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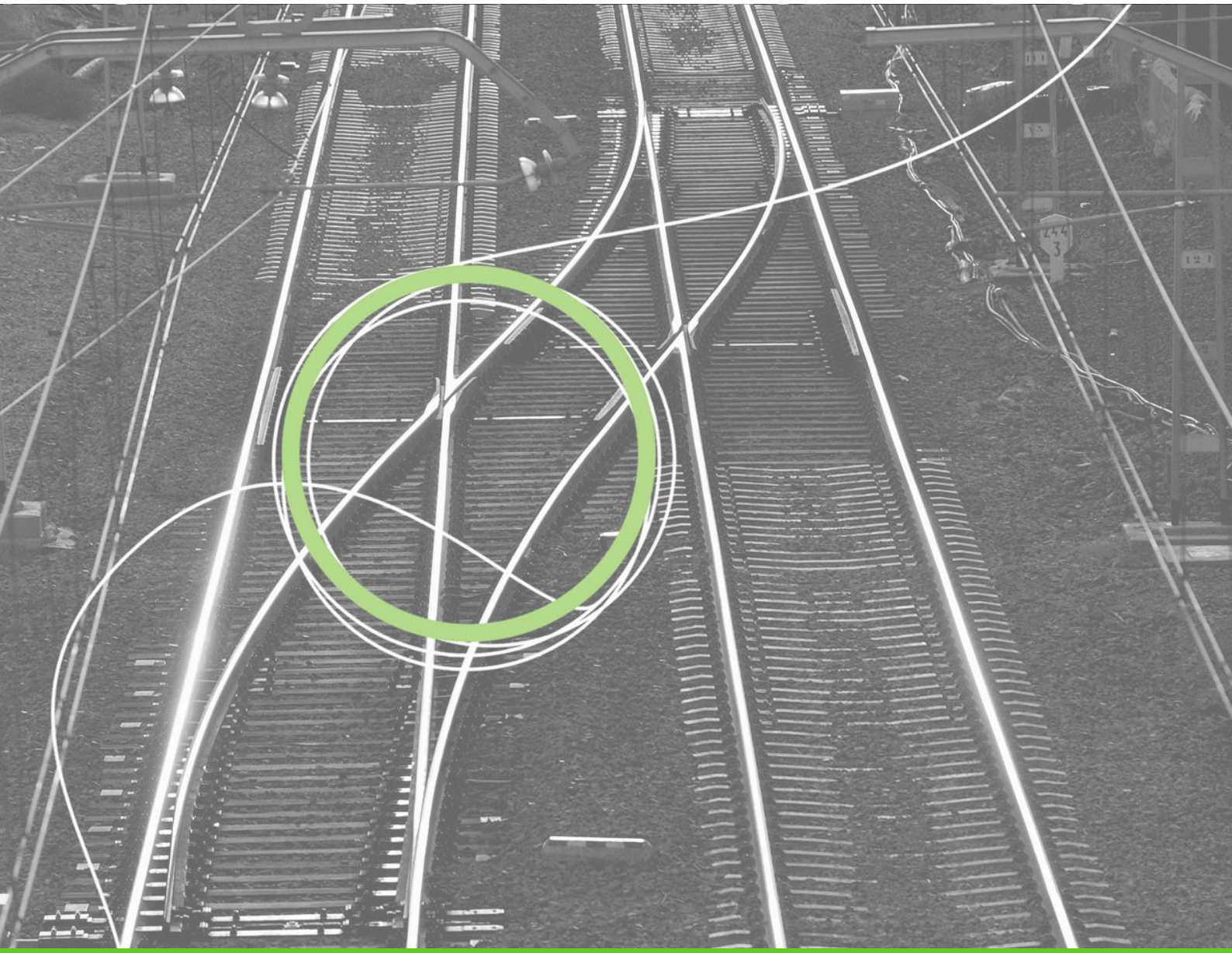

Gunnedah second road over rail bridge
Concept Design Report
Traffic and Transport Impact Assessment

Client //	Kellogg Brown Root Pty Ltd for NSW Roads and Maritime Services
Office //	NSW
Reference //	13S1146100
Date //	27/03/15

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Concept Design Report

Traffic and Transport Impact Assessment

Issue: A 27/03/15

Client: Kellogg Brown Root Pty Ltd for NSW Roads and Maritime Services
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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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1. Introduction

1.1 Context

The town of Gunnedah is located in northern New South Wales (NSW) within the Gunnedah Shire local government area. The town is 80 kilometres west of Tamworth. The Hunter Valley Rail corridor bisects the town of Gunnedah separating the town's commercial centre on the northern side of the railway line from the residential areas located south of the railway line. There are currently four crossings of the rail line for vehicles:

- Abbott Street Bridge (Dr. P.H. Stanley Bridge)
- New Street at-grade crossing
- Marquis Street at-grade crossing
- Carroll Street at-grade crossing.

The bridge and level crossings are used by local motorists, pedestrians and cyclists as well as for regional road freight access. The increased length and frequency of freight trains has led to frequent extended closures of the level crossings for train passage. This causes significant delays to motorists, pedestrians and cyclists accessing the town centre (on the north side of the rail line) from the residential areas (on the south side of the rail line).

The Abbott Street Bridge is the only grade-separated crossing of the rail line in Gunnedah.

The Abbott Street Bridge forms part of the Oxley Highway, a State Highway (Route B56) that links central NSW towns such as Gilgandra, Coonabarabran and Tamworth with the coastal towns of Wauchope and Port Macquarie. The Abbott Street Bridge is the only bridge on the Oxley Highway which is unsuitable for Higher Mass Limit (HML) loadings.

An HML vehicle route is required for Gunnedah.

There is currently no continuous HML route through Gunnedah for vehicles travelling on the Oxley Highway and the Kamilaroi Highway (Route B51). The at-grade New Street rail crossing accommodates the passage of oversize heavy vehicles under individual permit. This currently causes considerable traffic congestion as temporary road closures are often required to facilitate the movement of these loads through the town.

To further manage heavy vehicle movements and oversize vehicle movements, several routes are mapped and sign-posted through Gunnedah. B-Double vehicles are not permitted through the town centre on Conadilly Street between Tempest Street and Abbott Street, however they are permitted to use the Abbott Street Bridge. Gunnedah Shire Council has sign-posted a heavy vehicle route for eastbound Kamilaroi Highway vehicles to use Bloomfield Street, east of Tempest Street and west of Henry Street.

Roads and Maritime and Gunnedah Shire Council are progressing a road reclassification agreement that would provide continuous HML routes through Gunnedah.

Longer and more frequent rail traffic in Gunnedah is anticipated.

Increased mining in the Gunnedah Basin has led to an increase in rail movements through Gunnedah, with up to one 1200-metre long train every 23 minutes. Further increases are expected in the next 10 years as more mining operations are established. The at-grade crossings at New Street and Marquis Street would be closed for train passage more frequently and for

longer periods. The increased train movements place pressure on the local road network and the Abbott Street Bridge, leading to delays for local and through traffic at the at-grade crossings.

Grade-separated pedestrian and bicycle access is required.

Many Gunnedah residents live south of the rail corridor while shops, schools and activities are based in the business district north of the rail line. With the regular closure of the at-grade crossings, pedestrians experience significant delays. This severance is a detriment to the community, and hampers full participation by people, including the elderly and school children, who do not have access to a vehicle. Pedestrian safety is a community concern noted in the December 2012 consultations. New Street and View Street are part of the proposed bicycle plan for Gunnedah, linking the community to the Gunnedah business district and parks along the proposed Namoi River shared path.

A new, grade-separated crossing of the rail line is required to improve local access and through traffic efficiency.

The length and frequency of freight trains is expected to increase, leading to more frequent and extended closures of the level crossings in Gunnedah. There is a need to improve both local and through traffic efficiency, by reducing delays to local and through traffic and improve pedestrian safety. As such, a new grade-separated crossing of the rail line is required and key intersections affected by the proposed bridge may need to be upgraded to ensure safe, efficient movement of vehicles, pedestrians and cyclists through and to Gunnedah.

A second bridge is proposed for Gunnedah, as part of the Bridges for the Bush program.

The proposed bridge is directly referenced as part of the State Government's 'Bridges for the Bush' program[1]. The NSW Government established the 'Bridges for the Bush' initiative in 2012 to improve road freight productivity in regional NSW. A key component of this initiative is replacing or upgrading five high priority HML deficient bridges along State owned roads, including in Gunnedah.

Selection of the Gunnedah Second Road Over Rail Bridge.

Roads and Maritime has carried out development and assessment of options for the Gunnedah second road over rail bridge project.

Community feedback was sought on three preliminary options for the project. These options were described in a community update and the Preliminary Concept Options Report dated May 2013.

Following community and stakeholder feedback, further technical, environmental and social investigations and the outcomes of a Value Management Workshop held in September 2013, the Concept Design was identified.

The Concept Design, shown in Figure 1.1, consists of a bridge over the rail line, west of the Gunnedah Maize Mill to connect the Oxley Highway roundabout (on the south side of the rail line) with the Kamilaroi Highway, Conadilly Street and Warrabungle Street intersection (on the north side of the rail line).

Direct access into Barber Street (on the north side of the rail line) would be maintained via an all turning movements priority intersection, to help manage the economic impact in Barber Street resulting from the proposed New Street level crossing closure to vehicular traffic, pedestrians and cyclists following the opening of the proposed bridge to traffic.

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1 *NSW Long Term Transport Master Plan*, page 242 (Transport for NSW, December 2012).

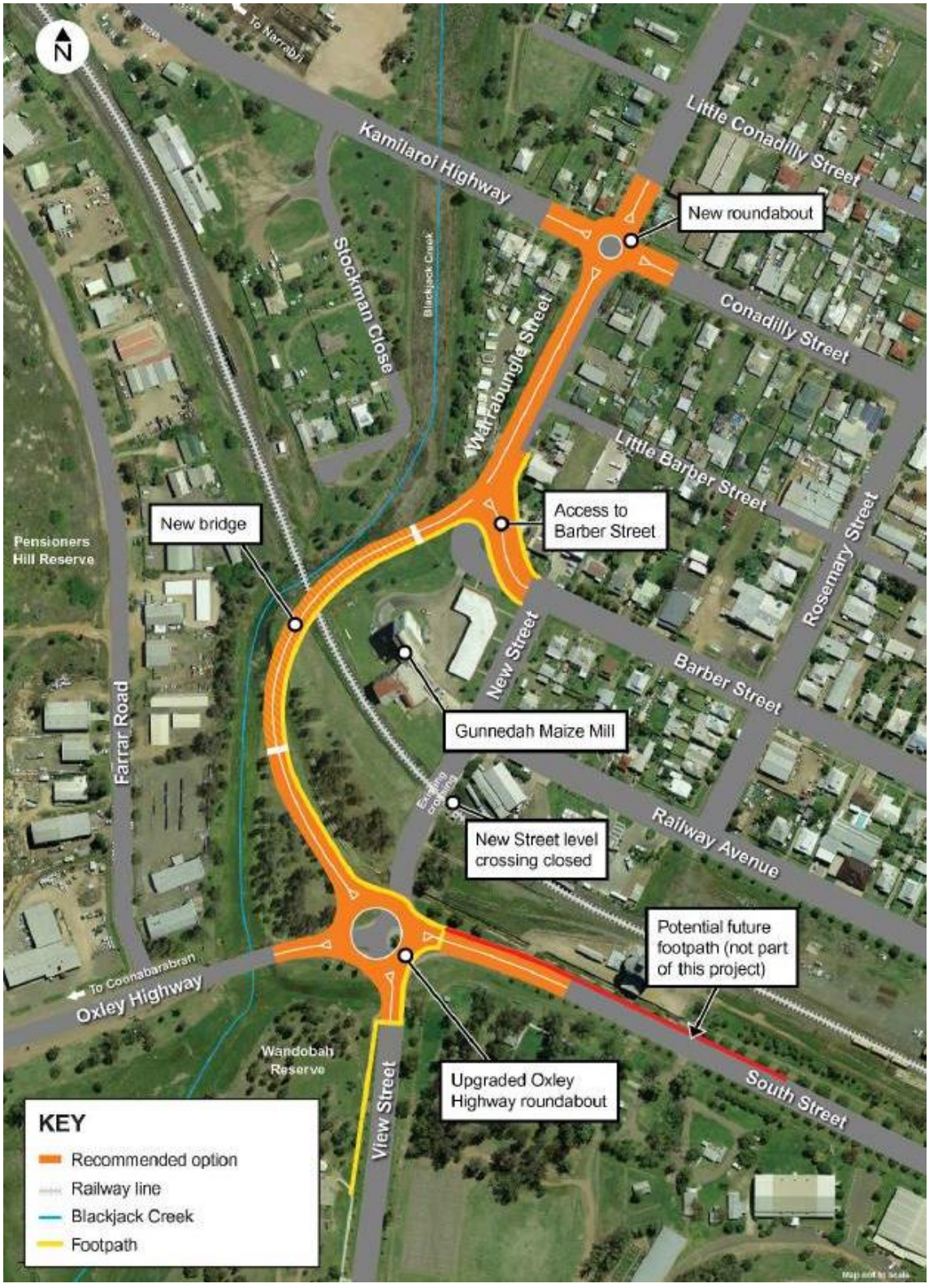


Figure 1.1: Gunnedah second road over rail bridge concept design

Source: Gunnedah second road over rail bridge – Recommended Option Report, Roads and Maritime Services (August 2014)

1.2 Purpose of this report

This transport and traffic assessment forms part of the project's Review of Environmental Factors (REF). This report sets out an assessment of the anticipated transport, traffic and access implications of the Concept Design for the Gunnedah second road over rail bridge.

It discusses the existing transport situation, issues, constraints and needs including traffic and transport demand, access and safety in relation to population growth and development, and assesses the operational impacts on the transport network as a result of the full implementation of the Concept Design. It also outlines a preliminary assessment of potential impacts during the construction of the proposed bridge.

1.3 Report structure

Following this Introduction, the remainder of this report is set out as follows:

- Chapter 2 – Existing transport and traffic conditions
- Chapter 3 – Second road over rail bridge concept design
- Chapter 4 – Impacts during operation
- Chapter 5 – Impacts during construction
- Chapter 6 – Summary and recommendations.

1.4 References

In preparing this report, reference has been made to the following:

- Australian Rail Track Corporation Level Crossing Rules – 'ARTC – Level Crossings' (ANGE 216, Issue 2, Rev. 0, 08 January 2012)
- Gunnedah Development Control Plan 2012
- Gunnedah Community Strategic Plan 2012 – 2022
- Report for Gunnedah Traffic Study – Review of Road Network at Rail Crossings, GHD, October 2012
- Transport Centre for Road Safety, Detailed Crash Report for Gunnedah, 2006-12
- Northern Inland Transport Guide, Regional Development Australia – Northern Inland NSW website, visited 14 February 2013
- Gunnedah second road over rail bridge – Recommended Option Report, Roads and Maritime Services, August 2014
- other documents and data as referenced in this report.

2. Existing transport and traffic conditions

2.1 Gunnedah

The town of Gunnedah is located in northern NSW, 80 kilometres west of Tamworth as shown in Figure 2.1.

Figure 2.1: Gunnedah and Its Environs
Image Source: Google Maps

The Hunter Valley Rail Corridor bisects the town of Gunnedah, separating the town's commercial centre on the northern side of the railway line from the residential areas located south of the railway line as shown in Figure 2.4.

2.2 Road network

Oxley Highway (Conadilly Street, Abbott Street, South Street, Mullaley Road)

The Oxley Highway is one of the key east-west rural highways in northern NSW, and connects the central NSW towns of Gilgandra, Coonabarabran, Gunnedah and Tamworth with the coastal centres of Wauchope and Port Macquarie. The Oxley Highway is a classified State Highway (Route B56) which travels through the centre of Gunnedah via Conadilly Street (east of Abbott Street), Abbott Street, South Street and Mullaley Road. Conadilly Street functions as the main

retail street for the town of Gunnedah. The Oxley Highway is shown in Figure 2.2 and Figure 2.3 and carries about 6500 vehicles per day[2].

There are roundabouts at the New Street and Marquis Street intersections with the Oxley Highway. All other cross intersections are "Give Way" controlled in favour of the Kamilaroi Highway route, except for Conadilly Street and Anzac Parade.

Figure 2.2: Oxley Highway (Conadilly Street, looking north-west)

Figure 2.3: Oxley Highway (Abbott Street, looking south)

Image Source: Google Maps

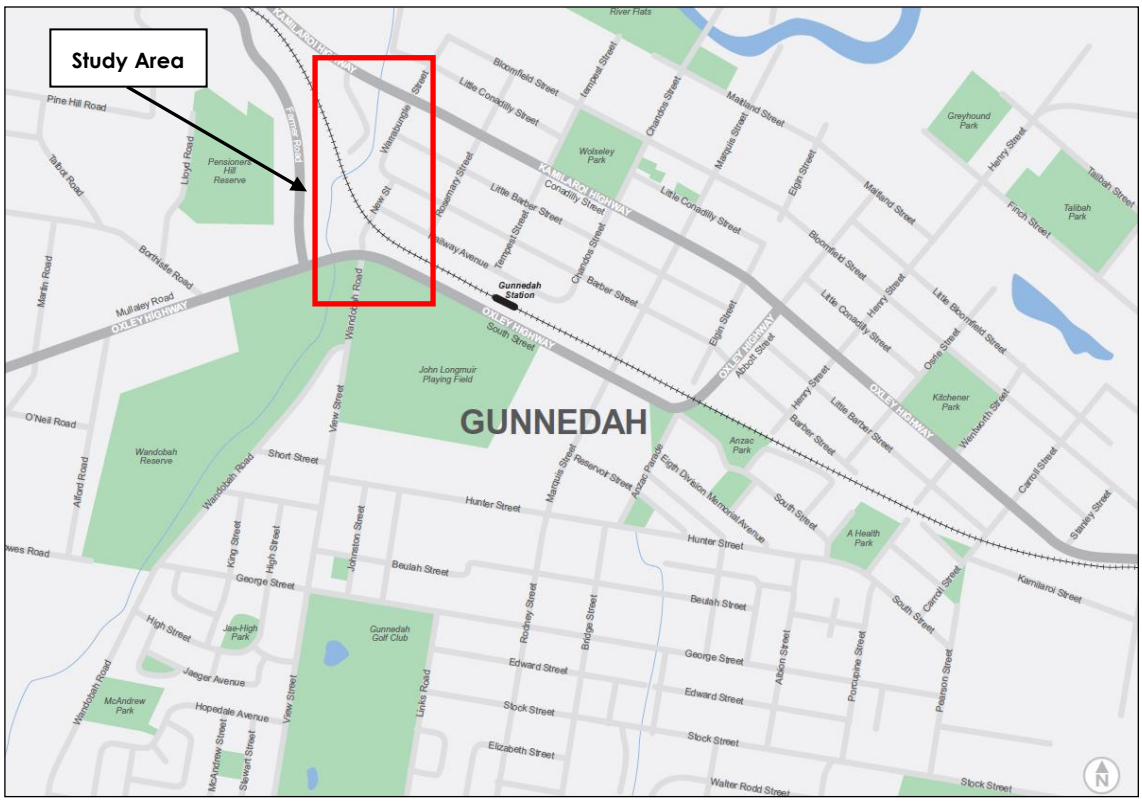


Figure 2.4: Gunnedah Town Map

Source: KBR Pty Ltd

2 Based on 7-day traffic counts undertaken by Gunnedah Shire Council data at Abbott Street Bridge, October 2010.

Kamilaroi Highway (Conadilly Street, Boggabri Road)

The Kamilaroi Highway is a classified State Highway (Route B51) and is a key rural highway in northern and western NSW which connects the New England Highway at Willow Tree (south-east of Gunnedah) with the rural towns of Gunnedah, Boggabri, Narrabri, Wee Waa, Walgett and Bourke. The Kamilaroi Highway is located in the centre of Gunnedah via Conadilly Street and Boggabri Road. It partly shares this route with the Oxley Highway.

The Kamilaroi Highway is shown in Figure 2.5 and Figure 2.6 and carries about 7000 vehicles per day[3]. Its intersection at Marquis Street is signal controlled. There are roundabouts at the Chandos Street and Elgin Street intersections. All other intersections are "Give Way" controlled in favour of the Kamilaroi Highway, including Abbott Street.

Conadilly Street forms the "main street" and features several pedestrian crossings and angle car parking. Between the two roundabouts there is a 40 kilometre per hour High Pedestrian Activity Area (HPAA).

Figure 2.5: Kamilaroi Highway (Conadilly Street, looking south-east)

Image Source: Google Maps

Figure 2.6: Kamilaroi Highway (Boggabri Road, looking south-east)

Barber Street

Barber Street is a local street located in the centre of Gunnedah aligned in a north-west/south-east direction. Barber Street features a 20-metre wide carriageway within an approximately 30-metre wide road reserve, with unrestricted kerbside parking permitted on both sides. Barber Street is shown in Figure 2.7.

The intersection with Marquis Street is roundabout controlled, and all other cross intersections are "Give Way" controlled in favour of Barber Street, except for Abbott Street.

Warrabungle Street

Warrabungle Street is a local street located in the centre of Gunnedah and is aligned in a north-east / south-west direction. Warrabungle Street features a 20-metre wide carriageway within an approximately 30-metre wide road reserve, with unrestricted kerbside parking permitted on both sides. Warrabungle Street is shown in Figure 2.8 and forms part of the heavy vehicle by-pass route through Gunnedah.

Its cross-intersection with the Kamilaroi Highway is "Give Way" controlled in favour of the highway, using signs and line-marking.

3 Based on 7 day traffic counts undertaken by Gunnedah Shire Council data on Conadilly Street (west of Abbott Street), October 2010.

Figure 2.7: Barber Street (looking north-west)

Image Source: Google Maps

Figure 2.8: Warrabungle Street (looking south-east)

New Street

New Street is a local street located west of the centre of Gunnedah and is aligned in a north-south direction. New Street is shown in Figure 2.9, and features one of the existing at-grade railway crossings in the town of Gunnedah.

View Street

View Street is a local street located south-west of the centre of Gunnedah and is aligned in a north-south direction. View Street is shown in Figure 2.10.

Figure 2.9: New Street (looking north)

Image Source: Google Maps

Figure 2.10: View Street (looking north)

2.3 Rail crossings

There are currently four rail crossings in Gunnedah:

- Abbott Street Bridge (Dr. P.H. Stanley Bridge)
- New Street at-grade crossing
- Marquis Street at-grade crossing
- Carroll Street at-grade crossing.

The locations of the four rail crossings are shown in Figure 2.11.

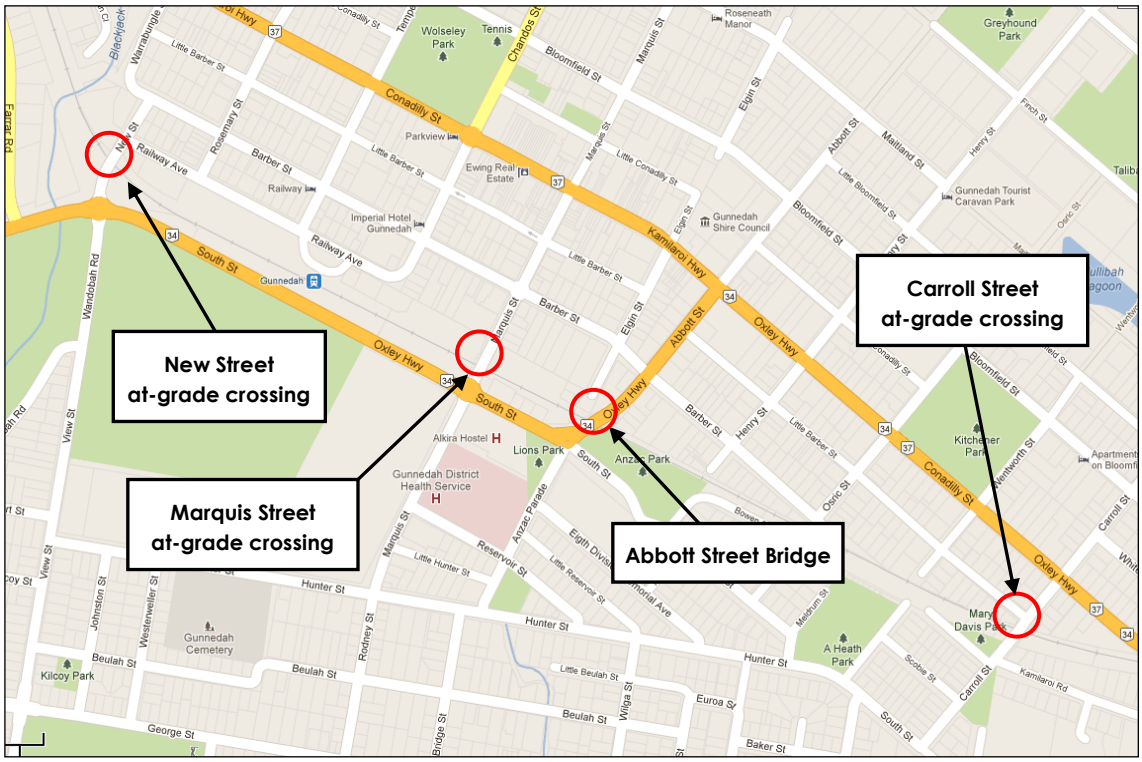


Figure 2.11: Existing Gunnedah Rail Crossings

Background Image Source: Google Maps

Abbott Street Bridge (Dr. P.H. Stanley Bridge)

The Abbott Street Bridge is the only grade-separated rail crossing in Gunnedah and is the only HML deficient bridge on the Oxley Highway. A pedestrian path is located on both sides of the bridge, connecting to a footpath on the west side of Anzac Parade (to the south) and to both sides of Abbott Street (to the north).

The Abbott Street Bridge carries about 6500 vehicles per day[4] and is shown in Figure 2.12 and Figure 2.13.

Figure 2.12: Abbott Street Bridge (looking south-west)

Image Source: KBR Pty Ltd / Google Maps

Figure 2.13: Abbott Street Bridge (looking north-east)

4 Based on 7 day traffic counts undertaken by Gunnedah Shire Council data at Abbott Street Bridge, October 2010.

New Street At-Grade Crossing

The New Street at-grade rail crossing is located west of the town centre of Gunnedah and is shown in Figure 2.14 and Figure 2.15. Pedestrian facilities to cross the rail line are provided on the eastern side of New Street.

Figure 2.14: New Street (looking south)

Image Source: Google Maps / KBR Pty Ltd

Figure 2.15: New Street at-grade crossing (looking north)

Marquis Street At-Grade Crossing

The Marquis Street at-grade rail crossing is located south of Gunnedah town centre and is shown in Figure 2.16 and Figure 2.17. Pedestrian paths are provided on both sides of Marquis Street on approach to the crossing. Pedestrian facilities to cross the rail line are provided on both sides of Marquis Street.

Figure 2.16: Marquis Street (looking north)

Image Source: Google Maps

Figure 2.17: Marquis Street (looking south)

Carroll Street At-Grade Crossing

The Carroll Street at-grade rail crossing is located east of Gunnedah town centre and is shown in Figure 2.18 and Figure 2.19. Pedestrian facilities to cross the rail line are provided on the western side of Carroll Street.

Figure 2.18: Carroll Street (looking north)
Image Source: Google Maps

Figure 2.19: Carroll Street (looking south)

2.4 Traffic volumes

GTA Consultants has sourced 7-day traffic volume data from Gunnedah Shire Council which was recorded at various locations in September and October 2010. Subsequent traffic and pedestrian counts were conducted in March 2013. Figure 2.20 summarises the 7-day average traffic volumes (vehicles) at these locations. Figure 2.21 and Figure 2.22 outline the two hour peak period traffic and pedestrian volumes, with full results of the traffic data from Gunnedah Shire Council provided in Appendix A. It is noted that in total 18,500 vehicles cross the railway at the four crossing locations in a typical day:

- About 5000 vehicles per day each at New Street and Marquis Street
- About 6500 vehicles per day at the Abbott Street Bridge
- About 2000 vehicles per day at Carroll Street.

Grade-separated: Abbott Street

The Abbott Street Bridge is the busiest vehicle crossing of the rail line, with 1139 in the morning peak two hours (732 in the morning peak hour, or 224 more than the Marquis Street at-grade crossing and 217 more than the New Street at-grade crossing). It is also the second busiest pedestrian crossing, with 37 pedestrians in the morning peak two hours (28 east side, 9 west side).

At-grade: Marquis Street

Marquis Street, although just 200 metres from the grade-separated Abbot Street Bridge, still caters for a high volume of local traffic and pedestrian trips. This fits with the existing land use patterns, with significant local traffic / pedestrian generators (schools, TAFE, local employment) located in the town centre on the north side of the rail line.

Marquis Street is the second busiest at-grade crossing, with 712 vehicles in the morning peak two hours and it is also the busiest pedestrian crossing, with 40 pedestrians in the morning peak two hours (22 east side, 18 west side). The crossing has slightly lower afternoon peak traffic demand compared with New Street, with 1064 vehicles in the two hours.

At-grade: New Street

The New Street crossing carries807 and 1201 vehicles in the morning and afternoon peak two hours respectively. The demand at the crossing is slightly higher in both peak two hour periods compared to Marquis Street (95 and 137 vehicles more in the morning and afternoon respectively).

Pedestrians used the western side of View Street / New Street rather than the eastern side. The observed pedestrian volume appeared to be lower than pedestrian demand at peak demand (e.g. Saturday sport and recreational trips). This was evident by the "goat tracks" on both sides of View Street which may indicate pedestrian demand outside of typical peak periods when the counts were conducted.

East-west routes through Gunnedah town centre area

The general characteristics of the traffic volumes along the east-west routes through Gunnedah town centre area are as follows:

- Barber Street is the busiest east-west route, with 675 vehicles in the morning peak two hours, 985 in the afternoon peak two hours.
- South Street, the Oxley Highway, is the second busiest east-west route carrying 508 and 538 vehicles in the morning and afternoon peak two hours, respectively.
- Conadilly Street, the Kamilaroi Hwy, carries 405 vehicles in the morning peak and 559 vehicles in the afternoon peak two hours.
- Bloomfield Street, the heavy vehicle by-pass route through Gunnedah, carries relatively low volumes at 182 and 215 vehicles in the morning and afternoon peak two hours, respectively.

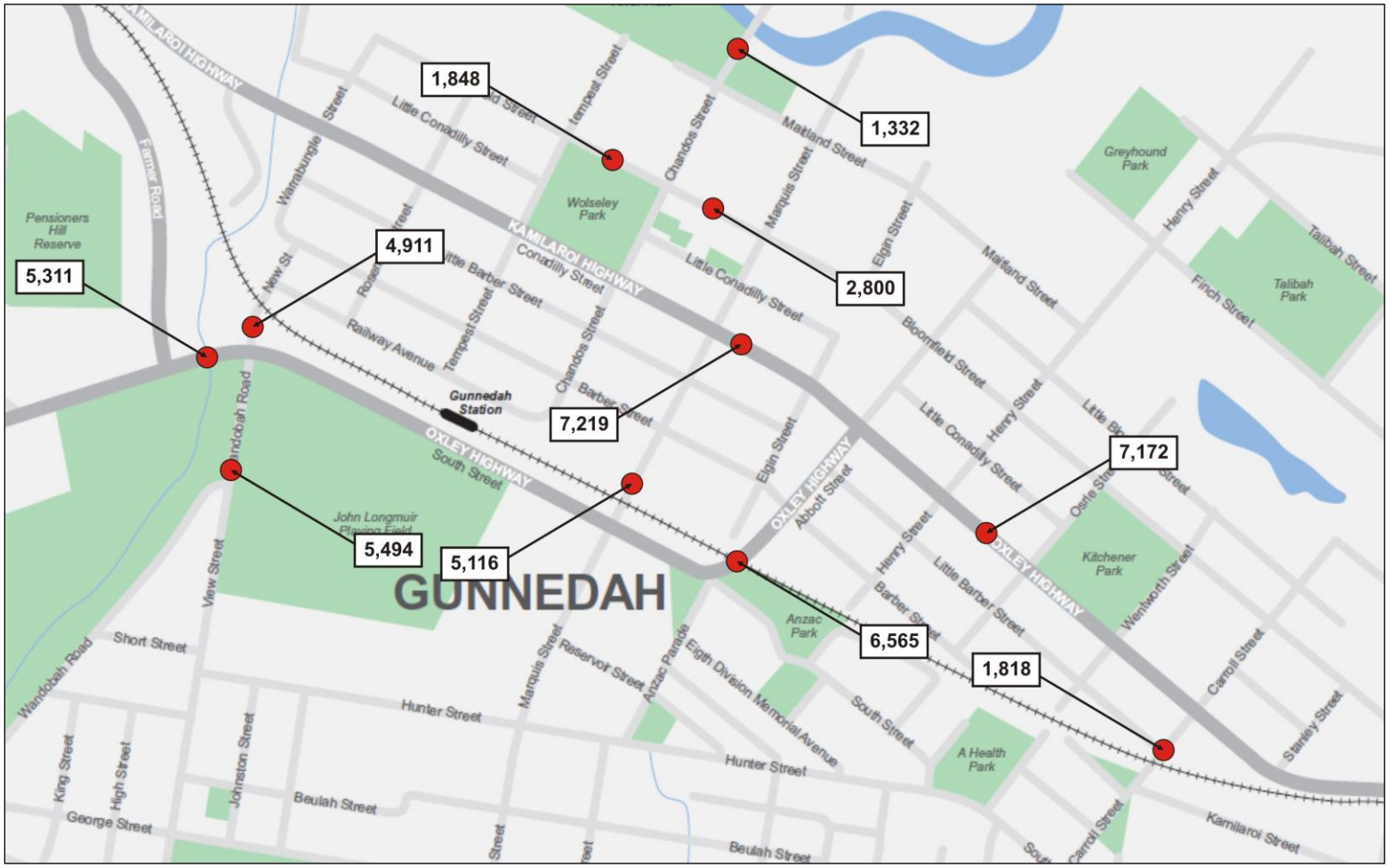


Figure 2.20: 7-day Average Daily Traffic Volumes (vehicles per day), September-October 2010

Source: KBR Pty Ltd

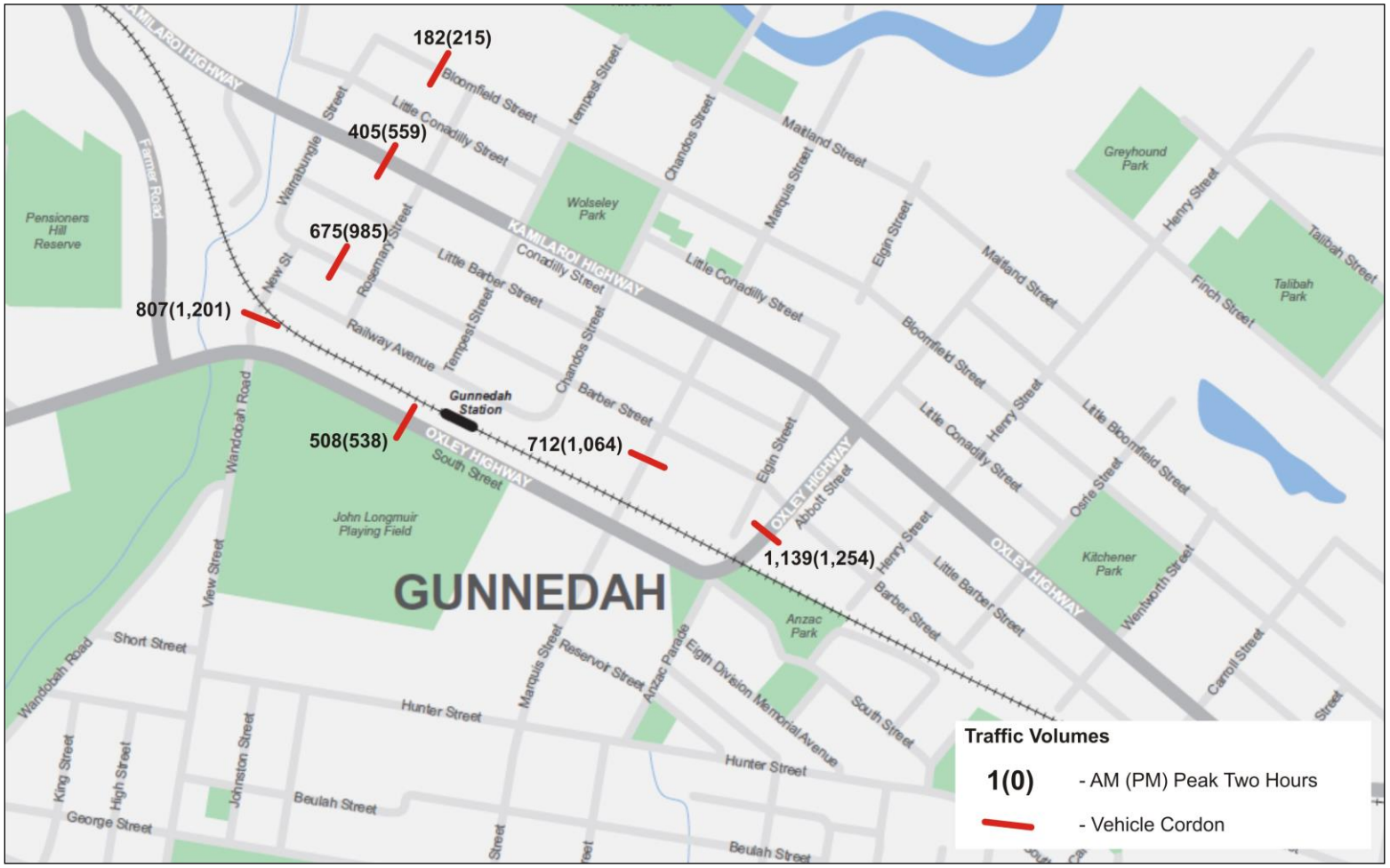


Figure 2.21: Morning and afternoon peak period traffic volumes, March 2013

Source: Surveys, conducted 19-26 March 2013

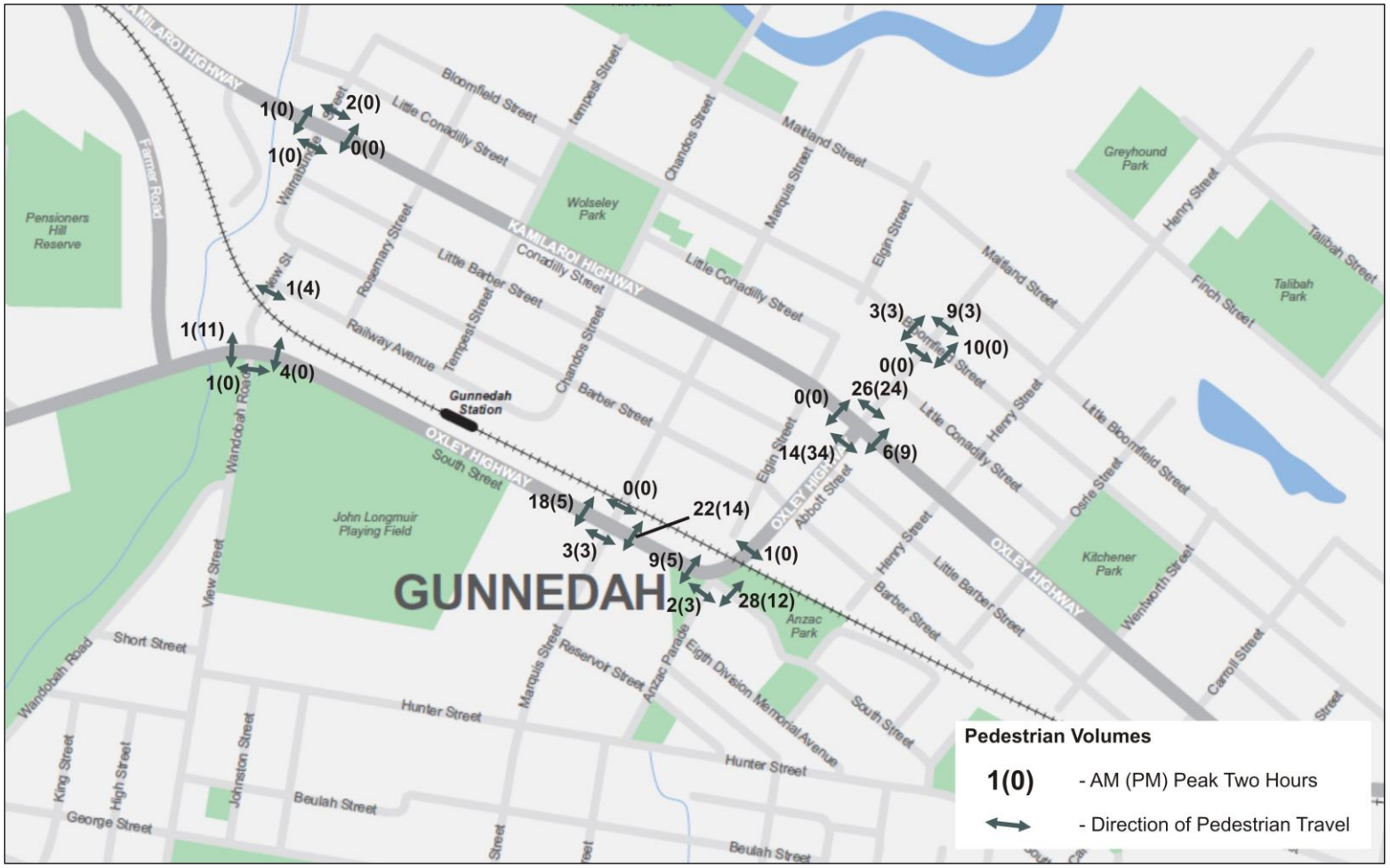


Figure 2.22: Morning and afternoon peak period pedestrian volumes, March 2013

Source: Surveys, conducted 19-26 March 2013

2.5 Traffic conditions

Traffic conditions within Gunnedah are generally free-flowing, however significant delays are experienced at the at-grade rail crossings due to increasing train movements. The New Street and Marquis Street at-grade crossings are located about 800 metres apart and as such a single coal train which can be up to 1200 metres long can simultaneously block both crossings.

GHD Traffic Study, October 2012

GHD was commissioned by Gunnedah Shire Council to undertake a study of the impact of possible changes to railway crossings in Gunnedah on traffic operations within the town. The operation of the following intersections was assessed as part of the study:

- New Street / South Street (Oxley Highway) / View Street
- Abbott Street / Conadilly Street
- Abbott Street / Barber Street.

The '*Report for Gunnedah Traffic Study – Review of Road Network at Rail Crossings*' (GHD, October 2012) found that under 2011 traffic volumes the Abbott Street / Conadilly Street and Abbott Street / Barber Street intersections operated at Level of Service (LoS)[5] D or better on all approaches during the AM and PM peak hours. The New Street/ South Street (Oxley Highway) / View Street intersection operated at a LoS A on all approaches during the PM peak hour with 2011 traffic volumes.

It was reported that drivers approaching the Marquis Street at-grade crossing north of Barber Street are able to check for flashing lights warning of an approaching train and adjust their journey to cross at the Abbott Street Bridge. Drivers that arrive at the New Street at-grade crossing as a train arrives have the choice of waiting 3 to 4 minutes for the train to pass or travel for a similar period of time to cross at the Abbott Street Bridge.

2.6 Higher Mass Limit Vehicles

Higher Mass Limit (HML) vehicles have an allowance to carry heavier loads than standard vehicles of the same type as shown in Table 2.1.

Table 2.1: Higher Mass Limit (HML)

Vehicle Configuration	Standard (Gross) Mass Limit	Higher Mass Limit (HML)
19m (6 axle) Semi-Trailer	42.5 tonnes	45.5 tonnes
25m/26m Semi-Trailer	62.5 tonnes	68 tonnes
Double Road Train	79 tonnes	85 tonnes

Source: Higher Mass Limit Fact Sheet (RTA/Pub 10.196), Roads and Maritime, June 2010

As such, HML routes provide a significant increase in the productivity of road freight transport vehicles. There are currently no continuous HML routes through Gunnedah as a result of restricted access over Abbott Street Bridge (Oxley Highway) and for HML B-Double vehicles or larger, through Conadilly Street (Kamilaroi Highway) between Tempest Street and Henry Street.

Roads and Maritime and Gunnedah Shire Council are progressing a road reclassification agreement that would provide continuous HML routes through Gunnedah.

The permitted HML routes within Gunnedah have been sourced from the Roads and Maritime Intelligent Access Program (IAP) HML Network Maps and are shown in Figure 2.23 and Figure 2.24.

[5] Table 4.1 provides the performance measures.

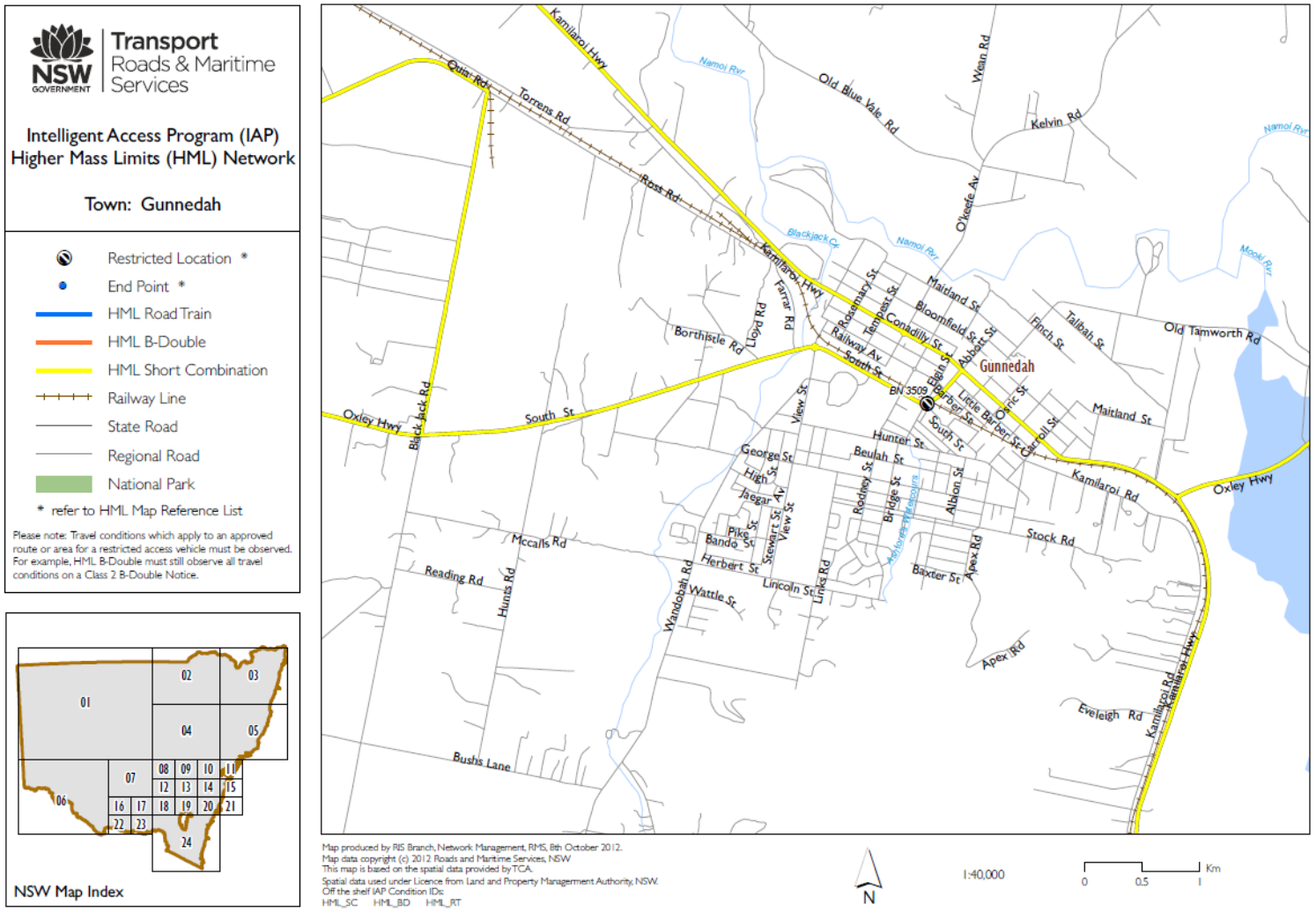


Figure 2.23: HML Short Combination Routes

Source: Roads and Maritime HML maps website

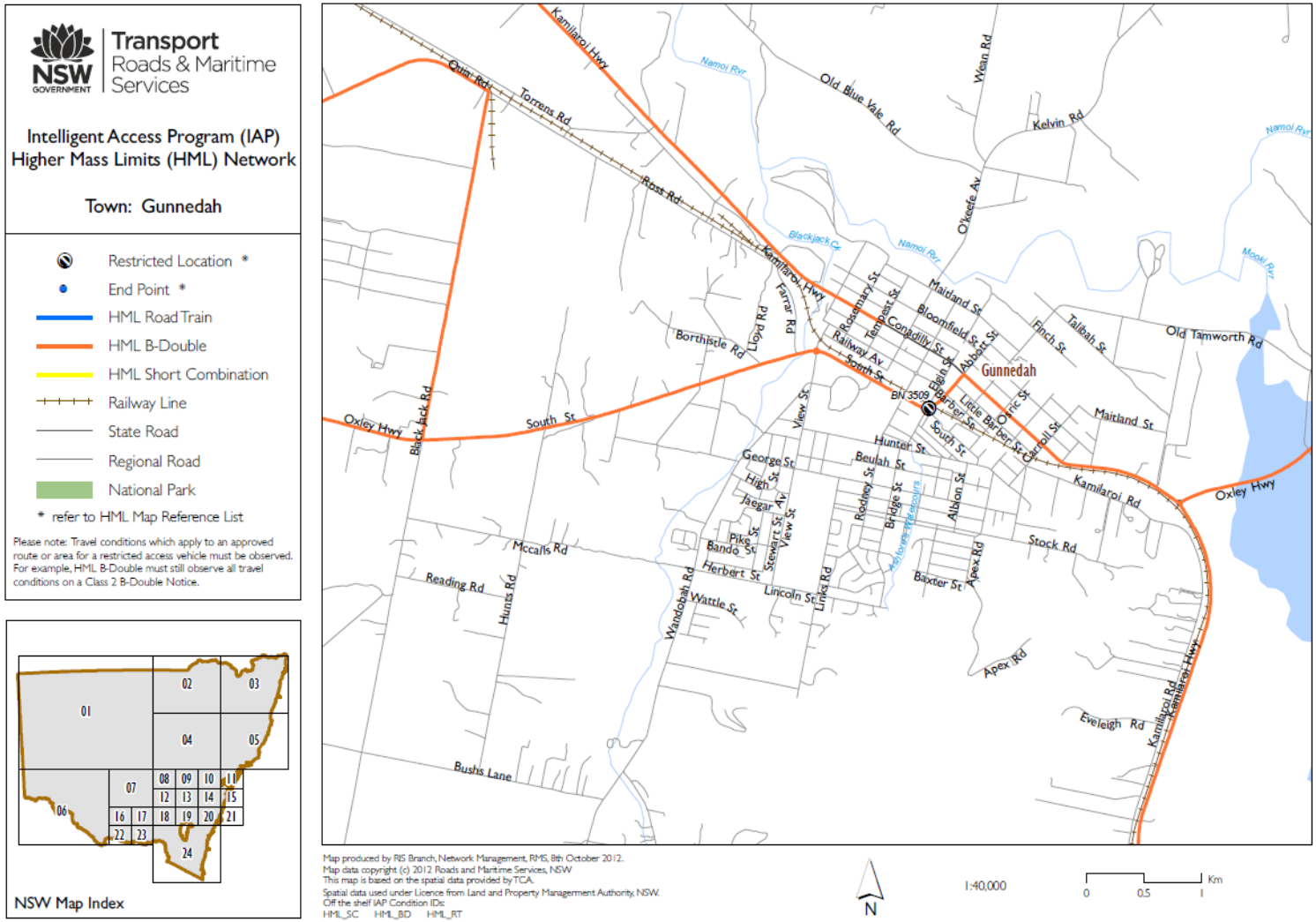


Figure 2.24: HML B-Double Routes

Source: Roads and Maritime Services website HML maps (www.rta.nsw.gov.au/heavyvehicles/downloads/iap_map_download_hml.html)

2.7 Crash data

GTA Consultants obtained vehicle crash data from Roads and Maritime for the urban area of Gunnedah (i.e. those areas subject to a 50 kilometre per hour speed limit) for the five year period to June 2012, noting that the 50 kilometre per hour applies effectively to the whole of the Gunnedah urban area. It is assumed the 40 kilometre per hour High Pedestrian Activity Area (HPAA) is included in this data.

A total of 110 crashes were reported for the five year period examined, 56 of which were injury crashes resulting in injuries to 69 people. There were no fatality crashes within the urban area of Gunnedah during the five year period examined.

The locations of the crashes are shown graphically in Figure 2.25 with full details provided in Appendix B.

Analysis of the crash data revealed:

- 34 per cent of crashes occurred at intersections
- 5 per cent of crashes involved heavy vehicles, (i.e. trucks)
- 14 per cent of crashes were rear-end type accidents
- 27 per cent of crashes occurred on Conadilly Street (Kamilaroi Highway and Oxley Highway).

Crashes at key locations were examined further, including:

- Oxley Highway / Conadilly Street corridor
- Barber Street corridor
- View Street and Oxley Highway intersection.

The crash patterns along the Conadilly and Barber Street corridor are consistent with the activity of a town centre with crashes involving pedestrians, cyclists, vehicles conducting parking movements and rear end crashes.

The crashes on View Street and Oxley Highway are clustered at the roundabout and were reviewed in more detail in an Existing Conditions Road Safety Audit undertaken in 2013. Visibility of the splitter islands on the approaches to the roundabout and signage alerting drivers of the intersection treatment ahead were the key deficiency / non-conformances identified in the Audit that may have played a part in the crashes.

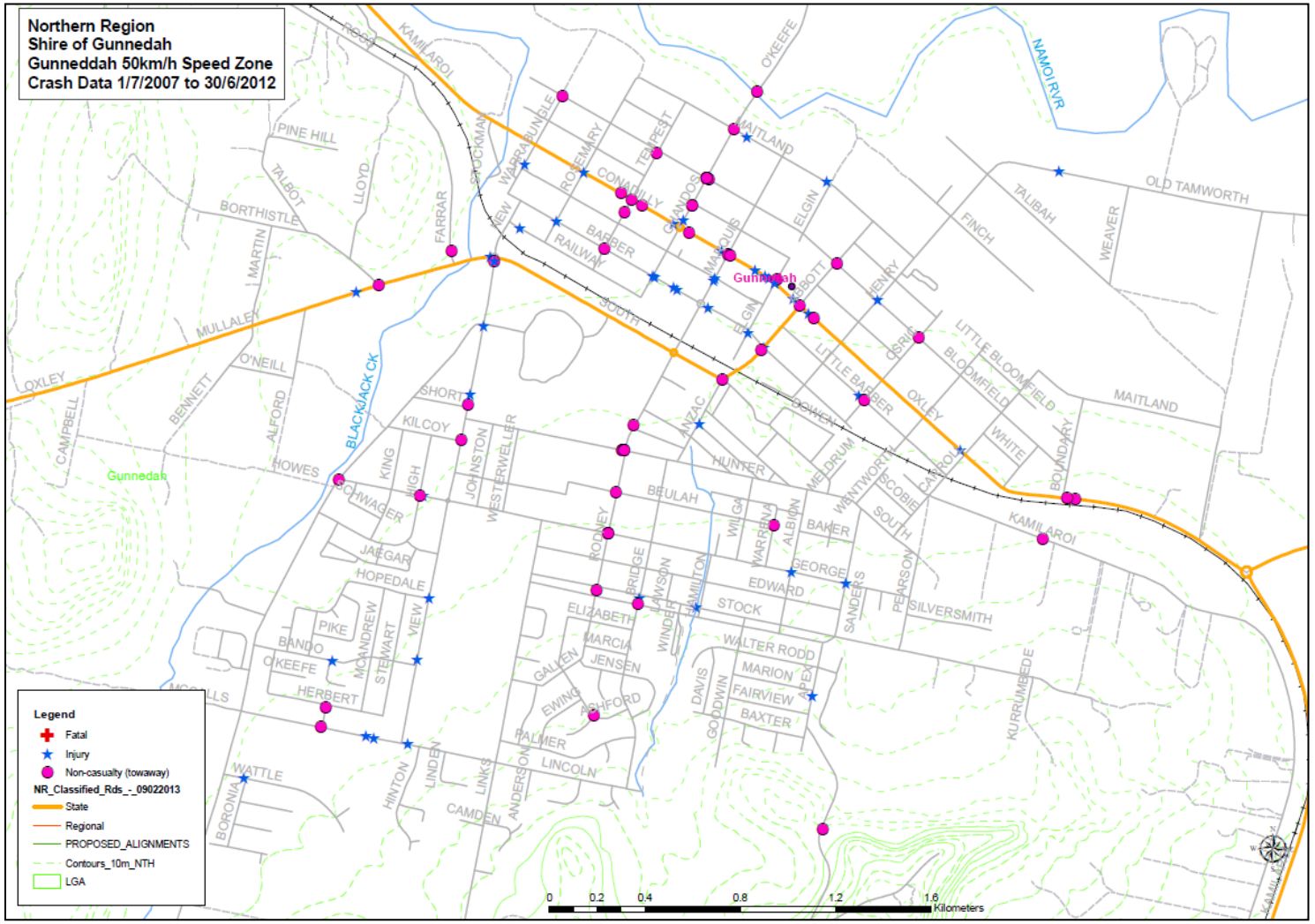


Figure 2.25: Reported Crashes 1 July 2007 to 30 June 2012

Source: Roads and Maritime Services

2.8 Public transport

2.8.1 Rail services

Gunnedah is located on the Central to Moree Rail line of the North Western region of the NSW TrainLink (formerly CountryLink) rail network, as shown in Figure 2.26. Gunnedah is served by two passenger train services per day - one to Moree and one to Central Station in Sydney.

Gunnedah railway station is located on Railway Street, south of Gunnedah town centre, as shown in Figure 2.4.

Figure 2.26: NSW TrainLink North Western Network Map

Image Source: NSW TrainLink website (http://www.nswtrainlink.info/destinations/network)

2.8.2 Bus services

Gunnedah is served by two public bus routes, as shown in Figure 2.27:

- 451 – South and West Gunnedah
- 452 – South and East Gunnedah.

Both of these routes have a frequency of three AM services and three PM services on weekdays, with no services on weekends. Both of these bus services are operated by Hopes Coaches.

Figure 2.27: Gunnedah Bus Network

Image Source: Regional Development Australia website (*www.rdani.org.au/*)

2.8.3 Coach services

Gunnedah is served by a daily weekday coach service operated by Wolters Bus & Coach to Narrabri, Baan Baa and Boggabri (Route 457E).

2.9 Pedestrian infrastructure

There is a formal pedestrian network within the centre of Gunnedah, with paved footpaths provided on both sides of Conadilly Street between Wentworth Street and Rosemary Street; and along Marquis Street from the CBD to the hospital, high school and TAFE. In the residential areas beyond the town centre, pedestrian paths are generally provided along one side of the road. Gravel footways are provided where there is pedestrian demand, including New Street and View Street near the at-grade crossing.

There is evidence of 'goat tracks' within Gunnedah where no footpaths are provided and over time, pedestrian demand has worn in tracks in key desire lines along Gunnedah roads, including Warrabungle Street and Barber Street.

Road Crossings

Safe crossing points of the road network include the following:

- All legs of the Conadilly Street/ Marquis Street intersection (signalised)
- Conadilly Street (between Chandos and Marquis Street, zebra crossing and kerb extensions)
- Conadilly Street (between Marquis Street and Elgin Street, zebra crossing and kerb extensions)
- Conadilly Street (west of Henry Street, zebra crossing)
- Elgin Street (north of Conadilly Street, zebra crossing and kerb extensions)
- Elgin Street (south of South Street, zebra crossing)
- Abbott Street (north of Conadilly, zebra crossing and kerb extensions)
- View Street (at Wandobah Reserve skate park, pedestrian refuge).

There has been investment made in the footpath network, with new footpaths and a pedestrian refuge recently completed on the south side of the rail line along both sides of View Street, linking the residential neighbourhoods with the new skate park at Wandobah Reserve.

Rail Crossings

There are currently pedestrian crossings across the railway line in Gunnedah:

- Abbott Street Bridge (Dr. P.H. Stanley Bridge), paved footpaths on both sides
- New Street at-grade crossing, gravel footway and pedestrian chicane on the east side (no boom gate)
- Marquis Street at-grade crossing, paved footpaths and pedestrian chicane on both sides (no boom gate) and pedestrian fencing along Marquis Street from the roundabout at the Oxley Highway
- Carroll Street at-grade crossing, gravel footways and pedestrian chicane on the west side (no boom gate).

The locations of the four rail crossings are shown in Figure 2.11.

None of these locations include boom gates or any physical means of restricting pedestrian movement into the vicinity of the railway line when a train is passing the crossing.

2.10 Cycle infrastructure

The vision of the Gunnedah Shared Cycleway network is outlined in the Gunnedah Strategic Plan, which states the objectives of the shared cycleway network are:

- to create a continuous and linked cycle route throughout the town

- provide connectivity and accessibility to active recreational facilities, open space areas and focal points or locations of interest
- promote an increase in walking and cycling as leisure activities and foster social interaction
- improve health and personal well-being of residents, particularly those deemed to be at risk
- improve road safety and access for both cyclists and pedestrians
- provide a healthy, sustainable and accessible transport choice for residents who may experience isolation due to lack of access to a car
- provide a long distance cycle route for tourists and sports persons.

As shown in Figure 2.28, Marquis Street is an existing bicycle route linking the residential neighbourhoods, TAFE and hospital precinct to the business district north of the rail line.

The proposed View Street / New Street corridor is a key link to the proposed recreational bicycle trail along the Namoi River.

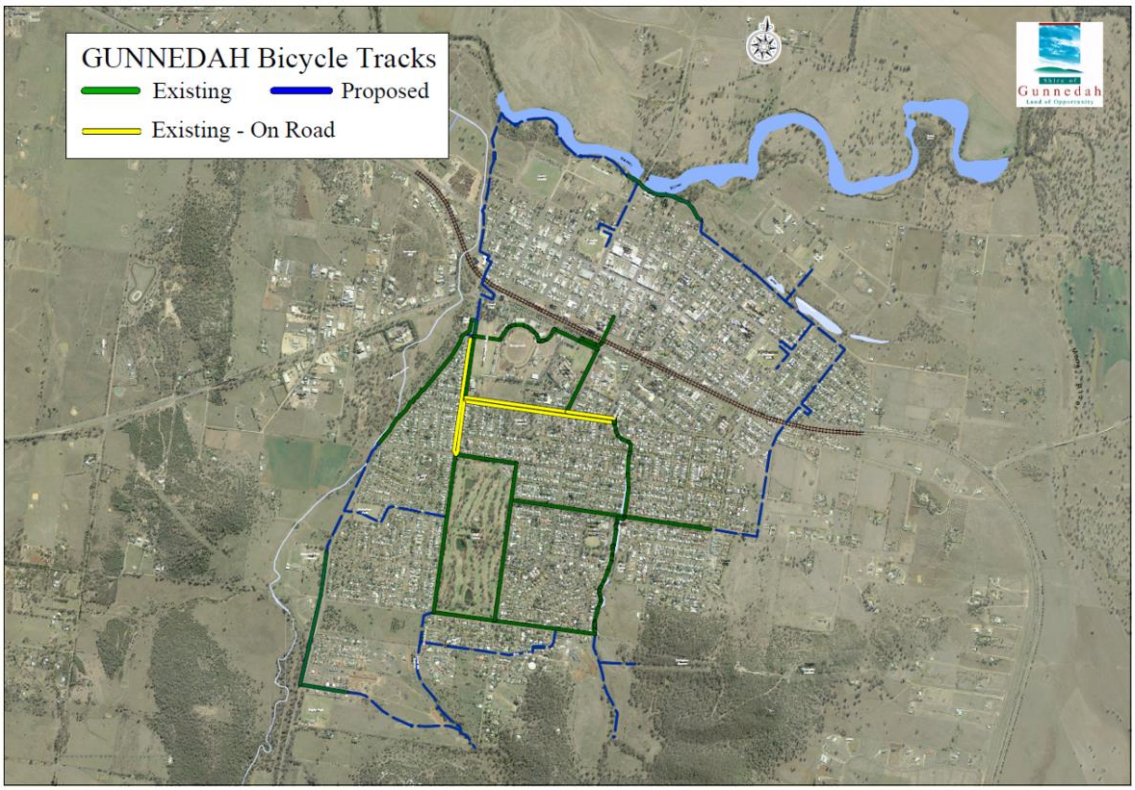


Figure 2.28: Existing on-road, off-road and proposed bicycle facilities in Gunnedah
Source: Gunnedah Shire Council

3. Concept design

3.1 Second road over rail bridge

The concept layout of the Gunnedah second road over rail bridge is shown in Figure 3.1, with the relevant design set provided in Appendix C. The key design features are discussed in the succeeding sections.

Figure 3.1: Gunnedah second road over rail bridge
Source: KBR Pty Ltd

3.2 Bridge alignment

The proposed bridge over the rail line is aligned to the west of the Gunnedah Maize Mill and connects an upgraded Oxley Highway roundabout (on the south side of the rail line) with a proposed roundabout at the Kamilaroi Highway, Conadilly Street and Warrabungle Street intersection (on the north side of the rail line).

The alignment provides improved connectivity for through traffic between the Oxley Highway and the Kamilaroi Highway on the west side of the town centre of Gunnedah.

3.3 Bridge cross section

The cross section for the proposed bridge, shown in Figure 3.2, provides for two 4.0-metre travel with 1.5-metre shoulders on either side. A 2.5-metre wide shared path is also provided on the east side of the structure separated from the travel lanes by a concrete barrier with steel railing.

In order to provide a 4.0-metre wide right turn lane to Barber Street (on the north side of the rail line) a chevron median up to 4.0-metres wide is provided between the northbound and southbound lanes, widening the overall structure width towards the north end.

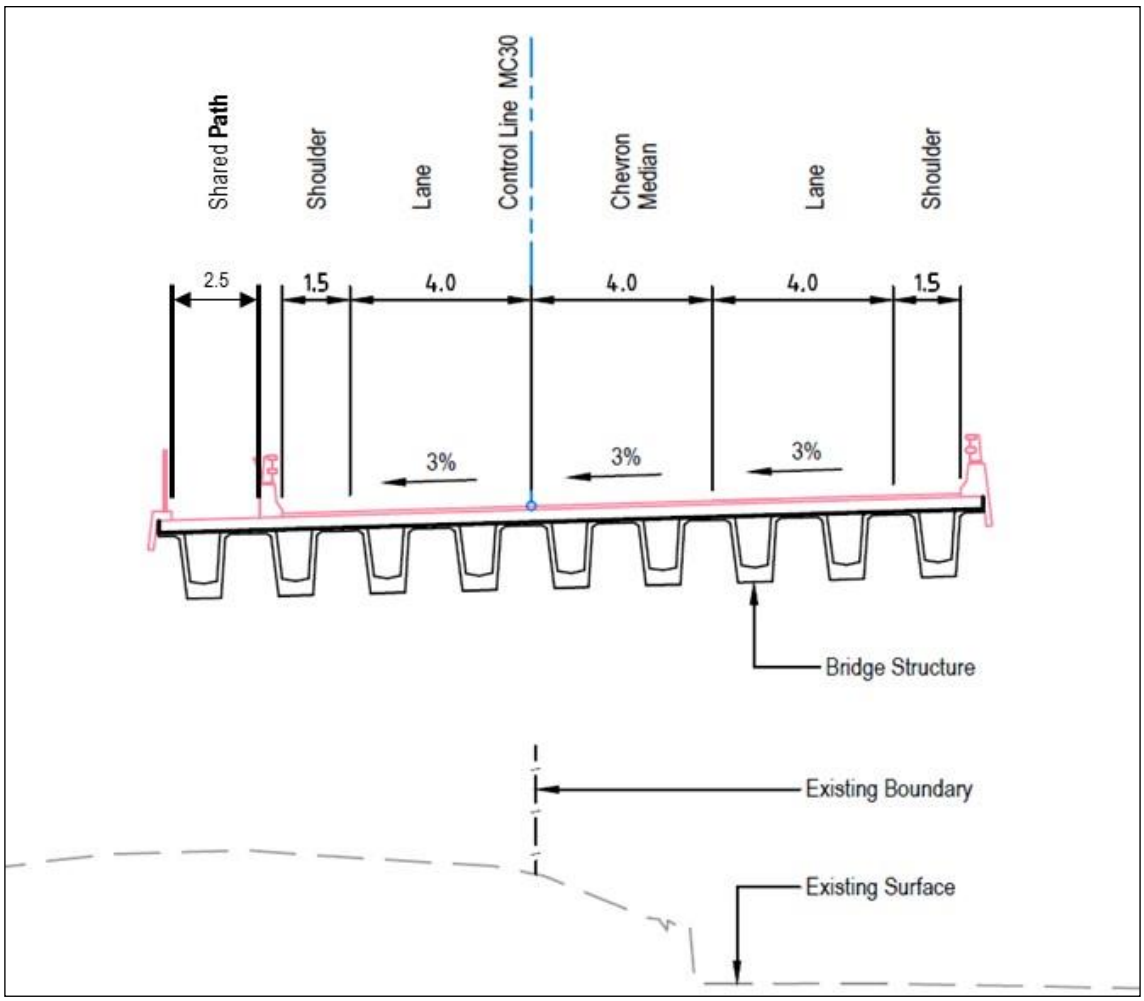


Figure 3.2: Typical Cross Section on Bridge

Source: KBR Pty Ltd

3.4 Pedestrian and bicycle facilities

The proposed bridge provides a 2.5-metre wide shared path on the east side of the structure to accommodate pedestrians and cyclist crossing over the rail line. A safety screen is provided on either side of the structure over the railway line. The 1.5-metre wide road shoulders could be used by more experienced cyclists.

3.5 Speed limit

Similar to the existing road network surrounding the proposed bridge, a speed limit of 50 kilometres per hour is proposed to be provided on the bridge.

3.6 Other features

3.6.1 Upgrade of Oxley Highway Roundabout

The proposed bridge alignment would result in the closure of the New Street level crossing and the realignment and upgrade of the four-leg roundabout at the intersection of Oxley Highway and View Street, incorporating the south approach of the proposed bridge. The proposed layout is shown in Figure 3.3.

Figure 3.3: Oxley Highway Roundabout
Source: KBR Pty Ltd

3.6.2 Realigned Barber Street access

Direct access into Barber Street (on the north side of the rail line) would be provided by an all turning movements priority intersection with Warrabungle Street. The access would help manage the economic impact in Barber Street resulting from the proposed New Street level crossing closure.

A 100 metre right-turn turn lane is proposed on the bridge to store vehicles turning right into Barber Street. Two 40 metre turn lanes are provided on Barber Street to separate vehicles turning right and left into Warrabungle Street.

The Barber Street approach to Warrabungle Street is proposed to be realigned north of the existing location. The realignment is a result of a difference in grade resulting from the proposed bridge approach to Warrabungle Street. The proposed alignment, shown in Figure 3.4, would require the acquisition of up to two properties (DP 323258) located on the north-east corner of Barber Street and Warrabungle Street.

The difference in grade would also require the relocation of the existing access driveway to Marcroft Park, located on the west side of Warrabungle Street. The relocated driveway is proposed approximately 40 metres north of the existing access location, also shown in Figure 3.4.

The realignment of Barber Street requires an upgraded access driveway for the Gunnedah Maize Mill with three 90-degree angled car parking spaces. The access driveway would be restricted to left-in / left out traffic movements and has been designed to accommodate a B-Double vehicle.

The shared path along the east side of the bridge is proposed to extend into Barber Street to New Street. A pedestrian refuge facility is proposed on the Barber Street approach.

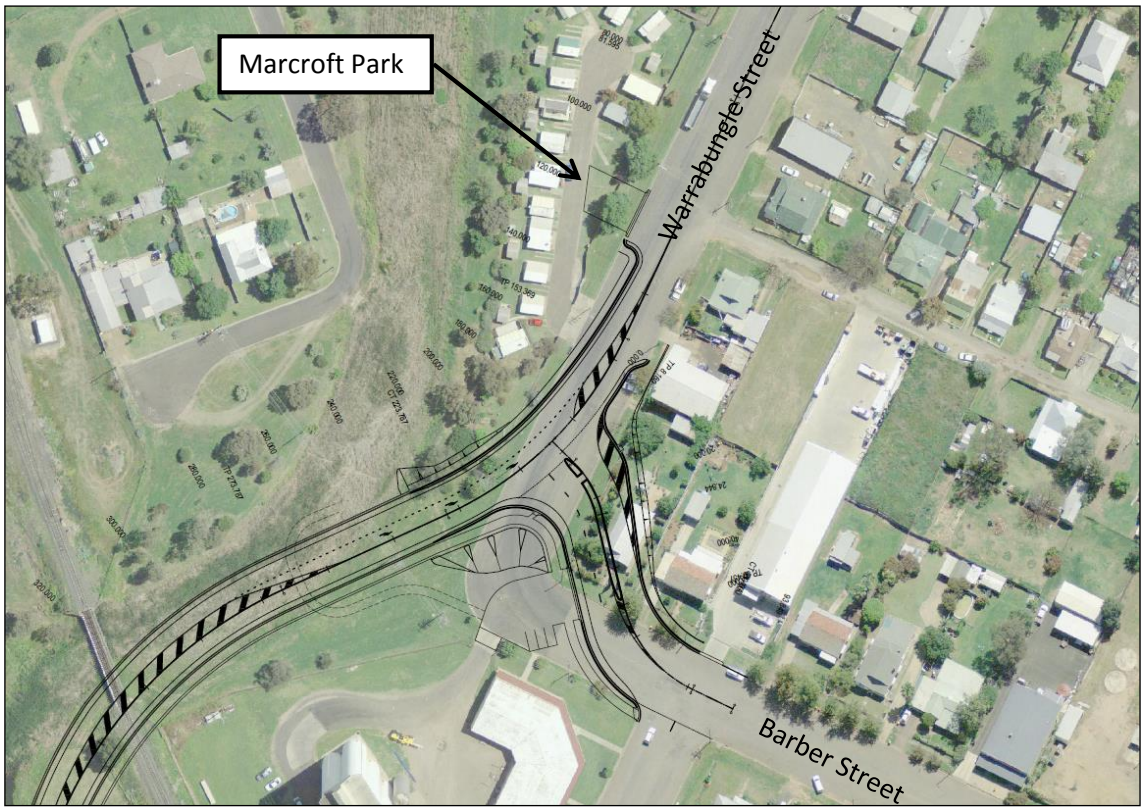


Figure 3.4: Barber Street intersection
Source: KBR Pty Ltd

3.7 Roundabout at Kamilaroi Highway and Warrabungle Street intersection

A four-leg roundabout, shown in Figure 3.5, is proposed to replace the existing priority controlled treatment at the intersection of Kamilaroi Highway, Conadilly Street and Warrabungle Street. The roundabout will improve safety at the intersection and has been designed to accommodate the turning movements of a B-Double Higher Mass Limit vehicle, with a B-Triple HML vehicle used as the check vehicle.

Pedestrian kerb ramps and pedestrian refuges are proposed on all four legs of the intersection to improve pedestrian safety at the intersection.

The proposed upgrade is not part of the Gunnedah second road of rail bridge scope of works. It is proposed to be completed by Roads and Maritime under a Minor Works Review of Environmental Factors.

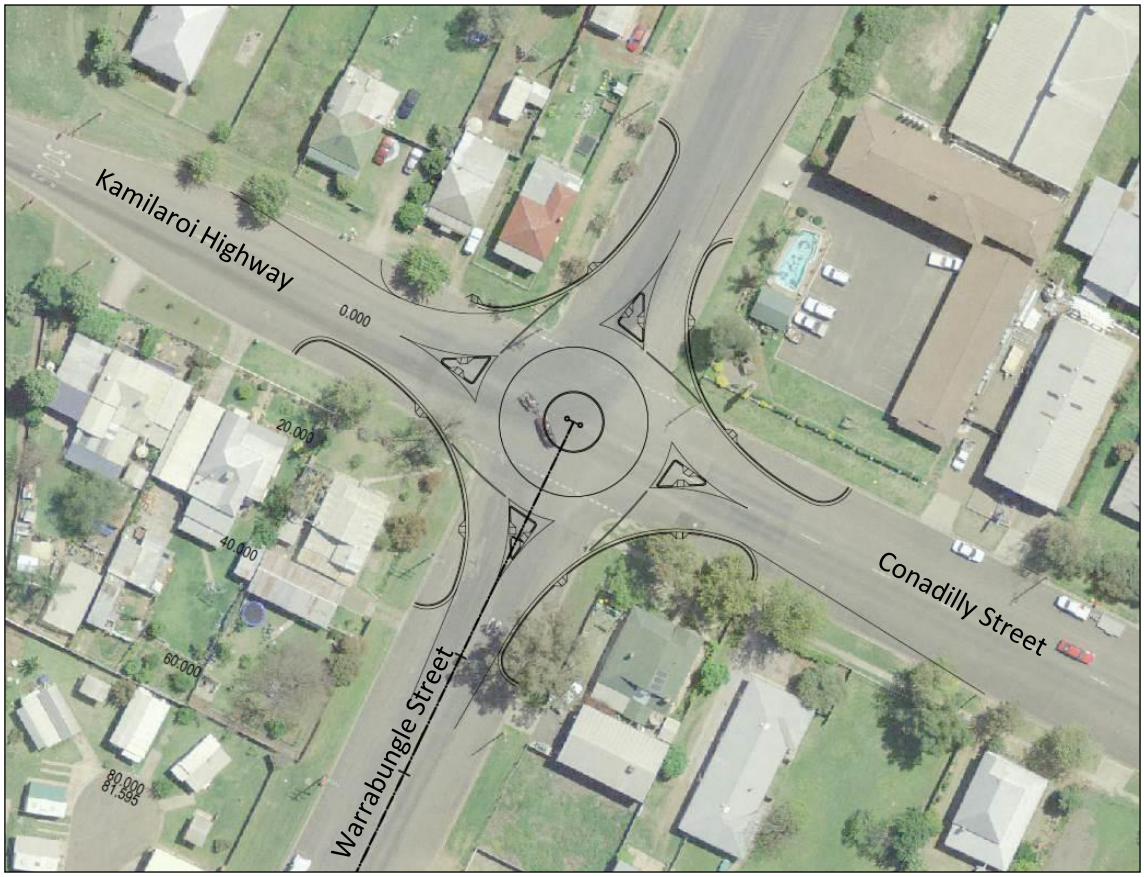


Figure 3.5: Roundabout-controlled Kamilaroi Highway and Warrabungle Street intersection
Source: KBR Pty Ltd

4. Impacts during operation

This chapter presents a discussion of the transport, traffic and access impact assessment that was undertaken to assess the operational impacts of the Concept Design.

4.1 Impacts

The Concept Design brings positive impacts that resolve a number of transport, traffic and access issues relating to existing conditions. These include:

- Providing a second road over rail bridge in Gunnedah.
- Accommodating HML vehicles across the railway line.
- Eliminating the train-vehicle / pedestrian / cyclist interaction currently at the New Street level crossing.
- Facilitating pedestrian and cyclist access between the north and the south of Gunnedah in a safe manner.
- Eliminating delay experienced by all road user at the New Street level crossing when the red signal is activated.

However, it is noted that local traffic as well as pedestrian / cyclist movement generated within the southern part of the Gunnedah town centre, would need to travel up to 100 metres further to cross the rail line compared to the existing New Street at-grade crossing.

4.1.1 Modelling scenarios

To appreciate the impacts of the Concept Design on the existing road network, the SIDRA intersection analysis program was used to model the base case and future year operations of the following intersections:

- Oxley Highway, View Street and the proposed bridge approach (south)
- Warrabungle Street and Barber Street
- Warrabungle Street and Kamilaroi Highway.

The following PM Peak years were modelled:

- 2013 Base Case (existing)
- 2016 Opening Year
- 2026 10-year Post Construction.

The modelling was based on the traffic flow assumptions and key findings outlined in the *Gunnedah Traffic Study – Review of Road Network at Rail Crossing* (GHD, 2012), supplemented by the traffic counts undertaken for this study in March 2013. The study found that traffic growth on the Oxley Highway and Kamilaroi Highway is expected to be 1 per cent per annum (cumulative). A summary of the traffic volumes during each PM Peak year is presented in Appendix D.

Table 4.1 provides the performance measures that are provided by the SIDRA program.

Table 4.1: SIDRA INTERSECTION Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	0 to 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study may be required
D	43 to 56	Near capacity	Near capacity, accident study may be required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

In congested urban conditions, Level of Service D is often accepted as being the lowest desirable level of service during daily peak traffic periods. At these times, it is accepted that some traffic delay is inevitable at major intersections.

4.1.2 Key modelling results

The operation of the intersections for each PM Peak year are summarised in Table 4.2.

Table 4.2: PM Peak Intersection Modelling Key Results

Intersection	2013 (Existing)		2016		2026	
	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service
Oxley Highway/ View Street	11	A	13	A	13	A
Warrabungle Street/ Barber Street	-	-	9	A	9	A
Warrabungle Street/ Kamilaroi Highway	14	A	11	A	11	A

The results indicate that the intersections would operate satisfactorily following the construction of the proposed bridge, each performing at Level of Service A.

4.1.3 Traffic volumes

The forecast peak hour, daily, day-time (15 hours) and night-time (9 hour) traffic volumes were determined for the opening year (2016) and 10 years post construction (Year 2026) using the traffic growth of 1 per cent per annum (cumulative). It was assumed that the day-time traffic volumes accounted for 90% of the daily traffic flow.

A comparison of the traffic volumes is presented in Table 4.3, Table 4.4, Table 4.5 and Table 4.6 for the peak hour, daily, day-time and night-time respectively.

Table 4.3: PM Peak Hour Traffic Volumes

Location	2013		2016		2026	
	Light	Heavy	Light	Heavy	Light	Heavy
Kamilaroi Hwy (West of Warrabungle St)	212	35	217	36	236	39
Warrabungle St (North of Kamilaroi Hwy)	43	13	44	13	46	14
Kamilaroi Hwy (East of Warrabungle St)	122	2	126	2	139	2
Warrabungle St (South of Kamilaroi Hwy)	65	2	66	2	70	2
Oxley Hwy (West of New St)	276	19	282	19	301	21
New St (North of Oxley Hwy)	365	12	371	12	394	13
Oxley Hwy (East of New St)	90	7	91	7	96	7
View St (South of Oxley Hwy)	205	7	208	7	219	7
Barber St (East of View St)	473	13	482	13	513	15

Table 4.4: Daily Traffic Volumes

Location	2013		2016		2026	
	Light	Heavy	Light	Heavy	Light	Heavy
Kamilaroi Hwy (West of Warrabungle St)	2537	419	2601	428	2826	462
Warrabungle St (North of Kamilaroi Hwy)	513	155	520	157	547	165
Kamilaroi Hwy (East of Warrabungle St)	1460	24	1503	25	1658	27
Warrabungle St (South of Kamilaroi Hwy)	688	21	701	21	745	23
Oxley Hwy (West of New St)	2902	200	2962	204	3169	219
New St (North of Oxley Hwy)	3864	127	3932	130	4170	140
Oxley Hwy (East of New St)	946	74	961	75	1010	79
View St (South of Oxley Hwy)	2170	74	2203	75	2315	79
Barber St (East of View St)	5239	144	5339	149	5687	165

Table 4.5: Day-time (15 hour) Traffic Volumes

Location	2013		2016		2026	
	Light	Heavy	Light	Heavy	Light	Heavy
Kamilaroi Hwy (West of Warrabungle St)	2277	376	2334	385	2536	415
Warrabungle St (North of Kamilaroi Hwy)	460	139	467	141	491	148
Kamilaroi Hwy (East of Warrabungle St)	1310	21	1349	22	1488	24
Warrabungle St (South of Kamilaroi Hwy)	651	20	663	20	706	21
Oxley Hwy (West of New St)	2683	185	2738	189	2929	203
New St (North of Oxley Hwy)	3658	120	3722	123	3948	133
Oxley Hwy (East of New St)	875	68	888	69	934	73
View St (South of Oxley Hwy)	2054	70	2085	71	2192	75
Barber St (East of View St)	5009	138	5105	142	5438	158

Table 4.6: Night-time (9 hour) Traffic Volumes

Location	2013		2016		2026	
	Light	Heavy	Light	Heavy	Light	Heavy
Kamilaroi Hwy (West of Warrabungle St)	260	43	266	44	289	47
Warrabungle St (North of Kamilaroi Hwy)	53	16	54	16	56	17
Kamilaroi Hwy (East of Warrabungle St)	150	2	154	3	170	3
Warrabungle St (South of Kamilaroi Hwy)	37	1	37	1	40	1
Oxley Hwy (West of New St)	219	15	224	15	239	17
New St (North of Oxley Hwy)	206	7	210	7	222	7
Oxley Hwy (East of New St)	71	6	73	6	76	6
View St (South of Oxley Hwy)	116	4	118	4	124	4
Barber St (East of View St)	229	6	234	7	249	7

4.2 Public transport

Bus route 451 will need to reroute via the proposed bridge following the closure of the New Street level crossing.

4.3 Walking and cycling

Pedestrians and cyclists who currently cross at the New Street level crossing will cross the rail line via the 2.5-metre wide shared path provided on the east side of the proposed bridge. Experienced cyclists will be able to use the 1.5-metre wide road shoulders.

It is noted that pedestrian / cyclist movement generated within the southern part of the Gunnedah town centre, would need to travel a longer route to cross the rail line. This could be partially mitigated by providing a grade separated pedestrian / cyclist crossing of the railway line and a new shared path along South Street between View Street and Marquis Street (not included in the current proposal).

5. Impacts during construction

A preliminary constructability assessment and stakeholder workshops were undertaken by KBR Pty Ltd and TSM Civil Project Management Pty Ltd. The assessment focused on minimising the construction footprint and environmental impacts associated with the Gunnedah second road over rail bridge and associated intersection upgrades works.

This section reviews the preliminary assessments undertaken and determines the likely impacts during the construction stage, potential detours routes required and construction access routes to the works site.

A detailed Construction Traffic Management Plan would be prepared during the detailed design stage to manage transport, traffic and access impacts during the construction of the proposed bridge.

5.1 Staging framework

A preliminary construction programme and staging plans for the construction works associated with the proposed bridge and road works are provided in Appendix E. The key details to understand the potential impacts to general road users include:

- The duration of the overall construction programme is expected to be 72 weeks.
- The bridge will be constructed in two stages over an expected 54 weeks period. The stages include:
    - Sub structure works (piling, piling cap, piers and headstock and abutments) – 35 weeks.
    - Super structure works (girder erection, concrete deck, parapets and barriers and asphalt and finishing works) – 19 weeks.
- Construction of the proposed bridge approaches is expected to occur simultaneously over 15 weeks.
- The closure of the Barber Street access to Warrabungle Street is expected to be for 10 weeks.
- The Oxley Highway and View Street intersection will be constructed in five stages over an expected 42 weeks period. The five stages of works are expected to include:
    - Stage 0 works (5 weeks):
        - Maintain existing intersection operation
        - Build temporary pavement on the verge on the north-west corner of the intersection for temporary three-way intersection arrangement
        - Notify residences in the vicinity of the work area of the View Street closure.
    - Stage 1 works (12 weeks):
        - Close the View Street approach
        - Divert Oxley Highway traffic towards the temporary three-way intersection
        - Construct the southern portion of proposed roundabout
        - Build temporary pavement on the verge south-east corner of the intersection for the Stage 2 works temporary four-way intersection.
        -
    - Stage 2 works (11 weeks):

- Close the temporary three-way intersection arrangement
- Open View Street and divert Oxley Highway traffic onto the temporary four-way intersection arrangement
- Construct the proposed bridge approach to intersection and north-west section of proposed roundabout.

- Stage 3 works (9 weeks):
  - Close the New Street approach and level crossing
  - Construct the north-east section of proposed roundabout.
- Stage 4 works (5 weeks):
  - Construct the islands on approaches to the roundabout, the inner kerb and landscape
  - Open the proposed bridge and roundabout to traffic.

5.2 Kamilaroi Highway roundabout works

Preliminary staging plans for the construction of the Kamilaroi Highway and Warrabungle Street intersection were obtained from Roads and Maritime.

The works would be undertaken in two stages to ensure that two-lanes for two-way traffic are maintained along Kamilaroi Highway. The stages convert the four-way intersection to a three-way priority-controlled intersection.

During Stage 1 works, the Warrabungle Street north approach is closed to allow for construction of the north section of the roundabout. During Stage 2 works, the Warrabungle Street south approach is closed to allow for construction of the south section of the roundabout.

5.3 Transport and traffic impacts during construction

The likely construction-stage transport, traffic and access impacts include:

- Increased heavy vehicle movements for hauling of construction materials and equipment.
- Increased vehicle movements from construction staff and service vehicles.
- Temporary staged complete closures of View Street (12 weeks) and New Street (10 weeks) approaches to Oxley Highway.
- Temporary full closure of the Barber Street approach to Warrabungle Street (10 weeks).
- Temporary staged complete closures of the Warrabungle Street approaches to Kamilaroi Highway.
- Temporary complete closure of the Gunnedah Maize Mill access driveway at Barber Street. Access to the New Street driveway would be maintained.
- Increased traffic movements in surrounding road network resulting from diversion of vehicles during temporary road closures.
- Potential disruptions to the rail line during connection of the proposed bridge from each side.

As such, the construction of the proposed bridge will be expected to have impacts to general road users. With advanced consultation and advertisement of the works and associated temporary detours, the impacts could not be expected to compromise the safety or function of the surrounding road network.

5.3.1 Potential detours

Potential detour routes that could be used during specific road closures are shown in Figure 5.1 to Figure 5.5.

Figure 5.1: Closure of View Street at Oxley Highway

Base source: Google Maps

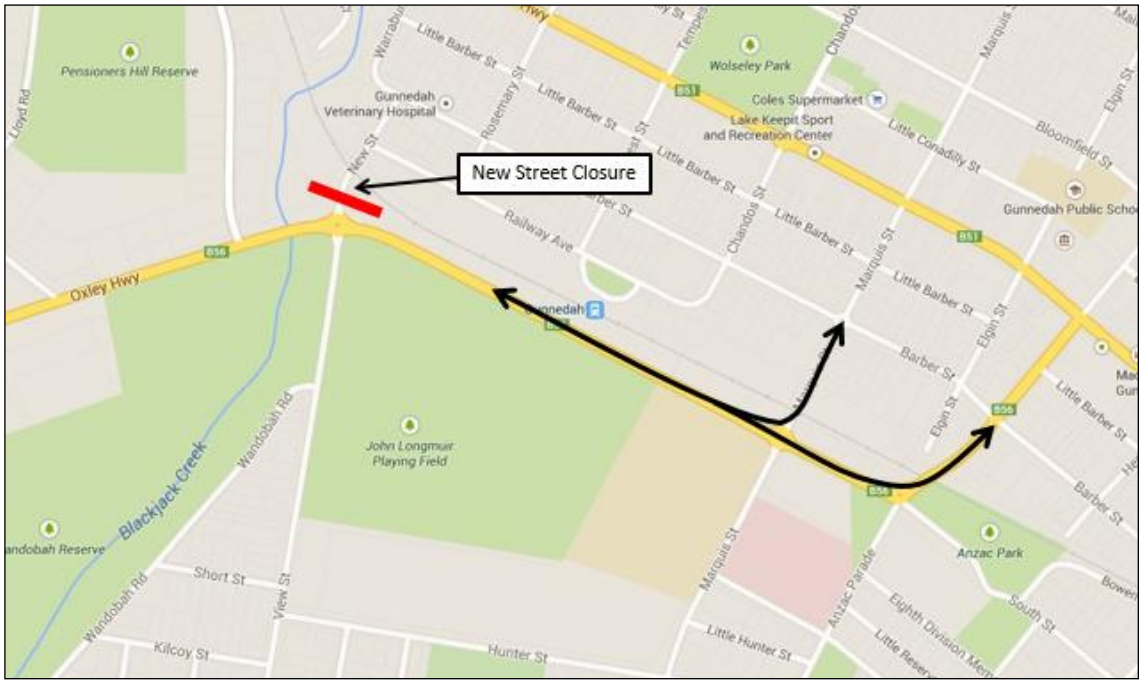


Figure 5.2: Closure of New Street at Oxley Highway

Base source: Google Maps

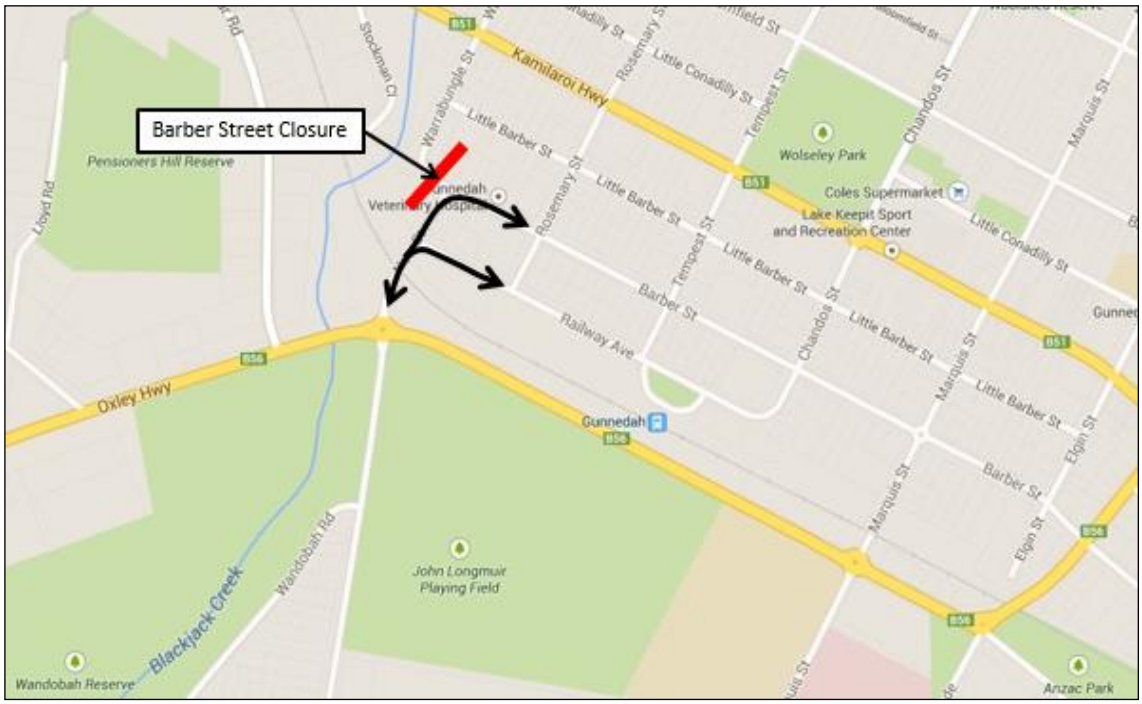


Figure 5.3: Closure of Barber Street at Warrabungle Street

Base source: Google Maps

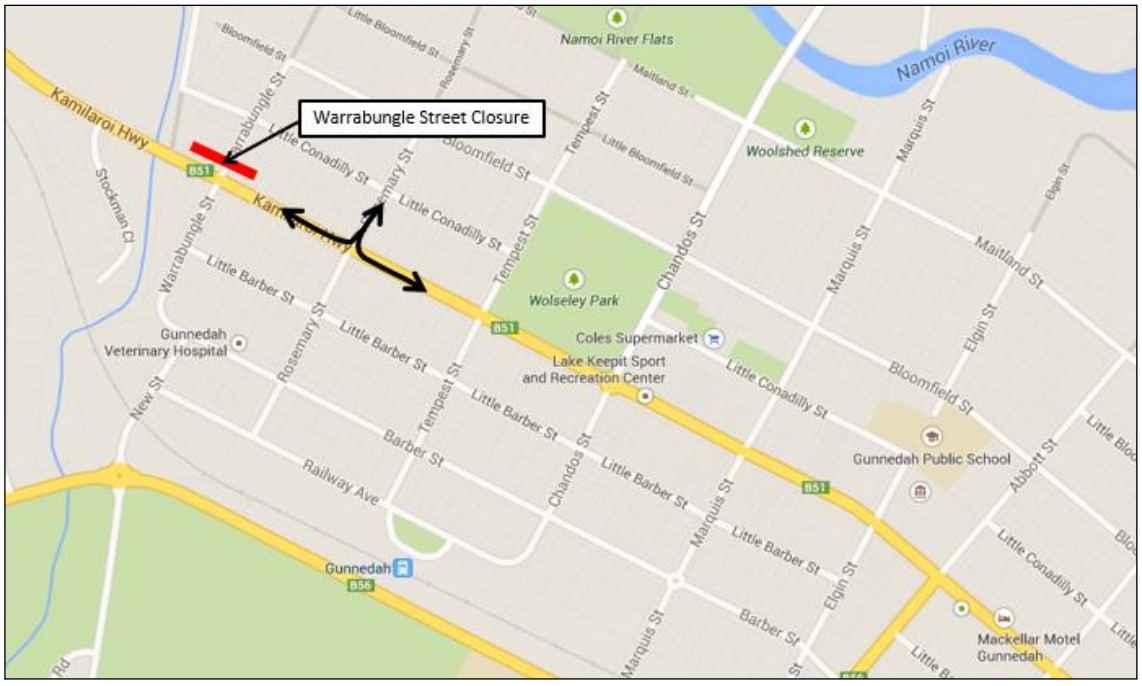


Figure 5.4: Closure of Warrabungle Street (North) at Kamilaroi Highway

Base source: Google Maps

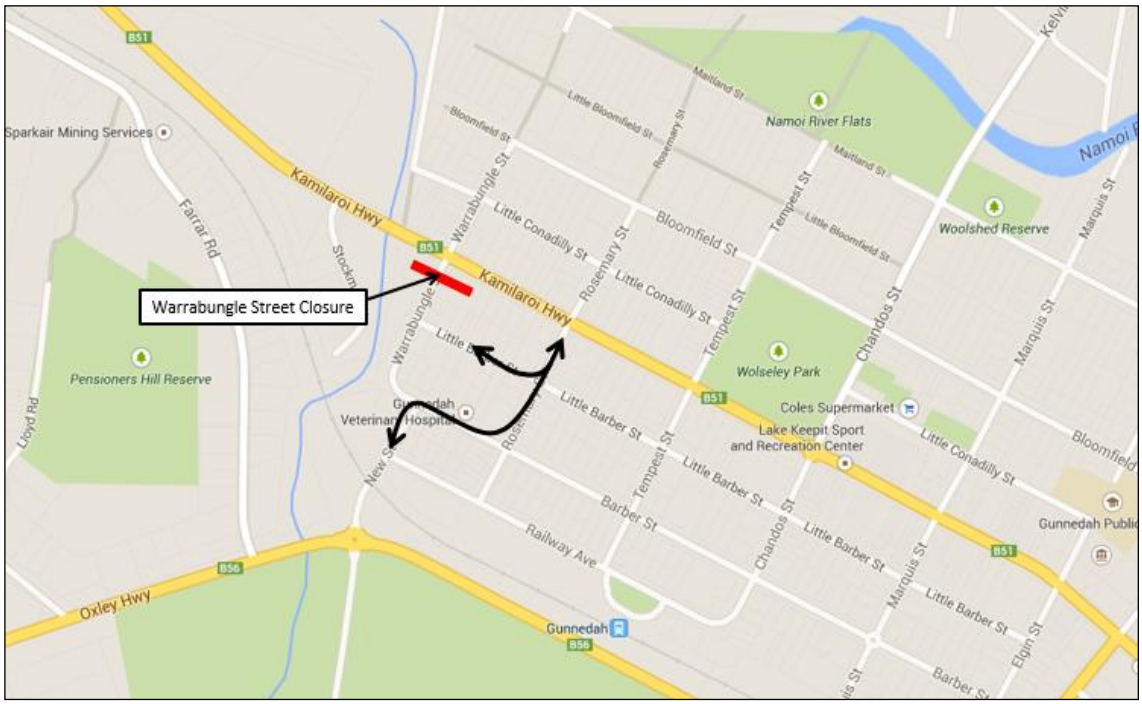


Figure 5.5: Closure of Warrabungle Street (South) at Kamilaroi Highway

Base source: Google Maps

5.3.2 Traffic management during construction

Variable Message Signs (VMS) and / or state signs would be required to notify drivers of the temporary detours in place before and during construction of the proposed bridge or upgraded intersections, should road sections or intersections require complete closure.

Residents and property owners within Gunnedah would need to be consulted about the temporary detours prior to commencement of works.

5.3.3 Construction access routes

Construction vehicle access to the proposed bridge works site would be via either Oxley Highway or Warrabungle Street.

The construction route to and from the work area would need to consider weight, width and height constraints along various locations approaching the construction site. In some cases, transport by rail may need to be considered.

6. Summary and recommendations

This assessment on the Concept Design for Gunnedah second road over rail bridge identified a number of issues relating to transport, traffic and access impacts, covering both the construction and operation stages.

6.1 Operation stage

A number of impacts have been identified, both positive and negative, which the Concept Design would potentially generate. These include:

- Provides a second road over rail bridge in Gunnedah.
- The proposed bridge is designed to be part of an HML route through Gunnedah.
- Local traffic as well as pedestrian / cyclist movement generated within the southern part of the Gunnedah town centre would need to travel a longer route to cross the rail line following the closure of the New Street level crossing.
- However, the proposed bridge removes the train-vehicle / pedestrian / cyclist interaction currently at the New Street level crossing.
- Eliminates delay experienced by all road user at a level crossing when the boom gates are activated.

6.2 Construction stage

The identified key impacts during the construction stage include:

- Temporary staged complete closures of the View Street (12 weeks) and New Street (10 weeks) approaches to Oxley Highway.
- Temporary complete closure of the Barber Street approach to Warrabungle Street (10 weeks).
- Potential disruptions to the rail line during connection of the proposed bridge from each side.

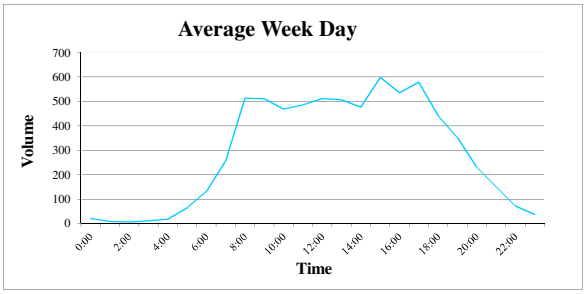
A detailed Construction Traffic Management Plan would need to be prepared during the detailed design stage.

Appendix A

Survey Data

Abbott St(On Railway Overpass)

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	06-Oct-10	7-Oct-10	8-Oct-10	9-Oct-10	10-Oct-10	11-Oct-10	12-Oct-10	Ave.	Ave.	Ave
0:00	15	18	23	37	53	25	20	20	45	27
1:00	12	7	16	24	31	4	7	9	28	14
2:00	7	5	3	29	47	3	11	6	38	15
3:00	15	11	11	12	18	8	14	12	15	13
4:00	16	17	19	18	10	17	18	17	14	16
5:00	62	65	61	36	17	53	75	63	27	53
6:00	140	123	130	86	44	131	135	132	65	113
7:00	223	242	262	167	129	276	286	258	148	226
8:00	424	485	459	293	248	579	618	513	271	444
9:00	450	524	524	416	350	518	540	511	383	475
10:00	468	518	485	509	392	452	418	468	451	463
11:00	508	559	502	554	406	446	416	486	480	484
12:00	524	562	546	562	500	507	424	513	531	518
13:00	508	583	537	439	358	469	440	507	399	476
14:00	452	507	550	411	340	460	414	477	376	448
15:00	482	500	566	405	327	723	722	599	366	532
16:00	521	557	573	345	356	501	525	535	351	483
17:00	626	595	559	432	331	558	555	579	382	522
18:00	404	423	497	404	366	426	454	441	385	425
19:00	358	382	348	327	257	314	358	352	292	335
20:00	238	221	297	208	174	150	251	231	191	220
21:00	151	161	189	137	122	119	129	150	130	144
22:00	79	72	91	112	53	53	66	72	83	75
23:00	27	27	76	84	33	26	33	38	59	44
Total	**6710**	**7164**	**7324**	**6047**	**4962**	**6818**	**6929**	**6989**	**5505**	**6565**



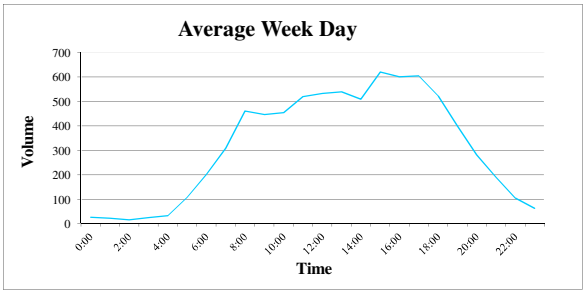
Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**618**
PM Peak	3:00 PM	4:00 PM	**723**
		Week Day Average	**6989**
		Weekend Day Average	**5505**
		7 Day Average	**6565**

Conadilly St(East of Abbott St)

4 5 6 7 1 2 3

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	20-Oct-10	21-Oct-10	22-Oct-10	23-Oct-10	24-Oct-10	25-Oct-10	26-Oct-10	Ave.	Ave.	Ave
0:00	32	27	41	62	56	12	16	26	59	35
1:00	14	33	20	32	48	20	22	22	40	27
2:00	14	25	28	27	24	11	0	16	26	18
3:00	33	33	40	35	106	18	0	25	71	38
4:00	44	39	47	37	21	29	0	32	29	31
5:00	153	150	130	62	25	103	0	107	44	89
6:00	226	311	265	201	103	207	0	202	152	188
7:00	370	372	399	230	130	402	0	309	180	272
8:00	594	551	564	353	163	597	0	461	258	403
9:00	573	598	534	469	308	526	0	446	389	430
10:00	460	502	466	558	403	494	351	455	481	462
11:00	478	563	537	548	476	481	538	519	512	517
12:00	526	515	585	535	389	520	520	533	462	513
13:00	562	541	564	438	413	506	525	540	426	507
14:00	508	528	511	417	380	557	445	510	399	478
15:00	646	603	656	471	407	626	575	621	439	569
16:00	567	606	656	384	438	562	616	601	411	547
17:00	625	612	634	448	385	535	617	605	417	551
18:00	510	540	572	447	360	462	528	522	404	488
19:00	399	385	442	382	308	359	414	400	345	384
20:00	310	278	340	268	228	217	260	281	248	272
21:00	192	212	229	182	136	142	171	189	159	181
22:00	110	117	127	145	95	80	88	104	120	109
23:00	44	64	90	106	33	43	68	62	70	64
Total	**7990**	**8205**	**8477**	**6837**	**5435**	**7509**	**5754**	**7587**	**6136**	**7172**

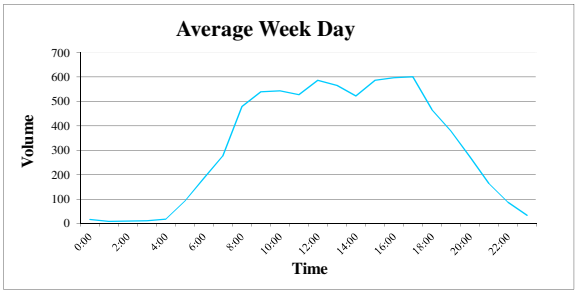


Summary

	from	to	
AM Peak	9:00 AM	10:00 AM	**598**
PM Peak	3:00 PM	4:00 PM	**656**
		Week Day Average	**7587**
		Weekend Day Average	**6136**
		7 Day Average	**7172**

Conadilly St(West of Abbott St)

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	06-Oct-10	7-Oct-10	8-Oct-10	9-Oct-10	10-Oct-10	11-Oct-10	12-Oct-10	Ave.	Ave.	Ave
0:00	17	22	16	49	50	12	17	17	50	26
1:00	6	10	15	37	39	8	6	9	38	17
2:00	11	13	15	34	47	3	11	11	41	19
3:00	14	11	8	11	15	10	15	12	13	12
4:00	12	21	32	18	11	12	14	18	15	17
5:00	111	102	82	51	30	82	88	93	41	78
6:00	174	188	184	106	74	176	209	186	90	159
7:00	265	269	284	176	122	269	295	276	149	240
8:00	452	474	456	336	246	500	516	480	291	426
9:00	552	549	510	456	453	542	548	540	455	516
10:00	589	496	585	575	447	530	519	544	511	534
11:00	556	504	568	637	489	495	514	527	563	538
12:00	595	622	648	581	569	569	503	587	575	584
13:00	605	584	636	551	484	567	438	566	518	552
14:00	518	549	575	455	465	516	453	522	460	504
15:00	554	542	607	435	363	606	628	587	399	534
16:00	597	619	575	457	373	606	588	597	415	545
17:00	603	624	623	419	410	550	609	602	415	548
18:00	478	430	524	415	392	417	479	466	404	448
19:00	396	396	401	377	311	334	372	380	344	370
20:00	276	251	335	270	208	219	277	272	239	262
21:00	169	178	192	206	107	140	140	164	157	162
22:00	94	101	119	119	48	64	56	87	84	86
23:00	25	29	61	104	22	34	22	34	63	42
Total	**7669**	**7584**	**8051**	**6875**	**5775**	**7261**	**7317**	**7576**	**6325**	**7219**



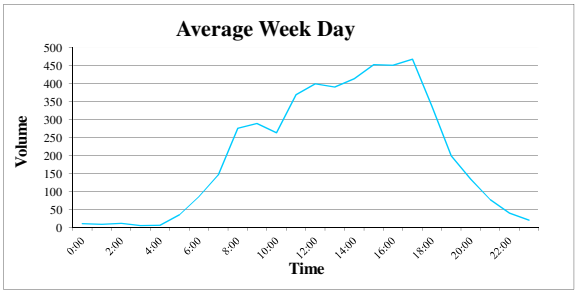
Summary

	from	to	
AM Peak	10:00 AM	11:00 AM	**589**
PM Peak	12:00 PM	1:00 PM	**648**
		Week Day Average	**7576**
		Weekend Day Average	**6325**
		7 Day Average	**7219**

New St(Between Rndabt&RailCrss)

4 5 6 7 1 2 3

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	22-Sep-10	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	Ave.	Ave.	Ave
0:00	12	12	23	43	20	9	0	11	32	17
1:00	11	13	18	13	13	4	0	9	13	10
2:00	12	16	19	17	10	9	1	11	14	12
3:00	7	8	12	8	8	0	0	5	8	6
4:00	11	12	8	20	18	0	0	6	19	10
5:00	67	58	55	47	25	0	0	36	36	36
6:00	178	128	124	119	54	0	0	86	87	86
7:00	247	249	236	158	79	0	0	146	119	138
8:00	471	456	454	305	252	0	0	276	279	277
9:00	486	540	422	510	307	0	0	290	409	324
10:00	428	414	473	595	363	0	0	263	479	325
11:00	494	434	451	622	374	0	466	369	498	406
12:00	467	503	494	544	427	0	532	399	486	424
13:00	434	469	560	469	311	0	491	391	390	391
14:00	469	488	540	374	262	0	569	413	318	386
15:00	568	562	647	377	286	0	487	453	332	418
16:00	560	542	610	337	340	0	542	451	339	419
17:00	591	611	559	384	311	0	577	468	348	433
18:00	427	459	404	319	244	0	390	336	282	320
19:00	222	280	251	212	192	0	243	199	202	200
20:00	195	172	151	109	154	0	154	134	132	134
21:00	104	82	101	89	42	0	103	78	66	74
22:00	52	41	74	81	25	0	33	40	53	44
23:00	29	25	32	35	11	0	16	20	23	21
Total	**6542**	**6574**	**6718**	**5787**	**4128**	**22**	**4604**	**4892**	**4958**	**4911**

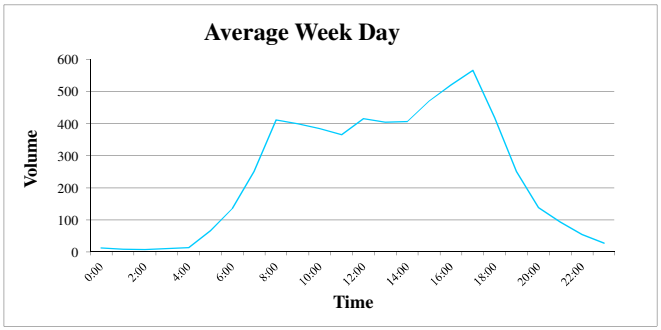


Summary

	from	to	
AM Peak	9:00 AM	10:00 AM	**540**
PM Peak	3:00 PM	4:00 PM	**647**
		Week Day Average	**4892**
		Weekend Day Average	**4958**
		7 Day Average	**4911**

View St(Nth of Wandobah Rd)

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	22-Sep-10	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	Ave.	Ave.	Ave
0:00	11	14	16	42	19	4	17	12	31	18
1:00	10	8	12	20	8	4	10	9	14	10
2:00	13	7	9	16	13	2	6	7	15	9
3:00	10	11	18	13	7	7	8	11	10	11
4:00	12	8	12	15	9	17	18	13	12	13
5:00	70	79	64	37	22	66	54	67	30	56
6:00	152	119	138	98	49	118	150	135	74	118
7:00	248	262	234	147	79	247	263	251	113	211
8:00	413	413	415	338	216	391	427	412	277	373
9:00	410	407	369	465	350	406	406	400	408	402
10:00	354	325	405	597	375	451	387	384	486	413
11:00	315	380	364	572	392	382	385	365	482	399
12:00	383	395	463	465	408	414	421	415	437	421
13:00	400	365	440	79	307	445	374	405	193	344
14:00	407	421	420	202	283	386	397	406	243	359
15:00	488	448	539	428	317	434	442	470	373	442
16:00	515	540	540	352	366	491	515	520	359	474
17:00	593	570	547	380	343	577	541	566	362	507
18:00	421	447	459	327	252	377	387	418	290	381
19:00	234	287	283	199	190	203	247	251	195	235
20:00	149	145	132	115	130	113	154	139	123	134
21:00	92	104	114	72	47	92	66	94	60	84
22:00	64	44	81	59	28	43	42	55	44	52
23:00	19	22	52	33	16	28	16	27	25	27
Total	**5783**	**5821**	**6126**	**5071**	**4226**	**5698**	**5733**	**5832**	**4649**	**5494**

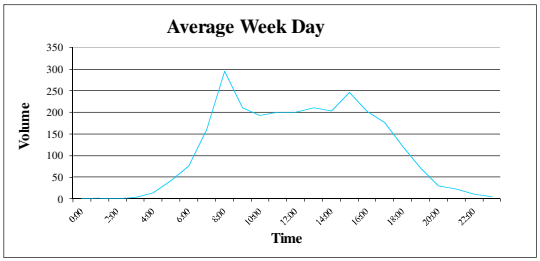


Summary

	from	to	
AM Peak	10:00 AM	11:00 AM	**451**
PM Peak	5:00 PM	6:00 PM	**593**
		Week Day Average	**5832**
		Weekend Day Average	**4649**
		7 Day Average	**5494**

Site MAF Marquis St(Between Roundabout & Rail Crossing) **Eastbound** **Lane 0**

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	22-Sep-10	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	Ave.	Ave.	Ave
0:00	0	1	1	11	18	1	0	1	15	5
1:00	0	2	1	15	13	1	0	1	14	5
2:00	0	1	3	6	8	2	0	1	7	3
3:00	2	5	3	4	2	2	3	3	3	3
4:00	12	14	14	8	2	18	10	14	5	11
5:00	41	47	34	17	13	42	46	42	15	34
6:00	70	85	82	39	23	75	66	76	31	63
7:00	164	156	187	123	78	142	156	161	101	144
8:00	335	319	323	191	111	267	230	295	151	254
9:00	196	221	222	227	185	194	221	211	206	209
10:00	196	170	221	241	163	198	177	192	202	195
11:00	218	200	212	213	158	162	208	200	186	196
12:00	205	221	208	173	149	193	172	200	161	189
13:00	230	223	225	162	105	191	184	211	134	189
14:00	192	223	210	171	114	194	198	203	143	186
15:00	276	285	269	136	103	200	202	246	120	210
16:00	203	239	195	129	134	193	176	201	132	181
17:00	171	197	189	136	122	146	181	177	129	163
18:00	124	151	148	111	67	85	102	122	89	113
19:00	68	71	105	60	42	51	62	71	51	66
20:00	40	45	36	34	28	22	7	30	31	30
21:00	35	15	19	35	8	21	26	23	22	23
22:00	11	9	18	28	6	6	8	10	17	12
23:00	2	5	15	19	2	3	1	5	11	7
Total	**2791**	**2905**	**2940**	**2289**	**1654**	**2409**	**2436**	**2696**	**1972**	**2489**



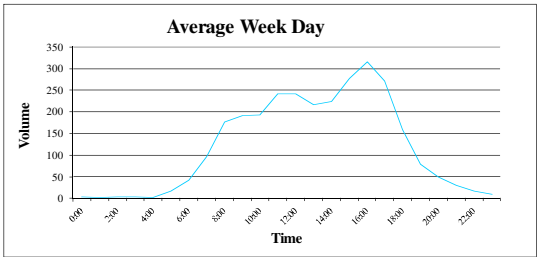
Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**335**
PM Peak	3:00 PM	4:00 PM	**285**
Week Day Average			**2696**
Weekend Day Average			**1972**
7 Day Average			**2489**

Site MAF Marquis St(Between Roundabout & Rail Crossing) **Westbound** **Lane 0**

4 5 6 7 1 2 3

Day	Wed	Thu	Fri	Sat	Sun	Mon	Tue	W/Day	W/End	7 Day
Time	22-Sep-10	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	Ave.	Ave.	Ave
0:00	2	3	4	17	16	0	3	2	17	6
1:00	1	2	2	13	18	2	1	2	16	6
2:00	2	2	6	13	13	1	5	3	13	6
3:00	2	4	3	3	3	3	3	3	3	3
4:00	1	2	2	2	0	1	3	2	1	2
5:00	20	20	17	11	8	13	12	16	10	14
6:00	35	48	52	22	20	34	39	42	21	36
7:00	95	102	114	85	43	86	87	97	64	87
8:00	229	198	202	105	86	134	121	177	96	154
9:00	201	210	205	215	156	177	167	192	186	190
10:00	177	201	195	272	183	201	192	193	228	203
11:00	251	245	255	311	208	235	225	242	260	247
12:00	245	223	236	220	175	251	251	241	198	229
13:00	236	218	220	157	135	201	204	216	146	196
14:00	236	256	259	138	119	179	192	224	129	197
15:00	283	315	292	132	108	249	248	277	120	232
16:00	330	364	310	155	135	279	292	315	145	266
17:00	247	281	309	133	109	228	290	271	121	228
18:00	166	163	195	116	100	133	137	159	108	144
19:00	80	83	118	64	62	67	45	79	63	74
20:00	58	70	49	52	44	34	40	50	48	50
21:00	52	27	29	27	16	23	21	30	22	28
22:00	22	10	28	29	6	11	16	17	18	17
23:00	1	8	23	27	5	7	7	9	16	11
Total	**2972**	**3055**	**3125**	**2319**	**1768**	**2549**	**2601**	**2860**	**2044**	**2627**

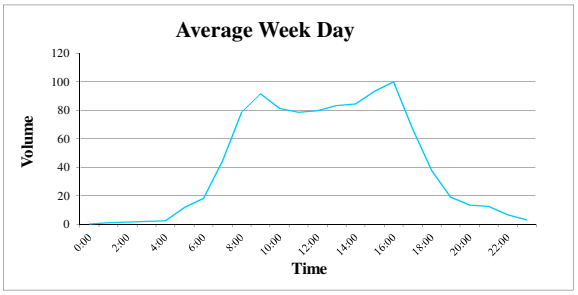


Summary

	from	to	
AM Peak	11:00 AM	12:00 PM	**255**
PM Peak	4:00 PM	5:00 PM	**364**
Week Day Average			**2860**
Weekend Day Average			**2044**
7 Day Average			**2627**

Site BL Bloomfield St (Between Chandos & Tempest St) — Eastbound — Lane 0

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	W/Day	W/End	7 Day
Time	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	29-Sep-10	Ave.	Ave.	Ave
0:00	0	0	2	2	0	0	1	0	2	1
1:00	2	1	3	1	0	1	1	1	2	1
2:00	3	3	1	2	0	0	2	2	2	2
3:00	1	3	1	1	1	4	1	2	1	2
4:00	3	5	2	1	1	1	2	2	2	2
5:00	14	15	10	6	6	7	17	12	8	11
6:00	19	23	13	11	12	15	22	18	12	16
7:00	45	55	25	16	35	41	45	44	21	37
8:00	88	91	50	36	60	78	76	79	43	68
9:00	113	77	79	59	96	80	92	92	69	85
10:00	45	107	82	46	83	91	80	81	64	76
11:00	84	76	77	52	73	82	78	79	65	75
12:00	82	76	53	41	65	90	86	80	47	70
13:00	81	89	40	40	81	91	75	83	40	71
14:00	88	105	36	39	85	65	79	84	38	71
15:00	114	93	41	51	85	94	81	93	46	80
16:00	99	96	31	35	110	96	99	100	33	81
17:00	75	77	42	42	66	52	66	67	42	60
18:00	44	37	25	17	27	39	41	38	21	33
19:00	16	21	3	10	19	21	18	19	7	15
20:00	14	12	7	6	11	11	19	13	7	11
21:00	6	16	7	5	11	17	12	12	6	11
22:00	4	9	11	5	7	7	6	7	8	7
23:00	1	4	1	4	4	4	2	3	3	3
Total	**1041**	**1091**	**642**	**528**	**938**	**987**	**1001**	**1012**	**585**	**890**



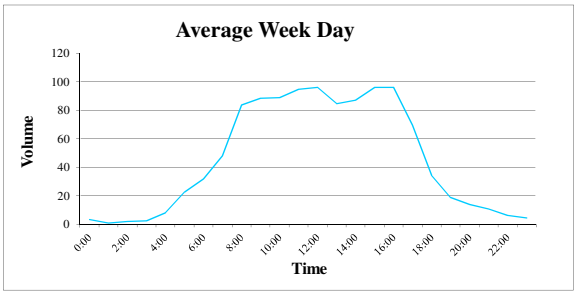
Summary

	from	to	
AM Peak	9:00 AM	10:00 AM	**113**
PM Peak	3:00 PM	4:00 PM	**114**
		Week Day Average	**1012**
		Weekend Day Average	**585**
		7 Day Average	**890**

Site BL Bloomfield St (Between Chandos & Tempest St) — Westbound — Lane 0

5 6 7 1 2 3 4

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	W/Day	W/End	7 Day
Time	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	29-Sep-10	Ave.	Ave.	Ave
0:00	7	3	3	2	0	4	2	3	3	3
1:00	1	1	2	0	0	0	2	1	1	1
2:00	3	3	1	1	2	2	0	2	1	2
3:00	1	0	2	2	0	7	4	2	2	2
4:00	11	5	6	0	4	11	9	8	3	7
5:00	19	12	9	4	20	26	36	23	7	18
6:00	26	27	16	6	26	41	39	32	11	26
7:00	59	51	33	14	34	54	42	48	24	41
8:00	92	85	83	35	74	92	76	84	59	77
9:00	83	93	89	49	81	94	91	88	69	83
10:00	70	84	89	60	90	107	94	89	75	85
11:00	85	94	82	61	91	106	98	95	72	88
12:00	98	83	48	42	84	109	106	96	45	81
13:00	85	97	39	43	78	90	73	85	41	72
14:00	78	99	46	38	83	86	90	87	42	74
15:00	107	112	38	33	82	93	87	96	36	79
16:00	112	99	47	33	100	74	96	96	40	80
17:00	61	81	45	35	70	70	66	70	40	61
18:00	38	37	24	14	31	30	35	34	19	30
19:00	16	19	10	19	28	17	14	19	15	18
20:00	9	15	9	4	16	14	15	14	7	12
21:00	15	8	7	5	10	8	12	11	6	9
22:00	5	5	8	3	12	3	6	6	6	6
23:00	5	3	2	1	10	2	2	4	2	4
Total	**1086**	**1116**	**738**	**504**	**1026**	**1140**	**1095**	**1093**	**621**	**958**

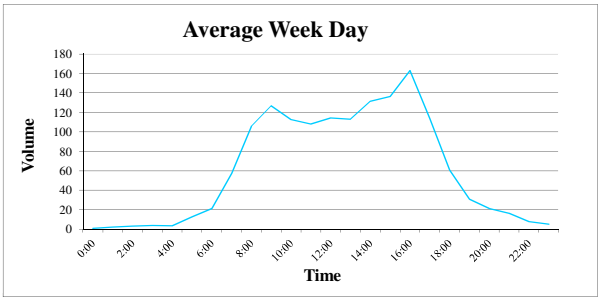


Summary

	from	to	
AM Peak	10:00 AM	11:00 AM	**107**
PM Peak	3:00 PM	4:00 PM	**112**
		Week Day Average	**1093**
		Weekend Day Average	**621**
		7 Day Average	**958**

Site BL Bloomfield St (Between Chandos & Marquis St) — Eastbound — Lane 0

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	W/Day	W/End	7 Day
Time	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	29-Sep-10	Ave.	Ave.	Ave
0:00	2	1	1	3	0	0	1	1	2	1
1:00	3	2	3	2	1	1	3	2	3	2
2:00	5	5	2	2	0	2	3	3	2	3
3:00	3	4	0	0	3	5	4	4	0	3
4:00	5	5	5	0	2	2	4	4	3	3
5:00	9	16	9	7	9	13	16	13	8	11
6:00	21	23	16	10	22	22	19	21	13	19
7:00	64	74	45	20	54	40	55	57	33	50
8:00	125	155	74	56	78	95	78	106	65	94
9:00	149	117	87	60	123	137	108	127	74	112
10:00	113	136	118	79	99	115	101	113	99	109
11:00	117	128	107	63	98	98	99	108	85	101
12:00	125	118	70	62	95	110	124	114	66	101
13:00	110	127	69	58	104	120	104	113	64	99
14:00	163	172	68	50	119	102	102	132	59	111
15:00	171	140	89	75	133	131	107	136	82	121
16:00	170	159	58	61	174	146	166	163	60	133
17:00	126	109	63	64	111	103	119	114	64	99
18:00	67	52	37	41	58	59	68	61	39	55
19:00	34	31	22	25	34	29	26	31	24	29
20:00	22	17	18	13	18	15	34	21	16	20
21:00	8	18	12	9	14	20	21	16	11	15
22:00	6	9	10	4	4	9	10	8	7	7
23:00	4	7	1	6	4	6	4	5	4	5
Total	**1622**	**1625**	**984**	**770**	**1357**	**1380**	**1376**	**1472**	**877**	**1302**



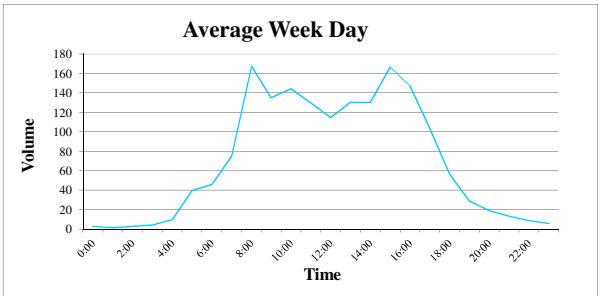
Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**155**
PM Peak	4:00 PM	5:00 PM	**174**
Week Day Average			**1472**
Weekend Day Average			**877**
7 Day Average			**1302**

Site BL Bloomfield St (Between Chandos & Marquis St) — Westbound — Lane 0

5 6 7 1 2 3 4

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	W/Day	W/End	7 Day
Time	23-Sep-10	24-Sep-10	25-Sep-10	26-Sep-10	27-Sep-10	28-Sep-10	29-Sep-10	Ave.	Ave.	Ave
0:00	8	1	6	4	0	4	1	3	5	3
1:00	2	1	4	1	1	1	2	1	3	2
2:00	3	3	3	1	5	3	0	3	2	3
3:00	3	3	2	4	2	6	7	4	3	4
4:00	12	7	9	1	6	11	12	10	5	8
5:00	33	32	16	10	37	46	51	40	13	32
6:00	38	46	34	15	44	41	60	46	25	40
7:00	84	92	56	30	62	69	69	75	43	66
8:00	198	226	108	63	128	149	135	167	86	144
9:00	135	141	126	115	125	147	127	135	121	131
10:00	167	140	138	126	127	154	134	144	132	141
11:00	108	147	154	97	117	139	138	130	126	129
12:00	118	112	76	62	98	126	119	115	69	102
13:00	146	146	71	55	114	123	123	130	63	111
14:00	140	145	54	54	122	130	113	130	54	108
15:00	197	208	61	59	157	136	136	167	60	136
16:00	177	128	69	52	149	130	152	147	61	122
17:00	103	93	72	68	114	114	93	103	70	94
18:00	59	71	47	32	46	50	56	56	40	52
19:00	25	32	26	24	33	28	26	29	25	28
20:00	19	21	17	11	17	16	21	19	14	17
21:00	19	6	7	6	10	15	16	13	7	11
22:00	8	11	13	3	13	7	5	9	8	9
23:00	7	6	7	4	12	2	2	6	6	6
Total	**1809**	**1818**	**1176**	**897**	**1539**	**1647**	**1598**	**1682**	**1037**	**1498**

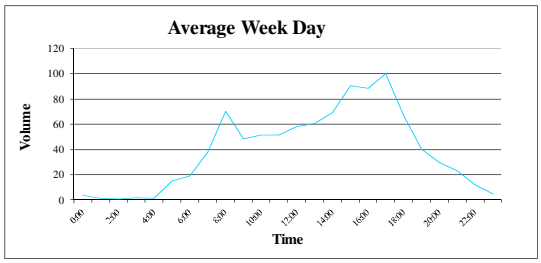


Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**226**
PM Peak	3:00 PM	4:00 PM	**208**
Week Day Average			**1682**
Weekend Day Average			**1037**
7 Day Average			**1498**

Site CAR Carroll St(Near Rail Crossing) **Eastbound** **Lane 0**

Day	*Sat*	*Sun*	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*W/Day*	*W/End*	*7 Day*
Time	9-Oct-10	10-Oct-10	11-Oct-10	12-Oct-10	13-Oct-10	14-Oct-10	15-Oct-10	*Ave.*	*Ave.*	*Ave*
0:00	4	8	1	3	5	6	3	4	6	4
1:00	2	7	4	1	1	0	0	1	5	2
2:00	2	1	0	1	1	1	1	1	2	1
3:00	4	2	2	2	3	1	1	2	3	2
4:00	1	0	1	2	1	1	1	1	1	1
5:00	8	4	16	11	18	18	12	15	6	12
6:00	12	9	13	19	18	21	25	19	11	17
7:00	17	13	29	37	46	37	39	38	15	31
8:00	25	42	58	67	66	83	76	70	34	60
9:00	46	49	40	45	50	51	56	48	48	48
10:00	66	59	55	48	59	42	54	52	63	55
11:00	67	69	46	46	62	44	58	51	68	56
12:00	61	63	55	65	49	62	60	58	62	59
13:00	73	50	73	59	62	47	62	61	62	61
14:00	98	56	81	71	56	72	65	69	77	71
15:00	66	77	79	76	99	96	102	90	72	85
16:00	77	78	87	90	79	101	84	88	78	85
17:00	73	72	105	110	92	98	96	100	73	92
18:00	62	49	63	69	66	67	70	67	56	64
19:00	37	44	43	40	42	40	37	40	41	40
20:00	29	21	21	30	36	31	29	29	25	28
21:00	21	14	17	19	19	30	29	23	18	21
22:00	20	8	10	11	10	10	19	12	14	13
23:00	3	4	2	4	4	6	8	5	4	4
Total	**874**	**799**	**901**	**926**	**944**	**965**	**987**	**945**	**837**	**914**



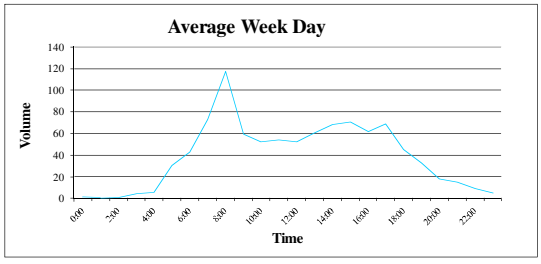
Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**83**
PM Peak	5:00 PM	6:00 PM	**110**
Week Day Average			**945**
Weekend Day Average			**837**
7 Day Average			**914**

Site CAR Carroll St(Near Rail Crossing) **Westbound** **Lane 0**

7 1 2 3 4 5 6

Day	*Sat*	*Sun*	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*W/Day*	*W/End*	*7 Day*
Time	9-Oct-10	10-Oct-10	11-Oct-10	12-Oct-10	13-Oct-10	14-Oct-10	15-Oct-10	*Ave.*	*Ave.*	*Ave*
0:00	2	1	1	1	2	1	2	1	2	1
1:00	7	5	0	0	0	1	1	0	6	2
2:00	2	4	0	1	1	1	0	1	3	1
3:00	4	3	5	3	8	3	2	4	4	4
4:00	7	4	8	8	2	6	5	6	6	6
5:00	18	11	27	30	36	34	26	31	15	26
6:00	13	12	44	38	47	38	48	43	13	34
7:00	38	31	74	90	66	64	72	73	35	62
8:00	55	58	109	122	110	121	124	117	57	100
9:00	72	59	64	63	53	66	51	59	66	61
10:00	70	57	45	53	58	52	54	52	64	56
11:00	64	67	51	51	67	38	62	54	66	57
12:00	56	43	46	43	54	58	60	52	50	51
13:00	59	53	63	53	53	66	67	60	56	59
14:00	51	45	70	59	60	70	81	68	48	62
15:00	54	58	71	61	73	79	68	70	56	66
16:00	59	59	54	67	53	72	63	62	59	61
17:00	56	64	57	67	71	73	77	69	60	66
18:00	50	37	32	39	56	60	40	45	44	45
19:00	30	33	39	29	26	42	29	33	32	33
20:00	16	22	17	21	14	17	22	18	19	18
21:00	19	13	12	13	17	14	18	15	16	15
22:00	12	5	7	6	8	6	18	9	9	9
23:00	13	8	2	5	6	7	5	5	11	7
Total	**827**	**752**	**898**	**923**	**941**	**989**	**995**	**949**	**790**	**904**

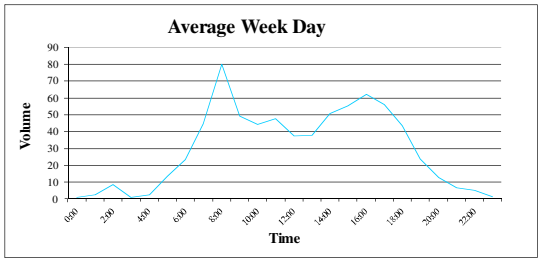


Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**124**
PM Peak	2:00 PM	3:00 PM	**81**
Week Day Average			**949**
Weekend Day Average			**790**
7 Day Average			**904**

Site KEL Kelvin Rd (Nth East of Maitland St) **Eastbound** **Lane 0**

Day	*Thu*	*Fri*	*Sat*	*Sun*	*Mon*	*Tue*	*Wed*	*W/Day*	*W/End*	*7 Day*
Time	4-Nov-10	5-Nov-10	6-Nov-10	7-Nov-10	8-Nov-10	9-Nov-10	10-Nov-10	*Ave.*	*Ave.*	*Ave*
0:00	1	0	5	9	0	0	2	1	7	2
1:00	5	3	3	1	0	3	1	2	2	2
2:00	8	9	4	0	0	10	16	9	2	7
3:00	0	2	0	0	1	1	1	1	0	1
4:00	3	3	0	0	2	2	3	3	0	2
5:00	9	16	10	2	16	14	13	14	6	11
6:00	24	24	13	7	28	21	20	23	10	20
7:00	52	50	17	21	41	41	40	45	19	37
8:00	82	69	40	22	72	85	92	80	31	66
9:00	52	54	57	29	45	54	42	49	43	48
10:00	45	49	47	43	37	48	42	44	45	44
11:00	43	60	57	39	48	47	40	48	48	48
12:00	26	44	54	30	40	41	36	37	42	39
13:00	47	34	65	35	35	37	37	38	50	41
14:00	48	58	59	34	50	53	45	51	47	50
15:00	56	63	39	43	50	59	48	55	41	51
16:00	72	55	31	30	60	61	62	62	31	53
17:00	46	46	37	39	69	59	61	56	38	51
18:00	44	39	37	30	50	34	50	43	34	41
19:00	27	23	21	33	25	17	26	24	27	25
20:00	15	10	18	12	17	9	13	13	15	13
21:00	4	6	11	8	5	11	8	7	10	8
22:00	3	4	4	2	5	3	10	5	3	4
23:00	2	1	7	0	3	0	1	1	4	2
Total	**714**	**722**	**636**	**469**	**699**	**710**	**709**	**711**	**553**	**666**



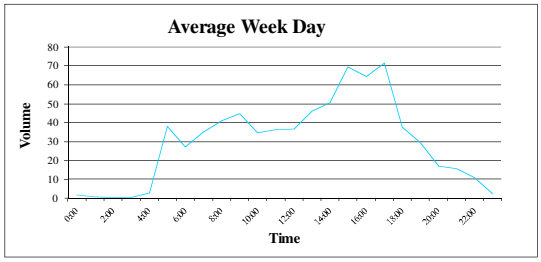
Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**92**
PM Peak	4:00 PM	5:00 PM	**72**
		Week Day Average	**711**
		Weekend Day Average	**553**
		7 Day Average	**666**

Site KEL Kelvin Rd (Nth East of Maitland St) **Westbound** **Lane 0**

5 6 7 1 2 3 4

Day	*Thu*	*Fri*	*Sat*	*Sun*	*Mon*	*Tue*	*Wed*	*W/Day*	*W/End*	*7 Day*
Time	4-Nov-10	5-Nov-10	6-Nov-10	7-Nov-10	8-Nov-10	9-Nov-10	10-Nov-10	*Ave.*	*Ave.*	*Ave*
0:00	2	1	0	1	1	3	2	2	1	1
1:00	0	0	0	1	0	3	1	1	1	1
2:00	1	0	1	2	1	0	1	1	2	1
3:00	0	0	0	0	0	1	1	0	0	0
4:00	1	1	0	2	3	4	5	3	1	2
5:00	39	39	17	5	35	45	32	38	11	30
6:00	34	25	10	7	20	28	29	27	9	22
7:00	31	32	22	14	40	36	36	35	18	30
8:00	47	40	29	18	41	33	45	41	24	36
9:00	41	49	70	46	46	46	42	45	58	49
10:00	37	42	93	39	27	30	37	35	66	44
11:00	26	39	60	38	36	44	37	36	49	40
12:00	37	40	47	26	33	41	33	37	37	37
13:00	50	50	24	31	50	32	49	46	28	41
14:00	71	50	47	41	42	44	45	50	44	49
15:00	61	68	41	31	75	70	73	69	36	60
16:00	50	73	49	36	73	60	66	64	43	58
17:00	84	51	36	39	84	70	69	72	38	62
18:00	49	36	23	33	27	44	33	38	28	35
19:00	31	27	12	23	26	29	35	30	18	26
20:00	11	28	15	15	11	13	23	17	15	17
21:00	21	21	16	6	18	7	11	16	11	14
22:00	10	16	9	4	14	4	11	11	7	10
23:00	2	3	5	0	0	3	5	3	3	3
Total	**736**	**731**	**626**	**458**	**703**	**690**	**721**	**716**	**542**	**666**



Summary

	from	to	
AM Peak	9:00 AM	10:00 AM	**49**
PM Peak	5:00 PM	6:00 PM	**84**
		Week Day Average	**716**
		Weekend Day Average	**542**
		7 Day Average	**666**

Appendix B

Crash Data

Summary Crash Report

Transport Centre for Road Safety

# Crash Type		
Car Crash	94	85.5%
Light Truck Crash	27	24.5%
Rigid Truck Crash	2	1.8%
Articulated Truck Crash	3	2.7%
'Heavy Truck Crash	(5)	(4.5%)
Bus Crash	0	0.0%
"Heavy Vehicle Crash	(5)	(4.5%)
Emergency Vehicle Crash	0	0.0%
Motorcycle Crash	8	7.3%
Pedal Cycle Crash	7	6.4%
Pedestrian Crash	9	8.2%

' Rigid or Artic. Truck " Heavy Truck or Heavy Bus
These categories are NOT mutually exclusive

Location Type		
*Intersection	69	62.7%
Non intersection	41	37.3%

* Up to 10 metres from an intersection
~ 07:30-09:30 or 14:30-17:00 on school days

Collision Type		
Single Vehicle	20	18.2%
Multi Vehicle	90	81.8%

Road Classification		
Freeway/Motorway	0	0.0%
State Highway	31	28.2%
Other Classified Road	0	0.0%
Unclassified Road	79	71.8%

Contributing Factors		
Speeding	9	8.2%
Fatigue	9	8.2%
Alcohol	5	4.5%

Weather		
Fine	92	83.6%
Rain	9	8.2%
Overcast	5	4.5%
Fog or mist	1	0.9%
Other	0	0.0%

Road Surface Condition		
Wet	16	14.5%
Dry	94	85.5%
Snow or ice	0	0.0%

Natural Lighting		
Dawn	0	0.0%
Daylight	80	72.7%
Dusk	7	6.4%
Darkness	23	20.9%

Crash Movement		
Intersection, adjacent approaches	37	33.6%
Head-on (not overtaking)	0	0.0%
Opposing vehicles; turning	5	4.5%
U-turn	4	3.6%
Rear-end	15	13.6%
Lane change	1	0.9%
Parallel lanes; turning	0	0.0%
Vehicle leaving driveway	2	1.8%
Overtaking; same direction	0	0.0%
Hit parked vehicle	0	0.0%
Hit railway train	0	0.0%
Hit pedestrian	8	7.3%
Permanent obstruction on road	0	0.0%
Hit animal	0	0.0%
Off road, on straight	2	1.8%
Off road on straight, hit object	12	10.9%
Out of control on straight	3	2.7%
Off road, on curve	3	2.7%
Off road on curve, hit object	2	1.8%
Out of control on curve	0	0.0%
Other crash type	16	14.5%

Speed Limit				
40 km/h or less	2	1.8%	~ 40km/h or less	0	0.0%
50 km/h zone	105	95.5%	80 km/h zone	0	0.0%
60 km/h zone	2	1.8%	90 km/h zone	0	0.0%
70 km/h zone	0	0.0%	100 km/h zone	1	0.9%
			110 km/h zone	0	0.0%

CRASHES	110	
Fatal crash	0	0.0%
Injury crash	56	50.9%
Non-casualty crash	54	49.1%

CASUALTIES	69	
Killed	0	0.0%
Injured	69	100.0%
^ Unrestrained	7	10.1%

^ Belt fitted but not worn, No restraint fitted to position OR No helmet worn

Time Group		% of Day	
00:01 - 02:59	7	6.4%	12.5%
03:00 - 04:59	0	0.0%	8.3%
05:00 - 05:59	0	0.0%	4.2%
06:00 - 06:59	1	0.9%	4.2%
07:00 - 07:59	3	2.7%	4.2%
08:00 - 08:59	7	6.4%	4.2%
09:00 - 09:59	10	9.1%	4.2%
10:00 - 10:59	6	5.5%	4.2%
11:00 - 11:59	7	6.4%	4.2%
12:00 - 12:59	6	5.5%	4.2%
13:00 - 13:59	5	4.5%	4.2%
14:00 - 14:59	2	1.8%	4.2%
15:00 - 15:59	12	10.9%	4.2%
16:00 - 16:59	8	7.3%	4.2%
17:00 - 17:59	11	10.0%	4.2%
18:00 - 18:59	10	9.1%	4.2%
19:00 - 19:59	6	5.5%	4.2%
20:00 - 21:59	4	3.6%	8.3%
22:00 - 24:00	5	4.5%	8.3%

Street Lighting Off/Nil			% of Dark
3	of	23 in Dark	13.0%

Crashes		Casualties
12	2012	6
25	2011	15
18	2010	14
21	2009	15
26	2008	12
8	2007	7

~ School Travel Time		
Involvement	21	19.1%

McLean Periods			% Week
A	10	9.1%	17.9%
B	1	0.9%	7.1%
C	24	21.8%	17.9%
D	8	7.3%	3.5%
E	4	3.6%	3.6%
F	18	16.4%	10.7%
G	23	20.9%	7.1%
H	9	8.2%	7.1%
I	5	4.5%	12.5%
J	8	7.3%	10.7%

Day of the Week						# Holiday Periods		
Monday	11	10.0%	Thursday	18	16.4%	Sunday	11	10.0%
Tuesday	16	14.5%	Friday	25	22.7%	WEEKDAY	83	75.5%
Wednesday	13	11.8%	Saturday	16	14.5%	WEEKEND	27	24.5%

New Year	1	0.9%	Queen's BD	0	0.0%	Easter SH	8	7.3%
Aust. Day	1	0.9%	Labour Day	1	0.9%	June/July SH	2	1.8%
Easter	1	0.9%	Christmas	0	0.0%	Sept./Oct. SH	5	4.5%
Anzac Day	1	0.9%	January SH	5	4.5%	December SH	1	0.9%

Crashid dataset Gunnedah 50km/h speedzone Crash data 1/7/2007 to 30/6/2012

Percentages are percentages of all crashes. Unknown values for each category are not shown on this report.

Detailed Crash Report

Transport Centre for Road Safety — NSW GOVERNMENT

Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																					S F
Northern Region																					
Gunnedah LGA																					
Gunnedah																					
Abbott St																					
600271	01/12/2007	Sat	23:56		at	BLOOMFIELD ST	XJN	STR	Overcast	Dry	50	1	CAR	M19	S in ABBOTT ST	50 Proceeding in lane		N	0	0	F
E32071756							RUM:	70	Off road to left												
Albion St																					
683191	22/09/2009	Tue	11:25		at	GEORGE ST	XJN	STR	Raining	Wet	50	2	CAR	F63	E in GEORGE ST	40 Proceeding in lane		I	0	1	
E38297324							RUM:	10	Cross traffic				CAR	F29	S in ALBION ST	40 Proceeding in lane					
Apex Rd																					
606922	25/01/2008	Fri	07:30	530 m	S	FAIRVIEW ST	2WY	CRV	Fine	Dry	50	1	CAR	F18	N in APEX RD	50 Proceeding in lane		N	0	0	S
E34933481							RUM:	81	Off left/rt bnd=>obj				Fence								
633355	01/08/2008	Fri	18:14	24 m	S	MARION ST	2WY	STR	Raining	Wet	50	2	CAR	M52	N in APEX RD	25 Proceeding in lane		I	0	1	
E34132010							RUM:	3	Ped on carriageway				PED	F87	APEX RD	Stand on carriageway					
Ashford St																					
745955	21/02/2011	Mon	09:50		at	CUSHAN AVE	TJN	CRV	Fine	Dry	50	1	CAR	M42	W in ASHFORD ST	40 Proceeding in lane		N	0	0	
E43577706							RUM:	80	Off left/right bend												
Bando St																					
584441	28/07/2007	Sat	16:40	10 m	E	JARMAIN CL	TJN	STR	Fine	Dry	50	2	CAR	F16	W in BANDO ST	5 Turning right		I	0	1	
E30961561							RUM:	21	Right through				M/C	M39	E in BANDO ST	50 Proceeding in lane					
Barber St																					
765091	13/08/2011	Sat	18:30		at	CHANDOS ST	XJN	STR	Fine	Dry	50	2	4WD	M32	S in CHANDOS ST	40 Proceeding in lane		I	0	1	
E45102852							RUM:	10	Cross traffic				CAR	F30	E in BARBER ST	50 Proceeding in lane					
795159	12/05/2012	Sat	09:15	10 m	E	CHANDOS ST	XJN	STR	Unk	Wet	50	2	TRK	M21	W in BARBER ST	10 Perform U-turn		I	0	1	
E48323771							RUM:	40	U turn				CAR	F19	E in BARBER ST	40 Proceeding in lane					
701805	05/03/2010	Fri	20:30	100 m	E	CHANDOS ST	2WY	STR	Raining	Wet	50	2	TRK	M17	E in BARBER ST	50 Proceeding in lane		I	0	1	F
E150039295							RUM:	71	Off rd left => obj				WAG		E in BARBER ST	0 Parked					
752687	16/04/2011	Sat	14:16		at	ELGIN ST	XJN	STR	Fine	Dry	50	2	4WD	M81	S in ELGIN ST	30 Proceeding in lane		I	0	1	
E44045922							RUM:	10	Cross traffic				CAR	F25	W in BARBER ST	40 Proceeding in lane					
693609	08/12/2009	Tue	21:10	20 m	E	MARQUIS ST	2WY	STR	Fine	Dry	50	1	CAR	F43	W in BARBER ST	50 Proceeding in lane		I	0	1	F
E39222354							RUM:	71	Off rd left => obj				Tree/bush								

Crash No.	Date	Day of Week	Time	Distance	ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																				S F
756775	15/06/2011	Wed	17:25	100 m W	MARQUIS ST	2WY	STR	Fine	Dry	50	2	CAR	F45	N in BARBER ST	2	Pulling out	I	0	1	
E46673880						RUM:	42	Leaving parking				M/C	M25	W in BARBER ST	30	Proceeding in lane				
659675	07/12/2008	Sun	13:05	30 m W	OSRIC ST	2WY	STR	Fine	Dry	50	1	P/C	M47	W in BARBER ST		Proceeding in lane	I	0	1	
E35697676						RUM:	74	On road-out of cont.												
795950	06/06/2011	Mon	09:45	at	ROSEMARY ST	XJN	STR	Fine	Dry	50	3	4WD	F51	N in ROSEMARY ST	40	Proceeding in lane	I	0	2	
E44989049						RUM:	10	Cross traffic				CAR	M76	E in BARBER ST	50	Proceeding in lane				
												CAR	M77	S in ROSEMARY ST	0	Stationary				
777015	30/11/2011	Wed	18:35	at	TEMPEST ST	XJN	STR	Raining	Wet	50	2	CAR	M61	N in TEMPEST ST	30	Proceeding in lane	N	0	0	
E46917167						RUM:	10	Cross traffic				4WD	M33	E in BARBER ST	50	Proceeding in lane				
788529	06/03/2012	Tue	12:15	at	TEMPEST ST	XJN	STR	Fine	Dry	50	2	CAR	F92	S in TEMPEST ST	10	Proceeding in lane	I	0	1	
E49772788						RUM:	10	Cross traffic				CAR	F41	E in BARBER ST	50	Proceeding in lane				
Beulah St																				
637544	11/09/2008	Thu	08:50	at	RODNEY ST	XJN	STR	Fine	Dry	50	2	TRK	M82	W in BEULAH ST	50	Proceeding in lane	N	0	0	
E35146003						RUM:	10	Cross traffic				4WD	F49	N in RODNEY ST	50	Proceeding in lane				
648972	12/12/2008	Fri	22:20	at	WARRENA ST	TJN	STR	Raining	Wet	50	1	CAR	M25	E in BEULAH ST	Unk	Proceeding in lane	N	0	0	F
E36249163						RUM:	75	Off end of road												
Bloomfield St																				
633466	29/07/2008	Tue	15:35	at	CHANDOS ST	XJN	STR	Fine	Dry	50	2	PAN	F46	S in CHANDOS ST	30	Proceeding in lane	I	0	2	
E34373222						RUM:	10	Cross traffic				SEM	M58	E in BLOOMFIELD ST	35	Proceeding in lane				
637935	12/09/2008	Fri	08:15	at	CHANDOS ST	XJN	STR	Fine	Dry	50	2	4WD	M49	N in CHANDOS ST	Unk	Proceeding in lane	N	0	0	
E35743853						RUM:	10	Cross traffic				4WD	F52	E in BLOOMFIELD ST	Unk	Proceeding in lane				
649034	13/12/2008	Sat	09:20	at	CHANDOS ST	XJN	STR	Unk	Wet	50	2	CAR	F18	W in BLOOMFIELD ST	35	Turning right	I	0	1	
E36189969						RUM:	11	Right far				CAR	M65	N in CHANDOS ST	20	Proceeding in lane				
717001	03/07/2010	Sat	10:20	at	CHANDOS ST	XJN	STR	Fine	Dry	50	2	TRK	F42	N in CHANDOS ST	20	Proceeding in lane	N	0	0	
E41656862						RUM:	10	Cross traffic				CAR	M77	E in BLOOMFIELD ST	40	Proceeding in lane				
746523	25/03/2011	Fri	18:15	at	CHANDOS ST	XJN	STR	Fine	Dry	50	2	CAR	F43	S in CHANDOS ST	50	Proceeding in lane	N	0	0	
E43684517						RUM:	10	Cross traffic				4WD	M34	E in BLOOMFIELD ST	50	Proceeding in lane				
748548	13/04/2011	Wed	15:50	at	CHANDOS ST	XJN	STR	Fine	Dry	50	2	CAR	F17	N in BLOOMFIELD ST	10	Proceeding in lane	I	0	1	
E44341938						RUM:	10	Cross traffic				CAR	F42	E in CHANDOS ST	50	Proceeding in lane				
770601	06/10/2011	Thu	13:25	at	CHANDOS ST	XJN	STR	Fine	Wet	50	2	CAR	F22	N in CHANDOS ST	20	Proceeding in lane	N	0	0	
E45736832						RUM:	10	Cross traffic				CAR	M47	W in BLOOMFIELD ST	40	Proceeding in lane				
778661	11/12/2011	Sun	18:25	at	CHANDOS ST	XJN	STR	Raining	Wet	50	2	4WD	F47	N in CHANDOS ST	10	Proceeding in lane	N	0	0	
E46998367						RUM:	10	Cross traffic				TRK	M23	E in BLOOMFIELD ST	50	Proceeding in lane				

Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors S F
677182	12/11/2008	Wed	08:15	10 m	E	CHANDOS ST	XJN	STR	Fine	Dry	50	1	SEM	M57	E in BLOOMFIELD ST	50	Proceeding in lane	N	0	0	
E35161637							RUM:	73	Off rd rght => obj				Tree/bush								
628815	28/06/2008	Sat	11:00		at	HENRY ST	XJN	STR	Fine	Dry	50	2	CAR	M69	E in BLOOMFIELD ST	20	Proceeding in lane	I	0	2	
E34247234							RUM:	10	Cross traffic				CAR	F60	N in HENRY ST	50	Proceeding in lane				
681804	10/09/2009	Thu	09:55		at	OSRIC ST	XJN	STR	Fine	Dry	50	2	CAR	U U	S in OSRIC ST	Unk	Proceeding in lane	N	0	0	
E38974167							RUM:	10	Cross traffic				CAR	M U	W in BLOOMFIELD ST	40	Proceeding in lane				
Bridge St																					
619589	28/03/2008	Fri	16:30		at	STOCK RD	XJN	STR	Fine	Dry	50	1	CAR	M55	W in STOCK RD	40	Proceeding in lane	I	0	1	F
E112658897							RUM:	71	Off rd left => obj				Signpost								
705526	04/04/2010	Sun	16:50		at	STOCK RD	XJN	STR	Fine	Dry	50	2	CAR	F84	W in STOCK RD	Unk	Proceeding in lane	N	0	0	
E40245135							RUM:	10	Cross traffic				OMV	M61	N in BRIDGE ST	45	Proceeding in lane				
Chandos St																					
644130	23/10/2008	Thu	10:20	15 m	N	KAMILAROI HWY	2WY	STR	Fine	Dry	50	2	CAR	F65	E in CHANDOS ST	Unk	Pulling out	I	0	1	
E35174132							RUM:	42	Leaving parking				CAR	F44	N in CHANDOS ST	Unk	Proceeding in lane				
761800	22/07/2011	Fri	23:25	10 m	S	LITTLE CONADIL ST	TJN	STR	Fine	Dry	50	2	CAR	F24	S in CHANDOS ST	5	Reverse parking	N	0	0	
E209131993							RUM:	43	Entering parking				CAR	M17	N in CHANDOS ST	40	Proceeding in lane				
789476	30/03/2012	Fri	16:35	10 m	S	LITTLE CONADIL ST	TJN	STR	Fine	Dry	50	2	CAR	F40	W in CHANDOS ST	5	Pulling out	N	0	0	
E47293706							RUM:	42	Leaving parking				WAG	F68	W in LITTLE CONADIL ST	15	Turning left				
692161	03/12/2009	Thu	16:55		at	MAITLAND ST	XJN	STR	Fine	Dry	50	2	TRK	U U	W in MAITLAND ST	Unk	Proceeding in lane	N	0	0	
E39633428							RUM:	10	Cross traffic				CAR	U U	N in CHANDOS ST	Unk	Proceeding in lane				
Elgin St																					
775966	23/10/2011	Sun	00:20	2 m	N	KAMILAROI HWY	XJN	STR	Fine	Dry	50	2	OMV	M37	S in ELGIN ST	Unk	Proceeding in lane	I	0	1	
E147664498							RUM:	2	Ped far side				PED	M42	E in ELGIN ST		Run across carriageway				
747226	29/03/2011	Tue	15:30	15 m	N	KAMILAROI HWY	2WY	STR	Fine	Dry	50	2	UTE	M32	W in ELGIN ST	10	Pulling out	N	0	0	
E44192103							RUM:	42	Leaving parking				VAN	F17	S in ELGIN ST	30	Proceeding in lane				
Farrar Rd																					
685881	15/10/2009	Thu	02:00	55 m	N	OXLEY HWY	2WY	CRV	Fine	Dry	50	1	CAR	M62	N in FARRAR RD	35	Proceeding in lane	N	0	0	
E38863405							RUM:	83	Off rt/rt bnd=>obj				Utility pole								
George St																					
753758	25/05/2011	Wed	15:40		at	HIGH ST	XJN	STR	Fine	Dry	50	2	CAR	F17	N in HIGH ST	15	Turning right	N	0	0	
E44987128							RUM:	13	Right near				CAR	M28	W in GEORGE ST	50	Proceeding in lane				

Crash No.	Date	Day of Week	Time	Distance	ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																				S F
718425	20/07/2010	Tue	01:55	15 m E	HIGH ST	2WY	STR	Fog or mist	Wet	50	1	UTE	F26	E in GEORGE ST	Unk	Proceeding in lane	I	0	1	
E41586634						RUM:	71	Off rd left => obj				Fence								
752664	06/05/2011	Fri	08:50	at	PORCUPINE ST	XJN	STR	Fine	Dry	50	2	TRK	M40	E in GEORGE ST	30	Proceeding in lane	I	0	1	
E44589019						RUM:	10	Cross traffic				4WD	F29	S in PORCUPINE ST	30	Proceeding in lane				
623193	10/05/2008	Sat	10:30	at	RODNEY ST	XJN	STR	Fine	Dry	50	2	UTE	M18	E in GEORGE ST	20	Proceeding in lane	N	0	0	
E33363330						RUM:	10	Cross traffic				CAR	F48	S in RODNEY ST	50	Proceeding in lane				
641513	26/09/2008	Fri	16:30	at	RODNEY ST	XJN	STR	Fine	Dry	50	2	UTE	F18	W in GEORGE ST	Unk	Proceeding in lane	N	0	0	
E67358502						RUM:	10	Cross traffic				CAR	F59	N in RODNEY ST	40	Proceeding in lane				
640712	30/09/2008	Tue	17:10	at	RODNEY ST	XJN	STR	Fine	Dry	50	2	UTE	M22	W in GEORGE ST	Unk	Proceeding in lane	I	0	1	
E35459029						RUM:	10	Cross traffic				CAR	F46	S in RODNEY ST	Unk	Proceeding in lane				
727588	30/09/2010	Thu	15:15	at	RODNEY ST	TJN	STR	Fine	Dry	50	2	CAR	M34	W in GEORGE ST	50	Proceeding in lane	N	0	0	
E42102172						RUM:	10	Cross traffic				TRK	M57	N in RODNEY ST	50	Proceeding in lane				
688339	06/11/2009	Fri	23:35	at	WANDOBAH RD	TJN	STR	Fine	Dry	50	1	CAR	M17	N in WANDOBAH RD	100	Turning right	N	0	0	S
E38437210						RUM:	80	Off left/right bend												
Hamilton Rd																				
703975	24/03/2010	Wed	18:00	at	STOCK RD	TJN	STR	Fine	Dry	50	2	CAR	F19	W in STOCK RD	30	Turning right	I	0	1	
E39846160						RUM:	21	Right through				TRK	M65	E in STOCK RD	50	Proceeding in lane				
Hopedale Ave																				
713037	28/05/2010	Fri	17:50	at	VIEW ST	TJN	STR	Fine	Dry	50	2	OMV	U U	E in HOPEDALE AVE	Unk	Proceeding in lane	I	0	1	
E41513851						RUM:	30	Rear end				P/C	M15	E in HOPEDALE AVE		Proceeding in lane				
Hunter St																				
792951	24/04/2012	Tue	15:35	at	MARQUIS ST	XJN	STR	Fine	Dry	50	2	CAR	M82	N in MARQUIS ST	30	Turning right	N	0	0	
E48504465						RUM:	21	Right through				CAR	F58	S in MARQUIS ST	30	Proceeding in lane				
670241	10/06/2009	Wed	07:55	5 m W	MARQUIS ST	XJN	STR	Fine	Dry	50	2	CAR	F22	E in HUNTER ST	30	Proceeding in lane	N	0	0	
E37771812						RUM:	31	Left rear				CAR	M36	E in HUNTER ST	0	Waiting turn left				
721009	10/08/2010	Tue	17:35	at	RODNEY ST	XJN	STR	Fine	Dry	50	2	CAR	F51	E in HUNTER ST	15	Proceeding in lane	I	0	2	
E41900438						RUM:	10	Cross traffic				CAR	F35	S in RODNEY ST	50	Proceeding in lane				
773366	30/10/2011	Sun	17:50	at	RODNEY ST	XJN	STR	Overcast	Dry	50	2	TRK	M23	W in HUNTER ST	10	Proceeding in lane	N	0	0	
E46395262						RUM:	10	Cross traffic				4WD	F27	S in RODNEY ST	50	Proceeding in lane				
646614	20/11/2008	Thu	12:21	10 m W	RODNEY ST	XJN	STR	Fine	Dry	50	2	CAR	M17	E in HUNTER ST	40	Proceeding in lane	N	0	0	
E35723046						RUM:	71	Off rd left => obj				LOR		E in HUNTER ST	0	Parked				
Kamilaroi Hwy																				

Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																					S F
592758	28/09/2007	Fri	12:00	40 m	W	ABBOTT ST	2WY	STR	Fine	Dry	50	2	OMV	U U	KAMILAROI HWY	Unk	Reversing in lane	I	0	1	
E32839855							RUM:	2	Ped far side				PED	M12	KAMILAROI HWY		Walk across carriageway				
679441	20/08/2009	Thu	19:00	30 m	E	CHANDOS ST	2WY	STR	Fine	Dry	40	2	CAR	M41	W in KAMILAROI HWY	Unk	Proceeding in lane	N	0	0	
E38174127							RUM:	30	Rear end				CAR	U U	W in KAMILAROI HWY	0	Stationary				
728334	15/10/2010	Fri	17:50	15 m	W	CHANDOS ST	2WY	STR	Raining	Wet	50	2	CAR	M46	W in KAMILAROI HWY	15	Proceeding in lane	I	0	3	
E44945886							RUM:	30	Rear end				CAR	M25	W in KAMILAROI HWY	0	Stationary				
706746	15/04/2010	Thu	19:00	5 m	W	ELGIN ST	XJN	STR	Fine	Dry	50	2	CAR	M19	E in KAMILAROI HWY	35	Proceeding in lane	I	0	1	
E241569192							RUM:	0	Ped nearside				PED	M47	S in KAMILAROI HWY		Walk across carriageway				
789657	19/03/2012	Mon	15:15	30 m	W	ELGIN ST	2WY	STR	Fine	Dry	60	2	CAR	F63	N in KAMILAROI HWY	10	Pulling out	I	0	1	
E47454561							RUM:	2	Ped far side				PED	M81	S in KAMILAROI HWY		Walk across carriageway				
750070	26/04/2011	Tue	10:15	50 m	W	ELGIN ST	2WY	STR	Fine	Dry	40	2	TRK	M54	W in KAMILAROI HWY	5	Proceeding in lane	I	0	1	
E44230854							RUM:	30	Rear end				CAR	M54	W in KAMILAROI HWY	0	Stationary				
656740	08/02/2009	Sun	10:15	100 m	W	ELGIN ST	2WY	STR	Fine	Dry	50	2	CAR	F78	S in KAMILAROI HWY	20	Pulling out	I	0	1	
E36379364							RUM:	42	Leaving parking				M/C	M49	W in KAMILAROI HWY	30	Proceeding in lane				
801615	24/06/2012	Sun	17:15	30 m	W	MARQUE ST	2WY	STR	Fine	Dry	50	2	CAR	M26	W in KAMILAROI HWY	25	Proceeding in lane	I	0	1	
E48782843							RUM:	30	Rear end				TRK	M17	W in KAMILAROI HWY	0	Stationary				
785011	10/02/2012	Fri	17:10		at	MARQUIS ST	XJN	STR	Fine	Dry	50	2	CAR	F U	N in MARQUIS ST	Unk	Proceeding in lane	I	0	1	
E47179450							RUM:	2	Ped far side				PED	F16	W in MARQUIS ST		Walk across carriageway				
791864	12/03/2012	Mon	13:20		at	MARQUIS ST	XJN	STR	Fine	Dry	50	2	CAR	F69	E in KAMILAROI HWY	Unk	Turning right	N	0	0	
E47359218							RUM:	21	Right through				UTE	M21	W in KAMILAROI HWY	30	Proceeding in lane				
797065	13/05/2012	Sun	13:05	10 m	E	MARQUIS ST	XJN	STR	Fine	Wet	50	2	4WD	M21	E in KAMILAROI HWY	25	Proceeding in lane	N	0	0	
E47061960							RUM:	30	Rear end				LOR	M24	E in KAMILAROI HWY	0	Stationary				
581756	13/07/2007	Fri	16:00	5 m	W	MARQUIS ST	XJN	STR	Fine	Dry	50	2	UTE	M44	N in MARQUIS ST	10	Turning left	I	0	1	
E33121588							RUM:	16	Left near				M/C	M28	W in KAMILAROI HWY	0	Stationary				
639012	05/09/2008	Fri	20:30		at	ROSEMARY ST	XJN	STR	Raining	Wet	50	2	OMV	F U		Unk	Other forward	I	0	1	
E34606925							RUM:	99	Unknown				P/C	M10			Other forward				
639137	08/08/2008	Fri	15:20		at	TEMPEST ST	XJN	STR	Fine	Dry	50	2	UTE	M29	S in TEMPEST ST	15	Proceeding in lane	N	0	0	
E35894655							RUM:	10	Cross traffic				WAG	F35	W in KAMILAROI HWY	40	Proceeding in lane				
692505	15/12/2009	Tue	11:30	50 m	W	TEMPEST ST	2WY	STR	Fine	Dry	50	2	CAR	F19	W in KAMILAROI HWY	10	Perform U-turn	N	0	0	
E39112324							RUM:	40	U turn				TRK	M33	W in KAMILAROI HWY	50	Proceeding in lane				
703853	10/03/2010	Wed	09:05	50 m	E	TEMPSEST ST	2WY	STR	Fine	Dry	50	2	4WD	M30	E in KAMILAROI HWY	5	Perform U-turn	N	0	0	
E77494102							RUM:	42	Leaving parking				TRK	M31	E in KAMILAROI HWY	50	Proceeding in lane				

Kamilaroi Rd

Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																					S F
731760	14/11/2010	Sun	09:30	50 m	W	STH BOUNDARY RD	2WY	STR	Fine	Dry	50	3	TRK	M18	E in KAMILAROI RD	50	Proceeding in lane	N	0	0	F
E42942373							RUM:	71	Off rd left => obj				CAR		E in KAMILAROI RD	0	Parked				
													WAG		E in KAMILAROI RD	0	Parked				
Kevin Rd																					
663072	06/04/2009	Mon	17:10	10 m	N	COHENS BDGE	2WY	STR	Fine	Dry	50	2	TRK	M24	S in KEVIN RD	40	Proceeding in lane	N	0	0	
E37361529							RUM:	30	Rear end				TRK	M54	S in KEVIN RD	0	Stationary				
Lincoln St																					
587206	23/08/2007	Thu	18:30	30 m	E	VIEW ST	2WY	STR	Fine	Dry	50	2	UTE	M44	W in LINCOLN ST	40	Proceeding in lane	I	0	1	
E31011215							RUM:	0	Ped nearside				PED	F23	N in LINCOLN ST		Run across carriageway				
625513	31/05/2008	Sat	12:40	150 m	W	VIEW ST	2WY	STR	Fine	Dry	50	2	TRK	M24	W in LINCOLN ST	40	Proceeding in lane	I	0	1	
E36402086							RUM:	73	Off rd rght => obj				CAR		E in LINCOLN ST	0	Parked				
645242	01/11/2008	Sat	20:59	5 m	W	VILLA ST	TJN	STR	Fine	Dry	50	1	CAR	M U	W in LINCOLN ST	80	Turning right	N	0	0	S
E35526421							RUM:	80	Off left/right bend												
659032	01/01/2009	Thu	02:15	570 m	E	WANDOBAH RD	2WY	STR	Fine	Dry	50	1	M/C	M22	E in LINCOLN ST	50	Proceeding in lane	I	0	1	F
E36802965							RUM:	70	Off road to left												
Little Barber St																					
663609	20/04/2009	Mon	11:30		at	MARQUIS ST	XJN	STR	Fine	Dry	50	2	CAR	M79	S in MARQUIS ST	30	Turning right	I	0	1	
E37258626							RUM:	21	Right through				CAR	M32	N in MARQUIS ST	40	Proceeding in lane				
774233	12/11/2011	Sat	18:50		at	OSRIC ST	XJN	STR	Fine	Dry	50	2	TRK	M21	E in LITTLE BARBER ST	30	Proceeding in lane	N	0	0	
E46651571							RUM:	10	Cross traffic				CAR	F44	S in OSRIC ST	30	Proceeding in lane				
Little Reservo St																					
742494	17/02/2011	Thu	15:45	5 m	E	ANZAC PDE	TJN	STR	Fine	Dry	50	2	P/C	M9	S in LITTLE RESERVO ST		Along footpath	I	0	1	
E43706145							RUM:	48	From footpath				CAR	F49	W in LITTLE RESERVO ST	20	Proceeding in lane				
Maitland St																					
586897	22/08/2007	Wed	01:05	50 m	E	CHANDOS ST	2WY	STR	Fine	Dry	50	1	CAR	M27	E in MAITLAND ST	50	Proceeding in lane	I	0	2	F
E30935809							RUM:	73	Off rd rght => obj				Tree/bush								
658622	06/03/2009	Fri	14:54	18 m	W	ELGIN ST	2WY	STR	Fine	Dry	50	1	TRK	M23	W in MAITLAND ST	60	Proceeding in lane	I	0	1	S
E36401024							RUM:	74	On road-out of cont.												
Marquis St																					
750356	19/04/2011	Tue	16:00	10 m	S	LITTLE BARBER ST	XJN	STR	Fine	Dry	50	3	CAR	M72	W in MARQUIS ST	5	Pulling out	I	0	4	S
E44557373							RUM:	42	Leaving parking				UTE		N in MARQUIS ST	0	Parked				
													CAR	M27	S in MARQUIS ST	80	Proceeding in lane				

Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																					S F
643651	18/10/2008	Sat	09:34	10 m	N	LITTLE HUNTER ST	TJN	STR	Fine	Dry	50	3	CAR	F27	S in MARQUIS ST	Unk	Proceeding in lane	N	0	0	
E35373205							RUM:	30	Rear end				CAR	F47	S in MARQUIS ST	Unk	Pulling out				
													CAR	M83	S in MARQUIS ST	20	Proceeding in lane				
Old Tamworth Rd																					
687454	05/09/2009	Sat	00:35	300 m	W	WEAVER ST	2WY	STR	Overcast	Wet	100	2	OMV	M32	W in OLD TAMWORTH RD	70	Proceeding in lane	I	0	1	
E40148687							RUM:	0	Ped nearside				PED	F16	OLD TAMWORTH RD		Walk across carriageway				
Oxley Hwy																					
656583	19/02/2009	Thu	18:00		at	ABBOTT ST	XJN	STR	Fine	Dry	50	2	CAR	M79	S in ABBOTT ST	30	Proceeding in lane	N	0	0	
E321222991							RUM:	10	Cross traffic				CAR	F27	W in OXLEY HWY	50	Proceeding in lane				
740080	30/01/2011	Sun	17:25	50 m	E	ABBOTT ST	2WY	STR	Fine	Dry	50	3	WAG	M47	W in OXLEY HWY	50	Proceeding in lane	I	0	1	
E43411076							RUM:	71	Off rd left => obj				CAR		W in OXLEY HWY	0	Parked				
													VAN		W in OXLEY HWY	0	Parked				
740111	31/01/2011	Mon	17:10	80 m	E	ABBOTT ST	2WY	STR	Fine	Dry	50	2	CAR	M73	W in OXLEY HWY	5	Perform U-turn	N	0	0	
E43953063							RUM:	40	U turn				CAR	F38	E in OXLEY HWY	40	Proceeding in lane				
650299	23/12/2008	Tue	15:30		at	ANZAC PDE	XJN	STR	Overcast	Dry	50	2	TRK	F46	W in OXLEY HWY	30	Proceeding in lane	N	0	0	
E35823223							RUM:	10	Cross traffic				CAR	M64	N in ANZAC PDE	35	Proceeding in lane				
719958	05/08/2010	Thu	08:20		at	BARBER ST	XJN	STR	Fine	Dry	50	2	CAR	M30	E in BARBER ST	10	Proceeding in lane	I	0	1	
E43532385							RUM:	10	Cross traffic				CAR	F20	N in OXLEY HWY	40	Proceeding in lane				
728935	11/10/2010	Mon	09:55	15 m	S	BARBER ST	2WY	STR	Fine	Dry	50	2	WAG	M75	S in OXLEY HWY	10	Perform U-turn	N	0	0	
E42555031							RUM:	42	Leaving parking				WAG	F62	S in OXLEY HWY	30	Proceeding in lane				
729242	22/10/2010	Fri	15:30		at	BORTHISTLE RD	TJN	STR	Raining	Wet	50	2	4WD	M38	W in OXLEY HWY	40	Proceeding in lane	N	0	0	
E42562826							RUM:	32	Right rear				4WD	F54	W in OXLEY HWY	0	Wait turn right				
696492	12/01/2010	Tue	15:15	100 m	W	BORTHISTLE RD	2WY	STR	Fine	Dry	50	2	M/C	M54	E in OXLEY HWY	42	Proceeding in lane	I	0	1	
E39812138							RUM:	30	Rear end				TRK	M46	E in OXLEY HWY	15	Proceeding in lane				
798734	30/05/2012	Wed	07:22	50 m	E	BOUNDARY RD	2WY	STR	Fine	Dry	60	2	4WD	F23	W in OXLEY HWY	50	Proceeding in lane	N	0	0	
E48163803							RUM:	30	Rear end				TRK	M57	W in OXLEY HWY	50	Proceeding in lane				
755815	09/06/2011	Thu	11:55	15 m	W	BOUNDARY RD	2WY	STR	Fine	Dry	50	3	TRK	M27	W in OXLEY HWY	30	Proceeding in lane	N	0	0	
E45269974							RUM:	30	Rear end				UTE	M45	W in OXLEY HWY	0	Stationary				
													CAR	F25	W in OXLEY HWY	0	Stationary				
687825	03/11/2009	Tue	08:20	25 m	W	CARROLL ST	2WY	STR	Fine	Dry	50	2	CAR	F28	E in OXLEY HWY	10	Perform U-turn	I	0	3	
E38949559							RUM:	40	U turn				CAR	M19	E in OXLEY HWY	40	Proceeding in lane				
694362	17/12/2009	Thu	10:00		at	VIEW ST	RDB	CRV	Fine	Dry	50	2	TRK	M55	E in OXLEY HWY	25	Proceeding in lane	I	0	1	
E39393606							RUM:	10	Cross traffic				P/C	M64	N in VIEW ST		Proceeding in lane				

Detailed Crash Report

Transport Centre for Road Safety — NSW Government

Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																					S F
794072	13/04/2012	Fri	06:55		at	VIEW ST	RDB	STR	Fine	Dry	50	2	TRK	M39	N in VIEW ST	15	Proceeding in lane	I	0	1	
E46910420							RUM:	10	Cross traffic				UTE	M50	W in OXLEY HWY	30	Proceeding in lane				
801049	24/06/2012	Sun	08:40		at	VIEW ST	RDB	STR	Fine	Dry	50	2	CAR	M79	N in VIEW ST	40	Proceeding in lane	N	0	0	
E49054641							RUM:	10	Cross traffic				CAR	M41	W in OXLEY HWY	50	Proceeding in lane				
	Railway Ave																				
696658	21/01/2010	Thu	09:10	50 m	E	NEW ST	2WY	STR	Fine	Dry	50	1	M/C	M27	N in RAILWAY AVE	10	Forward from drive	I	0	1	S
E39338709							RUM:	80	Off left/right bend												
	Rodney St																				
592679	24/09/2007	Mon	12:10		at	STOCK RD	XJN	STR	Fine	Dry	50	2	CAR	F75	W in STOCK RD	50	Proceeding in lane	N	0	0	
E32256241							RUM:	10	Cross traffic				CAR	F63	S in RODNEY ST	50	Proceeding in lane				
	Tempest St																				
637599	09/08/2008	Sat	02:15	15 m	S	BLOOMFIELD ST	2WY	STR	Unk	Wet	50	2	OMV	U U	N in TEMPEST ST	Unk	Proceeding in lane	N	0	0	F
E34608261							RUM:	71	Off rd left => obj				CAR		E in TEMPEST ST	0	Parked				
747254	30/03/2011	Wed	12:20	60 m	S	KAMILAROI HWY	2WY	STR	Fine	Dry	50	2	TRK	M47	TEMPEST ST	3	Forward from drive	N	0	0	
E44139745							RUM:	47	Emerging from drive				CAR	M63	N in TEMPEST ST	40	Proceeding in lane				
	View St																				
589489	17/08/2007	Fri	19:30	20 m	N	BANDO ST	2WY	STR	Fine	Dry	50	2	WAG	M77	S in VIEW ST	40	Proceeding in lane	I	0	1	
E31418103							RUM:	2	Ped far side				PED	M28	E in VIEW ST		Run across carriageway				
688847	17/11/2009	Tue	19:00	100 m	N	HUNTER ST	2WY	STR	Fine	Dry	50	2	TRK	M27	W in VIEW ST	10	Forward from drive	I	0	2	
E38602560							RUM:	47	Emerging from drive				CAR	F30	S in VIEW ST	50	Proceeding in lane				
765357	24/08/2011	Wed	11:10	5 m	N	KILCOY ST	TJN	STR	Fine	Dry	50	2	CAR	F28	S in VIEW ST	48	Proceeding in lane	N	0	0	
E45934869							RUM:	32	Right rear				CAR	F17	S in VIEW ST	0	Wait turn right				
649581	15/12/2008	Mon	11:00	10 m	N	SHORT ST	TJN	STR	Fine	Dry	50	2	CAR	M36	N in VIEW ST	Unk	Proceeding in lane	N	0	0	
E35545244							RUM:	30	Rear end				CAR	F18	N in VIEW ST	Unk	Proceeding in lane				
661245	27/03/2009	Fri	19:00		at	WANDOBAH RD	TJN	STR	Fine	Dry	50	1	P/C	M29	N in VIEW ST		Proceeding in lane	I	0	1	
E71321801							RUM:	74	On road-out of cont.												
	Villa St																				
616442	08/03/2008	Sat	23:41	10 m	S	HERBERT ST	TJN	STR	Fine	Dry	50	1	CAR	F17	E in HERBERT ST	60	Turning right	N	0	0	S
E33381750							RUM:	80	Off left/right bend												
	Warrabungle St																				
633295	23/07/2008	Wed	13:00		at	BLOOMFIELD ST	LJN	CRV	Overcast	Dry	50	1	SEM	U U	N in WARRABUNGLE ST	40	Proceeding in lane	N	0	0	S
E36756181							RUM:	80	Off left/right bend												

Detailed Crash Report

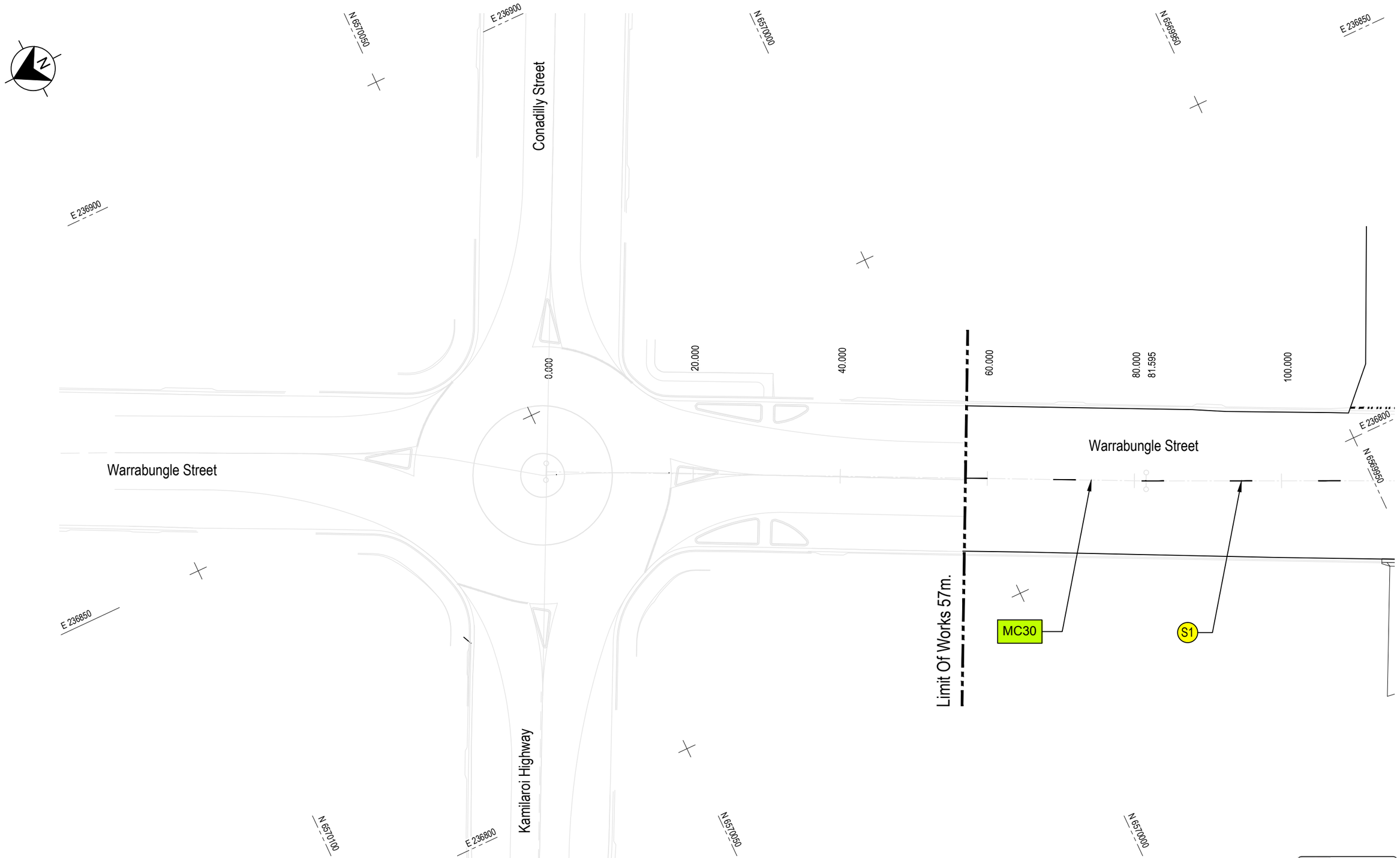
Crash No.	Date	Day of Week	Time	Distance		ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
																					S F
732159	08/11/2010	Mon	18:45	20 m	N	LITTLE BARBER ST	2WY	STR	Fine	Dry	50	1	M/C	M22	S in WARRABUNGLE ST	100	Proceeding in lane	I	0	1	S
E43002469							RUM:	73	Off rd rght => obj				Utility pole								
Wattle St																					
653245	09/01/2009	Fri	19:00	10 m	W	BORONIA AVE	TJN	STR	Fine	Dry	50	2	UTE	U U	W in WATTLE ST	Unk	Proceeding in lane	I	0	1	
E36841839							RUM:	33	Lane sideswipe				P/C	F12	W in WATTLE ST		Proceeding in lane				

Report Totals: Total Crashes: 110 Fatal Crashes: 0 Injury Crashes: 56 Killed: 0 Injured: 69

Crashid dataset Gunnedah 50km/h speedzone Crash data 1/7/2007 to 30/6/2012

Appendix C

Concept Design Plans



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C	RMS COMMENTS INCORPORATED	G.C.	24.02.15
B	80% CONCEPT	CS	19.12.14
A	20% CONCEPT	G.C.	25.09.14

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Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

APPROVED WOJTEK ZBOROWSKI
DATE 24.02.2015

ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 1

DRAWING	STAGE	ISSUE	VERSION
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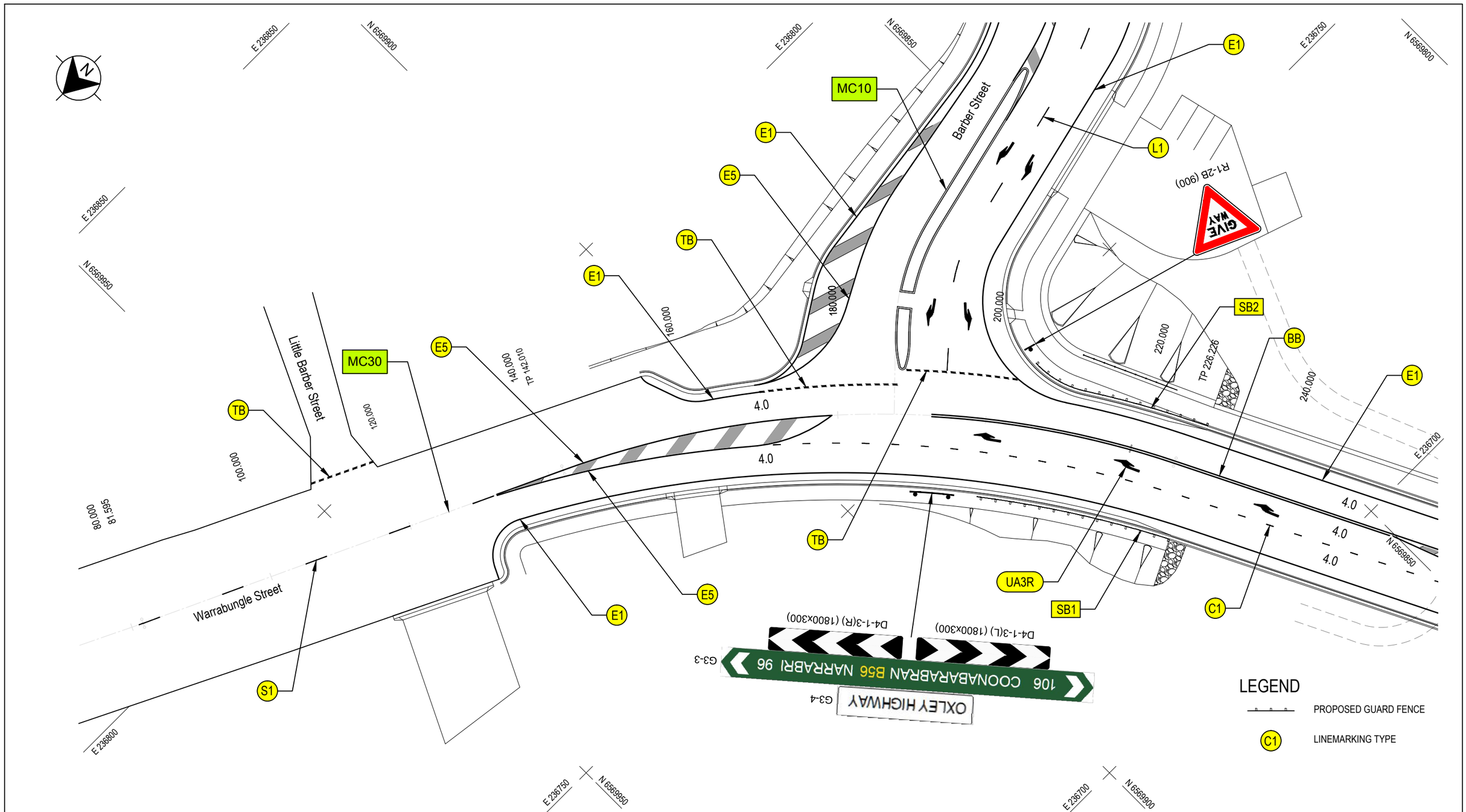

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PROPOSED GUARD FENCE

C1 LINEMARKING TYPE

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GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 2

DRAWING	STAGE	ISSUE	VERSION
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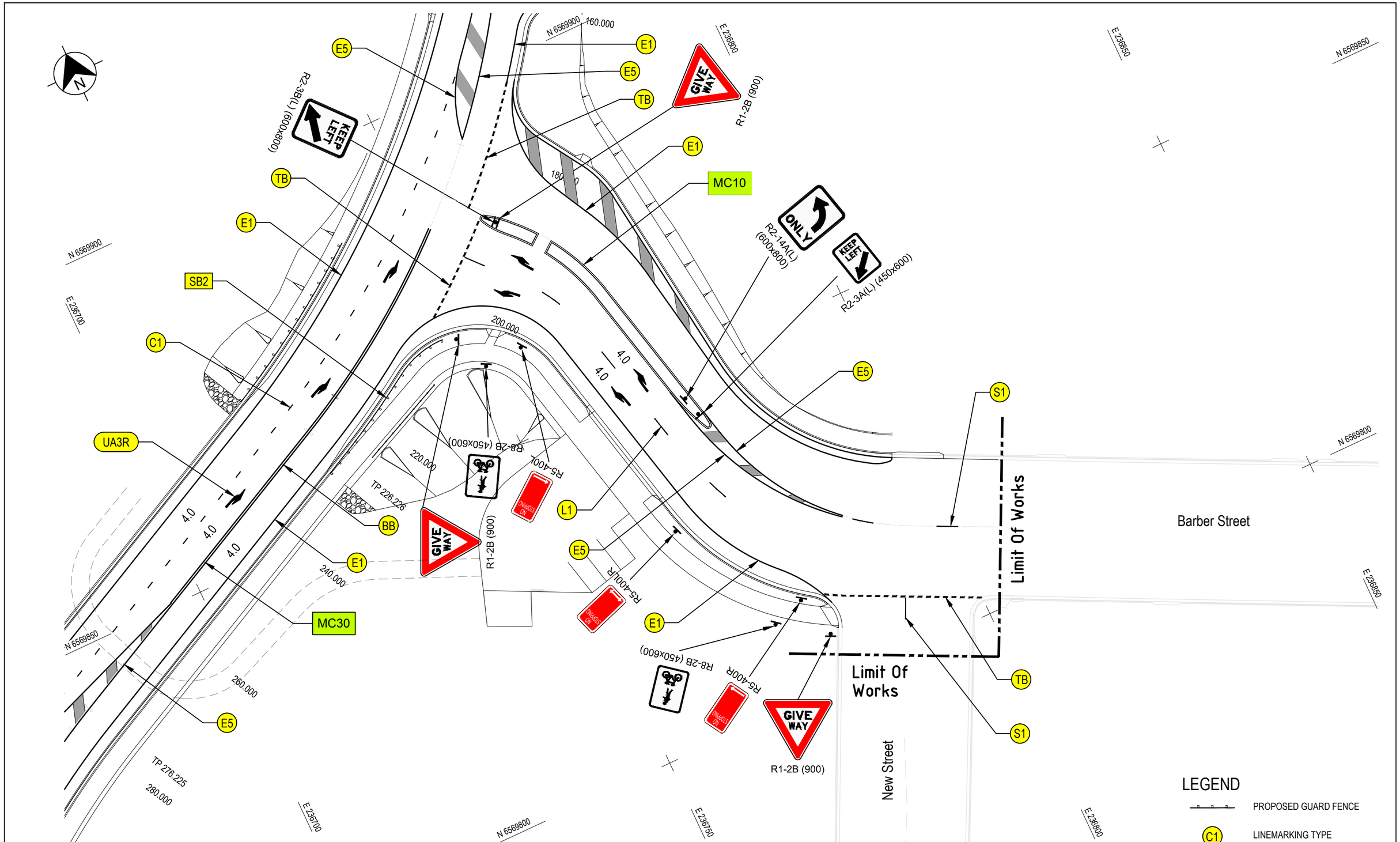

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PROPOSED GUARD FENCE

C1 LINEMARKING TYPE

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ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 3

DRAWING	STAGE	ISSUE	VERSION
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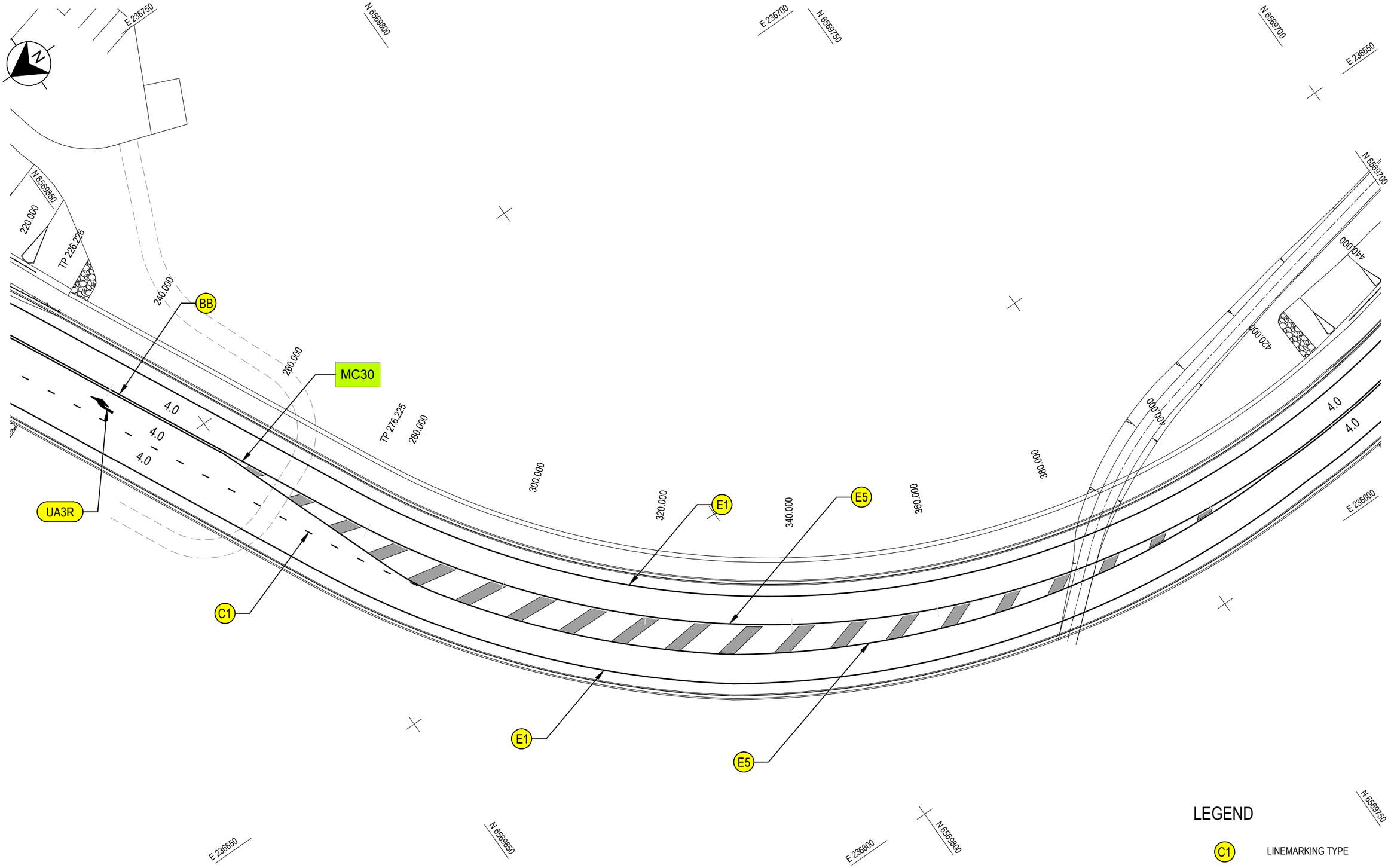

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GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 4

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-SAL-0008	80% CONCEPT	C	1

REGISTRATION NUMBER
DS2015/000221
FILE NUMBER

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E 236700
N 6569750
N 6569700
N 6569650
N 6569600

SOUTH STREET
TAMWORTH
VIEW STREET
OXLEY HIGHWAY
B56
COONABARABRAN
G1-5

R1-3B (900)
R1-3B (900)
R4-1B (600X800) 50

TB
E1
E4
E5
BB
S1
SB3
SB4
MC30

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400.000
420.000
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TP 479.719

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LEGEND

PROPOSED GUARD FENCE

C1 LINEMARKING TYPE

NOT FOR CONSTRUCTION

SCALES

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SCALE 1:500m

No.	Amendment Description	Initials	Date
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B	80% CONCEPT	CS	19.12.14
A	20% CONCEPT	G.C.	25.09.14

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ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 5

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-SAL-0009	80% CONCEPT	C	1

REGISTRATION NUMBER
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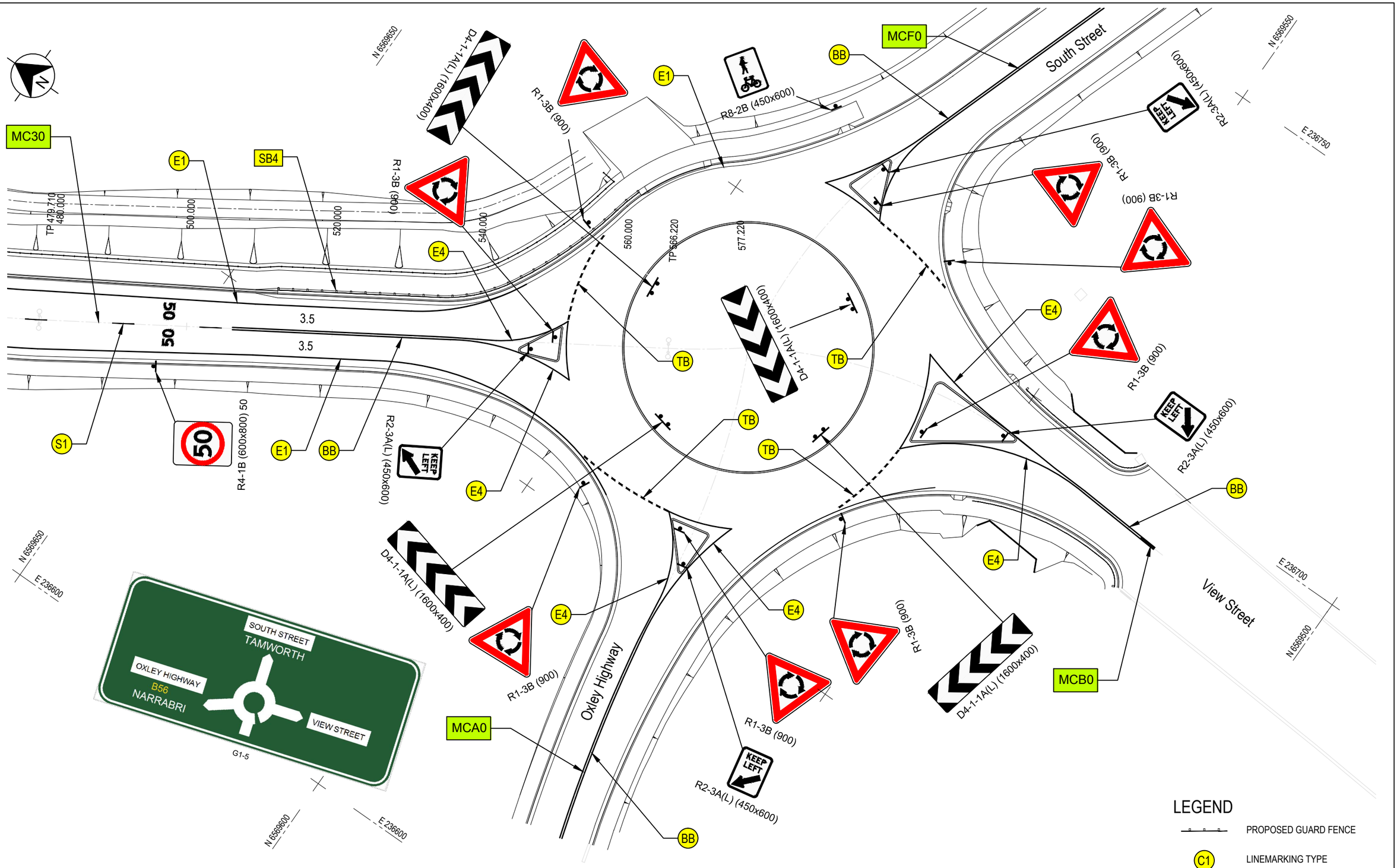

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PROPOSED GUARD FENCE

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NOT FOR CONSTRUCTION

SCALES

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A	20% CONCEPT	G.C.	25.09.14

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DATE 24.02.2015

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ROADS AND MARITIME SERVICES
GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 6

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FILE NUMBER

SHEET No. SAL-0010

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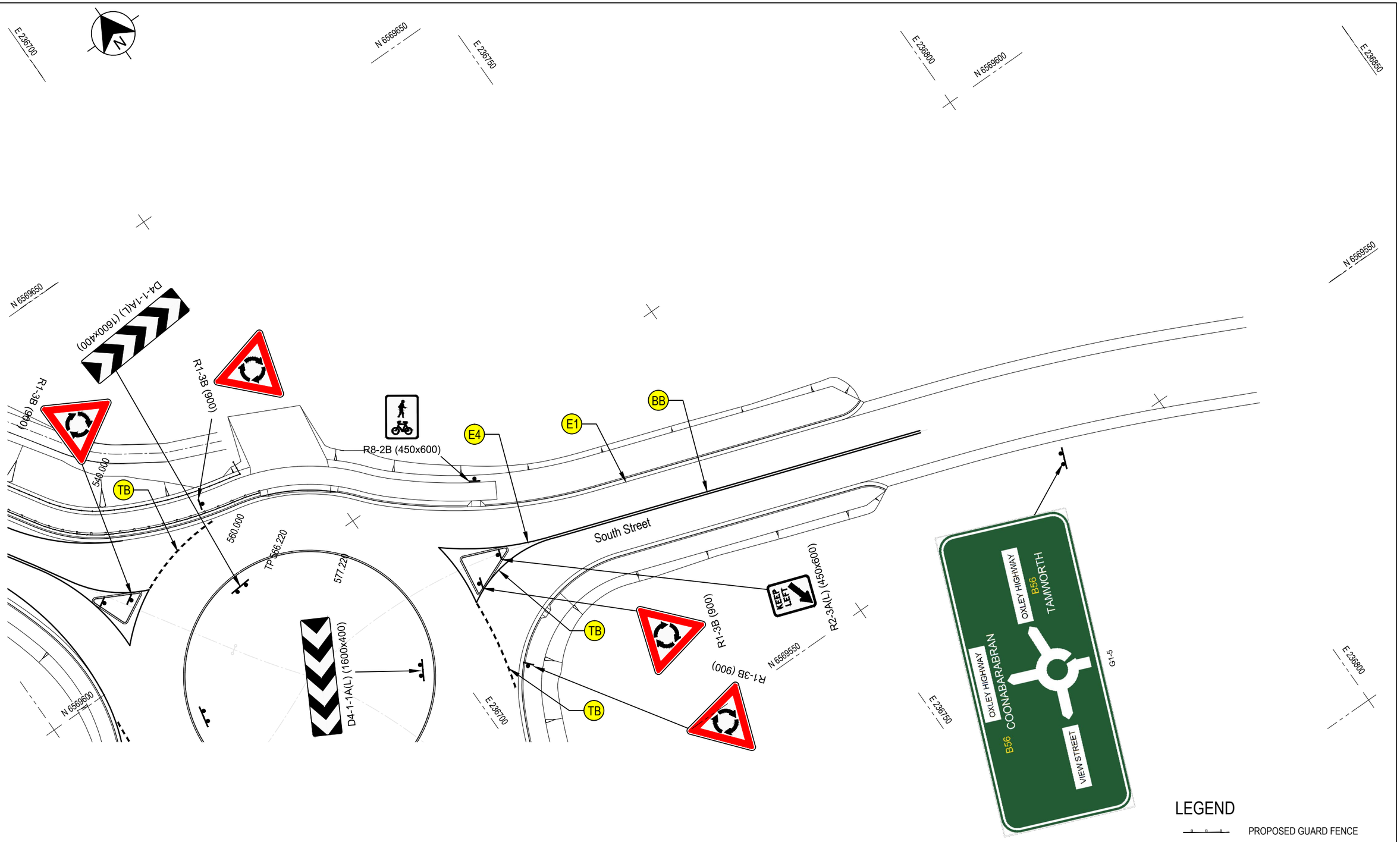

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PROPOSED GUARD FENCE

C1 LINEMARKING TYPE

NOT FOR CONSTRUCTION

SCALES

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SCALE 1:500m

No.	Amendment Description	Initials	Date
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B	80% CONCEPT	CS	19.12.14
A	20% CONCEPT	G.C.	25.09.14

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DSGN CHECK MAX TOWNS DATE 24.02.2015

Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D.

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KBR
ABN 91 007 660 317

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DATE 24.02.2015

ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
HW11 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
LINEMARKING AND SIGNAGE
GENERAL ARRANGEMENT PLAN - SHEET 7

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-SAL-0011	80% CONCEPT	C	1

REGISTRATION NUMBER
DS2015/000221
FILE NUMBER

SHEET No.
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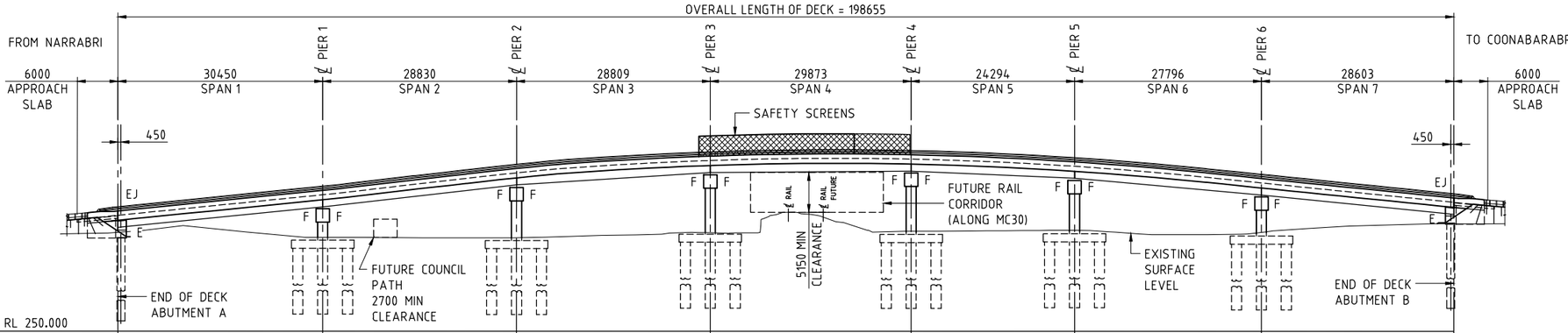
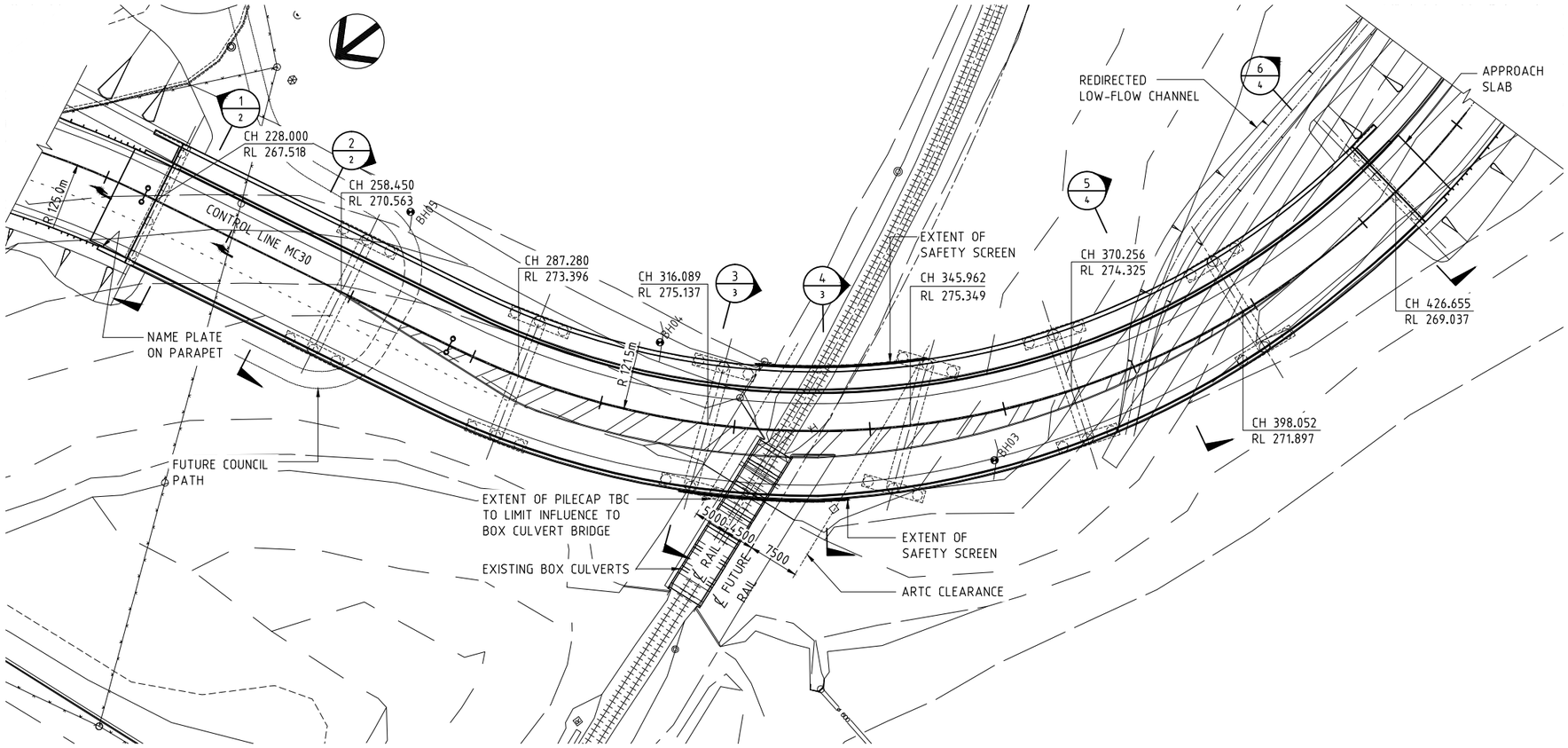


DATUM RL 250.000

DESIGN SURFACE LEVEL ON CONTROL LINE MC30	267.518	270.563	273.396	275.137	275.349	274.325	271.897	269.037
APPROXIMATE EXISTING SURFACE LEVEL ON CONTROL LINE MC30	264.709	263.967	263.903	264.664	264.889	265.017	264.704	265.979
CHAINAGE ON CONTROL LINE MC30	228.000	258.450	287.280	316.089	345.962	370.256	398.052	426.655

ELEVATION
SCALE 1:400



PLAN
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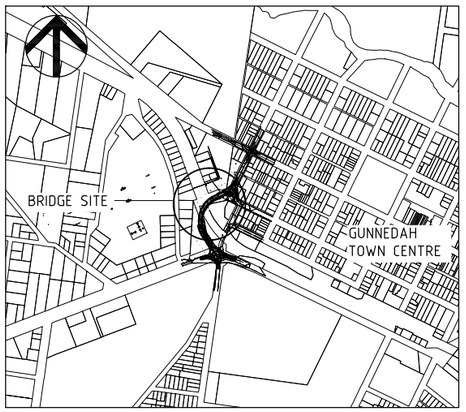
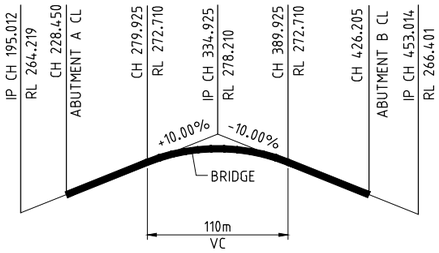


LOCALITY PLAN
THE BRIDGE SITE IS APPROXIMATELY 425km BY ROAD FROM SYDNEY



VERTICAL ALIGNMENT DIAGRAM
NOT TO SCALE

GENERAL NOTES

SCALE 10 5 0 10 20 30m

DIMENSIONS ARE IN MILLIMETRES.
CHAINAGES AND REDUCED LEVELS ARE IN METRES.
REDUCED LEVELS ARE RELATED TO AUSTRALIAN HEIGHT DATUM
E DENOTES EXPANSION BEARING
F DENOTES FIXED BEARING
EJ DENOTES EXPANSION JOINT
DENOTES BOREHOLE. REFER GEOTECHNICAL INVESTIGATION AND INTERPRETATION REPORT No. 127622030-008-REV1 BY GOLDER ASSOCIATES FOR DETAILS.
BH05
CONCRETE BRIDGE DECK WATERPROOFING MEMBRANE SHALL CONFORM TO ROADS AND MARITIME SERVICES SPECIFICATION B344 OR BPC2005/02. WATERPROOFING MEMBRANE SHALL BE OVERLAYED WITH 75mm THICK ASPHALT.

ISSUE	DATE	REVISION	PREP	CHECK	AUTH
C	25.02.15	80% CONCEPT DESIGN - SUBSTRUCTURE AMENDED			
B	19.12.14	80% CONCEPT DESIGN			
A	25.09.14	20% CONCEPT DESIGN			

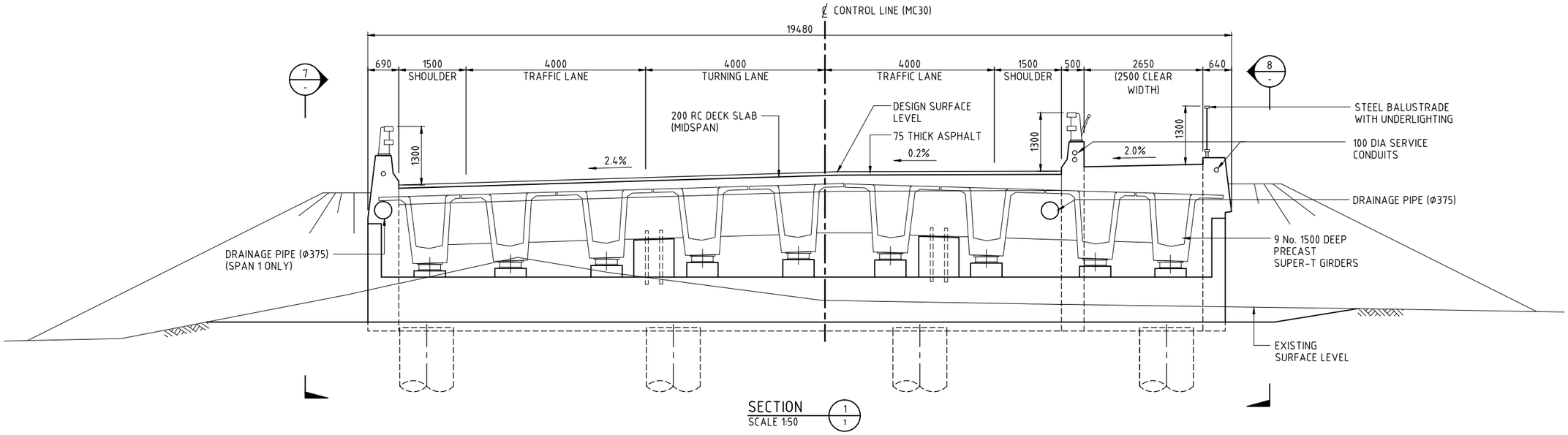
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE

Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

PREPARED DESIGN _ DRAWING D. CARTER
CHECKED P. LAS GOURGUES
SENIOR BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE NUMBER B000
ISSUE STATUS:
SHEET No
ISSUE C

ACCEPTED
PRINCIPAL BRIDGE ENGINEER
DATE



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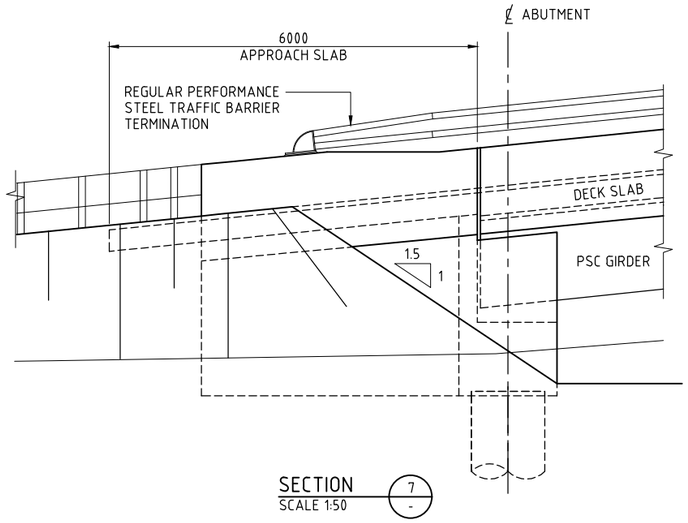

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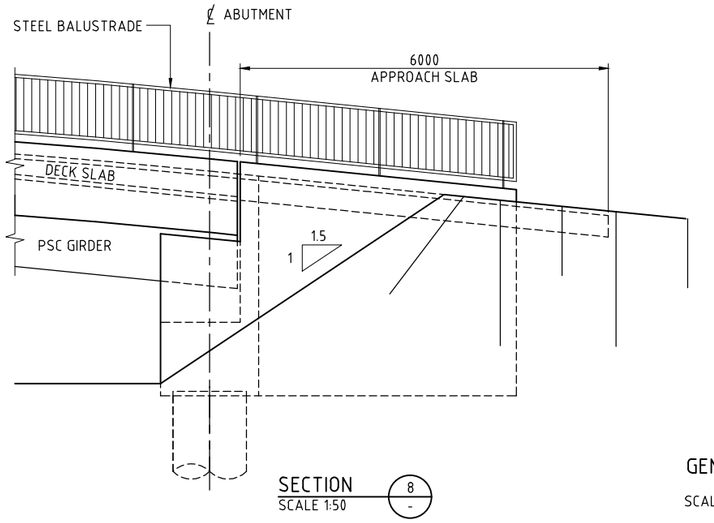

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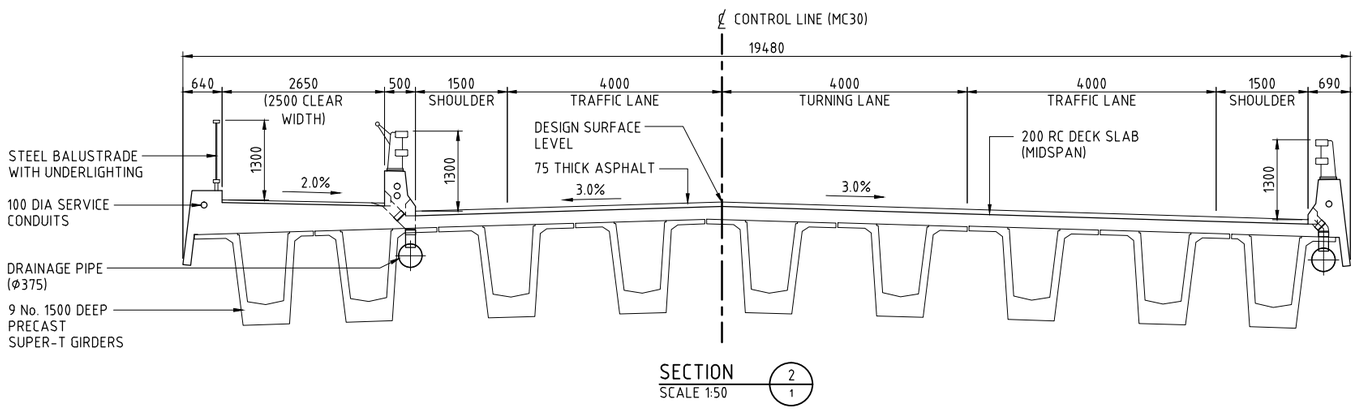

SECTION 2/1
SCALE 1:50

ACCEPTED

PRINCIPAL BRIDGE ENGINEER

DATE

GENERAL NOTES

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FOR OTHER GENERAL NOTES RELATING TO THIS DRAWING, SEE SHEET No 1

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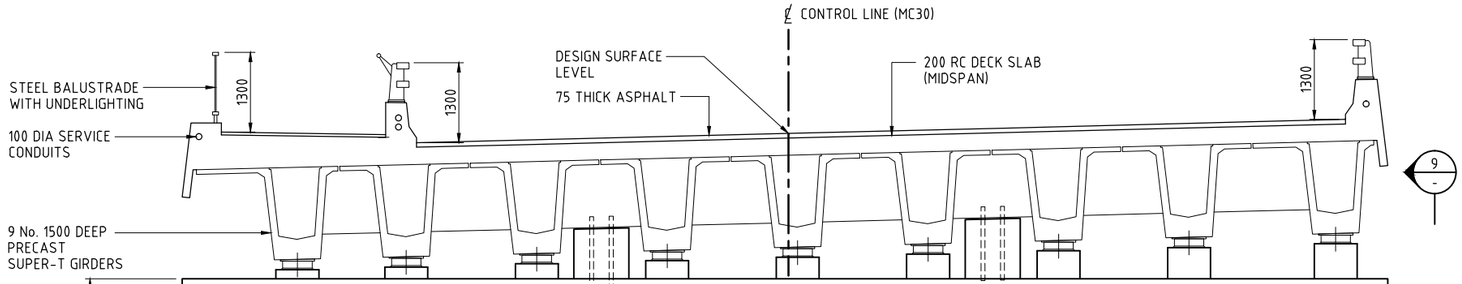
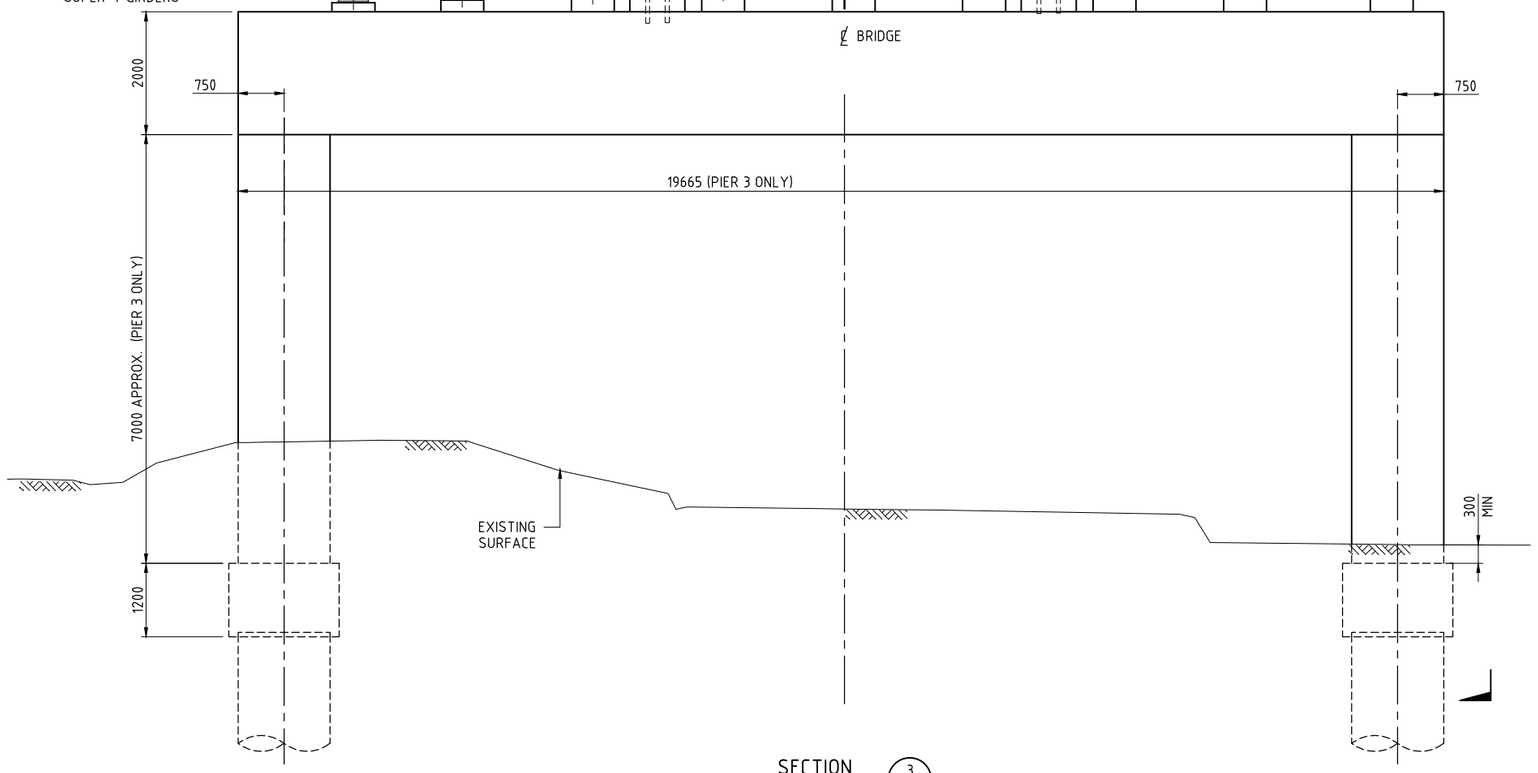
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE

Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

PREPARED	CHECKED	REGISTRATION No OF PLANS
DESIGN		
DRAWING D. CARTER	P. LAS GOURGUES	BRIDGE NUMBER B□□□00□0
SENIOR BRIDGE ENGINEER (NEW DESIGN)		ISSUE STATUS: □□□□M□□A□□
		SHEET No □ ISSUE C





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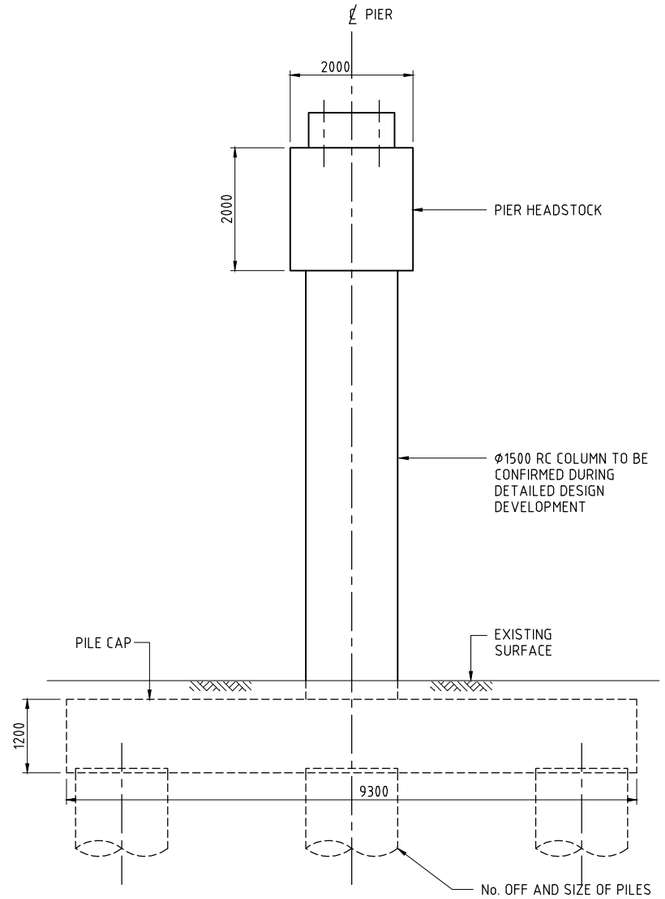
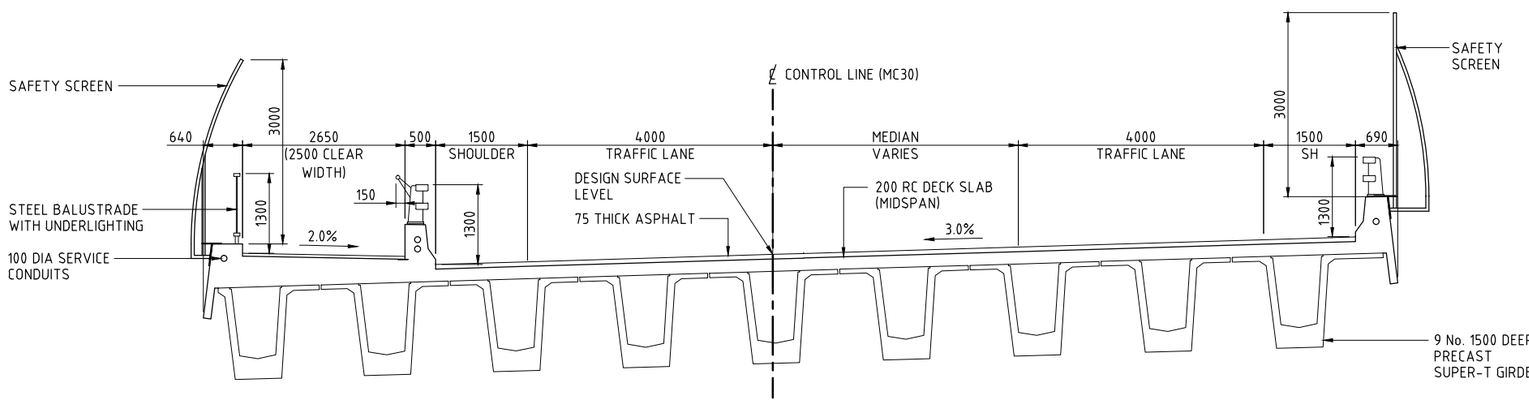


SECTION 9 / -
SCALE 1:50



SECTION 4 / 1
SCALE 1:50

GENERAL NOTES

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FOR OTHER GENERAL NOTES RELATING TO THIS DRAWING, SEE SHEET No 1

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GUNNEDAH SECOND ROAD OVER RAIL BRIDGE

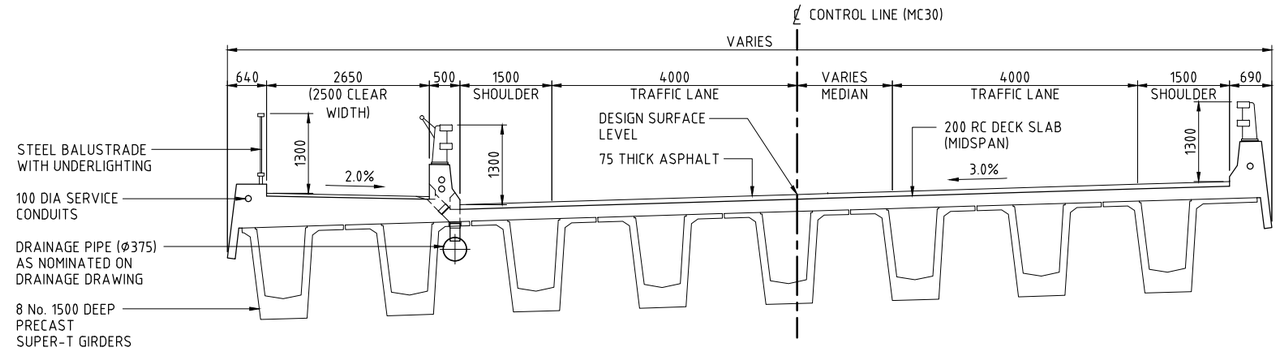
Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

ACCEPTED

PRINCIPAL BRIDGE ENGINEER

DATE

PREPARED	CHECKED	REGISTRATION No OF PLANS
DESIGN		
DRAWING D. CARTER	P. LAS GOURGUES	BRIDGE NUMBER B□□00□□
SENIOR BRIDGE ENGINEER (NEW DESIGN)		ISSUE STATUS: □□□□M□□A□□
		SHEET No 3 / ISSUE C



SECTION 5/3
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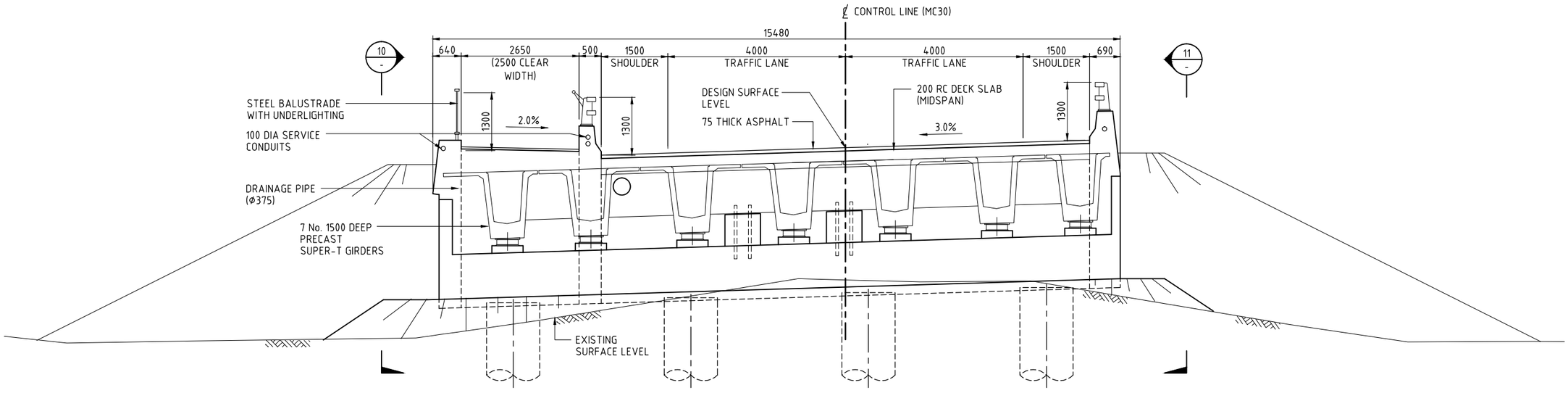

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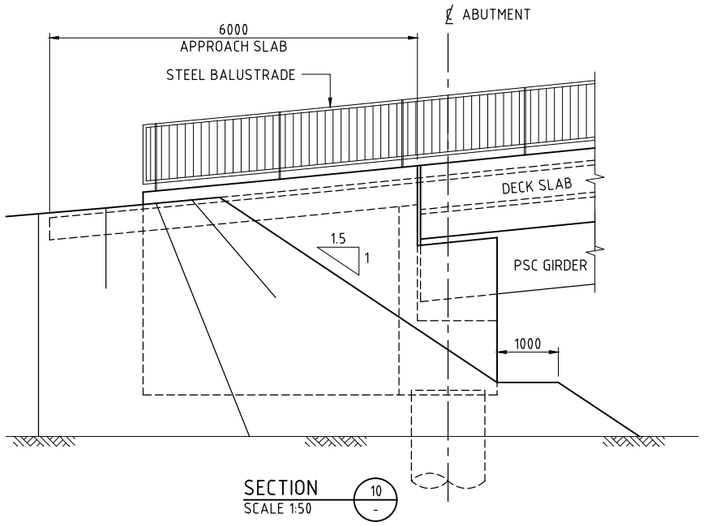

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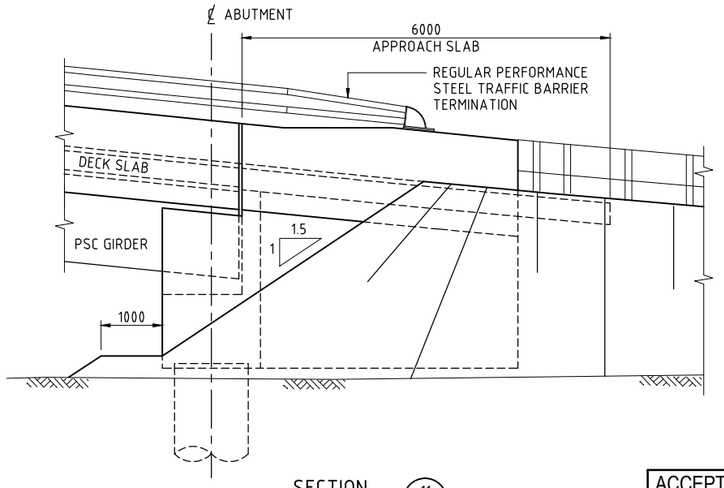

SECTION 11/-
SCALE 1:50

ACCEPTED

PRINCIPAL BRIDGE ENGINEER

DATE

GENERAL NOTES

SCALE 0 1000 2000 3000 4000 5000mm (1000 500)

FOR OTHER GENERAL NOTES RELATING TO THIS DRAWING, SEE SHEET No 1

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B	19.12.14	80% CONCEPT DESIGN			
A	25.09.14	20% CONCEPT DESIGN			

GUNNEDAH SECOND ROAD OVER RAIL BRIDGE

Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

PREPARED DESIGN
CHECKED
DRAWING D. CARTER
P. LAS GOURGUES
SENIOR BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS

BRIDGE NUMBER B00

ISSUE STATUS:

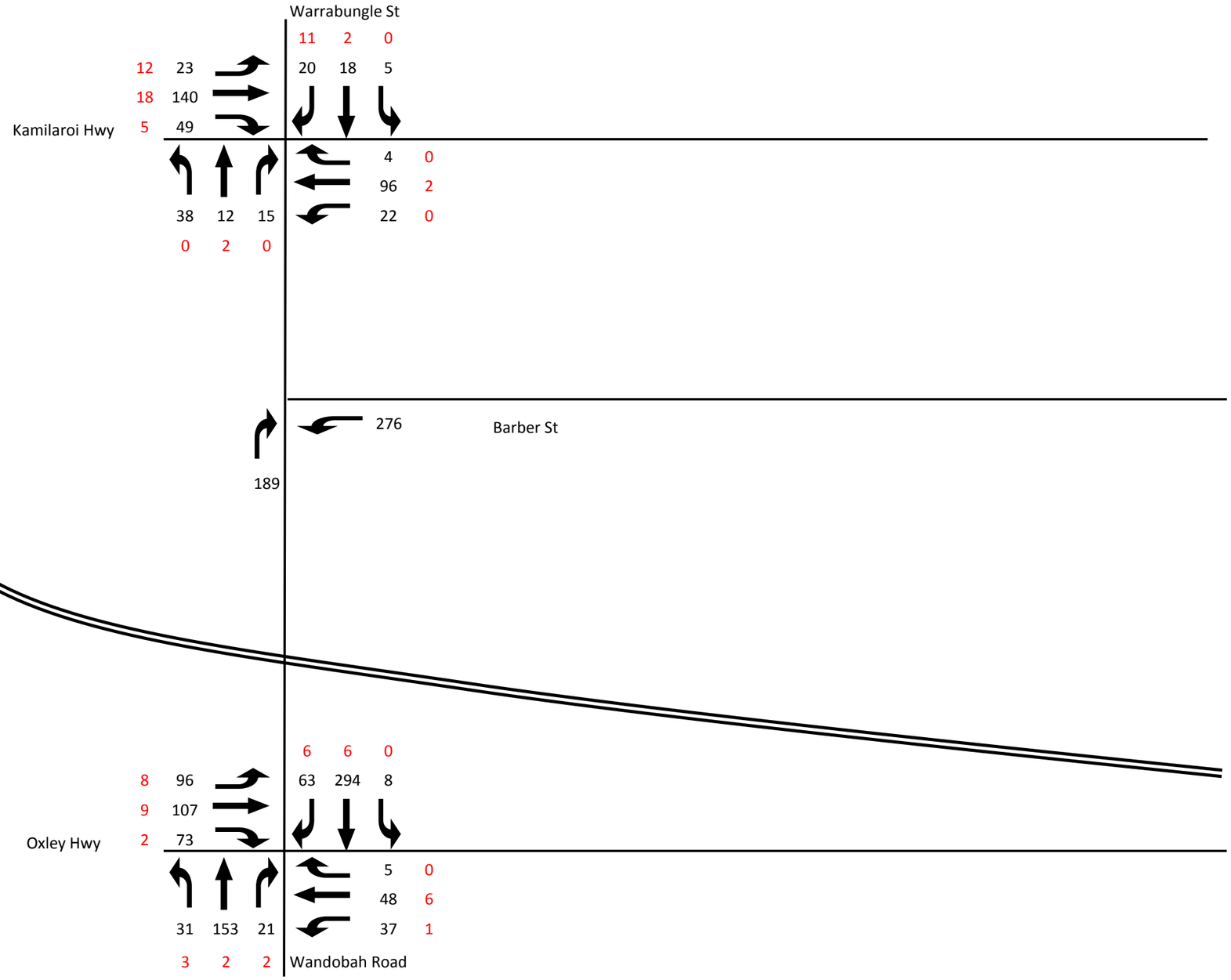
SHEET No

ISSUE C

$TIMES $DATES $FILES

Appendix D

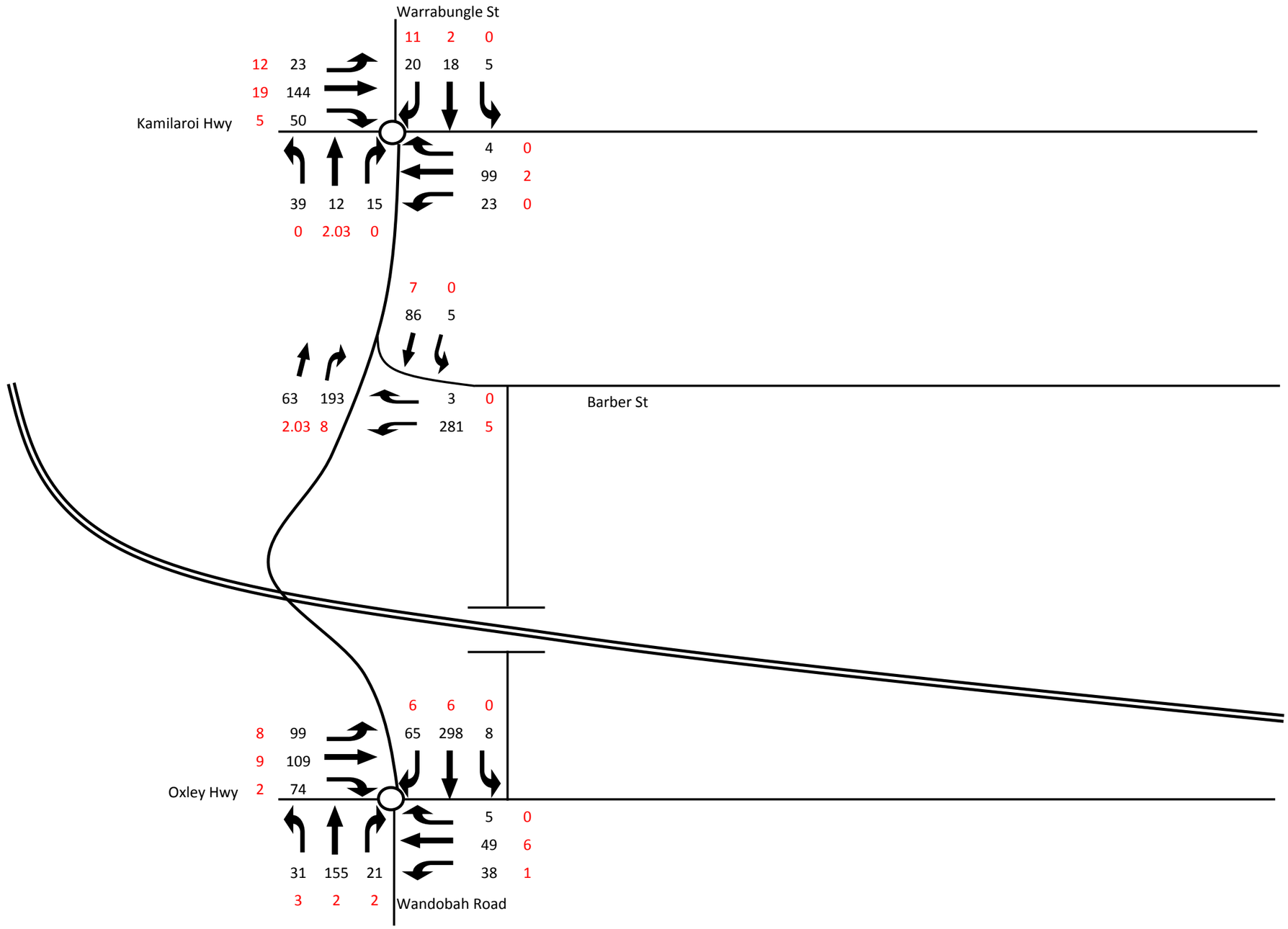
Existing and Forecasted Future Traffic Volumes



352 - Total vehicles

8 - Heavy vehicles

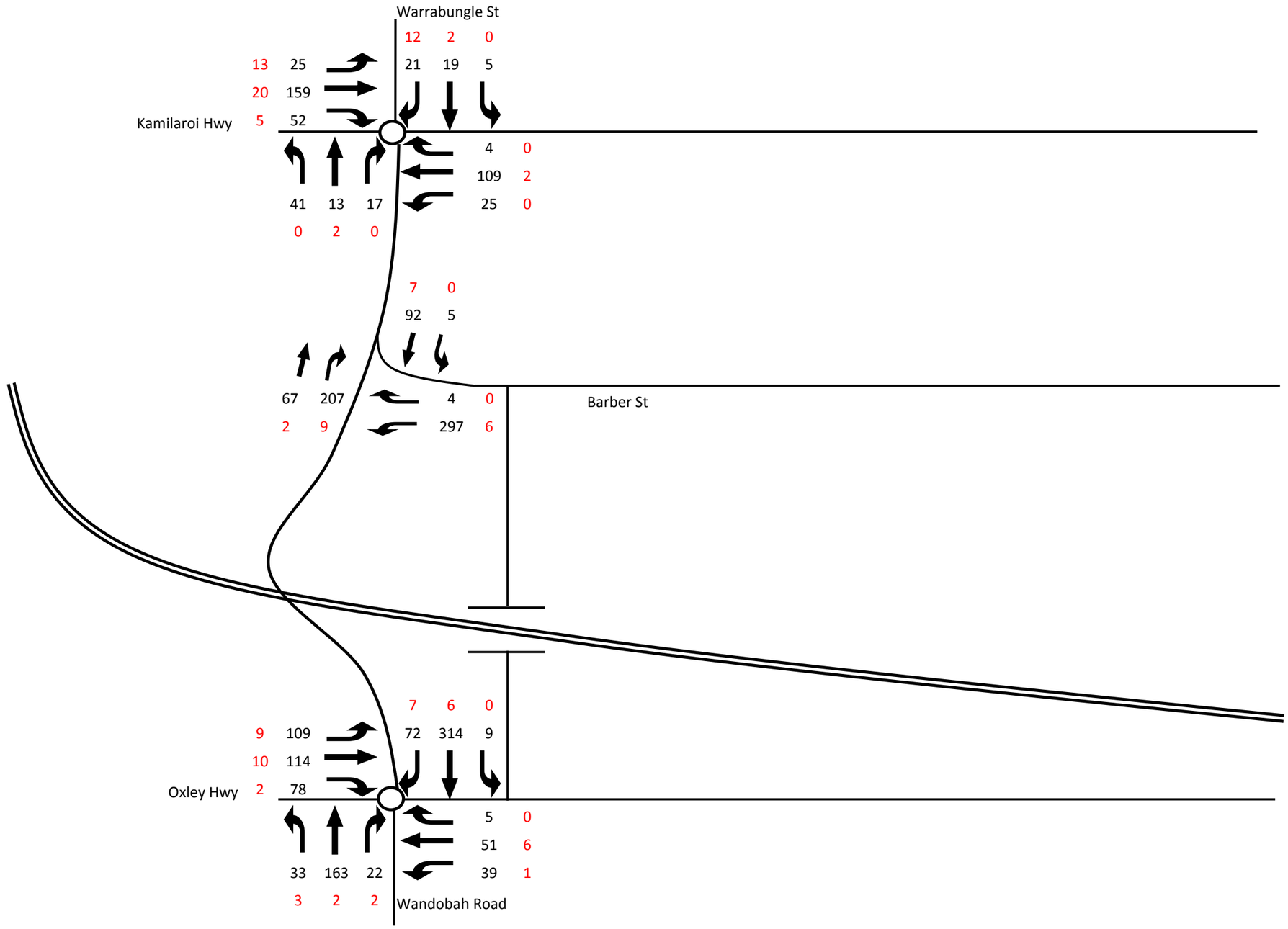
2013 Existing PM Traffic Condition



352 - Total vehicles

8 - Heavy vehicles

2016 PM - Kamilaroi Hwy Roundabout / Barber St Access



352 - Total vehicles

8 - Heavy vehicles

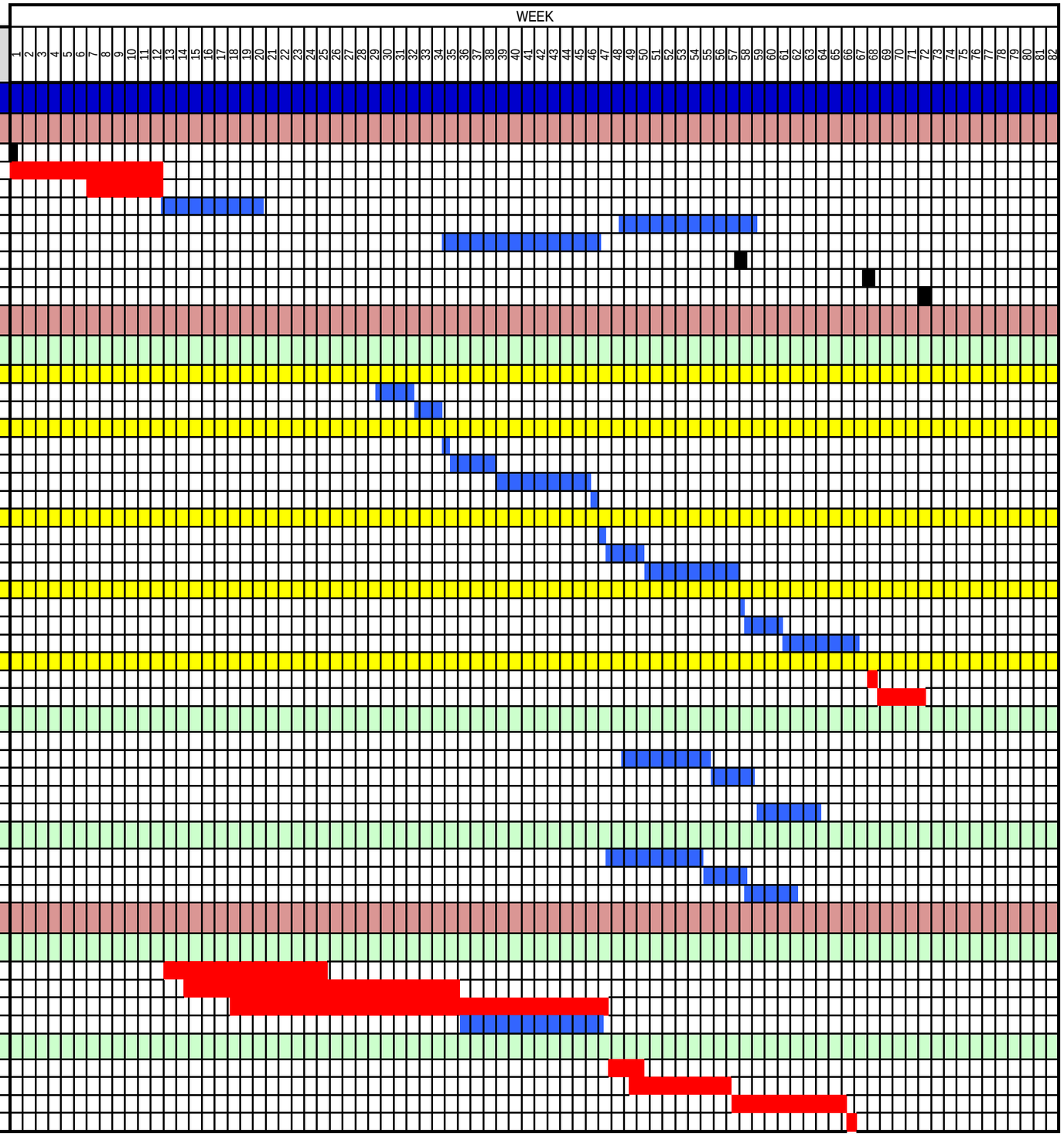
2026 PM - Kamilaroi Hwy Roundabout / Barber St Access

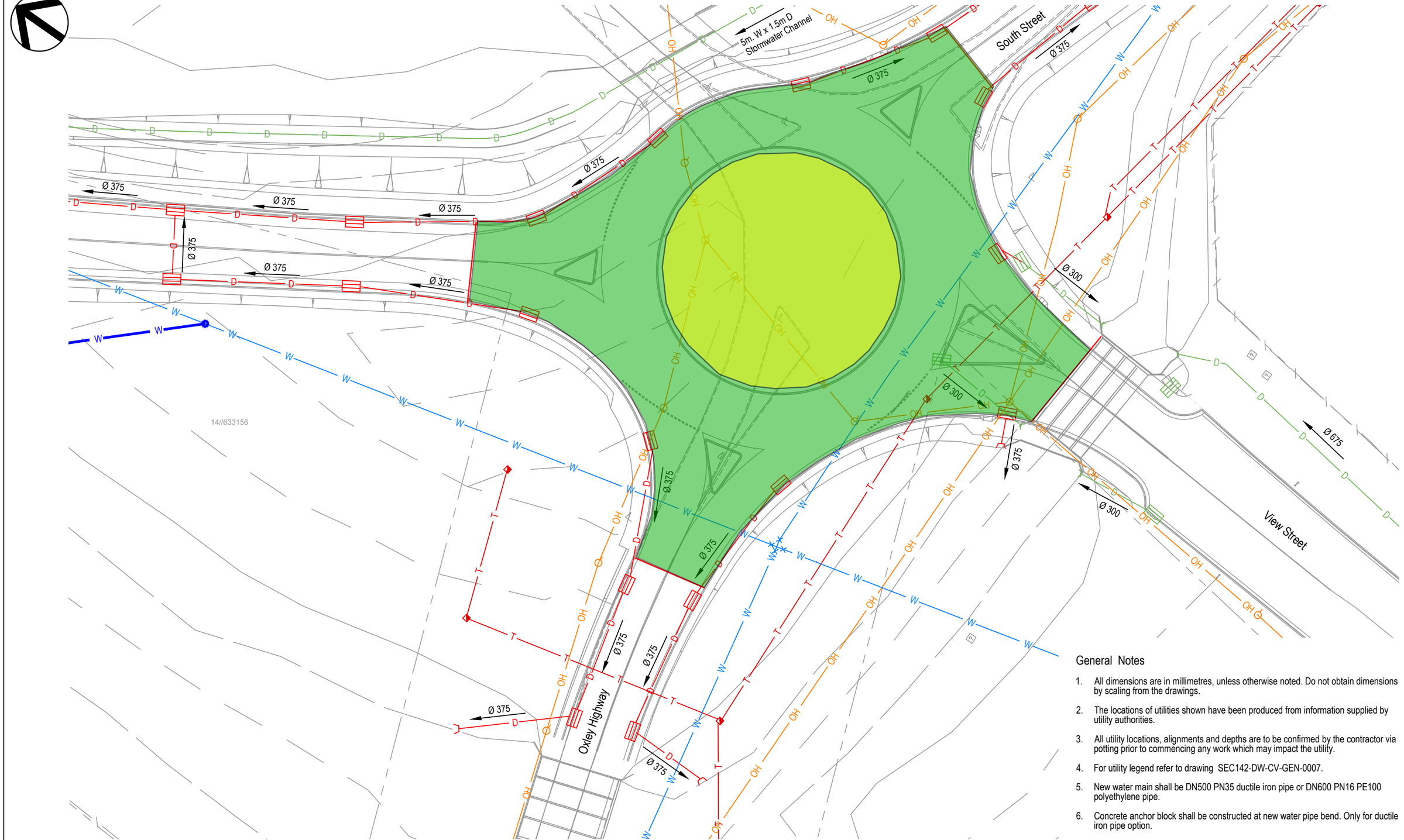
Appendix E

Construction Staging Details

PRELIMINARY CONSTRUCTION PROGRAMME

	Activity ID	Activity	Working Days	Start Date (Week #)	Finish Date (Week #)	Constraints
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE						
PRELIMINARIES & MILESTONES						
	P1	Contract Award	-	0	0	Milestone
	P2	Planning and Procurement	59	0	12	
	P3	Mobilise To Site & Install Environmental Controls	29	6	12	
	P4	Relocate Services (Overhead Power)	39	12	20	
	P5	Barber Street Closure	53	48	58	
	P6	View Street Closure	61	34	46	
	P7	New Street Closure	-	57	57	Milestone
	P8	Traffic On New Bridge	-	67	67	Milestone
	P9	Completion of Works	-	72	72	Milestone
ROAD WORKS						
	ROUNDABOUT		141	29	57	
	STAGE 0		24	29	34	
	R1	Drainage and Earthworks	14	29	32	
	R2	Temporary Pavement	10	32	34	
	STAGE 1		55	34	46	
	R4	Switch Traffic Onto Temporary Pavement	2	34	34	
	R5	Drainage and Earthworks	17	35	38	
	R6	Pavement	36	38	45	
	R7	Finishing Works	2	46	46	
	STAGE 2		52	46	57	
	R8	Switch Traffic on to Partially Completed Permanent Works	2	46	47	
	R9	Drainage and Earthworks	14	47	50	
	R10	Pavement	36	50	57	
	STAGE 3		44	57	66	
	R11	Close New Street Level Crsssing	1	57	57	
	R12	Drainage and Earthworks	14	58	60	
	R13	Pavement	29	61	66	
	STAGE 4		21	67	72	
	R14	Switch Traffic on to Permanent Works	3	67	68	
	R15	Finishing Works	18	68	72	
	NORTHERN ROADWORKS (approx Ch 47 to 220 including Barber Street)		78	48	63	
	R17	Close Barber Street to Warrabungle Street	-	48	48	Milestone
	R18	Drainage and Earthworks	34	48	55	
	R19	Pavement	16	55	58	
	R20	Open Barber Street Intersection (closed to New Bridge)	-	58	58	Milestone
	R21	Finishing Works	24	59	63	
	SOUTHERN ROADWORKS (approx Ch 440 to 530)		74	47	62	
	R22	Drainage and Earthworks	37	47	54	
	R23	Pavement	16	54	58	
	R24	Finishing Works	20	58	62	
BRIDGE WORKS						
	SUB STRUCTURE		173	12	47	
	B1	Piling	63	12	25	
	B2	Pile Caps	107	14	35	
	B3	Piers and Headstocks	147	17	47	
	B4	Abutments	55	35	46	
	SUPER STRUCTURE		96	47	66	
	B5	Gireder Erection	13	47	50	
	B6	Concrete Deck	39	49	56	
	B7	Parapets and Barriers	44	57	65	
	B8	Asphalt and Finishing Works	3	66	66	





General Notes

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2. The locations of utilities shown have been produced from information supplied by utility authorities.
3. All utility locations, alignments and depths are to be confirmed by the contractor via potting prior to commencing any work which may impact the utility.
4. For utility legend refer to drawing SEC142-DW-CV-GEN-0007.
5. New water main shall be DN500 PN35 ductile iron pipe or DN600 PN16 PE100 polyethylene pipe.
6. Concrete anchor block shall be constructed at new water pipe bend. Only for ductile iron pipe option.

NOT FOR CONSTRUCTION

SCALES

0 5 10 15 20 25

SCALE 1:500m

No.	Amendment Description	Initials	Date
A	20% CONCEPT DESIGN	GC	25.09.14

A3 original — This sheet may be prepared using colour and may be incomplete if copied

DRAWN GEORGE CILESIO DATE 25.09.14
DESIGNED CAMERON SCHRIJVERS DATE 25.09.14
DRG CHECK HAYDEN ROBINSON DATE 25.09.14
DSGN CHECK DAVID TABRETT DATE 25.09.14

Co-ordinate System: MGA Zone 56 — Height Datum: A.H.D.

Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

APPROVED WOJTEK ZBOROWSKI
DATE 25.09.14

ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
B56 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
ROAD DRAINAGE AND UTILITIES
GENERAL ARRANGEMENT PLAN - SHEET 6

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-DLP-0006	20 % CONCEPT	A	1

REGISTRATION NUMBER DS2014/????
FILE NUMBER

SHEET No. DLP-0006

PRODUCED: 25.09.2014 AT 12:02:15 PM George Cilesio
FILE PATH: O:\G&I\CAD\PROJECTS\SEC143\DRAWINGS\SEC143-DW-CV-DLP-0006
PLOT DRIVER: SYDKNT121.PC3
PEN TABLE: _FULLSIZE - KBR.CTB

Stage 0 Works
1.Build Temp Pavement Area,
2.Setup to convert existing roundabout into T Intersection. Review warrant for temporary Traffic Signals.
3. Remove median island on South Street
4.Notify Residence of pending closure View Street

Existing Roundabout Configuration

Stage 0 Temporary Pavement

5m. W x 1.5m D Stormwater Channel

South Street

View Street

Oxley Highway

14//633156

General Notes

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SCALES
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SCALE 1:500m

NOT FOR CONSTRUCTION

PRODUCED: 25.09.2014 AT 12:02:15 PM George Cilesio
FILE PATH: O:\G&I\CAD\PROJECTS\SEC143\DRAWINGS\SEC143-DW-CV-DLP-0006
PLOT DRIVER: SYDKNT121.PC3
PEN TABLE: _FULLSIZE - KBR.CTB

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Kellogg Brown & Root Pty Ltd
KBR
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DATE 25.09.14

ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
B56 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
ROAD DRAINAGE AND UTILITIES
GENERAL ARRANGEMENT PLAN - SHEET 6

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-DLP-0006	20 % CONCEPT	A	1

REGISTRATION NUMBER
DS2014/????
FILE NUMBER

SHEET No.
DLP-0006

Stage 1 Works
1.Divert Oxley Highway Traffic onto side track temporary pavement.
2.Temporary closure View Street
3. Opening new "T" intersection configuration.
4. Construct Stage 1 Permanent Works
5. Pavement Level corrections on Oxley Highway completed under traffic (Night Shift)
6. Build section temporary pavement on South Street in preparation for Stage 2

Temporary Pavement for stage 2

Stage 1 Works Area Under Construction. Including Temp pavement to anulus of new roundabout

Stage 1 Temporary Pavement Side Track Opened

Pavement level corrections completed under traffic (Night Shift)

5m. W x 1.5m D Stormwater Channel

South Street

View Street

Oxley Highway

14//633156

General Notes

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NOT FOR CONSTRUCTION

SCALES
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SCALE 1:500m

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DRG CHECK HAYDEN ROBINSON DATE 25.09.14
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Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D.

Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

APPROVED WOJTEK ZBOROWSKI
DATE 25.09.14

ROADS AND MARITIME SERVICES
GUNNEDAH SHIRE COUNCIL
B56 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
ROAD DRAINAGE AND UTILITIES
GENERAL ARRANGEMENT PLAN - SHEET 6

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-DLP-0006	20 % CONCEPT	A	1

REGISTRATION NUMBER DS2014/????
FILE NUMBER

SHEET No. DLP-0006

PRODUCED: 25.09.2014 AT 12:02:15 PM George Cilesio
FILE PATH: O:\G&I\CAD\PROJECTS\SEC143\DRAWINGS\SEC143-DW-CV-DLP-0006
PLOT DRIVER: SYDKNT121.PC3
PEN TABLE: _FULLSIZE - KBR.CTB

Stage 2 Works
1.Divert Oxley Highway traffic onto partially completed new works.
2.Re-opening of View Street (four way intersection)
3. Construct Stage 2 Permanent Works
4. Remove side track built in stage 0

Temporary Pavement built in Stage 1 in use

Permanent Works Area Complete

Stage 2 Works Area

Stage 0 Temporary Pavement removed

5m. W x 1.5m D Stormwater Channel

South Street

View Street

Oxley Highway

14//633156

General Notes

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SCALE 1:500m

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Kellogg Brown & Root Pty Ltd
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ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
B56 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
ROAD DRAINAGE AND UTILITIES
GENERAL ARRANGEMENT PLAN - SHEET 6

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-DLP-0006	20 % CONCEPT	A	1

REGISTRATION NUMBER
DS2014/????
FILE NUMBER

SHEET No.
DLP-0006

PRODUCED: 25.09.2014 AT 12:02:15 PM George Cilesio
FILE PATH: O:\G&I\CAD\PROJECTS\SEC143\DRAWINGS\SEC143-DW-CV-DLP-0006
PLOT DRIVER: SYDKNT121.PC3
PEN TABLE: _FULLSIZE - KBR.CTB

Stage 3 Works (to be commenced just prior to final project opening)
1.Close New Street
3. Oxley Highway operating at "T" Intersection
2.Construct Stage 3 Permanent Works

Stage 3 Works Area Under Construction

Temporary Pavement built in Stage 1 in use

Permanent Works Area Complete

Permanent Works Area Complete

14//633156

General Notes

1. All dimensions are in millimetres, unless otherwise noted. Do not obtain dimensions by scaling from the drawings.
2. The locations of utilities shown have been produced from information supplied by utility authorities.
3. All utility locations, alignments and depths are to be confirmed by the contractor via potting prior to commencing any work which may impact the utility.
4. For utility legend refer to drawing SEC142-DW-CV-GEN-0007.
5. New water main shall be DN500 PN35 ductile iron pipe or DN600 PN16 PE100 polyethylene pipe.
6. Concrete anchor block shall be constructed at new water pipe bend. Only for ductile iron pipe option.

NOT FOR CONSTRUCTION

SCALES
0 5 10 15 20 25
SCALE 1:500m

No.	Amendment Description	Initials	Date
A	20% CONCEPT DESIGN	GC	25.09.14

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DRAWN GEORGE CILESIO DATE 25.09.14
DESIGNED CAMERON SCHRIJVERS DATE 25.09.14
DRG CHECK HAYDEN ROBINSON DATE 25.09.14
DSGN CHECK DAVID TABRETT DATE 25.09.14

Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D.

Kellogg Brown & Root Pty Ltd
KBR
ABN 91 007 660 317

APPROVED WOJTEK ZBOROWSKI
DATE 25.09.14

ROADS AND MARITIME SERVICES
GUNNEDAH SHIRE COUNCIL
B56 - OXLEY HIGHWAY
GUNNEDAH SECOND ROAD OVER RAIL BRIDGE
ROAD DRAINAGE AND UTILITIES
GENERAL ARRANGEMENT PLAN - SHEET 6

DRAWING	STAGE	ISSUE	VERSION
SEC143-DW-CV-DLP-0006	20 % CONCEPT	A	1

REGISTRATION NUMBER DS2014/????
FILE NUMBER

SHEET No. DLP-0006

PRODUCED: 25.09.2014 AT 12:02:15 PM George Cilesio
FILE PATH: O:\G&I\CAD\PROJECTS\SEC143\DRAWINGS\SEC143-DW-CV-DLP-0006
PLOT DRIVER: SYDKNT121.PC3
PEN TABLE: _FULLSIZE - KBR.CTB

Stage 4 Works (Project Opening)
1. New bridge opened.
2. Roundabout Islands (*4) built and inner kerb constructed
3. Temp pavement on South Street Removed
4. Temporary pavement within inner ring o roundabout removed and landscaped

Stage 4Works Area Under Construction

Temporary Pavement built in Stage 1 in use

Permanent Works Area Complete

Permanent Works Area Complete

5m. W x 1.5m D Stormwater Channel

South Street

Oxley Highway

View Street

14//633156

General Notes

1. All dimensions are in millimetres, unless otherwise noted. Do not obtain dimensions by scaling from the drawings.
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3. All utility locations, alignments and depths are to be confirmed by the contractor via potting prior to commencing any work which may impact the utility.
4. For utility legend refer to drawing SEC142-DW-CV-GEN-0007.
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6. Concrete anchor block shall be constructed at new water pipe bend. Only for ductile iron pipe option.

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SCALE 1:500m

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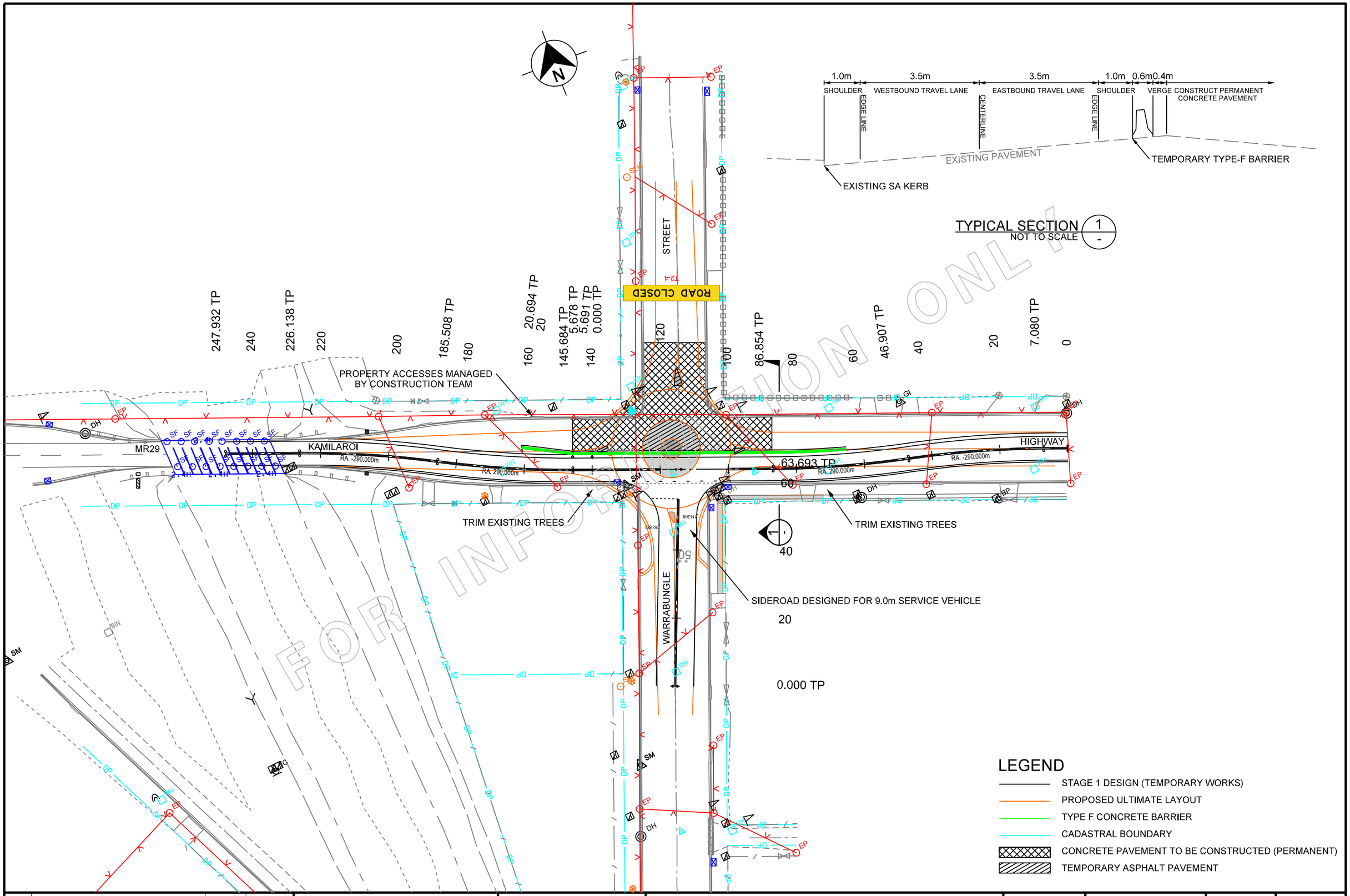
NOT FOR CONSTRUCTION



No.	Amendment Description	Initials	Date

A3 original | This sheet may be prepared using colour and may be incomplete if copied | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D.

SCALES
0 10 20 30 40 50
SCALE 1:1000m

Transport Roads & Maritime Services
NSW GOVERNMENT

DESIGNED. . . . . .
REVIEWED. . . . . .

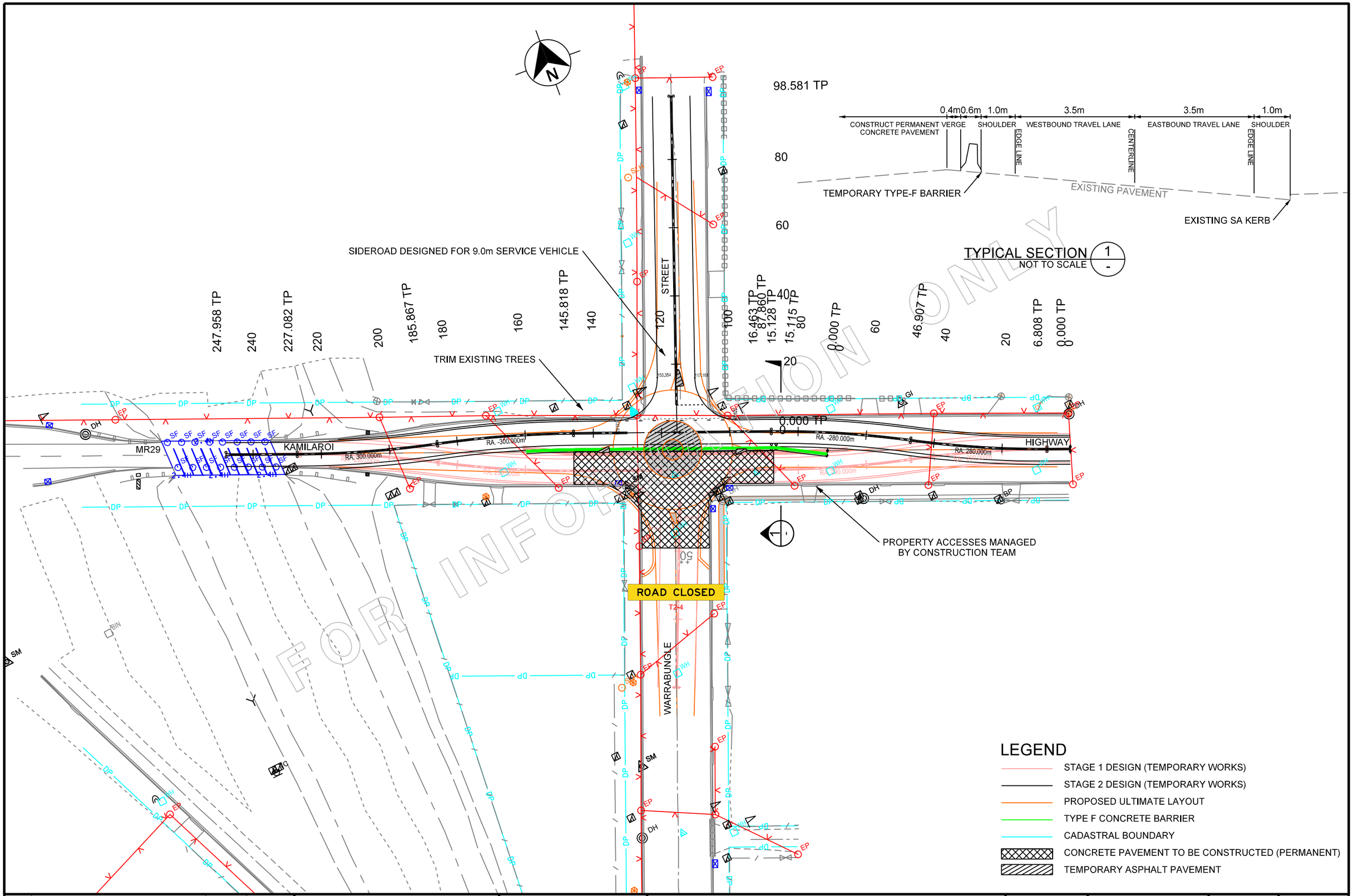
ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
HW29 - KAMILAROI HIGHWAY
WARRABUNGLE ROUNDABOUT
1.293KM WEST OF GUNNEDAH
TEMPORARY WORKS - STAGE 1

FILE No.	DRAWING	PRINTED DATE	SHEET No.
SFXXXX/XXXXXX	001_Temp_Stage.dgn	15/10/2014	001

REGISTRATION NUMBER: DSXXXX/XXXXXX
ISSUE: A | VERSION: 1
STAGE: XXX

NOT FOR CONSTRUCTION



No.	Amendment Description	Initials	Date

SCALES
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SCALE 1:1000m

A3 original | This sheet may be prepared using colour and may be incomplete if copied | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D.

Transport Roads & Maritime Services
NSW GOVERNMENT

DESIGNED. . . . . .
REVIEWED. . . . . .

ROADS AND MARITIME SERVICES

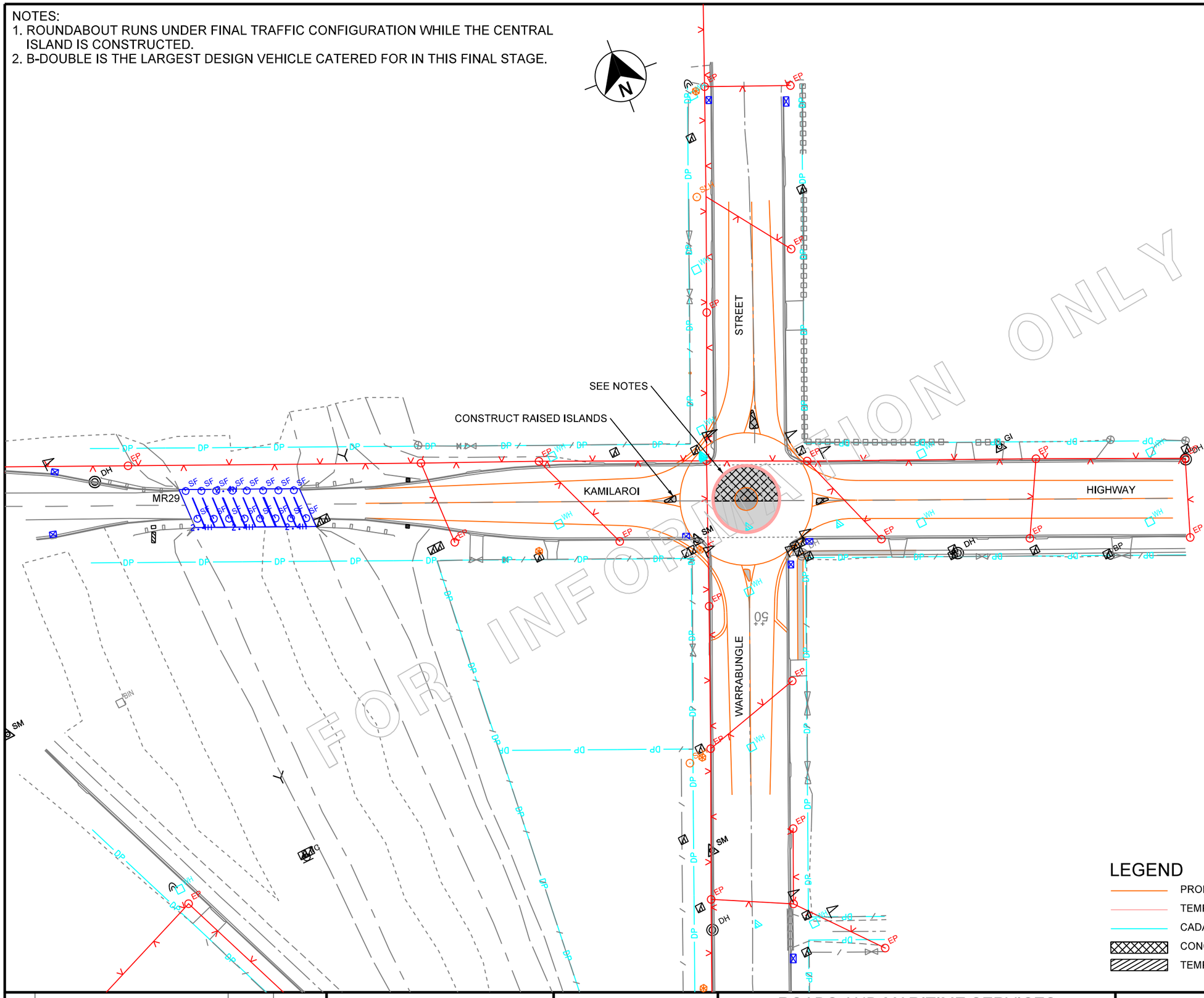
GUNNEDAH SHIRE COUNCIL
HW29 - KAMILAROI HIGHWAY
WARRABUNGLE ROUNDABOUT
1.293KM WEST OF GUNNEDAH
TEMPORARY WORKS - STAGE 2

FILE No.	DRAWING	PRINTED DATE	SHEET No.
SFXXXX/XXXXXX	002_Temp_Stage.dgn	15/10/2014	002

REGISTRATION NUMBER
DSXXXX/XXXXXX

ISSUE A | VERSION 1
STAGE XXX

NOTES:
1. ROUNDABOUT RUNS UNDER FINAL TRAFFIC CONFIGURATION WHILE THE CENTRAL ISLAND IS CONSTRUCTED.
2. B-DOUBLE IS THE LARGEST DESIGN VEHICLE CATERED FOR IN THIS FINAL STAGE.



NOT FOR CONSTRUCTION

LEGEND

- PROPOSED ULTIMATE LAYOUT
- TEMPORARY BARRIER
- CADASTRAL BOUNDARY
- CONCRETE PAVEMENT TO BE CONSTRUCTED (PERMANENT)
- TEMPORARY ASPHALT PAVEMENT

No.	Amendment Description	Initials	Date

A3 original | This sheet may be prepared using colour and may be incomplete if copied | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D.

SCALES
0 10 20 30 40 50
SCALE 1:1000m

Transport Roads & Maritime Services
NSW GOVERNMENT

DESIGNED. . . . . .
REVIEWED. . . . . .

ROADS AND MARITIME SERVICES

GUNNEDAH SHIRE COUNCIL
HW29 - KAMILAROI HIGHWAY
WARRABUNGLE ROUNDABOUT
1.293KM WEST OF GUNNEDAH
TEMPORARY WORKS - STAGE 3

FILE No.	DRAWING	PRINTED DATE	SHEET No.
SFXXXX/XXXXXX	003_Temp_Stage.dgn	15/10/2014	003

REGISTRATION NUMBER: DSXXXX/XXXXXX

ISSUE: A | VERSION: 1

STAGE: XXX

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