coastal Ramp	Low relief erosional landscape of rolling hills, undulating rises and low gradient slopes	M-H	Consultation with RAPs
10	3b	RMS site office and stockpile site	2.32	0.00	Aboriginal cultural place	Aboriginal cultural place	Coastal Ramp	Low relief erosional landscape of rolling hills, undulating rises and low gradient slopes	M-H	Survey and sub-surface testing
10	4	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha), vehicle parking and stockpile site	7.41	0.00	Aboriginal cultural place	Aboriginal cultural place	Coastal Barriers and Richmond Alluvial Plain	Low lying terrain with alluvial deposits	M	Survey
10	5	Site compound (1 ha), batch plant (0.5 ha), 'structures lay down' area (0.5 ha)	1.00	0.42	Rudgley Site 1A, Aboriginal cultural place	Aboriginal cultural place	Coastal Ramp	Low relief erosional landscape of rolling hills, undulating rises and low gradient slopes	M-H	Survey and sub-surface testing
10	6	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	10.62	0.40	Site 12, Aboriginal cultural place	Aboriginal cultural place	Coastal Ramp and Richmond Alluvial Plain	Low lying terrain with alluvial deposits rising to hills	M	Survey and sub-surface testing

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Section	Ancillary facility	Proposed use	Approx area outside project boundary (ha)	Approx area inside project boundary (ha)	Aboriginal cultural heritage site or place within ancillary facility?	Site or place within 25 m?	Land system	Landform (from predictive model)	PAS (L, L-M, M, M-H, H)	Recommendation
11	1a	Main compound (1 ha), batch plant, workshop and stockpile site	8.13	0.00	Aboriginal cultural place	Aboriginal cultural place	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
11	1b (3 areas)	Stockpile sites	0.46	1.07	Aboriginal cultural place	Aboriginal cultural place	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Survey
11	2	Satellite compound and stockpile site	0.00	5.47	Aboriginal cultural place	Aboriginal cultural place	Richmond Alluvial Plain	Alluvial plain of low lying flat terrain	L-M	Consultation with RAPs

Appendix B Design change desktop assessment

Chainage	Section	Design change name	Change Issue	Change to boundary of the project	Desktop assessment
0.2	1	Eggins Drive	Flood Immunity and SUP	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is in the general vicinity of Aboriginal heritage item WWC26. This item would not be impacted under the EIS, and the design change would not likely result in additional impacts.
2.4	1	Kangaroo Trail Road	Property Access	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. The Aboriginal heritage values of the design change haven't been subject to field assessment - this area has moderate sensitivity for Aboriginal heritage, as it includes a spur crest area adjacent to lower lying swampy areas.
9.6	1	Range Road	New interchange design	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. The Aboriginal heritage values of portion beyond the boundary of the project on the western side haven't been subject to field assessment - this area has moderate sensitivity for Aboriginal heritage, as is on flat raised area in steep landscape. The design change that extends the beyond boundary on the eastern side has been subject to field assessment and no Aboriginal heritage items were identified, so the design change on that side will not impact Aboriginal heritage values.
15.8	1	Grays Road	Detail design	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
17.4	2	Lemon Tree Road	Right turn to Service Station	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Chainage	Section	Design change name	Change Issue	Change to boundary of the project	Desktop assessment
21.4	2	Luther's Road	Revised Connection	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
43.1	3	Coldstream River	Stock and farm access under main bridge.	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
50.2	3	Property access	Flood access and refuge	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
51.9 to 52.9	3	Firth Heinz Road	Contamination	INCREASE AND ELIMINATION	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has moderate sensitivity for Aboriginal heritage, as is near (and crosses) Chaffin Creek, including some raised ground.
64.9 to 66.0	3	Crowleys Road - Flood Refuge Tyndale	Contamination	INCREASE AND ELIMINATION	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has low-moderate sensitivity for Aboriginal heritage, as it is on the slopes of a ridgeline adjacent to the Coldstream and Clarence Rivers' floodplain.
71.1 to 74.9	4	Byron to Norleys Lane	Eastern cane land connections	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is in the general vicinity of Aboriginal heritage item Tyndale 2. This design change constitutes a minor change and would not likely result in additional impacts.

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Chainage	Section	Design change name	Change Issue	Change to boundary of the project	Desktop assessment
69.6 and 70.8	4	Tyndale – Shark Ck	Local Access Roads between Bondi Hill and Gallaghers Lane	REDUCTION	Not assessed - no design, but no heritage items, so would not change impact presented in the EIS.
77.0	4	McIntyres Lane	Overbridge and connection to Gulmarra d	INCREASE	This design change appears to extend only a few metres beyond the boundary of the project, and there is no unknown Aboriginal heritage issues. It is in the vicinity of Aboriginal heritage item Shark Creek Site 2. This design change constitutes a minor change and would likely result in only minimal additional impacts, and would be generally consistent with the impacts assessed in the EIS.
81.4	4	Maclean Interchange	Location of SB off-load ramp	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment (except for area already assessed as part of Ancillary Facility Section 4 Site 7a). Area has low-moderate sensitivity for Aboriginal heritage, as is includes slightly raised areas adjacent to the Clarence River floodplain.
86.2	5	Yamba Interchange SUP	Harwood Bridge and Yamba Road	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
87.8	5	Access east and north of Watts Lane	Deliver as first stage M Class access	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Chainage	Section	Design change name	Change Issue	Change to boundary of the project	Desktop assessment
93.3	5	Carrols Lane Overbridge	Relocation to Fischers Road	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has low-moderate sensitivity for Aboriginal heritage, as it includes areas adjacent to the North Arm of the Clarence River.
98.0	6	Mororo cut site	Increase cut depth to act as a borrow source	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has moderate sensitivity for Aboriginal heritage, as it includes crests and slopes adjacent to swampy areas.
121.1	7	Swan Bay New Italy Road Intersection	Improved geometry	REDUCTION	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
131.1	8	Haynes access	Under northern abutment flood plain viaduct	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the general vicinity of Aboriginal heritage item Dubaijeen Site (New Italy 1). This design change constitutes a minor change and would not likely result in additional impacts.
134.8	8	Lang Hill	Material source	DECREASE	This design change does not extend beyond the boundary of the project, and has been initiated to reduce impact to a significant Aboriginal heritage site (Gittoes Jali site). The design change significantly reduces the impact to the denser concentrations of stone artefacts (by 84%), and avoids all of the more significant features of the site (the Aboriginal cultural place, the artefact cache, the paint wells, the ground rock and the potential scarred tree), which would otherwise be impacted by the previous design. 77% of all the recorded artefact incidences would be avoided by the design change, as opposed to less than 1% for the previous design. By area, about 40% of the site would now be impacted, as opposed to about 95% with the previous design. In accordance with the reduced impact the management recommendations would need to be refined. With the design change it is now recommended that the same recommendations apply, but the salvage quota be adjusted to 250 square metres by machine (same as in EIS) and 80 square metres by hand.

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Chainage	Section	Design change name	Change Issue	Change to boundary of the project	Desktop assessment
143.3	9	Macdonald St intersection	Access for B-doubles	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has moderate sensitivity for Aboriginal heritage, as it includes sandy plain adjacent to swamp.
144.7	9 and 10	Byrne Property	Acquisition boundary	REDUCTION	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage site and would likely have a minor reduction in the impact to the Aboriginal cultural place landscape.
152.4	10	Lumley's Hill	Material source	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has moderate sensitivity for Aboriginal heritage, as it includes slopes adjacent to swampy areas.
160.0	11	Whites Lane to Pimlico Road	Boundaries and cane drain on Lock property	INCREASE AND REDUCTION	This design change appears to extend only a few metres beyond the boundary of the project into heavily disturbed land in the location of road fill and drains, thus there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
52.3	3	Firth Heinz Road	Emergency access point	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
83.1	5	Koala drive, Maclean	Access under highway will not work	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has moderate sensitivity for Aboriginal heritage, as it includes crests and slopes adjacent to swampy areas.
10.5	1	Dundoo Reach	Corrected local road access	REDUCTION	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.

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Ancillary facilities and design changes Aboriginal cultural heritage assessment

Chainage	Section	Design change name	Change Issue	Change to boundary of the project	Desktop assessment
122.9	7	Redgates/Turners Road	Access for float	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
45.5	3	Wooli Road	Emergency access across median	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is not in the vicinity of any Aboriginal heritage. This design change constitutes a minor change and would not result in additional impacts.
97.0	6	North of Iluka Road	Property access under class M	INCREASE	Assessed as part of ancillary facility investigation - no impact to Aboriginal heritage values
55.5 to 56.9	3	Bostock and Somervale Roads	Relocation of rest areas	INCREASE	Design change won't increase or decrease impact to known heritage items - design change doesn't move closer to or further from any nearby Aboriginal heritage. Unknown Aboriginal heritage values, as portion beyond the boundary of the project hasn't been subject to field assessment. Area has moderate sensitivity for Aboriginal heritage, as it includes sandy crests and slopes adjacent to swampy areas.
0.2	1	Eggins Drive	Flood Immunity and SUP	NO CHANGE	This design change does not appear to extend beyond the boundary of the project, therefore there is no unknown Aboriginal heritage issues. It is in the general vicinity of Aboriginal heritage item WWC26. This item would not be impacted under the EIS, and the design change would not likely result in additional impacts.

Appendix C Design change figures

Appendix D Consultation details

Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
28 September 2012		Garry McPherson	Letter	Emma Cocks	EDO	Letter from Garry in reply to Emma. He outlined the comments were important and that they will be included in the ACHAR and EIS and that a resolution to the issues raised is important.
2 October 2012	11:54 am	Joseph Brooke	Email	Tori Edwards	Bandjalang Native Title Claimants	Tori apologises for not responding sooner and asks if the matter was resolved with the site officers.
2 October 2012	12:06 pm	Joseph Brooke	Email	Tori Edwards	Bandjalang Native Title Claimants	Jo was able to resolve the issue with the site officers, although was not able to get onto Aunty Gwen. Doug and Daniel will be on site on 3 October and possibly 4 October.
2 October 2012	3:04 pm	Joseph Brooke	Email	Tori Edwards	Bandjalang Native Title Claimants	Tori thanks Jo for the update.
2 October 2012	3:43 pm	Ilesha Timmins	Email	Tori Edwards	Bandjalang Native Title Claimants	Tori would like to know if the forms have been distributed to the Bandjalang ladies.
2 October 2012	5:01 pm	Ilesha Timmins	Email	Tori Edwards	Bandjalang Native Title Claimants	As far as Jo knows, no forms have been sent out. He has called one of the ladies and left a voice message but has not gotten a response. He can organise the forms to be sent out if he is given a mailing address. The Bandjalang ladies need to organise a Skill Hire or Recruitment company to enter a contract for work through RMS also. One of the ladies is recruited through North Coast Recruitments. (Mandy Hargreaves (or Hargreaves) 02 66220500) is in relation to work carried out for OEH which is possibly a conflict of interest.
2 October 2012	5:11 pm	Ilesha Timmins	Email	Tori Edwards	Bandjalang Native Title Claimants	Tori will get the ladies' consent to release their mailing addresses, so that Jo can send the forms out. She does not believe that there is a conflict of interest, it is up to the individual to manage the OEH and site officer time commitments. Tori request to know if RMS have contacted North Coast Recruitment or another agency to confirm their availability, and that all RMS requirements for the work are met?

Woolgoolga to Ballina Pacific Highway Upgrade
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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
3 October 2012	10:18 am	Joseph Brooke	Email	Chris Spencer	Coffs Harbour LALC	Jo requests to know the availability of site officers for 23 through to 26 of October for some ancillary work involving survey and sub-surface testing.
3 October 2012	10:18 am	Joseph Brooke	Email	Ej Williams	Yarrawarra LALC	Jo requests to know the availability of site officers for 23 through to 26 of October for some ancillary work involving survey and sub-surface testing.
3 October 2012	2:37 pm	Iesha Timmins	Email	Mandy	Bandjalang Native Title Claims	<p>Iesha sent the Site Officer application forms. RMS is seeking two Senior and two Junior site officers. The two Senior site officers nominated for the work are Veronica (Bonnie) and Kellie Wilson. Would it be possible to have the details for two back up site officers should one of the other ladies be unavailable to if more officers are needed. Teela has been suggested as a Trainee site officer.</p> <p>The dates are TBC, but will be between 31 October and 9 November.</p> <p>Veronica, Kellie, Mary and Kim Wilson have previously worked out in the field on 20th September 2012, and a total of 4 hours work completed for each officer. At the time they had not completed the site officer forms. They will need to organise for the payment to be processed through North Coast Recruitment. Once Iesha has received the forms back she can then send through a Letter of Engagement to you for the purpose of Agreement to provide Services (site officers). All the site officers are suggested to obtain a OH&S card. It is not mandatory for this site, however it may be needed for future work.</p>
5 October 2012	12:30 pm	Vanessa Edmonds	Phone	Marcus Ferguson	Jali LALC	Vanessa called Marcus to discuss the methodology for aging the scarred tree by the arborist. Marcus will follow up with the LALC on Monday as Veronica has been absent for the last couple of weeks.
8 October 2012		Michael Jones	In Person	Dean Bolt	Jali LALC	On Friday morning Michael talked briefly to the Dean Bolt, Lois Cook and Daryl about their concerns in relation to the Gubba Gunya reps being on site while waiting for the arrival of the Wilson boys. Michael apologised for any discomfort they felt on the Wednesday and pointed out that there was a pre-registration process in place which had resulted in the Gubba Gunya reps being invited on that occasion. Michael went on to say that that the Gubba Gunya reps would not be working with on the Friday. They appeared fine at the end of the discussion.
9 October 2012	5:40 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra LALC	EJ requested confirmation for the work on the 12 October.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
10 October 2012	8:31 am	Joseph Brooke	Email	EJ Williams	Yarrowarra LALC	There will be no work on the 12 October Coffs LALC is not available. Jo requested to know the availability of reps for 23 through to the 26 October.
10 October 2012	9:06 am	Joseph Brooke	Email	EJ Williams	Yarrowarra LALC	EJ will find a site officer for those dates.
11 October 2012		Alistair Carr	Email	Veronica	Bandjalang Native Title	Alistair requested to know the availability for reps for the excavation of New Italy between 30 October and 2 November.
11 October 2012	12.50 pm	Vanessa Edmonds	Email	Lois Cook	Burabi Aboriginal Corporation	Vanessa rang Lois to check if she'd seen the Gumi Scarred Tree aging methodology. She hadn't and requested Vanessa to send it to her via email.
11 October 2012	12.55 pm	Vanessa Edmonds	Email	Marcus Ferguson	Jali LALC	Rang but no response.
11 October 2012		Alistair Carr	Email	Teela Barker	Bandjalang Native Title	Alistair requested to know the availability for the excavation of New Italy between 30 October and 2 November.
11 October 2012		Alistair Carr	Email	Erica Wilson	Bandjalang Native Title	Alistair requested to know the availability for the excavation of New Italy between 30 October and 2 November.
11 October 2012		Alistair Carr	Email	Kellie Wilson	Bandjalang Native Title	Did not pick up – left a message
12 October 2012	11.45 am	Amanda Goldfarb	Email	Lois Cook	Burabi Aboriginal Corporation	Amanda sent the letter regarding the Gumi Scarred Tree aging methodology. Requested that the response be sent to Jo Brooke asap. Apologised for the delay in sending it.
15 October 2012	3:31 pm	Ilesha Timmins	Email	Lance Manton	Bogal LALC	Ilesha requested the details for any suitably qualified female site officers for the excavation of New Italy PAD which is being excavated between 30 October and 2 November. Ilesha requested that any forms be returned to her by COB 22 October with a copy of the relevant insurances.
17 October 2012	4:12 pm	Ilesha Timmins	Email	Mandy Hargraves	Bandjalang Native Title Claims	The documentation for the engagement of services of the Bandjalang ladies was attached. Ilesha requested that the documents are signed and witnessed and returned to her asap. Copies of the relevant insurances will also need to be forwarded. Invoices should be sent to Vanessa Edmonds for processing.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
26 October 2012	10:47 am	Joseph Brooke	Email	Charley van Rotterdam		Charley requested information about the site work for Grafton including who worked, for how long and where.
26 October 2012	12: 02 pm	Joseph Brooke	Email	Charley van Rotterdam		Charley wanted to confirm that it would be 6 hours each officer.
26 October 2012	12: 02 pm	Joseph Brooke	Email	Ken McIntosh	Grafton Ngerrie LALC	Thanks for your assistance.
29 October 2012	9:28 am	Vanessa Edmonds	Email	Veronica Williams	Jali LALC	The scarred tree aging methodology will take place sometime this week as per the methodology sent over a month ago for comment. When Vanessa had previously spoken to Marcus he had not yet seen it. Vanessa has not been able to get in contact with him since then to follow it up. Marcus and Dean are welcome to attend the aging. If they are interested they were asked to call Vanessa.
29 October 2012	9:30 am	Vanessa Edmonds	Email	Lois Cook	Burabi Aboriginal Corporation	The aging methodology for Gumi Scarred Tree that was sent over a month ago will take place sometime this week. If you would like to attend call Vanessa's mobile.
29 October 2012	10:12 am	Vanessa Edmonds	Email	Veronica Williams	Jali LALC	Veronica has been away for the last 5 weeks for health reasons, then had an audit to prepare for. She will follow up with Marcus about the methodology.
29 October 2012	10:14 am	Vanessa Edmonds	Email	Veronica Williams	Jali LALC	Thanked Veronica for her reply.
30 October 2012	9:30 am	Vanessa Edmonds and Rebecca Andrews	Email and Letter	EJ Williams Chris Spencer Richard Widders	Yarrowarra Aboriginal Corporation Coffs Harbour LALC GGAC	Sent letter outlining the change in the process for applying for an excavation permit for the excavation of WWC39 Corindi Creek. The work will now be undertaken with and AHIP, which should be processed within 2-3 weeks. Could availability for site officers at this time be advised? Written agreement for the AHIP would assist, as discussed at the recent AFG.
31 October 2012	12:14 pm	Joseph Brooke	Email	Lois Cook	Jali LALC	Vanessa will be conducting a some investigation at Gumi on Friday and would like to know if Lois was able to attend, meeting Fri 2 November at 10am at Wardell BP. Requested that Lois call Vanessa if she will be attending.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
2 November 2012		Vanessa Edmonds	Phone	Marcus Ferguson	Jali LALC	Marcus was interested in the status of the EIS and wondered what the next stage was. He also requested a copy of the fauna working paper and EIS component. Marcus also queried about Gittoes-Jali (Lang Hill). Vanessa replied that she had no further advice for the area.
2 November 2012		Vanessa Edmonds	Site Visit	Dean Bolt	Jali LALC	Dean was concerned about there being adequate salvaged of all the sites, specifically Gittoes-Jali (Lang Hill). Vanessa explained the methodology in detail. He seems more amenable to site destruction if there is a full salvage prior to this.
13 November 2012	2:58 pm	Joseph Brooke	Email	EJ Williams Chris Spencer Mark Flanders Richard Widders	Yarrawarra Aboriginal Corporation Coffs Harbour LALC GGAC	Jo requested to know the availability for the week beginning Monday 26 November for the investigation of some ancillary areas. 1 or 2 site officers for each group will be needed. If these days do not suit, other dates were requested.
13 November 2012	9:30 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	EJ Will have to check the date – Uncle Bing may be available.
14 November 2012	3:18 pm	Joseph Brooke	Email	Chris Spencer	Coffs Harbour LALC	Coffs LALC will not be available until 4 December
15 November 2012	1:10 pm	Joseph Brooke	Email	EJ Williams Chris Spencer Mark Flanders Richard Widders	Yarrawarra Aboriginal Corporation Coffs Harbour LALC GGAC	Jo requested that site officers be booked for Tuesday 4 through Thursday 6 December. The hours worked would be 8 am till 4 or 5, although there is a possibility that Wednesday and Thursday will be slightly shorter days.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
15 November 2012	3:05 pm	Joseph Brooke	Email	EJ Williams	Yarrowarra Aboriginal Corporation	Requested that Uncle Bing come to site on the 4 December 2012. He is sure that there is a payment that can be made to elders for coming to site and providing information.
16 November 2012	1:10 pm	Vanessa Edmonds	Phone	Glen Huntley	Bandjalang Native Title Claimants	Called Vanessa about New Italy PAD, and requested that she call her back when Vanessa got the message.
16 November 2012	1:40 pm	Vanessa Edmonds	Phone	Glen Huntley	Bandjalang Native Title Claimants	Vanessa responded to Glen's call. Glen was unhappy with the decision to use only members of the Wilson Family as the site officers for the New Italy PAD as it means that they are getting all the work. Vanessa explained the process by which the reps were chosen and passed on Iesha Timmin's number. Vanessa explained that there was more work to do next week.
21 November 2012	11:53 am	Joseph Brooke	Email	Chris Spencer Mark Flanders Richard Widders EJ Williams	GGAC	Jo needs to change the dates of the fieldwork to Monday 17 December to Wednesday 19 December inclusive. Asked if everyone would be available those days.
26 November 2012	10:35 am	Joseph Brooke	Email	Mark Flanders	Coffs Harbour LALC	Mark will be available for fieldwork Monday 17 December to Wednesday 19 December inclusive.
26 November 2012		Vanessa Edmonds	Phone	Bonnie (Veronica) Wilson	Bandjalang Native Title Claimants	Vanessa called Bonnie to discuss the salvage of New Italy Site/Dubaijeen Site. Bonnie confirmed that salvage was an acceptable option for the site and that a combination of both hand and machine excavation. She is ok with the machine operator being male.
27 November 2012	9:12 am	Vanessa Edmonds	Phone	Marcus Ferguson	Jali LALC	Vanessa spoke to Marcus about the fauna assessment and Gumi Scarred Tree. She explained that the fauna assessment wasn't available until the EIS went to public display on 5 December and discussed how to look it up on the internet. Vanessa also discussed the results of the aging of the scarred tree by the arborist that indicated that the scar was less than 30 years old and that there would be a letter sent out to include the results. Marcus asked when the next AFG was and Vanessa replied that there was one planned for around the 5-8 of February.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
14 December 2012		Vanessa Edmonds	Email and Mail	Veronica Williams Marcus Ferguson Lois Cook	Jali LALC Burabi Aboriginal Corporation	Sent letter detailing the results of the recent aging of the Gumi Scarred tree and suggested management recommendations.
21 January 2013	11:00 am	Joseph Brooke	Email	EJ Williams Chris Spencer Mark Flanders		Are there any site officers available for the fieldwork between 29 January to the 1 February, or for three-four days between 11 and 15 February? Are there also site officers for the week starting 4 March 2013 for three to four days?
22 January 2013	9:54 am	Joseph Brooke	Email	Chris Spencer	Coffs Harbour LALC	Coffs LALC will not have site officers available until the 18 Feb.
22 January 2013	10:02 am	Joseph Brooke	Email	Chris Spencer Mark Flanders EJ Williams	Coffs Harbour LALC Yarrawarra Aboriginal Corporation	Jo will let the groups know as soon as the permits that are needed come through and then schedule work around them.
22 January 2013	10:12 am	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	YAC and Gaabi can field workers when Coffs LALC are available. EJ will not be able to do any work on the 25 February.
22 January 2013	10:15 am	Joseph Brooke	Email	Chris Spencer Mark Flanders EJ Williams	Coffs Harbour LALC Yarrawarra Aboriginal Corporation	Jo will be in touch as soon as he knows more.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
30 January 2013		Joseph Brooke		EJ Williams Ken McIntosh Richard Widders Chris Spencer	Yarrowarra Aboriginal Corporation Grafton-Ngerrie LALC Garlambirla Guuyu-girrwa Corporation Coffs Harbour LALC	The final W2WC ACHAR was sent out with the geotech AHIP and methodology
31 January 2013	12:45 pm	Joseph Brooke	Email	EJ Williams Richard Widders Chris Spencer Mark Flanders	Yarrowarra Aboriginal Corporation Garlambirla Guuyu-girrwa Corporation Coffs Harbour LALC	Attached the approved AHIP from the OEH. Jo would like to undertake the work between Tuesday 26 February and Thursday 28 February with 1 March being an extra possible day for if the work takes longer than planned.
6 and 7 February 2013		Joseph Brooke, Vanessa Edmonds, Chris Gorman, Garry McPherson, Simon Wilson, Graham Purcell, Iesha Timmins, Sarah Wain, Roy Marsh			Yarrowarra Aboriginal Corporation Gaabi Elders Coffs Harbour LALC Grafton Ngerrie LALC Yaegl LALC Jali LALC Burabi Aboriginal Corporation	AFG meetings for Woolgoolga to Wells Crossing, Wells Crossing to Iluka Road, Iluka Road to Woodburn, and Woodburn to Ballina sections.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
8 February 2013	2:47 pm	Joseph Brooke	Email	Chirs Spencer	Coffs Harbour LALC	Could Coffs LALC let Jo know what their recommendations for the ridge near Dirty Creek, WWC Dirty Creek 1c are?
11 February 2013	11:44 am	Joseph Brooke	Email	Noeline Kapeen Norma Collins	Yaegl LALC Birrigan Gargle LALC	Apologised for the misunderstanding/miscommunication about the AFGs. Fieldwork is going to be conducted next Wednesday and Thursday with Lee and Shane to assess some design changes near Tucabia/Tyndale, Maclean and Mororo. Meeting 11am at Tucabia store on Wednesday and 8 am on Thursday at Ferry Park. There will be survey and sub-surface testing. If there are site officers available from Birrigan Gargle LALC could Jo have their contact details?
11 February 2013	11:55 am	Joseph Brooke	Email	Noeline Kapeen	Yaegl LALC	Noeline wanted to confirm that Shane and Lee have been informed of the work. Noeline will pass on the information to Norma as she doesn't have a computer at the moment.
11 February 2013	11:58 am	Joseph Brooke	Email	Noeline Kapeen	Yaegl LALC	Jo confirmed that he had organised with Shane, who passed the message onto Lee.
11 February 2013	2:35 pm	Joseph Brooke	Email	EJ Williams Chris Spencer Mark Flanders	Yarrowarra Aboriginal Corporation Coffs Harbour LALC	Jo requested to know if it were possible to postpone the geotech work at Corindi Creek currently scheduled between 26-28 February with possible overflow to 1 March, to the following week (Tuesday 5 March to Thursday 7 March with overflow to the 8 March). Are there site officers available for these dates?
11 February 2013	3:20 pm	Joseph Brooke	Email	Noeline Kapeen	Yaegl LALC	Norma has been attempting to call to confirm that she is sending Malcolm Brown and Shane Laurie from Birrigan Gargle.
11 February 2013	3:45 pm	Joseph Brooke	Email	EJ Williams	Yarrowarra Aboriginal Corporation	EJ would like to know when the reports will be sent through

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
11 February 2013	3:51 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	The reports will be sent out later so that the assessment for the design changes can be included in the report – rather than sending out two for comment. The report is likely to be sent out in late February. Also requested to know if there was a site officer available for Monday or Tuesday next week to survey the Range Road area.
11 February 2013	3:52 pm	Joseph Brooke	Email	Chris Spencer Mark Flanders	Coffs Harbour LALC	The report will not be sent out until after the new lot of design changes are added in so that way the review only needs to occur once.
12 February 2013	8:51 am	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	It should be fine – just let EJ know when
12 February 2013		Joseph Brooke	Phone	Norma Collins	Birrigan Gargle LALC	Norma confirmed that there would be site officers available for the work. She also requested that Ken 'Fox' Laurie no longer be contacted in regards to site work for the LALC.
12 February 2013	11:08 am	Joseph Brooke	Email	Crystal	Grafton-Ngerrie LALC	Thanked Crystal for coming to the AFGs last week. Informed her that the Ancillary CHAR will not be sent out until the new lot of design changes have been incorporated. The report should be submitted in a couple of weeks.
12 February 2013	11:23 am	Joseph Brooke	Email	Richard Widders Mark Flanders	Garlambirla Guuyu-girrwa Corporation Coffs Harbour LALC	Informed Richard and Mark that the assessment of the design changes will be completed before the CHAR is sent out for review. Jo requested to know the address that the CHAR should be sent to ensure that it is received.
12 February 2013	3:41 pm	Joseph Brooke	Email	Ray Fife	OEH	Sent a notification of change in personnel for the supervising archaeologist of the salvage for AHIP 1132066 from Joseph Brooke to Vanessa Edmonds.
13 February 2013	4:13 pm	Joseph Brooke	Email	Norma Collins	Birrigan Gargle LALC	Norma's email is working again and she requests to know the working hours of Shane and Mal so that she can forward the information onto Charley.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
13 February 2013	6:40 pm	Joseph Brooke	Email	Norma Collins	Birrigan Gargle LALC	Both Shane and Mal worked 11-5 pm (6 hours) on the 13 February
14 February 2013	9:23 am	Joseph Brooke	Email	Norma Collins	Birrigan Gargle LALC	Norma requests to know the hours that the reps worked on the 14 February and what will be happening on the Friday (15 February)
18 February 2013		Joseph Brooke	In field		Coffs Harbour LALC Yarrowarra Aboriginal Corporation Garby Elders Garlambirla Guuyu-girrwa Corporation	Informed the groups that there would be a change in personnel leading the geotech salvage for the AHIP from Joseph Brooke to Vanessa Edmonds.
20 February 2013	12:18 pm	Joseph Brooke	Email	Crystal Skinner	Grafton Ngerrie LALC	Crystal requested confirmation on Brett Duroux work for the week.
20 February 2013	12:24 pm	Joseph Brooke	Email	Crystal Skinner	Grafton Ngerrie LALC	Brett worked four hours on Monday for the ancillary areas near Range Road.
28 February 2013	1:00 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	Send the CHAR to Coffs Harbour. Electronically would be best however.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
28 February 2013	2:10 pm	Joseph Brooke	Phone	Shannon Cook	Burabi AC	<p>Lois Cook is no longer part of Burabi AC. The email contact should be the same () post should be directed to: Wardell 2477.</p> <p>Shannon also asked for information about what Lois did with the Alliance and if she could get some more information. JO said that he would send her a CD with all the information to date.</p> <p>Lois maybe setting up her own private company soon rather than operating through Burabi.</p>

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
4 March 2013	4:42 pm	Joseph Brooke	Email	Chris Spencer Mark Flanders Richard Widders EJ Williams Noeline Kapeen Lance Manton Veronica Williams Crystal Skinner Tori Edwards Cedrick Hinton Shannon Cook Barbara Taylor Susan Anderson Bill Drew David Kapeen Lois Cook	Coffs Harbour LALC Garlambirla Guuyu-girrwa Corporation Yarrowarra Aboriginal Corporation Yaegl LALC Bogal LALC Jali LALC Grafton Ngerrie LALC Bandjalang Native Title Claimants Ngulingah LALC Burabi AC Gubba Gunya Numbahjing Bandjalang LALC	A digital copy of the Ancillary Area CHARs was sent to the groups. Formal comments on the report were asked to be sent in by Tuesday 2 April 2013. Comments should be specifically about the ancillary areas and the design changes rather than general project matters. These comments should be sent to Jo Brooke.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
4 March 2013		Joseph Brooke		Veronica Williams Bill Drew	Jali LALC Bandjalang LALC	The emails were returned saying that the addresses had not been found.
4 March 2013	1:41 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	Richard out of office reply – he will be away until the 14 of March
4 March 2013	2:01 pm	Joseph Brooke	Email	Dave Kapeen	Tweed, Byron and Ballina Community Transport	Dave out of office reply – he is on leave
7 March 2013	12:26 pm	Vanessa Edmonds	Email	Chris Spencer Mark Flanders EJ Williams	Coffs Harbour LALC Yarrowarra Aboriginal Corporation	A summary of excavations was outlined for the excavations between 26 and 28 Feb 2013. No artefacts were found of the first day, 20 were found on the second and no artefacts were found on the last day.
26 March 2013	11:36 am	Joseph Brooke	Email	Tori Edwards	Bandjalang Native Title Claimants	The group has no comments other than what they provided at the AFG.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
26 March 2013	11:48 am	Joseph Brooke	Email	Chris Spencer Mark Flanders Richard Widders EJ Williams Noeline Kapeen Lance Manton Veronica Williams Crystal Skinner Cedrick Hinton Shannon Cook Barbara Taylor Susan Anderson Bill Drew Dave Kapeen Lois Cook	Coffs Harbour LALC Garlambirla Guuyu-girwaa Corporation Yarrowarra Aboriginal Corporation Yaegl LALC Bogal LALC Jali LALC Grafton Ngerrie LALC Ngulingah LALC Burabi AC Gubba Gunya Numbahjing LALC Bandjalang LALC	A reminder that the comments on the Ancillary Facility/Design Change CHAR is due by 2 April (Tuesday after Easter). The comments can be posted, faxed, phoned or emailed in.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
26 March 2013	11:51 am	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	Richard is out of office and will return on 14 April
26 March 2013	11:51 am	Joseph Brooke	Email	Chris Spencer	Coffs Harbour LALC	Chris is out of the office and will return on 2 April
4 April 2013	11:39 am	Joseph Brooke	Email	Veronica Williams	Jali LALC	Comments on the CHAR will be sent through this afternoon.
4 April 2013	11:45 am	Joseph Brooke	Email	Veronica Williams	Jali LALC	Jo thanked Veronica for letting him know that there would be comments coming and requested that they were sent through asap as the report is being submitted to RMS this afternoon, as which time the comments will not be able to be added to the CHAR, only forwarded to RMS for their consideration.
4 April 2013	4:06	Joseph Brooke	Email	Veronica Williams	Jali LALC	Veronica emailed through an attachment with comments on the CHAR. Comments related to the project overall and project impacts (see below), as opposed to impacts described in the ancillary facility and design change CHAR, so no amendments to the report were made.

MEETING MINUTES



Name of meeting:		Aboriginal Focus Group Woodburn to Ballina	
Location of meeting:		Wardell Community Hall, Wardell	
Meeting facilitator:		Woolgoolga to Ballina Planning Alliance	
Date:	7 February 2013	Time:	12.00 – 2.00 pm
Attendees:	Marcus Ferguson, Jali LALC. (MF) Lois Cook, Burabi AC. (LC) Dean Bolt, Jali LALC. (DB) Vanessa Edmonds, Alliance archaeologist (VE) Garry McPherson, RMS Project Development manager (GM) Joseph Brooke, Alliance archaeologist (JB) Chris Gorman, Alliance project manager (CG) Graham Purcell, RMS Aboriginal Programs Coordinator (GP) Iesha Timmins, RMS, Aboriginal Cultural Heritage Advisor. (IT) Simon Wilson, RMS Project Development officer (SW)		
Apologies:			

Item	Action
<p>Welcome</p> <p>VE welcomed everyone to the meeting and acknowledged the traditional owners. Introductions were made.</p>	
<p>Project update</p> <p>Garry provided an update on the project. He explained that the EIS is on display for comment and due to the flooding issues recently, has been extended until 18 February 2013.</p> <p>RMS were hopeful for project approval by the end of the year. Some funding is available for undertaking early works and these would be some of the first works to get underway.</p>	
<p>CHAR and Sub-surface testing methodology</p> <p>JB – some project ancillary sites would impact on cultural landscape and this is an unavoidable impact. Would the Registered Aboriginal Participants be interested on interpretative signage / panel of stories as part of the mitigation.?</p> <p>GM provided overview of process of signage or bridge naming that might</p>	

<p>occur. LC – who did the current rest area panels? GP – this was done on a project not connected to this one. LC – we weren't consulted on the final contents of the panels. Other language groups are being put on the signs and they don't belong to country LC - We don't ever get to see the final draft. We feel disillusioned with this as a mitigation measure if it is not representative of our country and heritage. GP – this should not occur and we should check this is specifically noted in the project conditions.</p> <p>Site recommendations</p> <p>VE explained that the CHAR includes assessment on the potential ancillary sites and design changes of which some occur outside of the project corridor. These aspects would form the overall subject of today's AFG meeting.</p> <p>JB – process of survey of the potential ancillary areas and design changes was explained. JB then provided a presentation of surveys and testing. Refer to attachment.</p> <p><u>Site 12 presentation</u></p> <p>VE asked the group if anyone had any more comments about the sub surface testing methodology?</p> <p>MF - was any of the charcoal dated from Melino or burns property. JB – no, there was not enough to be able to date it. May be able to do it when the salvage work is undertaken DB – how would salvage be carried out.? JB – the project team will still try to avoid the impact to the site. However areas that cannot be avoided would be subject to salvage. If salvage is needed the methodology would look to do about 10% of the site. 10% is not a large area. DB – if site is to be decimated then we would rather salvage the whole lot. JB – ok we will change the recommendation to salvage the whole lot.</p> <p>There were no further comments on ancillary sites.</p>	<p>JB to check that approval conditions include signage or interpretive panels require final signoff from the RAPs.</p> <p>JB to include within salvage protocol measures to date charcoal.</p> <p>JB to revise salvage protocol to salvage the entire area impacted at site 12.</p>
<p>Design changes</p> <p>Process would be any sites outside of the project footprint not assessed would need to be assessed and included in the CHAR. Each of the design changes outside of the assessed project area were discussed.</p>	

Macdonald Street access

No issues raised nor comments noted on this design changes.

Lumleys cut

No issues raised nor comments noted on this design changes.

Lang Hill

VE provided a summary of all investigations up to the current time at Lang hill (Gitoes Jali site) and provided a summary of the options that have been presented previously to the RAPs.

MF – I cannot give approval to destroy the hill – the blue rock is in our tradition and the hill should not be destroyed.

GM – provided an overview of Lang Hill design. He presented the EIS design that is on exhibition. The route alignment would be in cut about a 6 metres into the hill. RMS understand that all RAPs have previously accepted that the alignment would be through the hill.

With regards to the need for material, RMS have been reviewing material sources and in particular other sites available in the landscape. eg Lumley's Hill. However, until RMS can find an alternate to this source they are unable to give up the material at the site.

MF – the loss of the hill 'kills the story', it could be made part of the National Park and then complete the story.

JB – provided an overview of the archaeological significance of the sites and the numbers. The change in the material extraction would not impact on the significant sites and overall would retain about 85% of the artefact material predicted.

GM – there were other opportunities associated with the site – ie the long term ownership of the site and the keeping of the site for stakeholders.

LC – looks like any option that is being offered / presented would have an impact on the site.

DB – I agree with Marcus – the impacts proposed affects the whole landscape permanently and this gives up that opportunity to view the story of the landscape for future generations.

MF – yes same as Cooks Hill - they've all been taken away. A recent council study undertake suggested we are down to 25 sites in the shire, because they've been taken away generations don't have knowledge anymore.

LC – yep, the real problem is they don't have access to their lands or sites anymore.

MF / DB – affects the whole cultural landscape – you can see many areas that are important to our culture and these would be lost.

GM – perhaps if RMS were to have the site design modelled up in 3D the proposal would be clearer. We know it does not replace the site but would building it back up with unsuitable material offer any compromise.?
IT – will the land be given back to stakeholders and how?
GM - this will take time to work out but some form of land care arrangement would be needed.
MF - all I can do is take this to the community.

GM important that they are aware that the revised lesser impact is what the RMS is now proposing. It would be good to get your submission and the agencies can also make their comment.

GP – would it be possible to offer the community the whole hill?
GM – that is not one of the options being offered.

JB – I want to stress that the mitigation also needs be considered and we seek comment on that.

GM read out a summary of the mitigation measures proposed for Lang Hill that would be required as part of the project construction. This was recorded in a letter sent to all stakeholders. It includes protection and also includes providing the whole lot of the untouched portion of the hill back to the community.

IT – so should feedback or a submission state a preference to management approach?
JB - yes

DB – The Community is held to ransom – option 1 puts the road there and the community get nothing. Option 2 we lose a large portion of the hill to gain ownership of the other portion. This is an unjust proposition.

DB – has RMS purchased the Melino property?
GM – no we are only acquiring land if owners approach us. RMS cant start acquiring if owners don't come to us.

Gumi PAD and tree

VE wanted to talk about findings of the Gumi scar tree. Report indicated the scar is less than 60 years old.
MF – how did they determine this?
VE - they can tell by the bark boring.
DB – but the arborists said they could not be aged at the time.? What tree species was it?
VE - pink or yellow bloodwood
MF – that is a marker tree, not a scar tree, its an important difference.

Marcus to discuss option with community elders at next available meeting.

<p>VE read out the findings from the aborists report. The age of the wound is circa 1980. So that rules out possibility that it is a cultural tree, but a tree that has had accidental scarring.</p> <p>MF - I know for a fact that that is a marker tree. Also the landowner is logging the coastal cypress area back at Melinos. This is the largest colony of coastal cypress in area it is a protected EEC. The whole hill has been damaged and a pile of cleared refuse is stacked on top this is the Melino PAD site that is a ceremonial cultural site. So now that's another site that has been damaged from our country.</p> <p>In the past, when walking up to the Gumi tree – Mick Melino told us his dad used to make us pick the rocks up and put them in a pile. Rocks that are now on Melino property were part of a stone arrangement. The rocks that are there still have spirit and they are out of an arrangement. The stones are long and look like a beach cobble.</p> <p>JB - can this be put in a submission on the project.?</p> <p>MF - yes.</p> <p>JB - do you feel like the tree is a cultural.</p> <p>MF - yes it is still a cultural marker tree.</p> <p>VE - the recommendations for the tree will include relocating it elsewhere.</p> <p>MF – i will send in a submission on this matter.</p> <p>MF – also something else that may be relevant to the project: at the back of Thurgates Lane off the Wardell road there are there scar trees. RMS are making an ancillary site there. There is a yellow house. I had a call from a lady that used to live there – she said when she was digging up the garden she unearthed human bones. This is right on the alignment.</p> <p>GM – The item is not on the alignment and is not affected by the project boundary.</p>	
<p>Meeting closed 1.55pm.</p>	

MEETING MINUTES



Name of meeting:		Aboriginal Focus Group Iluka Rd to Woodburn	
Location of meeting:		Wardell Community Hall, Wardell	
Meeting facilitator:		Woolgoolga to Ballina Planning Alliance	
Date:	6 February 2013	Time:	9.30 – 11.30 am
Attendees:	Lee Laurie – Yaegl LALC (LL) Shane McLeay – Yaegl LALC (SM) Vanessa Edmonds, Alliance archaeologist (VE) Garry McPherson, RMS Project Development manager (GM) Joseph Brooke, Alliance archaeologist (JB) Chris Gorman, Alliance project manager (CG) Graham Purcell, RMS Aboriginal Programs Coordinator (GP) Ilesha Timmins, RMS, Aboriginal Cultural Heritage Advisor (IT) Simon Wilson, RMS Project Development officer (SW)		
Apologies:	Karen Willow (RMS)		
Item		Action	
Welcome			
VE welcomed everyone to the meeting and introductions were made.			
Project update			
GM provided an update on the project and presented the visualisation of the project from Glenugie interchange up to Iluka interchange. He explained that the EIS is on display for comment and that RMS were hopeful for project approval by the end of the year. Some funds are available for undertaking early works and these would be some of the 1 st works to get underway.			
Presentation of the CHAR and Sub-surface testing recommendations			
JB gave an overview of the CHAR. Discussion on Pillar Valley and Tyndale corridors of movement. Naming of bridges was discussed and also interpretation boards provided at the rest area at Pine Brush SM – artefacts could be put into a display location – only need to take a selection of certain ones that are most informative.			
<u>Site Wx2IR 8</u>			

<p>SM - happy to with recommendations to salvage.</p> <p>GP – do Yaegl need to apply to care and control permit for artefacts if they want to use in display?</p> <p>JB – yes they do. It is not too onerous a process.</p> <p><u>Old Tucabia dump (Firth Heinz road).</u></p> <p>JB - scarred tree found on border of the ancillary site (Ancillary Site - Section 3 - Site 6b). Recommendation is to exclude it and fence off.</p> <p>SM – yes, that would be good for people to see the tree at the site so they are informed about what scarred trees are.</p> <p>JB – yes protective fencing such as para webbing would be required during construction along with do not enter signage. Also detailed design would need to avoid this site.</p> <p>SM – perhaps the tourist drive signage could denote where a scarred tree is if it is on or close to a local overpass road (Firth Heinz Road).</p> <p><u>Upper Coldstream 1</u></p> <p>JB - Artefacts would be avoided – if not then removed from area and reburied.</p> <p>No comment</p> <p><u>Wx2I site 4</u> – could not be surveyed.</p> <p><u>Shark Creek 2</u> – near to McIntyres lane. Recommendation is to avoid area where axe was found. Site should not be used to avoid further impact.</p> <p>GM initiated a discussion on how many options would be available to a contractor – the number in Nambucca looked at 20 options. So we would need to keep as many options as possible on the table.</p> <p>LL – some of the sites are on swamp land, no good for construction. Then contractor will want to place elsewhere. Concerned about the risk of environmental damage. Need to get out of the flood affected lands. Assessment should be clear as to what the risks may be.</p>	<p>JB to include recommendations to protect tree during construction. Recommendations to also ensure trees are avoided by the project design during detailed design are required.</p> <p>CG to pass on feedback to EIS team to check that commitments regarding ancillary sites identify the risk that changes may need to be made in the design that may require further assessment.</p>
<p>Design changes</p> <p>The design changes that were relevant to the Yaegl stakeholders were presented and need for more survey was explained:</p> <ul style="list-style-type: none"> ■ Tucabia dump realignment ■ Maclean interchange 3 options ■ Koala Drive extension of the local access roads ■ Carrols Lane over bridge moving north ■ Mororo cut. <p>No comments or issues raised on design changes.</p> <p>JB would like to set a date for survey sometime next week</p> <p>LL – keen to get the work done and see the upgrade started</p>	<p>JB to let group know what date testing is due to start.</p>
<p>Meeting closed 11.30am.</p>	

MEETING MINUTES



Name of meeting:		Aboriginal Focus Group: Wells Crossing to Iluka Road	
Location of meeting:		Grafton Community Hall, Grafton	
Meeting facilitator:		Woolgoolga to Ballina Planning Alliance	
Date:	6 February 2013	Time:	12.00 to 1.00pm
Attendees:	Crystal Skinner — Grafton Ngerrie LALC (CSk) Brett Tibbet — Grafton Ngerrie LALC (BT) Gary McPherson, RMS Project Development Manager (GM) Simon Wilson, RMS Project Officer (SW) Graham Purcell, RMS Aboriginal Programs Coordinator (GP) Joseph Brooke, Alliance Archaeologist (JB) Vanessa Edmonds, Alliance Archaeologist (VE) Chris Gorman, Alliance Project Manager (CG)		
Apologies:	Karen Willows (RMS)		

Item	Action
<p>Welcome</p> <p>VE welcomed everyone to the meeting and acknowledged the traditional owners. Introductions were made.</p>	
<p>BT – the boundary of GNLALC does not go as north of the area of discussion (where ancillary sites were investigated) and therefore GNLALC have no business in discussing interests in this area. The majority of the area relates to Yaegl.</p> <p>BT – there is a special Land Councils meeting occurring today so many of the CEOs including Yaegl are attending that.</p> <p>VE – on that basis meeting should disband.</p> <p>All agreed</p>	
Meeting closed 12.30pm.	



MEETING MINUTES

Name of meeting:		Aboriginal Focus Group: Woolgoolga to Wells Crossing	
Location of meeting:		Yarrowarra Aboriginal Cultural Centre	
Meeting facilitator:		Woolgoolga to Ballina Planning Alliance	
Date:	6 February 2013	Time:	10.30am
Attendees:	Robyn Duroux – Gaabi Elder (RD) Anthony Dootson, Yarrowarra Aboriginal Corporation (AD) Angela Brown – Gaabi Elder (AB) Margie Lardner – Gaabi Elder (ML) Glenda Perkins – Gaabi Elder (GP) Crystal Skinner — Grafton Ngerrie LALC (CSk) Brett Tibbet — Grafton Ngerrie LALC (BT) Chris Spencer – Coffs Harbour LALC (CS) EJ Williams — Yarrowarra Aboriginal Corporation (EW) Gary McPherson, RMS Project Development Manager (GM) Simon Wilson, RMS Project Officer (SW) Graham Purcell, RMS Aboriginal Programs Coordinator (GP) Joseph Brooke, Alliance Archaeologist (JB) Vanessa Edmonds, Alliance Archaeologist (VE) Chris Gorman, Alliance Project Manager (CG) Roy Marsh, RMS (RM) Sarah Wain, RMS (SW)		
Apologies:	Karen Willows (RMS), Anthony Dootson, Yarrowarra Aboriginal Corporation (AD)		

Item	Action
<p>Welcome</p> <p>VE welcomed everyone to the meeting and acknowledged the traditional owners. Introductions were made.</p>	
<p>Project update</p> <p>GM provided an update on the project. He explained that the EIS is on display for comment and due to the flooding issues recently, has been extended until 18 February 2013.</p> <p>RMS were hopeful for project approval by the end of the year. Some funding is available for undertaking early works and these would be some of the first works to get underway.</p>	

Site recommendations

VE explained that the CHAR includes assessment on the potential ancillary sites and design changes of which some occur outside of the project corridor. These aspects would form the overall subject of today's AFG meeting.

JB – process of survey of the potential ancillary areas and design changes was explained.

CS – Were the testing of the shovel pits undertaken under the archaeological guidance 'code of practice' and therefore required no AHIP?
JB – Yes and this process for approval will be undertaken later in the meeting. JB and CS further discussed cultural sites and their meaning as described in the assessment.

JB then provided a presentation of surveys and testing. Refer to attachment.

Corindi Corridor

JB – We would like any comment on the cultural places we term 'Corindi corridors of movements' as they cannot be avoided by the project owing to their broad area in the region. We want to know what the attendees feel about this.

CS – Are these near Kangaroo Trail Road?

JB - Agreed.

BT – these go near to bull paddock

JB – to help clarify what we think may be an issue for stakeholders, if its 'proven' that there are these movements corridors, then the issue of underpassing these movement corridors – may need consideration.

VE – Other options could be to provide interpretative signage.

GM – The nearest fauna corridor structure in the project design is near Corindi Creek – so this is not really in the area of the movement corridors.

CS – Are the bridges going to be named?

GM – Yes there are bridges that will be named across the project including new local roads – names would be visible for pedestrians but they may not be viewed from the highway by motorists. There needs to be strong evidence/ justification for having these names.

CS- Can RMS support the AFG in the bridge naming process?

GM – Yes RMS would certainly support the AFG in that submission.

VE- Is this is an option for mitigation to be written in the conditions?

GM - This would be an issue for detailed design and it should continue to be raised. I encourage the AFG to make it a formal submission during the EIS exhibition process.

Taylors Run

ML – We have some artefacts on display there now – near Taylors Run – as we found a lot of arrow heads and axe heads there near Kangaroo Trail Road, so some of these may be buried in the approximate area.

JB – Asked if everyone was ok with the recommendations for each site.

RD – How deep would you re-bury the artefacts?

JB – In the area not very deep as it's difficult with the clay and rock.

RM – Can they be buried in the topsoil of the road embankment?

CS – Depends on the education value of the material. For the work

completed south of Coffs Harbour, the consultants retained the objects until a suitable location was identified as close as possible to where they came from. This could be something that is replicated here.

VE - If it does get reburied, that spot would get recorded on AHIMS so it is an actual site for future reference.

CS – Agreed and the linkages of where it comes from are also recorded and that's important.

JB – Taylors Run 2- the 18 artefacts would be fenced off and not impacted. The rest of the ancillary site would be used. Retain topsoil – suggestion by Mark Flanders.

CS – Is the 70% reflecting the possible proposal to remove all the topsoil?

CS - I can see where Mark Flanders is coming from – but the topsoil also needs to be protected from being moving around and disturbed. Identify an area that is to be undisturbed and marked on construction plans. S2W had those recommendations but it did not protect the pile from movement. It needs to be restricted from entry or movement.

WWC37

CS – What's the footprint of the 100m sq. What discretion is there to excavate important areas?

JB – Confirmed that there is flexible scope during salvage to excavate areas out of choice and can be adjusted to suit.

WWC39

JB – This is the site is south of Corindi Creek – artefacts located at this site now total 729. This is a larger site with denser concentrations within a blueberry plantation.

CS – By placing the artefacts back within the batters/formation, will the batters erode? Concerns with erosion. Heavy rainfall means measures are not always possible.

CS – Will it be protected as a site during maintenance? Will an Aboriginal heritage plan be produced as part of an OEMP?

SWn – Normally RMS have overarching plans and are moving away from specific operational plans.

GM – The batters are small here and may not lend to storage.

GM – need recommendation to go to detailed design team – also important to understand constraints in corridor.

SWn – suggestion to include in other areas eg sedimentation basin batters or between toe of batter and project boundary fencing.

CS – So long as it's not in an area that's prone to erosion. And don't want it to be problematic in construction. The amounts of topsoil will be very large given the size of this Aboriginal site.

SWn – Suggested they look at quantities and then get back with a solution / approach.

CS – Agreed. There is a need for another meeting to discuss this location. Further discussion regarding the removal of topsoil in blueberry farm under the rows.

SWn requested confirmation that the AFG was satisfied with the recommendations pending the reburial of artefacts. This was confirmed.

However, GP and ML want Project team to understand the personal feelings they have about these areas – that they are important to them – they feel

SWn/Detailed Design team to review quantities through WWC39 area.

that they may almost be punished by granting 'permission'. All of this is spiritually troubling them.
They believe in retribution and that they would forever regret this decision.
Discussion regarding Corindi Creek bridge and bridging the land – GM does not think it viable due to the land topography.
CS – Wonder what the importance of the site is – is it represented in the region – and therefore is it potentially rare for the stakeholders? Can the road be moved to avoid it?

Post Office Lane 1

All agreed to recommendations.

WWC Dirty Creek 1 (a, b, c, d)

JB – Last time we were out with Mark Flanders, he identified it should be the whole ridge.

CS – Still think that a Site Officer needs to be involved in the specifics of clearing and grubbing, rather than it just be pushed aside without care and consideration. Have had concerns that there may be grinding grooves in the ridgeline area. In the old days this area would be very cleared from vegetation. It has a good outlook over the area.

JB explained the background of the Geotechnical Investigations that were undertaken within WWC Dirty Creek 1c locations prior to it being identified as an Aboriginal site. It was requested to gain access to the previously installed groundwater peizometer in order to update the information. Future groundwater monitoring through here would be undertaken on foot to minimise disturbance to the area. It was agreed that a more formal notification process needs to occur between the Planning Alliance and detailed design team. CS and EJ support this and identified no issue with the Geotechnical Investigations being previously undertaken.

VE - Are we happy that this area (ridgeline) is not an area of PAD?

CS needs to talk to Mark Flanders and will let the Project team know by end of February.

Lemon Tree 1

JB – This is a scarred tree which has been previously felled and is dead. It is to rotten to see axe marks.

CS – The type of tree tells you if it is a scarred tree.

JB – We can't tell what type of tree it is.

JB – Is everyone comfortable that tree is left to decay and is left untouched?

BT - What was uncle Rods comment ? There is not a lot that can be done and it may just be best to left to rot with no specific measure ie no care and control. However, cannot agree with recommendations until we have spoken to our Elders.

Geotech salvage and permit discussion

JB/VE provided an overview of the process for the new members that weren't aware of the history of the geotechnical salvage of WWC39 and the approved AHIP.

The preferred date for the works would be 26 February and will run for 3-4 days.

VE made it clear that this is the WWC39 site that the elders were most concerned about.

Outstanding design changes and ancillary sites

Ancillary sites within Section 1 (being site 2a, 4a and 4b) could not be

Project team to meet with Gaabi Elders to discuss a way forward for WWC39 locality.

CS to discuss WWC Dirty Creek 1c location with Mark Flanders and confirm boundaries with Project team.

Grafton-Ngerrie LALC to confirm Lemon Tree 1 recommendations.

<p>accessed and will be undertaken at a later date. <u>(Note: Berry Farm (Costa) has since refused permission of site 4 as an ancillary site so no need to survey)</u></p> <p>The design changes will follow a similar process to the ancillary site surveys.</p> <p>The additional assessments will be reported in the final report before the project is approved.</p> <p>Only the design change at range road goes substantially outside of the boundary.</p> <p>GM outlined the submissions process and closing date.</p>	
Meeting closed 12.35pm.	



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e jali@jalilocal.com

4th April 2013

To Whom It May Concern

Re: Cultural and Heritage Assessment W2B Highway Upgrade

The Jali Local Aboriginal Land Council strongly opposes to any recommendations on reports regarding the Cultural and Heritage as momentous impacts on these areas of Giddo's Hill, Lang Hill and Con Melino's property.

The Jali LALC disputes the consultation which was held in 2004 as Jali was under administration and protocol was not carried out properly, even the local aboriginal community wasn't engaged. The people that were engaged in the initial consultation stage have not accessed country for many, many years and the Jali LALC Cultural and Heritage Site officer mentioned at the time of the impacts of cultural areas associated with the W2B Highway Upgrade but were never adhered, for example the scarred trees are now located in the middle of the highway if consultation was conducted properly that the Gumi Scar Tree would not be assigned for removal.

The current W2B Highway Upgrade will have a long lasting and devastating effect on a number of culturally sensitive sites that has been spoken by our Elders and recorded by Anthropologists – Ron Herron, Jennifer Hoff and Margaret Sharpe. There is dreamtime stories associated with Lang's Hill, Cook's Hill, Giddo's Hill and to the north Newby's Hill, McPherson's Hill to the west also Red Hill to the south. These hills all have cultural significance links to our Aboriginal community such as the artefacts which were found throughout site inspections e.g. cutting tools, grinding bowls, grinding grooves, paint wells, scar trees and the blue agate/chertz.

An early anthropologist documented the stories related to the blue agate which connected the Nyanbal tribe/people with surrounding tribes/people in Lismore, Coraki, Evans Head, Casino, Tabulam and Tweed Heads and this story has always been told by our community elders which has been handed down to each generation. All the hills that have been mentioned above are being destroyed by commercial development in which impacts on our dreamtime stories and sites, now and for future generations.

The Lang and Giddo's Hills are very important areas due to the discovery of the blue agate and the strong connection to surrounding sites such as the Salty Lagoon (Women's Site) east of Giddo's Hill and Tucki Tucki bora ring to the west of Giddo's Hill. All these areas have a connection in stories and rituals which have been carried



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out for many thousands of years in which these areas will be destroyed along with the stories and sites.

The second area of concern is the destruction of the Con Melino's property and the removal of the Gumi Scar Tree which is a definite marker, Mick Melino and his sister stated that as young children they were told about a stone arrangement near the marker tree (Gumi Scar Tree) was were there parents told them to pick the cobble stones up and place them in the Melino's Shed. The stones and artefacts are still in the Melino's shed today in which community members have sighted. Since the last on- site visit Con Melino's site has been desecrated this is disheartening as aboriginal people constantly losing sites.

The Jali Local Aboriginal Land Council will not approve or agree with any recommendations given by RMS or SKM due to the consultation process and will continue to have a strong stance against any destruction of our sites. There has been overwhelming flaws with the process of this W2B Highway Upgrade which Jali LALC believes the information provided to RMS and SKM has not been taken seriously with concerns and input for local Aboriginal culture. As these sites have spiritual, cultural and dreamtime stories a connection to our local Aboriginal community and if destroyed this impacts on keeping our culture alive and the next generation will be very limited to the significance of these sites.

Yours Sincerely

A handwritten signature in blue ink that reads 'Veronica Williams'.

Veronica Williams

Jali LALC CEO

Brooke, Joseph (SKM)

From: Tori Edwards [tedwards@ntscorp.com.au]
Sent: Tuesday, 26 March 2013 11:36 AM
To: Brooke, Joseph (SKM)
Subject: RE: W2B Ancillary facility and design change CHAR - part 1
Attachments: image001.png; image002.png

Dear Jo

At this stage, Bandjalang People do not have further comments on the CHAR beyond those that they have already raised in consultation with SKM & RMS.

Kind regards,

Tori

Tori Edwards | Senior Solicitor



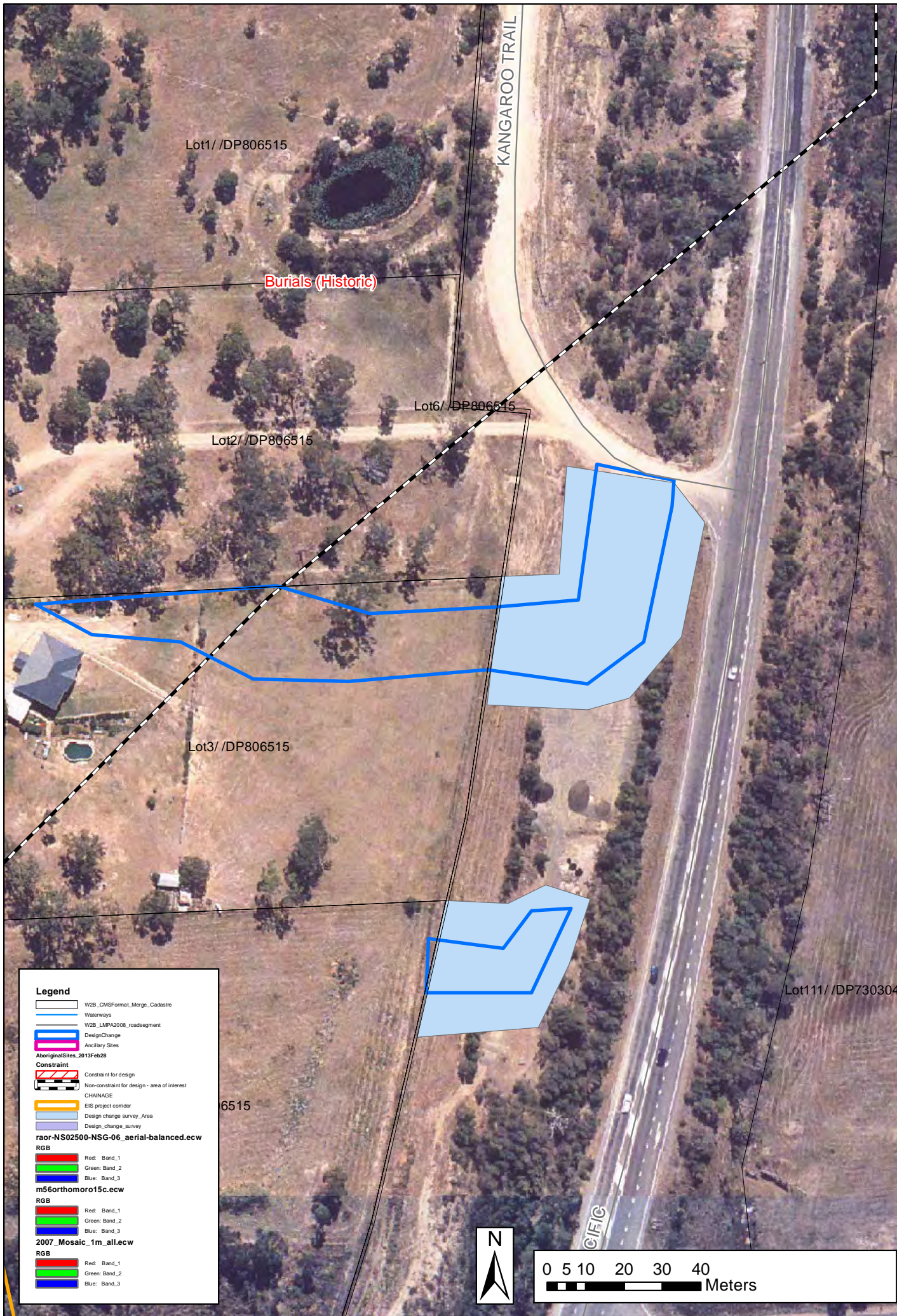
NTSCORP proudly acknowledge that our office is situated on the country of the Gadigal People of the Dharug Nation. We also acknowledge and pay our respect to their Elders past and present.

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Appendix E Design change survey figures



Lot1/ /DP806515

Burials (Historic)

Lot6/ /DP806515

Lot2/ /DP806515

Lot3/ /DP806515

Lot111/ /DP730304

6515



CIFIC

Legend

-  W2B_CMSFormat_Merge_Cadastre
-  Waterways
-  W2B_LMPA2008_roadsegment
-  DesignChange
-  Ancillary Sites

AboriginalSites_2013Feb28

Constraint

-  Constraint for design
-  Non-constraint for design - area of interest

CHAINAGE

-  EIS project corridor
-  Design change survey_Area
-  Design_change_survey

raor-NS02500-NSG-06_aerial-balanced.ecw

RGB

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-  Green: Band_2
-  Blue: Band_3

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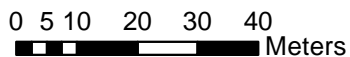
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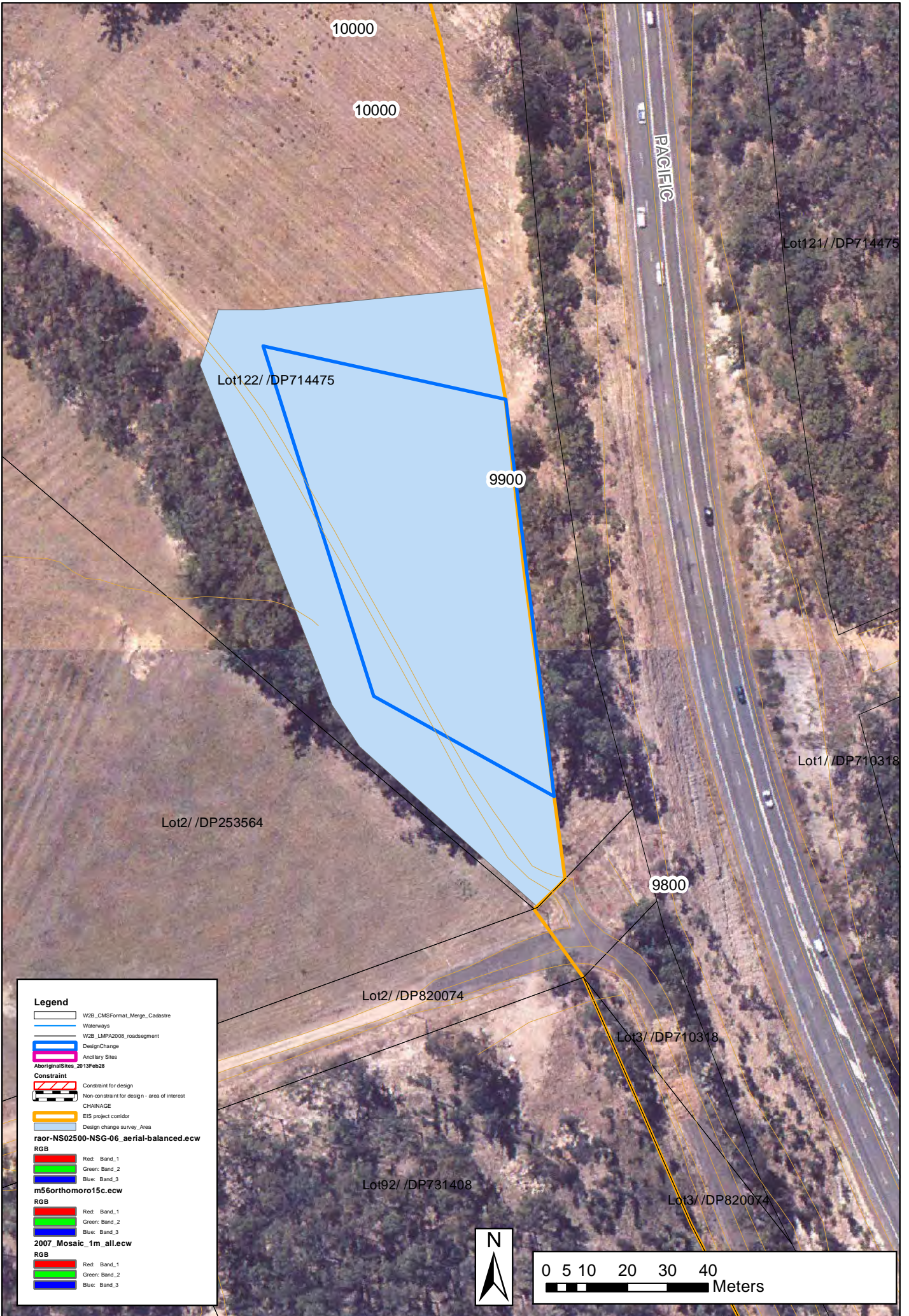
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-  Red: Band_1
-  Green: Band_2
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PACIFIC

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Lot122/DP714475

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Lot1/DP710318

Lot2/DP253564

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Lot2/DP820074

Lot3/DP710318

Lot92/DP731408

Lot3/DP820074

Legend

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-  Waterways
-  W2B_LMPA2008_roadsegment
-  Design/Change
-  Ancillary Sites
-  Aboriginal Sites_2013Feb28

- Constraint**
-  Constraint for design
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 -  CHAINAGE
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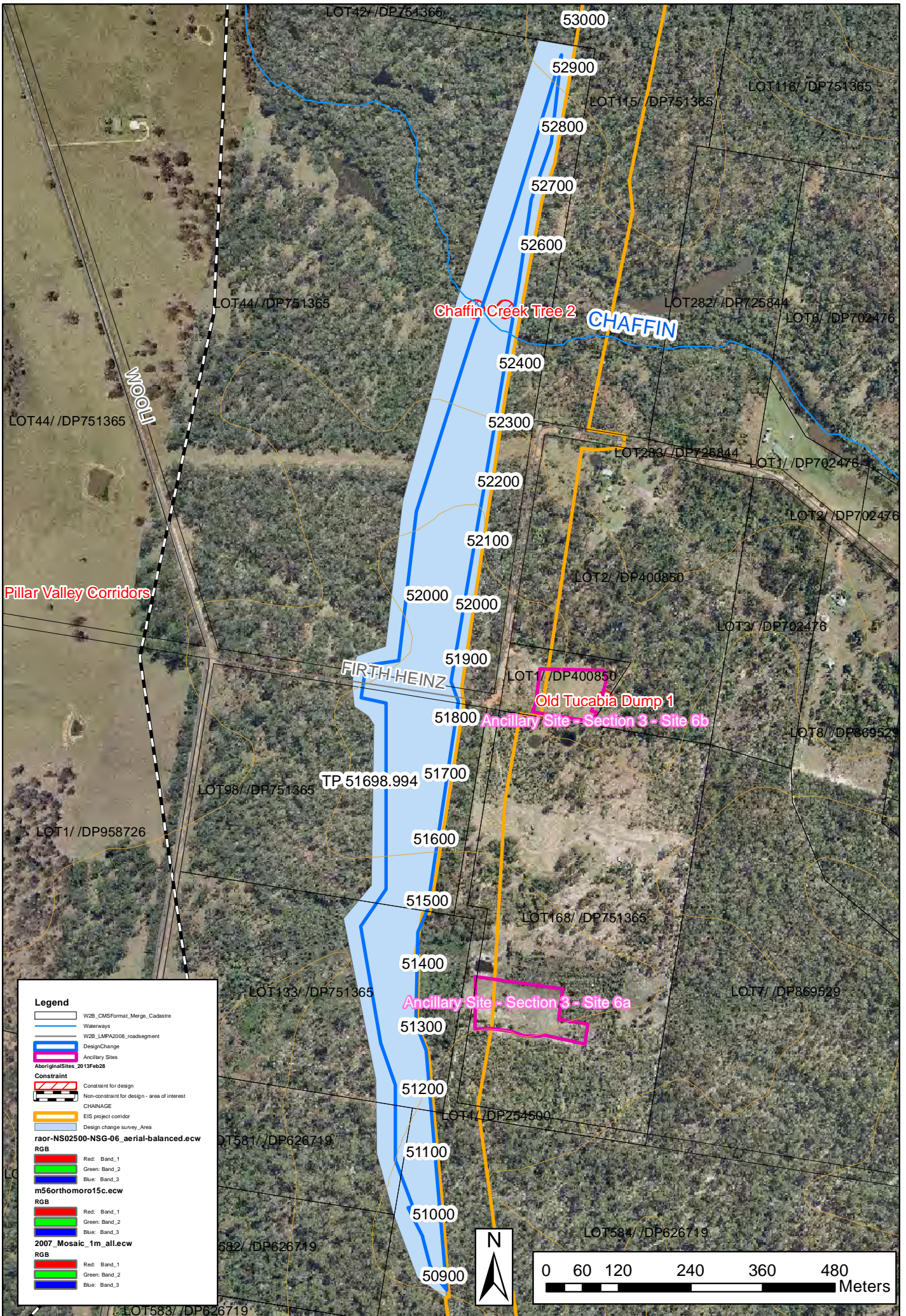
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RGB

-  Red: Band_1
-  Green: Band_2
-  Blue: Band_3





Pillar Valley Corridors

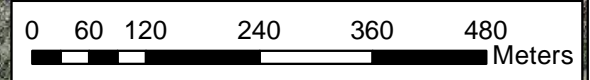
Chaffin Creek Tree 2
CHAFFIN

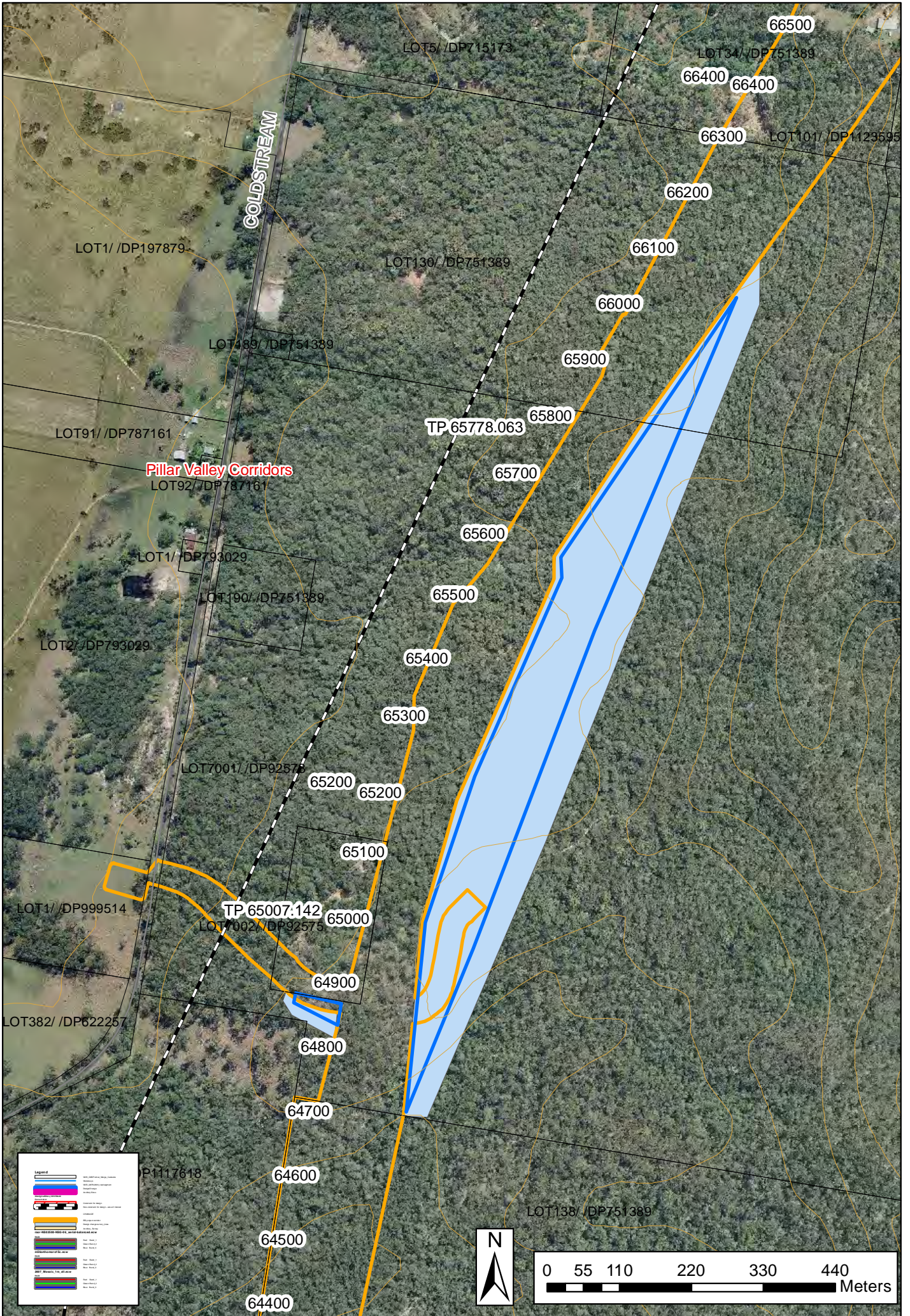
Old Tucubia Dump 1
Ancillary Site - Section 3 - Site 6b

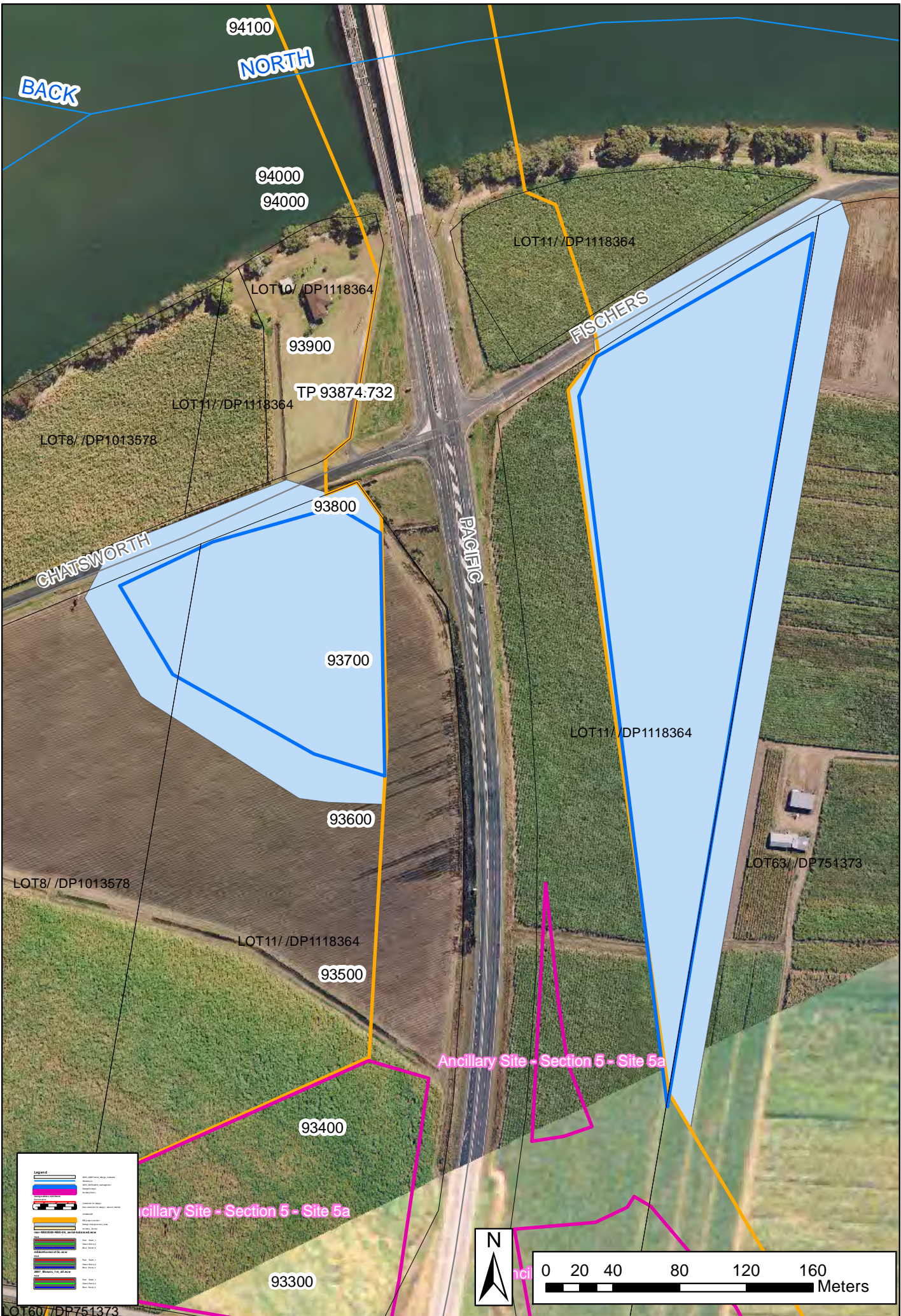
Ancillary Site - Section 3 - Site 6a

Legend

- W2B_CMSFormat_Merge_Cadastre
- Waterways
- W2B_LMPA2008_roadsegment
- DesignChange
- Ancillary Sites
- AboriginalSites_2013Feb28
- Constraint**
- Constraint for design
- Non-constraint for design - area of interest
- CHAINAGE**
- EIS project corridor
- Design change survey_Area
- raor-NS02500-NSG-06_aerial-balanced.ecw**
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- Green: Band_2
- Blue: Band_3
- m56orthomoro15c.ecw**
- Red: Band_1
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- Red: Band_1
- Green: Band_2
- Blue: Band_3

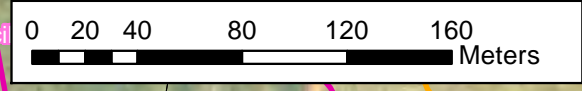






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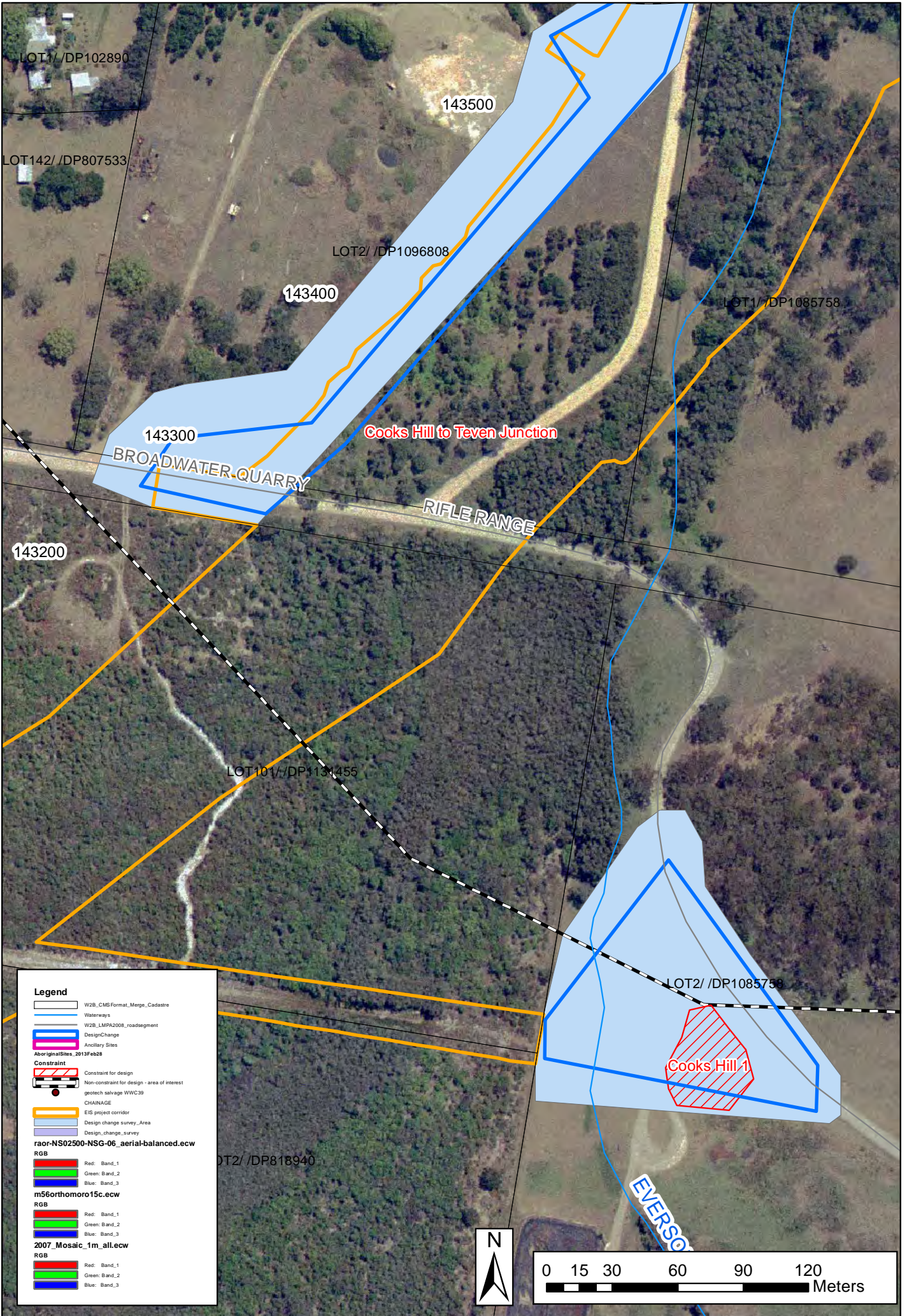
	Proposed Site Boundary
	Ancillary Site - Section 5 - Site 5a
	Other Site Boundary
	Other Site Boundary
	Vegetation
	Soil
	Water
	Other



Ancillary Site - Section 5 - Site 5a

Ancillary Site - Section 5 - Site 5a

LOT 60 / DP 751373



Legend

-  W2B_CMSFormat_Merge_Cadastral
-  Waterways
-  W2B_LMPA2008_roadsegment
-  DesignChange
-  Ancillary Sites

-  AboriginalSites_2013Feb28
-  Constraint for design
-  Non-constraint for design - area of interest
-  geotech salvage WW39

- CHAINAGE**
-  EIS project corridor
-  Design change survey_Area
-  Design_change_survey

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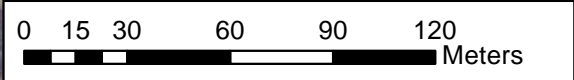
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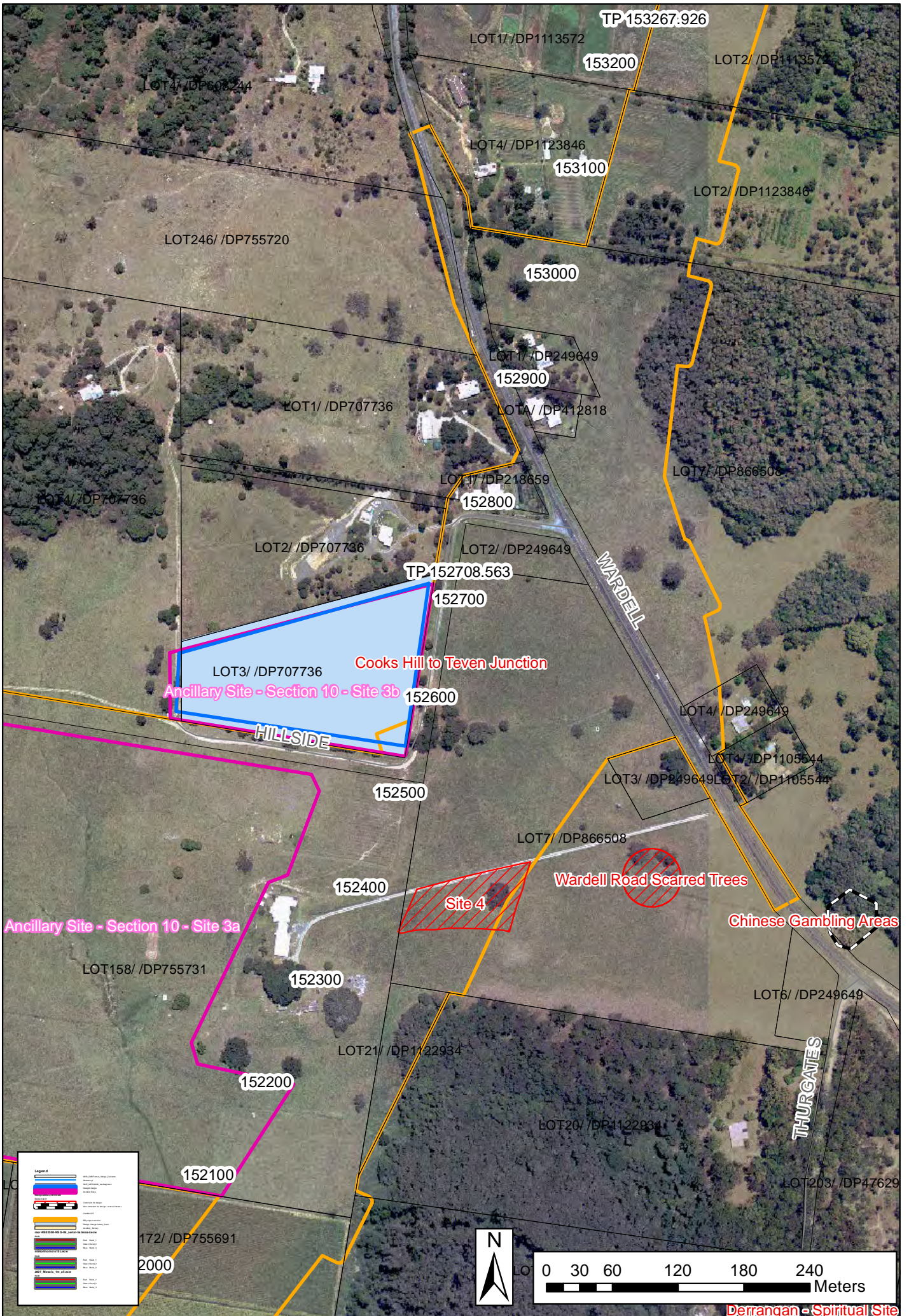
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-  Green: Band_2
-  Blue: Band_3

2007_Mosaic_1m_all.ecw

-  Red: Band_1
-  Green: Band_2
-  Blue: Band_3





TP 153267.926

LOT17 / DP1113572

153200

LOT2 / DP1113572

LOT4 / DP606244

LOT4 / DP1123846

153100

LOT2 / DP1123846

LOT246 / DP755720

153000

LOT17 / DP249649

152900

LOT4 / DP412818

LOT1 / DP707736

LOT17 / DP218659

152800

LOT7 / DP866508

LOT4 / DP707736

LOT2 / DP707736

LOT2 / DP249649

TP 152708.563

152700

WARDLE

LOT3 / DP707736

Cooks Hill to Teven Junction

Ancillary Site - Section 10 - Site 3b

152600

HILLSIDE

LOT4 / DP249649

152500

LOT4 / DP1105544

LOT3 / DP249649

LOT2 / DP1105544

LOT7 / DP866508

152400

Wardell Road Scarred Trees

Site 4

Chinese Gambling Areas

Ancillary Site - Section 10 - Site 3a

LOT158 / DP755731

152300

LOT6 / DP249649

LOT21 / DP1122934

THURCATES

LOT20 / DP1122934

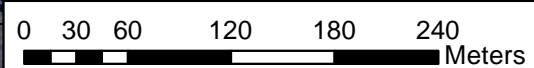
152200

LOT203 / DP47629

152100

LOT172 / DP755691

152000





Derrangan - Spiritual Site



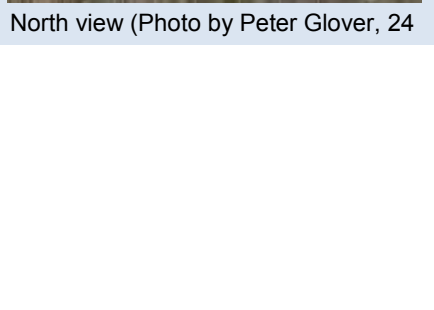
Legend	
	Proposed Road
	Proposed Road
	Proposed Road
	Site 4
	Wardell Road Scarred Trees
	Chinese Gambling Areas
	Cooks Hill to Teven Junction
	Ancillary Site - Section 10 - Site 3b
	Ancillary Site - Section 10 - Site 3a
	Boundary
	Boundary
	Vegetation
	Vegetation
	Vegetation
	Water
	Water
	Water
	Water

Appendix F Survey details

Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 1, Site 1a,	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 51 DP851056	WWC39	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 24 September 2012)</p>
Section 1, Site 1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 11 DP1152234	WWC37	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 24 October 2012)</p>



Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 1, Site 1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 4 DP806515	Taylor's Run 1	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 24 October 2012)</p>
Section 1, Site 1b	Stockpile site	Lot 51 DP851056	WWC39	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 24 October 2012)</p>
Section 1, Site 1b	Stockpile site	Lot 10 DP1152234		Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 24 October 2012)</p>



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Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 1, Site 2	Materials processing and stockpile site	Lot 4 DP815051	Post Office Lane 1	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	October 2012)
Section 1, Site 2	Materials processing and stockpile site	Lot 1 DP379009	Post Office Lane 1	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	
Section 1, Site 3	Materials processing and stockpiling	Lot 1102 DP803773	-	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	20-40 per cent	60-80 per cent	Area has been cleared and used for residential purposes.	 <p>North view (Photo by Peter Glover, 23 October 2012)</p>
Section 1, Sites 4a and 4b	Materials processing and stockpiling	Lot 93 DP731408		Upper slope (100 per cent)	40-60 per cent	40-60 per cent	Area has been excavated, and built up into a flat pad	

Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Range Road design change	Design change, road cutting	Lot 1 DP710318, and Lot121 and Lot122 DP714475	-	Crest (15 per cent), Upper slope (25 per cent), Mid slope (25 per cent), Lower slope (25 per cent), Gully (10 per cent)	20-40 per cent	20-40 per cent	Area has been subject to logging; western portion has been	 <p>View south (Photo by Peter Glover, 15 June 2012)</p>
Section 2, Site 1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 13 DP879175		Mid slope (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>South along Pacific Highway (Photo by Peter Glover, 3 October 2012)</p>


Woolgoolga to Ballina Pacific Highway Upgrade
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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 2, Site 1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 15 DP879175		Upper slope (50 per cent), Mid slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been previously cleared and ploughed.	 <p>South along Pacific Highway (Photo by Peter Glover, 21 September 2012)</p>
Section 2, Site 1a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 14 DP879175		Upper slope (50 per cent), Mid slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been previously cleared and ploughed.	
Section 2, Site 1b	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 312 DP877257	Lemon Tree 1	Upper slope (50 per cent), Mid slope (50 per cent)	0-20 per cent	0-20 per cent	Forestry, tracks, and old fire station building.	



Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 2, Site 1b	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 61 DP751368	Lemon Tree 1	Upper slope (50 per cent), Mid slope (50 per cent)	0-20 per cent	0-20 per cent	Forestry, tracks, and old fire station building.	East looking away from Pacific Highway (Photo by Peter Glover, 21 September 2012)
Section 2, Site 1b	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 316 DP1096092	Lemon Tree 1	Upper slope (50 per cent), Mid slope (50 per cent)	0-20 per cent	0-20 per cent	Forestry, tracks, and old fire station building.	
Section 2, Site 2	Satellite site compound and stockpile site	Lot 13 DP879175		Mid slope (100 per cent)	0-20 per cent	0-20 per cent	Forestry with walking tracks.	 <p>North looking along Pacific Highway (Photo by Peter Glover, 21 September 2012)</p>



Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 2, Site 3		Lot 411 DP883976, Lot 412 DP883976, and Lot 7004 DP1058539	Kungala Rd 1	Crest (50 per cent), Upper slope (50 per cent)	Not surveyed			
Section 2, Site 4	Satellite compound and stockpile site	Lot 51 DP801481	Wells Crossing 1	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North looking along Pacific Highway (Photo by Peter Glover, 21 September 2012)</p>



Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 2, Site 5a	Stockpile site	Lot 161 DP736670	WWC139/A (13-4-0157)	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>West looking away from Pacific Highway (Photo by Peter Glover, 21 September 2012)</p>
Section 2, Site 5a	Stockpile site	Lot 162 DP736670	WWC139/A (13-4-0157)	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North along Pacific Highway (Photo by Peter Glover, 21 September 2012)</p>


Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 6 DP793765	Old Six Mile Lane 1	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 29 October 2012)</p>
Section 3, Site 2	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 7 DP793765	Old Six Mile Lane 2	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for farming and pastoral purposes.	 <p>North view (Photo by Peter Glover, 29 October 2012)</p>


Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 3b	Main site compound, stockpile site (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 126 DP751376	WX2i Site 8	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>North view (Photo by Peter Glover, 19 September 2012)</p>
Section 3, Site 4	Materials processing and stockpile site (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 1 DP606007		Crest (25 per cent), Upper slope (40 per cent), Mid slope (20 per cent), Lower slope (15 per cent)	0-20 per cent	0-20 per cent	Forestry and area has also been cleared in part for pastoral purposes.	 <p>East looking away from Woolli Road</p>



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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 4	Materials processing and stockpile site (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 92 DP751378		Crest (25 per cent), Upper slope (40 per cent), Mid slope (20 per cent), Lower slope (15 per cent)	0-20 per cent	0-20 per cent	Forestry and area has also been cleared in part for pastoral purposes.	(Photo by Peter Glover, 18 September 2012)
Section 3, Site 6a	Stockpile site	Lot 1 DP254500		Flat (80 per cent), swamp (20 per cent)			Area has been cleared and used for pastoral purposes.	 <p>East looking away from Woolli Road (Photo by Peter Glover, 19 September 2012)</p>
Section 3, Site 6a	Stockpile site	Lot 168 DP751365		Flat (80 per cent), swamp (20 per cent)			Area has been cleared and used for pastoral purposes.	



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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 6b	Materials processing and stockpile site	Lot 1 DP400850	Old Tucabia Dump 1	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been previously used as a dump and for pastoral purposes. Vehicle tracks throughout.	 <p>East looking away from Wooli Road (Photo by Peter Glover, 18 September 2012)</p>
Firth Heinz Rd design change	Design change, road cut and fill	Lots 44, 98 and 133 DP751365, and Lot 584 DP626719	Chaffin Creek Tree 1, and Chaffin Creek Tree 2	Stream channel (5 per cent), Swamp (20 per cent), Plain (20 per cent), Crest (5 per cent), Upper slope (10 per cent), Mid slope (20 per cent), lower slope (20 per cent)	0-20 per cent	0-20 per cent	Entire area has been previously cleared/logged.	


Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 7b	Stockpile site	Lot 141 DP751365		Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	80-100 per cent	80-100 per cent	Area has been previously used as a quarry and is cleared.	 <p>West looking towards Tucabia-Tyndale Road (Photo by Alistair Carr, 27 September 2012)</p>
Section 3, Site 7a	Stockpile site	Lot 142 DP751365		Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	80-100 per cent	80-100 per cent	Area has been previously used as a quarry and is cleared.	 <p>East looking away from Tucabia-Tyndale Road (Photo by Alistair Carr, 27 September 2012)</p>



Woolgoolga to Ballina Pacific Highway Upgrade
 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Bostock Road design change	Design change, rest area	Lot 142 DP751365		Upper slope (34 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	60-80 per cent	40-60 per cent	Area has been previously used as a quarry and is cleared.	 <p>East looking away from Tucabia-Tyndale Road (Photo by Alistair Carr, 27 September 2012)</p>
Section 3, Site 8	Stockpile site	Lot 9 DP822853		Upper slope (30 per cent), Mid slope (70 per cent)	0-20 per cent	0-20 per cent	Area is used for pastoral purposes and forestry.	 <p>East looking away from Tucabia-Tyndale Road (Photo by Alistair Carr, 27 September 2012)</p>


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 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 9	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 14 DP820685	Upper Coldstream 1	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>East looking away from Tucabia-Tyndale Road (Photo by Peter Glover, 18 September 2012)</p>
Crowley's Road design change	Design change to road to avoid contaminated land	Lot 7002 DP 92575 Lot 7001 DP 92573	Tyndale Dump 1	Crest (20 per cent), Upper slope (30 per cent), Mid slope (30 per cent), Stream channel (10 per cent), Lower slope (10 per cent)	20-40 per cent	0-20 per cent	Area has been previously logged, and has a few tracks. Is currently vegetated.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 3, Site 10	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area (0.5 ha)	Lot 22 DP1119114 and Lot 2 DP1163451		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>East looking away from Pacific Highway (Photo by Peter Glover, 18 September 2012)</p>
Section 4, Site 2	Site compound (1 ha), batch plant 0.5 ha, workshop (0.5 ha) and 'structures lay down' area (0.5 ha)	Lot 24 DP1007618		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area is currently used as sugar cane field. Vehicle track also present.	 <p>South running along Pacific Highway (Photo by Peter Glover, 20 September 2012)</p>

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Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 4, Site 4a	Stockpile site	Lot 1 DP327815	Shark Creek Site 2 (13-4-0170)	Upper slope (25 per cent), Mid slope (25 per cent), Lower slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral/residential purposes.	 <p>West looking towards the Pacific Highway (Photo by Peter Glover, 20 September, 2012)</p>
Section 4, Site 4c	Stockpile site	Lot 1 DP584573	Shark Creek Site 2 (13-4-0170)	Upper slope (25 per cent), Mid slope (25 per cent), Lower slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral/residential purposes.	
Section 4, Site 4c	Stockpile site	Lot 3 DP787985	Shark Creek Site 2 (13-4-0170)	Upper slope (25 per cent), Mid slope (25 per cent), Lower slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral/residential purposes.	


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 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 4, Site 4c	Stockpile site	Lot 6 DP835402	Shark Creek Site 2 (13-4-0170)	Upper slope (25 per cent), Mid slope (25 per cent), Lower slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral/residential purposes.	
Section 4, Site 5	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 16 DP751372	Hirst 3	Upper slope (50 per cent), Mid slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>North running along Pacific Highway (Photo by Peter Glover, 20 September 2012)</p>

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Maclean Interchange design change	Design change, road fill and interchange	Lot 1 DP 534051, Lot 2 DP 534051, Lot 376 DP 751388, Lot 5 DP 1154045, Lot 1 DP 800757, Lot 8 DP 816172, Lot 11 DP 794025, Lot 2 DP 634170		Flat (95%), lower slope (5%)	20-40 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes, tracks, drains and current Pacific Highway	
Section 4, Site 6	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	Lot 1 DP230180 and Lot 10 DP837655		Flat (100 per cent)	0-20 per cent	0-20 per cent	Fencing and small shelter. Rest of area used for pastoral purposes.	 <p>East looking away from Pacific Highway (Photo by Alistair Carr, 27 September 2012)</p>


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 Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Koala Drive design change	Design change, access road	Lot 1 DP230182		Gully (20%), lower slope (40%), mid slope (40%)	20-40 per cent	0-20 per cent	Cleared and used for pastoral purposes; road facility compound has been cut and built up; track	
Section 4, Site 6	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	Lot 2 DP1149634		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	 <p>South running along Pacific Highway (Photo by Alistair Carr, 26 September 2012)</p>


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Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 4, Site 7a	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	Lot 1 DP116105		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	 <p>North running along Pacific Highway (Photo by Peter Glover, 20 September 2012)</p>
Section 4, Site 7a	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	Lot 6 DP230180		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	
Section 4, Site 7a	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	Lot 8 DP800757		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 4, Site 7a	Site compound (1 ha), batch plant (0.5 ha), workshop and stockpiles	Lot 4 DP230180		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	
Section 5, Site 1	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 501 DP777505		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	 <p>North running along Pacific Highway (Photo by Alistair Carr, 26 September 2012)</p>
Section 5, Site 1	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 4 DP230182		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 5, Site 1	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 5 DP230182		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for pastoral purposes.	
Section 5, Site 3b	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha) and 'structures lay down' area	Lot 11 DP715303		Flat (100 per cent)	80-100 per cent	80-100 per cent	Area used for sugar cane field, currently ploughed.	 <p>South running along Pacific Highway (Photo by Alistair Carr, 26 September 2012)</p>
Carrols Lane design change	Over-bridge	Lot 8 DP 1013578 Lot 11 DP 1118364		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area used for sugar cane field, currently vegetated.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 5, Site 6	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 37 DP751394 Lot 11 DP777988	Mororo Creek 2	Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Forestry area with vehicle tracks.	 <p>East looking away from Pacific Highway (Photo by Peter Glover, 20 September 2012)</p>
Section 5, Additional Site 7	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 8 DP777988	Mororo Creek 1 Mororo Creek 2	Flat (100 per cent)	0-20 per cent	0-20 per cent	Forestry and area has been used for pastoral purposes.	 <p>West looking away from Pacific Highway (Photo by Alistair Carr, 20 September 2012)</p>
Section 5, Additional Site 8	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 11 DP777988		Upper slope (33 per cent), Mid slope (33 per cent), Lower slope (33 per cent)	0-20 per cent	0-20 per cent	Forestry area with vehicle tracks.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 5, Additional Site 9	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 13 DP804108		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	 <p>South running along Pacific Highway (Photo by Peter Glover, 3 October 2012)</p>
Mororo Road design change	Increase in cut size	Lot 14 DP 836263 Lot 17 DP 836263 Lot 25 DP 836263		Crest (30%), upper slope (20%), mid slope (20%), lower slope (20%), gully (10%)	0-20 per cent	0-20 per cent	Area used for sugar cane field, currently vegetated; cleared for pastoral purposes; drains; tracks.	
Section 6, Site 3a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 30 DP716639		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	

Woolgoolga to Ballina Pacific Highway Upgrade
Ancillary facilities and design changes Aboriginal cultural heritage assessment

Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 6, Site 3a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 50 DP700711		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>South running along Pacific Highway (Photo by Peter Glover, 3 October 2012)</p>
Section 6, Site 3a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 51 DP700711		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	
Section 6, Site 3a	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 55 DP700711		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	
Section 6, Site 3b	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 51 DP700711		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 6, Site 3b	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 32 DP716639		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>West view looking towards Pacific Highway (Photo by Michael Jones, 3 October 2012)</p>
Section 6, Site 3b	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 52 DP700711		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	
Section 7, Site 1		Lot 7301 DP1143242			Not surveyed			
Section 7, Site 1		Lot 1 DP796808			Not surveyed			
Section 7, Site 3		Lot 20 DP1156333	New Italy 1	Plain (100%)	20-40 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	
Section 7, Site 3		Lot 21 DP1156333	New Italy 1	Plain (100%)	20-40 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 7, Site 4	Satellite compound, workshop (0.5 ha) and stockpile site	Lot 10 DP1108270		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes.	 <p>West looking away from Pacific Highway (Photo by Peter Glover, 3 October 2012)</p>
Section 8, Site 1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 13 DP864108		Flat (100 per cent)	0-20 per cent	0-20 per cent		 <p>South looking along Pacific Highway (Photo by Peter Glover, 3 October 2012)</p>
Section 8, Site 1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 12 DP864108		Flat (100 per cent)	0-20 per cent	0-20 per cent		

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 8, Site 2a	Site compound workshop (0.5 ha) and stockpile site	Lot 1 DP834562		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	
Section 8, Site 2a	Site compound workshop (0.5 ha) and stockpile site	Lot 100 DP1121862		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	 South looking away from Woodburn Evans Head Road (Photo by Michael Jones, 5 October 2012)
Section 8, Site 2a	Site compound workshop (0.5 ha) and stockpile site	Lot 2 DP541041		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	 South looking away from Woodburn Evans Head Road (Photo by Michael Jones, 5 October 2012)

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 8, Site 2a	Site compound workshop (0.5 ha) and stockpile site	Lot 2 DP631993		Flat (100 per cent)	0-20 per cent	0-20 per cent	Residential with part of Lot previously used for pastoral purposes but currently overgrown.	 <p>South looking away from Woodburn Evans Head Road (Photo by Peter Glover, 5 October 2012)</p>
Section 8, Site 2b	Site compound workshop (0.5 ha) and stockpile site	Lot 1 DP834562		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	
Section 8, Site 2c	Stockpile site	Lot 1 DP705002		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	 <p>North, looking over Woodburn Evans Head Road, Lot 1 DP 705002 on other side of road (Photo by Michael Jones, 5 October 2012)</p>
Section 8, Site 2c	Stockpile site	Lot 3 DP1144342		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	
Section 8, Site 2c	Stockpile site	Lot 3 DP1151619		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 9, Site 1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 133 DP839607		Flat (100 per cent)	0-20 per cent	0-20 per cent	Residential with part of Lot used for nursery business.	
Section 9, Site 1	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 1 DP1033046		Flat (100 per cent)	0-20 per cent	0-20 per cent	Residential with part of Lot used for nursery business.	North running along Pacific Highway (Photo by Michael Jones, 5 October 2012)
Section 9, Site 2	Site compound workshop (0.5 ha) and stockpile site	Lot 1 DP618666		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes, but currently overgrown. Some vehicle tracks throughout.	
								North running along Pacific Highway (Photo by Peter Glover, 5 October 2012)



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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 9, Site 3		Lot 3 DP792376		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
Section 9, Site 3		Lot 4 DP1142669		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
Section 9, Site 3		Lot 8 DP1142669		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
Section 9, Site 3		Lot 9 DP1142669		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
Section 9, Site 3		Lot 2 DP1145721		Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
MacDonald Street design change	Truck access track	Lot 367 DP 755624 Lot 1 DP 1085758 Lot 2 DP 1096808	Cooks Hill 1	Swamp 80 per cent), Plain (20 per cent)	20-40 per cent	0-20 per cent	Area has been cleared and used for pastoral purposes; tracks; waste storage; water storage; quarrying; quarry activities; rural activities.	
Section 10, Site 1a	Site compound and vehicle parking	Lot 6 DP1043232		Floodplain (100 per cent)	Not surveyed			

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 10, Site 1b	Site compound and vehicle parking	Lot 23 DP755691		Swamp (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	 <p>South looking towards Richmond River (Photo by Alistair Carr, 26 September 2012)</p>
Section 10, Site 1b	Site compound and vehicle parking	Lot 22 DP755691		Swamp (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
Lumley's Hill	Increased material source cut	Lot 3 DP707736		Mid slope (45 per cent), Lower slope (45 per cent), Gully (10 per cent)	0-20 per cent	0-20 per cent	Area has been cleared for pastoral purposes.	
Section 10, Site 3b		Lot 3 DP707736		Mid slope (45 per cent), Lower slope (45 per cent), Gully (10 per cent)	0-20 per cent	0-20 per cent	Area has been cleared for pastoral purposes.	


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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 10, Site 4	Site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha), vehicle parking and stockpile site	Lot 51 DP1120710	Site 1	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	 <p>North running along Pacific Highway (Photo by Peter Glover, 24 September 2012)</p>
Section 10, Site 5	Site compound (1 ha), batch plant (0.5 ha), 'structures lay down' area (0.5 ha)	Lot 61 DP1088684	Rudgley Site 1a (04-4-0167)	Mid slope (50 per cent), Lower slope (50 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	 <p>South running along Pacific Highway (Photo by Peter Glover, 25 September 2012)</p>

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 10, Site 6	Main site compound (1 ha), batch plant (0.5 ha), workshop (0.5 ha)	Lot 9 DP1126162	Site 12	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	 <p>West looking away from Pacific Highway (Photo by Peter Glover, 25 September 2012)</p>
Section 10, Site 6		Lot 10 DP1126162	Site 12	Flat (100 per cent)	0-20 per cent	0-20 per cent	Area has been used for pastoral purposes.	
Section 11, Site 1a	Main compound (1 ha), batch plant, workshop and stockpile site	Lot 5 DP223267		Flat (100 per cent)	80-100 per cent	80-100 per cent	Area used for sugar cane field, currently ploughed.	 <p>West looking away from Pacific Highway (Photo by Alistair Carr, 25 September 2012)</p>

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Ancillary facility	Works proposed	Property/s	Site/PAD name (AHIMS ID)	Landform	Ground surface visibility	Sub-surface exposure	Disturbance	Image
Section 11, Site 1b	Stockpile site	Lot 4 DP811816		Flat (100 per cent)	80-100 per cent	80-100 per cent	Area used for sugar cane field, currently ploughed.	 <p>West looking away from Pacific Highway (Photo by Alistair Carr, 26 September 2012)</p>
Section 11, Site 1b	Stockpile site	Lot 187 DP755731		Flat (100 per cent)	80-100 per cent	80-100 per cent	Area used for sugar cane field, currently ploughed.	
Section 11, Site 1b	Stockpile site	Lot 141 DP755731		Flat (100 per cent)	80-100 per cent	80-100 per cent	Area used for sugar cane field, currently ploughed.	
Section 11, Site 1b	Stockpile site	Lot 11 DP1137966		Flat (100 per cent)	80-100 per cent	80-100 per cent	Area used for sugar cane field, currently ploughed.	