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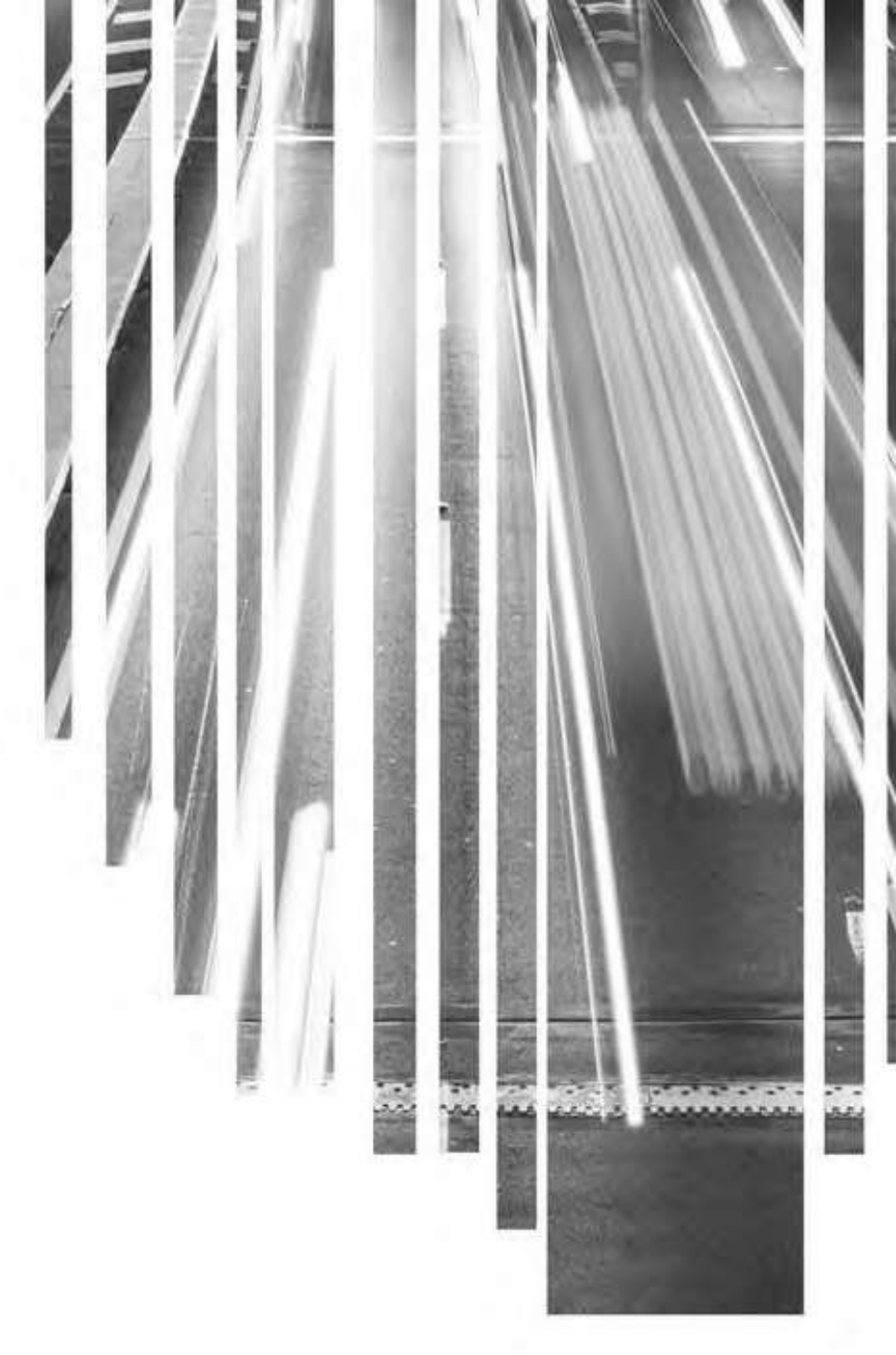


CAMBRAY CONSULTING

TRAFFIC ENGINEERING + TRANSPORT PLANNING

Herston Quarter Northern Carpark

TRAFFIC IMPACT ASSESSMENT REPORT

Prepared for Australian Unity

12th August 2020

Contents

Appendices

Appendix A

Site Plans –

COX Architecture

Appendix B

Proposed Road Works –

ADG

Appendix C

Swept Path Analyses –

Cambray Consulting

Appendix D

Assessed Traffic Volumes –

Cambray Consulting

Appendix E

SIDRA Summary –

Cambray Consulting

1.0 Introduction

Cambray Consulting Pty Ltd (Cambray) has been providing ongoing traffic and transport engineering advice to Australian Unity in relation to the Northern Carpark to be located within the Herston Quarter site at Herston. The proposed multi-level carpark is expected to support existing and proposed uses proposed land uses located in the Royal Brisbane and Women's Hospital (RBWH) and Herston Quarter precincts.

1.1 Development Overview

The Northern Carpark development is proposed to be located in the northern eastern corner of the Herston Quarter Priority Development Area (PDA). Currently the development site is partially occupied by an at grade carparking area. The remaining areas of the site are vegetated.

The proposed nine (9) storey carpark development is expected to be utilised by RBWH and Herston Quarter staff, patients and visitors.

The Proposed Development Scheme for the Herston Quarter PDA indicates that the proposed Northern Carpark site is located within development Precinct 4. The Proposed Development Scheme indicates that it is acceptable to locate a parking station within Precinct 4.

The development is proposed to include:

- Two (2) driveway crossovers on the development frontage:
  - One (1) located on Back Road;
  - One (1) located on Research Road;
- Contraflow entry and exit lane arrangements for the Research Road access;
- 1,164 carparking spaces.

Further discussion on each of these items is included in the following sections.

A copy of the development plans is included in **Appendix A**.

1.2 Scope of Works

As part of preparing this report, we undertook the following scope of works:

- An assessment of the physical layout of the site from a traffic perspective, taking into consideration:
  - Vehicle access arrangements;
  - Carparking provisions;
  - Site layout and on-site vehicle circulation arrangements;
  - Servicing requirements and vehicle manoeuvring; and
- An assessment of the operational traffic impacts associated with the development.

The findings are outlined in the following sections.

1.3 Limits of Report

This report takes into account the particular instructions and requirements of our client. Cambray Consulting has taken care in the preparation of this report, however it neither accepts liability nor responsibility whatsoever in respect of:

- Any use of this report by any third party;
- Any third party whose interests may be affected by any decision made regarding the contents of this report; and/or
- Any conclusion drawn resulting from omission or lack of full disclosure by the client, or the clients' consultants.

1.4 Safety in Design

Within our scope, we have identified safety in design issues and potential hazards, whenever reasonably practicable within our field of expertise. Due to our limited and upfront role on this project, it is not considered reasonably practicable to identify all potential hazards which may occur throughout the life of a project, including during detailed design and construction activities. It is strongly recommended that safety in design issues be reviewed during all ensuing design and construction stages of the project.

1.5 Qualifications

This report was prepared by:

- Andrew Douglas, Director – BE Civil (Hons), MSc Env Man, FIEAust, CPEng, **RPEQ 6691;** and
- Matt Grierson, Transport Engineer – BE Civil.

2.0 Context

2.1 Site Location

The Northern Carpark is proposed to be located within the Herston Quarter Priority Development Area (PDA), which was declared on 18th November 2016 by Economic Development Queensland (EDQ).

The Herston Quarter PDA is located at 300 Herston Road, Herston (formally described as Lot 545 on SP289113). It is located within the Brisbane City Council (Council) local government area.

The Northern Carpark is to be located in the north-east corner of the Herston Quarter PDA, as indicatively illustrated in **Figure 2.1**.

Figure 2.1 Site Location

2.2 Local Road Network

The Northern Carpark in the context of the adjacent internal and external road network is illustrated in **Figure 2.2**. The key characteristics of the adjacent road network are summarised in **Table 2.1**.

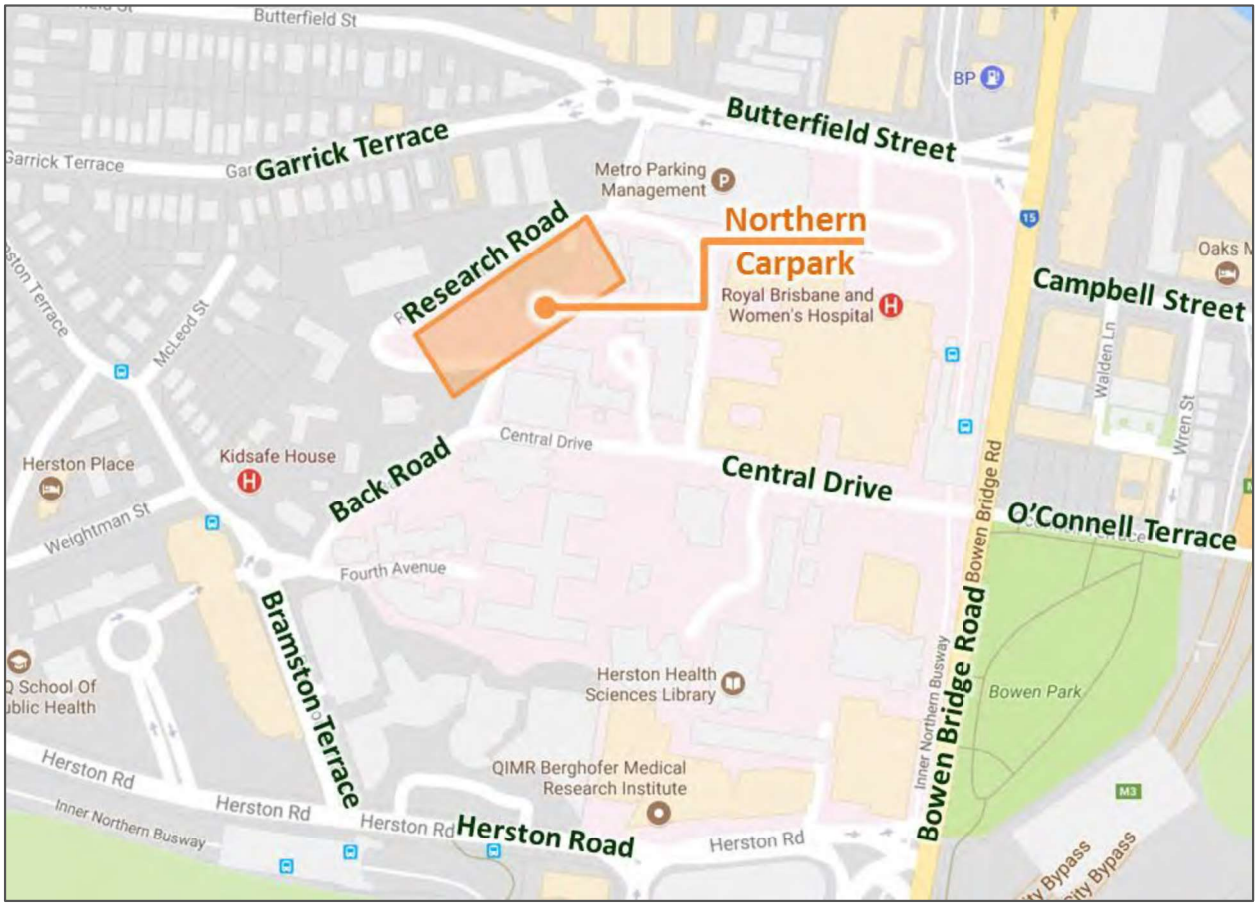


Figure 2.1 Road Network © Google 2017

Table 2.1 Existing Road Network

Road	Jurisdiction	Hierarchy	Trunk Road?	Speed Limit
Bowen Bridge Road	Council	Arterial Road	Yes	60km/h
Butterfield Street		Neighbourhood Road	Yes	50km/h
Herston Road		District Road	Yes	60km/h
Bramston Terrace		Neighbourhood Road	Yes	50km/h
O'Connell Terrace		Suburban Road	Yes	60km/h
Garrick Terrace		Neighbourhood Road	No	40km/h

The following documents were reviewed to identify potential future transport network projects which may impact the site:

- Brisbane City Plan 2014, Priority Infrastructure Plan;
- Brisbane Metro Business Case, May 2017, Brisbane City Council; and
- Inner City Bypass Upgrade Project Plan, 5th December 2016.

Our review of these documents indicated that no identified transport projects are likely to directly impact the site or the proposed development.

2.3 Herston Quarter Priority Development Area – Planning Considerations

The Herston Quarter PDA, Interim Land Use Plan (ILUP) indicates that when planning and reviewing proposed development traffic and transport arrangements, the requirements of following documents should be considered:

- Brisbane City Council's *Brisbane City Plan 2014*
  - Traffic, Access, Parking and Servicing Planning Scheme Policy (TAPS PSP);
  - Traffic, Access, Parking and Servicing Code (TAPS Code);
- Austroads guidelines; and
- AS2890 Parking Facilities (AS2890).

3.0 Site Access

3.1 Overview

All vehicular access to the Northern Carpark is proposed to be via two (2) driveway crossovers, located on Research Road and Back Road respectively.

The proposed site access arrangements are described in further detail below:

- Research Road Driveway Crossover
  - Located approximately 80m west of the Research Road/Service Road/Western Road internal hospital precinct intersection;
  - Provides access (entry and exit) to the carpark at level 1;
  - Three (3) lanes allowing for a contra-flow arrangement;
- Back Road Driveway Crossover
  - Located approximately 40m north of the Back Road/Central Drive internal hospital precinct intersection;
  - Provides access (entry and exit) to carpark level 7;
  - Single entry and exit lane.

Proposed site vehicular access arrangements are illustrated in **Figure 3.1.**

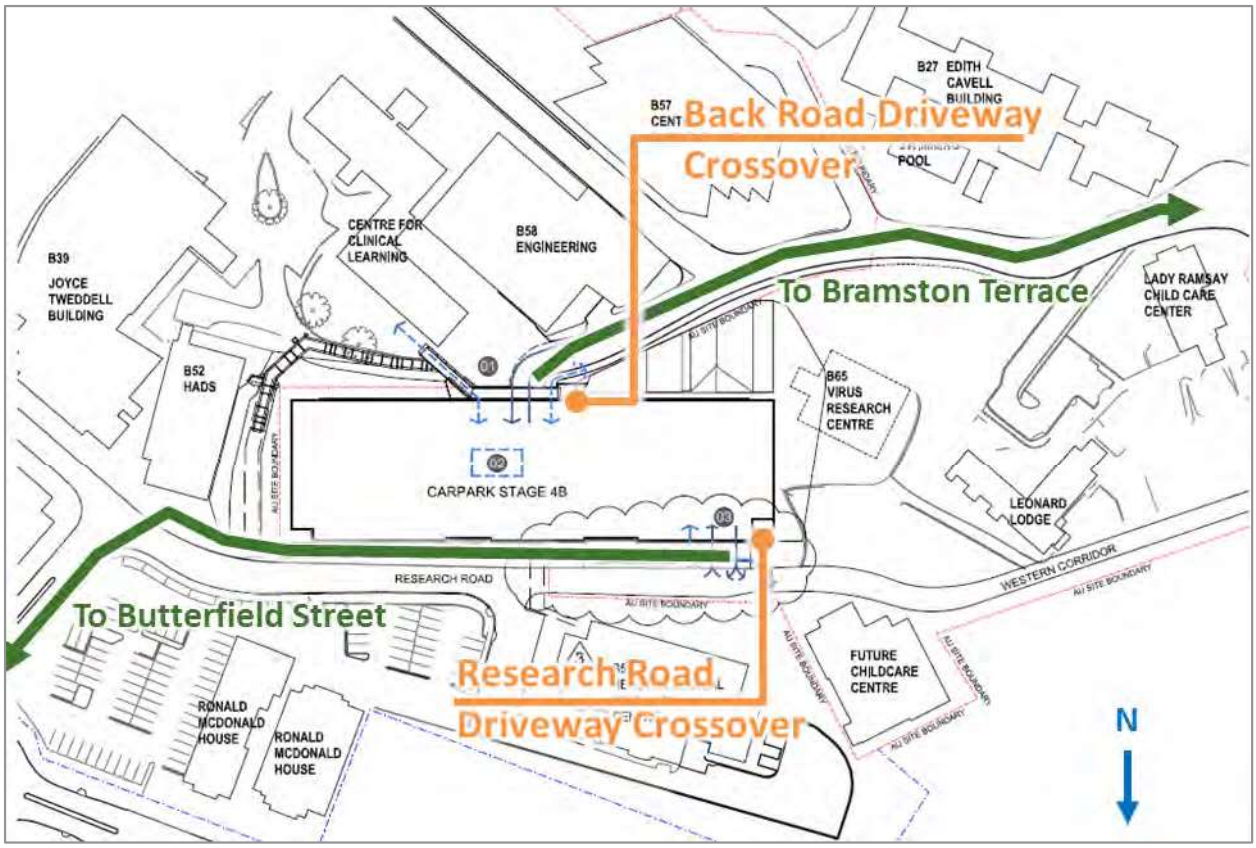


Figure 3.1 Vehicle Access and Egress Overview

The proposed road works associated with the Northern Carpark development are outlined in the ADG development plans included in **Appendix B**. We have also prepared swept path assessments for the proposed plans, the swept path analysis is included in **Appendix C**.

3.2 Research Road Widening

Research Road pavement width is proposed to be widened to a minimum of 7m along the development frontage between the proposed Research Road Crossover and the intersection with Service Road. The proposed width is in accordance with the requirements of Brisbane City Plan 2014, Transport, access, parking and servicing (TAPS) planning scheme policy (PSP) and the Australian Standard AS2890.2 (i.e. 6.5m width recommended).

Included in the proposed road works and as part of the Northern Carpark (NCP) development, parking restrictions are proposed along Research Road and Service Road. This parking restriction aims to facilitate vehicle movements into and out of the Herston Quarter site and reduce potential pinch and conflict points.

The final road cross section requirements/configuration extending west beyond the Research Road Crossover are to be confirmed as they are subject to further development planning and design requirements. The Research Road alignment is proposed to match back into a temporary alignment to the west of the Research Road Crossover for the interim period.

The proposed widened Research Road alignment has been configured to accommodate the turning movements of a 19m Articualted Vehicle. As the ultimate Stage 8 development (located west of the NCP) is still subject to ongoing design work, the 19m AV has been considered as the design vehicle to allow for flexibility in the ongoing design.

3.3 Butterfield Street / Garrick Terrace / Service Road Roundabout

The interface between Service Road and the Butterfield Street roundabout is also proposed to undergo some widening and reprioritization to better facilitate large service vehicle movements to/from Butterfield Street into the Herston Quarter precinct.

The Service Road northbound and southern aisles are proposed to be widened to better accommodate Articulated Vehicles (AV). Painted chevron areas are proposed to be included to help guide smaller vehicles and control vehicle speeds, while allowing for improved larger vehicle movements. The proposed Service Road / Research Road / Western Road internal intersection priority has been reinforced for the Research Road / Service Road movements through the inclusion of additional line marking.

The extents of the road realignment for the Service Road interface with Butterfield Street have been based on swept path assessments and are detailed in **Appendix B.**

3.4 Back Road / Bramston Terrace Roundabout

As part of the Northern Carpark development the Back Road / Bramston Terrace / Fourth Avenue intersection is proposed to be realigned to simplify movements entering and departing the Herston Quarter development site. The roundabout realignment reconfigures the Back Road alignment to be generally 90 degrees with Bramston Terrace.

As part of the reconfiguration Fourth Avenue road alignment has been shifted further east along Back Road. The realigned intersection configuration provides a right turn pocket to Fourth Avenue. This right turn lane allows the vehicles to prop to complete a right turn clear of through movements continuing along Back Road. Up to two (2) B99 size vehicles can stand in the turn lane with appropriate space for a 19m Articulated Vehicle (AV) to continue along Back Road.

The realignment also allows for independent entry and exit movement of vehicles up to 19m Articulated Vehicle (AV). Swept path analyses have been prepared illustrating proposed vehicle circulation arrangements. A copy of the analyses is included in **Appendix B**.

3.5 Research Road Crossover Review

The Research Road driveway crossover connects to level 1 of the proposed carpark as illustrated in **Figure 3.2**.

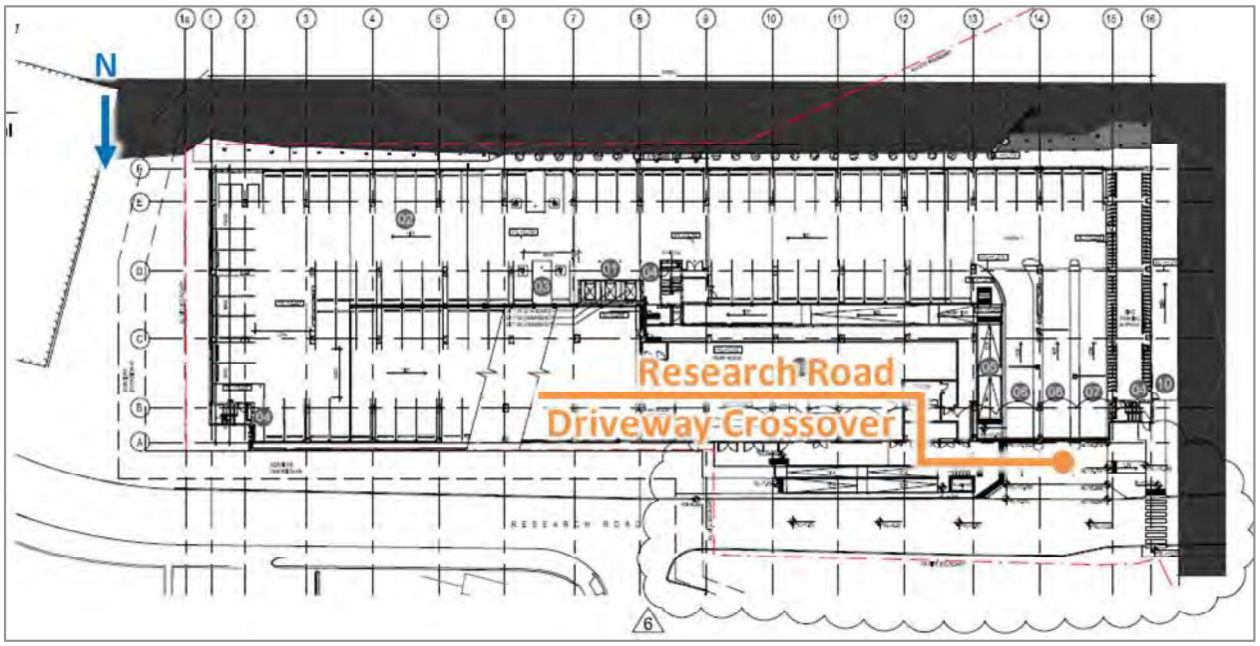


Figure 3.2 Proposed Research Road Driveway Crossover – Level 1

The Research Road driveway crossover is proposed to be configured as follows:

- As an at grade connection matching into the proposed levels of Research Road;
- To accommodate B99 vehicle access; and
- Provides the ability to vary the use of the carpark access lanes to accommodate alternating vehicle entries or exits depending on demands.

It is noted that variable message signage and electronic bollards / lane control (or similar) are proposed to be installed at either end of the level 1 entry/exit lanes to control access.

3.5.1 Research Road Crossover Sight Distance Review

We note that the development is to gain access to a private road network. A review of expected available sight distance to the east and west from the Research Road driveway crossover was undertaken:

- Speed limit – 20km/h;
- Adopted design speed – 30km/h;
- Desirable sight distance – 42m (5 seconds) Minimum Gap Sight Distance (MGSD) Australian Standard AS2890.1;
- Expected available sight distance west – >75m. Visibility available to the west extends to the Service Road intersection; and
- Expected available sight distance east – >50m. We note that this is based on currently proposed design alignments.

Our review indicates that the expected sight distance to / from the Research Road crossover should be in excess of the requirements in *Australian Standards for Off-Street Parking* Part 1 (AS2890.1).

3.6 Back Road Driveway Crossover Review

The Back Road driveway crossover connects to level 7 of the carpark as illustrated in **Figure 3.3**.

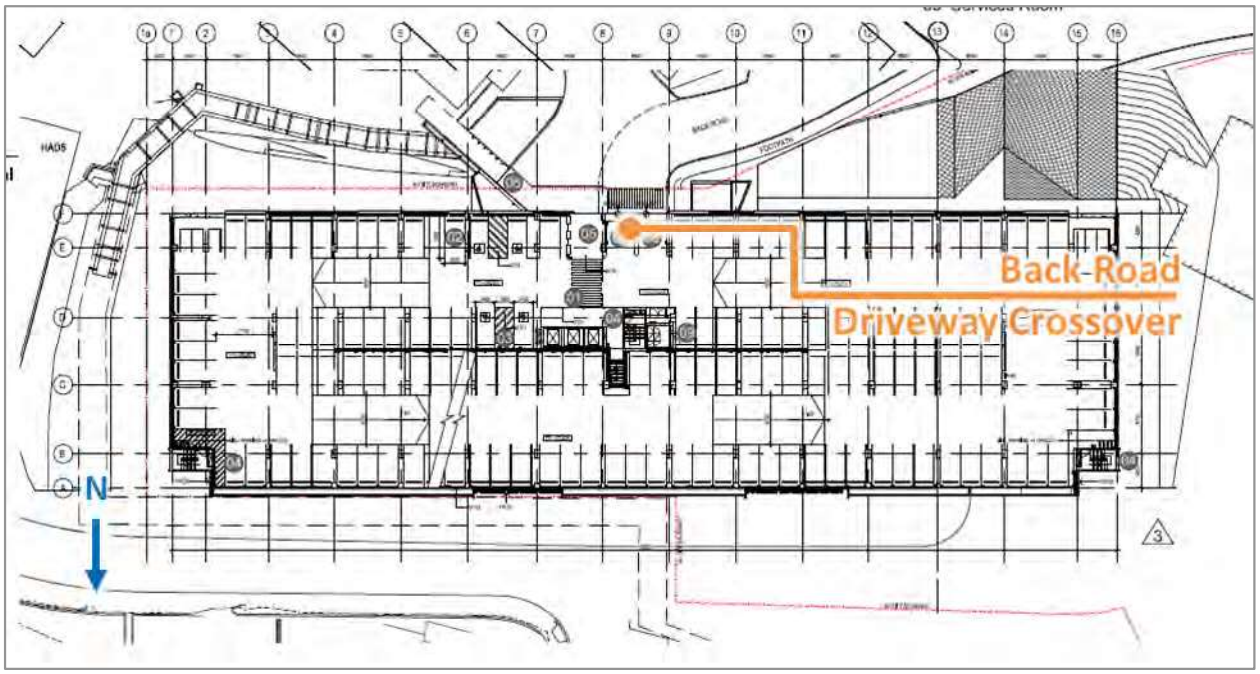


Figure 3.3 Proposed Back Road Driveway Crossover – Level 7

The Back Road driveway crossover is proposed to be configured as follows:

- At grade ramping matching into the documented Stage 4A road surface;
- Entry lane width – 3.5m and exit lane width – 3.5m, to allow B99 vehicle access.

It is noted that variable message signage and electronic bollards (or similar) are proposed to be installed to assist internal way finding and indicate available parking for the carparking levels.

The level 7 access on Back Road has been configured to maintain service vehicle access to the existing Engineering Building loading area located to the south east of the proposed level 7 access to the Northern Carpark.

The development access approach along back road has been configured to provide a hardstand pad area suitable for a Heavy Rigid Vehicle (HRV) to manoeuvre into the Building Engineering and Maintenance Services (BEMS) loading area. This pad area has been configured to allow for manoeuvring clear of the main circulation aisle of Back Road and key pedestrian areas. This is consistent with the configuration approved as part of the Stage 4A design documentation.

The pad area is proposed to be graded to match into the existing access ramp while mitigating the grading experienced by service vehicles manoeuvring into the BEMS loading dock. This forecourt manoeuvring area for the Back Road interface is expected to be graded in the order of 5%. The Back Road alignment has also been configured to allow for the positioning of a Medium Rigid Vehicle adjacent to the BEMS loading area, a MRV is able to stand at the loading area clear of traffic movements on Back Road.

As part of previous Northern Carpark enabling works (Stage 4A) intersection adjustments for Central Drive and Back Road have been included. These works include restricting turning movements from Back Road into Central Drive to authorised vehicles. This has been implemented based on feedback from Metro North Hospital and Health Service (MNHHS).

3.7 Summary

Our review indicated that the proposed driveway crossover configurations are generally compliant with TAPS PSP and/or AS2890.1 requirements.

The proposed access arrangements are considered to be adequate from a traffic engineering perspective.

4.0 Parking Provisions

4.1 Overview

The Northern Carpark development is proposed to include 1,164 carparking spaces.

The carparking provision is allocated as follows:

- 1,140 general carparking spaces; and
- 24 carparking spaces marked and signed for people with a disability (PWD).

4.2 General Parking Review

The Northern Carpark is expected to be utilised by RBWH and Herston Quarter staff, patients and visitors. In order to identify the proposed carparking provision, input was sort from the proposed operator of the carpark and other key stakeholders in relation to existing and expected demand.

It is important to note that the existing Bramston Terrace multi-level carpark is expected to be demolished after construction of the Northern Carpark has been completed. Therefore a significant portion of the proposed carparking located within Northern Carpark is intended to replace that which is to be demolished.

4.3 PWD Parking Review

Brisbane City Plan 2014, Transport, access, parking and servicing (TAPS), planning scheme policy (PSP) requires that PWD parking is provided at a rate of 1 space for every 50 carparking spaces provided.

The carpark therefore requires 23 PWD carparking spaces. The current development plans indicate that 24 PWD carparking spaces will be provided, meeting TAPS requirements.

4.4 Bicycle Parking Provision

The Northern Carpark is not expected to generate a significant demand for bicycle parking itself. The bicycle parking proposed for the Northern Carpark therefore will accommodate the bicycle parking demands associated with the balance of the Herston Quarter Development site (e.g. Heritage Core, Wellness Precinct).

Current development planning includes space appropriate for bicycle parking racks on Level 1 through to Level 7. Additional areas within the carpark could also accommodate additional bicycle parking spaces if the demand for further bicycle parking is observed.

The Northern Carpark development scheme indicates that in the order of 95 bicycle spaces could be provided in the western portion of Level 1, adjacent to the Level 1 main pedestrian and vehicle access points. Bicycle parking spaces are also to be provided adjacent to the stairwells on Level 2 through toLevel 8. It is noted that the final proposed bicycle parking supply is subject to detail design.

Bicycle parking is to be provided as per *Australian Standards Parking Facilities Part 3: Bicycle Parking* (AS2890.3).

5.0 Servicing Review

The development is not expected to generate sufficient demand to warrant a dedicated service area.

It is noted that the development layout has been configured to accommodate general access by B99 cars which would be comparable to the size of a delivery van or utility vehicle.

It is expected that the majority of contractors, maintenance technicians etc. requiring access to the development will drive B99 cars or similar.

As mentioned previously, the level 7 access configuration has been designed to maintain service vehicle access to the Building Engineering and Maintenance Services (BEMS) loading dock located to the east of the level 7 access.

A dedicated hardstand area has been provided to allow for a Heavy Rigid Vehicle (HRV) to complete reverse manoeuvres into the loading area clear of entering and departing cars and pedestrian areas.

The pad area is proposed to be graded to match into the existing access ramp while limiting the grading experienced by service vehicles manoeuvring into the loading dock.

The proposed arrangements are considered acceptable from a traffic engineering perspective.

6.0 Layout Review

6.1 Geometry

Our review of the proposed carpark indicates that it generally complies with the Council TAPS Planning Scheme Policy (TAPS PSP) requirements. Some geometric elements do not comply with the TAPS PSP but importantly they do comply with the requirements of the *Australian Standards for Off-Street Parking* (AS2890) Parts 1, 2 and 6.

While it is acknowledged that it is Council's preference that carparking geometry complies with the TAPS PSP as opposed to AS2890, it is not always feasible to do so. In these situations, it is common practice to draw upon AS2890 for guidance.

The traffic elements listed in **Table 6.1** have been reviewed against the requirements of the TAPS PSP or where applicable AS2890 Part 1, Part 2 and/or Part 6.

Table 6.1 Geometric Review

Parameter	Proposed	TAPS PSP Recommendation (Unless Otherwise Stated)	Compliant
Entry/Exit			
Crossover Grading (Level 1)	1:20 for the first 6m into the carpark	1:20 for the first 6m into the site*	✓
Crossover Grading (Level 7)	Max 1:20 for the first 6m into the carpark	1:20 for the first 6m into the site*	✓
Entry/Exit Lane Width	3.5m	3.0m (min)	✓
General Carpark Area			
Height Clearance	2.2m minimum	2.2m (AS2890.1 & AS2890.6)	✓
Height Clearance (Above PWD spaces and shared areas)	2.5m minimum	2.5m (AS2890.6)	✓
Bay Dimensions (Standard Cars)	2.6m x 5.4m	2.6m x 5.4m	✓
Bay Dimensions (PWD)	2.6m x 5.4m with corresponding shared area	2.4m x 5.4m with corresponding shared area (AS2890.6)	✓
Aisle Width	6.2m	6.2m	✓
Carpark Gradient, Perpendicular to Spaces	Generally 1:20	1:20	✓
Entry Ramp Level 1	1:20	1:12 Uphill queueing areas	✓

*This is measured from property boundary / road verge interface into a development site. Due to private road network this measurement has been updated to reflect a more typical application.

The proposed carparking space geometry is to be provided as per the recommendations in AS2890.1 including allowances for vehicle door openings and other associated geometry.

The traffic elements listed in **Table 6.1** generally comply with the requirements of the TAPS PSP and where applicable, AS2890.1, AS2890.2 and AS2890.6.

6.2 Queue Provisions

6.2.1 Overview

The proposed development layout includes variable flow lanes at the Level 1 access point. Each of the entry/exit lanes at the Level 1 carpark access can accommodate at least five (5) vehicles, providing a total queue storage capacity in excess of 15 cars. Level 7 has capacity for at least 3–4 cars at the entry point.

The provision of the variable flow lanes at Level 1 allows entry and exit queue storage capacity to be adjusted as required (i.e. when entry demand is high), at least 10 car entry queues could be accommodated at the Level 1 access. Conversely when exit demand is high, at least 10 car exit queues could be accommodated at the Level 1 access.

6.2.2 Review

Access queue storage has been reviewed against the requirements of the TAPS PSP. Based on the car parking provision proposed queue storage for 16 cars is recommended across the two (2) development accesses. The proposed queue storage provisions therefore exceed TAPS recommendations.

We have also undertaken queue capacity analysis for the proposed boom gate access arrangements for the carpark. The assessment was based on the expected arrival rates for the carpark and the processing capacity rates outlined in AS2890.1 Appendix D (400 vehicles/hour) and indicative rates provided by boom gate manufacturers (450-900 vehicles/hour).

The queue assessment completed is based on Austroads *Guide to Traffic Management Part 2: Traffic Theory Section 4.0*. The completed assessment has applied Steady State Queues with Random Arrivals and Service for the Back Road queue review. The assessment adopted a peak hour arrival rate based on the assessed NCP arrival volumes (refer **Section 7**) with an additional traffic volume included to factor in volumes associated with the future Master planned development.

The queue theory assessment indicated that for the adopted service rate (400vph) and vehicle arrival rates (125vph) the peak hour 95th percentile queue for the Back Road Level 7 access should be in the order of three (3) cars.

The assessment indicated that the carpark access arrangement should operate acceptably with a single entry and exit lane at each of the access points however the proposed variable flow lanes will provide additional capacity. The variable flow lanes will also provide a level of redundancy i.e. vehicles will still be able to enter and exit the carpark under a single lane arrangement if a boom gate was to be inoperable due to a malfunction.

6.2.3 Summary

Based on the above review the proposed queue storage areas are expected be adequate to accommodate anticipated vehicle queues at the proposed carpark access points.

7.0 Operational Assessment Inputs

7.1 Overview

Operational (SIDRA) analysis has been undertaken at major intersections surrounding the site.

The following intersections have been assessed:

1. Butterfield Street / Garrick Terrace;
2. Butterfield Street / Bowen Bridge Road;
3. Central Drive / Bowen Bridge Road / O'Connell Terrace;
4. Herston Road / Bowen Bridge Road;
5. Bramston Terrace / Herston Road; and
6. Bramston Terrace / Back Road.

It is noted that the key intersections located along Bowen Bridge Road have been assessed as a network in order to understand the intersection interaction. The details of these assessments are provided in **Section 8.0**. The SIDRA results associated with the Campbell Street intersection are provided in **Appendix E**.

The operational impacts on the internal intersections located within the Metro North Herston precinct are considered to be minimal and internal privately controlled intersections are expected to operate within acceptable industry thresholds.

7.2 Surveyed Traffic Volumes

Surveys were completed at the study intersections by Data Audit Systems to identify baseline traffic demands. An overview of the traffic surveys completed is provided below:

- Wednesday 10th February 2016;
- 12 hours – 6am to 6pm;
- Classified turning movements i.e. light and heavy vehicles identified;
- Network AM Peak – 7:30am to 8:30am; and
- Network PM Peak – 5:00pm to 6:00pm.

It is noted that these traffic surveys were completed after the Royal Children's Hospital (RCH), which was previously located on the Specialist Rehabilitation and Ambulatory Care Centre (SRACC) site, was closed. Therefore the surveys do not include the traffic volumes previously generated by the previously approved/operational RCH use. The traffic volumes generated by the RCH were accommodated on the existing road network.

7.3 Background Traffic Growth

A background traffic growth rate of 1% p.a. (compound) has been adopted for the purposes of this assessment. This growth rate is considered to be appropriate considering the built up areas surrounding the development.

In addition, development traffic volumes associated with the under construction SRACC development (to be located on Herston Road in the south-east corner of the Herston Quarter PDA) and the recently approved carpark structure (43 Butterfield Street A004917498) have been added to the background traffic volumes.

7.4 Development Traffic Generation

It is noted that usually specific traffic generation rates for the land use proposed are adopted to estimate development traffic generation. However there is no specific traffic generation rate for a standalone carpark as the traffic ultimately generated is dependent on the type of uses it is providing the carparking for.

As such, traffic generation rates for the various types of uses within the RBWH and Herston Quarter PDA precincts could be applied in order to estimate the traffic generation of the Northern Carpark. However the land uses and yields which will ultimately occupy the Herston Quarter PDA have not yet been finalised.

Therefore in order to estimate the traffic generated by the Northern Carpark, arrival and departure data from existing carparking developments which currently operate in proximity to the Northern Carpark site was reviewed.

In this instance it is considered appropriate to use this data as future development within the RBWH and Herston Quarter PDA precincts is likely to be similar to that which the existing carparks support.

In saying that, we believe that the traffic generation estimates based on this data are likely to be conservative. The RBWH precinct includes a major public hospital with a large emergency department which generates significant traffic volumes. It is expected that future development will include uses that typically generate lower traffic volumes such as aged care, medical suites, research labs etc.

An overview of the data reviewed to estimate development traffic generation is provided below:

- 1st October to 19th October, 2016;
- Time period – 24hours;
- Entry and exit movements broken down by hour.

It is noted that whilst data was provided for Saturday and Sunday, the data for these days was not considered as part of our review.

We identified the average hourly traffic generation rates for each of the carparks. The highest traffic generation rates recorded in the AM and PM peak periods were identified. It is important to note that we did not average the peak generation rates recorded at the two (2) carparks i.e. we have based our assessment on the rates recorded at the busier carpark.

The average traffic generation rates recorded in the AM and PM road network peak periods are identified in **Table 7.1**.

Table 7.1 Existing Carpark Data Review – Peak Traffic Generation Rates

AM Carpark Peak (7:00am – 8:00am)	PM Carpark Peak (5:00pm – 6:00pm)
0.30 trips/space	0.18 trips/space

Resultant development traffic generation estimates are outlined in **Table 7.2**.

Table 7.2 Estimated Traffic Generation

Land Use	Yield	AM Road Network Peak (7:30am – 8:30am)	PM Road Network Peak (5:00pm – 6:00pm)
Carpark	1,164 spaces	349 trips	210 trips

The estimated traffic generation considers the Northern Carpark operating based on its proposed 1164 space capacity, independent of the actual traffic demands which will be associated with the future surrounding uses rather than the number of parking spaces available.

7.5 Development Traffic Distribution

The existing carpark data was also used to identify the directional distribution splits during road network peak periods. The splits which we identified and adopted in our assessment are outlined in **Table 7.3**.

Table 7.3 Adopted Directional Distribution

AM Road Network Peak (7:30am – 8:30am)			PM Road Network Peak (5:00pm – 6:00pm)		
In	Out	Total	In	Out	Total
90%	10%	100%	10%	90%	100%

The adopted external traffic distribution has been identified based on a review of key roads and major development areas surrounding the site. The adopted external distribution is outlined in **Table 7.4.**

Table 7.4 Adopted External Distribution

Origin/Destination	Proportion
North	35%
South	35%
East	10%
West	20%
Total	**100%**

7.6 Assessment Scenarios

The following traffic volume scenarios were assessed in SIDRA at each of the study intersections where applicable:

- 2016 Survey Volumes;
- 2021 Background Traffic Volumes;
- 2021 Background and Northern Carpark Development Traffic Volumes;
- 2031 Background Traffic Volumes; and
- 2031 Background and Northern Carpark Development Traffic Volumes.

The assessed traffic volumes are included in **Appendix D.**

7.7 Assessment Criteria

We have undertaken traffic analysis using SIDRA to determine the potential operational impacts of the proposed development on the surrounding road network.

The main criteria utilised to assess intersection performance is the 'Degree of Saturation' (DOS), which is the ratio of maximum demand volume to capacity at an intersection. DTMR's *Guidelines for Assessment of Road Impacts of Development* (GARID) provides guidance in relation to the limit of acceptable operation based on the intersection type.

The recommended DOS thresholds are summarised in **Table 7.5**.

Table 7.5 Adopted Assessment Criteria (DOS)

Intersection Type	DOS Threshold
Priority Controlled	0.80
Roundabouts	0.85
Signals	0.90

In addition to the above, we have also considered 'critical delay' and 'Level of Service' (LOS) thresholds when assessing priority controlled intersections. It is noted that the 'critical delay' represents the worst average delay for an individual movement at an intersection. The NSW RMS *Guide to Traffic Engineering Developments* provides guidance in relation to average delay and LOS thresholds.

The LOS thresholds are summarised in **Table 7.6**. Upgrades are typically warranted at priority controlled intersections when the critical delay is greater than 57 seconds.

Table 7.6 Adopted Assessment Criteria (Average Delay & LOS)

Level of Service (LOS)	Average Delay / Vehicle
A	< 14 seconds
B	15 to 28 seconds
C	29 to 42 seconds
D	43 to 56 seconds
E	57 to 70 seconds
F	> 70 seconds

The SIDRA assessment summaries are provided in **Appendix E**.
Note these results are preliminary and subject to ongoing design review.

8.0 Operational Analysis Results

8.1 Intersection 1 – Butterfield Street / Garrick Terrace

The assessed SIDRA layout for the intersection is illustrated on **Figure 8.1**. The resultant SIDRA output for the intersection is summarised below in **Table 8.1.** An electronic copy of the SIDRA file has been provided with this report.

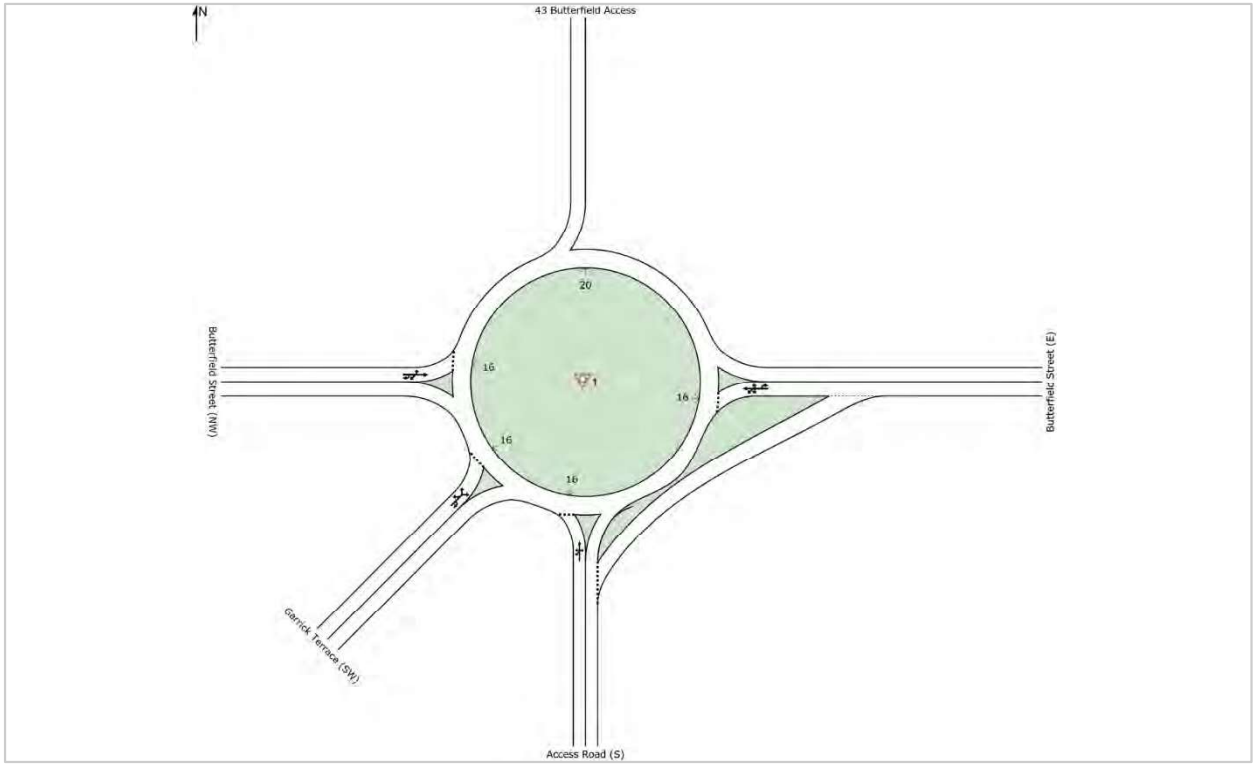


Figure 8.1 Assessed SIDRA Layout – Intersection 1

Table 8.1 SIDRA Analysis Results – Intersection 1

Scenario	Demand (Vehs/hr)	DOS	Critical Delay (s)	95th %ile Queue (m)	Acceptable Performance
AM Peak (7:30 – 8:30am)					
2016 Survey	808	0.28	10 – West	10 – East	✓
2021 BG	927	0.33	11 – West	13 – West	✓
2021 BG+DEV	1,128	0.43	11 – West	15 – East	✓
2031 BG	938	0.33	11 – West	13 – West	✓
2031 BG+DEV	1,150	0.43	11 – West	15 – West	✓
PM Peak (5:00 – 6:00pm)					
2016 Survey	786	0.23	10 – West	10 – West	✓
2021 BG	800	0.24	11 – West	10 – West	✓
2021 BG+DEV	930	0.29	11 – West	15 – South	✓
2031 BG	893	0.32	11 – West	15 – West	✓
2031 BG+DEV	1,067	0.35	12 – West	17 - West	✓

The analysis results indicated that the intersection will perform within acceptable thresholds for a roundabout (i.e. DOS less than 0.85 and critical delay less than 57 seconds) in all assessed development scenarios.

8.2 Intersection 2 – Butterfield Street / Bowen Bridge Road

The assessed SIDRA layout for the intersection is illustrated on **Figure 8.2**. The resultant SIDRA output for the intersection is summarised below in **Table 8.2.** An electronic copy of the SIDRA file has been provided with this report.

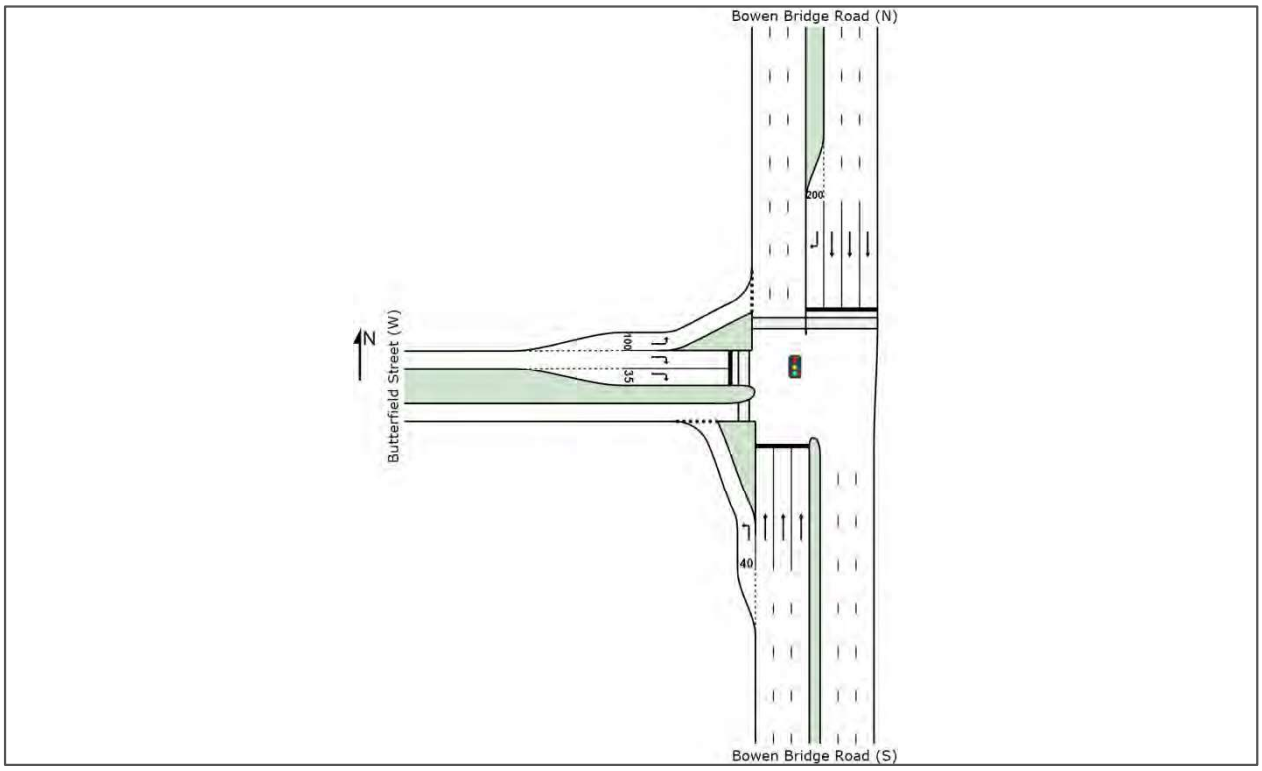


Figure 8.2 Assessed SIDRA Layout – Intersection 2 – Existing Configuration

Table 8.2 SIDRA Analysis Results – Intersection 2

Scenario	Demand (Vehs/hr)	DOS	Average Delay (s)	95th %ile Queue (m)	Acceptable Performance
AM Peak (7:30 – 8:30am)					
2016 SURVEY	5,532	0.98	34	508 – North	×
2021 BG	5,922	1.08	74	1,212 – North	×
2021 BG+DEV	6,128	1.28	166	1,471 – North	×
2031 BG	6,386	1.55	310	1,809 – North	×
2031 BG+DEV	6,592	1.55	310	1,809 – North	×
PM Peak (5:00 – 6:00pm)					
2016 SURVEY	5,613	0.76	20	168 – West	✓
2021 BG	6,026	0.86	21	187 – West	✓
2021 BG+DEV	6,168	0.90	23	230 – West	✓
2031 BG	6,525	0.86	26	186 – West	✓
2031 BG+DEV	6,667	0.90	25	230 – West	✓

The SIDRA results indicate that the intersection currently performs beyond the acceptable DOS threshold for a signalised intersection (i.e. DOS exceeds 0.90) during the AM peak period.

As the intersection already exceeds the acceptable signalised intersection performance threshold, an upgraded intersection configuration was identified which is expected to assist in reducing the impacts of Herston Quarter Precinct traffic on Bowen Bridge Road.

The upgraded intersection configuration, as assessed in SIDRA, is illustrated in **Figure 8.3**. The upgrade works include the formalisation of the second approach lane on Butterfield Street. We note that the extended full length lane has been modelled as the same length as the existing Butterfield Street approach distance (i.e. 240m). We not that due to the left turn slip lane arrangement on this approach the ultimately available distance for the new full length lane might be slightly longer than that adopted.

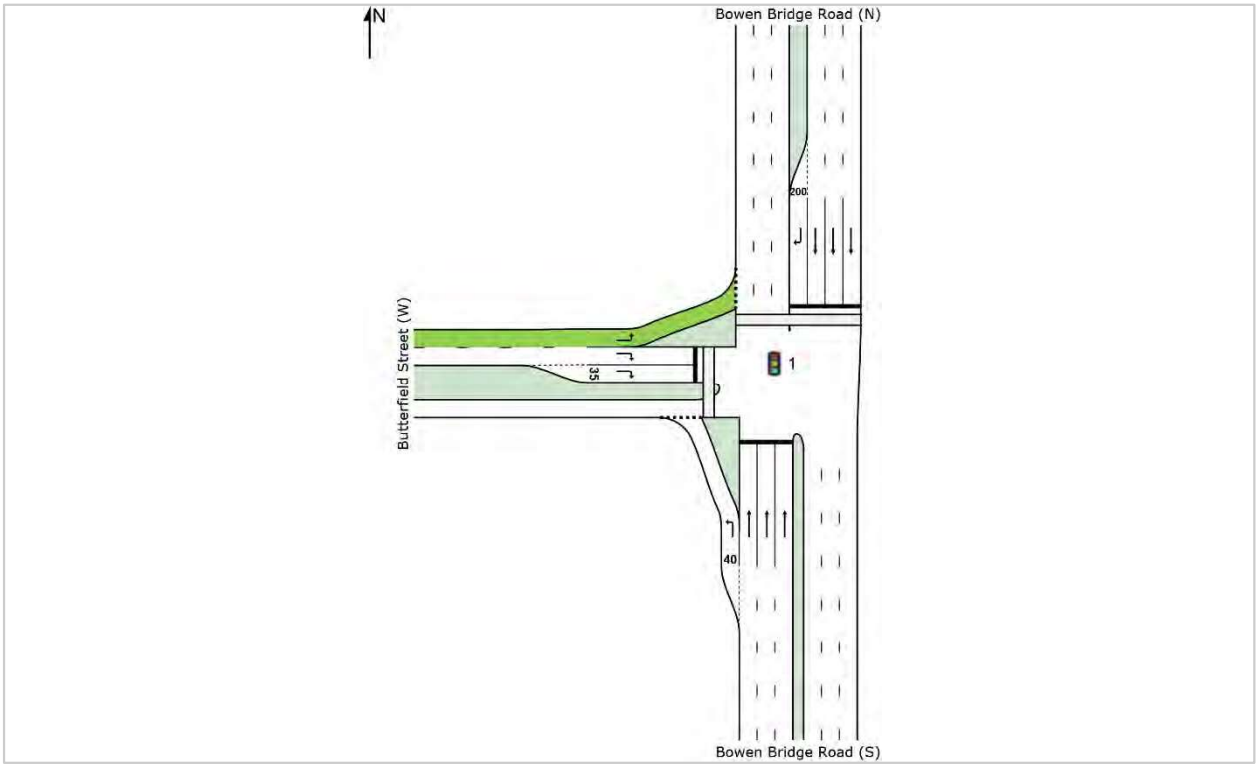


Figure 8.3 Assessed SIDRA Layout – Intersection 5 – Upgraded Configuration

The SIDRA assessment indicated that the queue expected to occupy the current 100m short left turn lane on the Butterfield Street (western) approach. the extension of the formalised dual lanes to the Butterflied Street / Garrick Terrace roundabout will provide additional lane length to contain vehicle queues.

8.3 Intersection 3 – Central Drive / Bowen Bridge Road / O'Connell Terrace

The assessed SIDRA layout for the intersection is illustrated on **Figure 8.4**.

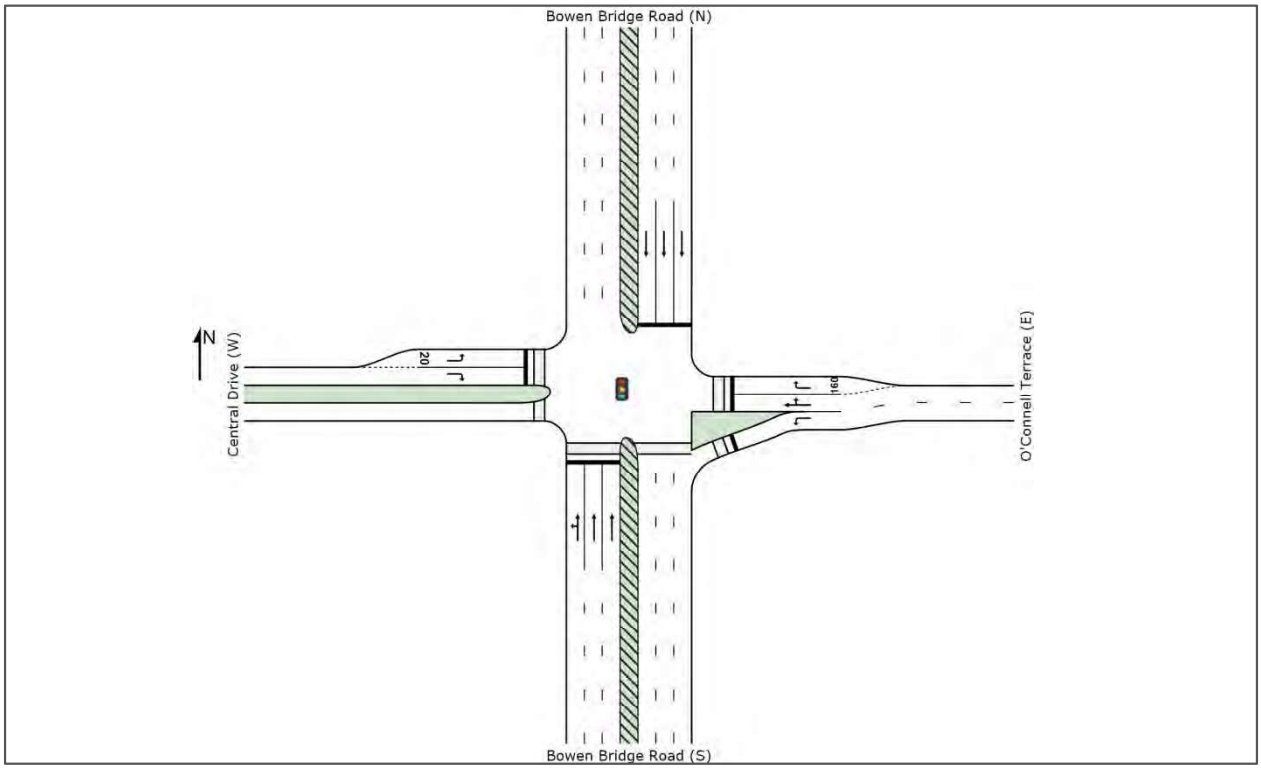


Figure 8.4 Assessed SIDRA Layout – Intersection 3

The existing intersection phasing runs the east and west leg movements concurrently. This phasing arrangement has been referred to herein as the 'filter phasing'.

When we observed intersection operations, the following safety and operation issues associated with the filter phasing arrangement were identified:

- Drivers wanting to turn right from the western leg appeared to be unsure whether they could turn when other drivers were approaching from the shared through and right lane on the eastern leg. We believe this is primarily due to drivers wanting to turn right from the eastern leg being unsure if those drivers approaching them would be turning right or continuing straight ahead;
- Drivers wanting to turn left from the western leg and drivers wanting to turn right from the shared through and right lane on the eastern leg would:
    - Both attempt to enter the kerbside lane on Bowen Bridge Road
    - Try and cross over each other i.e. enter the middle and kerbside lanes respectively.

Due to the safety issues it is creating, we believe the filter phasing arrangement should be modified. We are of the opinion that the east and west leg movements should run in separate phases however it may impact intersection performance.

It is specifically noted that the safety and operation issues associated with the filter phasing arrangement are not created by the Herston Quarter development. Therefore, in order to more simply identify the impact of Herston Quarter development traffic, we have not applied separate phasing in our analysis.

The resultant SIDRA output for the intersection is summarised below in **Table 8.4.**

Table 8.4 SIDRA Analysis Results – Intersection 3

Scenario	Demand (Vehs/hr)	DOS	Average Delay (s)	95th %ile Queue (m)	Acceptable Performance
AM Peak (7:30 – 8:30am)					
2016 Survey	4,674	0.90	13	106 – East	✓
2021 BG	5,044	0.85	17	140 – North	✓
2021 BG+DEV	5,167	0.88	18	159 – North	✓
2031 BG	5,536	0.90	20	173 – North	✓
2031 BG+DEV	5,657	0.90	22	180 – North	✓
PM Peak (5:00 – 6:00pm)					
2016 Survey	4,739	5.01	703	1,188 – East	×
2021 BG	5,086	5.26	757	1,256 – East	×
2021 BG+DEV	5,150	5.90	853	1,284 – East	×
2031 BG	5,591	5.81	886	1,405 – East	×
2031 BG+DEV	5,653	6.51	1,000	1,432 – East	×

The SIDRA results indicate that the intersection currently performs beyond acceptable thresholds for a signalised intersection (i.e. DOS less than 0.90) during the future PM peak periods. As such, intersection upgrades are required without the proposed development.

The analysis indicates that proposed development traffic will have limited impact on the operation of the intersection.

It is also considered important to note that the applicant will be required to pay infrastructure charges. A component of these charges is typically allocated to the future upgrade of roads, pathways and public transport infrastructure.

8.4 Intersection 4 – Bowen Bridge Road / Herston Road

The assessed SIDRA layout for the intersection is illustrated on **Figure 8.5**. The resultant SIDRA output for the intersection is summarised below in **Table 8.5.** An electronic copy of the SIDRA file has been provided with this report.

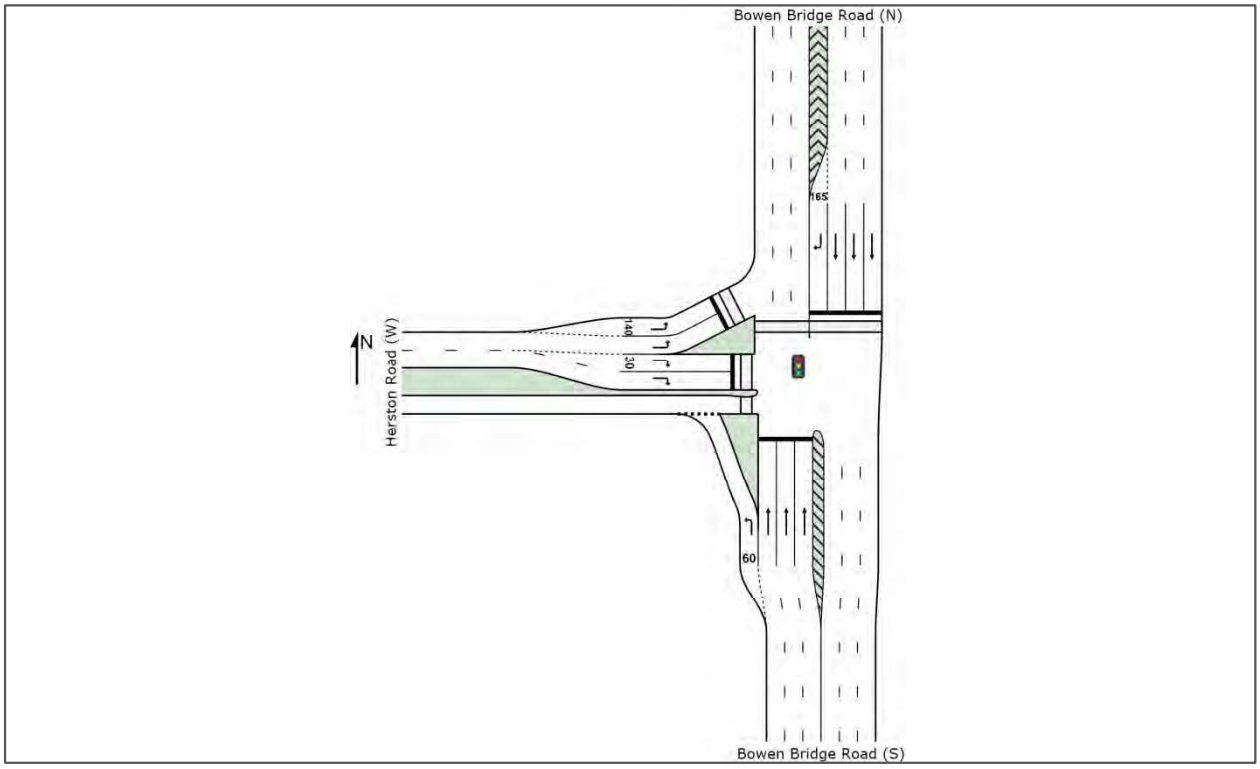


Figure 8.5 Assessed SIDRA Layout – Intersection 4

Table 8.5 SIDRA Analysis Results – Intersection 4

Scenario	Demand (Vehs/hr)	DOS	Average Delay (s)	95th %ile Queue (m)	Acceptable Performance
AM Peak (7:30 – 8:30am)					
2016 Survey	5,162	0.89	24	208 – North	✓
2021 BG	5,633	0.89	25	204 – West	✓
2021 BG+DEV	5,748	0.89	25	203 – West	✓
2031 BG	6,231	0.91	26	232 – West	×
2031 BG+DEV	6,316	0.91	26	232 – West	×
PM Peak (5:00 – 6:00pm)					
2016 Survey	4,628	1.14	100	627 – South	×
2021 BG	5,067	1.26	145	676 – South	×
2021 BG+DEV	5,120	1.26	145	682 – South	×
2031 BG	5,577	1.37	202	1010 – South	×
2031 BG+DEV	5,629	1.37	201	1015 – South	×

The SIDRA results indicate that the intersection currently performs beyond the acceptable DOS threshold for a signalised intersection (i.e. DOS exceeds 0.90) during the AM and PM peak period.

The results also indicate that Northern Carpark development traffic will have a limited impact on the performance of the intersection. No works are considered to be required at this intersection to mitigate development traffic impacts.

8.5 Intersection 5 – Herston Road / Bramston Terrace

The assessed SIDRA layout for the intersection is illustrated on **Figure 8.6**. The resultant SIDRA output for the intersection is summarised below in **Table 8.6.** An electronic copy of the SIDRA file has been provided with this report.

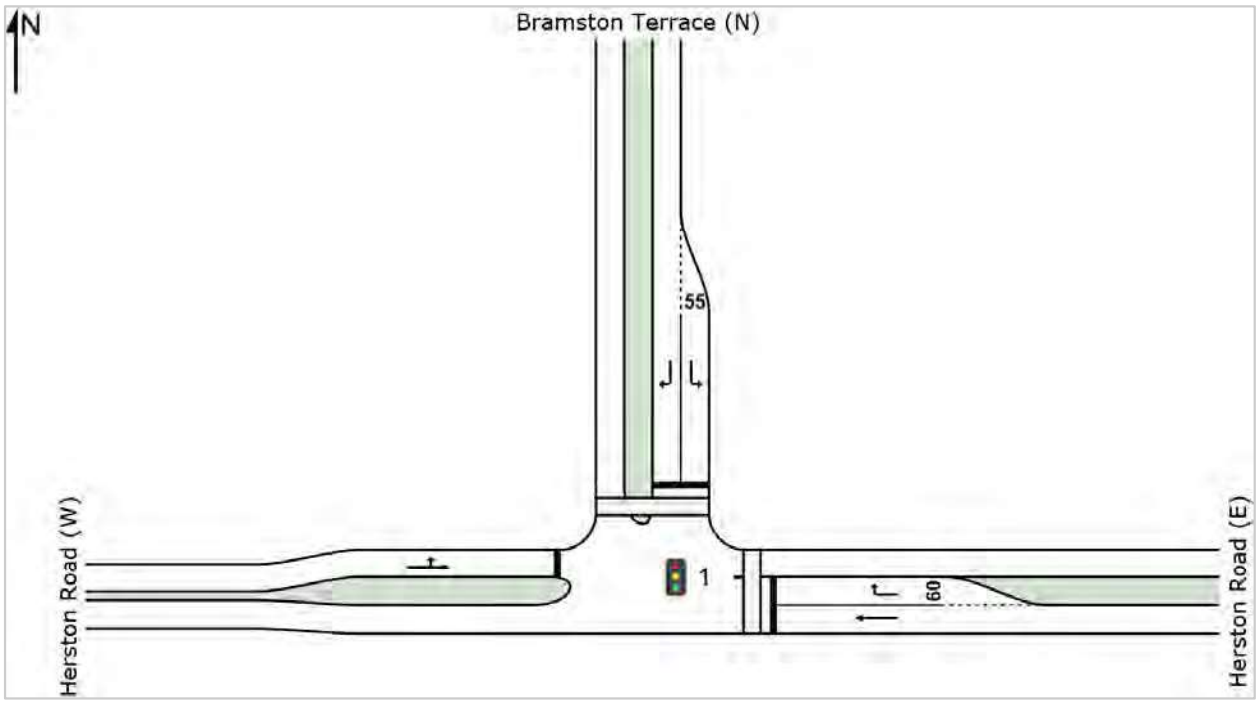


Figure 8.6 Assessed SIDRA Layout – Intersection 5

Table 8.6 SIDRA Analysis Results – Intersection 5

Scenario	Demand (Vehs/hr)	DOS	Average Delay (s)	95th %ile Queue (m)	Acceptable Performance
AM Peak (7:30 – 8:30am)					
2016 Survey	1,423	0.68	12	121 – West	✓
2021 BG	1,527	0.80	15	156 – West	✓
2021 BG+DEV	1,617	0.78	16	195 – West	✓
2031 BG	1,650	0.81	15	176 – West	✓
2031 BG+DEV	1,740	0.78	15	206 – West	✓
PM Peak (5:00 – 6:00pm)					
2016 Survey	1,068	0.57	11	48 – West	✓
2021 BG	1,122	0.61	11	51 – West	✓
2021 BG+DEV	1,152	0.61	11	52 – West	✓
2031 BG	1,215	0.67	11	59 – West	✓
2031 BG+DEV	1,246	0.68	12	60 – West	✓

The SIDRA results indicate that the intersection will perform within acceptable thresholds for a signalised intersection (i.e. DOS less than 0.90) for all the assessed scenarios.

8.6 Intersection 6 – Bramston Terrace / Back Road

The assessed SIDRA layout for the intersection is illustrated on **Figure 8.7**. The resultant SIDRA output for the intersection is summarised below in **Table 8.7.** An electronic copy of the SIDRA file has been provided with this report.

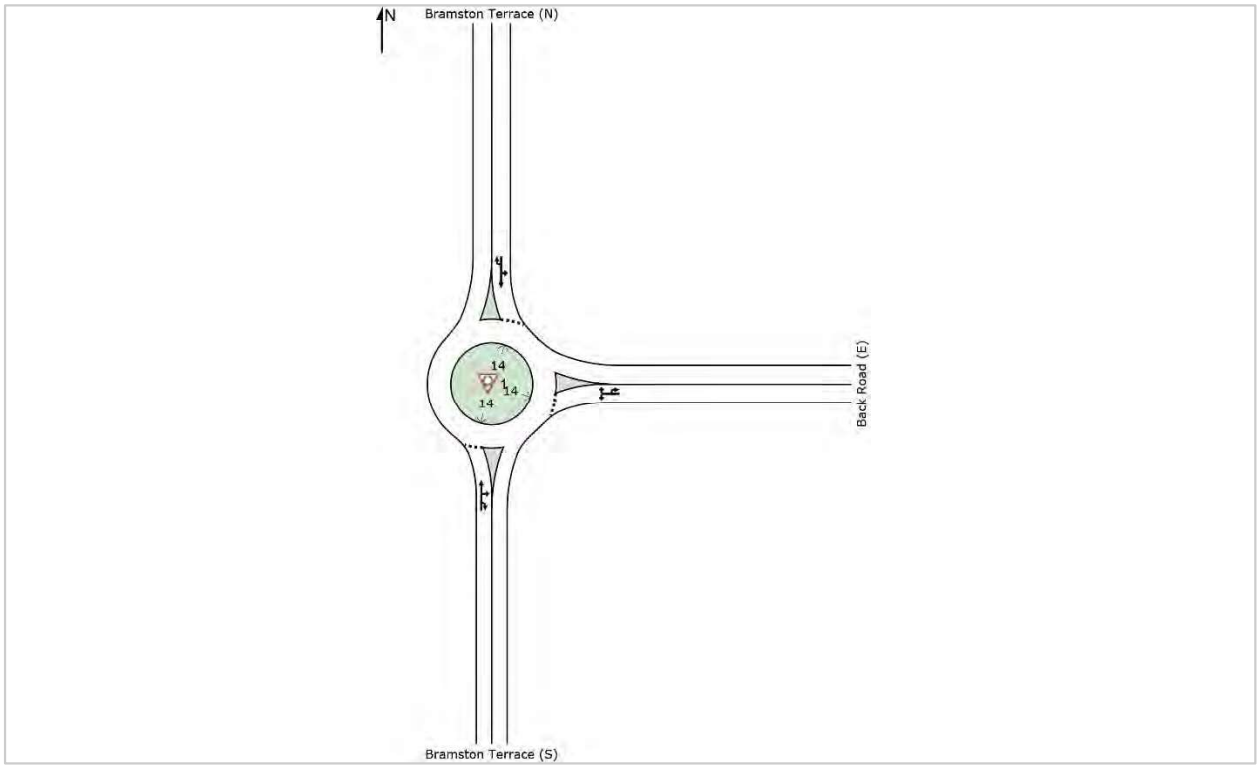


Figure 8.7 Assessed SIDRA Layout – Intersection 6

Table 8.7 SIDRA Analysis Results – Intersection 6

Scenario	Demand (Vehs/hr)	DOS	Critical Delay (s)	95th %ile Queue (m)	Acceptable Performance
AM Peak (7:30 – 8:30am)					
2016 Survey	202	0.07	9 – South	3 – North	✓
2021 BG	215	0.08	9 – South	3 – North	✓
2021 BG+DEV	317	0.11	9 – South	4 – North	✓
2031 BG	215	0.08	9 – South	3 – North	✓
2031 BG+DEV	317	0.11	9 – South	4 – North	✓
PM Peak (5:00 – 6:00pm)					
2016 Survey	184	0.05	7 – South	2 – North	✓
2021 BG	188	0.05	9 – South	2 – North	✓
2021 BG+DEV	226	0.06	9 – South	2 – North	✓
2031 BG	188	0.05	9 – South	2 – North	✓
2031 BG+DEV	226	0.06	9 – South	2 – North	✓

The analysis results indicated that the intersection will perform well within acceptable thresholds for a roundabout (i.e. DOS less than 0.85 and critical delay less than 57 seconds) in all assessed development scenarios.

8.7 Operational Analysis Summary

Our operational analysis which was based on a number of conservative assumptions indicates that the development traffic will have limited impact on the performance of most the intersections assessed.

However upgrades may be required at the Butterfield Street / Bowen Bridge Road intersection to mitigate development traffic impacts. The existing Butterfield Street approach is proposed to be formally line marked to provide two clear approach lanes. Based on advice from Brisbane City Council additional mitigation works along the Bowen Bridge Road corridor are not considered required. The capacity and operation of Bowen Bridge Road is under consideration as part of wider road network considerations which extend beyond the operations of the Herston Quarter development.

In summary, we are of the opinion that the traffic impacts associated with the Northern Carpark can be appropriately mitigated.

9.0 Pedestrian Access

The main pedestrian connections to the Northern Carpark are to be provided from Level 1 at the southern end of the carpark and Level 7 on the central eastern side of the carpark. Both of these accesses are to be located in proximity to the proposed vehicle access points. The main pedestrian access points are proposed to be separated from the main vehicle access crossovers with direct connections to the carpark lift core and stairs.

Figure 9.1 illustrates the potential major pedestrian connections for the Northern Carpark. We note that the final alignments of the pedestrian connections might be adjusted during detail design, as required and are subject to other ongoing design work.

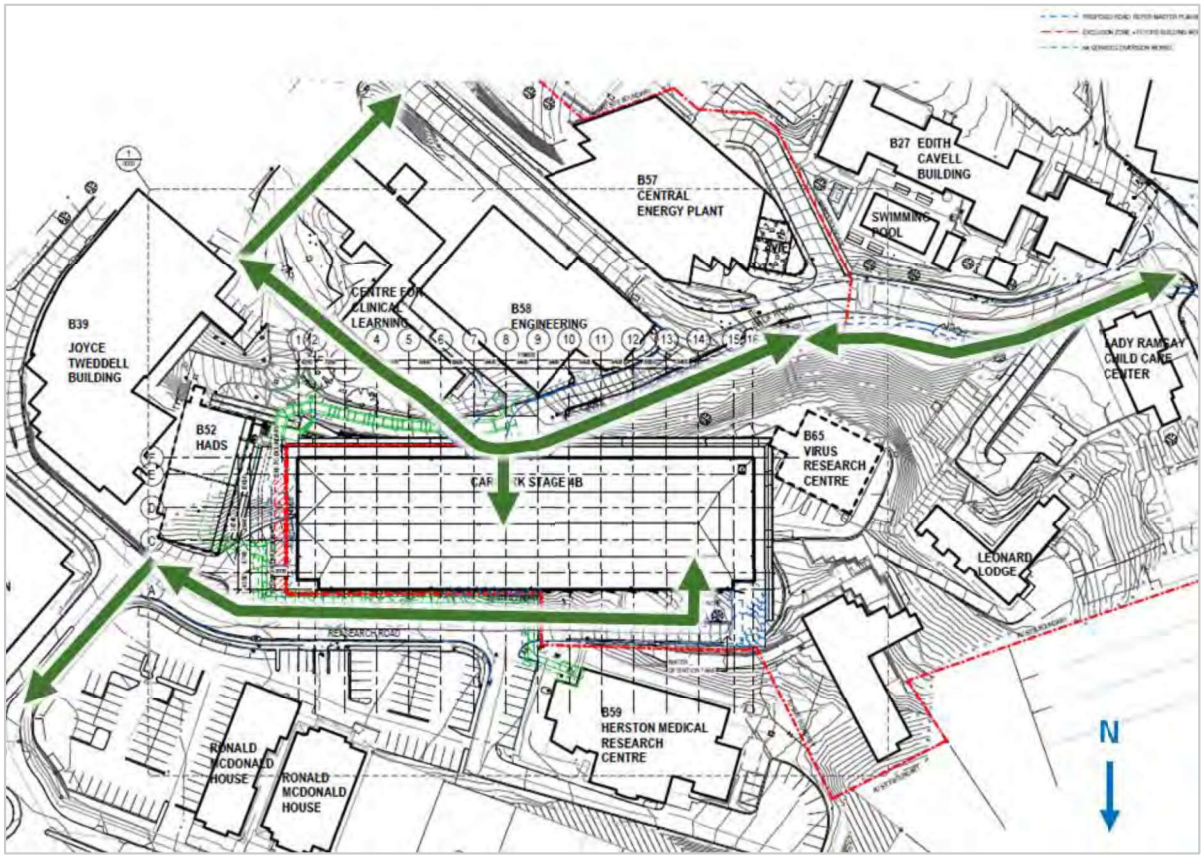


Figure 9.1 Pedestrian Connectivity

The Northern Carpark lifts are proposed to be located in the central core of the carpark, with the lift core located as to provide a direct connection to the Level 7 pedestrian entrance.

The Level 1 pedestrian connection is to provide pedestrians access to the following pathways/connections:

- Research Road;
- Service Road;
- Butterfield Street; and
- Garrick Terrace.

Figure 9.2 outlines the proposed Level 1 access arrangements.

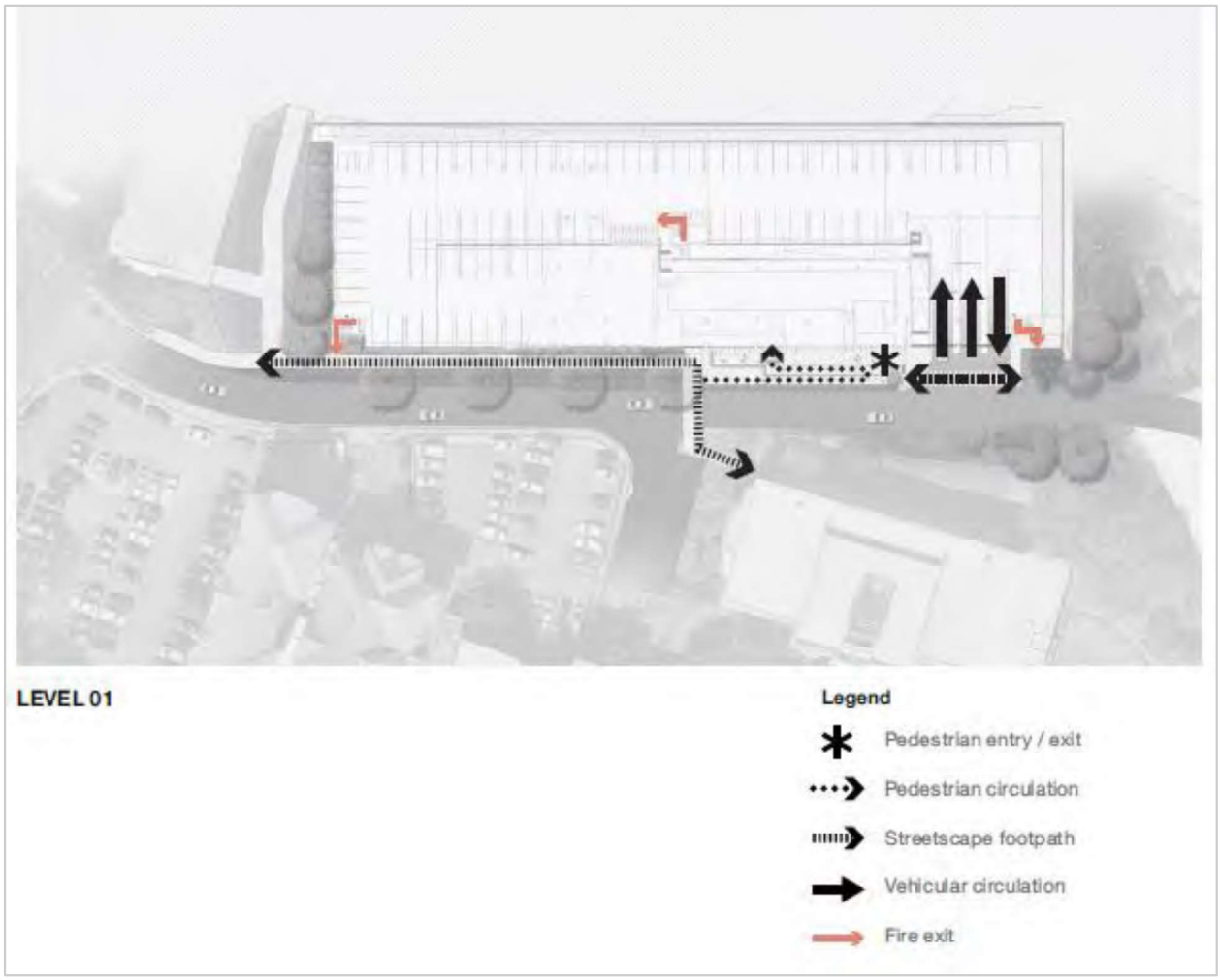


Figure 9.2 Pedestrian Access Connectivity Level 1 – Form Landscape Architects

The Level 7 pedestrian connection is to provide pedestrians access to the following pathways/connections:

- Back Road;
- Central Drive;
- Bramston Terrace (via Back Road);
- Bowen Bridge Road (via Central Drive)

Figure 9.3 outlines the proposed Level 7 access arrangements.

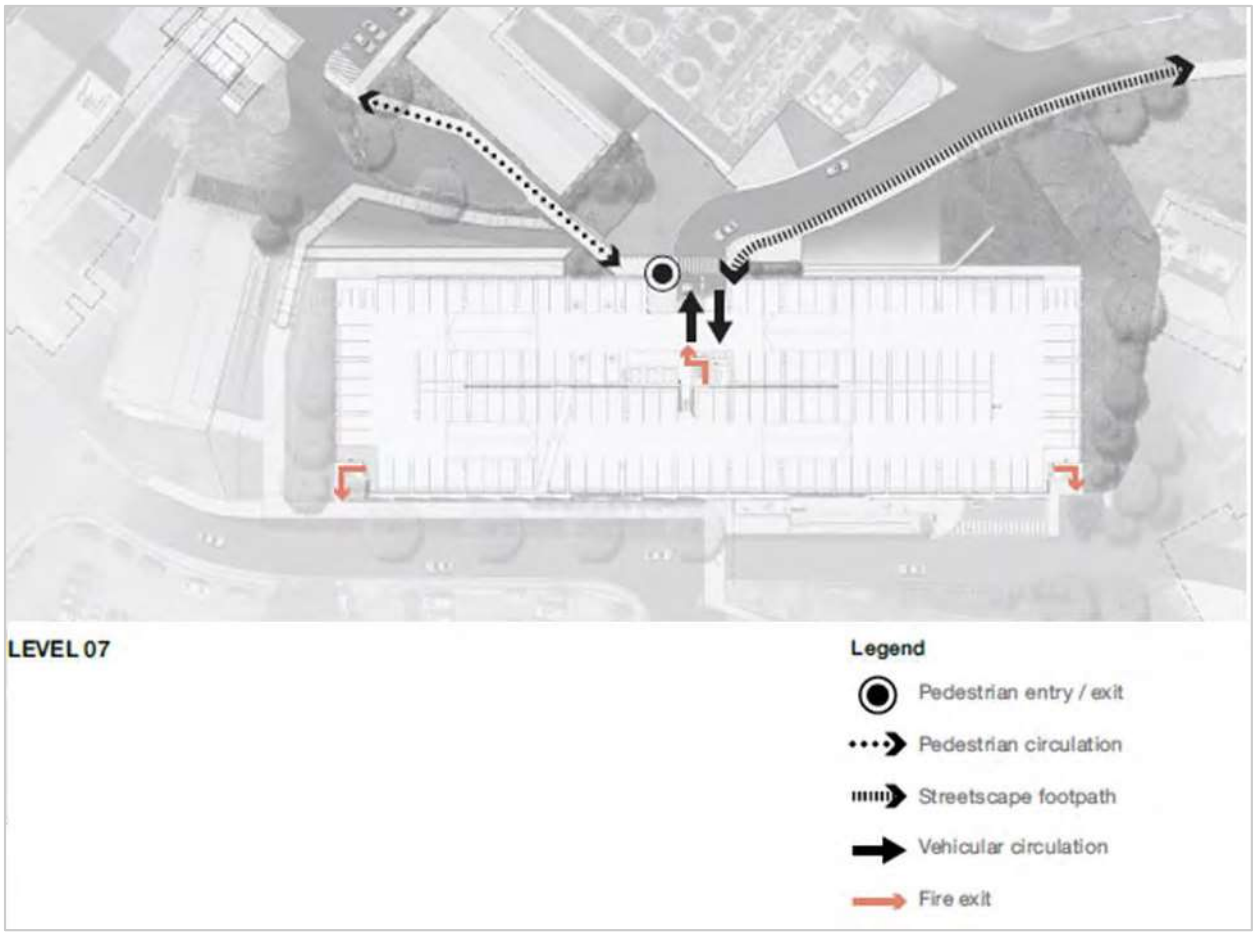


Figure 9.3 Pedestrian Access Connectivity Level 7 – Form Landscape Architects

10.0 Summary & Recommendations

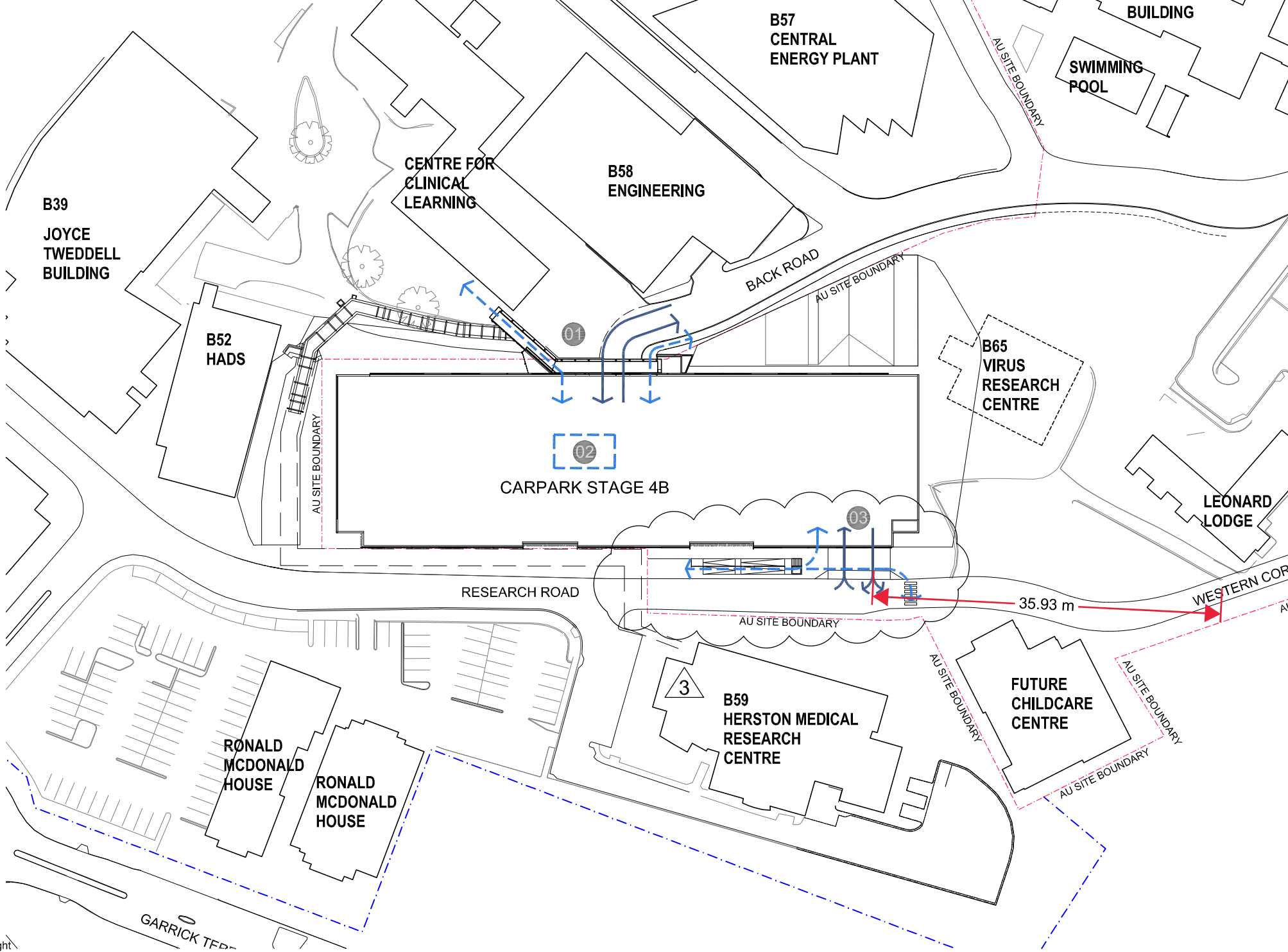
The key findings of this report are summarised below:

- The proposed access / egress arrangements are considered acceptable from a traffic engineering perspective;
- The proposed road realignment work at Back Road, Research Road and Butterfield Street will help improve vehicle movements accessing the Northern Carpark;
- The proposed carparking provisions are considered appropriate;
- The site can be adequately accessed and serviced by appropriate vehicles;
- The proposed general carparking areas generally comply with Brisbane *City Plan 2014 Transport Access, Parking and Servicing Planning Scheme Policy* (TAPS PSP) or where applicable *Australian Standards for Off-Street Parking* (AS2890) Parts 1;
- The traffic impacts associated with the development can be appropriately mitigated; and
- Appropriate pedestrian access is proposed.

Based on the above, we are of the opinion that there are no significant traffic and transport related matters to preclude approval of this development application.

APPENDIX A

Site Plans –
COX Architecture



/Exit

Date
25.02.20
04.05.20
22.07.20

Developer

Key Plan

North

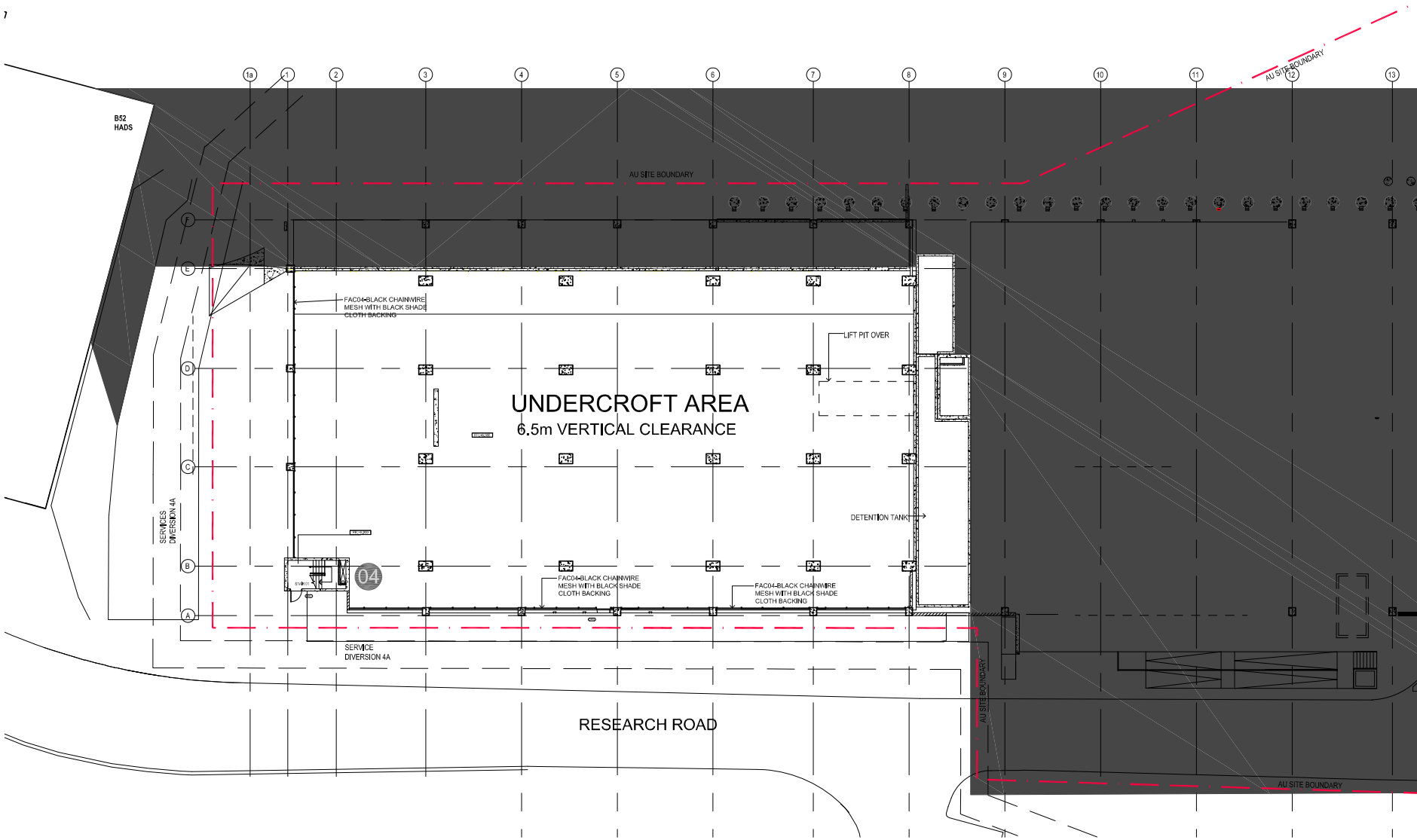
Project
HERSTON QUARTER

Drawing title
SITE PLAN

CAD file
Drawn
Coordin

05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inte
09 Services Roo

WD	Sub-total
0	0
	87
	139
	148
	148
	148
	148
	142
	147
	57
4	**1164**



Date
25.02.20
04.05.20
22.07.20

Developer

Key Plan

North

Project
HERSTON QUARTER

Drawing title
LEVEL 00

CAD file
Drawn
Coordin

06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor
10 Bicycle Parkir

WD	Sub-total
	87

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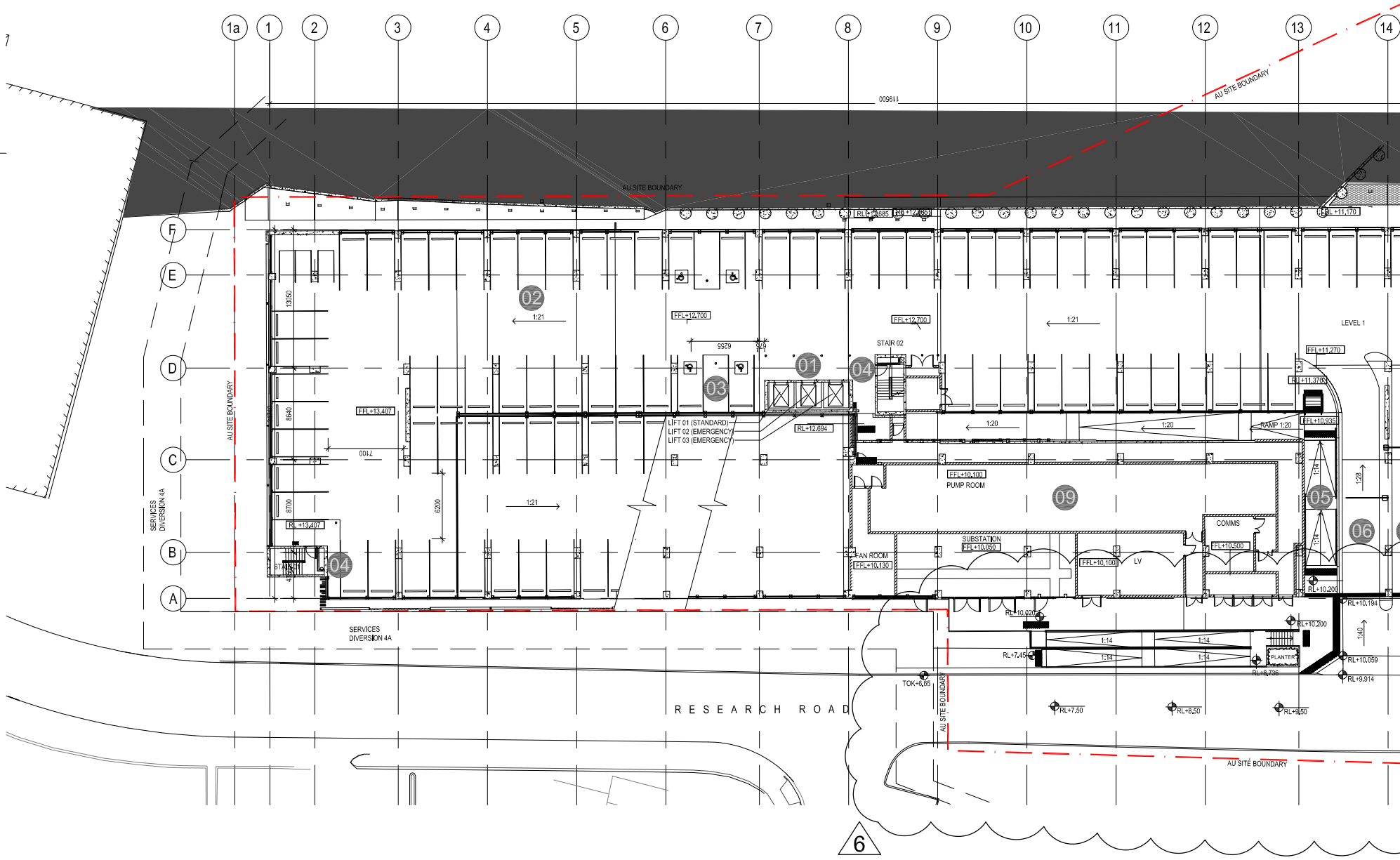

6

Date	Developer	Key Plan	North	Project	Drawing title	CAD file
06.03.20 24.06.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 01 RESEARCH ROAD ENTRY	Drawn Coordin

06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD	Sub-total
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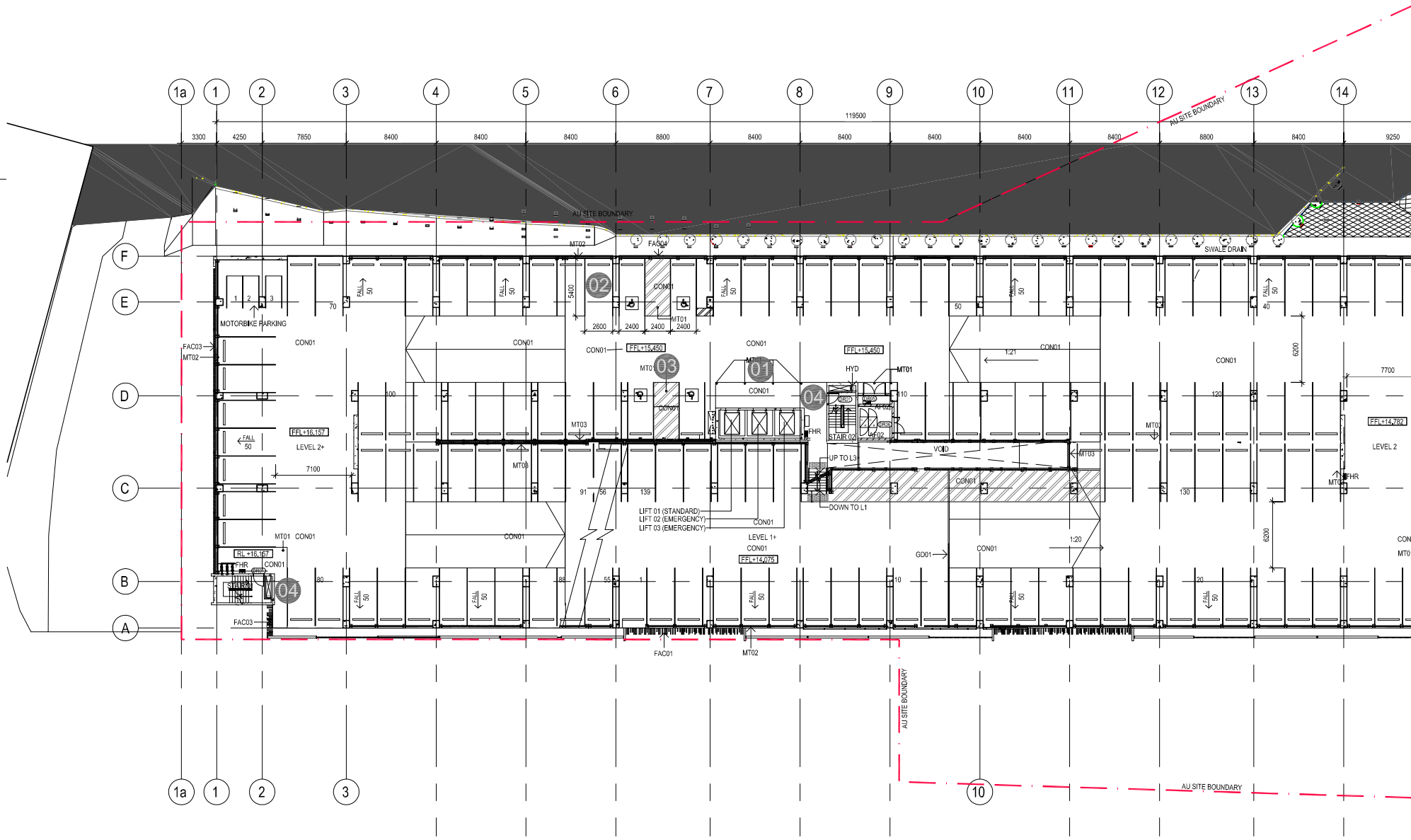
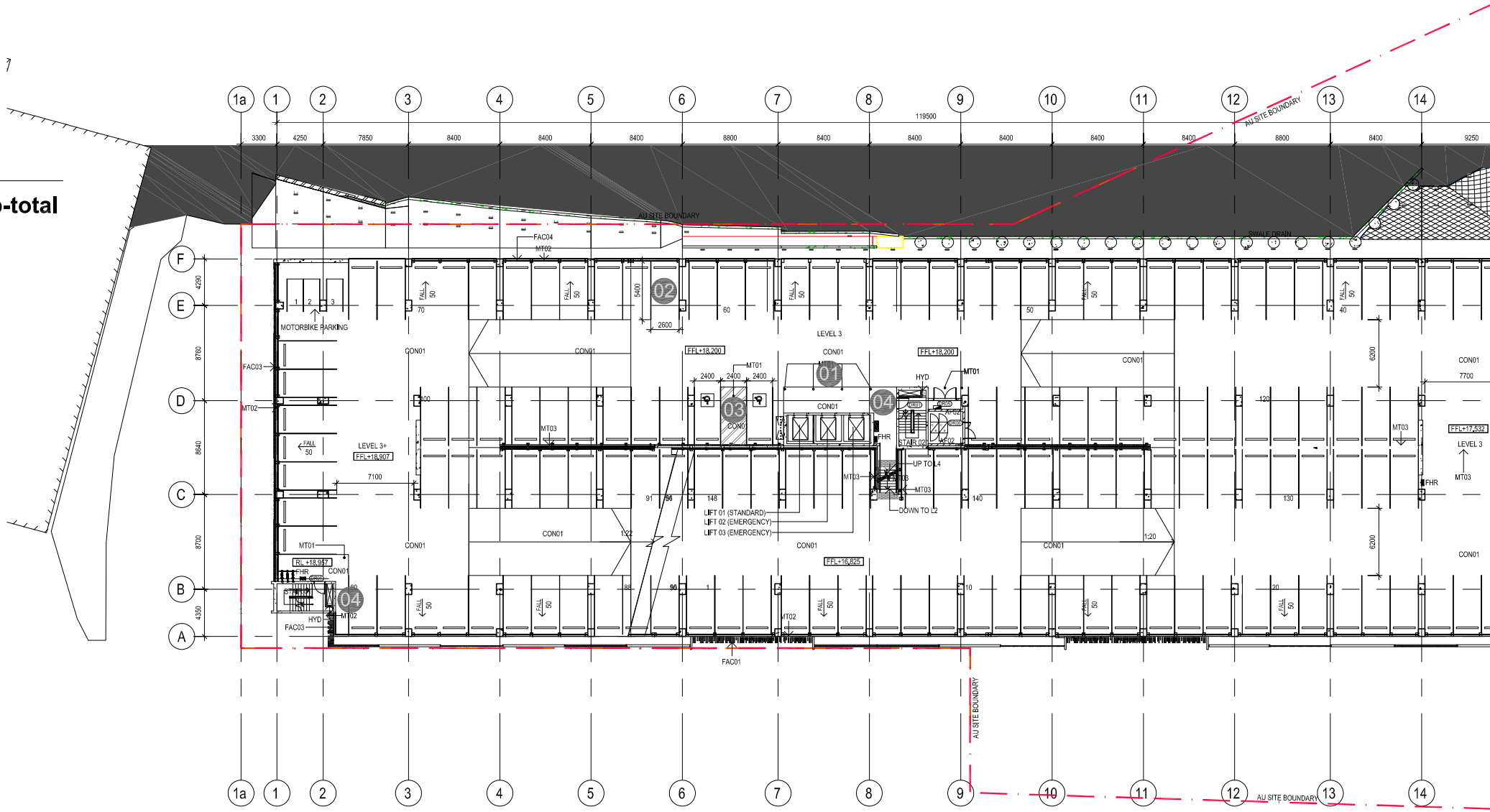


Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 02	Drawn Coordin

04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD **Sub-total**
148



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Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 03	Drawn Coordin

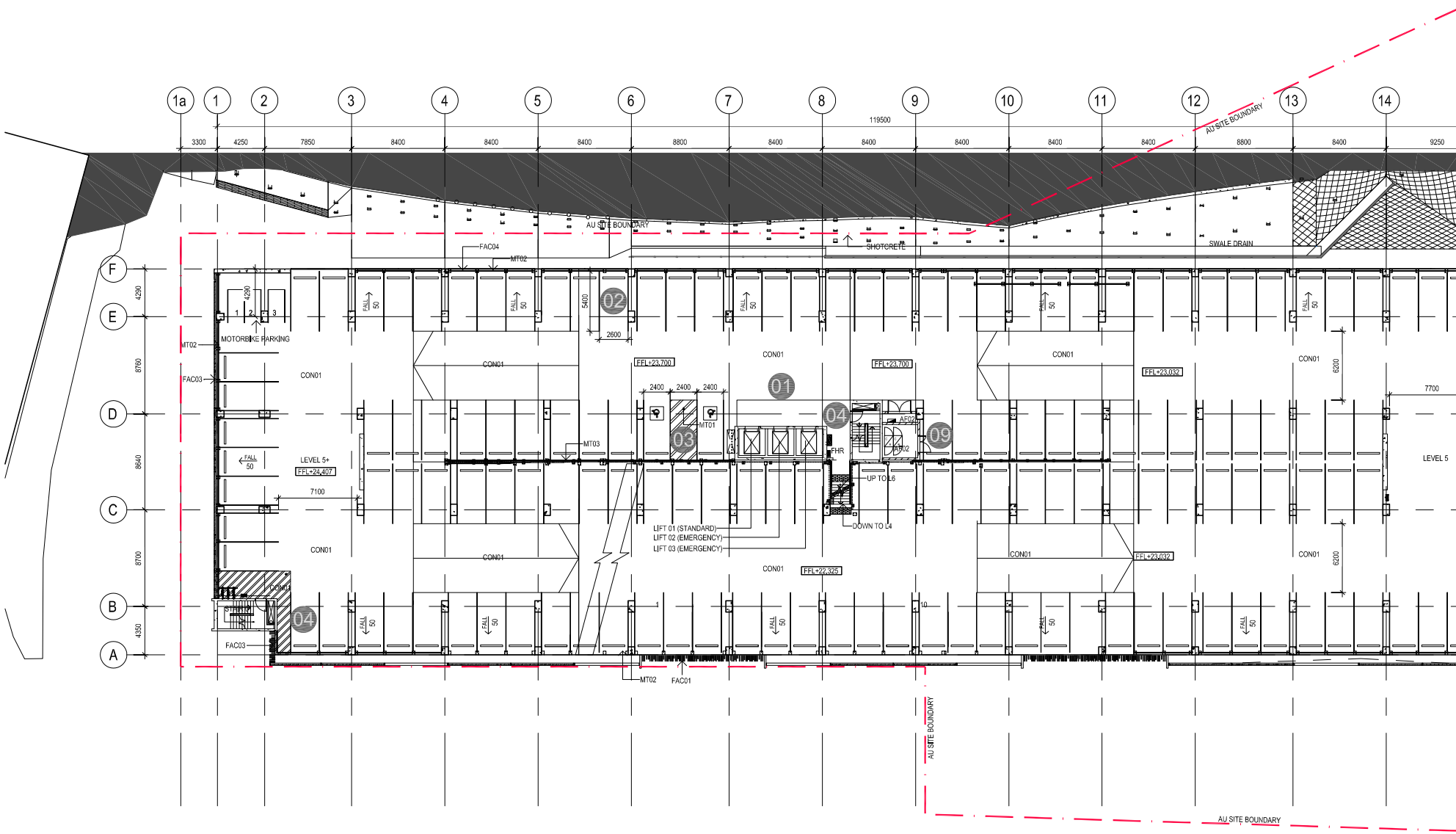
04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD	Sub-total
	148

Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 04	Drawn Coordin

04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD	Sub-total
	148



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04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD **Sub-total**
142

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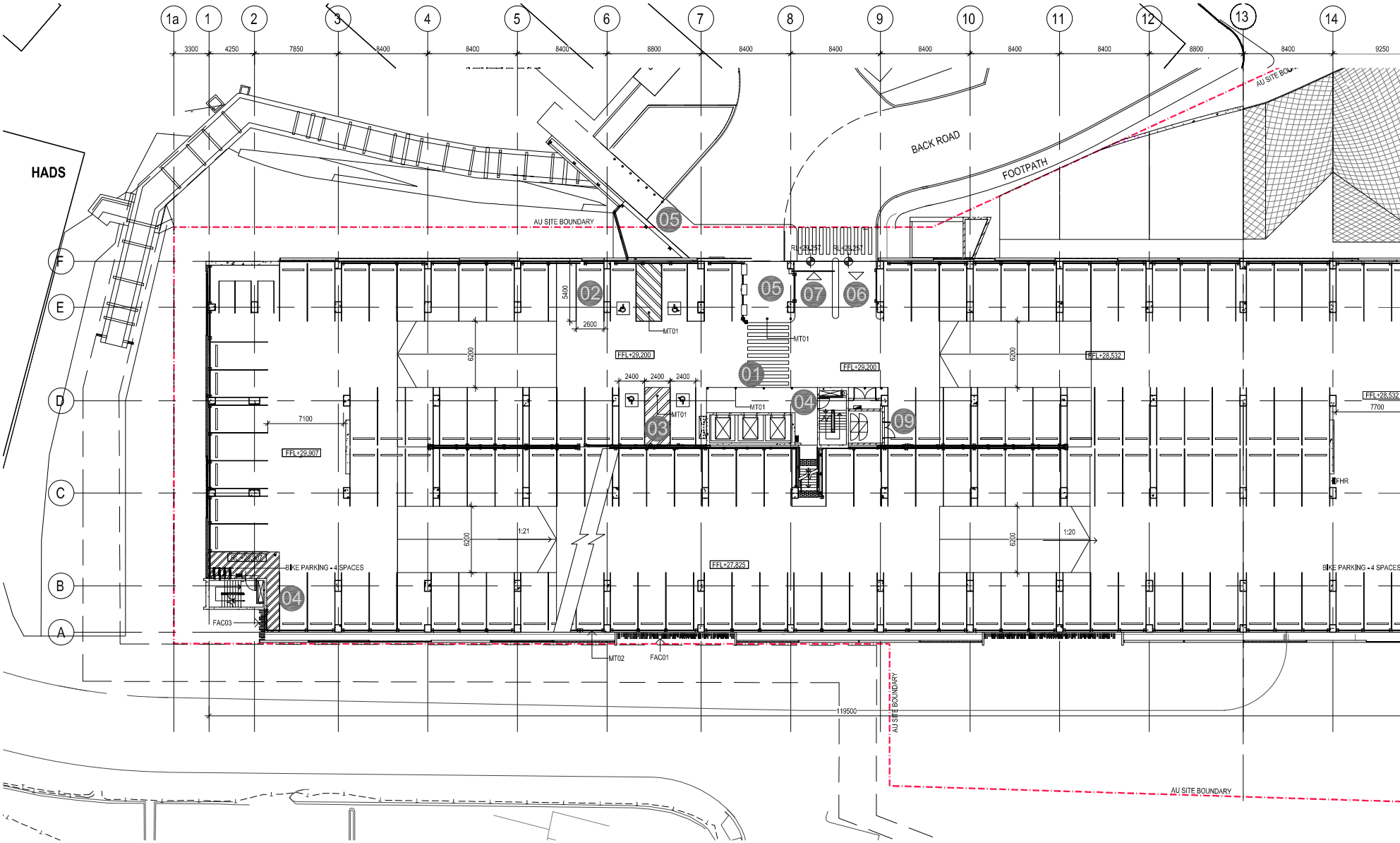

Date
06.03.20
04.05.20
22.07.20

Developer

Key Plan

North

Project
HERSTON QUARTER

Drawing title
LEVEL 07

CAD file
Drawn
Coordin

04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD	Sub-total
	148

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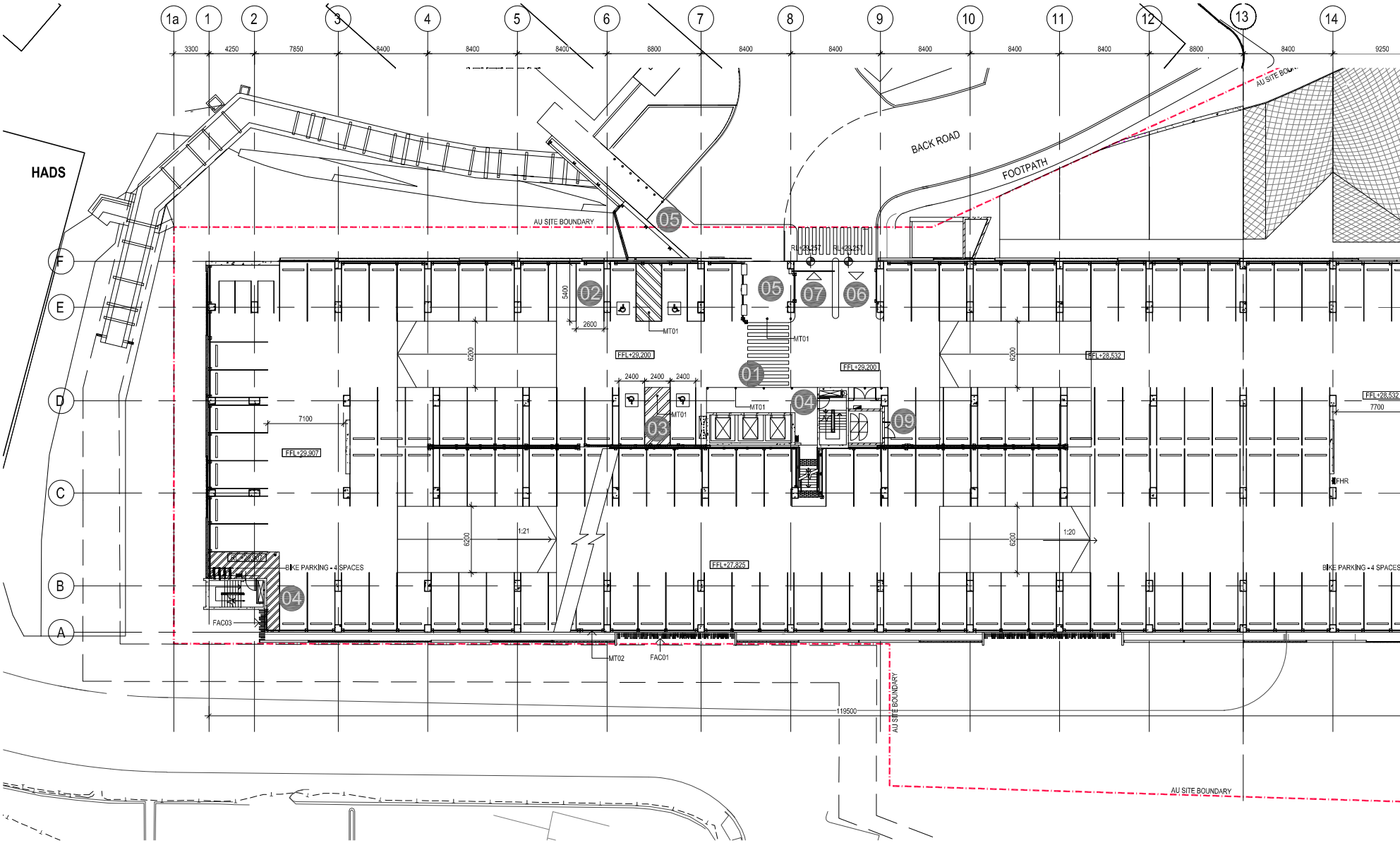
Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 06	Drawn Coordin

04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD **Sub-total**
142

s



Date
06.03.20
04.05.20
22.07.20

Developer

Key Plan

North

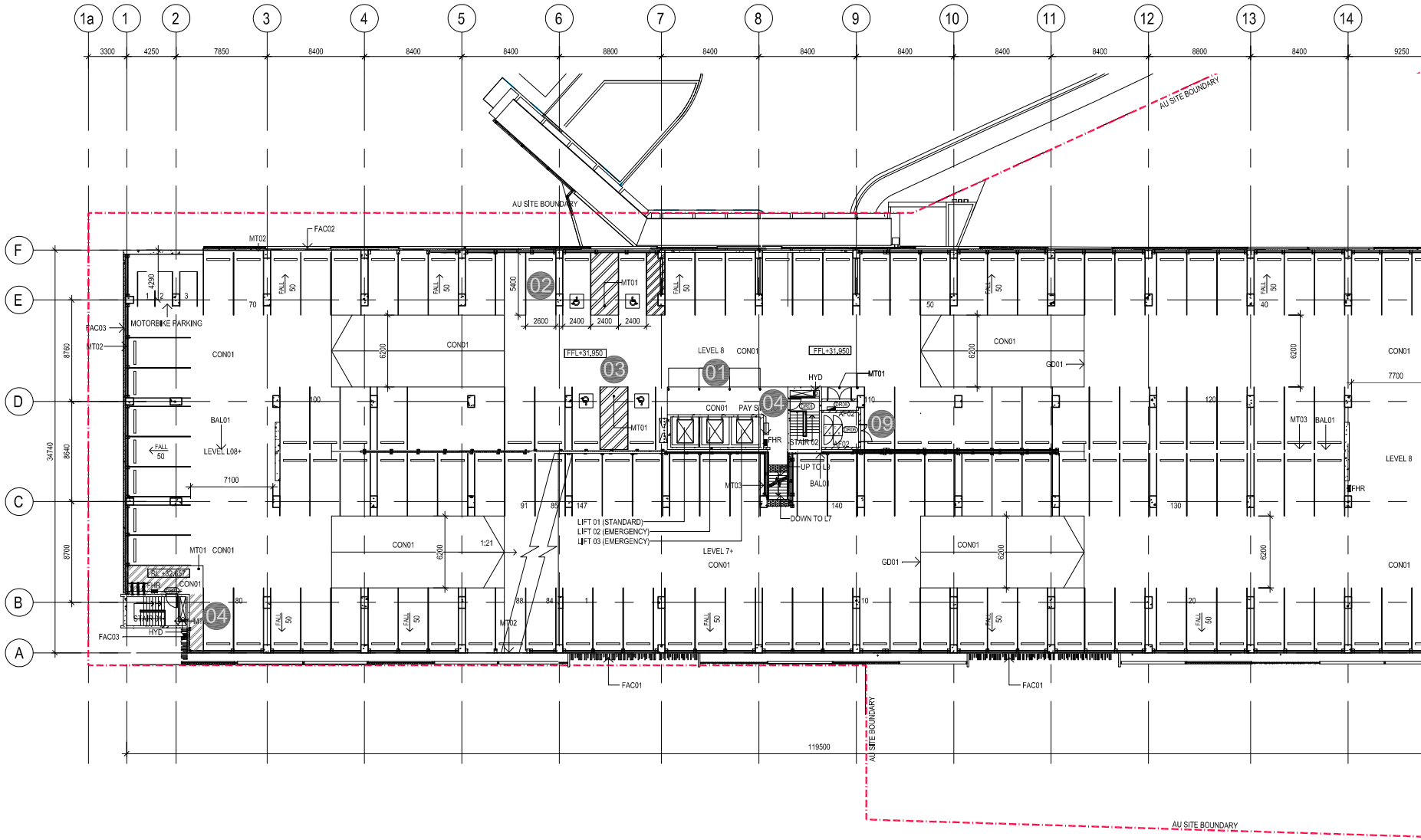
Project
HERSTON QUARTER

Drawing title
LEVEL 07

CAD file
Drawn
Coordin

05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

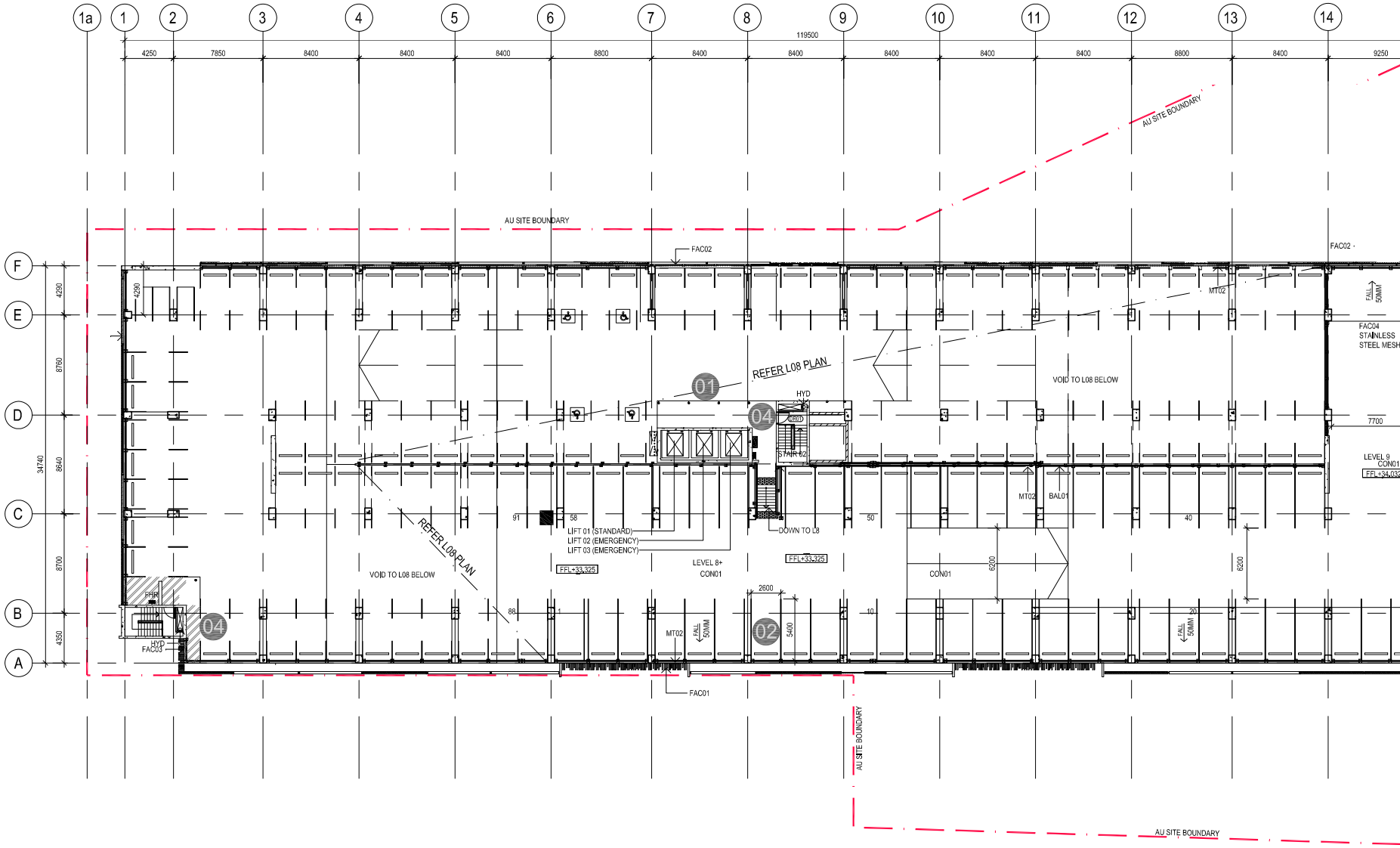
WD	Sub-total
	147



Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 08	Drawn Coordin

04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor

WD	Sub-total
	57



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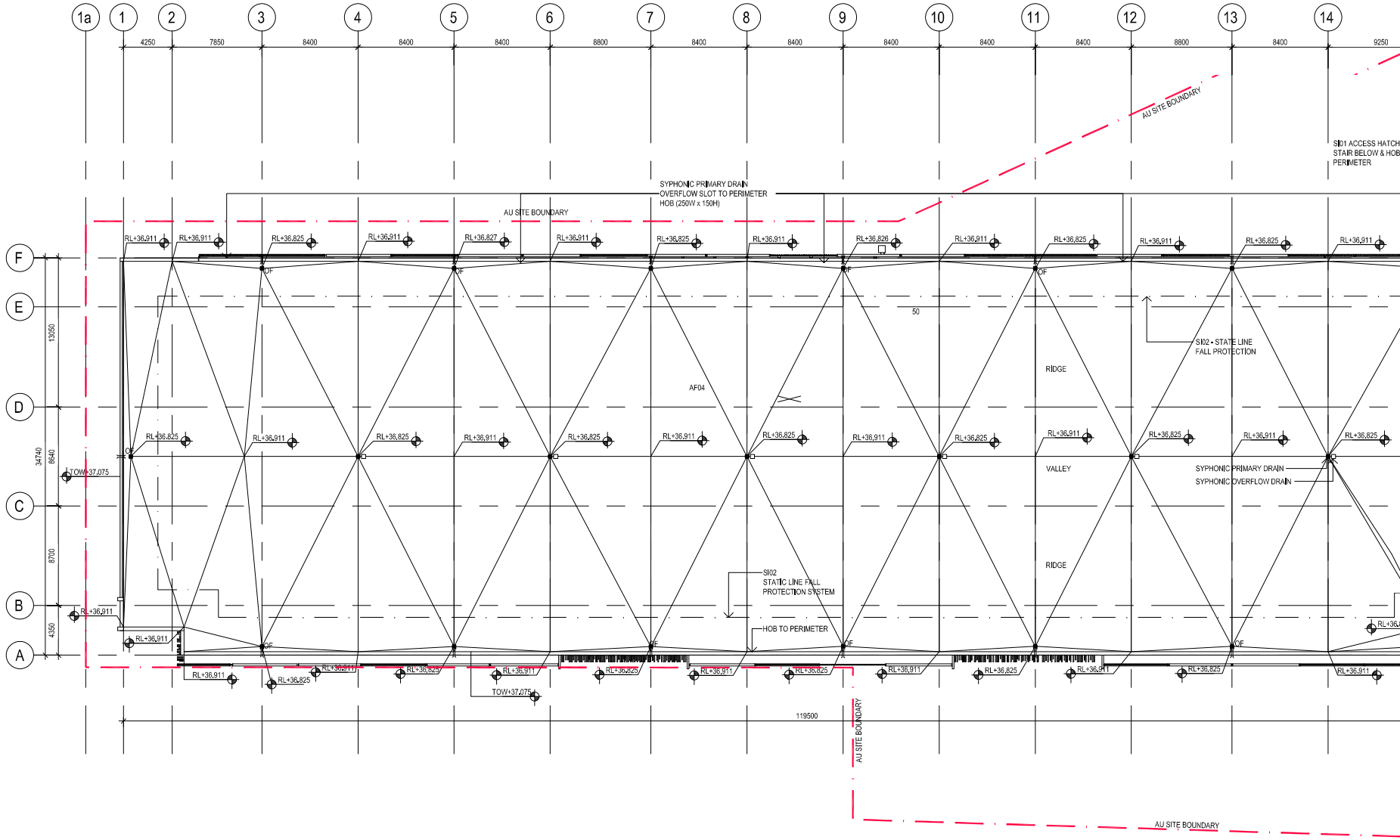
titutes an infringement of copyright

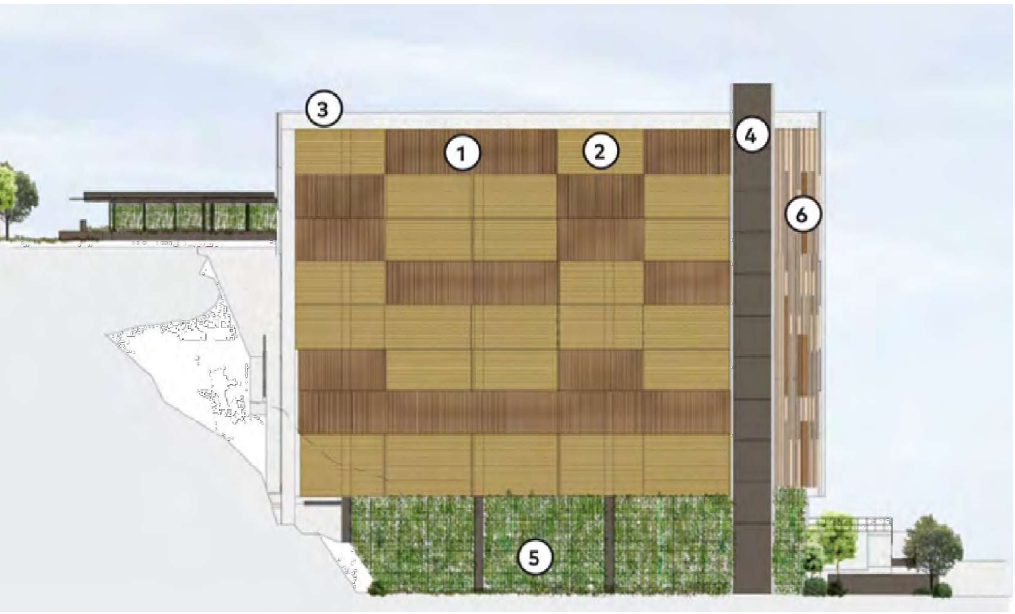
Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	LEVEL 09	Drawn Coordin

04 Fire Escape S
05 Pedestrian En
06 Vehicular Entr
07 Vehicular Exit
08 Vehicular Inter
09 Services Roor



Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	ROOF PLAN	Drawn Coordin

ELEVATION - RESEARCH ROAD



Legend

1 Gold anodise swaged grille

2 Gold anodise swaged grille

3 In-situ concre

4 In-situ concre

5 Chain wire m black shade

6 Anodised alu screen - Vari (as shown or

EVATION

Date
25.02.20
04.05.20
22.07.20

Developer

HERSTON QUARTER | Australian Unity

Key Plan

North

Project

HERSTON QUARTER

Drawing title

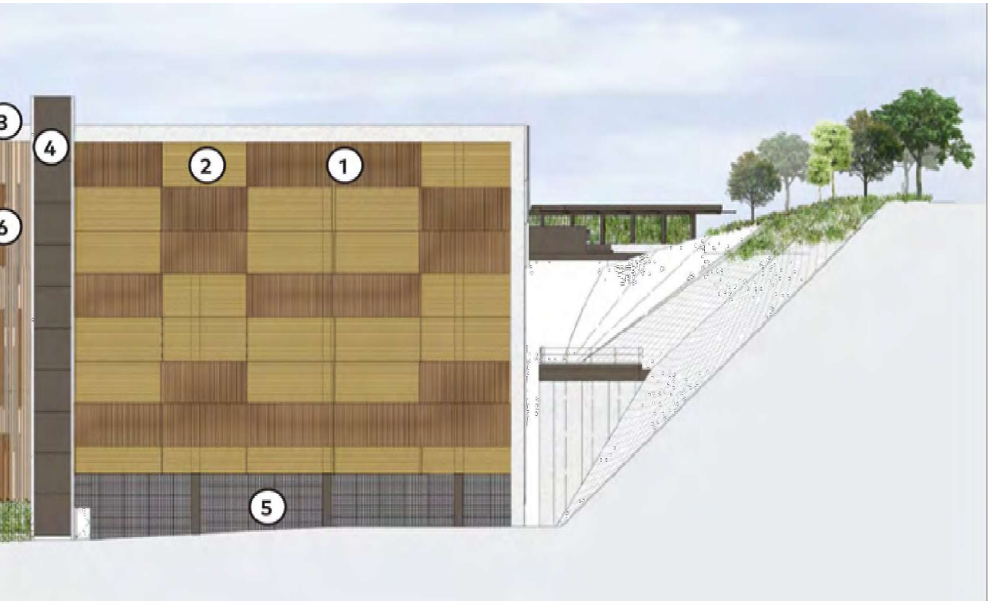
ELEVATIONS

CAD file

Drawn

Coordin

ELEVATION - BACK ROAD



3

LEVATION

Legend

1 Gold anodise swaged grille

2 Gold anodise swaged grille

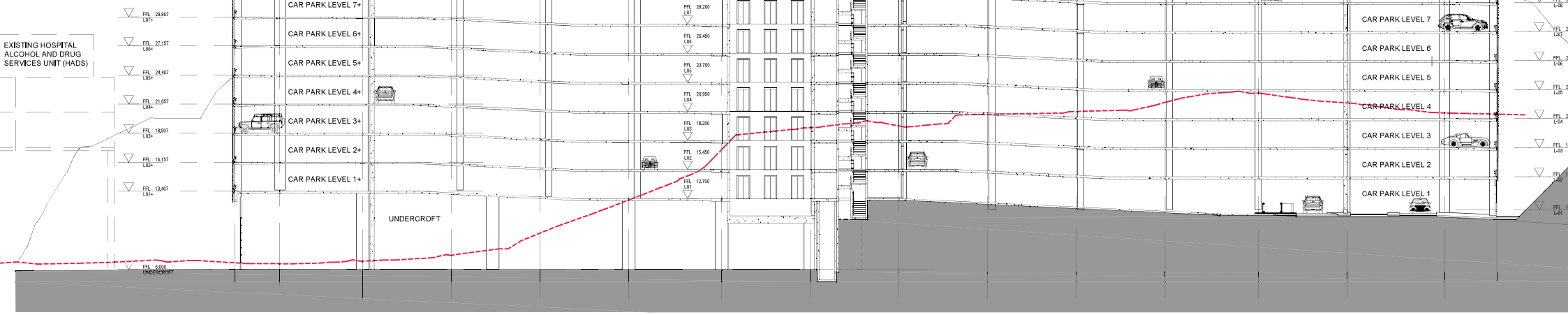
3 In-situ concre

4 In-situ concre

5 Chain wire m black shade

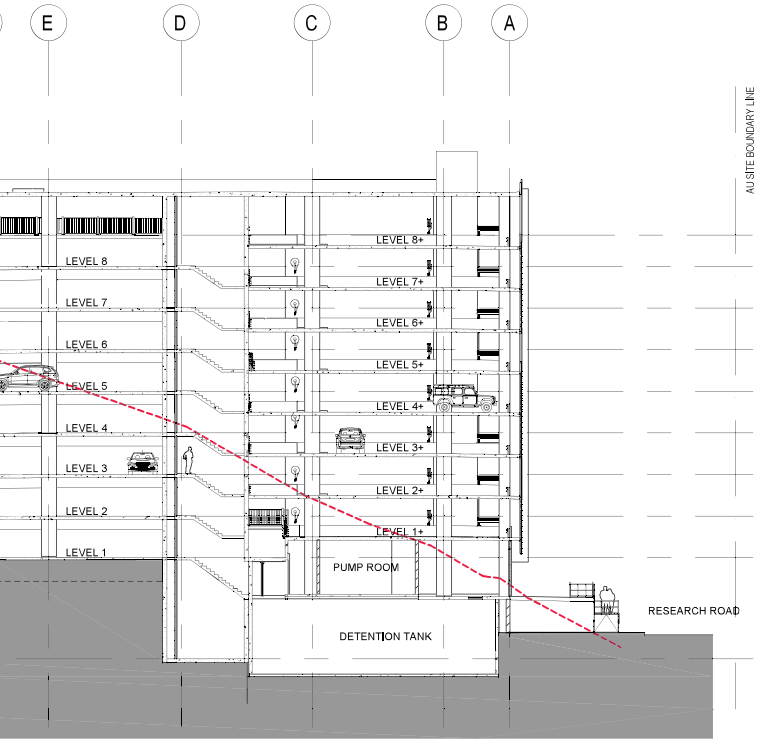
6 Anodised alu screen - Vari (as shown or

Date	Developer	Key Plan	North	Project	Drawing title	CAD file
25.02.20 04.05.20 22.07.20	HERSTON QUARTER Australian Unity			HERSTON QUARTER	ELEVATIONS	Drawn Coordin



LONG SECTION

1:500



CROSS SECTION

1:500

Date
25.02.20
22.07.20

Developer

HERSTON QUARTER | Australian Unity

Key Plan

North

Project

HERSTON QUARTER

Drawing title

SECTIONS

CAD file

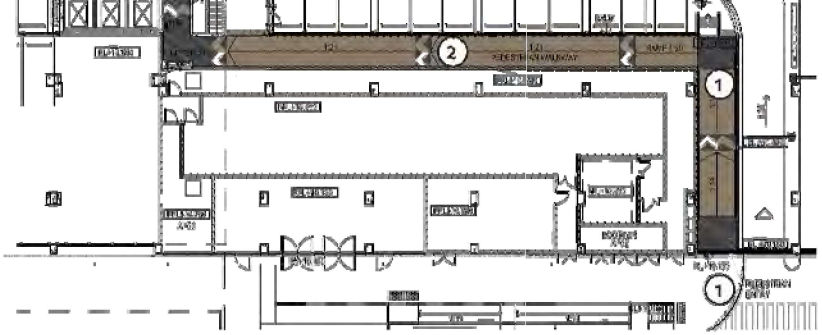
Drawn

Coordin

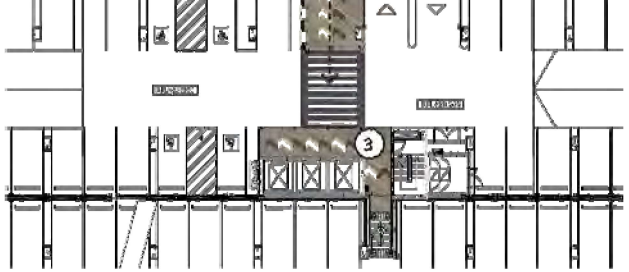
destrian access
n Research Rd to
of the vertical
the carpark.
ly defined
of colour and
The proposal
between the
ves to reinforce
rian entry at
the Campus
rs used in the
ectly relate
el 1 and Level
onnection
fine the path
g and beyond.
by an open
urveillance from
ding an enclosed
us use of lighting
nd more pleasant

ark

oath graphic



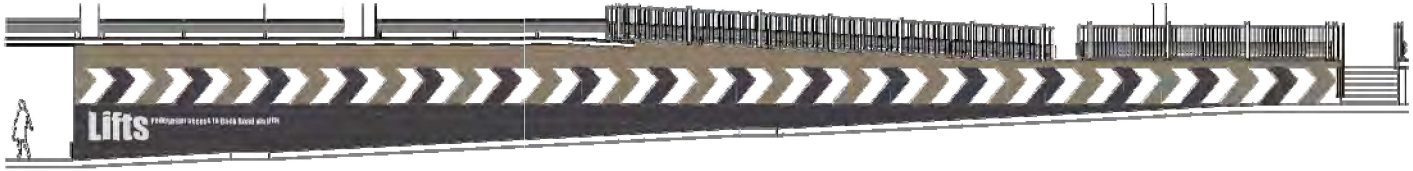
Level 1 - Research Road entry



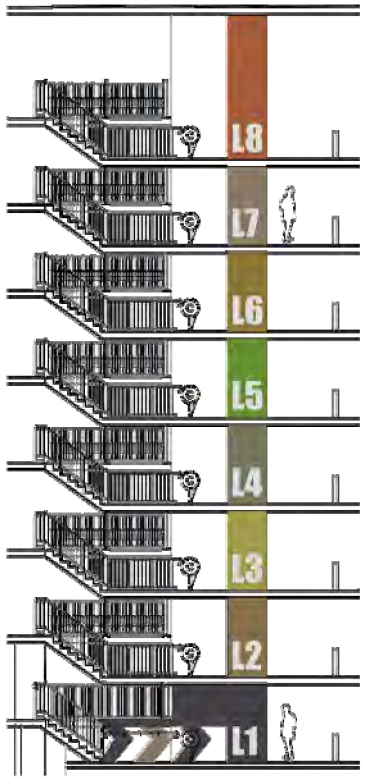
Level 7 - Back Road entry

1 Research Road entry

4 Indicative view of pedestrian path graphic treatment



2 Pedestrian path through carpark

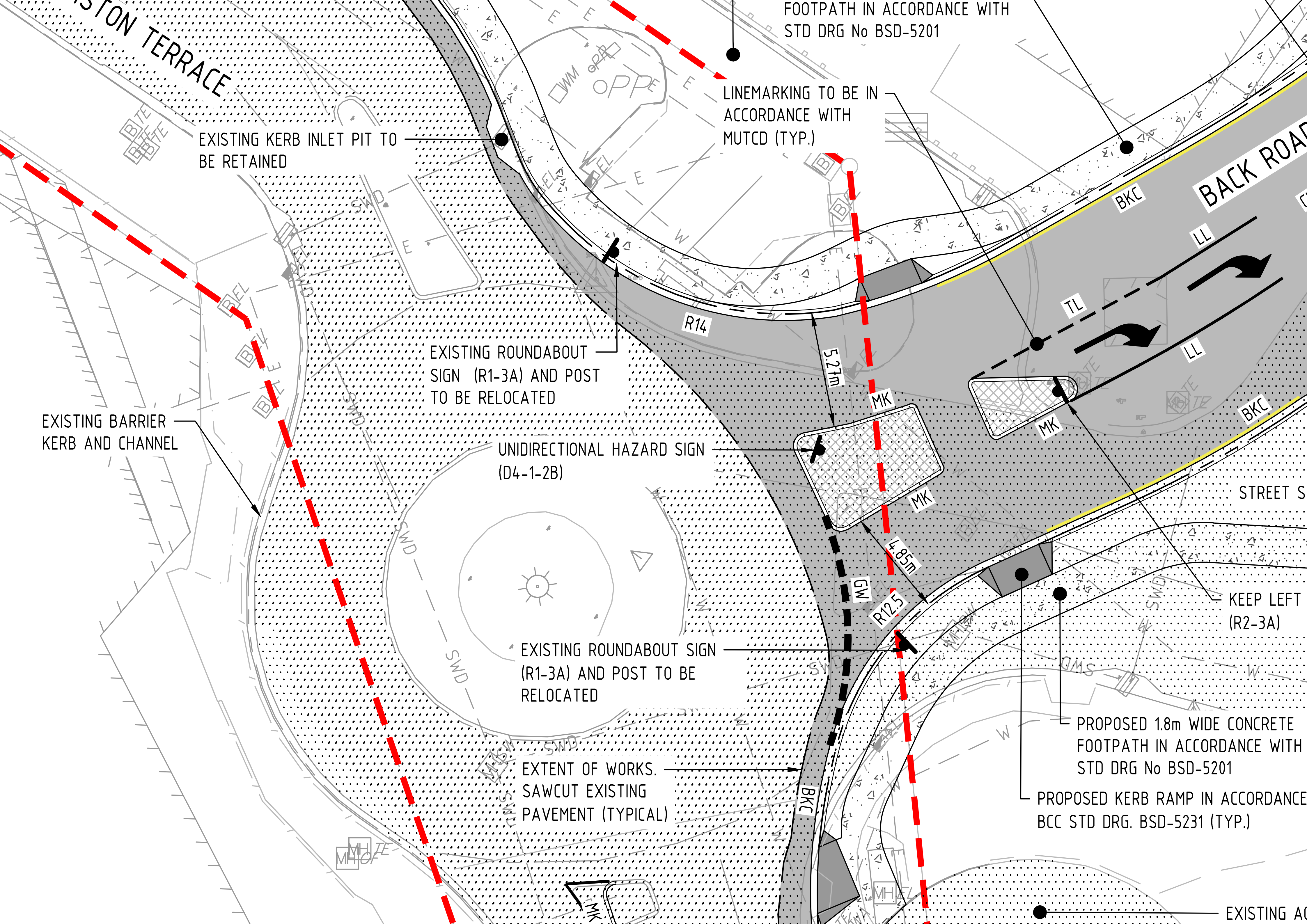


3 Lift lobbies

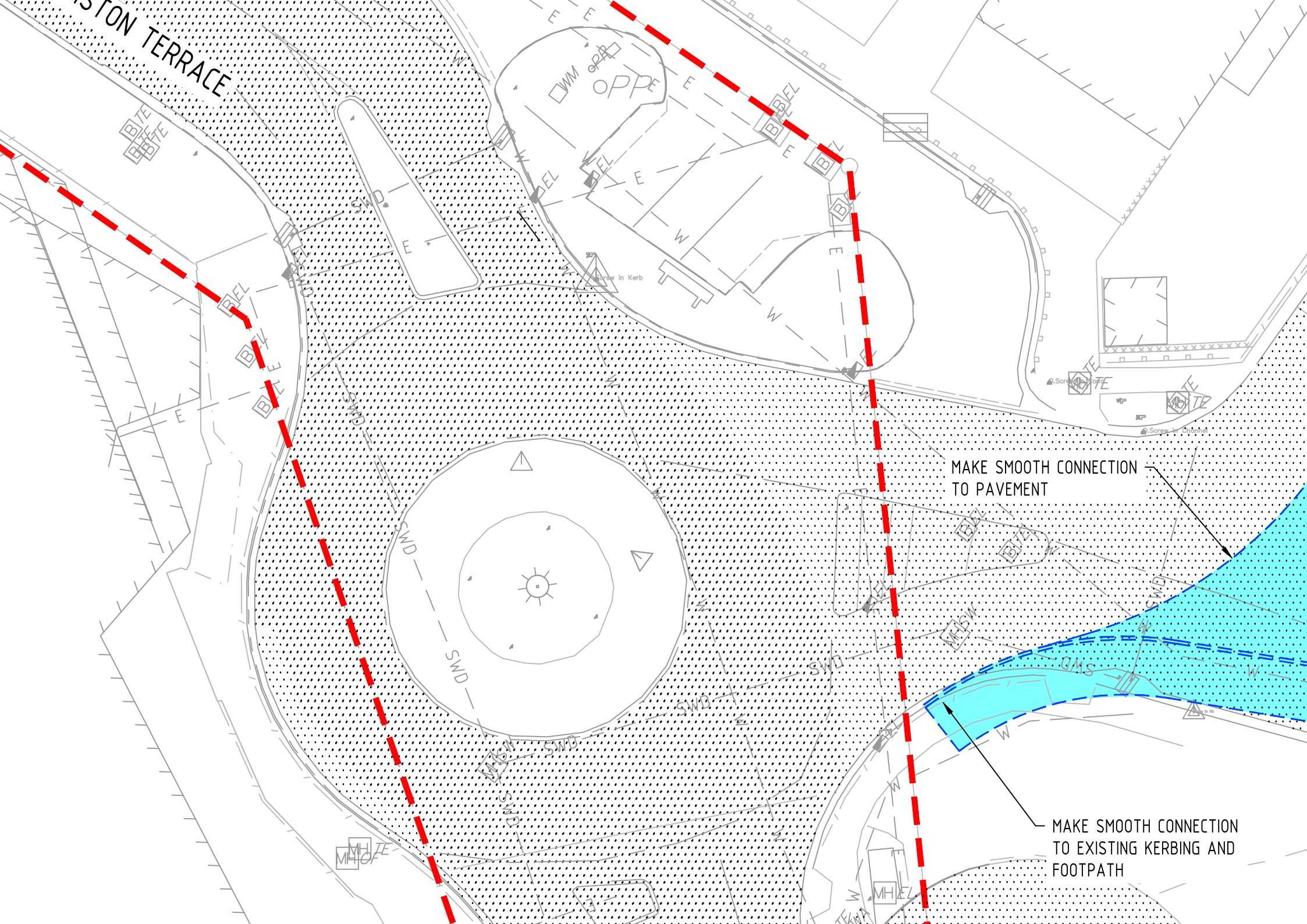
Date	Developer	Key Plan	North		Project	Drawing title	CAD file
25.02.20 22.07.20	HERSTON QUARTER / Australian Unity				HERSTON QUARTER	WAYFINDING	Drawn Coordin

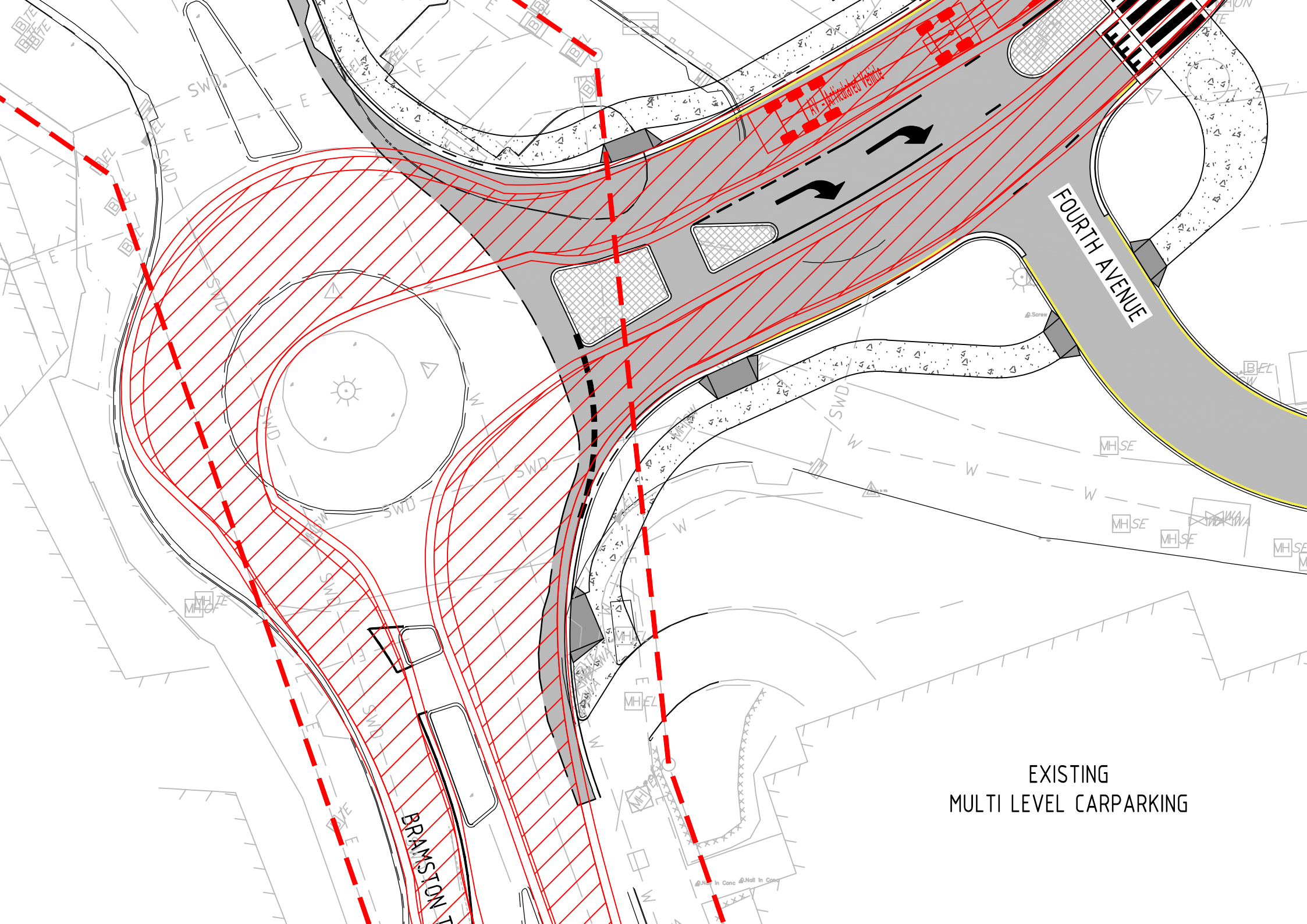
APPENDIX B

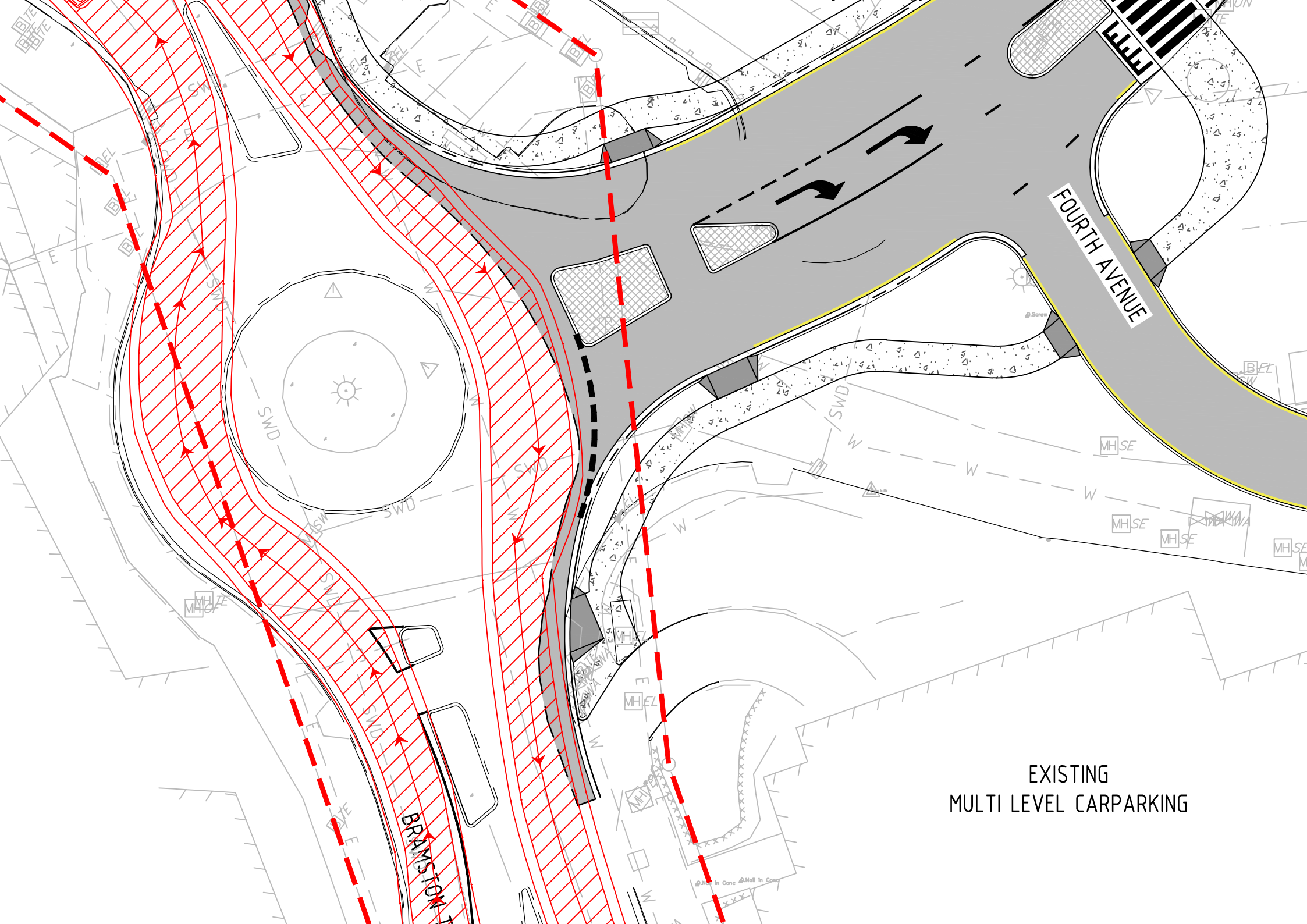
Proposed Road Works –
ADG

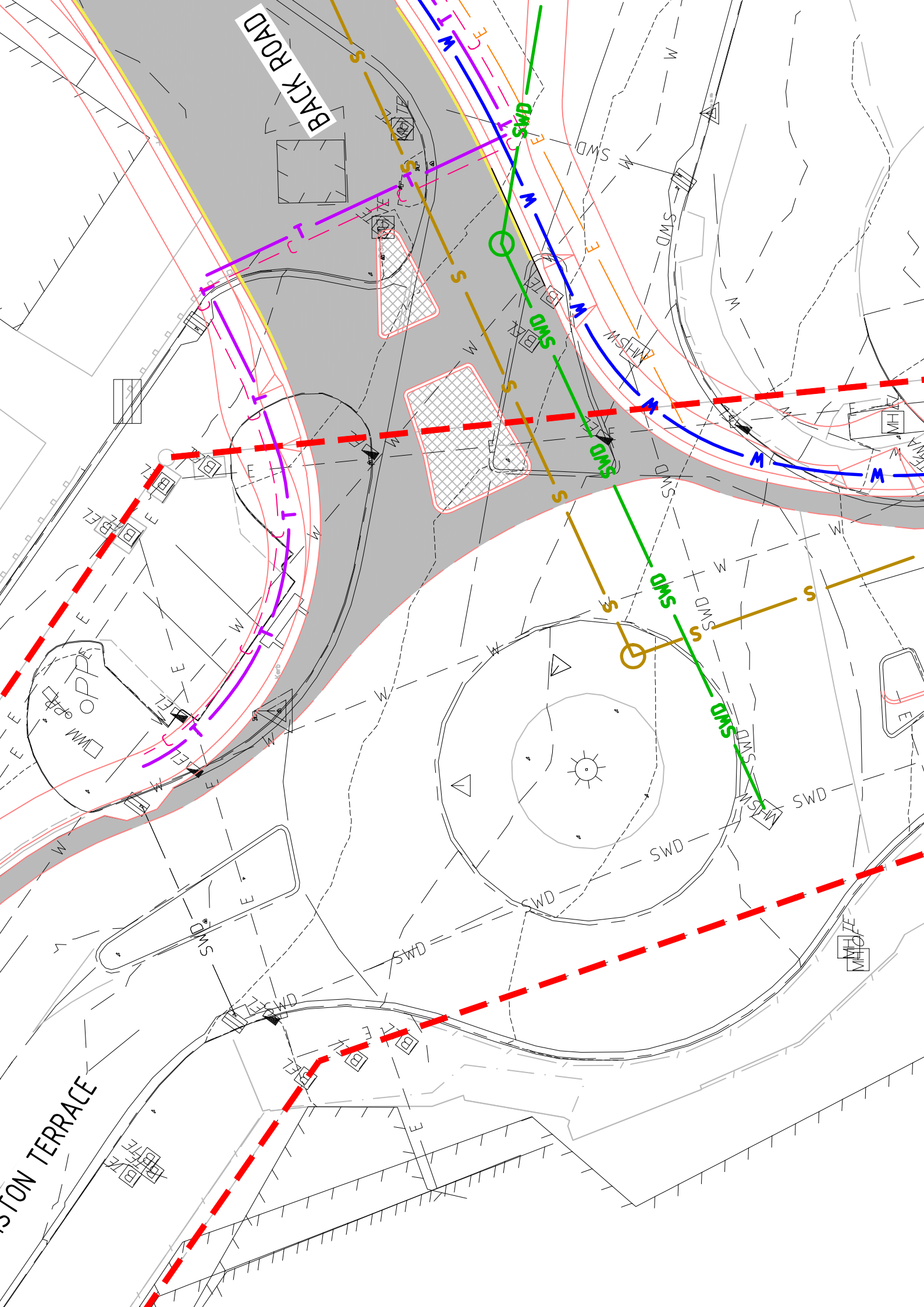


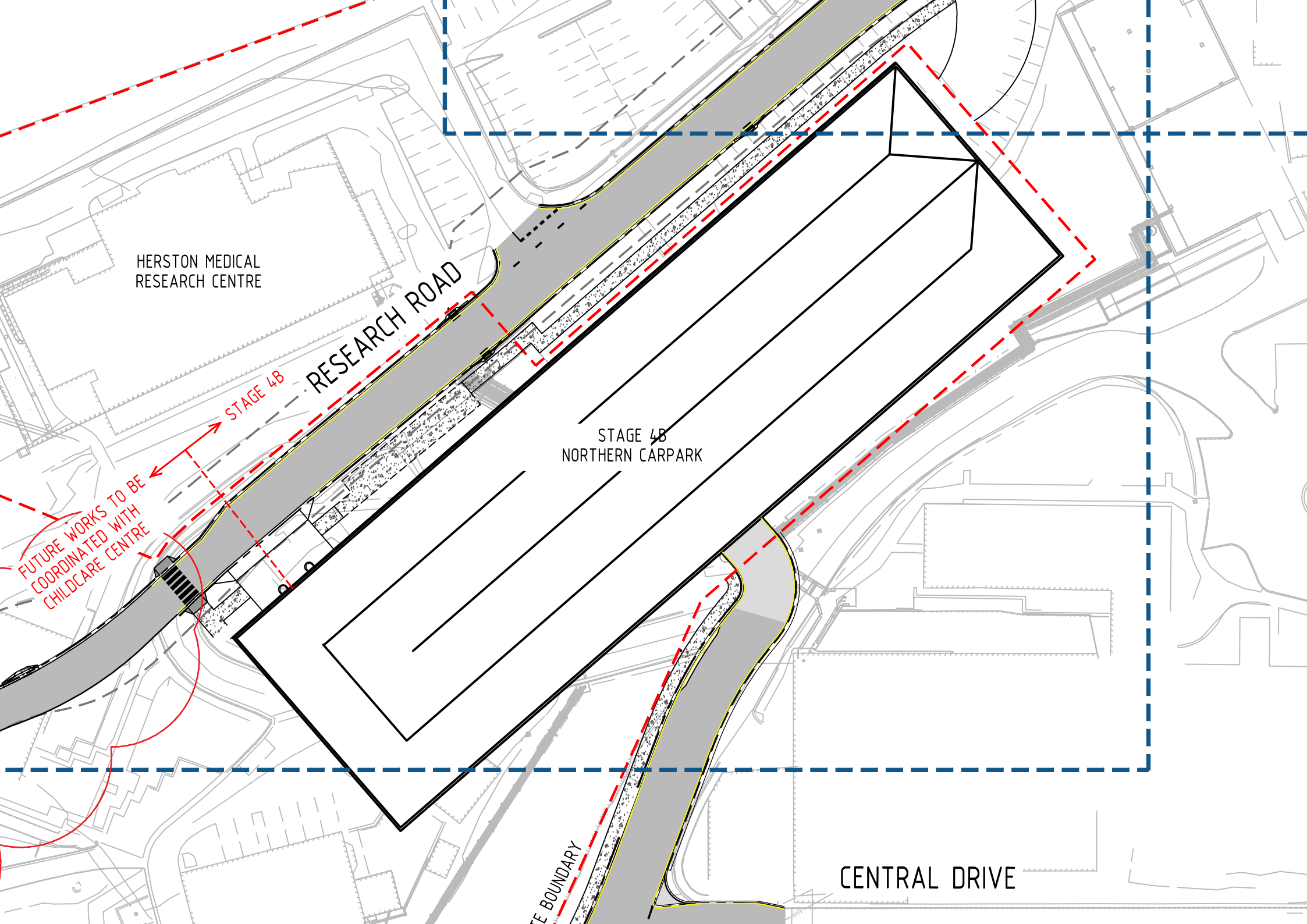
FOOTPATH IN ACCORDANCE WITH STD DRG No BSD-5201
LINEMARKING TO BE IN ACCORDANCE WITH MUTCD (TYP.)
EXISTING KERB INLET PIT TO BE RETAINED
BACK ROAD
BKC
LL
TL
R14
5.27m
MK
EXISTING ROUNDABOUT SIGN (R1-3A) AND POST TO BE RELOCATED
EXISTING BARRIER KERB AND CHANNEL
UNIDIRECTIONAL HAZARD SIGN (D4-1-2B)
STREET S
4.85m
GW
R12.5
KEEP LEFT (R2-3A)
EXISTING ROUNDABOUT SIGN (R1-3A) AND POST TO BE RELOCATED
PROPOSED 1.8m WIDE CONCRETE FOOTPATH IN ACCORDANCE WITH STD DRG No BSD-5201
PROPOSED KERB RAMP IN ACCORDANCE BCC STD DRG. BSD-5231 (TYP.)
EXTENT OF WORKS. SAWCUT EXISTING PAVEMENT (TYPICAL)
EXISTING AC
SWD

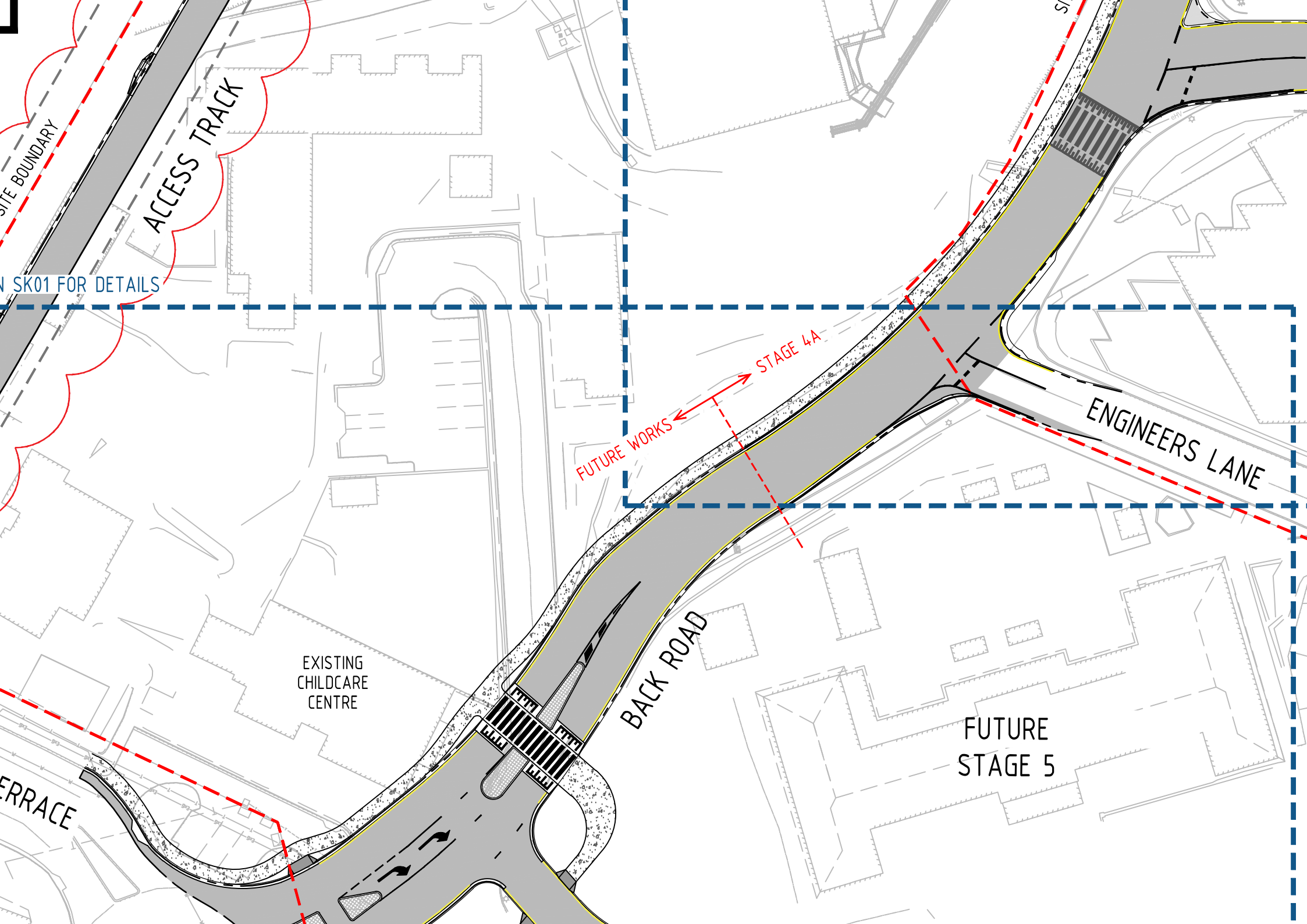

MAKE SMOOTH CONNECTION
TO PAVEMENT
MAKE SMOOTH CONNECTION
TO EXISTING KERBING AND
FOOTPATH

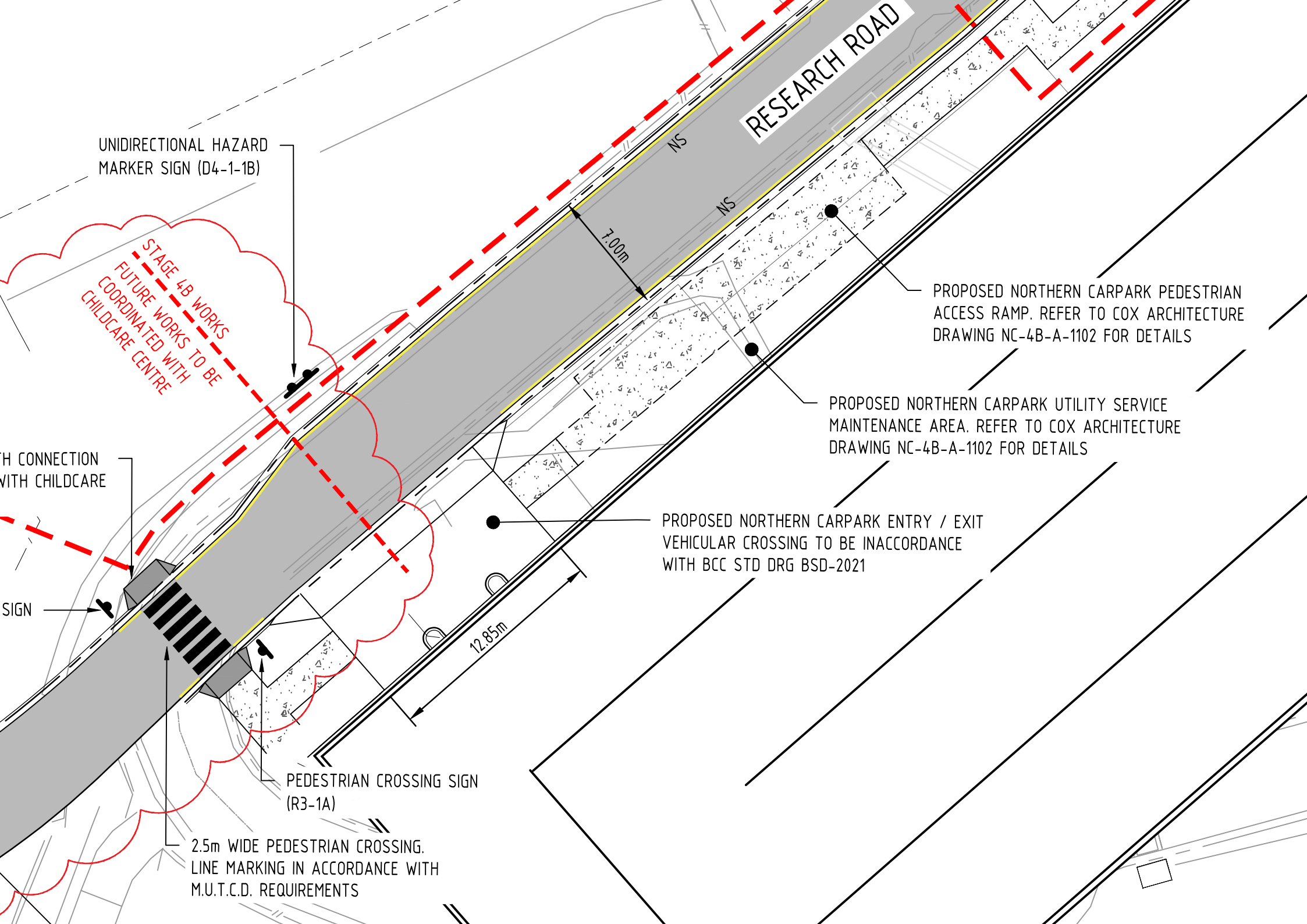

FOURTH AVENUE
BRAMSTON
EXISTING
MULTI LEVEL CARPARKING


FOURTH AVENUE
BRAMSTON
EXISTING
MULTI LEVEL CARPARKING


BACK ROAD
SWD
S
M
T
W
E
STON TERRACE

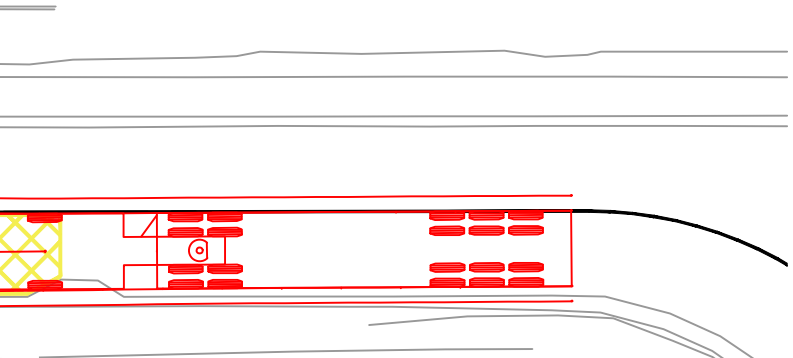

HERSTON MEDICAL
RESEARCH CENTRE
RESEARCH ROAD
STAGE 4B
STAGE 4B
NORTHERN CARPARK
FUTURE WORKS TO BE
COORDINATED WITH
CHILDCARE CENTRE
CENTRAL DRIVE

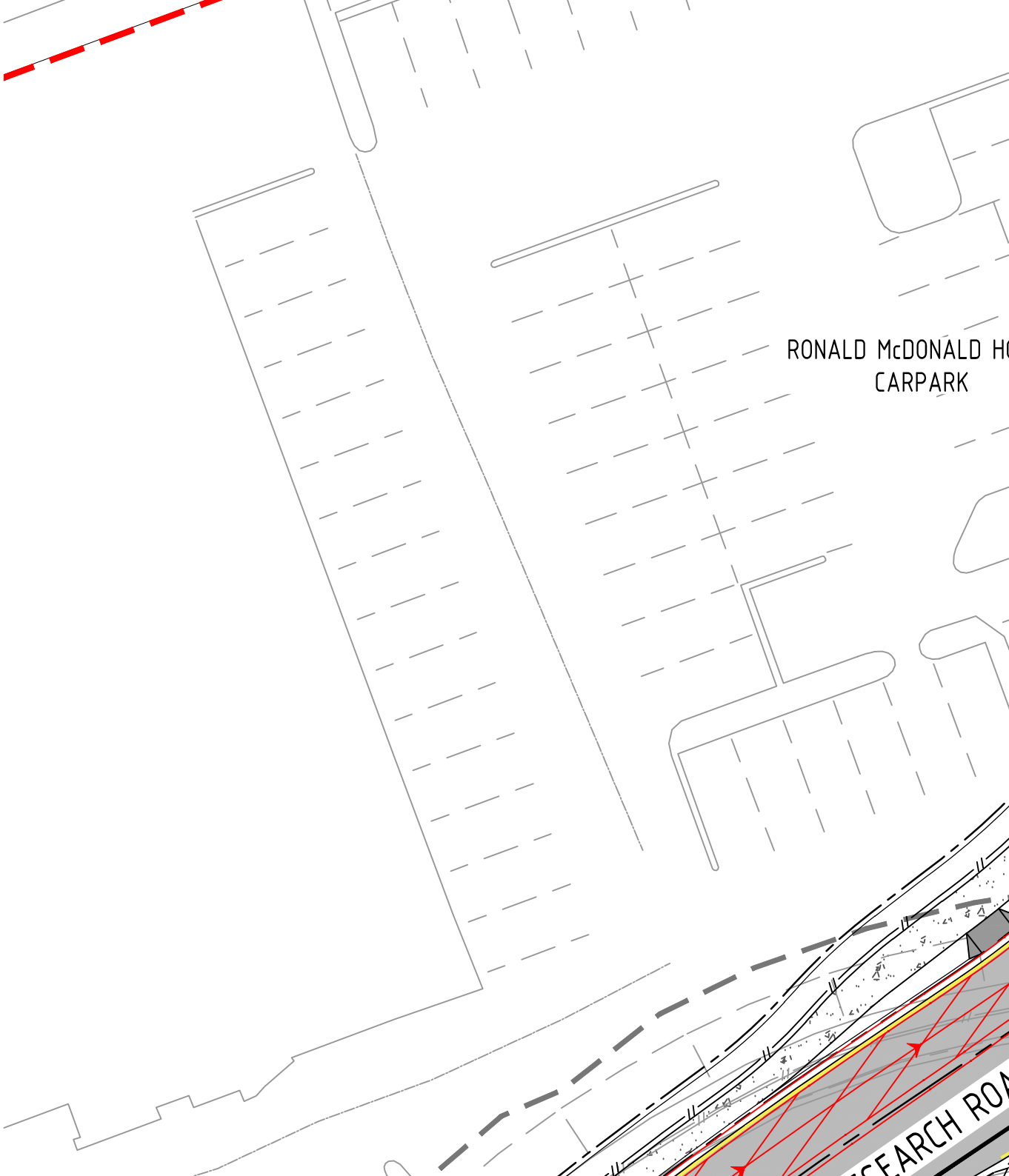

SITE BOUNDARY
ACCESS TRACK
N SK01 FOR DETAILS
STAGE 4A
FUTURE WORKS
ENGINEERS LANE
BACK ROAD
EXISTING
CHILDCARE
CENTRE
FUTURE
STAGE 5
ERRACE

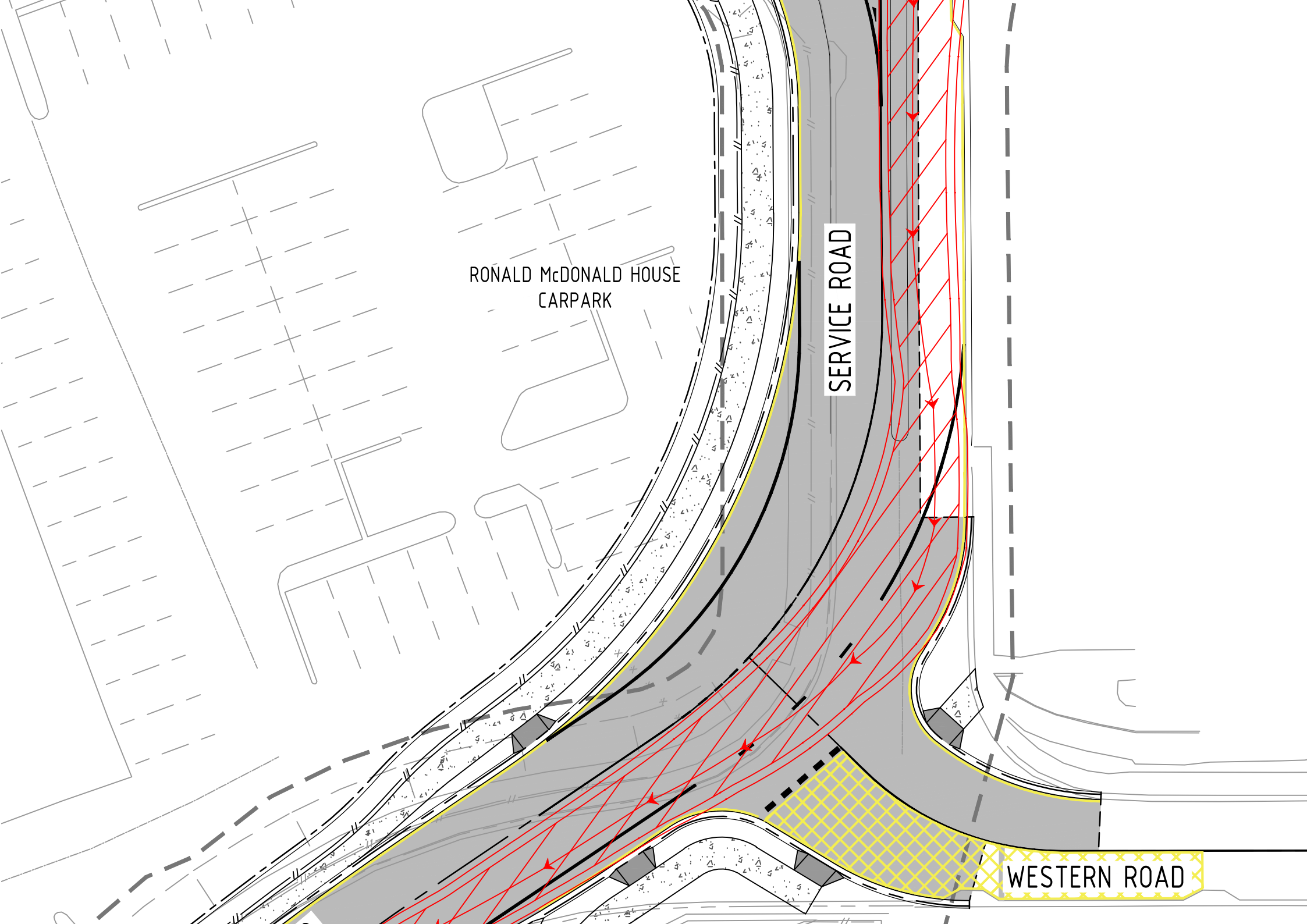

RESEARCH ROAD
NS
NS
7.00m
12.85m
UNIDIRECTIONAL HAZARD
MARKER SIGN (D4-1-1B)
STAGE 4B WORKS
FUTURE WORKS TO BE
COORDINATED WITH
CHILDCARE CENTRE
PROPOSED NORTHERN CARPARK PEDESTRIAN
ACCESS RAMP. REFER TO COX ARCHITECTURE
DRAWING NC-4B-A-1102 FOR DETAILS
PROPOSED NORTHERN CARPARK UTILITY SERVICE
MAINTENANCE AREA. REFER TO COX ARCHITECTURE
DRAWING NC-4B-A-1102 FOR DETAILS
PROPOSED NORTHERN CARPARK ENTRY / EXIT
VEHICULAR CROSSING TO BE INACCORDANCE
WITH BCC STD DRG BSD-2021
TH CONNECTION
WITH CHILDCARE
SIGN
PEDESTRIAN CROSSING SIGN
(R3-1A)
2.5m WIDE PEDESTRIAN CROSSING.
LINE MARKING IN ACCORDANCE WITH
M.U.T.C.D. REQUIREMENTS

MULTI-DECK
CARPARK

RONALD McDONALD HO
CARPARK





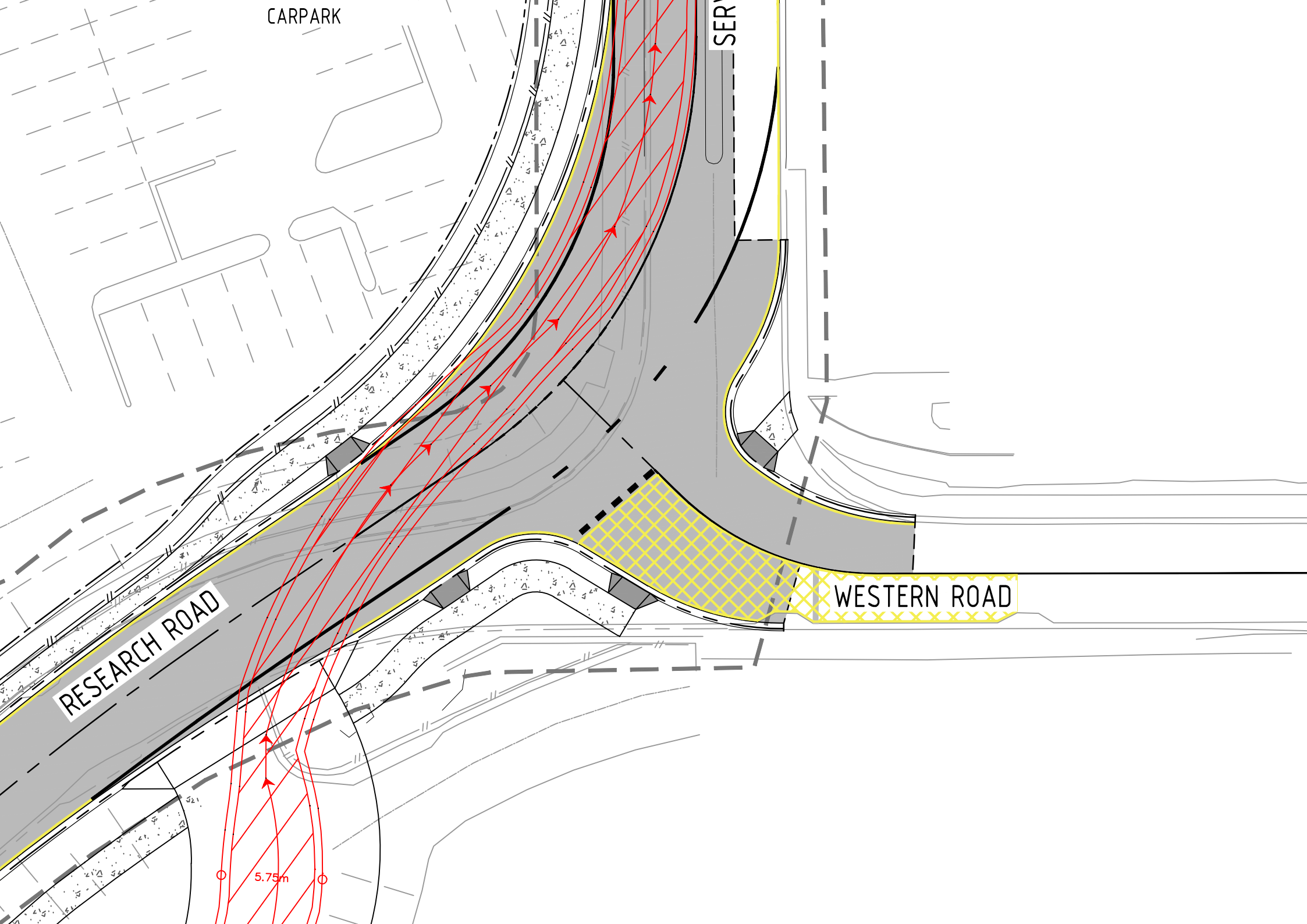

RONALD McDONALD HOUSE
CARPARK
SERVICE ROAD
WESTERN ROAD

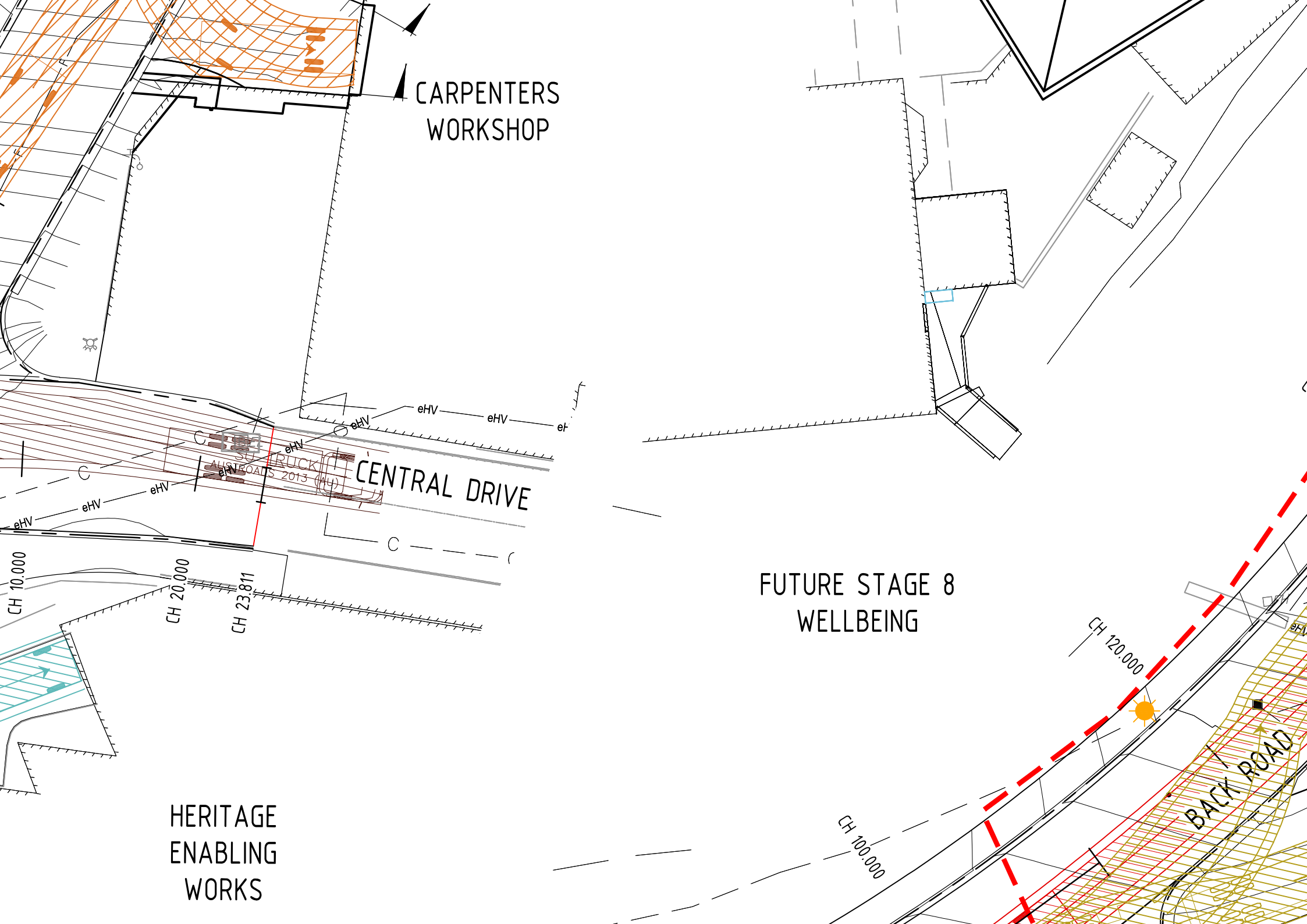
MULTI-DECK
CARPARK

AD

RONALD McDONALD HOUSE
CARPARK

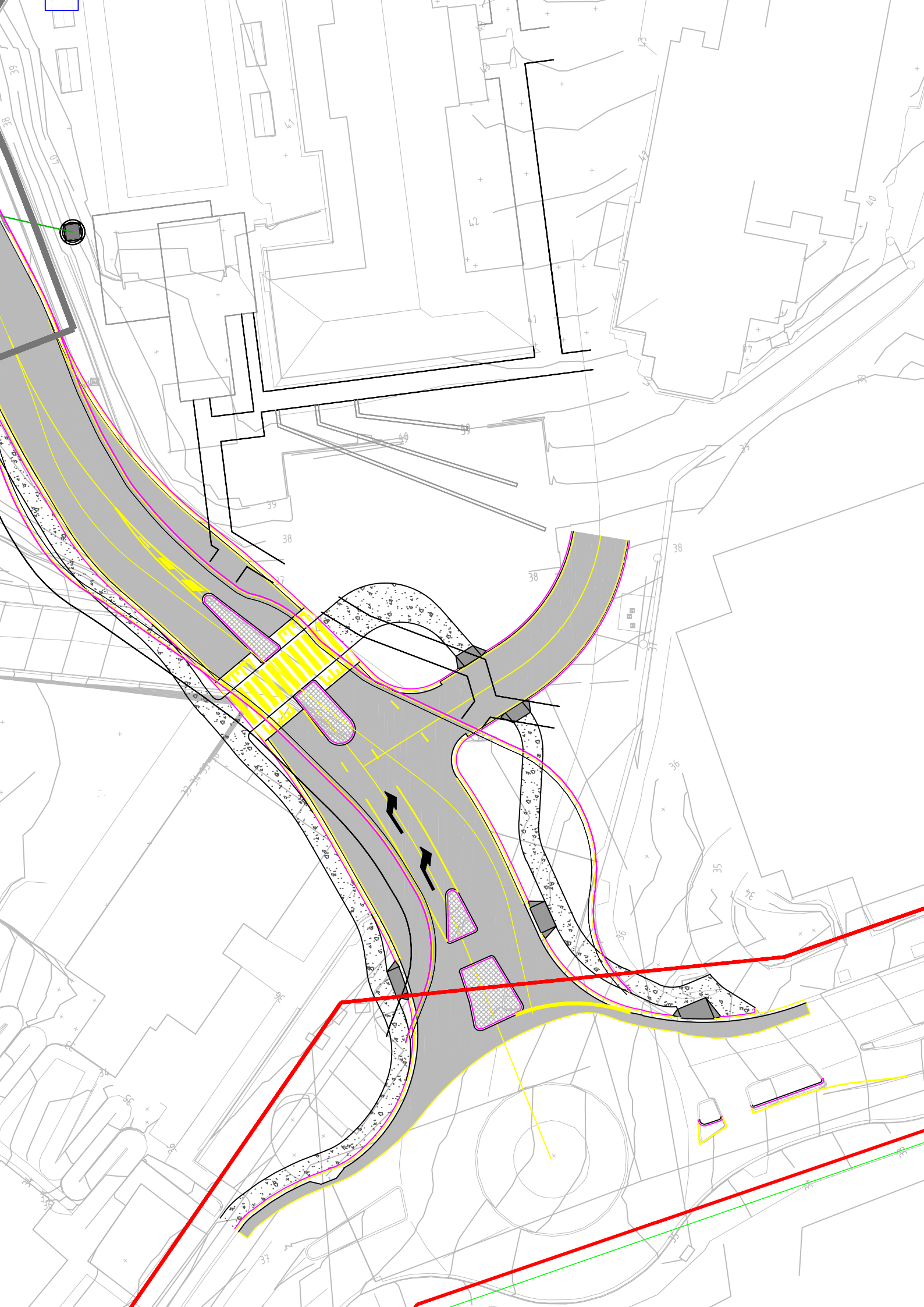
RESEARCH ROAD

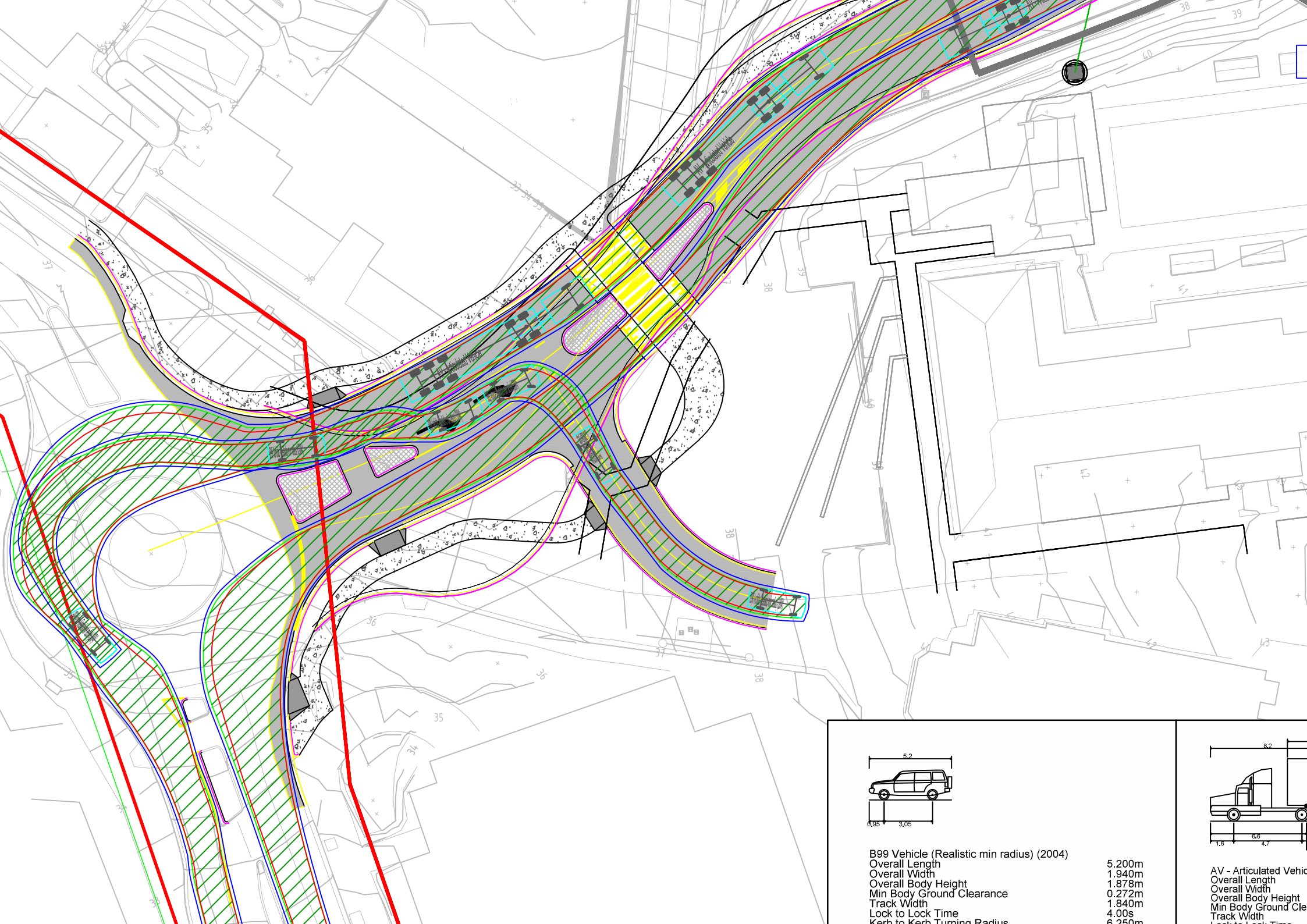

CARPARK
RESEARCH ROAD
WESTERN ROAD
5.75m

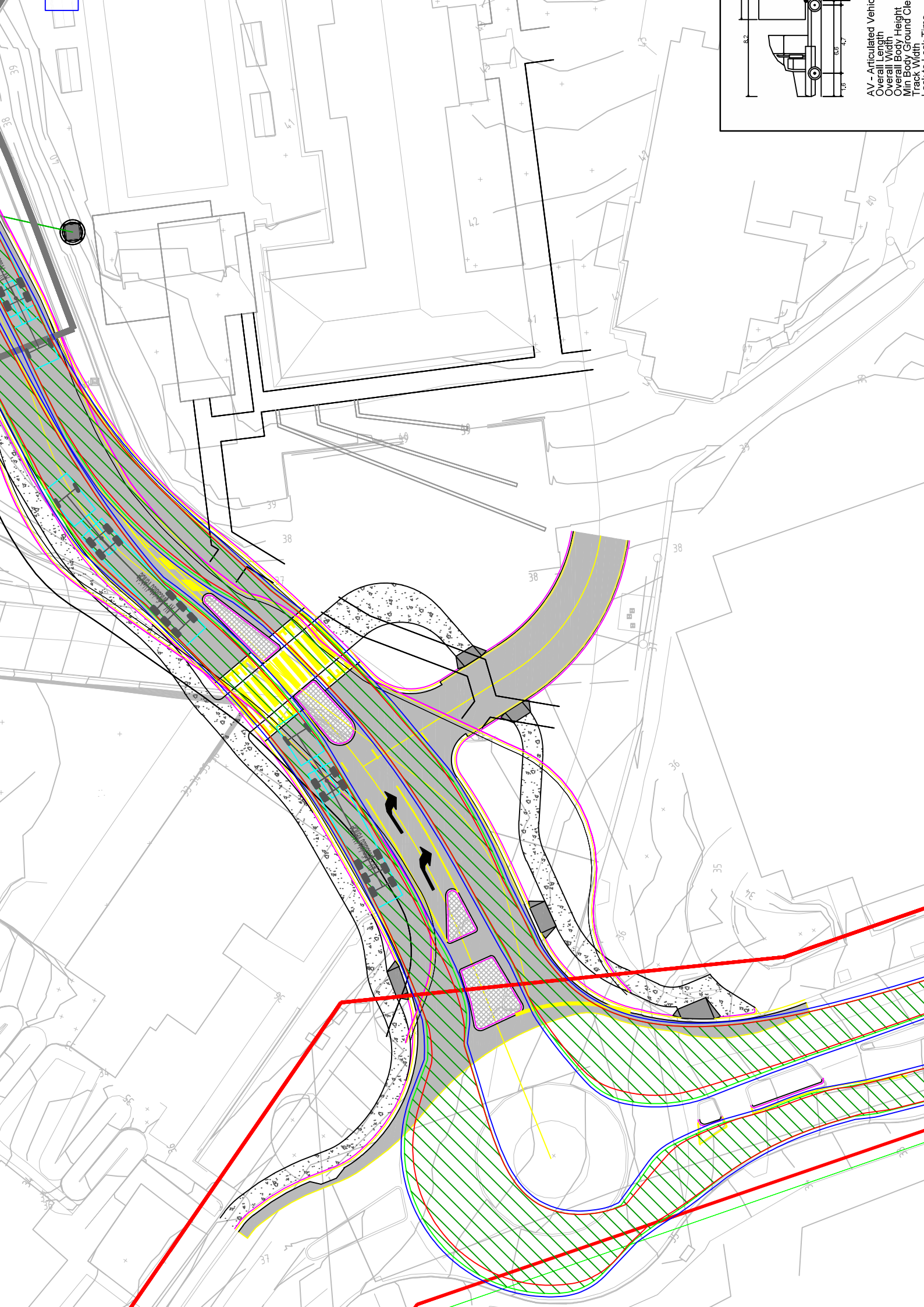

CARPENTERS
WORKSHOP
CENTRAL DRIVE
eHV
SU
TRUCK
AUSTROADS 2013 (4U)
CH 10.000
CH 20.000
CH 23.811
HERITAGE
ENABLING
WORKS
FUTURE STAGE 8
WELLBEING
CH 100.000
CH 120.000
BACK ROAD

APPENDIX C

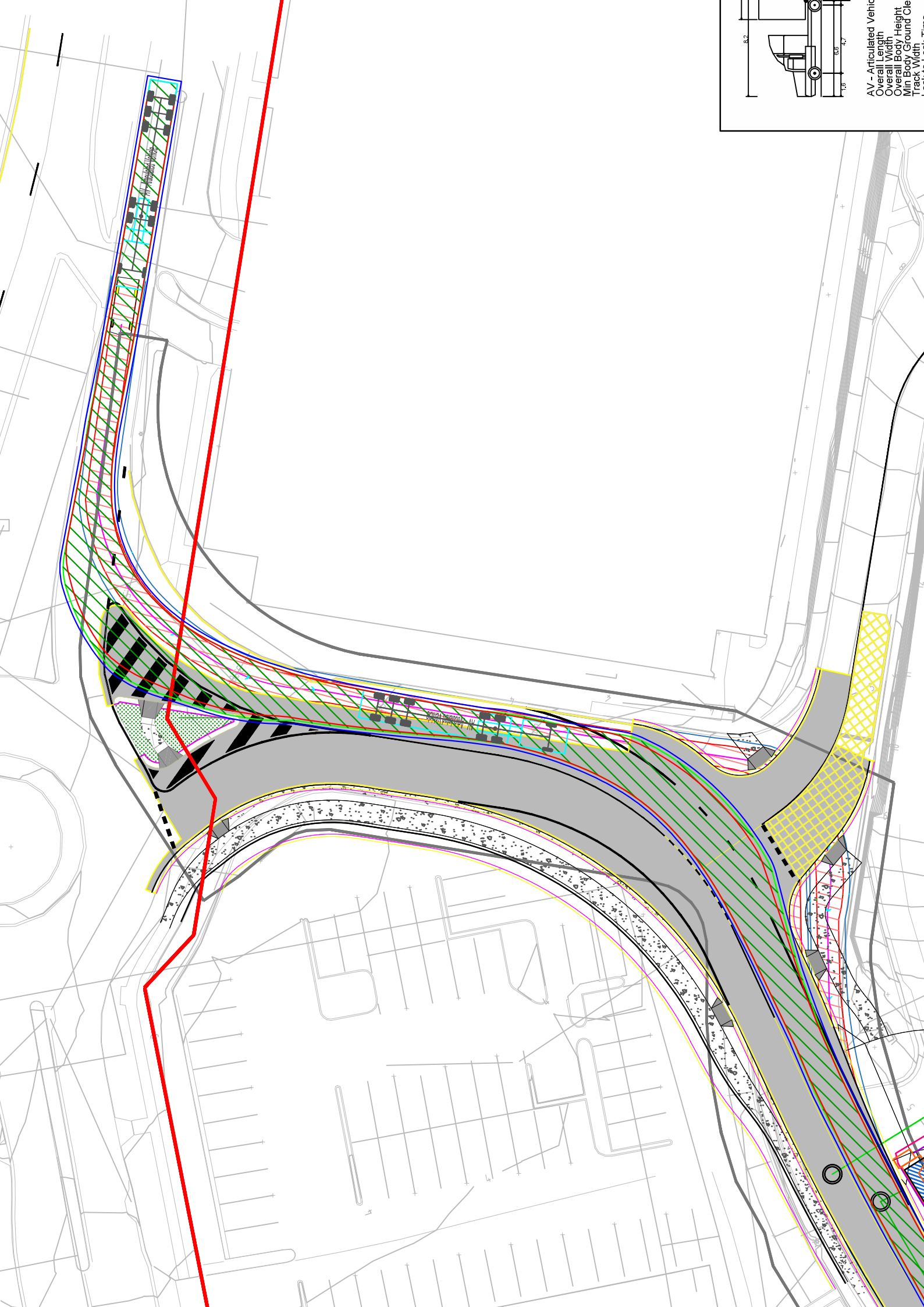
Swept Path Analyses –
Cambray Consulting

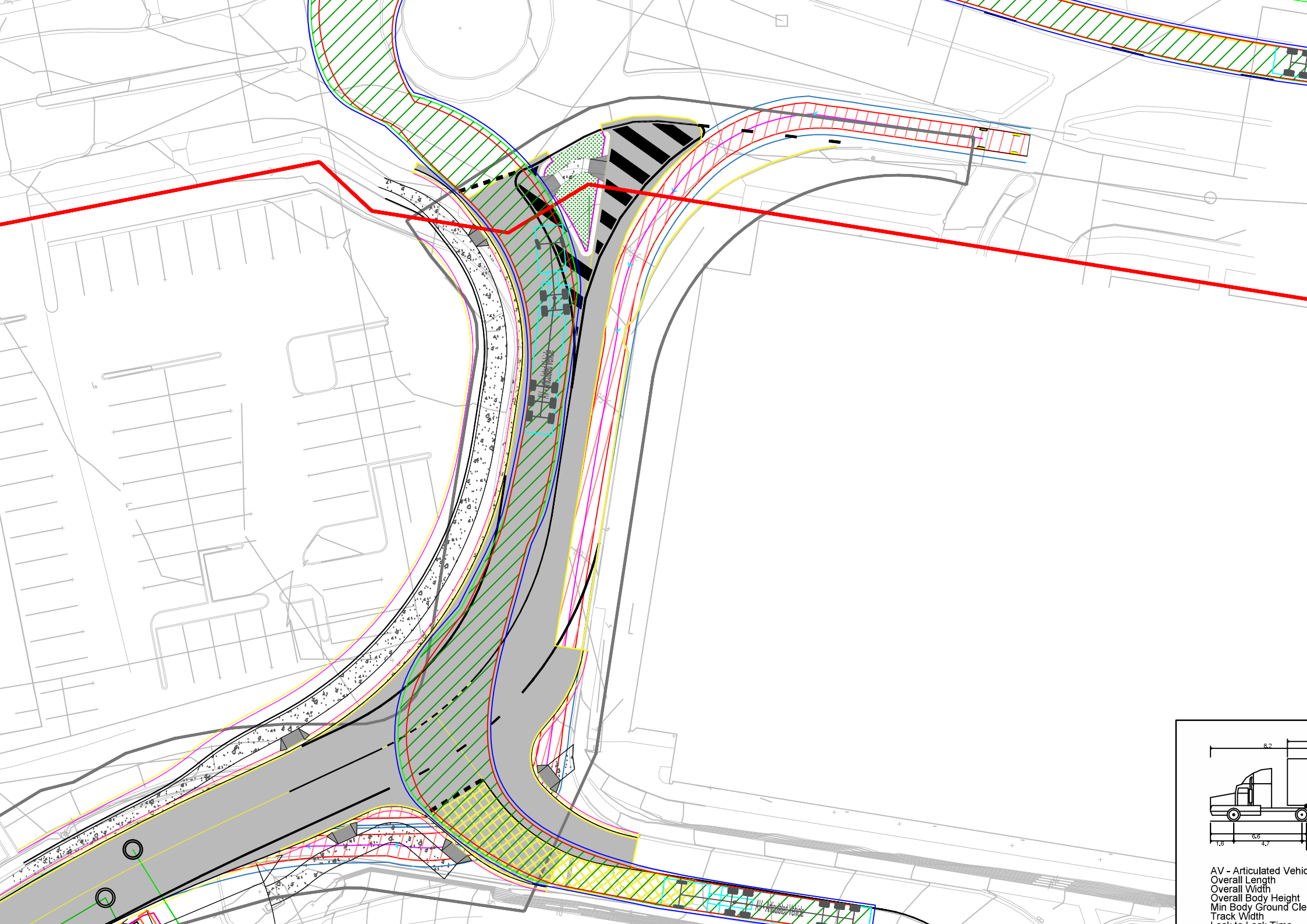


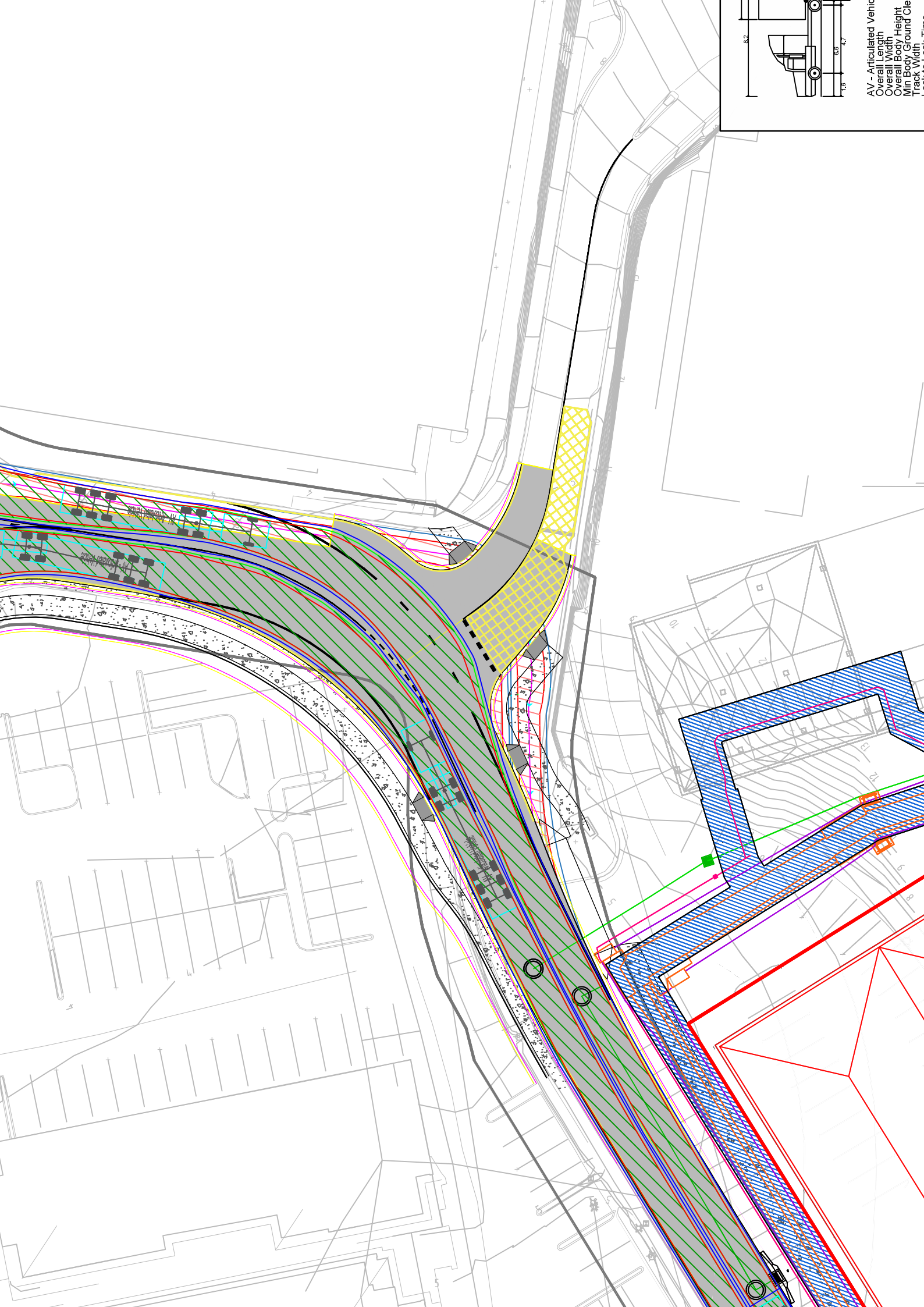

5.2
0.95
3.05
B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.878m
Min Body Ground Clearance 0.272m
Track Width 1.840m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 6.250m
8.2
1.8
6.6
4.7
AV - Articulated Vehic
Overall Length
Overall Width
Overall Body Height
Min Body Ground Cle
Track Width


8.2
4.7
3.8
1.8
AV - Articulated Vehicle
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width


12.500m
2.500m
4.300m
0.417m
2.500m

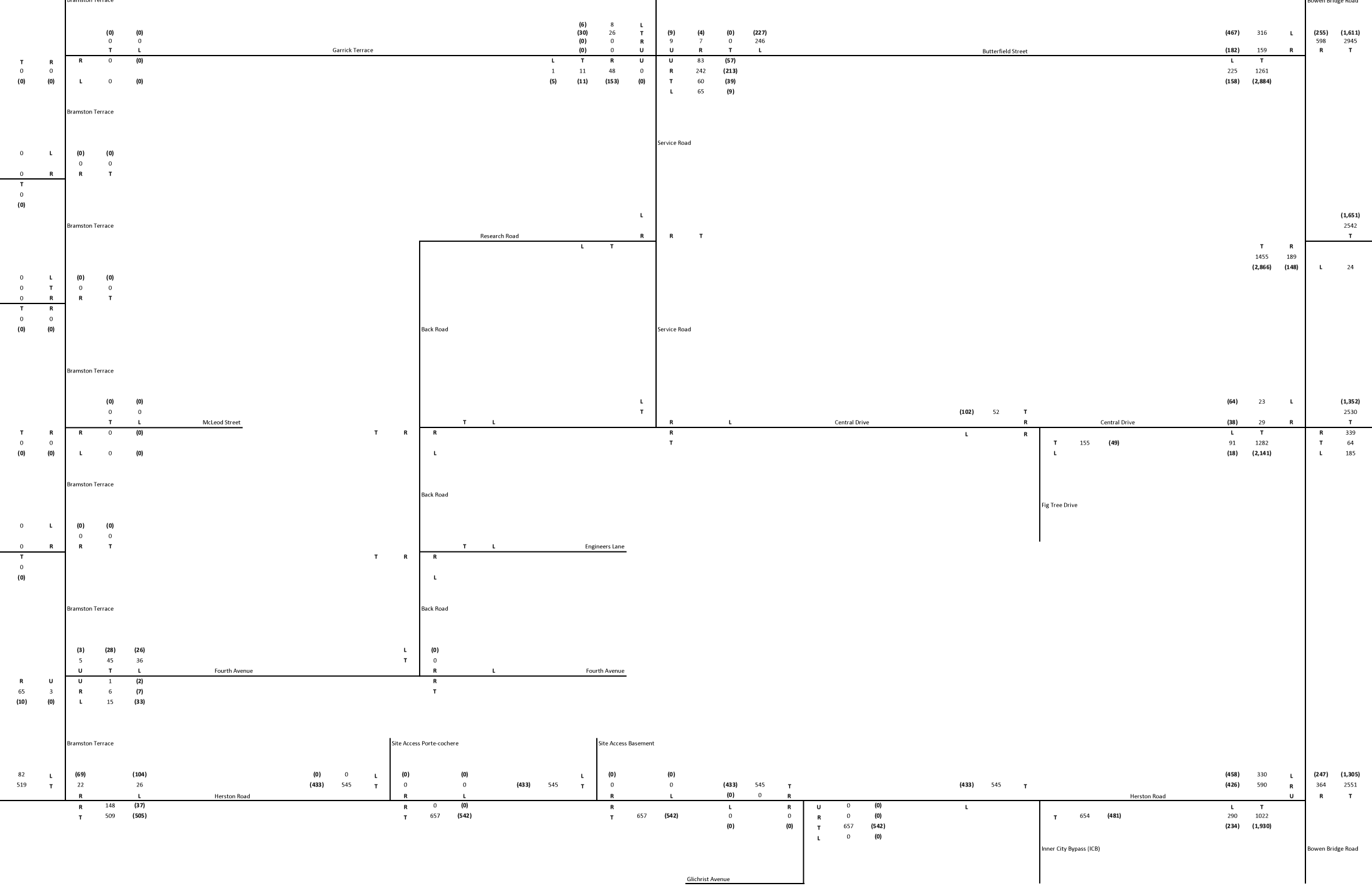

AV - Articulated Vehicle
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
8.2
4.7
3.5
1.8

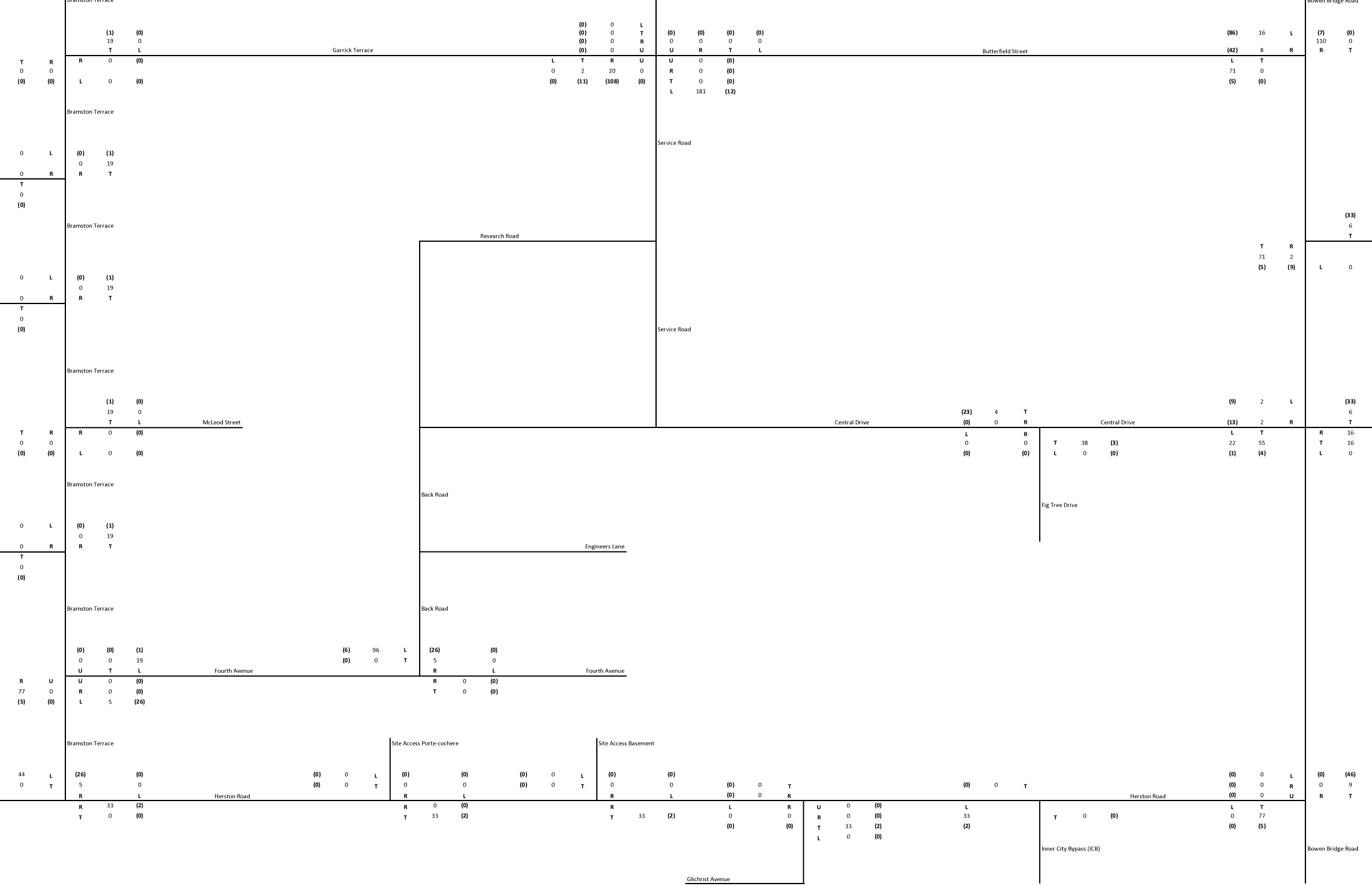

8.2
6.6
1.8
4.7
AV - Articulated Vehic
Overall Length
Overall Width
Overall Body Height
Min Body Ground Cle
Track Width

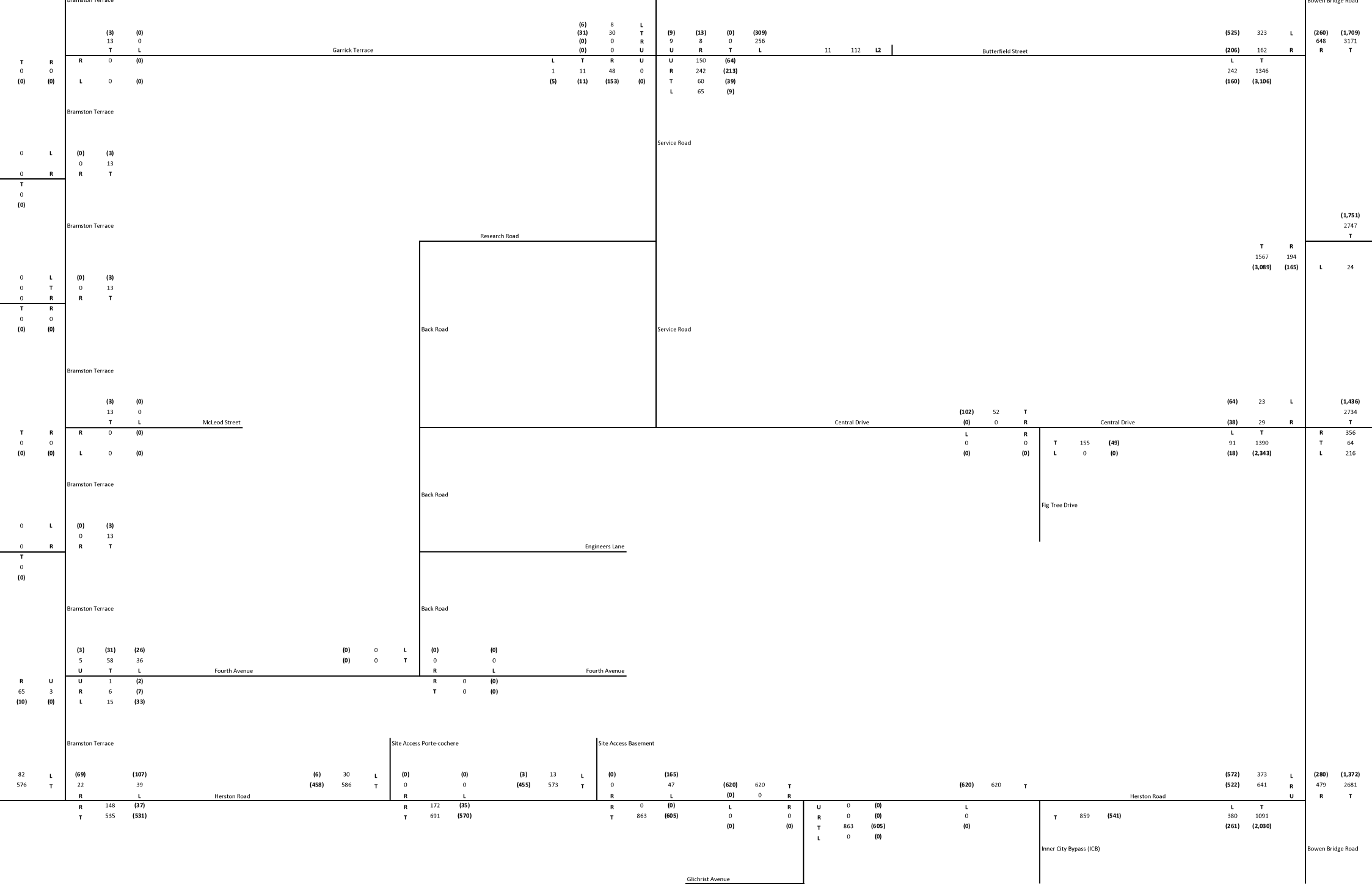

AV - Articulated Vehicle
Overall Length
Overall Width
Overall Body Height
Min Body Ground Cle
Track Width
8.2
4.7
3.5
1.8

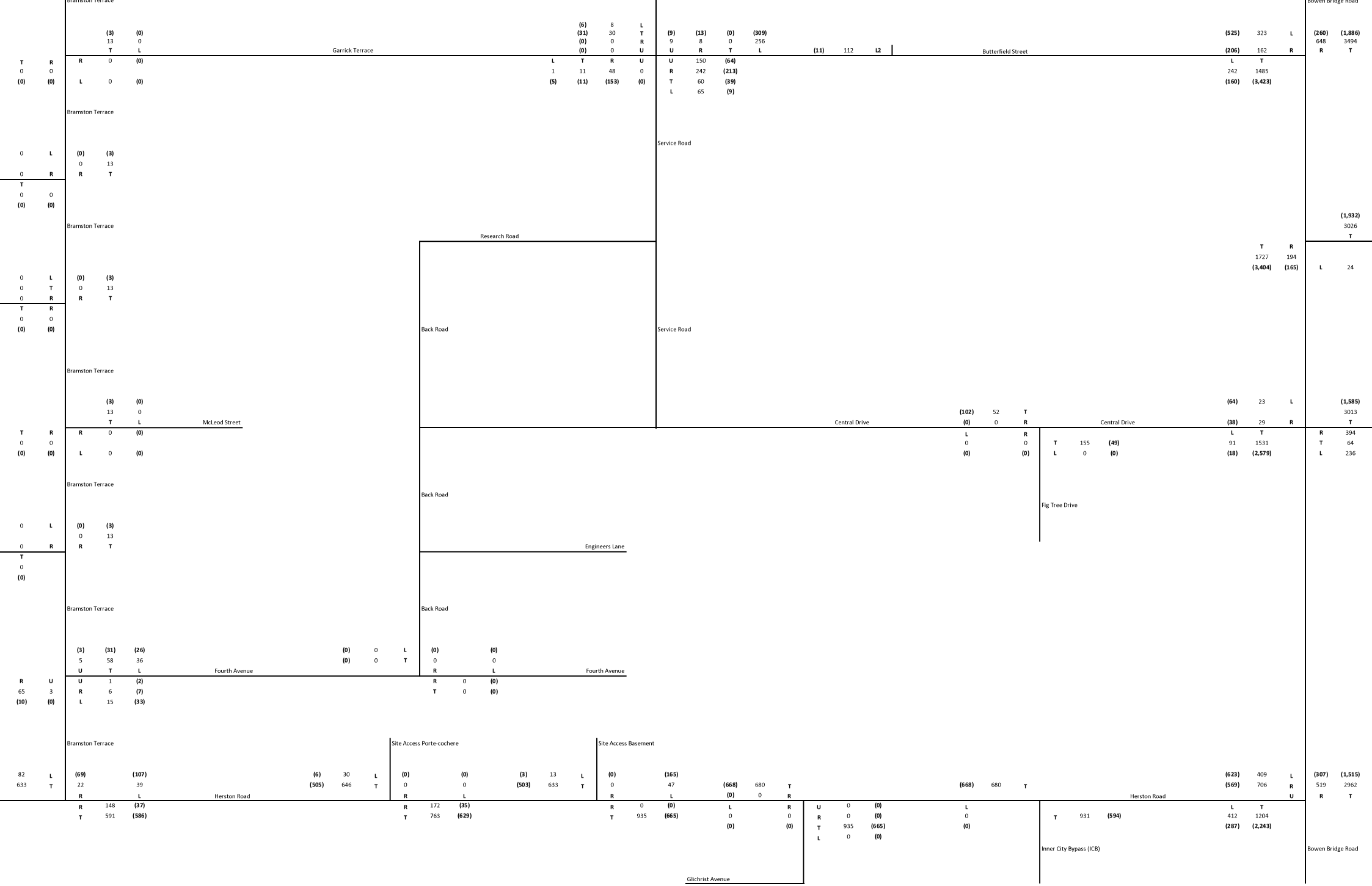
APPENDIX D

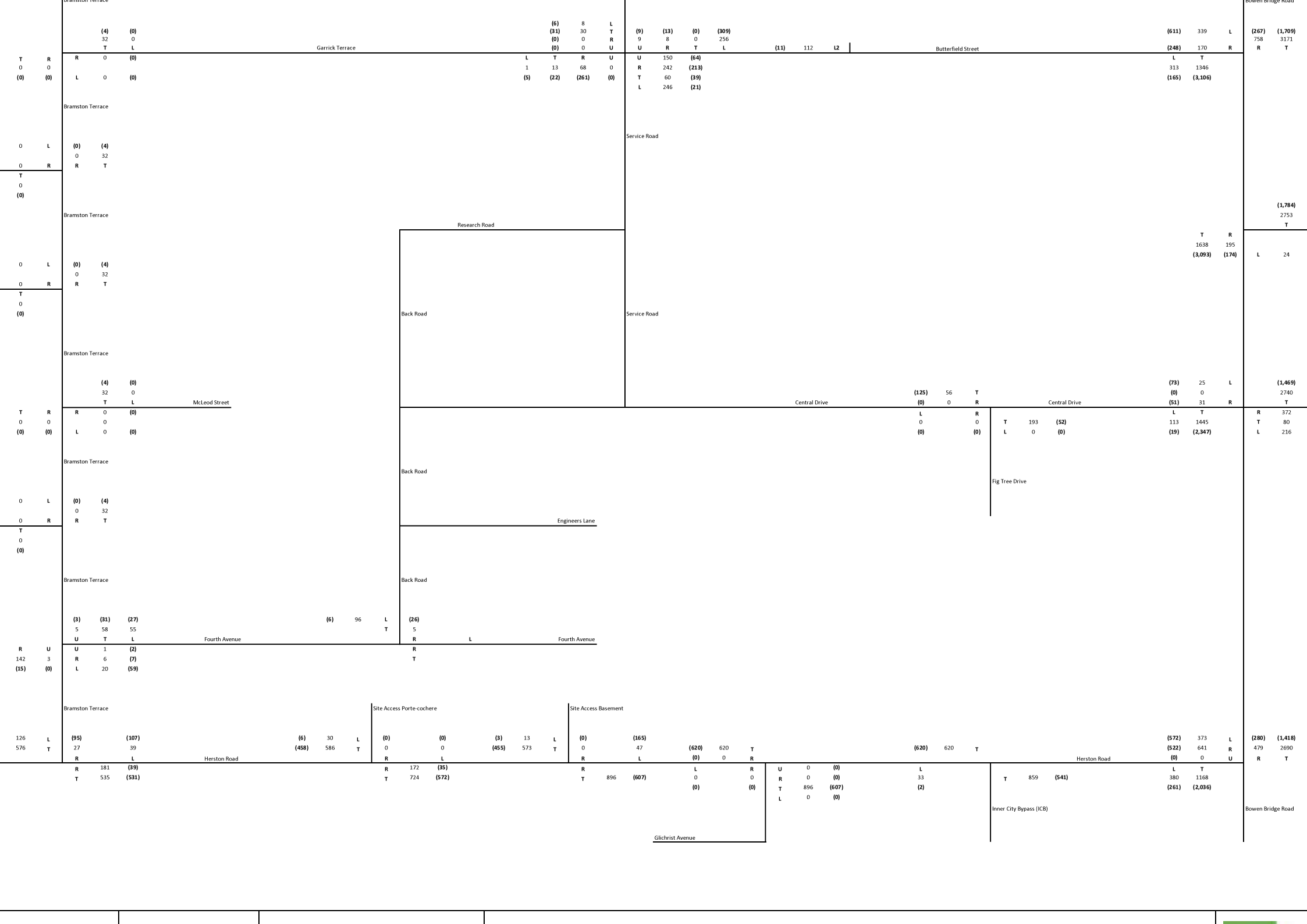
Assessed Traffic Volumes –
Cambray Consulting

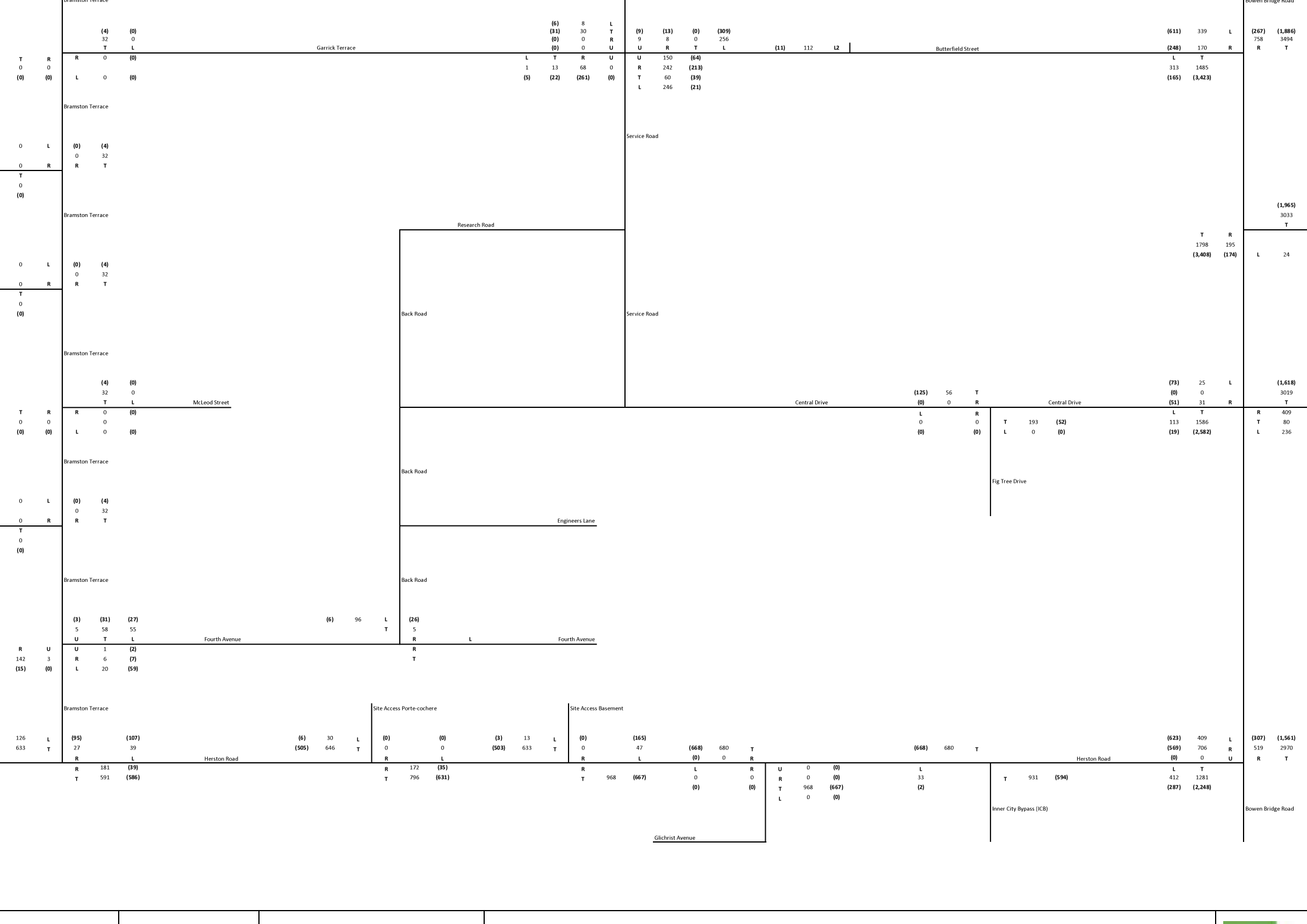

Bramston Terrace
Garrick Terrace
Butterfield Street
Bowen Bridge Road
Service Road
Research Road
Back Road
McLeod Street
Central Drive
Fig Tree Drive
Engineers Lane
Fourth Avenue
Site Access Porte-cochere
Site Access Basement
Herston Road
Glichrist Avenue
Inner City Bypass (ICB)


Garrick Terrace
Butterfield Street
Bowen Bridge Road
Bramston Terrace
Service Road
Research Road
Service Road
McLeod Street
Central Drive
Central Drive
Back Road
Fig Tree Drive
Engineers Lane
Bramston Terrace
Back Road
Fourth Avenue
Fourth Avenue
Bramston Terrace
Site Access Porte-cochere
Site Access Basement
Herston Road
Herston Road
Glichrist Avenue
Inner City Bypass (ICB)
Bowen Bridge Road


Bramston Terrace
Garrick Terrace
Butterfield Street
Bowen Bridge Road
Service Road
Research Road
Back Road
Central Drive
McLeod Street
Fig Tree Drive
Engineers Lane
Fourth Avenue
Site Access Porte-cochere
Site Access Basement
Herston Road
Glichrist Avenue
Inner City Bypass (ICB)


Bramston Terrace
Garrick Terrace
Butterfield Street
Bowen Bridge Road
Service Road
Research Road
Back Road
McLeod Street
Central Drive
Fig Tree Drive
Engineers Lane
Fourth Avenue
Herston Road
Site Access Porte-cochere
Site Access Basement
Glichrist Avenue
Inner City Bypass (ICB)


Bramston Terrace
Garrick Terrace
Butterfield Street
Bowen Bridge Road
Service Road
Research Road
Back Road
Central Drive
McLeod Street
Fig Tree Drive
Engineers Lane
Fourth Avenue
Site Access Porte-cochere
Site Access Basement
Herston Road
Glichrist Avenue
Inner City Bypass (ICB)


Bramston Terrace
Garrick Terrace
Butterfield Street
Bowen Bridge Road
Service Road
Research Road
Back Road
McLeod Street
Central Drive
Fig Tree Drive
Engineers Lane
Fourth Avenue
Site Access Porte-cochere
Site Access Basement
Herston Road
Glichrist Avenue
Inner City Bypass (ICB)

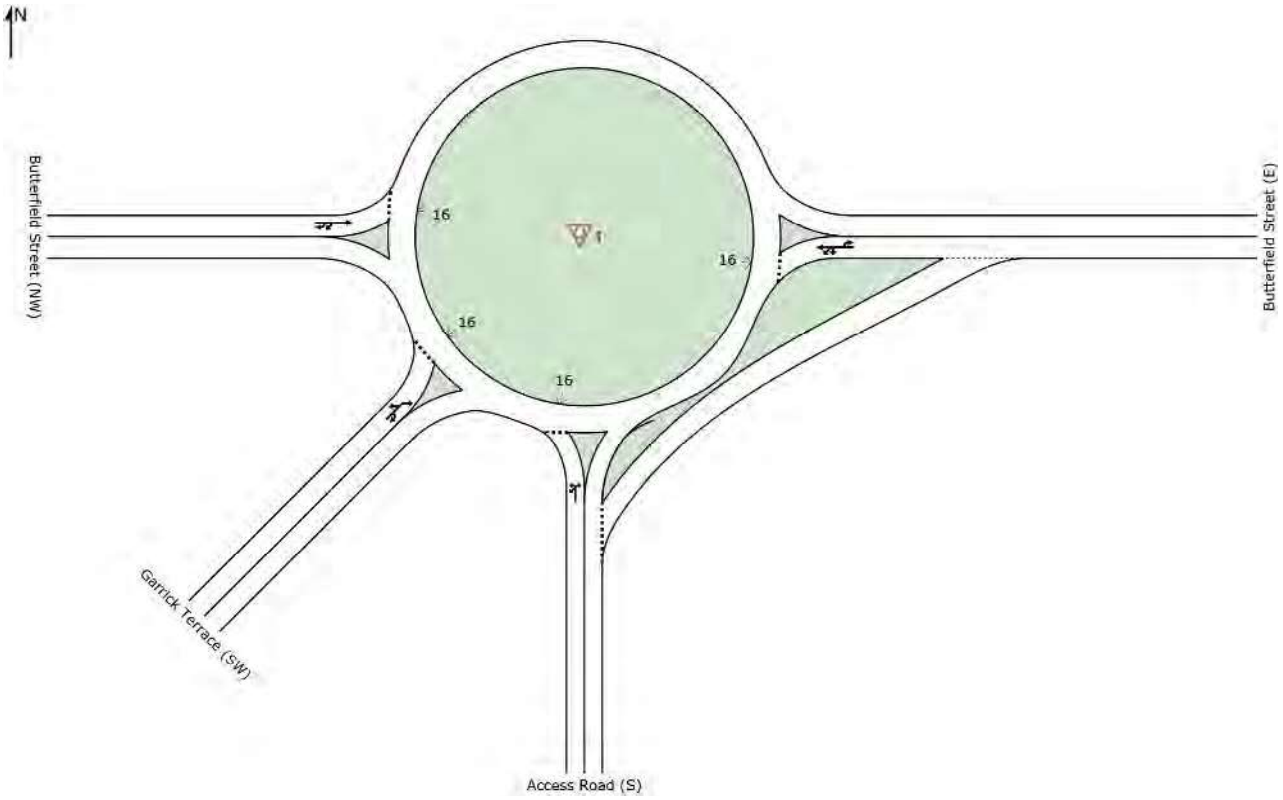
APPENDIX E

SIDRA Summary –
Cambray Consulting

SITE LAYOUT

Site: 1 [2016 PM Survey Butterfield St_Garrick Tce]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout



MOVEMENT SUMMARY

Site: 1 [2016 AM Survey Butterfield St_Garrick Tce]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	1	1.9	0.062	2.6	LOS A	0.4	2.8	0.55	0.34	31.5
1	L2	11	1.9	0.062	2.6	LOS A	0.4	2.8	0.55	0.34	37.6
3	R2	48	1.9	0.062	2.6	LOS A	0.4	2.8	0.55	0.34	33.5
Approach		60	1.9	0.062	2.6	LOS A	0.4	2.8	0.55	0.34	34.6
East: Butterfield Street (E)											
4	L2	65	1.9	0.283	4.2	LOS A	1.4	10.0	0.00	0.46	34.4
4a	L1	60	1.9	0.283	2.9	LOS A	1.4	10.0	0.00	0.46	41.5
5	T1	242	1.9	0.283	3.2	LOS A	1.4	10.0	0.00	0.46	47.3
6u	U	83	1.9	0.283	9.0	LOS A	1.4	10.0	0.00	0.46	47.6
Approach		450	1.9	0.283	4.3	LOS A	1.4	10.0	0.00	0.46	45.2
West: Butterfield Street (W)											
11	T1	246	1.9	0.220	4.0	LOS A	1.3	9.3	0.36	0.45	46.5
12b	R3	7	1.9	0.220	8.9	LOS A	1.3	9.3	0.36	0.45	44.2
12u	U	9	1.9	0.220	9.8	LOS A	1.3	9.3	0.36	0.45	48.1
Approach		262	1.9	0.220	4.3	LOS A	1.3	9.3	0.36	0.45	46.5
SouthWest: Garrick Terrace (SW)											
30b	L3	8	1.9	0.035	4.4	LOS A	0.2	1.4	0.49	0.55	40.9
32a	R1	26	1.9	0.035	6.8	LOS A	0.2	1.4	0.49	0.55	39.1
32u	U	1	1.9	0.035	9.0	LOS A	0.2	1.4	0.49	0.55	38.9
Approach		35	1.9	0.035	6.3	LOS A	0.2	1.4	0.49	0.55	39.6
All Vehicles		808	1.9	0.283	4.3	LOS A	1.4	10.0	0.18	0.45	44.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2016 PM Survey Butterfield St_Garrick Tce]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

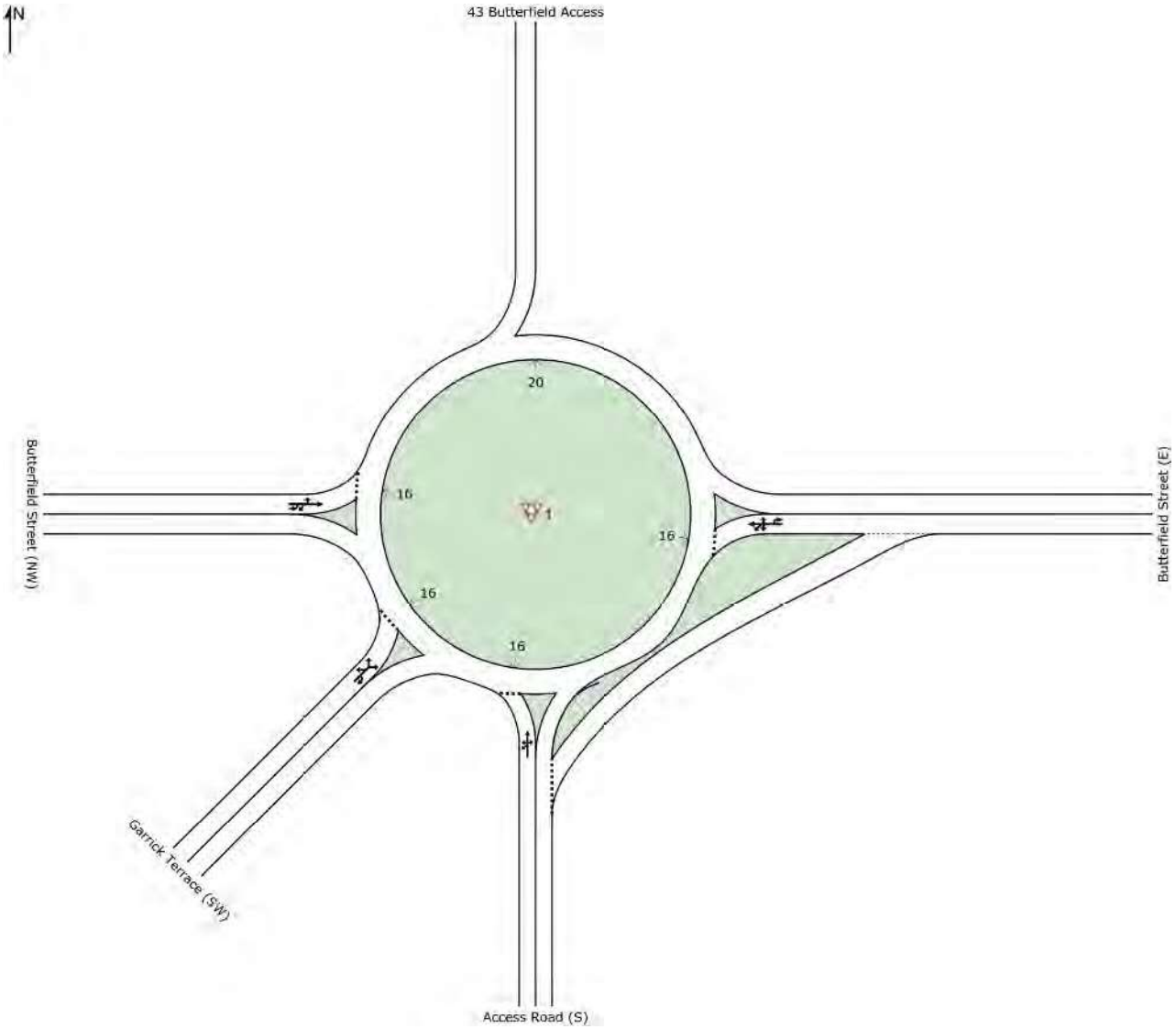
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	5	1.9	0.172	2.3	LOS A	1.1	8.2	0.54	0.36	31.6
1	L2	11	1.9	0.172	2.3	LOS A	1.1	8.2	0.54	0.36	37.6
3	R2	157	1.9	0.172	2.3	LOS A	1.1	8.2	0.54	0.36	33.6
Approach		174	1.9	0.172	2.3	LOS A	1.1	8.2	0.54	0.36	33.9
East: Butterfield Street (E)											
4	L2	9	1.9	0.209	4.2	LOS A	1.1	7.9	0.02	0.44	34.6
4a	L1	40	1.9	0.209	2.9	LOS A	1.1	7.9	0.02	0.44	41.7
5	T1	219	1.9	0.209	3.2	LOS A	1.1	7.9	0.02	0.44	47.4
6u	U	59	1.9	0.209	8.9	LOS A	1.1	7.9	0.02	0.44	47.7
Approach		327	1.9	0.209	4.2	LOS A	1.1	7.9	0.02	0.44	46.5
West: Butterfield Street (NW)											
11	T1	234	1.9	0.231	4.6	LOS A	1.4	9.8	0.47	0.52	46.0
12b	R3	4	1.9	0.231	9.5	LOS A	1.4	9.8	0.47	0.52	43.8
12u	U	9	1.9	0.231	10.3	LOS A	1.4	9.8	0.47	0.52	47.7
Approach		247	1.9	0.231	4.9	LOS A	1.4	9.8	0.47	0.52	46.1
SouthWest: Garrick Terrace (SW)											
30b	L3	6	1.9	0.041	4.8	LOS A	0.2	1.7	0.55	0.58	40.6
32a	R1	31	1.9	0.041	7.2	LOS A	0.2	1.7	0.55	0.58	38.7
32u	U	1	1.9	0.041	9.3	LOS A	0.2	1.7	0.55	0.58	38.6
Approach		38	1.9	0.041	6.9	LOS A	0.2	1.7	0.55	0.58	39.1
All Vehicles		786	1.9	0.231	4.1	LOS A	1.4	9.8	0.30	0.45	43.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 1 [2021 AM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout



MOVEMENT SUMMARY

Site: 1 [2021 AM BG Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	1	1.9	0.067	3.4	LOS A	0.4	3.1	0.60	0.41	31.3
1	L2	11	1.9	0.067	3.4	LOS A	0.4	3.1	0.60	0.41	37.4
2	T1	1	1.9	0.067	2.0	LOS A	0.4	3.1	0.60	0.41	42.7
3	R2	48	1.9	0.067	3.6	LOS A	0.4	3.1	0.60	0.41	33.3
Approach		61	1.9	0.067	3.5	LOS A	0.4	3.1	0.60	0.41	34.5
East: Butterfield Street (E)											
4	L2	65	1.9	0.326	4.3	LOS A	1.8	12.9	0.00	0.50	34.4
4a	L1	60	1.9	0.326	3.0	LOS A	1.8	12.9	0.00	0.50	41.5
5	T1	242	1.9	0.326	3.4	LOS A	1.8	12.9	0.00	0.50	47.3
6	R2	71	1.9	0.326	7.4	LOS A	1.8	12.9	0.00	0.50	51.4
6u	U	83	1.9	0.326	9.2	LOS A	1.8	12.9	0.00	0.50	47.8
Approach		521	1.9	0.326	4.9	LOS A	1.8	12.9	0.00	0.50	46.1
West: Butterfield Street (NW)											
10	L2	43	1.9	0.274	4.7	LOS A	1.7	12.3	0.46	0.51	49.9
11	T1	246	1.9	0.274	4.6	LOS A	1.7	12.3	0.46	0.51	47.1
12b	R3	7	1.9	0.274	9.8	LOS A	1.7	12.3	0.46	0.51	44.6
12u	U	9	1.9	0.274	10.6	LOS A	1.7	12.3	0.46	0.51	48.6
Approach		305	1.9	0.274	4.9	LOS A	1.7	12.3	0.46	0.51	47.6
SouthWest: Garrick Terrace (SW)											
30b	L3	8	1.9	0.041	5.2	LOS A	0.2	1.7	0.54	0.57	41.6
30a	L1	4	1.9	0.041	4.3	LOS A	0.2	1.7	0.54	0.57	45.4
32a	R1	26	1.9	0.041	7.7	LOS A	0.2	1.7	0.54	0.57	40.1
32u	U	1	1.9	0.041	10.0	LOS A	0.2	1.7	0.54	0.57	39.8
Approach		39	1.9	0.041	6.9	LOS A	0.2	1.7	0.54	0.57	41.1
All Vehicles		927	1.9	0.326	4.9	LOS A	1.8	12.9	0.22	0.50	45.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 PM BG Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	5	1.9	0.174	2.5	LOS A	1.2	8.3	0.55	0.37	31.5
1	L2	11	1.9	0.174	2.5	LOS A	1.2	8.3	0.55	0.37	37.6
2	T1	1	1.9	0.174	1.1	LOS A	1.2	8.3	0.55	0.37	42.9
3	R2	157	1.9	0.174	2.5	LOS A	1.2	8.3	0.55	0.37	33.6
Approach		175	1.9	0.174	2.5	LOS A	1.2	8.3	0.55	0.37	34.0
East: Butterfield Street (E)											
4	L2	9	1.9	0.213	4.2	LOS A	1.1	8.2	0.02	0.45	34.6
4a	L1	40	1.9	0.213	2.9	LOS A	1.1	8.2	0.02	0.45	41.7
5	T1	219	1.9	0.213	3.2	LOS A	1.1	8.2	0.02	0.45	47.4
6	R2	7	1.9	0.213	7.2	LOS A	1.1	8.2	0.02	0.45	51.5
6u	U	59	1.9	0.213	9.0	LOS A	1.1	8.2	0.02	0.45	48.0
Approach		335	1.9	0.213	4.3	LOS A	1.1	8.2	0.02	0.45	46.6
West: Butterfield Street (NW)											
10	L2	4	1.9	0.236	4.7	LOS A	1.4	10.1	0.48	0.52	49.2
11	T1	234	1.9	0.236	4.5	LOS A	1.4	10.1	0.48	0.52	46.4
12b	R3	4	1.9	0.236	9.6	LOS A	1.4	10.1	0.48	0.52	44.1
12u	U	9	1.9	0.236	10.5	LOS A	1.4	10.1	0.48	0.52	48.0
Approach		251	1.9	0.236	4.8	LOS A	1.4	10.1	0.48	0.52	46.5
SouthWest: Garrick Terrace (SW)											
30b	L3	6	1.9	0.042	4.9	LOS A	0.2	1.7	0.55	0.58	40.9
30a	L1	1	1.9	0.042	4.0	LOS A	0.2	1.7	0.55	0.58	44.5
32a	R1	31	1.9	0.042	7.4	LOS A	0.2	1.7	0.55	0.58	39.2
32u	U	1	1.9	0.042	9.5	LOS A	0.2	1.7	0.55	0.58	39.0
Approach		39	1.9	0.042	6.9	LOS A	0.2	1.7	0.55	0.58	39.7
All Vehicles		800	1.9	0.236	4.2	LOS A	1.4	10.1	0.30	0.46	44.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 AM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	1	1.9	0.091	3.4	LOS A	0.6	4.3	0.61	0.42	31.2
1	L2	13	1.9	0.091	3.4	LOS A	0.6	4.3	0.61	0.42	37.2
2	T1	1	1.9	0.091	2.1	LOS A	0.6	4.3	0.61	0.42	42.5
3	R2	68	1.9	0.091	3.6	LOS A	0.6	4.3	0.61	0.42	33.1
Approach		83	1.9	0.091	3.5	LOS A	0.6	4.3	0.61	0.42	34.1
East: Butterfield Street (E)											
4	L2	244	1.9	0.428	4.3	LOS A	2.1	15.1	0.00	0.50	34.3
4a	L1	60	1.9	0.428	3.0	LOS A	2.1	15.1	0.00	0.50	41.5
5	T1	242	1.9	0.428	3.3	LOS A	2.1	15.1	0.00	0.50	47.3
6	R2	71	1.9	0.428	7.4	LOS A	2.1	15.1	0.00	0.50	51.4
6u	U	83	1.9	0.428	9.2	LOS A	2.1	15.1	0.00	0.50	47.8
Approach		700	1.9	0.428	4.7	LOS A	2.1	15.1	0.00	0.50	43.9
West: Butterfield Street (NW)											
10	L2	43	1.9	0.280	4.9	LOS A	1.8	12.7	0.48	0.52	49.8
11	T1	246	1.9	0.280	4.7	LOS A	1.8	12.7	0.48	0.52	47.0
12b	R3	7	1.9	0.280	9.9	LOS A	1.8	12.7	0.48	0.52	44.6
12u	U	9	1.9	0.280	10.8	LOS A	1.8	12.7	0.48	0.52	48.5
Approach		305	1.9	0.280	5.1	LOS A	1.8	12.7	0.48	0.52	47.5
SouthWest: Garrick Terrace (SW)											
30b	L3	8	1.9	0.042	5.3	LOS A	0.3	1.8	0.56	0.57	41.5
30a	L1	4	1.9	0.042	4.5	LOS A	0.3	1.8	0.56	0.57	45.3
32a	R1	26	1.9	0.042	7.9	LOS A	0.3	1.8	0.56	0.57	40.0
32u	U	1	1.9	0.042	10.1	LOS A	0.3	1.8	0.56	0.57	39.7
Approach		39	1.9	0.042	7.0	LOS A	0.3	1.8	0.56	0.57	41.0
All Vehicles		1128	1.9	0.428	4.8	LOS A	2.1	15.1	0.20	0.50	44.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 PM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	5	1.9	0.292	2.7	LOS A	2.1	15.2	0.60	0.42	31.3
1	L2	23	1.9	0.292	2.7	LOS A	2.1	15.2	0.60	0.42	37.3
2	T1	1	1.9	0.292	1.4	LOS A	2.1	15.2	0.60	0.42	42.6
3	R2	264	1.9	0.292	2.8	LOS A	2.1	15.2	0.60	0.42	33.3
Approach		293	1.9	0.292	2.8	LOS A	2.1	15.2	0.60	0.42	33.8
East: Butterfield Street (E)											
4	L2	22	1.9	0.220	4.2	LOS A	1.2	8.5	0.01	0.45	34.6
4a	L1	40	1.9	0.220	2.9	LOS A	1.2	8.5	0.01	0.45	41.7
5	T1	219	1.9	0.220	3.2	LOS A	1.2	8.5	0.01	0.45	47.4
6	R2	7	1.9	0.220	7.2	LOS A	1.2	8.5	0.01	0.45	51.6
6u	U	59	1.9	0.220	9.0	LOS A	1.2	8.5	0.01	0.45	48.0
Approach		347	1.9	0.220	4.3	LOS A	1.2	8.5	0.01	0.45	46.4
West: Butterfield Street (NW)											
10	L2	4	1.9	0.260	5.4	LOS A	1.6	11.5	0.58	0.59	48.8
11	T1	234	1.9	0.260	5.2	LOS A	1.6	11.5	0.58	0.59	45.9
12b	R3	4	1.9	0.260	10.3	LOS A	1.6	11.5	0.58	0.59	43.7
12u	U	9	1.9	0.260	11.2	LOS A	1.6	11.5	0.58	0.59	47.6
Approach		251	1.9	0.260	5.5	LOS A	1.6	11.5	0.58	0.59	46.0
SouthWest: Garrick Terrace (SW)											
30b	L3	6	1.9	0.047	5.8	LOS A	0.3	2.0	0.63	0.62	40.4
30a	L1	1	1.9	0.047	4.9	LOS A	0.3	2.0	0.63	0.62	44.0
32a	R1	31	1.9	0.047	8.2	LOS A	0.3	2.0	0.63	0.62	38.6
32u	U	1	1.9	0.047	10.4	LOS A	0.3	2.0	0.63	0.62	38.5
Approach		39	1.9	0.047	7.8	LOS A	0.3	2.0	0.63	0.62	39.1
All Vehicles		930	1.9	0.292	4.3	LOS A	2.1	15.2	0.37	0.49	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 AM BG Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	1	1.9	0.067	3.4	LOS A	0.4	3.1	0.60	0.41	31.3
1	L2	11	1.9	0.067	3.4	LOS A	0.4	3.1	0.60	0.41	37.4
2	T1	1	1.9	0.067	2.0	LOS A	0.4	3.1	0.60	0.41	42.7
3	R2	48	1.9	0.067	3.6	LOS A	0.4	3.1	0.60	0.41	33.3
Approach		61	1.9	0.067	3.5	LOS A	0.4	3.1	0.60	0.41	34.5
East: Butterfield Street (E)											
4	L2	65	1.9	0.328	4.3	LOS A	1.8	13.0	0.00	0.50	34.4
4a	L1	60	1.9	0.328	3.1	LOS A	1.8	13.0	0.00	0.50	41.5
5	T1	242	1.9	0.328	3.4	LOS A	1.8	13.0	0.00	0.50	47.3
6	R2	71	1.9	0.328	7.4	LOS A	1.8	13.0	0.00	0.50	51.4
6u	U	83	1.9	0.328	9.3	LOS A	1.8	13.0	0.00	0.50	47.8
Approach		521	1.9	0.328	4.9	LOS A	1.8	13.0	0.00	0.50	46.1
West: Butterfield Street (NW)											
10	L2	43	1.9	0.284	4.7	LOS A	1.8	12.8	0.46	0.51	49.8
11	T1	256	1.9	0.284	4.6	LOS A	1.8	12.8	0.46	0.51	47.1
12b	R3	8	1.9	0.284	9.8	LOS A	1.8	12.8	0.46	0.51	44.6
12u	U	9	1.9	0.284	10.6	LOS A	1.8	12.8	0.46	0.51	48.5
Approach		316	1.9	0.284	4.9	LOS A	1.8	12.8	0.46	0.51	47.5
SouthWest: Garrick Terrace (SW)											
30b	L3	8	1.9	0.041	5.2	LOS A	0.2	1.7	0.54	0.57	41.6
30a	L1	4	1.9	0.041	4.3	LOS A	0.2	1.7	0.54	0.57	45.4
32a	R1	26	1.9	0.041	7.7	LOS A	0.2	1.7	0.54	0.57	40.1
32u	U	1	1.9	0.041	10.0	LOS A	0.2	1.7	0.54	0.57	39.8
Approach		39	1.9	0.041	6.9	LOS A	0.2	1.7	0.54	0.57	41.1
All Vehicles		938	1.9	0.328	4.9	LOS A	1.8	13.0	0.22	0.50	45.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 PM BG Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	5	1.9	0.176	2.5	LOS A	1.2	8.4	0.55	0.38	31.5
1	L2	11	1.9	0.176	2.5	LOS A	1.2	8.4	0.55	0.38	37.5
2	T1	1	1.9	0.176	1.2	LOS A	1.2	8.4	0.55	0.38	42.9
3	R2	157	1.9	0.176	2.6	LOS A	1.2	8.4	0.55	0.38	33.6
Approach		175	1.9	0.176	2.6	LOS A	1.2	8.4	0.55	0.38	33.9
East: Butterfield Street (E)											
4	L2	9	1.9	0.221	4.2	LOS A	1.2	8.6	0.02	0.45	34.5
4a	L1	40	1.9	0.221	2.9	LOS A	1.2	8.6	0.02	0.45	41.6
5	T1	219	1.9	0.221	3.2	LOS A	1.2	8.6	0.02	0.45	47.4
6	R2	7	1.9	0.221	7.3	LOS A	1.2	8.6	0.02	0.45	51.5
6u	U	59	1.9	0.221	9.1	LOS A	1.2	8.6	0.02	0.45	48.0
Approach		335	1.9	0.221	4.3	LOS A	1.2	8.6	0.02	0.45	46.6
West: Butterfield Street (NW)											
10	L2	4	1.9	0.322	4.8	LOS A	2.1	14.9	0.52	0.54	49.0
11	T1	318	1.9	0.322	4.6	LOS A	2.1	14.9	0.52	0.54	46.2
12b	R3	13	1.9	0.322	9.8	LOS A	2.1	14.9	0.52	0.54	43.9
12u	U	9	1.9	0.322	10.6	LOS A	2.1	14.9	0.52	0.54	47.8
Approach		345	1.9	0.322	5.0	LOS A	2.1	14.9	0.52	0.54	46.2
SouthWest: Garrick Terrace (SW)											
30b	L3	6	1.9	0.042	4.9	LOS A	0.2	1.7	0.55	0.58	40.9
30a	L1	1	1.9	0.042	4.0	LOS A	0.2	1.7	0.55	0.58	44.5
32a	R1	31	1.9	0.042	7.4	LOS A	0.2	1.7	0.55	0.58	39.2
32u	U	1	1.9	0.042	9.5	LOS A	0.2	1.7	0.55	0.58	39.0
Approach		39	1.9	0.042	6.9	LOS A	0.2	1.7	0.55	0.58	39.7
All Vehicles		893	1.9	0.322	4.4	LOS A	2.1	14.9	0.34	0.48	44.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 AM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	1	1.9	0.101	3.4	LOS A	0.7	4.8	0.61	0.43	31.2
1	L2	22	1.9	0.101	3.4	LOS A	0.7	4.8	0.61	0.43	37.3
2	T1	1	1.9	0.101	2.1	LOS A	0.7	4.8	0.61	0.43	42.6
3	R2	68	1.9	0.101	3.6	LOS A	0.7	4.8	0.61	0.43	33.2
Approach		92	1.9	0.101	3.5	LOS A	0.7	4.8	0.61	0.43	34.7
East: Butterfield Street (E)											
4	L2	246	1.9	0.430	4.3	LOS A	2.1	15.2	0.00	0.50	34.3
4a	L1	60	1.9	0.430	3.0	LOS A	2.1	15.2	0.00	0.50	41.5
5	T1	242	1.9	0.430	3.3	LOS A	2.1	15.2	0.00	0.50	47.3
6	R2	71	1.9	0.430	7.4	LOS A	2.1	15.2	0.00	0.50	51.4
6u	U	83	1.9	0.430	9.2	LOS A	2.1	15.2	0.00	0.50	47.8
Approach		702	1.9	0.430	4.7	LOS A	2.1	15.2	0.00	0.50	43.9
West: Butterfield Street (NW)											
10	L2	43	1.9	0.290	4.9	LOS A	1.9	13.2	0.49	0.52	49.7
11	T1	256	1.9	0.290	4.8	LOS A	1.9	13.2	0.49	0.52	47.0
12b	R3	8	1.9	0.290	9.9	LOS A	1.9	13.2	0.49	0.52	44.5
12u	U	9	1.9	0.290	10.8	LOS A	1.9	13.2	0.49	0.52	48.4
Approach		316	1.9	0.290	5.1	LOS A	1.9	13.2	0.49	0.52	47.4
SouthWest: Garrick Terrace (SW)											
30b	L3	8	1.9	0.042	5.4	LOS A	0.3	1.8	0.57	0.58	41.5
30a	L1	4	1.9	0.042	4.5	LOS A	0.3	1.8	0.57	0.58	45.2
32a	R1	26	1.9	0.042	7.9	LOS A	0.3	1.8	0.57	0.58	40.0
32u	U	1	1.9	0.042	10.2	LOS A	0.3	1.8	0.57	0.58	39.6
Approach		39	1.9	0.042	7.1	LOS A	0.3	1.8	0.57	0.58	41.0
All Vehicles		1150	1.9	0.430	4.8	LOS A	2.1	15.2	0.20	0.50	44.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 PM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	5	1.9	0.316	2.8	LOS A	2.4	16.9	0.61	0.43	31.3
1	L2	27	1.9	0.316	2.8	LOS A	2.4	16.9	0.61	0.43	37.3
2	T1	1	1.9	0.316	1.5	LOS A	2.4	16.9	0.61	0.43	42.6
3	R2	285	1.9	0.316	2.9	LOS A	2.4	16.9	0.61	0.43	33.3
Approach		318	1.9	0.316	2.8	LOS A	2.4	16.9	0.61	0.43	33.8
East: Butterfield Street (E)											
4	L2	49	1.9	0.236	4.2	LOS A	1.2	8.7	0.00	0.45	34.5
4a	L1	40	1.9	0.236	2.9	LOS A	1.2	8.7	0.00	0.45	41.7
5	T1	219	1.9	0.236	3.2	LOS A	1.2	8.7	0.00	0.45	47.4
6	R2	7	1.9	0.236	7.2	LOS A	1.2	8.7	0.00	0.45	51.6
6u	U	59	1.9	0.236	9.0	LOS A	1.2	8.7	0.00	0.45	48.0
Approach		375	1.9	0.236	4.3	LOS A	1.2	8.7	0.00	0.45	45.8
West: Butterfield Street (NW)											
10	L2	4	1.9	0.354	5.7	LOS A	2.4	16.9	0.64	0.64	48.6
11	T1	318	1.9	0.354	5.6	LOS A	2.4	16.9	0.64	0.64	45.7
12b	R3	4	1.9	0.354	10.7	LOS A	2.4	16.9	0.64	0.64	43.5
12u	U	9	1.9	0.354	11.6	LOS A	2.4	16.9	0.64	0.64	47.4
Approach		335	1.9	0.354	5.8	LOS A	2.4	16.9	0.64	0.64	45.8
SouthWest: Garrick Terrace (SW)											
30b	L3	6	1.9	0.048	6.0	LOS A	0.3	2.1	0.65	0.63	40.3
30a	L1	1	1.9	0.048	5.1	LOS A	0.3	2.1	0.65	0.63	43.8
32a	R1	31	1.9	0.048	8.4	LOS A	0.3	2.1	0.65	0.63	38.5
32u	U	1	1.9	0.048	10.6	LOS A	0.3	2.1	0.65	0.63	38.4
Approach		39	1.9	0.048	8.0	LOS A	0.3	2.1	0.65	0.63	39.0
All Vehicles		1067	1.9	0.354	4.5	LOS A	2.4	16.9	0.41	0.51	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2036 AM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	1	1.9	0.138	3.5	LOS A	1.0	6.8	0.62	0.45	31.1
1	L2	21	1.9	0.138	3.5	LOS A	1.0	6.8	0.62	0.45	37.1
2	T1	1	1.9	0.138	2.2	LOS A	1.0	6.8	0.62	0.45	42.3
3	R2	103	1.9	0.138	3.6	LOS A	1.0	6.8	0.62	0.45	32.9
Approach		126	1.9	0.138	3.6	LOS A	1.0	6.8	0.62	0.45	34.0
East: Butterfield Street (E)											
4	L2	255	1.9	0.435	4.3	LOS A	2.2	15.7	0.00	0.50	34.2
4a	L1	60	1.9	0.435	3.0	LOS A	2.2	15.7	0.00	0.50	41.5
5	T1	242	1.9	0.435	3.3	LOS A	2.2	15.7	0.00	0.50	47.3
6	R2	71	1.9	0.435	7.4	LOS A	2.2	15.7	0.00	0.50	51.4
6u	U	83	1.9	0.435	9.2	LOS A	2.2	15.7	0.00	0.50	47.8
Approach		711	1.9	0.435	4.7	LOS A	2.2	15.7	0.00	0.50	43.8
West: Butterfield Street (NW)											
10	L2	43	1.9	0.366	5.2	LOS A	2.5	17.9	0.55	0.56	49.4
11	T1	328	1.9	0.366	5.1	LOS A	2.5	17.9	0.55	0.56	46.6
12b	R3	8	1.9	0.366	10.3	LOS A	2.5	17.9	0.55	0.56	44.2
12u	U	9	1.9	0.366	11.1	LOS A	2.5	17.9	0.55	0.56	48.1
Approach		389	1.9	0.366	5.4	LOS A	2.5	17.9	0.55	0.56	46.9
SouthWest: Garrick Terrace (SW)											
30b	L3	8	1.9	0.044	5.7	LOS A	0.3	1.9	0.59	0.59	41.4
30a	L1	4	1.9	0.044	4.8	LOS A	0.3	1.9	0.59	0.59	45.1
32a	R1	26	1.9	0.044	8.2	LOS A	0.3	1.9	0.59	0.59	39.8
32u	U	1	1.9	0.044	10.4	LOS A	0.3	1.9	0.59	0.59	39.5
Approach		39	1.9	0.044	7.4	LOS A	0.3	1.9	0.59	0.59	40.8
All Vehicles		1265	1.9	0.435	4.9	LOS A	2.5	17.9	0.25	0.52	44.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2036 PM BG+DEV Butterfield St_Garrick Tce - 43Carpark]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles

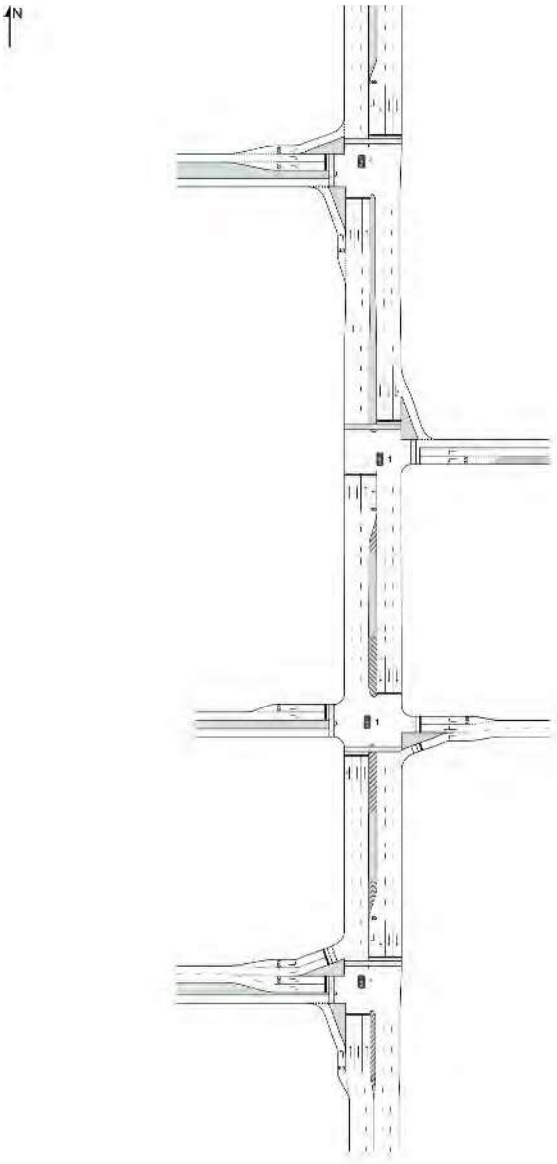
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Access Road (S)											
1b	L3	5	1.9	0.329	2.8	LOS A	2.5	17.7	0.61	0.44	31.3
1	L2	27	1.9	0.329	2.8	LOS A	2.5	17.7	0.61	0.44	37.3
2	T1	1	1.9	0.329	1.5	LOS A	2.5	17.7	0.61	0.44	42.5
3	R2	297	1.9	0.329	2.9	LOS A	2.5	17.7	0.61	0.44	33.2
Approach		330	1.9	0.329	2.9	LOS A	2.5	17.7	0.61	0.44	33.7
East: Butterfield Street (E)											
4	L2	49	1.9	0.236	4.2	LOS A	1.2	8.8	0.00	0.45	34.5
4a	L1	40	1.9	0.236	2.9	LOS A	1.2	8.8	0.00	0.45	41.7
5	T1	219	1.9	0.236	3.2	LOS A	1.2	8.8	0.00	0.45	47.4
6	R2	7	1.9	0.236	7.2	LOS A	1.2	8.8	0.00	0.45	51.6
6u	U	59	1.9	0.236	9.0	LOS A	1.2	8.8	0.00	0.45	48.0
Approach		375	1.9	0.236	4.3	LOS A	1.2	8.8	0.00	0.45	45.8
West: Butterfield Street (NW)											
10	L2	4	1.9	0.359	5.8	LOS A	2.4	17.1	0.65	0.65	48.6
11	T1	318	1.9	0.359	5.7	LOS A	2.4	17.1	0.65	0.65	45.6
12b	R3	4	1.9	0.359	10.8	LOS A	2.4	17.1	0.65	0.65	43.5
12u	U	9	1.9	0.359	11.7	LOS A	2.4	17.1	0.65	0.65	47.4
Approach		335	1.9	0.359	5.9	LOS A	2.4	17.1	0.65	0.65	45.7
SouthWest: Garrick Terrace (SW)											
30b	L3	6	1.9	0.049	6.1	LOS A	0.3	2.1	0.66	0.64	40.3
30a	L1	1	1.9	0.049	5.2	LOS A	0.3	2.1	0.66	0.64	43.8
32a	R1	31	1.9	0.049	8.5	LOS A	0.3	2.1	0.66	0.64	38.4
32u	U	1	1.9	0.049	10.7	LOS A	0.3	2.1	0.66	0.64	38.4
Approach		39	1.9	0.049	8.1	LOS A	0.3	2.1	0.66	0.64	38.9
All Vehicles		1080	1.9	0.359	4.5	LOS A	2.5	17.7	0.41	0.52	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N101 [2016_AM_SURVEY]

Bowen Bridge Road
Job#: WAT0116-01
Job Name: Herston Quarter



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
1	NA	2016_AM_SURVEY_Butterfield St
1	NA	2016_AM_SURVEY_Campbell St
1	NA	2016_AM_SURVEY_OConnell Tce
1	NA	2016_AM _SURVEY_Herston Rd

MOVEMENT SUMMARY

Site: 1 [2016_AM _SURVEY_Herston Rd]

Network: N101 [2016_AM_SURVEY]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	291	2.7	291	2.7	0.251	6.0	LOS A	0.5	3.2	0.03	0.56	45.5
2	T1	1025	2.7	1025	2.7	0.557	30.9	LOS A	16.5	109.8	0.71	0.61	14.9
Approach		1316	2.7	1316	2.7	0.557	25.4	LOS C	16.5	109.8	0.56	0.60	20.1
North: Bowen Bridge Road (N)													
8	T1	2559	2.7	2559	2.7	0.630	8.3	LOS A	31.1	207.9	0.41	0.38	43.3
9	R2	365	2.7	365	2.7	0.578	48.3	LOS A	21.0	140.4	0.85	0.82	20.0
Approach		2924	2.7	2924	2.7	0.630	13.3	LOS B	31.1	207.9	0.46	0.43	37.2
West: Herston Road (W)													
10	L2	331	2.7	331	2.7	0.151	19.4	LOS A	5.2	34.6	0.47	0.69	24.5
12	R2	592	2.7	592	2.7	0.887	79.1	LOS D	27.6	184.5	0.99	0.95	13.0
Approach		923	2.7	923	2.7	0.887	57.7	LOS E	27.6	184.5	0.80	0.86	14.7
All Vehicles		5162	2.7	5162	2.7	0.887	24.3	LOS C	31.1	207.9	0.55	0.55	26.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	60.1	LOS F	0.3	0.3	0.90	0.90
P4	West Full Crossing	63	39.0	LOS D	0.2	0.2	0.72	0.72
P4S	West Slip/Bypass Lane Crossing	63	36.8	LOS D	0.2	0.2	0.70	0.70
All Pedestrians		213	46.9	LOS E			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2016_AM_SURVEY_Butterfield St]

Network: N101 [2016_AM_SURVEY]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	226	2.8	226	2.8	0.219	11.4	LOS A	6.5	43.2	0.48	0.69	34.2
2	T1	1267	2.8	1267	2.8	0.774	49.9	LOS A	12.2	81.6	0.93	0.83	16.2
Approach		1493	2.8	1493	2.8	0.774	44.1	LOS D	12.2	81.6	0.86	0.81	17.6
North: Bowen Bridge Road (N)													
8	T1	2960	2.8	2960	2.8	0.982	31.2	LOS E	76.0	507.8	0.59	0.70	19.8
9	R2	601	2.8	601	2.8	0.762	24.3	LOS A	26.8	179.1	0.67	0.79	31.4
Approach		3561	2.8	3561	2.8	0.982	30.0	LOS C	76.0	507.8	0.60	0.71	22.1
West: Butterfield Street (W)													
10	L2	318	2.8	318	2.8	0.312	11.4	LOS A	7.6	54.4	0.41	0.65	39.4
12	R2	160	2.8	160	2.8	0.658	76.4	LOS A	6.0	42.9	1.00	0.85	9.8
Approach		477	2.8	477	2.8	0.658	33.1	LOS C	7.6	54.4	0.61	0.72	24.3
All Vehicles		5532	2.8	5532	2.8	0.982	34.1	LOS C	76.0	507.8	0.67	0.74	20.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	45.8	LOS E	0.3	0.3	0.78	0.78
All Pedestrians		163	56.6	LOS E			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2016_AM_SURVEY_Campbell St]

Network: N101 [2016_AM_SURVEY]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1476	2.0	1476	2.0	0.661	6.5	LOS A	15.0	99.6	0.39	0.36	31.9
3	R2	192	2.0	192	2.0	0.725	73.6	LOS A	14.0	93.1	1.00	0.84	17.0
Approach		1667	2.0	1667	2.0	0.725	14.2	LOS B	15.0	99.6	0.46	0.42	24.5
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.045	64.5	LOS A	0.8	5.4	0.89	0.69	15.7
Approach		24	2.0	24	2.0	0.045	64.5	LOS E	0.8	5.4	0.89	0.69	15.7
North: Bowen Bridge Road (N)													
7	L2	570	2.0	570	2.0	0.707	5.0	LOS A	4.7	32.4	0.07	0.38	51.8
8	T1	2578	2.0	2578	2.0	0.707	3.7	LOS A	12.3	81.6	0.25	0.29	29.1
Approach		3148	2.0	3148	2.0	0.707	3.9	LOS A	12.3	81.6	0.22	0.31	39.5
All Vehicles		4840	2.0	4840	2.0	0.725	7.8	LOS A	15.0	99.6	0.30	0.35	31.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	5.6	LOS A	0.1	0.1	0.27	0.27
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.4	LOS D			0.62	0.62

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2016_AM_SURVEY_OConnell Tce]

Network: N101 [2016_AM_SURVEY]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Bowen Bridge Road (S)													
1	L2	94	2.0	94	2.0	0.324	8.4	LOS A	4.2	28.0	0.14	0.23	26.7
2	T1	1319	2.0	1319	2.0	0.324	1.9	LOS A	4.2	28.0	0.10	0.12	50.7
Approach		1413	2.0	1413	2.0	0.324	2.4	LOS A	4.2	28.0	0.10	0.13	45.1
East: O'Connell Terrace (E)													
4	L2	190	2.0	190	2.0	0.902	91.0	LOS D	16.0	106.3	1.00	0.99	11.3
5	T1	66	2.0	66	2.0	0.774	76.3	LOS A	15.5	102.5	1.00	0.87	15.2
6	R2	349	2.0	349	2.0	0.774	75.7	LOS A	15.5	102.5	1.00	0.87	12.9
Approach		605	2.0	605	2.0	0.902	80.6	LOS F	16.0	106.3	1.00	0.91	12.7
North: Bowen Bridge Road (N)													
8	T1	2603	2.0	2603	2.0	0.615	1.2	LOS A	5.9	39.4	0.08	0.08	51.6
Approach		2603	2.0	2603	2.0	0.615	1.2	LOS A	5.9	39.4	0.08	0.08	51.6
West: Central Drive (W)													
10	L2	24	2.0	24	2.0	0.084	58.6	LOS A	1.5	9.8	0.89	0.65	9.0
12	R2	30	2.0	30	2.0	0.135	64.2	LOS A	2.0	13.1	0.93	0.68	8.6
Approach		53	2.0	53	2.0	0.135	61.7	LOS E	2.0	13.1	0.91	0.67	8.7
All Vehicles		4674	2.0	4674	2.0	0.902	12.5	LOS B	16.0	106.3	0.22	0.21	26.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow	Average Delay	Level of Service	Average Back of Queue Pedestrian	Distance	Prop. Queued	Effective Stop Rate
		ped/h	sec		ped	m		per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG_Butterfield St]

Network: N101 [2021_AM_BG]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	243	2.8	243	2.8	0.246	14.7	LOS A	8.5	57.1	0.58	0.72	31.1
2	T1	1353	2.8	1353	2.8	0.833	55.0	LOS A	12.2	81.6	0.96	0.90	15.0
Approach		1596	2.8	1596	2.8	0.833	48.8	LOS D	12.2	81.6	0.90	0.88	16.4
North: Bowen Bridge Road (N)													
8	T1	3187	2.8	3187	2.8	1.080	101.9	LOS F	181.5	1212.5	0.96	1.39	7.9
9	R2	651	2.8	651	2.8	0.825	25.9	LOS A	32.8	219.3	0.74	0.82	30.6
Approach		3838	2.8	3838	2.8	1.080	89.0	LOS F	181.5	1212.5	0.93	1.29	10.0
West: Butterfield Street (W)													
10	L2	325	2.8	325	2.8	0.323	12.5	LOS A	8.4	60.1	0.44	0.66	38.5
12	R2	163	2.8	163	2.8	0.671	76.8	LOS A	6.1	43.9	1.00	0.85	9.8
Approach		487	2.8	487	2.8	0.671	34.0	LOS C	8.4	60.1	0.62	0.73	24.0
All Vehicles		5922	2.8	5922	2.8	1.080	73.7	LOS E	181.5	1212.5	0.89	1.13	12.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 10.4 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	45.8	LOS E	0.3	0.3	0.78	0.78
All Pedestrians		163	56.6	LOS E			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG_Campbell St]

Network: N101 [2021_AM_BG]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1589	2.0	1589	2.0	0.694	5.5	LOS A	17.7	117.1	0.37	0.34	34.5
3	R2	197	2.0	197	2.0	0.862	82.7	LOS D	15.3	101.5	1.00	0.91	15.6
Approach		1786	2.0	1786	2.0	0.862	14.0	LOS B	17.7	117.1	0.44	0.40	24.6
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.071	68.7	LOS A	0.8	5.8	0.91	0.69	15.0
Approach		24	2.0	24	2.0	0.071	68.7	LOS E	0.8	5.8	0.91	0.69	15.0
North: Bowen Bridge Road (N)													
7	L2	599	2.0	558	2.0	0.862	5.3	LOS D	10.0	68.6	0.14	0.40	51.6
8	T1	2786	2.0	2594	2.0	0.862	4.2	LOS D	12.3	81.6	0.37	0.41	27.3
Approach		3385	2.0	3152 N1	2.0	0.862	4.4	LOS A	12.3	81.6	0.33	0.41	37.9
All Vehicles		5196	2.0	4963 N1	2.1	0.862	8.1	LOS A	17.7	117.1	0.37	0.41	30.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 10.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG_HerstonRd]

Network: N101 [2021_AM_BG]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	381	2.7	381	2.7	0.349	6.1	LOS A	0.8	5.1	0.03	0.56	45.3
2	T1	1094	2.7	1094	2.7	0.634	34.7	LOS A	19.4	129.6	0.78	0.68	13.6
Approach		1475	2.7	1475	2.7	0.634	27.3	LOS C	19.4	129.6	0.59	0.65	19.6
North: Bowen Bridge Road (N)													
8	T1	2663	2.7	2479	2.7	0.628	6.3	LOS A	25.7	171.8	0.29	0.27	46.4
9	R2	477	2.7	444	2.7	0.704	50.8	LOS A	27.2	181.4	0.90	0.85	19.4
Approach		3140	2.7	2923[N1]	2.7	0.704	13.1	LOS B	27.2	181.4	0.39	0.36	37.5
West: Herston Road (W)													
10	L2	374	2.7	374	2.7	0.166	18.3	LOS A	5.6	37.6	0.45	0.68	25.4
12	R2	643	2.7	643	2.7	0.892	78.1	LOS D	30.5	203.5	0.98	0.95	13.1
Approach		1017	2.7	1017	2.7	0.892	56.1	LOS E	30.5	203.5	0.79	0.85	15.0
All Vehicles		5633	2.7	5416[N1]	2.8	0.892	25.0	LOS C	30.5	203.5	0.52	0.53	25.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 10.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	57.4	LOS E	0.3	0.3	0.88	0.88
P4	West Full Crossing	63	41.2	LOS E	0.2	0.2	0.74	0.74
P4S	West Slip/Bypass Lane Crossing	63	39.0	LOS D	0.2	0.2	0.72	0.72
All Pedestrians		213	47.1	LOS E			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG_OConnell Tce]

Network: N101 [2021_AM_BG]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	94	2.0	94	2.0	0.422	10.7	LOS A	7.3	48.6	0.21	0.27	25.8
2	T1	1430	2.0	1430	2.0	0.422	3.7	LOS A	7.3	48.6	0.16	0.17	45.2
Approach		1524	2.0	1524	2.0	0.422	4.1	LOS A	7.3	48.6	0.16	0.17	41.3
East: O'Connell Terrace (E)													
4	L2	222	2.0	222	2.0	0.792	76.1	LOS A	16.6	109.9	1.00	0.89	13.1
5	T1	66	2.0	66	2.0	0.848	81.7	LOS A	17.6	116.8	1.00	0.92	14.6
6	R2	366	2.0	366	2.0	0.848	81.2	LOS A	17.6	116.8	1.00	0.92	12.2
Approach		654	2.0	654	2.0	0.848	79.5	LOS E	17.6	116.8	1.00	0.91	12.8
North: Bowen Bridge Road (N)													
8	T1	2813	2.0	2610	2.0	0.660	7.4	LOS A	21.2	140.3	0.36	0.33	30.0
Approach		2813	2.0	2610[N1]	2.0	0.660	7.4	LOS A	21.2	140.3	0.36	0.33	30.0
West: Central Drive (W)													
10	L2	24	2.0	24	2.0	0.323	80.4	LOS A	1.8	11.9	1.00	0.71	7.5
12	R2	30	2.0	30	2.0	0.411	81.0	LOS A	2.3	15.1	1.00	0.72	7.4
Approach		53	2.0	53	2.0	0.411	80.7	LOS F	2.3	15.1	1.00	0.71	7.4
All Vehicles		5044	2.0	4841[N1]	2.1	0.848	16.9	LOS B	21.2	140.3	0.39	0.36	23.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 10.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	8.7	LOS A	0.2	0.2	0.34	0.34
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	10.9	LOS B	0.2	0.2	0.38	0.38
All Pedestrians		626	37.1	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_Butterfield St]

Network: N101 [2021_AM_BG+DEV]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	315	2.8	315	2.8	0.391	22.9	LOS A	12.2	81.6	0.73	0.78	25.4
2	T1	1353	2.8	1353	2.8	0.911	66.3	LOS D	12.2	81.6	0.99	1.00	13.0
Approach		1667	2.8	1667	2.8	0.911	58.1	LOS E	12.2	81.6	0.94	0.96	14.4
North: Bowen Bridge Road (N)													
8	T1	3187	2.8	3187	2.8	1.276	275.4	LOS F	220.2	1471.7	1.00	2.07	3.2
9	R2	762	2.8	762	2.8	0.923	33.0	LOS D	49.9	333.2	0.88	0.91	27.3
Approach		3949	2.8	3949	2.8	1.276	228.7	LOS F	220.2	1471.7	0.98	1.84	4.4
West: Butterfield Street (W)													
10	L2	341	2.8	341	2.8	0.335	13.6	LOS A	9.4	67.5	0.46	0.67	37.5
12	R2	171	2.8	171	2.8	0.704	78.1	LOS A	6.5	46.7	1.00	0.87	9.7
Approach		512	2.8	512	2.8	0.704	35.1	LOS D	9.4	67.5	0.64	0.74	23.6
All Vehicles		6128	2.8	6128	2.8	1.276	166.1	LOS F	220.2	1471.7	0.94	1.51	6.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	48.2	LOS E	0.3	0.3	0.80	0.80
All Pedestrians		163	57.9	LOS E			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG_OConnell Tce]

Network: N101 [2021_AM_BG]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	94	2.0	94	2.0	0.422	10.7	LOS A	7.3	48.6	0.21	0.27	25.8
2	T1	1430	2.0	1430	2.0	0.422	3.7	LOS A	7.3	48.6	0.16	0.17	45.2
Approach		1524	2.0	1524	2.0	0.422	4.1	LOS A	7.3	48.6	0.16	0.17	41.3
East: O'Connell Terrace (E)													
4	L2	222	2.0	222	2.0	0.792	76.1	LOS A	16.6	109.9	1.00	0.89	13.1
5	T1	66	2.0	66	2.0	0.848	81.7	LOS A	17.6	116.8	1.00	0.92	14.6
6	R2	366	2.0	366	2.0	0.848	81.2	LOS A	17.6	116.8	1.00	0.92	12.2
Approach		654	2.0	654	2.0	0.848	79.5	LOS E	17.6	116.8	1.00	0.91	12.8
North: Bowen Bridge Road (N)													
8	T1	2813	2.0	2610	2.0	0.660	7.4	LOS A	21.2	140.3	0.36	0.33	30.0
Approach		2813	2.0	2610[N1]	2.0	0.660	7.4	LOS A	21.2	140.3	0.36	0.33	30.0
West: Central Drive (W)													
10	L2	24	2.0	24	2.0	0.323	80.4	LOS A	1.8	11.9	1.00	0.71	7.5
12	R2	30	2.0	30	2.0	0.411	81.0	LOS A	2.3	15.1	1.00	0.72	7.4
Approach		53	2.0	53	2.0	0.411	80.7	LOS F	2.3	15.1	1.00	0.71	7.4
All Vehicles		5044	2.0	4841[N1]	2.1	0.848	16.9	LOS B	21.2	140.3	0.39	0.36	23.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 10.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	8.7	LOS A	0.2	0.2	0.34	0.34
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	10.9	LOS B	0.2	0.2	0.38	0.38
All Pedestrians		626	37.1	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_Campbell St - Upgrade]

Network: N101 [2021_AM_BG+DEV - Upgrade]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1661	2.0	1661	2.0	0.725	5.6	LOS A	19.6	129.6	0.38	0.36	34.1
3	R2	198	2.0	198	2.0	0.866	83.1	LOS D	15.4	102.3	1.00	0.91	15.6
Approach		1859	2.0	1859	2.0	0.866	13.9	LOS B	19.6	129.6	0.45	0.42	24.6
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.082	69.3	LOS A	0.8	5.8	0.91	0.70	14.9
Approach		24	2.0	24	2.0	0.082	69.3	LOS E	0.8	5.8	0.91	0.70	14.9
North: Bowen Bridge Road (N)													
7	L2	600	2.0	542	2.0	0.955	27.7	LOS E	11.9	81.6	0.34	0.61	29.7
8	T1	2792	2.0	2522	2.0	0.955	31.2	LOS E	12.3	81.6	0.66	0.79	6.5
Approach		3392	2.0	3065 N1	2.0	0.955	30.6	LOS C	12.3	81.6	0.60	0.76	12.1
All Vehicles		5276	2.0	4948 N1	2.1	0.955	24.5	LOS C	19.6	129.6	0.55	0.63	15.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_HerstonRd]

Network: N101 [2021_AM_BG+DEV]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	381	2.7	381	2.7	0.348	6.1	LOS A	0.8	5.1	0.03	0.56	45.3
2	T1	1172	2.7	1172	2.7	0.650	33.0	LOS A	20.5	137.0	0.77	0.68	14.2
Approach		1553	2.7	1553	2.7	0.650	26.4	LOS C	20.5	137.0	0.59	0.65	19.8
North: Bowen Bridge Road (N)													
8	T1	2698	2.7	2516	2.7	0.637	5.8	LOS A	25.0	167.2	0.27	0.25	47.3
9	R2	480	2.7	448	2.7	0.738	52.9	LOS A	28.3	189.2	0.93	0.86	18.9
Approach		3179	2.7	2964 N1	2.7	0.738	12.9	LOS B	28.3	189.2	0.37	0.35	37.7
West: Herston Road (W)													
10	L2	374	2.7	374	2.7	0.169	19.2	LOS A	5.8	39.0	0.47	0.69	24.7
12	R2	643	2.7	643	2.7	0.891	78.0	LOS D	30.5	203.3	0.98	0.95	13.1
Approach		1017	2.7	1017	2.7	0.891	56.4	LOS E	30.5	203.3	0.79	0.86	14.9
All Vehicles		5748	2.7	5533 N1	2.8	0.891	24.7	LOS C	30.5	203.3	0.51	0.52	25.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	57.4	LOS E	0.3	0.3	0.88	0.88
P4	West Full Crossing	63	39.7	LOS D	0.2	0.2	0.73	0.73
P4S	West Slip/Bypass Lane Crossing	63	37.6	LOS D	0.2	0.2	0.71	0.71
All Pedestrians		213	46.3	LOS E			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG_Butterfield St]

Network: N101 [2031_AM_BG]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	243	2.8	243	2.8	0.246	17.1	LOS A	9.3	62.5	0.62	0.74	29.2
2	T1	1492	2.8	1492	2.8	0.862	57.4	LOS D	12.2	81.6	0.98	0.95	14.6
Approach		1736	2.8	1736	2.8	0.862	51.8	LOS D	12.2	81.6	0.93	0.92	15.7
North: Bowen Bridge Road (N)													
8	T1	3512	2.8	3512	2.8	1.554	527.1	LOS F	270.7	1808.6	1.00	2.73	1.7
9	R2	651	2.8	651	2.8	0.865	31.4	LOS D	38.0	254.2	0.83	0.86	28.0
Approach		4163	2.8	4163	2.8	1.554	449.5	LOS F	270.7	1808.6	0.97	2.44	2.3
West: Butterfield Street (W)													
10	L2	325	2.8	325	2.8	0.336	14.1	LOS A	9.2	66.0	0.47	0.68	37.2
12	R2	163	2.8	163	2.8	0.671	76.8	LOS A	6.1	43.9	1.00	0.85	9.8
Approach		487	2.8	487	2.8	0.671	35.0	LOS D	9.2	66.0	0.65	0.74	23.6
All Vehicles		6386	2.8	6386	2.8	1.554	309.8	LOS F	270.7	1808.6	0.94	1.89	3.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 24.5 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	43.5	LOS E	0.3	0.3	0.76	0.76
All Pedestrians		163	55.3	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG_Campbell St]

Network: N101 [2031_AM_BG]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1752	2.0	1752	2.0	0.765	5.9	LOS A	22.3	147.6	0.40	0.38	33.3
3	R2	197	2.0	197	2.0	0.862	82.7	LOS D	15.3	101.5	1.00	0.91	15.6
Approach		1948	2.0	1948	2.0	0.862	13.7	LOS B	22.3	147.6	0.46	0.43	24.6
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.094	69.9	LOS A	0.8	5.9	0.91	0.70	14.8
Approach		24	2.0	24	2.0	0.094	69.9	LOS E	0.8	5.9	0.91	0.70	14.8
North: Bowen Bridge Road (N)													
7	L2	661	2.0	513	2.0	1.017	66.7	LOS F	11.9	81.6	1.00	1.15	16.7
8	T1	3069	2.0	2383	2.0	1.017	72.6	LOS F	12.3	81.6	1.00	1.24	3.0
Approach		3730	2.0	2896[N1]	2.0	1.017	71.5	LOS E	12.3	81.6	1.00	1.22	5.8
All Vehicles		5703	2.0	4869[N1]	2.3	1.017	48.4	LOS D	22.3	147.6	0.78	0.90	9.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 24.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG_HerstonRd]

Network: N101 [2031_AM_BG]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	413	2.7	413	2.7	0.374	6.1	LOS A	0.9	5.8	0.04	0.56	45.3
2	T1	1208	2.7	1208	2.7	0.685	34.4	LOS A	22.0	146.9	0.81	0.70	13.7
Approach		1621	2.7	1621	2.7	0.685	27.2	LOS C	22.0	146.9	0.61	0.67	19.6
North: Bowen Bridge Road (N)													
8	T1	2971	2.7	2494	2.8	0.651	6.3	LOS A	27.1	181.4	0.28	0.26	46.4
9	R2	521	2.7	437	2.8	0.750	54.5	LOS A	28.0	187.2	0.94	0.86	18.5
Approach		3491	2.7	2931 N1	2.8	0.750	13.5	LOS B	28.0	187.2	0.38	0.35	37.0
West: Herston Road (W)													
10	L2	410	2.7	410	2.7	0.184	18.9	LOS A	6.4	42.5	0.46	0.69	25.0
12	R2	708	2.7	708	2.7	0.911	80.3	LOS D	34.8	232.2	0.98	0.97	12.8
Approach		1118	2.7	1118	2.7	0.911	57.8	LOS E	34.8	232.2	0.79	0.87	14.7
All Vehicles		6231	2.7	5671 N1	3.0	0.911	26.1	LOS C	34.8	232.2	0.53	0.54	25.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 24.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	54.8	LOS E	0.3	0.3	0.86	0.86
P4	West Full Crossing	63	40.4	LOS E	0.2	0.2	0.74	0.74
P4S	West Slip/Bypass Lane Crossing	63	38.3	LOS D	0.2	0.2	0.72	0.72
All Pedestrians		213	45.6	LOS E			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG_OConnell Tce]

Network: N101 [2031_AM_BG]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	94	2.0	94	2.0	0.564	12.6	LOS A	12.6	83.8	0.28	0.32	25.1
2	T1	1575	2.0	1575	2.0	0.564	5.2	LOS A	12.6	83.8	0.22	0.22	41.5
Approach		1669	2.0	1669	2.0	0.564	5.6	LOS A	12.6	83.8	0.22	0.22	38.5
East: O'Connell Terrace (E)													
4	L2	243	2.0	243	2.0	0.692	66.9	LOS A	16.7	110.9	0.99	0.84	14.4
5	T1	66	2.0	66	2.0	0.898	87.1	LOS D	21.2	140.3	1.00	0.97	14.1
6	R2	405	2.0	405	2.0	0.898	87.3	LOS D	21.2	140.3	1.00	0.97	11.5
Approach		714	2.0	714	2.0	0.898	80.3	LOS F	21.2	140.3	1.00	0.93	12.7
North: Bowen Bridge Road (N)													
8	T1	3100	2.0	2497	2.0	0.679	10.9	LOS A	26.1	172.9	0.46	0.43	24.2
Approach		3100	2.0	2497[N1]	2.0	0.679	10.9	LOS B	26.1	172.9	0.46	0.43	24.2
West: Central Drive (W)													
10	L2	24	2.0	24	2.0	0.323	80.4	LOS A	1.8	11.9	1.00	0.71	7.5
12	R2	30	2.0	30	2.0	0.423	81.2	LOS A	2.3	15.2	1.00	0.72	7.4
Approach		53	2.0	53	2.0	0.423	80.9	LOS F	2.3	15.2	1.00	0.72	7.4
All Vehicles		5536	2.0	4934[N1]	2.2	0.898	19.9	LOS B	26.1	172.9	0.46	0.43	21.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 24.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	64.3	LOS F	1.2	1.2	0.93	0.93
P2	East Full Crossing	105	10.9	LOS B	0.2	0.2	0.38	0.38
P2S	East Slip/Bypass Lane Crossing	105	6.8	LOS A	0.1	0.1	0.30	0.30
P4	West Full Crossing	124	13.3	LOS B	0.2	0.2	0.42	0.42
All Pedestrians		626	35.5	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_Butterfield St]

Network: N101 [2031_AM_BG+DEV]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	315	2.8	315	2.8	0.392	28.7	LOS A	12.2	81.6	0.84	0.81	22.5
2	T1	1492	2.8	1492	2.8	0.961	88.4	LOS E	12.2	81.6	1.00	1.14	10.3
Approach		1807	2.8	1807	2.8	0.961	78.0	LOS E	12.2	81.6	0.97	1.09	11.4
North: Bowen Bridge Road (N)													
8	T1	3512	2.8	3512	2.8	1.554	527.1	LOS F	270.7	1808.6	1.00	2.73	1.7
9	R2	762	2.8	762	2.8	0.951	41.7	LOS E	57.0	380.9	0.95	0.96	24.1
Approach		4273	2.8	4273	2.8	1.554	440.6	LOS F	270.7	1808.6	0.99	2.41	2.4
West: Butterfield Street (W)													
10	L2	341	2.8	341	2.8	0.345	15.7	LOS A	10.4	74.7	0.51	0.69	36.0
12	R2	171	2.8	171	2.8	0.704	78.1	LOS A	6.5	46.7	1.00	0.87	9.7
Approach		512	2.8	512	2.8	0.704	36.5	LOS D	10.4	74.7	0.67	0.75	23.1
All Vehicles		6592	2.8	6592	2.8	1.554	309.8	LOS F	270.7	1808.6	0.96	1.92	3.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	46.6	LOS E	0.3	0.3	0.79	0.79
All Pedestrians		163	57.0	LOS E			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_Campbell St]

Network: N101 [2031_AM_BG+DEV]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1824	2.0	1824	2.0	0.796	6.1	LOS A	24.8	164.1	0.42	0.40	32.9
3	R2	198	2.0	198	2.0	0.866	83.1	LOS D	15.4	102.3	1.00	0.91	15.6
Approach		2021	2.0	2021	2.0	0.866	13.6	LOS B	24.8	164.1	0.48	0.45	24.6
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.105	70.4	LOS A	0.8	5.8	0.92	0.70	14.7
Approach		24	2.0	24	2.0	0.105	70.4	LOS E	0.8	5.8	0.92	0.70	14.7
North: Bowen Bridge Road (N)													
7	L2	663	2.0	492	2.0	1.083	119.5	LOS F	11.9	81.6	1.00	1.32	10.7
8	T1	3076	2.0	2280	2.0	1.083	126.0	LOS F	12.3	81.6	1.00	1.46	1.8
Approach		3739	2.0	2772[N1]	2.0	1.083	124.9	LOS F	12.3	81.6	1.00	1.43	3.5
All Vehicles		5785	2.0	4818[N1]	2.4	1.083	77.9	LOS E	24.8	164.1	0.78	1.01	5.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_HerstonRd]

Network: N101 [2031_AM_BG+DEV]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	413	2.7	413	2.7	0.367	6.1	LOS A	0.9	5.7	0.03	0.56	45.3
2	T1	1285	2.7	1285	2.7	0.684	31.6	LOS A	22.6	150.6	0.78	0.68	14.6
Approach		1698	2.7	1698	2.7	0.684	25.4	LOS C	22.6	150.6	0.60	0.65	20.3
North: Bowen Bridge Road (N)													
8	T1	2979	2.7	2410	2.9	0.629	6.4	LOS A	25.9	173.4	0.28	0.26	46.3
9	R2	521	2.7	421	2.9	0.771	57.8	LOS A	28.1	187.9	0.97	0.87	17.8
Approach		3499	2.7	2831[N1]	2.9	0.771	14.1	LOS B	28.1	187.9	0.38	0.35	36.5
West: Herston Road (W)													
10	L2	410	2.7	410	2.7	0.190	20.3	LOS A	6.7	44.7	0.49	0.70	23.9
12	R2	708	2.7	708	2.7	0.910	80.2	LOS D	34.7	231.9	0.98	0.97	12.8
Approach		1118	2.7	1118	2.7	0.910	58.2	LOS E	34.7	231.9	0.80	0.87	14.6
All Vehicles		6316	2.7	5647[N1]	3.0	0.910	26.2	LOS C	34.7	231.9	0.53	0.55	24.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	54.8	LOS E	0.3	0.3	0.86	0.86
P4	West Full Crossing	63	38.3	LOS D	0.2	0.2	0.72	0.72
P4S	West Slip/Bypass Lane Crossing	63	36.1	LOS D	0.2	0.2	0.70	0.70
All Pedestrians		213	44.4	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_OConnell Tce]

Network: N101 [2031_AM_BG+DEV]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	116	2.0	116	2.0	0.666	14.2	LOS A	17.7	117.4	0.36	0.39	24.5
2	T1	1632	2.0	1632	2.0	0.666	6.3	LOS A	17.7	117.4	0.27	0.27	38.9
Approach		1748	2.0	1748	2.0	0.666	6.8	LOS A	17.7	117.4	0.28	0.28	36.0
East: O'Connell Terrace (E)													
4	L2	243	2.0	243	2.0	0.585	61.4	LOS A	15.9	105.3	0.95	0.83	15.4
5	T1	82	2.0	82	2.0	0.899	85.1	LOS D	23.8	157.7	1.00	0.97	14.3
6	R2	421	2.0	421	2.0	0.899	86.2	LOS D	23.8	157.7	1.00	0.98	11.6
Approach		746	2.0	746	2.0	0.899	78.0	LOS E	23.8	157.7	0.98	0.93	13.0
North: Bowen Bridge Road (N)													
8	T1	3106	2.0	2367	2.0	0.677	13.9	LOS A	27.1	179.5	0.52	0.48	20.9
Approach		3106	2.0	2367[N1]	2.0	0.677	13.9	LOS B	27.1	179.5	0.52	0.48	20.9
West: Central Drive (W)													
10	L2	26	2.0	26	2.0	0.351	80.6	LOS A	2.0	13.0	1.00	0.71	7.4
12	R2	32	2.0	32	2.0	0.454	81.4	LOS A	2.5	16.3	1.00	0.72	7.4
Approach		58	2.0	58	2.0	0.454	81.0	LOS F	2.5	16.3	1.00	0.72	7.4
All Vehicles		5657	2.0	4918[N1]	2.3	0.899	21.9	LOS C	27.1	179.5	0.51	0.48	20.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

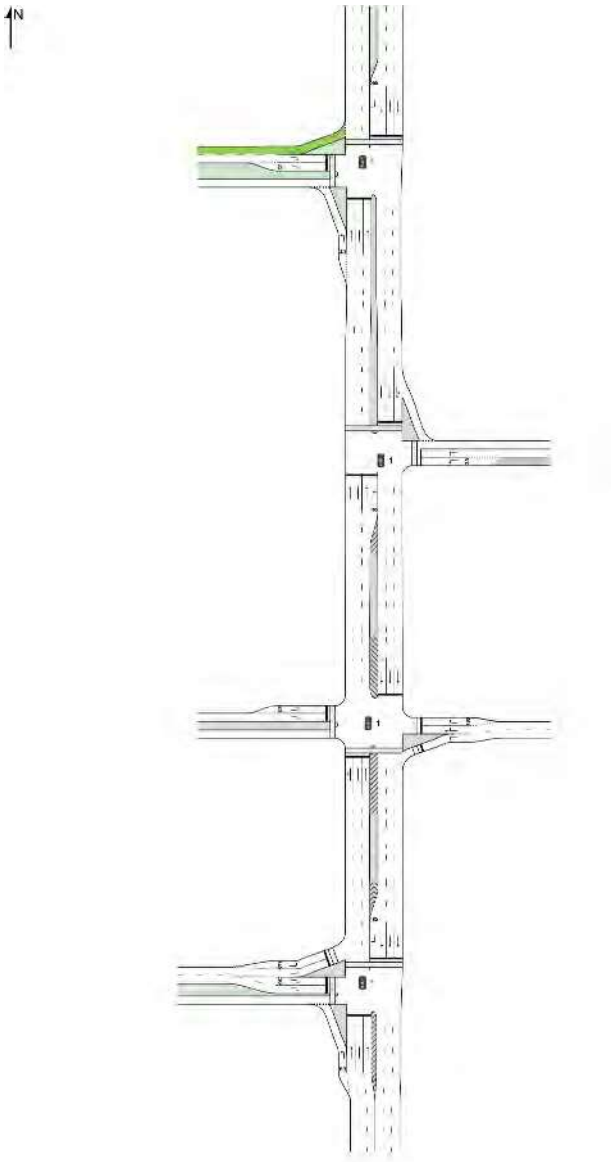
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	59.7	LOS E	1.1	1.1	0.90	0.90
P2	East Full Crossing	105	12.9	LOS B	0.2	0.2	0.42	0.42
P2S	East Slip/Bypass Lane Crossing	105	8.4	LOS A	0.2	0.2	0.33	0.33
P4	West Full Crossing	124	15.5	LOS B	0.2	0.2	0.46	0.46
All Pedestrians		626	34.4	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

NETWORK LAYOUT

Network: N101 [2021_AM_BG+DEV - Upgrade]

Bowen Bridge Road
Job#: WAT0116-01
Job Name: Herston Quarter



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
1	NA	2021_AM_BG+DEV_Butterfield St - Upgrade
1	NA	2021_AM_BG+DEV_Campbell St - Upgrade
1	NA	2021_AM_BG+DEV_OConnell Tce - Upgrade

1	NA	2021_AM_BG+DEV_HerstonRd - Upgrade

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_Butterfield St - Upgrade]

Network: N101 [2021_AM_BG+DEV - Upgrade]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	315	2.8	315	2.8	0.391	22.9	LOS A	12.2	81.6	0.73	0.78	25.4
2	T1	1353	2.8	1353	2.8	0.911	66.3	LOS D	12.2	81.6	0.99	1.00	13.0
Approach		1667	2.8	1667	2.8	0.911	58.1	LOS E	12.2	81.6	0.94	0.96	14.4
North: Bowen Bridge Road (N)													
8	T1	3187	2.8	3187	2.8	1.276	275.4	LOS F	220.2	1471.7	1.00	2.07	3.2
9	R2	762	2.8	762	2.8	0.923	33.0	LOS D	49.9	333.2	0.88	0.91	27.3
Approach		3949	2.8	3949	2.8	1.276	228.7	LOS F	220.2	1471.7	0.98	1.84	4.4
West: Butterfield Street (W)													
10	L2	341	2.8	341	2.8	0.335	13.6	LOS A	9.4	67.5	0.46	0.67	37.5
12	R2	171	2.8	171	2.8	0.704	78.1	LOS A	6.5	46.7	1.00	0.87	9.7
Approach		512	2.8	512	2.8	0.704	35.1	LOS D	9.4	67.5	0.64	0.74	23.6
All Vehicles		6128	2.8	6128	2.8	1.276	166.1	LOS F	220.2	1471.7	0.94	1.51	6.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	48.2	LOS E	0.3	0.3	0.80	0.80
All Pedestrians		163	57.9	LOS E			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_Campbell St - Upgrade]

Network: N101 [2021_AM_BG+DEV - Upgrade]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1661	2.0	1661	2.0	0.725	5.6	LOS A	19.6	129.6	0.38	0.36	34.1
3	R2	198	2.0	198	2.0	0.866	83.1	LOS D	15.4	102.3	1.00	0.91	15.6
Approach		1859	2.0	1859	2.0	0.866	13.9	LOS B	19.6	129.6	0.45	0.42	24.6
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.082	69.3	LOS A	0.8	5.8	0.91	0.70	14.9
Approach		24	2.0	24	2.0	0.082	69.3	LOS E	0.8	5.8	0.91	0.70	14.9
North: Bowen Bridge Road (N)													
7	L2	600	2.0	542	2.0	0.955	27.7	LOS E	11.9	81.6	0.34	0.61	29.7
8	T1	2792	2.0	2522	2.0	0.955	31.2	LOS E	12.3	81.6	0.66	0.79	6.5
Approach		3392	2.0	3065 N1	2.0	0.955	30.6	LOS C	12.3	81.6	0.60	0.76	12.1
All Vehicles		5276	2.0	4948 N1	2.1	0.955	24.5	LOS C	19.6	129.6	0.55	0.63	15.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_HerstonRd - Upgrade]

Network: N101 [2021_AM_BG+DEV - Upgrade]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	381	2.7	381	2.7	0.348	6.1	LOS A	0.8	5.1	0.03	0.56	45.3
2	T1	1172	2.7	1172	2.7	0.650	33.0	LOS A	20.5	137.0	0.77	0.68	14.2
Approach		1553	2.7	1553	2.7	0.650	26.4	LOS C	20.5	137.0	0.59	0.65	19.8
North: Bowen Bridge Road (N)													
8	T1	2698	2.7	2516	2.7	0.637	5.8	LOS A	25.0	167.2	0.27	0.25	47.3
9	R2	480	2.7	448	2.7	0.738	52.9	LOS A	28.3	189.2	0.93	0.86	18.9
Approach		3179	2.7	2964 N1	2.7	0.738	12.9	LOS B	28.3	189.2	0.37	0.35	37.7
West: Herston Road (W)													
10	L2	374	2.7	374	2.7	0.169	19.2	LOS A	5.8	39.0	0.47	0.69	24.7
12	R2	643	2.7	643	2.7	0.891	78.0	LOS D	30.5	203.3	0.98	0.95	13.1
Approach		1017	2.7	1017	2.7	0.891	56.4	LOS E	30.5	203.3	0.79	0.86	14.9
All Vehicles		5748	2.7	5533 N1	2.8	0.891	24.7	LOS C	30.5	203.3	0.51	0.52	25.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	57.4	LOS E	0.3	0.3	0.88	0.88
P4	West Full Crossing	63	39.7	LOS D	0.2	0.2	0.73	0.73
P4S	West Slip/Bypass Lane Crossing	63	37.6	LOS D	0.2	0.2	0.71	0.71
All Pedestrians		213	46.3	LOS E			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV_OConnell Tce - Upgrade]

Network: N101 [2021_AM_BG+DEV - Upgrade]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	116	2.0	116	2.0	0.473	11.3	LOS A	8.8	58.0	0.23	0.30	25.5
2	T1	1487	2.0	1487	2.0	0.473	4.0	LOS A	8.8	58.0	0.17	0.18	44.1
Approach		1603	2.0	1603	2.0	0.473	4.6	LOS A	8.8	58.0	0.17	0.19	39.8
East: O'Connell Terrace (E)													
4	L2	222	2.0	222	2.0	0.728	71.5	LOS A	15.9	105.3	1.00	0.86	13.7
5	T1	82	2.0	82	2.0	0.884	85.2	LOS D	20.1	133.4	1.00	0.95	14.3
6	R2	383	2.0	383	2.0	0.884	85.2	LOS D	20.1	133.4	1.00	0.95	11.7
Approach		687	2.0	687	2.0	0.884	80.8	LOS F	20.1	133.4	1.00	0.92	12.7
North: Bowen Bridge Road (N)													
8	T1	2819	2.0	2593	2.0	0.677	8.8	LOS A	23.9	158.7	0.41	0.38	27.4
Approach		2819	2.0	2593[N1]	2.0	0.677	8.8	LOS A	23.9	158.7	0.41	0.38	27.4
West: Central Drive (W)													
10	L2	26	2.0	26	2.0	0.351	80.6	LOS A	2.0	13.0	1.00	0.71	7.4
12	R2	32	2.0	32	2.0	0.457	81.5	LOS A	2.5	16.3	1.00	0.72	7.4
Approach		58	2.0	58	2.0	0.457	81.1	LOS F	2.5	16.3	1.00	0.72	7.4
All Vehicles		5167	2.0	4940[N1]	2.1	0.884	18.3	LOS B	23.9	158.7	0.42	0.40	22.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 16.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	68.0	LOS F	1.2	1.2	0.96	0.96
P2	East Full Crossing	105	9.4	LOS A	0.2	0.2	0.35	0.35
P2S	East Slip/Bypass Lane Crossing	105	5.6	LOS A	0.1	0.1	0.27	0.27
P4	West Full Crossing	124	11.7	LOS B	0.2	0.2	0.40	0.40
All Pedestrians		626	36.5	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_Butterfield St - Upgrade]

Network: N101 [2031_AM_BG+DEV - Upgrade]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	315	2.8	315	2.8	0.392	28.7	LOS A	12.2	81.6	0.84	0.81	22.5
2	T1	1492	2.8	1492	2.8	0.961	88.4	LOS E	12.2	81.6	1.00	1.14	10.3
Approach		1807	2.8	1807	2.8	0.961	78.0	LOS E	12.2	81.6	0.97	1.09	11.4
North: Bowen Bridge Road (N)													
8	T1	3512	2.8	3512	2.8	1.554	527.1	LOS F	270.7	1808.6	1.00	2.73	1.7
9	R2	762	2.8	762	2.8	0.951	41.7	LOS E	57.0	380.9	0.95	0.96	24.1
Approach		4273	2.8	4273	2.8	1.554	440.6	LOS F	270.7	1808.6	0.99	2.41	2.4
West: Butterfield Street (W)													
10	L2	341	2.8	341	2.8	0.345	15.7	LOS A	10.4	74.7	0.51	0.69	36.0
12	R2	171	2.8	171	2.8	0.704	78.1	LOS A	6.5	46.7	1.00	0.87	9.7
Approach		512	2.8	512	2.8	0.704	36.5	LOS D	10.4	74.7	0.67	0.75	23.1
All Vehicles		6592	2.8	6592	2.8	1.554	309.8	LOS F	270.7	1808.6	0.96	1.92	3.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	46.6	LOS E	0.3	0.3	0.79	0.79
All Pedestrians		163	57.0	LOS E			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_Campbell St - Upgrade]

Network: N101 [2031_AM_BG+DEV - Upgrade]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	1824	2.0	1824	2.0	0.796	6.1	LOS A	24.8	164.1	0.42	0.40	32.9
3	R2	198	2.0	198	2.0	0.866	83.1	LOS D	15.4	102.3	1.00	0.91	15.6
Approach		2021	2.0	2021	2.0	0.866	13.6	LOS B	24.8	164.1	0.48	0.45	24.6
East: Campbell Street (E)													
4	L2	24	2.0	24	2.0	0.105	70.4	LOS A	0.8	5.8	0.92	0.70	14.7
Approach		24	2.0	24	2.0	0.105	70.4	LOS E	0.8	5.8	0.92	0.70	14.7
North: Bowen Bridge Road (N)													
7	L2	663	2.0	492	2.0	1.083	119.5	LOS F	11.9	81.6	1.00	1.32	10.7
8	T1	3076	2.0	2280	2.0	1.083	126.0	LOS F	12.3	81.6	1.00	1.46	1.8
Approach		3739	2.0	2772[N1]	2.0	1.083	124.9	LOS F	12.3	81.6	1.00	1.43	3.5
All Vehicles		5785	2.0	4818[N1]	2.4	1.083	77.9	LOS E	24.8	164.1	0.78	1.01	5.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_HerstonRd - Upgrade]

Network: N101 [2031_AM_BG+DEV - Upgrade]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	413	2.7	413	2.7	0.367	6.1	LOS A	0.9	5.7	0.03	0.56	45.3
2	T1	1285	2.7	1285	2.7	0.684	31.6	LOS A	22.6	150.6	0.78	0.68	14.6
Approach		1698	2.7	1698	2.7	0.684	25.4	LOS C	22.6	150.6	0.60	0.65	20.3
North: Bowen Bridge Road (N)													
8	T1	2979	2.7	2410	2.9	0.629	6.4	LOS A	25.9	173.4	0.28	0.26	46.3
9	R2	521	2.7	421	2.9	0.771	57.8	LOS A	28.1	187.9	0.97	0.87	17.8
Approach		3499	2.7	2831[N1]	2.9	0.771	14.1	LOS B	28.1	187.9	0.38	0.35	36.5
West: Herston Road (W)													
10	L2	410	2.7	410	2.7	0.190	20.3	LOS A	6.7	44.7	0.49	0.70	23.9
12	R2	708	2.7	708	2.7	0.910	80.2	LOS D	34.7	231.9	0.98	0.97	12.8
Approach		1118	2.7	1118	2.7	0.910	58.2	LOS E	34.7	231.9	0.80	0.87	14.6
All Vehicles		6316	2.7	5647[N1]	3.0	0.910	26.2	LOS C	34.7	231.9	0.53	0.55	24.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	54.8	LOS E	0.3	0.3	0.86	0.86
P4	West Full Crossing	63	38.3	LOS D	0.2	0.2	0.72	0.72
P4S	West Slip/Bypass Lane Crossing	63	36.1	LOS D	0.2	0.2	0.70	0.70
All Pedestrians		213	44.4	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV_OConnell Tce - Upgrade]

Network: N101 [2031_AM_BG+DEV - Upgrade]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	116	2.0	116	2.0	0.666	14.2	LOS A	17.7	117.4	0.36	0.39	24.5
2	T1	1632	2.0	1632	2.0	0.666	6.3	LOS A	17.7	117.4	0.27	0.27	38.9
Approach		1748	2.0	1748	2.0	0.666	6.8	LOS A	17.7	117.4	0.28	0.28	36.0
East: O'Connell Terrace (E)													
4	L2	243	2.0	243	2.0	0.585	61.4	LOS A	15.9	105.3	0.95	0.83	15.4
5	T1	82	2.0	82	2.0	0.899	85.1	LOS D	23.8	157.7	1.00	0.97	14.3
6	R2	421	2.0	421	2.0	0.899	86.2	LOS D	23.8	157.7	1.00	0.98	11.6
Approach		746	2.0	746	2.0	0.899	78.0	LOS E	23.8	157.7	0.98	0.93	13.0
North: Bowen Bridge Road (N)													
8	T1	3106	2.0	2367	2.0	0.677	13.9	LOS A	27.1	179.5	0.52	0.48	20.9
Approach		3106	2.0	2367[N1]	2.0	0.677	13.9	LOS B	27.1	179.5	0.52	0.48	20.9
West: Central Drive (W)													
10	L2	26	2.0	26	2.0	0.351	80.6	LOS A	2.0	13.0	1.00	0.71	7.4
12	R2	32	2.0	32	2.0	0.454	81.4	LOS A	2.5	16.3	1.00	0.72	7.4
Approach		58	2.0	58	2.0	0.454	81.0	LOS F	2.5	16.3	1.00	0.72	7.4
All Vehicles		5657	2.0	4918[N1]	2.3	0.899	21.9	LOS C	27.1	179.5	0.51	0.48	20.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 8.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

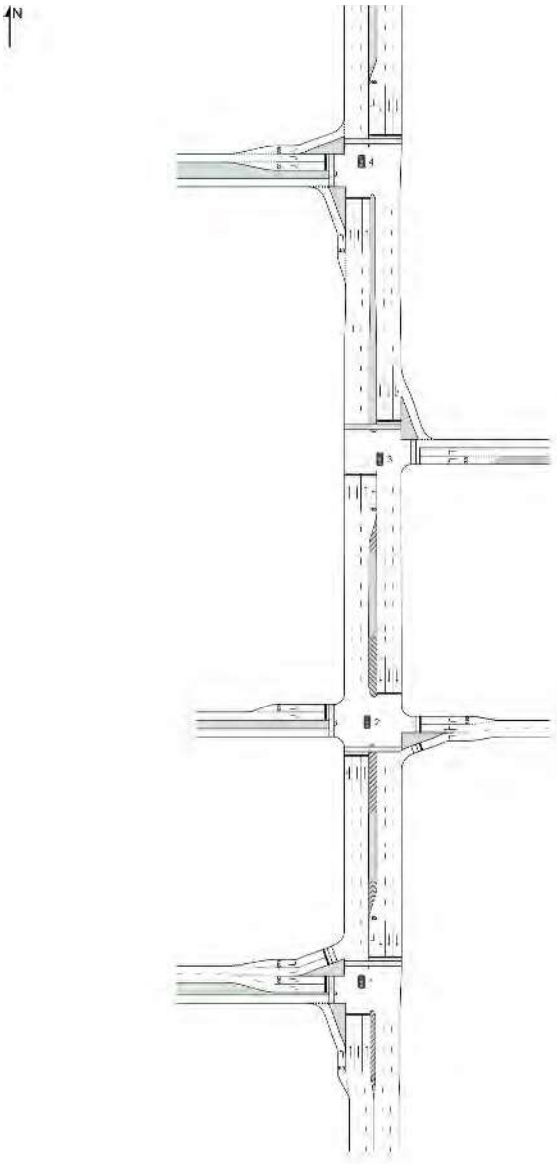
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	59.7	LOS E	1.1	1.1	0.90	0.90
P2	East Full Crossing	105	12.9	LOS B	0.2	0.2	0.42	0.42
P2S	East Slip/Bypass Lane Crossing	105	8.4	LOS A	0.2	0.2	0.33	0.33
P4	West Full Crossing	124	15.5	LOS B	0.2	0.2	0.46	0.46
All Pedestrians		626	34.4	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

NETWORK LAYOUT

Network: N101 [2016_PM_SURVEY]

Bowen Bridge Road
Job#: WAT0116-01
Job Name: Herston Quarter



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
4	NA	2016_PM_SURVEY_Butterfield St
3	NA	2016_PM_SURVEY_Campbell St
2	NA	2016_PM_SURVEY_OConnell Tce
1	NA	2016_PM _SURVEY_Herston Rd

MOVEMENT SUMMARY

Site: 1 [2016_PM _SURVEY_Herston Rd]

Network: N101 [2016_PM_SURVEY]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	235	2.7	235	2.7	0.167	5.9	LOS A	0.3	2.3	0.03	0.56	45.7
2	T1	1942	2.7	1942	2.7	1.140	156.6	LOS F	94.0	627.3	0.76	1.42	3.7
Approach		2177	2.7	2177	2.7	1.140	140.3	LOS F	94.0	627.3	0.68	1.33	4.5
North: Bowen Bridge Road (N)													
8	T1	1313	2.7	1313	2.7	0.295	4.2	LOS A	6.7	44.8	0.23	0.20	50.3
9	R2	248	2.7	248	2.7	1.136	213.6	LOS F	33.6	224.5	1.00	1.34	6.0
Approach		1561	2.7	1561	2.7	1.136	37.5	LOS D	33.6	224.5	0.35	0.38	21.7
West: Herston Road (W)													
10	L2	461	2.7	461	2.7	0.899	84.0	LOS D	22.1	147.4	0.98	1.02	8.3
12	R2	429	2.7	429	2.7	1.025	137.7	LOS F	29.0	193.3	1.00	1.14	8.2
Approach		889	2.7	889	2.7	1.025	109.9	LOS F	29.0	193.3	0.99	1.08	8.2
All Vehicles		4628	2.7	4628	2.7	1.140	99.8	LOS F	94.0	627.3	0.63	0.96	8.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 119.9 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	13.7	LOS B	0.1	0.1	0.43	0.43
P4S	West Slip/Bypass Lane Crossing	63	12.4	LOS B	0.1	0.1	0.41	0.41
All Pedestrians		213	35.9	LOS D			0.64	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 4 [2016_PM_SURVEY_Butterfield St]

Network: N101 [2016_PM_SURVEY]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	160	2.8	127	3.0	0.088	5.3	LOS A	0.7	4.9	0.10	0.56	42.0
2	T1	2913	2.8	2310	3.0	0.747	20.4	LOS A	12.2	81.6	0.66	0.61	28.4
Approach		3073	2.8	2436 N1	3.0	0.747	19.7	LOS B	12.2	81.6	0.63	0.61	28.9
North: Bowen Bridge Road (N)													
8	T1	1627	2.8	1627	2.8	0.720	0.8	LOS A	2.7	17.9	0.07	0.07	57.1
9	R2	258	2.8	258	2.8	0.758	59.8	LOS A	17.4	116.2	0.96	0.84	19.4
Approach		1885	2.8	1885	2.8	0.758	8.9	LOS A	17.4	116.2	0.19	0.17	39.1
West: Butterfield Street (W)													
10	L2	472	2.8	472	2.8	0.640	41.6	LOS A	23.4	167.8	0.87	1.04	23.8
12	R2	184	2.8	184	2.8	0.757	80.7	LOS A	7.2	51.6	1.00	0.91	9.4
Approach		656	2.8	656	2.8	0.757	52.5	LOS D	23.4	167.8	0.90	1.00	19.0
All Vehicles		5613	2.8	4977 N1	3.2	0.758	19.9	LOS B	23.4	167.8	0.50	0.50	28.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 119.9 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	21.4	LOS C	0.2	0.2	0.54	0.54
All Pedestrians		163	43.4	LOS E			0.73	0.73

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2016_PM_SURVEY_Campbell St]

Network: N101 [2016_PM_SURVEY]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	2907	2.0	2218	2.0	0.982	68.2	LOS E	27.1	179.5	0.88	1.12	5.9
3	R2	150	2.0	115	2.0	0.502	72.7	LOS A	8.1	53.7	1.00	0.80	17.1
Approach		3057	2.0	2332[N1]	2.0	0.982	68.4	LOS E	27.1	179.5	0.89	1.10	6.6
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	433	2.0	433	2.0	0.461	8.1	LOS A	11.8	81.6	0.32	0.55	46.6
8	T1	1674	2.0	1674	2.0	0.461	4.7	LOS A	12.3	81.6	0.33	0.34	25.7
Approach		2108	2.0	2108	2.0	0.461	5.4	LOS A	12.3	81.6	0.33	0.39	36.0
All Vehicles		5208	2.0	4483[N1]	2.3	0.982	38.8	LOS D	27.1	179.5	0.62	0.76	10.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 119.9 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2016_PM_SURVEY_OConnell Tce]

Network: N101 [2016_PM_SURVEY]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	18	2.0	18	2.0	0.976	76.5	LOS E	46.8	310.1	0.99	1.20	12.7
2	T1	2171	2.0	2147	2.0	0.976	66.3	LOS E	46.8	310.1	0.87	1.09	9.3
Approach		2190	2.0	2165[N1]	2.0	0.976	66.4	LOS E	46.8	310.1	0.87	1.09	9.4
East: O'Connell Terrace (E)													
4	L2	208	2.0	208	2.0	0.741	73.7	LOS A	15.1	100.2	1.00	0.86	13.4
5	T1	32	2.0	32	2.0	5.013	3667.6	LOS F	179.2	1187.9	1.00	2.78	0.6
6	R2	826	2.0	826	2.0	5.013	3665.8	LOS F	179.2	1187.9	1.00	2.76	0.3
Approach		1065	2.0	1065	2.0	5.013	2963.9	LOS F	179.2	1187.9	1.00	2.39	0.4
North: Bowen Bridge Road (N)													
8	T1	1380	2.0	1380	2.0	0.320	4.1	LOS A	7.4	48.9	0.22	0.19	38.7
Approach		1380	2.0	1380	2.0	0.320	4.1	LOS A	7.4	48.9	0.22	0.19	38.7
West: Central Drive (W)													
10	L2	65	2.0	65	2.0	0.465	65.2	LOS A	4.6	30.3	0.96	0.76	8.5
12	R2	39	2.0	39	2.0	0.195	65.2	LOS A	2.6	17.3	0.94	0.70	8.5
Approach		104	2.0	104	2.0	0.465	65.2	LOS E	4.6	30.3	0.95	0.74	8.5
All Vehicles		4739	2.0	4714[N1]	2.0	5.013	702.9	LOS F	179.2	1187.9	0.71	1.11	1.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 119.9 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 4 [2021_PM_BG_Butterfield St]

Network: N101 [2021_PM_BG]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	162	2.8	118	3.1	0.083	5.3	LOS A	0.7	4.6	0.10	0.56	42.0
2	T1	3137	2.8	2296	3.1	0.750	20.9	LOS A	12.2	81.6	0.67	0.62	28.1
Approach		3299	2.8	2414 N1	3.1	0.750	20.1	LOS C	12.2	81.6	0.64	0.61	28.6
North: Bowen Bridge Road (N)													
8	T1	1726	2.8	1726	2.8	0.764	0.9	LOS A	3.3	22.2	0.09	0.08	56.8
9	R2	263	2.8	263	2.8	0.746	58.4	LOS A	17.5	116.8	0.95	0.84	19.7
Approach		1989	2.8	1989	2.8	0.764	8.5	LOS A	17.5	116.8	0.20	0.18	39.7
West: Butterfield Street (W)													
10	L2	530	2.8	530	2.8	0.708	43.0	LOS A	26.0	186.5	0.90	1.06	23.4
12	R2	208	2.8	208	2.8	0.857	89.5	LOS D	8.8	62.7	1.00	1.00	8.6
Approach		738	2.8	738	2.8	0.857	56.1	LOS E	26.0	186.5	0.93	1.04	18.2
All Vehicles		6026	2.8	5141 N1	3.3	0.857	20.8	LOS C	26.0	186.5	0.51	0.51	28.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 45.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	22.0	LOS C	0.2	0.2	0.54	0.54
All Pedestrians		163	43.7	LOS E			0.73	0.73

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2021_PM_BG_Campbell St]

Network: N101 [2021_PM_BG]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	3133	2.0	2274	2.0	1.007	86.3	LOS F	27.1	179.5	1.00	1.30	4.7
3	R2	167	2.0	121	2.0	0.532	73.0	LOS A	8.6	57.3	1.00	0.80	17.1
Approach		3300	2.0	2396 N1	2.0	1.007	85.7	LOS F	27.1	179.5	1.00	1.28	5.4
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	455	2.0	455	2.0	0.488	8.3	LOS A	11.8	81.6	0.34	0.56	46.3
8	T1	1776	2.0	1776	2.0	0.488	5.1	LOS A	12.3	81.6	0.35	0.37	24.6
Approach		2231	2.0	2231	2.0	0.488	5.8	LOS A	12.3	81.6	0.35	0.41	35.0
All Vehicles		5575	2.0	4670 N1	2.4	1.007	47.3	LOS D	27.1	179.5	0.69	0.86	9.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 45.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_PM_BG_HerstonRd]

Network: N101 [2021_PM_BG]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	263	2.7	263	2.7	0.187	5.9	LOS A	0.4	2.6	0.03	0.56	45.6
2	T1	2042	2.7	2042	2.7	1.171	182.5	LOS F	101.2	675.5	1.00	1.75	3.2
Approach		2305	2.7	2305	2.7	1.171	162.4	LOS F	101.2	675.5	0.89	1.61	4.0
North: Bowen Bridge Road (N)													
8	T1	1380	2.7	1380	2.7	0.310	4.0	LOS A	6.8	45.7	0.22	0.20	50.6
9	R2	282	2.7	282	2.7	1.221	281.2	LOS F	44.5	296.9	1.00	1.48	4.6
Approach		1662	2.7	1662	2.7	1.221	51.0	LOS D	44.5	296.9	0.35	0.41	17.6
West: Herston Road (W)													
10	L2	575	2.7	575	2.7	1.099	192.9	LOS F	42.7	285.1	1.00	1.33	3.8
12	R2	525	2.7	525	2.7	1.258	313.9	LOS F	56.4	376.4	1.00	1.50	3.8
Approach		1101	2.7	1101	2.7	1.258	250.6	LOS F	56.4	376.4	1.00	1.41	3.8
All Vehicles		5067	2.7	5067	2.7	1.258	145.0	LOS F	101.2	675.5	0.74	1.18	6.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 45.4 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	14.1	LOS B	0.1	0.1	0.43	0.43
P4S	West Slip/Bypass Lane Crossing	63	12.8	LOS B	0.1	0.1	0.41	0.41
All Pedestrians		213	36.2	LOS D			0.64	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2021_PM_BG_OConnell Tce]

Network: N101 [2021_PM_BG]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	18	2.0	16	2.0	0.975	77.0	LOS E	46.8	310.1	1.00	1.21	12.7
2	T1	2376	2.0	2147	2.0	0.975	66.8	LOS E	46.8	310.1	0.91	1.12	9.3
Approach		2395	2.0	2163 N1	2.0	0.975	66.9	LOS E	46.8	310.1	0.91	1.12	9.3
East: O'Connell Terrace (E)													
4	L2	223	2.0	223	2.0	0.796	76.4	LOS A	16.7	110.8	1.00	0.89	13.0
5	T1	32	2.0	32	2.0	5.264	3893.3	LOS F	189.5	1256.4	1.00	2.80	0.5
6	R2	867	2.0	867	2.0	5.264	3891.5	LOS F	189.5	1256.4	1.00	2.78	0.3
Approach		1122	2.0	1122	2.0	5.264	3132.0	LOS F	189.5	1256.4	1.00	2.41	0.4
North: Bowen Bridge Road (N)													
8	T1	1465	2.0	1465	2.0	0.376	4.5	LOS A	9.4	62.5	0.24	0.22	37.3
Approach		1465	2.0	1465	2.0	0.376	4.5	LOS A	9.4	62.5	0.24	0.22	37.3
West: Central Drive (W)													
10	L2	65	2.0	65	2.0	0.465	65.2	LOS A	4.6	30.3	0.96	0.76	8.5
12	R2	39	2.0	39	2.0	0.279	67.2	LOS A	2.7	17.8	0.95	0.72	8.3
Approach		104	2.0	104	2.0	0.465	66.0	LOS E	4.6	30.3	0.95	0.75	8.4
All Vehicles		5086	2.0	4855 N1	2.1	5.264	756.7	LOS F	189.5	1256.4	0.73	1.14	1.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 45.4 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 4 [2021_PM_BG+DEV_Butterfield St]

Network: N101 [2021_PM_BG+DEV]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	167	2.8	118	3.1	0.083	4.9	LOS A	0.5	3.2	0.07	0.55	42.6
2	T1	3137	2.8	2225	3.1	0.765	22.7	LOS A	12.2	81.6	0.70	0.64	26.8
Approach		3304	2.8	2344 N1	3.1	0.765	21.8	LOS C	12.2	81.6	0.67	0.64	27.4
North: Bowen Bridge Road (N)													
8	T1	1726	2.8	1726	2.8	0.791	1.0	LOS A	3.7	24.8	0.10	0.09	56.5
9	R2	270	2.8	270	2.8	0.766	59.0	LOS A	18.2	121.5	0.96	0.85	19.6
Approach		1996	2.8	1996	2.8	0.791	8.8	LOS A	18.2	121.5	0.21	0.19	39.2
West: Butterfield Street (W)													
10	L2	617	2.8	617	2.8	0.773	42.8	LOS A	32.1	229.9	0.92	1.07	23.4
12	R2	251	2.8	251	2.8	0.900	94.7	LOS D	11.0	79.0	1.00	1.05	8.2
Approach		868	2.8	868	2.8	0.900	57.8	LOS E	32.1	229.9	0.94	1.07	17.8
All Vehicles		6168	2.8	5207 N1	3.3	0.900	22.8	LOS C	32.1	229.9	0.54	0.54	26.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	66.5	LOS F	0.3	0.3	0.94	0.94
P4	West Full Crossing	88	24.2	LOS C	0.2	0.2	0.57	0.57
All Pedestrians		163	43.6	LOS E			0.74	0.74

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2021_PM_BG+DEV_Campbell St]

Network: N101 [2021_PM_BG+DEV]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	3137	2.0	2257	2.0	1.000	81.7	LOS F	27.1	179.5	1.00	1.28	5.0
3	R2	176	2.0	127	2.0	0.556	73.2	LOS A	9.1	60.4	1.00	0.80	17.0
Approach		3313	2.0	2384 N1	2.0	1.000	81.2	LOS F	27.1	179.5	1.00	1.26	5.7
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	465	2.0	465	2.0	0.498	8.5	LOS A	11.8	81.6	0.34	0.56	46.1
8	T1	1809	2.0	1809	2.0	0.498	5.1	LOS A	12.3	81.6	0.35	0.36	24.7
Approach		2274	2.0	2274	2.0	0.498	5.8	LOS A	12.3	81.6	0.35	0.40	35.0
All Vehicles		5631	2.0	4702 N1	2.4	1.000	44.6	LOS D	27.1	179.5	0.68	0.84	9.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_PM_BG+DEV_HerstonRd]

Network: N101 [2021_PM_BG+DEV]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	263	2.7	263	2.7	0.187	5.9	LOS A	0.4	2.6	0.03	0.56	45.6
2	T1	2048	2.7	2048	2.7	1.175	185.5	LOS F	102.1	681.7	1.00	1.76	3.1
Approach		2311	2.7	2311	2.7	1.175	165.1	LOS F	102.1	681.7	0.89	1.62	3.9
North: Bowen Bridge Road (N)													
8	T1	1427	2.7	1427	2.7	0.321	3.9	LOS A	6.9	46.1	0.22	0.19	50.8
9	R2	282	2.7	282	2.7	1.221	281.2	LOS F	44.5	296.9	1.00	1.48	4.6
Approach		1708	2.7	1708	2.7	1.221	49.7	LOS D	44.5	296.9	0.34	0.41	17.9
West: Herston Road (W)													
10	L2	575	2.7	575	2.7	1.099	192.9	LOS F	42.7	285.1	1.00	1.33	3.8
12	R2	525	2.7	525	2.7	1.258	313.9	LOS F	56.4	376.4	1.00	1.50	3.8
Approach		1101	2.7	1101	2.7	1.258	250.6	LOS F	56.4	376.4	1.00	1.41	3.8
All Vehicles		5120	2.7	5120	2.7	1.258	145.0	LOS F	102.1	681.7	0.73	1.17	6.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	14.1	LOS B	0.1	0.1	0.43	0.43
P4S	West Slip/Bypass Lane Crossing	63	12.8	LOS B	0.1	0.1	0.41	0.41
All Pedestrians		213	36.2	LOS D			0.64	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2021_PM_BG+DEV_OConnell Tce]

Network: N101 [2021_PM_BG+DEV]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	19	2.0	18	2.0	0.989	85.6	LOS E	46.8	310.1	1.00	1.25	11.9
2	T1	2380	2.0	2175	2.0	0.989	75.1	LOS E	46.8	310.1	0.95	1.21	8.4
Approach		2400	2.0	2192 N1	2.0	0.989	75.2	LOS E	46.8	310.1	0.95	1.21	8.4
East: O'Connell Terrace (E)													
4	L2	223	2.0	223	2.0	0.796	76.4	LOS A	16.7	110.8	1.00	0.89	13.0
5	T1	33	2.0	33	2.0	5.899	4463.3	LOS F	193.6	1283.7	1.00	2.75	0.5
6	R2	868	2.0	868	2.0	5.899	4461.3	LOS F	193.6	1283.7	1.00	2.73	0.3
Approach		1124	2.0	1124	2.0	5.899	3589.9	LOS F	193.6	1283.7	1.00	2.37	0.3
North: Bowen Bridge Road (N)													
8	T1	1499	2.0	1499	2.0	0.385	4.6	LOS A	9.8	65.0	0.25	0.22	37.1
Approach		1499	2.0	1499	2.0	0.385	4.6	LOS A	9.8	65.0	0.25	0.22	37.1
West: Central Drive (W)													
10	L2	74	2.0	74	2.0	0.531	66.1	LOS A	5.3	34.9	0.97	0.78	8.4
12	R2	52	2.0	52	2.0	0.372	68.2	LOS A	3.7	24.2	0.96	0.74	8.3
Approach		127	2.0	127	2.0	0.531	66.9	LOS E	5.3	34.9	0.97	0.76	8.3
All Vehicles		5150	2.0	4942 N1	2.1	5.899	853.2	LOS F	193.6	1283.7	0.75	1.16	0.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 4 [2031_PM_BG_Butterfield St]

Network: N101 [2031_PM_BG]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	162	2.8	105	3.2	0.074	5.0	LOS A	0.4	2.9	0.07	0.55	42.6
2	T1	3458	2.8	2250	3.2	0.733	19.4	LOS A	12.2	81.6	0.64	0.58	29.2
Approach		3619	2.8	2355 N1	3.2	0.733	18.7	LOS B	12.2	81.6	0.61	0.58	29.6
North: Bowen Bridge Road (N)													
8	T1	1905	2.8	1905	2.8	0.843	4.3	LOS A	7.2	48.0	0.13	0.14	46.8
9	R2	263	2.8	263	2.8	0.746	58.4	LOS A	17.5	116.8	0.95	0.84	19.7
Approach		2168	2.8	2168	2.8	0.843	10.9	LOS B	17.5	116.8	0.23	0.22	36.3
West: Butterfield Street (W)													
10	L2	530	2.8	530	2.8	0.704	42.1	LOS A	25.9	185.8	0.89	1.06	23.6
12	R2	208	2.8	208	2.8	0.857	89.5	LOS D	8.8	62.7	1.00	1.00	8.6
Approach		738	2.8	738	2.8	0.857	55.5	LOS E	25.9	185.8	0.92	1.04	18.3
All Vehicles		6525	2.8	5262 N1	3.5	0.857	20.7	LOS C	25.9	185.8	0.50	0.50	28.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	69.3	LOS F	0.3	0.3	0.96	0.96
P4	West Full Crossing	88	22.0	LOS C	0.2	0.2	0.54	0.54
All Pedestrians		163	43.7	LOS E			0.73	0.73

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2031_PM_BG_Campbell St]

Network: N101 [2031_PM_BG]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	3452	2.0	2173	2.0	0.961	56.5	LOS E	27.1	179.5	0.80	0.98	6.9
3	R2	167	2.0	105	2.0	0.461	72.3	LOS A	7.4	48.9	0.98	0.79	17.2
Approach		3620	2.0	2278 N1	2.0	0.961	57.3	LOS E	27.1	179.5	0.81	0.97	7.7
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	503	2.0	503	2.0	0.539	8.6	LOS A	11.8	81.6	0.36	0.57	45.9
8	T1	1959	2.0	1959	2.0	0.539	5.6	LOS A	12.3	81.6	0.39	0.40	23.4
Approach		2462	2.0	2462	2.0	0.539	6.3	LOS A	12.3	81.6	0.38	0.43	33.9
All Vehicles		6126	2.0	4784 N1	2.6	0.961	31.1	LOS C	27.1	179.5	0.59	0.69	12.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_PM_BG_HerstonRd]

Network: N101 [2031_PM_BG]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	289	2.7	289	2.7	0.208	5.9	LOS A	0.4	3.0	0.03	0.56	45.6
2	T1	2257	2.7	2257	2.7	1.280	277.0	LOS F	151.2	1009.5	0.77	1.85	2.1
Approach		2545	2.7	2545	2.7	1.280	246.3	LOS F	151.2	1009.5	0.68	1.70	2.7
North: Bowen Bridge Road (N)													
8	T1	1524	2.7	1524	2.7	0.343	4.4	LOS A	8.3	55.6	0.24	0.21	49.9
9	R2	309	2.7	309	2.7	1.271	323.4	LOS F	46.4	310.1	1.00	1.56	4.1
Approach		1833	2.7	1833	2.7	1.271	58.1	LOS E	46.4	310.1	0.37	0.44	16.0
West: Herston Road (W)													
10	L2	627	2.7	627	2.7	1.173	250.0	LOS F	53.3	355.6	1.00	1.46	3.0
12	R2	572	2.7	572	2.7	1.371	409.4	LOS F	70.7	472.3	1.00	1.66	2.9
Approach		1199	2.7	1199	2.7	1.371	326.1	LOS F	70.7	472.3	1.00	1.55	3.0
All Vehicles		5577	2.7	5577	2.7	1.371	201.6	LOS F	151.2	1009.5	0.65	1.26	4.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.8 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	14.6	LOS B	0.1	0.1	0.44	0.44
P4S	West Slip/Bypass Lane Crossing	63	13.3	LOS B	0.1	0.1	0.42	0.42
All Pedestrians		213	36.4	LOS D			0.65	0.65

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2031_PM_BG_OConnell Tce]

Network: N101 [2031_PM_BG]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	18	2.0	15	2.0	0.947	61.4	LOS D	46.8	310.1	0.93	1.08	14.4
2	T1	2616	2.0	2085	2.0	0.947	51.2	LOS D	46.8	310.1	0.79	0.95	11.5
Approach		2634	2.0	2100 N1	2.0	0.947	51.2	LOS D	46.8	310.1	0.79	0.95	11.6
East: O'Connell Terrace (E)													
4	L2	246	2.0	246	2.0	0.876	83.5	LOS D	19.7	130.4	1.00	0.95	12.2
5	T1	32	2.0	32	2.0	5.806	4383.6	LOS F	211.9	1404.9	1.00	2.84	0.5
6	R2	958	2.0	958	2.0	5.806	4381.6	LOS F	211.9	1404.9	1.00	2.82	0.3
Approach		1236	2.0	1236	2.0	5.806	3526.3	LOS F	211.9	1404.9	1.00	2.45	0.4
North: Bowen Bridge Road (N)													
8	T1	1617	2.0	1617	2.0	0.438	4.5	LOS A	11.0	72.7	0.24	0.22	37.4
Approach		1617	2.0	1617	2.0	0.438	4.5	LOS A	11.0	72.7	0.24	0.22	37.4
West: Central Drive (W)													
10	L2	65	2.0	65	2.0	0.465	65.2	LOS A	4.6	30.3	0.96	0.76	8.5
12	R2	39	2.0	39	2.0	0.356	69.0	LOS A	2.8	18.3	0.96	0.74	8.2
Approach		104	2.0	104	2.0	0.465	66.6	LOS E	4.6	30.3	0.96	0.75	8.4
All Vehicles		5591	2.0	5057 N1	2.2	5.806	885.8	LOS F	211.9	1404.9	0.67	1.08	0.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.8 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 4 [2031_PM_BG+DEV_Butterfield St]

Network: N101 [2031_PM_BG+DEV]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	167	2.8	108	3.2	0.076	4.9	LOS A	0.4	2.7	0.06	0.55	42.7
2	T1	3458	2.8	2235	3.2	0.767	22.6	LOS A	12.2	81.6	0.70	0.64	26.9
Approach		3624	2.8	2342 N1	3.2	0.767	21.8	LOS C	12.2	81.6	0.67	0.64	27.4
North: Bowen Bridge Road (N)													
8	T1	1905	2.8	1905	2.8	0.873	8.1	LOS D	10.1	67.5	0.15	0.18	39.2
9	R2	270	2.8	270	2.8	0.766	59.0	LOS A	18.2	121.5	0.96	0.85	19.6
Approach		2175	2.8	2175	2.8	0.873	14.4	LOS B	18.2	121.5	0.25	0.26	32.2
West: Butterfield Street (W)													
10	L2	617	2.8	617	2.8	0.774	42.8	LOS A	32.1	230.2	0.92	1.07	23.4
12	R2	251	2.8	251	2.8	0.900	94.7	LOS D	11.0	79.0	1.00	1.05	8.2
Approach		868	2.8	868	2.8	0.900	57.8	LOS E	32.1	230.2	0.94	1.07	17.8
All Vehicles		6667	2.8	5385 N1	3.5	0.900	24.6	LOS C	32.1	230.2	0.55	0.56	25.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	66.5	LOS F	0.3	0.3	0.94	0.94
P4	West Full Crossing	88	24.2	LOS C	0.2	0.2	0.57	0.57
All Pedestrians		163	43.6	LOS E			0.74	0.74

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2031_PM_BG+DEV_Campbell St]

Network: N101 [2031_PM_BG+DEV]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	3456	2.0	2159	2.0	0.955	53.2	LOS E	27.1	179.5	0.76	0.94	7.3
3	R2	176	2.0	110	2.0	0.483	72.5	LOS A	7.8	51.6	0.99	0.79	17.1
Approach		3633	2.0	2269[N1]	2.0	0.955	54.1	LOS D	27.1	179.5	0.78	0.93	8.1
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	512	2.0	512	2.0	0.548	8.7	LOS A	11.8	81.6	0.37	0.58	45.8
8	T1	1993	2.0	1993	2.0	0.548	5.7	LOS A	12.3	81.6	0.39	0.40	23.3
Approach		2505	2.0	2505	2.0	0.548	6.3	LOS A	12.3	81.6	0.39	0.44	33.9
All Vehicles		6182	2.0	4818[N1]	2.6	0.955	29.4	LOS C	27.1	179.5	0.57	0.67	13.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_PM_BG+DEV_HerstonRd]

Network: N101 [2031_PM_BG+DEV]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	289	2.7	289	2.7	0.208	5.9	LOS A	0.4	3.0	0.03	0.56	45.6
2	T1	2262	2.7	2262	2.7	1.282	279.0	LOS F	152.1	1015.4	0.77	1.86	2.1
Approach		2550	2.7	2550	2.7	1.282	248.0	LOS F	152.1	1015.4	0.68	1.71	2.7
North: Bowen Bridge Road (N)													
8	T1	1570	2.7	1570	2.7	0.353	4.1	LOS A	8.2	54.4	0.22	0.20	50.5
9	R2	309	2.7	309	2.7	1.271	323.4	LOS F	46.4	310.1	1.00	1.56	4.1
Approach		1879	2.7	1879	2.7	1.271	56.6	LOS E	46.4	310.1	0.35	0.43	16.3
West: Herston Road (W)													
10	L2	627	2.7	627	2.7	1.173	250.0	LOS F	53.3	355.6	1.00	1.46	3.0
12	R2	572	2.7	572	2.7	1.371	409.4	LOS F	70.7	472.3	1.00	1.66	2.9
Approach		1199	2.7	1199	2.7	1.371	326.1	LOS F	70.7	472.3	1.00	1.55	3.0
All Vehicles		5629	2.7	5629	2.7	1.371	200.7	LOS F	152.1	1015.4	0.64	1.25	4.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	14.6	LOS B	0.1	0.1	0.44	0.44
P4S	West Slip/Bypass Lane Crossing	63	13.3	LOS B	0.1	0.1	0.42	0.42
All Pedestrians		213	36.4	LOS D			0.65	0.65

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2031_PM_BG+DEV_OConnell Tce]

Network: N101 [2031_PM_BG+DEV]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	19	2.0	15	2.0	0.947	61.3	LOS D	46.8	310.1	0.93	1.08	14.4
2	T1	2619	2.0	2084	2.0	0.947	51.1	LOS D	46.8	310.1	0.79	0.95	11.5
Approach		2638	2.0	2100 N1	2.0	0.947	51.2	LOS D	46.8	310.1	0.79	0.95	11.6
East: O'Connell Terrace (E)													
4	L2	246	2.0	246	2.0	0.876	83.5	LOS D	19.7	130.4	1.00	0.95	12.2
5	T1	33	2.0	33	2.0	6.505	5011.0	LOS F	216.0	1432.1	1.00	2.79	0.4
6	R2	959	2.0	959	2.0	6.505	5008.9	LOS F	216.0	1432.1	1.00	2.77	0.2
Approach		1238	2.0	1238	2.0	6.505	4030.4	LOS F	216.0	1432.1	1.00	2.41	0.3
North: Bowen Bridge Road (N)													
8	T1	1651	2.0	1651	2.0	0.447	4.6	LOS A	11.5	76.1	0.25	0.23	37.1
Approach		1651	2.0	1651	2.0	0.447	4.6	LOS A	11.5	76.1	0.25	0.23	37.1
West: Central Drive (W)													
10	L2	74	2.0	74	2.0	0.531	66.1	LOS A	5.3	34.9	0.97	0.78	8.4
12	R2	52	2.0	52	2.0	0.474	70.2	LOS A	3.8	25.0	0.98	0.76	8.1
Approach		127	2.0	127	2.0	0.531	67.8	LOS E	5.3	34.9	0.97	0.77	8.3
All Vehicles		5653	2.0	5115 N1	2.2	6.505	999.5	LOS F	216.0	1432.1	0.67	1.06	0.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

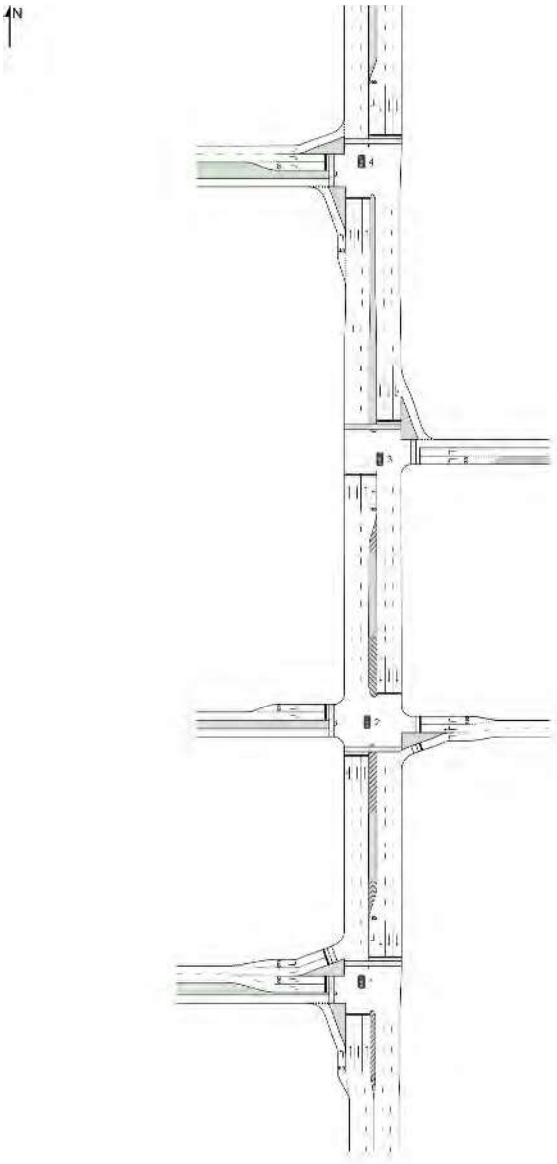
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

NETWORK LAYOUT

Network: N101 [2021_PM_BG+DEV - Upgrade]

Bowen Bridge Road
Job#: WAT0116-01
Job Name: Herston Quarter



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
4	NA	2021_PM_BG+DEV_Butterfield St - Upgrade
3	NA	2021_PM_BG+DEV_Campbell St - Upgrade
2	NA	2021_PM_BG+DEV_OConnell Tce - Upgrade
1	NA	2021_PM_BG+DEV_HerstonRd - Upgrade

MOVEMENT SUMMARY

Site: 4 [2021_PM_BG+DEV_Butterfield St - Upgrade]

Network: N101 [2021_PM_BG+DEV - Upgrade]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	167	2.8	118	3.1	0.083	4.9	LOS A	0.5	3.2	0.07	0.55	42.6
2	T1	3137	2.8	2225	3.1	0.765	22.7	LOS A	12.2	81.6	0.70	0.64	26.8
Approach		3304	2.8	2344 N1	3.1	0.765	21.8	LOS C	12.2	81.6	0.67	0.64	27.4
North: Bowen Bridge Road (N)													
8	T1	1726	2.8	1726	2.8	0.791	1.0	LOS A	3.7	24.8	0.10	0.09	56.5
9	R2	270	2.8	270	2.8	0.766	59.0	LOS A	18.2	121.5	0.96	0.85	19.6
Approach		1996	2.8	1996	2.8	0.791	8.8	LOS A	18.2	121.5	0.21	0.19	39.2
West: Butterfield Street (W)													
10	L2	617	2.8	617	2.8	0.773	42.8	LOS A	32.1	229.9	0.92	1.07	23.4
12	R2	251	2.8	251	2.8	0.900	94.7	LOS D	11.0	79.0	1.00	1.05	8.2
Approach		868	2.8	868	2.8	0.900	57.8	LOS E	32.1	229.9	0.94	1.07	17.8
All Vehicles		6168	2.8	5207 N1	3.3	0.900	22.8	LOS C	32.1	229.9	0.54	0.54	26.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	66.5	LOS F	0.3	0.3	0.94	0.94
P4	West Full Crossing	88	24.2	LOS C	0.2	0.2	0.57	0.57
All Pedestrians		163	43.6	LOS E			0.74	0.74

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2021_PM_BG+DEV_Campbell St - Upgrade]

Network: N101 [2021_PM_BG+DEV - Upgrade]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	3137	2.0	2257	2.0	1.000	81.7	LOS F	27.1	179.5	1.00	1.28	5.0
3	R2	176	2.0	127	2.0	0.556	73.2	LOS A	9.1	60.4	1.00	0.80	17.0
Approach		3313	2.0	2384 N1	2.0	1.000	81.2	LOS F	27.1	179.5	1.00	1.26	5.7
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	465	2.0	465	2.0	0.498	8.5	LOS A	11.8	81.6	0.34	0.56	46.1
8	T1	1809	2.0	1809	2.0	0.498	5.1	LOS A	12.3	81.6	0.35	0.36	24.7
Approach		2274	2.0	2274	2.0	0.498	5.8	LOS A	12.3	81.6	0.35	0.40	35.0
All Vehicles		5631	2.0	4702 N1	2.4	1.000	44.6	LOS D	27.1	179.5	0.68	0.84	9.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_PM_BG+DEV_HerstonRd - Upgrade]

Network: N101 [2021_PM_BG+DEV - Upgrade]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	263	2.7	263	2.7	0.187	5.9	LOS A	0.4	2.6	0.03	0.56	45.6
2	T1	2048	2.7	2048	2.7	1.175	185.5	LOS F	102.1	681.7	1.00	1.76	3.1
Approach		2311	2.7	2311	2.7	1.175	165.1	LOS F	102.1	681.7	0.89	1.62	3.9
North: Bowen Bridge Road (N)													
8	T1	1427	2.7	1427	2.7	0.321	3.9	LOS A	6.9	46.1	0.22	0.19	50.8
9	R2	282	2.7	282	2.7	1.221	281.2	LOS F	44.5	296.9	1.00	1.48	4.6
Approach		1708	2.7	1708	2.7	1.221	49.7	LOS D	44.5	296.9	0.34	0.41	17.9
West: Herston Road (W)													
10	L2	575	2.7	575	2.7	1.099	192.9	LOS F	42.7	285.1	1.00	1.33	3.8
12	R2	525	2.7	525	2.7	1.258	313.9	LOS F	56.4	376.4	1.00	1.50	3.8
Approach		1101	2.7	1101	2.7	1.258	250.6	LOS F	56.4	376.4	1.00	1.41	3.8
All Vehicles		5120	2.7	5120	2.7	1.258	145.0	LOS F	102.1	681.7	0.73	1.17	6.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	14.1	LOS B	0.1	0.1	0.43	0.43
P4S	West Slip/Bypass Lane Crossing	63	12.8	LOS B	0.1	0.1	0.41	0.41
All Pedestrians		213	36.2	LOS D			0.64	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2021_PM_BG+DEV_OConnell Tce - Upgrade]

Network: N101 [2021_PM_BG+DEV - Upgrade]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	19	2.0	18	2.0	0.989	85.6	LOS E	46.8	310.1	1.00	1.25	11.9
2	T1	2380	2.0	2175	2.0	0.989	75.1	LOS E	46.8	310.1	0.95	1.21	8.4
Approach		2400	2.0	2192 N1	2.0	0.989	75.2	LOS E	46.8	310.1	0.95	1.21	8.4
East: O'Connell Terrace (E)													
4	L2	223	2.0	223	2.0	0.796	76.4	LOS A	16.7	110.8	1.00	0.89	13.0
5	T1	33	2.0	33	2.0	5.899	4463.3	LOS F	193.6	1283.7	1.00	2.75	0.5
6	R2	868	2.0	868	2.0	5.899	4461.3	LOS F	193.6	1283.7	1.00	2.73	0.3
Approach		1124	2.0	1124	2.0	5.899	3589.9	LOS F	193.6	1283.7	1.00	2.37	0.3
North: Bowen Bridge Road (N)													
8	T1	1499	2.0	1499	2.0	0.385	4.6	LOS A	9.8	65.0	0.25	0.22	37.1
Approach		1499	2.0	1499	2.0	0.385	4.6	LOS A	9.8	65.0	0.25	0.22	37.1
West: Central Drive (W)													
10	L2	74	2.0	74	2.0	0.531	66.1	LOS A	5.3	34.9	0.97	0.78	8.4
12	R2	52	2.0	52	2.0	0.372	68.2	LOS A	3.7	24.2	0.96	0.74	8.3
Approach		127	2.0	127	2.0	0.531	66.9	LOS E	5.3	34.9	0.97	0.76	8.3
All Vehicles		5150	2.0	4942 N1	2.1	5.899	853.2	LOS F	193.6	1283.7	0.75	1.16	0.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 57.6 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 4 [2031_PM_BG+DEV_Butterfield St - Upgrade]

Network: N101 [2031_PM_BG+DEV - Upgrade]

Intersection: Butterfield Street / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	167	2.8	108	3.2	0.076	4.9	LOS A	0.4	2.7	0.06	0.55	42.7
2	T1	3458	2.8	2235	3.2	0.767	22.6	LOS A	12.2	81.6	0.70	0.64	26.9
Approach		3624	2.8	2342 N1	3.2	0.767	21.8	LOS C	12.2	81.6	0.67	0.64	27.4
North: Bowen Bridge Road (N)													
8	T1	1905	2.8	1905	2.8	0.873	8.1	LOS D	10.1	67.5	0.15	0.18	39.2
9	R2	270	2.8	270	2.8	0.766	59.0	LOS A	18.2	121.5	0.96	0.85	19.6
Approach		2175	2.8	2175	2.8	0.873	14.4	LOS B	18.2	121.5	0.25	0.26	32.2
West: Butterfield Street (W)													
10	L2	617	2.8	617	2.8	0.774	42.8	LOS A	32.1	230.2	0.92	1.07	23.4
12	R2	251	2.8	251	2.8	0.900	94.7	LOS D	11.0	79.0	1.00	1.05	8.2
Approach		868	2.8	868	2.8	0.900	57.8	LOS E	32.1	230.2	0.94	1.07	17.8
All Vehicles		6667	2.8	5385 N1	3.5	0.900	24.6	LOS C	32.1	230.2	0.55	0.56	25.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	75	66.5	LOS F	0.3	0.3	0.94	0.94
P4	West Full Crossing	88	24.2	LOS C	0.2	0.2	0.57	0.57
All Pedestrians		163	43.6	LOS E			0.74	0.74

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 3 [2031_PM_BG+DEV_Campbell St - Upgrade]

Network: N101 [2031_PM_BG+DEV - Upgrade]

Intersection: Bowen Bridge Road / Campbell Street
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
2	T1	3456	2.0	2159	2.0	0.955	53.2	LOS E	27.1	179.5	0.76	0.94	7.3
3	R2	176	2.0	110	2.0	0.483	72.5	LOS A	7.8	51.6	0.99	0.79	17.1
Approach		3633	2.0	2269 N1	2.0	0.955	54.1	LOS D	27.1	179.5	0.78	0.93	8.1
East: Campbell Street (E)													
4	L2	44	2.0	44	2.0	0.094	68.2	LOS A	1.4	10.1	0.92	0.71	15.1
Approach		44	2.0	44	2.0	0.094	68.2	LOS E	1.4	10.1	0.92	0.71	15.1
North: Bowen Bridge Road (N)													
7	L2	512	2.0	512	2.0	0.548	8.7	LOS A	11.8	81.6	0.37	0.58	45.8
8	T1	1993	2.0	1993	2.0	0.548	5.7	LOS A	12.3	81.6	0.39	0.40	23.3
Approach		2505	2.0	2505	2.0	0.548	6.3	LOS A	12.3	81.6	0.39	0.44	33.9
All Vehicles		6182	2.0	4818 N1	2.6	0.955	29.4	LOS C	27.1	179.5	0.57	0.67	13.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	4.8	LOS A	0.1	0.1	0.25	0.25
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	37.0	LOS D			0.61	0.61

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_PM_BG+DEV_HerstonRd - Upgrade]

Network: N101 [2031_PM_BG+DEV - Upgrade]

Herston Road / Bowen Bridge Road
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	289	2.7	289	2.7	0.208	5.9	LOS A	0.4	3.0	0.03	0.56	45.6
2	T1	2262	2.7	2262	2.7	1.282	279.0	LOS F	152.1	1015.4	0.77	1.86	2.1
Approach		2550	2.7	2550	2.7	1.282	248.0	LOS F	152.1	1015.4	0.68	1.71	2.7
North: Bowen Bridge Road (N)													
8	T1	1570	2.7	1570	2.7	0.353	4.1	LOS A	8.2	54.4	0.22	0.20	50.5
9	R2	309	2.7	309	2.7	1.271	323.4	LOS F	46.4	310.1	1.00	1.56	4.1
Approach		1879	2.7	1879	2.7	1.271	56.6	LOS E	46.4	310.1	0.35	0.43	16.3
West: Herston Road (W)													
10	L2	627	2.7	627	2.7	1.173	250.0	LOS F	53.3	355.6	1.00	1.46	3.0
12	R2	572	2.7	572	2.7	1.371	409.4	LOS F	70.7	472.3	1.00	1.66	2.9
Approach		1199	2.7	1199	2.7	1.371	326.1	LOS F	70.7	472.3	1.00	1.55	3.0
All Vehicles		5629	2.7	5629	2.7	1.371	200.7	LOS F	152.1	1015.4	0.64	1.25	4.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	86	69.4	LOS F	0.4	0.4	0.96	0.96
P4	West Full Crossing	63	14.6	LOS B	0.1	0.1	0.44	0.44
P4S	West Slip/Bypass Lane Crossing	63	13.3	LOS B	0.1	0.1	0.42	0.42
All Pedestrians		213	36.4	LOS D			0.65	0.65

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2 [2031_PM_BG+DEV_OConnell Tce - Upgrade]

Network: N101 [2031_PM_BG+DEV - Upgrade]

Intersection: O'Connell Terrace/ Bowen Bridge RoadJob#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bowen Bridge Road (S)													
1	L2	19	2.0	15	2.0	0.947	61.3	LOS D	46.8	310.1	0.93	1.08	14.4
2	T1	2619	2.0	2084	2.0	0.947	51.1	LOS D	46.8	310.1	0.79	0.95	11.5
Approach		2638	2.0	2100 N1	2.0	0.947	51.2	LOS D	46.8	310.1	0.79	0.95	11.6
East: O'Connell Terrace (E)													
4	L2	246	2.0	246	2.0	0.876	83.5	LOS D	19.7	130.4	1.00	0.95	12.2
5	T1	33	2.0	33	2.0	6.505	5011.0	LOS F	216.0	1432.1	1.00	2.79	0.4
6	R2	959	2.0	959	2.0	6.505	5008.9	LOS F	216.0	1432.1	1.00	2.77	0.2
Approach		1238	2.0	1238	2.0	6.505	4030.4	LOS F	216.0	1432.1	1.00	2.41	0.3
North: Bowen Bridge Road (N)													
8	T1	1651	2.0	1651	2.0	0.447	4.6	LOS A	11.5	76.1	0.25	0.23	37.1
Approach		1651	2.0	1651	2.0	0.447	4.6	LOS A	11.5	76.1	0.25	0.23	37.1
West: Central Drive (W)													
10	L2	74	2.0	74	2.0	0.531	66.1	LOS A	5.3	34.9	0.97	0.78	8.4
12	R2	52	2.0	52	2.0	0.474	70.2	LOS A	3.8	25.0	0.98	0.76	8.1
Approach		127	2.0	127	2.0	0.531	67.8	LOS E	5.3	34.9	0.97	0.77	8.3
All Vehicles		5653	2.0	5115 N1	2.2	6.505	999.5	LOS F	216.0	1432.1	0.67	1.06	0.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 48.5 %
Number of Iterations: 25 (maximum specified: 25)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

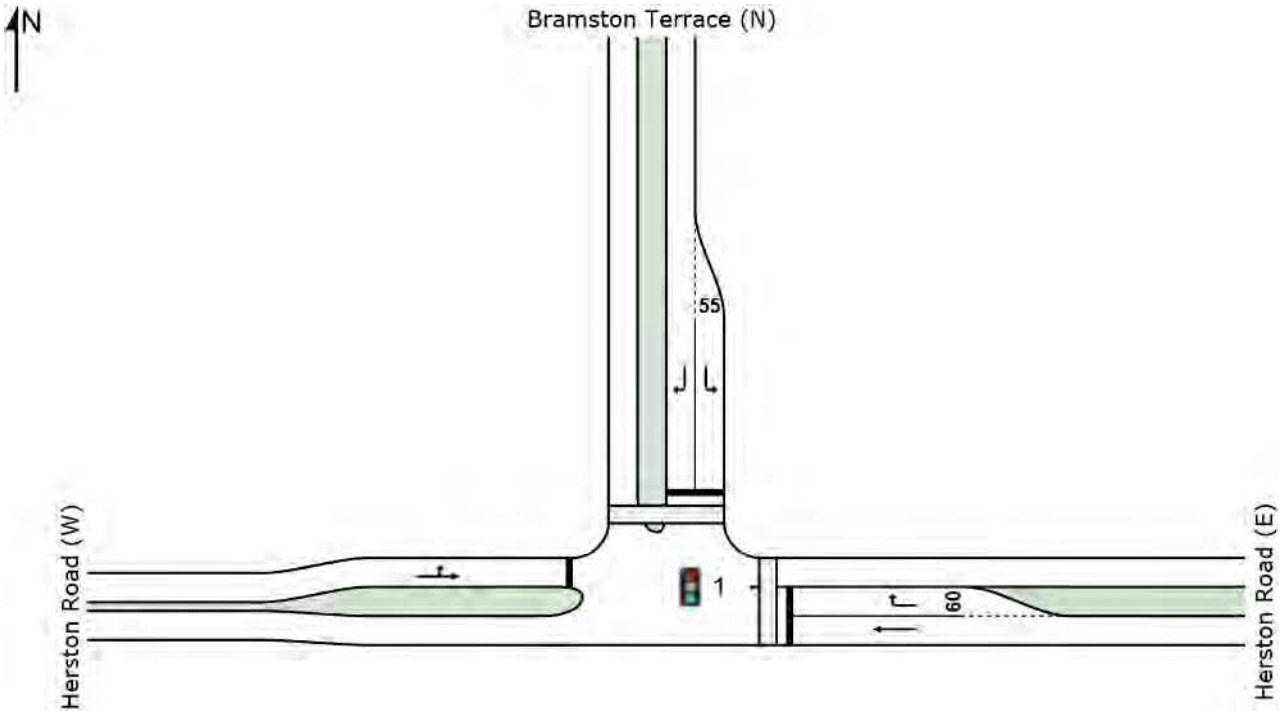
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	292	70.0	LOS F	1.2	1.2	0.97	0.97
P2	East Full Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P2S	East Slip/Bypass Lane Crossing	105	5.1	LOS A	0.1	0.1	0.26	0.26
P4	West Full Crossing	124	6.8	LOS A	0.2	0.2	0.30	0.30
All Pedestrians		626	35.6	LOS D			0.60	0.60

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 1 [2016_AM_SURVEY]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 1 [2016_AM_SURVEY]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 70 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	554	3.0	0.423	5.2	LOS A	8.3	59.8	0.48	0.42	53.3
6	R2	161	3.0	0.362	21.1	LOS B	3.9	27.9	0.80	0.78	27.0
Approach		716	3.0	0.423	8.8	LOS A	8.3	59.8	0.55	0.50	47.6
North: Bramston Terrace (N)											
7	L2	28	3.0	0.050	22.6	LOS B	0.7	4.9	0.72	0.68	25.7
9	R2	24	3.0	0.092	33.7	LOS C	0.7	5.3	0.90	0.70	30.4
Approach		52	3.0	0.092	27.7	LOS B	0.7	5.3	0.80	0.69	28.5
West: Herston Road (W)											
10	L2	89	3.0	0.680	19.3	LOS B	16.8	120.7	0.80	0.74	41.7
11	T1	565	3.0	0.680	13.8	LOS A	16.8	120.7	0.80	0.74	44.4
Approach		655	3.0	0.680	14.5	LOS B	16.8	120.7	0.80	0.74	44.0
All Vehicles		1423	3.0	0.680	12.1	LOS A	16.8	120.7	0.68	0.62	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	29.4	LOS C	0.2	0.2	0.92	0.92
P3	North Full Crossing	94	17.9	LOS B	0.1	0.1	0.72	0.72
All Pedestrians		195	23.9	LOS C			0.82	0.82

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2016_PM_SURVEY]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 45 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	516	3.0	0.467	6.0	LOS A	6.7	47.8	0.62	0.54	52.4
6	R2	38	3.0	0.070	14.1	LOS A	0.5	3.6	0.73	0.69	32.1
Approach		554	3.0	0.467	6.6	LOS A	6.7	47.8	0.63	0.55	51.3
North: Bramston Terrace (N)											
7	L2	106	3.0	0.138	13.3	LOS A	1.5	10.5	0.64	0.70	32.1
9	R2	70	3.0	0.249	23.8	LOS B	1.5	10.5	0.91	0.74	34.8
Approach		177	3.0	0.249	17.5	LOS B	1.5	10.5	0.75	0.72	33.6
West: Herston Road (W)											
10	L2	2	3.0	0.569	20.2	LOS B	6.5	46.6	0.89	0.75	41.7
11	T1	336	3.0	0.569	14.6	LOS B	6.5	46.6	0.89	0.75	44.3
Approach		338	3.0	0.569	14.6	LOS B	6.5	46.6	0.89	0.75	44.3
All Vehicles		1068	3.0	0.569	10.9	LOS A	6.7	47.8	0.73	0.64	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	17.0	LOS B	0.1	0.1	0.87	0.87
P3	North Full Crossing	94	17.0	LOS B	0.1	0.1	0.87	0.87
All Pedestrians		195	17.0	LOS B			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 65 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	583	3.0	0.461	5.8	LOS A	9.0	64.5	0.52	0.47	52.7
6	R2	161	3.0	0.436	24.9	LOS B	4.2	30.1	0.90	0.79	24.8
Approach		744	3.0	0.461	9.9	LOS A	9.0	64.5	0.61	0.54	46.6
North: Bramston Terrace (N)											
7	L2	42	3.0	0.069	20.4	LOS B	0.9	6.6	0.71	0.69	27.0
9	R2	24	3.0	0.086	30.9	LOS C	0.7	4.8	0.89	0.70	31.5
Approach		66	3.0	0.086	24.2	LOS B	0.9	6.6	0.77	0.69	29.2
West: Herston Road (W)											
10	L2	89	3.0	0.803	24.9	LOS B	21.7	155.7	0.91	0.90	38.1
11	T1	627	3.0	0.803	19.3	LOS B	21.7	155.7	0.91	0.90	40.4
Approach		717	3.0	0.803	20.0	LOS B	21.7	155.7	0.91	0.90	40.1
All Vehicles		1527	3.0	0.803	15.2	LOS B	21.7	155.7	0.76	0.72	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	26.9	LOS C	0.2	0.2	0.91	0.91
P3	North Full Crossing	94	19.3	LOS B	0.1	0.1	0.77	0.77
All Pedestrians		195	23.2	LOS C			0.84	0.84

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_AM_BG+DEV]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	583	3.0	0.415	4.9	LOS A	9.7	69.4	0.41	0.37	53.7
6	R2	197	3.0	0.424	27.8	LOS B	6.7	47.9	0.85	0.80	23.4
Approach		780	3.0	0.424	10.7	LOS A	9.7	69.4	0.52	0.48	45.5
North: Bramston Terrace (N)											
7	L2	42	3.0	0.070	26.5	LOS B	1.3	9.1	0.71	0.69	23.7
9	R2	29	3.0	0.121	42.6	LOS D	1.2	8.4	0.91	0.71	27.2
Approach		72	3.0	0.121	33.1	LOS C	1.3	9.1	0.79	0.70	25.6
West: Herston Road (W)											
10	L2	137	3.0	0.773	24.6	LOS B	27.2	195.4	0.87	0.81	38.0
11	T1	627	3.0	0.773	19.0	LOS B	27.2	195.4	0.87	0.81	40.4
Approach		765	3.0	0.773	20.0	LOS B	27.2	195.4	0.87	0.81	40.0
All Vehicles		1617	3.0	0.773	16.1	LOS B	27.2	195.4	0.70	0.65	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	39.4	LOS D	0.2	0.2	0.94	0.94
P3	North Full Crossing	94	18.8	LOS B	0.2	0.2	0.65	0.65
All Pedestrians		195	29.5	LOS C			0.80	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_PM_BG]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 45 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	542	3.0	0.491	6.1	LOS A	7.1	51.3	0.63	0.55	52.2
6	R2	38	3.0	0.073	14.8	LOS B	0.5	3.7	0.75	0.70	31.5
Approach		580	3.0	0.491	6.7	LOS A	7.1	51.3	0.64	0.56	51.2
North: Bramston Terrace (N)											
7	L2	109	3.0	0.142	13.4	LOS A	1.5	10.8	0.65	0.70	32.1
9	R2	70	3.0	0.249	23.8	LOS B	1.5	10.5	0.91	0.74	34.8
Approach		180	3.0	0.249	17.5	LOS B	1.5	10.8	0.75	0.72	33.6
West: Herston Road (W)											
10	L2	2	3.0	0.608	20.5	LOS B	7.1	50.8	0.90	0.77	41.4
11	T1	360	3.0	0.608	14.9	LOS B	7.1	50.8	0.90	0.77	44.1
Approach		362	3.0	0.608	14.9	LOS B	7.1	50.8	0.90	0.77	44.1
All Vehicles		1122	3.0	0.608	11.1	LOS A	7.1	51.3	0.74	0.65	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	17.0	LOS B	0.1	0.1	0.87	0.87
P3	North Full Crossing	94	17.0	LOS B	0.1	0.1	0.87	0.87
All Pedestrians		195	17.0	LOS B			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2021_PM_BG+DEV]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 45 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	542	3.0	0.491	6.1	LOS A	7.1	51.3	0.63	0.55	52.2
6	R2	40	3.0	0.077	14.8	LOS B	0.6	4.0	0.75	0.70	31.5
Approach		582	3.0	0.491	6.7	LOS A	7.1	51.3	0.64	0.56	51.1
North: Bramston Terrace (N)											
7	L2	109	3.0	0.142	13.4	LOS A	1.5	10.8	0.65	0.70	32.1
9	R2	96	3.0	0.339	24.2	LOS B	2.0	14.5	0.93	0.76	34.7
Approach		205	3.0	0.339	18.4	LOS B	2.0	14.5	0.78	0.73	33.7
West: Herston Road (W)											
10	L2	5	3.0	0.614	20.5	LOS B	7.2	51.5	0.90	0.78	41.3
11	T1	360	3.0	0.614	15.0	LOS B	7.2	51.5	0.90	0.78	44.0
Approach		365	3.0	0.614	15.1	LOS B	7.2	51.5	0.90	0.78	43.9
All Vehicles		1152	3.0	0.614	11.4	LOS A	7.2	51.5	0.75	0.66	45.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	17.0	LOS B	0.1	0.1	0.87	0.87
P3	North Full Crossing	94	17.0	LOS B	0.1	0.1	0.87	0.87
All Pedestrians		195	17.0	LOS B			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 70 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	644	3.0	0.491	5.6	LOS A	10.4	74.4	0.51	0.46	52.9
6	R2	161	3.0	0.453	26.3	LOS B	4.6	32.7	0.90	0.80	24.1
Approach		805	3.0	0.491	9.7	LOS A	10.4	74.4	0.59	0.53	46.9
North: Bramston Terrace (N)											
7	L2	42	3.0	0.074	22.8	LOS B	1.0	7.4	0.73	0.69	25.6
9	R2	24	3.0	0.092	33.7	LOS C	0.7	5.3	0.90	0.70	30.4
Approach		66	3.0	0.092	26.7	LOS B	1.0	7.4	0.79	0.70	27.9
West: Herston Road (W)											
10	L2	89	3.0	0.806	24.2	LOS B	24.5	175.9	0.89	0.88	38.5
11	T1	690	3.0	0.806	18.7	LOS B	24.5	175.9	0.89	0.88	40.9
Approach		779	3.0	0.806	19.3	LOS B	24.5	175.9	0.89	0.88	40.6
All Vehicles		1650	3.0	0.806	14.9	LOS B	24.5	175.9	0.74	0.70	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	29.4	LOS C	0.2	0.2	0.92	0.92
P3	North Full Crossing	94	17.9	LOS B	0.1	0.1	0.72	0.72
All Pedestrians		195	23.9	LOS C			0.82	0.82

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_AM_BG+DEV]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	644	3.0	0.459	5.1	LOS A	11.2	80.4	0.43	0.39	53.4
6	R2	197	3.0	0.510	30.4	LOS C	7.2	51.7	0.90	0.82	22.3
Approach		841	3.0	0.510	11.0	LOS A	11.2	80.4	0.54	0.49	45.3
North: Bramston Terrace (N)											
7	L2	42	3.0	0.078	28.8	LOS C	1.3	9.6	0.75	0.70	22.7
9	R2	29	3.0	0.121	42.6	LOS D	1.2	8.4	0.91	0.71	27.2
Approach		72	3.0	0.121	34.5	LOS C	1.3	9.6	0.82	0.71	25.1
West: Herston Road (W)											
10	L2	137	3.0	0.784	22.5	LOS B	28.7	206.0	0.84	0.80	39.4
11	T1	690	3.0	0.784	16.9	LOS B	28.7	206.0	0.84	0.80	41.9
Approach		827	3.0	0.784	17.9	LOS B	28.7	206.0	0.84	0.80	41.5
All Vehicles		1740	3.0	0.784	15.3	LOS B	28.7	206.0	0.70	0.65	42.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	39.4	LOS D	0.2	0.2	0.94	0.94
P3	North Full Crossing	94	16.9	LOS B	0.1	0.1	0.61	0.61
All Pedestrians		195	28.5	LOS C			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_PM_BG]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 45 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	599	3.0	0.542	6.4	LOS A	8.2	59.0	0.66	0.58	52.0
6	R2	38	3.0	0.077	15.5	LOS B	0.5	3.9	0.78	0.70	30.9
Approach		636	3.0	0.542	6.9	LOS A	8.2	59.0	0.67	0.59	50.9
North: Bramston Terrace (N)											
7	L2	109	3.0	0.142	13.4	LOS A	1.5	10.8	0.65	0.70	32.1
9	R2	70	3.0	0.249	23.8	LOS B	1.5	10.5	0.91	0.74	34.8
Approach		180	3.0	0.249	17.5	LOS B	1.5	10.8	0.75	0.72	33.6
West: Herston Road (W)											
10	L2	2	3.0	0.670	21.4	LOS B	8.2	58.9	0.92	0.82	40.7
11	T1	396	3.0	0.670	15.9	LOS B	8.2	58.9	0.92	0.82	43.3
Approach		398	3.0	0.670	15.9	LOS B	8.2	58.9	0.92	0.82	43.3
All Vehicles		1215	3.0	0.670	11.4	LOS A	8.2	59.0	0.76	0.69	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	17.0	LOS B	0.1	0.1	0.87	0.87
P3	North Full Crossing	94	17.0	LOS B	0.1	0.1	0.87	0.87
All Pedestrians		195	17.0	LOS B			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [2031_PM_BG+DEV]

Herston Road / Bramston Terrace
Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Signals - Fixed Time Isolated Cycle Time = 45 seconds (Optimum Cycle Time - Shortest Queue)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Herston Road (E)											
5	T1	599	3.0	0.542	6.4	LOS A	8.2	59.0	0.66	0.58	52.0
6	R2	40	3.0	0.082	15.6	LOS B	0.6	4.1	0.78	0.70	30.9
Approach		638	3.0	0.542	7.0	LOS A	8.2	59.0	0.67	0.59	50.9
North: Bramston Terrace (N)											
7	L2	109	3.0	0.142	13.4	LOS A	1.5	10.8	0.65	0.70	32.1
9	R2	97	3.0	0.343	24.2	LOS B	2.0	14.7	0.93	0.76	34.6
Approach		206	3.0	0.343	18.5	LOS B	2.0	14.7	0.78	0.73	33.7
West: Herston Road (W)											
10	L2	5	3.0	0.676	21.6	LOS B	8.3	59.7	0.93	0.83	40.6
11	T1	396	3.0	0.676	16.0	LOS B	8.3	59.7	0.93	0.83	43.2
Approach		401	3.0	0.676	16.1	LOS B	8.3	59.7	0.93	0.83	43.2
All Vehicles		1246	3.0	0.676	11.8	LOS A	8.3	59.7	0.77	0.69	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

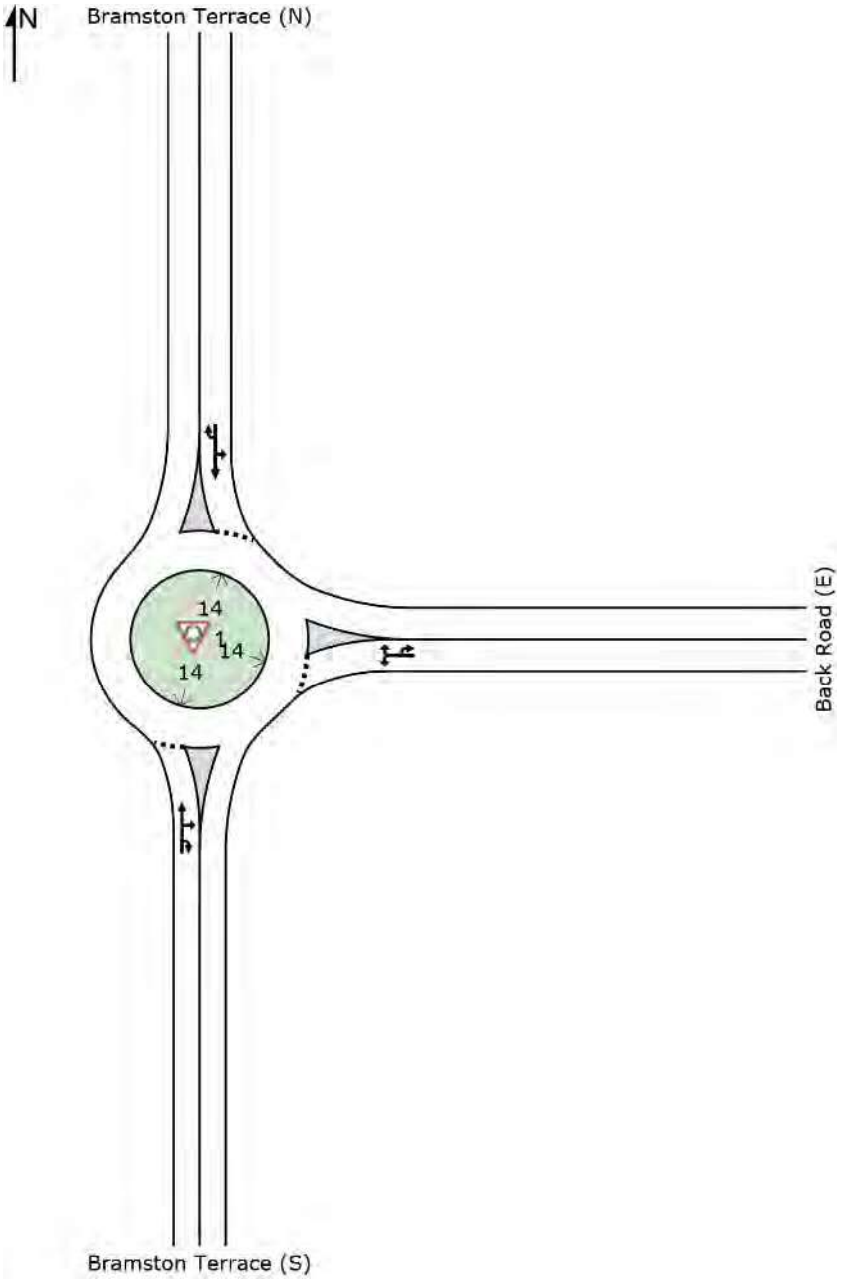
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	101	17.0	LOS B	0.1	0.1	0.87	0.87
P3	North Full Crossing	94	17.0	LOS B	0.1	0.1	0.87	0.87
All Pedestrians		195	17.0	LOS B			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 1 [2016 AM Survey Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout



MOVEMENT SUMMARY

Site: 1 [2016 AM Survey Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	25	2.6	0.064	3.3	LOS A	0.3	2.1	0.06	0.56	44.2
3	R2	65	2.6	0.064	7.1	LOS A	0.3	2.1	0.06	0.56	31.2
3u	U	3	2.6	0.064	8.8	LOS A	0.3	2.1	0.06	0.56	41.6
Approach		93	2.6	0.064	6.2	LOS A	0.3	2.1	0.06	0.56	37.1
East: Back Road (E)											
4	L2	15	2.6	0.018	0.2	LOS A	0.1	0.6	0.17	0.06	33.6
6	R2	6	2.6	0.018	0.3	LOS A	0.1	0.6	0.17	0.06	44.1
6u	U	1	2.6	0.018	0.3	LOS A	0.1	0.6	0.17	0.06	18.8
Approach		22	2.6	0.018	0.3	LOS A	0.1	0.6	0.17	0.06	37.7
North: Bramston Terrace (N)											
7	L2	36	2.6	0.069	3.4	LOS A	0.4	2.7	0.20	0.36	35.3
8	T1	45	2.6	0.069	2.2	LOS A	0.4	2.7	0.20	0.36	39.8
9u	U	5	2.6	0.069	7.2	LOS A	0.4	2.7	0.20	0.36	40.1
Approach		86	2.6	0.069	3.0	LOS A	0.4	2.7	0.20	0.36	38.1
All Vehicles		202	2.6	0.069	4.2	LOS A	0.4	2.7	0.13	0.42	37.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2016 PM Survey Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	54	2.6	0.047	3.3	LOS A	0.2	1.5	0.07	0.43	46.1
3	R2	12	2.6	0.047	7.2	LOS A	0.2	1.5	0.07	0.43	33.7
3u	U	1	2.6	0.047	8.8	LOS A	0.2	1.5	0.07	0.43	44.7
Approach		67	2.6	0.047	4.1	LOS A	0.2	1.5	0.07	0.43	45.0
East: Back Road (E)											
4	L2	39	2.6	0.039	0.2	LOS A	0.2	1.3	0.14	0.04	34.2
6	R2	8	2.6	0.039	0.2	LOS A	0.2	1.3	0.14	0.04	44.7
6u	U	2	2.6	0.039	0.2	LOS A	0.2	1.3	0.14	0.04	19.0
Approach		50	2.6	0.039	0.2	LOS A	0.2	1.3	0.14	0.04	36.8
North: Bramston Terrace (N)											
7	L2	31	2.6	0.048	3.1	LOS A	0.2	1.8	0.08	0.35	35.7
8	T1	33	2.6	0.048	1.9	LOS A	0.2	1.8	0.08	0.35	40.2
9u	U	4	2.6	0.048	7.0	LOS A	0.2	1.8	0.08	0.35	40.4
Approach		68	2.6	0.048	2.7	LOS A	0.2	1.8	0.08	0.35	38.3
All Vehicles		184	2.6	0.048	2.5	LOS A	0.2	1.8	0.09	0.29	40.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 AM BG Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	25	2.6	0.064	3.3	LOS A	0.3	2.1	0.06	0.56	44.2
3	R2	65	2.6	0.064	7.1	LOS A	0.3	2.1	0.06	0.56	31.2
3u	U	3	2.6	0.064	8.8	LOS A	0.3	2.1	0.06	0.56	41.6
Approach		93	2.6	0.064	6.2	LOS A	0.3	2.1	0.06	0.56	37.1
East: Back Road (E)											
4	L2	15	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	33.4
6	R2	6	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	44.0
6u	U	1	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	18.7
Approach		22	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	37.5
North: Bramston Terrace (N)											
7	L2	36	2.6	0.079	3.4	LOS A	0.4	3.1	0.20	0.35	35.3
8	T1	58	2.6	0.079	2.2	LOS A	0.4	3.1	0.20	0.35	39.8
9u	U	5	2.6	0.079	7.2	LOS A	0.4	3.1	0.20	0.35	40.1
Approach		99	2.6	0.079	2.9	LOS A	0.4	3.1	0.20	0.35	38.4
All Vehicles		215	2.6	0.079	4.0	LOS A	0.4	3.1	0.14	0.41	37.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 AM BG+DEV Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	25	2.6	0.113	3.3	LOS A	0.6	4.0	0.07	0.58	43.8
3	R2	143	2.6	0.113	7.1	LOS A	0.6	4.0	0.07	0.58	30.6
3u	U	3	2.6	0.113	8.8	LOS A	0.6	4.0	0.07	0.58	41.0
Approach		171	2.6	0.113	6.6	LOS A	0.6	4.0	0.07	0.58	34.3
East: Back Road (E)											
4	L2	20	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	33.6
6	R2	6	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	44.2
6u	U	1	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	18.6
Approach		27	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	37.1
North: Bramston Terrace (N)											
7	L2	55	2.6	0.101	3.8	LOS A	0.6	4.1	0.31	0.40	34.9
8	T1	58	2.6	0.101	2.6	LOS A	0.6	4.1	0.31	0.40	39.4
9u	U	5	2.6	0.101	7.7	LOS A	0.6	4.1	0.31	0.40	39.8
Approach		119	2.6	0.101	3.4	LOS A	0.6	4.1	0.31	0.40	37.5
All Vehicles		317	2.6	0.113	4.9	LOS A	0.6	4.1	0.17	0.47	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 PM BG Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	54	2.6	0.047	3.3	LOS A	0.2	1.5	0.07	0.43	46.1
3	R2	12	2.6	0.047	7.2	LOS A	0.2	1.5	0.07	0.43	33.7
3u	U	1	2.6	0.047	8.8	LOS A	0.2	1.5	0.07	0.43	44.7
Approach		67	2.6	0.047	4.1	LOS A	0.2	1.5	0.07	0.43	45.0
East: Back Road (E)											
4	L2	39	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	34.1
6	R2	8	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	44.6
6u	U	2	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	18.9
Approach		50	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	36.7
North: Bramston Terrace (N)											
7	L2	31	2.6	0.051	3.1	LOS A	0.3	1.9	0.08	0.34	35.7
8	T1	37	2.6	0.051	1.9	LOS A	0.3	1.9	0.08	0.34	40.2
9u	U	4	2.6	0.051	7.0	LOS A	0.3	1.9	0.08	0.34	40.4
Approach		71	2.6	0.051	2.7	LOS A	0.3	1.9	0.08	0.34	38.5
All Vehicles		188	2.6	0.051	2.5	LOS A	0.3	1.9	0.10	0.29	40.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2021 PM BG+DEV Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	54	2.6	0.051	3.3	LOS A	0.2	1.7	0.07	0.45	45.9
3	R2	18	2.6	0.051	7.2	LOS A	0.2	1.7	0.07	0.45	33.4
3u	U	1	2.6	0.051	8.8	LOS A	0.2	1.7	0.07	0.45	44.3
Approach		73	2.6	0.051	4.4	LOS A	0.2	1.7	0.07	0.45	44.2
East: Back Road (E)											
4	L2	70	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	34.5
6	R2	8	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	44.9
6u	U	2	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	18.9
Approach		81	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	36.2
North: Bramston Terrace (N)											
7	L2	32	2.6	0.053	3.1	LOS A	0.3	2.0	0.10	0.34	35.6
8	T1	37	2.6	0.053	1.9	LOS A	0.3	2.0	0.10	0.34	40.2
9u	U	4	2.6	0.053	7.0	LOS A	0.3	2.0	0.10	0.34	40.4
Approach		73	2.6	0.053	2.7	LOS A	0.3	2.0	0.10	0.34	38.3
All Vehicles		226	2.6	0.062	2.3	LOS A	0.3	2.1	0.11	0.27	40.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 AM BG Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	25	2.6	0.064	3.3	LOS A	0.3	2.1	0.06	0.56	44.2
3	R2	65	2.6	0.064	7.1	LOS A	0.3	2.1	0.06	0.56	31.2
3u	U	3	2.6	0.064	8.8	LOS A	0.3	2.1	0.06	0.56	41.6
Approach		93	2.6	0.064	6.2	LOS A	0.3	2.1	0.06	0.56	37.1
East: Back Road (E)											
4	L2	15	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	33.4
6	R2	6	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	44.0
6u	U	1	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	18.7
Approach		22	2.6	0.018	0.3	LOS A	0.1	0.6	0.20	0.07	37.5
North: Bramston Terrace (N)											
7	L2	36	2.6	0.079	3.4	LOS A	0.4	3.1	0.20	0.35	35.3
8	T1	58	2.6	0.079	2.2	LOS A	0.4	3.1	0.20	0.35	39.8
9u	U	5	2.6	0.079	7.2	LOS A	0.4	3.1	0.20	0.35	40.1
Approach		99	2.6	0.079	2.9	LOS A	0.4	3.1	0.20	0.35	38.4
All Vehicles		215	2.6	0.079	4.0	LOS A	0.4	3.1	0.14	0.41	37.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 AM BG+DEV Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	25	2.6	0.113	3.3	LOS A	0.6	4.0	0.07	0.58	43.8
3	R2	143	2.6	0.113	7.1	LOS A	0.6	4.0	0.07	0.58	30.6
3u	U	3	2.6	0.113	8.8	LOS A	0.6	4.0	0.07	0.58	41.0
Approach		171	2.6	0.113	6.6	LOS A	0.6	4.0	0.07	0.58	34.3
East: Back Road (E)											
4	L2	20	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	33.6
6	R2	6	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	44.2
6u	U	1	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	18.6
Approach		27	2.6	0.022	0.3	LOS A	0.1	0.8	0.20	0.07	37.1
North: Bramston Terrace (N)											
7	L2	55	2.6	0.101	3.8	LOS A	0.6	4.1	0.31	0.40	34.9
8	T1	58	2.6	0.101	2.6	LOS A	0.6	4.1	0.31	0.40	39.4
9u	U	5	2.6	0.101	7.7	LOS A	0.6	4.1	0.31	0.40	39.8
Approach		119	2.6	0.101	3.4	LOS A	0.6	4.1	0.31	0.40	37.5
All Vehicles		317	2.6	0.113	4.9	LOS A	0.6	4.1	0.17	0.47	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 PM BG Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	54	2.6	0.047	3.3	LOS A	0.2	1.5	0.07	0.43	46.1
3	R2	12	2.6	0.047	7.2	LOS A	0.2	1.5	0.07	0.43	33.7
3u	U	1	2.6	0.047	8.8	LOS A	0.2	1.5	0.07	0.43	44.7
Approach		67	2.6	0.047	4.1	LOS A	0.2	1.5	0.07	0.43	45.0
East: Back Road (E)											
4	L2	39	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	34.1
6	R2	8	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	44.6
6u	U	2	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	18.9
Approach		50	2.6	0.039	0.2	LOS A	0.2	1.3	0.15	0.05	36.7
North: Bramston Terrace (N)											
7	L2	31	2.6	0.051	3.1	LOS A	0.3	1.9	0.08	0.34	35.7
8	T1	37	2.6	0.051	1.9	LOS A	0.3	1.9	0.08	0.34	40.2
9u	U	4	2.6	0.051	7.0	LOS A	0.3	1.9	0.08	0.34	40.4
Approach		71	2.6	0.051	2.7	LOS A	0.3	1.9	0.08	0.34	38.5
All Vehicles		188	2.6	0.051	2.5	LOS A	0.3	1.9	0.10	0.29	40.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [2031 PM BG+DEV Bramston Tce_Back Rd]

Job#:WAT0116-01
Job Name: Herston Quater Redevelopment
Prepared By: Matt Grierson
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bramston Terrace (S)											
2	T1	54	2.6	0.051	3.3	LOS A	0.2	1.7	0.07	0.45	45.9
3	R2	18	2.6	0.051	7.2	LOS A	0.2	1.7	0.07	0.45	33.4
3u	U	1	2.6	0.051	8.8	LOS A	0.2	1.7	0.07	0.45	44.3
Approach		73	2.6	0.051	4.4	LOS A	0.2	1.7	0.07	0.45	44.2
East: Back Road (E)											
4	L2	70	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	34.5
6	R2	8	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	44.9
6u	U	2	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	18.9
Approach		81	2.6	0.062	0.2	LOS A	0.3	2.1	0.15	0.05	36.2
North: Bramston Terrace (N)											
7	L2	32	2.6	0.053	3.1	LOS A	0.3	2.0	0.10	0.34	35.6
8	T1	37	2.6	0.053	1.9	LOS A	0.3	2.0	0.10	0.34	40.2
9u	U	4	2.6	0.053	7.0	LOS A	0.3	2.0	0.10	0.34	40.4
Approach		73	2.6	0.053	2.7	LOS A	0.3	2.0	0.10	0.34	38.3
All Vehicles		226	2.6	0.062	2.3	LOS A	0.3	2.1	0.11	0.27	40.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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