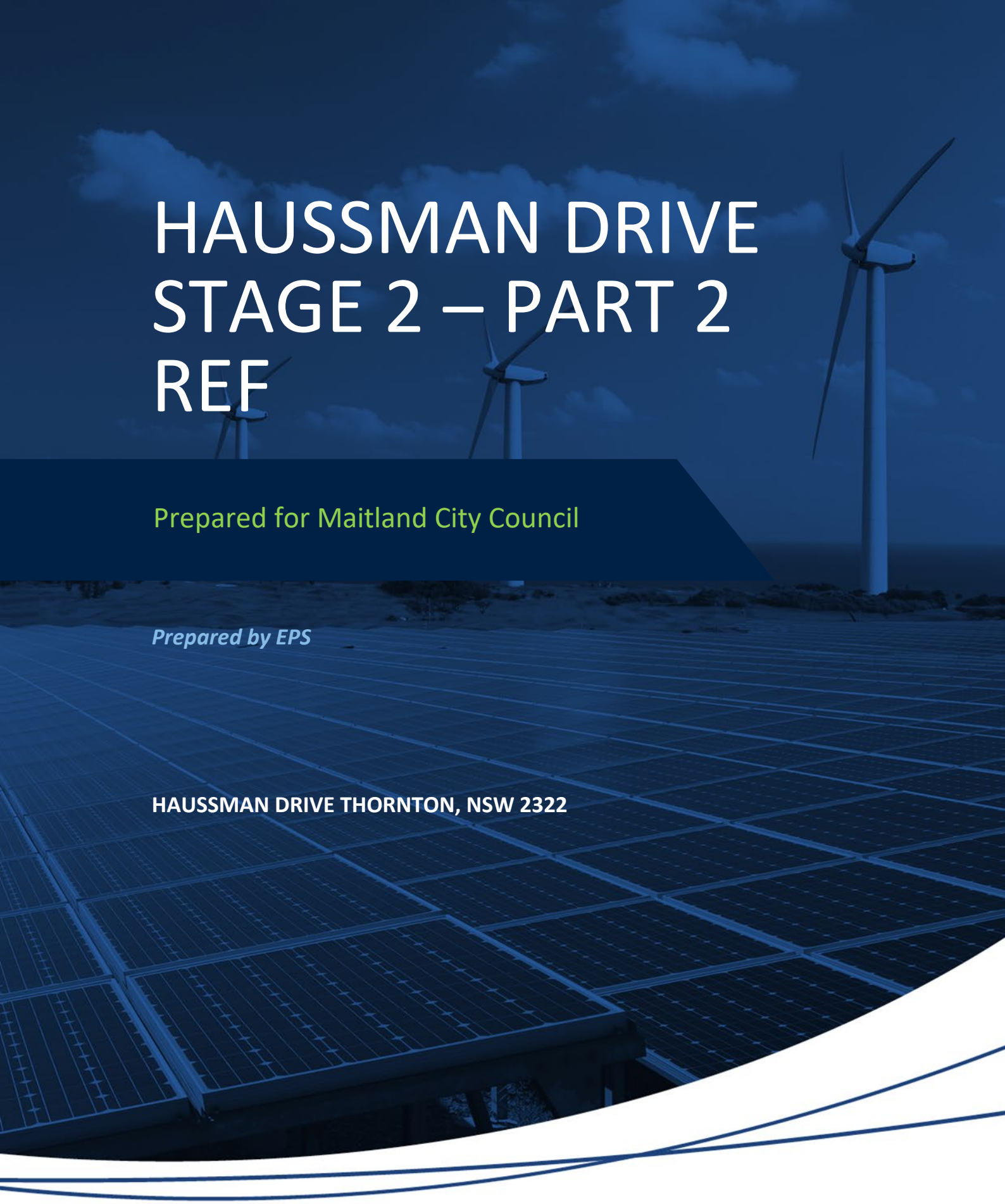

HAUSSMAN DRIVE STAGE 2 – PART 2 REF

Prepared for Maitland City Council

Prepared by EPS

HAUSSMAN DRIVE THORNTON, NSW 2322

Reference No. 24012 June 2025

EPS

www.enviroproperty.com.au

Quality Assurance & Version Control Table				
Project	Haussman Drive Stage 2 – Part 2 Review of Environmental Factors			
Client	Maitland City Council			
Rev No.	**Date**	**Our Reference**	**Author**	**Reviewer**
Draft V01	09/11/2023	20231109_24012_Haussman Drive 2 REF_V01	AT/TP	SMc
Final V02	07/03/2024	20240307_24012_Haussman Drive 2 REF_V02	SD	SD
Final V03	03/06/2025	20250603_24012_Haussman Drive 2 REF_V03	AT	AT
Checked by	AT			
Approved by	AT			

DISCLAIMER

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REF STATEMENT

I, _____, _____ of Maitland City Council certify that I have reviewed and endorsed the contents of this REF document and to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.

Signed:

Name:

Position:

Date:

EXECUTIVE SUMMARY

Maitland City Council (MCC) engaged Environmental Property Services (EPS) to undertake a Review of Environmental Factors (REF) in accordance with Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for Stage 2, Part 2 of the upgrade of Haussman Drive and Raymond Terrace Road, Thornton NSW (the project).

Under the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Infrastructure SEPP) MCC, as a public authority, may carry out defined infrastructure works described under the Infrastructure SEPP without consent.

The REF has been prepared in accordance with the provisions of Division 5.1 of the EP&A Act to assist MCC to examine and take into account all matters affecting or likely to affect the environment by reason of the proposed activity, and to determine whether an Environmental Impact Statement (EIS) is required.

Based on the REF assessment, including review of *Environmental Planning and Assessment Regulation 2021* (EP&A Reg) Clauses 170 and 171 (formerly Clause 228 Factors), provided the required consultation and mitigation measures are implemented, the project is not likely to significantly affect the environment and therefore does not require the preparation of an Environmental Impact Statement (EIS).

It is considered that the Project will improve the safety and efficiency of the transportation network and aligns with the relevant strategic framework for the region.

Any substantive changes to the Project may require further planning review and consideration of a requirement for an environmental impact assessment.

1. INTRODUCTION

Maitland City Council (MCC) has engaged Environmental Property Services (EPS) to undertake a Review of Environmental Factors (REF) in accordance with Division 5.1 of the *Environmental Planning and Assessment Act 1979* for Stage 2, Part 2 of the upgrade of Haussman Drive, Thornton NSW.

As highlighted in the Department of Planning, Housing and Infrastructure (DPHI) Guidelines for Division 5.1 assessments, *"Public authorities are responsible for essential infrastructure like hospitals, schools, roads, railways, emergency services, watery supply or electricity. These items contribute to people's quality of life and their construction and operation can also be an economic stimulant with lasting societal benefits".*

MCC, as a public authority, is both the proponent and the determining authority for the Project.

The REF has been prepared in accordance with the provisions of Division 5.1 of the EP&A Act and will be used to assist MCC to examine and take into account all matters affecting or likely to affect the environment by reason of the proposed activity, and to determine whether an Environmental Impact Statement (EIS) is required. Feedback from key stakeholders will be considered when MCC makes the determination.

1.1. IDENTIFICATION

It is understood that Haussman Drive Stage 2 project has been separated into 2 parts:

- **Part 1:** Raymond Terrace Road duplication between Settlers Boulevard and Harvest Boulevard, and traffic signal intersection at Raymond Terrace Road/Haussman Drive; and
- **Part 2:** Haussman Drive duplication between Raymond Terrace Road, and a new roundabout at Haussman Drive/Taylor Avenue.

It is understood SMEC has completed an REF for Part 1, and this REF relates to Part 2 of the upgrades. The Project proposes:

- Duplication of Haussman Drive lanes from Brickworks Road to the un-named pedestrian laneway between Woolly Close and Taylor Avenue;
- Replacement of the intersection of Haussman Drive and Talyor Avenue with a round-a-bout;
- Installation of a shared path, and a shoulder/bicycle lane;
- Retaining walls;
- Utility relocation;
- Property adjustment and/or acquisition; and
- Drainage works.

The Project has been assessed in relation to the following three defined areas:

- **Project area:** This is the wider area in which the project is located. It provides the geographic context of the project;

- **Study area:** This is the study area specifically considered in detail for on-the-ground assessments (e.g. ecology and heritage); and
- **Disturbance area:** This is the area which will be directly physically impacted on by the project.

Further detail on each of these areas is provided below.

Project area

The Project area is located west of Thornton, south of Chisholm. It consists of Haussman Drive which connects with a State Road, Raymond Terrace Road and Local Roads including Government Road, Brickworks Road, Taylor Avenue and Woolley Close and surrounding areas and identified in Figure 1-1.

The Project area has predominately rural-residential landscape, mixed with some bushland and industrial areas (i.e. former quarries).

The Project area includes land owned and managed by MCC, as well as private land, and other public authorities (e.g. rail authorities).

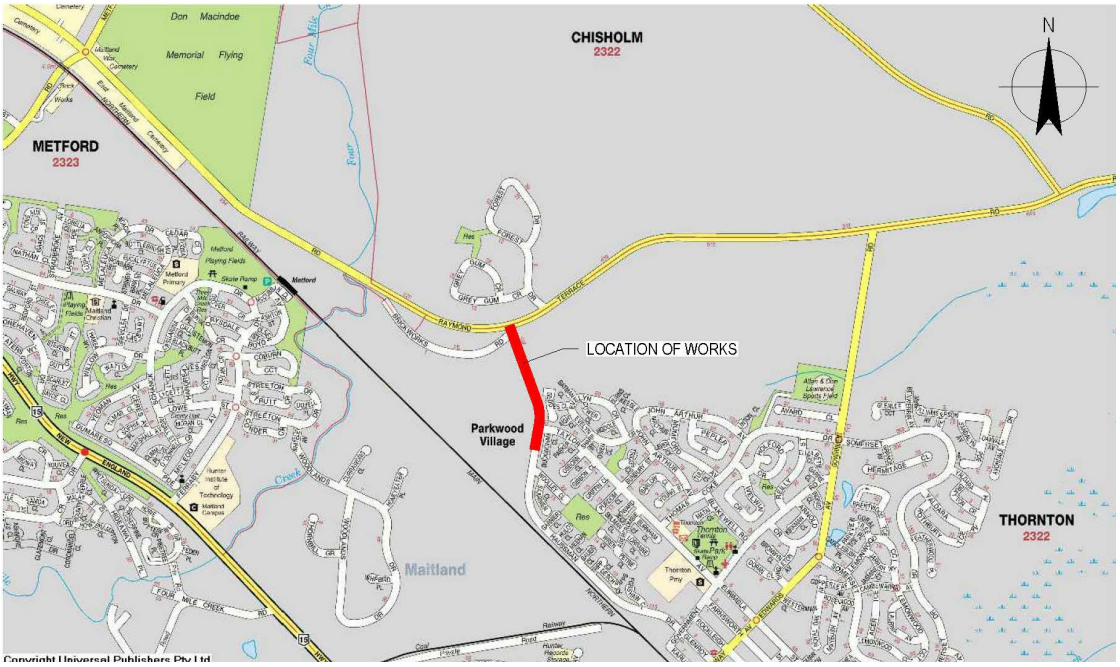


Figure 1-1: Project area

Study area

The Study area considered as part of the on-the-ground investigations into relevant environmental attributes for this REF is identified in Figure 1-2.

The Study area gently slopes upwards from the south (34 ASL) reaching a peak (40 ASL) and then falling again to the north (34 ASL).

The Study area is located within the following areas:

- Haussman Drive from Brickworks Road to Woolley Close;
- Part of Brickworks Road;
- Part of Taylor Avenue; and
- Private land adjacent to Haussman Drive.

Photographs of the Study Area are shown in Appendix 2.

Figure 1-2: Study area

Disturbance area

Works for the project are primarily confined to disturbance areas i.e. the development footprint plus any anticipated ancillary construction impacts. The disturbance areas are identified in the plans in Appendix 1 and Figure 1-3.

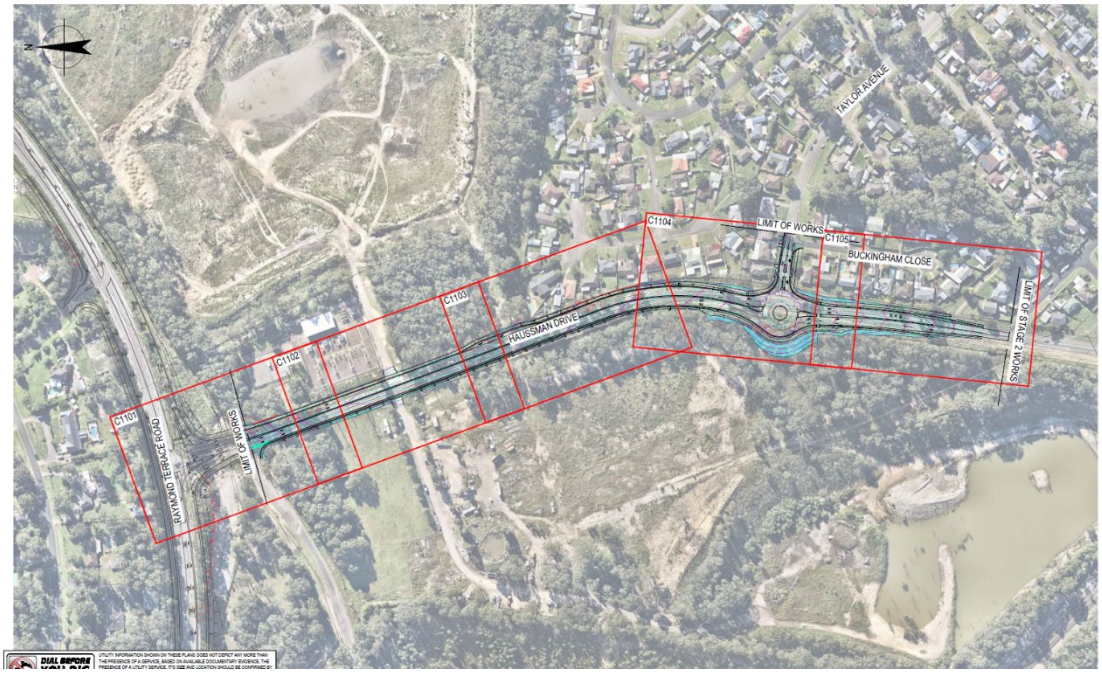


Figure 1-3: Disturbance areas of the Project

1.2. PURPOSE OF THE REF

The REF's purpose is to provide MCC, the determining authority, with the required information to assess, to the fullest extent possible, all matters affecting, or likely to affect the applicable environment by the project's construction and operation, and to determine whether an EIS is required.

The project does not include any further intensification of existing uses.

1.3. BACKGROUND

The road and infrastructure works are development permitted without consent pursuant to the Infrastructure SEPP and MCC's role as a public authority.

Although the project does not require consent under Part 4 of the EP&A Act the project must be assessed under Part 5 of the EP&A Act. Exceptions (e.g. exempt development) do not apply to the project.

2. PROJECT NEED AND JUSTIFICATION

Haussman Drive has been identified as one of the key roads requiring upgrading works to support the development in the Chisolm and Thornton North areas under Section 7.11 Contributions Plan.

The intersection of Raymond Terrace Road and Haussman Drive has historically attracted political attention due to community raised safety concerns (Aitchison, 2014). It was announced in May 2022 by MCC Mayor Philip Penfold that the Haussman Drive duplication between Raymond Terrace Road and Taylor Avenue was one of 5 projects in the suburb to be accelerated (Penfold, 2022).

Six car accidents are recorded at the Haussman Drive and Raymond Terrace Road intersection and two accidents at the Haussman Drive and Taylor Avenue intersection within the reporting period of 2015 and 2019 (SMEC, 2022).

The Brickworks site, adjacent to the project is in the final stages of being rezoned to permit a variety of employment generating land uses. Road access to the Brickworks site is proposed to include access from the Haussman Drive/Taylor Avenue intersection. The project will support the Brickworks site employment land uses.

2.1. OBJECTIVES OF THE PROJECT

The project's primary objectives are to provide intersection and road upgrades to Haussman Drive and Taylor Avenue to support ongoing development within the Urban Release Area of Thornton, minimise traffic congestion and improve safety.

2.2. OPTIONS CONSIDERED

Options considered included an alternative location for the project and the 'do nothing' option. These options are described in the following sections.

2.2.1. Alternative Location

The Project location has been selected based on the existing road network. Relocating the existing road to a nearby alternative location would increase the potential for impacts on current and future urban development, adjoining vegetation and built environment, including heritage items. As such, there is considered to be no alternative location for the proposed roadworks.

2.2.2. Do Nothing

The 'do nothing' option does not provide sufficient infrastructure to support ongoing development within the local area, and would not minimise traffic congestion or improve safety. The 'do nothing' option is not considered to be an appropriate option.

2.3. PREFERRED OPTION JUSTIFICATION

The project is the preferred option for the following reasons:

- The project will minimise traffic congestion on Raymond Terrace Road, Haussman Drive and Taylor Avenue, and improve existing infrastructure and safety;
- The project has been identified and included as part of developer contribution works;
- The project will service the Brickworks site's future employment generating land uses;
- Will minimise impacts by focussing works to mostly pre-disturbed areas of the existing road network; and
- Reduced congestion will allow improved access to the surrounding areas in Chisolm and Thornton which are strategically important growth areas.

The preferred alignment has been selected based on the existing alignment of the road network in Thornton. The upgraded intersection has been selected on the existing alignment to minimise disturbance and impacts. Locating the roadworks based on the existing alignments minimises fragmentation and disturbance of the residual land.

2.4. STRATEGIC NEED

The project is considered consistent with the relevant strategic planning framework. The following key documents are highlighted to demonstrate consistency with core implemented strategies.

2.4.1. Hunter Regional Plan 2041

Thornton is identified in the Hunter Regional Plan 2041 as an area that is providing new housing to match employment opportunities.

It is also identified as a greenfield area that is close to the 'National Pinch Point' (*"the convergence of national road and rail routes between Hexham and Buchanan"*). Transport infrastructure in greenfield areas close to the 'National Pinch Point' is identified in the plan as critical.

In Part 3: District Planning and Growth Areas, the place strategy outcomes for Thornton are:

- Reinforce business and light industrial uses to service the surrounding residential community and to complement services offered at Thornton local centre;
- Create a continuous green corridor linking land south of the rail line through to land north of Raymond Terrace Road; and
- Encourage development of the former brickworks site on the corner of Haussman Drive and Raymond Terrace Road into a new employment precinct.

The Plan also identifies Thornton as a 'Significant Employment Land Cluster'.

The project is considered consistent with the objectives of Hunter Regional Plan 2041 to facilitate housing and employment through appropriate transport infrastructure development.

2.4.2. Maitland City Council – Maitland +10 Community Strategic Plan

Maitland +10 is Council's ten year Community Strategic Plan, which captures MCC community's vision and priorities for the future. Maitland +10 Community Strategic Plan identifies Thornton as one of the new urban release areas that is significantly contributing to the supply of greenfield housing for Greater Newcastle.

A key 'want' of the community documented in the Plan is *"to get easily where we want to go"*. The plan states MCC and the community will together:

- Plan to meet the needs of those using our roads; and
- Make it safe and easy to get around the city no matter how we choose to travel.

The project is considered consistent with the objectives of the Maitland +10 Community Strategic Plan by providing improved transport infrastructure in a greenfield urban release area.

2.4.3. Maitland City Council Local Strategic Planning Statement 2040+

The Maitland Local Strategic Planning Statement 2040+ sets out a 20-year vision for land use. Thornton forms part of the 'Eastern Precinct' described in the Maitland Local Strategic Planning Statement 2040+. Key projects and initiatives identified in the Plan within the precinct are:

7. *Thornton North - significant greenfield development fronts, together with Chisholm local centre, will continue to supply residential land to accommodate the growing population;*
8. *Thornton Employment Land – regionally significant industrial and business cluster that will continue to provide jobs in metro region; and*
9. *Thornton North Employment Land Investigation Area - opportunities to create new jobs and support the growing economy.*

The project is considered consistent with the objectives of the Maitland Local Strategic Planning Statement 2040+ by providing improved transport infrastructure in a greenfield urban release area and employment lands.

2.4.4. Maitland City Council Environmental Sustainability Strategy 2030

The Maitland City Council Environmental Sustainability Strategy 2030 (ESS) sets out a pathway to improve community health and wellbeing and economic opportunity through improving the health of our local environment.

The ESS responds to community feedback on environmental priorities received over recent years, it focuses on meeting our obligations under National, State and Regional plans, policies and legislation. The ESS

- Aligns with Council's Local Strategic Planning Statement (LSPS) and Maitland + 10 Community Strategic Plan (CSP) and builds upon the CSP's – Let's live sustainably theme;

- Identifies Maitland's significant challenges such as flooding, urban heat, reducing landfill space and declining ecosystem health whilst the population and urban footprint expands significantly; and
- Identifies opportunities to improve the quality of Maitland's environment and make Maitland more liveable and sets out MCC's commitment to lead, facilitate, collaborate and advocate for a more sustainable Maitland.

The ESS sits as an informing strategy within Council's Integrated Planning and Reporting (IP&R) Framework. It has a timeframe aligned with the Maitland +10 and will be reviewed at the start of each Council Term.

Theme 1: A Green & Blue Maitland - provides a Green and Blue Grid Map showing the results of a range of studies to identify key biodiversity corridors in Maitland area. Biodiversity corridors are connections across the landscape that link up areas of habitat. They support natural processes that occur in a healthy environment, including the movement of species to find resources like food, water and shelter.

A local biodiversity corridor - i.e. linkages facilitating wildlife movement within the LGA is partly within the Project Area.

The project is considered consistent with the objectives of the ESS because it will only remove a small amount of vegetation from a small area of the identified local biodiversity corridor.

3. DESCRIPTION OF THE PROJECT

3.1. SCOPE OF CONSTRUCTION ACTIVITIES

Construction activities are required for the project i.e. roadworks and ancillary works. The works are proposed to involve widening roads, formalising road edges, addition of active transport options, converting the existing T-intersection into a round-a-bout, and relocation of impacted utilities.

Table 3-1 provides key elements of the project's construction activities likely required for the road and ancillary works.

Table 3-1: Summary of construction activities

Key Elements	Description
Pre-construction, construction and restoration physical works	The works include (but are not limited to) the following key elements: • Site establishment; • Removal of trees and vegetation; • Full width new construction or upgrade of roads to Council minimum standard, subsoil drainage, footpath formation and drainage; • Changes to the intersections to Council minimum standard; • Signage and line marking to Council's minimum standard; • Installation of stormwater infrastructure including, kerbs, gutters, drainage pipelines, stormwater pits, gross pollutant trap; • Removal of excavated material if not suitable for re-use; and • Restoration of the works area.

Key Elements	Description
Plant and Equipment	• Excavators; • Tipper trucks; • Light vehicles; • Flat-bed delivery trucks; • Service vehicles; • Mobile cranes; • Rollers; • Skid steers; • Water carts; • Jackhammers; • Generators; • Pressure testing equipment; • Compactor; • Concrete agitators (or similar); • Concrete pumps; • Concrete saws; • Air compressors; and • Various hand tools and small machinery.
Construction workforce	Up to approximately 15 full time equivalents for the duration of the works. The appointed contractor will determine the number of workers.
Construction period	Construction is expected to commence in mid-late 2024, subject to securing grant funding for the project's construction phase. Construction works will take approximately 26 weeks.
Construction hours	Construction would generally occur during the standard working hours set out in the Interim Construction Noise Guideline (DECC, 2009): • Mondays to Fridays between 7am and 6pm; • Saturdays between 8am and 1pm; and • No work would normally occur on Sundays or public holidays, unless outlined under an approved CEMP with appropriate mitigations in place.
Traffic Management & Access	The appointed contractor will prepare a Construction Traffic, Transport and Access Management Plan in consultation with relevant stakeholders and in accordance with relevant standards as part of the CEMP. The traffic and transport management plan would provide information on traffic flow, vehicle moments, site access and parking arrangements during construction, and the measures to minimise the impacts on the relevant road network.
Public Utilities	Existing public utilities/services exist in the vicinity of the works. It will be the contractor's responsibility to locate all services prior to commencement of works.
Operation & Maintenance	The relevant infrastructure authority will be responsible for the ongoing maintenance and operational obligations.

Partial property acquisition will be required to facilitate the works. MCC will consult with the property owners in order to reach a satisfactory agreement of landowner consent over the areas required.

The indicative plan for the road and ancillary works is attached as Appendix 1.

The works will occur in the Disturbance area located within the Study area identified in Figure 1-3. Access to the Disturbance area will likely be through the existing road network.

3.2. CONSTRUCTION STAGING

The order and timing of the construction activities is not finalised. The order and timing of the construction activities will be finalised with relevant stakeholders and the appointed construction contractor.

3.3. MANAGING CONSTRUCTION ACTIVITIES

A Construction Management Environmental Plan (CEMP) is required for the construction phase of this project. It will be prepared by the construction contractor prior to commencement of construction, incorporating relevant mitigation measures outlined in this REF.

3.4. OPERATIONAL REQUIREMENTS

Following completion of the project, MCC will continue its existing maintenance and operational obligations.

4. STATUTORY FRAMEWORK

The Acts and Regulations considered relevant to the project, are outlined in the sections below.

4.1. ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The EP&A Act establishes the framework for assessment of environmental impacts and determining approvals for development in NSW. It also provides for the creation and implementation of State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs) which regulate land use permissibility.

Although the project does not require consent under Part 4 of the EP&A Act the project must be assessed under Part 5 of the EP&A Act.

A precondition to the operation of Part 5 of the EP&A Act is the project must fall within the definition of an activity in section 5.1 of the EP&A Act. An *activity* means:

a. the use of land, and
b. the subdivision of land, and
c. the erection of a building, and
d. the carrying out of a work, and
e. the demolition of a building or work, and
f. any other act, matter or thing referred to in section 3.14 that is prescribed by the regulations for the purposes of this definition,
but does not include:
g. any act, matter or thing for which development consent under Part 4 is required or has been obtained, or
h. any act matter or thing that is prohibited under an environmental planning instrument, or
i. exempt development, or
j. development carried out in compliance with a development control order, or
k. any development of a class or description that is prescribed by the regulations for the purposes of this definition.

Part 5 of the EP&A Act is the relevant statutory pathway because the project falls within the definition of an 'activity'. Before proceeding with an activity, or granting approval to the activity, MCC as the determining authority must consider the environmental impact of that activity. Section 5.5 of the EP&A Act specifies MCC's duty to consider the environmental impact of the activity.

Under section 5.5 of the EP&A Act, the determining authority must examine and consider to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity. Clauses 170 and 171 of the *Environmental Planning & Assessment Regulation 2021* list the factors that the determining authority must consider when judging the likely

impact of an activity on the environment. This REF is provided to MCC to comply with its statutory obligations.

Under Part 5 of the EP&A Act, an Environmental Impact Statement (EIS) in only required if the determining authority forms the view that the activity which it is considering is likely to significantly affect the environment (section 5.7 of the EP&A Act).

4.2. STATE ENVIRONMENTAL PLANNING POLICIES

4.2.1. State Environmental Planning Policy (Transport and Infrastructure) 2021

The aim of the Infrastructure SEPP is to facilitate the effective delivery of infrastructure across NSW. *Section 2.7 Relationship to other environmental planning instruments* of the Infrastructure SEPP provides that, except as provided by subsection (2), if there is an inconsistency between *Chapter 2 – Infrastructure* and any other environmental planning instrument, the Chapter prevails to the extent of the inconsistency.

Under the Infrastructure SEPP MCC, as a public authority, may carry out defined infrastructure works without consent (subject to preconditions, if applicable). Division 17, Subdivision 1, Section 2.109 states: *(1) Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land…*

While MCC may carry out defined infrastructure works without consent the Infrastructure SEPP precludes MCC from carrying out the development in particular circumstances unless MCC has provided written notice of the intention to carry out the development (together with a scope of works) to the relevant authority and taken into consideration any response to the notice that is received from the relevant authority within 21 days after the notice is given. Further information is provided in Section 5.

4.3. LOCAL ENVIRONMENTAL PLANS

4.3.1. Maitland Local Environmental Plan 2011

The *Maitland Local Environmental Plan 2011* (MLEP 2011) applies to the Project area. As shown in Table 4-1, the Study area is located in an area currently covered by the following land zones:

Table 4-1: MLEP 2011

Zone	Permitted Use
RU2 – Rural Landscape	Agriculture; Airstrips; Animal boarding or training establishments; Aquaculture; Bed and breakfast accommodation; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Dual

Zone	Permitted Use
	occupancies; Dwelling houses; Eco-tourist facilities; Educational establishments; Environmental facilities; Environmental protection works; Farm buildings; Farm stay accommodation; Flood mitigation works; Forestry; Helipads; Home-based child care; Home businesses; Home industries; Information and education facilities; Jetties; Landscaping material supplies; Markets; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (outdoor); **Roads;** Roadside stalls; Rural industries; Rural supplies; Signage; Turf farming; Veterinary hospitals; Water supply systems
RE1 – Public Recreation	Aquaculture; Boat launching ramps; Boat sheds; Camping grounds; Car parks; Caravan parks; Centre-based child care facilities; Charter and tourism boating facilities; Community facilities; Information and education facilities; Jetties; Kiosks; Markets; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Respite day care centres; **Roads**; Signage; Water recreation structures; Water supply systems
R1 – General Residential	Attached dwellings; Bed and breakfast accommodation; Boarding houses; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dwelling houses; Group homes; Home-based child care; Home industries; Hostels; Hotel or motel accommodation; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Residential flat buildings; Respite day care centres; **Roads**; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Tank-based aquaculture; Any other development not specified in item 2 or 4

Please note the Brickworks site, adjacent to the project is in the final stages of being rezoned to permit a variety of employment generating land uses. The planning proposal rezones the Brickworks site from RU2 Rural Landscape to a mix of E3 Productivity Support in which Roads are a permitted and C3 Environmental Management in which Roads are prohibited.

Clause 1.9(1) of the MLEP 2011 states: *This Plan is subject to the provisions of any State environmental planning policy that prevails over this Plan as provided by section 3.28 of the Act.*

Clause 5.12(1) of the MLEP 2011 states: *This Plan does not restrict or prohibit, or enable the restriction or prohibition of, the carrying out of any development, by or on behalf of a public authority, that is permitted to be carried out with or without development consent, or that is exempt development, under State Environmental Planning Policy (Transport and Infrastructure) 2021, Chapter 2.*

Development consent for the project under the MLEP 2011 is not required because the project is permitted without consent pursuant to the Infrastructure SEPP.

The REF has considered applicable factors stipulated in the MLEP 2011.

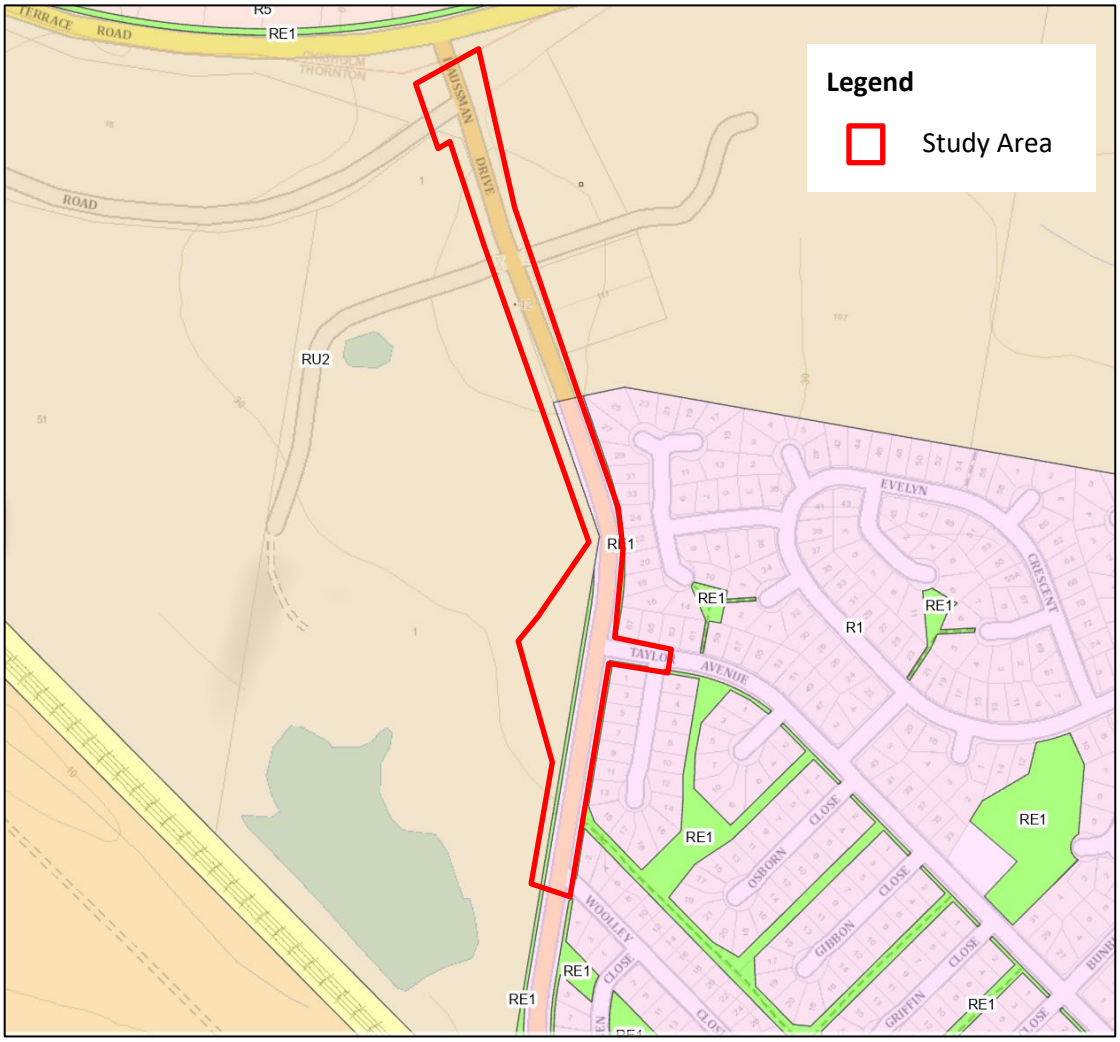


Figure 4-1: Land Zonings of Project Site

4.3.2. Maitland Development Control Plan 2011

Maitland Development Control Plan 2011 (MDCP 2011) applies to the Project area. The MDCP 2011 prescribes development controls and standards for addressing and managing issues at a local level and provides information to meet Council requirements for sustainable, quality development.

Part D8 of MDCP 2011 provides controls for Thornton (Woodlands Estate) which is located between Metford and Thornton. The Project would have minimal impact on this locality.

Part F7 of MDCP 2011 provides controls in relation to Thornton North Release Area. The DCP states that that area has potential to yield approximately 5,000 residential allotments. Haussman Drive is identified in Figure 30 of the DCP as key circulation route/connection to Thornton North Release Area. The addition of shared paths, and cycle paths are also identified for Haussman Drive in the DCP. Under F7, 1.2 Transport and Movement Objectives, the DCP identifies the first objective is to *"achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists".*

The project is generally consistent with the MDCP 2011 general development controls and the Thornton North Release Area specific development controls.

4.4. STATE AND COMMONWEALTH LEGISLATION

4.4.1. Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the protection of the environment, especially those aspects of the environment that are Matters of National Environmental Significance (MNES). Under the EPBC Act, actions that have, or are likely to have a significant impact on a MNES require approval from the Australian Government Minister for the Environment (the Minister). The likely impact on the nine MNES protected under the EPBC Act are outlined in the Biodiversity Assessment in Appendix 3.

The project has been assessed against the EPBC Act 3A Principles of ecologically sustainable development. This assessment is included in the below table.

Table 4-2: Principles of ecologically sustainable development

Principle	Response
The following principles are principles of ecologically sustainable development: **(a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;**	This REF has assessed short-term (construction) and long-term (operation and decommissioning) environmental, social and equitable considerations of the proposed development. The conclusion and MCC decision-making are based on this assessment.
(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;	Appropriate assessment has been undertaken of the project by relevant specialists. The project does not pose threats of serious irreversible environmental damage.
(c) the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;	The project is considered to improve the health, diversity and productivity of the environment for future generations by improving the transport conditions.

(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;	MJD has undertaken a biodiversity assessment of the project. Section 6 – *Recommendations* - in the Flora and Fauna Assessment attached as Appendix 3 describes the biodiversity assessment recommendations.
(e) improved valuation, pricing and incentive mechanisms should be promoted.	Section 1.4 of the MCC Procurement Policy states that procurement decisions will incorporate considerations of environmental and sustainability impacts such as: • Eliminating inefficiency and unnecessary resource consumption; • Minimising waste and maximise recycling and reuse; • Minimising pollution; • Avoiding toxic chemicals; • Saving water and energy; • Reducing greenhouse gases; and • Further stimulate the demand for sustainable products. Procurement decisions will also incorporate consideration of circular economy principles, such as use of recycled content, designing out waste and pollution and keeping products and material in use for longer.

4.4.2. Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) identifies threatened species, populations, endangered ecological communities, critical habitats and key threatening processes. The BC Act establishes a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity.

Section 7.8 of the BC Act states:

> *(1) This section applies to environmental assessment under Part 5 of the* Environmental Planning and Assessment Act 1979*.*
>
> *(2) For the purposes of Part 5 of the* Environmental Planning and Assessment Act 1979*, an activity is to be regarded as an activity likely to significantly affect the environment if it is likely to significantly affect threatened species.*
>
> *(3) In that case, the environmental impact statement under Part 5 of the* Environmental Planning and Assessment Act 1979 *is to include or be accompanied by:*
>
> *(a) a species impact statement, or*
>
> *(b) if the proponent so elects—a biodiversity development assessment report.*
>
> *(4) If the likely significant effect on threatened species is the only likely significant effect on the environment, an environmental impact statement may be dispensed with and Part 5 of the* Environmental Planning and Assessment Act 1979 *applies as if*

references to an environmental impact statement were references to a species impact statement or biodiversity development assessment report.

As such, a Biodiversity Assessment has been prepared and is attached at Appendix 3.

4.4.3. Fisheries Management Act 1994

Section 221ZX of the *Fisheries Management Act 1994* (FM Act) states that an activity is likely to significantly affect the environment if threatened species, populations or ecological communities will be affected according to the test in section 220ZZ.

No aquatic species or communities are anticipated to be impacted on by this project, as per the Biodiversity Assessment attached at Appendix 3.

4.4.4. Protection of the Environment Operations Act 1997

The object of the *Protection of the Environment Operations Act 1997* (POEO Act) is to achieve the protection, restoration and enhancement of the quality of the NSW environment. There is a broad allocation of responsibilities under the Act between the Environmental Protection Authority (EPA), local councils and other public authorities. The EPA is made the regulatory authority for:

- activities listed in Schedule 1 to the POEO Act and the premises where they are carried out;
- activities carried out by a State or public authority; and
- other activities in relation to which a licence regulating water pollution is issued.

In nearly all other cases, the regulatory authority is the relevant local council.

No licences/approvals are considered to be required for the works under the POEO Act.

Should the project require the extraction and processing of more than 50,000 tonnes of material then it would be classified as a scheduled activity under Schedule 1, Clause 35.

4.4.5. Water Management Act 2000

The *Water Management Act 2000* (WM Act) aims to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. The WM Act is based on the principles of ESD, aiming to ensure the fundamental health of rivers and groundwater systems and associated wetlands, floodplains, estuaries are protected.

The removal of the groundwater from its water source and the taking/using of water (even if the take and use is for disposal) may require approval under the WM Act.

Under Division 2 – Exemptions of the *Water Management (General) Regulation 2018* a small volume of groundwater is allowed to be taken through certain aquifer interference activities without the need for a water access licence.

Under the exemption, a person can take up to 3 megalitres of groundwater through an aquifer interference activity per authorised project per water year without needing to obtain a water access licence, provided:

a. the water is not taken primarily for consumption or supply; and
b. the person claiming the exemption keeps a record of the water taken under the exemption and provides this to the Minister within 28 days of the end of the water year; and
c. the records are kept for 5 years.

Works are not expected to require more than 3 megalitres of groundwater, therefore are not expected to trigger the need to seek a water access licence.

4.4.6. Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) promotes waste avoidance and resource recovery in New South Wales. Under the WARR Act, the resource management hierarchy principles in order of priority are:

- avoidance of unnecessary resource consumption;
- resource recovery (including reuse, reprocessing, recycling and energy recovery); and
- disposal.

MCC is committed to ensuring responsible management of waste and the reuse of such waste through appropriate measures, in accordance with the resource management hierarchy principles.

No further consideration of the WARR Act is required.

4.4.7. Roads Act 1993

The *Roads Act 1993* (Roads Act) makes provisions with respect to public roads. The Roads Act states that a road authority may carry out road work on any public road for which it is the road's authority and on any other land under its control (Division 1, Clause 71). If the road is not under the control of the authority undertaking the works, then consent is required. MCC is the relevant roads authority therefore it may carry out the roadwork under the Roads Act.

Approval under Section 138 of the Roads Act is required for any works or activities in the public reserve or in public roadway, therefore a Road Occupancy Licence (ROL) may be required.

4.4.8. Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) aims to conserve the environmental heritage in NSW. Under this Act, environmental heritage is defined as including buildings, works, relics or places which are of historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance to the State.

The State Heritage Register (SHR) was established under Section 22 of the Heritage Act and is a list of places and objects of particular importance to the people of NSW, including

archaeological sites. Listing on the SHR controls activities such as alteration, damage, demolition, and development.

SHR listed items 01135 on the State Heritage Register - East Maitland Railway Station group is mapped to the west of the study area. The Project will not impact on this heritage item therefore approval under the Heritage Act is not required.

4.4.9. National Parks and Wildlife Act 1974

Under the *National Parks and Wildlife Act 1974* (NPW Act), approval is required to knowingly destroy, deface, damage or knowingly cause or permit, the destruction of, or damage to, an Aboriginal object or Aboriginal place.

An Aboriginal Due Diligence Assessment, incorporating consultation with a Registered Aboriginal Party, in accordance with the Aboriginal Cultural Heritage Consultation Requirements for proponents (DECCW, 2010) and a search of the Aboriginal Heritage Information Management System (AHIMS), is attached as Appendix 6.

4.4.10. Biosecurity Act 2015

The *Biosecurity Act 2015* (BSA Act) has replaced the *Noxious Weed Act 1993* and all noxious weeds are now regulated by the BSA Act. Noxious weeds are renamed as priority weeds and are now regulated with a general biosecurity duty to prevent, eliminate or minimize any biosecurity risk they may pose. These weeds reduce diversity of native plant and animal species. The BSA Act is implemented and enforced by the Local Control Area for the Local Government Area.

Weeds would be managed and disposed of in accordance with the requirements of the BSA Act and Regulation.

4.5. SUMMARY OF APPROVAL REQUIREMENTS

Table 4-3 provides a summary of the likely approvals/licences. The construction contractor's final construction plans may trigger the requirement for additional approvals and licences.

Table 4-3: Summary of required approvals/licences

Act	Approval Requirement	Relevance to the Project
Biodiversity Conservation Act 2016	BC Act – test of significance Commonwealth referral under the EPBC Act	The project is unlikely to have a significant impact on the threatened entities assessed. The proposed action is unlikely to have an impact to MNES assessed in this report and as such Commonwealth referral under the EPBC Act is not required.
National Parks and Wildlife Act 1974	An Aboriginal Heritage Impact Permit (AHIP) under section 90 of the Act to harm or desecrate an Aboriginal heritage object.	Aboriginal Heritage Impact Permit application is not necessary.

Act	Approval Requirement	Relevance to the Project
Roads Act 1993	Approval under Section 138 for works in a public road reserve.	Approval under Section 138 of the Roads Act is required for any works or activities in the public reserve or in public roadway, therefore a Road Occupancy Licence (ROL) may be required.
Protection of the Environment Operations Act 1997	Should the project require the extraction and processing of more than 50,000 tonnes of material then it would be classified as a scheduled activity under Schedule 1, Clause 35.	Not triggered unless volumes of extraction and processing are expected to exceed 50,000 tonnes.
Water Management Act 2000	Under Division 2 – Exemptions of the *Water Management (General) Regulation 2018* a small volume of groundwater is allowed to be taken through certain aquifer interference activities without the need for a water access licence.	Works are not expected to require more than 3 megalitres of groundwater, therefore are not expected to trigger the need to seek a water access licence.

5. STAKEHOLDER AND COMMUNITY CONSULTATION

5.1. BACKGROUND

In 2018, MCC prepared the Haussman Drive Upgrade Community and Stakeholder Consultation Plan. As part of this plan MCC completed consultation with the community on the upgrade in October 2018 regarding the overall upgrade of Haussman Drive.

MCC has also maintained regular contact with Transport for NSW and utility providers about the overall upgrades in the area.

Council has a dedicated webpage set up to provide information on Haussman Drive upgrades to the public which can be accessed at:

https://www.maitland.nsw.gov.au/projects/haussman-drive-upgrade-0

5.2. TRANSPORT AND INFRASTRUCTURE SEPP REQUIREMENTS

Infrastructure SEPP Part 2.2 General, Division 1 Consultation requirements are evaluated in Appendix 4.

In summary, Sections 2.10 – 2.15 require written notice of the intention to carry out a development (together with a scope of works) to be given to council or the relevant public authority, subject to the exceptions outlined in Section 2.17.

The following consultation requirements were triggered under Transport and Infrastructure SEPP:

- **Maitland City Council**
  - 2.10 (1)(a) – The project will involve impacts to stormwater infrastructure services provided by Council;
  - 2.10 (1)(c) – The project involves relocation of Council sewer services;
  - 2.10 (1)(e) – The project will involve the installation of a temporary structure on, or the enclosing of, a public place that is under a council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential; and
  - 2.10 (1)(f) - The project may involve excavation of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the Roads Act 1993.

5.3. OTHER CONSULTATION

MCC are required to undertake the following stakeholder and community consultation activities regarding the Project:

- Transport for NSW (TfNSW) as works are proposed to be >$2,000,000 in value, TfNSW must be notified under the Section 76 of the Roads Act;
- Any other relevant utility services providers must be consulted in accordance with Section 85 of the Roads Act, i.e.
    - Electrical – Ausgrid;
    - Telecommunications – Telstra;
    - Telecommunications – Optus;
    - Telecommunications – nbn;
    - Telecommunications – TPG;
    - Gas – Jemena; and
    - Water - Hunter Water.

It is recommended that MCC complete targeted consultation to notifying and seeking feedback from adjacent landholders on matters that may impact their amenity during construction and operation.

Partial property acquisition will be required to facilitate the works. MCC will consult with the property owners where acquisition is required in order to reach a satisfactory agreement of landowner consent over the areas required.

Clause 171(4) of the EP&A Reg requires publication for activity with a capital investment value of more than $5 million.

5.4. SUMMARY OF CONSULATION

MCC internal departments responsible for Council's infrastructure impacted by the project have and will continue to provide input into the project.

MCC has engaged with relevant government agencies, relevant utilities and other relevant stakeholders regarding the project.

Ongoing consultation will continue with these stakeholders during the planning and development of the project.

6. ENVIRONMENTAL ASSESSMENT

The environmental assessment is for the project's construction phase and operation phase.

EP&A Reg 2021 clauses 170 and 171 lists the environmental factors for the purposes of Division 5.1 of the EP&A Act. MCC as the determining authority must take into account the specified environmental factors when considering the likely impact of an activity on the environment. Appendix 5 considers the potential impacts of the project against these factors.

6.1. SOILS AND GEOLOGY

6.1.1. Existing Environment

Geology

The area is underlain by the Late Permian Wallis Creek Formation of the Tomago Coal Measures. Units exposed include the interval between the Morpeth Seam and Upper Rathluba Seam which consist principally of sandstone, shale, clay stones, siltstones and coal. East of Thornton the Tomago Coal Measures are conformably underlain by the Mulbring Siltstone of the Maitland Group (VGT Pty Ltd, 2012). Allotments adjoining the road have been formerly used as clay and stone quarries.

Acid Sulfate Soils

The project is located on land mapped as 'Class 5' Acid Sulfate Soils (ASS).

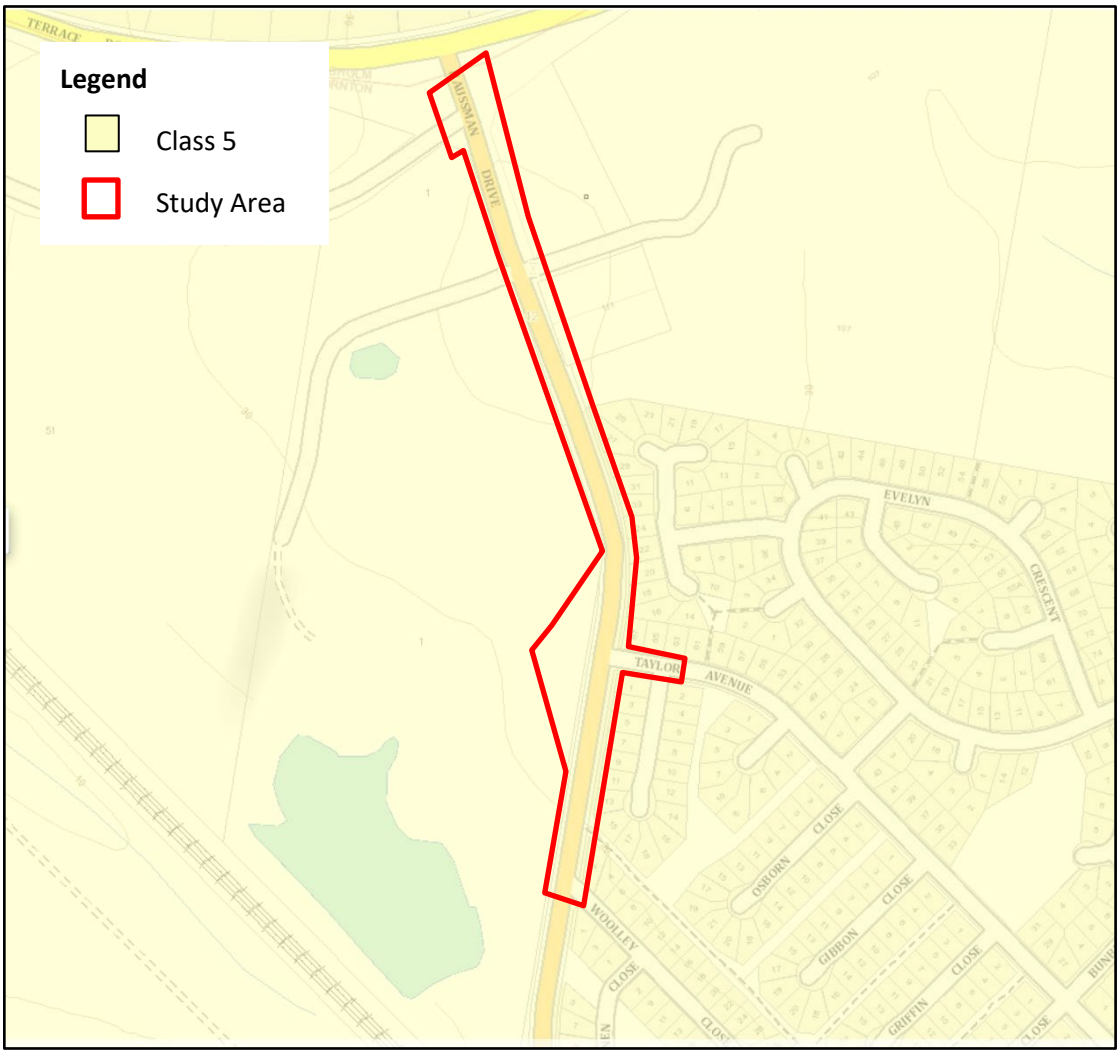


Figure 6-1: Acid Sulfate Soils

Contamination

A search of the NSW Environment Protection Authority (EPA) Contaminated Land Record revealed there is no records of contamination in the Study area.

In the Project area one neighbouring site (1 Brickworks Road) was issued a penalty notice for *Unlawfully use etc place as waste facility - other officer – Corporation*. The site and immediate surrounding areas were not identified on the NSW EPA Contaminated Land Record.

Mine Subsidence

The Project area is not located within a Mine Subsidence District. The nearest mine subsidence district is 'East Maitland Mine Subsidence District' which ends at the suburb of Ashtonfield to the west of Thornton.

6.1.2. Impact Assessment

The project's construction works will require ground disturbance and exposure of soil in the Disturbance area. Consequently there is potential for soil erosion and sediment transport

during the construction period. Areas subject to disturbance by excavation and trenching will be subject to ongoing potential erosion until they are stabilised.

Under Clause 7.1(2) of the MLEP 2011, 'Class 5' ASS applies to: *"Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land".* The Study area is within 500 metres of adjacent Class 2 land, but construction works are not likely to result in alterations to the level of the watertable.

Excavation may disturb unknown contaminated soils and hazardous materials present in soil. If inadequately managed, the disturbance of any areas of contamination has the potential to impact on human health and the natural environment.

The project's operation works are likely confined to infrequent and limited maintenance of the project's infrastructure consequently the potential to adversely impact the Project area's and surrounding locality's soils and geology during the project's operation is minimal.

6.1.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate potential erosion and sedimentation adverse impacts by construction works and operation works and potential adverse impacts on human health and the natural environment from disturbance of potential contaminated soils and or hazardous material. Mitigation measure could include:

- A Soil and Water Management Plan, including an Acid Sulphate Soil Management sub-plan and an Erosion and Sediment Control (ESCP) sub-plan (prepared in accordance with Landcom's (2004) Managing Urban: Stormwater Soils and Construction), be prepared as part of the Construction Environmental Management Plan (CEMP);
- The ESCP will include appropriate sediment controls for wherever soil disturbance that could result in sediment run-off takes place;
- Erosion and sediment controls will be established prior to the commencement of construction and remain in place until the surface has been stabilised;
- Sediment controls will be placed at the entry points to any culverts and stormwater channels to prevent sediment entering the stormwater system;
- Erosion and sediment control devices will be regularly checked and maintained to ensure the remain effective for the duration of the construction period;
- Stabilisation by revegetation for disturbed areas will occur as soon as practicable within after completion of construction;
- Restoration following the completion of the works will aim to be as close as possible to the pre-works state;
- The road will be swept where it becomes dirty from tracking dirt, which will be minimised where possible;
- An 'unexpected finds protocol' would be prepared to assist with the identification, reporting, assessment, management, health and safety implications, remediation,

and/or disposal (at an appropriately licensed facility) of any potentially contaminated soil and/or water; and

- In the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the affected area would cease immediately, and the procedures detailed in the unexpected finds protocol would be implemented.

The implementation of the mitigation measures will ensure the potential adverse impact on the Project area's and surrounding locality's soil and geology by the project's construction works and operation works is minimal.

6.2. HYDROLOGY, WATER QUALITY & FLOODING

6.2.1. Existing Environment

Coastal Wetlands

The Project area is not located nearby land mapped 'coastal wetlands' nor the 'coastal wetlands buffer'.

Drainage

The proposed disturbance area is predominately existing road (impervious) and vegetation pervious to rainwater infiltration. Most sections of the existing road do not have kerb, guttering and drainage. Existing kerb, guttering and drainage is located between Taylor Avenue and Woolley Close only on the eastern side of the road.

Flooding

The Study area is not within MCC's mapped Probable Maximum Flood Extent.

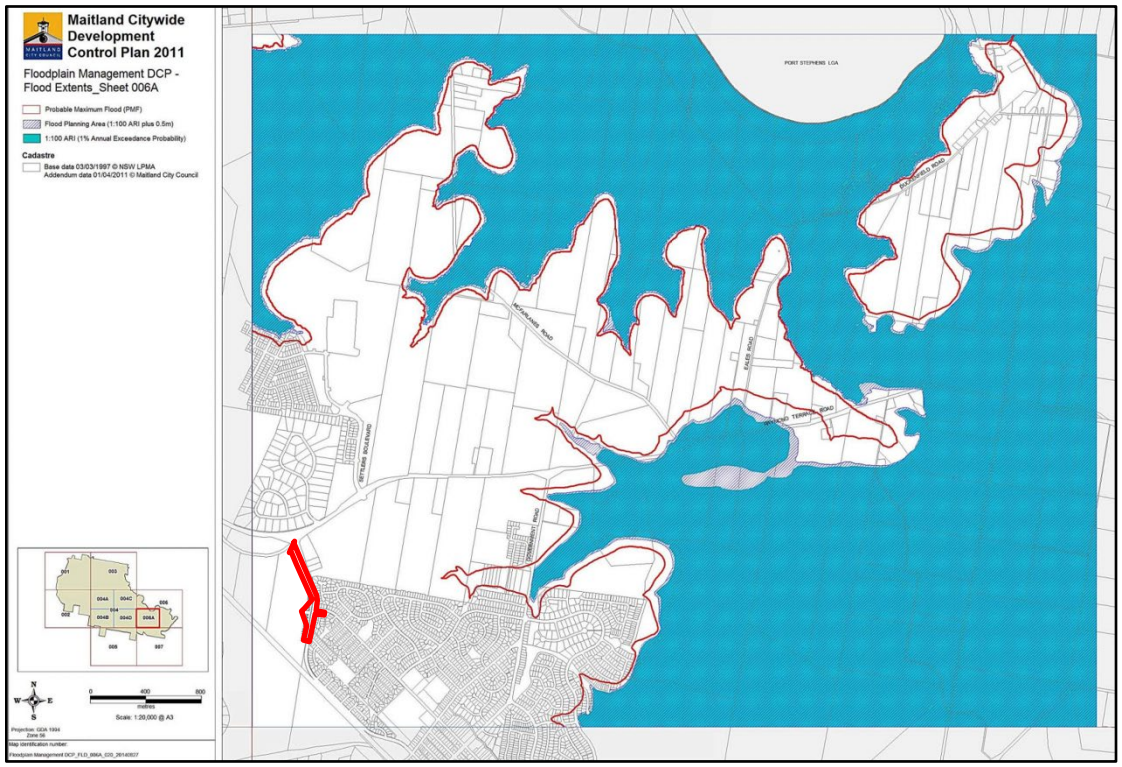


Figure 6-2: Probable Maximum Flood Extent

6.2.2. Impact Assessment

The proposed roadworks will involve upgrade to the existing drainage system – see the indicative plans in Appendix 1.

Construction of the project will involve disturbance of the ground surface. The main potential impacts to water quality relate to soil disturbance and runoff during construction. Pollutants such as sediment, soil nutrients and construction waste have the potential to mobilise and enter the stormwater system or nearby waterways particularly during high rainfall events or flooding.

Potential impacts associated with increased sediment loading include increased turbidity and an increased potential for the transport of contaminants bound to sediment particles. The transportation of contaminated soil from the construction sites could also affect water quality if any contaminants escape containment measures.

Water quality impacts could also potentially occur during construction as a result of contamination by fuel or chemical spills from construction vehicles.

The project's operation works are likely confined to infrequent and limited maintenance of the project's infrastructure, consequently the potential to adversely impact the Project area's and surrounding locality's soils, hydrology and water quality during the project's operation is minimal.

6.2.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate potential adverse impacts on the hydrology, waterways and flooding by construction works and operation works. Mitigation measure could include:

- The relevant department of MCC must be consulted in accordance with the Infrastructure SEPP requirements (see Section 5 of this REF);
- A Soil and Water Management Plan, including a Groundwater Management sub-plan and Erosion and Sediment Control sub-plan (prepared in accordance with Landcom's (2004) Managing Urban: Stormwater Soils and Construction) would be prepared as part of the CEMP;
- Measures to take in the event of predicted high-rainfall event would be incorporated in the Soil and Water Management Plan;
- A Contamination and Hazardous Materials Plan would be prepared as part of the CEMP;
- Fuels and chemicals will be stored and transported in accordance with the Australian Standard AS 1940-2004: The Storage and Handling of Flammable and Combustible Liquids and the Dangerous Goods Act 1975;
- The ground surface will be reinstated progressively;
- Refuelling, fuel decanting and vehicle maintenance work will take place off-site where possible;
- Chemicals, fuels and waste will not be stored or collected for disposal within or adjacent to drainage lines, waterbodies or unsealed surfaces;
- A 'spill kit' will be kept onsite at all times to be used in the event of a chemical or fuel spill;
- Access to site will be contained to approved construction works area or access tracks to minimise site disturbance;
- Erosion will be limited using slit fences and socks to manage runoff fetches and velocities; and
- Silt fences, straw bales, turf strips and other sediment filters will be located downstream of disturbed areas.

Construction works and operation works are unlikely to adversely impact any nearby surface water, waterways or groundwater.

6.3. ECOLOGY

MJD Environmental Biodiversity Assessment Report (MJD report) for Haussman Drive Stage 2 – Part 2 Road Upgrade is attaches as Appendix 3.

6.3.1. Existing Environment

Using the NSW BioNet Atlas, and EPBC Act Protected Matters Search (Accessed 6th November 2023), a list of potentially occurring threatened species, populations and ecological communities from the locality (10 km radius) has been compiled (MJD report Table 3). A total

of 189 entities have been recorded of which 31 threatened flora species, 90 fauna species, 28 ecological communities, 36 migratory species and 18 marine species have either been detected or have the potential to occur within the locality.

A review of the State Vegetation Type Map (SVTM) shows the site being mapped as containing fragmented vegetation consistent with the following Plant Community Type (PCT):

- *PCT 3433: Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest*

6.3.2. Impact Assessment

The ecological field assessment found that the project will remove/modify up to:

- 0.65 ha of PCT 3433: *Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest-Moderate*
- 0.09 ha of PCT 3433: *Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest - Poor*
- 0.62 ha of Disturbed vegetation

No threatened fauna species were recorded on site.

A single hollow bearing tree containing a medium hollow (approx. 15cm) was identified during survey works that could provide potential roosting/breeding habitat for fauna species. However, no species were recorded during nocturnal surveys.

An ecological impact assessment test of significance considered whether the removal of native vegetation on site totalling up to 0.56 ha would constitute a significant impact on known threatened species, populations, and ecological communities from the locality such that a local extinction may occur (5 Part Test).

The assessment concluded that the project was unlikely to have a significant impact on the threatened entities assessed.

Clear recommendations have been made to ensure direct and indirect impacts are carefully managed onsite during the construction and operation phase.

6.3.3. Mitigation Measures

The following recommendations have been generated with due consideration of the proposed disturbance of up to 0.74 ha of native vegetation. The intent is to minimise the effect of clearing and potential for any indirect impacts to occur.

A fixed payment of $82,500 (determined based on March 2025 charge report for 15 ecosystem credits of Lower Hunter Spotted Gum Ironbark Forest in the Sydney Basin and NSW North Coast Bioregions) is to be paid into Council's Biodiversity Fund (or environmental reserve) to offset biodiversity loss resulting from the proposal. Council will prioritise the use of the offset funding for targeted biodiversity management actions in the local area, including the regeneration of Lower Hunter Spotted Gum Ironbark Forest and the installation of compensatory hollows.

In addition:

- The extent of vegetation clearing is to be clearly identified on construction plans;
- Clearing limits are to be demarcated with highly visible flicker tape to ensure clearing does not extend beyond the proposed clearing area;
- All recorded hollow-bearing habitat trees are to be marked with a 'H' and highly visible flagging tape;
- Habitat trees are to be directionally soft felled into the development area under the supervision of a suitable qualified an experienced ecologist;
- Any trees with the potential to harbour habitat for fauna shall be cleared under the supervision of a qualified ecologist following the clearing of all associated vegetation for removal to encourage dispersal. Habitat trees shall be sectionally dismantled by an arborist. At least 24 hours between removal of non-habitat vegetation and removal of fauna habitat shall elapse, and a further 24 hours post-removal for cryptic fauna to disperse prior to relocating salvaged hollows. A pre-clearance survey shall be undertaken by an ecologist in the 7 days prior to clearing to markup habitat trees and any nests or other signs of fauna occupation. Hollows that can be recovered and salvaged shall be relocated to retained vegetation as habitat;
- All contractors will be specifically advised of the designated work area. The following activities are not to occur outside of designated work areas to minimise environmental impacts:
    - Storage and mixing of materials;
    - Liquid disposal;
    - Machinery repairs and/or refuelling;
    - Combustion of any material; and
    - Any filling or excavation including trenching, topsoil skimming and/or surface excavation.
- Any filling or excavation including trenching, topsoil skimming and/or surface excavation;
- All construction vehicles/machinery are to use the designated access from main roads. Speeds will be limited to reduce the potential of fauna strike and to reduce dust generation;
- Plant and machinery would be cleaned of any foreign soil and seed prior to being transported to the site to prevent the potential spread of weeds and *Phytophthora cinnamomic*;
- If machinery is transported from an area of confirmed infection of *Phytophthora cinnamomi* to the site, stringent wash down must be completed before leaving the area, removing all soil and vegetative material from cabins, trays, and under carriages;
- All liquids (fuel, oil, cleaning agents, etc.) will be stored appropriately and disposed of at suitably licensed facilities. Spill management procedures will be implemented as required;
- Rubbish will be collected and removed from the site;

- During the creation of access tracks, erosion or sediment measures will be considered and installed as required;
- Erosion and sediment control measures shall be implemented in accordance with the approved Sediment and Erosion control plan to be prepared prior to commencement of civil works on site. In general, erosion and sediment control measures include:
  - Identification of potential erosion areas;
  - Installation and maintenance of flow, erosion, sediment and nutrient control within the site during construction ahead of pavement and kerb establishment;
  - Separation of 'dirty' construction water from the 'clean' natural overland flow water;
  - Coordinated work practices aimed at minimising land disturbance;
  - Minimise vegetation disturbance to surrounding retained vegetation;
  - Routine site inspections of drains, channels, sediment control structures and water quality; and
  - Ensure the extent of clearing is clearly marked in the field prior to the commencement of vegetation clearing. Ensure that only the minimum vegetation clearing required is undertaken.

6.4. NOISE AND VIBRATION

6.4.1. Existing Environment

The existing primary noise and vibration sources in the disturbance area are from road traffic, including traffic from the existing Haussman Drive, Taylor Avenue and Raymond Terrace Road, and noise from nearby developments and residential uses.

6.4.2. Impact Assessment

The project's construction works requires the use of heavy and light machinery/tools which can generate noise and vibration levels at nearby receptors. At any location, the potential impacts may vary greatly depending on factors such as the proximity of receivers, the duration of works, the magnitude of the noise levels, the time at which the construction is undertaken, and the character of the noise or vibration emissions.

The project's construction noise emissions in the disturbance area could be high during parts of the construction phase.

The project's construction vibration emissions in the disturbance area is likely to be:

- Impulsive e.g. occasional dropping of heavy equipment occasional loading and unloading;
- Intermittent e.g. construction activity, jack hammers; and
- Continuous e.g. use of heavy machinery.

Around the disturbance area are residential receivers. Without mitigation measures it is likely the construction activities in the disturbance area will generate noise at levels that could

potentially adversely impact the residential receivers. The noise impacts would only be experienced during the construction phase.

It is unlikely the construction activities in the disturbance area will generate vibration at levels with the potential to adversely impact nearby residential receivers in the Project area and surrounding locality. Specifically, it is unlikely the construction activities will generate vibration at levels with the potential to adversely impact the structures of nearby receivers or structures of heritage items/buildings located in the surrounding locality.

While construction works would generally occur during the standard working hours set out in the Interim Construction Noise Guideline (DECC, 2009) i.e. Mondays to Fridays between 7am and 6pm, Saturdays between 8am and 1pm and no work occurring on Sundays or public holidays, it may be sensible for some construction activities in the disturbance area to be undertaken outside the prescribed hours to lessen the potential for adverse noise and vibration impacts on nearby receivers.

As the project is located within an established and heavily utilised road corridor, it is anticipated that the disturbance area will return to approximately its pre-construction works noise and vibration levels during the project's operation.

The project's operation works are likely confined to infrequent and limited maintenance of the project's infrastructure consequently the potential to adversely impact the Project area's or surrounding locality's noise and vibration amenity during the project's operation is minimal.

6.4.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate potential adverse noise and vibration impacts. Mitigation measure could include:

- Noise and Vibration Management Plan be prepared as part of the CEMP;
- Ensuring all equipment complies with the Interim Construction Noise Guideline (DECC, 2009);
- Machinery and vehicles will be turned off when not in use or throttled down to a minimum;
- Construction completed within the shortest possible time;
- Construction works taking place between the hours: Monday to Friday, 7am to 6m and Saturday at 8am to 1pm, unless otherwise approved in CEMP;
- Identified noisy construction works to take place outside the standard working hours set out in the Interim Construction Noise Guideline (DECC, 2009);
- Use of noisy equipment and construction work will be scheduled to occur between the hours of 9am and 4pm, where possible;
- Construction activities would be undertaken in accordance with AS2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- All equipment will be maintained regularly and effectively;
- All equipment with potential to create high levels of noise will only be used in conjunction with noise controls;

- Noise monitoring may be used if complaints regarding excessive noise use are received, and impacts will be assessed against the Interim Construction Noise Guidelines (DECC 2009);
- If noise limits are found to exceed the established guideline values, then operations would be modified and measures such temporary noise barriers would be implemented;
- Mitigation impacts of the proposed works would be undertaken in accordance with the qualitative assessment guidelines of the Interim Construction Noise Guidelines (DECC 2009) such as community notification of the works, operating plant in a quiet and efficient manner, involving workers in minimising noise and a procedure of handling complaints in accordance with these guidelines;
- Controlling vibration at the source including choosing alternative, lower-impact equipment, or methods wherever possible; scheduling the use of vibration-causing equipment, such as jackhammers, at the least sensitive time of day; routing, operating or locating high vibration sources as far away from sensitive areas as possible; sequencing operations so that vibration causing activities do not occur simultaneously isolating the equipment causing the vibration on resilient mounts;
- Informing identified stakeholders, including potentially impacted adjacent landholders, in the Project area, of the potential impacts, the time periods over which these will occur and the proposed mitigation measures that will be employed to minimise the impacts; and
- Notice of works provided to identified stakeholders prior to the commencement construction.

The mitigation measures are designed to minimise adverse impacts on the Project area's and surrounding locality's receivers from airborne noise, ground-borne noise and vibration generated during the projects' construction.

The potential long-term adverse noise and vibration impacts from the project's construction on the Project area and surrounding locality is low because of the limited construction time frame and the existing use of the road as an established busy transport corridor.

6.5. AIR QUALITY

6.5.1. Existing Environment

Air quality in the Maitland LGA is generally 'good' and meets the national standards.

The Lower Hunter air quality monitoring is carried out at Newcastle, Beresfield and Wallsend air quality monitoring station sites. The Beresfield monitoring station is located around 5km from the Project area. Data collected at this station is considered to be representative of ambient air quality in the Project area.

6.5.2. Impact Assessment

Air quality impacts associated with project's construction works would mainly result from dust generated during excavation and road/concrete material cutting. Other dust sources may be produced by material handling activities associated with movement of construction vehicles on unsealed surfaces. Wind erosion of uncompacted surfaces, such as stockpiled material, could also cause localised emissions of dust.

Dust has the potential to impact on the amenity of residential receivers and other people passing the project's site (such as workers, businesses, and pedestrians/cyclists). Due to the relatively low intensity of construction, the small amount of required earthworks, and the relatively short duration of construction works the potential for adverse dust impacts is considered to be minimal.

The operation of construction plant, machinery and vehicles may also lead to short term increases in exhaust emissions in parts of the Project area and the surrounding locality however, these impacts are relatively minor due to the limited number of construction vehicles and the existing urban nature of the disturbance area and other surrounding locality influences on air quality such as car traffic movements along the New England Highway and Raymond Terrace Road.

The project's operation works are likely confined to infrequent and limited maintenance of the project's infrastructure consequently the potential to adversely impact the Project area's surrounding locality air quality during the project's operation is minimal. During the operational phase the improved road infrastructure would result in more efficient traffic flow, and use of active transport features (cycle lanes and paths), therefore would have the potential to reduce air emissions.

6.5.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate potential adverse air quality impacts. Mitigation measure could include:

- All vehicles to be fitted with approved exhaust systems to maintain exhaust emissions within acceptable standards;
- Machinery and vehicles will not be left running or idling when not in use;
- Odours or air pollutant complaints will be dealt with promptly and the source will be eliminated wherever practicable;
- All loads of excavated material, soil, fill and other erodible matter that are transported to or from the work site will be kept covered at all times during transportation and will remain covered until they are unloaded either for use at the worksite, reuse or disposal at a licensed waste disposal facility;
- Areas that have been disturbed by construction works will be rehabilitated progressively; and
- Monitor all work sites, general work areas and stockpiles for dust generation and watering down or covering affected areas in the event of windy conditions.

The potential long-term adverse air quality impacts from the project on the Project area and surrounding locality is low because the project is small in size and the construction time limited. The addition of active transport options, and improved traffic flow have the potential to result in improved air quality.

6.6. NON-INDIGENOUS HERITAGE

6.6.1. Existing Environment

To the southwest of the study area the Main North Line railway is mapped as a State 'General Heritage Item' I19 - East Maitland Railway Station group. The line was the original main train link between Sydney and Brisbane, but it has been replaced by the North Coast Line. East Maitland Railway Station group is listing number 01135 on the State Heritage Register.

The listing states:

Following the completion of the first railway from Sydney to Parramatta Junction in 1855, projects for the first railways to the other parts of NSW were driven primarily by pastoral communities seeking improved transport for their produce from inland centres such as Goulburn, Bathurst, Singleton and Muswellbrook (Upper Hunter). Early additions to the Great Northern Railway included Victoria Street to Maitland (opened 1858) and Maitland to Singleton (1863). These were followed by extensions to Muswellbrook in 1869, Aberdeen in 1870 and to Scone in 1871.

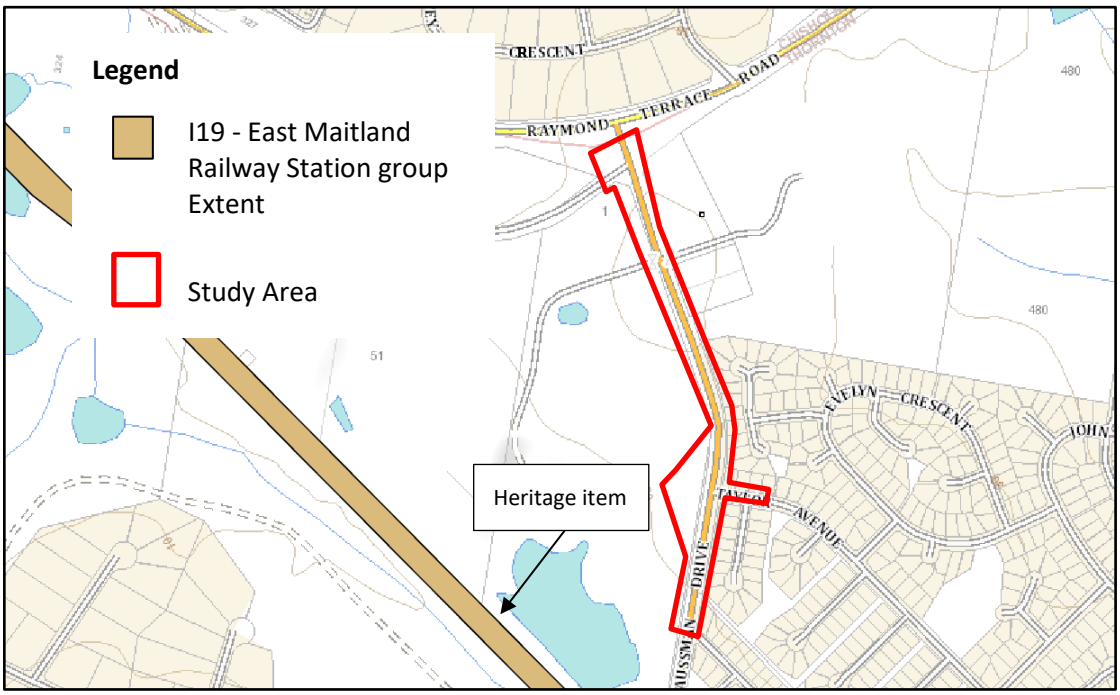


Figure 6-3: Heritage map

6.6.2. Impact Assessment

The Study area does not contain built or archaeological heritage associated with the heritage listing. There are no proposed impacts to the listed heritage item and the Disturbance area is sufficiently buffered from the heritage item.

Once the works are completed the Project area will continue to be interpretable consistent with its current state. The Project area will maintain its landscape values during operation.

6.6.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate potential adverse non-indigenous heritage impacts. Mitigation measure could include:

- All on-site personnel are to be made aware of their obligations under the *NSW Heritage Act 1977,* including the reporting of any historic, or suspected historic, material. This may be implemented through an on-site induction or other suitable format;
- In the unlikely event that archaeological, or suspected archaeological material is uncovered during works, then works in that area are to cease and the area is to be cordoned off. The material is to be inspected by a heritage consultant and works in that area are only to recommence once heritage clearance has been gained and/or mitigation and management measures implemented; and
- If there are any alterations to the proposed works, further heritage assessment will be required.

6.7. ABORIGINAL HERITAGE

OzArk Environment & Heritage Aboriginal Due Diligence Assessment Report (OzArk report) for Haussman Drive Stage 2 Part 2 is attached as Appendix 6.

6.7.1. Existing Environment

The Study area consists of two hectares over an approximately 675m stretch of road along Haussman Drive including the road shoulders, a portion of the freehold property at the location of the new roundabout, and approximately 50 m of Taylor Avenue. The study area is shown on figure 1-3 in the OzArk report.

Most of the Study area is in what can be considered ‘disturbed land’. This specifically applies to Hausmann Drive itself and the portions of the eastern boundary which overlap with residential and infrastructure (electricity substation) areas associated with the Maitland suburb of Thornton. These portions of the landscape have been subject to clear and observable changes to the area through land clearing, earthworks, road construction, installation of subsurface services, and landscaped nature strips for residential properties. However, there are sections of the study area, such as within the private property on the western boundary of the Study area at the location of the new roundabout, where the ground

surface has not been changed in a clear and observable manner requiring the due diligence process to be applied.

6.7.2. Impact Assessment

The desktop and field inspection assessment of the Study area followed the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (due diligence; DECCW 2010). The field inspection also followed the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011).

The visual inspection of the Study area was undertaken by OzArk Principal Archaeologist Ben Churcher on 3 November 2023. Les Draper from the Mindaribba Local Aboriginal Land Council (LALC) accompanied the visual inspection.

The desktop and field inspection assessment due diligence process has resulted in the outcome that an Aboriginal Heritage Impact Permit (AHIP) is not required.

6.7.3. Mitigation Measures

To ensure the greatest possible protection to the area's Aboriginal cultural heritage values, the following recommendations are made:

1. The proposed work may proceed at Haussman Drive without further archaeological investigation;
2. All land and ground disturbance activities must be confined to within the study area, as this will eliminate the risk of harm to Aboriginal objects that may be in adjacent landforms. Should the parameters of the project extend beyond the assessed areas, then further archaeological assessment may be required;
3. This assessment has concluded that there is a low likelihood that the proposed work will adversely harm Aboriginal cultural heritage items or sites. If during works, however, Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the *Unanticipated Finds Protocol*, attached as Appendix 2 in the OzArk report, should be followed;
4. Inductions for work crews should include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts, as shown in Appendix 3 in the OzArk report, and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the *Unanticipated Finds Protocol;* and
5. The information presented here meets the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. It should be retained as shelf documentation for five years as it may be used to support a defence against prosecution in the event of unanticipated harm to Aboriginal objects.

6.8. VISUAL AMENITY

6.8.1. Existing Environment

The Study area's visual environment is comprised of a rural-residential landscape. The southeastern portion of the study area is dominated by a residential landscape, the remainder is a combination of native and exotic vegetation, industrial infrastructure and rural landscape.

The residents located on Geddes Close have a view over their fence towards the roadside vegetation and landscape along Haussman Drive.

To the west and east of the Haussman Drive are former quarries that are under various stages of redevelopment. At the northern end of Haussman Drive the Ausgrid Thornton Zone Substation is located to the east of road.

The MDCP 2016 sets out the design principles within Locality Plans D.8 which includes;

a. *Development of the Locality shall maintain the visual integrity of views from the New England Highway, **Raymond Terrace Road**, the Main Northern Railway, Thornton Road and the urban areas of Metford and Thornton through the incorporation of buffer zones, the use of landscaping and by controlling the external appearance of buildings.*

Additionally stated in the MDCP 2016:

b. All developments need to be constructed in a matter which to ensure *"The relationship between the town and the rural surrounds should be maintained through the protection of significant view corridors".*

Figure 6-4: Haussman Drive looking north (trees in road reserve behind Geddes Close located on right of road)

(Source: Google Streetview)

Figure 6-5: Thornton Zone Substation on Haussman Drive

(Source: Google Streetview)

Figure 6-6: Residential landscape at intersection of Haussman Drive and Taylor Avenue – looking along Taylor Avenue

6.8.2. Impact Assessment

The project would generate temporary visual impacts during the construction period. These impacts would be experienced by visual receivers (residents, pedestrians, cyclists, motorists and local workers) in the vicinity of the construction works. During construction, visible

elements would include work sites, machinery and equipment, fencing, soil stockpiles, waste materials and partially constructed structures.

The potential visual impact of the project would depend on the nature and intensity of the construction works. The change in the visual environment would generally be experienced from a relative short distance. Visual impacts would also be more significant at locations where receivers have an unscreened view of the project works.

In limited instances, the works will result in a partially altered visual amenity (i.e. tree removal that would impact the residents of Geddes Close).

Majority of the impacts would be temporary, and the type of construction is well understood by most receivers as a type of road works and limited to the construction period.

There will be negligible visual impact during the operation period for the majority of the project's elements in the Disturbance area because the elements are either upgrades to the existing elements or new elements that are consistent with local road infrastructure.

6.8.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate any potential adverse impacts on the existing visual amenity. Mitigation measure could include:

- Residential receivers potentially impacted by the removal of trees (e.g. Geddes Close) will be consulted by MCC;
- Ensuring the construction work site is maintained in an orderly manner;
- All vehicles, construction equipment, materials and refuse relating to the works to be removed from the site, following completion of the works; and
- Following completion of the proposed works, work sites will be restored as close to their original condition as possible.

The potential for long-term adverse visual impacts by the project on Project area and surrounding locality are considered low because of the type of construction is typical for roads, the limited construction timeframe and the Disturbance areas being restored, as far as practicable, to its pre-construction condition.

6.9. TRAFFIC AND ACCESS

6.9.1. Existing Environment

MCC is the roads authority for all public roads (both classified and unclassified) within the Project area. Transport for NSW is the roads authority for Raymond Terrace Road.

The Study area includes Haussman Drive, which is the main access route between Thornton and Chisholm, Brickworks Road, Woolley Close and Taylor Avenue.

Raymond Terrace Road runs perpendicular to Haussman Drive which connects East Maitland to Raymond Terrace.

MCC has identified the upgrade of Haussman Drive as being required to meet predicted increase in traffic numbers associated with urban development in the area, and to also ease existing traffic congestion along Haussman Drive where it intersects with Raymond Terrace Road particularly during peak periods.

Raymond Terrace Road and Haussman Drive intersection has had six car accidents, and the Taylor Avenue Haussman Drive intersection has had two car accidents in the 2015 – 2019 reporting period (SMEC, 2022).

Haussman Drive provides connectivity between Thornton Industrial Estate and Raymond Terrace Road for B-double vehicles (19m and over 50t) as it is classified by Transport for NSW as an approved route.

The following bus routes collect passengers within the Study area 189 – Thornton via Chisholm and 182 – Rutherford to Thornton.

As part of the Haussman Drive Stage 2 – Part 1 REF, traffic surveys were undertaken by Northern Transport Planning and Engineering in December 2020 and March 2021. The surveys determined:

- Haussman Drive had a northbound and southbound AM peak between 8-9 AM and the PM peak between 3-4 PM;
- The average weekly traffic volume on Haussman Drive was 10,185 vehicles;
- Haussman Drive experienced 26% less vehicles on a weekend when compared to a week day.

There are currently no pedestrian footpaths or cycle lanes along Haussman Drive.

6.9.2. Impact Assessment

The project's construction works will require a number of heavy and light vehicles. Construction heavy and light vehicle movements would be distributed across the construction phase and be managed in accordance with a Construction Traffic, Transport and Access Management Plan to minimise the potential for impacts on the existing Project area, surrounding locality roads and transport network, and to ensure adequate levels of safety.

Overall, the total numbers of heavy and light vehicle movements on roads in the surrounding locality during construction would be low compared to the overall traffic volumes on the surrounding locality roads. Construction vehicle generation would not result in a substantial impact on surrounding locality road capacity or the road network overall.

Construction works and consequently construction traffic movements would commence after all relevant approvals are obtained, and could include the following alterations to part of Project area's existing traffic arrangements:

- Construction vehicles accessing the disturbance areas via:
  - Raymond Terrace Road;
  - Haussman Drive; or
  - Taylor Avenue.

- Partial closure of Haussman Drive and Taylor Avenue and associated other intersections. Project area traffic may need to access the Project area via alternative access points or detours, or access may be subject to delays;
- Installation of environmental and traffic controls in accordance with the CEMP and any conditions of approval for the project.

The construction traffic methodology will be developed by the appointed construction contractor in conjunction with MCC.

The alterations to part of Project area's existing traffic arrangements for the likely construction traffic are expected to have a moderately adverse impact to residents, business operators, visitors and service providers as well as travellers on the transport network (including heavy vehicle and bus routes) located within the Project area for the limited construction phase.

The operation phase will improve traffic access. The project's operational construction works are likely confined to infrequent and limited maintenance of the project's infrastructure. Consequently the potential to adversely impact the Project area's and the surrounding locality traffic and access arrangements during the project's operation is minimal.

Where adversely impacted the bus-stop infrastructure will be relocated nearby, and the operation of the bus transport network would be maintained in the area.

The road will be constructed to appropriate specifications to continue to be classified as a B-double route.

6.9.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate any potential adverse impacts on the existing traffic and access arrangements. Mitigation measures could include:

- A Traffic, Transport and Access Management Plan will be prepared as part of the CEMP, prior to commencement of construction;
- Communication with relevant stakeholders to facilitate the efficient delivery of the works and to minimise congestion and inconvenience to road users. Stakeholders would include MCC, Transport for NSW, business operators, landholders/residents, and transport operators (e.g. heavy vehicle users in the industrial area and bus services);
- A construction communication management plan would be prepared as part of the CEMP including a detailed list of the measures that would be implemented during construction to communicate with and respond to the community;
- Construction completed within the shortest possible time;
- Appropriate exclusion barriers, signage and site supervision will be employed at all times to ensure that the work site is controlled, and that unauthorised vehicles and pedestrians are excluded from the works area;
- All measures will be undertaken to ensure that the project does not significantly reduce road capacity or disturb traffic flows; and

- A complaints register will be maintained by the contractor, and complaints will be responded to in a timely fashion.

The potential for long-term adverse traffic and access impacts by the project are considered low because of the limited construction time frame.

The Haussman Drive upgrade and intersection with Taylor Avenue is designed to meet MCC requirements consequently improving this part of the Project area's traffic flows and safety.

6.10. SERVICES AND UTILITIES

6.10.1. Existing Environment

Services and utilities in the Study area include, but are not limited to, the high pressure gas mains, telecommunications, electricity transmission/distribution infrastructure and water/sewer services.

Infrastructure and services within and in the Study, area is identified in the indicative project plans attached as Appendix 1.

6.10.2. Impact Assessment

The construction works within the Disturbance area has the potential to impact existing services and utility infrastructure including gas, electrical, water, wastewater, stormwater and communications. All services (including pits and surface features) within and/or crossing the construction site would need to be relocated and/or protected.

There may be some short-term interruptions to services during construction owing to the need to divert/augment services.

Short-term interruptions to services during construction could impact Project area and surrounding locality users of the services.

Impacts would be minimised by ensuring that the contractor undertakes investigations to locate all underground services in the vicinity of the construction site prior to construction commencing. Consultation and coordination with service providers would also be undertaken to minimise the potential for impacts, to coordinate any service relocations or cessation of services to allow construction, and ensure access to utilities is preserved for any future maintenance activities.

The project's operation works are likely confined to infrequent and limited maintenance of the project's infrastructure consequently the potential to adversely impact the Project area's surrounding locality's services and utilities during the project's operation is minimal.

6.10.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate any potential adverse impacts on existing land services and utilities. Mitigation Measures could include:

- A CEMP including a detailed list of the measures that would be implemented during construction to communicate with and respond to the community;
- Construction completed within the shortest possible time;
- A Services Management Plan to provide specific measures to minimise impacts to services during construction;
- A Dial Before You Dig search must be completed prior to commencement of construction;
- Engage in consultation with companies that have services crossing or in close proximity to the proposed works;
- Detailed survey and consultation with service providers would be undertaken to accurately locate services;
- The detailed design of the project would seek to minimise the need for service and utility impacts;
- The need for location or cessation of any utilities would be determined in consultation with service providers and any additional approval processes for the relevant service provider completed;
- Ensuring exposed underground services are protected prior to undertaking any bulk excavation or mechanical operations; and
- Staff will be briefed on the existence, location and nature of other utility services.

The potential for long-term adverse impacts on the Project area's and surrounding locality's services and utilities are considered low because of the short construction time frame.

6.11. LAND USES

6.11.1. Existing Environment

The Disturbance area is predominantly occupied by the road corridor of the existing Haussman Drive and Taylor Avenue intersection, and utility infrastructure. Adjacent to the project is residential land in the suburb on Thornton, industrial uses (i.e. former quarries) and rural landscape. The Thornton Zone Substation is located adjacent to the north-east of the Disturbance area.

6.11.2. Future Land Uses

To facilitate growth in the region, MCC has identified the need for improved access to the Thornton North Release Area in the relevant strategic planning framework and developer contributions plans. The project will provide improved public road access to Thornton North

Release Area and improve overall access to the existing suburb of Thornton, including the Thornton Industrial Area.

The Brickworks site, adjacent to the project is in the final stages of being rezoned to permit a variety of employment generating land uses. Road access to the Brickworks site is proposed to include access from the Haussman Drive/Taylor Avenue intersection. The project will support the Brickworks site employment land uses.

6.11.3. Impact Assessment

Impacts on the land uses within Study area would be limited to temporary use of land for construction activities including the presence of construction equipment, plant, vehicles and fenced work sites along the work sites. During construction, the use of the land would change from its present uses to a construction site.

The impact of the construction works within Disturbance area are expected to be limited to businesses, visitors and service providers located within the Project area and those using the existing transport network. In general, there would be changes to the movement patterns for vehicles, pedestrians, cyclists and bus users around construction areas during construction.

After construction works are completed the land use within the Disturbance area will predominantly return to its pre-construction land use.

During the project's operation phase the project is expected to improve the Project area's land uses by providing a safer and more efficient transport network and active transport options (cycling and pedestrian).

6.11.4. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate any potential adverse impacts on land use. Mitigation Measures could include:

- A Traffic, Transport and Access Management Plan will be prepared as part of the CEMP, prior to commencement of construction;
- The Construction Environmental Management Plan (CEMP) will include communication protocols; and
- Consultation with relevant stakeholders to facilitate the efficient delivery of the works and to minimise congestion and inconvenience to road users.

In the long term the project is not anticipated to adversely impact the Project area's or surrounding locality's land uses. Any impacts will be minor and limited to the construction phase.

The project will improve traffic movement throughout the Study area by providing an improved round-a-bout intersection.

6.12. WASTE AND RESOURCES

6.12.1. Legislative requirement

MCC is committed to ensuring responsible management of waste and the reuse of such waste through appropriate measures, in accordance with the resource management hierarchy principles embodied in the WARR Act. The resource management hierarchy principles in order of priority as outlined in the WARR Act are:

- avoidance of unnecessary resource consumption;
- resource recovery (including reuse, reprocessing, recycling and energy recovery); and
- disposal.

By adopting the above principles, MCC encourages the most efficient use of resources and reduces cost and environmental harm in accordance with the principles of ecologically sustainable development.

6.12.2. Impact Assessment

The project's construction involves the use of a number of resources, including:

- Resources associated with the operation of construction plant and equipment (fuel and electricity);
- Construction water (for concrete mixing and dust suppression);
- Fill required to meet design levels;
- Concrete and paving materials;
- Materials required for the supporting infrastructure; and
- Landscaping.

The resources required are not currently limited in availability. However, materials such as metal and fossil fuels are non-renewable and should where practical be used conservatively. Excess spoil, not suitable for reuse, should be disposed of in accordance with safeguards, mitigation measures and management measures to assist in minimising the amount of resources required for construction.

Construction would have the potential to generate the following wastes:

- Spoil from excavation;
- Surplus concrete, asphalt, bricks and materials;
- Roadside materials;
- Utility adjustments - such as electrical cabling from installation of wiring;
- Possible industrial waste such as lubricating oils, hydraulic fluids and cleaning agents.
- Vegetation;
- Wastewater;
- General litter, including glass, plastic, metal and paper waste; and
- Redundant erosion and sediment controls.

Potentially contaminated material and/or hazardous spoil and materials may also be encountered during construction.

Careful planning of construction activities would ensure that the volume of surplus materials is minimised, and disposal is undertaken in accordance with relevant guidelines and legislation. The potential to reuse materials will be investigated.

The project would generate greenhouse gas emissions through the operation of plant and machinery during construction. Overall, greenhouse gas emissions resulting from construction would be low.

Only a small quantity of waste would be generated during the project's operation. This would mainly relate to maintenance and repair activities. Wastes would include wastewater, oils, cleaning agents, and landscaping maintenance wastes.

6.12.3. Mitigation Measures

Reasonable and feasible mitigation measures should be implemented to manage and mitigate any potential adverse impacts caused by the project's waste generation and use of resources. Mitigation Measures could include:

- Efficient reuse or removal of all waste from the work area;
- Waste is to be disposed of according to waste disposal safeguards including the POEO Act, WARR Act and the NSW EPA Waste Classification Guidelines;
- Appropriate capture vessels will be used to collect any fuel, lubricant or hydraulic fluid spillages and the contaminant materials will be disposed of at a licensed waste depot;
- Green waste from vegetation clearing will be either chipped for reuse, retained for rehabilitation, mulched and spread immediately after where possible to prevent encroachment by weed species and minimise erosion, or removed from site and transported to a waste facility licensed to accept green waste;
- Excess spoil will be tested and disposed of at an approved facility licenced to receive the material;
- The Contractor will ensure that staff have up-to-date training in use of emergency spill kits as well as ensuring kits are kept on-site for the duration of the works;
- The Contractor will ensure that staff are familiar with the correct procedure for storing contaminated or hazardous waste and ensuring that staff remove their own personal rubbish from site daily; and
- On completion of the construction works, the site will be returned as close as possible to its pre-construction position, including ensuring all waste, equipment and machinery has been removed from onsite.

Waste generated during the construction period will be appropriately managed in accordance with the above mitigation measures.

6.13. OTHER ENVIRONMENTAL CONSIDERATIONS

6.13.1. Bushfire Prone Land

The Study area includes land identified as Bushfire Prone Land.

A Fire Prevention and Emergency Response Management Plan should be considered as part to the CEMP.

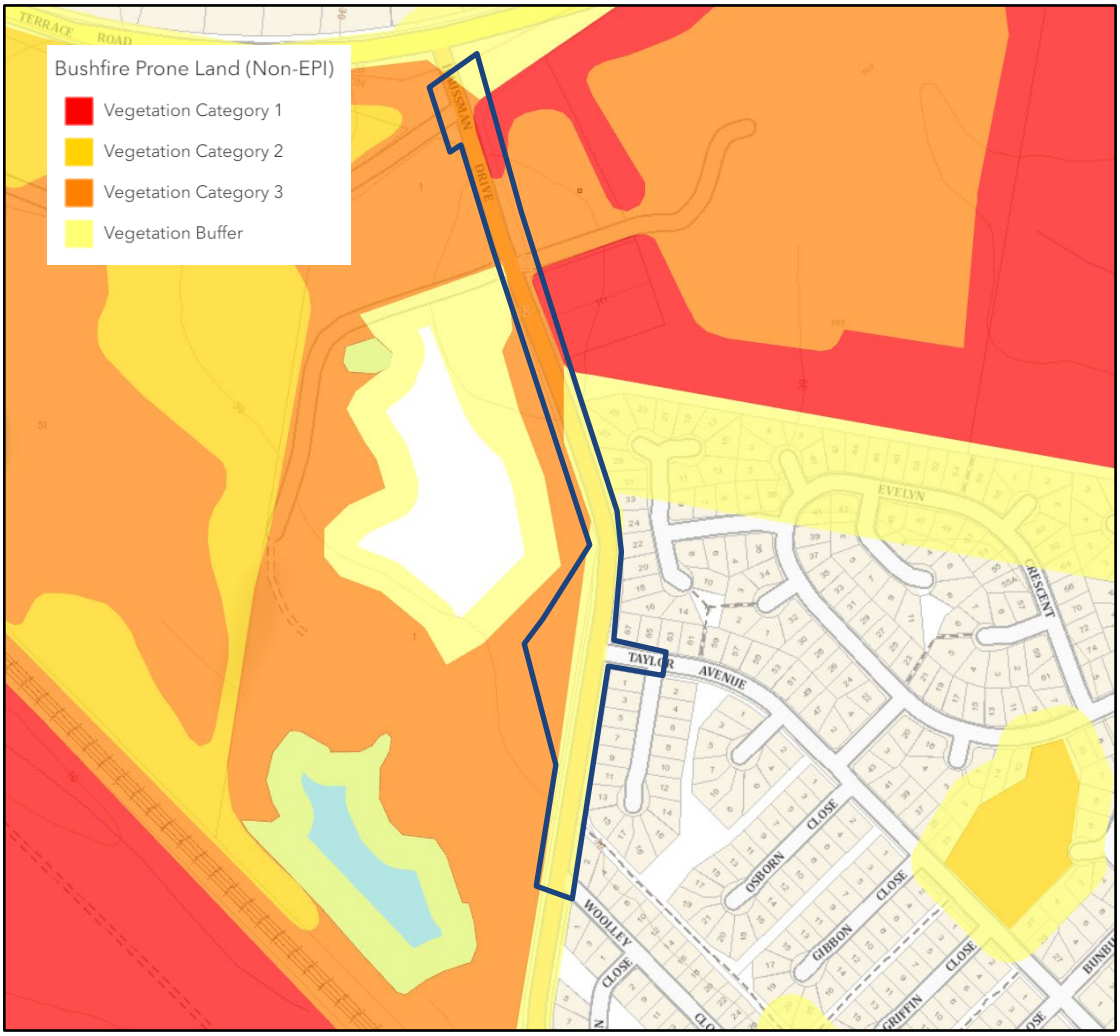


Figure 6-7: Bushfire Prone Land

6.13.2. Socio-Economic

Construction and operation of the project is expected to support the economic development of the area and to result in social benefits such as an improved vehicular transport network and addition of an active transport network, including pedestrian pathways which will make the area more accessible and safer.

6.14. CUMULATIVE AND CONSEQUENTIAL IMPACTS

6.14.1. Existing Environment

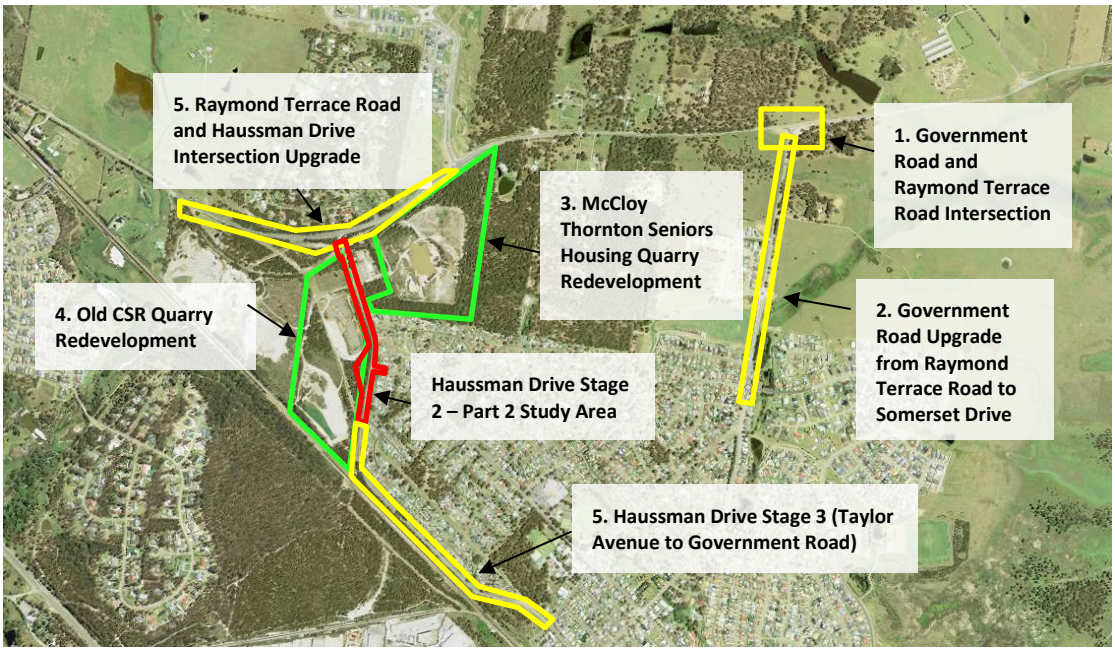
The impacts caused by this project need to be considered in combination with impacts of other development projects within the Project area and surrounding locality.

Development projects with the potential for cumulative impacts with the project are considered to be developments of a similar nature and size as the project located within the Project area and surrounding locality.

6.14.2. Impact Assessment

There is a concentration of development occurring in the Thornton/Chilsom area, both in the form of residential development and supporting infrastructure (i.e. roads and utilities).

The following provides a summary of the relevant projects occurring in the Project area and surrounding locality.



1. Government Road and Raymond Terrace Road Intersection

An REF was completed for the Project by Umwelt on behalf of MCC in 2020. Key features of the project are upgrades of State Road – Raymond Terrace Road to create:

- New access to the north;
- Traffic control signals;
- Dedicated through lanes, turning and slip lanes; and
- Delineated vehicle, cyclist and pedestrian facilities.

It was determined that the project was needed to support the residential growth in the area. This road infrastructure project was approved in 2020 and works are under construction in Q4 2023. Completion is expected mid-2024.

2. Government Road Upgrade from Raymond Terrace Road to Somerset Drive

Progressive road upgrades are underway along Government Road from Raymond Terrace Road to Somerset Drive. The work is being completed in stages and is being funded by developer contributions. The project value is estimated to be $3.4 million (MCC, 2023).

3. McCloy Thornton Seniors Housing Quarry Redevelopment

A Statement of Environmental Effects was prepared by Barr Property and Planning on behalf of McCloy Thornton Pty Ltd in 2018 for the importation of fill to enable the eventual development of seniors housing on Lot 2 DP 1145348. The development application was approved (DA/2018/1431:1) and subsequently a modification was approved to alter vehicular access arrangements (Condition 24) in 2020.

The details and timeline of the proposed seniors housing development are unknown at this stage.

4. Old CSR Quarry Redevelopment (Brickworks site)

The Brickworks site is in the final stages of being rezoned to permit a variety of employment generating land uses. Road access to the Brickworks site is proposed to include access from the Haussman Drive/Taylor Avenue intersection. The project will support the Brickworks site employment land uses.

5. Raymond Terrace Road and Haussman Drive Intersection Upgrade

This project is referred to as 'Haussman Drive Stage 2 – Raymond Terrace Road' or 'Haussman Drive Stage 2 – Part 1'. A REF was completed by SMEC for the works in January 2022. The project involves:

- Duplication of Raymond Terrace Road east and west of Haussman Drive from Harvest Boulevard to Settlers Avenue;
- Upgrade of the Raymond Terrace Road/Haussman Drive intersection (including signalisation);
- Installation of bicycle lanes;
- Alteration of access to Forest Drive; and
- Associated infrastructure and property adjustment/acquisition.

The project was expected to commence in early 2023 and will take approximately 18 months.

6. Haussman Drive Stage 3 (Taylor Avenue to Government Road)

This project is in the design phase and plans to duplicate the road and construct a shared path along the Haussman Drive from Taylor Avenue to Government Road. The project design is expected to be completed in 2023, and the project is being funded by developer contributions at the cost of $8.2 million.

7. Chilsom Sportsground Upgrade

A 4.5 ha site in the suburb of Chisholm (north of Thornton) is proposed to be developed into a sportsground. The project received $5.51 million in funding, and will also use $2.1 million of developer contributions. The project proposes to incorporate parking for 80 vehicles. In February 2023 Council announced the project will be heading into the detailed design phase with plans to deliver the sportsground by 2026.

Potential Impacts

There is potential that the construction periods of these developments would overlap resulting in cumulative impacts. Key cumulative impacts during construction include:

- Increased construction vehicle traffic;
- Increase noise and air emissions;
- Changes to visual amenity through the removal of vegetation and addition of temporary construction infrastructure (e.g. offices, toilets, stockpiles).

6.14.3. Mitigation Measures

Prior to the commencement of construction works the appointed contractor will determine if there are development projects of a similar nature and size as the project either located within the Project area or the surrounding locality with the potential for cumulative impacts on the Project area or the surrounding locality and, if so, implement suitable mitigation measures required to offset potential adverse cumulative impacts on the Project area and/or the surrounding locality, such a scheduling of activities to allow movement of traffic in response to peak movement periods.

MCC is committed to give consideration to stage or otherwise program works in order to minimise potential impacts whilst ensuring delivery of necessary infrastructure items in the shortest reasonable period of time.

7. SUMMARY OF MITIGATION MEASURES

Details of the environmental mitigation measures for the impacts as outlined in the assessment section above, are outlined below in Table 7-1.

Table 7-1: Summary of mitigation measures

Section	Environmental Mitigation Measures
Soils and Geology	• A Soil and Water Management Plan, including an Acid Sulphate Soil Management sub-plan and an Erosion and Sediment Control (ESCP) sub-plan (prepared in accordance with Landcom's (2004) Managing Urban: Stormwater Soils and Construction), be prepared as part of the Construction Environmental Management Plan (CEMP); • The ESCP will include appropriate sediment controls for wherever soil disturbance that could result in sediment run-off takes place; • Erosion and sediment controls will be established prior to the commencement of construction and remain in place until the surface has been stabilised; • Sediment controls will be placed at the entry points to any culverts and stormwater channels to prevent sediment entering the stormwater system; • Erosion and sediment control devices will be regularly checked and maintained to ensure the remain effective for the duration of the construction period; • Stabilisation by revegetation for disturbed areas will occur as soon as practicable within after completion of construction; • Restoration following the completion of the works will aim to be as close as possible to the pre-works state; • The road will be swept where it becomes dirty from tracking dirt, which will be minimised where possible; • An 'unexpected finds protocol' would be prepared to assist with the identification, reporting, assessment, management, health and safety implications, remediation, and/or disposal (at an appropriately licensed facility) of any potentially contaminated soil and/or water; and • In the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the affected area would cease immediately, and the procedures detailed in the unexpected finds protocol would be implemented.
Hydrology, Water Quality and Flooding	• The relevant department of MCC must be consulted in accordance with the Infrastructure SEPP requirements (see Section 5 of this REF); • A Soil and Water Management Plan, including a Groundwater Management sub-plan and Erosion and Sediment Control sub-plan (prepared in accordance with Landcom's (2004) Managing Urban: Stormwater Soils and Construction) would be prepared as part of the CEMP; • Measures to take in the event of predicted high-rainfall event would be incorporated in the Soil and Water Management Plan; • A Contamination and Hazardous Materials Plan would be prepared as part of the CEMP; • Fuels and chemicals will be stored and transported in accordance with the Australian Standard AS 1940-2004: The Storage and Handling

Section	Environmental Mitigation Measures
	of Flammable and Combustible Liquids and the Dangerous Goods Act 1975; • The ground surface will be reinstated progressively; • Refuelling, fuel decanting and vehicle maintenance work will take place off-site where possible; • Chemicals, fuels and waste will not be stored or collected for disposal within or adjacent to drainage lines, waterbodies or unsealed surfaces; • A 'spill kit' will be kept onsite at all times to be used in the event of a chemical or fuel spill; • Access to site will be contained to approved construction works area or access tracks to minimise site disturbance; • Erosion will be limited using slit fences and socks to manage runoff fetches and velocities; and • Silt fences, straw bales, turf strips and other sediment filters will be located downstream of disturbed areas.

Ecology	• The extent of vegetation clearing is to be clearly identified on construction plans;
	• Clearing limits are to be demarcated with highly visible flicker tape to ensure clearing does not extend beyond the proposed clearing area;
	• All recorded hollow-bearing habitat trees are to be marked with a 'H' and highly visible flagging tape;
	• Habitat trees are to be directionally soft felled into the development area under the supervision of a suitable qualified an experienced ecologist;
	• Any trees with the potential to harbour habitat for fauna shall be cleared under the supervision of a qualified ecologist following the clearing of all associated vegetation for removal to encourage dispersal. Habitat trees shall be sectionally dismantled by an arborist. At least 24 hours between removal of non-habitat vegetation and removal of fauna habitat shall elapse, and a further 24 hours post-removal for cryptic fauna to disperse prior to relocating salvaged hollows. A pre-clearance survey shall be undertaken by an ecologist in the 7 days prior to clearing to markup habitat trees and any nests or other signs of fauna occupation. Hollows that can be recovered and salvaged shall be relocated to retained vegetation as habitat;
	• All contractors will be specifically advised of the designated work area. The following activities are not to occur outside of designated work areas to minimise environmental impacts:
	  • Storage and mixing of materials;
	  • Liquid disposal;
	  • Machinery repairs and/or refuelling;
	  • Combustion of any material;
	  • Any filling or excavation including trenching, topsoil skimming and/or surface excavation
	• Any filling or excavation including trenching, topsoil skimming and/or surface excavation;
	• All construction vehicles/machinery are to use the designated access from main roads. Speeds will be limited to reduce the potential of fauna strike and to reduce dust generation;

Section	Environmental Mitigation Measures

	• Plant and machinery would be cleaned of any foreign soil and seed prior to being transported to the site to prevent the potential spread of weeds and Phytophthora cinnamomic;
	• If machinery is transported from an area of confirmed infection of Phytophthora cinnamomi to the site, stringent wash down must be completed before leaving the area, removing all soil and vegetative material from cabins, trays, and under carriages;
	• All liquids (fuel, oil, cleaning agents, etc.) will be stored appropriately and disposed of at suitably licensed facilities. Spill management procedures will be implemented as required;
	• Rubbish will be collected and removed from the site;
	• During the creation of access tracks, erosion or sediment measures will be considered and installed as required;
	• Erosion and sediment control measures shall be implemented in accordance with the approved Sediment and Erosion control plan to be prepared prior to commencement of civil works on site. In general, erosion and sediment control measures include:
	  • Identification of potential erosion areas;
	  • Installation and maintenance of flow, erosion, sediment and nutrient control within the site during construction ahead of pavement and kerb establishment;
	  • Separation of 'dirty' construction water from the 'clean' natural overland flow water;
	  • Coordinated work practices aimed at minimising land disturbance
	  • Minimise vegetation disturbance to surrounding retained vegetation;
	  • Routine site inspections of drains, channels, sediment control structures and water quality; and
	  • Ensure the extent of clearing is clearly marked in the field prior to the commencement of vegetation clearing. Ensure that only the minimum vegetation clearing required is undertaken.

Noise and Vibration	• Noise and Vibration Management Plan be prepared as part of the CEMP; • Ensuring all equipment complies with the Interim Construction Noise Guideline (DECC, 2009); • Machinery and vehicles will be turned off when not in use or throttled down to a minimum; • Construction completed within the shortest possible time; • Construction works taking place between the hours: Monday to Friday, 7am to 6m and Saturday at 8am to 1pm, unless otherwise approved in CEMP; • Identified noisy construction works to take place outside the standard working hours set out in the Interim Construction Noise Guideline (DECC, 2009); • Use of noisy equipment and construction work will be scheduled to occur between the hours of 9am and 4pm, where possible; • Construction activities would be undertaken in accordance with AS2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites; • All equipment will be maintained regularly and effectively;

Section	Environmental Mitigation Measures
	• All equipment with potential to create high levels of noise will only be used in conjunction with noise controls; • Noise monitoring may be used if complaints regarding excessive noise use are received, and impacts will be assessed against the Interim Construction Noise Guidelines (DECC 2009); • If noise limits are found to exceed the established guideline values, then operations would be modified and measures such temporary noise barriers would be implemented; • Mitigation impacts of the proposed works would be undertaken in accordance with the qualitative assessment guidelines of the Interim Construction Noise Guidelines (DECC 2009) such as community notification of the works, operating plant in a quiet and efficient manner, involving workers in minimising noise and a procedure of handling complaints in accordance with these guidelines; • Controlling vibration at the source including choosing alternative, lower-impact equipment, or methods wherever possible; scheduling the use of vibration-causing equipment, such as jackhammers, at the least sensitive time of day; routing, operating or locating high vibration sources as far away from sensitive areas as possible; sequencing operations so that vibration causing activities do not occur simultaneously isolating the equipment causing the vibration on resilient mounts; • Informing identified stakeholders, including potentially impacted adjacent landholders, in the Project area, of the potential impacts, the time periods over which these will occur and the proposed mitigation measures that will be employed to minimise the impacts; and • Notice of works provided to identified stakeholders prior to the commencement construction.
Air Quality	• All vehicles to be fitted with approved exhaust systems to maintain exhaust emissions within acceptable standards; • Machinery and vehicles will not be left running or idling when not in use; • Odours or air pollutant complaints will be dealt with promptly and the source will be eliminated wherever practicable; • All loads of excavated material, soil, fill and other erodible matter that are transported to or from the work site will be kept covered at all times during transportation and will remain covered until they are unloaded either for use at the worksite, reuse or disposal at a licensed waste disposal facility; • Areas that have been disturbed by construction works will be rehabilitated progressively; and • Monitor all work sites, general work areas and stockpiles for dust generation and watering down or covering affected areas in the event of windy conditions.
Non-Indigenous Heritage	• All on-site personnel are to be made aware of their obligations under the *NSW Heritage Act 1977,* including the reporting of any historic, or suspected historic, material. This may be implemented through an on-site induction or other suitable format; • In the unlikely event that archaeological, or suspected archaeological material is uncovered during works, then works in that area are to cease and the area is to be cordoned off. The material is to be

Section	Environmental Mitigation Measures
	inspected by a heritage consultant and works in that area are only to recommence once heritage clearance has been gained and/or mitigation and management measures implemented; and • If there are any alterations to the proposed works, further heritage assessment will be required.
Aboriginal Heritage	• The proposed work may proceed at Haussman Drive without further archaeological investigation; • All land and ground disturbance activities must be confined to within the study area, as this will eliminate the risk of harm to Aboriginal objects that may be in adjacent landforms. Should the parameters of the project extend beyond the assessed areas, then further archaeological assessment may be required; • This assessment has concluded that there is a low likelihood that the proposed work will adversely harm Aboriginal cultural heritage items or sites. If during works, however, Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the *Unanticipated Finds Protocol*, attached as Appendix 2 in the OzArk report, should be followed; • Inductions for work crews should include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts, as shown in Appendix 3 in the OzArk report, and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the *Unanticipated Finds Protocol;* and • The information presented here meets the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. It should be retained as shelf documentation for five years as it may be used to support a defence against prosecution in the event of unanticipated harm to Aboriginal objects.
Visual Amenity	• Residential receivers potentially impacted by the removal of trees (e.g. Geddes Close) will be consulted by MCC; • Ensuring the construction work site is maintained in an orderly manner; • All vehicles, construction equipment, materials and refuse relating to the works to be removed from the site, following completion of the works; and • Following completion of the proposed works, work sites will be restored as close to their original condition as possible.
Traffic and Access	• A Traffic, Transport and Access Management Plan will be prepared as part of the CEMP, prior to commencement of construction; • Communication with relevant stakeholders to facilitate the efficient delivery of the works and to minimise congestion and inconvenience to road users. Stakeholders would include MCC, Transport for NSW, business operators, landholders/residents, and transport operators (e.g. heavy vehicle users in the industrial area and bus services); • A construction communication management plan would be prepared as part of the CEMP including a detailed list of the measures that would be implemented during construction to communicate with and respond to the community; • Construction completed within the shortest possible time; • Appropriate exclusion barriers, signage and site supervision will be employed at all times to ensure that the work site is controlled, and

Section	Environmental Mitigation Measures
	that unauthorised vehicles and pedestrians are excluded from the works area; • All measures will be undertaken to ensure that the project does not significantly reduce road capacity or disturb traffic flows; and • A complaints register will be maintained by the contractor, and complaints will be responded to in a timely fashion.
Services and Utilities	• A CEMP including a detailed list of the measures that would be implemented during construction to communicate with and respond to the community; • Construction completed within the shortest possible time; • A Services Management Plan to provide specific measures to minimise impacts to services during construction; • A Dial Before You Dig search must be completed prior to commencement of construction; • Engage in consultation with companies that have services crossing or in close proximity to the proposed works; • Detailed survey and consultation with service providers would be undertaken to accurately locate services; • The detailed design of the project would seek to minimise the need for service and utility impacts; • The need for location or cessation of any utilities would be determined in consultation with service providers and any additional approval processes for the relevant service provider completed; • Ensuring exposed underground services are protected prior to undertaking any bulk excavation or mechanical operations; and • Staff will be briefed on the existence, location and nature of other utility services.
Land Uses	• A Traffic, Transport and Access Management Plan will be prepared as part of the CEMP, prior to commencement of construction; • The Construction Environmental Management Plan (CEMP) will include communication protocols; and • Consultation with relevant stakeholders to facilitate the efficient delivery of the works and to minimise congestion and inconvenience to road users.
Waste and Resources	• Efficient reuse or removal of all waste from the work area; • Waste is to be disposed of according to waste disposal safeguards including the POEO Act, WARR Act and the NSW EPA Waste Classification Guidelines; • Appropriate capture vessels will be used to collect any fuel, lubricant or hydraulic fluid spillages and the contaminant materials will be disposed of at a licensed waste depot; • Green waste from vegetation clearing will be either chipped for reuse, retained for rehabilitation, mulched and spread immediately after where possible to prevent encroachment by weed species and minimise erosion, or removed from site and transported to a waste facility licensed to accept green waste; • Excess spoil will be tested and disposed of at an approved facility licenced to receive the material; • The Contractor will ensure that staff have up-to-date training in use of emergency spill kits as well as ensuring kits are kept on-site for the duration of the works;

Section	Environmental Mitigation Measures
	• The Contractor will ensure that staff are familiar with the correct procedure for storing contaminated or hazardous waste and ensuring that staff remove their own personal rubbish from site daily; and • On completion of the construction works, the site will be returned as close as possible to its pre-construction position, including ensuring all waste, equipment and machinery has been removed from onsite.
Other Environmental Considerations	• A Fire Prevention and Emergency Response Management Plan should be considered as part to the CEMP.
Cumulative and Consequential Impacts	• Prior to the commencement of construction works the appointed contractor will determine if there are development projects of a similar nature and size as the project either located within the Project area or the surrounding locality with the potential for cumulative impacts on the Project area or the surrounding locality and, if so, implement suitable mitigation measures required to offset potential adverse cumulative impacts on the Project area and/or the surrounding locality, such a scheduling of activities to allow movement of traffic in response to peak movement periods. • MCC is committed to give consideration to stage or otherwise program works in order to minimise potential impacts whilst ensuring delivery of necessary infrastructure items in the shortest reasonable period of time.

8. CONCLUSION

In accordance with the requirements of Division 5.1 of the EP&A Act and the EP&A Regulation the project has been fully assessed. Based on the assessment the project is not likely to significantly affect the environment and therefore does not require the preparation of an Environmental Impact Statement (EIS).

The REF includes an assessment of whether the project is likely to have a significant impact to matters of national environmental significance under the EPBC Act. The project is not likely to have a significant impact on matters of national environmental significance and therefore referral to the Commonwealth Government under the EPBC Act is not required.

As defined by the *Biodiversity Conservation Act 2016* the project is not expected to have significant impacts on threatened species, populations, ecological communities or their habitats consequently a species impact statement is not required.

This conclusion has taken into consideration the principals of Ecologically Sustainable Development.

The Project's scope is preliminary and based on the information provided by MCC. The project will be refined as the project's design progresses in consultation with relevant stakeholders. Any substantive changes to the project may require subsequent assessment and consideration of any requirement for further environmental impact assessment.

REFERENCES

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- MCC (2023) *Haussman Drive Upgrade*, accessed at: https://www.maitland.nsw.gov.au/projects/haussman-drive-upgrade-0
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- Penfold, Philip (2022) *Five Thornton Road Network Projects Out to Tender*, announcement: https://www.instagram.com/p/CduXEwppn3V/
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- Umwelt (2020) *Government Road and Raymond Terrace Road Intersection, Thornton – Review of Environmental Factors,* March 2020.
- VGT (2013) *CSR Building Products Limited – Annual Revie of the Environmental Management Plan for the Thornton Stone Quarry.*
- VGT (2018) *North Thornton Group Pty Ltd Environmental Management Plan*

APPENDIX 1

Indicative Proposed Plans

APPENDIX 2

Photographs

Haussman Drive looking north to Raymond Terrace Road from the substation

Haussman Drive looking south from the substation

Vegetation that will require clearing on eastern side of road, south of the substation (see maker in bottom right)

Sewer rising main and vegetation that will require removal west of Geddes Close

Entry to McCloy Thornton Seniors Housing Quarry Redevelopment

Haussman Drive looking south towards Taylor Avenue Intersection – on right hand side some of the vegetation will require removal and electrical infrastructure will require relocation

Haussman Drive and Talyor Avenue Intersection looking north along Haussman Drive - on left hand side some of the vegetation will require removal and electrical infrastructure will require relocation

Extent of vegetation disturbance marked with white survey peg

Quarry land west of Haussman Drive - disturbance evident

APPENDIX 3

Flora and Fauna Assessment

APPENDIX 4

Transport and Infrastructure SEPP Consultation

Requirement	Consultation Required	Comment
Section 2.10 – Consultation with councils – development with impacts on council-related infrastructure or services (1) This section applies to development carried out by or on behalf of a public authority that this Policy provides may be carried out without consent if, in the opinion of the public authority, the development:		
(a) will have a substantial impact on storm water management services provided by a council, or	Consultation with MCC **is required**.	The project will create new stormwater infrastructure services provided by MCC.
(b) is likely to generate traffic to an extent that will strain the capacity of the road system in a local government area, or	Consultation with MCC is not required.	The project is unlikely to generate traffic to an extent that will strain the capacity of the road system in a local government area.
(c) involves connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council, or	Consultation with MCC **is required**.	The project does not involve connection to part of a sewerage system owned by a MCC. It does involve relocation of existing sewer.
(d) involves connection to, and use of a substantial volume of water from, any part of a water supply system owned by a council, or	Consultation with MCC is not required.	The project does not involve connection to part of a water system owned by a MCC.
(e) involves the installation of a temporary structure on, or the enclosing of, a public place that is under a council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential, or	Consultation with MCC **is required**.	The project will involve the installation of a temporary structure on, or the enclosing of, a public place that is under a MCC's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential.
(f) involves excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the Roads Act 1993 (if the public authority that is carrying out the development, or on whose	Consultation with MCC **is required**.	The project may involve excavation of the surface of, or a footpath adjacent to, a road for which a MCC is the roads authority under the Roads Act 1993. MCC is the public authority that is carrying out the development, or on whose behalf it is being carried out, is

Requirement	Consultation Required	Comment
behalf it is being carried out, is not responsible for the maintenance of the road or footpath).		not responsible for the maintenance of the road or footpath.
(2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies unless the authority or the person has: (a) given written notice of the intention to carry out the development (together with a scope of works) to the council for the area in which the land is located, and (b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.		
Section 2.11 Consultation with councils—development with impacts on local heritage (1) This clause applies to development carried out by or on behalf of a public authority if the development:		
(a) is likely to affect the heritage significance of a local heritage item, or of a heritage conservation area, that is not also a State heritage item, in a way that is more than minor or inconsequential, and	Consultation with MCC is not required.	The project is unlikely to affect the heritage significance of a local heritage item in a way that is more than minor or inconsequential.
(b) is development that this Policy provides may be carried out without consent.	Consultation with MCC is not required.	The project is unlikely to affect the heritage significance of a local heritage item in a way that is more than minor or inconsequential.
(2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies unless the authority or the person has: (a) had an assessment of the impact prepared, and (b) given written notice of the intention to carry out the development, with a copy of the assessment and a scope of works, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and (c) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.		
2.12 Consultation with councils – development with impacts on flood liable land (1) In this clause, flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled Floodplain Development Manual: the management of flood liable land published by the New South Wales Government and as in force from time to time.		
(2) A public authority, or a person acting on behalf of a public authority, must not carry out, on flood liable land, development that this Policy provides may be carried out without consent and that will change flood patterns other than to a minor extent unless the authority or person has: (a) given written notice of the intention to carry out the development (together with a scope of works) to the council	Consultation with MCC is not required.	The Study area is not located on land mapped within the Probably Maximum Flood extent.

Requirement	Consultation Required	Comment
for the area in which the land is located, and (b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.		
2.13 Consultation with State Emergency Service—development with impacts on flood liable land		
(1) A public authority, or a person acting on behalf of a public authority, must not carry out development on flood liable land that may be carried out without development consent under a relevant provision unless the authority or person has – (a) given written notice of the intention to carry out the development (together with a scope of works) to the State Emergency Service, and (b) taken into consideration any response to the notice that is received from the State Emergency Service within 21 days after the notice is given. (2) Any of the following provisions in Part 3 is a relevant provision— (h) Division 17 (Roads and traffic), (i) Division 20 (Stormwater management systems)	Consultation with SES is not required.	The Study area is not located on land mapped within the Probably Maximum Flood extent.
2.14 Consultation with councils—development with impacts on certain land within the coastal zone (1) This clause applies to development on land that is within a coastal vulnerability area and is inconsistent with a certified coastal management program that applies to that land.		
(2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies, which this Policy provides may be carried out without development consent, unless the authority or person has: (a) given written notice of the intention to carry out the development to the council for the local government area in which the land is located, and	Consultation with MCC is not required.	The project will not be carried out in a coastal vulnerability area.

Requirement	Consultation Required	Comment
(b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.		
2.15 Consultation with public authorities other than councils (1) A public authority, or a person acting on behalf of a public authority, must not carry out specified development that this Policy provides may be carried out without consent unless the authority or person has: (a) given written notice of the intention to carry out the development (together with a scope of works) to the specified authority in relation to the development, and (b) taken into consideration any response to the notice that is received from that authority within 21 days after the notice is given. (2) For the purposes of subclause (1), the following development is specified development and the following authorities are specified authorities in relation to that development:		
(a) development adjacent to land reserved under the *National Parks and Wildlife Act 1974* or to land acquired under Part 11 of that Act—the Office of Environment and Heritage,	Consultation with the Office of Environment and Heritage (or equivalent) is not required.	The project is not adjacent to land reserved under the National Parks and Wildlife Act 1974 or to land acquired under Part 11 of that Act.
(b) development on land in Zone C1 National Parks and Nature Reserves or in a land use zone that is equivalent to that zone—the Office of Environment and Heritage,	Consultation with the Office of Environment and Heritage (or equivalent) is not required.	The project is not on land in Zone E1 National Parks and Nature Reserves or in a land use zone that is equivalent to that zone.
(c) development comprising a fixed or floating structure in or over navigable waters—Transport for NSW	Consultation with the Transport for NSW is not required.	The project does not involve a fixed or floating structure in or over navigable waters.
(d) development that may increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map—the Director of the Observatory,	Consultation with the Director of the Observatory (or equivalent) is not required.	The project is not on land within the dark sky region as identified on the dark sky region map.
(e) development on defence communications facility buffer land within the meaning of clause 5.15 of the Standard Instrument—the Secretary of the Commonwealth Department of Defence,	Consultation with Commonwealth Department of Defence is not required.	The project is not on defence communications facility buffer land within the meaning of clause 5.15 of the Standard Instrument.
(f) development on land in a mine subsidence district within the meaning of the Mine Subsidence Compensation Act 1961—the Mine Subsidence Board,	Consultation with the Mine Subsidence Board is not required.	The project is not on land in a mine subsidence district within the meaning of the *Mine Subsidence Compensation Act 1961*.

Requirement	Consultation Required	Comment
(g) development on, or reasonably likely to have an impact on, a part of the Willandra Lakes Region World Heritage Property—the World Heritage Advisory Committee and Heritage NSW,	Consultation with World Heritage Advisory Committee and Heritage NSW is not required.	The project is not located in the Willandra Lakes Region World Heritage Property.
(h) development within a Western City operational area specified in the *Western Parkland City Authority Act 2018*, Schedule 2 with a capital investment value of $30 million or more—the Western Parkland City Authority constituted under that Act.	No consultation Western Parkland City Authority is required.	The project is not with Western City operational area.

APPENDIX 5

Clauses 170 and 171 Assessment

Checklist of Clauses 170 and 171 Factors

Factor	Impact
(a) the environmental impact on the community	Minor short-term negative impacts on a small part of the community may be experienced during the project's construction period from noise, vibration, traffic and dust. Safeguards and mitigation measures have been proposed.
(b) the transformation of the locality	Minor impacts on a small part of the locality may be experienced from the project's construction works e.g. removal of vegetation and earthworks. Safeguards and mitigation measures have been proposed.
(c) the environmental impact on the ecosystems of the locality	Minor impacts on a small part of the ecosystems of the locality may be experienced from the project's construction works e.g. removal of vegetation and earthworks. Safeguards and mitigation measures have been proposed.
(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality	Minor impacts may reduce, aesthetic, recreational and/or scientific quality or value for a small part of the locality from the project's construction works e.g. removal of vegetation and earthworks. Safeguards and mitigation measures have been proposed
(e) the effects on a locality, place or building that has: **(i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or** **(ii) other special value for present or future generations**	The Study area is not considered to have aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations. Short term impacts may be experienced from the project's construction works e.g. removal of vegetation and earthworks. Safeguards and mitigation measures have been proposed.
(f) the impact on the habitat of protected animals (within the meaning of the Biodiversity Conservation Act 2016)?	Impacts are not expected, and mitigation measures are proposed. Refer to Biodiversity Assessment Report attached as Appendix 3.
(g) the endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air	Impacts are not expected, and mitigation measures are proposed. Refer to Biodiversity Assessment Report attached as Appendix 3.
(h) long-term effects on the environment	The project provides for the improved safety and efficiency of the transportation network. The project will have a positive long-term effect.
(i) degradation of the quality of the environment	The project provides for the improved safety and efficiency of the transportation network. The project will have a positive long-term effect.

Factor	Impact
(j) risk to the safety of the environment	The project provides for the improved safety and efficiency of the transportation network. The project will have a positive long-term effect.
(k) reduction in the range of beneficial uses of the environment	The project will not impact on the beneficial uses of the environment. It will allow improved safety and efficiency of the transportation network.
(l) pollution of the environment	The project provides for the improved safety and efficiency of the transportation network. The improved road network will improve pollution of the environment.
(m) any environmental problems associated with the disposal of waste	Nil.
(n) increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	Nil.
(o) cumulative environmental effect with other existing or likely future activities?	Cumulative development is occurring in the area and Council is managing infrastructure upgrades alongside the residential release areas. Safeguards and mitigation measures have been proposed.
(p) impact on coastal processes and coastal hazards, including those under projected climate change conditions	Nil.
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1	The project aligns with the relevant strategic planning framework, including the Hunter Regional Plan 2041, Maitland +10 Community Plan and Maitland Local Strategic Planning Statement 2040+.
(r) other relevant environmental factors	Other relevant environmental factors have been considered in Section 6 of the REF.

APPENDIX 6

Aboriginal Heritage Due Diligence Assessment