

Bulli Town Centre Improvements

Minor works review of
environmental factors

May 2025



Acknowledgement of Country

Transport for NSW acknowledges the Dharawal people, the traditional custodians of the land on which the Bulli Town Centre Improvements project is proposed.

We pay our respects to their Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



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1. Introduction

The purpose of the Minor Works review of environmental factors (REF) is to describe the proposal, to document the likely impacts of the proposal on the environment, to detail mitigation measures to be implemented and to determine whether or not the proposal can proceed. For the purposes of this work Transport for NSW (Transport) is the proponent and determining authority under Division 5.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The description of the proposed works and assessment of associated environmental impacts has been undertaken in the context of section 171 of the *Environmental Planning and Assessment Regulation 2021*, Guidelines for Division 5.1 Assessments (DPE, 2022), the *Biodiversity Conservation Act 2016 (NSW)* (BC Act), the *Fisheries Management Act 1994* (FM Act) and the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)* (EPBC Act).

In doing so the REF helps to fulfil the requirements of section 5.5 of the EP&A Act including that Transport examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report
- The potential for the proposal to significantly impact a matter of national environmental significance, including nationally listed threatened biodiversity matters, or the environment of Commonwealth land. Where a significant impact is considered likely on nationally listed biodiversity matters, either the proposal must be reconsidered or a Project REF must be prepared.

2. The proposal

2.1 Description

2.1.1 Proposal location details

Table 2-1: Proposal location details

Location details	
Title	Princes Highway Bulli Town Centre Improvements
File number	A52972568
Road name and number	Princes Highway (HW1); Railway Street; Station Street; Park Road between Railway Street and the Princes Highway; Princes Highway between Station Street and Park Road; Bulli Station western car park.
Closest crossroad(s)	As above
Local government area	Wollongong
Transport for NSW region	South

2.1.2 Proposal location description

Transport for NSW proposes to improve traffic efficiency on the Princes Highway through the township of Bulli. The project is located at the town centre of Bulli NSW as shown in Figure 1 and Figure 2. Bulli is a northern suburb of Wollongong Local Government Area. The area for the project includes:

- Railway Street
- Station Street
- Park Road between Railway Street and the Princes Highway
- Princes Highway between Station Street and Park Road
- Bulli Station western car park.

Detailed design plans of the Project are shown in Appendix A.

Key features of the proposal include:

- Extended clearway hours:
 - Extend the existing clearway hours southbound on the Princes Highway between Park Road and Station Street to include:
 - Weekdays 6:30-9:30am, 3:00-6:00pm
 - Saturdays 11:00am to 1:00pm.
 - Extend the existing clearway hours northbound on the Princes Highway between Park Road and Station Street to include:
 - Weekdays 6:30-9:30am, 3:00-6:00pm.
- Ban the right turn into and out of Station Street at the Princes Highway:
 - Ban the right turn into and out of Station Street at the Princes Highway. The ban is to be implemented using no right turn signs, solid double barrier lines on the Princes Highway and painted median on Station Street as generally described in Attachment A.

- Dedicated right turn arrow at Park Road traffic lights:
 - Implement right turn phase at the Princes Highway, Park Road traffic signals to allow for a trailing right turn from the Princes Highway into Park Road while maintaining the filter right turn.
- Parking adjustments:
 - Railway St - 90 degree angle parking
 - Bulli Train Station - Remove grass verges and provide additional car spaces
 - Station Street - Provide angled parking spaces on northern side.
 - Park Road - Line mark the parallel parking bays.
- Shared path:
 - Shared path to be constructed on eastern side of Railway Street. Additionally a small section on the south side of Park Road from Station Street to the railway bridge.
- Two new raised pedestrian crossings:
 - At Park Road directly north of the intersection with Railway Street
 - And mid-way along Railway Street.
- Relocation of streetlights that are on the grassed verges in Bulli Station car park and Station Street and additional street lighting at the pedestrian crossing locations.
- Installation of 'Rubber speed cushions' on the railway overpass on Park Road.
- Speed zone review:
 - Review the speed zone on the following roads with the intention of reducing it to 30 km/h as a High Pedestrian Activity Area:
 - Park Road between Princes Highway and Franklin Avenue
 - Railway Street
 - Station Street.

The proposal is anticipated to involve the following work methodology:

- Establishment of a site compound within the Bulli Station car park
- Construction of shared path on Railway Street
- Installation of right turn phase at Park Road
- Installation of additional street lighting at Bulli Station car park
- Installation of additional street lighting on Park Road, Railway Street and Station Street
- Removal of grass verges at Bulli Station to create additional parking spaces
- Installation of street signage for the right turn ban at Station Street
- Line marking changes on Railway Street, Park Road, Station Street & Princes Highway
- Raised pedestrian crossings and blisters on Station Street
- Protect optic fibre cable in Station Street parking area
- Construct additional parks on Station Street
- Installation of clearway signs on Princes Highway
- Site disestablishment.





2.1.3 Proposal objectives

Traffic efficiency

The project sits within the NSW Network Efficiency Program and aims to achieve the following objectives:

- Reduce travel times
- Optimise road space
- Reduce crash risk and casualties on the state road network

And the following objective as an outcome of the community consultation:

- Maintain a zero net loss of parking during peak hours in Bulli
- Pedestrian safety improvements to improve access to the town centre.

The Princes Highway through Bulli is a State Road providing a key north – south suburban route which links Wollongong CBD to its northern suburbs and Sydney via Bulli Pass and Lawrence Hargrave Drive. Locally, the Princes Highway provides access for residents and businesses in Bulli.

The Princes Highway is typically two lanes in each direction, however, kerb side parking along the Princes Highway between Station Street and Park Road reduces the available lanes to one in each direction outside of existing southbound AM and northbound PM clearway times.

In 2016, traffic modelling was undertaken which indicated that without the implementation of traffic efficiency improvements, the southbound queue on the Princes Highway, would extend past Hobart Street in future year 2036. This level of congestion would approximately double the southbound travel time on the Princes Highway and significantly affect the local amenity of the corridor.

2.1.4 Ancillary facilities

Table 2-2: Ancillary facilities

Ancillary facilities		
Will the proposal require the use or installation of a compound site? A small site compound will be established in the gravel area at Bulli Station car park to house minor lay down where required and crew amenities. This area will form part of the car park upgrade area within the proposal footprint.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Will the proposal require the use or installation of a stockpile site?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are any other ancillary facilities required (e.g., temporary plants, parking areas, access tracks)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

2.1.5 Proposed date of commencement

The project is planned to commence in late-2025 and be completed by early 2026.

2.1.6 Estimated length of construction period

There will likely be a mix of day and night works during the project. Day work would be required for the majority of the works, with night works undertaken where required to avoid peak periods and parking & traffic impacts.

Night work (7 pm–6 am Sunday to Tuesday) would be implemented for activities such as:

- Signals modification
- Asphalting.

Day work (7 am to 6 pm Monday to Friday) would still be done for activities such as:

- Civil works on Railway Street and Station Street

- Signage
- Utility relocations.

2.2 Need and options

2.2.1 Options considered

The options considered for the proposal included:

Option 1-Do nothing: would not meet the objectives of the proposal to enhance traffic flow, improve safety and increase parking access.

Option 2-This proposal: This option includes clearway changes, no right turn at Station Street, dedicated right turn at Park Road, parking offsets, pedestrian safety improvements and a speed zone review. It would meet the safety objectives of the proposal to enhance traffic flow, improve traffic safety and increase parking and pedestrian access.

Option 3-Bulli Bypass: TfNSW is aware of community support for an extension of Memorial Drive to connect to Bulli Pass. There are currently no plans or funding to build this extension however land has been reserved should the need arise in the future. Though it may meet proposal objectives, due to the high cost, geological constraints and property impacts (some residential may require acquisition) this option is not preferred. TfNSW will continue to monitor the performance of the transport network.

Option 4-Widen the Princes Highway at Bulli: The area is well developed, so widening the road would be very difficult and would impact a large number of properties within a locally listed heritage conservation area.

The preferred option is:

Option 2

2.2.2 Justification for the proposal

The Princes Highway through Bulli serves as a vital north-south suburban route, connecting Wollongong CBD to its northern suburbs and Sydney through Bulli Pass and Lawrence Hargrave Drive. Locally, it provides essential access for Bulli's residents and businesses.

Currently, the Princes Highway typically consists of two lanes in each direction. However, due to kerb-side parking between Station Street and Park Road, the available lanes are reduced to one in each direction outside of existing southbound AM and northbound PM clearway times.

In 2016, traffic modelling indicated that without traffic efficiency improvements, the southbound queue on the Princes Highway would extend beyond Hobart Street by 2036. This level of congestion would approximately double the southbound travel time and significantly impact the corridor's local amenity.

Based on the 2016 traffic data, the recommended prioritisation of works included:

Priority 1: Critical corridor elements with pre-2026 implementation:

- Implementation of peak period clearways on the Princes Highway between Park Road and Station Street.
- Provision of two on-ramp lanes to Memorial Drive and reallocation of lanes at the Princes Highway/Molly Street roundabout to provide two through lanes to Memorial Drive.

Priority 2: Right turn management with implementation anytime:

- Ban of right turns from the Princes Highway to Station Street and implementation of a protected right turn signal phase at the Princes Highway and Park Road intersection.
- Provision of a channelised right turn bay at the Princes Highway and Point Street intersection.

The anticipated benefits of these priority works are:

- Vehicle Hours Travelled in network statistics are 21%, 26% and 5% lower in respective AM, PM and Saturday peak periods.
- Number of vehicle stops in network statistics are 24%, 29% and 10% lower in respective AM, PM and Saturday peak periods.
- Northbound travel time is improved by 20% (approximately 35 seconds), 19% (35 seconds) and 6% (10 seconds) in respective AM, PM and Saturday peak.

The traffic volume counts were checked in November 2022 to ensure consistency with the 2016 predictions and it was found that the counts were comparable and the 2016 conclusions still applied.

The proposal would contribute to achieving elements in both the Priority 1 and Priority 2 works. The following benefits are expected as a result of the proposed clearways:

- Remove the southbound pinch-point at Park Road during the weekday PM and Saturday peak period.
- Improve the safety and operation in the northbound direction during the weekday AM peak period by reducing the number of lane changing manoeuvres associated with weaving around right-turning traffic at Park Road and Station Street.

It is noted that there are no changes to the road geometry required to accommodate the expanded clearway provisions.

These proposed improvements aim to enhance traffic flow and alleviate congestion on the Princes Highway through Bulli, ensuring smoother travel and enhancing safety for both local residents and through traffic.

2.3 Statutory and planning framework

2.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the state, including for roads and road infrastructure facilities. Section 2.108 of the SEPP (Transport and Infrastructure) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the proposal is appropriately characterised as development for the purposes of a road or road infrastructure facilities and is to be carried out by or on behalf of Transport, it can be assessed under Division 5.1 of the EP&A Act. Development consent from council is not required.

The proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under State Environmental Planning Policy (Resilience and Hazards) 2021, State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021, State Environmental Planning Policy (Precincts – Central River City) 2021, State Environmental Planning Policy (Precincts – Western Parkland City) 2021, State Environmental Planning Policy (Precincts – Regional) 2021 or State Environmental Planning Policy (Planning Systems) 2021.

2.3.2 Other relevant legislation and environmental planning instruments

Heritage Act 1977

The Heritage Act 1977 affords statutory protection to those items identified as having heritage significance and which form part of the NSW heritage record. The Act defines a heritage item as “a place, building, work, relic, moveable object or precinct”. Items that are assessed as having State heritage significance are listed on the NSW State Heritage Register (SHR). Proposals to alter, damage, move or destroy heritage items listed on the SHR (or protected by an Interim Heritage Order [IHO]), require an approval under s60 of the Heritage Act 1977.

Archaeological features and deposits are afforded statutory protection by the ‘relics provisions’ of the Act. Land disturbance or excavation that will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed is prohibited under the provisions of the Act, unless carried out in accordance with a permit issued under s140 for Local heritage sites and s60 for State heritage sites of the Act.

The entirety of the study area is located within the Bulli Heritage Conservation Area (HCA), which incorporates the commercial centre, railway, and Princes Highway. Two SHR listed items are situated within the study area and in immediate proximity to proposed works locations. A further nine items of local significance are included in Schedule 5 of the Wollongong LEP 2009 with the HCA also included as a specific item on the Development Control Plan.

Identified heritage items located within the Subject Area and their proximity to proposed works locations is shown in Figure 3. The results of the heritage database review are presented below (Table 3-6).

A statement of heritage impact (SoHI) (Niche 2023) (Appendix B) was completed to assess the potential of the proposal on heritage items within the study area. At the time of SOHI assessment the scope of works included timed parking signage on Stokes Lane to promote short term parking, however available space for timed parking on Stokes Lane has since become unavailable due to construction of a new carpark on the north side of Stokes Lane. Therefore, signage installation in the vicinity of Bulli Family Hotel is no longer part of the scope of works and S60 application for the Bulli Family hotel is not required.

The SOHI recommends that a s.60 application be submitted to Heritage NSW for approval of works within the heritage curtilage of the *Bulli Railway Station Group and Moveable Objects* and *Bulli Family Hotel* SHR heritage items. However, given the removal of any proposed works on Stokes Lane, and a limited extent of works within the station carpark an exemption from Approval under s57(2) Heritage Act 1977 was granted on 28 January 2025 and is provided in Appendix F, citing the site-specific provisions of the Bulli Station heritage listing specific to the carpark area.

2.4 Community and agency consultation

2.4.1 SEPP (Transport and Infrastructure) consultation

Part 2.2 of the SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. This is detailed below:

Table 2-3: Consultation required with Council

Is consultation with Council required under sections 2.10 -2.12 and 2.14 of the SEPP (Transport and Infrastructure)?		
Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the works involve connection to a council owned sewerage system? If so, will this connection have a substantial impact on the capacity of the system?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the works involve connection to a council owned water supply system? If so, will this require the use of a substantial volume of water?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
A consultation letter was sent to Wollongong City Council on 27 September 2022 and a response was received on 31 October 2022. A second consultation letter was sent to Wollongong City Council on 8 August 2023. Matters raised have been considered and where feasible and reasonable, scope amendments made. Council consultation and coordination is ongoing to minimise impacts to the community as a result of the proposal. The consultation letters sent to Council are provided in Appendix G.		

<p>Will the works involve more than a minor or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?</p> <p>As above, consultation letters were sent to Council on 27 September 2022 and 8 August 2023.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is there a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works?</p> <p>Clause 14 of ISEPP details requirements for Consultation with councils in relation to development with impacts on local heritage.</p> <p>Under Clause 14 consultation with Council is required if the proposal 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. The proposal been assessed and SoHI prepared. The assessment has concluded that the proposal is not likely to have more than a minor or inconsequential impact on any listed heritage item.</p> <p>Therefore, consultation is not required under this clause, a copy of the SOHI is provided in the appendices of this REF (Appendix 2).</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal within the coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?</p> <p>Note: See interactive map at Coastal management - (nsw.gov.au). Note the coastal vulnerability area has not yet been mapped.</p> <p>Note: a certified coastal zone management plan is taken to be a certified coastal management program.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent?</p> <p>Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the Floodplain Development Manual: the management of flood liable land (nsw.gov.au).</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Table 2-4: Consultation with other public authorities

Is consultation with a public authority (other than Council) required under sections 2.13, 2.15 and 2.16 of the SEPP (Transport and Infrastructure)?		
<p>Are the works located on flood liable land? (to any extent) (SEPP (Transport and Infrastructure) s2.13)</p> <p>If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance?</p> <p>Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the Floodplain Development Manual: the management of flood liable land (nsw.gov.au).</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Are the works adjacent to a national park, nature reserve or other area reserved under the National Parks and Wildlife Act 1974, or on land acquired under that Act?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Do the works include a fixed or floating structure in or over navigable waters?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in bush fire prone land?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1961</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Table 2-5: Notification of council and occupiers of adjoining land

Do Council and occupiers of adjoining land need to be notified under section 2.110 of the SEPP (Transport and Infrastructure)?		
Does the proposal include a car park intended for the use by commuters using regular bus services?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal include a bus depot?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal include a permanent road maintenance depot or associated infrastructure, such as garages, sheds, tool houses, storage yards, training facilities and workers amenities?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

2.4.2 Other agency and community consultation

Community consultation

In 2019, Transport for NSW consulted with the community to better understand the community's experiences living and travelling around Bulli. Following the consultation, TfNSW developed a proposal to improve the traffic efficiency and reliability of the Princes Highway at Bulli. In June and July 2021, TfNSW placed the proposal on public display and asked for feedback. In total, 821 submissions were received.

Furthermore, two online Q and A sessions were held, of which 131 and 44 people attended respectively. During these online sessions 139 questions were raised in the chat function that related to the proposed traffic improvements for Bulli.

TfNSW engaged an independent consultant to analyse the feedback and prepare a Feedback Summary Report (Appendix D). The following themes were raised in submissions.

Theme	TfNSW Response
Evidence basis of the proposal	Traffic modelling informed TfNSW to reach the proposed options, but it is only one factor used during the development of answers to transport issues. Projects are developed based on several factors including safety data, environmental constraints, impact on heritage features, property impacts, socio-economic factors and community feedback.
Consultation limitations	Transport acknowledges the community's concerns regarding the impact the COVID pandemic and associated lockdowns have had on their capacity to participate in the engagement process. Transport has been engagement undertaking an extensive engagement program which began in 2019 prior to the COVID pandemic. During suggestion the recent consultation on the proposed traffic improvement measures Transport responded to requests and extended the consultation window by 4 weeks for a total of 8 weeks and moved engagement forums online. During the recent consultation Transport engaged directly with around 235 customers through phone calls to the 1800 number, meetings, the pop up sessions and the Q&A sessions. Thousands more customers have engaged with the project through social media, and other digital platforms including the online survey.
Safety and accessibility	As traffic volumes continue to grow, not only will travel times deteriorate, peak periods will also continue to spread across a longer time period. Significant queues and delays on the Princes Highway can lead to 'rat-running' through the adjacent local roads. Clearways would encourage

Theme	TfNSW Response
	<p>greater use of the Princes Highway thereby reducing the level of 'rat-running' and improving safety on local roads.</p> <p>TfNSW acknowledges the community's concerns regarding the loss of a 'buffer' between traffic and pedestrians that parked cars can provide and will continue to work with Wollongong City Council to investigate opportunities for alternative 'buffers' such as planter boxes to maintain the overall feeling of safety in the Bulli town centre.</p>
Out of scope suggestions (Bulli bypass)	<p>Transport acknowledges the community's suggestions regarding an extension of Memorial Drive to connect to Bulli Pass.</p> <p>There is an indicative transport corridor identified on the Wollongong City Council Local Environment Plan (LEP) within Bulli. Identifying potential corridors on LEP's is often used to help plan and guide new developments and land use changes.</p> <p>TfNSW is not currently planning any extension of Memorial Drive however, land has been reserved should the need for this extension be required in the future.</p> <p>The current focus is to provide a more integrated transport solution by improving the existing road network, improving bus and train services as well as working with Wollongong City Council to enhance walking and cycling infrastructure. This aligns with Future Transport 2056, the Illawarra Shoalhaven Regional Transport Plan and our vision to provide more sustainable transport solutions while providing the community with more transport choices.</p> <p>As the integrated solutions are delivered over the short and medium term, TfNSW, will continue to monitor the performance and changes on the transport network, seek feedback from the community and if required, determine the need, timing and feasibility of any extension to Memorial Drive.</p>
Business impact	<p>The proposed extension of clearway hours will only affect on-street parking on the Princes Highway during peak times. Outside of peak times customers and visitors will be able to park on-street on the Princes Highway to access local businesses as they do currently.</p>
Community impact	<p>The proposed traffic improvements to Bulli have been designed to maintain the look and feel of the town centre while enhancing the Bulli township by increasing the connection and accessibility between existing and additional car parks and shops. This would support the creation of place within the Bulli town centre (away from the Princes Highway) while enhancing the movement function of the Princes Highway during peak periods servicing both the local and broader community.</p>
Collaboration	<p>TfNSW is continuing to actively work with Wollongong City Council including their traffic & transport and planning teams to improve the safety, traffic flow and community experience when travelling to and through Bulli.</p>

Further community consultation was undertaken by TfNSW during February and March 2024 for the proposed Bulli Bypass project, with a number of respondents highlighting traffic efficiency and road safety issues through Bulli, particularly around the clearways and the right turns into Station Street and Park Road. Respondents identified the section of Princes Highway between Stations Street and Park Road as the most congested location, where drivers are often delayed due to the presence of parked vehicles and/or vehicles undertaking turning or parking manoeuvres. The Bulli Bypass Community Consultation Report is available on line: <https://www.transport.nsw.gov.au/system/files/media/documents/2024/bulli-bypass-consultation-summary-report-2025-01.pdf>

3. Environmental assessment

This section provides a detailed description of the potential environmental impacts associated with the construction and operation of the proposal. All aspects of the environmental potentially impacted upon by the proposal are considered. This includes consideration of the factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021.

The matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) are also considered in section 4. Site-specific safeguards are provided to ameliorate the identified potential impacts.

3.1 Soil

Table 3-1: Soil

Description of existing environmental and potential impacts		
Are there any known occurrences of salinity or acid sulfate soils in the area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal involve the disturbance of large areas (e.g., >2ha) for earthworks?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the site have constraints for erosion and sedimentation controls such as steep gradients or narrow corridors?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are there any sensitive receiving environments that are located in or nearby the likely proposal area or that would likely receive stormwater discharge from the proposal? Sensitive receiving environments include (but are not limited to) wetlands, state forests, national parks, nature reserves, rainforests, drinking water catchments).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is there any evidence within or nearby the likely footprint of potential contamination?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the likely proposal footprint in or nearby highly sloping landform?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to result in more than 2.5 ha (area) of exposed soil? The project would involve a maximum of 0.08 ha of disturbance.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

- Erosion and sediment control measures must be implemented and maintained in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book) to:
 - Divert clean water around the site
 - Reduce and control erosion on site
 - Reduce water velocity and capture and control sediment on site
 - Minimise the amount of material transported from the site.

3.2 Waterways and water quality

Table 3-2: Waterways and water quality

Description of existing environmental and potential impacts		
<p>Is the proposal located within, adjacent to or near a waterway?</p> <p>The southern extent of the proposal is located adjacent to a 1st order section of Whartons Creek, in this location line-marking/asphalting of the existing road formation is proposed, which is unlikely to have more than a minor or inconsequential impact to the creek applying standard roadwork controls.</p> <p>The closest point of earthworks associated with the proposal is located approximately 40 m from this section of Whartons Creek. All ground disturbed by the proposal would be contained with erosion and sediment controls appropriate to the size and scale of disturbance in accordance with the Blue Book (refer to soils safeguard above). Any concrete works would be limited to areas of earthworks (for kerb/guttering etc) and contained with appropriate controls to prevent escape to the environment.</p> <p>Due to the limited scope of works and with the implementation of the safeguards of this REF, there is unlikely to be more than a minor or inconsequential impact to waterways or water quality as a request of the proposal.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the location known to flood or be prone to water logging?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal located within or immediately adjacent to the area managed by WaterNSW covered by chapter 8 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (SEPP (Biodiversity and Conservation))?</p> <p>Note: See map here - Sydney drinking water catchment map.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal be undertaken on a bridge or ferry?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to require the extraction of water from a local water course (not mains)?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

- Water quality control measures are to be used to prevent any materials (eg. concrete, grout, sediment etc) entering drain inlets or waterways.

3.3 Noise and vibration

Are there any residential properties or other noise sensitive areas near the location of the proposal that may be affected by the work (i.e., church, school, hospital)?

Table 3-3: Noise and vibration

Description of existing environmental and potential impacts		
<p>During construction?</p> <p>The proposal would use standard plant and equipment that is not expected to produce excessive noise or vibration. Within the location (adjacent to the existing Princes Highway and Bulli Train Station, impacts are expected to be minor.</p> <p>However, several sensitive receivers have been identified in the vicinity, these include:</p> <ul style="list-style-type: none"> • PCYC Bulli (youth organization and community indoor sport facility) • Village Church (which operates inside the PCYC on Sunday afternoons) • Bulli Medical Practice • Hansen and Cole Funerals Bulli • Greencross Vets Woonona-Bulli • Residential Receivers: <ul style="list-style-type: none"> - 232, 242, 246 and 248 Princes Highway - 80, 78, 76, 72 and 41 Park Road - 12 Railway Street 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>During operation?</p> <p>Due to the limited scope of works within the confines of the existing state and local road network, no change to operational noise or vibration is expected.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal going to be undertaken only during standard working hours?</p> <p>Standard working hours</p> <ul style="list-style-type: none"> • Monday-Friday: 7:00am to 6:00pm • Saturday: 8:00am to 1:00pm • Sunday and Public Holidays: no work 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is any explosive blasting required for the proposal?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would construction noise or vibration from the proposal affect sensitive receivers?</p> <p>The proposal would use standard plant and equipment that is not expected to produce excessive noise or vibration. Works would occur adjacent to the existing Princes Highway and Bulli Train Station, and noise impacts are expected to be minor during day works, with many night works activities (eg signal works) low generating. Traffic signals work at night would require the use of a concrete saw to install traffic loops and to make adjustments to concrete kerbs. All works would have appropriate mitigation applied in accordance with the TfNSW Construction Noise Estimator, provided in Appendix H.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would operation of the proposal alter the noise environment for sensitive receivers?</p> <p>This might include, but not be limited to, altering the line or level of an existing carriageway, changing traffic flow, adding extra lanes, increasing traffic volume, increasing the number of heavy vehicles, removing obstacles that provide shielding including changing the angle of view of the traffic, changing the type of pavement, increasing traffic speeds by more than 10 km/hour or installing audio-tactile line markings.</p> <p>The proposal includes measures to improve traffic efficiency, however due to existing levels of congestion and 'rat-running' in local streets, the proposal is not expected to increase noise in the locality.</p> <p>It is noted that traffic efficiency during operation has potential to reduce idling traffic and potentially provide minor improvements to locality the locality short term, however with forecast increase to traffic volumes longer term the noise environment would be expected to be equivalent to the existing noise environment.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Would the proposal result in vibration being experienced by any surrounding properties or infrastructure during operation?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Safeguards

Safeguards to be implemented are:

- 3. Noise impacts are to be minimised in accordance with the TfNSW Construction Noise Estimator.
- 4. Consult with Hansen & Cole/White Lady Funerals on the corner of Princes Highway and Station Street prior to the commencement of noisy work, and schedule noisy works to avoid services held at the funeral home.

3.4 Air quality

Table 3-4: Air quality

Description of existing environmental and potential impacts		
Is the proposal likely to result in large areas (>2 ha) of exposed soils? The project would involve a maximum of 0.08 ha of disturbance.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are there any dust-sensitive receivers located within the vicinity of the proposal during the construction period? Several residences occur in the vicinity of works, however none have been identified as dust sensitive. Furthermore, due to the limited scope of earthworks and disturbance, and with the implementation of erosion and sediment controls (refer to soils safeguards) the potential for the emission of dust is considered low.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is there likely to be an emission to air during construction? The use of plant and equipment would result in low level exhaust emissions to air during construction, however given the location of the proposal is adjacent to the existing Princes Highway and Bulli Train Station (Diesel Coal Trains use the railway line frequently), the potential for plant associated with the proposal to impact local air quality during construction is considered low. Furthermore, traffic efficiency during operation has potential to reduce idling traffic and potentially provide minor improvements to local air quality longer term.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Safeguards

Safeguards to be implemented are:

Nil additional

3.5 Aboriginal heritage

Table 3-5: Aboriginal heritage

Description of existing environmental and potential impacts		
Would the proposal involve disturbance in any area that has not been subject to previous ground disturbances?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Has an online Aboriginal Heritage Information Management System (AHIMS) search been completed? TfNSW completed a basic AHIMS search for the project area on 7 December 2022. No Aboriginal sites have been recorded in or near the project area. No Aboriginal places have been declared in or near the project area.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Is there potential for the proposal to impact on any items of Aboriginal heritage?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve the removal of mature native trees?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal consistent with the requirements of the legacy <i>Roads and Maritime Procedure for Aboriginal cultural heritage consultation and investigation</i> (PACHCI)?</p> <p>A PACHCI was completed by TfNSW on 7 December 2022. The following results of heritage searches relevant to the study area were:</p> <ul style="list-style-type: none"> Native Title Register search – no results State Heritage Inventory search – 6 results: <ul style="list-style-type: none"> Family Hotel – 240 Princes Highway Bulli House – 242 Princes Highway Bulli House – 244 Princes Highway Bulli Former Bulli Railway Guesthouse – 1 Railway Street Bulli Bulli Railway Station – Railway Street Bulli Bulli Station Masters Residence – 41 Park Road Bulli Australian Heritage Database search – 2 results: <ul style="list-style-type: none"> Bulli Family Hotel Indigenous Place – Bulli <p>The PACHCI was provided to the relevant TfNSW Aboriginal Cultural Heritage Officer for review. A Stage 1 PACHCI letter is provided at the appendices, which outlines unexpected finds safeguards as recommended only, this safeguard is a requirements of the proposal (see below). The proposal is consistent with the <i>TfNSW Procedure for Aboriginal cultural heritage consultation and investigation</i>.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Safeguards

Safeguards to be implemented are:

- If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the TfNSW Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the TfNSW Standard Management Procedure: Unexpected Heritage Items must be followed.

3.6 Non-Aboriginal heritage

Table 3-6: Non-Aboriginal heritage

Description of existing environmental and potential impacts		
<p>Have online heritage database searches been completed?</p> <p>A review of relevant literature and databases was undertaken to determine existing heritage items identified within and/or adjacent the Subject Area. Those databases reviewed included:</p> <ul style="list-style-type: none"> Heritage Branch Heritage Inventory including: State Heritage Register (SHR) State Heritage Inventory (SHI) Wollongong Local Environmental Plan (LEP) 2009 heritage schedules Wollongong Development Control Plan (DCP) 2009 heritage schedules Commonwealth heritage registers including: Australian Heritage Database (AHD) Commonwealth Heritage List (CHL) former Register of the National Estate (RNE) <p>A SoHI has been completed for the project and is provided in Appendix B of this MWREF.</p> <p>It is noted that at the time of SOHI assessment the scope of works included timed parking signage on Stokes Lane to promote short term parking, however available space for timed parking on Stokes Lane has since become unavailable due to construction of a</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

new carpark on the north side of Stokes Lane. Therefore signage installation in the vicinity of Bulli Family Hotel is no longer part of the scope of works.																															
<p>Are there any items of non-Aboriginal heritage or heritage conservation areas listed on relevant heritage databases/registers that are located within the vicinity of the proposal?</p> <p>Results of the database searches for listed heritage items are provided below and shown in Figure 3.</p> <table border="1"> <thead> <tr> <th>Item #</th> <th>Item Name</th> <th>Location</th> <th>Level of Significance</th> <th>Relationship to Subject Area</th> <th>Description of Impact</th> </tr> </thead> <tbody> <tr> <td>Conservation Area - General</td> <td>Bulli — commercial centre and railway, Princes Highway, Railway Street, Station Street, Park Road, Stokes Lane, Quilkey Place</td> <td>Bulli township</td> <td>Local</td> <td>Entirety</td> <td>Temporary visual impact to the conservation area during works. Installation and refurbishment of traffic signage throughout the Subject Area. Continued small alterations to streetscapes and individual heritage items eroding original fabric within the Bulli Conservation Area-General over time.</td> </tr> <tr> <td>6173</td> <td>Bulli Post Office</td> <td>Princes Highway, Bulli</td> <td>Local</td> <td>Partial</td> <td>Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area-General</td> </tr> <tr> <td>5985</td> <td>Former Joint Stock Bank</td> <td>Princes Highway, Bulli</td> <td>Local</td> <td>Entirety</td> <td>Indirect visual impact through installation of turning signal. Cumulative visual impact to the item as for Bulli Conservation Area-General</td> </tr> </tbody> </table>						Item #	Item Name	Location	Level of Significance	Relationship to Subject Area	Description of Impact	Conservation Area - General	Bulli — commercial centre and railway, Princes Highway, Railway Street, Station Street, Park Road, Stokes Lane, Quilkey Place	Bulli township	Local	Entirety	Temporary visual impact to the conservation area during works. Installation and refurbishment of traffic signage throughout the Subject Area. Continued small alterations to streetscapes and individual heritage items eroding original fabric within the Bulli Conservation Area-General over time.	6173	Bulli Post Office	Princes Highway, Bulli	Local	Partial	Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area-General	5985	Former Joint Stock Bank	Princes Highway, Bulli	Local	Entirety	Indirect visual impact through installation of turning signal. Cumulative visual impact to the item as for Bulli Conservation Area-General	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Item #	Item Name	Location	Level of Significance	Relationship to Subject Area	Description of Impact																										
Conservation Area - General	Bulli — commercial centre and railway, Princes Highway, Railway Street, Station Street, Park Road, Stokes Lane, Quilkey Place	Bulli township	Local	Entirety	Temporary visual impact to the conservation area during works. Installation and refurbishment of traffic signage throughout the Subject Area. Continued small alterations to streetscapes and individual heritage items eroding original fabric within the Bulli Conservation Area-General over time.																										
6173	Bulli Post Office	Princes Highway, Bulli	Local	Partial	Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area-General																										
5985	Former Joint Stock Bank	Princes Highway, Bulli	Local	Entirety	Indirect visual impact through installation of turning signal. Cumulative visual impact to the item as for Bulli Conservation Area-General																										

61081, s.170	Memorial Obelisk	Park Road, Bulli	Local	Partial	Minor works to be undertaken adjacent the item. Cumulative visual and physical impacts as for Bulli Conservation Area-General
6500	Bulli Station Master's Residence	Railway Street, Bulli	Local	Entirety	Minor works Construction of a shared pathway) to be undertaken immediately adjacent to the item at corner of Park Road and Railway Street. Increased pedestrian traffic adjacent the item.
6484	Bulli Railway Station	Railway Street, Bulli	Local	Entirety	Direct physical and visual impacts include expansion of vehicle parking area, removal of grassed verges, plantings and installation of a shared pathway. Cumulative direct physical and visual impacts include increased vehicle and pedestrian traffic.
01829	Bulli Railway Station Group and Movable Objects	Railway Street, Bulli	State	Entirety	Direct physical and visual impacts include expansion of vehicle parking area, removal of grassed

					verges, plantings and installation of a shared pathway. Cumulative direct physical and visual impacts include increased vehicle and pedestrian traffic.		
5987	Former Bulli Railway Guesthouse	Station Street, Bulli	Local	Partial	Proposed works would have no direct physical impact and low visual impact on the item. Cumulative impacts as for Bulli Conservation Area – General.		
00263	Family Hotel	Princes Highway, Bulli	State	Partial	Proposed works would have no direct impact and negligible visual impact on the item. Signage at this location is no longer part of the scope of works.		
6185	House	Princes Highway, Bulli	Local	Partial	Works would not occur within or in the immediate vicinity of the item. Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area - General		

6183	House	Princes Highway, Bulli	Local	Partial	Works would not occur within or in the immediate vicinity of the item. Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area - General		
6447	Victorian House	Princes Highway, Bulli	Local	Adjacent	Proposed works would not occur within or within the immediate vicinity of the item and would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area - General		
Is the proposal likely to impact trees that form part of a heritage listing or have other heritage value?						Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to occur in or near features that indicate potential archaeological remains?</p> <p>Desktop research has indicated low potential for archaeological resources related to previous eras of land use within the mapped curtilage of the <i>Bulli Railway Station Group and Moveable Objects</i> item, which may potentially be impacted by excavation for the expansion of car parking facilities and additional utilities trenching associated with lighting relocation. The upgrades include the removal of verges, installation of new signage, relocation of lighting and construction of additional parking areas within previously disturbed areas.</p> <p>Site specific exemption (30/8/2013) allows for: Upgrade or minor alterations to the existing car park, providing there are no new buildings erected or no adverse impact on the heritage significance of the place.</p> <p>The proposal has been assessed by a Transport for NSW Heritage Specialist and is considered to have no adverse impacts on the heritage significance of the place.</p> <p>Please see the attached SoHI (Appendix B) and s57 exemption (Appendix F)</p>						Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Overall direct impacts to the heritage significance of the *Bulli Conservation Area -General* would be low as the proposal would largely entail the replacement and /or upgrading of existing infrastructure. The proposed works would be of a scale and form that would not interfere with views towards the heritage items nearby; nor would the development change the setting of the nearby heritage items in a manner that would have an adverse impact on their heritage significance.

While the proposed works would have an overall low direct impact on the heritage character of the *Bulli Conservation Area -General*, surrounding heritage items, cumulative impacts have the potential to occur from minor alterations to the streetscape over time.

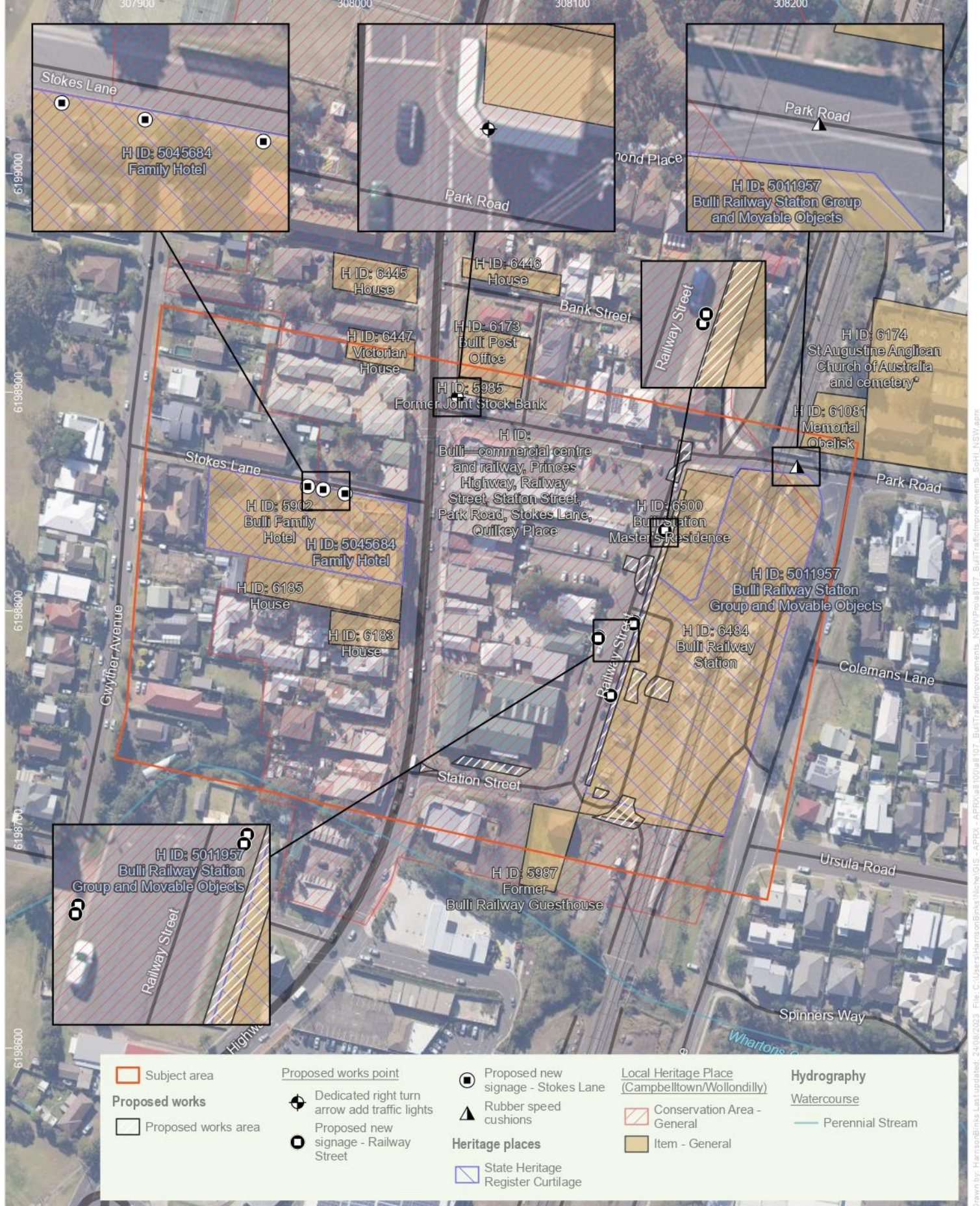
Consideration of impacts to individual heritage items has also been considered. While no direct physical impact will occur on the majority of heritage items, indirect impact on the majority would be limited to the temporary interruption of views to and from individual heritage items during works. Works proposed within or immediately adjacent to the heritage curtilage of the Bulli Family Hotel, Former Joint Stock Bank, Bulli Railway Station Group and Moveable Objects would have some direct, indirect, and cumulative impact on the heritage value of these items.

Please see the attached SoHI (Appendix B) and Exemption from Approval under s57(2) Heritage Act 1977 (Appendix F) for further detail.

Safeguards

Safeguards to be implemented are:

6. In order to mitigate impact to heritage items, the limit of works (including compounds and parking areas) must be clearly and physically demarcated with flagging/fencing or similar. Limit of works fencing must utilise reusable flagging/fencing.
7. All works within the Bulli Station curtilage must ensure due care is taken in the vicinity of identified heritage structures and fabric:
 - (a) Heavy plant and equipment must avoid movements in and around heritage structures and fabric and significant trees, with heritage sensitive areas demarcated.
 - (b) No construction materials are to be stockpiled or stored against heritage items or trees.
 - (c) Any accidental damage caused to heritage items/fabric must be reported immediately. Damage is to be made good in accordance with specialist heritage advice.
8. All works undertaken are to be sympathetic to the heritage character of the Bulli Conservation Area – General and compliant with the recommendations outlined in Clause 20.6.3 of the *Wollongong DCP 2009*. Installation of street furniture, signage and plantings should:
 - iii. Not dominate and should be sympathetic to the character of the area.
 - iv. Should be limited, appropriately placed and constructed from materials and/or include plantings consistent with the current character and style of the precinct.
9. All site workers will complete Heritage induction which provides them with relevant information regarding the heritage significance of various components of the study area and penalties under the *Heritage Act 1977*.
10. If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the TfNSW *Standard Management Procedure: Unexpected Heritage Items* must be followed. TfNSW Senior Environment Specialist -Heritage must be contacted immediately.



3.7 Biodiversity

Table 3-7: Biodiversity

Description of existing environmental and potential impacts				
Have relevant database searches been carried out?				
<p>The following relevant databases searches have been completed:</p> <ul style="list-style-type: none"> Commonwealth EPBC Act Protected Matters Search Tool (PMST) – 25 July 2023 BioNet threatened species records within the locality (e.g. 10km radius) – 28 July 2023 Regional vegetation mapping and BioNet Vegetation Classification database (including a search by the relevant CMA/s to identify potential TECs present) - 28 July 2023 				
<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>				
<p>Did the database searches identify any endangered ecological communities, threatened flora and/or threatened or protected fauna, or migratory species in or within the vicinity of the proposed works? Both Commonwealth and State listed matters must be considered.</p> <p>There are no TECs mapped within the study area. There is a small patch of native vegetation within the north west of the study area (Figure 4). However, this patch was not verified in the field as no works would occur within the vicinity of the patch. No other patches of native vegetation were observed within the study area.</p> <p>A total of 15 threatened flora species have been previously recorded or identified as having potential habitat within 10 km of the study area (Figure 5). Of these, zero were considered as potential subject species with a moderate or higher likelihood of occurring within the study area.</p> <p>A total of 80 threatened fauna species have been previously recorded or identified as having potential habitat within 10 km of the study area (</p> <p>Figure 6). Of these, 4 were considered as potential subject species with confirmed, moderate or higher likelihood of utilising habitat within the study area for foraging, roosting or breeding.</p>				
<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>				
Scientific and common name	Status *	Type of listing (BC Act or EPBC Act)	Distance from works	Potential impacts
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox	V	BC Act EPBC Act	100 m	Unlikely Potential foraging habitat located adjacent to the proposal area. No potential habitat will be impacted.
<i>Ninox strenua</i> Powerful Owl	V	BC Act	470 m	Unlikely No potential habitat will be impacted
<i>Miniopterus australis</i> Little Bent-winged Bat	V	BC Act	500 m	Unlikely No potential habitat will be impacted
<i>Miniopterus orianae oceanensis</i> Large Bent-winged Bat	V	BC Act	460 m	Unlikely No potential habitat will be impacted
<p>*V= vulnerable, E = endangered, CE = critically endangered, VEC = vulnerable ecological community EEC = endangered ecological community, CEEC = critically endangered ecological community M = Migratory</p>				

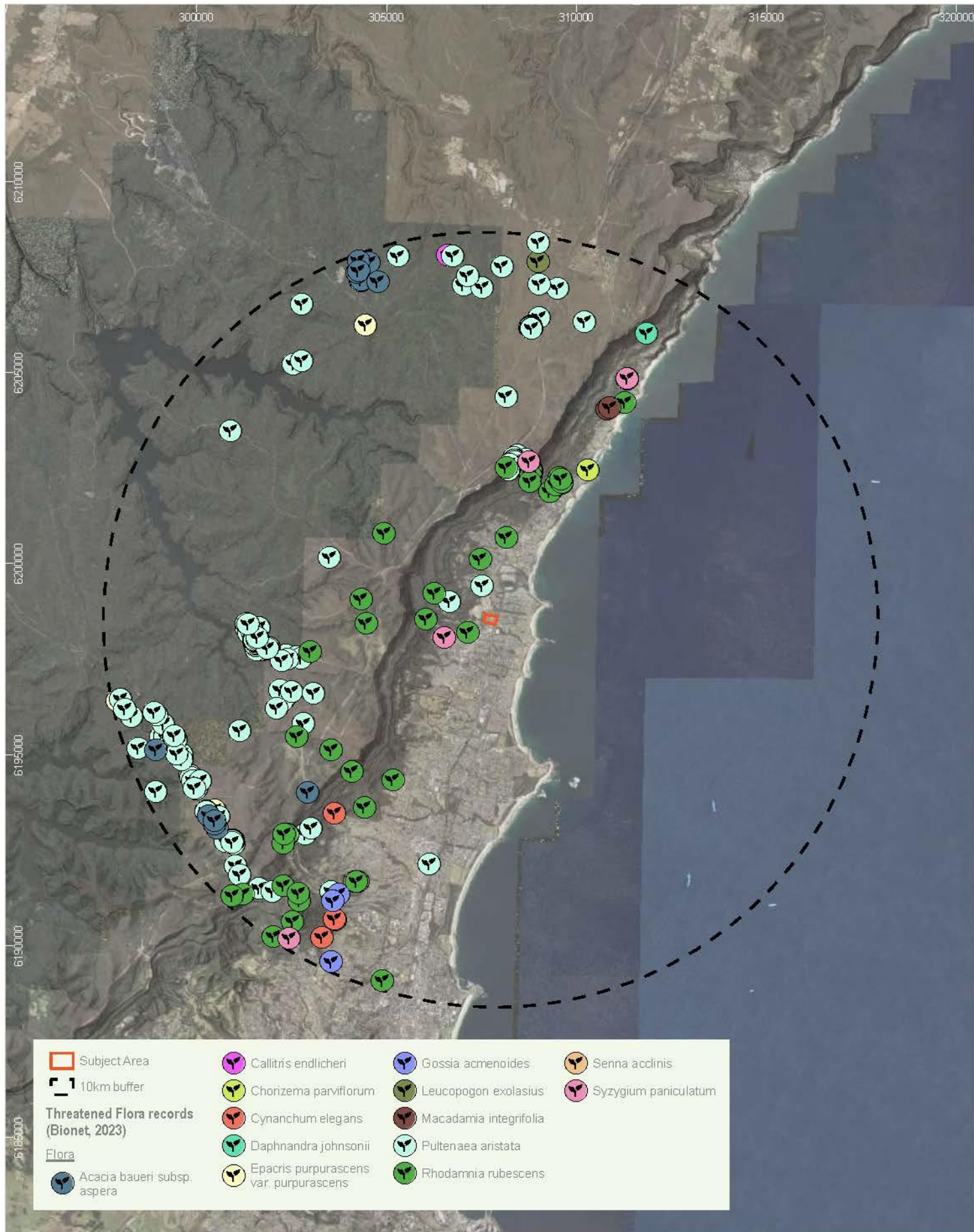
<p>Does the proposal involve pruning, trimming or removal of any tree/s?</p> <p>One small, planted tree sapling (approximately 1.5 m in height) within the Bulli Station carpark will be removed and relocated in consultation with Sydney Trains. It is noted that the tree is located on TfNSW land.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to impact nationally listed threatened species, ecological communities or migratory species?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal require the removal of any other vegetation?</p> <p>The proposal would require the removal of non-native planted grass within the Station Street carpark blisters.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal require the removal of any tree hollows?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Are there any known areas of outstanding biodiversity value or areas mapped as 'littoral rainforest' or 'coastal wetland' under chapter 2 of SEPP (Resilience and Hazards) in or within the vicinity of the proposed work?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal provide any additional barriers to the movement of wildlife?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal disturb any natural waterways or aquatic habitat?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal impact (directly or indirectly) any potential microbat roosting or breeding habitat such as on bridges and culverts?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

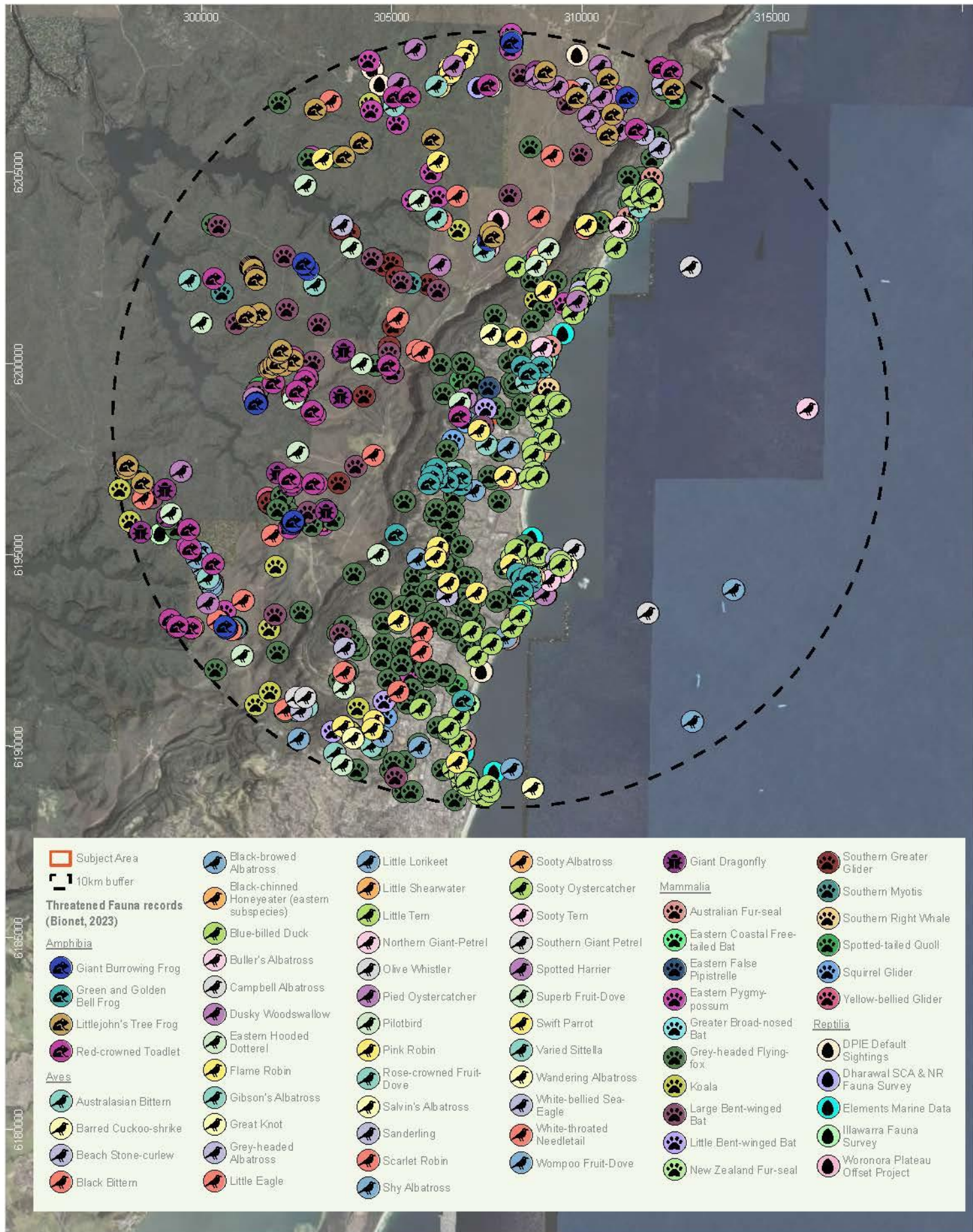
Safeguards

Safeguards to be implemented are:

- If unexpected threatened fauna or flora species are discovered, stop works immediately and follow the TfNSW Unexpected Threatened Species Find Procedure in the TfNSW Biodiversity Guidelines 2011 – Guide 1 (Pre-clearing process).







3.8 Traffic and transport

Table 3-8: Traffic and transport

Description of existing environmental and potential impacts		
<p>Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during construction?</p> <p>During construction, pedestrian walkways to the western side of Bulli Station would be closed and alternative access to the station made available to maintain pedestrian traffic.</p> <p>Upgrade to traffic signals at Park Road/Princes Highway intersection would require temporary closure of one lane, which may disrupt the flow of traffic on the Princes Highway. Signals upgrade would occur outside of peak times to minimize traffic disruption.</p> <p>During construction, the installation of raised pedestrian crossings at Railway Street and Park Road would cause a minor disruption to the flow of traffic on Park Road and Railway Street, with traffic control in place to minimize disruption and provide for worker safety.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?</p> <p>The proposal includes the implementation of measures to promote traffic efficiency on the Princes Highway and optimize operational road space including reconfigured parking in the vicinity to provide no net loss of parking spaces for the community.</p> <p>The proposal includes alterations to the existing traffic arrangements in the locality, this includes banning right-hand turn from Princes Hwy to Station Street and redirect right-turn demand to the Park Road intersection. This increased demand at Park Road would be offset by the establishment of a dedicated right hand turn signal phase from the Princes Highway to Park Road.</p> <p>Existing directional clearways are in operation in the proposal area, however the proposal includes the addition of clearways in both directions during peak periods to cater for high traffic volumes. These clearway changes would require the removal of 13 car parking spaces from the Princes Highway during peak periods, however the proposal provides for additional permanent parking spaces on nearby Railway St Station Street and Bulli Station car park, which would result in no net loss of parking.</p> <p>The following benefits are expected as a result of the proposed clearways:</p> <ul style="list-style-type: none"> Remove the southbound pinch-point at Park Road during the weekday PM and Saturday peak period. Improve the safety and operation in the northbound direction during the weekday AM peak period by reducing the number of lane changing manoeuvres associated with weaving around right-turning traffic at Park Road and Station Street. <p>It is noted that there are no changes to the road geometry of the Prince Highway required to accommodate the expanded clearway provisions.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to affect any other transport nodes or transport infrastructure (e.g., bus stops, bus routes) in the surrounding area? Or result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?</p> <p>The proposal would include works in the vicinity of the train station and improvements to the commuter carpark. No operational impacts have been identified in consultation with Sydney Trains and provisions to ensure pedestrian access would be implemented during works in the vicinity of the station carpark.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

- Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.

13. A traffic control plan will be prepared in accordance with the 'Traffic control at work sites manual' (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control devices.

3.9 Socio-economic

Table 3-9: Socio-economic

Description of existing environmental and potential impacts		
<p>Is the proposal likely to impact on local business?</p> <p>As per the Community Feedback Summary Report (GHD 2021), the proposed extension of clearway hours has the potential to impact businesses during peak periods where clearways are implemented in both directions (compared to the existing directional clearways).</p> <p>As a result of the feedback, the proposal has been redesigned to include additional enhanced parking on available roadway and verges of Railway Street Station Street and Bulli Station car park to ensure no net loss of parking in the township.</p> <p>Pedestrian safety and connectivity measures to improve safety and connectivity of parking areas on adjacent streets to the town centre are also an inclusion, walking distances range between 20-80 m from car parking to businesses.</p> <p>It is noted that the number of existing parking spaces which would be removed during peak periods as a result of peak clearways is 13 spaces, with the majority of existing parking for Bulli business district already on Park, Station and Railway Streets (currently 102 parking spaces on Park, Station and Railway Streets including Bulli Station car park). With the increase of parking on adjacent streets increased to 125 spaces, the impact of changes to parking is expected to be minor.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to require any property acquisition?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to alter any access for properties (either temporarily or permanently)?</p> <p>During construction, the proposal has potential to result in minor disruptions to the access of the private property at 41 Park Road (Old Stationmasters cottage - Railway Street driveway entrance), however access would be maintained under traffic control in consultation with the owner/occupier under the traffic management plan.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to alter any on-street parking arrangements (either temporarily or permanently)?</p> <p>The proposal would include the following permanent changes to parking arrangements:</p> <ul style="list-style-type: none"> • Implementation of 90 degree angle parking on Railway Street (previously parallel) • Bulli Train Station car park - Remove grass verges and provide additional car spaces • Station Street - Remove grass verges to provide angled parking spaces on northern side. • Park Road - Line mark bays for parallel parking (already permitted). • Peak period clearways in both directions on Princes Highway (currently directional clearways) 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to change pedestrian movements or pedestrian access (either temporarily or permanently)?</p> <p>The proposal would involve the construction of a shared path on the eastern side of Railway Street and a small section on the south side of Park Road from Station Street to the railway bridge. Construction activities are likely to cause a temporary disruption to pedestrian access, though access would be available under traffic controls during construction but enhance access permanently.</p> <p>Pedestrian movements and access from Station Street to the Princes Highway would remain similar, however with the addition of pedestrian safety measures.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to impact on any items or places of social value to the community (either temporarily or permanently)?</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The proposed traffic improvements in Bulli have been designed to maintain the look and feel of the town centre while enhancing the Bulli township by increasing the connection, safety and accessibility between car parking and shops. This would support maintaining the Bulli township as a place of social value to the community while enhancing the movement function of the Princes Highway during peak periods servicing both the local and broader community.		
Is the proposal likely to reduce or change visibility of any businesses, farms, tourist attractions or the like (either temporarily or permanently)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to impact trees planted by a community group, Landcare group or by council or a tree that is a memorial or part of a memorial group e.g., has a plaque? The proposal would require relocation of one planted sapling in the Bulli Station Car Park to a location agreed in consultation with Sydney Trains. In the event the sapling is unable to be successfully relocated, the impact of removal is expected to be minor.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the proposal likely to impact trees that form part of a streetscape, an avenue or roadside planting?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

- A Communication Strategy that defines the processes for managing communications throughout the project must be developed and implemented in consultation with the TfNSW Communication and Stakeholder Engagement Team a minimum of three weeks prior to the start of the proposed work.

3.10 Landscape character and visual amenity

Table 3-10: Landscape character and visual amenity

Description of existing environmental and potential impacts		
Is the proposed work over or near an important physical or cultural element or landscape? (For example, heritage items and areas, distinctive or historic built form, National Parks, conservation areas, scenic highways etc.)? The proposal is located within an urban landscape encompassing the Bulli township streetscape. Noted developments within the study area include asphalted roads, shared footpaths, the Bulli railway station, station western carpark, Princes Highway, houses, and local shops. Prominent landmarks within the study area include the Bulli railway station, Prince's highway, former joint stock bank, and Bulli Family Hotel. There are a number of heritage-listed items within the study area, which include the heritage conservation area over the township generally; these are addressed in Section 3.6 and in the SoHI (Appendix B). This assessment has concluded that due to the limited scope of works including sympathetic design elements which align to the existing environment, and with the implementation of safeguards, the proposal would not have a significant impact on the landscape character or visual amenity of the township.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Would the proposal obstruct or intrude upon the character or views of a valued landscape or urban area? For example, locally significant topography, a rural landscape or a park, a river, lake or the ocean or a historic or distinctive townscape or landmark?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal require the removal of mature trees or stands of vegetation, either native or introduced?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal result in large areas of shotcrete visible from the road or adjacent properties?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve new noise walls or visible changes to existing noise walls?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Would the proposal involve the removal or reuse of large areas of road corridor, landscape, either verges or medians?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve substantial changes to the appearance of a bridge (including piers, girders, abutments and parapets) that are visible from the road or residential areas?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>If involving lighting, would the proposal create unwanted light spillage on residential properties at night (in construction or operation)?</p> <p>The proposal would involve the installation of additional lighting at the Railway Street pedestrian crossings, and adjustments to the position of lighting at the Bulli Station carpark, which is adjacent to one residential property. These aspects of the proposal are unlikely to cause additional light spillage on residential properties, providing only for lighting/safety of parking and pedestrian areas.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would any new structures or features to be constructed, result in over shadowing to adjoining properties or areas?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

Nil additional

3.11 Waste

Table 3-11: Waste

Description of existing environmental and potential impacts		
Is the proposal likely to generate >200 tonnes of waste material (contaminated and /or non-contaminated material)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to require a licence from EPA?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to require the removal of asbestos?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

- Safeguards to be implemented are:
15. A Waste Management Plan must be prepared that follows the TfNSW Technical Guide: Management of road construction and maintenance waste.
 - (a) Resource management hierarchy principles are to be followed:
 - (b) Avoid unnecessary resource consumption as a priority
 - (c) Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery)
 - (d) Disposal is undertaken as a last resort (in accordance with the Waste Avoidance & Resource Recovery Act 2001).

4. Consideration of State and Commonwealth environmental factors

4.1 Environmental Planning and Assessment Regulation 2021 factors

The following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have been considered to assess the likely impacts of the proposal on the natural and built environment. This consideration is required to comply with sections 5.5 and 5.7 of the EP&A Act.

Table 4-1: Consideration of section 171 of the EP&A Regulation factors

Environmental factor	Impact
<p>a) Any environmental impact on a community? As detailed in Section 3.8, the proposal has the potential to cause a minor traffic disruptions during the construction phase. The proposal includes the implementation of measures to promote traffic efficiency on the Princes Highway and optimize operational road space including reconfigured parking in the vicinity to provide no net loss of parking spaces for the community. The proposed traffic improvements in Bulli have been designed to maintain the look and feel of the town centre while enhancing the Bulli township by increasing the connection, safety and accessibility between car parking and shops. This would support maintaining the Bulli township as a place of social value to the community while enhancing the movement function of the Princes Highway during peak periods servicing both the local and broader community.</p>	<p>Negative minor; short-term Positive medium; long-term</p>
<p>b) Any transformation of a locality? The proposal includes alterations to the existing traffic arrangements in the locality, this includes banning right-hand turn from Princes Hwy to Station Street and redirect right-turn demand to the Park Road intersection. This increased demand at Park Road would be offset by the establishment of a dedicated right hand turn signal phase from the Princes Highway to Park Road. As the proposal would improve traffic efficiency the locality would benefit long term from reduced congestion.</p>	<p>Negative minor; short-term Positive medium; long-term</p>
<p>c) Any environmental impact on the ecosystems of a locality? The proposal is unlikely to cause environmental impacts on the ecosystems of a locality. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF.</p>	<p>Negligible; short-term Negligible; long-term</p>
<p>d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality? The proposal would not reduce the aesthetic, recreational, scientific or other environmental quality or value of the locality, as works would generally be contained with the existing road formation, curb structures and carpark.</p>	<p>Negligible; short-term Negligible; long-term</p>
<p>e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations? Due to the limited scope of works, the proposal is unlikely to result in impacts to Bulli township as a locality, place or building of significance or other special value for present or future generations. Potential impacts have been avoided through inclusions in the design (additional carparking and pedestrian safety/accessibility after consultation with the community. With the implementation of the safeguards given in Section 3 in this REF the impact is expected to be negligible both short and long term.</p>	<p>Negligible; short-term Negligible; long-term</p>
<p>f) Any impact on habitat of any protected animals (within the meaning of the Biodiversity Conservation Act 2016)?</p>	<p>Negligible; short-term</p>

Environmental factor	Impact
The proposal would not have any impact on the habitat of any protected animals due to the limited scope of works for the proposed activities and the implementation of the safeguards given in Section 3 of this REF.	Negligible; long-term
<p>g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?</p> <p>The proposal would not endanger any species of animal, plant or other form of life, whether living on land, in water or in the air due to the limited scope of works for the proposed activities and the implementation of the safeguards given in Section 3 of this REF.</p>	<p>Negligible; short-term</p> <p>Negligible; long-term</p>
<p>h) Any long-term effects on the environment?</p> <p>The proposal would have positive long-term effects on the environment due to improved safety and parking access for road users. There are no anticipated negative long-term effects on the environment from the proposal due to their limited scope and the implementation of the safeguards given in Section 3 of this REF.</p>	Negligible; long-term
<p>i) Any degradation of the quality of the environment?</p> <p>The proposal would potentially degrade the quality of the environment in the short-term during construction, however the potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF.</p>	<p>Negligible; short-term</p> <p>Negligible; long-term</p>
<p>j) Any risk to the safety of the environment?</p> <p>The proposal would have minimal risk to the safety of the environment due to the limited scope of works covered in this REF, and the potential impacts would be minimised with the implementation of the safeguards given in Section 3 in this REF.</p>	<p>Negligible; short-term</p> <p>Negligible; long-term</p>
<p>k) Any reduction in the range of beneficial uses of the environment?</p> <p>The proposal would cause a minor reduction in the use of the road from lane closures, which would potentially increase travelling time for road users in the short-term. There would be no long-term reduction in the range of beneficial uses of the environment as a result of the proposal. The implementation of extended clearway hours on the Princes Highway has been balanced with the implementation of additional parking on Station Street, Railway Street and Bulli Station carpark, and improvements to pedestrian connectivity and safety of parking areas and businesses.</p>	<p>Negative minor; short-term</p> <p>Negligible; long-term</p>
<p>l) Any pollution of the environment?</p> <p>The proposal is unlikely to cause pollution of the environment. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF.</p>	<p>Negative minor; short-term</p> <p>Negligible; long-term</p>
<p>m) Any environmental problems associated with the disposal of waste?</p> <p>The waste generated during the proposal would be contained and removed for disposal to approved recycling facilities or to licensed landfill in accordance with the safeguards in Section 3 of this REF. No environmental problems are anticipated for the disposal of waste.</p>	<p>Negative minor; short-term</p> <p>Negligible; long-term</p>
<p>n) Any increased demands on resources, natural or otherwise which are, or are likely to become, in short supply?</p> <p>Due to the limited scope of works, the proposal would not significantly increase demands on resources, which are, or are likely to become, in short supply. Relatively small amounts of materials would be required for the proposed work. The safeguards listed in Section 3 of this REF would be implemented to minimise any impacts.</p>	<p>Negligible; short-term</p> <p>Negligible; long-term</p>
<p>o) Any cumulative environmental effect with other existing or likely future activities?</p>	Negligible; short-term

Environmental factor	Impact
The proposal has the potential to have cumulative environmental effects with other existing or likely future activities, however the effects would be minimal due to the limited scope of works for the activities covered in this REF, the inclusion of mitigation in the project scope as a result of community feedback. Potential impacts on the environment would be minimised with the implementation of the safeguards given in Section 3 in this REF.	Negligible; long-term
p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions? The proposal is unlikely to impact on coastal processes or hazards.	Negligible; short-term Negligible; long-term
q) Any impact on applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1? The proposal is concordant with the Illawarra Shoalhaven Regional Plan 2041, as it aims to improve road infrastructure and safety. By providing additional car parking at Bulli Station, the proposal also encourages the use of public transport.	Negligible; short-term Positive minor; long-term
r) Any impact on other relevant environmental factors? In considering the potential impacts of this proposal all relevant environmental factors have been considered, refer to Chapter 3 of this assessment.	Negligible

4.2 Matters of National Environmental Significance

Table 4-2: Matters of national environmental significance

Environmental factor	Impact
a) Any impact on a World Heritage property?	Nil
b) Any impact on a National Heritage place?	Nil
c) Any impact on a wetland of international importance (often called 'Ramsar' wetlands)?	Nil
d) Any impact on nationally threatened species, ecological communities or migratory species? A PMST report encompassing the locality identified the presence of a number of TECs, threatened flora and fauna, migratory species and Commonwealth land within the search area was completed on 25 July 2023. The search returned the following results: <ul style="list-style-type: none"> 6 TECs were identified to have the potential to occur in the study area. None of these were considered to be potential subject TECs with a moderate or higher likelihood of occurring within the study area. 52 threatened flora and fauna species were identified to have the potential to occur in the study area. One of these species was considered to be a potential subject species with a moderate or higher likelihood of occurring within the study area. See Section 3.7 for further details. 20 migratory species were identified to have the potential to occur in the study area. None of these species were considered to be potential subject species with a moderate or higher likelihood of occurring within the study area. No world or national heritage areas, wetlands of international importance, marine parks, or Commonwealth reserves were identified in the locality. The proposal would not impact any of the above listed results.	Nil
e) Any impact on a Commonwealth marine area?	Nil
f) Does the proposal involve a nuclear action (including uranium mining)?	Nil

Additionally, any impact (direct or indirect) on the environment of Commonwealth land?

Nil

5. Summary of safeguards and environmental management measures

This section provides a summary of the site-specific environmental safeguards and management measures identified in described in chapters 3 and 4 of this REF. These safeguards will be implemented to reduce potential environmental impacts throughout construction and operation. A framework for managing the potential impacts is provided with reference to environmental management plans and relevant Transport QA specifications. Any potential licence and/or approval requirements required prior to construction are also listed.

Table 5-1: Summary of site-specific safeguards for proposed work

Factor	Impact
Soil	<ol style="list-style-type: none"> 1. Erosion and sediment control measures must be implemented and maintained in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book) to: <ul style="list-style-type: none"> – Divert clean water around the site. – Reduce and control erosion on site – Reduce water velocity and capture and control sediment on site – Minimise the amount of material transported from the site.
Waterways and water quality	<ol style="list-style-type: none"> 2. Water quality control measures are to be used to prevent any materials (eg. concrete, grout, sediment etc) entering drain inlets or waterways.
Noise and vibration	<ol style="list-style-type: none"> 3. Noise impacts are to be minimised in accordance with TfNSW Construction Noise Estimator. 4. Consult with Hansen & Cole/White Lady Funerals on the corner of Princes Highway and Station Street prior to the commencement of noisy work, and schedule noisy works to avoid services held at the funeral home.
Air quality	Nil additional
Aboriginal heritage	<ol style="list-style-type: none"> 5. If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the TfNSW Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the TfNSW Standard Management Procedure: Unexpected Heritage Items must be followed.
Non-Aboriginal heritage	<ol style="list-style-type: none"> 6. In order to mitigate impact to heritage items, the limit of works (including compounds and parking areas) must be clearly and physically demarcated with flagging/fencing or similar. Limit of works fencing must utilise reusable flagging/fencing. 7. All works within the Bulli Station curtilage must ensure due care is taken in the vicinity of identified heritage structures and fabric: <ol style="list-style-type: none"> (a) Heavy plant and equipment must avoid movements in and around heritage structures and fabric and significant trees, with heritage sensitive areas demarcated. (b) No construction materials are to be stockpiled or stored against heritage items or trees. (c) Any accidental damage caused to heritage items/fabric must be reported immediately. Damage is to be made good in accordance with specialist heritage advice. 8. All works undertaken are to be sympathetic to the heritage character of the Bulli Conservation Area – General and compliant with the recommendations

	<p>outlined in Clause 20.6.3 of the <i>Wollongong DCP 2009</i>. Installation of street furniture, signage and plantings should:</p> <p>iii. Not dominate and should be sympathetic to the character of the area.</p> <p>iv. Should be limited, appropriately placed and constructed from materials and/or include plantings consistent with the current character and style of the precinct.</p> <p>9. All site workers will complete Heritage induction which provides them with relevant information regarding the heritage significance of various components of the study area and penalties under the <i>Heritage Act 1977</i>.</p> <p>10. If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the TfNSW <i>Standard Management Procedure: Unexpected Heritage Items</i> must be followed. TfNSW Senior Environment Specialist -Heritage must be contacted immediately.</p>
Biodiversity	<p>11. If unexpected threatened fauna or flora species are discovered, stop works immediately and follow the TfNSW Unexpected Threatened Species Find Procedure in TfNSW Biodiversity Guidelines 2011 –Guide 1 (Pre-clearing process).</p>
Traffic and transport	<p>12. Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.</p> <p>13. A traffic control plan will be prepared in accordance with the ‘Traffic control at work sites manual’ (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control devices.</p>
Socio-economic	<p>14. A Communication Strategy that defines the processes for managing communications throughout the project must be developed and implemented in consultation with the TfNSW Communication and Stakeholder Engagement Team a minimum of three weeks prior to the start of the proposed work.</p>
Landscape character and visual amenity	<p>Nil additional</p>
Waste	<p>15. A Waste Management Plan must be prepared that follows the TfNSW Technical Guide: Management of road construction and maintenance waste.</p> <p>(a) Resource management hierarchy principles are to be followed:</p> <p>(b) Avoid unnecessary resource consumption as a priority</p> <p>(c) Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery)</p> <p>(d) Disposal is undertaken as a last resort (in accordance with the Waste Avoidance & Resource Recovery Act 2001).</p>

5.1 Licensing and approvals

Table 5-2: Summary of licensing and approvals required

Instrument	Requirement	Timing
<i>Heritage Act 1977</i> (s60)	Exemption from Approval under s57(2) Heritage Act 1977	Granted 28/01/25

5.2 Other requirements

Table 5-3: Other requirements

Requirement		
Environmental management plan sent to SMES for review.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

6. Certification, review and decision

6.1 Certification

This minor works REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses, to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal.

Prepared by:

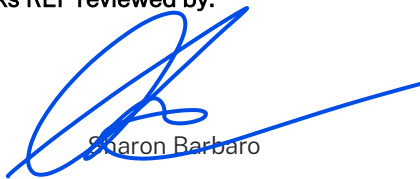
Signature



Name: Ben Beattie
Position: Project/Contract Manager
Company name: Transport for NSW
Date: 24 February 2025

Minor Works REF reviewed by:

Signature



Name: Sharon Barbaro
Position: Senior Environment & Sustainability Officer
Company name: Transport for NSW
Date: 24th Feb 2025

6.2 Environment staff review

The Minor Works REF has been reviewed and considered against the requirements of sections 5.5 and 5.7 of the EP&A Act.

In considering the proposal this assessment has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the Minor Works REF and associated information. This assessment is considered to be in accordance with the factors required to be considered under section 171 of the Environmental Planning and Assessment Regulation 2021.

The proposal described in the Minor Works REF will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguard and management measures proposed, this assessment has considered that these impacts are unlikely to be significant and therefore an approval for the proposal does not need to be sought under Division 5.2 of the EP&A Act.

The assessment has considered the potential impacts of the activity on areas of outstanding value and on threatened species, ecological communities or their habitats for both terrestrial and aquatic species as defined by the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994*.

The proposal described in the Minor Works REF will not affect areas of outstanding value. The activity described in the Minor Works REF will not significantly affect threatened species ecological communities or their habitats. Therefore, a species impact statement is not required.

The assessment has also addressed the potential impacts on the activity on matters of national environmental significance and any impacts on the environment of Commonwealth land and concluded that there will be no significant impacts. Therefore, there is no need for a referral to be made to the Australian Government Department of Agriculture, Water and the Environment for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Minor Works REF is considered to meet all relevant requirements.

6.3 Environment staff recommendation

It is recommended that the proposal to undertake traffic/parking improvements at Bulli as described in this Minor Works REF proceed subject to the implementation of all safeguards identified in the Minor Works REF and compliance with all other relevant statutory approvals, licences, permits and authorisations.

The Minor Works REF has examined and taken into account to the fullest extent possible all matters likely to affect the environment by reason of the activity and established that the activity is not likely to significantly affect the environment or threatened species, ecological communities or their habitats.

The Minor Works REF has concluded that there will be no significant impacts on matters of national environmental significance or any impacts on the environment of Commonwealth land.

The Minor Works REF determination will remain current for five years until February 2030 at which time it shall lapse if works have not been physically commenced. The pre-construction checklist must be completed prior to the commencement of any works.

Recommended by:

Signature



Name: Vincent Gillies

Position: Environment Manager, Southern

Date: 25/02/2025

6.4 Determination

In accordance with the above recommendation, I certify that I have reviewed and endorsed the contents of this Minor Works REF, and to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading.

I determine that Transport for NSW may:

- proceed with the activity

Signature 

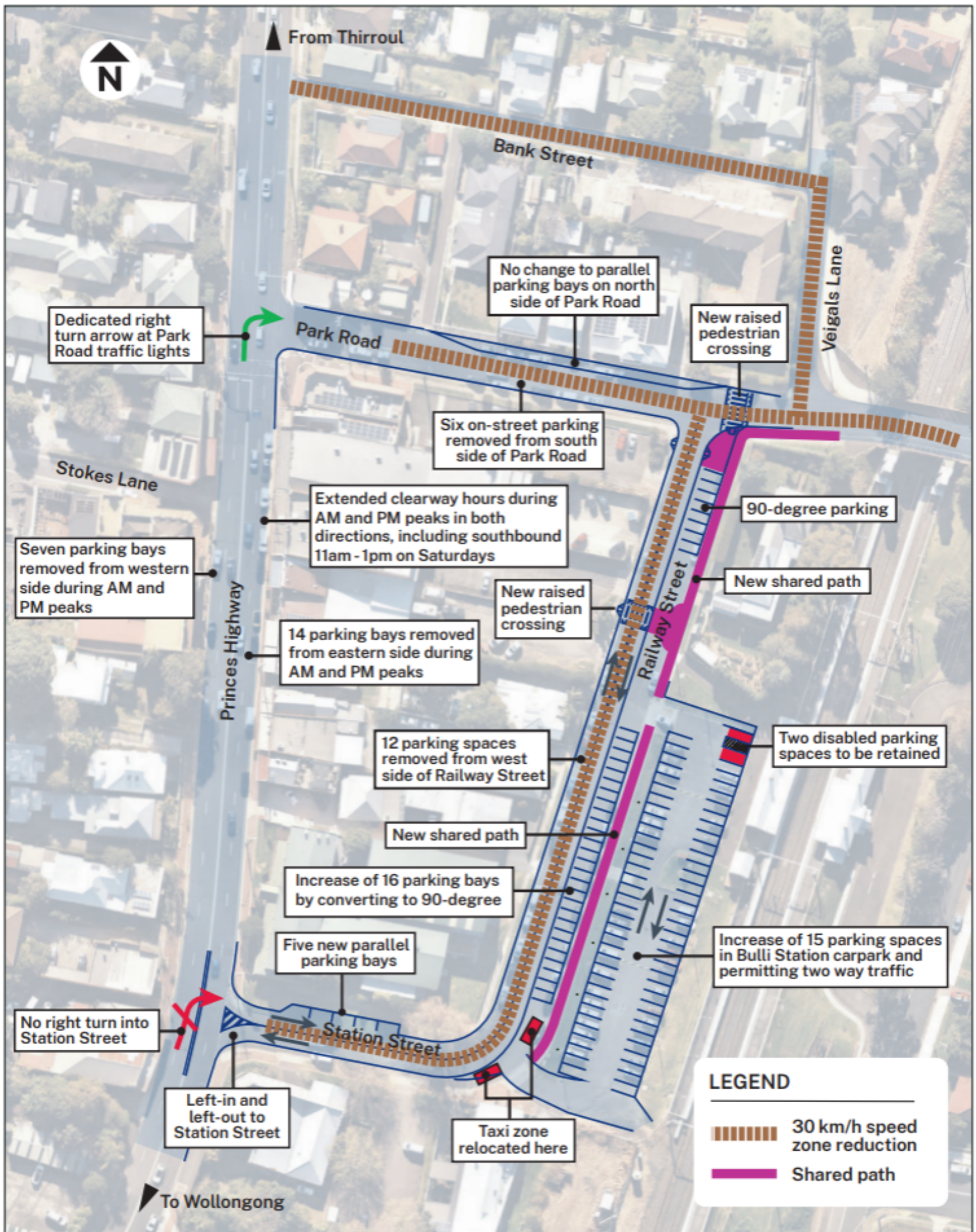
Name: Stephen Onions
Position: Senior Manager Project Services South
Date: 25/02/2025

6.5 EP&A Regulation publication requirement

Table 6-1: EP&A Regulation publication requirement

Requirement		
Does this Minor Works REF need to be published under section 171(4) of the EP&A Regulation?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Appendix A: Plan of the proposal



Appendix B: Statement of Heritage Impact

Statement of Heritage Impact
Bulli Traffic Improvements Project
Bulli, NSW

Prepared for Transport for NSW | 24 November 2023



Document control

Project number	Client	Project manager	LGA
8107	Transport for NSW	Kai Whitaker	Wollongong

Version	Author	Review	Status	Comments	Date
D01	Riley Finnerty	Meaghan Aitchison	Draft Desktop		25 July 2023
D02	Meaghan Aitchison and Riley Finnerty	Josh Madden	Draft Report		15 August 2023
D03	Meaghan Aitchison, Riley Finnerty and Chelsea Jones	Josh Madden	Draft Report		04 September 2023
Final	Meaghan Aitchison, Riley Finnerty and Chelsea Jones		Final		24 November 2023

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Niche Environment and Heritage Pty Ltd (ACN 137 111 721)
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Suite 2, Level 3, 93 George Street Parramatta NSW 2150
Email: info@niche-eh.com

Executive summary

Niche Environment and Heritage Pty Ltd was commissioned by Transport for NSW (TfNSW), to prepare a Statement of Heritage Impact (SoHI), assessing the impacts of proposed works to heritage items located within the Subject Area and its immediate vicinity. The resulting recommendations will be used to inform a Minor Works Review of Environmental Factors (MWREF).

The Subject Area is located in the town centre of Bulli, New South Wales (NSW), wholly within the locally significant Bulli Conservation Area – General, listed in Schedule 5 of the Wollongong Local Environmental Plan 2009 (LEP). A further nine LEP items are located within or immediately adjacent to the Subject Area, one also listed on the s.170 register. A further three items within the Subject Area are listed on the State Heritage Register (SHR).

Report conclusions

The special character of the Bulli Conservation Area is derived from its historical development and associations. This character is evident through the interrelationship of buildings, spaces, topography, landscape settings and land use. Some of the individual buildings and sites within the HCA are heritage-listed items, however other features within the conservation area can be considered contributory, such as buildings and streetscapes as they have a positive impact on the character of the area.

While the proposed works would have an overall low direct impact on the heritage character of the Bulli Conservation Area surrounding heritage items, cumulative impact to the Bulli Conservation Area-General is likely from the erosion of original fabric by continued minor alterations to the streetscape over time.

Consideration of impacts to individual heritage items has also been considered. While no direct physical impact will occur on the majority of heritage items, indirect impact on the majority would be limited to the temporary interruption of views to and from individual heritage items during works. Works proposed within or immediately adjacent to the heritage curtilage of the Bulli Family Hotel, Former Joint Stock Bank, Bulli Railway Station Group and Moveable Objects would have some direct, indirect, and cumulative impact on the heritage value of these items.

It has been determined that the installation of signage on Stokes Lane would have a minor visual impact on the heritage item, however, the overall direct, indirect and cumulative visual impact of the proposed works on the item would be moderate- low.

The upgrade of the vehicle parking area in the western car park of the Bulli Railway Station Group and Moveable Objects, including the removal of verges, installation of new signage, relocation of lighting and construction of additional parking areas would have a direct impact on the heritage values of the item. Given that the signage is consistent with the traffic management outcomes of similar heritage-listed stations across the Sydney Trains network, the indirect and cumulative visual impacts on the item would be low. Desktop research has indicated potential for archaeological resources related to previous eras of land use within the mapped curtilage of the item, which will potentially be impacted by excavation for the expansion of car parking facilities and additional utilities trenching associated with lighting relocation.

Recommendations

The following recommendations were developed for the proposed works within the Subject Area based on the conclusions of this report.

Recommendations		
1	Heritage Approvals	An s.60 application should be submitted to Heritage NSW for approval of works within the heritage curtilage of the <i>Bulli Railway Station Group and Moveable Objects</i> and <i>Bulli Family Hotel</i> SHR heritage items. This report should be submitted with the application as a supporting document. Works must not commence prior to approval being granted.
2	Limit of Works	In order to mitigate impact to heritage items, the limit of works (including compounds and parking areas) must be clearly and physically demarcated with flagging/fencing or similar. Limit of works fencing must utilise reusable flagging/fencing.
3	Record of Works	A record of the outcome of minor works undertaken adjacent or within SHR item curtilage should be documented following the Heritage NSW guidelines outlined in <i>Relics of local heritage significance: a guide for minor works with limited impact</i> .
4	Development Controls <i>Bulli Conservation Area - General</i>	All works undertaken should be sympathetic to the heritage character of the <i>Bulli Conservation Area – General</i> and compliant with the recommendations outlined in Clause 20.6.3 of the <i>Wollongong DCP 2009</i> Installation of street furniture, signage and plantings should: <ul style="list-style-type: none"> i. Not dominate and should be sympathetic to the character of the area. ii. Should be limited, appropriately placed and constructed from materials and/or include plantings consistent with the current character and style of the precinct.
5	Heritage Induction	Heritage induction for all site workers to provide them with information regarding the heritage significance of various components of the study area and penalties under the <i>Heritage Act 1977</i> .
6	Heritage Management Subplan	In order to avoid impacts on unidentified or unlocatable heritage items, it is recommended that an unexpected finds procedure, using the Transport for NSW, <i>Unexpected heritage items procedure</i> ¹ be implemented. A copy of this procedure (Appendix 3) should be made available on-site during works.

¹ Transport for NSW, 2022.

Glossary and list of abbreviations

Term or abbreviation	Definition
AHD	Australian Heritage Database
CHL	Commonwealth Heritage List
CMP	Conservation Management Plan
DCP	Development Control Plan
HCA	Heritage Conservation Area
Heritage Act	<i>Heritage Act 1977 (NSW)</i>
ICOMOS Australia	International Council on Monuments and Sites Australia
LEP	Local Environmental Plan
LGA	Local Government Area
MWREF	Minor Works Review of Environmental Factors
NHL	National Heritage List
Niche	Niche Environment and Heritage Pty Ltd
NSW	New South Wales
REF	Review of Environmental Factors
RNE	Register of National Estate (former)
s.170	Section 170
SHI	State Heritage Inventory
SHR	State Heritage Register
SoHI	Statement of Heritage Impact
Subject Area	The area surrounding the proposed works as shown in Figure 1
TfNSW	Transport for New South Wales

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1 Introduction

Niche Environment and Heritage Pty Ltd (Niche) was commissioned by Transport for NSW (TfNSW), to undertake a Statement of Heritage Impact (SoHI) to inform a Minor Works Review of Environmental Factors (MWREF) and assess the impacts of the concept designs and proposed work. The proposed works area is located within the Bulli Heritage Conservation Area (HCA). The location of the proposed work is shown in Figure 1.

1.1 Proposed works

The TfNSW proposes to improve traffic efficiency on the Princes Highway through the township of Bulli, which includes the following scope:

- Extended clearway hours:
 - Extend the existing clearway hours southbound on the Princes Highway between Park Road and Station Street to include:
 - Weekdays 6:30-9:30 am, 3:00-6:00 pm
 - Saturdays 11:00 am to 1:00 pm
 - Extend the existing clearway hours northbound on the Princes Highway between Park Road and Station Street to include:
 - Weekdays 6:30-9:30 am, 3:00-6:00 pm
- Ban the right turn into and out of Station Street at the Princes Highway.
 - Ban the right turn into and out of Station Street at the Princes Highway. The ban is to be implemented using no right turn signs, solid double barrier lines on the Princes Highway and painted median on Station Street as generally described in Attachment A.
- Dedicated right turn arrow at Park Road traffic lights.
 - Implement right turn phase at the Princes Highway, Park Road traffic signals to allow for a trailing right turn from the Princes Highway into Park Road while maintaining the filter right turn.
- Parking adjustments:
 - Railway St - 90-degree angle parking
 - Bulli Train Station - Remove grass verges and provide additional car spaces.
 - Station Street - Provide angled parking spaces on northern side.
 - Park Road - Line mark the parallel parking bays.
- Shared path:
 - Shared path to be constructed on eastern side of Railway Street. Additionally, a small section on the south side of Park Road from Station Street to the railway bridge.
- Two new raised pedestrian crossings:
 - At Park Road directly north of the intersection with Railway Street.
 - and mid-way along Railway Street
- Relocation of streetlights that are on the grassed verges in Bulli Station car park and Station Street and additional street lighting at the pedestrian crossing locations.
- Landscaping:
 - Vegetation planting in the blisters at the raised pedestrian crossings
 - Planting a line of 10 trees between the path along Railway Street and the Bulli Station car park

These works will include the construction of the following:

- Establishment of a temporary site compound within the Bulli Station car park
- Construct shared path on Railway Street
- Install right turn phase on existing signals at Park Road
- Street lighting adjustments on Bulli Station car park
- Bulli Station car park adjustments – remove grass verge for additional parking spaces.
- Street lighting adjustments on Park Road, Railway Street and Station Street
- Ban right turn signage at Station Street.
- Line marking changes on Railway Street, Park Road, Station Street & Princes Highway
- Raised pedestrian crossings and blisters.
- Landscaping
 - Vegetation planting in the blisters at the raised pedestrian crossings
 - Planting of a line of 10 trees between the path along Railway Street and the Bulli Station car park.
- Protect optic fibre cable in the Station Street parking area.
- Construct additional parking spaces on Station Street
- Installation of clearway signs and timed parking signage on Stokes Lane
- Site disestablishment and restoration.

The extent of the Subject Area and location of the proposed works are shown in Figure 2. Further details regarding the locations and method of work are outlined in the draft Project Design (as supplied by TfNSW), presented in Appendix 2.

1.2 The Subject Area

The Subject Area encompasses the area of the proposed work, located at the town centre of Bulli, New South Wales (NSW), a northern suburb of the Wollongong Local Government Area (LGA). The Subject Area is located within the Parish of Woonona, County of Camden and within the boundaries of the Illawarra Local Aboriginal Land Council. The location of the Subject Area is shown in Figure 1 and includes:

- Railway Street
- Station Street
- Stokes Lane
- Park Road between Railway Street and the Princes Highway
- Princes Highway between Station Street and Park Road
- Bulli Station western car park.

1.3 Objectives

The purpose of this report is to assess the potential impacts of the proposed works on the cultural values and significance of the Subject Area, including the HCA, heritage listed items and identified built heritage within it. The assessment will assess the extent and nature of possible impacts to known and potential heritage values and recommend if required, strategies and protocols that will mitigate these impacts.

1.4 Methodology

This SoHI has been prepared in accordance with the principles and methodology contained in The Burra Charter: *The Australia ICOMOS Charter for Places of Cultural Significance 2013*² and in accordance with the best practice standards set out by Heritage NSW. The relevant best practice guidelines include:

- *Statement of Heritage Impact*³
- *NSW Heritage Manual*
- *Assessing Heritage Significance*
- *Assessing Significance for Historical Archaeological Sites and 'Relics'*⁴ (Heritage Council of NSW, 2009)
- *Material Threshold Policy*⁵

1.4.1 Background and literature review

A review of relevant literature and databases was undertaken to determine existing heritage items identified within and/or adjacent the Subject Area. Those databases reviewed included:

- Heritage Branch Heritage Inventory including:
 - State Heritage Register (SHR)
 - State Heritage Inventory (SHI).
- Wollongong Local Environmental Plan (LEP) 2009 heritage schedules
- Wollongong Development Control Plan (DCP) 2009 heritage schedules
- Commonwealth heritage registers including:
 - Australian Heritage Database (AHD)
 - Commonwealth Heritage List (CHL)
 - Former Register of the National Estate (RNE).

The results of the heritage database search are outlined in Section 2.4 of this report.

A review of available previous archaeological reports, heritage assessments, relevant local histories and heritage reviews was undertaken to provide a historic context for the Subject Area and determine the likelihood of previously unidentified historic heritage within the Subject Area. The results of the literature review are presented in Section 3 of this report.

1.4.2 Site Inspection

A site inspection was conducted for the purpose of identifying physical evidence that could indicate archaeological resources, structures or other works that may not have been identified in other sources within or adjacent to the project area. The site inspection was conducted by Riley Finnerty (Heritage Consultant) on 28 June 2023. The site inspection targeted areas of proposed works to identify direct and/or indirect impacts on heritage listed items, and more broadly, the Bulli Heritage Conservation Area.

The site inspection targeted the entirety of the Subject Area and the locations of proposed works.

² Australia ICOMOS, 2013

³ Heritage Office and Department of Urban Affairs & Planning (former), 1996 revised 2002

⁴ Heritage Branch of Department of Planning, 2009

⁵ Heritage NSW, 2020

1.5 Authorship and acknowledgements

This SoHI has been written by Riley Finnerty (Heritage Consultant, Niche) and Meaghan Aitchison (Experienced Consultant – Heritage (Historic), Niche). Document review and quality control were provided by Joshua Madden. Technical assistance was provided by Matthew Zajackowski (GIS Consultant, Niche). Unless otherwise attributed, images used in this report are produced by Niche.

1.6 Limitations

- This SoHI relies essentially on secondary sources. Primary research has not necessarily been undertaken, other than the general assessment of physical evidence identified during site inspection of the Subject Area.
- Niche has assessed aspects of the Subject Area that were visually apparent and accessible on the arranged day of the site inspection.
- It is beyond the scope of this report to address matters of Aboriginal Heritage.
- It is beyond the scope of this report to assess items of moveable heritage.

2 Regulatory and assessment framework

The following presents a brief overview of legislation and associated planning instruments designed to protect and conserve significant heritage items and their values that are relevant to this assessment.

2.1 Commonwealth and National legislation

2.1.1 *Environment Protection and Biodiversity Conservation Act 1999*

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. Under the EPBC Act, protected heritage items of significance are listed on the National Heritage List (NHL) or the Commonwealth Heritage List (CHL). The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth.

2.2 State legislation

2.2.1 *Heritage Act 1977*

The *Heritage Act 1977* affords statutory protection to those items identified as having heritage significance and which form part of the NSW heritage record. The Act defines a heritage item as "a place, building, work, relic, moveable object or precinct". Items that are assessed as having State heritage significance are listed on the NSW State Heritage Register (SHR). Proposals to alter, damage, move or destroy heritage items listed on the SHR (or protected by an Interim Heritage Order [IHO]), require approval under s60 of the *Heritage Act 1977*.

Archaeological features and deposits are afforded statutory protection by the 'relics provisions' of the Act. A relic is defined as "any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and is of State or local heritage significance". Land disturbance or excavation that will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed is prohibited under the provisions of the Act, unless carried out in accordance with a permit issued under s140 or s139 of the Act.

It should be noted that there are several standard exemptions for certain activities and work exempt for approval under the *Heritage Act 1977* for some SHR items. In particular, some SHR items have site specific exemptions, these are further discussed in Section 2.4.

2.2.2 *State Heritage and Conservation (s.170) registers*

Under s.170 of the NSW *Heritage Act 1977*, NSW government agencies are required to maintain a register of heritage assets under their control or ownership. Each government agency is responsible for ensuring that the items entered on its register under s.170 are maintained with due diligence in accordance with State Owned Heritage Management Principles. Items listed on s.170 Heritage and Conservation Registers are listed on the State Heritage Inventory (SHI), and some are also listed on the SHR.

2.2.3 *NSW Environmental Planning and Assessment Act 1979*

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) establishes the framework for cultural heritage values to be formally assessed in the land use planning process in NSW. The EP&A Act also requires local governments to prepare planning instruments, such as Local Environmental Plans to provide guidance on the level of environmental assessment required.

2.2.4 Local government planning instruments

Wollongong Local Environmental Plan (LEP)

Heritage portions of the LEP are found in Part 5 Clause 5.10 of the LEP of each LGA in NSW. Proposed works within the Subject Area are informed by the *Wollongong LEP 2009*.

Wollongong Development Control Plan (DCP)

The *Wollongong DCP 2011* regulates works undertaken within this LGA and identifies areas of significance and heritage conservation areas that have specific requirements for Development Applications. The Wollongong DCP 2011 outlines specific requirements for development which is within proximity to, or concern heritage items listed on the SHR or the *Wollongong LEP 2009*.

2.3 The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013)

This SoHI has been prepared in accordance with the principles and methodology contained in *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013)*.

The Burra Charter outlines a series of best practice principles and measures for heritage investigation and conservation. The Charter is supported by a series of Practice Notes that provide practical advice in the application of the Burra Charter. The Charter was first adopted in 1979 and has been subject to numerous updates with the most recent iteration adopted in October 2013. The policies and legislative guidelines developed by the Heritage Council of NSW are guided by the Burra Charter.⁶

2.4 Identified heritage values

The entirety of the Subject Area is located within the Bulli HCA, which incorporates the commercial centre, railway, Princes Highway and Stokes Lane. Two SHR-listed items are situated within the Subject Area and in immediate proximity to proposed works locations. A further nine items of local significance are included in Schedule 5 of the *Wollongong LEP 2009* with the HCA also included as a specific item on the DCP.

Identified heritage items located within the Subject Area and their proximity to proposed works locations is shown in Figure 3. The results of the heritage database review are presented below (Table 1).

Table 1: Identified heritage items within the Subject Area

Item Inventory #	Item name	Location	Level of significance	Relationship to Subject Area	Proximity to proposed works location
Conservation Area - General	Bulli—commercial centre and railway, Princes Highway, Railway Street, Station Street, Park Road, Stokes Lane, Quilkey Place	Bulli township	Local	Entirety	Within item
6173	Bulli Post Office	Princes Highway, Bulli	Local	Partial	20 m

⁶ Australia ICOMOS, 2013

Item Inventory #	Item name	Location	Level of significance	Relationship to Subject Area	Proximity to proposed works location
5985	Former Joint Stock Bank	Princes Highway, Bulli	Local	Entirety	Immediately adjacent
61081, s.170	Memorial Obelisk	Park Road, Bulli	Local	Partial	Immediately adjacent
6500	Bulli Station Master's Residence	Railway Street, Bulli	Local	Entirety	Immediately adjacent
6484	Bulli Railway Station	Railway Street, Bulli	Local	Entirety	Immediately adjacent and within the south-western extent of the item
01829 (5011957)	Bulli Railway Station Group and Movable Objects	Railway Street, Bulli	State	Entirety	Immediately adjacent and within the south-western extent of the item
5987	Former Bulli Railway Guesthouse	Station Street, Bulli	Local	Partial	70 m
00263 (5045684)	Family Hotel	Princes Highway, Bulli	State	Partial	Immediately adjacent and within the eastern extent of item
6185	House	Princes Highway, Bulli	Local	Partial	30 m
6183	House	Princes Highway, Bulli	Local	Partial	40 m
6447	Victorian House	Princes Highway, Bulli	Local	Adjacent	30 m

2.5 Standard and site-specific exemptions

It should be noted that some of the SHR items are subject to site specific exemptions. These standard exemptions were made under the *Heritage Act 1977* and published in the NSW Government Gazette.

Both the Family Hotel and Bulli Railway Station Group and Moveable Objects are subject to standard exemptions to allow works under specific conditions.

The site-specific exemptions gazetted for the Bulli Railway Station Group and Movable Objects include:

- 1. Upgrade, or minor alterations to the existing passenger lifts connecting the road bridge to the platforms, providing there is no adverse impact on the heritage significance of the place*

2. Alterations for office fit-out including the replacement, relocation or addition of non-structural internal partitions, workstations or other furnishing that do not alter or add openings, walls, or structural fabric that has been identified as being significant; and have no adverse or irreversible impact on significant furnishings, layouts, fabric or spaces.

3. Upgrade or minor alterations to the existing carpark, providing there are no new buildings erected or no adverse impact on the heritage significance of the place.

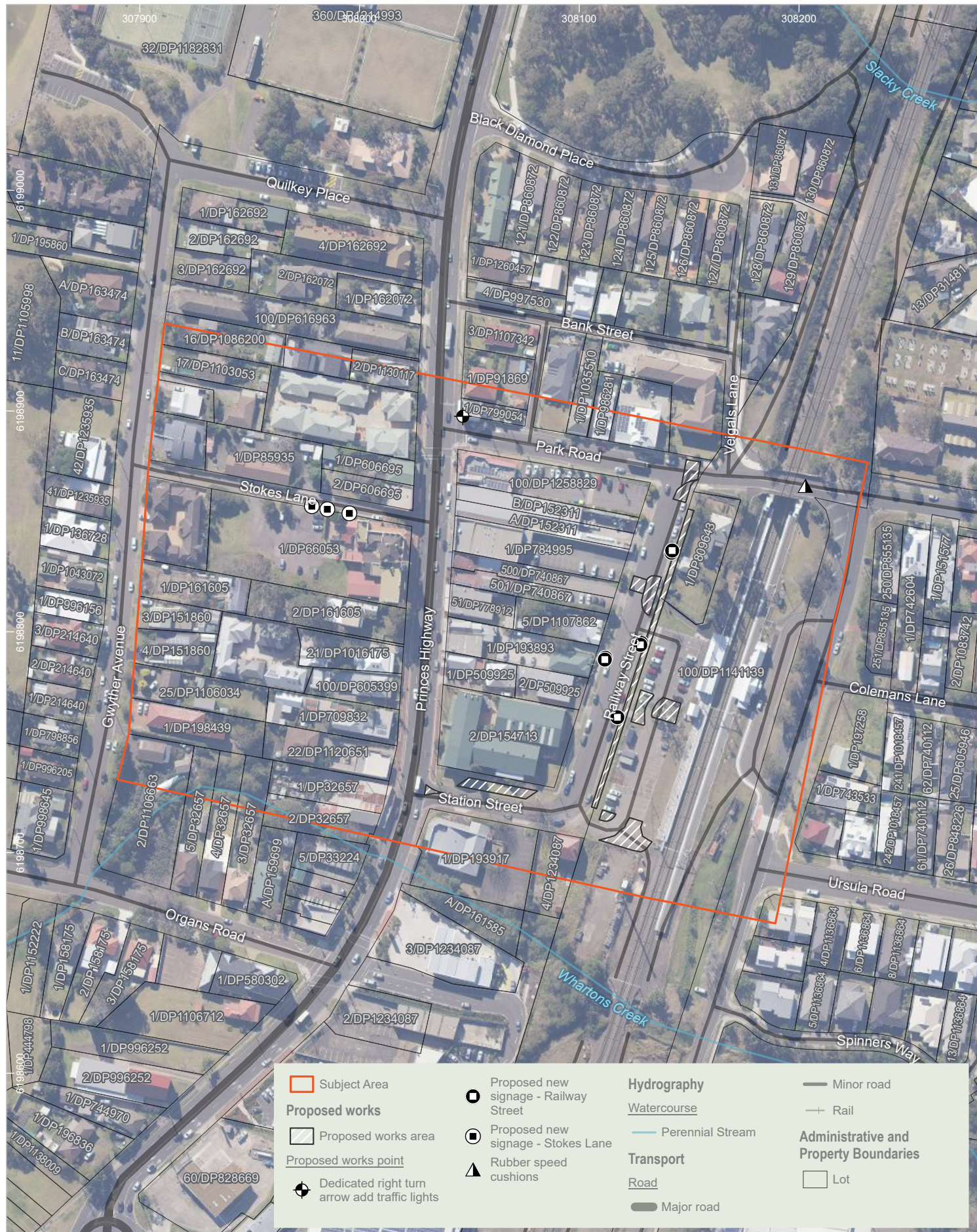
4. The removal of existing security grills and replacement with a more sympathetic design, providing there is no adverse impact on the heritage significance of the place.

5. Internal activities to alter the display and presentation of museum artefacts and signage, providing there is no adverse impact on the heritage significance of the place.

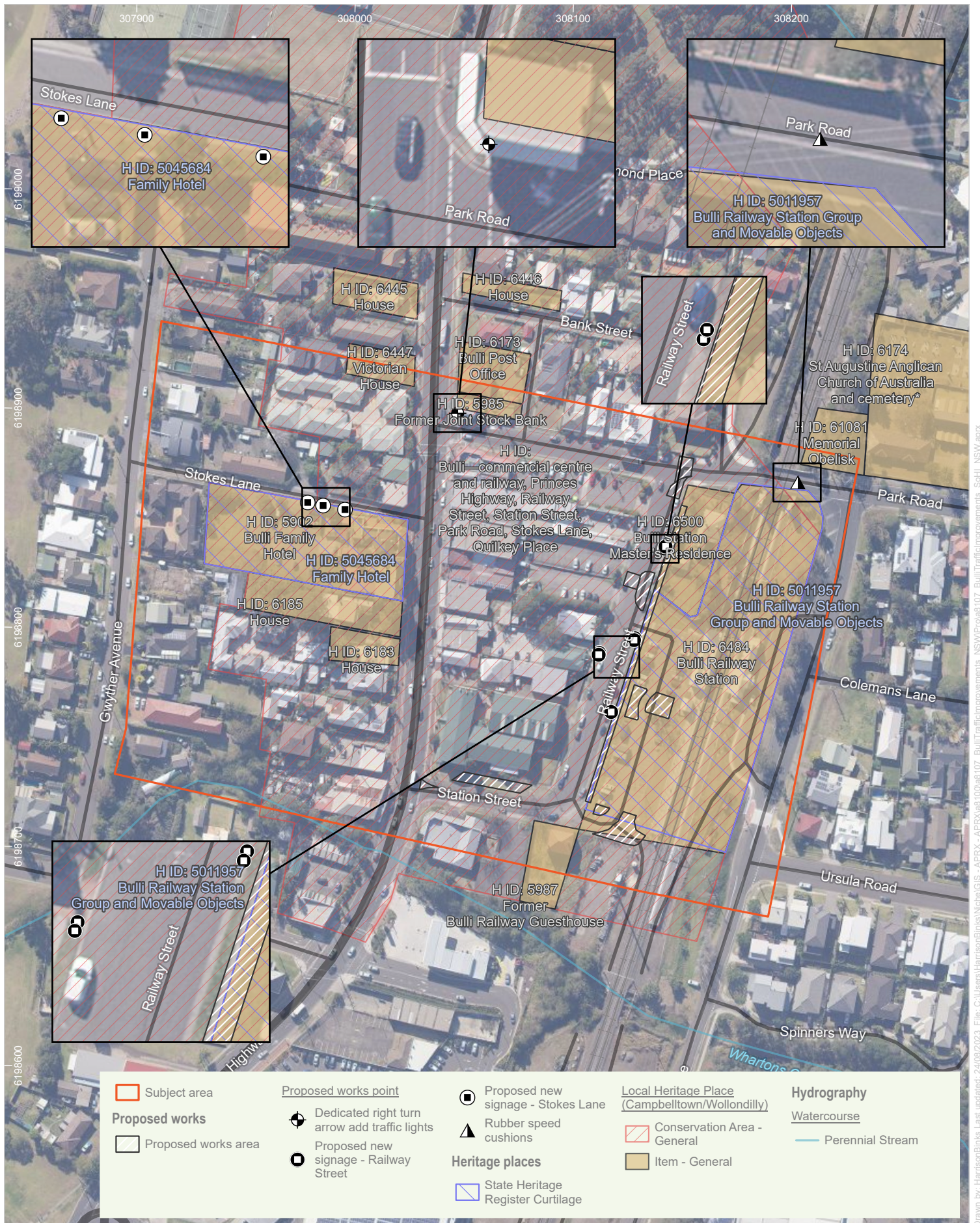
6. All work to heritage fabric shall be undertaken by qualified tradesmen with practical experience in the conservation of similar items.



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3 Historical context

The following presents an analysis of primary and secondary sources which are required to understand the place of the Subject Area within the region and, therefore its importance to the community. It also provides information to address the heritage values of the built environment and the potential for archaeological evidence. It should be noted that the following is used to provide historical context and is not intended to be an exhaustive historical review of the Bulli region or individual items within the Subject Area.

3.1 Environmental context

The Subject Area is situated within the Illawarra which is characterised by three broad geomorphic zones – coastal plain, escarpment, and plateau. The escarpment backing the Illawarra rises steeply from the coastal plain, which both hinders access into and exit out of Illawarra. The steep vegetated slopes decline into the flatter coastal plain which has varying underlying geology creating a variety of landforms. Most of the rock strata of the coastal plain consist of alluvial and recent marine sediments at lower levels and Permian sediments and volcanic rock at higher elevations.⁷ Much of the escarpment is composed of sedimentary materials of the Permian and Triassic periods (the Illawarra Coal Measures), whilst the higher plateaus are of Hawkesbury sandstone.

The Subject Area is characterised by landform elements associated with the coastal plain. The landscape includes broad to moderate ridges, steeply inclined to moderately inclined foot slopes, and isolated rises on the coastal plain. The area has been extensively cleared of its original tall open-forests (wet sclerophyll forest) and open-forests (dry sclerophyll forest), with land used predominantly for urban residential.

3.2 Regional historical context

3.2.1 Indigenous history

Prior to European settlement in the Illawarra, the region is home to the local Wodi Wodi Aboriginal people of the Dharawal nation. Aboriginal peoples have lived in the Illawarra for at least 30,000 years.⁸ The original Aboriginal name for the area was Bulla or Bulla Bulla, meaning "two mountains" (Mt Kembla & Mt Keira).⁹ Other meanings of the name Bulli have been given as "white grubs" and "place where the Christmas Bush grows".¹⁰ The Illawarra escarpment is widely used and significant to local Aboriginal people as its natural resources were a valuable source of food and other materials and site within the escarpment landscape used for ceremonial practices.

3.2.2 European settlement

Illawarra was first noted by European explorers from the 1770s and first attracted settlers at Lake Illawarra on 26 March 1796 by George Bass and Matthew Flinders on the boat *Tom Thumb*.¹¹ European settlement came shortly afterwards with some evidence of Europeans visiting the Wollongong area in the early 1800s.¹² European cedar cutters are documented as working in the district as early as 1805.¹³

Early European explorers came into the area in 1815 by Dr Charles Throsby who was guided by local Aboriginals from Liverpool using an existing Aboriginal trail down Bulli Mountain. Throsby established a permanent stockyard and hut at what is now Wollongong and was a recipient of one of the first grants of

⁷ Kass, 2010, p.8

⁸ Kass, 2010, p.11

⁹ Biosis Research, 2005. p 9

¹⁰ Biosis Research, 2005. p 9

¹¹ Kass, 2010, p.19.

¹² Kass, 2010, p.19

¹³ Biosis Research, 2005. p 13

300 acres in the Illawarra, where he lived from 1822.¹⁴ After the original series of grants were handed out, the alienation of land was awarded to individuals to supply materials to Britain. The township of Wollongong was not gazetted until 1834 as more reliable roadways were laid over the Illawarra escarpment and along the coast.¹⁵ Initial industries which worked these first land grants included grazing, logging, and farming.

3.3 Historical phases

3.3.1 Introduction

Understanding Bulli's historical development, and that of its region, facilitates an understanding of the present form of the township. The following overview is based on historical research conducted to identify key historical phases which highlight the development and evolution of the principal characteristics of the township. The table below outlines the key historical phases of Bulli's township centre.

Table 2: Historical phases

Historical phase	Description of phase
Phase 1: Settling Bulli	Emergence of Bulli village within the Illawarra including original land grants in 1817 which encompass the Subject Area.
Phase 2: Bulli mining village	During the 1860s the establishment of Bulli as a mining village began to occur, primarily associated with the nearby coalmines. The primary industries of this time facilitated economic, social, and cultural growth within the township.
Phase 3: Expansion of the Illawarra Railway Line	1880s expansion of the Illawarra Railway Line, linking the town between Wollongong and Sydney, promoting economic growth and tourism.
Phase 4: "New Bulli"	Transformation of the current town centre from "Old Bulli" with the development of the railway, commercial and economic activities. This led to the amalgamation of Bulli into the City of Wollongong in the mid-20 th Century.

3.3.2 Phase 1: Settling Bulli

The name Bulli appears to have been first recorded in the Sydney Gazette of 22 April 1815 and later in 1823, reference was made to a small land holding at "Bull Eye".¹⁶ For a number of years, the name "Bulli" was used to refer to all country between North Wollongong and Coalcliff. Bulli is located on the original 300-acre land grant made to the Irishman Cornelius O'Brien on 31 March 1821.¹⁷ The land grant extended to the sea between Bulli Point and Woniora Point in the east. The township of Bulli was built on the grants made to O'Brien and neighbours William Bowman and George Tate (Plate 1).¹⁸ The first house was built in 1825 which housed O'Brien with further development for dairying farmers, beef cattle farmers and sawmillers.¹⁹

From the 1840s, settlement in the area intensified with land sold at Bulli, of which the 'Bulli estate' included 900 acres for private sale in 1841.²⁰ It was later subdivided and 22 lots of 25 to 165 acres were offered for sale.

¹⁴ Kass, 2010, p.19.

¹⁵ *Ibid*

¹⁶ Bulli Railway Station, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 01829, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2700144>, accessed 27 June 2023.

¹⁷ Biosis Research, 2005.p. 13

¹⁸ Kass, 2010, p.39.

¹⁹ Robert A. Moore Pty Ltd, p.8.

²⁰ Kass, 2010, p.39.

3.3.2.1 First land grants

The descriptions of each of these early land grants have been directly sourced from Wollongong City Council (2023)²¹.

“Cornelius O'Brien

In response to Cornelius O'Brien's application for a grant of land Governor Macquarie's successor, Sir Thomas Brisbane, granted him 300 acres. The Grant was selected in the vicinity of Bulli and the deed was dated 31 March 1821.

Cornelius O'Brien migrated to Australia at the age of sixteen and became a contractor. He was married to Catherine Browne. During his arrival to Australia, and his application for a grant, proof was evident of his owning cattle. In the "Sydney Gazette" of October 18, 1817, it is listed that, as a contractor to the army, he supplied two thousand pounds of beef to the government.²²

Peggy McGawley

In 1828, Bulli was known as Bowman's Estate, consisting of 300 acres. The only residents of Bulli were Peggy McGawley, Cornelius O'Brien, and the Gerraty brothers (James and Patrick). The latter occupied a grant of 100 acres adjoining McGawley's. Other grants to be made in the Bulli area were one of 300 acres to William Bowman; one of 100 acres to George Tate; and small grants to R M Westmacott, P Callaghan and John Kelly at Woonona.²³

Alexander Ross

In July 1868, the board of the Bulli Coal Company donated fifty pounds and land valued at one hundred pounds for the establishment of a public school. The land was on the western side of the road just north of the Company railway. Alexander Ross, manager of the Bulli Coal Mine, occupied the Chair. After the opening, Bulli Coal Company entertained about two hundred children to tea and buns in the playground and three hundred parents and friends to tea in the tent erected for the occasion.²⁴

G. S. Turnbull

The coal mining village of Bulli obtained an official Post Office on 1 October 1869. It was situated near the present corner of Princes Highway and Hobart Street. Postmaster G S Turnbull received and despatched the mail. Turnbull's salary for running the Post Office was (Pounds)12 per annum. Postmaster Turnbull erected a new Post Office building in 1879. The Telegraph Office was moved from Bulli Point to these new premises and J H Miller became the Post and Telegraph Master.²⁵

²¹ <https://wollongong.nsw.gov.au/library/explore-our-past/your-suburb/suburbs/bulli>

²² Biosis Research, 2005. p. 14.

²³ Family Hotel, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 00263 <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2700010>, accessed 27 June 2023.

²⁴ Family Hotel, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 00263 <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2700010>, accessed 27 June 2023.

²⁵ Biosis Research, 2005. p. 14

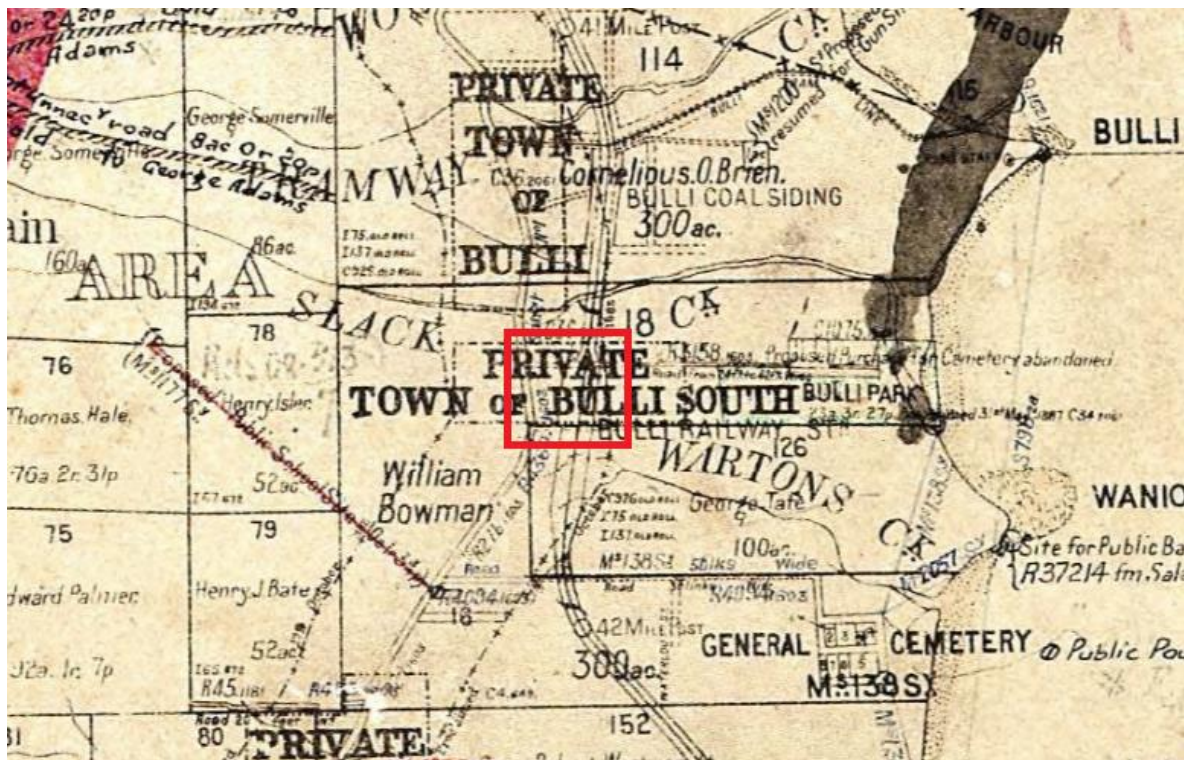


Plate 1: 1898 Woonona Parish Map showing Bulli original land grants. Subject Area shown by Red Box (Source: NSW Lands Registry Services)

3.3.3 Phase 2: Bulli as a mining town

The mining of the Bulli coal seam was the main impetus for growth in the Illawarra, and that was no exception for the Bulli township. In 1848, the lost its monopoly on mineral exploitation in the colony and in 1849 James Shoobert gained approval to establish a mine at Mount Kiera.²⁶ Mining at Bulli first came into prominence in 1850 when Captain Westmacott made a formal application to open up the Bulli coal field. Mining occurred on the escapement by the Bellambi and Bulli Coal Company, formed in 1859.

The Bulli coal mine opened in 1862 with miner's cottages built and a tight-knit community developed with a hotel, Wesleyan church and shops. A horse tramway of standard gauge between the incline of Bulli Colliery and a jetty on Bulli Point (sometimes referred to as Sandon Point) in was constructed by the Bulli Coal Company in 1861. Six years later, the tramway operated its first steam locomotive, the first in the Illawarra district.²⁷ Throughout the 1860s, the mine became more productive with more substantial buildings being built, replacing the original worker's huts.²⁸ ²⁹

At this time, some key buildings were established which further services and enhanced the residents. The stone Wesleyan Chapel was erected on 27 January 1865 and Bulli School opened on 7 July 1869. A post office opened at Bulli on 1 October 1869.

A branch of the Government Savings Bank was established at Bulli on 4 June 1877. By the late 1870s, Bulli supported a number of stores, a post and telegraph office, a school, four hotels and various churches.³⁰ Following the closure of the Woonona mine in 1879, Woonona was declined as the district centre and was

²⁶ Robert A Moore Pty Ltd. p. 8.

²⁷ Biosis Research, 2005. p. 15

²⁸ Kass, 2010, p.39.

²⁹ Family Hotel, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 00263 <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2700010>, accessed 27 June 2023.

³⁰ (Robert A Moore Pty Ltd. , n.d.) p. 9

supplanted by Bulli. On 11 April 1879, a postal inspector reported, ‘Within the last two or three years the population of Bulli has very much increased and instead of a solitary store and public house there are now 5 public houses and 5 stores.’³¹ As the township expanded, additional facilities were constructed including a new courthouse and hotel were under construction in 1880. The courthouse opened in 1882 and later the Bulli Hospital was constructed in 1893 by John Myles.³²



Plate 2: Bulli township in 1892. The public school is on the right and the Wesleyan Church is in the trees on the left. (Source: University of Wollongong Archives, collection D191/51/090)

The cluster of Bulli mines is significant to the history of the wider Illawarra and site of a major (and first in Australia) mining disaster resulting in the death of 81 miners and affecting most families in the area. At 2.30 pm on Wednesday, 23 March 1887, an explosion in the mine blew out of the tunnel mouth where 81 bodies were recovered and subsequently buried at the Bulli St. Augustine’s Church of England, with 8 at Fairy Meadow Roman Catholic cemetery (Corrimal), some at Woonona churchyard, and the unidentified at Bulli.³³ The mine reopened later that year and the township continued to develop. On 6 August 1887, the Sydney Morning Herald announced that the government intended to erect a monument at Bulli in memory of the miners who had lost their lives in the disastrous explosion.³⁴ The obelisk is located on Park Road (opposite Franklin Street) and is constructed of Scotch granite, both brown and grey at 25ft. high (Plate 4; see also heritage item location, Figure 3).

³¹ Kass, 2010, p.39.

³² Kass, 2010, p.39.

³³ Bulli Mine Disaster Memorial, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 61081. <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=4807645>, accessed 27 June 2023.

³⁴ Bulli Mine Disaster Memorial, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 61081. <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=4807645>, accessed 27 June 2023.

The Bulli Coal Mine continued operations for 125 years until its closure by BHP in 1987.³⁵ Significant reminders of the local mining industry can be found in the Bulli Mine Disaster Memorial monument located on Park Road in Bulli. The monument is a culturally important reminder of the mining industry and an element in the townscape.



Plate 3: Photograph of a scene at pit top following Bulli Mine Explosion (Source: University of Wollongong Archives, Stuart Piggin collection D158/8/19)

³⁵ Robert A Moore Pty Ltd. , n.d., p.8.

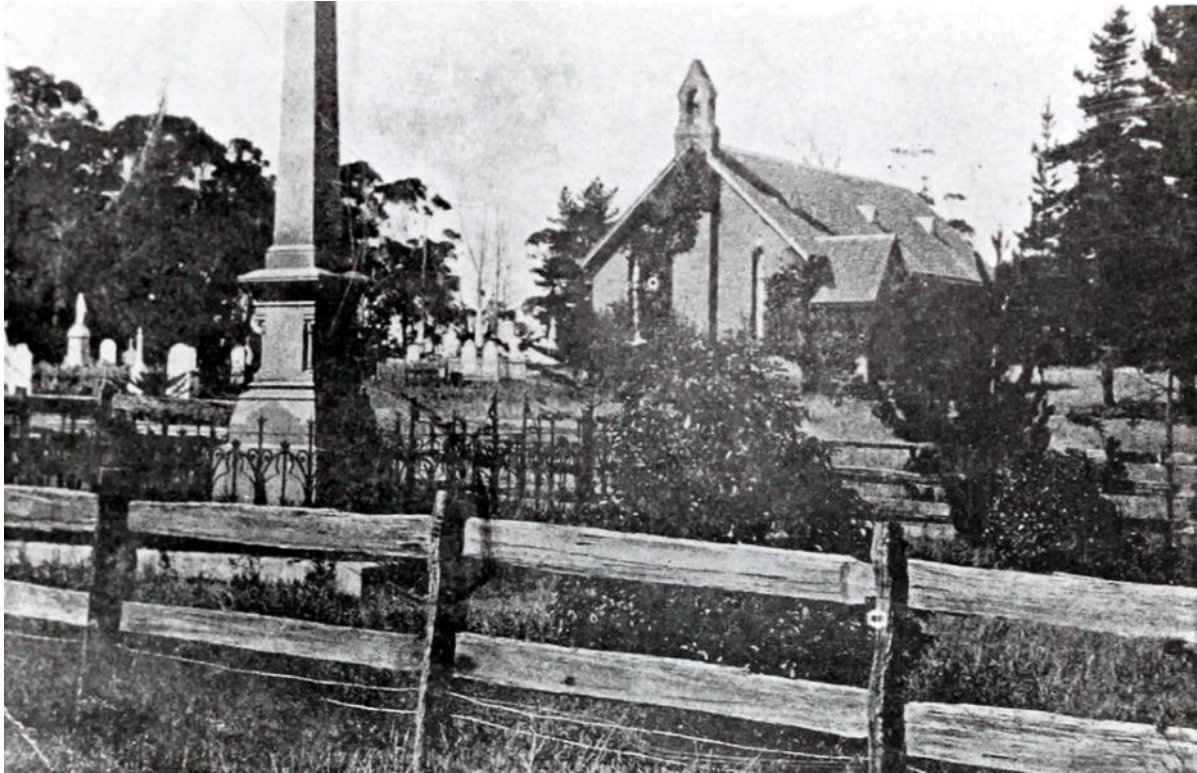


Plate 4: Black and white photograph of Bulli Disaster monument and St Augustine's Anglican Church, Bulli (Source: University of Wollongong Archives, Stuart Piggin collection D158/08/139)

3.3.4 Phase 3: 1880s Expansion of the Illawarra Railway Line

Wollongong expanded in the 1880s and the railway at Bulli Station was opened on 21 June 1887 (Plate 6). The town was transformed from a focus on the wharves to one on the railway and began to expand. The railway allowed the area to transport raw materials such as milk, coal, and coke³⁶ to Sydney, expanding Wollongong's potential.

The Bulli Railway Station was opened in 1887 with a single-storey gabled weatherboard platform building. The platform building is one of the most intact (of only four remaining examples) 1880s third-class weatherboard station buildings along the Illawarra line and remains a tangible reminder of the role of Bulli Station as a transport hub for the village of Bulli since 1887 (Plate 5). During the duplication of the railway line in 1923, a second station building, and lamp room were constructed on the opposite platform (the western platform, now Platform 1), demonstrating the expansion of railway activity at Bulli into the early 20th Century.³⁷

³⁶ Coke is a hard, porous coal-based fuel with a high carbon content used in the process of steel making.

³⁷ Bulli Railway Station, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 01829, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2700144>, accessed 27 June 2023

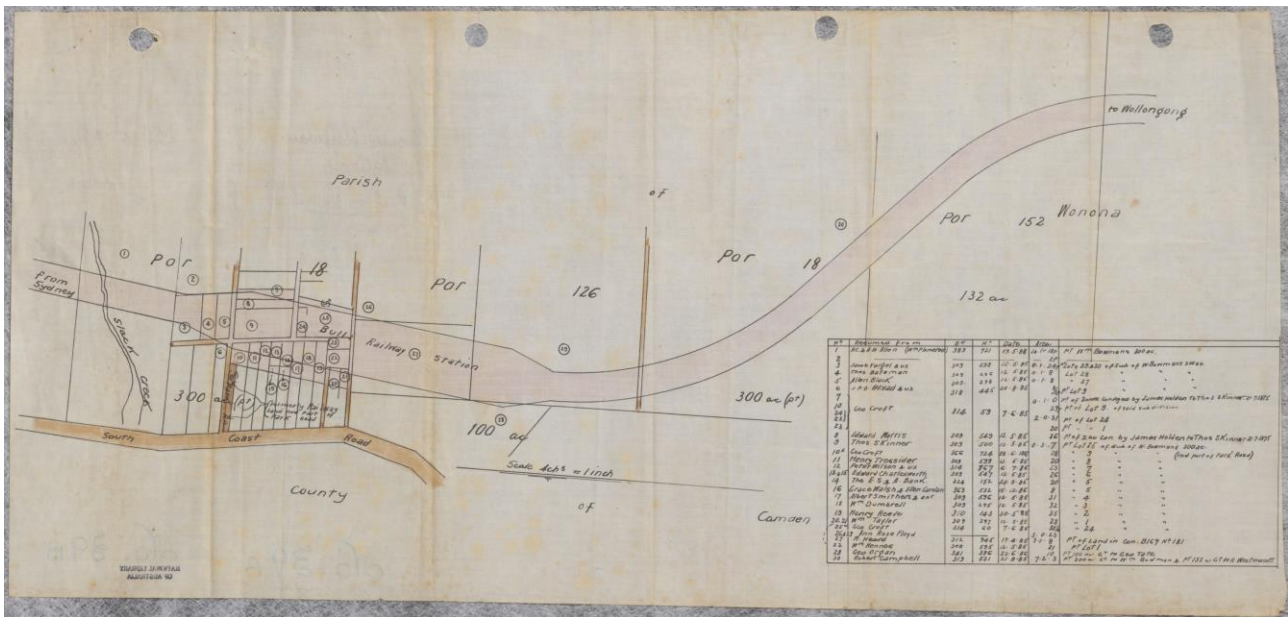


Plate 5: Land resumed for Bulli Railway Station, New South Wales, ca. 1888 (source: NLA <https://nla.gov.au/nla.obj-232464261/view>)



Plate 6: Bulli Railway Station c. 1910; Bulli Station when there was only a single line and sidings, now known as Platform 2 (Source: Wollongong City Library).

The railway line prompted further infrastructure for its rail workers and visitors. Roger and Sarah Heard erected the Bulli Railway Guest House about 1887, located in the southeastern extent of the current Subject Area, to coincide with the construction of the railway.³⁸ The same year, a Station Master's residence and goods shed were also constructed adjacent to the station. In 1889, George Croft constructed a hotel (known as the Bulli Family Hotel), noted as the finest building erected in the area for many years. The building consisted of three storeys, costing £4,000 and was let to William Dickson for the first five years.³⁹ The Bulli Pass Hotel was demolished in 1914 and replaced by a new two-storey brick building at the corner of George and Philip Streets and the shopping centre relocated closer to the railway line⁴⁰.

3.3.5 Phase four: "New Bulli"

In 1871, the population of Bulli was less than 100 persons; by 1881, there were 1187 people recorded as living in the district.⁴¹ This can be attributed to the rapid growth from its initial setting around the mine but quickly extended southward. The formation for the present-day town centre was provided in 1887, one kilometre south of the old village ("Old Bulli"), near the location of the new station platform.⁴² With the formation of the new railway, Bulli, Wollongong, and Clifton were linked by rail to Sydney in 1888, the growth of Bulli continued strongly with new subdivisions and lots being sold (Plate 7). The "Old Bulli" town centre (to the south of the current Subject Area) began to decline with the new centre developing the new Joint Stock Bank (1888) and the Bulli Family Hotel (1889)⁴³. The Post Office was relocated from "Old Bulli" in 1911, occupying the old Stock Bank.⁴⁴ As a result of the new commercial and transport development in the new town centre, activity in the "Old Bulli" wound down. Bulli grew in popularity in the 1890s and through the early decades of the 20th Century, especially during the summer months as a popular tourist destination.⁴⁵

Further expansion and amalgamation of smaller villages resulted in the City of Greater Wollongong in 1947. The City of Greater Wollongong was formed by the amalgamation of the City of Wollongong, the Shires of Bulli and Central Illawarra and the Municipality of North Illawarra, under the Local Government Act, 1919 in the NSW Government Gazette 104 of 12 September 1947.⁴⁶

³⁸ Kass, 2010, p. 40.

³⁹ *Bulli*, The Sydney Mail and New South Wales Advertiser, 1889. p.727

⁴⁰ Kass, 2010, p. 41.

⁴¹ GML Heritage, 2014. p.12.

⁴² Robert A Moore Pty Ltd. , n.d. p. 9.

⁴³ The Bulli Family Hotel, Post Office and Joint Stock Bank are both located within the Subject Area

⁴⁴ Robert A Moore Pty Ltd. , n.d. p. 9.

⁴⁵ GML Heritage, 2014. p.12

⁴⁶ Family Hotel, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 00263 <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2700010>, accessed 27 June 2023

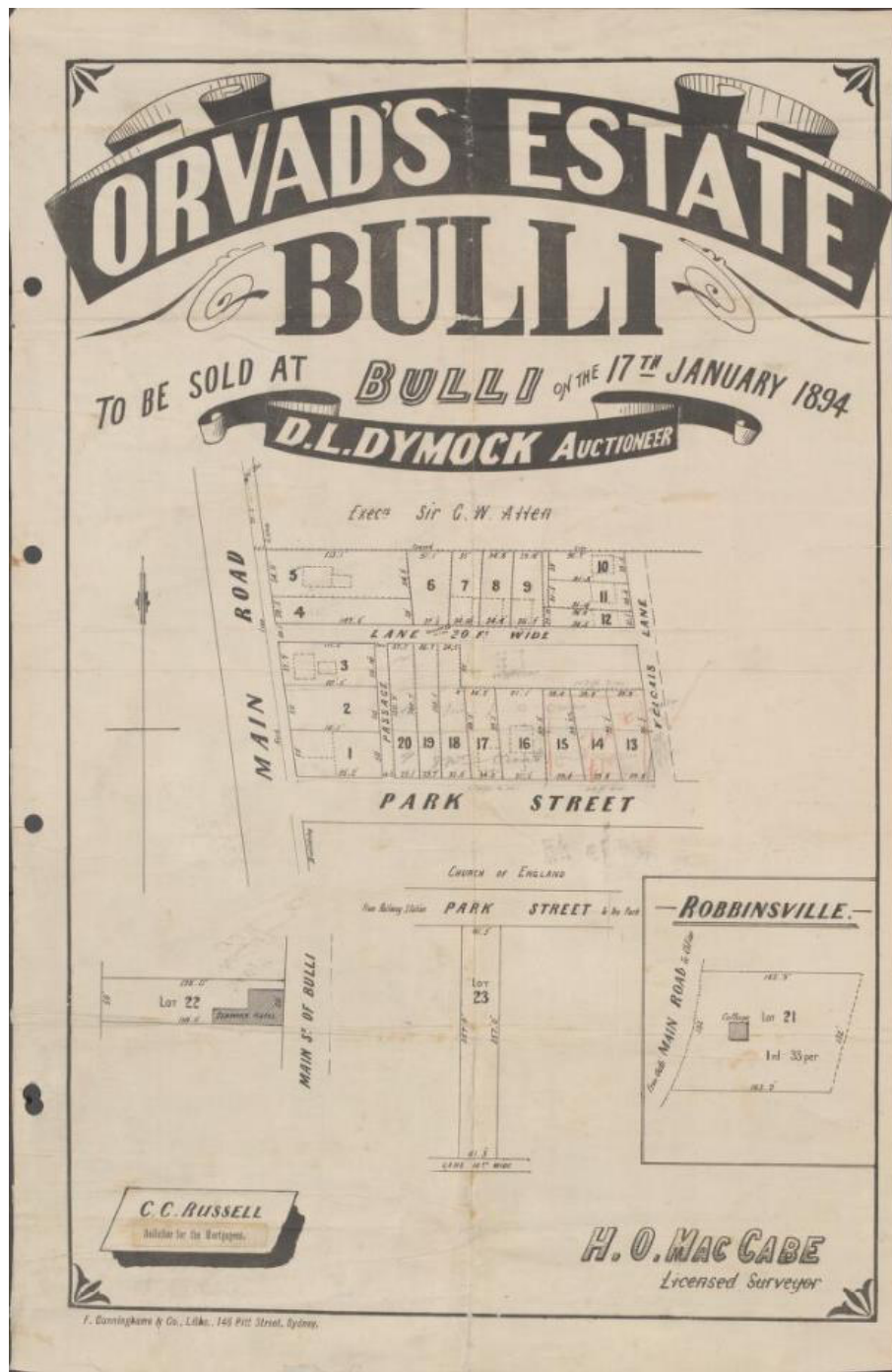


Plate 7: Sales plan for land in Bulli of January 1894, showing new subdivision and development around "New Bulli" (Main Road (now Princes Highway) and Park Steet) Source: National Library of Australia).

3.4 Relationship to national and state historical themes

The NSW historical themes were developed by the Heritage Council to connect the local context to the broader history of NSW.⁴⁷ Historical themes provide a context in which to apply assessment criteria. Historical themes help to reveal a place or object's heritage values and are critical to understanding its overall significance.⁴⁸

⁴⁷ Heritage Council of New South Wales, 2001

⁴⁸ Department of Planning and Environment, 2023, p. 14

Table 3 presents a summary of identified heritage items within or immediately adjacent to the Subject Area including any identified Local, State and National themes.

Table 3: Identified Local, State and National historical themes within the Subject Area

Heritage item	National theme	State theme	Local theme
Bulli Conservation Area	<ul style="list-style-type: none"> Unknown 	<ul style="list-style-type: none"> Unknown 	<ul style="list-style-type: none"> Unknown
Bulli Post Office	<ul style="list-style-type: none"> Settlement 	<ul style="list-style-type: none"> Towns, suburbs, and villages Welfare 	<ul style="list-style-type: none"> Maintaining a postal network
Former Joint Stock Bank	<ul style="list-style-type: none"> Economy 	<ul style="list-style-type: none"> Convict Commerce 	<ul style="list-style-type: none"> Supplying retailing and financial services
Memorial Obelisk	<ul style="list-style-type: none"> Phases of Life Economy 	<ul style="list-style-type: none"> Birth and Death Mining Communication Religion 	<ul style="list-style-type: none"> Unknown
Bulli Station Master's Residence	<ul style="list-style-type: none"> Settlement Economy 	<ul style="list-style-type: none"> Accommodation Transport Agriculture Aboriginal pre-contact 	<ul style="list-style-type: none"> Accommodating public servants Building government railways Accommodating public servants Building government railways
Bulli Railway Station	<ul style="list-style-type: none"> Economy 	<ul style="list-style-type: none"> Economy Aboriginal pre-contact 	<ul style="list-style-type: none"> Providing rail transport
Bulli Railway Station Group and Movable Objects	<ul style="list-style-type: none"> Culture Economy 	<ul style="list-style-type: none"> Creative endeavour Transport Forestry Defence Aboriginal pre-contact Industry 	<ul style="list-style-type: none"> Evolution of design in railway engineering and architecture Building the railway network Timber
Former Bulli Railway Guesthouse	<ul style="list-style-type: none"> Settlement Economy 	<ul style="list-style-type: none"> Accommodation Commerce Agriculture Convict 	<ul style="list-style-type: none"> Housing in villages and suburbs Supplying Liquor and Accommodation in Hotels Housing in villages and suburbs Supplying Liquor and Accommodation in Hotels
Family Hotel	<ul style="list-style-type: none"> Culture Phases of Life Working Settlement Economy Environment 	<ul style="list-style-type: none"> Environment Pastoralism Defence Social institutions Migration Welfare Mining Agriculture Religion Government and Administration Events Convict Exploration 	<ul style="list-style-type: none"> Ways of life 1950-2000 Living in suburbia Visiting heritage places Tourism Going to the pub Gathering at landmark places to socialise Activities associated with relaxation and recreation. Interior design styles and periods – Victorian Designing in an exemplary architectural style

Heritage item	National theme	State theme	Local theme
			<ul style="list-style-type: none"> • Building in response to climate – verandahs • Architectural styles and periods - Victorian Filigree • Adaptation of overseas design for local use • Associations with William Dickson, publican • Associations with William Kerwood, architect • Associations with Henry Stokes, publican • Associations with the Hon. Sir Henry Parkes, Premier, father of Federation • Working in an Inn, Public House, Hotel etc. • Suburban Consolidation • Subdivision of urban estates • Shaping coastal settlement • Role of Transport in Settlement • Planning relationships between key structures and town plans • living in the suburbs • Impact of railways on suburban development • Evolution of railway towns • Developing towns in response to topography • Developing suburbia • Cultural Social and religious life • Creation of railway towns • Beautifying towns and villages • A Picturesque Residential District • 19th Century suburban developments • 19th Century suburban developments • Townships • Suburban Centres • Hotel accommodation • Building settlements, towns and cities • Architectural design • Adapted heritage building or structure. • Accommodating travellers and tourists • Mining for coal • coal transport and handling • Developing local landmarks

Heritage item	National theme	State theme	Local theme
			<ul style="list-style-type: none"> • Developing local, regional and national economies • Innkeeping • Developing discrete retail and commercial areas • Cultural - Coasts and coastal features supporting human Activities. • Changing the environment
House LEP #6447	<ul style="list-style-type: none"> • Settlement 	<ul style="list-style-type: none"> • Agriculture • Accommodation 	<ul style="list-style-type: none"> • Housing in villages and suburbs
House LEP #6185	<ul style="list-style-type: none"> • Settlement 	<ul style="list-style-type: none"> • Agriculture • Accommodation 	<ul style="list-style-type: none"> • Housing in villages and suburbs
Victorian House #6447	<ul style="list-style-type: none"> • Settlement 	<ul style="list-style-type: none"> • Agriculture • Accommodation 	<ul style="list-style-type: none"> • Housing in villages and suburbs

4 Physical analysis

The following section details the physical description of the Subject Area, identified heritage items, and evidence of past land use, as well as outlining any areas of potential for archaeological sites.

4.1 Site inspection

A site inspection was conducted on 28 June 2023 by Riley Finnerty (Historical Heritage Consultant, Niche), with attendance by Kai Whitaker (Environmental Approvals Consultant, Niche), Clare Harris (Transport for NSW), and Sharon Barbaro (Transport for NSW) for this report. The site inspection consisted of a walkover of the Subject Area to identify any evidence of remaining archaeological deposits that could be seen from the surface and identify any potential heritage items not found through the desktop research. The site inspection also included taking photographic records of the Subject Area.

4.1.1 The Subject Area

The Subject Area represents an urban landscape encompassing the Bulli township streetscape. The Subject Area has undergone several phases which have influenced the physicality of the site, such as demolition, service installation, landscaping, and construction works. This is observable by the urban landscape which has been developed around the railway and commercial strip. Noted developments within the Subject Area include asphalted roads, shared footpaths, the Bulli railway station, the station western car park, Princes Highway, houses, and local shops. Prominent landmarks within the Subject Area include the Bulli railway station, Prince's Highway, the former joint stock bank, and Bulli Family Hotel.

4.1.2 Surface conditions

The general surface of the Subject Area has been heavily modified and disturbed by development around the commercial strip and railway station. Surface visibility is consistent across the Subject Area with landscaped and manicured lawns, concreted footpaths, and asphalted roads including Princes Highway and Park Road, as well as much of Railway Street and Station Street.

4.2 Built heritage items

Several built heritage items are located within the Subject Area, of which are the Bulli Railway Station, Former Bulli Railway Guesthouse (located immediately south-west of the station and currently used as a Brewery), Bulli Station Master's Residence (immediately adjacent the north-west extent of the station and currently a residential house), Former Joint Stock Bank, Family Hotel, Federation Filigree Style House, and Late Victorian Residential House.

4.3 Services

Several above and underground services were identified within the Subject Area, including streetlights, poles, underground services, traffic lights, and overhead power lines (Plate 12 and Plate 13). The subsurface locations of these services were later confirmed by a Dial Before You Dig enquiry, lodged on 11 August 2023. Mapping provided by suppliers indicate narrow corridors containing subsurface service installations intermittently transecting the locations of proposed works, such as the shared pathway.

4.3.1 Images



Plate 8: View of proposed works location in the western car park where removal of light pole and landscaping, looking west.



Plate 9: Location of extended shared pedestrian pathway along Railway Street immediately adjacent Former Stationmaster's Residence, looking north.



Plate 10: Location of the proposed pedestrian crossing on Station Street, facing west.



Plate 11: Location of the pedestrian crossing on Park Road, looking east.



Plate 12: Location of additional car parking spaces on Station Street, looking east underground service locations observed, within the road verge.



Plate 13: Location of proposed right-hand turn on Princes Highway on existing signals, opposite former Joint Stock Bank, looking north-east.

4.4 Identified heritage items

The following presents the results of external inspection of known heritage items within the Subject Area including a description of the current condition of these items.

4.4.1 Bulli Conservation Area-General

The Bulli Conservation Area envelopes the existing urban centre of the Bulli township and encompasses the entirety of the Subject Area. Within the Subject Area, the conservation area includes a number of identified heritage items which are discussed below and a commercial strip with extant buildings demonstrating the development to be found within the locality. Landmark buildings within the area include the Former Joint Stock bank and Bulli Family Hotel. Modifications to the area are shown by the adaptive reuse of historic buildings (Bulli Railway Guesthouse), additions to buildings and a few intrusive buildings. Building materials range from weatherboard and late 19th Century brick and masonry to contemporary materials (Plate 14 and Plate 15). Within the HCA, development along the Princes Highway largely consists of contemporary brick and concrete. Older style (nineteenth and early 20th Century structures are largely situated to the south-east, west and north-west.



Plate 14: View of street frontages along the Princes Highway, facing north-east.



Plate 15: View of double-story brick shop frontages on Princes Highway, facing west.

4.4.2 Bulli Station Group and Moveable Objects (SHR Item ID# 5011957)

The Bulli railway station group consists of its physical, structural, movable and landscaped heritage items. The station has two perimeter platforms, each with asphalt surfaces and brick edges. Cream-coloured powder-coated aluminium fencing defines the station perimeters (Plate 16). There is a car park on the western side of the station (adjacent to the 1923 Platform 1 building) (Plate 17), and a curved driveway off Franklin Avenue on the eastern side to access the 1887 Platform 2 building. The Platform 1 (1923) building which is located adjacent to the western car park was observed to be in good condition. The large freestanding brick platform building has a gabled corrugated steel roof, timber tongue and grooved boarding and simple timber bargeboard to gable ends at the north and south ends. A small freestanding single-story brick lamp room is located at the southern end of Platform 1 (visible in Plate 17) which is in good condition. The station is fenced with crème-coloured aluminium fencing, separating the platform from the car park. Landscape features include mature plantings along the fence line, near the overbridge and two small juvenile trees in the car park which have been recently planted. Contemporary, twenty-first and later 20th Century additions and modifications include the asphalted western car park and steel overhead light poles situated within the car park (Plate 18). The attached overhead lights do not appear to be original components and are likely more recent additions.



Plate 16: View of Bulli Station, overbridge and railway from car park, facing north.



Plate 17: View of Bulli station car park and station buildings to the left, facing south.



Plate 18: View of existing station car park and proposed works area, facing east.

4.4.3 Former Bulli Railway Guesthouse (Heritage Item ID # 5987)

The former Bulli railway guesthouse is situated in the southern portion of the Subject Area on Station Street and is visible from the western car park. The two-story Victorian house has a symmetrical front with a veranda (now enclosed) and hipped roof, originally clad in corrugated iron (Plate 19). Much of the original fabric services are encapsulated behind the additions. The building has recently been restored and undergone adaptive reuse and is now utilised as a brewery since 2020. The recent modifications have retained the building façade and have mostly been restricted to the rear of the building. The building retains its internal joinery and features, as well as its distinctive symmetrical Victorian proportions and remains recognisable as a building of its era and with sensitive reversal of some modifications.⁴⁹

⁴⁹ Former Bulli Railway Guesthouse, New South Wales State Heritage Register. Department of Planning & Environment, SHI # 5987, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5062372>, accessed 27 June 2023.



Plate 19: View of Former Bulli Railway Guesthouse, now a Brewery, facing south.

4.4.4 Bulli Station Master's Residence (Heritage Item ID# 6500)

The Bulli station master's residence is a cottage and goods shed constructed in 1887, located on Park Road and Railway Street. It is a good example of the standard residential structure built for the accommodation of railway staff in the 1880s. The building is currently a private residence and has undergone maintenance and additions, however, the original fabric is intact and sympathetic to its original setting. It consists of a single-story brick colonial Georgian-style cottage with a corrugated-iron roof and an awning with dual brick chimneys (Plate 20). The building and rear yard are in good condition (Plate 21).



Plate 20: View of Former Stationmaster's Residence, facing south-east.



Plate 21: View from the road verge of the rear yard of the Stationmaster's Residence good shed and modern shed, facing north.

4.4.5 Memorial Obelisk (Heritage Item ID# 61081 and s.170)

The item is located on the northern side of Park Road in the north-east extent of the Subject Area directly opposite the Bulli Station Group and Moveable Objects (SHR Item ID# 5011957; Plate 22). The Anglican Church and Cemetery is located to the immediate east. The item consists of an engraved granite obelisk on a concrete plinth enclosed by wrought iron fencing. Proposed works in this location include the installation of rubber speed humps on Park Road, near the Junction of Park Road and Veigals Lane immediately adjacent to the item.

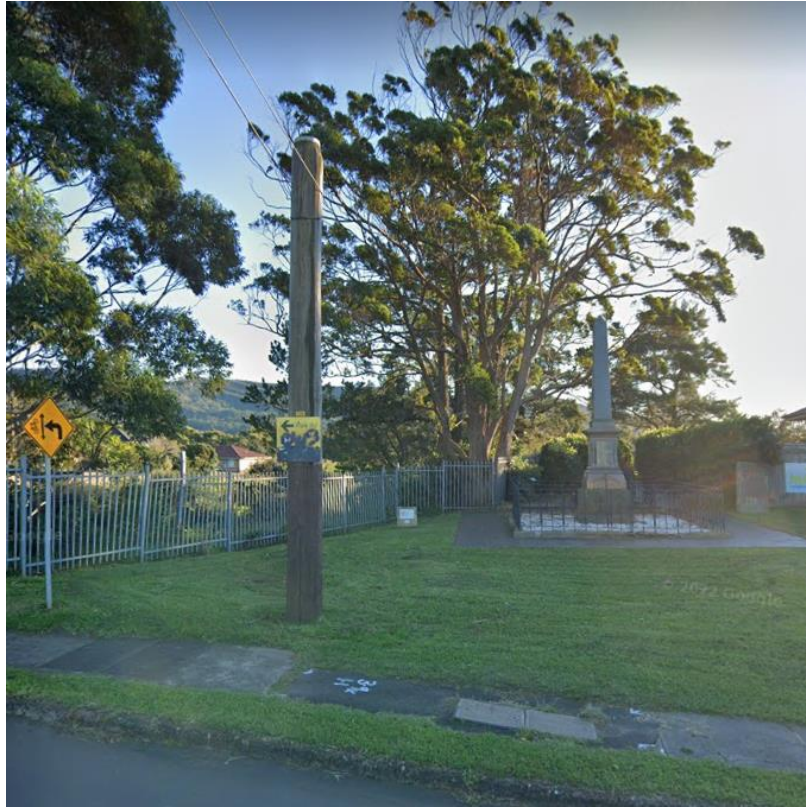


Plate 22: View north of Memorial Obelisk on Park Road, taken from the southern road verge.

4.4.6 Former Joint Stock Bank (Heritage Item ID # 5985)

The former Joint Stock Bank building is located on the corner of the Princes Highway and Park Road (Plate 23). The building is a Victorian period two-storey rendered brick corner building, with parapet and cast-iron filigree lace, and is a good example of its period and type, and a representative example of the work of architect William Wilkinson.⁵⁰ The building is in good condition and appears to have the original fabric intact. The structure's elements contribute to the significance of the conservation area as well as to the streetscape, the latter enhanced by its front-facing corner position.

⁵⁰ Former Joint Stock Bank, New South Wales State Heritage Register. Department of Planning & Environment, LEP # 5985. <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5062360>, accessed 27 June 2023



Plate 23: Façade view of Former Joint Stock Bank, looking north-east across Park Road.

4.4.7 Bulli Family Hotel (SHR Item ID# 5045684)

The hotel provides a key townscape element and is part of the Bulli streetscape. The building is an example of its period which reflects the development of Bulli with the coming of the railway. Constructed in 1889 for £4,000 and designed by the architect William Kerwood⁵¹, the building abuts the northern and western property boundaries along the Princes Highway (Plate 24) and to the northern extent of Stokes Lane (Plate 25).

The external façade of the hotel abutting the Princes Highway was observed to be in good condition. Modifications to the structure were noted at the rear of the building on Stokes Lane and consisted of a high brick retaining wall in addition to utilities (Plate 25). The original exterior fabric to the rear of the building remains in good condition. Proposed works in this area include the installation of signage for limited parking along the laneway (Stokes Lane). The current mapped heritage curtilage for this item appears to extend across the road reserve and onto Stokes Lane (see Figure 3).



Plate 24: View of Family Hotel from Princes Highway, facing south-west.



Plate 25: View of hotel rear showing recent addition, facing south-east.

⁵¹ McDonald McPhee Pty Ltd, 1991



Plate 26: Bulli Family Hotel viewed from Princes Highway, looking north-east.



Plate 27: Parking area at rear of Bulli Family Hotel off Stokes Lanes, looking south-west

4.4.8 Federation filigree-style house (Heritage Item ID # 6185)

The heritage item located at 242 Princes Highway is currently a private residential house with features of Federation filigree style (Plate 28). The building is a two-storey weatherboard house with a roof concealed behind a parapet and a front single-storey addition with a gable roof. A verandah runs across the front on the upper storey, consisting of a metal roof with a gable at the centre, supported by timber posts. The gable has a decorative pattern with a timber finial. A verandah is supported by timber posts and has a diagonal lattice screen balustrade and screening on both sides (Plate 29 and Plate 30). A window on the ground floor level at the front of the property is a three-part multi-pane casement window. Side windows on both levels of the building are timber sash and casement with decorative timber sills. The front entrance consists of a timber door with a transom light above and sidelights. A verandah on the ground floor has a diagonal lattice screen balustrade with privacy screens to the sides. The property is enclosed to the north by the Bulli Family Hotel and in front by pickets on masonry, with a recessed timber picket fence. The building is set back from the Princes Highway and well screened by mature trees, however, modifications are visible from the street view of the property. The structure appears to be in good condition.



Plate 28: Location of the house at 242 Princes Highway screened from the highway by mature trees, facing south-east.



Plate 29: Context 242 Princes Highway facing south-west.



Plate 30: Detail of current condition, 242 Princes Highway, Bulli.

4.4.9 Late Victorian residential house (Heritage Item ID # 6183).

The house at 244 Princes Highway is a private residential house of late Victorian architecture that contributes to the character and identity of the townscape. The house is a single-storey weatherboard house with a gabled corrugated iron roof (Plate 31). A verandah runs across the front of the building only and a skillion corrugated iron roof is supported by timber posts with decorated timber brackets. The verandah features masonry steps, timber balustrades with top timber rail and lattice privacy screens at each end. The windows have painted timber sills and architraves. The front fence and gate are of timber picket construction and set back approximately 5m from the Princes Highway (Plate 32). No modifications are visible from the street view of the property. The physical condition of the structure is good, and the majority of the original fabric is intact.



Plate 31: View of late Victorian residential house from Princes Highway, facing south-east.



Plate 32: Street view including late Victorian residential house looking south along Princes Highway.

5 Physical analysis

The potential archaeological resource relates to the reasonable level of preservation of archaeological resources within the Subject Area. Archaeological potential is shaped by the local geographical and topographical factors, the level of development and the possible following impacts, levels of onsite fill and any factors that influence the preservation of archaeological deposits such as soil type. An assessment of archaeological potential has been derived from the historical analysis undertaken during the preparation of this report.

5.1 Integrity of sub-surface deposits

5.1.1 Subject Area

The potential for sub-surface deposits is dependent on the integrity and intactness of the archaeological profile. Areas within the Subject Area that have not been previously disturbed have a higher likelihood of containing sub-surface deposits. Examples of this include the Bulli Station guesthouse where “Wells, cisterns and cesspits that are likely to remain in the rear yard could provide useful insights into catering for large numbers of people in a residence prior to the introduction of modern utilities.”⁵² The potential for remains of the 1876 small boarding house near the current site of the guesthouse and railway has not been confirmed, however, it is thought that it was closer to the present-day railway line and may have been resumed and demolished for the extension of the railway south through Bulli.⁵³ No surface evidence of sub-surface deposits was noted during the site inspection as any remaining evidence of previous phases of occupation has likely been obscured by more recent additions such as landscaping of road verges and the asphaltting of the station carpark.

5.1.2 Aerial Imagery

Historic aerial imagery can often record features which may have been removed or obscured since the photograph was taken. Vertical aerial imagery from the late 1948 to 1971 gives some indication of activity and development within the Subject Area. Images of the Bulli Railway Station indicate little change between 1948 and the late 1950s, however by 1961, significant urban development had taken place immediately west of the station (Plate 33 and Plate 34). By 1966 a number of structures can be identified to the immediate south of the western carparking area (Plate 35). These structures have been removed and the eastern carparking area improved, with a formal parking area added to the eastern side of the station complex in images taken in the 1971 (Plate 36).

⁵² Former Bulli Railway Guesthouse, New South Wales State Heritage Register. Department of Planning & Environment, LEP # 5987, accessed 27 June 2023

⁵³ *Ibid*



Plate 33: Bulli Station complex in 1948 (source: Wollongong Spy Glass 1948-51)



Plate 34: Bulli Railway Station and surrounds in 1961 (source: portal.spatial.nsw.gov.au)



Plate 35: Aerial image of Bulli Railway Station from 1966 indicates a number of structures immediately south of the western carparking area (source: portal.spatial.nsw.gov.au)



Plate 36: 1971 aerial image of Bulli Station and surrounds. The eastern parking area has been subject to improvement and structures immediately south of the western carparking area have been removed, however some footings appear to remain (source: portal.spatial.nsw.gov.au)

5.2 Previous archaeological investigations

There are currently no available reports regarding previous archaeological investigations undertaken within the Subject Area. One archaeological assessment has been completed within proximity to the Subject Area, at 300 Princes Highway, Bulli. This assessment details excavations undertaken by GML at the site of the Seaview Guesthouse and associated outbuildings as part of the site preparation stage for the northern extension of Memorial Drive.⁵⁴

The archaeological investigation focused on the ground floor rooms of the former guesthouse, including the kitchen and living quarters including two bedrooms. A laundry and bathroom are located at the rear of the house were not investigated due to concrete flooring. The retrieved artefact assemblage included 513 artefacts, with the majority coming from Bedroom 2 (the largest room on the ground floor), confirming that it had the floor constructed of butt-boarded floorboards. The floor frame of this room was supported by brick posts as opposed to the rest of the rooms, whose floor support consisted of a single brick footing. In addition to the underfloor deposits, the archaeological investigation identified two features that predated its construction. A posthole and a burnt tree/shrubbery root, both containing 19th Century artefacts, were identified beneath subfloor deposits of one room (Bedroom 2). The GML report concludes that these artefacts were associated with activities predating the construction of the guesthouse building circa 1889. The removal of two outbuildings in the rear of the guesthouse did not provide evidence of previous land use.⁵⁵

A heritage management plan prepared for the Family Hotel in 2004 (published 2007)⁵⁶ provides a map of the site which indicates the location of existing and previous structures located within the current mapped curtilage of the site (Plate 37). The report indicates that:

The existing rear car parking area located behind and west of the main hotel building has evidence of foundation stones, associated with the original stables & outbuildings constructed as part of the original hotel complex.⁵⁷

The archaeological potential of the site, including the rear yard is most likely limited to the occupation of the site post 1886.

⁵⁴ GML Heritage, 2014

⁵⁵ *Ibid*, p.43

⁵⁶ Lee, 2007

⁵⁷ *Ibid*, p. 33

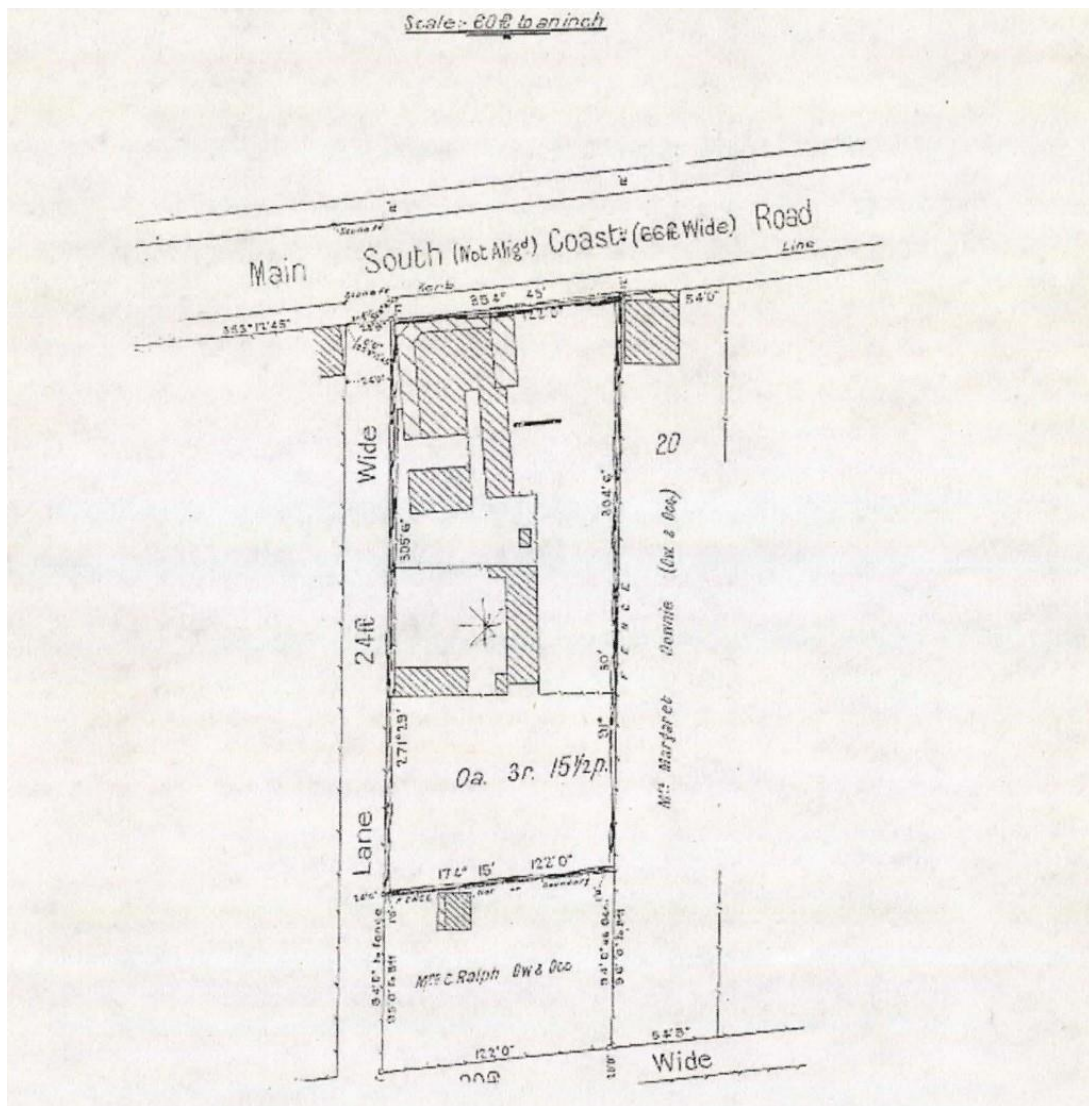


Plate 37: Bulli Family Hotel site outline approximately aligns with current heritage curtilage, existing and previous structure locations are indicated by hatching (source: Lee, 2007, p.10).

A heritage study was undertaken for Bulli Railway Station Group by University of Sydney students in 2020 and was subsequently adopted by Sydney Trains and TfNSW to inform the heritage management of the site.⁵⁸ The report indicates that there were several structures located within the current carparking facilities that have been previously demolished, including a goods shed, cattle yards, jib crane and associated loading platform.⁵⁹ The method of demolition for these items is not described in the report, however, is known to have occurred in 1923, coinciding with the duplication of the Illawarra line to Woonona and construction of Platform 1 and the brick platform buildings and Parcel Room (Plate 38).⁶⁰

⁵⁸ Boag, et al. 2020

⁵⁹ *Ibid*, p.21

⁶⁰ *Ibid*, p.20

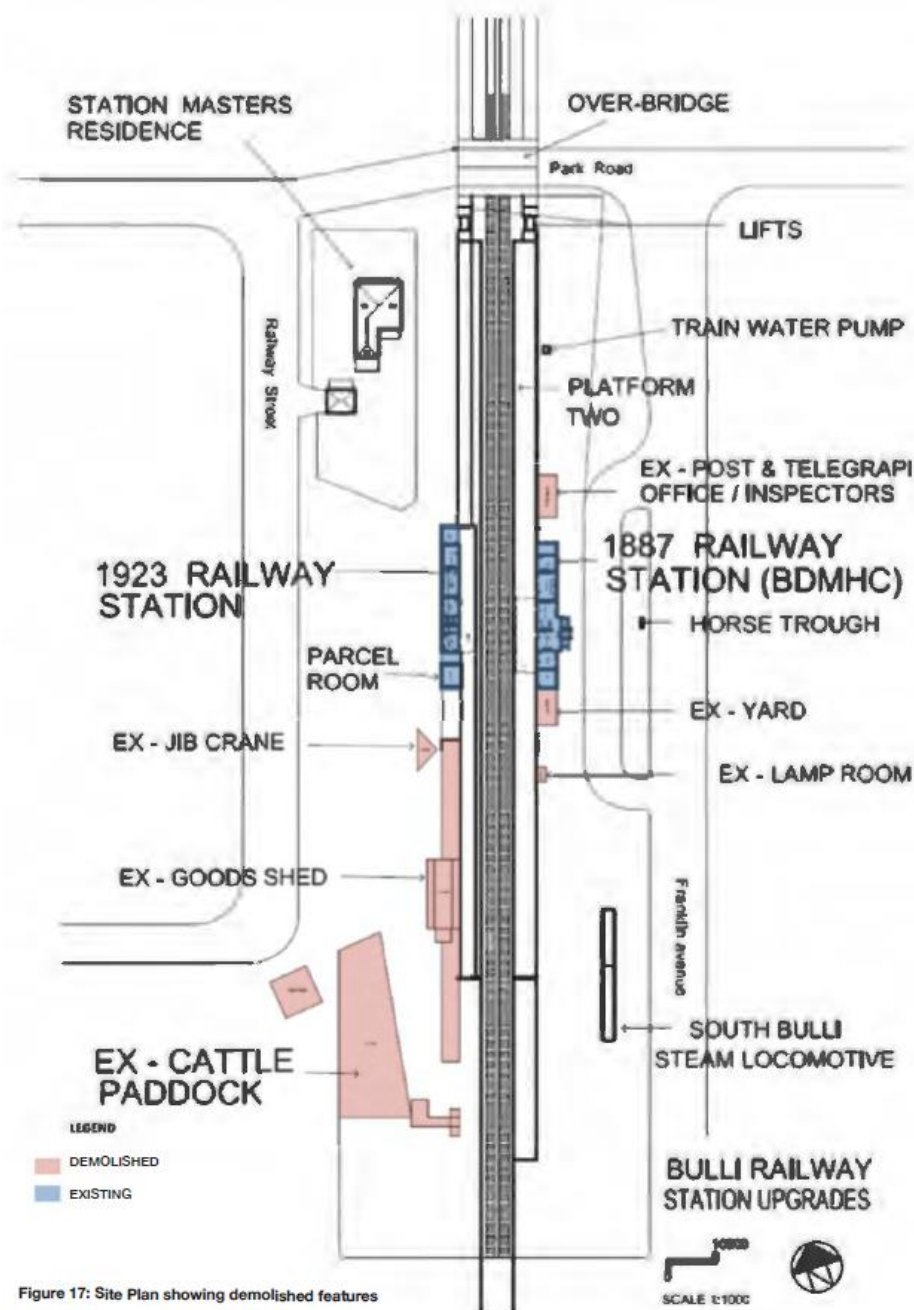


Plate 38: Map of Bulli Station Complex including approximate locations for existing and previously demolished structures (source: Boag et al. 2020, p.21)

5.2.1 Archaeological potential

Using the results of the historical analysis and an assessment of the physical characteristic of the Subject Area, an estimation of archaeological potential has been prepared. Typical archaeological remains found within urban areas take a number of forms:

- Structural remains associated with buildings shown on plan are likely to survive but will be impacted by later phases of building such as:
 - building footings
 - underfloor deposits associated with the occupation of the house
 - other types of deposits

Certain types of remains are typically not shown on plan although some may be on later plans:

- Wells,
- Cesspits,
- site drainage,
- rubbish pits,
- evidence for gardens, layout and use of the yard areas,
- pet burials,
- fence lines, assisting with clarification of lot boundaries and internal use of lots,
- pollen and soil evidence,
- land clearing and modification of the landform, including major filling events, i.e., backfilling of swamps, ponds or a creek line,
- rubbish dumps,
- other types of archaeological deposits.

Later building phases will impact on the remains of early phases. The greater the number of phases the more complicated the nature of the archaeological remains. Other issues include the nature of impacts from later twentieth-century activities such as demolition, clearing and construction. For example:

- the later the date a building was demolished then the greater the impact from larger modern machinery.
- Footing systems of single-storey buildings have less impact than those of multi-storey buildings.
- Demolishers and builders typically do as little as they have to because of the need to control costs. Higher areas get cut down and levelled and lower damp areas get filled.
- Roadways usually have impacts from modern services.

Typically, a series of gradations of potential are used to identify and indicate the degree to which archaeological remains are likely to survive within the Subject Area. These gradations include:

- No Potential: the archaeological remains in this area have been removed, usually through deep excavation, for example, the installation of a modern basement.
- Low Potential: while there is likely to be quite high impacts in these areas, deeper subsurface features such as wells, cesspits and their artefact-bearing deposits may survive.
- Low to Moderate Potential: a mix of low and moderate potential.
- Moderate Potential: while there are impacts in this area a range of archaeological remains are likely to survive across the site, including building footings and shallower remains as well as deeper subsurface features.
- Moderate to High Potential: a mix of medium and high potential.
- High Potential: substantially intact archaeological remains could survive in these areas.

The archaeological potential relating to the identified historical phases is presented in Table 4.

Table 4: Archaeological deposits relating to historical phases.

Historical phase	Analysis of archaeological potential associated with historical phase
Phase 1: Settling Bulli	Low- It is unlikely that any archaeological evidence survives
Phase 2: Bulli mining village	Low- It is unlikely that any archaeological evidence survives
Phase 3: Expansion of the Illawarra Railway Line	Moderate - Some archaeological evidence associated with this historical phase or feature survives. It is likely located in the vicinity of the station and surrounding buildings and may have been subject to some disturbance
Phase 4: "New Bulli"	Moderate - Some archaeological evidence associated with this historical phase or feature survives. Likely associated with residential dwellings and commercial properties such as hotels and guest houses. It may be subject to some disturbance

The historical context presented in this report (Chapter 2) indicates that the Subject Area is likely to contain archaeological relics associated with the occupation post c.1887 and early 20th Century with the development of "New Bulli". This was facilitated by the commencement of the Bulli railway line and key landmarks, including the Bulli Railway Station, Former Stationmaster's Residence, Former Railway Guesthouse, Family Hotel, Post Office and Joint Stock Bank.

5.3 Summary of physical analysis

The results of the site inspection demonstrate that views and vistas towards landmark buildings and identified heritage-listed items are not currently prohibited.

Analysis of the physical evidence provided in previous archaeological investigations and observed during the site inspection indicates that it is unlikely that any archaeological evidence relating to Phase 1 (Settling Bulli), or Phase 2 (Bulli mining village) will be present. There is some moderate archaeological potential for artefacts related to Phase 3 (Expansion of Illawarra Railway Line) and Phase 4 ("New Bulli") to be present, however, this potential would be limited to those sections of the Subject Area that have not been exposed to significant ground disturbance through more recent urban development, road and rail construction. For example, archaeological deposits are associated with largely undisturbed landscapes, such as the rear yard of the Stationmaster's guesthouse.

The current mapped location of underground services, the presence of existing roadways, footpaths, street lighting and parking facilities in the location of proposed excavation works (see also Figure 2), and the results of the site inspection indicate low to moderate archaeological potential in these specific locations. A summary of archaeological potential identified at proposed works locations has been provided in Table 5.

Table 5: Archaeological potential at each works location

Works location	Archaeological Potential
Proposed new signage – Stokes Lane	Moderate. There is some potential for archaeological remains relating to 19 th century development of the site to be located within the subsurface of the road verge. As shown in Plate 37, the remains of a number of built structures relating to the early development of the site may abut Stokes Lane, particularly to the rear of the site (western extent)
Dedicated right turn arrow add traffic lights	No potential. The proposed works are located at the site of existing traffic signage.

Works location	Archaeological Potential
Rubber Speed Cushions	No potential. The proposed works are located within the existing roadway.
Shared Pathway – Railway Street/Park Road	Low to Moderate. While there have been utilities installed throughout the area which intersect with the proposed pathway, its proximity to the Station Master's Residence (immediately adjacent western extent of the item) and intersection with the western extent of the Bulli Railway Station Group indicates some potential for previously unidentified archaeological material related to 19 th century rail expansion in the Illawarra (Phase 3).
Raised Island and Pedestrian Friendly Grates– Corner of Railway Street and Park Road	Low – The proposed works are located with areas of previous disturbance associated with road construction.
Raised Island and Pedestrian Friendly Grates/Fill in existing pram ramps – Railway Street	Low – The proposed works are located with areas of previous disturbance associated with road construction.
Removal of existing parking islands and installation of new SM Kerb – Bulli Railway Station car park (MC40 and MC50)	Low – The proposed works are located with areas of previous disturbance associated with car park construction.
New construction – southern extent Bulli Railway Station Carpark	Low to Moderate. There is some potential for archaeological remains relating to 19th century development of the railway and/or former Bulli Railway Guesthouse to be located within the subsurface of the site in the area outside of the existing carpark.
New 45 Degree Parking – Station Street	Low – The proposed works are located with areas of previous disturbance associated with road construction and more recent developments.
Relocation of Junction Box and Light Poles – Bulli Train Station	Low to Moderate. The light poles are located within the road verge. While the existing locations have a low archaeological potential due to the presence of subsurface utilities, excavation required for relocation has potential to impact lesser disturbed areas.
Relocate power pole – Station Street	Low – The proposed works are located with areas of previous disturbance associated with road construction, subsurface utilities and more recent building developments.
Installation new signage, relocation "Bulli Station" sign and removal existing signage – Park Road	Low – The proposed works are located with areas of previous disturbance associated with road construction.
Installation new signage- Railway Street	Low – The proposed works are located with areas of previous disturbance associated with road construction.
Installation of Angled Parking and Taxi signage – Railway Street	Low – The proposed works are located with areas of previous disturbance associated with road construction.
Installation new signage- Station Street	Low – The proposed works are located with areas of previous disturbance associated with road construction.

6 Assessment of significance

6.1 Methodology for assessing significance

The NSW Heritage Manual guideline for *Assessing Heritage Significance: Guidelines for assessing places and objects against the Heritage Council of NSW criteria*, provides the following significance assessment and Statement of Significance framework.⁶¹ These guidelines incorporate the seven aspects of cultural heritage value identified in *The Burra Charter*⁶² into a framework currently accepted by the NSW Heritage Council.

6.1.1 Criteria for assessing significance

The criteria for assessing significance are summarised in Table 8. Using this criterion, a place can be assessed to be of local, state or no heritage significance.

Table 6: Heritage assessment criteria

Criteria	Value	Description
Criterion A	Historical significance	An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).
Criterion B	Associative significance	An item has a strong or special association with the life or works of a person or group of persons, of important in NSW's cultural or natural history (or the cultural or natural history of the local area).
Criterion C	Aesthetic significance	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).
Criterion D	Social significance	An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.
Criterion E	Research potential	An item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)
Criterion F	Rarity	An item possesses uncommon, rare or endangered aspects of the area's cultural or natural history (or the cultural or natural history of the local area).
Criterion G	Representativeness	An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments. (or a class of the local area's cultural or natural places, or cultural or natural environments.)

6.1.2 Grading of significance

A five-tier grading system detailing levels of significance is used to identify the overall significance of items or sites being assessed. The levels of significance and their justification to be applied to items is listed in Table 7 below.

⁶¹ Department of Planning and Environment, 2023

⁶² Australia ICOMOS, 2013. *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance*, 2013

Table 7: Gradings of significance

Grading	Justification	Status
Exceptional	Rare or outstanding element directly contributing to an item's local or State listing.	Fulfills criteria for local and/or State significance.
High	A high degree of the original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfills criteria for local and/or State significance.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfills criteria for local and/or State significance.
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or State listing.
Damaging	Damaging to the item's heritage significance.	Does not fulfil criteria for local or State listing.

6.2 Established significance

The following presents the assessment of the Subject Area using the guidelines *Assessing Significance for Historical Archaeological Sites and 'Relics'*⁶³ and *Assessing Heritage Significance*⁶⁴ as outlined in Table 6 and Table 7. The previously established assessments of significance for items identified within the Subject Area have been examined and expanded where necessary using the results of the site inspection and historical context undertaken for this report. The established significance of these items forms part of the considerations in the assessment of heritage impact undertaken in Section 7 and inform the final recommendations.

6.2.1 Statement of cultural significance for the Bulli Conservation Area

The entirety of the Subject Area is located within the Bulli Conservation Area -General. The conservation area includes a number of landmark buildings dating to the Victorian era.

The current Statement of Significance Bulli Conservation Area⁶⁵ states:

Bulli is significant as the development of a railway town that replaced a previously thriving town. Together with Old Bulli, it demonstrates the before and after of the coming of the railway and typical types of development to be found in such a locality, including the former joint stock bank and commercial strip. The Bulli Family Hotel has particular significance for its landmark qualities, its previous popularity with influential visitors and its location at the high point of a rolling landscape dominated by the snakelike curve of the Princes Highway to Old Bulli and beyond.

Table 8: Assessment criteria and significance assessment Bulli Conservation Area - general

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area)	Bulli has historical significance for its development as a railway town that replaced a previously thriving town

⁶³ Heritage Branch of Department of Planning, 2009

⁶⁴ Department of Planning and Environment, 2023

⁶⁵ Heritage NSW, 2000. *Bulli Conservation Area*

Relevant Heritage NSW criteria	Assessment
	and its relationship to the development of coal mining in the Illawarra.
Criterion (b) associative significance: an item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area)	The item reflects the significant changes in business practice, municipal life and residential development in the late 19 th and early 20 th Centuries.
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)	<i>This item has group, landmark, landscape, architectural, landscape and aesthetic value.</i>
Criterion (d) social significance: an item has a strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area)	The item reflects the significant changes in business practice, municipal life and residential development in the late 19 th and early 20 th Centuries.

6.2.2 Statement of cultural significance for the Bulli Railway Station Group and Moveable Objects

Bulli Railway Station Group was listed on the SHR in 2013. The current Statement of Significance for Bulli Railway Station Group and Moveable Objects⁶⁶ states:

Bulli Railway Station is significant for its rare 1887 station building surviving from the first period of construction of the Illawarra line. The 1887 station building is one of the most intact of only four remaining examples of an 1880s third-class weatherboard station building along the Illawarra line and remains as a tangible reminder of the role of Bulli Station as a transport hub for the village of Bulli since 1887. The 1923 station building, and lamp room demonstrate the expansion of railway activity at Bulli into the early 20th Century associated with duplication of the line during the 1920s. The juxtaposition of the 1887 and 1923 platform buildings demonstrates the evolution of railway station architecture during this period and are both excellent examples of their periods and style. The site has special associations with the staff and volunteers of the Black Diamond District Heritage Centre, located in the central section of the 1887 station building, who continue to be instrumental in the ongoing preservation and interpretation of the site.

The current assessment of the item's significance against Heritage NSW Criteria is presented in Table 9.

Table 9: Assessment criteria and significance assessment Bulli Railway Station Group and Moveable Objects (SHR Item ID #01829)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area)	<i>Bulli Railway Station is of historical significance for its 1887 Platform 2 building surviving from the first period of construction of the Illawarra line and for its 1923 Platform 1 building and out of room, which demonstrate the duplication of the line at this time. Bulli Railway Station is also of historical significance for its role as a transport hub for the village of Bulli since 1887 and demonstrates the expansion of the railway station into the early 20th Century.</i>

⁶⁶ Heritage NSW, 2013. *Bulli Railway Station Group and Moveable Objects*

Relevant Heritage NSW criteria	Assessment
Criterion (b) associative significance: an item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area).	<i>The presence of the Black Diamond District Heritage Centre occupying the central section of the 1887 Platform 2 building indicates that the place has a specific social significance for the local community.</i>
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	<i>The 1887 Platform 2 building at Bulli is one of the best examples of an 1887 weatherboard third-class platform building surviving on the Illawarra line, and one of the few buildings extant from the 1887 period of the lines' construction, with most others being replaced in 1915 for the duplication of the line. The Bulli Platform 2 building is one of only four extant 1887 weatherboard 3rd class platform buildings remaining on the Illawarra line, the others being at Albion Park Rail, Dapto and Thirroul. With the platform building at Albion Park Rail, the Bulli Platform 2 building is one of the two most intact extant platform buildings of this type.</i>
Criterion (d) social significance: an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area).	<i>The presence of the Black Diamond District Heritage Centre occupying the central section of the 1887 Platform 2 building indicates that the place has a specific social significance for the local community.</i>
Criterion (e) research potential: an item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area).	<i>The item has the potential to inform 19th Century railway development and technology and the development of the Bulli township.</i>
Criterion (f) rarity: an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area).	<i>The 1887 Platform 2 building at Bulli is one of the best examples of an 1887 weatherboard third-class platform building surviving on the Illawarra line, and one of the few buildings extant from the 1887 period of the lines' construction, with most others being replaced in 1915 for the duplication of the line. The Bulli Platform 2 building is one of only four extant 1887 weatherboard 3rd class platform buildings remaining on the Illawarra line, the others being at Albion Park Rail, Dapto and Thirroul. With the platform building at Albion Park Rail, the Bulli Platform 2 building is one of the two most intact extant platform buildings of this type.</i>
Criterion (g) representativeness: an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area)	<i>The 1887 and 1923 platform buildings and Out-of-room represent standard design railway station architecture of their respective periods of construction. Bulli, with its 1887 weatherboard third-class platform building, is one of only 4 stations on the Illawarra line with examples of weatherboard versions of this type of platform building (other examples at Albion Park, Dapto and Thirroul).</i>

6.2.3 Statement of cultural significance for the Bulli Post Office

The current statement of significance listing for the Bulli Post Office⁶⁷ states:

Former Bulli Post Office is of significance for the local area for historical, aesthetic and social reasons. This Interwar-period face brick building is a representative example of its period and type, with its architectural significance partly based on the unusual, recessed entry flanked with internal layout. The place has associations with the Interwar phase of town's development and its change of use reflects changes to the town centre. The building contributes to the streetscape and the conservation area in its own right.

An assessment of the item's significance against the Heritage NSW criterion is presented in Table 10.

Table 10: Assessment Criteria and Significance Assessment Bulli Post Office (Heritage Item ID # 6173)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area).	The item is historically significant due to its association with the interwar phase of development in Bulli.
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	The item is a representative example of interwar period architecture. Key architectural elements include Classicist columns at entry, an unusual, recessed entry, a face brick façade, a tiled roof, banded brickwork, and double-hung sashed 6/1 windows.

6.2.4 Statement of cultural significance for the Bulli Family Hotel

The Bulli Hotel is considered by the State Heritage Register to have historic, landmark, architectural and townscape value, social and cultural value, rarity, and representative value. It is considered important at a local level to the community of the Wollongong City Area, at a regional level within the Illawarra area and at a state level, to the people of NSW. The current significance assessment for the Bulli Family Hotel⁶⁸ is presented below.

Key townscape element and part of the Bulli streetscape. A fine and unusual example of this period in this area which reflects changes wrought in Bulli by coming of the railway, South of Old Bulli. High level of architectural significance as one of the best examples of this type of Victorian period hotel in Australia.

Table 11: Assessment criteria and significance assessment Bulli Family Hotel (SHR Item ID #00263)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area).	The item is indicative of similar hotels built in similar NSW coastal towns in the late 19 th Century and reflective of the historical development of Bulli.
Criterion (b) associative significance: an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area).	The item has associative significance for the Bulli mining community. The cellar of the hotel was used during the Bulli mine disaster of 1887, as a mortuary, when 81 men and boys died. ⁶⁹
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high	The item has aesthetic value, as a significant element in the streetscape, whose late Victorian character, full-

⁶⁷ Heritage NSW, 2019.

⁶⁸ Heritage NSW, 2020.

⁶⁹ <https://www.resourcesregulator.nsw.gov.au/safety/safety-events-and-education-programs/learning-from-disasters/learning-from-disasters/1887>

Relevant Heritage NSW criteria	Assessment
degree of creative or technical achievement in NSW (or the local area).	length verandas and cast-iron finishes are identifiable within the town of Bulli.
Criterion (d) social significance: an item has a strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area).	The item is recognised by the local community as a place of meeting and entertainment and an icon within the town. Local Associations and community groups used the building as a venue for meetings as well as for social and entertainment activities.
Criterion (e) research potential: an item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area).	The existing rear car parking area located behind and west of the main hotel building has previously been noted as having evidence of foundation stones, associated with the original stables & outbuildings constructed as part of the original hotel complex. The archaeological potential of the site, including the rear yard however is limited to the occupation of the site post-1886.
Criterion (g) representativeness: an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area).	The form, shape and style of the street facades are significant elements within the immediate streetscape and contribute to the aesthetic character of the township. The building is readily identifiable within and as a part of Bulli and the surrounding areas. Its association with local community groups and as having been used as a venue for entertainment functions adds to the building's local significance.

6.2.5 Statement of cultural significance for the Former Joint Stock Bank

The current statement of significance listing for the Former Joint Stock Bank states:

The former Joint Stock Bank building is of significance for the local area for historical, aesthetic and social reasons and for reasons of rarity and representativeness. This Victorian period two-storey rendered brick corner building, with parapet and cast-iron filigree lace, is a representative example of its period and type, and also a representative example of the work of architect William Wilkinson. The place has associations with the early phase of the town's development and its change of use reflects changes to the town centre, thus strongly contributing to the interpretation of the significance of the conservation area as well as to the streetscape, the latter enhanced by its corner position.

Table 12: Assessment criteria and significance assessment for the Former Joint Stock Bank (Heritage Item ID # 5985)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area).	<i>The place has associations with the early phase of the town's development and its change of use reflects changes to the town centre, thus strongly contributing to the interpretation of the significance of the conservation area as well as to the streetscape, the latter enhanced by its corner position.</i>

Relevant Heritage NSW criteria	Assessment
Criterion (b) associative significance: an item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area).	The item has associative significance as a work of the architect William Wilkinson Wardell (1823-1899).
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	The Former Joint Stock bank has aesthetic significance as an example of Victorian-style architecture.
Criterion (e) research potential: an item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area).	The item has the potential to provide information on late Victorian business practices and architecture in the Bulli region.

6.2.6 Statement of cultural significance for the Federation Style House

The current statement of significance listing for the Federation Style House states:

The house at 242 Princes Highway is of significance for the Wollongong area for historical and aesthetic reasons and as a rare example of two-storey weatherboard houses in the area. The house has features of Federation filigree style, it is readily identifiable as part of historical building stock and continues to contribute to the streetscape character.

Table 13: Assessment criteria and significance assessment for the Federation Style House (Heritage Item ID# 6185)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area).	The item is historically significant as an example of development in the late 19 th and early 20 th Century and reflective of the historical development of Bulli.
Criterion (b) associative significance: an item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area).	The item does not meet this criterion.
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	<i>The item has aesthetic significance as a rare example of two-storey weatherboard houses in the area. The house has features of Federation filigree style, it is readily identifiable as part of historical building stock and continues to contribute to the streetscape character.</i>

6.2.7 Statement of cultural significance for the Victorian Style House

The current statement of significance listing for the Victorian Style House states:

The house at 244 Princes Highway is of significance for Wollongong for historical and aesthetic reasons, and as a representative example of late Victorian residential architecture in the area. The substantial dwelling presents as having a high degree of integrity when viewed externally and makes a significant contribution to the townscape character and identity.

Table 14: Assessment criteria and significance assessment Victorian Style House (Heritage Item ID # 6447)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area).	The item is historically significant as an example of development in the late 19 th Century and reflective of the historical development of Bulli.
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	The item is a representative example of late Victorian residential architecture.
Criterion (e) research potential: an item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area).	The item has moderate research potential and may provide information regarding late Victorian life in the Bulli region.

6.2.8 Statement of cultural significance for the Bulli Mine Disaster Memorial Monument

The Bulli Mine Disaster Memorial Monument (Memorial Obelisk) is located immediately north of Park Road at the northeast extent of the Subject Area, opposite the Bulli Railway Station, which abuts Park Road to the south (Figure 3). The current statement of significance for the item states:

The Bulli Mine Disaster Memorial monument is a significant reminder of the local mining industry, culturally important and an element in the townscape. The cluster of Bulli mines is very significant to the history of the Illawarra and was the site of a major mining disaster resulting in the death of 81 miners and affected most families in the area. It was the first major mine disaster in Australia.

This item is an obelisk of brown and grey Scottish granite. The names of the dead are listed in gold lettering. It is surrounded by a short square fence and small path with shrubs, in a small lawned area with some mature plantings, next to the rail line.

Table 15: Assessment criteria and significance assessment for the Bulli Mine Disaster Memorial Monument (Memorial Obelisk Heritage Item ID #61081)

Relevant Heritage NSW criteria	Assessment
Criterion (a) historical significance: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area)	<i>This item is historically significant as a reminder of the local mining industry, which played an important role in the development of the area.</i>
Criterion (b) associative significance: an item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area)	This item has a strong association with the mining community of Bulli.
Criterion (c) aesthetic significance: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)	<i>The item is a monument of some aesthetic value within the streetscape.</i>
Criterion (d) social significance: an item has a strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area)	<i>The item has social significance to the local community and to the relatives of the miners commemorated.</i>

6.3 Contributory significance

Buildings assessed within the *Wollongong LEP of 2009* that are located within a heritage conservation area are considered within the following four hierarchical categories (**Table 16**). Category A holds the highest contribution to significance within the conservation area through to Category D is considered to hold minimal contribution of significance to the considered area.

A summary of the contributory significance for individual items within the Subject Area, as assessed against these gradings is provided in Table 17.

Table 16: Heritage significance contributory grading

Grading	Description
Contributory A Buildings	These buildings provide good evidence of the main development period of the specific conservation area and also make a positive contribution to the character and /or heritage significance of the conservation area (i.e., contribute to the historic or aesthetic significance of the area, or both), OR
Contributory B Buildings	These buildings contribute to the character and significance of the conservation area for its historic or aesthetic values of significance to the area with significant work. However, these buildings are likely to have significant infill areas which are not easily reversible. These buildings are not individually significant but add to the cohesive and representative quality of the conservation area, OR
Contributory C Buildings	These buildings do not contribute to the significance of the conservation area but also do not detract from the overall character of the area. This may include early to new buildings. For example, a modern single storey dwelling which is consistent with the prevailing setbacks, form and building materials of neighbouring contributory buildings may be considered a neutral building, OR
Contributory D Buildings	These buildings display qualities that do not add to the character of the heritage area. Such buildings do not set a precedent for any new buildings within the specific conservation area. Non-contributory buildings may be demolished and replaced with a new building sympathetic to contributory buildings within the specific heritage conservation area.

Table 17: Contributory significance for heritage items within the Subject Area

Item	Description	Contributory grading
Bulli Post Office	Bulli Post Office is located to the immediate north of the Former Joint Stock Bank and consists of a small brick inter-war Classicist building with 20th century elements and a high level of integrity. Key architectural elements are Classicist columns at entry, a face brick façade, tiled roof, banded brickwork, and double-hung sashed 6/1 windows.	A
Former Joint Stock Bank	The former Joint Stock Bank building is located on the corner of Princes Highway and Park Road. The building is a Victorian period two-storey rendered brick corner building, with parapet and cast-iron filigree lace, and is a good example of its period and type, and a representative example of the work of architect William Wilkinson	A
Memorial Obelisk	The Memorial Obelisk represents a historical event significant to the development and history of Bulli and mining in the Illawarra. The item is in good condition.	B
Bulli Station Master's Residence	The building is currently a private residence and has undergone maintenance and additions, however, the original fabric is intact and sympathetic to its original setting. It consists of a single-story brick colonial Georgian-style cottage with a corrugated-iron roof and awning with dual brick chimneys	A
Bulli Railway Station	The Bulli Railway Station building is in good condition and representative of the development of the Bulli township and commercial centre.	A

Item	Description	Contributory grading
Former Bulli Railway Guest House	The two-story Victorian house has a symmetrical front with a veranda (now enclosed) and a hipped roof, originally clad in corrugated iron. Much of the original fabric services are encapsulated behind the additions. The building has recently been restored and undergone adaptive reuse into a brewery in 2020. The recent modifications have retained the building façade and have mostly been restricted to the rear of the building. The building retains its internal joinery and features	A
Family Hotel	The current condition of the external façade of the hotel is in good condition. Modifications to the structure were observed at the rear of the building on Stokes Lane which consisted of a brick retaining wall. The original fabric of the building remains in good condition.	A
House	The house is a rare example of two-storey weatherboard houses in the area.	B
House	The house is in good condition and is a representative example of weatherboard houses in the area.	B
Victorian House	The house is a representative example of late Victorian residential architecture in the area.	B

6.4 Summary of significance

The Subject Area has the potential to contain a range of archaeological remains with historical, social, technical/research, rare and representative significance. These remains are considered to be of potential local and State significance and represent the evolution of Bulli from a mining village to a burgeoning township and later an urban centre. This evolution relates largely to the development of rail in the region and is demonstrated throughout the Bulli Conservation Area -General, which contains a number of items which retain a high degree of the original fabric including the Bulli Family Hotel, Bulli Railway Station Group and Movable Objects, the Former Station Master's Residence, Joint Stock Bank and a number of late 19th Century residential dwellings.

The Bulli Conservation Area- General represents a complex of heritage items of both local and State significance. These items make a positive contribution to the character and heritage significance of the conservation area contributing to its historic, aesthetic and social value. The Bulli Conservation Area reflects the significant changes in business practice, municipal life and residential development in the late 19th and early 20th Centuries.

7 Heritage impact assessment

Known and potential impacts on heritage items can be quantified under three main categories: direct impact, indirect impact and no impact. These kinds of impacts are dependent on the proposed works, the nature of the heritage item and its associated curtilage.

7.1 The proposed works

The draft Project Design provided by TfNSW (Appendix 2) outlines the location and method of proposed works. The general location of proposed works within the Bulli Conservation Area-General that fall within the curtilage of identified individual heritage items has been provided in Figure 2.

7.2 Direct impacts

Direct impacts are where the completion of the proposed development will result in a physical loss or alteration to a heritage item which will impact the heritage value or significance of the place. Direct impacts can be divided into whole or partial impacts. Whole impacts essentially will result in the removal of a heritage item as a result of the development whereas partial impacts normally constitute impacts to a curtilage or partial removal of heritage values. For the purposes of this assessment direct impacts on heritage items have been placed into the following categories:

Physical impact - whole: where the development will have a whole impact on a heritage item resulting in the complete physical loss of significance attributed to the item.

Physical impact - partial: where the project will have a partial impact on an item which could result in the loss or reduction in heritage significance. The degree of impact through partial impacts is dependent on the nature and setting of a heritage item. Typically, these impacts are minor impacts to a small proportion of curtilage of an item or work occurring within the curtilage of a heritage item which may impact on its setting (i.e., gardens and plantings).

7.3 Indirect impacts

Indirect impacts include any secondary impact to a heritage item related to alterations to the environment or setting of the item which will result in a loss of heritage value. This may include permanent or temporary visual, noise or vibration impacts caused during construction and after the completion of the development. Indirect impacts diminish the significance of an item by altering its relationship to its surroundings; this in turn impacts its ability to be appreciated for its historical, functional or aesthetic values. For the purposes of this assessment impacts on heritage items have been placed into the following categories:

- Visual impact
- Noise impact
- Vibration impact.

7.4 Cumulative impacts

Cumulative impacts relate to gradual impacts from single or multiple developments upon heritage values. A cumulative impact would constitute an impact being caused by the proposed development which over time may result in the partial or total loss of heritage value to the Subject Area or associated heritage item. Cumulative impacts may need to be managed carefully over a prolonged period of time.

7.5 No impact

This is where the project does not constitute a measurable direct or indirect impact on the heritage item.

7.6 Assessment of built heritage impacts

Physical impacts to identified heritage items within the Subject Area would be limited to those areas of proposed works as shown in Figure 2 and the project design documents provided in Appendix 2. There would be direct physical impact-partial within the heritage curtilage of Bulli Station Group and Moveable Objects (SHR ID # 5011957) and Family Hotel (SHR ID # 5045684). Indirect impacts would be visual, with the refurbishment of car parking areas, tree plantings and installation of signage affecting the views to and from the heritage items. While these impacts would involve a replacement of one set of intrusive signage for another (like for like), the proposed works will introduce more signage than was previously present in these locations. Temporary obstruction of views and vistas during proposed works would occur.

Cumulative impacts within the Subject Area include the erosion of original fabric due to ongoing small alterations to the streetscapes and the impact of continued minor works on and in proximity to heritage items. For example, continued upgrades to parking infrastructure in the vicinity of the Bulli Railway Station Group and Moveable Objects would continue to alter views to and from the item, increasing the level of impact on heritage value. The installation of a shared pathway will result in increased public access to the item and the Bulli Station Master's Residence LEP item.

7.7 Assessment of archaeological impacts

Based on the historical research performed in this report, there is moderate potential for archaeological material to be directly impacted by the proposed works in the Subject Area. While the proposed works locations are largely situated in areas previously disturbed by the installation of underground utility services or road and pathway construction, there is potential for archaeological material to be present in those areas of lesser disturbance, particularly areas immediately adjacent of within the curtilage of heritage items, such as the Family Hotel and Bulli Station Master's Residence. While it is assumed that the extent and depth of known disturbances within the Subject Area would not be exceeded by the subsurface penetration caused by the proposed works, there is potential for direct impact in relation to the Bulli Railway Station Group and Moveable Objects, Railway Station Master's Residence and Family Hotel. There is also a moderate potential for cumulative impact to potential archaeological material.

7.8 Assessment of visual impacts

The matrix below is used for establishing the rating for the impacts on particular views.

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Plate 39: Landscape character and visual impact rating matrix (Transport for NSW 2020)

The proposed works will have a low impact on the context and significant views within the Bulli Conservation Area -General. The form of the proposed works across the conservation area is confined to discrete areas along the western extent of the Bulli Railway Station Group and Moveable Objects and the eastern extent of the Family Hotel. The proposed construction methodologies will largely replicate existing infrastructure. New construction and signage installation at the Bulli Railway Station will have a minor visual impact on the heritage item. While the signage to be introduced as part of the proposed works is similar to existing signage, the expansion of vehicle parking, additional line markings and additional signage

will be clearly visible within the landscape from the southwestern extent of the Subject Area. This will impact key vistas to and from this item, however, the new signage is reasonably similar to existing traffic management within the station's car parking lot and visible at other stations across the Sydney Trains network.

Installation of signage on Stokes Lane would have a minor visual impact on the eastern extent of the Family Hotel. Similarly, the installation of a shared pathway adjacent to the Bulli Station Master's residence would have a minor visual impact on the item. Visual impact to the remaining heritage items identified within the Subject Area will be negligible, however, continued works throughout the Bulli Conservation Area- General over time, will have a cumulative effect.

7.9 Summary of potential impacts on heritage elements/items

Table 18 presents a summary of potential impacts on heritage items identified within the Subject Area.

Table 18: Potential Impacts to heritage items from the proposed works

Heritage item	Potential impact on heritage item	Description of impact	Mitigative measures/circumstances
Bulli Conservation Area - General	Partial direct – moderate visual, physical and cumulative impact	Temporary visual impact to the conservation area during works. Installation and refurbishment of traffic signage throughout the Subject Area. Continued small alterations to streetscapes and individual heritage items erodes the original fabric within the Bulli Conservation Area -General over time.	Unexpected finds procedure. The design of works within the Bulli Conservation Area should be limited and sympathetic to the heritage character of the area and consistent with current traffic management for this conservation area.
Bulli Station Group and Moveable Objects/Railway Station	Partial direct physical and Low-Moderate visual and cumulative impact	Direct physical and visual impacts include the expansion of the vehicle parking area, removal of grassed verges, and plantings and installation of a shared pathway. Cumulative direct physical and visual impacts include due increased vehicle and pedestrian traffic.	Unexpected finds procedure. Design of works to be undertaken within the Bulli Station Group and Movable Objects should be limited and sympathetic to the heritage character of the area, and consistent with current traffic management for this item.
Bulli Station master's Residence	Low indirect visual impact. Low-Moderate cumulative impact	Minor works construction of a shared pathway) to be undertaken immediately adjacent to the item at the corner of Park Road and Railway Street. Increased pedestrian traffic adjacent to the item.	Unexpected finds procedure. All works to occur outside the mapped heritage curtilage of the item.
Family Hotel/Bulli Family Hotel	Partial – low direct physical and moderate-low visual impact. Moderate -Low cumulative visual Impact	Installation of limited parking signage along Stokes Lane will have a minor visual impact. Continued small alterations to the streetscape and increased traffic flow will have a cumulative impact.	Unexpected finds procedure. Signage should be minimum necessary to regulate traffic and parking areas.
Former Bulli Railway Guesthouse	Negligible cumulative visual impact	The Proposed works would have no direct physical impact and low visual impact on the item. Cumulative impacts to heritage values as for Bulli Conservation Area - General	No mitigation is recommended.

Heritage item	Potential impact on heritage item	Description of impact	Mitigative measures/circumstances
Bulli Post Office	Negligible cumulative Visual Impact	Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts of Bulli Conservation Area - General	No mitigation is recommended.
Former Joint Stock Bank	Partial – Low indirect visual and cumulative impact	Indirect visual impact through installation of turning signal. Cumulative visual impact to the item as for Bulli Conservation Area - General	Unexpected finds procedure. Avoid building structures and designate No-Go Zone. Works to occur outside mapped heritage curtilage of item
Memorial Obelisk	Low indirect and cumulative visual impact	Minor works to be undertaken adjacent the item. Cumulative visual and physical impacts of Bulli Conservation Area - General	Unexpected finds procedure.
House	Negligible cumulative visual impact	Works would not occur within or in the immediate vicinity of the item. Proposed works would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area - General	No mitigation recommended.
House	Negligible cumulative visual impact	Proposed works would not occur within or in the immediate vicinity of the item and would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area - General	No mitigation recommended.
Victorian House	Negligible cumulative visual impact	Proposed works would not occur within or within the immediate vicinity of the item and would have no direct impact and negligible visual impact on the item. Cumulative visual and physical impacts as for Bulli Conservation Area - General	No mitigation recommended.

7.10 Statement of heritage impact

The proposed works will have a low impact on the archaeological, significant built heritage and viewpoints within the Bulli Conservation Area. The proposed works locations are not situated on any known significant archaeological deposits, however there is potential for previously unidentified archaeological material to be present in areas of lesser disturbance. Partial direct impact on identified heritage items within the Subject Area are anticipated, including the Bulli Family Hotel/Family Hotel and the Bulli Railway Station/Bulli Railway Station and Moveable Objects. Table 19 identifies the parts of these heritage items proposed for impact and considers if those parts are considered as having a significant fabric. Significant fabric is described as:

... all the physical material of the place/item including elements, fixtures, landscape features, contents, relics and objects which contributes to the item's heritage significance.⁷⁰

⁷⁰ Heritage NSW, 2022. *Significance and Significant Fabric*

Significant fabric can include building interiors, sub-surface remains, excavated material or natural elements of a place. Fabric may also define a space and associated views, which can form a part of the significance of the place.

Table 19: Particular impacts in relation to significant fabric

Heritage item	Potential impact on heritage item	Part of the item impacted	Is this part of the item considered as having significant fabric?
Family Hotel/Bulli Family Hotel	Partial – Low direct Physical and visual impact. Moderate-Low indirect and cumulative visual Impact	Item views and vistas to and from Stokes Lane. Impact to ground surface and any potential archaeological remains within the road verge. Proposed works will occur within the heritage curtilage of the item.	Potential sub-surface remains.
Bulli Station Group and Moveable Objects/Railway Station	Partial direct physical and Moderate-Low visual impact. Moderate-Low cumulative visual Impact	Views and Vistas to and from the Station Group. Impact to ground surface within the existing car parking area and any potential archaeological remains within the carparking area and road verges.	Potential sub-surface remains. Views and vistas to and from the Station Group.

Improved traffic flow and improved views to and from individual heritage items within the Subject Area potentially represent a long-term positive physical impact. Direct impacts to views and vistas associated with identified heritage items would occur during works, and permanent minor modification to the visual landscape of heritage items is likely, these impacts have been considered using the landscape character and visual impact rating matrix provided in Plate 39 and have been assessed as being moderate-low.

Overall direct impacts to the heritage significance of the Bulli Conservation Area -General, would be minor as the proposed works will largely entail the replacement and /or upgrading of existing infrastructure. The proposed works would be of a scale and form that would not interfere with views towards the heritage items nearby; nor would the development change the setting of the nearby heritage items in a manner that would have more than a moderate-low cumulative visual impact on their heritage significance.

While overall direct impact to heritage values within the Subject Area would be low, it should be noted however that cumulative impacts would occur due to ongoing minor alterations to the fabric of the Bulli Conservation Area – General. While these impacts would largely be minor, there is potential to erode significant fabric due to the magnitude and scale of the proposed works and therefore, affect heritage values across the conservation area.

8 Statutory and management outcomes

8.1 Statutory considerations for the proposed works

This section provides a response to relevant legislation and associated planning instruments previously outlined in Section 2) designed to protect and conserve significant heritage items and their values.

8.2 Heritage legislation review

8.2.1 Commonwealth and National legislation

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. Under the EPBC Act, protected heritage items of significance are listed on the National Heritage List (NHL) or the Commonwealth Heritage List (CHL). The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth.

8.2.2 NSW State legislation

NSW *Heritage Act 1977*

The NSW *Heritage Act 1977* affords statutory protection to those items identified as having heritage significance and which form part of the NSW heritage record. The Act defines a heritage item as "a place, building, work, relic, moveable object or precinct". Items that are assessed as having State heritage significance are listed on the NSW State Heritage Register (SHR). Proposals to alter, damage, move or destroy heritage items listed on the SHR (or protected by an Interim Heritage Order [IHO]), require approval under s60 of the *Heritage Act 1977*.

Archaeological features and deposits are afforded statutory protection by the 'relics provisions' of the Act. Land disturbance or excavation that will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed is prohibited under the provisions of the Act, unless carried out in accordance with a permit issued under s140 for Local heritage sites and s60 for State heritage sites of the Act.

State Heritage and Conservation (s.170) registers

Under s.170 of the *Heritage Act 1977*, NSW government agencies are required to maintain a register of heritage assets under their control or ownership. Each government agency is responsible for ensuring that the items entered on its register under s.170 are maintained with due diligence in accordance with State Owned Heritage Management Principles. Items listed on s.170 Heritage and Conservation Registers are listed on the State Heritage Inventory (SHI), and some are also listed on the SHR.

NSW *Environmental Planning and Assessment Act 1979*

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) establishes the framework for cultural heritage values to be formally assessed in the land use planning process in NSW. The EP&A Act also requires local governments to prepare planning instruments, such as Local Environmental Plans (LEPs) to provide guidance on the level of environmental assessment required.

Wollongong LEP and DCP 2009

Heritage items within the Wollongong LGA are listed in Schedule 5 of the Wollongong LEP 2009 (2010 EPI 76). Wollongong Development Control Plan (DCP) 2011 gives guidance and outlines controls in place to regulate development within the LGA. These items are subject to the planning controls and provisions set out in Clause 5.10 (Heritage Conservation) of the LEP and Clause 20.2 of the DCP.

Table 20 outlines the Development Controls for the Bulli Heritage Conservation Area as listed in Clause 20.6.3 of the Wollongong DCP 2009.

Table 20 : Development Controls for Heritage Conservation Area

Item	Considerations	Response
A Built Form	<ul style="list-style-type: none"> i. Maintain predominant historic parapeted building form and underlying subdivision pattern on the Princes Highway commercial strip. ii. Retain or reinstate shop frontage and pedestrian access from the Princes Highway. Encourage active retail street frontages by the provision of unobstructed views of the building/shop interiors from the street. iii. Retail frontages should be predominantly clear glazing with the exception of hampers and stall boards and vertical divisions of the historic shopfront composition. iv. Two-storey development acceptable where acting as a step-down between taller buildings and single-storey buildings subject to being sympathetic with the predominant heritage character of the area. v. Encourage continuing hotel use and restoration of the existing hotel buildings. 	No alteration or impact to the building form is proposed. No Improved traffic flow and parking availability would provide improved views to and from street frontages and building/shop interiors.
B Setback	<ul style="list-style-type: none"> i. Maintain predominant historic building setbacks in the Princes Highway commercial area. 	No alteration to setbacks is proposed.
C Fences	<ul style="list-style-type: none"> i. Retain existing average heights in traditional styles. Avoid high brick or solid walls. New fences should be designed in a complimentary manner to the respective building and be based on historical evidence where available. ii. Maintain and preserve original fences where they exist. No alterations should be allowed other than repair and reinstatement of missing elements. iii. No high fences or high barriers are to be installed along Princess Highway. 	No alteration to existing fencing is proposed.
D Awnings	<ul style="list-style-type: none"> i. Retain and conserve existing original awnings and verandas where these still exist. ii. Maintain the awning pattern over the footpath along the commercial strip. iii. Encourage reinstatement of awnings (suspended or post-supported) where historical evidence exists. iv. Avoid wide fascia to awnings that would obscure the parapet detailing of the shop façade. 	No alteration to existing awnings or installation of additional awnings is proposed.
E Driveways	<ul style="list-style-type: none"> i. Should be in simple, non-decorative forms. No paved or stencilled patterns. 	A recommendation that all works comply with DCP has been provided (Section 9.2).
F Views	<ul style="list-style-type: none"> i. Retain views to and from landmark buildings such as the Joint Stock Bank and The Bulli Family Hotel. 	Proposed works will not impede views to and from landmark buildings.

Item	Considerations	Response
G Infill	<ul style="list-style-type: none"> i. Infill buildings within the Princes Highway commercial strip should retain the existing underlying subdivision pattern and single-storey, brick or rendered masonry, parapeted form. ii. Infills generally to be sympathetic in form, materials, setback and design to the predominant character of the conservation area. 	Proposed works do not include infill buildings. The development will be confined to existing roadways, car parking areas and pathways. A recommendation that all materials be sympathetic to the heritage aesthetic and comply with DCP has been provided (Section 9.2).
H Extensions	<ul style="list-style-type: none"> i. Extensions to commercial buildings on the Princes Highway should not exceed the height of the existing parapets. ii. Extensions generally be sympathetic in form, materials, and setback and designed to complement the character of the conservation area. iii. Extensions should be set back behind the heritage and contributory buildings. 	No extensions to buildings are proposed.
I Street Furniture	<ul style="list-style-type: none"> i. Any new street furniture should not dominate and should be sympathetic to the character of the area. ii. Reduce street clutter by removal of inappropriate furnishing and signage. iii. Create a unique identity by consistent paving, furnishing and lighting along the commercial precinct. 	A recommendation that all proposed works (including street furniture installations) comply with DCP has been provided (Section 9.2).
J Signage	<ul style="list-style-type: none"> i. Limit signs on commercial properties to locations on parapets, awning fascia and below awning styles. ii. No above awning signage should be permitted to reduce cluttering and obscuring parapet detailing. 	A recommendation that proposed works (including signage installations) comply with DCP has been provided (Section 9.2).
K Footpaths and Road Surfaces	<ul style="list-style-type: none"> i. Retain similar style to current, except where any future Streetscape Study/Main Street Plan recommends alternatives. 	A recommendation that all proposed works comply with DCP has been provided (Section 9.2).
L Garages and Sheds	<ul style="list-style-type: none"> i. Where available, rear land access should be utilized. ii. Garages and sheds should be free standing and setback from the main buildings. iii. Allotment size and subdivision. iv. Retain existing allotment sizes except where new development on amalgamated blocks will retain a building form representative of that on multiple individual allotments 	Proposed works do not include his item.
M Materials	<ul style="list-style-type: none"> i. Materials should be sympathetic to the character of the area. ii. Appropriate materials include timber, timber weatherboard, galvanised corrugated iron, face brick or rendered/ painted masonry. iii. Face brick finishes of the Heritage and Contributory Buildings where they exist must be retained and not painted. 	A recommendation that all proposed works comply with DCP (including materials) has been provided (Section 9.2).

Item	Considerations	Response
N Colour	<ul style="list-style-type: none"> i. Colour should be sympathetic to the character of the area and should be recessive and not dominate the heritage character of the streetscape. ii. Existing inappropriate colour schemes should be removed. iii. Colours schemes on Heritage and Contributory Buildings should be based on documentary and physical evidence. 	A recommendation that all proposed works comply with DCP (including colour) has been provided (Section 9.2).
O New Development	<ul style="list-style-type: none"> i. Extensions to the commercial strip should retain the single storey, parapeted form and provide active street frontage. ii. Development generally should be sympathetic and respect the predominant form and character of the conservation area. 	No new development is proposed.
P Street Plantings	<ul style="list-style-type: none"> i. Should be kept at a minimum to retain ability to interpret historic building stock. 	A recommendation that all proposed works comply with DCP (including street plantings) has been provided (Section 9.2).

8.3 Approvals and exemptions

Bulli Station Group and Moveable Objects and Bulli Family Hotel are currently listed on the SHR. The requirement for additional approval or approval exemption is assessed below.

8.3.1 Section 60

Section 60 (s.60) of the *Heritage Act 1977* (NSW) requires the NSW Heritage Council, to approve works or activities that may impact heritage listed items. The standard s.60 works application is for works and activities that will have, or have the potential to have, a moderate or greater impact on the significance of a State Heritage Register listed item. The standard s.60 pathway for works is required where:

- To an item listed on the NSW State Heritage Register or subject to an interim heritage order.
- That have, or would have the potential to have, a moderate or greater impact on the heritage significance of the item, in the opinion of the Heritage Council (or its delegate).
- That are not listed as an exemption under the *Heritage Act 1977*.
- That will exceed an estimated cost of \$150,000.
- That accord with any relevant guidelines.

The proposed works for Bulli Railway Station Group and Moveable Objects will have a minor direct impact on the heritage value of the item. Impacts by works would direct physical and indirect visual and cumulative impacts due to the totality of works. These impacts would include modification to views to and from the item both temporarily during works and following works due to enlargement and redesign of vehicle parking areas, accompanying signage and plantings. Increased vehicle and pedestrian traffic due to increased off-road parking and the installation of a shared pathway will have a cumulative impact on the item. However, while the parking upgrades to be introduced is of a type consistent with current traffic management standards and the proposed works are in keeping with traffic management outcomes observed at other stations of equivalent heritage providence across the Sydney Trains network, they do not fit strictly within the criteria specified for exemption.

8.3.2 Standard exemptions

State heritage listings for Bulli Railway Station Group and Moveable Objects and Family Hotel indicate that both items are subject to Standard Exemptions. The Schedule of Standard Exemptions to Subsection 57(1) of the *Heritage Act 1977* made under Subsection 57(2) provides a series of exemptions for works to be undertaken to or within the curtilage of State listed heritage items. These exemptions are relevant for activities or work that will have little to no impact on the item's heritage significance and support its ongoing management.

To qualify for exemption, works or activities must fit strictly within the described exemption, and it is an offence to do any of the things listed in section 57(1) of the *Heritage Act 1977* without a valid exemption or approval.

The proposed new non-illuminated signage for the proposed refurbishment of the Bulli Railway Station Group and Moveable Objects is located outside the heritage curtilage of the item. The proposed signage on Stokes Lanes falls within and immediately adjacent to the heritage curtilage of the Family Hotel (Figure 3). Signage at both locations would indicate parking areas and time restrictions.

Under Standard Exemption 15 (Signs) specified works include:

a) The installation of temporary signs located behind or on the glass surface of a commercial tenancy window. NSW Government Gazette 13 November 202014.

b) The installation of temporary real estate signs notifying of an auction, sale or letting.

c) Removal, repairs or replacement of modern non-significant site interpretation and/or waymarking signs.

d) The installation of new non-illuminated site interpretation and/or waymarking signs.

e) Relocation of non-illuminated site interpretation and/or waymarking signs.

Relevant standards include that:

f. Temporary signs must not be affixed to significant fabric of the item, internally illuminated or flashing.

g. Temporary commercial tenancy window signs must be removed within 60 calendar days of erection and temporary real estate signs must be removed within 14 calendar days after the auction, sale or letting.

h. Temporary signs must not conceal or involve the removal of or damage to significant pre-existing signs.

i. Replacement interpretation and/or waymarking signs must not exceed the size of the original sign area and must be in the same location.

j. Installation of new interpretation and/or waymarking signs or relocation or interpretive and/or waymarking signs must:

i. not obscure, affix to, penetrate or otherwise damage heritage fabric, including landscape or archaeological features, or obstruct significant views to and from the heritage item. Reuse of existing fixing points is permitted,

ii. not be in the form of a mural or artwork,

iii. be for the sole purpose of providing information to assist in the interpretation of the item's heritage significance or to navigate the item,

iv. be able to be later removed without causing damage to the significant fabric of the item,

v. not be of a modular or cantilever structure, or over 2 square metres in size,

vi. not be commercial in any way unless in the form of a freestanding flag or banner associated with a building used for a purpose which requires such promotion, for example a theatre, gallery or museum.

k. Any excavation must comply with Standard Exemption 8: Excavation relevant standards.

While the installation of signage would not obstruct significant views to the Family Hotel heritage item from the Princes Highway, there is no existing modern waymarking or parking signage in the locations proposed on Stokes Lane and works would constitute a new installation. While indeed, the installation of the signage would accord with part *d* "The installation of new non-illuminated site interpretation and/or waymarking "signs", the signage proposed for Stokes Lane consists of clearway signs and timed parking signage. Therefore, signage along Stokes Lane is not for the purposes of information assisting in the

interpretation of the heritage item (as per the relevant standard clarification for Exemption 15 Signs j(iii)) and as such does not comply with the requirements for exemption.

Proposed signage for vehicle parking adjacent the Bulli Railway Station Group and Moveable Objects, would have a moderate-low indirect impact on the aesthetic significance of the site. The proposed alteration of parking facilities including the removal of verges, relocation of lighting and installation of new signage, new areas of pavement and a shared walking path would also have an indirect and cumulative impact on the item (see proposed locations of works Figure 3 and Draft Project Design, Appendix 2).

Specified works under Standard Exemption 5 regarding non-significant services (mechanical, electrical and plumbing) include:

- a) Repair or replacement of non-significant services on or in an item, such as cabling, plumbing and wiring (excluding telecommunications and fire safety systems).*
- b) Activities/ works necessary to upgrade or replace existing non-significant lighting fixtures and fittings within buildings/structures and or/affixed to buildings/ structures.*
- c) The specified activities/ works must not involve alteration to, damage to, or the removal of, significant fabric. The specified activities/ works must not impact significant views and landscape values.*
- d) Any excavation must comply with Standard Exemption 8: Excavation relevant standards.*
- e) Any new hardware must not be attached to the primary or significant façade(s) and must be discreetly located to reduce negative visual impact.*
- f) Replacement fabric must appear the same, be sympathetic to the item's fabric and unobtrusive.*
- g) Activities/ works must use existing service routes, cavities or voids or replace existing surface mounted services.*
- h) Reuse of existing fixing points in significant fabric is permitted.*
- i) Any new fabric must not obscure significant fabric or limit access to significant fabric for future maintenance.*
- j) Any new fabric must not exacerbate the decay of existing fabric or risk the destruction of existing significant fabric due to chemical incompatibility, vibration, percussion or explosive flammability.*
- k) Replacement surface mounted services must be the same or less intrusive than the surface mounted services they replace.*
- l) Existing service routes and/or conduits may be deleted if the installation can be streamlined into one existing service route, cavity or void.*

Relocation of the existing lighting (see locations Draft Project Design, Appendix 2) would not utilise the existing surface infrastructure and therefore does not fit strictly within the specified works requirements for Standard Exemption 5.

8.3.3 Site specific exemptions

Site-specific exemptions under Section 57(2) Heritage Act 1977(2) – site specific exemption (30/8/2013) allows for:

Upgrade or minor alterations to the existing car park, providing there are no new buildings erected or no adverse impact on the heritage significance of the place.

An accompanying note is provided regarding “No Adverse Impact” which states:

When the significance of a heritage item may be impacted by the use of agency- specific exemptions, work is to be guided by the assessment and advice of a qualified and experienced heritage officer or consultant to ensure that any adverse impact on heritage significance is avoided.

The proposed works would have indirect and cumulative impact on the item. There is low to moderate archaeological potential within the areas of works proposed for carpark modifications. This archaeological potential is related to earlier phases of rail activity and the development of Bulli. While limited in scope, the proposed works within the existing carparking area, including excavation for lighting relocation and installation of a shared pathway do not constitute ‘no adverse impact’ on the heritage value of the item. As such works do not meet the criteria specified for exemption.

8.3.4 Minor works

Heritage NSW provides a series of guidelines for the requirements when undertaking minor works involving limited impact to relics of local significance.⁷¹ It must be noted that these guidelines apply only to local heritage and do not apply to relics of State significance (SHR heritage items are not addressed by these guidelines).

Minor works with limited impact are works having a small or negligible impact on relics of local heritage significance. This can be demonstrated by addressing that either:

- *the scale or nature of the proposed excavation, regardless of the depth, would not adversely affect the relics and deposits, such as where the excavation would:*
 - *only affect less important areas of an archaeological site and not areas of highest potential (e.g., cesspits, occupation deposits, wells), or:*
 - *occur in areas previously disturbed or where relics have already been removed,*
 - *Under the Heritage Act 1977, a 'relic' means any deposit, artefact, object or material evidence that would:*
 - *verify and assess the site conditions. Relics of local heritage significance: A GUIDE FOR MINOR WORKS 3 or*
 - *the scale of works is otherwise consistent with a limited impact, assessed by:*
 - *when the precise location of the archaeological relics is known, the area affected by the works is a small portion of the total known area of potential for relics, or*

⁷¹ Heritage NSW, 2022

- *when the precise location of the archaeological relics is unknown, but the works only impact a small portion of the overall area and manual techniques are used, or*
- *the cumulative impact of the works and any previous or proposed future works (see further below).*

The proposed installation of a shared pathway immediately adjacent to the local heritage item - Bulli Station Master's Residence is an example of minor works. There are no known relics in this location (road verge). There is a low to moderate potential for "relics" related to the development of the railway and Bulli township to be present due to the previous installation of subsurface utilities and road construction. Areas of highest potential related to this item are located within the current fence line of the lot and would likely *only affect less important areas of an archaeological site and not areas of highest potential*. Under the guidelines minor works may proceed in the vicinity of local heritage items with caution providing the decision to proceed is documented, a record of works is kept, and an unexpected finds procedure is in place during works.

9 Conclusions and recommendations

9.1 Conclusions

The special character of the Bulli Conservation Area is derived from its historical development and associations. This character is evident through the interrelationship of buildings, spaces, topography, landscape settings and land use. Some of the individual buildings and sites within the HCA are heritage-listed items, however other features within the conservation area can be considered contributory, such as buildings and streetscapes as they have a positive impact on the character of the area.

The proposed works would have an overall low direct impact on the heritage character of the Bulli Conservation Area surrounding heritage items. A moderate to low indirect and cumulative visual impact to the Bulli Conservation Area-General is likely through the erosion of original fabric by continued minor alterations to the streetscape over time. There is also a low to moderate potential for impact to archaeological resources within proposed works areas, largely with regards to works associated with upgrading the existing carparking area and installation of a shared pathway within the vicinity of the Bulli Railway Station Group and Moveable Objects.

Consideration of impacts on individual heritage items has also been considered. No direct physical impact will occur on the majority of heritage items. Indirect impacts to the majority of items would be limited to the temporary interruption of views to and from individual heritage items during works and due to permanent small changes to the landscape. Works proposed within or immediately adjacent to the heritage curtilage of the Family Hotel, Former Joint Stock Bank and Bulli Railway Station Group and Moveable Objects would have some direct, indirect, and cumulative visual impacts on the heritage value of these items.

It has been determined that the installation of signage on Stokes Lane would have a low direct impact on the heritage item, however, the indirect and cumulative visual impact of the proposed works would be moderate to low.

The upgrade of the vehicle parking area in the western car park of the Bulli Railway Station Group and Moveable Objects, including the removal of verges, relocation of electrical services, installation of adjacent new signage and construction of additional parking areas would have a low direct impact on the heritage values of the item, given that the signage is consistent with the traffic management outcomes of similar heritage-listed stations across the Sydney Trains network.

Site-specific exemptions under Section 57(2) Heritage Act 1977(2) – site specific exemption (30/8/2013) allow for:

Upgrade or minor alterations to the existing car park, providing there are no new buildings erected or no adverse impact on the heritage significance of the place.

An accompanying note is provided regarding “No Adverse Impact” which states:

When the significance of a heritage item may be impacted by the use of agency- specific exemptions, work is to be guided by the assessment and advice of a qualified and experienced heritage officer or consultant to ensure that any adverse impact on heritage significance is avoided.

The proposed works would have an indirect and cumulative visual impact on the item. There is low to moderate archaeological potential within the areas of works proposed for carpark modifications and

installation of a shared pathway which do not constitute “no adverse impact” on the heritage value of the item. As such works do not meet the criteria specified for exemption.

9.2 Recommendations

Following analysis of the desktop findings and site inspection results, the following recommendations have been made regarding the proposed traffic improvement works within the Subject Area (Table 21).

It should be noted that while there is some alignment with the descriptions of allowable works under Standard Exemptions (Subsection 57(2) of the *Heritage Act 1977*), the totality of works within the curtilage of SHR items do not comply and therefore require approval under Subsection 57(1).

Table 21: Recommendations

Recommendations		
1	Heritage Approvals	An s.60 application should be submitted to Heritage NSW for approval of works within the heritage curtilage of the <i>Bulli Railway Station Group and Moveable Objects</i> and <i>Bulli Family Hotel</i> SHR heritage items. This report should be submitted with the application as a supporting document. Works must not commence prior to approval being granted.
2	Limit of Works	In order to mitigate impact to heritage items, the limit of works (including compounds and parking areas) must be clearly and physically demarcated with flagging/fencing or similar. Limit of works fencing must utilise reusable flagging/fencing.
3	Record of Works	A record of the outcome of minor works undertaken adjacent or within SHR item curtilage should be documented following the Heritage NSW guidelines outlined in <i>Relics of local heritage significance: a guide for minor works with limited impact</i> .
4	Development Controls <i>Bulli Conservation Area - General</i>	All works undertaken should be sympathetic to the heritage character of the <i>Bulli Conservation Area – General</i> and compliant with the recommendations outlined in Clause 20.6.3 of the <i>Wollongong DCP 2009</i> Installation of street furniture, signage and plantings should: <ul style="list-style-type: none"> iii. Not dominate and should be sympathetic to the character of the area. iv. Should be limited, appropriately placed and constructed from materials and/or include plantings consistent with the current character and style of the precinct.
5	Heritage Induction	Heritage induction for all site workers to provide them with information regarding the heritage significance of various components of the study area and penalties under the <i>Heritage Act 1977</i> .
6	Heritage Management Subplan	In order to avoid impacts on unidentified or unlocatable heritage items, it is recommended that an unexpected finds procedure, using the Transport for NSW, <i>Unexpected heritage items procedure</i> ⁷² be

⁷² Transport for NSW, 2022.

Recommendations

		implemented. A copy of this procedure (Appendix 3) should be made available on-site during works.
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Appendix 1: TfNSW SOHI author checklist

This checklist sets out the elements of a Statement of Heritage Impact (SOHI) that Transport for NSW (Transport) requires to ensure a high-quality, useful SOHI has been prepared.

The author of the SOHI must complete this checklist for all elements listed below to ensure they are included in the SOHI. The checklist must be signed by the author.

If elements are not included or addressed, the author should include a comment addressing why they were excluded / not addressed for the project manager to review.

Report section	Y/N	Author comments / reason not addressed / included	Transport reviewer comments
Title page			
Includes name of proposed project/works, specific item being assessed and type of document, i.e., SOHI.	Y		
Cover page identifies client, author, date of current version and status, e.g., as 'draft for public comment'. Inner pages to clearly differentiate by date/version in page footers?	Y		
Executive summary			
Includes specific purpose and intended outcome of the SOHI, a non-technical brief overview / description of the study, the assessment process and the findings of the report, including unresolved key issues and recommendations?	Y		
Introduction			
Includes author of the study and who it was commissioned by?	Y	See Section 1.6	
Includes aim and objectives of the study?	Y	See Section 1.3	
Includes how report is structured?	Y	See Table of Contents pp. iii-vi	

Report section	Y/N	Author comments / reason not addressed / included	Transport reviewer comments
Includes summary description of proposed activity?	Y	See Section 1.2	
Includes summary description of study area?	Y	See Section 1.1	
Legislative requirements			
Details all applicable legislation, environmental planning instruments?	Y	See Section 6	
Details associated approvals, consents and licences?	Y	See Section 6	
Details all statutory and non-statutory listings covering the study area including: the TFNSW S170 Register; LEP and SHCREP listings; the SHR; the State Heritage Inventory covering other State agency S170 Registers.	Y	See Section 3.2 and Section 6.	
History			
The History section provides a relevant historical overview based on desktop research of the study area (can be as brief as required to usefully establish the historical context).	Y		
Site visit and current condition			
Details site visit, dates, attendees?	Y		
Provides precise description of the study area?	Y		
Details heritage items inspected?	Y		
Details current site and item conditions includes technical information such as dimensions, type of item, etc.?	Y		

Report section	Y/N	Author comments / reason not addressed / included	Transport reviewer comments
Detailed and useful photographs/plans of the study area have been included – not just a basic map of the whole site?	Y	Photographic imagery included in the Physical Analysis of the Subject Area (Section 3).	
Heritage assessment			
A heritage assessment on all potential heritage items within the study area against the Heritage NSW assessment has been performed and detailed in the report and includes:			
Assessment of each item against the seven criteria (A-G) is included?	Y		
Significance level of State, local or nil significance for EACH of the criteria (without grading the significance, e.g., as high or low.)?	Y		
A thoughtful, well-reasoned statement of significance has been provided for each item demonstrated as having heritage significance which summarises the findings from each criterion?	Y		
Where there was an existing assessment from a previous heritage listing, the existing assessment has been reproduced in this report having been critically examined for: <ul style="list-style-type: none"> compliance with current OEH assessment standards relevant and up-to-date assessment information acceptable detail and quality; OR: 	Y		
The existing assessment was out of date or not of an acceptable standard and has been re-assessed and re-written to comply with best practice.	Y		

Report section	Y/N	Author comments / reason not addressed / included	Transport reviewer comments
Proposal			
Clearly shows/includes nature and extent of proposed works, including detailed descriptions from the available project documentation?	Y		
Clearly shows/includes plans or concept designs of the proposed works?	Y		
Clearly shows/includes OPTIONS that have been examined in relation to the impact of the project on the subject heritage item/s? NB: Heritage NSW guidelines for heritage assessment clearly state that more than one option MUST have been considered where impact on a heritage item/s will occur. If options have not been presented, this MUST be discussed with the TFNSW contact in order to revisit and adequately address this requirement.	Y		
Statement of heritage impact (SOHI)			
The potential heritage impact of the Proposal has been determined by addressing the series of questions posed in the NSW Heritage Manual guidelines document <i>Statements of Heritage Impact</i> and adequately addresses the OPTIONS question, as noted in the above checklist point?	Y		
Consultation has been undertaken with relevant authorities, e.g., Heritage NSW, Council, other relevant stakeholders, and then documented in the SOHI, including any changes that	Y		

Report section	Y/N	Author comments / reason not addressed / included	Transport reviewer comments
have been recommended following consultation.			
Conclusion			
Summarises potential impacts of the Proposal upon the item's heritage significance?	Y		
Makes a determination as to whether the proposal constitutes an acceptable level of heritage impact on the heritage item(s)?	Y		
If the impact is not acceptable the reasons are discussed in detail and modifications to the Proposal have been suggested that could help to reduce the impact to an acceptable level?	N/A		
Recommendations			
Included whether it is acceptable on heritage grounds for the proposal to proceed?	Y		
Included ways to avoid, minimise or mitigate against unnecessary heritage impacts?	Y		
Included additional recording work should be undertaken (such as archival standard photographic recording) before the works commence?	Y		
A detailed and specific list has been included for the items below:			

Report section	Y/N	Author comments / reason not addressed / included	Transport reviewer comments
Any Heritage NSW approvals (incl. notifications) that are required before works commence?	Y		
Any local government statutory approvals (incl. notifications) that are required before works commence?	Y		
Any commonwealth government. statutory approvals (incl. notifications) that are required before works commence?	Y		
Any other relevant Transport or other policies and procedures that must be complied with, including the <i>Transport Procedure for the Management of Unexpected Heritage Items</i> ?	Y	Copy of TfNSW <i>Unexpected Finds Procedure</i> (July 2022) provided Appendix 3.	
Any further studies or investigations recommended?	N		

Appendix 2: Draft project design

Appendix 3: Unexpected finds procedure

Appendix C: Protected Matters Search Tool Results

25/02/2025



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 25-Jul-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	52
Listed Migratory Species:	20

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	28
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community may occur within area
Illawarra and south coast lowland forest and woodland ecological community	Critically Endangered	Community likely to occur within area
Illawarra-Shoalhaven Subtropical Rainforest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat likely to occur within area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat may occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
FISH		
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area
FROG		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat likely to occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Litoria watsoni Watson's Tree Frog [91509]	Endangered	Species or species habitat may occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area
MAMMAL		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat likely to occur within area
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area
Potorous tridactylus trisulcatus Long-nosed Potoroo (southern mainland) [86367]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
PLANT		
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat may occur within area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat may occur within area
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat may occur within area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat may occur within area
Prasophyllum affine Jervis Bay Leek Orchid, Culburra Leek-orchid, Kinghorn Point Leek-orchid [2210]	Endangered	Species or species habitat may occur within area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area

REPTILE		
Hoplocephalus bungaroides Broad-headed Snake [1182]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area

Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands	[Resource Information]
<p>The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.</p>	
Commonwealth Land Name	State
Commonwealth Trading Bank of Australia	
Commonwealth Land - Commonwealth Trading Bank of Australia [12203]	NSW

Listed Marine Species		[<u>Resource Information</u>]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Sterna striata White-fronted Tern [799]		Migration route may occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area

Extra Information

EPBC Act Referrals [Resource Information]			
Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed
Not controlled action (particular manner)			
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval

Bioregional Assessments

SubRegion	BioRegion	Website
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Sydney	Sydney Basin	BA website
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Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Appendix D: Community feedback summary report

Transport for NSW

Bulli Community Feedback

Feedback Summary Report



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Part 1 – Background and engagement

Bulli has experienced a decline in traffic conditions during peak times with an increase in vehicle numbers and demand for access to the local centre and services. This has impacted traffic flow and raised community concerns about the existing road network and its future capacity.

The Princes Highway plays an important role in the Wollongong transport network, providing a key north-south suburban route, linking Wollongong Central Business District to its northern suburbs and Sydney.

Project overview

In 2019, Transport for NSW consulted with the community to better understand the community's experiences living and travelling around Bulli.

Following the consultation, we developed a proposal to improve the traffic efficiency and reliability of the Princes Highway at Bulli.

An overview of the proposed improvements is provided in Figure 1.

In June and July 2021, we placed the proposal on public display and asked for feedback.

A large amount of feedback was received. We engaged an independent consultant to analyse the feedback and prepare this Feedback Summary Report.

This Feedback Summary Report provides an overview of the feedback received on the proposed traffic improvements along the Princes Highway and surrounding local roads in Bulli.

The feedback presented in this report will be used to inform the finalisation of the proposed traffic improvements.



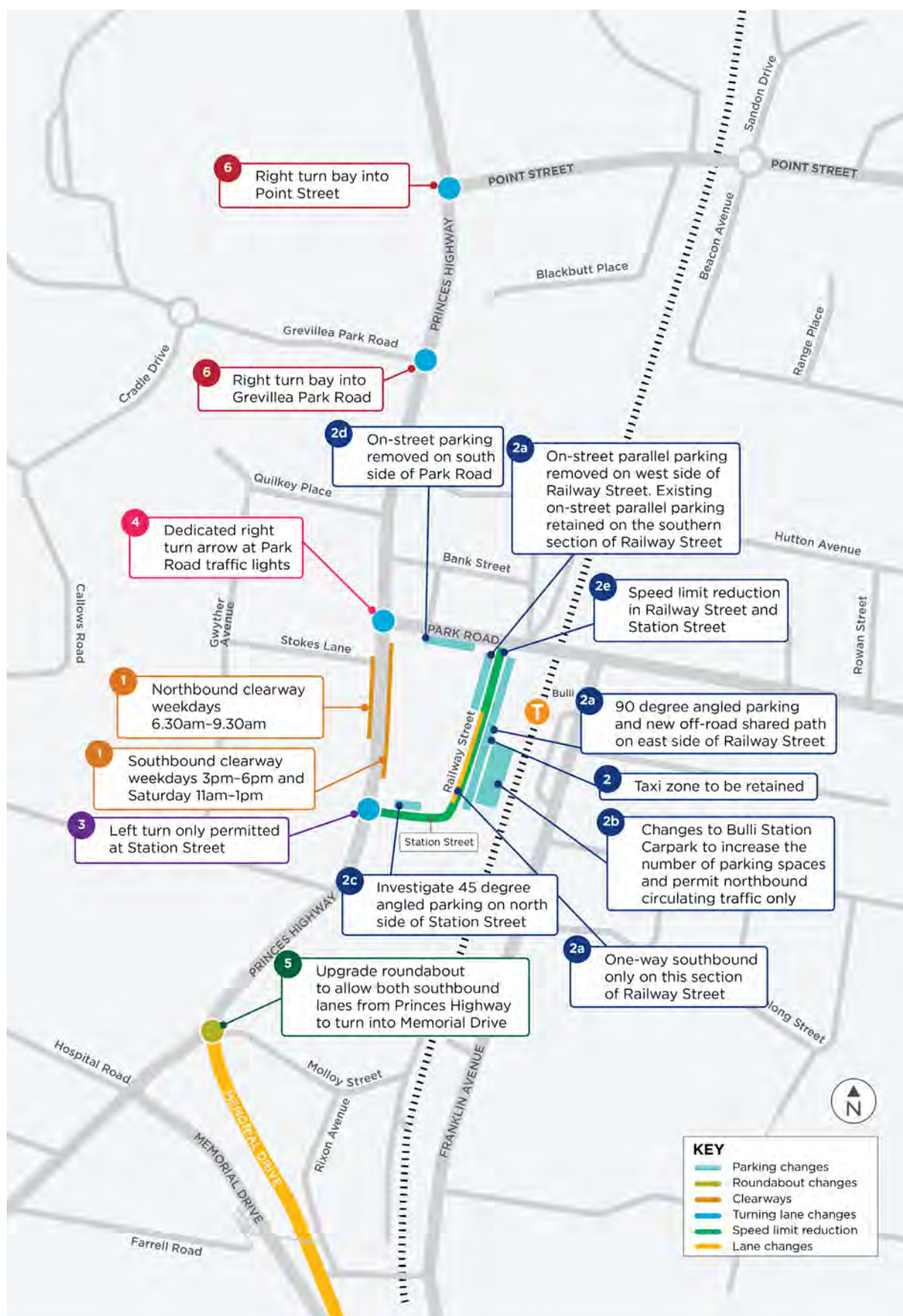


Figure 1 Proposed traffic improvements in the Bulli town centre

Consultation overview

The aim of the consultation carried out from 7 June to 30 July 2021 was to seek feedback on the proposed traffic improvement measures to improve traffic efficiency, safety and reliability of the Princes Highway at Bulli. The objectives of consultation were to:

- ensure a strong and targeted consultation reach to maximise potential for feedback
- use engagement tools that effectively capture location-specific feedback
- use engagement methods that help build relationships and create opportunities for effective feedback from stakeholders and the local community.

We provided a range of opportunities for customers to engage with the proposal. A range of consultation tools and activities were implemented to encourage participation from a range of customers.

Due to COVID-19 public health regulations, not all of the planned face-to-face engagement activities were able to be carried out. To allow the community to engage with the project team and allow questions to be answered the consultation period was extended by four weeks and Q and A sessions were held online.

A summary of the consultation activities is provided in Figure 2.

The following consultation activities were carried out as part of this consultation:

- social media campaign via the NSW Roads Facebook account which included explainer videos
- community group and stakeholder meetings
- placement of project consultation signage at key locations in Bulli including shops and the train station
- distribution of community updates to all residents and businesses in Woonona, Bulli, Thirroul and Austinmer with an invitation to have their say
- radio, online and newspaper advertisements with a call to action for people to have their say
- webpage with project information including FAQs and link to online engagement room and surveys
- community information line number and email address
- online Q and A sessions.

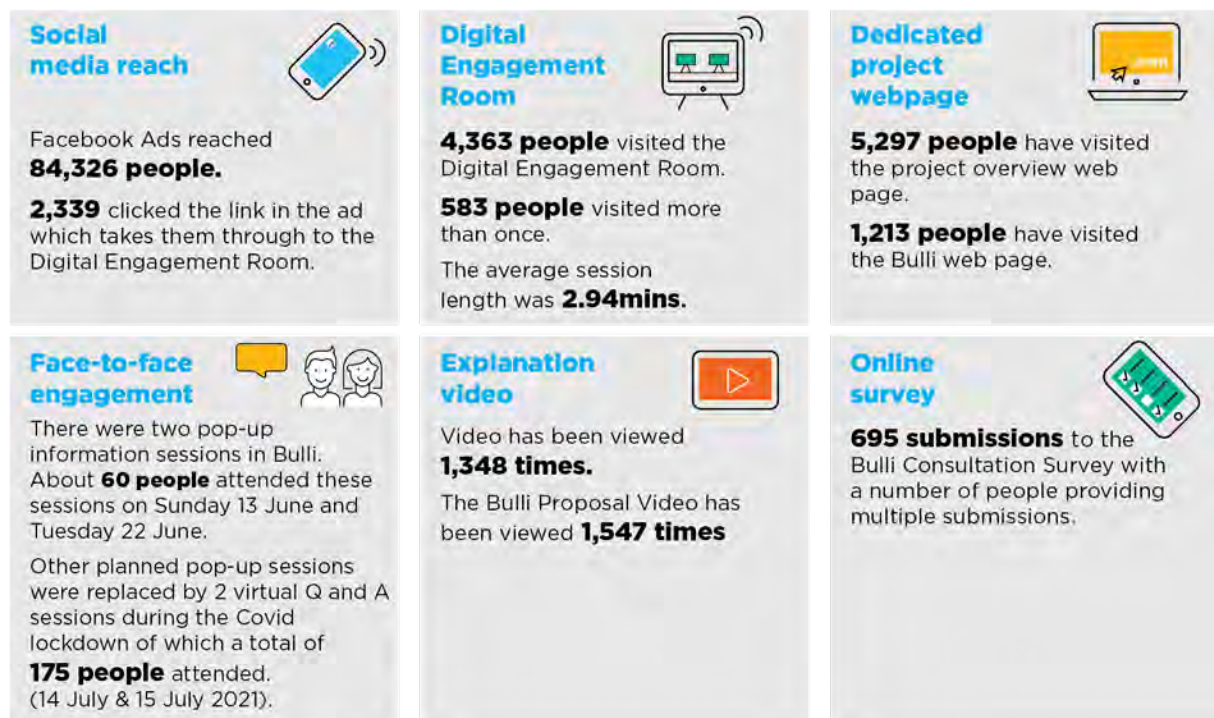
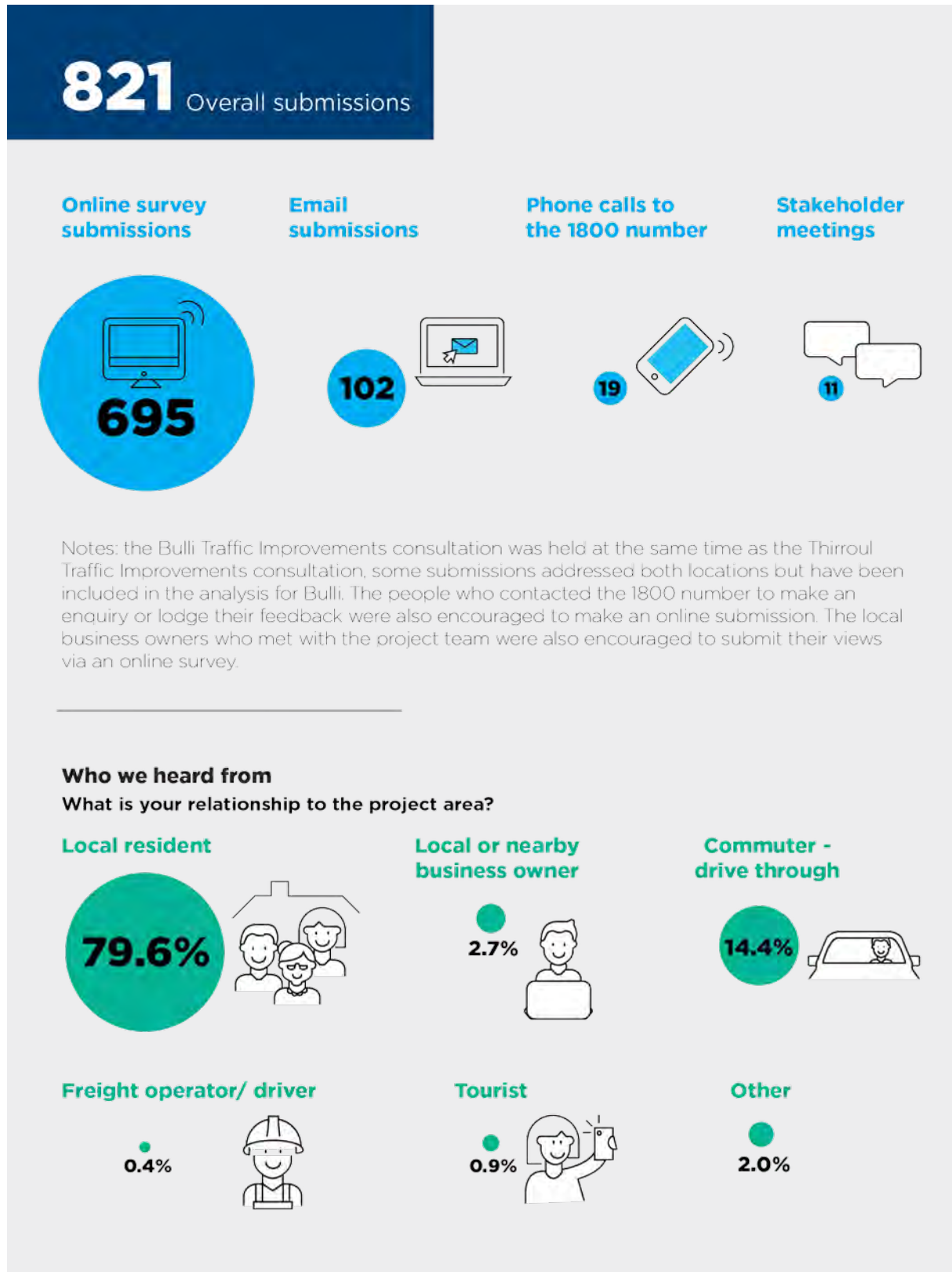


Figure 2 Engagement activities undertaken between 7 June 2021 and 30 July 2021



Submissions overview

Overall submissions





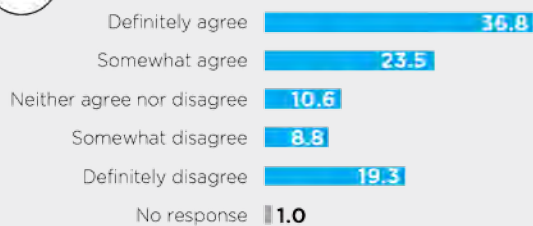
Frequency of travel (%)



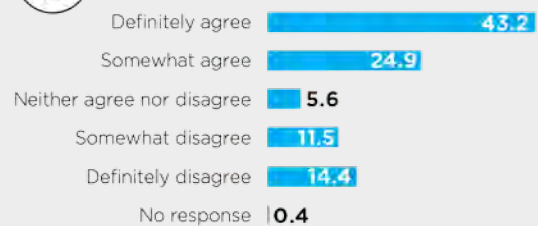
Frequently parking (%)



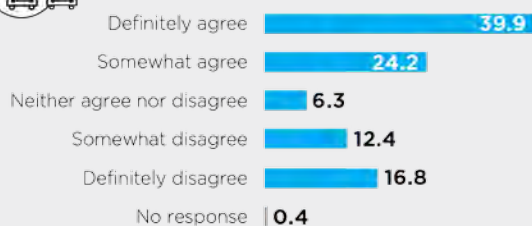
Improves safety (%)



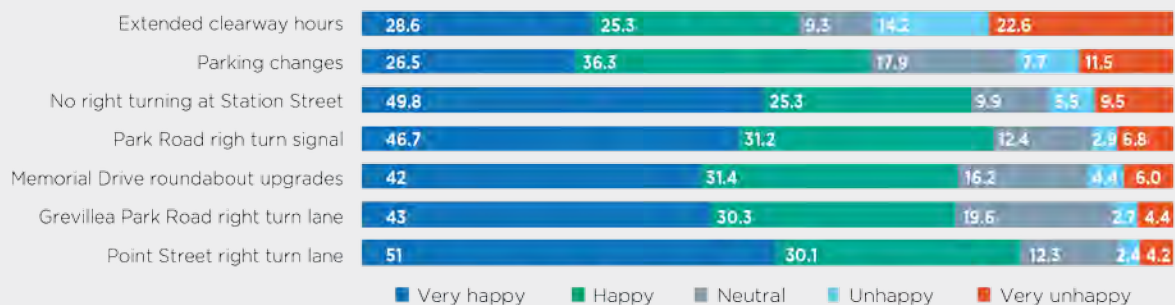
Improves traffic flow (%)



Eases congestion (%)



Overall feeling towards the proposed (%)



"The work proposed is amazing and will definitely improve traffic congestion in the area, the addition of the turning lane on Point St and addition of the clearway southbound on the highway of an afternoon will help the flow of traffic significantly, the ability to access Memorial Dr from both southbound lanes will improve the flow through the roundabout and further up towards station street. This is incredible, thank you." - Online survey submission

Part 2 – Feedback analysis

Overarching feedback

Comments and questions

Two online Q and A sessions were held, of which 131 and 44 people attended respectively. During these online sessions 139 questions were raised in the chat function that related to the proposed traffic improvements for Bulli.

As shown in Figure 3, the most common theme raised was regarding the 'Evidence base' (43.2 per cent) supporting the proposed traffic improvement proposal. This included questions relating to the impact COVID-19 had on traffic modelling, policy alignment, background studies, traffic

modelling and data and project benefits and costs.

The second most common theme raised was regarding 'Consultation' (18 per cent) including the engagement process and the weight engagement outcomes would have on the decision-making process. Another overarching theme raised was around the 'Collaboration' (2.9 per cent) between Transport and other government departments, Wollongong City Council and local police. Clarifications and responses to the questions raised are provided in Table 1.

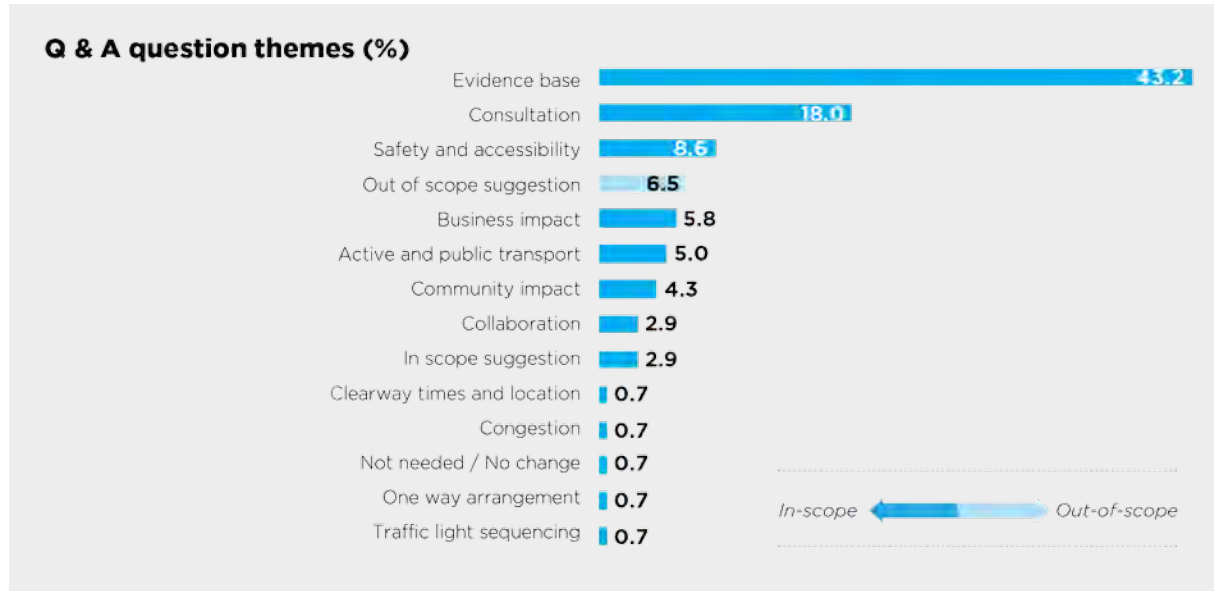


Figure 3 Q & A question themes

"Considering the community consultation took place in 2019, pre Covid, has any consideration been placed on the fact that this data may be invalid considering the changed community? More people are working from home and spending time in their local area and need access to local amenities? The Bulli Village is thriving and creating clearways and taking away shopfront parking will be so destructive to our community." – Online survey submission

Suggestions

Of the 1057 suggestions received, 500 were consistently received across all of the proposed traffic improvement measures and/or were relevant to the whole Bulli town centre rather than just one of the proposed traffic improvement measures. This included six in-scope suggestions and five out-of-scope suggestions¹.

As shown in Figure 3, the most common suggestion was to implement a 'Bulli bypass' between the Memorial Drive roundabout and Bulli Pass. Other out-of-scope suggestions included 'Limit development' to minimise increasing pressure on Bulli's infrastructure, and providing an 'Alternative route' between Bulli and Thirroul.

Overarching in-scope suggestions included:

- 'Traffic light phasing' to review and integrate the sequencing of all traffic light intersections in Bulli and improve traffic flow.

- 'Active & public' transport improvements through existing network and infrastructure upgrades and improvements as well as new connections to minimise private vehicle use in Bulli.
- 'Clear signage' and wayfinding to support awareness for all proposed traffic improvement measures once implemented, particularly in regards to the carparking options in Railway Street and Station Street.
- 'Reduce speed limits' throughout the Bulli town centre to maintain the 'village feel' and improve 'Safety & accessibility'.
- Enforcing 'Compliance' with the proposed traffic improvements once implemented to increase 'Safety & accessibility', particularly with regards to speeding, illegal right turns and illegal street parking.

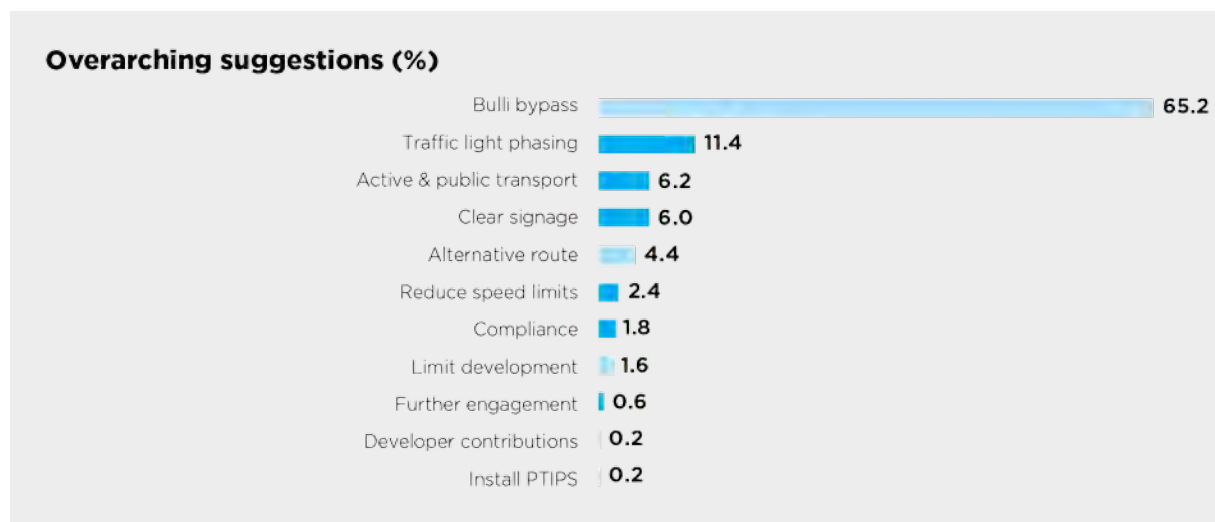


Figure 4 Overarching suggestions

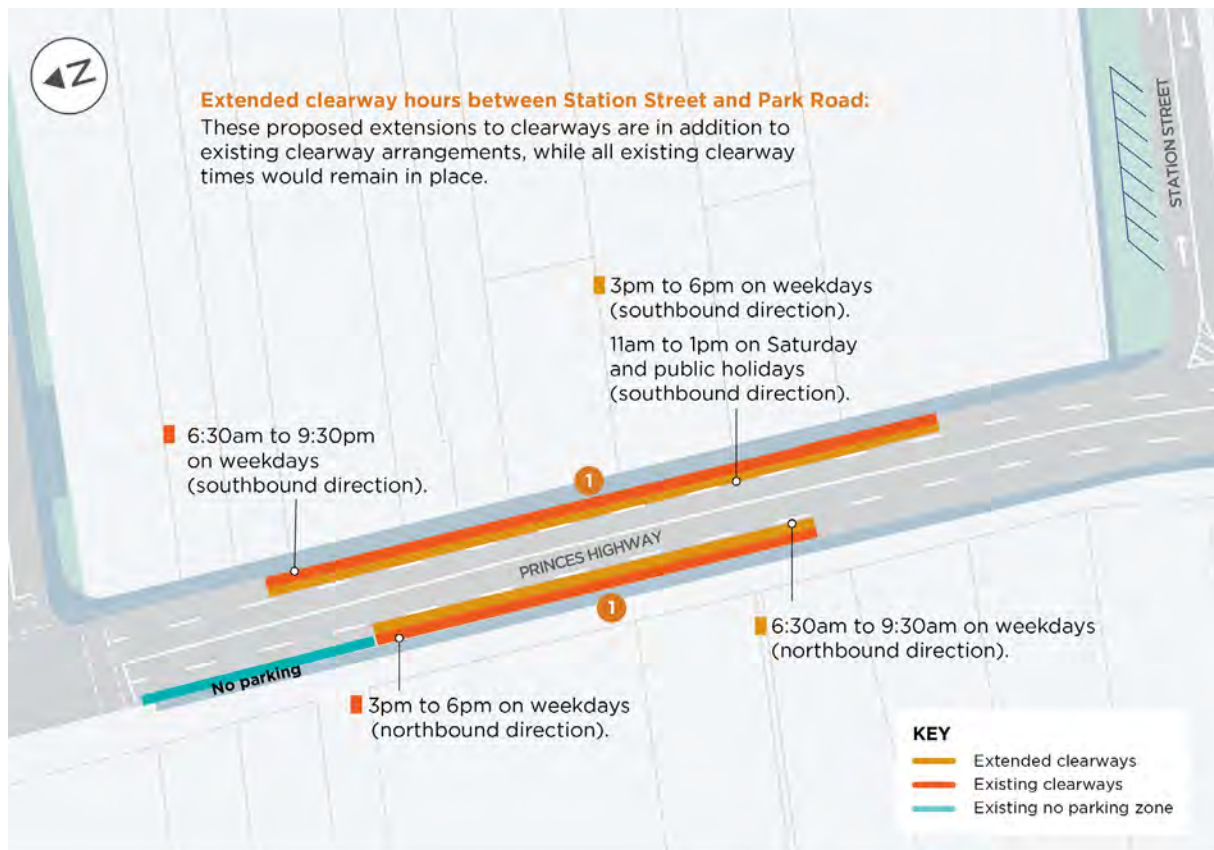
"In my opinion, bypassing Bulli by completing the Memorial Drive extension to Bulli Pass will have more of an impact on safety (number one priority) as well as traffic flow. This would take a huge percentage of through-traffic out of Bulli and make it safer for everyone." – **Online survey submission**

¹ In-scope suggestions include all suggestions that are open for consideration under the scope of this project while out-of-scope suggestions include all suggestions that are out-of-scope of this project and/or out of Transport's control however, these suggestions will still be taken onboard by Transport and some may be investigated for potential future projects.

Table 1 Overarching clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Evidence Base	
COVID impact	<p>Transport acknowledges the community's concerns regarding the relevance of traffic modelling, data and background studies undertaken prior to the COVID pandemic in relation to the proposed traffic improvement measures.</p> <p>Transport is taking this into consideration and has been monitoring traffic volume data. This data has shown quick returns to traffic volumes that were seen prior to COVID lockdowns and still considers the traffic modelling to be relevant.</p>
Policy alignment	<p>It has been noted a number of people have questioned the proposed traffic improvement measures alignment with key policies including:</p> <ul style="list-style-type: none"> • Government Architect NSW, Transport for NSW and the NSW Department of Planning, Industry, and Environment's <i>Movement and Place Framework</i> • Transport for NSW's <i>Road User Space Allocation Policy</i> • Wollongong City Council's <i>Cycling Strategy</i> <p>Transport is working with Wollongong City Council to provide for all transport users within the transport network, to ensure alignment with all relevant policies and frameworks and meet the needs of the local community.</p> <p>Transport understands that our network of roads and streets are a major part of the system of public space that helps connect our places. Public space is where people can socialise and add vitality to their neighbourhoods, and streets and roads have an important role in that vitality. Aligning movement functions with the places they serve can make our transport networks and public spaces better and contribute to the liveability of communities and productivity of NSW.</p>
Background studies	<p>Various background studies, including a Socio-economic Effects Assessment and Cost-Benefit Analysis (CBA), have been undertaken. These documents have not been released to the public as their purpose has been to inform traffic modelling and the proposed traffic improvements.</p> <p>Community and business consultation was undertaken in late 2019 and informed the Consultation Summary Report that was released to the public in June 2020 and is still available on Transport's website.</p>
Traffic modelling and data/ time savings	<p>Generally it is only major projects with large environmental impacts that require the preparation & exhibition of a Review of Environmental Factors (REF) or Environmental Impact Statement (EIS). This would include the exhibition of any traffic modelling and economic assessments prepared as part of the environmental assessment process. The majority of the proposed works would be constructed within the existing road reserve (e.g. signage and line marking) and would not require an REF or EIS to be carried out.</p> <p>Transport can however answer questions about what the modelling tells us and provide summaries of the data. Traffic modelling shows peak period clearways on the Princes Highway between Park Road and Station Street would ease traffic congestion and improve traffic efficiency between now, 2026 and 2036.</p> <p>In addition, the implementation of a no right turn from the Princes Highway to Station Street, a dedicated right turn signal phase at the Princes Highway and Park Road intersection, improvements to the Memorial Drive roundabout and dedicated right turn bays at Point Street and Grevillea Park Road would also effectively ease traffic congestion and improve traffic efficiency.</p> <p>The combination of all the proposed improvements have been shown to provide the following travel time savings for each vehicle that travels through Bulli:</p> <ul style="list-style-type: none"> • Northbound travel time is improved by 20% (approximately 35 seconds), 19% (35 seconds) and 6% (10 seconds) in respective morning, evening and Saturday peak hours. • Southbound travel time is improved by 49% (approximately 3 minutes and 30 seconds), 19% (3 minutes and 40 seconds) and 10% (20 seconds) in respective morning, evening and Saturday peak hours. <p>Traffic modelling helped us to reach the proposed options, but it is only one factor we use during the development of answers to transport issues. Projects are developed based on several factors including safety data, environmental constraints, impact on heritage features, property impacts, socio-economic factors and community feedback.</p>
Benefits/ Project costs	<p>As part of the traffic modelling options assessment report an economic assessment was completed for all the options tested in Bulli. All the options returned strong Benefit Cost Ratios between 11.9 and 18.2. This corresponds to an economic benefit of between 11.9 and 18.2 times the cost of the project, depending on which aspects of the proposal are implemented.</p> <p>The economic assessment considered elements such as travel time benefit, vehicle operating cost savings, emissions savings, crash cost savings and a clearway disbenefit.</p>
Consultation	
COVID impact/ further engagement suggestion	<p>Transport acknowledges the community's concerns regarding the impact the COVID pandemic and associated lockdowns have had on their capacity to participate in the engagement process. Transport has been undertaking an extensive engagement program which began in 2019 prior to the COVID pandemic. During the recent consultation on the proposed traffic improvement measures Transport responded to requests and extended the consultation window by 4 weeks for a total of 8 weeks and moved engagement forums online.</p> <p>During the recent consultation Transport engaged directly with around 235 customers through phone calls to the 1800 number, meetings, the pop up sessions and the Q&A sessions. Thousands more customers have engaged with the project through social media, and other digital platforms including the online survey.</p>
Decision making process	<p>Transport have heard the community's feedback and have taken the comments, questions and suggestions on board. Transport is considering this feedback carefully and will use it to inform the next steps of the project which includes opportunities to refine the proposal and inform future investigations for transport improvement measures.</p> <p>Your feedback is valued and is being used to inform the finalisation of the traffic improvement measures for Bulli.</p>

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Collaboration	
Wollongong City Council	Transport is continuing to actively work with Wollongong City Council including their traffic & transport and planning teams to improve the safety, traffic flow and community experience when travelling to and through Bulli.
Local police	Transport is committed to working with local police and other emergency services to ensure all transport projects are appropriate for the local area. Transport regularly works with local police through the local traffic committee and directly as appropriate to inform enforcement concerns and project requirements.
Overarching suggestions	
Bulli Bypass	<p>Transport acknowledges the community's suggestions regarding an extension of Memorial Drive to connect to Bulli Pass.</p> <p>There is an indicative transport corridor identified on the Wollongong City Council Local Environment Plan (LEP) within Bulli. Identifying potential corridors on LEP's is often used to help plan and guide new developments and land use changes.</p> <p>TfNSW is not currently planning any extension of Memorial Drive however, land has been reserved should the need for this extension be required in the future.</p> <p>The current focus is to provide a more integrated transport solution by improving the existing road network, improving bus and train services as well as working with Wollongong City Council to enhance walking and cycling infrastructure. This aligns with Future Transport 2056, the Illawarra Shoalhaven Regional Transport Plan and our vision to provide more sustainable transport solutions while providing the community with more transport choices.</p> <p>As the integrated solutions are delivered over the short and medium term, TfNSW, will continue to monitor the performance and changes on the transport network, seek feedback from the community and if required, determine the need, timing and feasibility of an extension to Memorial Drive.</p>
Traffic light phasing	<p>Traffic signals in NSW are controlled by a system called Sydney Coordinated Adaptive Traffic System (SCATS). SCATS is a traffic control system designed to optimise traffic flow. Intelligent algorithms process real-time data to adapt traffic signal timings that respond to unexpected conditions, predict traffic patterns and keep traffic moving.</p> <p>Transport regularly monitors signalised intersections and updates the signal phasing based on traffic modelling assessments to cater for changing traffic patterns to ensure the SCATS control system is able to keep traffic flowing efficiently.</p>
Active & public transport	<p>The NSW Government has invested more than \$5.3 billion in the More Trains More Services (MTMS) program, which includes delivering improvements for the T4 Eastern Suburbs & Illawarra Line, South Coast Line and T8 Airport & South Line. The MTMS program will simplify and modernise the rail network creating high capacity, turn up and go services for many customers. It means customers can expect more frequent train services, with less wait times, less crowding on a simpler and more reliable network. Customers using the South Coast rail line services between Wollongong and Sydney as well as express services at Wollongong, North Wollongong, Thirroul and Helensburgh can expect future service improvements as the MTMS Program is rolled out. As the program progresses, customers will be kept informed and have an opportunity to provide feedback on any proposed changes.</p> <p>Transport is also continuing to work closely with Wollongong City Council to explore opportunities to improve the active transport network in Bulli including pedestrian and cycling paths and connections.</p>
Clear signage	Transport acknowledges the community's concerns and suggestions around the provision of clear signage and wayfinding to support resident, visitor and commuter awareness of the changed road conditions post implementation of any proposed traffic improvement measures. As part of the detailed design of the improvement measures Transport will ensure all standards are met with regards to road markings and signage and investigate other opportunities to increase customer readability and experience when travelling in and through Bulli.
Reduce speed limits	Transport acknowledges the community's concerns regarding traffic flow and safety in the Bulli town centre. The proposed improvement measures include reducing the speed limit on Railway Street and Station Street to an appropriate speed to improve the safety of pedestrians and motorists in this section of the Bulli town centre. Transport has taken on board suggestions to further reduce speed limits in other various sections of the Bulli town centre including the Bulli Station Carpark, Park Road and the Princes Highway and will investigate these suggestions to ensure they meet the needs of all people who travel to or through Bulli.
Compliance	<p>Transport acknowledges the community's concerns regarding compliance with the proposed traffic improvements if implemented, and the potential safety issues caused by users who chose to ignore signage and road rules. Transport is considering appropriate measures to encourage compliance with the proposed traffic improvement measures if implemented.</p> <p>Transport will also continue to work with local police and Wollongong City Council to encourage compliance with the proposed traffic improvements and increase the safety of Bulli town centre for all users.</p>
Limit development/ Developer contributions	Transport acknowledges community's concerns regarding continued residential development in and around Bulli and how this is contributing to the increased traffic congestion on the Princes Highway and around the town centre. Transport will continue to work with Wollongong City Council and other government departments to ensure the needs of the community are appropriately provided for with infrastructure to support population growth.
Install PTIPS	<p>Public Transport Information and Priority System (PTIPS) is an innovative system used to track, predict and prioritise public transport and emergency vehicles by collecting and analysing on-board data, communicate with the Sydney Coordinated Adaptive Traffic System (SCATS) controlled traffic signals to prioritise late-running vehicles, and providing real-time data to customers via travel apps.</p> <p>PTIPS is actively used for Public Transport services in Wollongong and the real time data is available to all customers via travel apps.</p>



Proposed extended clearway hours

A total of 728 submissions were received in response to the proposed extended clearway hours.

Comments

Of the 728 submissions 494 provided open-ended comments that contained one or more comments or suggestions. Figure 5 outlines the distribution of sentiment from the comments and themes related to the proposed extended clearway hours.

Key concerns and issues raised under these themes included the appropriateness of the proposed clearway times, business viability, deliveries, village feel and pedestrian safety and connectivity.

Suggestions

Of the 1057 suggestions 224 provided suggestions relevant to the proposed extended clearway hours. Figure 5 outlines suggestions provided.

Table 2 provides clarifications and responses to the key issues and suggestions raised in relation to the proposed extended clearway hours.

"It will be an improvement but not a solution. The clearways only work if they are enforced. Very often there are vehicles parked outside the Bulli Hotel at 3.45pm, causing major traffic congestion. I believe that this portion of the Princes highway should be a NO STOPPING zone 24/7 PERMANENTLY. Especially if extra parking will be provided on Railway St. Let's not forget that this is a HIGHWAY, not just a local road." - Online survey submission

Clearways community feedback summary

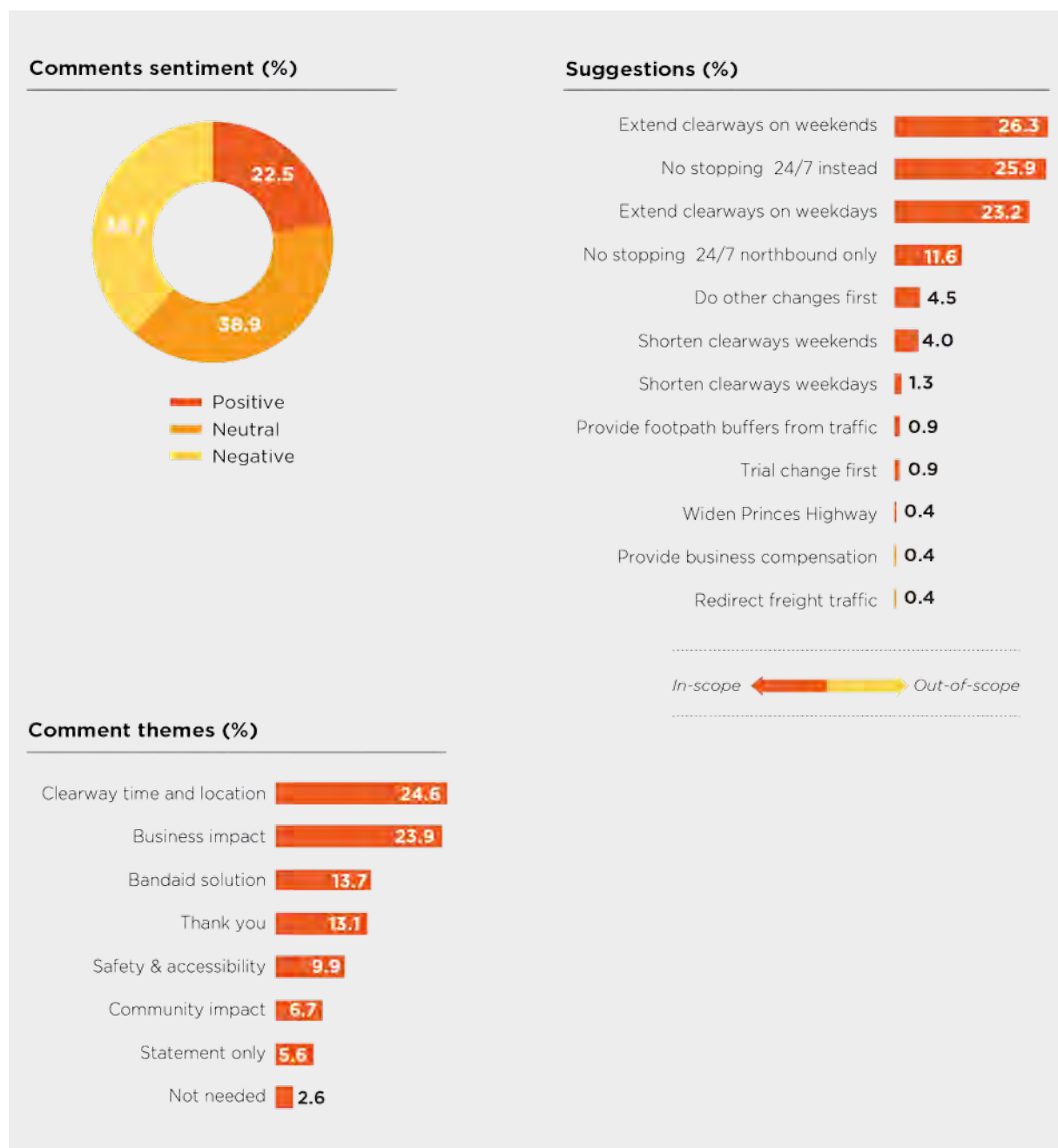


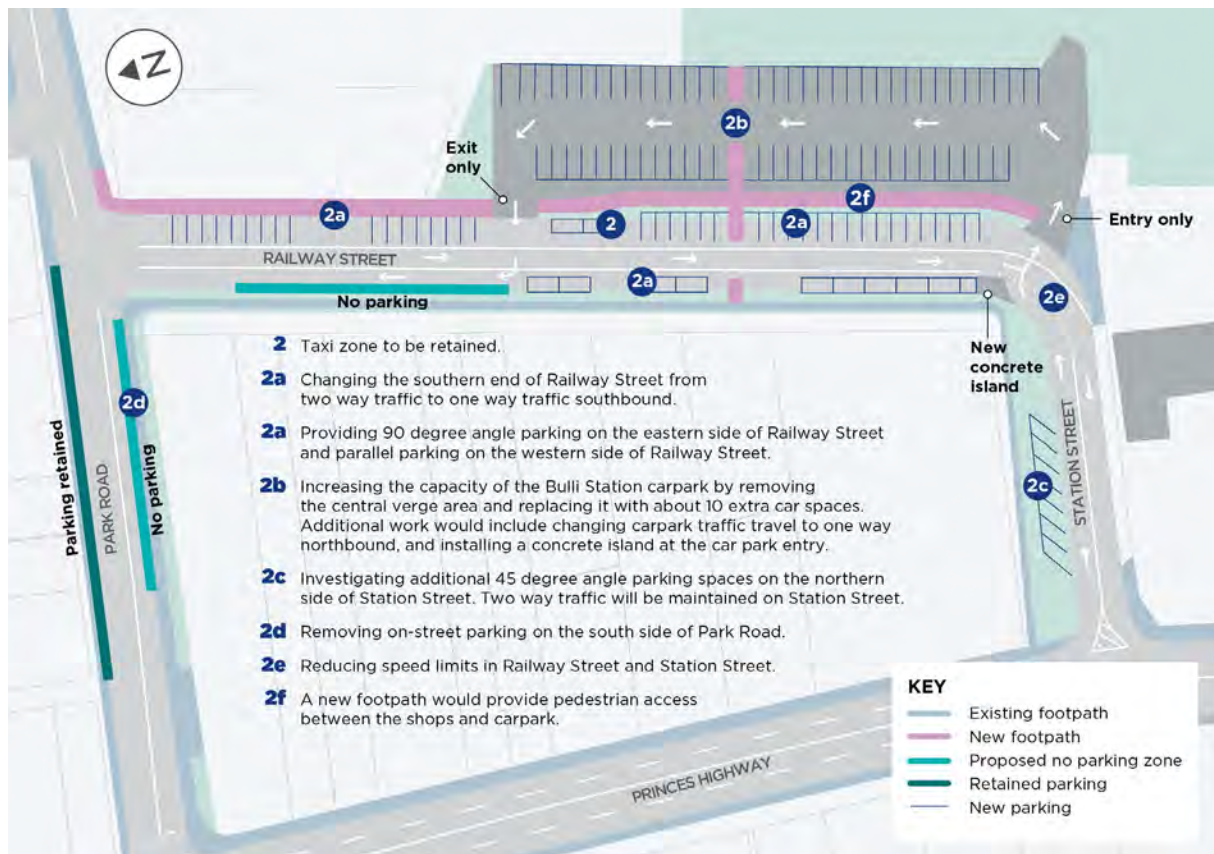
Figure 5 Clearways community feedback summary

"There would be nowhere to park going northbound to pick up a coffee from Stokes Lane Cafe as hundreds of drivers do of a morning." – **Online survey submission**

"I agree with the proposed clearways that it will help ease traffic congestion, especially in the afternoons coming southbound" – **Online survey submission**

Table 2 Clearways clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Clearway times and location	
Clearway time suggestions	The proposed extended clearways at Bulli have been identified to complement other clearways on the Princes Highway, improving travel times for public transport, private vehicles and freight. Transport is considering the specific clearway time suggestions and their impacts. The challenge is to balance the competing needs of local businesses and their customers, with those of the broader community using the road network for their daily trips in a car or bus, or for carrying freight.
Do other changes first / trial change first	<p>The implementation of all the proposed traffic improvements for the Bulli town centre (including clearways, car parking, prohibiting right turn at Station Street, implementing a green right turn arrow at Park Road, upgrading the Memorial Drive roundabout and implementing right turn lanes at Grevillea Park Road and Point Street) would be carried out in stages.</p> <p>Transport is considering the suggestion to implement other traffic improvements before extending the clearway hours in the staged implementation plan. The proposed extension of clearway hours have been designed as part of a package of proposed traffic improvements for the Bulli town centre. Each proposed traffic improvement builds on adjacent ones to provide benefits that are greater than the sum of each and improve the overall traffic flow and safety in the Bulli town centre.</p> <p>The proposed extension of clearway hours would not go through a trial period. Transport would monitor the impacts of the proposed extended clearway hours in improving traffic flow and balancing competing needs.</p>
Widen Princes Highway	The proposed traffic improvements for the Bulli town centre have been carefully considered as to balance benefits and impacts to local businesses and the surrounding community. Widening of the Princes Highway in Bulli town centre to incorporate additional lanes would require private property acquisition and have an adverse impact on local businesses and the surrounding community.
Business Impact	
Business viability/ compensation	<p>The proposed extension of clearway hours will only effect on-street parking on the Princes Highway during peak times. Outside of peak times customers and visitors will be able to park on-street on the Princes Highway to access local businesses as they do currently.</p> <p>The challenge is to balance the competing needs of these local businesses and their customers, with those of the broader community using the road network for their daily trips in a car or bus, or for carrying freight. In order to successfully balance these needs all on street car spaces that would be impacted by the extension of clearway hours would be offset by the provision of extra car parking spaces nearby on Railway Street.</p> <p>To further support local customers and businesses Transport is continuing to work with Wollongong City Council to improve active and public transport networks in the Bulli town centre.</p>
Deliveries	During clearway hours, tradespeople, delivery trucks and visitors are encouraged to park within properties wherever possible. If parking is not available on your property, tradespeople, delivery trucks and visitors will need to park in a local side street and walk to your property. This is similar to all other state roads where clearways and 'No Stopping' restrictions are in place. Deliveries that require vehicles to stop on the state road may be arranged outside the clearway hours.
Community impact	
Village feel	<p>Our network of roads and streets are a major part of the system of public space that helps connect our places. Public space is where people can socialise and add vitality to their neighbourhoods, and streets and roads have an important role in that vitality. Aligning movement functions with the places they serve can make our transport networks and public spaces better contribute to the liveability of communities and productivity of NSW.</p> <p>The proposed traffic improvements to Bulli have been designed to maintain the look and feel of the town centre while enhancing the Bulli township by increasing the connection and accessibility between existing car parks and shops. This would support the creation of place within the Bulli town centre (away from the Princes Highway) while enhancing the movement function of the Princes Highway during peak periods servicing both the local and broader community.</p>
Safety and accessibility	
Pedestrian safety/ footpath buffers	<p>As traffic volumes continue to grow, not only will travel times deteriorate, peak periods will also continue to spread across a longer time period. Significant queues and delays on the Princes Highway can lead to 'rat-running' through the adjacent local roads. Clearways would encourage greater use of the Princes Highway thereby reducing the level of 'rat-running' and improving safety on local roads.</p> <p>Transport acknowledges the community's concerns regarding the loss of a 'buffer' between traffic and pedestrians that parked cars can provide and will continue to work with Wollongong City Council to investigate opportunities for alternative 'buffers' such as planter boxes to maintain the overall feeling of safety in the Bulli town centre.</p>
Pedestrian connectivity	<p>The proposed extended clearway hours would remove on-street parking on the Princes Highway between Station Street and Park Road during peak times. These changes are proposed to be implemented in conjunction with upgrades to existing car parking, the provision of additional parking spaces and a new pedestrian footpath to maintain pedestrian connectivity around the Bulli town centre and to local businesses.</p> <p>Transport acknowledges the community's concerns that some community members and visitors may be unaware of the available car parking at the rear of the local shops and will continue to investigate opportunities to provide clear signage and wayfinding.</p>



Proposed parking changes

A total of 714 submissions were received in response to the proposed parking improvement measures.

Comments

Of the 714 submissions 506 provided open-ended comments that contained one or more comments or suggestions. Figure 6 outlines the distribution of sentiment from the comments received and comment themes.

Key concerns and issues raised under these themes included parking loss offsets, loss of passing trade, commuter parking, the confusion around the one way street configuration, location of the new footpath, village feel and pedestrian safety and connectivity.

Suggestions

Of the 1057 suggestions 126 provided suggestions relevant to the proposed parking improvement measures. Figure 6 outlines suggestions provided.

Table 3 provides clarifications and responses to the key issues and suggestions raised in relation to the proposed parking improvement measures.

"Park Road should be left as is. I think removing parking on the south side would affect the elderly wanting to visit the Drs. There's often no parking in their dedicated parking area." – Online survey submission

Parking community feedback summary

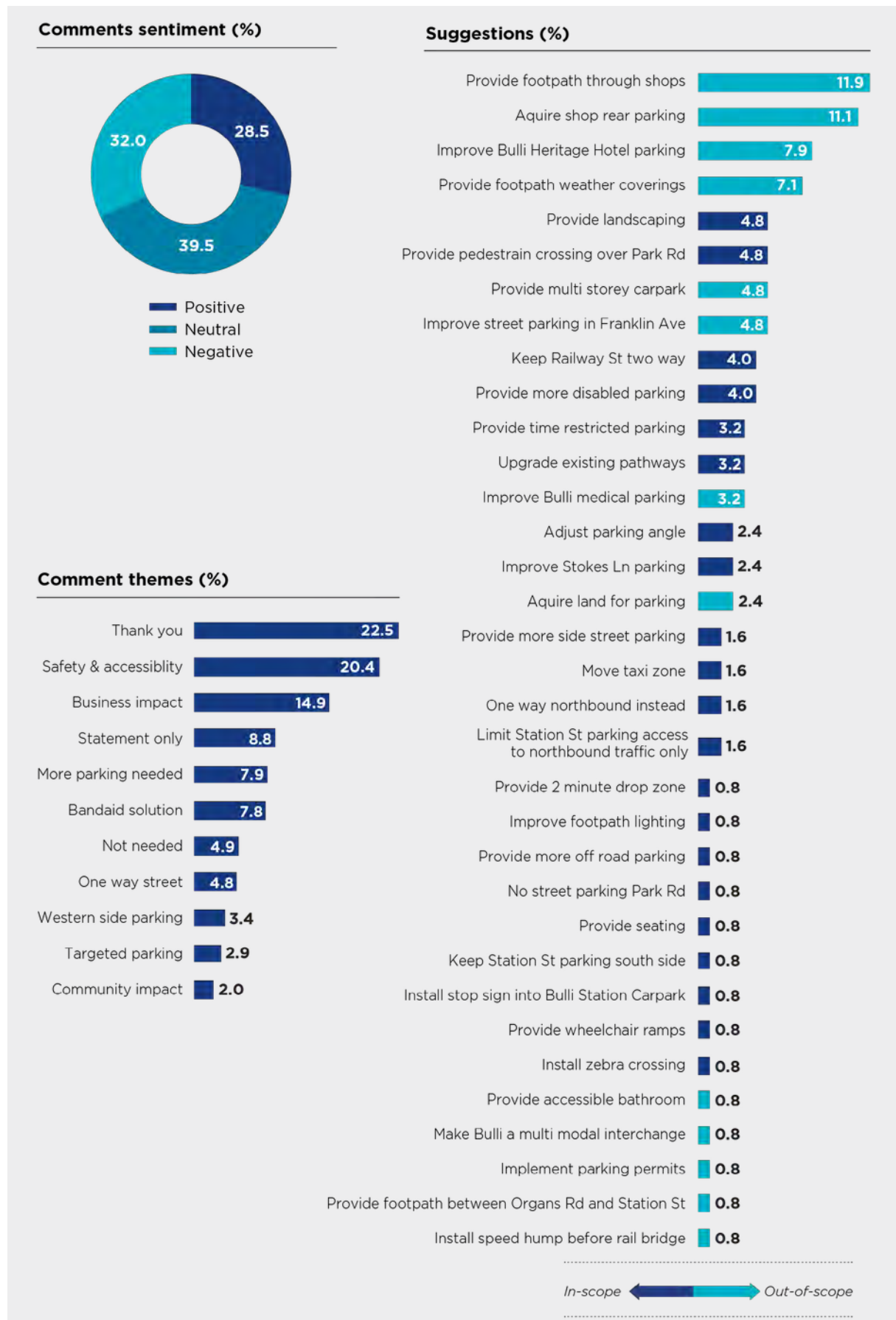
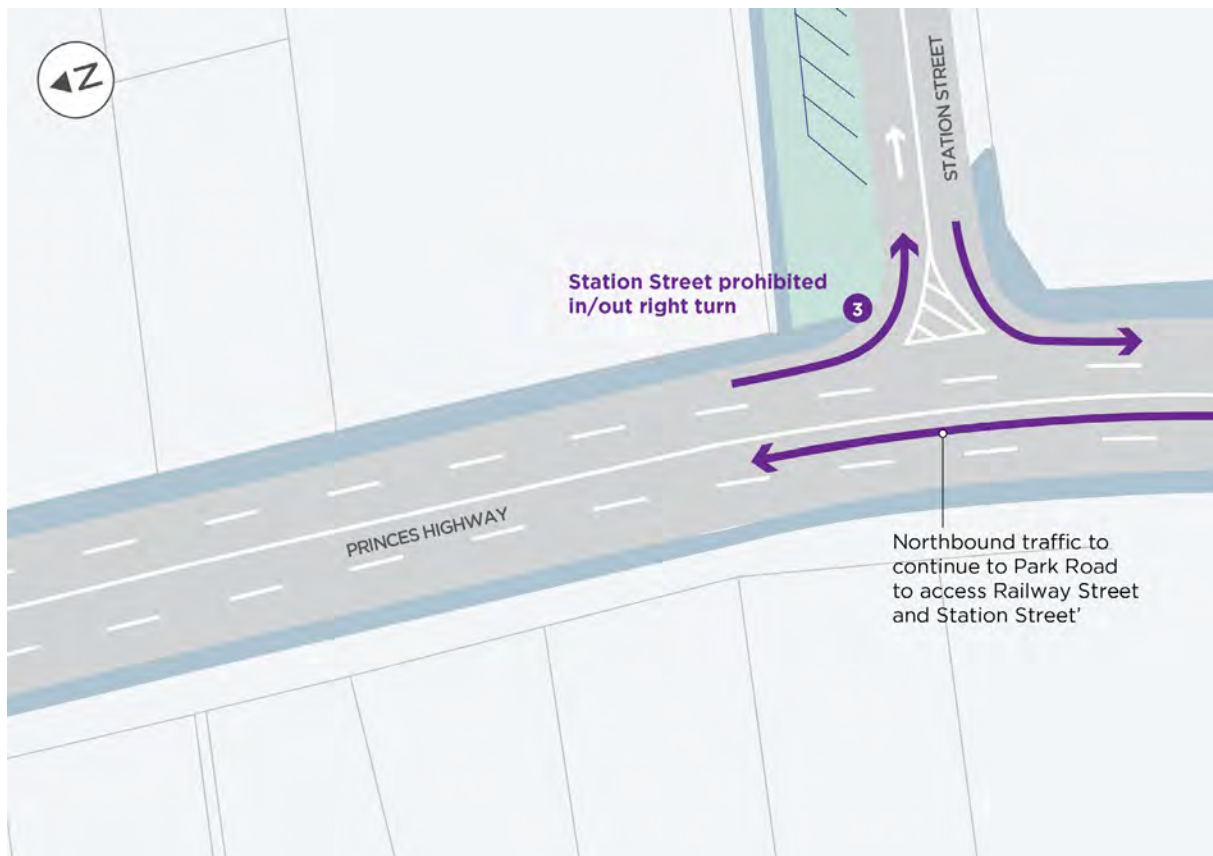


Figure 6 Parking community feedback summary

Table 3 Parking clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
More parking needed	
Parking loss offset	<p>The proposed extension of clearway hours will only effect on-street parking on the Princes Highway during peak times. Outside of peak times customers and visitors will be able to park on-street on the Princes Highway to access local businesses as usual.</p> <p>A total of 6 on-street parking spaces will be removed from the south side of Park Road and 13 parking spots on the Princes Highway during clearway operation times. There will be no overall parking loss. The proposal would increase the car parking spaces by about 20, to a total of over 140 spaces on Station Street, Railway Street, Park Road and the Princes Highway. This will offset the parking spaces lost during peak hour clearways.</p> <p>Existing taxi zone spaces and the two existing disabled spaces at the Station Street carpark would be retained.</p>
Western side parking	
Stokes Lane	<p>The proposed traffic improvements for the Bulli town centre have been carefully considered to balance benefits and impacts to local businesses and the surrounding community. Widening of Stokes Lane in Bulli town centre to incorporate additional on-street parking would require private property acquisition and have an adverse impact on local businesses and the surrounding community.</p> <p>Transport acknowledges the community's concerns regarding limited parking options on the western side of the Princes Highway and will continue to work with Wollongong City Council to investigate opportunities for additional parking on the western side.</p>
Business impact	
Passing trade loss	<p>The proposed traffic improvements for the Bulli town centre have been carefully considered to balance benefits and impacts to local businesses and the surrounding community. The proposed extension of clearway hours will only effect on-street parking on the Princes Highway during peak times. Outside of peak times customers and visitors will be able to park on-street on the Princes Highway to access local businesses as usual. Please see above response to parking loss offset.</p>
Park Rd Parking – South Side	<p>The proposed access changes to Station Street will result in more vehicles using the Park Road intersection to access the Princes Highway. Vehicles queued on Park Road waiting to turn onto the Princes Highway would overlap parked vehicles on the south side of Park Road. If at the same time, vehicles are parked on the north side of Park Road, vehicles travelling westbound from the Princes Highway will be blocked and unable to travel along Park Road resulting in an unacceptable safety risk. Removal of this parking would mitigate this risk.</p> <p>Transport acknowledges the community's concern regarding the removal of parking on the south side of Park Road, particularly for the elderly and those with mobility issues who utilise this parking to access the Bulli Medical Centre and local businesses. Transport is considering the suggestion to implement dedicated disabled parking spots at an appropriate location, potentially at the northern end of Railway Street.</p>
Community impact	
Village feel	Refer to Table 2.
Targeted parking	
Commuter parking	<p>Transport acknowledges a range of users access the parking in Bulli town centre including, local residents, shoppers, visitors and commuters access the Bulli Train Station. Transport will work with Wollongong City Council to investigate opportunities to provide different types of targeted parking options, which may include a range of timed parking spaces, in order to find an appropriate solution that balances the needs of all the users who access parking in Bulli town centre.</p>
One way arrangement	
Configuration and traffic flow	<p>The change in travel configuration for Railway Street would be clearly delineated and signposted. The change to one way travel southbound at the southern end of Railway Street would be supported by upgrades to Bulli Station Carpark allowing vehicles to travel north through the carpark. Access to the station carpark will only be allowed from the southern entrance and exit only allowed from the northern exit.</p>
Safety and accessibility	
Pedestrian connectivity/ Location of new path/ Path through shops suggestion	<p>A new footpath would be implemented as part of the proposed traffic improvements along the eastern side of Railway Street connecting into the existing pedestrian network to provide access from the carparks in Railway Street and the Bulli Train Station to local businesses on Park Road and the Princes Highway.</p> <p>Transport acknowledges some people may experience inconvenience due to the increase in distance from parking spaces to access local businesses on the Princes Highway. A suggestion provided through submissions has been to provide a footpath through the shops between Railway Street and the Princes Highway. This would likely require private property acquisition and could have an adverse impact on some local businesses. However, Transport will investigate the suggestion to provide a pedestrian crossing at Park Road to connect to the shared pathway at Veigals Lane and will continue to work with Wollongong City Council to identify opportunities to improve pedestrian access and connectivity in and around the Bulli town centre.</p>
Access for those with mobility issues	<p>Transport acknowledges the community's concerns for people with accessibility and mobility issues in accessing local businesses on the Princes Highway from the proposed parking spots. Parking on the Princes Highway will only be impacted during peak hours so trips can be planned accordingly. Transport is considering the suggestion to implement dedicated disabled parking at an appropriate location, potentially at the northern end of Railway Street.</p>
Bulli Station carpark	<p>Transport acknowledges the community's concerns regarding safety in and around Bulli Station carpark, particularly for school aged children who utilise the train services. The one-way traffic flow arrangement in combination with reduced speed limits would improve safety as the area would have the look and feel of a low speed environment and pedestrians would only need to cross a single lane of slow moving traffic at a time. Transport will investigate further opportunities to increase safety in the area which may include further reducing speed limits and/or implementing wombat crossings.</p>



Proposed prohibited right turn at Station Street

A total of 711 submissions were received in response to the proposed prohibited right turn movements at Station Street.

Comments

Of the 711 submissions 633 provided open-ended comments that contained one or more comments or suggestions. Figure 7 outlines the distribution of sentiment from the comments received and comment themes.

Key concerns and issues raised under these themes included increased congestion at Park Road and Molloy Street, traffic flow impacts, compliance issues, safety concerns relating to increased traffic on Park Road, increased incident risk at the railway bridge and staff/customer access to local businesses on Railway and Station Streets.

Suggestions

Of the 1057 suggestions 32 provided suggestions relevant to the proposed prohibited right turn at Station Street. Figure 7 outlines the suggestions provided.

Table 4 provides clarifications and responses to the key issues and suggestions raised in relation to the proposed prohibited right turn movements at Station Street.

"This needs to happen it is such a dangerous bottleneck, again this will need enforcement for the initial changeover and I am concerned about people just turning anyway, if there could possibly be a physical barrier stopping these turns why not do this and leave the turning traffic to the traffic lights?" - Online survey submission

Station Street community feedback summary

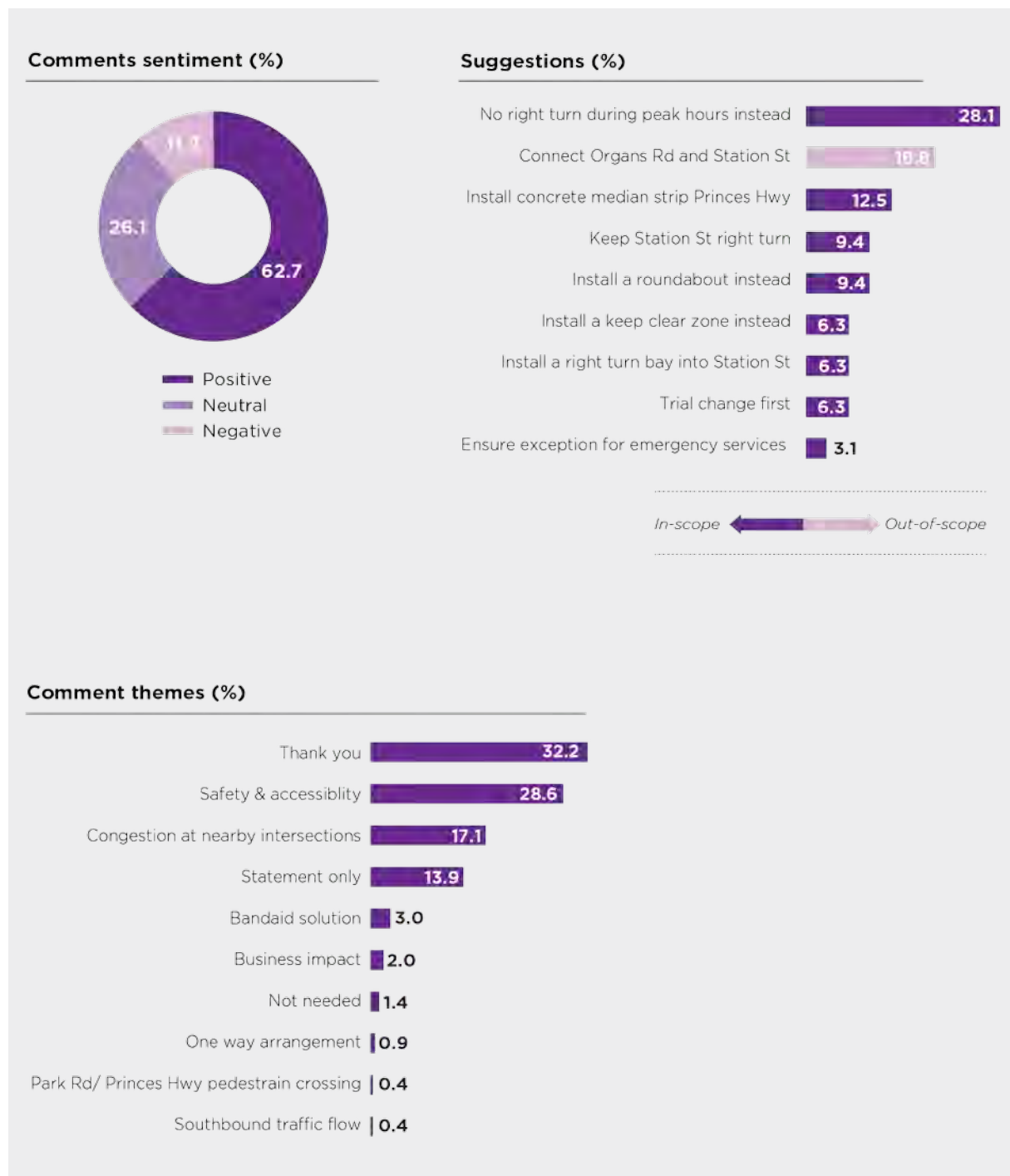


Figure 7 Station Street community feedback summary

"Outside of peak hour, I do not see any issues with right turn into Station St. Its my preferred spot to turn as opposed to Park Rd (due to no right arrow). I do support no right turn on to PH from Station St." – **Online survey submission**

"Firstly I was wondering if this is an option or possible at all. A right turn at the Organs Rd Woolworths lights , that could link up with a new road built from Railway street , beside resin brewery. Preferably with a dedicated right turn lane at the lights (if there's room) to help flow (and left if possible for behind the pub parks and resident access)." – **Online survey submission**

Table 4 Station Street clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Increased congestion at nearby intersections	
Park Road / Princes Highway	The proposed traffic improvements for the Bulli town centre have been carefully considered as to balance benefits and impacts to local businesses and the surrounding community. Each proposed improvement has been identified as part of an integrated network of improvements throughout Bulli, each contributing to the overall improved traffic flow, safety and easing of congestion. Transport acknowledges the community's concerns that the prohibited right turn movements at Station Street may increase congestion at the Park Road intersection. The intention is to move the right turn from Station Street to Park Road and implement a dedicated right turn arrow at the existing traffic signals. The increase in right turning vehicles has been assessed using traffic modelling and shown to be managed by the dedicated right turn arrow, providing an overall improvement in traffic flow through Bulli.
Molloy Street	As above, all proposed changes have been assessed and identified based on their contribution to the integrated network of improvements. Traffic modelling has taken into consideration that more drivers may choose to use Molloy Street. The proposed improvements to the roundabout at Molloy Street will reduce congestion at the intersection and cater for the increased traffic using Molloy Street.
Traffic flow impacts	
East / west pedestrian movement	Transport acknowledges the community's concerns regarding traffic flow impacts caused by increased pedestrian movement across the Princes Highway at the Park Road intersection due to the reduced parking spaces on the western side of the Princes Highway during peak hours. Traffic modelling has taken into consideration the increase in pedestrian movements at the Park Road traffic signals along with the improvements gained through the extended clearway hours and shown that there would be an overall reduction in congestion at the intersection. Transport would continue to monitor the traffic in Bulli town centre and optimise traffic light phasing as necessary (as discussed in Table 1).
Safety and accessibility	
Compliance - illegal right turn movements	Refer to Table 1. Transport is considering measures such as a concrete island at the entrance to Station Street to prevent right turn movements.
Incident risk - Bulli rail bridge	Transport acknowledges community's concerns regarding safety due to poor visibility from the railway bridge on Park Road. Transport is investigating the suggestion to provide warning signs and traffic calming devices as appropriate to slow traffic down as it comes over the railway bridge.
Business impact	
Staff and customer access to Railway Street / Station Street businesses	The proposed traffic improvements for the Bulli town centre have been carefully considered to balance benefits and impacts to local businesses and the surrounding community. Transport has consulted with potentially impacted businesses along Railway Street and will continue to work with these businesses to minimise any access impacts for their staff and customers.

"As a person who often turns right into Station St, it is not unusual to queue behind 3-4 cars at any-one-time. Now all these vehicles will be forced to use Park Rd. This is ok during clear way periods for the Princes Hwy, but my concerns come outside the clear way periods. If all vehicles are now going to use Park Road, it may become the case that this could result in queuing of more than 5 or so vehicles on a regular basis. During periods when clear ways are not in force, the queuing of 5 or more vehicles in the right lane at Park Road (northbound) will likely bring the Princes Highway traffic to a dead stop, as northbound vehicles will not be able to shift across to the left lane to get around the queue (given the parked cars out the front of the Bulli Heritage Hotel)." - Online survey submission



Proposed dedicated right turn arrow at Park Road

A total of 704 submissions were received in response to the proposed dedicated right turn arrow at Park Road.

Comments

Of the 704 submissions 337 provided open-ended comments that contained one or more comments or suggestions. Figure 8 outlines the distribution of sentiment from the comments received and comment themes.

Key concerns and issues raised under these themes included clearway impacts, increased congestion on Park Road, light sequencing and need for dedicated right turn lane.

Suggestions

Of the 1057 suggestions 72 provided suggestions relevant to the proposed dedicated right turn arrow at Park Road. Figure 8 outlines the suggestions provided.

Table 5 provides clarifications and responses to the key issues and suggestions raised in relation to the proposed dedicated right turn arrow at Park Road.

"...my concerns come outside the clear way periods. If all vehicles are now going to use Park Road, it may become the case that this could result in queuing of more than 5 or so vehicles on a regular basis. During periods when clear ways are not in force, the queuing of 5 or more vehicles in the right lane at Park Road (northbound) will likely bring the Princes Highway traffic to a dead stop." – **Online survey submission**

Park Road community feedback summary

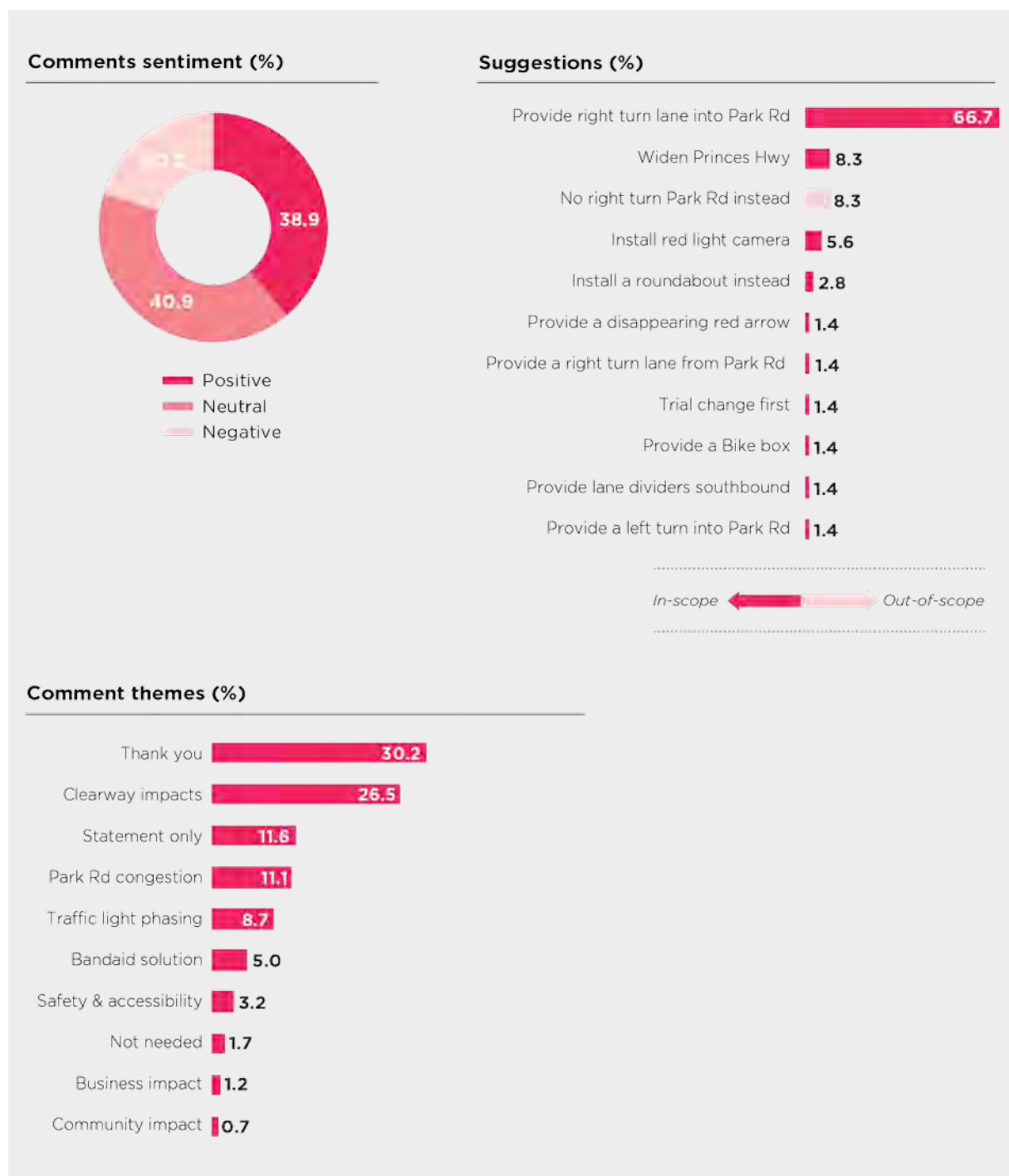
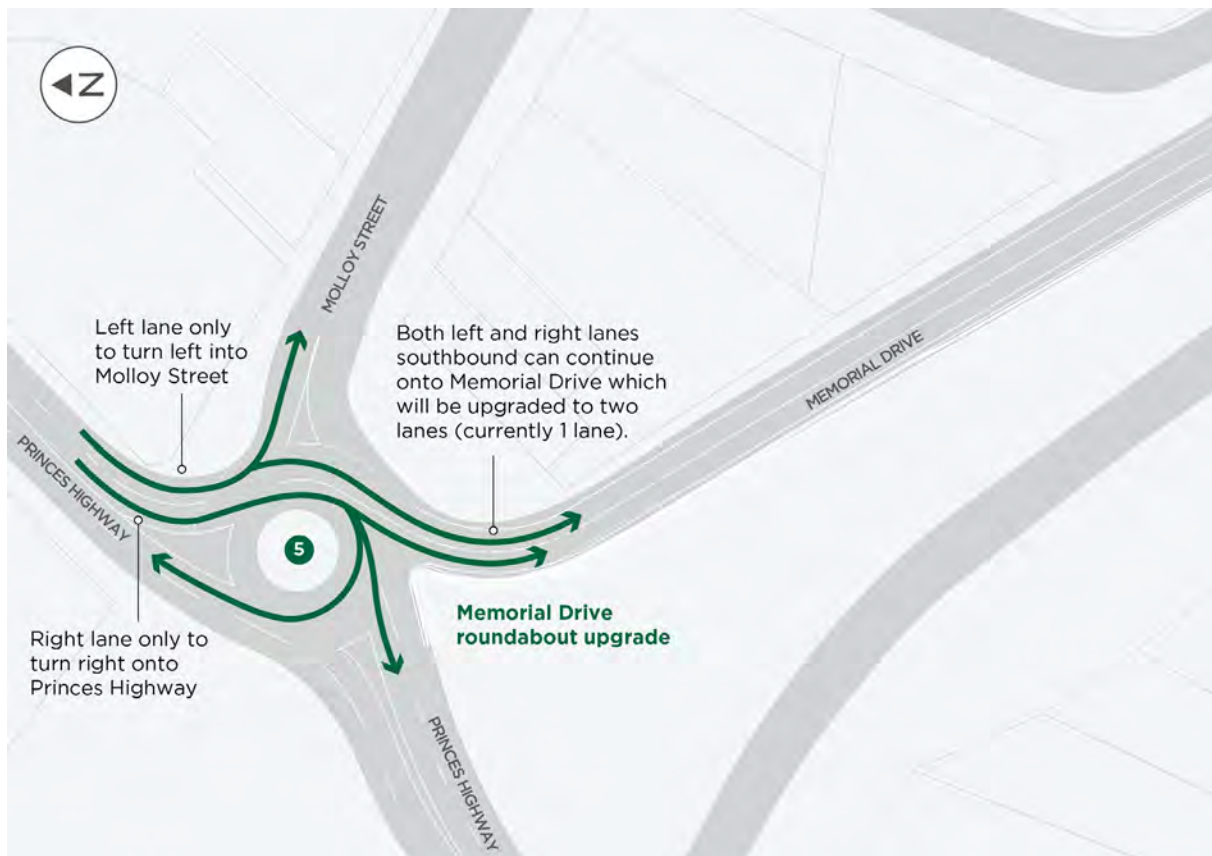


Figure 8 Park Road community feedback summary

“Cancelling the Right turn INTO station St, means extra Northbound cars waiting to turn right off the HWY at Park Rd (your new dedicated Right turn arrow at Park won’t allow drivers to turn opportunistically). This now LONGER queue of extra northbound traffic waiting to turn right at Park, will block the right lane. When combined with cars parked in left lane on the Western side of the HWY (outside of clearway hours) results in a fully blocked HWY northbound! This proposal will not work unless you remove all HWY parking from the Western side, (or at least shorten the Western parking zone to compensate for longer right turn queue).” – Online survey submission

Table 5 Park Road clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Impacts relating to clearways	
Single lane outside of northbound clearway times	<p>The proposed extended clearways at Bulli have been identified to complement other clearways on the Princes Highway, improving travel times for public transport, private vehicles and freight. The proposed extension of clearway hours have been proposed in the same location as the existing clearway hours on both the northbound and southbound sides of the Princes Highway.</p> <p>There is an existing no parking zone that extends from the Bulli Heritage Hotel in front of the Stokes Lane café up to the Park Road intersection. Traffic modelling has indicated this no parking zone provides adequate space for through traffic to continue around anticipated vehicles queuing to turn right into Park Road, particularly outside of peak times when the clearways are not in operation.</p>
Business impact	
Extension of no stopping zone northbound	<p>There is an existing no parking zone that extends from the Bulli Heritage Hotel in front of the Stokes Lane café up to the Park Road intersection. This no parking zone is not proposed to be extended as part of the proposed traffic improvements.</p> <p>The lane used to turn right into Park Road is not proposed to be a dedicated right turn lane and will continue to allow vehicles to also travel north through the intersection.</p>
Community impact	
Concern for residences at 232-234 Princes Highway	The proposed dedicated right turn arrow at Park Road will not change the access arrangements for residents accessing this address.
Safety and accessibility	
Poor visibility at crest for motorists and pedestrians	Transport acknowledges the community's concerns around pedestrian and motorist visibility at the Park Road intersection. The proposed dedicated right turn arrow into Park Road will allow vehicles to turn right into Park Road without having to wait for and identify a gap in the southbound traffic. Pedestrians will continue to be provided dedicated and safe crossing opportunities at the traffic signals. Additionally, the proposed extended clearway times would provide greater visibility at this intersection during peak hours by removing parked vehicles that may block visibility and also remove the need for motorists to change lanes to avoid a parked vehicle.
Compliance – running red lights	Refer to Table 1. A red light camera would only be installed if it was identified as appropriate and necessary.
Increased congestion on Park Road	
Waiting for traffic to turn right into Railway Street	Transport recognises the community's concerns regarding increased congestion on Park Road due to vehicles turning into Railway Street. Traffic modelling shows this is unlikely to be an issue. Transport would monitor the traffic flow on Park Road and Railway Street and investigate measures, such as 'keep clear' at the Railway Street intersection, as appropriate to manage any congestion.
Traffic light sequencing	
Sequencing of right turn arrow	<p>Traffic signals in NSW are controlled by a system called Sydney Coordinated Adaptive Traffic System (SCATS). SCATS is a traffic control system designed to optimise traffic flow. Intelligent algorithms process real-time data to adapt traffic signal timings that respond to unexpected conditions, predict traffic patterns and keep traffic moving. The introduction of a dedicated right turn phase would generally work using the following principle: The right turn arrow would turn green at the same time as the northbound green light, allowing vehicles on the Princes Highway to travel north along the Princes Highway from either lane or turn right into Park Road from the right lane. All other conflicting movements remain red. After a period of time the green arrow would transition to red. Then southbound traffic on the Princes Highway would receive a green signal allowing them to travel through the intersection. The length of the green time is constantly adjusted by the SCATS control system to optimised traffic flow through the intersection.</p>
Southbound traffic	
Traffic flow impacts – increased travel time for southbound traffic	<p>Transport recognises that the community's concerns regarding impacts to southbound traffic that will be required to wait for northbound right turning traffic at the Park Road intersection.</p> <p>Traffic modelling was carried out to assess the impacts of the dedicated right turn phase along with the proposed clearways and improvements to the roundabout at Memorial Drive for southbound traffic. The traffic modelling has shown that these proposed changes complement each other to reduce congestion through the intersection and reduce overall travel times along the Princes Highway through Bulli.</p>
Suggestion	
Dedicated right turning lane	<p>The proposed change at the Princes Highway and Park Road intersection includes a dedicated right turn arrow at Park Road only, and the two lanes in their current configuration will remain.</p> <p>Transport acknowledges that some members of the community have suggested widening the Princes Highway to include a third, dedicated right turning lane at the Park Road intersection.</p> <p>Transport has determined that widening of the Princes Highway in Bulli town centre to provide a dedicated right turn lane would require private property acquisition and would result in unacceptable impacts to the adjacent businesses and the local community.</p>



Proposed Memorial Drive roundabout upgrades

A total of 703 submissions were received in response to the proposed Princes Highway and Memorial Drive roundabout upgrade.

Comments

Of the 703 submissions 326 provided open-ended comments that contained one or more comments or suggestions. Figure 9 outlines the distribution of sentiment from the comments received and comment themes.

Key concerns and issues raised under these themes included access issues regarding Molloy Street and Hospital Road intersections, pedestrian safety and connectivity and traffic flow.

Suggestions

Of the 1057 suggestions 37 provided suggestions relevant to the proposed Princes Highway and Memorial Drive roundabout upgrade. Figure 9 outlines the suggestions provided.

Table 6 provides clarifications and responses to the key issues and suggestions raised in relation to the proposed Princes Highway and Memorial Drive roundabout upgrade.

"Southbound congestion occurs primarily because of the single lane access to memorial drive. The proposal to increase this to two lanes will have significant effect and progress traffic through this bottleneck more efficiently." – **Online survey submission**

Memorial Drive roundabout community feedback summary

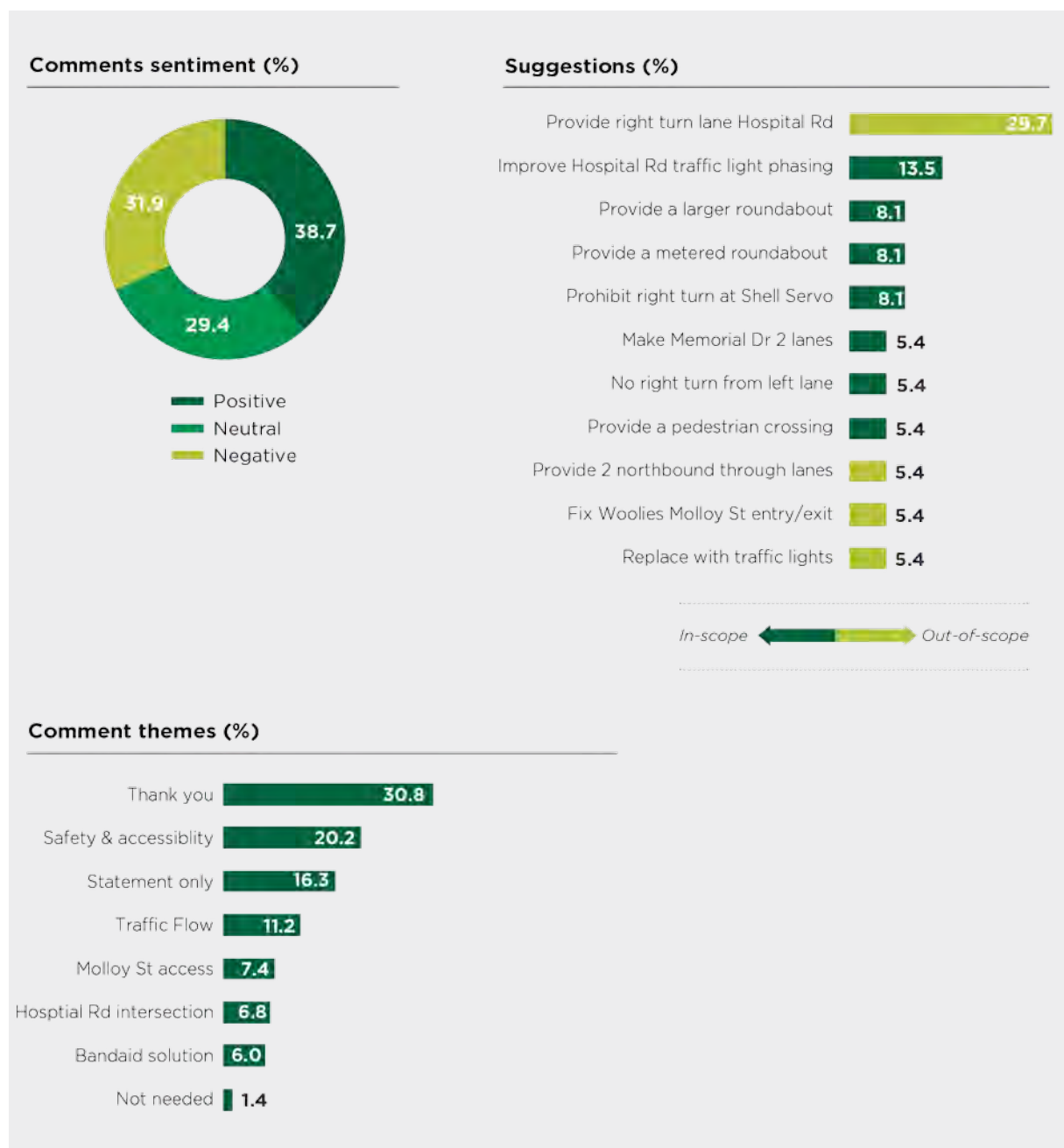


Figure 9 Memorial Drive roundabout community feedback summary

"Can be vehicles turning right into the petrol station from Princes Hwy heading north be stopped? A sign indicating " no entry " Or " no right turn " into the petrol station from the northbound lanes. Cars often stop to turn across double white lines into the petrol station significantly affecting flow through the roundabout." – **Online survey submission**

"Its a messy roundabout as people dont signal correctly. People heading south signal that they are turning left, when they are not - they are going straight (If they were turning left, they would be turning into Molloy St). I think the angles of the roundabout were not taken into consideration at the time of building the roundabout initially, and this has caused issues like this." – **Online survey submission**

Table 6 Memorial Drive roundabout clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Molloy Street access	
In / out Molloy Street competing with southbound traffic	<p>The proposed upgrade to the Memorial Drive roundabout involves widening Memorial Drive to provide two lanes southbound from the roundabout in addition to allowing both southbound lanes from the Princes Highway to access Memorial Drive.</p> <p>The improved traffic flow through the roundabout will create more gaps for vehicles to safely enter the roundabout from Molloy Street. The gaps in traffic are created by the adjacent traffic signals that work with the increased capacity through the roundabout to create natural breaks in the traffic, allowing vehicles to enter the roundabout from Molloy Street.</p> <p>Appropriate road markings and signage will be implemented to compliment the proposed changes and direct traffic in a safe and efficient manner (as described in Table 1).</p>
Traffic flow	
Two lanes southbound on Memorial Drive	<p>A number of submissions have raised the concern of southbound traffic needing to merge into one lane at Memorial Drive and multiple suggestions have been made to expand Memorial Drive to two lanes.</p> <p>The proposed upgrade to the Memorial Drive roundabout involves widening Memorial Drive to provide two lanes southbound from the roundabout in addition to allowing both southbound lanes from the Princes Highway to access Memorial Drive.</p>
Safety and accessibility	
Right turns in/ out of petrol station	Transport acknowledges community concerns regarding safety issues with right turning vehicles in and out of the Shell Petrol Station on the north-east side of the Memorial Drive roundabout. Transport will monitor this movement and work with Wollongong City Council and the business owner to appropriately address any identified safety issues.
Pedestrian connectivity	<p>Several submissions suggested pedestrian crossings and connections be provided across the Memorial Drive roundabout as part of the proposed improvements. Transport acknowledges that crossing at the roundabout may be more direct for some people, however it is not considered an appropriately safe location given the number of lanes and volume of traffic, especially during peak hours.</p> <p>Transport considers the existing signalised pedestrian crossings at Organs Road to the north and Hospital Road to the south to be safer and more appropriate locations to cross the Princes Highway.</p>
Lane changing	<p>Transport acknowledges the community concerns regarding unsafe use of the Memorial Drive roundabout by some road users, particularly around changing lanes on the roundabout.</p> <p>The proposed upgrade to the Memorial Drive roundabout involves widening Memorial Drive to provide two lanes southbound from the roundabout, this allows both southbound lanes from the Princes Highway to safely access Memorial Drive.</p> <p>Appropriate road markings and signage will be implemented to compliment the proposed changes and direct traffic in a safe and efficient manner (as described in Table 1).</p>
Hospital Road / Princes Highway intersection	
Congestion at Hospital Road impacts southbound traffic	A large number of submissions raised concerns regarding queued vehicles turning right at the Hospital Road intersection just south of Memorial Drive roundabout. Modifications to the Hospital Road intersection are out of scope of this project, however Transport are aware of these concerns and will monitor the intersection and investigate opportunities for future improvements as required.

"It's a good idea, however the traffic lights at Memorial Drive and Hospital Road sometimes prevents the smooth flow of southbound traffic along the Princess Hwy to Woonona. If the lights are red then the inside lane still banks up and especially if waiting for someone to turn right into Hospital Road." – Online survey submission



Proposed Grevillea Park Road and Point Street right turn lanes

A total of 703 submissions were received in response to the proposed additional right turn lanes at Grevillea Park Road and Point Street

Comments

Of the 703 submissions 290 provided open-ended comments that contained one or more comments or suggestions. Figure 10 outlines the distribution of sentiment from the comments received and comment themes.

Key concerns and issues raised under these themes included Princes Highway corridor expansion, safety and accessibility and congestion.

Suggestions

Of the 1057 suggestions 12 provided suggestions relevant to the proposed additional right turn lanes at Grevillea Park Road and Point Street. Figure 10 outlines the suggestions provided.

Table 7 provides clarifications and responses to the key issues and suggestions raised in relation to the proposed additional right turn lanes at Grevillea Park Road and Point Street.

"If they are additional right lanes and the 2 lanes heading North do not have to stop and wait for them to turn right this would be a great benefit, and could have the greatest impact on traffic flow through Bulli."

– Online survey submission

Grevillea Park Road and Point Street community feedback summary

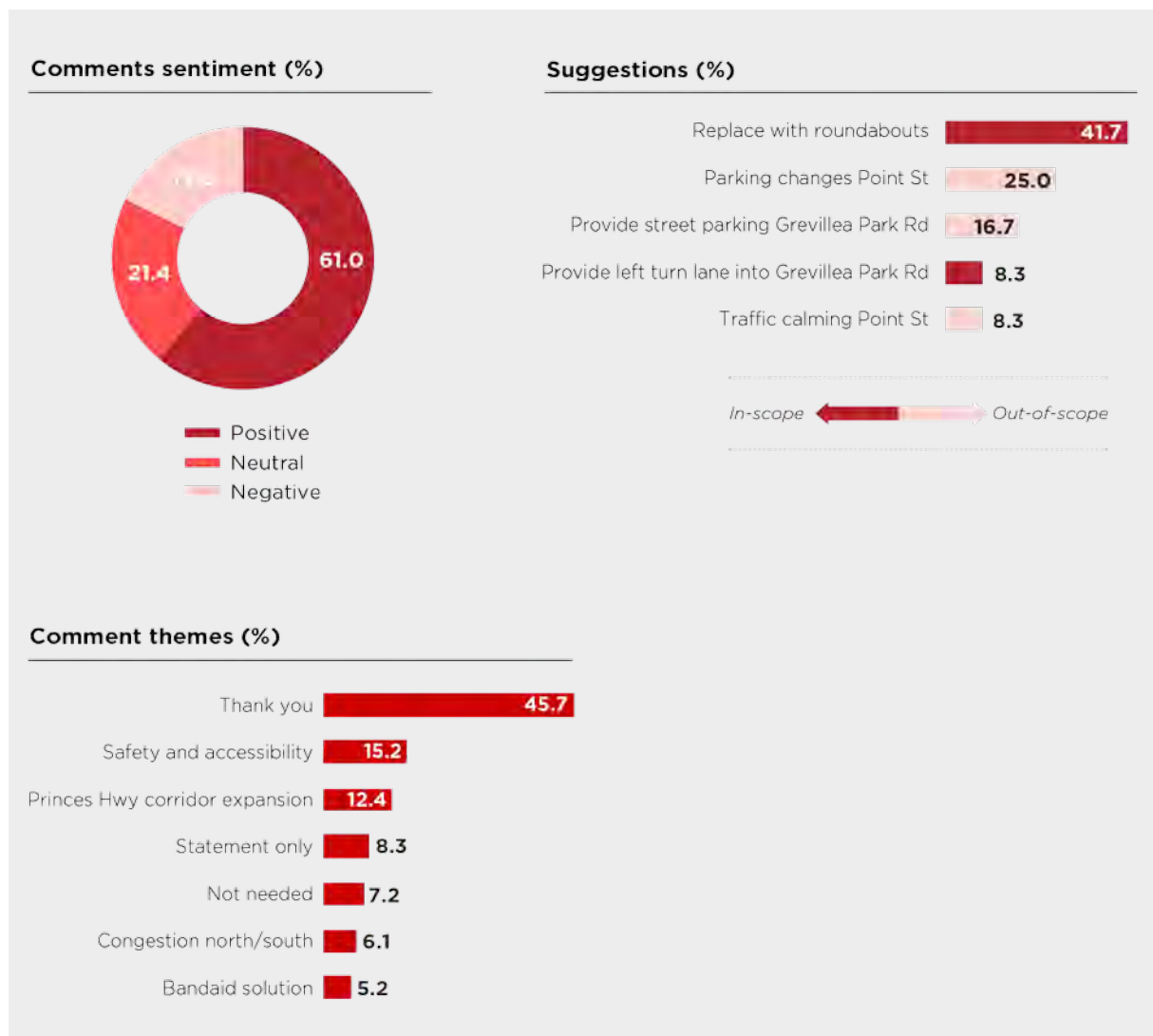


Figure 10 Grevillea Park Road and Point Street community feedback summary

"You should also consider opening up the carpark/lane way from Grevillea Park Road behind the F45/ Bowling Green to Quilkey Place or using the Memorial Drive extension land so that cars living in that area of Bulli turn right at Grevillea Park Road rather than Quilkey Place. This access was recently stopped by the placement of big concrete blocks." – **Online survey submission**

"Not sure how this could be achieved without either reducing the lane widths or reducing footpath widths, to the detriment of pedestrian safety and access to residences on the western side of the highway at the intersection." – **Online survey submission**

Table 7 Grevillea Park Road and Point Street clarification and responses

Key concerns & suggestions	Clarification and/or response to key issues and suggestions
Princes Highway corridor expansion	
Princes Highway widening	Transport has determined that widening of the Princes Highway within Bulli town centre would have unacceptable impacts to the community. Investigations have shown that widening of the Princes Highway between Grevillea Park Road and Point Street to the west will accommodate the proposed right turn lanes. This would have a minor impact on Slacky Flat Park.
Safety and accessibility	
Pedestrian connectivity	Transport acknowledges some customers have raised concerns regarding pedestrian connectivity if the proposed right turn lanes at Grevillea Park Road and Point Street are implemented. All existing pedestrian connectivity will be retained if the right turn lanes are implemented.
Quilkey Place right turn southbound	Transport acknowledges the community's safety concerns regarding right turn traffic movements southbound into Quilkey Place from the Princes Highway. This project did not propose improvements at this intersection. The suggestion to improve safety at this intersection will be investigated along with an appropriate treatment.
Congestion to the north and south	
Bottleneck at Park Road	It has been noted that a number of comments indicated that while the proposed right turn lanes at Grevillea Park Road and Point Street will enable two through lanes of southbound traffic, this may exacerbate an existing bottleneck at the Park Road intersection where there is poor visibility due to the natural topography and many customers prefer to travel in the right lane to avoid parked cars on the other side of the intersection. The proposed extension of clearway hours for southbound traffic in Bulli town centre combined with the dedicated right turn lane at Grevillea Park Road will work together to reduce the need for vehicles to change lanes to avoid vehicles that are parked or waiting to turn right. This will result in improved safety at the intersections to compliment the reduced congestion.



"It is great having an additional right turn lane into Grevillea Park Rd, however the next traffic congestion issue heading south after this intersection is turning right into Quilkey Place, which stops the flow of traffic. Currently cars get back into the right lane after going around the cars stopped to turn right into Grevillea Park Rd, only to be stopped by cars turning right into Quilkey Pl. This could be avoided by having a no right turn into Quilkey Pl if the dirt road off Grivellea Park Rd between the tennis courts and gym was through to Quilkey Pl." – Online survey submission

Miscellaneous feedback

Of the 1057 suggestions 54 suggestions were out-of-scope for this project. These suggestions have been noted by Transport and some may be investigated for potential future projects.

Figure 10 outlines the miscellaneous suggestions provided during the consultation. The most common suggestion received was to 'Prohibit the right turn at Quilkey PI'.

As discussed in Table 7, Transport acknowledges the community's safety concerns regarding right turn traffic movements southbound into Quilkey Place from the Princes Highway and will investigate opportunities to improve the safety of this intersection as part of future projects.

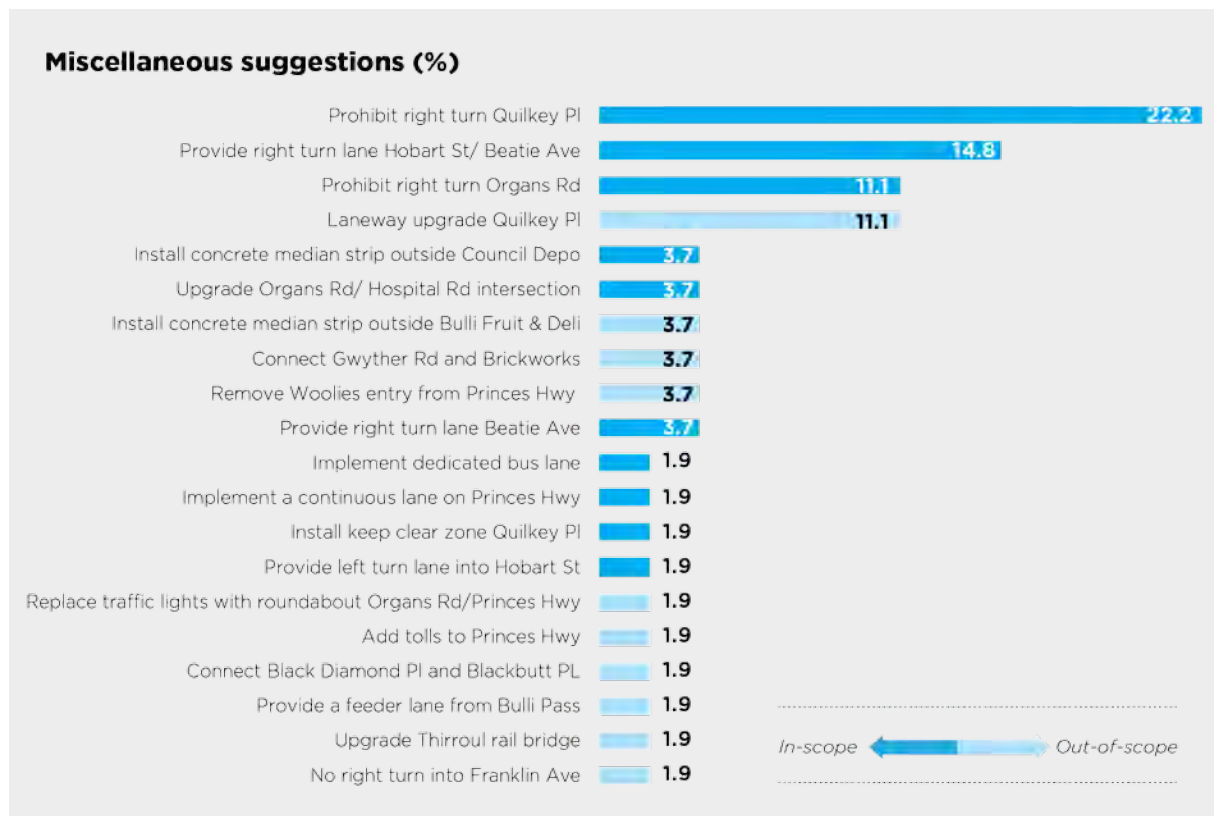


Figure 11 Miscellaneous suggestions

Next steps

This Feedback Summary Report has captured and responded to feedback on the proposed traffic improvement measures for Bulli. A number of opportunities for further investigation work have been identified including:

- improved traffic light phasing,
- improved active and public transport integration and connections,
- provision of clear signage and wayfinding,
- reduce speed limits through the Bulli town centre and,
- implementing other traffic improvements before extending the clearway hours
- along with many other refinements to the proposal.

We will continue work on these opportunities and refine the project as appropriate.

We are committed to keeping the community updated on the project and will inform the community of the outcomes of these investigations along with the timing and next steps in early 2022.



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Appendix E: Aboriginal cultural heritage consultation and investigation - Stage 1 Letter

8 December 2022

Clare Harris
Project/Contract Manager
Level 4, 90 Crown Street
WOLLONGONG NSW 2500

Dear Clare,

Preliminary assessment results for HW1 Bulli Traffic Improvements based on Stage 1 of the Procedure for Aboriginal cultural heritage consultation and investigation (the procedure).

The project, as described in the Stage 1 assessment, was assessed as being unlikely to have an impact on Aboriginal cultural heritage.

The assessment is based on the following due diligence considerations:

- The project is unlikely to harm known Aboriginal objects or places.
- The AHIMS search did not indicate moderate to high concentrations of Aboriginal objects or places in the study area.
- The study area does not contain landscape features that indicate the presence of Aboriginal objects, based on the Heritage NSW's *Due diligence Code of Practice for the Protection of Aboriginal objects in NSW* and the Transport for NSW's procedure.
- The cultural heritage potential of the study area appears to be reduced due to past disturbance.
- There is an absence of sandstone rock outcrops likely to contain Aboriginal art.

Your project may proceed in accordance with the environmental impact assessment process, as relevant, and all other relevant approvals.

If the scope of your project changes, you must contact me and your regional environmental staff to reassess any potential impacts on Aboriginal cultural heritage.

If any potential Aboriginal objects (including skeletal remains) are discovered during the course of the project, all works in the vicinity of the find must cease. Follow the steps outlined in the Transport for NSW's *Unexpected Archaeological Finds Procedure*.

For further assistance in this matter do not hesitate to contact me.

Yours sincerely



Cheyenne Noble Tovehi
Aboriginal Cultural Heritage Officer – Southern

Appendix F: Exemption from Approval under s57(2) Heritage Act 1977

Exemption from Approval
under s57(2) *Heritage Act 1977*



Ben Beattie
Project Services South
Road Maintenance & Resilience
21 York Place
Russell Vale NSW 2517

28 January 2025

Re: Exemption from Approval or Notification under s57(2) of the NSW Heritage Act
to undertake works to Bulli Railway Station, SHR # 01829
Dear Cass,

The proposed works have been assessed, and an exemption under Section 57(2) of the *NSW Heritage Act 1977* has been granted.

NSW State Heritage Register details	Bulli Railway Station (SHR 01829)
Documentation	<p>The project information has been provided in the following documentation and reviewed in support of this exemption:</p> <p>Boag, Chalmers and Dillon, 2020, a non-endorsed <i>Heritage Study of Bulli Railway Station group</i> by Sydney University students.</p> <p>The report indicates that there were several structures located adjacent to the current carparking facilities that have been previously demolished, including a goods shed, cattle yards, jib crane and associated loading platform. The method of demolition for these items is not described in the report, however, is known to have occurred in 1923, coinciding with the duplication of the Illawarra line to Woonona and construction of Platform 1 and the brick platform buildings and Parcel Room. The aerial photos and the detailed site plan of demolished features on p.22 of report (reproduced in Appendix A) indicate these are outside the works area so no archaeological potential is ascribed to the car park area.</p> <p>Niche Environment and Heritage, <i>Statement of Heritage Impact Bulli Traffic Improvements</i>, 24 November 2023</p> <p>Report did not consider the Site Specific Exemption (30/8/2013) gazetted for the heritage precinct.</p> <ul style="list-style-type: none">Email from Ben Beattie "Works methodology for Bulli Station car park", 18/12/2024.

Scope of Works	<p>It is understood that the proposal includes the following:</p> <p><u>Proposed works:</u> Within the Bulli Station car park- minor alterations and line marking.</p> <p><u>Proposed work methodology:</u></p> <ul style="list-style-type: none"> • Installation of additional street lighting on Park Road, Railway Street and Station Street, and at Bulli Station car park • Establishment of a site compound within the Bulli Station car park • Removal of grass verges at Bulli Station to create additional parking spaces • Construction of shared path on Railway Street • Site disestablishment
Assessment	<p>In the area where new SM kerb Installation Is proposed there has been ground disturbance associated with the Initial carpark construction. It is assumed that the extent and depth of known disturbances within the Subject Area would not be exceeded by the subsurface penetration caused by the proposed works.</p> <p>Site specific exemption (30/8/2013) allows for: <i>Upgrade or minor alterations to the existing car park, providing there are no new buildings erected or no adverse impact on the heritage significance of the place.</i></p> <p>The proposal is considered consistent with the activities described within the following Rail-Specific Exemptions (gazetted 13 March 2015): Standard / TAHE (formerly Railcorp) agency specific Exemption 2: Excavation</p> <p>The proposal has been assessed by a Transport for NSW Heritage Specialist and is considered to have no adverse impacts on the heritage significance of the place.</p> <p>Transport for NSW is not required to obtain external heritage approval from Heritage NSW (the office of the Heritage Council of New South Wales).</p>
Conditions	<p>Please note these works are exempt from approval based on the following conditions.</p> <p>General conditions:</p> <ul style="list-style-type: none"> • Due care must be taken in the vicinity of identified heritage structures and fabric. No construction materials are to be stockpiled or stored against heritage items or trees. • Any accidental damage caused to heritage items/fabric must be reported immediately through Sydney Trains SHEM. Damage is to be made good in accordance with specialist heritage advice. • All areas impacted by the work must be cleaned and made good after completion of works including removal of site debris. • Any proposed changes beyond the approved scope of works may require further assessment and approval.

Project specific conditions:

- In the event of discovery of any unexpected heritage item/s, Transport's *Unexpected Heritage Items Procedure* must be followed.
- All heritage safeguards and conditions of approval for the project must be adhered to.
- Due care must be taken in the vicinity of identified heritage structures and fabric. No construction materials are to be stockpiled or stored against heritage items or trees.
- Any accidental damage caused to heritage items/fabric must be reported immediately. Damage is to be made good in accordance with specialist heritage advice.

Heavy plant and equipment must avoid movements in and around heritage structures and fabric and significant trees, with heritage sensitive areas demarcated during operation.

Site Visit/Post Completion Inspection Required	No.
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Please do not hesitate to make contact if you have any questions.

Sincerely,

Ian Berger
Heritage Specialist
Safety, Policy, Environment and Regulation
Transport for NSW

M 0437 248 386 **E** ian.berger@transport.nsw.gov.au

ADDITIONAL GENERAL CONDITIONS

- All contractors and staff must be briefed on site-specific heritage issues prior to commencing works. If there is a change of project staff or contractor during the length of the project, a further site briefing must be undertaken.
- Heritage documents (such as SoHI, specifications, approvals) and records of heritage site briefings must be retained on site for the duration of the works.
- Site inspections may be undertaken by a Transport for NSW Heritage representative throughout the duration of the approval as part of environmental audits to ensure compliance with conditions.

OTHER PROJECT SPECIFIC CONDITIONS:

- **Excavation**

Heavy plant and equipment must avoid movements in and around heritage structures and fabric and significant trees, with heritage sensitive areas demarcated during operation.

If unexpected archaeological deposits or relics are uncovered during works, works must stop immediately, and the steps outlined in the ***Transport NSW Unexpected Archaeological Finds procedure*** must be implemented.

Appendix G: Wollongong City Council Consultation letter

Jackson Lenham
Wollongong City Council
41 Burelli Street
Wollongong NSW 2500

Re: Consultation regarding proposed Bulli Traffic Improvements

8th August 2023

Dear Jackson,

Thank you for your recent input into the Bulli Traffic Improvements project. As discussed, Transport for NSW is proposing to implement the Bulli Traffic Improvements project (the proposal).

The proposal includes:

- Extended clearway hours:
 - Extend the existing clearway hours southbound on the Princes Highway between Park Road and Station Street to include:
 - Weekdays 6:30-9:30am, 3:00-6:00pm
 - Saturdays 11:00am to 1:00pm
 - Extend the existing clearway hours northbound on the Princes Highway between Park Road and Station Street to include:
 - Weekdays 6:30-9:30am, 3:00-6:00pm
- Ban the right turn into and out of Station Street at the Princes Highway:
 - Ban the right turn into and out of Station Street at the Princes Highway. The ban is to be implemented using no right turn signs, solid double barrier lines on the Princes Highway and painted median on Station Street as generally described in Attachment A.
- Dedicated right turn arrow at Park Road traffic lights:
 - Implement right turn phase at the Princes Highway, Park Road traffic signals to allow for a trailing right turn from the Princes Highway into Park Road while maintaining the filter right turn.
- Parking adjustments:
 - Railway St - 90 degree angle parking

- Bulli Train Station - Remove grass verges and provide additional car spaces
- Station Street - Provide angled parking spaces on northern side.
- Park Road - Line mark the parallel parking bays.
- Implement timed parking in Stokes Lane.
- Shared path:
 - Shared path to be constructed on eastern side of Railway Street. Additionally a small section on the south side of Park Road from Station Street to the railway bridge.
- Two new raised pedestrian crossings:
 - At Park Road directly north of the intersection with Railway Street
 - And mid-way along Railway Street
- Relocation of streetlights that are on the grassed verges in Bulli Station car park and Station Street and additional street lighting at the pedestrian crossing locations.
- Landscaping:
 - Vegetation planting in the blisters at the raised pedestrian crossings
 - Planting of a line of 10 trees between the path along Railway Street and the Bulli Station car park

The objectives of the proposal are to:

- Reduce travel times
- Optimise road space
- Reduce crash risk and casualties on the state road network
- Maintain a zero net loss of parking during peak hours in Bulli
- Improve pedestrian safety and access to the town centre.

Review of Environmental Factors

A review of environmental factors (REF) is currently being prepared to assess the likely impacts of the proposal under Division 5.1 of the *Environmental Planning and Assessment Act 1979*. Transport for NSW will publish the Minor Works REF on their website in August/September.

You are invited to provide feedback on the proposal. It would be appreciated if Wollongong City Council could provide comments by 5pm, 29th August 2023.

Consultation under State Environmental Planning Policy (Transport and Infrastructure) 2021

Under section 2.10 of SEPP (Transport and Infrastructure), Transport for NSW is required to undertake consultation with Council where proposed activities may impact on public places under the ownership of Council, have an impact to pedestrian/vehicle movements or have an

impact to stormwater management services. The proposal would involve works on Station Street, Railway Street and Park Road as detailed above.

Under section 2.11 of SEPP (Transport and Infrastructure), Transport for NSW is required to undertake consultation with Council where proposed activities may have more than a minor or inconsequential impact upon the identified local heritage item/area. It has been identified that the proposal would have a minor impact on the local heritage area of Bulli. A Statement of Heritage Impact is currently in draft and will be published along with the Minor Works REF in August/September.

I acknowledge that the designs have been provided to and Council previously, with comments provided on the 1st August 2023. Transport for NSW thanks Council for their comments and requests any further comments for this proposal by 5pm 29th August 2023.

Transport for NSW would be pleased to provide further information if required. In this regard Clare Harris may be contacted on 0427 267 027 or by email Clare.Harris@transport.nsw.gov.au.

Yours sincerely,

Clare Harris

Project/Contract Manager

Phone: 0427 267 027

Email: clare.harris@transport.nsw.gov.au

Appendix H: TfNSW Construction Noise Estimator Tool



Transport
for NSW



Distanced Based Assessment (Noisiest Plant)

Steps for Assessment:

1. Schedule noisy works to occur in standard hours where possible or before 11pm and implement Standard Measures.
2. Select the representative noise area category. The worksheet titled 'Representative Noise Environ.' provides a number of examples to help select the noise area category.
3. Select the noisiest plant. If not found in drop-down list, refer to 'Source List' and select a representative plant with equivalent sound power level.
4. Is there line of sight to receiver? Select the appropriate scenario from the drop down list.
Identify and implement standard mitigation measures where feasible and reasonable. Include any shielding implemented as part of the standard mitigation measures by changing the selection in the 'Is there line of sight to receiver' drop-down list. Solid barriers can be in the form of road cutting, timber lapped and capped fence, shipping container, site office, etc. Substantial solid barriers are barriers greater than 5 metres in height or multiple rows of houses or a sound barrier specifically designed to mitigate construction noise. Please note that vegetation and trees are not considered to be a form of solid barrier and any gaps would compromise the acoustic integrity of the solid barrier.
5. Determine if there are any receivers (both residential and non-residential receivers) within the affected distance for each relevant time period. Consider background LA90 noise measurements to check assumption in Step #2 if:
(a) there are many affected receivers and the impact duration at any one receiver is more than 3 weeks; or
(b) there are a few affected receivers and the impact duration at any one receiver is more than 6 weeks.
Note that consideration needs to be given to the construction staging plan when determining impact duration.
7. Identify if there are any receivers within the additional mitigation measures distances and identify feasible and reasonable measures at each receiver.
8. Where night works are involved, identify sleep disturbance affected distance.
9. Document the outcomes of these steps.
(Note that suitable noise management levels for other noise-sensitive businesses not identified in the Construction and Maintenance Noise Estimator should be investigated on a project-by-project basis. Please contact a Transport for NSW noise specialist for more information)

Abbreviation	Measure
N	Notification
SN	Specific notifications
PC	Phone calls
IB	Individual briefings
RO	Respite offer
R1	Respite period 1
R2	Respite period 2
DR	Duration respite
AA	Alternative accommodation
V	Verification

Note that spot check verification of noise levels and individual briefings are not required for projects with less than 3 weeks impact duration

Please pick from drop-down list in orange cells

Noise area category			R3
RBL or LA90 Background level (dB(A))	Day		50
	Evening		45
	Night		40
LAeq(5minute) Noise Mangement Level (dB(A))	Day		60
	Day (OOHW)		55
	Evening		50
	Night		45
Noisiest plant			Concrete Saw
Is there line of sight to receiver?			Yes

Residential receiver

			LAeq(5minute) noise level above background (LA90)												LAeq(5minute) 75 dB(A) or greater (Highly affected)			Sleep disturbance LAmax 65 dB(A)
			5 to 10 dB(A)			10 to 20 dB(A)			20 to 30 dB(A)			> 30 dB(A)						
			Noticeable			Clearly audible			Moderately intrusive			Highly intrusive						
			Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	
Undeveloped green fields, rural areas with isolated dwellings	Day	140						N	55	70	N, PC, RO	30	75	N, PC, RO	30	75	160	
	Day (OOHW)	200				N, R1, DR	140	60	N, R1, DR	55	70	N, R1, DR, PC, SN	25	80	N, PC, RO	30		75
	Evening	290				N, R1, DR	200	55	N, R1, DR	95	65	N, R1, DR, PC, SN	30	75	N, PC, RO	30		75
	Night	420	N	420	45	N, R2, DR	290	50	N, PC, SN, R2, DR	140	60	AA, N, PC, SN, R2, DR	55	70	N, PC, RO	30		75
	Highly Affected	30													N, PC, RO	30		75
Developed settlements (urban and suburban)	Day	155						N	60	70	N, PC, RO	35	75	N, PC, RO	35	75	185	
	Day (OOHW)	240				N, R1, DR	155	60	N, R1, DR	60	70	N, R1, DR, PC, SN	25	80	N, PC, RO	35		75
	Evening	360				N, R1, DR	240	55	N, R1, DR	105	65	N, R1, DR, PC, SN	35	75	N, PC, RO	35		75
	Night	545	N	545	45	N, R2, DR	360	50	N, PC, SN, R2, DR	155	60	AA, N, PC, SN, R2, DR	60	70	N, PC, RO	35		75
	Highly Affected	35													N, PC, RO	35		75
Propagation across a valley / over water	Day	190						N	70	70	N, PC, RO	45	75	N, PC, RO	45	75	230	
	Day (OOHW)	310				N, R1, DR	190	60	N, R1, DR	70	70	N, R1, DR, PC, SN	25	80	N, PC, RO	45		75
	Evening	485				N, R1, DR	310	55	N, R1, DR	115	65	N, R1, DR, PC, SN	45	75	N, PC, RO	45		75
	Night	750	N	750	45	N, R2, DR	485	50	N, PC, SN, R2, DR	190	60	AA, N, PC, SN, R2, DR	70	70	N, PC, RO	45		75
	Highly Affected	45													N, PC, RO	45		75

