

GYDE

Review of Environmental Factors


Mt Penang Parklands – Parklands Road,
Utilities and Related Works

Prepared for:



Hunter & Central Coast
Development
Corporation

Approval and authorisation

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Author	Rachael Petherbridge
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I, Valentina Misevska, Chief Executive of the Hunter and Central Coast Development Corporation, have examined and considered the Mt Penang Parklands – Parklands Road, Utilities and Related Works Review of Environmental Factors in accordance with the provisions of s5.5 of the *Environmental Planning and Assessment Act 1979* and State Environmental Planning Policy (Transport and Infrastructure) 2021, and determine that the proposed development may be carried out as development without consent, subject to compliance with the conditions to manage environmental impacts outlined within the REF.

Signature



Date

19 August 2022

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APPENDICES

APPENDIX	DOCUMENT	PREPARED BY
A	Civil Engineering Drawings	Northrop Consulting Engineers
B	Flora and Fauna Assessment	Biosis
C	Aboriginal Due Diligence Assessment	Biosis
D	The Heritage Studies	Biosis
E	Conservation Management Plan	TKD Architects
F	Dam Safety Evaluation Plan	NSW Department of Public Works and Services
G	Traffic Analysis	GHD
H	Arboricultural Impact Assessment	Active Green Services
I	Environmental Assessment	RCA
J	Acoustic Assessment	RAPT consulting
K	Landscape Plans	Imogen Miller Urban Design & Sydney Design Collective
L	Geotechnical Investigation	Douglas Partners

1. EXECUTIVE SUMMARY

1.1. The Proposal

This Review of Environmental Factors (REF) has been prepared for Hunter and Central Coast Development Corporation (HCCDC). It assesses proposed infrastructure upgrades at Mount Penang Parklands. Key elements of the proposed activity include:

- Upgrading of the roundabout at the intersection of Festival Drive and Parklands Road to Central Coast Council's Road standards.
- Widening the southern end of Parklands Road to allow for two-way traffic and the provision of perpendicular parking on its western side.
- Removal of the parking area outside the Waterfall Café and its replacement with a bus stop and loading zone, including a retained softscape area at the Café.
- Resurfacing, partially widening, and adding perpendicular parking to Parklands Avenue between Carinya Ave and McCabe Road.
- Construction of a new northern section to Parklands Road that will connect with Baxter Track.
- A new 2.5m wide shared pathway along the western side of Parklands Road extending from Baxter Track to Festival Drive.
- Widening part of McCabe Road to allow for two-way bus movements and adding a new roadway extension to create a bus loop.
- Creation of a shared-on road pedestrian/bike path on The Avenue, between Festival Drive and Carinya Street.
- Re-surfacing of sections of the Avenue.
- Creation of a shared zone on The Avenue between Carinya Street and McCabe Road.
- New underground sewer and water services.
- Vegetation removal to facilitate the abovementioned works and new landscaping across the site.
- New LV electrical and street lighting for Parklands Road and McCabe Road. HV conduit provisions in Parklands Road corridor.

1.2. Project Need

Hunter and Central Coast Development Corporation's vision for the Parklands is:

"Mount Penang Parklands is an active and sustainable place for recreation, education and work within a natural and heritage setting"

The proposed works will support the existing site users and tenants, and enable development of the Baxter Track Precinct for complementary uses.

1.3. Proposal Objectives

The objectives of the proposed works are to:

- Provide infrastructure that services the site and supports existing tenancies and site users at the Mount Penang Parklands.
- Facilitate development that creates jobs and improved tourism and cultural facilities, whilst respecting the Parkland's cultural and environmental values.
- Provide infrastructure that promotes and enables community use.
- Improve end user experience through better vehicle and pedestrian access connection/ circulation between the Northern and Southern precincts of the Parklands.
- Improve safety and amenity by providing connection to a secondary access point and alternative emergency exit route from the Parklands.
- Upgrade sewer and water infrastructure to supply Baxter track precinct, infill development and support connections to existing sewer and water services on the site.
- Enable subdivision and divestment of future sections of the Parklands for development.

1.4. Project alternatives

A range of project alternatives were evaluated in the design development process. Much of the proposed works involve upgrades to existing infrastructure and the alternatives evaluated are variations on the design of those upgrades to optimise their location, form and performance.

The location of the proposed extension of Parklands Road is determined by the alignment of the road network to which it will connect. The relocation of the existing roadways to facilitate an alternate alignment for the new road would result in greater environmental impact and change the planned urban outcomes for the precinct. There is no feasible alternate location for the proposed extension to Parklands Road.

The proposed works will change traffic movements with the Parklands creating a clockwise one-way system on Parklands Road and The Avenue. The changes do not impact the southern section of The Avenue between Festival Drive and Central Coast Highway, which will continue to operate in its current format. Further, the changes do not impact Festival Drive which will continue to accommodate two-way vehicle movements. Carinya and Vernon Streets will remain in their current arrangement.

The following scenarios were evaluated in the traffic modelling to determine the optimal road system:

- One-way anticlockwise system: The Avenue (northbound) / Parklands (southbound).
- One-way clockwise system: The Avenue (southbound) / Parklands (northbound).
- Two-way system on The Avenue and Parklands Road.

The selected road network , a one-way clockwise system provides superior traffic and pedestrian safety outcomes and network performance.

The option of retaining the site in its current condition (Do-Nothing) was evaluated. This was not considered appropriate as it fails to address the need for upgrades to water and sewer servicing, as well as traffic and access to improve the user experience and the services for the existing tenants.

1.5. Statutory and Planning Framework

The proposed activity incorporates three types of works which are defined as development permitted without consent under State Environmental Planning Policy (Transport and Infrastructure) 2021, those being:

- Clause 2.108 - Road infrastructure.
- Clause 2.125 - Sewerage systems.
- Clause 2.158 - Water supply systems.

The clauses permit the proposed works subject to the environmental assessment requirements of Part 5 of the *Environmental Planning and Assessment Act 1979* (the Act).

Part 5 of the Act requires HCCDC as the determining authority to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity. The matters that must be considered are prescribed in s.5.5 of the Act and s.171 of the Environmental Planning and Assessment Regulation 2021 (the Regulations). An assessment of this activity against those provisions and other relevant matters is provided in this REF.

1.6. Community and Stakeholder Consultation

The REF was formally exhibited on the HCCDC Mount Penang website from the 24 May 2022 to the 12 June 2022, a period of 19 days. There were eight submissions received, with the key matters raised summarised below and discussed in detail in Section 6.

Table 1: Summary of Key Issues

Topic	Issue	Response to submissions
Traffic and Parking	<ul style="list-style-type: none"> • Reduction in pedestrian safety from changes to road network • Carinya Ave should remain two-way • Impact on traffic movement for future development in Highway Commercial precinct through changes to the southern extent of The Avenue 	<ul style="list-style-type: none"> • A key objective is to improve safety and operation. Additional traffic calming measures can be adopted to address specific concerns • Carinya Ave will be retained as a two-way street. • The southern extent of The Avenue is not proposed to be changed. Development in the Highway Commercial precinct is not prevented by the works.

Topic	Issue	Response to submissions
	<ul style="list-style-type: none"> Insufficient parking for students, staff, and visitors Impact on wider road network 	<ul style="list-style-type: none"> Parking provision across the site will be substantially increased as a result of the works but no changes to parking associated with leases The proposed works are capable and sufficient to cover the needs of any future growth of the Parklands Precinct (outside of the proposed developments) and there will no unreasonable impact on traffic management. The works are identified as part of the 'do minimum' works identified by Transport for NSW for the precinct
Statutory considerations	<ul style="list-style-type: none"> Proposed works should be considered under Part 4 (Development Assessment & Consent) rather than Part 5 (Infrastructure and Environmental Assessment) 	The proposed works meet the statutory requirements of Part 5 of the <i>Environmental Planning and Assessment Act, 1979</i>

1.7. Environmental Impact

A comprehensive environmental impact assessment has been undertaken in accordance with Section 171 of the *Environmental Planning and Assessment Regulations 2021*.

The assessment identified that the proposed development would have the following positive environmental impacts:

- Provide improved access and servicing for existing and future site users and tenants
- Facilitate development of the precinct creating economic growth and jobs.
- Improved vehicle, pedestrian and cycle access within the Parklands.
- Improved egress from the Precinct in the event of an emergency.
- New site landscaping.

The assessment identified the following potential adverse environmental impacts:

- Noise, vibration and dust emissions on tenant land uses during construction.
- Disruption to access to tenants during construction.
- Removal of vegetation and change in landscape character.

The first two are only expected to arise during the construction phase and will not remain an impact during operation of the new infrastructure. Construction impacts occur for a limited period (22 – 26 weeks) and can be controlled through construction management practices. The recommended mitigation measures include preparation of a Construction Environmental Management Plan, which will incorporate a:

- Construction traffic and pedestrian management plan. This should include identification of traffic management measures to mitigate potential conflicts with vehicles and pedestrians associated with the existing uses onsite, as well as surrounding land uses.
- Construction noise and vibration management.
- Construction soil and water management.
- Erosion and sediment control.

Parklands and McCabe Roads abut groups of trees identified within the Mt Penang Conservation Management Plan as being of heritage significance. The proposed works have been designed to avoid impact on those with the key mitigation measure being maintenance of the existing road alignment along the interfaces with the trees. The proposed works will require the removal of other trees of varying significance along the curtilage of the roadways. All feasible action will be taken to retain trees, and any trees removed will be replaced at a ratio of 2:1, to enhance the future landscape character. Further works will be undertaken to enhance the landscape of the Parklands through the works

1.8. Conclusion

This REF concludes that the activity is not likely to have an adverse impact on the environment and does not cause any unacceptable environmental risks to the site and surrounding locality. An Environmental Impact Statement is not required. On this basis, the proposed works can be approved to proceed subject to the recommended mitigation measures in Section 8.

2. INTRODUCTION

HCCDC was established under the *Growth Centres (Development Corporations) Act 1974* and encompasses the Central Coast Local Government Area (LGA), and the 10 LGAs which comprise the Hunter Region. The HCCDC is tasked with helping deliver the State's vision for creating strong and sustainable regions.

HCCDC owns and manages the Mount Penang Parklands including the Mount Penang Gardens, outdoor event spaces, and the heritage business park. HCCDC is the determining authority for the purposes of this REF.

The purpose of this REF is to assess the potential environmental impacts of the proposed activities to allow for infrastructure upgrades, in accordance with the relevant statutory considerations.

3. SITE AND CONTEXT

The site is a portion of the Mount Penang Parklands (the Parklands), which are located at 1A Central Coast Highway, Karingong, and are legally described as Lot 1022 DP 1268228. The Parklands are located within the Central Coast LGA, adjacent to the Central Coast Highway. HCCDC's landholdings are legally described as Lot 1022 DP 1268228 and is identified by the red line in the aerial image of the site provided in Figure 1 below.

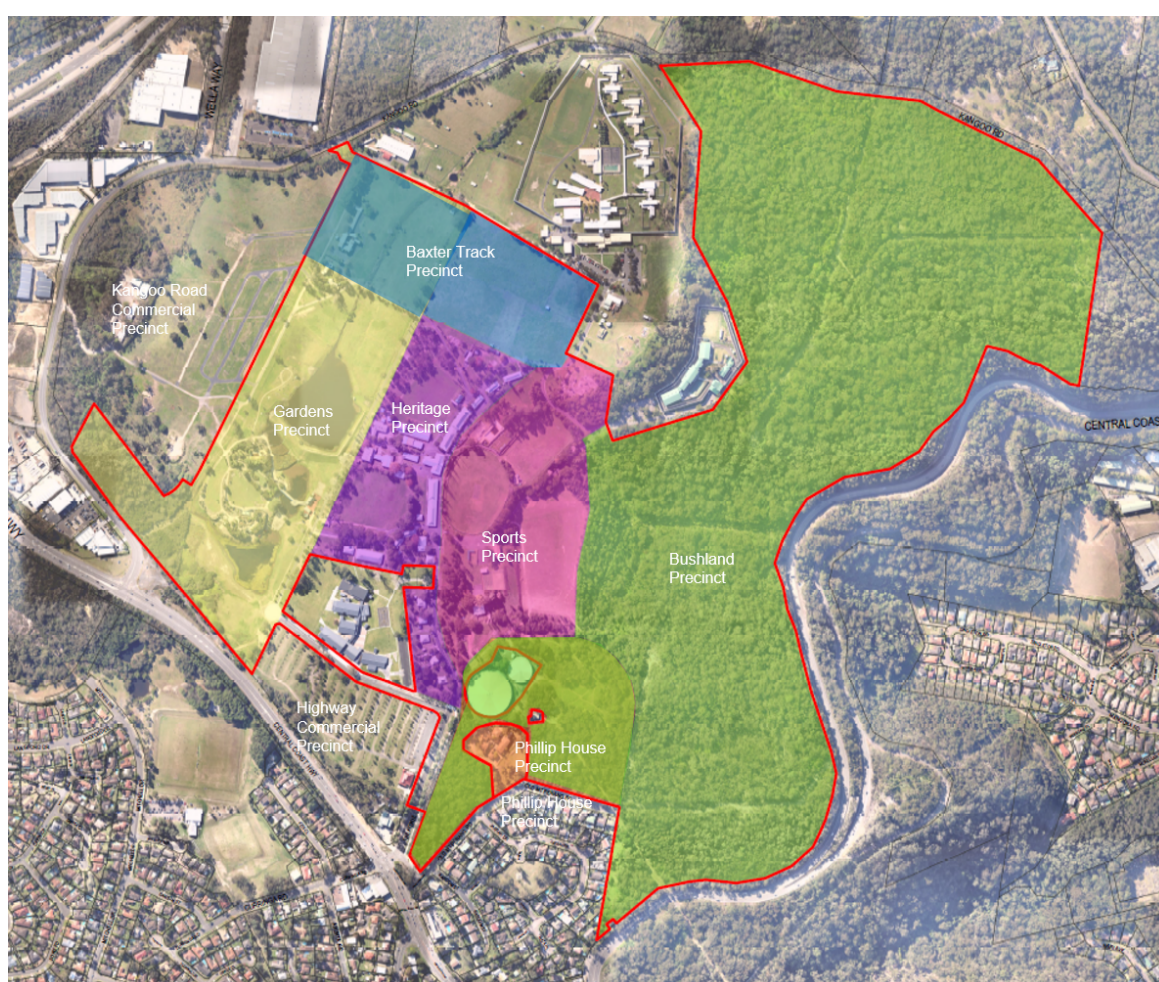


Figure 1: Aerial Image of Site (Source: Nearmap)

The Parklands are 158 hectares in area with approximately 67 hectares being bushland. It is made up of the following precincts:

1. Kangoo Road Commercial Precinct (not owned by HCCDC).
2. Highway Commercial Precinct (not owned by HCCDC).
3. Festival/Gardens Precinct.
4. Baxter's Track Mixed-use Precinct.
5. Heritage Precinct.

6. Sports Precinct.
7. Philip House Mixed-Use Precinct.
8. Bushland Precinct.

Refer to the precinct plan in Figure 2.

Mount Penang Parklands • Conservation Management Plan



Figure 2: Precinct Plan (Source: Mount Penang Conservation Management Plan)

The proposed works are located within precincts 3, 4, 5, 6 and 7 which are all owned and managed by the HCCDC. A site inspection was undertaken on the 25 February 2022. Site images are provided below in Figures 3 – 6.

The Parklands are zoned SP1 (Mount Penang Parklands) – Special Activities under the Gosford Local Environmental Plan 2014 (Gosford LEP 2014). The site is moderately constrained, containing bushfire prone land and biodiversity values, Aboriginal cultural heritage values, and European local and state heritage significance.

The Parklands are a destination for tourism, events, and education. It contains two justice facilities, two high schools and an arts training organisation for Aboriginal and Torres Strait Islanders young people.



Figure 3: Site Image No.1 – Mature Cultural Plantings (CMP Ref: L5) – Eastern side of Parklands Rd, adjoining Kariong Mountains High School



Figure 4: Site Image No. 2 – Western side of Parklands Road, opposite Kariong Mountains High School



Figure 5: Site Image No. 3 Poplar and Brush Box Avenue (CMP Ref: L3)



Figure 6: Site Image No. 6 – Northern end of existing Parklands Road

4. PROPOSED DEVELOPMENT

4.1. Overview

The proposed works involve renewal and enhancement of road, service and pedestrian infrastructure within the Mount Penang Parklands. The extent of works proposed within the Mount Penang Parkland is identified in Figure 7 below.

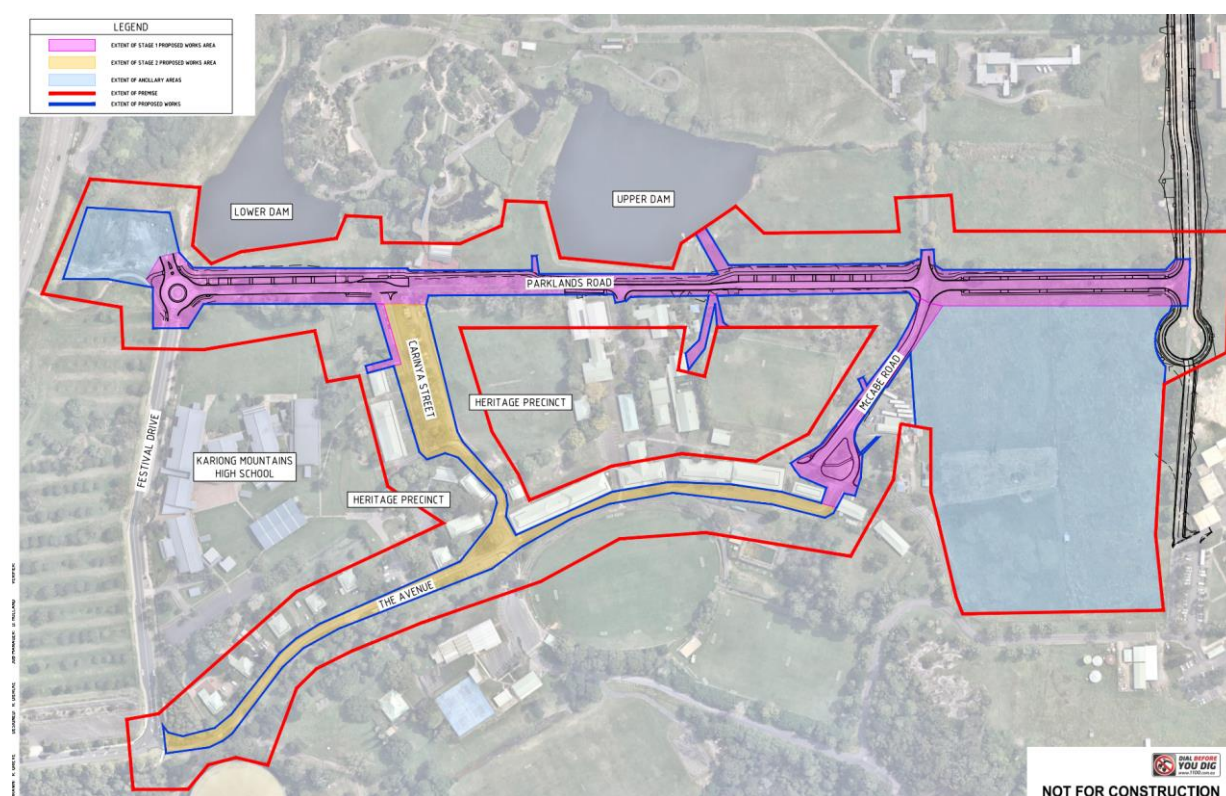


Figure 7: Locality Plan (Source: Northrop)

During design development options were evaluated to facilitate the implementation of effective and efficient upgrades and are discussed in s.4.5. The design is the result of thorough consideration of the site's opportunities and constraints.

4.2. Description of Development

The proposed works involve the following:

- a) Upgrades to the Intersection of Festival Drive and Parklands Road
 - Upgrade of the roundabout to meet Central Coast Council's (Council) standards and allow for bus manoeuvring.
 - New sewerage and water infrastructure, pavement surfaces and street lighting.

- Widening of the roadway in a westerly direction. The carriageway will partially sit upon the existing roadway and partially be of new construction. The roadway will accommodate two-way traffic.
- Perpendicular car parking will be provided on the western side of the roadway. The spaces will be constructed of permeable pavement and clustered in groups with planter beds in-between.
- The mature cultural plantings along the western edge of the roadway will be protected (CMP Ref: L5) with the existing alignment of the roadway to be maintained.
- The works will require the removal of six trees (Tree Ref: 1 – 3, 15 – 17, Active Green Services - Arboricultural impact assessment) from the western side of Parklands Road. Two of those trees are classified as having high having retention value and three of medium value. The trees proposed for removal are not identified with the Mt Penang Conservation Management Plan (CMP)(TKD Architects – Nov 2020) as being landscape items of significance.

[illegible]

- Removal of the parking area outside the Waterfall café and its replacement with a bus stop and loading zone.
- Renewal and widening of the carriageway.
- New traffic operating conditions with the road to be changed from two way to one-way (northbound).
- All trees located within the landscape character area L3 (as defined in the CMP) are to be retained and protected.

- The proposed works are within proximity to Tree No. 28, a poplar that marks the northern extent of L3. The work are proposed to be constructed to minimise impacts on the tree, including:
 - the shared pathway being located on grade to avoid the need for excavation
 - creation of a service corridor below the tree by under boring to avoid impact on roots.
- Existing trees are proposed to be removed from the western side of Parklands in the area beside the dog park and upper dam. Seven or the trees are of moderate retention value and the remainder of low.
- Installation of kerb and gutter throughout. Stormwater will be collected and discharged into the upper dam via a pipe and pit system, including water sensitive urban design measures.

The proposed works are shown in Figure 9 – 11.

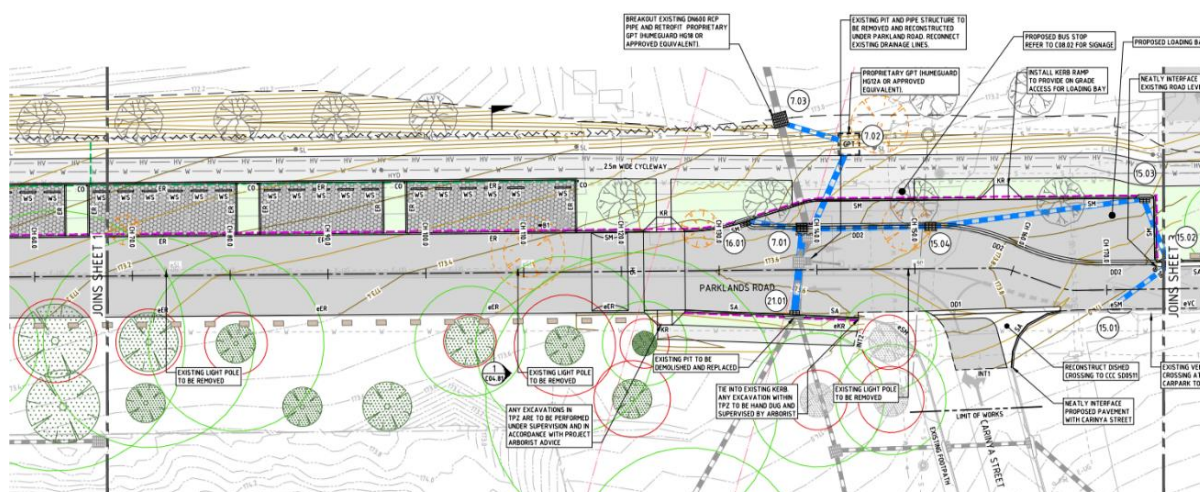


Figure 9: Mid-section Parklands Road between Waterfall café and upper dam (Source: Northrop)

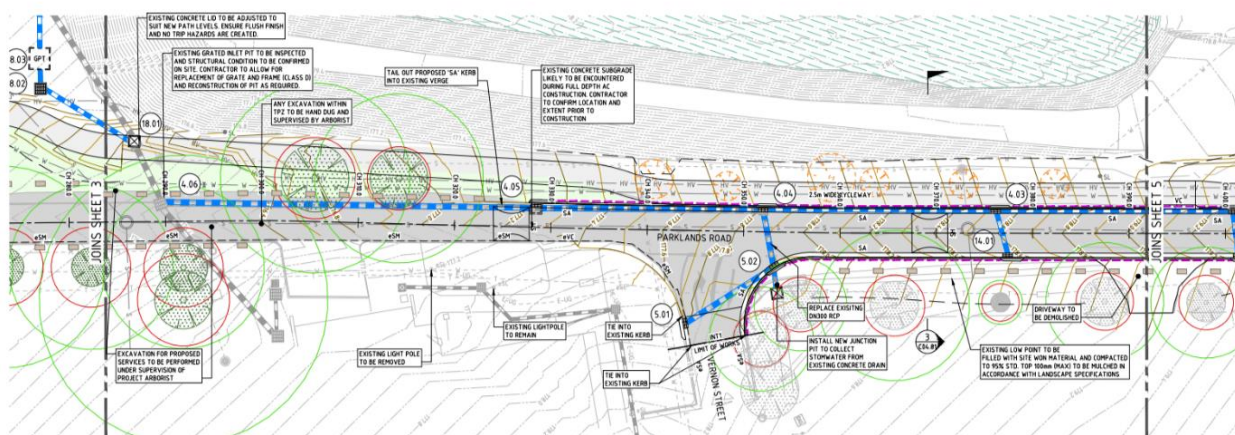


Figure 10: Parklands Road: Adjoining upper dam (Source: Northrop)

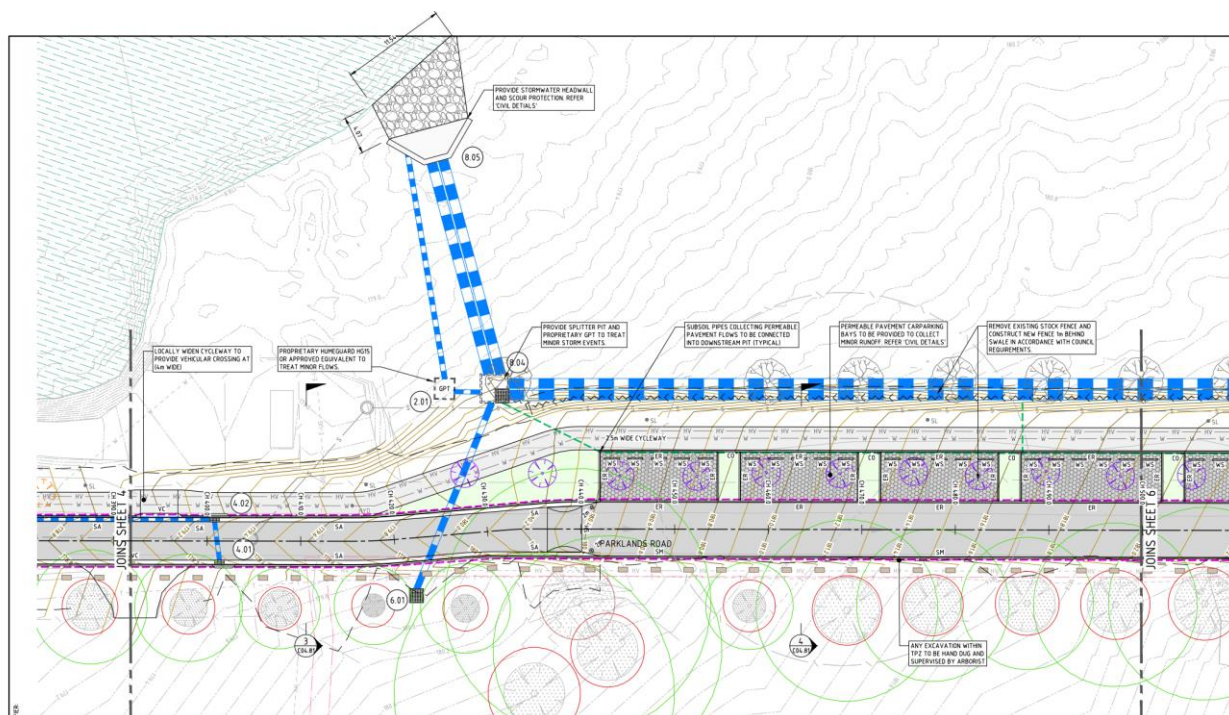


Figure 11: Parklands Road: Upper dam to McCabe Road (Source: Northrop)

d) Upgrades to the Intersection of Parklands and McCabe Roads

- The intersection will be upgraded to a four-way intersection with line marking and signage.
- Variable flush surfaces will be used to indicate to road users that they are entering the Parklands precinct.

- The intersection will require the removal of three trees of low value, two of medium and one of high value (Tree Ref: 95, 96, 104, 108, 109 & 110 - Active Green Services - Arboricultural impact assessment).
- Provision of carparking spaces with planter beds provided in-between and landscaping throughout the site.
- Carparking will be provided on the western side of the roadway adjacent to the dog park. They are clustered in groups with planter beds separating them. A kerb and gutter will define their western edge.

The proposed works are shown in Figure 12.

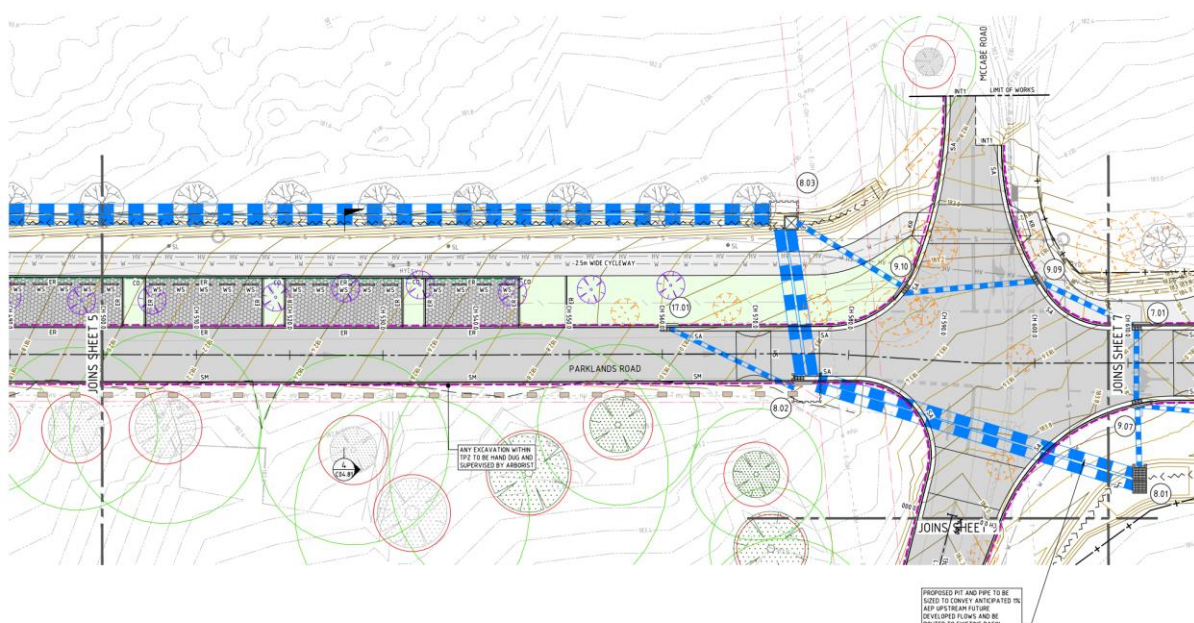


Figure 12: Intersection of Parklands and McCabe Roads (Source: Northrop)

e) Northern extension to Parklands Road

- The new roadway will extend Parklands Road from its intersection with McCade Street through to Baxter Track.
- The road provides access for two-way traffic. There will be parallel park spaces on the western side that are clustered in groups that are separated by planters.
- Stormwater will be collected through a series of pipes and pits and discharged into the McCabe Road drainage system.
- Variable flush surfaces will be used to indicate to road users that they are entering the Parklands precinct.
- A T-intersection will be created at the connection point with Baxter track. Signage will be installed to inform road users that Baxter track is a through road.

The proposed works are shown (in part) in Figure 13 below.

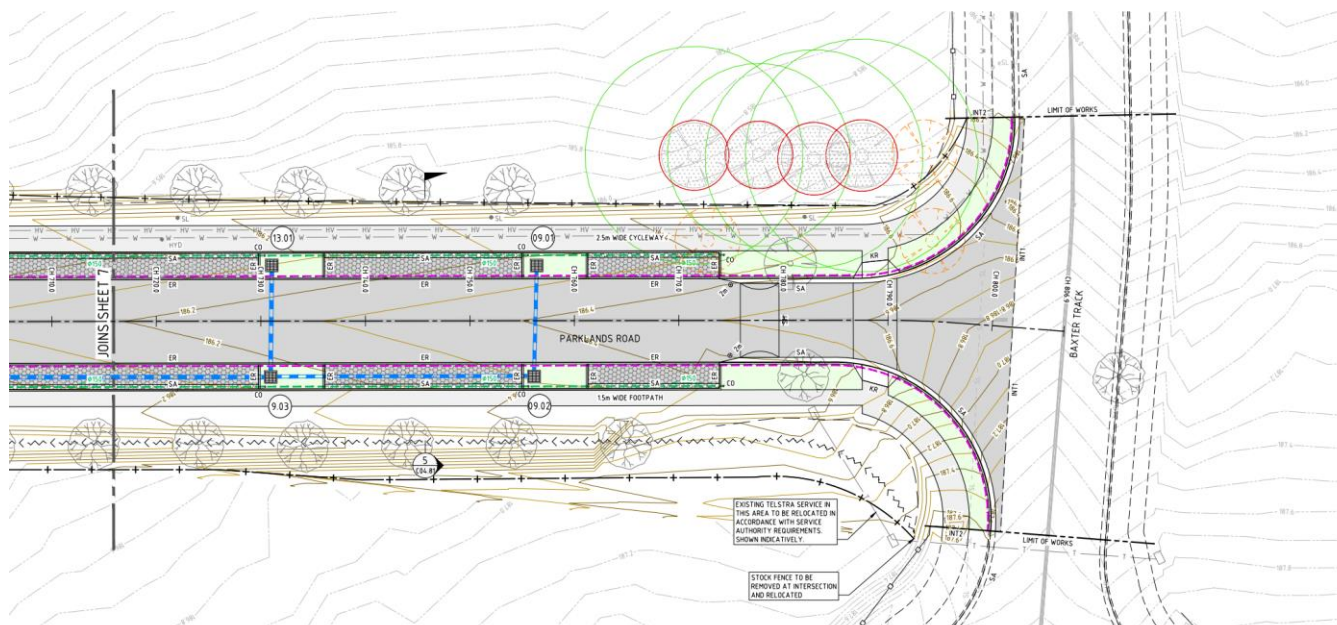


Figure 13: New northern section of Parklands Road (Source: Northrop)

f) Shared Pathway

- A shared pathway is proposed on the western side of Parklands Road, extending from Baxter Track to Festival Drive.
- The pathway's alignment follows the site's variable landform and environmental features.
- The pathway (except for road crossings) will separate pedestrians and cyclists from motor traffic.

g) Services Infrastructure

- High voltage electrical conduits will extend along the western side of Parklands Road
- New sewer and water mains will partially extend along the western side of Parklands Road and partially sit within the road carriageway.
- Lighting upgrades.

h) McCabe Road Upgrade

- Widening the road pavement to allow for two-way bus movements. The proposed new pavement will match the extent of the existing pavement along the southern edge of the road and will be extended on the northern side of the road.
- The widening of the road will require the removal of two scribbly gum trees with a high retention value, two trees of medium retention value and six trees of low retention value (Tree Ref: 108 - 117 Active Green Services - Arboricultural impact assessment).
- A new arm of road to the southeast of the bus depot. The new road links with the existing roadway to create a loop allowing buses to travel northward long McCabe Road.

- New bus stop on the western side of the roadway. The edge of the road adjacent to the bus stop will be demarcated by a kerb.

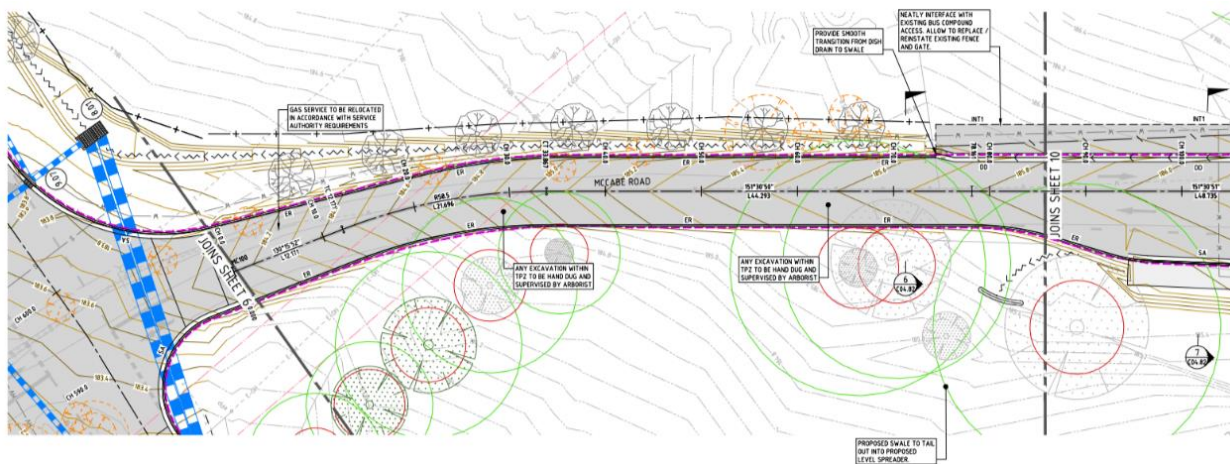


Figure 14: McCabe Road upgrades (Source: Northrop)

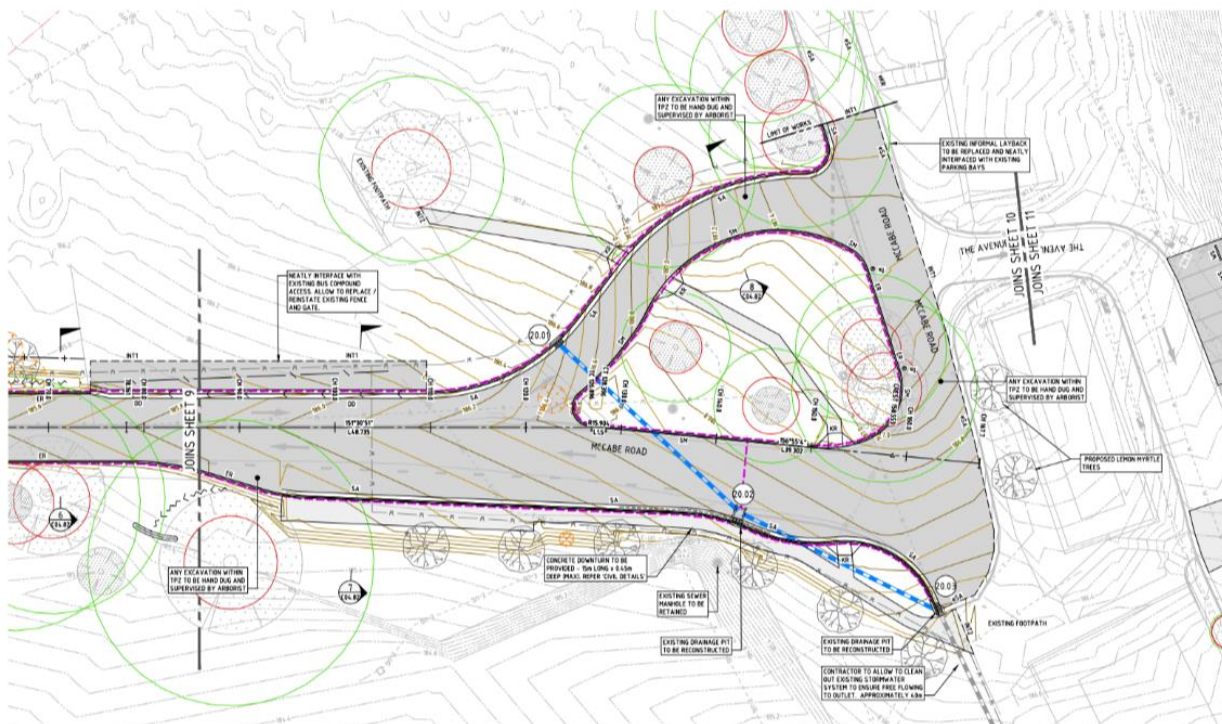


Figure 15: McCabe Road upgrades Sheet 2 (Source: Northrop)

i) The Avenue

- Renewal of pavement surface.
- New traffic operating conditions with the road to be changed from two way to one-way traffic (southbound).
- Creation of an on-road shared pedestrian/bike between Festival Drive and Carinya Street.
- Creation of a shared zone on between Carinya Street and McCabe Road.
- Line marking, signage, and landscaping.

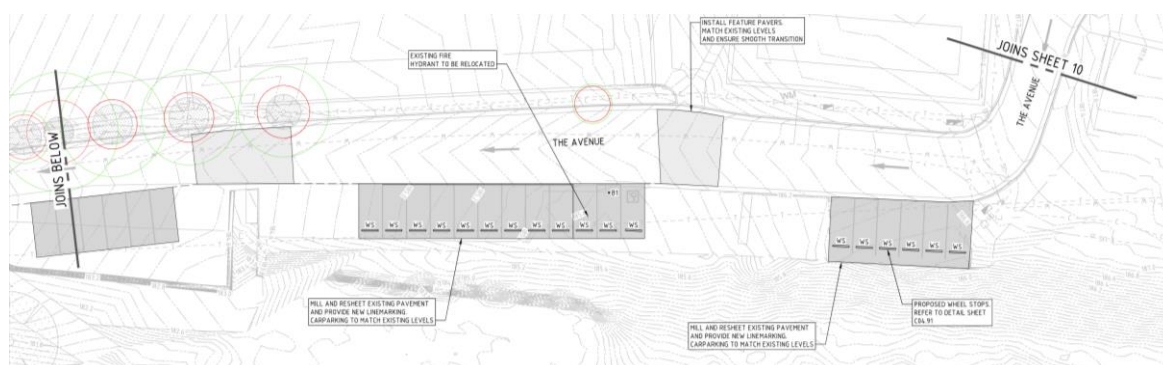


Figure 16: The Avenue – Norther section

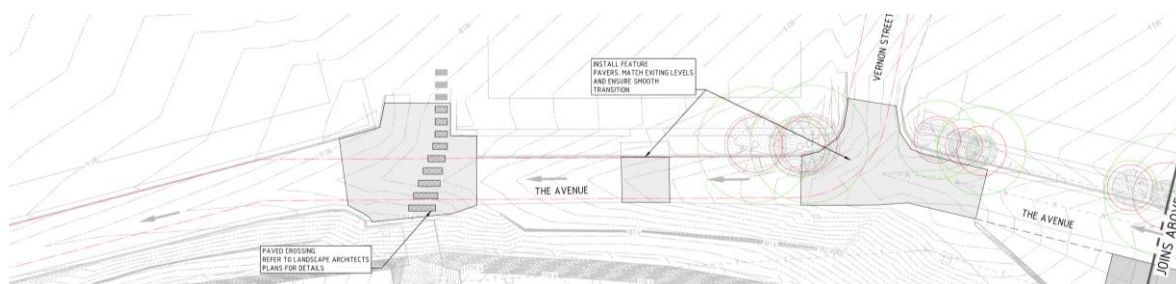


Figure 17: The Avenue - Mid Section

j) Works construction site

- A works construction site is proposed to the west of the intersection of Festival Drive and Parklands Road.
- The site is a cleared and levelled area and was used a works construction site during the recently completed upgrades to Festival Drive.

Typically, the activities required at these sites would include any of the following:

- Compound sites including site offices, sheds, workshops, storage areas and a first aid post.
- Arrival and departure of office staff, workforce and daytime deliveries to compounds.
- Plant storage, materials laydown and storage, stockpiling and construction parking.
- Delivery of excavated material from site by tipper trucks.
- General stockpile management and loading of final product into tipper trucks for delivery to site.
- General delivery of other construction materials for storage.
- Areas for the treatment of acid sulfate soils and drying of wet soils before reuse or disposal.

- Water truck tank loading areas.
- Temporary water quality protection measures such as basins.
- Heavy vehicles turn around facilities.
- Vegetation clearing as required.
- Stockpile areas. These would be in previously disturbed areas that do not require native vegetation clearing and would be located outside the drip line of trees and on level ground wherever possible.
- Material disposal at Parklands North ancillary area (refer Figure 7) and off-site.

Access to the works construction site would be established to allow for heavy vehicles and turning movements. The ancillary sites would be kept secure with temporary fencing. Signs would be erected advising the public of access restrictions and contact details in the event of emergency or incident.

The exact location and proposed use of works construction sites would be confirmed by the construction contractor before the start of construction. Where amendments or additional ancillary facilities are identified during construction outside of the proposal area, the contractor would consult with HCCDC's lead environment advisor to confirm the suitability of the proposed amendment or additional facility, and whether any additional environmental assessment is required.

Following construction, the works construction sites, work areas and stockpiles would be removed, cleared of rubbish and materials, and rehabilitated to their existing condition.

4.3. Construction Activities

4.3.1. Construction Methodology

A Construction Management Environmental Plan (CEMP) is required for the construction phase. The CEMP will detail the details of construction and mitigation measure to be adopted to minimise impacts.

Construction works required for the activity include (but are not limited to):

- Site establishment including compounds/lay down areas.
- Vegetation and topsoil stripping.
- Tree removal, including stump removal or grinding and mulching/chipping.
- Trench excavation.
- Dewatering of open trench (if necessary).
- Decommissioning and removal of existing services infrastructure.
- Removal of pavement and structures from Tree Protection Zones and non-destructive root exploration (hand-digging or Air Vac).
- Construction of water infrastructure.
- Construction of sewer infrastructure.
- Construction of electrical infrastructure.

- Full width new construction and or upgrade of roads to council minimum standard subsoil drainage, footpath formation and drainage.
- Changes to intersection/s to council minimum standard.
- Construction of a four-way road intersection.
- Milling of existing road structure to prepare for new pavement surface.
- Signage and line marking to council's minimum standard.
- Construction of and changes to pathways and footpaths.
- Construction of and changes to roadside furniture and safety devices.
- Construction of and changes to stormwater infrastructure including, kerbs, gutters, drainage pipelines, stormwater pits, gross pollutant trap.
- Construction of and changes to communications utilities including cabling and conduits.
- Construction of and changes to electrical utilities including cabling and conduits.
- Removal and stockpiling of excess material within site areas.
- Removal of excavated material if not suitable for re-use.
- Restoration of the works area.
- Materials management of excavated soils in and around the site as necessary.

Plant and equipment likely to be used in the works (but are not limited to) include:

- Chainsaw and wood chippers.
- 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.
- Mobile lighting.
- Various hand tools and small machinery.

Table 2: Remaining Construction Items

Construction Items	
Construction workforce	Up to approximately 30 full time equivalents for the duration of the works. The appointed contractor will determine the number of workers.
Construction period	Construction works could commence the mid-2022. Construction works will take 22-26 weeks.
Construction hours	<p>Construction would generally occur during the standard working hours set out in the Interim Construction Noise Guideline (DECC, 2009):</p> <ul style="list-style-type: none"> • Mondays to Fridays between 7am and 6pm • Saturdays between 8am and 1pm • No work would normally occur on Sundays or public holidays, however some night works might be required for various works <p>Construction may be required outside the recommended standard hours to install/construct public infrastructure. Night works may be required.</p>
Construction Environmental Management Plan	The appointed contractor will prepare a Construction Environmental Management Plan in consultation with relevant stakeholders and in accordance with relevant standards as part of the CEMP. The plan would provide information on traffic flow, vehicle movements, 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, including fault rectification in accordance with the terms of their operating license.

4.3.2. Future State

Asset Ownership

It is planned that the following assets will be dedicated on completion of the works:

- The roundabout at the intersection of Festival Drive including drainage infrastructure, to Central Coast Council.
- All water and sewerage assets to Central Coast Council.
- Street lighting on Festival Drive to Ausgrid.

- HV conduit provisions to Ausgrid.

Road network operations

The proposed road works (and those to be completed under other approvals) will result in the creation of a one-way internal network within the Parklands (Figure 18). The changes do not impact the southern section of The Avenue between Festival Drive and Central Coast Highway, which will continue to operate in its current format. Further, the changes do not impact Festival Drive which will continue to accommodate two-way vehicle movements. Carinya and Vernon Streets will remain in their current arrangement.

The proposed movement network was developed by GHD and was found to have the following benefits:

- “One-way systems are recognised as carrying positive safety benefits, including reduced road exposure, crash conflict points, and crash impact speeds.
- Kerbside functions are improved through upgrades in footpaths, shared paths, green space and kerbside parking.
- A reduction of traffic volume on The Avenue in comparison to the existing two-way arrangement.
- A reduction in traffic volume on Festival Drive in the eastbound direction, consequently improving vehicular access to Kariong Mountains High School.
- Additional queueing capacity and a more direct route for vehicles exiting Mt Penang, via the Avenue toward Central Coast Highway, which is critical in the congested PM peak”.

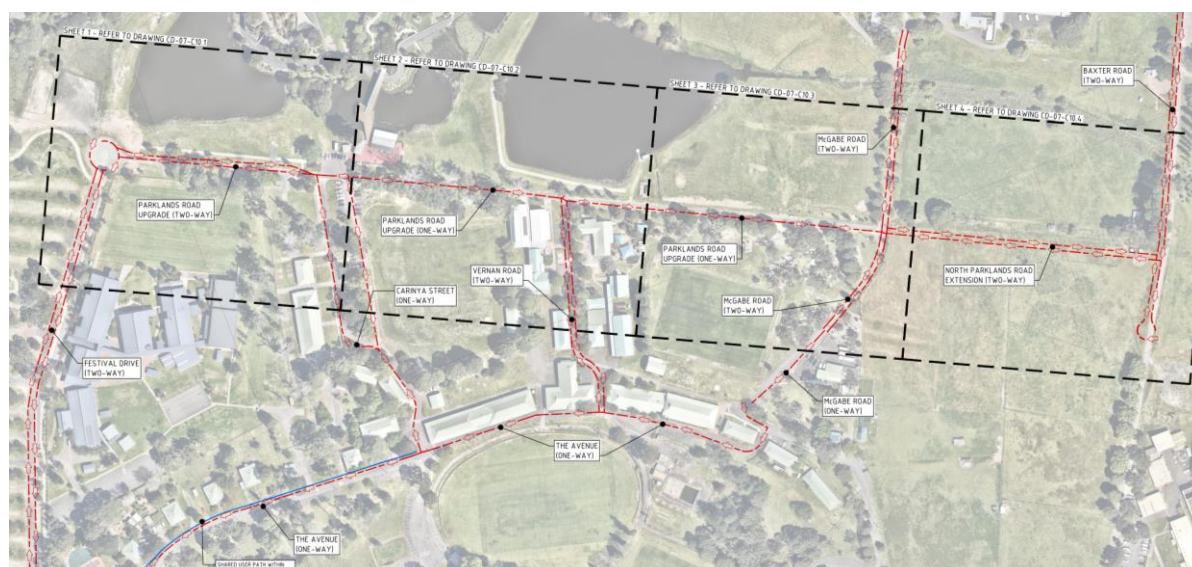


Figure 18: Road Network Layout

4.4. Project Justification

The Parklands are located within the Central Coast Planning Region. The region is of strategic significance being centrally located within the Sydney to Newcastle corridor, NSW's faster growing area.

Goal 1 of the Central Coast Regional Plan (the Plan) is to create “a prosperous Central Coast with more jobs close to home”. Direction 2 of the Plan identifies that economic growth should be focused in nominated northern and southern corridors. Mt Penang is within the southern corridor. Action 2.1 of the Plan states:

“2.1 Undertake precinct planning for Somersby Business Park, Mt Penang and Kariong to expand employment in the regional gateway and improve services, synergies between activities and access to the M1 Pacific Motorway and Central Coast Highway”

The proposed works will enable development of the Baxter Track Mixed Use Precinct which will create new construction and operational jobs.

The *Draft Central Coast Regional Plan 2041* also identifies Mount Penang as a Regionally Significant Growth Area with an objective to improve traffic and transport connections to the Central Coast Highway.

Realisation of the site's potential will also:

- Improve services and facilities to promote community use.
- Enable divestment to achieve an economic return that supports future enhancement and maintenance.
- Improve end user experience through better vehicle and pedestrian access connection.
- Improve safety and amenity by providing connection to a secondary access point.

4.5. Project Alternatives

The project plans were developed through an iterative design process in which ideas were tested and validated. Options examined in the design process included:

- Parking - Eastern side of Parklands Road: Opportunities to provide parking at various locations on the eastern side of Parklands Road including a parking lot adjacent to Carinya Drive and perpendicular parking near to the intersection with Festival Drive were examined. Parking has been excluded due to the impact on the heritage significance of the sites.
- Parallel or Perpendicular parking – Western side of Parklands Road: Various options for different parking formats were considered. Perpendicular parking was determined as the preferred option, as it allows for the greatest number of parking spaces. Variable surfaces treatment were identified a means to minimise the perceived width of the pavement.
- Water and sewer infrastructure alignment: Multiple options for infrastructure alignment were evaluated in response to the constraints within the lands adjoining the roads. The preferred routes follows a variable alignment with some services crossing under the roadway. Tree sensitive construction methods were identified to minimise impacts on vegetation.
- Intersection arrangement: Multiple options were evaluated for the enlarged intersection at the connection of McCabe and Parklands Roads. A roundabout was found to create a more complex road geometry because of the need to locate it away from heritage trees. A four-way intersection was the preferred outcome as it offers a high quality road safety with less environmental impacts on vegetation.
- Heritage poplar tree: Various options were examined to enable the retention of a heritage significant poplar

tree (part of T3 landscape grouping) located adjacent to the south-eastern corner of the upper dam. Tree sensitive construction methods were identified to allow works to occur near the tree without requiring its removal.

- Do-nothing: The option of retaining the site in its current condition was evaluated. This option would not address issues of inadequate water and sewer servicing, or mitigating current traffic impacts on site users. It would also not facilitate any future subdivision or development of the site.

5. STATUTORY PLANNING CONSIDERATIONS

5.1. Overview

The provisions of State Environmental Planning Policy (Transport and Infrastructure) enable development for the purpose of a “Roads and road infrastructure facilities”, “Sewerage systems” and “Water supply systems” to be carried out by or on behalf of a public authority without consent.

While these provisions remove this activity from Part 4 of the Act, it remains necessary for the determining authority to consider the environmental impact of the proposal consistent with the requirements of Part 5 of the Act. The proponent and the determining authority for this matter is Hunter and Central Coast Development Corporation.

The primary legislation relevant to the evaluation of this activity is:

- Part 5 of the *Environmental Planning and Assessment Act 1979*; and
- Environmental Planning and Assessment Regulation 2021.

However various other legislation, and Environmental Planning Instruments (EPIs), include provisions which have also been considered, being:

- State Environmental Planning Policy (Transport and Infrastructure) 2021; and
- Gosford Local Environmental Plan 2014.

This legislation and these planning instruments are addressed below.

5.2. Part 5 - *Environmental Planning and Assessment Act 1979*

5.2.1. Section 5.1

This section of the Act defines an “activity” for the purposes of Part 5 of the Act, as being:

(1) *In this Division—*

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.

The activity the subject of this REF satisfies the definition of an "activity" for the purposes of Part 5 of the Act in that it:

- comprises the demolition of work and the carrying out of a work
- does not require consent under Part 4 by virtue of the *Transport and Infrastructure SEPP*
- is not prohibited by another instrument
- is not exempt
- is not being undertaken to comply with an Order under Division 2A, Part 6.

This section of the Act also provides a definition for "determining authority" being:

a Minister or public authority and, in relation to any activity, means the Minister or public authority by or on whose behalf the activity is or is to be carried out or any Minister or public authority whose approval is required in order to enable the activity to be carried out.

HCCDC is a public authority and is the determining authority for this activity.

5.2.2. Section 5.5 - Duty to Consider Environmental Impact

Section 5.5 requires the determining authority to consider the effect of an activity on certain prescribed matters. An assessment of this activity against those matters is provided at Section 5 below.

5.3. Environmental Planning and Assessment Regulation 2021

Pursuant to clause 171 of the Regulation the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment for the purposes of Part 5 of the Act. An assessment of this activity against those matters is provided in Section 5 below.

5.4. State Environment Planning Policy (Transport and Infrastructure) 2021

5.4.1. Overview

The aim of Chapter 2 Infrastructure of the *State Environmental Planning Policy (Transport and Infrastructure) 2021*

(Transport and Infrastructure SEPP) is to facilitate the effective delivery of infrastructure across the state. The chapter includes provisions which enable certain development to attain approval by a public authority pursuant to Part 5 of the Act, following an environmental assessment. This process is known as 'development without consent'. The relevant provisions of this chapter are considered below.

5.4.2. Consultation

Chapter 2, Part 2.2, Division 1, Section 2.10, 2.11, 2.12, 2.15 and 2.17 of the Transport and Infrastructure SEPP outline the circumstances for consultation with the relevant council or other specified public authorities. All matters that may trigger consultation are addressed below in Table 3.

Table 3: Transport and Infrastructure SEPP Consultation Requirements

Relevant Provision	Comment
<p>2.10 Consultation with councils—development with impacts on council-related infrastructure or services</p> <p>(1) This clause 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—</p> <p>(a) will have a substantial impact on stormwater management services provided by a council, or</p> <p>(b) is likely to generate traffic to an extent that will strain the capacity of the road system in a local government area, or</p> <p>(c) involves connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council, or</p> <p>(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</p> <p>(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</p> <p>(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 behalf it is being carried out, is not responsible for the</p>	<p>(1) The works are proposed to be carried out by a public authority.</p> <p>(a) Components of the stormwater infrastructure are proposed to be dedicated to Council. Council has been notified of the development and involved in detailed design.</p> <p>(b) The proposed infrastructure works will not generate traffic to an extent that will strain the capacity of the local road system.</p> <p>(c) The sewerage system is to be augmented to increase its capacity and reach. Council has been notified of the development and involved in detailed design.</p> <p>(d) The water supply system is to be augmented to increase its capacity and reach. Council has been notified of the development.</p> <p>(e) No temporary structures are proposed to facilitate the proposed works, and no public places are intended to be enclosed.</p> <p>(f) Minor excavations are required to facilitate the construction of the infrastructure. The earthworks will not impact Council owned road infrastructure.</p>

Relevant Provision	Comment
<p>maintenance of the road or footpath).</p> <p>(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 –</p> <p>(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</p> <p>(b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.</p>	<p>(2) The works are proposed to be carried out by a public authority.</p> <p>(a) Written notice has been given to Central Coast Council including a scope of works.</p> <p>(b) Please refer to section 5.4.3 for Council's responses to consultations.</p>
<p>2.11 Consultation with councils—development with impacts on local heritage</p> <p>(1) This section applies to development carried out by or on behalf of a public authority if the development—</p> <p>(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</p> <p>(b) is development that this Chapter provides may be carried out without consent.</p> <p>(2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this section applies unless the authority or the person has—</p> <p>(a) had an assessment of the impact prepared, and</p> <p>(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</p> <p>(c) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.</p>	<p>The site is a state heritage item. Two applications have been made for s.60 approvals under the <i>Heritage Act 1977</i>. As such, section 2.11 does not apply to this REF.</p>
<p>2.12 Consultation with councils—development with impacts on flood liable land</p> <p>(1) In this clause, <i>flood liable land</i> means land that is susceptible to flooding by the probable maximum flood event,</p>	<p>(1) The site is not mapped by Council as containing flood liable land.</p>

Relevant Provision	Comment
identified in accordance with the principles set out in the manual entitled <i>Floodplain Development Manual: the management of flood liable land</i> published by the New South Wales Government and as in force from time to time.	
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—	(1) The subject site is not mapped by Council as being affected by flooding.
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.	(1) The proposal is not identified as land within a coastal vulnerability area.
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...	(1) The proposed development is not an identified specified development pursuant to clause 2.15(2). This clause is not applicable to the proposed works. Despite the above, consultation with Transport for NSW was undertaken as they have road infrastructure assets within the vicinity of the site. Please refer to section 5.4.3 for TfNSW responses to the consultation.
2.16 Consideration of Planning for Bush Fire Protection (1) This section applies to development for the following purposes that this Chapter provides may be carried out without development consent— (a) health services facilities, (b) correctional centres, (c) residential accommodation.	(1) The proposal is not development for a health services facility, correctional centre, or residential accommodation. This clause is not applicable to the proposed works.
2.17 Exceptions (1) Clauses 2.10–2.16 do not apply with respect to	(1) Section 2.17(1)(a) – (f) does not apply to the proposed works. This clause is not

Relevant Provision	Comment
development to the extent that—	applicable to the proposed works.

5.4.3. Part 3 – Development Controls

The proposed activity incorporates three types of works which are defined as development permitted without consent under State Environmental Planning Policy (Transport and Infrastructure) 2021, those being:

- Clause 2.108 - Road infrastructure.
- Clause 2.125 - Sewerage systems.
- Clause 2.158 - Water supply systems.

The controls that apply for development permitted without consent are provided below in Table 4.

Table 4: Transport and Infrastructure SEPP Development permitted without consent

Relevant Provision	Comment
Division 17 Roads and Traffic	
2.108 Development permitted without consent - general (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. However, such development may be carried out without consent on land reserved under the <u>National Parks and Wildlife Act 1974</u> only if the development— (2) Development for any of the following purposes may be carried out by or on behalf of a public authority without consent on land in a prescribed zone— (a) bus depots, (b) permanent road maintenance depots and associated infrastructure (such as garages, sheds, tool houses, storage yards, training facilities and workers' amenities). (3) In this section and section 2.111, a reference to development for the purpose of road infrastructure facilities includes a reference to development for any of the following purposes if the development is in connection with a road or road infrastructure facilities—	(1) The proposed development is development for the purposes of road infrastructure. The proposal is not land on which the <i>National Parks and Wildlife Act 1974</i> applies. (2) HCCDC is a public authority for the purpose of this REF. (a) The proposal is not for a bus depot. (b) The proposal is not for any of the items listed in (2)(b). (3) The proposal involves road infrastructure works.

Relevant Provision	Comment
<p>(a) construction works (whether or not in a heritage conservation area), including—</p> <p>(i) temporary buildings or facilities for the management of construction, if they are in or adjacent to a road corridor, and</p> <p>(ii) creation of embankments, and</p> <p>(iii) extraction of extractive materials and stockpiling of those materials, if—</p> <p>(A) the extraction and stockpiling are ancillary to road construction, or</p> <p>(B) the materials are used solely for road construction and the extraction and stockpiling take place in or adjacent to a road corridor, and</p> <p>(iv) temporary crushing or concrete batching plants, if they are used solely for road construction and are on or adjacent to a road corridor, and</p> <p>(v) temporary roads that are used solely during road construction,</p> <p>(b) emergency works or routine maintenance works,</p> <p>Note—</p> <p>See clause 2.7(4) regarding emergency works and routine maintenance works on land to which clauses 10 and 11 of <i>State Environmental Planning Policy (Coastal Management) 2018</i> apply.</p> <p>(c) alterations or additions to an existing road (such as widening, narrowing, duplication or reconstruction of lanes, changing the alignment or strengthening of the road),</p> <p>(d) environmental management works, if the works are in or adjacent to a road corridor.</p>	<p>(a) Constructions works are proposed to facilitate the proposed infrastructure.</p> <p>(i) Temporary site sheds will be required during the construction works.</p> <p>(ii) Embankments won't be created to facilitate the proposed road infrastructure.</p> <p>(iii) Stockpiling of materials will be avoided where possible.</p> <p>(A) Where necessary, the stockpiles will be ancillary to road construction.</p> <p>(B) Any materials which will be stockpiled will be for road construction and will take place adjacent to the relevant road corridor.</p> <p>(iv) n/a</p> <p>(v) n/a</p> <p>(b) n/a</p> <p>(c) The proposed works involve alterations and additions to a private road network.</p> <p>(d) Environmental management works are proposed to protect vegetation adjacent to the road corridor.</p>
<p>2.110 Notification of carrying out of certain development under section 2.108 or 2.109 without consent</p> <p>(1) This clause applies to development that may be carried out by or on behalf of a public authority without</p>	<p>(1) The proposed works will be carried out by a public authority under section 2.108. However, the proposed</p>

Relevant Provision	Comment
consent under section 2.108 or 2.109 for any of the following purposes -	works are not for any of the purposes contained within section (1)(a) – (c).
Division 18 Sewerage systems	
2.125 Development permitted without consent	
(1) Development is carried out in the <i>prescribed circumstances</i> if the development—	(1) HCCDC is a public authority for the purpose of this REF.
(a) is carried out by or on behalf of a public authority, or...	
(2) Development for the purpose of sewage treatment plants or biosolids treatment facilities may be carried out without consent on land in a prescribed zone in the prescribed circumstances.	(2) n/a
(3) In any other circumstances, development for the purpose of sewage treatment plants or biosolids treatment facilities may be carried out with consent on land in a prescribed zone.	(3) n/a
(4) Development for the purpose of water recycling facilities may be carried out without consent on land in a prescribed zone in the prescribed circumstances.	(4) n/a
(5) In any other circumstances, development for the purpose of water recycling facilities may be carried out with consent if...	(5) n/a
(6) Development for the purpose of sewage reticulation systems may be carried out without consent on any land in the prescribed circumstances.	(6) The proposal involves sewerage works in the form of a sewer main from Festival Drive to the Baxter Track precinct which constitutes 'sewerage reticulation system' as defined in clause 2.125(10) below.
(7) In any other circumstances, development for the purpose of sewage reticulation systems may be carried out with consent on any land.	(7) n/a
(8) Development for the purpose of water recycling facilities or sewage reticulation systems may be carried out on land reserved under the <u>National Parks and Wildlife Act 1974</u> only if the development is authorised by or under that Act.	(8) n/a
(9) Development for the purpose of the Northside Storage Tunnel may be carried out by or on behalf of Sydney Water Corporation without consent on land in	(9) n/a

Relevant Provision	Comment
<p>any of the following local government areas...</p> <p>(10) A reference in this Division to development for the purpose of a sewerage system of any kind includes a reference to development for any of the following purposes if the development is in connection with the sewerage system—</p> <p>(a) pumping stations, pipelines and tunnels,</p> <p>(b) temporary storage, including reservoirs, and transfer works to reticulate sewage or treated effluent,</p> <p>(c) effluent and biosolids reuse schemes,</p> <p>(d) sewage or effluent treatment systems, including artificial wetlands,</p> <p>(e) power supply to the development,</p> <p>(f) energy generating works,</p> <p>(g) construction works,</p> <p>(h) routine maintenance works,</p> <p>(i) environmental management works,</p> <p>(j) maintenance depots.</p> <p>(11) In this section, <i>network operator's licence</i> and <i>water industry infrastructure</i> have the same meanings as in the <u>Water Industry Competition Act 2006</u>.</p>	<p>(10) The proposed works include a new sewer main which will incorporate pipelines for the collection and transfer of sewerage.</p> <p>(11) Noted.</p>
Division 24 water supply systems	
<p>2.158 Development permitted without consent</p> <p>(1) Development for the purpose of water reticulation systems may be carried out by or on behalf of a public authority without consent on any land.</p> <p>(2) Development for the purpose of water storage facilities may be carried out without consent if it is carried out by or on behalf of...</p> <p>(3) A reference in subsection (2) to development for the purpose of water storage facilities, includes a reference to development for any of the following purposes...</p> <p>(4) Development for the purpose of water treatment</p>	<p>(1) HCCDC is a public authority for the purpose of this REF.</p> <p>(2) n/a</p> <p>(3) n/a</p> <p>(4) n/a</p>

Relevant Provision	Comment
<p>facilities may be carried out by or on behalf of a public authority without consent on land in a prescribed zone.</p> <p>(5) Development for the purpose of a water supply system may be carried out on land reserved under the <i>National Parks and Wildlife Act 1974</i> only if it is authorised by or under that Act.</p> <p>(6) In this Division, a reference to development for the purpose of a water supply system of any kind includes a reference to development for any of the following purposes if the development is in connection with the water supply system—</p> <p>(a) dams, reservoirs, weirs, levees, spillways and fishways,</p> <p>(b) catchment management works,</p> <p>(c) groundwater investigation works, groundwater bore stations, borefields, minewater works and the like,</p> <p>(d) access ways,</p> <p>(e) water intakes, pumping stations, pipelines, channels, tunnels, canals and aqueducts,</p> <p>(f) gauging and monitoring equipment,</p> <p>(g) power supply to the water supply system,</p> <p>(h) hydro-electric power generation equipment and associated connections to the electricity network,</p> <p>(i) construction works,</p> <p>(j) emergency works and routine maintenance works,</p> <p>(k) environmental management works,</p> <p>(l) schemes for the reuse of water treatment residuals,</p> <p>(m) maintenance depots.</p> <p>(7) Development for any of the following purposes may be carried out by or on behalf of Water NSW without consent on any land...</p>	<p>(5) n/a</p> <p>(6) The proposed works include a 'water reticulation system' defined within the standard instrument (<i>Gosford Local Environmental Plan 2014</i>) as –</p> <p><i>"...a building or place used for the transport of water, including pipes, tunnels, canals, pumping stations, related electricity infrastructure and dosing facilities.</i></p> <p>Note –</p> <p><i>Water reticulation systems are a type of water supply system."</i></p> <p>The proposed works include pipelines for the transport of water which is permitted pursuant to Clause 2.158(10)(e).</p> <p>(7) n/a</p>

5.5. Other Legislation

Other legislation has been considered to determine whether or not it is applicable or otherwise relevant to the

proposed works. An analysis has been provided below in Table 5 and Table 6. In summary, no other legislation is relevant to the proposed works.

Table 5: Additional NSW Legislation Considered

NSW Legislation	Comment
<i>Contaminated Land Management Act 1997</i>	<p>The object of the <i>Contaminated Land Management Act 1997</i> is to establish a process for investigating and remediating contaminated land.</p> <p>A search of the NSW Environmental Protection Authority (EPA) Contaminated Land Record revealed there is no records of contamination in the project area.</p> <p>As such, this legislation is not applicable.</p>
<i>Heritage Act 1977</i>	<p>The object of the <i>Heritage Act 1977</i> is to assist with the conservation of items of State heritage significance. The site is a listed state heritage item, being:</p> <ul style="list-style-type: none"> • Mount Penang Parklands (SHR #01667). <p>A section 60 heritage approval for Parklands Drive has been issued (Reference No. HMS ID 1069, received 24/06/2022). A second application for further works has been submitted.</p>
<i>Local Government Act 1993</i>	<p>The purpose of the <i>Local Government Act 1993</i> is to provide a legal framework for local government in NSW. The subject site is located within the Central Coast local government area. The proposed development is 'development permitted without consent,' the determining authority in this case is the HCCDC. The provisions of this Act are not applicable.</p>
<i>Rural Fires Act 1997</i>	<p>The objects of the <i>Rural Fires Act 1997</i> are to provide for the prevention, mitigation, and suppression of bush and other fires in LGAs.</p> <p>The subject site is identified as bushfire prone land. GHD has evaluated the proposed road network and reports:</p> <p><i>"The road network has also identified as a feasible network from a bushfire perspective (Planning for Bush Fire Protection 2019, NSW Rural Fire Service)."</i></p>
<i>Wilderness Act 1987</i>	<p>The objects of the <i>Wilderness Act 1987</i> are to provide permanent protection and proper management of wilderness areas. The subject site and immediate locality are not identified as wilderness areas. The provisions of this Act are not applicable.</p>
<i>Protection of the Environment Operations Act 1997</i>	<p>The objects of the <i>Protection of the Environment Operations Act 1997</i> are to protect, restore and enhance the quality of the environment in NSW.</p> <p>The proposed works do not require an approval or license.</p> <p>Council will be the regulatory authority for the works.</p>

NSW Legislation	Comment
<i>Roads Act 1993</i>	<p>The objects of the <i>Roads Act 1993</i> are to set out rights of members of the public to pass along public roads.</p> <p>None of the existing road network is owned by Council. As such, a section 138 application is not applicable at this stage. Council has been engaged to discussion road dedication of the new roundabout.</p>
<i>Biodiversity Conservation Act 2016</i>	<p>The objects of the <i>Biodiversity Conservation Act 2016</i> are to conserve biological diversity and promote ecologically sustainable development.</p> <p>A flora and fauna impact assessment has been prepared (Biosis). Key findings of the assessment are:</p> <ul style="list-style-type: none"> • No flora species or endangered populations listed under the EPBC Act or BC Act were recorded during the field surveys in the study area. • One of the vegetation communities mapped is consistent with the final determinations for TEC Kincumber Scribbly Gum Forest under the BC Act. A total of two trees associated with the Kincumber Scribbly Gum Forest were identified to be impacted as a result of the proposed works. • No EPBC Act listed flora species were considered to have a moderate or higher likelihood of occurrence within the study area. • Thirteen fauna species and one TEC listed under the BC Act were considered to have a moderate or greater likelihood of occurrence in the study area. Assessments concluded the proposal is unlikely to have a significant impact on any BC Act listed fauna species. Therefore, an SIS or BDAR is not required, • After implementing avoidance and minimisation of all associated impacts, it is considered the development will not have a negligible impact on biodiversity values in the local area or more broadly.
<i>Water Management Act 2000</i>	<p>The objects of the <i>Water Management Act 2000</i> are to provide for sustainable and integrated management of water sources of the State.</p> <p>In general works that occur within 40m of a water way require an Activity Approval under section 91(2) of the Water Management Act 2000.</p> <p>The <i>Water Management Regulations 2018</i> include exemptions to the need to obtain an Activity Approval. Cl. 41 specifies that public authorities are exempt from the need to get an activity approval. As such, no approval is required in this case.</p>
<i>Coal Mine Subsidence</i>	<p>The objects of the <i>Coal Mine Subsidence Compensation Act 2017</i> are to provide a scheme from compensation for damage cause by subsidence</p>

NSW Legislation	Comment
<i>Compensation Act 2017</i>	<p>resulting from coal mine operations, and the assessment and management of risks associated with subsidence resulting from coal mine operations.</p> <p>The site is not located within a proclaimed subsidence district. The provisions of this Act are not applicable.</p>
<i>National Parks and Wildlife Act 1974</i>	<p>The objects of the <i>National Parks and Wildlife Act 1974</i> (NPW Act) include to conserve objects, places or features of cultural value within the landscape, including, those of significance to Aboriginal people.</p> <p>The NPW Act provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution if they unknowingly harm an object without an AHIP.</p> <p>An Aboriginal Due Diligence Assessment has been prepared (Biosis). Key findings of the assessment are:</p> <ul style="list-style-type: none"> • The study area has low potential. • No Aboriginal objects or sites were identified during the archaeological survey • Historical disturbances which have taken place since the early 1900s have likely removed or caused the displacement of any archaeological deposits which may have been located within the study area.

Table 6: Additional Commonwealth Legislation Considered

Commonwealth Legislation	Comment
<i>Environment Protection Biodiversity Conservation Act 1999</i>	<p>The <i>Environment Protection Biodiversity Conservation Act 1999</i> provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places.</p> <p>A Flora and Fauna Assessment has been prepared by Biosis (Appendix B). The reports identifies that it is considered unlikely that a significant impact would result as a result of the project.</p>

The objectives of EPBC Act 1999 are to provide for the conservation of threatened species, populations and ecological communities of animals and plants.

Under the EPBC Act, a proponent must not take an action if that action is a controlled action, but instead must refer the proposed development to the Minister for the Environment for the Minister's decision as to whether or not the action is a controlled action. A controlled action is one that has or will have; or is likely to have an impact on matters protected under the EPBC Act (Matters of National Environmental Significance).

An action includes a project, development, undertaking, activity, or series of activities. The EPBC Act identifies nine Matters of National Environmental Significance:

1. World Heritage properties.
2. National Heritage places.
3. Wetlands of international importance (those listed under the Ramsar Convention).
4. Listed threatened species and communities.
5. Migratory species listed under international agreements.
6. Great Barrier Reef Marine Park.
7. Commonwealth marine areas.
8. Nuclear actions.
9. A water resource, in relation to coal seam gas development and large coal mining development

Each of these is considered in the table below:

Table 7: EPBC Act Checklist

Factor	Comment
Any significant impact on a declared World Heritage Property?	No
Any significant impact on a National Heritage place?	No
Any significant impact on a National Heritage place?	No
Any significant impact on Commonwealth listed threatened species or endangered community?	No
Any significant impact on Commonwealth listed migratory species?	No
Does any part of the proposal involve nuclear actions?	No
Any significant impact on Commonwealth marine areas?	No
Any significant impact on the Great Barrier Reef Marine Park?	No
Any significant impact on Commonwealth land?	No

On the basis of the above, it is considered that the proposal will not have an impact on Matters of National Environmental Significance under the EPBC Act and does not require referred to the Minister for the Environment.

5.6. Other Environmental Planning Instruments

Additional Environmental Planning Instruments (EPIs) have been considered to determine whether or not they are applicable or otherwise relevant to the proposed works. An analysis has been provided below in Table 8. In summary, no other EPIs are relevant to the proposal.

Table 8: Other Environmental Planning Instruments

Environmental Planning Instrument	Comment
State Environmental Planning Policy	The <i>State Environment Planning Policy (Exempt and Complying</i>

Environmental Planning Instrument	Comment
(Exempt and Complying Development Codes) 2008	<i>Development Codes) 2008</i> (Codes SEPP) aims to provide an effective assessment process for development that complies with specified development standards by providing exempt and complying development codes that have State-wide application. The provisions of this Policy are not applicable to the proposed works through the operation of Clause 1.8(2) of the Codes SEPP.
Gosford Local Environmental Plan 2014	The <i>Gosford Local Environmental Plan 2014</i> aims to make local environmental planning provisions for land in Gosford in accordance with section 33A of the Act. This activity is not captured by any of the provision of this Plan. The provisions of this Plan are not applicable to the proposed works.

6. CONSULTATION

The proposed works have been informed by feedback received from stakeholders. Consultation was undertaken through direct engagement with stakeholders and through exhibition of the REF.

6.1. Pre-exhibition Consultation

6.1.1. Central Coast Council

Central Coast Council was engaged throughout the design process. Regular design meetings were undertaken and Council will regularly inspect works through delivery. Initial comments from Central Coast Council were received on 19 April 2022 and have been addressed through the design development.

Table 9: Consultation with Central Coast Council

Council Section	Matter raised	Response
Roads and Drainage	<ol style="list-style-type: none"> Additional engineering detail is needed to properly review the roundabout concept design proposal. Refer to Council's Civil Works Specification and the associated notes on the applicable standard drawings. Note that a pedestrian refuge may only be required on the western leg of the intersection (for the planned Festival Dr-to-Kangoo Rd extension), subject to current and future anticipated pedestrian/cyclist crossing demand at this location. Specific details need to be confirmed as follows: <ol style="list-style-type: none"> If the above Festival Dr extension is likely to proceed, this should form part of the roundabout design, including detailing of the footpath connectivity across the Festival Dr extension/facility to allow pedestrians to cross the road safely. Deflection design speed (if/when Festival Dr extended) for through traffic movements. Kerb-type (kerb returns, splitter islands/pedestrian refuge(s) and central island). Design vehicle swept path analysis (what is the applicable design vehicle and check vehicle and will the central island be fully-mountable or semi-mountable?) All public utility services need to be identified and shown on the design plans and any necessary relocation designs to be assessed and approved by the applicable utility service 	<p>All matters raised by Central Coast Council have been addressed through the detailed design, where appropriate. It is not intended that the roads be dedicated to Council but have been designed to Council specifications. Should works to the Festival Drive roundabout be proposed at a future time, further consultation will be undertaken with Council to enable this asset to be dedicated if appropriate. Where assets are to be transferred to Council (water and sewer) Council will undertake regular inspections through the construction phase.</p>

Council Section	Matter raised	Response
	<p>provider, including all affected poles in Parklands Rd (HCCDC-owned road).</p> <ol style="list-style-type: none"> Water and sewer asset review and feedback to be provided separately by Johnson Zhang in Council's Water and Sewer Unit. It is understood that this process is currently underway. LED road lighting to be provided to the requirements of AS/NZS 1158.3.1, minimum PR5 category. Any proposed pedestrian (zebra) crossings within Council's road reserve (existing and proposed) would require flood lighting to AS/NZS 1158.4. All environmental assessment, heritage and replanting requirements to be addressed during the detailed design phase. Any property acquisition requirements and all applicable road reserve boundaries to be addressed during the detailed design phase. All road and traffic signs and pavement markings, including shared path signs/markings need to be included in the concept design plan to enable a review of the proposed traffic management arrangements and to enable review and endorsements by the Local Traffic Committee. All stormwater drainage pits and pipes systems to be modelled in accordance with Council's Civil Works Specifications. All drainage pits to be located along the proposed roundabout kerb-lines, wherever practicable, outside the circulating carriageway. Proposed pit on N/W side of the roundabout could be extended to the existing pit location so that a kerb lintel can be installed on the kerb return. 	
Engineering Services - Traffic	<ol style="list-style-type: none"> Is the proposed roundabout fully mountable? Does it need to be to cater for larger vehicles i.e. 19m articulated? What are the Design and Check Vehicles? Could a plan showing signs/lines be provided for review? The proposed plan approaches don't like a roundabout e.g. no splitter islands/lines/signs. Is there any proposed future legs? If so, should this be design to accommodate now? 	<p>All matters raised by Central Coast Council have been addressed where appropriate in the detailed design. Future works to the Festival Drive roundabout will be subject to further consultation with Council to enable this asset to be dedicated</p>

Council Section	Matter raised	Response
	6. Re-build approaches as per Central Coast Council's Civil Work Specifications SD0903 (Page 7 to 15) 7. Is the proposed Zebra crossing a Central Coast Council asset? Can it be incorporated into RAB approach i.e. islands/signs? 8. Is the proposed Zebra crossing an appropriate facility? Meets warrants/sight distance etc. Can the proposed and existing Zebra crossings be assessed?	
Engineering Services - Traffic	1. Ensure kerb return radii are suitable for the swept paths of the applicable design and check vehicle. 2. Ensure road lighting design for the previous Baxter Track upgrade design proposal is suitable for the new intersection with Parklands Rd (North). 3. Ensure kerb ramp locations provide a safe crossing location for pedestrians/cyclists. 4. Confirm road reserve boundary alignment and asset ownership between CCC and HCCDC. 5. It is assumed that a standard T-intersection would be appropriate i.e. no need for stop or give way sign/lines, however, a 'T-intersection ahead' A-size sign should be considered for installation on the approach to Baxter Track.	All matters raised by Central Coast Council have been addressed in the detailed design.

6.1.2. Government Agency or Authority

Table 10: Government Agency or Authority Consultation

Agency	Matters raised by Agency	Response / where addressed in REF
Heritage NSW	<p>The landscape character of the site is of high importance and must be considered in the application.</p> <p>Application will need to be exhibited.</p>	<p>The REF includes a thematic landscape design that demonstrates the approach to landscaping of the site.</p> <p>The trees will be offset at a ratio of 2:1 increasing future tree densities.</p> <p>Two s.60 applications were lodged, one for the works to Parklands Road and another for the remainder of the works. The Parklands Road application was approved on 24 June 2022.</p>

Agency	Matters raised by Agency	Response / where addressed in REF
NBN	None at this stage.	NBN and Telstra have provided plans and associated quotes for the works.
Jemena	None at this stage.	Jemena have confirmed that the gas assets along McCabe Road are privately owned and Jemena has no assets within the project area.
Ausgrid	None at this stage. Application fees have been paid for consultation.	No matters raised at this stage
Telstra	Telstra has been engaged during the design phase to ensure the relevant infrastructure can be relocated and included when necessary. Early consultation identified that P6 pit connects to Sunnyfield Disability Services who will have to be consulted.	NBN and Telstra have provided plans and associated quotes for the works.
Darkinjung Local Aboriginal Land Council and Awabakal & Guringai Pty Ltd	Consultation with representatives of the Aboriginal community was undertaken, including a site walk. It was agreed that the study area has low archaeological potential.	Please refer to section 7.3.1 of this REF for further information.
Transport for NSW (TfNSW)	<p>Activity will redistribute traffic at key intersections on the Central Coast Highway. REF does not propose measures to mitigate impacts.</p> <p>Prior Traffic study models based on ultimate precinct redevelopment scenarios (including land holdings not owned by HCCDC) show traffic impacts based on an anticipated range of proposed uses. No commitments or triggers are proposed to ensure broader development traffic mitigation measures will proceed as envisaged in the prior reports.</p> <p>HCCDC cannot install traffic controls</p>	<p>The original TTIS that was exhibited considered the full development of the entire site including the Borg & Stevens Group land and looked at mitigation measures for this. The TTIS has been refined to only consider these works and determines that the impact is not significant.</p> <p>HCCDC met with TfNSW representatives (5) to discuss their letter submission. Matters discussed included the REF works, pathway for future subdivisions for road dedications and englobo lots, plans for future works in the precinct beyond the REF works and next steps. Further clarification of their concerns was also provided through various emails and the Traffic Analysis Memo provided.</p>

Agency	Matters raised by Agency	Response / where addressed in REF
	<p>measures without the consent of the roads authority (Council).</p> <p>REF does not adequately consider broader development traffic impacts.</p> <p>Civil works do not make provision for extension of Festival Drive to Kangoo Road. At a minimum a third leg should be provided to the Festival Drive/Parklands Road roundabout.</p>	<p>It was noted that the current traffic study which considered ultimate development outcomes was not an appropriate traffic assessment as it extended far beyond the proposed REF works. HCCDC advised a new traffic impact assessment (TIA) was underway that looked directly at the proposed REF works and their direct impacts on the broader network. TfNSW were satisfied with this approach.</p> <p>The new traffic impact assessment has been appended to the REF and provided to TfNSW, along with the technical memo which formed advice to HCCDC in consultations with TfNSW.</p> <p>The revised TIA considers the impacts of redistribution of traffic by the existing Parklands users and found that no adverse impact would occur on the Central Coast Highway. The TIA also considered future growth and development impacts from potential redevelopment on HCCDC land. Refer to section 7.3.9 for a summary of the impacts and Appendix G for the updated TIA.</p> <p>The proposal does not include any traffic control measures or impacts to a public road for the purpose of gaining roads authority consent.</p> <p>The works proposed in the REF are consistent with both HCCDC and TfNSW traffic modelling and reporting which demonstrate that broader traffic impacts are acceptable. The REF appropriately considers these matters in the context of the proposed development.</p> <p>The proposed works do not preclude the extension of Festival Drive nor negatively impact upon its future delivery. Separately, TfNSW requested copies of HCCDC's prior modelling of the ultimate precinct development which HCCDC provided. HCCDC has committed to work with TfNSW and Council as redevelopment outcomes across the broader precinct, including from adjacent landowners, are further considered.</p>

6.1.3. Mount Penang Parklands Tenants

Table 11: Mount Penang Parklands Tenants Consultation

Agency	Matters raised by tenant	Response / where addressed in REF
Kariong Mountains High School	Drinking water fountain or bubbler should be provided near Parklands Road for use by the community. Construction Impacts	Further work to identify any additional street furniture will be developed by the asset team to include, if appropriate as part of a site wide assessment
Sunnyfield	Tenure matters No project specific issues raised	No action required
Central Coast Sports College	Tenure matters No project specific issues raised	No action required
Waterfall Café	Tenure matters No project specific issues raised	No action required
Parklands Community Preschool	Tenure matters Extent of consultation Traffic & Parking Impacts	No action required
NAISDA	Tenure matters Community outcomes	Section 7
Disability Support Options	Extent of consultation Traffic & Parking Impacts Heritage Tenure matters	Section 7

6.2. Exhibition of Draft Review of Environmental Factors

HCCDC undertook a voluntary exhibition of the REF to allow stakeholders provide comment. The REF was exhibited on the HCCDC - Mount Penang website from 24 May - 12 June 2022, a period of 19 days.

There were eight submissions received to the exhibition from a variety of stakeholders. Table 12 below provides a summary of issues raised and a response.

Table 12: Summary of Submissions

#	Submitter	Matters raised by submitter	Response / where addressed in REF
1	Parklands Community Preschool 17 May 2022	Traffic flows causing safety concerns Staff car parking opportunities Dust and noise during construction	Design has been robustly reviewed to ensure pedestrian safety and will be carefully monitored to identify any concerns once construction is complete. Carinya Street and Vernon Street will remain in their current arrangements with additional traffic calming measures along both streets to be investigated during the detailed design. The works include additional pedestrian footpaths and parking. Timing of works will seek to minimise impacts on site users
2	Individual 07 June 2022	Opposed to the two-way road between NAISDA and Parklands Community Pre-school (Vernon Street). Concerned about the safety of users of the road. There is insufficient car parking for tenants, students and visitors	Vernon Street will remain in its current arrangement with traffic calming measures investigated to enhance pedestrian safety New car parking is proposed along Parklands North to increase supply.
3	KU Children's Services 06 June 2022	Request to include additional Lemon Myrtle Trees at their front door.	Two Lemon Myrtle Trees are being added to the landscaping drawings.
4	Individual 13 June 2022	Queried whether local running group could provide comment on pathway design. The group would like to use the new pathways but has operational considerations to protect the safety of participants.	Design drawings have been provided to the ParkRun group, who have no additional comments but rather were interested in how the development could be used by the group. It was confirmed the shared path would be able to be used by them
5	Steven's Group	Concerned changes will prevent west bound traffic on Central Coast	The proposed works do not change the form or operation The Avenue between

#	Submitter	Matters raised by submitter	Response / where addressed in REF
	07 June 2022	<p>Highway entering the Highway commercial precinct.</p> <p>Concerned about impact of works on subdivision application and planned road network connections with The Avenue.</p> <p>Works should be dealt with through Part 4 development application process.</p>	<p>the Central Coast Highway and Festival Drive. Future development of the Highway Commercial precinct can proceed as planned.</p> <p>This REF demonstrates the applicability and suitability of a Part 5 environmental impact assessment to the activity. A formal response to their submission was provided on 14 June.</p>
6	Central Coast Sports College 15 June 2022	<p>Carinya Street should remain two ways to enable convenient traffic movement</p> <p>Covered areas are required in the new bus drop/off pick up zone to provide students with weather protection</p> <p>Request that the project include a pedestrian crossing across Carinya Street, from Building 21 to the Village green, to address pedestrian safety issues.</p>	<p>Carinya Street will remain in its current arrangement.</p> <p>HCCDC are not intending to include covered bus areas as part of this project, but should budget be available, and heritage concerns able to be addressed, can be provided at a later date. .</p> <p>The requested crossing has been included in detailed design.</p>
7	NAISDA Dance College 15 June 2022	<p>Proposed removal of loading dock and parking at rear of Building 32 is unacceptable.</p> <p>Has the stormwater infrastructure at the rear of Building 32 been considered in the design.</p> <p>Opposed to Carinya Street becoming one way and believe this will push more traffic onto Vernon Street.</p> <p>Driveway to Cottage 6 should only be for use of the residents</p> <p>There is no reference to vibration</p>	<p>HCCDC engaged with NAISDA Dance College and changes made to the design to address concerns including:</p> <ul style="list-style-type: none"> • retain Carinya Street as a two-way street. • provision of a sandstone block in the private driveway to Cottage 6 to prevent unauthorised access. • the existing pedestrian crossing at Vernon Street will be upgraded to a safer solution. • removal of the proposed changes to the loading dock and stormwater infrastructure from the scope of works

#	Submitter	Matters raised by submitter	Response / where addressed in REF
		<p>impacts</p> <p>We request to be consulted on the CEMP</p> <p>NAISDA feedback is incorrectly reported and NAISDA is incorrectly referenced</p> <p>Consideration should be given to future school development</p> <p>Traffic assessment does not consider on-site traffic operations.</p>	<p>NAISDA will continue to be engaged during the construction to minimise disturbance.</p> <p>The design has also been amended to minimise works to the eastern side of Parklands Road north. This will allow the future development of this site to determine the road frontage without impacts to parking or stormwater provided under these works.</p>

7. ENVIRONMENTAL IMPACT ASSESSMENT

7.1. Introduction

This section describes and assesses the potential impacts of the proposed activity.

Section 171 of the Regulations stipulates the environmental factors that must be taken into account when consideration is being given to the likely impact of an activity on the environment. An evaluation of the proposal against those environmental factors is provided in Section 6.4.

7.2. Assessment Methodology

7.2.1. Overview

The environmental assessment methodology for the project involves the following:

- Identifying potential environmental risks/impacts associated with the project
- Evaluating identified risks/impacts to determine the potential for occurrence and degree of severity
- Identifying and determining suitable environmental management procedures and mitigation measures for planned works.

7.3. Consideration of Key Issues

7.3.1. Aboriginal Heritage

An Aboriginal Due Diligence Assessment has been prepared by Biosis to inform this REF (**Appendix C**). The assessment involved a desktop study as well as an archaeological investigation of the study area undertaken on the 04 March, 15 March, and 25 May 2022.

The 'study area' is located within Lot 10 DP 1149050, located in the Gosford Local Government Area (LGA), and is focused mostly on the existing road network (Figure 19), which is the subject of the proposed infrastructure upgrades.



Figure 19: Extract of Aboriginal Due Diligence Assessment (Source: Biosis)

The assessment identified that there are 117 Aboriginal cultural heritage recordings within a 1.7km vicinity registered with the Aboriginal Heritage Information Management System (AHIMS), however, of the recordings, none were located within the study area. Further, the archaeological investigation undertaken observed that the study area has undergone significant disturbance which suggests that there is low potential for intact archaeological deposits to be present within the study area.

As identified in section 6 above, consultation with representatives of the Aboriginal community was undertaken. Both the Darkinjung Local Aboriginal Land Council and Awabakal & Guringai Pty Ltd were engaged and it was agreed that the entire study area is of low archaeological potential.

The due diligence assessment concluded that the study area has low potential and no further archaeological assessment is required. A number of mitigation measures were recommended:

1. A Heritage Interpretation Plan is prepared as the study area is part of a significant cultural landscape. The Plan must be developed in consultation with the Aboriginal community.
2. During construction, should any Aboriginal objects be encountered, works must cease, and the find should not be moved until it is assessed by a qualified archaeologist. If the object is identified to be an Aboriginal

object, the archaeologist will provide further recommendations and both Heritage NSW and Aboriginal stakeholders should be notified.

3. If any suspected human remains are discovered, the following must occur:
 - a. Immediately cease all work at the location
 - b. Notify the NSW Police and Heritage NSW as soon as practicable
 - c. Do not recommence work unless authorised in writing by Heritage NSW.

The recommendations are considered suitable and reasonable and are adopted in the recommended mitigations measures in section 8 of this REF.

7.3.2. European Heritage and Landscape Setting

There have been two Statement of Heritage Impact (SOHI) prepared by Biosis to inform this REF one which addresses with Parklands Road and another which deals with McCabe Road and The Avenue. The studies are hereafter referred to collectively as 'the Heritage studies' (**Appendix D**). The heritage studies identify that the Mount Penang Parklands are state heritage listed (State Heritage Register (SHR) Item no. 01337) and are included on local heritage registers. The proposed works require a Section 60 approval pursuant to the provision of the *Heritage Act 1977*.

The Mt Penang Conservation Management Plan (TKD Architects – November 2020) (**Appendix E**) applies to the site and is considered in the heritage studies. The assessment included consideration of both the concept design for Parklands Road, McCabe Road, and The Avenue within the broader vicinity which may be directly or indirectly affected by the proposal.

The significant heritage values identified within the assessment include four heritage items listed below:

1. Mount Penang Parklands (SHR Item No. 01337)
2. Mature cultural plantings, including coral trees, brush box, camphor laurels, white poplars, hoop pines, an oak and a larch (Gosford Local Environmental Plan (LEP) 2014, Item no. 73)
3. White poplar avenue (Gosford LEP 2014, Item no. 71)
4. Two groups of scribbly gums (Gosford LEP 2014, Item no. 74).

With consideration of the proposed design for Parklands Road the civil concept has been assessed as having:

- No direct impact to significant built elements
- A moderate to major impact to heritage tree plantings
- Minor indirect impacts to the landscape of the Heritage Precinct and Festivals/Garden Precinct
- Moderate indirect impact to landscape in the Baxter's Track Mixed-use precinct.

The Heritage studies have provided a range of mitigations measures to reduce the impact of the proposed works on the relevant heritage elements within the study area. The mitigation measures have been developed pursuant to the policies of the Conservation Management Plan, Gosford Development Control Plan 2013, the Arboricultural Impact Assessment, best practise techniques, and the Burra Charter.

The recommended mitigation measures include the following:

1. Apply for approval for works under Section 60 of the *Heritage Act 1977*.

2. Reduce or minimise impact to heritage significance using the following techniques:
 - a. Use of tree sensitive design for roads and paths as per the Arboricultural Impact Assessment (section 6.3.9)
 - b. Undertake non-destructive root exploration for heritage planting trees likely to be impacted by works
 - c. Develop and adopt a Tree Protection Plan in accordance with Australian Standard 4970 *Protection of trees on development sites*
 - d. Retain current kerb alignment on Parklands Road to limit damage to root systems for trees immediately adjacent to these roads
 - e. Use of horizontal directional drilling / underboring for services which would enter heritage tree planting TPZs
 - f. Undertake a photographic archival recording of the area of proposed works prior to, during and following completion of works
 - g. Include sensitive and complementary materials, elements and colours as part of landscape design.
3. Heritage interpretation which includes information on the Aboriginal cultural landscape and non-aboriginal uses of the study area should be developed as part of the project.
4. All site workers involved in the proposed works should undertake a heritage induction to ensure they are aware of the heritage values of the site and the legislative requirements and implications for non-compliance.
5. An unexpected finds procedure should be developed and adopted to ensure any unexpected archaeological remains are managed appropriately.

The recommendations are considered suitable and reasonable and are adopted in the recommended mitigations measures in section 8 of this REF.

7.3.3. Flora and Fauna

A Flora and Fauna Assessment (FFA) has been undertaken by Biosis, dated 13 May 2022, to inform this REF (**Appendix B**). The assessment was undertaken over a study area which included the development footprint plus a 20m buffer to account for any adjacent area which may be directly or indirectly affected by the proposed works.

The study area contains predominantly urban native and exotic vegetation; however, a small portion (0.38 hectares) contains remnant vegetation which may contain habitat for fauna listed under the NSW *Biodiversity Conservation Act 2016* (BC Act). The vegetation is located on the south-eastern side of the intersection of Parklands Road and McCabe Road and corresponds with landscape area L2 (Scribbly Gum Forest) as identified within the Heritage Conservation Management plan. None of the remnant vegetation contained within the north-east of the study area is proposed to be removed to facilitate the infrastructure works along Parklands Drive.

During consultation with Council, it was noted that suitable breeding habitat for the Red-crowned Toadlet exists within the site. The Central Coast Flora and Fauna guidelines state that frog surveys are only required where there may be direct impact on aquatic habitat. Biosis has confirmed that no direct impact will result to aquatic habitat as a result of the proposed works, as such the requirement for a frog survey is not required. Nonetheless, a frog aural visual survey was undertaken as a precautionary measure and additional searches along the edge of the waterway were

undertaken for all frogs that have been recorded in the locality. This was conducted in the required survey period for Red-crowned Toadlet and under suitable conditions (year-round permissible, following rain). The species was not detected during the survey.

The FFA concludes that the impacts of the proposed works are minor and localised and are not likely to result in a significant affect to threatened species. The following terrestrial environment mitigations measures are recommended:

- Hollow-bearing trees should be avoided where possible with works sited to retain these features.
- Should hollow-bearing trees need to be removed, it should occur in a two-stage process:
 - Stage 1: Surrounding shrubs and canopy to be removed and the hollow-bearing tree/s to be knocked by arborist or excavator and left standing for 24-48 hours prior to hollow-bearing tree removal, to allow time for fauna to escape and relocate naturally.
 - Stage 2: Ecologist or arborist (if high in tree) to inspect hollows and/or habitat trees for the presence of fauna. Excavator operator or arborist to again knock or disturb the habitat tree prior to felling, with the intent to encourage the final movement of fauna out of hollows/nests. During felling, the tree is felled as carefully as possible and placed on the ground, for example branch-by branch to allow for regular checks for fauna by the Ecologist. Lengths cut from trees during felling should be divided in a manner that will preserve integrity of any hollows present and placed in retained vegetation to provide habitat for ground dwelling fauna. Any fauna displaced are either captured and inspected for injury prior to relocation in a pre-allocated area, or allowed to self relocate into adjacent retained habitats. Injured fauna are to be taken to a local veterinarian or a WIRES representative is to be contacted as soon as possible.
- To the fullest extent practicable, minimise disturbance to any native vegetation surrounding the study area.
- Where possible, any trees to be retained should be protected in accordance with Australian Standard AS4970 – 2009 Protection of trees on development sites (Standards Australia 2009).
- In the unlikely event that unexpected threatened species are identified during the project, works should cease and an ecologist contacted.
- Appropriate measures should be implemented to minimise the spread of the following three priority weeds species:
 - Lantana camara (Lantana)
 - Rubus fruticosus (Blackberry)
 - Senecio madagascariensis (Fireweed)
- Appropriate erosion and sediment control measures should be installed at all sites to avoid sedimentation of receiving water bodies or other indirect impacts to surrounding biodiversity values

The recommendations are considered suitable and reasonable and are adopted in the recommended mitigations measures in section 8 of this REF.

7.3.4. Noise and Vibration Impacts

Construction noise

The proposed construction works will generate noise and vibration emissions that will impact on surrounding land uses. The Parkland contains a range of uses with varying levels of sensitivity to those emissions. The land uses include:

Table 13: Surrounding Land Uses

Use	Location
Educational	Kariong Mts High School NAISDA Parkland Community Pre-School 25 & 40 The Avenue
Recreational	Mt Penang – Public BBQ Park Mt Penang – Gardens Park
Commercial	Waterfall Café 7, 10, 45 & 50 Mc Cabe Road Riding for the Disabled 3 Central Coast Highway
Residential	1, 4, and 6 The Avenue

Background and ambient noise levels were measured with the results described in Table 14. Two monitoring locations were established, one on Parklands Roads outside NAISDA and one outside No. 6 The Avenue.

Table 14: Existing background noise levels (Source: RAPT consulting). Note: The LA90 descriptor is used to measure the background noise level. This descriptor represents the noise level that is exceeded for 90 percent of the time over a relevant period of measurement.

Descriptor	6 The Avenue	NAISDA	Time Interval
LA90 Day	41	61	7.00am – 6.00pm
LA90 Evening	42	59	6.00pm – 10.00pm
LA90 Night	38	58	10.00pm – 7.00am

Applying the criteria within the former Department of Environment, Climate Change, and Water Interim Construction Noise Guidelines noise affected and highly noise affected levels were established for the different land uses. Noise affected level represent the point above which there may be some community reaction to noise and highly noise affected level means the point at which there may be strong community reaction to noise (RAPT consulting). The noise affected levels were adopted as noise management levels (Table 15) for the purposes of the assessment:

Table 15: Noise Management Levels (Source: RAPT consulting)

Receptor Type	Noise Management Levels				Highly noise affected level
	Standard Hours	Daytime	Evening	Night time	
Educational	55	55	55	55	75
Recreation	65	65	65	65	75
Commercial	70	70	70	70	75
Residential	51	46	46	43	75

Noise levels were predicted using the sound output of the machinery identified in s.4.2 of this report, applying the following four work phases:

- Site Preparation
- Utilities Infrastructure
- Vegetation removal
- Drainage / Paving.

The noise levels were assessed across eight locations, allowing an assessment of impacts to be made from works occurring in different locations on the site. The predicted noise level were assessed against the noise management levels and highly affected noise levels. Key findings of the assessment were:

- In many instances the noise management levels are anticipated to be complied with, exceedances may occur based on work location, work activity, and proximity to receivers
- The highly noise affected level may be exceeded at three locations (Receiver 3 – Mt Penang Gardens Park, Receiver 6 - NAISDA and Receiver 17 – 1 The Avenue – residential) during vegetation removal
- Exceedances of the noise management levels may impact Kariang Mountains High School, Parkland Community School and the NAISDA across all phases of construction
- The exceedances are based on worst case scenarios and expected to be short term as the noise moves away from receptors.

The recommended mitigation measure is preparation of a construction noise and that vibration management plan. The acoustic report identifies a range of management, pathway and receptor measures that could be implemented to mitigate impacts.

Operational Noise

The Mt Penang Parklands Road network is defined as a local road network under the NSW Roads Noise Policy. The proposed works are assessed as minor works as they are not intended to increase the overall traffic carrying capacity of the road or accommodate a significant increase in heavy vehicle traffic.

The proposed works will lead to a change in the operation of the road network with the creation of a one-way system on the Avenue and Parklands Road. The traffic impact assessment identifies the benefits of the new system as improved road safety and improvement in kerb side function. It further identifies that it results in traffic volume when

compared to other options and queuing improvements.

The acoustic assessment concludes that the proposed changes to the network will provide a road noise benefit rather than increasing traffic noise.

Vibration Impacts

The Acoustic report considers local and international standards and guidelines on the impact of vibrations on:

- Human exposure
- Damage to buildings
- Minimum working distances from sensitive receivers.

Preferred and maximum values for continuous and impulsive vibration are identified to minimise damage to structures and impacts on human comfort. Vibration levels are noted as diminishing quickly over distance and as such an impact on the broader community is not typically expected.

Transport for NSW's Construction and Vibration Strategy Guideline includes minimum safe working distances for vibration intensive plant from sensitive receivers, with the minimum distances increasing for heritage items. The assessment recommends that vibration intensive plant is limited in its size and power to:

- Vibratory roller < 100 kn (2-4 tonnes) and small hydraulic hammer 300kg (5 to 12t excavator).

Specific consideration will need to be given to vibration impacts along The Avenue, where heritage structures are located close to the roadway.

The recommended mitigation measure is preparation of a construction noise and that vibration management plan.

Noise and Vibration - Conclusion

The recommended mitigation measure of preparation of a construction noise and that vibration management plan is suitable and reasonable. The plan must include:

- Management measures
- Source controls
- Pathway controls
- Receptor controls
- Additional mitigation to be imposed where exceedances are anticipated, after implementing standard mitigation measures
- Specific measures to mitigate vibration impacts on heritage structures.

The construction noise and that vibration management plan will form part of the broader construction environmental management plan.

7.3.5. Dam Safety

During construction it is important that the structural integrity of the dam is maintained. Northrop Consulting Engineers have provided the following recommendations to ensure the dam remains sound during construction:

1. Avoid trenching within the base of the dam wall or within the wall itself. Below ground services will be located away from the zone of influence of the wall
2. Avoid planting of trees within the dam wall
3. Avoid alterations to the outlet structures of the dam such as to not increase water levels in the dam
4. Maintain vegetation cover of the dam wall.

A Dam Safety Evaluation plan was prepared by NSW Department of Public Works and Services (Appendix F). The plan was prepared to protect the upper dam from construction impacts whilst the lower dam was constructed. The key recommendation of the plan was that the dam embankment should be consistently monitored during the construction of the works. This recommendation is applicable and can be applied to any works undertaken as part of this project in the vicinity of the dam.

The recommendations from Northrop and the Dam Safety plan are considered suitable and reasonable and are adopted in the recommended mitigations measures in section 8 of this REF.

7.3.6. Air Quality

The Department of Planning and Environment is responsible for monitoring air quality in NSW. Air quality in the Central Coast region is measured at the Wyong monitoring site. Council's state of the environment report 2021 identifies the following:

- The number of days the Ambient Air Quality National Environment Protection Measure 24 hour standard for particles (PM10 – Particles small enough to pass through the throat and nose and enter the lungs) was exceeded was low and significantly lower than more urbanised centres, including Sydney
- PM2.5 (Particles small enough to enter the lungs and blood stream) has been slightly increasing for the Central Coast.

The proposed works have the potential to impact on the air quality of the local environment through:

- Dust generated from construction works, including excavations, wind erosion from stockpiles and bare surfaces, dust lifted and shifted by the movement of construction vehicles.
- Emission of exhaust from construction vehicles.
- Improper handling and management of asbestos material (if discovered).

The immediate local environment contains several uses that are sensitive air quality and located in close proximity to the works including:

- Parklands Community Pre-School: The pre-school has an open outdoor play space setback approximately 10m from Parklands Road
- Kariong Mountains High School: The outdoor grounds are setback approximately 10m from Parklands Road
- NAISDA: Open outdoor communal area setback approximately 40m from Parklands Road.

The proposed construction works involve limited earthworks and will be of a limited duration and as such impacts should be minimal. It is however important that specific consideration is given to measures and procedures that can be put in place to minimise the potential for adverse impacts on the adjacent land uses, and in particular the Parklands Community Pre-School which is near the works and has an open interface to them.

It is recommended that a comprehensive Construction and Environmental Management Plan is prepared. The CEMP must give specific and detailed consideration to impacts on adjacent users and how they can be managed and mitigated and clean up procedures if there is a failure.

7.3.7. Bushfire

The area the subject of this REF is not mapped as bushfire prone land. Other parts of the Parklands are mapped as bushfire prone and will be reliant on the road network as an evacuation route in the event of a bushfire. It is noted that the Parklands contains several sensitive land uses including a pre-school and high schools.

At present there is a single point of ingress and egress to the site for vehicles being The Avenue. The Avenue passes through Category 1 bushfire vegetation near to its connection with the Central Coast Highway. The proposed works improve evacuation options by creating a second route to the external road network, by creating a connection to Baxter Track. It is acknowledged that Baxter Track also leads through mapped bushfire vegetation.

The traffic study prepared by GHD (Appendix G) evaluates different road network options for the site and makes the following comment:

“The road network has also identified as a feasible network from a bushfire perspective (Planning for Bush Fire Protection 2019, NSW Rural Fire Service)”

7.3.8. Vegetation Impact

An Arboricultural Impact Assessment (AIA) has been prepared by Active Green Services (**Appendix H**). The report assessed all trees within the study area and identified the trees which may have potential to be impact by the proposed development. As discussed above in section 6.3.2 there are a number of trees on the site which maintain heritage significance, all of which are required to be protected and retained during the construction of the proposed infrastructure. Retention of the significant trees will be ensured by initial non-destructive root exploration (root mapping) in combination with pragmatic Tree Sensitive Design modifications.

The AIA identifies that tree rooting depth are frequently restricted by impenetrable surface, such as the existing road network, which suggests the tree rooting system may be halted within approximately 10cm after penetrating soils underneath a impenetrable surface (road). It is therefore reasonable to rationalise that less tree roots will be found under the existing road along Parklands Road. As such, it is recommended that new services and utilities are to be placed under the existing road network and away from the base of the trees as best as possible.

Based on the information provided within the AIA the trees that are required to be retained have been identified in Table 16 below.

Table 16: Vegetation Identification

Identification	Tree Number	Requirement
Heritage Significance	4, 5, 6, 7, 8, 9, 10, 11, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 70, 71, 72, 73, 118, 119	No trees identified in the second column can be removed as part of this REF to facilitate the proposed works. If the Root Mapping findings determine tree removal of any tree identified in column 2, the proposal shall be redesigned to ensure retention of the relevant trees.
Non-heritage, high retention value	52, 53, 54, 56, 57, 61, 62, 63, 65, 66, 67, 68, 69, 96, 97, 99, 101, 102, 103	The trees identified within column 2 should be retained as best as possible. If the Root Mapping determines It must be demonstrated that all design options have been considered prior to tree removal occurring. Furthermore, if tree removal is required, compensatory planting is to be undertaken and recommendations for suitable species should be provided by a registered arborist in accordance with the Conservation Management Plan (Appendix E).

Some vegetation removal will be required to facilitate the proposed works. The exact number of trees required to be removed, will be determined once Root Mapping is undertaken by the appointed arborist. The AIA provides a number of recommendations for Tree Sensitive Design options which include the following:

- Screw Piling
- Cantilevers
- Structural Confinement Cells
- Raised Paths (build-overs)
- Porous Paving.

The recommendations listed above have been included in section 8 of this REF. Please refer to the AIA (Appendix H) for additional information.

To enhance the future landscape character of the site, any tree removed must be offset at the following ratios:

- 2 replacement trees for each tree removed

Replacement trees must be of species consistent with the requirements of the Conservation Management Plan.

7.3.9. Traffic and Access

The Mount Penang Parklands maintains a comprehensive pedestrian and vehicle access network. Construction access to Parklands Road will be provided from the Central Coast Highway, onto The Avenue. The relevant directions and informative signage will be maintained.

The proposed road works (and those to be completed under other approvals) will result in the creation of a one way clock wise network within the Parklands. The proposed movement network was developed by GHD which has been outlined within the Traffic Analysis (Appendix G) and was found to have the following outcomes:

- “Under the proposed upgrade works, the bidirectional traffic volumes are expected to decrease on most links due to the alternative access providing a more direct route to many locations in the Parklands.
- Parklands Road traffic volumes are anticipated to increase due to vehicles circulating northbound on Parklands Road to reach destinations on The Avenue. This is paired with a decrease in traffic volumes on The Avenue northbound. Regardless, given the volumes remain low and the one-way system reduces conflict points, Parklands Road is expected to have sufficient capacity.
- Volumes also increase on Kangoo Road due to the additional access point at Baxter Track. The increase in volumes has minimal adverse impact to the Kangoo Road / Central Coast Highway intersection performance. This marginal increase directly corresponds with reduced impacts at The Avenue / Central Coast Highway intersection.
- The proposed upgrade arrangement provides further benefit with the additional development traffic volumes, as the access at Baxter Track reduces the volume of traffic circulating the Parklands road network to reach the northern land-uses. It is recommended, however, that the impact of additional development traffic at the accesses to the Parklands from Central Coast Highway (Kangoo Road and The Avenue) is assessed, if and when developments progress through the planning / approval phase.
- Construction traffic is expected to be low compared to the overall traffic through the site, and as such, minimal impact is expected.”

Pedestrian access shall always remain unimpeded. Some pedestrian pathways may be required to be closed temporarily which will be re-directed to other pedestrian paths.

Staff and students at Kariong Mountains High School and Central Coast Sport College will maintain access to their campuses and will not be permitted within the construction site.

The proposed works include the construction of new pedestrian pathways to provide additional opportunity for safe pedestrian access throughout the Mount Penang Parklands. The pathways will be constructed in accordance with Building Code of Australia (BCA) and Australian Standards for accessibility.

The new pedestrian pathways will provide further opportunity for the site to be used for active transport activities such as walking, running, and cycling. The paths will encourage additional community use of the site and allow for safe passage through the landscape to allow visitors to view the natural and historic environment available.

To facilitate the proposed pedestrian pathways some vegetation may be impacted. In accordance with section 6.2.9 of this REF Root Mapping will be undertaken to determine the extract of vegetation removal prior to the commencement of works.

7.3.10. Services and Utilities

The site does not currently have adequate connections to water, sewer and ITC services. The lack of existing infrastructure inhibits the potential of the site. The proposed works intend to provide the site will access to necessary services.

In accordance with the recommendations contained within the Arboricultural Impact Assessment (AIA) the location of the services be 'as far as reasonably practicable' from the base of existing trees and under the existing roading where lesser root biomass is anticipated.

The proposed services will comply with the relevant Australian Standards and will provide opportunities for future uses throughout the site to connect to the necessary infrastructure.

7.3.11. Excavation and Earthworks

The proposed works will require the undertaking of excavation including cutting for new roadways and trenching for new services lines. The exact volume of excavated material will not be known until works occur but is generally expected to be limited

The excavated material will be disposed of on site by dispersing it across the area defined as the Baxter Track mixed use precinct in the Mt Penang precinct plan. The dispersal site is generally cleared of vegetation having been previously used for agricultural purposes and has a modest generally straight line fall from east to west.

The environmental attributes of the land was assessed in the Aboriginal Cultural Heritage and Flora and Fauna assessments. The assessments did not identify any features that would be adversely cultural or ecological assets that would be impacted by the dispersal of the fill.

Further to this, a Geotechnical Investigation has been prepared by Douglas Partners. A summary of the subsurface conditions encountered within the boreholes is as follows:

1. Wearing Course – The wearing course generally comprised 50mm to 80mm thick asphaltic concrete.
2. Base Course – The base course material comprised gravelling sand, sandy gravel and clay sand to depth between 0.14m to 0.3m.
3. Subbase – Subbase material generally comprised pale brown, brown and grey gravelly sand, gravelly silty sand and clay sand.
4. Residual Sand/Clay – Medium dense to dense sandy clay, slay sand, and gravelly sand encountered in all boreholes to the limit of investigation between 1.0m and 1.5m.

The dispersal of the fill on-site has environmental and economic benefits, being:

- Reduced air pollution by removing the need for truck movements to take fill from the site.
- Reduction in construction costs.

The dispersal of the fill has the potential to create the following adverse impacts:

- Air and water pollution from the erosion of dispersed material by wind and water.
- Altering the lands relationship with adjoining properties.

- Alter the lands form and its contribution to the heritage character of the Mt Penang Parklands.
- Dispersal of contaminated excavated material, creating new contaminated areas.

The following mitigations measures are recommended to control the impacts:

- Preparation of a soil and water management plan that establishes how the site will be established and managed during construction and operational phases to mitigated potential water and air quality impacts
- Preparation of a fill plan that illustrates the fill area, how filling is to be staged and the depth of fill.

7.3.12. Water and Water Quality

The existing road network has limited drainage infrastructure with water generally directed by the fall of the surface towards the landscaped area at the road edge.

The proposed works retain the existing water management practices in some areas and enhance drainage infrastructure in others. The works are generally as follows:

- The new northern section of Parklands Road will include pipe and pit infrastructure. Collected water will be directed to the channel system on the verge of McCabe Road and eventually enter the creek line to the west
- Permeable pavement surfaces are to be used in large sections of the new parking bay to minimise runoff
- Flush kerbs are to be used in the central section of Parklands between the café and dam, with water directed to the west.

Any water sensitive urban design measures that are developed in future detailed design should seek to achieve the water quality standards contained in section 10 of the Gosford City Council Water Management Guidelines (February 2007).

The proposed works generally occur at or near the surface and it is not anticipated that they will intercept or impact the ground water table.

7.3.13. Site Suitability

An environmental assessment of the site was undertaken by RCA to determine the suitability of the site for the broader redevelopment envisaged by HCCDC. The assessment was published in March 2011 but remains valid as the use of the site has remained stagnant since that time and HCCDC are unaware of works or activities that would alter its findings.

The assessment found that the site was suitable for commercial, and retail uses but recommended that additional analysis be undertaken if residential uses were being considered or works were proposed within the area occupied by sporting fields.

The proposed development involves infrastructure works which are less environmentally sensitive than the uses that were considered in the assessment. The site is therefore considered suitable for the use.

The proposed works are not expected to result in any new contamination of the site. The mitigation measures include preparation of an unexpected finds protocol to specify actions to be taken should contamination be discovered when the road surfaces are removed. The protocol will similarly apply to finds of asbestos. Any excavated material to be

re-used on site will be classified prior to dispersal to avoid the spread of contaminated soil.

The site is not mapped by Council as containing Acid Sulfate soils.

7.3.14. Planning Impacts (General consistency with DCP)

For the purpose of this REF the provisions of the Gosford Development Control Plan 2013 do not apply. However, the proposed works have been designed in accordance with the objectives Chapter 5.3 Kariang, Mount Penang Parklands of the Gosford Development Control Plan 2013. In particular, section 5.3.3.6 Street Hierarchy and section 5.3.3.7 Pedestrian and Cycle Circulation. The provisions of the two sections are addressed in Table 17 below.

Table 17: Gosford Development Control Plan 2013 Compliance Table

Section	Control	Comment	Compliance
5.3.3.6 Street Hierarchy	<p><i>The street hierarchy must consider:</i></p> <ul style="list-style-type: none"> - Entrance points that inform the site's internal road hierarchy. The new road network should, where possible, use existing roadways and upgrades to existing routes to provide greater movement across the site that responds to the site's physical and heritage values; - Establishing a road hierarchy that respects the existing road patterns and limits traffic in the Heritage Precinct by providing additional access and egress points along Kangoo Road; - Defining property and precinct boundaries, which reinforces the site's various land uses and activities, whilst providing greater legibility and permeability; and - The definition and surveillance of open spaces throughout the site, so that the streets create an active edge and interface between public spaces and other uses 	<ul style="list-style-type: none"> - The proposed works use the existing roadways and propose to upgrade the existing road network to provide better movement networks throughout the site. This REF has been prepared with strict consideration of the natural and built form heritage significance located on the site. - The proposed works involve improvements to the existing road network and an extension of the existing road to connect to Baxter Track and provide further access to Kangoo Road. - The infrastructure upgrades proposed relate to Parklands Road which borders the Heritage Precinct and the Festival/Gardens Precinct. - The intention of the proposed works is to increase activity on the site and allow further accessibility by both vehicles and pedestrians. The proposed road works will provide further defined linkages between the areas of open space and the existing built form. 	Yes

<p>5.3.3.7 Pedestrian and Cycle Circulation</p>	<p><i>Movement and connections within the site should be encouraged to be taken by foot or bicycle via an integrated network of routes that deliver the following:</i></p> <ul style="list-style-type: none"> - A continuous pedestrian path around the site connecting the major activities and features, open spaces and areas of natural value; - A network of smaller path within and between precincts that may align with historic routes and connections; - Pedestrian only and shared routes with cyclists so that activity can be focused along key movement corridors, leading to improved safety and surveillance, particularly in relation to the connections between surrounding suburbs, the High School and sporting facilities; - Adequate bicycle parking, located throughout the site; - Integrated accessibility for the mobility impaired, paying careful consideration to the grade, treatment, lighting and visibility of the routes; - A network of walks throughout the Bushland Precinct that links to various areas of the site and encourages users to engage with the site and its facilities; and - Additional pedestrian links to connect with adjoining residential neighbourhoods and regional open space networks. 	<ul style="list-style-type: none"> - The proposed works include a considered pedestrian pathway along Parklands Road which will allow for the safe movement of pedestrians and cyclists throughout the site. - The proposed pedestrian pathways will link to the existing pedestrian network to allow alignment with other precincts. - The proposed pedestrian pathways present opportunity to provide safe active transport connections along Parklands Road which currently has limited pedestrian opportunity without formalised footpaths. - The proposed works provide opportunity for bicycle parking to be incorporated into the site. - The location of the intended pathways have been designed in accordance with the Building Code of Australia (BCA) and Australian Standards for accessibility. - The proposed works are not located within the Bushland Precinct. - The proposed pedestrian pathways provide a connection opportunity for future works to connect to adjoining commercial areas and allow access to the open space on site. 	<p>Yes</p>
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7.4. Section 5.5 – Environmental Planning and Assessment Act 1979

Pursuant to Section 5.5 of the Act, the Determining Authority is to consider the effect of an activity on the environment. An analysis of the activity is provided below in Table 18. The analysis has considered the

environmental impact assessment functions. In summary, due to the minor nature of the proposal, is not considered to negatively affect the environment and is considered satisfactory in this regard.

Table 18: Section 5.5 of the Act compliance table

Matters to be addressed	Comment
(1) For the purpose of attaining the objects of this Act relating to the protection and enhancement of the environment, a determining authority in its consideration of an activity shall, notwithstanding any other provisions of this Act or the provisions of any other Act or of any instrument made under this or any other Act, examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.	Addressed in the REF.
(2) Repealed	
(3) Without limiting subsection (1), determining authority shall consider the effect of an activity on any wilderness area (within the meaning of the <i>Wilderness Act 1987</i>) in the locality in which the activity is intended to be carried on.	The site is not located within a wilderness area, nor with the vicinity of a wilderness area. This matter is not applicable.
(4) Repealed	

7.5. Section 170 & 171 – Environmental Planning and Assessment Regulations 2021

In accordance with section 170 of the Regulation, the assessment of this REF has been undertaken in accordance with the 'Guidelines for Division 5.1 Assessments', June 2022.

Section 171 of the Regulation prescribes factors that must be taken into account concerning the impact of an activity on the environment for the purpose of Part 5 of the Act. The prescribed matters and an assessment of the proposed activity against those matters are outlined in Table 19 below. In summary, the proposal has appropriately considered the impact of the activity on the environment and is not expected to negatively impact the environment, subject to the incorporation of the mitigation measures identified within Section 8 of this report.

Relevant sections of the report are referenced which provides a more detailed assessment of the potential impacts. Section 8 provides the applicable mitigation measures that need to be implemented.

Table 19: Factors for Consideration under section 171 of the EP&A Regulation 2021

Factor	Impact Assessment	Rating
(a) the environmental impact on a community,	Community impacts would comprise demolition related impacts associated with traffic, access, noise and to a lesser extent, dust. A positive impact to the community will occur post works with the redevelopment of the road network within the site. The impacts during demolition works will be temporary and will be suitably managed through the various mitigation measures outlined in Section 8.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(b) the transformation of a locality,	The proposed works will see the existing road network upgraded to provide more efficient connections throughout the site. The road network is existing within the site and the proposal is not expected to transform the appearance of the locality. New carparking is proposed which will be well-integrated into the existing landscape.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(c) the environmental impact on the ecosystems of the locality,	To facilitate the proposed works some vegetation removal is required. The design of the proposed works involved a strategy to retain vegetation throughout the site. An Arboricultural Impact Assessment (AIA) report has been prepared (Attachment H) and the design developed to reduce the impact on significant trees and habitats. Tree planting is to be undertaken as part of the works.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality,	<p>The proposal will not result in a reduction of the aesthetic, recreational, scientific value of the locality. The proposed works are part of an overall upgrade of the road network which will provide a net improvement to the aesthetic, environmental and educational values of the locality.</p> <p>Liaison with the representatives of the Darkinjung Local Aboriginal Land Council and Awabakal & Guringai Pty Ltd emphasised the high cultural significance of the wider landscape in which the study area is located, but the low archaeological significance of the study area. It is further recommended that the Heritage Interpretation Plan is developed in consultation with the Aboriginal community.</p>	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(e) the effect on a locality, place or building that has aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special	The site does contain European heritage significance. This matter is addressed in s.6.3.2 above. Approval has been sought under the <i>Heritage Act 1977</i> .	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

Factor	Impact Assessment	Rating
value for present or future generations,		
(f) the impact on the habitat of protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>),	The proposal will not remove or impact any known habitat for protected animals (within the meaning of the BC Act).	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,	The proposal will not endanger any species of animal, plant or other form of life, whether living on land, in water or in the air.	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(h) long-term effects on the environment,	Any effects on the environment resulting from the road infrastructure will be temporary, minor or mitigated appropriately in accordance with the mitigation measures outlined in Section 8.	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(i) degradation of the quality of the environment,	Construction works will result in a temporary increase in noise and potentially a minor level of air pollution, and these impacts require mitigation throughout the duration of works. Suitable mitigation measures have been included in Section 8.	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(j) risk to the safety of the environment,	The works will enhance user safety through the provision of pedestrian pathways and reducing traffic in sensitive areas. Visitors to the parklands and students and staff of schools within the vicinity of the site will not have access to the area of the site where construction will occur during the period of construction.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(k) reduction in the range of beneficial uses of the environment,	The proposed works will facilitate an improved range of connectivity throughout the site.	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(l) pollution of the environment,	A demolition and construction management plan will be prepared prior to works commencing to manage any minor potential impact in terms of air pollution to the environment.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium

Factor	Impact Assessment	Rating
		<input type="checkbox"/> High
(m) environmental problems associated with the disposal of waste,	<p>The demolition waste will be managed in accordance with the Waste Management Plan as required as a mitigation measure in Section 8.</p> <p>There are a clear set of mitigation measures and legislative parameters around the management of waste. To this end, we do not consider the level of impact to be unmanageable or of any significance.</p>	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(n) increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply,	No	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(o) the cumulative environmental effect with other existing or likely future activities,	No, all existing and likely future activities will be related to existing activities that occur throughout the site. The proposed new roads will supplement and support any future road improvements in the area.	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions,	No, the site is not located in an area that is considered to be affected by coastal hazards.	<input checked="" type="checkbox"/> Nil <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(q) applicable local planning statements, regional strategic plans made under the Act, Division 3.1,	The proposed works will see the existing road network upgraded to provide more efficient connections throughout the site. The proposal is not inconsistent with the local planning statements and regional strategic plans.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
(r) other relevant environmental factors.	A complete environmental impact assessment has been completed throughout Section 7 which demonstrates full consideration of all environmental factors relevant to this REF.	<input type="checkbox"/> Nil <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

8. MITIGATION MEASURES

The mitigation measures for the proposed works are provided below in Table 20. These measures will be addressed during the construction phase and have been prepared based on the architectural plans prepared by Northrop Consulting Engineers.

Table 20: Mitigation Measures

Number	Aspect	Mitigation Measure	Responsibility	Timing																																
1	Details of the Activity	<div>The activity must be carried out substantially in accordance with the following plans / documents as modified below and by any of the undermentioned identified requirements:</div> <table><tr><th colspan="4">Table 1 Identified requirements</th></tr><tr><th colspan="4">Civil Engineering drawings prepared by Northrop</th></tr><tr><th colspan="4">Works shown in colour on the following drawings:</th></tr><tr><th>Number</th><th>Rev</th><th>Name of Plan</th><th>Date</th></tr><tr><td>DD-07-C04.01</td><td>3</td><td>Civil Eng Package – Detail Plan – Sheet 1</td><td>10.06.22</td></tr><tr><td>DD-07-C04.02</td><td>3</td><td>Civil Eng Package – Detail Plan – Sheet 2</td><td>10.06.22</td></tr><tr><td>DD-07-C04.03</td><td>3</td><td>Civil Eng Package – Detail Plan – Sheet 3</td><td>10.06.22</td></tr><tr><td>DD-07-C04.04</td><td>3</td><td>Civil Eng Package – Detail Plan –</td><td>10.06.22</td></tr></table>	Table 1 Identified requirements				Civil Engineering drawings prepared by Northrop				Works shown in colour on the following drawings:				Number	Rev	Name of Plan	Date	DD-07-C04.01	3	Civil Eng Package – Detail Plan – Sheet 1	10.06.22	DD-07-C04.02	3	Civil Eng Package – Detail Plan – Sheet 2	10.06.22	DD-07-C04.03	3	Civil Eng Package – Detail Plan – Sheet 3	10.06.22	DD-07-C04.04	3	Civil Eng Package – Detail Plan –	10.06.22	HCCDC Contractor /	At all times
Table 1 Identified requirements																																				
Civil Engineering drawings prepared by Northrop																																				
Works shown in colour on the following drawings:																																				
Number	Rev	Name of Plan	Date																																	
DD-07-C04.01	3	Civil Eng Package – Detail Plan – Sheet 1	10.06.22																																	
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DD-07-C04.04	3	Civil Eng Package – Detail Plan –	10.06.22																																	

Number	Aspect	Mitigation Measure				Responsibility	Timing
				Sheet 4			
		DD-07-C04.05	3	Civil Eng Package – Detail Plan – Sheet 5	10.06.22		
		DD-07-C04.06	3	Civil Eng Package – Detail Plan – Sheet 6	10.06.22		
		DD-07-C04.07	3	Civil Eng Package – Detail Plan – Sheet 7	10.06.22		
		DD-07-C04.08	3	Civil Eng Package – Detail Plan – Sheet 8	10.06.22		
		DD-07-C04.09	3	Civil Eng Package – Detail Plan – Sheet 9	10.06.22		
		DD-07-C04.10	3	Civil Eng Package – Detail Plan – Sheet 10	10.06.22		
		DD-07-C04.11	1	Civil Eng Package – Detail Plan –	10.06.22		

Number	Aspect	Mitigation Measure				Responsibility	Timing
				Sheet 11			
		DD-07-C04.12	1	Civil Eng Package – Detail Plan – Sheet 12	10.06.22		
		DD-07-C04.13	1	Civil Eng Package – Detail Plan – Sheet 13	10.06.22		
		Landscape drawings prepared by Imogen Miller Urban Design					
		Number	Rev	Name of Plan	Date		
		L101	B	Schedules selections	27.04.22		
		L110	C	The Avenue – Overall Street	30.05.22		
		L120	C	The Avenue – Detail Street 1	23.05.22		
		L121	C	The Avenue – Detail Street 2	23.05.22		
		L122	C	The Avenue – Detail Street 3	23.05.22		
		L200	A	Parkland RD – section S1 + S2	04.05.22		
		L201	A	Parkland RD –	04.05.22		

Number	Aspect	Mitigation Measure				Responsibility	Timing
				section S3 + S4			
		L202	A	Parkland RD – section S5	04.05.22		
		L300	B	Parklands Rd Materials & Trees 01	22.04.22		
		L301	B	Parklands Rd Materials & Trees 02	22.04.22		
		L302	B	Parklands Rd Materials & Trees 03 sheet 3	22.04.22		
		L303	B	Parklands Rd Materials sheet 4	22.04.22		
		Mt Penang Parklands – Mt Penang South, Infrastructure Works Review of Environmental Factors: Statement of Heritage Impact, Prepared by Biosis, Dated 4 April 2022, and Stage 2 McCabe Road and The Avenue, Prepared by Biosis, Dated 14 June 2022.					
		Mount Penang Parklands Flora and fauna assessment Prepared by Biosis, Dated 13 May 2022.					
		Mount Penang Parklands Aboriginal Due Diligence Assessment Prepared by Biosis, Dated 15 June 2022					
		Aboricultural Impact Assessment by Active Tree Services (Ref: JN 83857)					
		Acoustic Assessment prepared by					

Number	Aspect	Mitigation Measure	Responsibility	Timing
		RAPT consulting, Dated May 2022		
2	Heritage Act Approval	An approval for the works under Section 60 of the <i>Heritage Act 1977</i> must be obtained for stage 1 and stage 2.	HCCDC	Prior to Commencement of any works
3	Site Attendance and Works Period	The proposed works will be undertaken in accordance with the demolition and construction management plan.	HCCDC Contractor /	N/A – Standard Requirement
4	Approvals	All necessary approvals required by State and Commonwealth legislation and relevant Central Coast Council policies are to be obtained. A copy of all approvals is to be kept on-site and include the following: <ul style="list-style-type: none"> Section 60 Approval under the <i>Heritage Act 1977</i>. Application for 307 Certificate under Section 305 of the <i>Water Management Act 2000</i>. 	HCCDC	Prior to Commencement of any works
5	Equitable Access	The share pathway shall be designed such that the gradients and amenities ensure that it provides equitable access for all people. The pathway must be designed to comply with all relevant Australian standards for access.	HCCDC Contractor /	Prior to Commencement of any works on shared pathway
6	Council Notification	The council for the area shall be advised in writing, of the date it is intended to commence work, including demolition. A minimum period of seven (7) days notification shall be given.	HCCDC	Prior to Commencement of any works
7	Neighbourhood Tenant Notification	Neighbouring properties shall be notified 5-7 days prior to the commencement of works.	HCCDC	Prior to Commencement of any works
8	Construction Environmental Management Plan	A Construction Environmental Management Plan (CEMP) must be prepared. The CEMP must address/include (as a minimum): <ul style="list-style-type: none"> Legislative requirements and relevant non-statutory policies Specific environmental construction mitigation measures described in this REF Requirements outlined in any relevant approvals, permits or licences Details of: 	HCCDC Contractor /	Prior to Commencement of any works

Number	Aspect	Mitigation Measure	Responsibility	Timing
		<ul style="list-style-type: none"> ○ hours of work; ○ 24-hour contact details of site manager; and ○ community consultation and complaints handling. • A Construction traffic and pedestrian management plan, and construction access. This should include identification of traffic management measures to mitigate potential conflicts with vehicles and pedestrians associated with the existing uses onsite, as well as surrounding land uses. • A Construction noise and vibration management plan • Preparation of a fill plan that illustrates the fill area and how filling is to be disbursed across it • Erosion and sediment control in accordance with Landcom's Management Urban Stormwater: Soils and Construction. • Tree management and protection. • Air quality/dust suppression with specific consideration given to Parklands Community Pre-School • Management of hazardous materials, including asbestos • Aboriginal cultural heritage management to include an unexpected finds protocol for Aboriginal cultural heritage. • An unexpected finds protocol for non-Aboriginal heritage and associated communications procedure. • An unexpected finds protocol for contamination and associated communications procedure. • Waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site • Emergency Management Plan • The recommendations and requirement of any of the required investigations or management plans in other mitigation measures listed in this section. 		

Number	Aspect	Mitigation Measure	Responsibility	Timing
9	Demolition Waste	A Demolition Waste Management Plan shall be prepared by an appropriately qualified contractor prior to the commencement of works. The Waste Management Plan should be prepared in accordance with DECCW's "Waste Classification Guidelines (2008)" and the Protection of the Environment Operations Act 1997.	HCCDC Contractor /	Prior to Commencement of any works
10	Heritage Measures	<p>The mitigation measures presented in Section 8 of this REF and the following documents:</p> <ul style="list-style-type: none"> <i>Mt Penang Parklands – Mt Penang South, Infrastructure Works Review of Environmental Factors: Statement of Heritage Impact, Prepared by Biosis, Dated 4 April 2022</i> <i>Mount Penang Infrastructure Works Parklands Road, Utilities and Related Works Stage 2: McCabe Road and The Avenue, Prepare by Biosis, Dated 14 June 2022</i> <p>should be implemented in full in order to reduce impacts of the proposed works to heritage elements within and heritage significance of the item.</p>	HCCDC Project Manager / Contractor	<p>Prior to commencement of and during works</p> <p>A Heritage Interpretation Plan needs to include broader landscaping and development considerations and will be initiated through the construction phase. Where appropriate, measures will be incorporated in the project.</p>
11	Tree Protection and Management, and Flora and Fauna	<p>Tree protection measures are to be undertaken as specified within the <i>Arboricultural Impact Assessment Report, Prepared by Active Green Services</i>.</p> <p>Initial Non-Destructive Root Exploration (Root Mapping) is to be undertaken to locate tree roots pre-development.</p> <p>All excavations that are calculated as a 'Major' Encroachment within the TPZ of a High Retention tree should initially be undertaken by Non-Destructive Root Exploration through the use of Hand-digging and/or Air -Spade under the guidance of the Project Arborist.</p> <p>Trees in proximity of the proposed works will be protected during the construction works. A suitably qualified Arborist (AQF Level 5) is to advise on relevant measures to be implemented prior to the commencement of works and implemented during construction works.</p>	Arborist contractor /	Prior to Commencement of Any Work on Site and During Demolition Works
		Flora and Fauna	Contractor / HCCDC	

Number	Aspect	Mitigation Measure	Responsibility	Timing
		<p>Environmental safeguards that should be implemented are as follows:</p> <ul style="list-style-type: none"> To the fullest extent practicable, minimise disturbance to any native vegetation surrounding the study area. Where possible, any trees to be retained should be protected in accordance with Australian Standard AS4970 – 2009 Protection of trees on development sites (Standards Australia 2009). In the unlikely event that unexpected threatened species are identified during the project, works should cease, and an ecologist contacted. Hollow-bearing trees should be avoided where possible with works sited to retain these features. Where hollow-bearing trees need to be removed, it should occur in a two-stage process: <ul style="list-style-type: none"> <u>Stage 1</u>: Surrounding shrubs and canopy to be removed and the hollow-bearing tree/s to be knocked by arborist or excavator and left standing for 24-48 hours prior to hollow-bearing tree removal, to allow time for fauna to escape and relocate naturally. <u>Stage 2</u>: Ecologist or arborist (if high in tree) to inspect hollows and/or habitat trees for the presence of fauna. Excavator operator or arborist to again knock or disturb the habitat tree prior to felling, with the intent to encourage the final movement of fauna out of hollows/nests. During felling, the tree is felled as carefully as possible and placed on the ground, for example branch-by-branch to allow for regular checks for fauna by the Ecologist. Lengths cut from trees during felling should be divided in a manner that will preserve integrity of any hollows present and placed in retained vegetation to provide habitat for ground dwelling fauna. Any fauna displaced are either captured and inspected for injury prior to relocation in a pre-allocated area or allowed to self-relocate into adjacent 		

Number	Aspect	Mitigation Measure	Responsibility	Timing
		<p>retained habitats. Injured fauna is to be taken to a local veterinarian or a WIRES representative is to be contacted as soon as possible.</p> <ul style="list-style-type: none"> • Appropriate measures should be implemented to minimise the spread of the following three priority weeds species: <ul style="list-style-type: none"> - Lantana camara (Lantana) - Rubus fruticosus (Blackberry) - Senecio madagascariensis (Fireweed) • Appropriate erosion and sediment control measures should be installed at all sites to avoid sedimentation of receiving water bodies or other indirect impacts to surrounding biodiversity values. 		
12	Aboriginal Cultural Heritage	<p>In the event that unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during construction, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the relevant State government agency as appropriate.</p> <p>In accordance with the Aboriginal Due Diligence Assessment the following is recommended:</p> <ul style="list-style-type: none"> • It is recommended that a heritage induction and an unexpected finds procedure is in place for the development works. It is recommended that representatives from the Aboriginal community are involved during this process. • It is recommended that a Heritage Interpretation Plan is developed which incorporates Aboriginal cultural heritage, with heritage interpretation devices and context is developed in consultation with the Aboriginal community. • Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include 	Aboriginal Heritage Consultant / Project Manager / Contractor	<p>Prior to Commencement of and during works</p> <p>The recommendation to develop a Heritage Interpretation Plan should include broader landscaping and development of the Parklands and will be initiated through the construction phase. Where appropriate measures will be incorporated through the project.</p>

Number	Aspect	Mitigation Measure	Responsibility	Timing
		<p>notifying the Heritage NSW and Aboriginal stakeholder.</p> <ul style="list-style-type: none"> Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity, you must: <ul style="list-style-type: none"> Immediately cease all work at that location and not further move or disturb the remains. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location. 3. Not recommence work at that location unless authorised in writing by Heritage NSW. 		
13	Demolition	Demolition work must comply with the demolition work plans required by Australian Standard AS 2601-2001 The demolition of structures (Standards Australia, 2001) and endorsed by a suitably qualified person.	Demolition contractor / Accredited Certifier	During Demolition Works
14	Asbestos Removal	<ul style="list-style-type: none"> Asbestos removal and management in NSW is regulated under the <i>Work Health Safety Regulations 2017</i>. Asbestos has been identified on the site; therefore the handling of asbestos and asbestos work must be carried out in accordance with Work Health Safety Regulations 2017, and the following documents: a. Code of Practice: Construction Work; b. Code of Practice: Demolition Work; c. Code of Practice: How to Manage and Control Asbestos in the Workplace d. Code of Practice: How to Safely Remove Asbestos. Only suitably certified contractors who hold a current SafeWork Class A asbestos removal licence can demolish, handle and transport asbestos. The contractor is required to follow appropriate notification and guidelines issued by SafeWork NSW as well as those listed above. Notification to residents and SafeWork 	Demolition contractor	During Demolition Works

Number	Aspect	Mitigation Measure	Responsibility	Timing
		NSW will be provided if required under the relevant Code of Practice.		
15	Hours of Work	Demolition and Construction, may only be carried out between the following hours: (a) Monday to Friday: 7am - 6pm (b) Saturdays: 8am – 1pm (c) No work may be carried out on Sundays or public holidays. (d) Deliveries may occur outside the hours referred to above, but not before 6.30am or after 6.30pm. (e) Night works as required and with appropriate notification.	Project Manager / Contractor	During Works
16	Noise	The noise control recommendations contained within the Noise and Vibration Assessment Report prepared by RAPT consulting are to be complied with. The following mitigation measures are recommended: <ul style="list-style-type: none"> Behavioural practices: No swearing or unnecessary shouting or loud stereos/radios on site. No dropping of materials from height, throwing of metal items and slamming of doors. Verification: Where specified under Appendix C a noise verification program is to be carried out for the duration of the works in accordance with the Construction Noise and Vibration Management Plan and any approval and licence conditions. Construction hours and scheduling: Where feasible and reasonable, construction should be carried out during the standard daytime working hours. Works generating high noise and/or vibration level should be scheduled during less sensitive time periods. 	Project Manager / Contractor	Prior to Commencement of and during works
17	Access and Traffic	Construction shall be staged and managed to ensure that vehicular and pedestrian access is continuously available to the tenancies and public areas of the Parklands. Access management requirements shall be detailed in the CEMP.	Project Manager / HCCDC / Contractor	During works
		Safe pedestrian and cycle access and movement shall remain to tenancies and key		

Number	Aspect	Mitigation Measure	Responsibility	Timing
		open spaces at all times.		
		Appropriate signage and directional information shall be provided to inform motorists, pedestrians and cyclists on how to travel around the works.		
18	Services and Infrastructure	All services and utilities in the area of construction must be appropriately disconnected and reconnected as required. The contractor is required (if necessary) to consult with the various service authorities regarding their requirements for the disconnection of services.	HCCDC / Contractor	During Works
19	Utilities and Services	(i) Prior to commencement of any demolition or construction activities, any services near the building site which may be impacted by the works are to be accurately located. (ii) Dial Before You Dig should be contacted prior to the commencement of any works. (iii) Prior to commencement of works, an application for a compliance certificate is to be made to Sydney Water or other evidence of Central Coast Council non-objection to the commencement of work on the basis of service availability is to be provided, if deemed to be required.	HCCDC / Contractor	During Works
20	Water Quality and Water Sensitive Urban Design	<ul style="list-style-type: none"> All care and due diligence are to be taken to minimise or prevent pollutant material entering drain inlets or waterways. Erosion and sediment control is to be undertaken in accordance with Landcom's Management Urban Stormwater: Soils and Construction. All water collected shall be directed through a water quality management system prior to discharge to the lake or any creek or drain which feeds the lake. Water sensitive urban design measures achieve the water quality standards contained in section 10 of the Gosford City Council Water Management Guidelines (February 2007). 	Project Manager / HCCDC / Contractor	During Works
21	Unexpected Finds Protocol – Historic	If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the NSW	Contractor / Project Manager	During Works

Number	Aspect	Mitigation Measure	Responsibility	Timing
	Heritage	Heritage Division contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of the NSW Heritage Division.	Contractor	
22	Unexpected Finds - Contamination	If unexpected, contaminated material is encountered during the works, all work shall cease, the site will be secured, and a safe work method statement(s) and appropriate documented practices would be implemented to ensure the site is suitable for its use in accordance with the approved Demolition Management Plan.	Contractor / Project Manager / Contractor	During Works
23	Deliveries	Disruption to road users is to be kept to a minimum by scheduling any delivery activities outside of peak network hours	Project Manager / Contractor	During Works
24	Tree Protection Measures, Arborist inspection and reporting of retained trees	(a) Tree Protection Measures must be maintained by the project arborist in accordance with Condition 12 for the duration of works.	Arborist / Project Manager / Contractor	During Works
		(b) The project arborist must inspect and monitor the tree(s) identified for retention (comprising all) in for the duration of the development works to ensure the health and condition of the tree(s) is maintained. (c) The project manager is to be provided with reports by the project arborist within 5 days of an inspection detailing: the date of inspection; tree number, location and species tree health; compliance with the conditions of this consent; description of works inspected; description of any impacts to trees and any rectification and/or mitigation works prescribed and or undertaken. (d) Regular inspections and reporting from the project arborist to the project manager are required but not limited to the following items: i. Maintenance of tree protection measures. ii. Tree pruning. iii. Root pruning.		During Works

Number	Aspect	Mitigation Measure	Responsibility	Timing
		<ul style="list-style-type: none"> iv. Any works or excavation within the Tree Protection Zone; and v. The installation of services within the Tree Protection Zone 		
25	Waste	<ul style="list-style-type: none"> The contractors shall remove from site rubbish resulting from the works. Rubbish shall be handled in a manner so as to confine the material completely and to minimise dust emissions and disposed of in accordance with Contractor's DMP. Any asbestos removal is to be undertaken by a Licensed Asbestos Removal Contractor (LARC) (once appointed). All works are to be conducted in accordance with legislative requirements and following the requirements of the document 'How to Safely Remove Asbestos: Code of Practice (SafeWork NSW, 2019). All waste generated by the project, is to be beneficially reused, recycled or directed to a waste facility lawfully permitted to accept the materials in accordance with the "Waste Classification Guidelines" (DECCW, 2008) and the Protection of the Environment Operations Act 1997. No burning or burying of wastes is permitted on site. The workforce shall use temporary portable toilet facilities located on-site. Non-recyclable waste and containers are to be regularly collected and disposed of at a licensed landfill or other licensed disposal sites in the area. Any bulk garbage bins delivered by authorised waste contractors are to be placed and kept within the property boundary. Waste management practices for the Proposal are to follow the resource management hierarchy principles embodied in the Waste Avoidance and Resource Recovery Act 2001. These practices include avoid unnecessary resource consumption; recover resources (including reuse, reprocessing, recycling and energy recovery); and dispose (as a last resort). 	Contractor	During Works

Number	Aspect	Mitigation Measure	Responsibility	Timing
26	Night Works – Lighting	A Night Works Plan may be prepared to ensure lighting at night is managed appropriately to not adversely affect surrounding development.	Contractor / Project Manager	Prior to any night Works
27	Dam Safety	<p>During construction the following actions must be undertaken to avoid any impacts on the integrity of the dam.</p> <ul style="list-style-type: none"> • Avoid trenching within the base of the dam wall or within the wall itself. Locate below ground services away from the zone of influence of the wall • Avoid planting of trees within the dam wall • Avoid alterations to the outlet structures of the dam such as to not increase water levels in the dam • Maintain vegetation cover of the dam wall. 	Contractor / Project Manager	During Works
28	At the Completion of Works	<p>At the completion of the project, documentation and certification must be submitted to HCCDC which demonstrates that the work as undertaken complies with the terms of this REF. Works-as-executed drawings are also to be forwarded to HCCDC for information purposes at the completion of the project.</p> <p>After completion of demolition works, the contractor shall provide evidence to HCCDC within 7 days that the site demolition complies with AS2601-2001: The demolition of structures.</p>	Contractor	Prior to completion of the works

9. CONCLUSION

This REF has been prepared for the HCCDC and assesses the potential environmental impacts that could arise from the proposed works at the Mount Penang Parklands.

This report has been prepared in accordance with the relevant provisions of:

- Part 5 of the Act
- Section 171 of the Regulation
- The Transport and Infrastructure SEPP.

In accordance with Part 5 of the Act and section 171 of the Regulation, this REF has determined that the activity will

not likely affect the environment and does not cause any unacceptable environmental risk to the site or locality. As such, an Environmental Impact Statement is not required in this case and this REF is an adequate level of assessment.

If the HCCDC determines to undertake the activity, it is recommended that works proceed subject to the matters listed in Section 8 of this report.