



Southern Thornlands – Stage 1 & 2 RAL

Traffic Impact Assessment

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**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Urbex Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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1.0 Introduction

1.1 Background

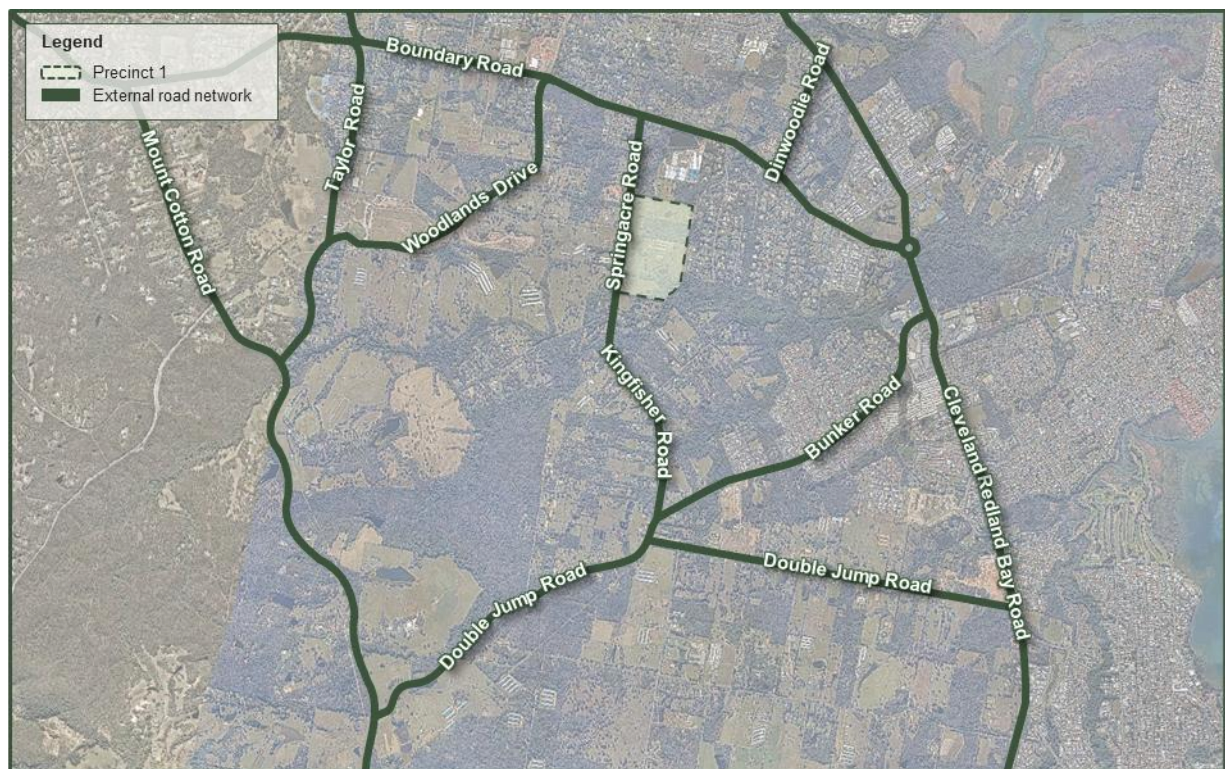
SLR Consulting Australia Pty Ltd (**SLR**) has been commissioned by Urbex Pty Ltd (**Urbex**) to prepare a Traffic Impact Assessment (**TIA**) for **Stages 1 & 2** of the Precinct 1 development area which forms part of the Southern Thornlands Priority Development Area (**PDA**).

While a previous TIA has been prepared for Precinct 1 overall, the following TIA responds to the preliminary approval conditions which require a local roads traffic impact assessment for the development application of each stage.

This report therefore addresses the first 195 residential dwellings, referred to as Stage 1 & 2 of Precinct 1 (or 'the **Subject Site**' herein).

Precinct 1 in its regional context is shown below on **Figure 1** with Stage 1 & 2 development plans included at **Appendix A**.

Figure 1 Site Location – Regional Context



1.2 Assessment Scope

This TIA report has been prepared to inform EDQ's assessment of the Reconfiguring a Lot (**RAL**) application for Stages 1 & 2 of Precinct 1 of the PDA by identifying and addressing the traffic and transport matters relevant to the proposed development, cognisant of the desire to deliver housing in a timely manner.

A Development Scheme and associated Development Charges and Offset Plan (**DCOP**) for the PDA are yet to be finalised and are currently being prepared by EDQ. These planning instruments will be underpinned by detailed transport master planning and traffic modelling being undertaken by EDQ to guide the overall development and infrastructure planning for the PDA.

This assessment considers impacts for Stages 1 & 2, while recognising that individual, site-specific traffic assessments across the PDA are unable to deliver coordinated or effective outcomes until EDQ's further PDA-wide transport planning is complete. Given the scale and complexity of the PDA, a comprehensive and integrated approach, being led by EDQ through broader transport master planning and modelling, is considered the most appropriate way to support safe, efficient and connected development across the area.

Notwithstanding the latter, the traffic assessment herein is considered appropriate to facilitate consideration and approval of the initial proposed development for Stages 1 & 2 of Precinct 1.

1.3 Existing Preliminary Masterplan Approval

The preliminary approval for Southern Thornlands envisages approximately 800 residential lots and supporting infrastructure. The most recent conditions relating to the current preliminary Approval are detailed in the following documents:

- S89(1)(a) Approval of PDA Development Application issued by EDQ on 31 October 2025 (EDQ Ref: DEV2025/1656).

Assessments of the external transport infrastructure required to support the Southern Thornlands Preliminary Approval are documented in the following reports, which are referred to herein where necessary:

- "Southern Thornlands – Precinct 1, Traffic Impact Assessment (**Springacre Road**)" Version 1.1 dated 23 June 2025 prepared by SLR.
- "Southern Thornlands – Precinct 1, Speed Limit Review – Springacre Road" Version 1.2 dated 11 June 2025 prepared by SLR.
- "Southern Thornlands – Precinct 1, Traffic Impact Assessment (**State-controlled Roads**)" Version 1.0 dated 23 June 2025 prepared by SLR.



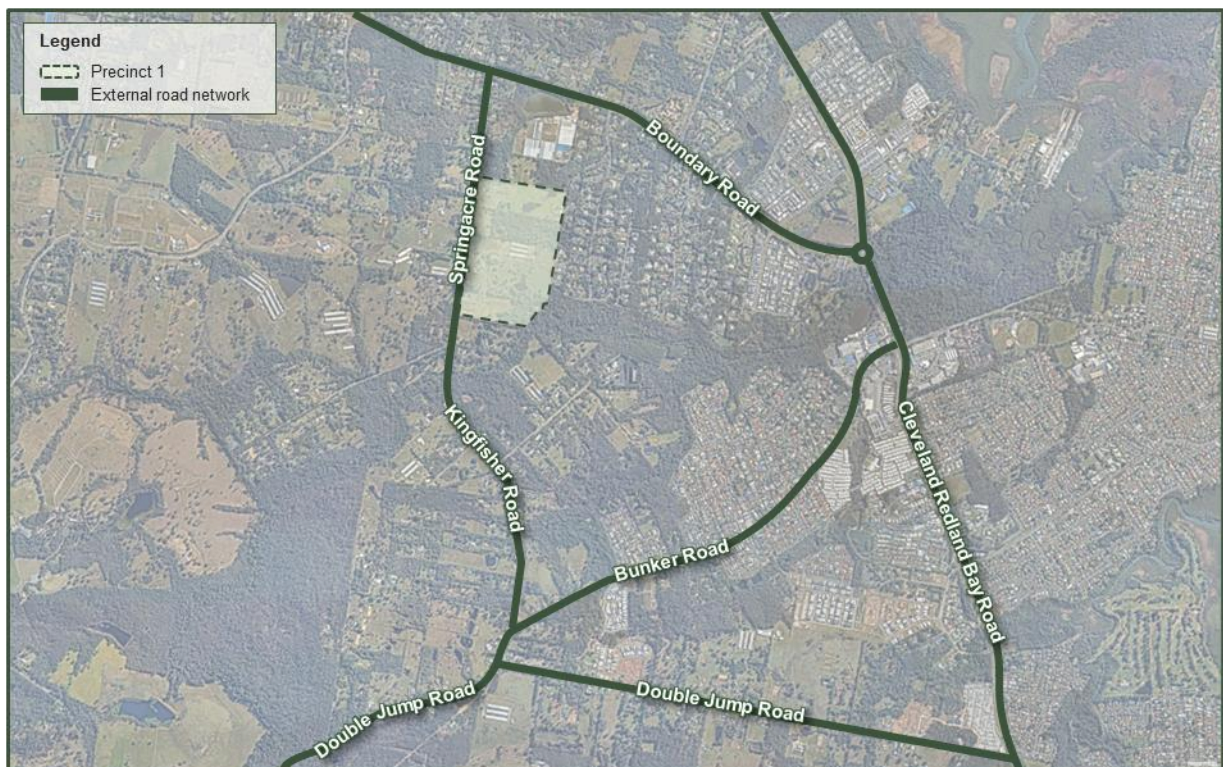
2.0 Existing Conditions

2.1 Site Context

The subject site is located at Springacre Road, Thornlands and is located within the local government area of Redlands City Council (**RCC**). As noted previously, the subject site is fully contained within the declared Southern Thornlands PDA.

The site is bound by Springacre Road to the west, rural residential properties to the north and south and low-density residential properties to the east. The site is shown in its local context in **Figure 2**.

Figure 2 Site Location – Local Context



2.2 Surrounding Road Network

To ensure the development aligns with the RCC *Local Government Infrastructure Plan (LGIP)*, the surrounding road network has been assessed to account for the expected increase in vehicle volumes attributed to the development. Detailed analysis of the road network to the south has been undertaken, with particular focus on the Kingfisher Road / Bunker Road and Bunker Road / Double Jump Road intersections, which are detailed in subsequent sections of this report (this considers the future 4-way intersection proposed by RCC).

Details of the key surrounding roads assessed within this analysis are summarised in **Table 1**.

Table 1 Key Surrounding Roads

Road Name	Classification	Authority
Boundary Road	Arterial Road	TMR
Springacre Road	Sub Arterial Road	RCC
Bunker Road	Sub Arterial Road	RCC
Double Jump Road	Sub Arterial Road	RCC
Kingfisher Road	Sub Arterial Road	RCC



2.3 Road Network Planning

RCC's *LGIP* mapping has been reviewed to identify the location and nature of any planned trunk works in the vicinity of the subject site (in lieu of an EDQ Development Scheme and DCOP). Review of this material indicates that there are planned works for the external road network which are summarised in **Table 2**.

Table 2 Planned Transport Trunk Works

LGIP ID	Road Name	Planned Works	Planned Date	Completed
TR-L-79	Springacre Rd	New 2.5m Off-road cycle path	2017-21	No
TR-L-97	Kingfisher Rd	Seal widening and intersection upgrade from Erapah Creek to Realignment	2022-26	No
TR-L-99	Springacre Rd	Seal widening and intersection upgrade from Erapah Creek to Erapah Road	2022-26	No
TR-L-106	Bunker Rd	Seal widening from Brookvale Drive to Realignment	2022-26	No
TR-L-107	Springacre Rd	Seal widening and intersection upgrade from Boundary Road to Erapah Road	2022-26	No
TR-L-108	Double Jump Rd	Seal widening from Cleveland-Redland Bay Road to Heinemann Road	2022-26	No
TR-L-115	Double Jump Rd	Realignment Heinemann to Kingfisher, new intersection Heinemann, roundabout Bunker	2017-21	No

Of direct relevance to the subject development are the following LGIP items:

- Springacre Road will be widened (TR-L-107), and a new off-road cycle path (TR-L-79) will be constructed along the development frontage.
- The Kingfisher Rd/Bunker Road/Double Jump Road intersections will be upgraded with associated road realignment (TR-L-97, 106, 108, and 115).

It is understood that the latter works would convert the existing two offset T-intersections into a single 4-way intersection.

The Department of Transport and Main Roads (**TMR**) is currently undertaking the following studies in the region:

- *Mount Cotton Road, Duncan Road to Double Jump Road Planning Study.*
- *Redland Bay Road Taylor Road to Cleveland Redland Bay Road Planning Study.*
- *Bayside and Redlands Transport and Mobility Study* to investigate the transport challenges and mobility priorities relating to road, active transport and public transport modes.

It is assumed that EDQ, TMR and RCC are coordinating on the latter studies to ensure that these studies reflect and accommodate the PDA planning.



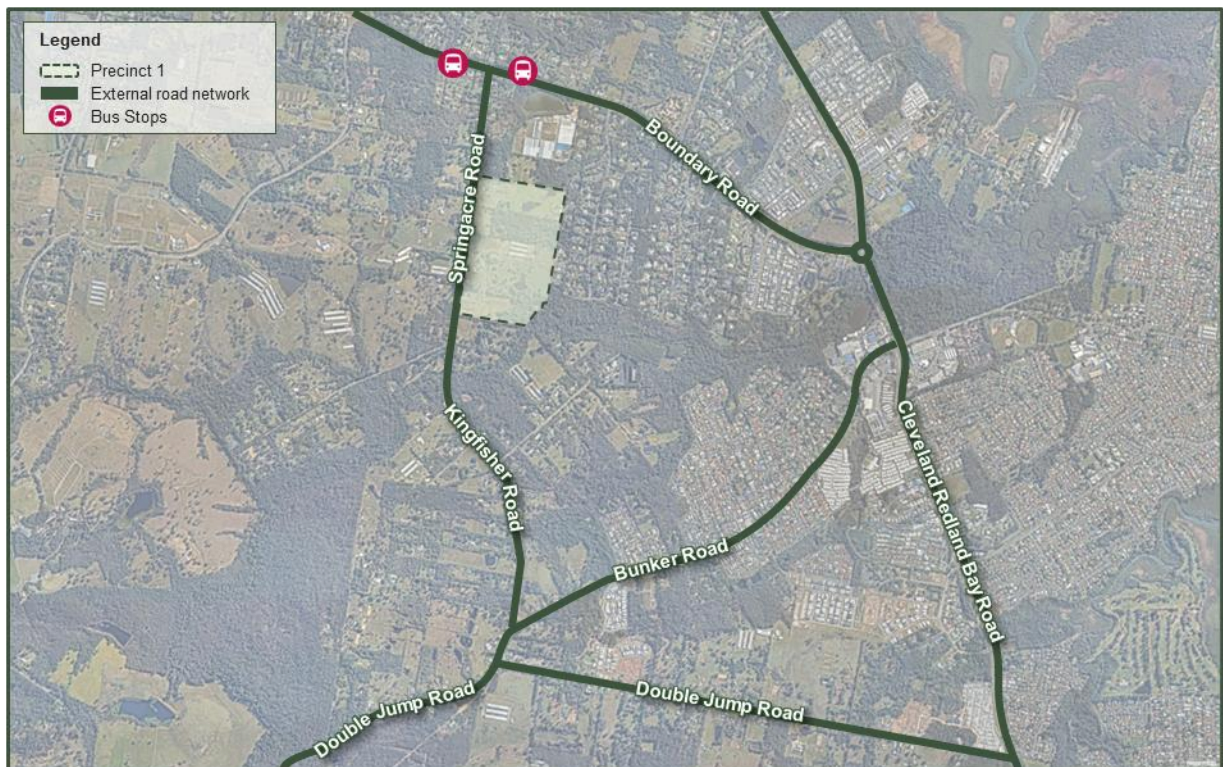
2.4 Public Transport

The subject site currently has limited access to existing public transport, with the nearest public transport being Bus Stops 311113 and 311108 approximately 1km north of the proposed development. The nearest service route stops are:

- Route 270: Boundary Road at Woodlands Drive, Thornlands.
- Route 280: Boundary Road at Springacre Road, Thornlands.

The location of the inbound and outbound stops relative to the development are shown on **Figure 3**.

Figure 3 Existing Bus Stop Locations



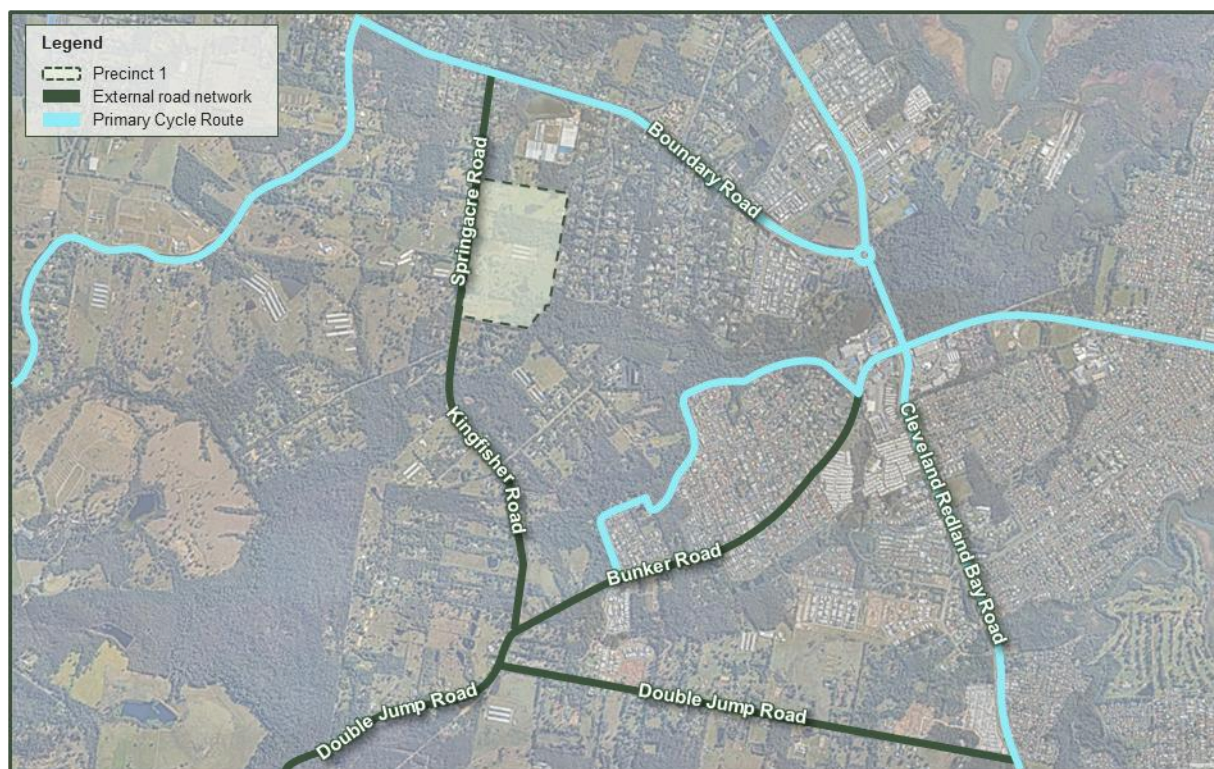
2.5 Active Transport

TMR's Principal Cycle Network Plan (**PCNP**) for the area (see **Figure 4**) shows principal routes on Boundary Road and Woodlands Drive to the north and west respectively (noting there are no continuous facilities currently available on these corridors).

To the south-east, principal routes are mapped along sections of the Eprapah Creek Corridor which are currently provided as 2.0 - 2.5m shared paths.

RCC designates Springacre Road as an "On Road – Recreational" route and Boundary Road as an "On Road – Commuter" route. It is assumed that EDQ's broader transport network planning (currently underway) will provide a holistic active transport plan for the PDA that integrates with the surrounding network (existing and planned).

Figure 4 Principal Cycle Route Mapping



3.0 Stage 1 & 2 Development

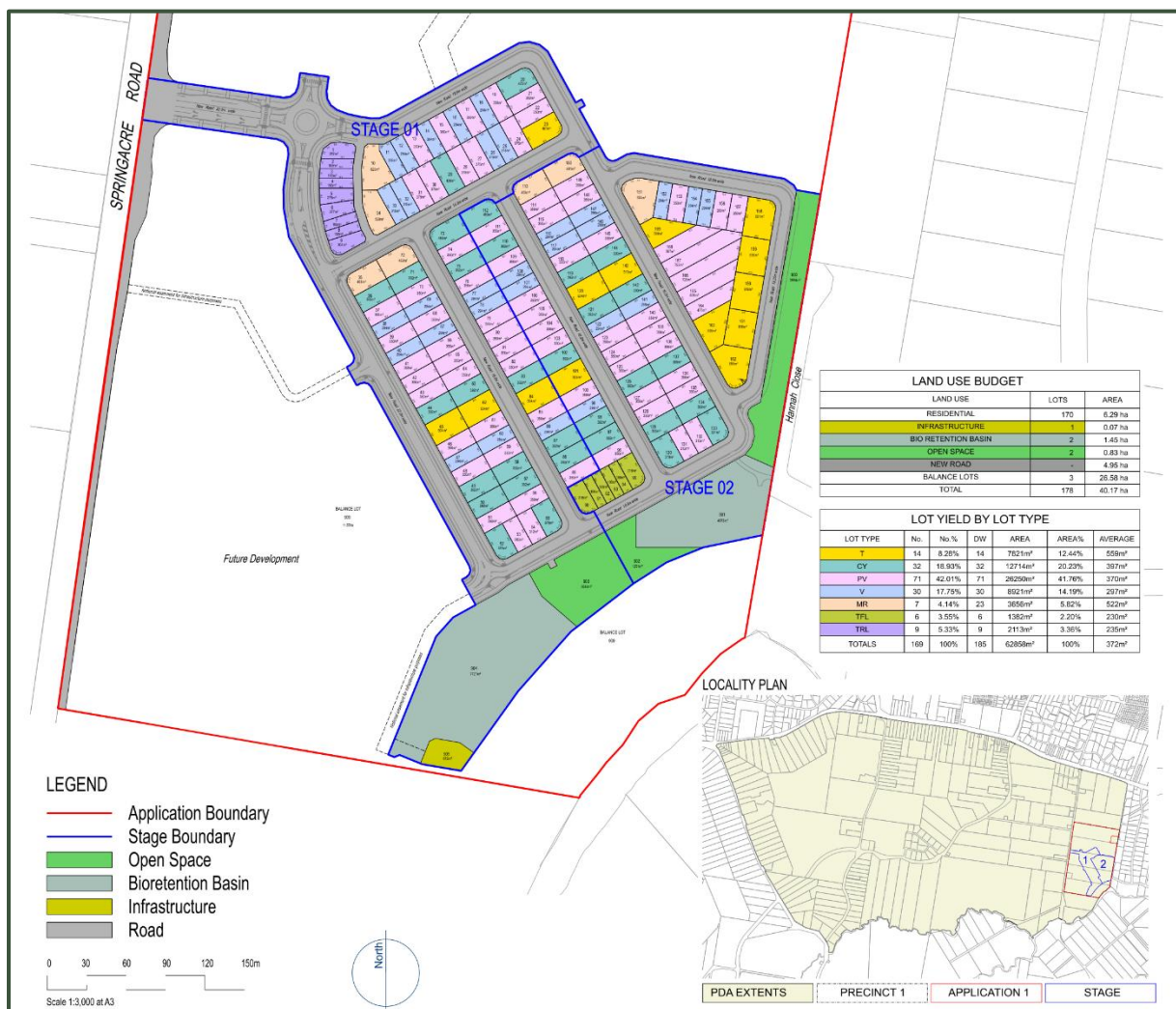
3.1 Proposed Development

Based on the development plans prepared by Urbex and reproduced at **Appendix A**, Stage 1 & 2 of Precinct 1 will be focussed on residential delivery. As final lot layouts and yields were still being refined at the time of this report preparation, the following nominal yields have been adopted for traffic assessment purposes:

- Up to 195 residential dwellings, comprising:
 - Detached Dwellings: 175 dwellings
 - Multiple Dwellings: 20 dwellings

The proposed Stage 1 & 2 layout is shown below in **Figure 5**.

Figure 5 Layout Plan



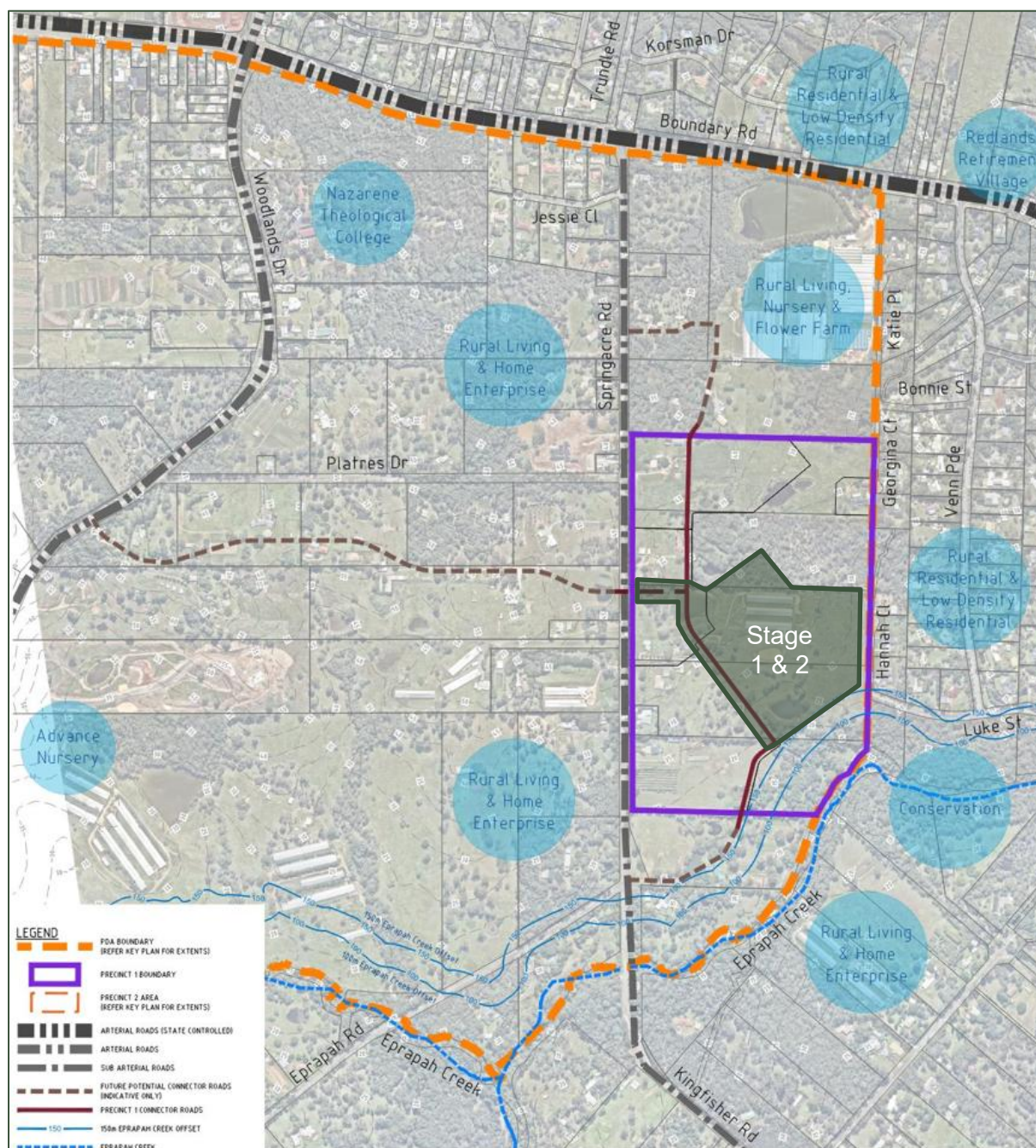
4.0 Design Considerations

4.1 External Access

As shown in the previous TIAs, vehicle connection to the subject development is proposed via a new signalised intersection on the Springacre Road frontage. This provides access to Stages 1 & 2 directly, while also allowing for future connections to be provided to Springacre Road by expansion of the development area (by Urbex or others) to the north and south as shown on **Figure 6**.

Substantial vegetation constraints over the eastern part of the site mean that a direct road connection to the east is not proposed. Emergency access only will be provided via Hannah Close on the eastern boundary of the site.

Figure 6 Access Arrangements



The previous TIAs undertaken by SLR considered the intersection location such that it would not prejudice development of other parts of the PDA (such as conversion to a four-way signalised intersection to support development to the west).

Plans showing the proposed internal road network layout, road hierarchy and cross sections (prepared by Empower) are shown below in **Figure 7** and included at **Appendix B**.

[illegible]

- To encourage a lower vehicle speed environment;
- Allow access by the required service and emergency vehicles;
- Provide appropriate opportunities for on-street car parking;
- To promote a pedestrian and bicycle friendly environment.

4.3 Active Transport Provisions

Internal roads cross-sections provide a mixture of shared paths and footpaths to provide a logical network that connects to Springacre Road which in turn facilitates future connections north and south.

External to the site, a 2.5m shared path is envisaged for Springacre Road within the eastern verge (as confirmed with EDQ). Urbex will deliver the shared path for the extent of the Springacre Road interim upgrade works. Delivery of the shared path beyond this location is subject to establishment of the DCOP and should be delivered by future developments and coordinated with broader road network upgrades. The shared path will ultimately provide direct connection to the Principal Cycle Route on Boundary Road, when development to the north (by others) is delivered.

4.4 Public Transport Provisions

In accordance with transport planning requirements, an interim bus stop location has been proposed on the northern side of the access road to Stage 1 & 2. This bus stop places 95% of the dwellings in Stage 1 & 2 within a 400m (walk radius) catchment area as per EDQ requirements. It is relevant to note that this bus stop also enables most of Precinct 1 to be within this 400m catchment.

Figure 8 Indicative Public Transport Catchment



5.0 Operational Assessment

5.1 Study Scope

An updated analysis of the proposed site access intersection has been undertaken to confirm the proposed intersection form to enable Stage 1 & 2. As per the previous TIAs, this intersection will support ultimate delivery of Precinct 1 and does not prejudice an ultimate four-way intersection format if required in the future.

The following operational analysis also provides a detailed analysis of two additional intersections beyond the original Precinct 1 TIA. Traffic analysis of these intersections, located to the south of the site, ensures sufficient assessment of the traffic impacts on the local road network, with delivery of upgraded intersection forms reliant on coordination between RCC and EDQ. The assessed intersection locations are shown in **Figure 9** and summarised below in **Table 3**.

Figure 9 Study Intersections

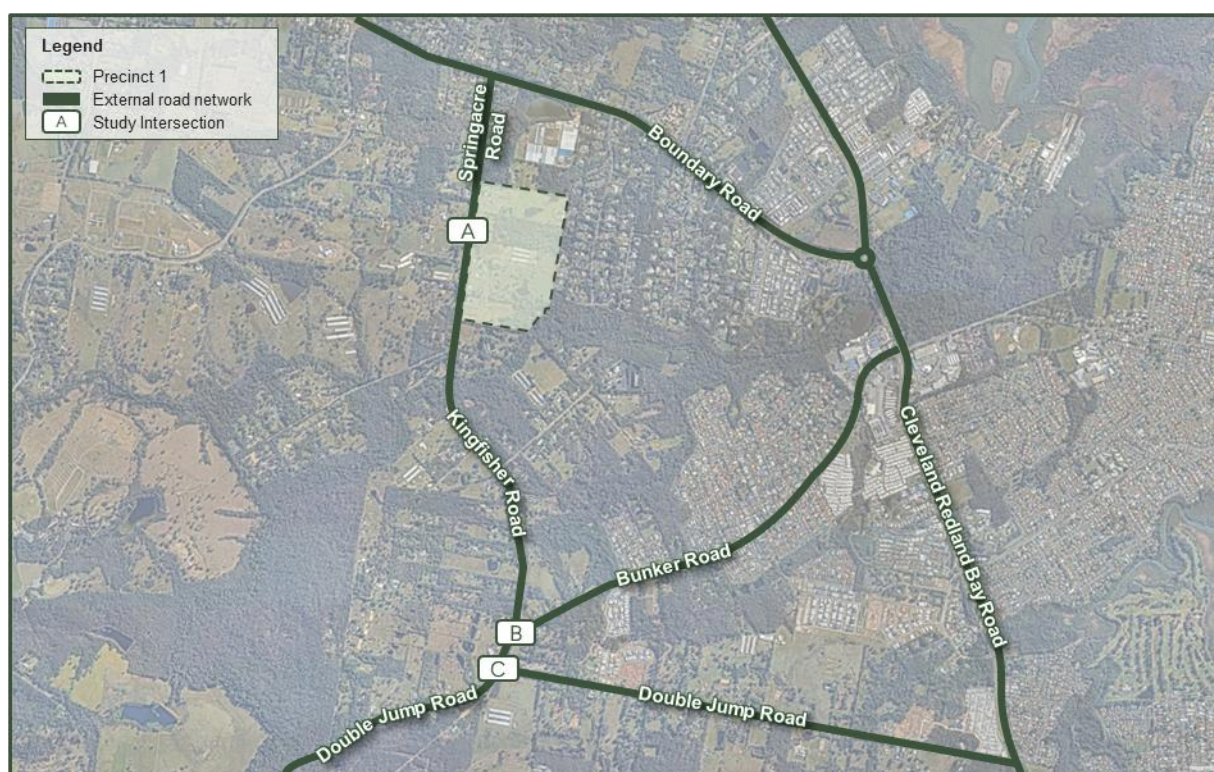


Table 3 Study Intersections Summary

ID	Intersection Name	Intersection Form
A	Site Access / Springacre Road	Signalised T-Intersection
B	Kingfisher Road / Bunker Road	Unsignalised T-Intersection
C	Bunker Road / Double Jump Road	Unsignalised T-Intersection



5.2 Existing Traffic Demand

To ascertain the existing traffic conditions for the study intersections identified, SLR commissioned Austraffic to carry out surveys for typical weekday AM and PM peak periods.

The survey was undertaken on Tuesday 18 November 2025. The peak period on Springacre Road was found to be:

- AM Peak Hour: 7:30AM – 8:30AM
- PM Peak Hour: 3:15PM – 4:15PM

5.3 Background Traffic Growth

A linear growth rate of 3.0% per annum has been adopted for Springacre Road. TMR traffic census data (for the adjacent Boundary Road) has recorded approximately 1% growth per annum over the last ten years.

As per previous assessments, for conservatism, 3% has been adopted to estimate traffic volumes at the assessed future year horizons. It is important to recognise that this growth rate does not allow for the full potential future development in the PDA, but is nonetheless considered to be appropriate for the assessment herein.

5.4 Development Traffic Demand

5.4.1 Traffic Generation

The following development traffic generation rates for detached dwellings were found to be applicable in accordance with the hierarchical approach outlined in TMR's GTIA and are informed by SLR traffic surveys and data published on the Queensland Open Data Portal.

- Weekday daily vehicle trips: 7.2 vehicles per dwelling
- AM and PM peak hours: 0.72 vehicles per dwelling.

However, as per previous Precinct 1 assessments, a conservative approach to traffic generation has been adopted (to provide a factor of safety) regarding the intersection operations. Therefore, a peak hour traffic generation rate of 0.8 vehicles per dwelling has been utilised for this Stage 1 & 2 assessment.

Given the potential mix of densities within the multiple dwelling lots, a rate of 0.5 vehicles per dwelling has been utilised during the peak hour periods, in line with the guidance in the RTA's *'Guide to Traffic Generating Developments (2002)'*.

5.4.2 Directional Split

Directional traffic assumptions (i.e. inbound, and outbound) were determined based on publicly available data and SLR's traffic engineering experience with similar large scale residential developments. The resultant directional split is shown in **Table 4**.

Table 4 Directional Split

Land Use	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Residential	40%	60%	60%	40%

The estimated development traffic demand forecasts are presented in **Table 5**.



Table 5 Development Traffic Demand

Land Use	Assessed Yield	AM Peak Hour Traffic Generation		PM Peak Hour Traffic Generation	
		In	Out	In	Out
Detached Dwelling	175 dwellings	56 vph	84 vph	84 vph	56 vph
Multiple Dwelling	20 dwellings	4 vph	6 vph	6 vph	4 vph
Total		60 vph	90 vph	90 vph	60 vph

5.4.3 External Distribution

The development traffic generation was assigned to the external road network based on the percentages shown in **Table 6**. These directional distribution assumptions were informed by the traffic survey and SLR's professional experience. The resultant development traffic flows are presented graphically in **Appendix C**.

Table 6 External Traffic Distribution

Direction on Springacre	Broader Destination	AM Peak		PM Peak	
		In	Out	In	Out
North		70%	70%	70%	70%
South	Bunker Road	10%	10%	10%	10%
	Double Jump Road (West)	15%	15%	15%	15%
	Double Jump Road (East)	5%	5%	5%	5%
Total		100%	100%	100%	100%

5.5 Assessment Scenarios

For the purposes of the traffic assessment conducted herein, SLR has assumed that Stage 1 & 2 of the proposed development would be completed and operational by 2027. Based on this, the operational performance of the new intersection has been considered for the following scenarios:

- **2027 'With Development':** To establish the year of opening baseline operating conditions in their existing built form with all approved development in place.
- **2037 'With Development':** To identify the impact of development traffic under proposed operating conditions at the 10-year design horizon.

The operational performance of the two intersections to the south also includes 'Without Development' scenarios at 2027 and 2037.



5.6 Performance Criteria

5.6.1 Intersection Performance Thresholds

Study intersections were analysed for each of the scenarios using SIDRA Intersection 9.1 (**SIDRA**). SIDRA is an industry recognised analysis tool used to estimate the capacity and performance of intersections based on input parameters, including geometry and traffic volumes. SIDRA provides an estimate of an intersection's Degree of Saturation (**DOS**), queues and delays. DOS thresholds defined by the *Guideline for Assessment of Road Impacts of Developments* (**GARID**) (TMR, 2006) are presented in **Table 7** below.

Table 7 GARID Intersection Performance Thresholds

Intersection Type	DOS Thresholds
Signalised	Less than or equal to 0.90
Roundabouts	Less than or equal to 0.85
Priority-controlled	Less than or equal to 0.80

DOS values exceeding those presented in **Table 7** indicate that an intersection is nearing its practical capacity and upgrade works may be required. Above these threshold values, users of the intersection are likely to experience rapidly increasing delays and queuing.





5.8 Intersection B – Kingfisher Road / Bunker Road

5.8.1 Existing Layout Analysis

The Kingfisher Road / Bunker Road intersection form is currently an unsignalised three-way intersection. The existing layout as assessed in SIDRA is shown in **Figure 11**. The results of the SIDRA assessment are presented in **Table 9**. Detailed SIDRA outputs are provided at **Appendix D**.

Figure 11 Int B – Kingfisher Road / Bunker Road – Existing Intersection Form

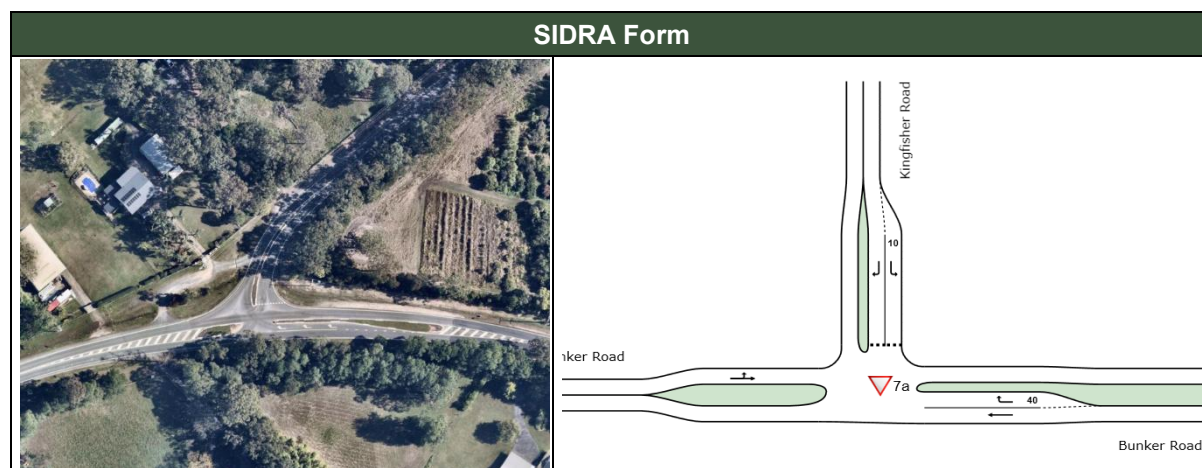


Table 9 Int B – Kingfisher Road / Bunker Road – SIDRA Outputs

Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Critical Delay (sec)	95 th ile Queue (m)	DOS	Critical Delay (sec)	95 th ile Queue (m)
2027 Background	0.46	20	15	1.01	71	149
2027 With Development	0.53	22	19	1.07	106	212
2037 Background	0.93	66	55	1.81	756	1066
2037 With Development	1.04	113	106	1.90	843	1155

The SIDRA analysis results summarised in **Table 9** identifies that the existing intersection configuration will not perform within the adopted performance thresholds for an unsignalised intersection under future traffic conditions regardless of the addition of any development traffic. Whilst the addition of the development traffic shows an impact at the intersection, the quantitative impacts are disproportionate due to the exacerbated nature of the impacts once an intersection has exceeded capacity (i.e. over DOS 1.0).

Stage 1 & 2 development traffic volumes at this location are approximately 3.2% at 2027 and 2.5% at 2037 and are equivalent to approximately one year of background growth (i.e., a minor increase in terms of absolute traffic volumes). As noted in **Section 2.3**, works are identified in RCC's LGIP for a future upgrade of the Kingfisher Road / Bunker Road intersection, which will realign this intersection with the Bunker Road / Double Jump Road.

Given the capacity constraints of the intersection regardless of development, it is anticipated that the LGIP works (which were planned for the period 2017-2021) will be required imminently. Further assessment of this intersection form is provided in **Section 5.10**.



5.9 Intersection C – Bunker Road / Double Jump Road

5.9.1 Existing Layout Analysis

The Bunker Road / Double Jump Road intersection form is currently an unsignalised three-way intersection. The existing layout as assessed in SIDRA is shown in **Figure 12**. The results of the SIDRA assessment are presented in **Table 10**. Detailed SIDRA outputs are provided at **Appendix D**.

Figure 12 Int C – Bunker Road / Double Jump Road – Existing Intersection Form

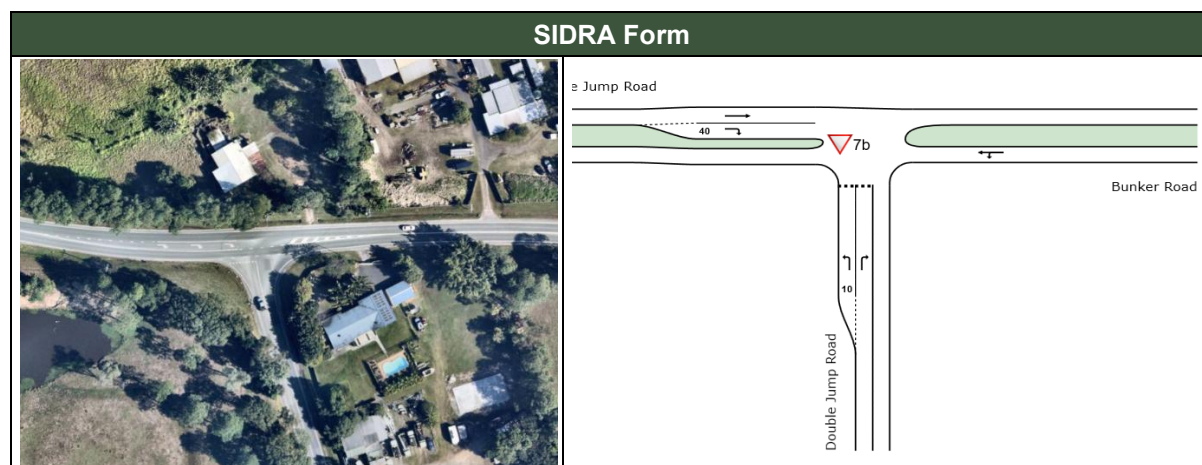


Table 10 Int C – Bunker Road / Double Jump Road – SIDRA Outputs

Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Critical Delay (sec)	95 th ile Queue (m)	DOS	Critical Delay (sec)	95 th ile Queue (m)
2027 Background	1.03	74	188	0.84	42	42
2027 With Development	1.07	101	238	0.89	52	52
2037 Background	1.68	640	1129	1.82	778	590
2037 With Development	1.75	705	1198	1.93	884	641

The SIDRA analysis results summarised in **Table 10** identifies that the existing intersection configuration will not perform within the adopted performance thresholds for an unsignalised intersection under future traffic conditions regardless of the addition of any development traffic. Whilst the addition of the development traffic shows an impact at the intersection, the quantitative impacts are disproportionate due to the exacerbated nature of the impacts once an intersection has exceeded capacity (i.e. over DOS 1.0).

Stage 1 & 2 development traffic volumes at this location are approximately 2.0% at 2027 and 1.6% at 2037 and are less than approximately one year of background growth (i.e. a minor increase in terms of absolute traffic volumes). As noted in **Section 2.3**, works are identified in RCC's LGIP for the future upgrade of the Bunker Road / Double Jump Road intersection, which will realign this intersection with Kingfisher Road / Bunker Road.

Given the capacity constraints of the intersection regardless of development, it is anticipated that the LGIP works (which were planned for the period 2017-2021) will be required imminently. Further assessment of this intersection form is provided below in **Section 5.10**.



5.10 Intersection B / C - Future Kingfisher Road / Bunker Road / Double Jump Road Intersection

5.10.1 Future Signalised (LGIP) Layout Analysis

A potential future four-way signalised intersection form at Kingfisher Road / Bunker Road / Double Jump Road has been assessed in SIDRA, as shown in **Figure 13**. While the LGIP noted this as a roundabout, more recent planning by RCC indicates that a signalised intersection is preferred. This intersection form is indicative only.

The results of the SIDRA assessment are presented in **Table 11**. Detailed SIDRA outputs are provided at **Appendix D**.

Figure 13 Int B/C - Kingfisher Road / Bunker Road / Double Jump Road – Signalised (LGIP) Intersection Form

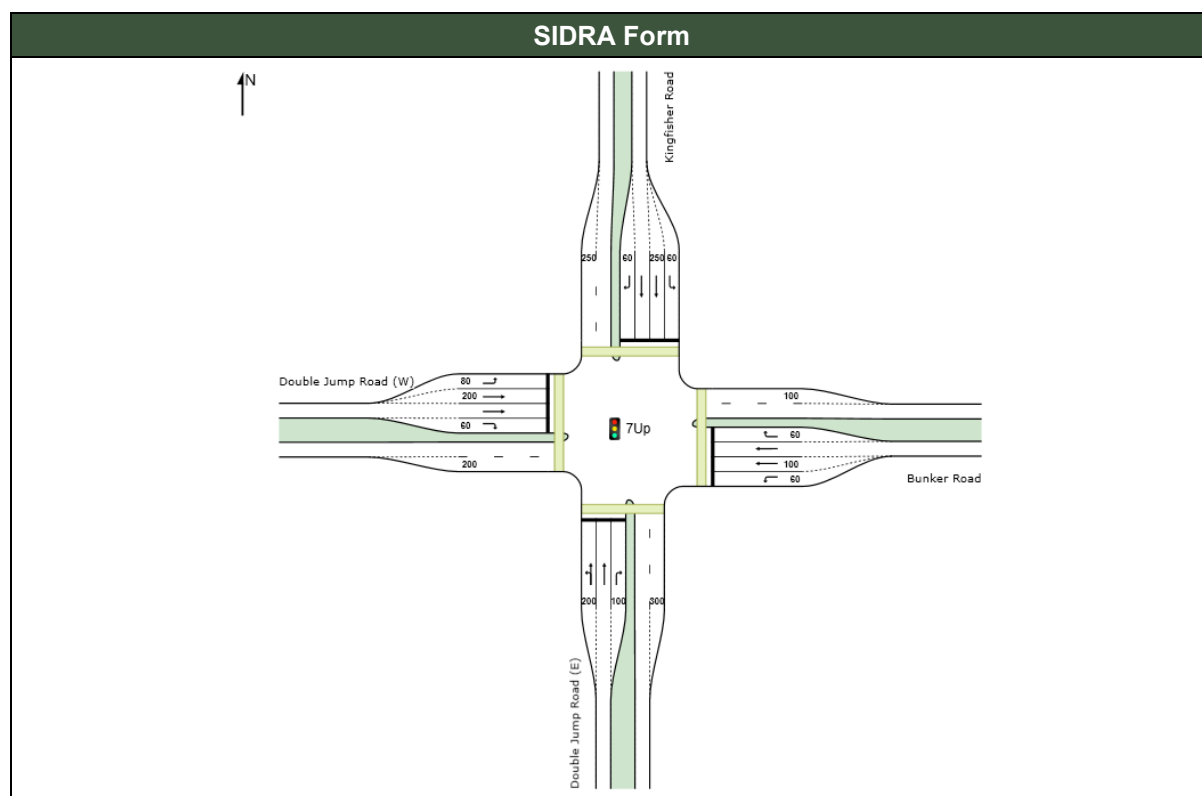


Table 11 Int B/C - Kingfisher Road / Bunker Road / Double Jump Road - SIDRA Outputs

Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Average Delay (sec)	95 th ile Queue (m)	DOS	Average Delay (sec)	95 th ile Queue (m)
2027 Background	0.64	30	65	0.83	38	76
2027 With Development	0.66	30	66	0.92	39	76
2037 Background	0.81	33	95	0.65	42	106
2037 With Development	0.84	33	96	0.67	42	106



The results of the SIDRA analysis summarised in **Table 11** shows that the potential signalised intersection form will operate within the typically acceptable performance thresholds for a signalised intersection for the background scenarios, with sufficient capacity to cater for the proposed development traffic up to and beyond the ten-year design horizon.

This upgraded intersection form is essential to address existing operational and safety concerns. Urbex is supportive of RCC and EDQ working to facilitate this upgrade and will contribute in accordance with a future DCOP or alternative contributions mechanism to be negotiated.

Given that the need for this intersection upgrade has already been established (via the existing LGIP, reconfirmed through this analysis and highly likely to be aligned with EDQ's transport planning) and relies on acquisition of third-party land, it would be unreasonable for Urbex to be conditioned to directly upgrade the intersection.



5.11 Intersection B - Kingfisher Road / Bunker Road (Interim Proposal)

5.11.1 Interim Works Layout Analysis

Due to the unknown timing of the planned LGIP works (despite being required imminently as identified and assessed above), interim works have been considered at the Kingfisher Road / Bunker Road intersection to provide some mitigation to the developments impacts until such a time that the LGIP works and the upgrade of the two priority-controlled intersections to a signalised intersection is complete.

The proposed layout as assessed in SIDRA is shown in **Figure 14**. The results of the SIDRA assessment are presented in **Table 12**. For ease, the results of the previous assessment without the proposed interim works for the opening year 2027 have been reproduced in the below table. It has been assumed that by the 2037 design horizon the LGIP works will be complete, and as such, the interim works have not been assessed for this scenario. Detailed SIDRA outputs are provided at **Appendix D**.

Figure 14 Int B – Kingfisher Road / Bunker Road – Interim Form

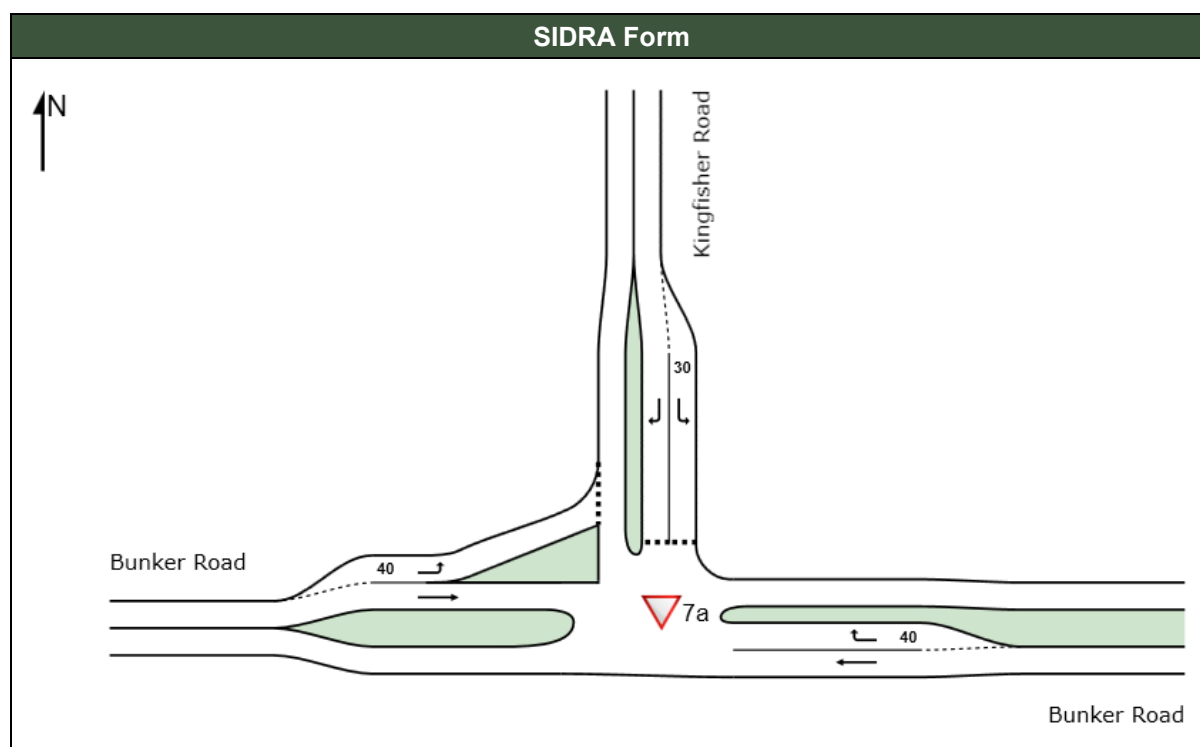


Table 12 Int B – Kingfisher Road / Bunker Road (Interim Form) - SIDRA Outputs

Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Critical Delay (sec)	95 th ile Queue (m)	DOS	Critical Delay (sec)	95 th ile Queue (m)
Existing Layout						
2027 Background	0.46	20	15	1.01	71	149
2027 With Development	0.53	22	19	1.07	106	212
Interim Layout						
2027 With Development	0.43	17	15	0.97	50	118

The interim intersection configuration provides minor benefits to the operational performance, such that it mitigates impacts associated with Stage 1 & 2. As identified previously, the proposed LGIP works are required to address the long-term capacity issues of the existing intersection.

However, uncertainty exists regarding the cost-benefit viability of these interim works. Given the possible timeframes typically associated with design approval, stakeholder consultation, and construction delivery, there is a considerable risk that the interim infrastructure may only operate for a limited period before being replaced by the ultimate four-way signalised intersection solution.

It would be appropriate for Urbex to negotiate some contributions to the required road network infrastructure upgrades (either interim or ultimate) with EDQ, noting that ultimately a DCOP will be established by EDQ to apportion reasonable infrastructure charges to developers within the PDA. The ultimate delivery of the road network upgrades will need to be coordinated by RCC and EDQ.



6.0 Summary

Consistent with the previous Precinct 1 traffic impact assessment, Stages 1 & 2 of residential development proposes access arrangements that facilitate the delivery of initial lots while aligning with the ultimate design and function of Springacre Road. The access arrangement to Springacre Road has been developed to meet current traffic needs while maintaining flexibility to accommodate the future transport network and broader development outcomes, which are still being finalised by EDQ as part of the Development Scheme and DCOP.

The expanded assessment of the Kingfisher Road / Bunker Road and Bunker Road / Double Jump Road intersections identifies the following:

- The intersections in their current arrangement experience deteriorating performance regardless of the Stage 1 & 2 development.
- Stage 1 & 2 development traffic represents the equivalent of approximately one year of background growth that would otherwise have occurred due to cumulative impacts of other developments in the region.
- LGIP works have previously been identified by RCC but not delivered within the 2017-2021 timeframe. The proposed / potential four-way signalised intersection form accommodates both background and Stage 1 & 2 traffic and delivers significant safety improvements.
- An interim upgrade proposal has been considered for the Bunker Road / Kingfisher Road intersection to address existing safety and operational concerns. This offsets the development impacts (from Stage 1 & 2 traffic) however the operational performance remains outside generally adopted thresholds. The viability of this interim solution is uncertain given the potential for a limited operational period between completion of construction and commencement of the ultimate four-way intersection upgrade.

It would be appropriate for Urbex to negotiate some contributions to the required road network infrastructure upgrades (either interim or ultimate) with EDQ, noting that ultimately a DCOP will be established by EDQ to apportion reasonable infrastructure charges to developers within the PDA. The ultimate delivery of the road network upgrades will need to be coordinated by RCC and EDQ.

Active transport infrastructure (shared paths and footpaths) is proposed on the internal Stage 1 & 2 streets which logically connect with active transport infrastructure previously identified on Springacre Road.

Public transport infrastructure has been considered through the provision of an interim bus stop location to service Stage 1 & 2. This approach allows for flexibility in accommodating the future public transport strategy which remains subject to review and implementation by EDQ and Translink.

Delivery of Stage 1 & 2 of Precinct 1 internal street network and associated active transport and public transport connections does not prejudice future delivery of broader transport networks to be established by EDQ for the PDA.



7.0 RPEQ Certification

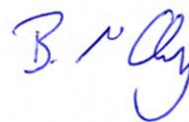
This report has been prepared under the direction of a Registered Professional Engineer of Queensland (**RPEQ**) who is experienced in traffic engineering. The report is endorsed by that RPEQ accordingly.

Sincerely,

SLR Consulting Australia



Jess Peters - RPEQ No: 17838
Principal Consultant - Transport Advisory



Brett McClurg – RPEQ No: 7628
Technical Director – Transport Advisory





Appendix A Stage 1 & 2 Plans

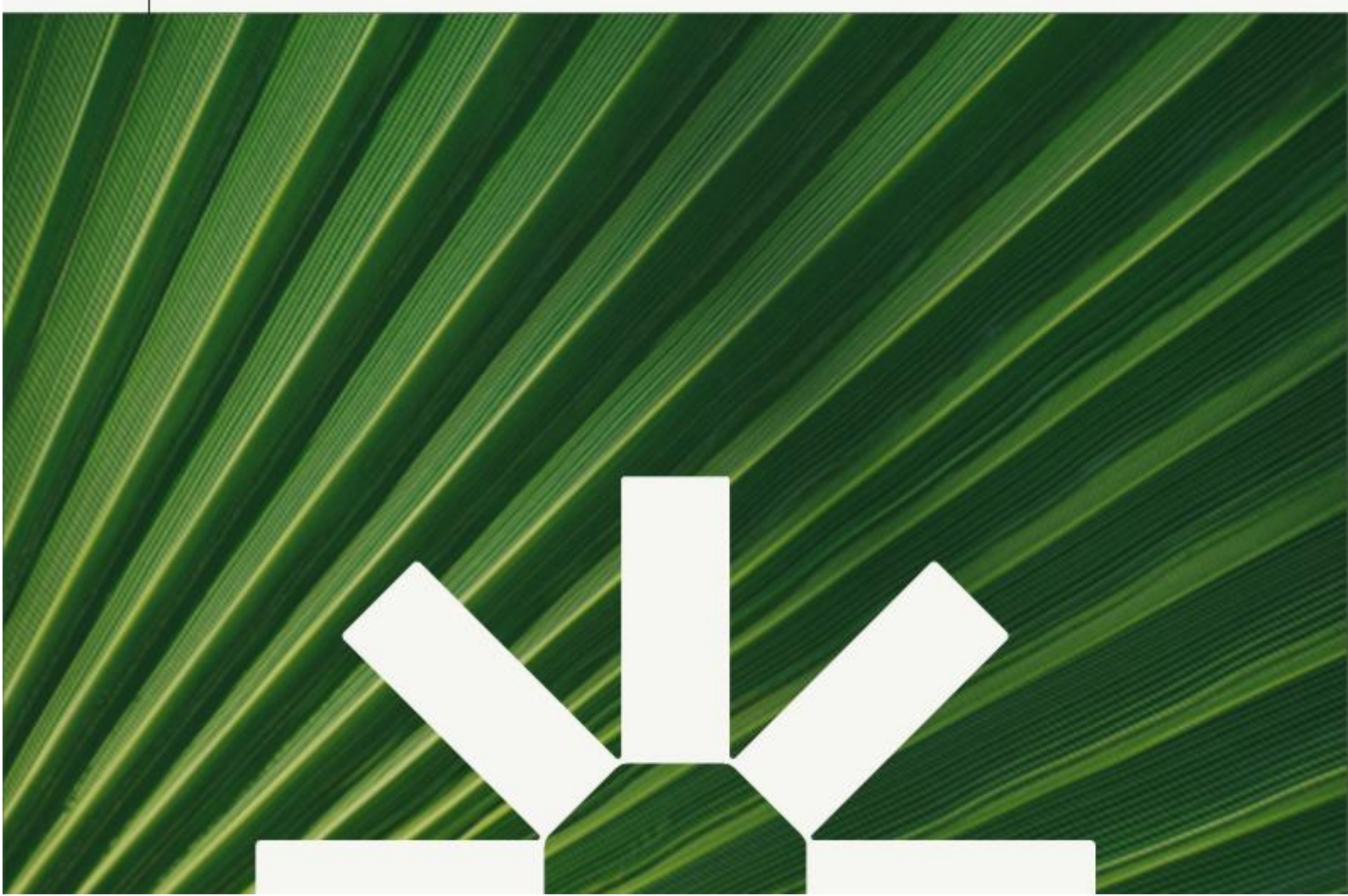
Southern Thornlands – Stage 1 & 2 RAL

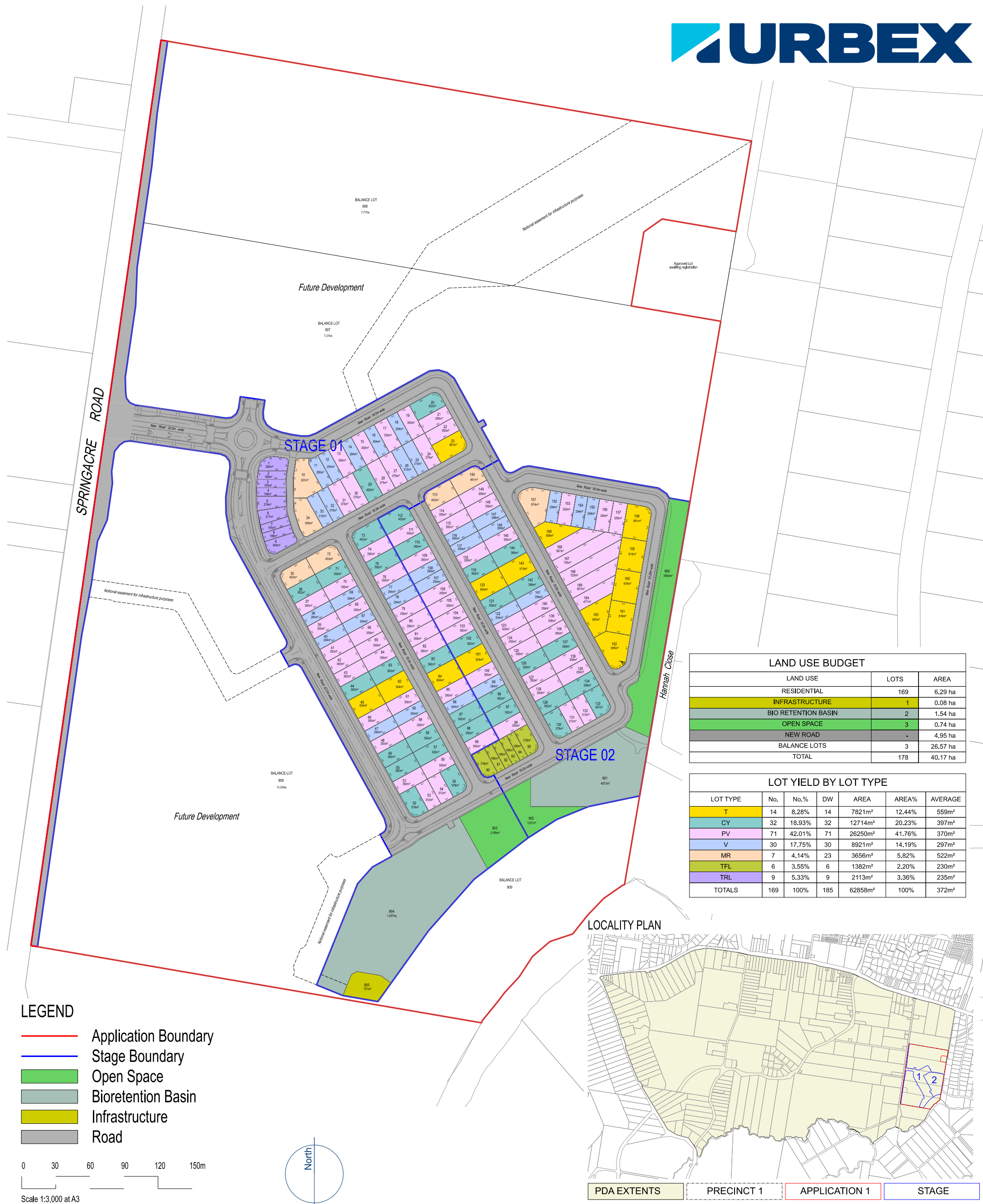
Traffic Impact Assessment

Urbex Pty Ltd

SLR Project No.: 620.040303.00004

17 December 2025





Southern Thornlands Precinct 1 Reconfiguration of a Lot - Application 1

DRAWING NO STP01-RaL1 (Sht 1 of 3)
DATE 12.12.2025
FILE REF STP01

Prepared by Place Plan for Urbex Pty Ltd
DISCLAIMER: This design and drawing is subject to Copyright and intellectual property laws and may not be reproduced for any purpose without the consent of Urbex Pty Ltd. This plan is indicative only, and specific uses, road alignment, boundaries, setbacks shown may vary due to detailed design consideration and relevant Authority approvals. c 2025

Appendix B Internal Road Layout

Southern Thornlands – Stage 1 & 2 RAL

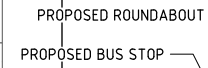
Traffic Impact Assessment

Urbex Pty Ltd

SLR Project No.: 620.040303.00004

17 December 2025





0 40 80 120 160 200m

40 30 20 10

SCALE 1:2000 (A1) 1:4000 (A3)

DO NOT SCALE USE ONLY THE DIMENSIONS PROVIDED.

PROPOSED STAGE BOUNDARY

PROPOSED LOT BOUNDARY

CENTRE CONNECTOR
 32.0m WIDE ROAD RESERVE
 2x7m WIDE ROAD PAVEMENTS
 5.0m MEDIAN
 2x6.5m WIDE VERGES

PARKING COLLECTOR (NEIGHBOURHOOD CONNECTOR)
 22.0m WIDE ROAD RESERVE
 11.2m WIDE ROAD PAVEMENT
 2x2.3m WIDE PARKINGS
 4.5m AND 6.3m WIDE VERGES

ACCESS STREET ~ 7.5m
 16.0m WIDE ROAD RESERVE
 7.5m WIDE ROAD PAVEMENT
 4.25m WIDE VERGES

ACCESS STREET ~ 7.5m WITH 3m PATH
 18.0m WIDE ROAD RESERVE
 7.5m WIDE ROAD PAVEMENT
 4.25m AND 6.25m WIDE VERGES

ACCESS STREET ~ 7.5m WITH 3m PATH
 16.0m WIDE ROAD RESERVE
 7.5m WIDE ROAD PAVEMENT
 4.25m WIDE VERGES

ACCESS STREET ~ 6m
 15.5m WIDE ROAD RESERVE
 8.3m WIDE ROAD PAVEMENT
 4.25m AND 2.95m WIDE VERGES

ACCESS STREET ~ 6m WITH 2 PATHS
 15.5m WIDE ROAD RESERVE
 8.3m WIDE ROAD PAVEMENT
 4.75m AND 2.95m WIDE VERGES

ACCESS STREET ~ 13.25m
 13.25m WIDE ROAD RESERVE
 7.5m WIDE ROAD PAVEMENT
 4.25m AND 150m WIDE VERGE

ACCESS LANEWAY DRIVEWAYS
 6.5m WIDE ROAD RESERVE
 5.5m WIDE ROAD PAVEMENT
 0.5m WIDE VERGES

ACCESS LANEWAY DRIVEWAYS
 12.5m WIDE ROAD RESERVE
 5.0m WIDE ROAD PAVEMENT
 4.00m AND 3.50m WIDE VERGES

ACCESS STREET ~ 7.5m WITH 3m PATH
 16.7m WIDE ROAD RESERVE
 7.5m WIDE ROAD PAVEMENT
 4.25m AND 4.95m WIDE VERGES

 CONCRETE PATHWAY - 1.5m WIDE
 CONCRETE PATHWAY - 3m WIDE
 CONCRETE PATHWAY - 4m WIDE



PATH NETWORK LAYOUT

SCALE 1:2000 (A1) 1:4000(A3)

ENGINEERING CERTIFICATION	

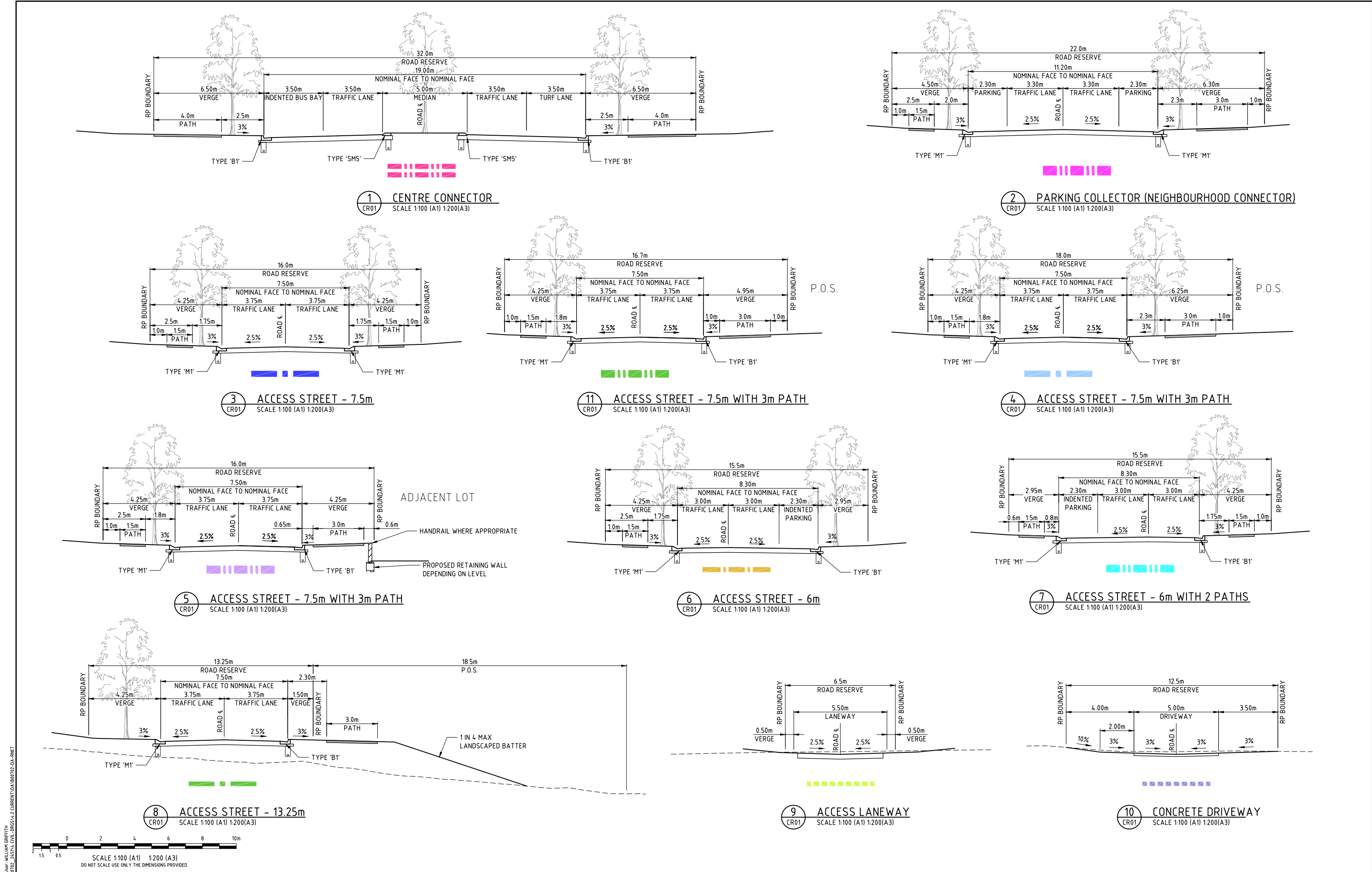
<i>Registered Engineer</i>	

<i>Date</i>	

<i>Registered Accreditation</i>	



Datum AHD PSM 79006 RL 67.474 (RCC) COORD	
NOT FOR CONSTRUCTION	
Project No. B00702-DA-CR01	Drawing No. A



REVISION IN PROGRESS									
ENGINEERING CERTIFICATION									
Registered Engineer									
Date									
Registered Accreditation									
No. Amendments									
Drawn Design Design Chk Appd Date									
This drawing cannot be copied or reproduced in any form or used for any purpose other than that originally intended without the written permission of Empower Engineers and Project Managers ©COPYRIGHT 2023									
Client					URBEX PTY LTD				
Project					SOUTHERN THORNLANDS PRECINCT 1				
Title					ROAD NETWORK SECTIONS				
Datum					AHD PSM 79006 RL 67.474 (RCC) COORD				
Project No.					B00702-DA-CR02				
Drawing No.					A				
Rev					A				

Appendix C Desktop Model

Southern Thornlands – Stage 1 & 2 RAL

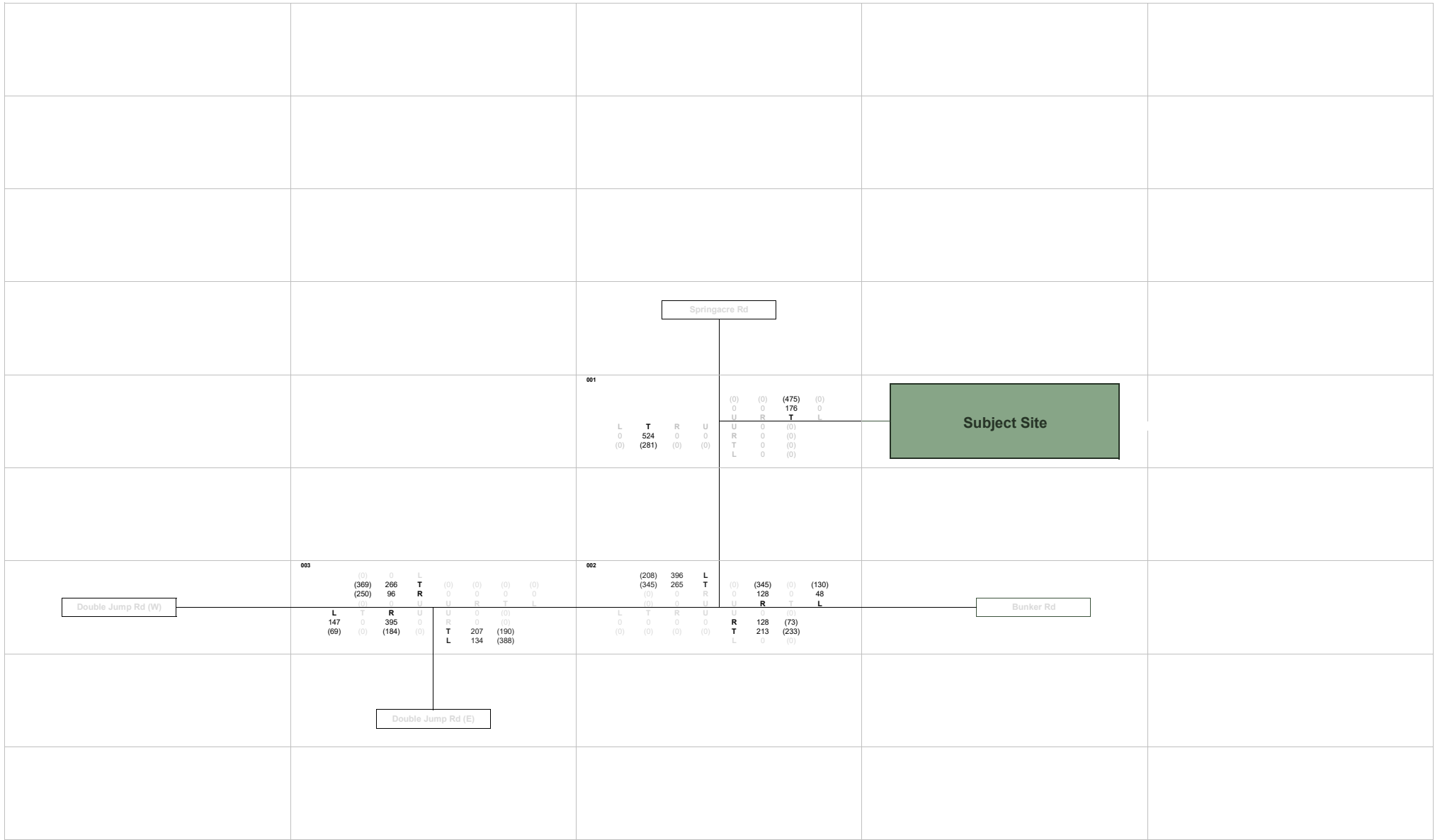
Traffic Impact Assessment

Urbex Pty Ltd

SLR Project No.: 620.040303.00004

17 December 2025



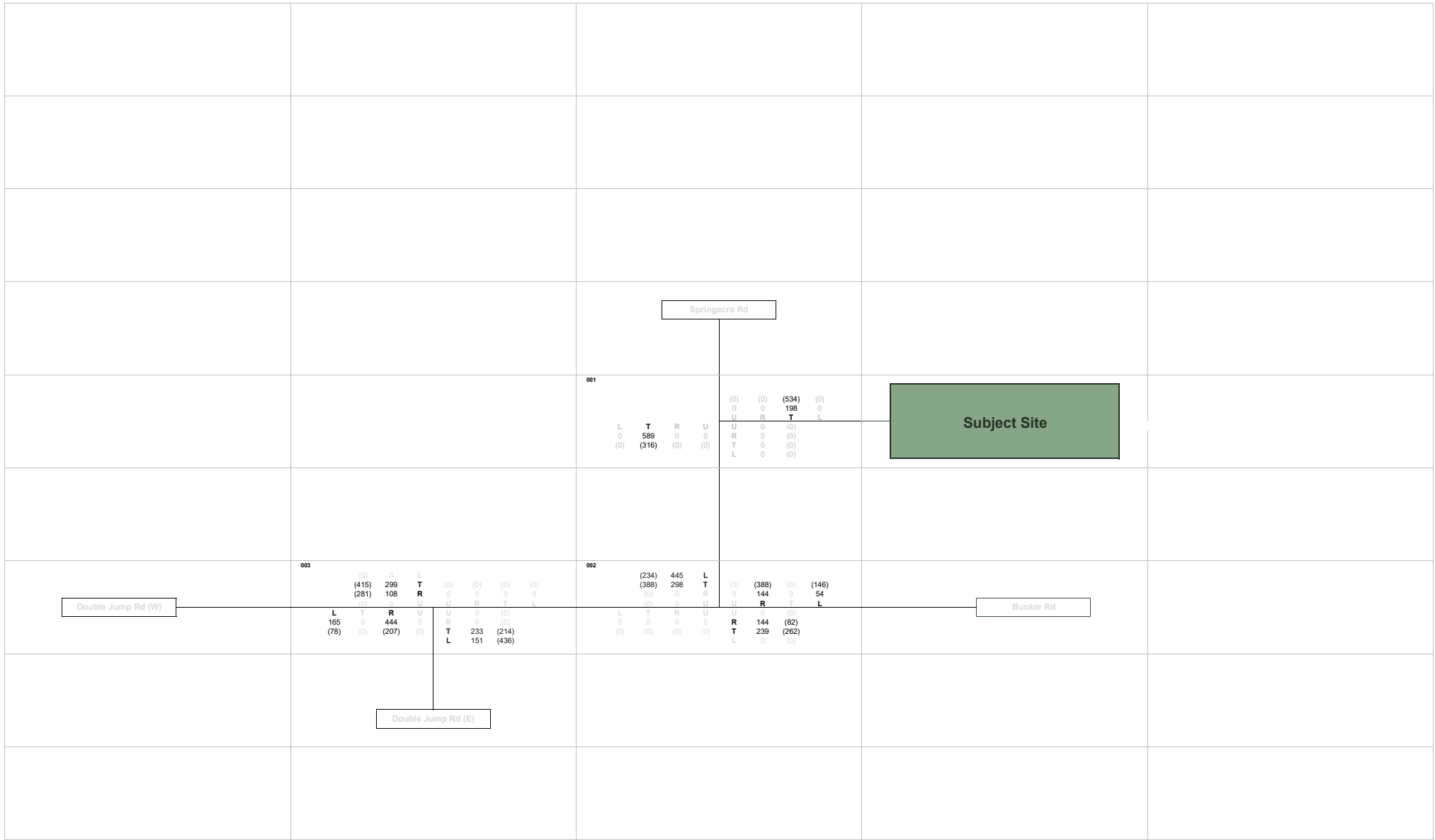


A1
2025 Survey Traffic Volumes
 620.040303.00001
 Southern Thornlands, Initial Release

L Left Turn
T Through
R Right Turn
U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



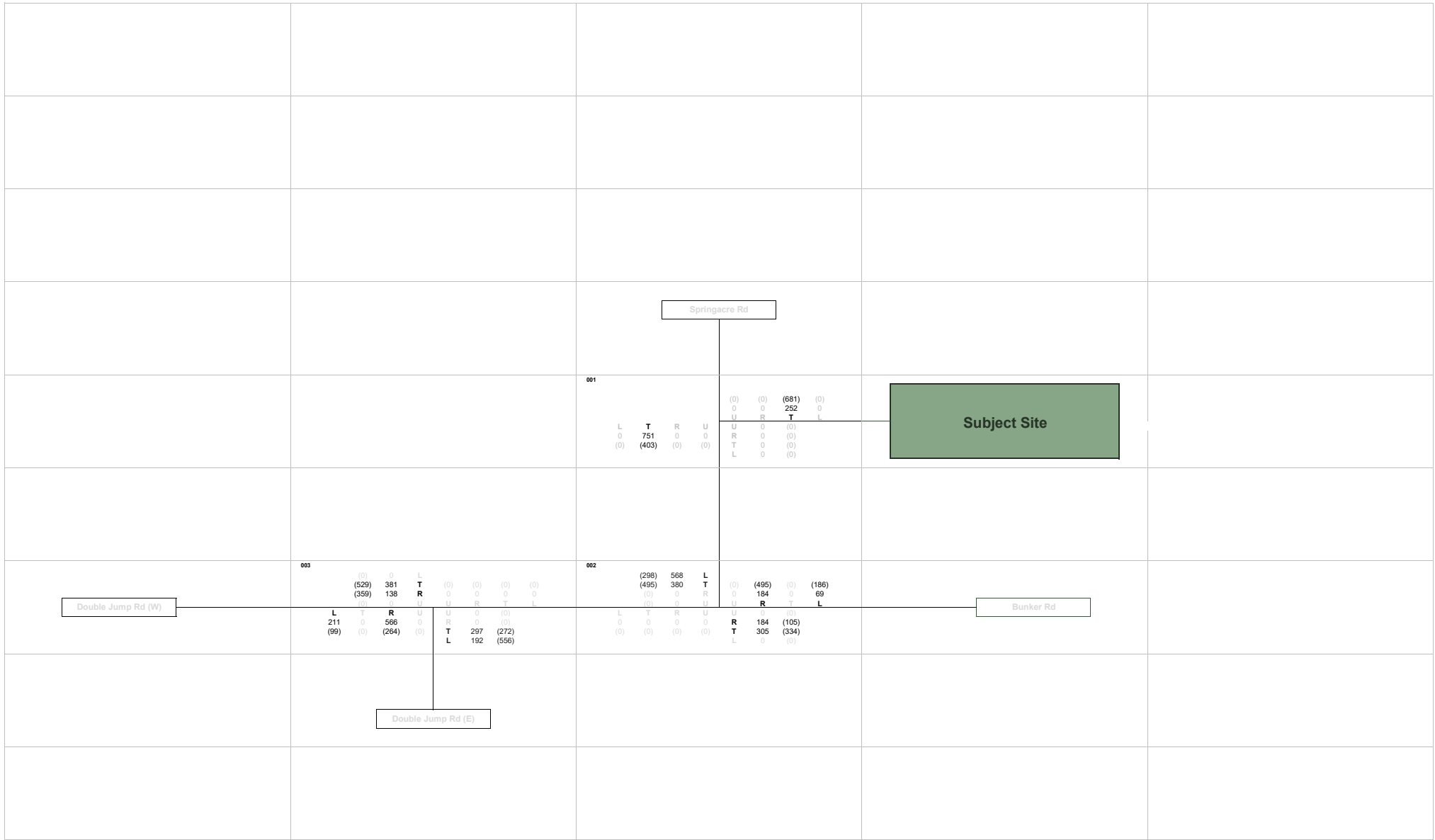


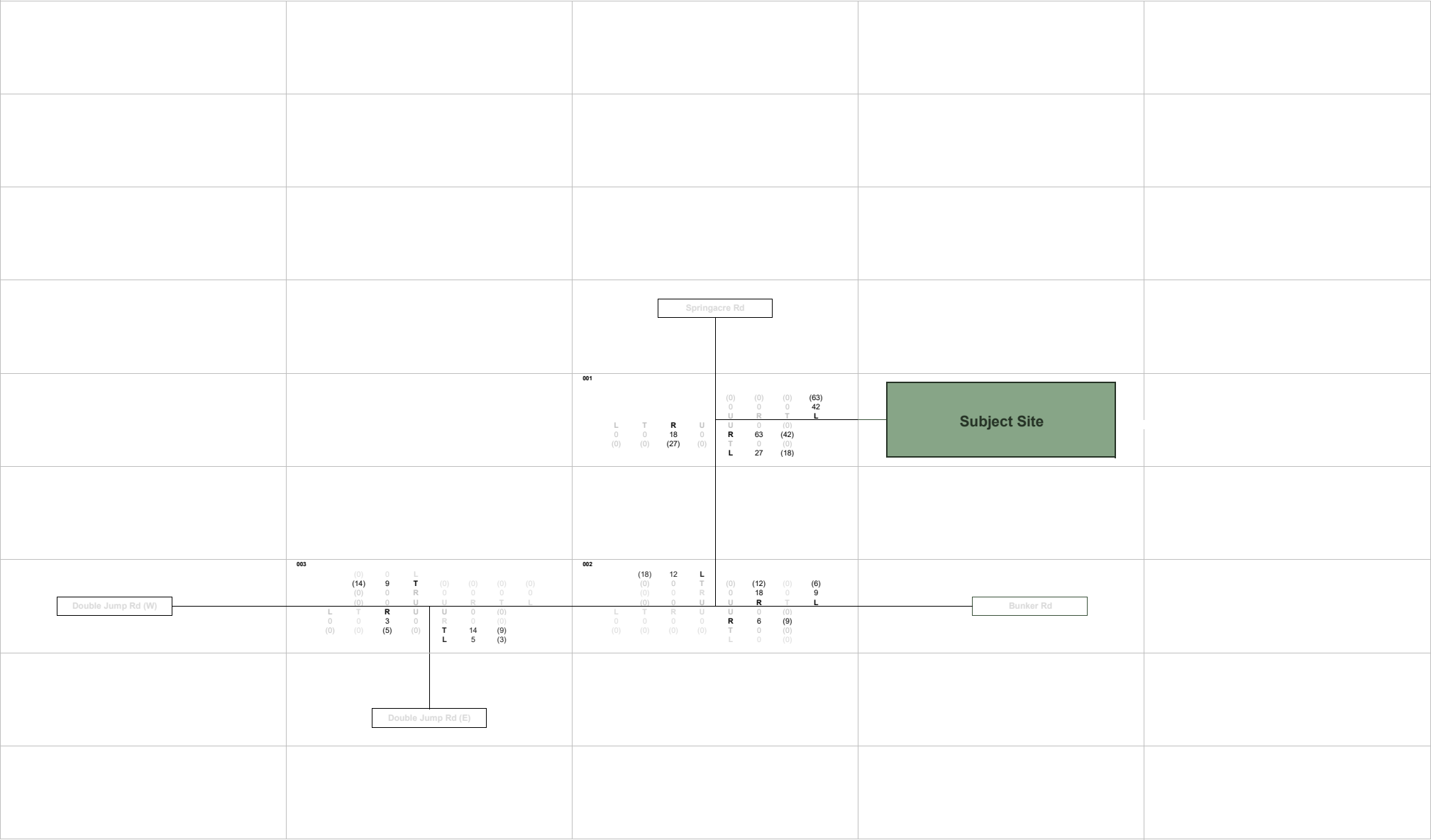
A2
2027 Background Traffic Volumes (Year of Opening)
 620.040303.00001
 Southern Thornlands, Initial Release

L Left Turn
T Through
R Right Turn
U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site







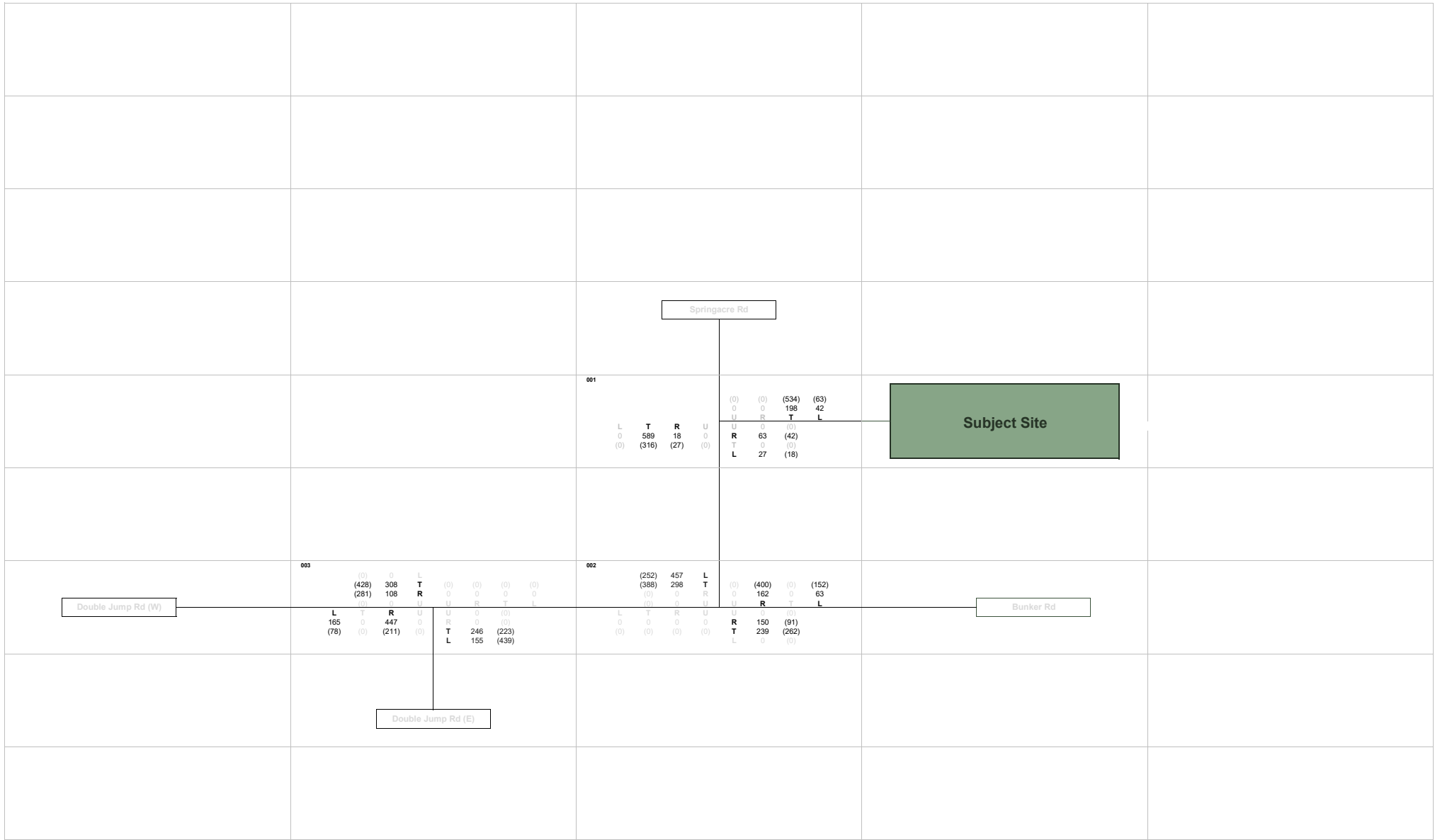
- L Left Turn
- T Through
- R Right Turn
- U U-Turn

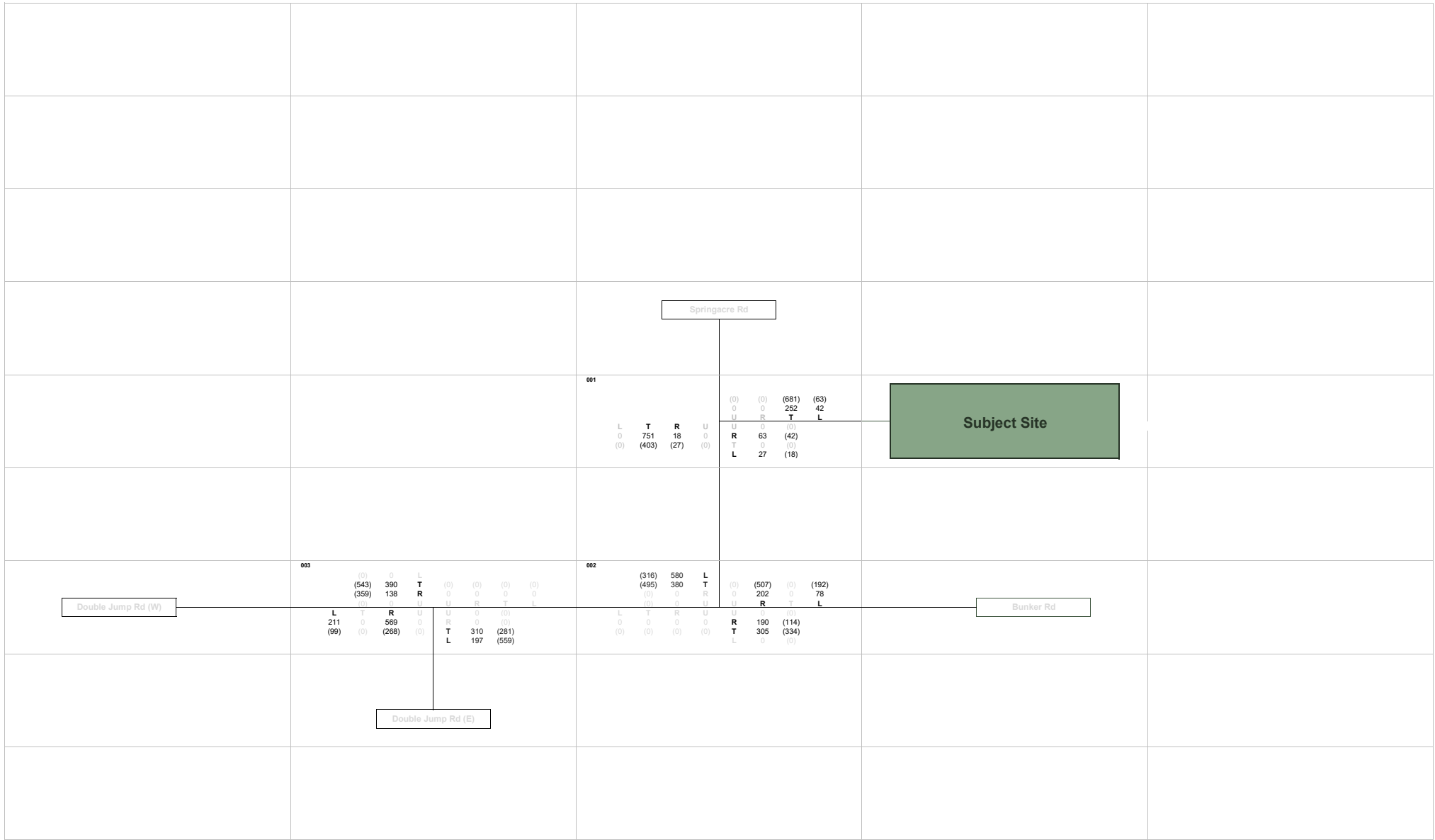
Legend

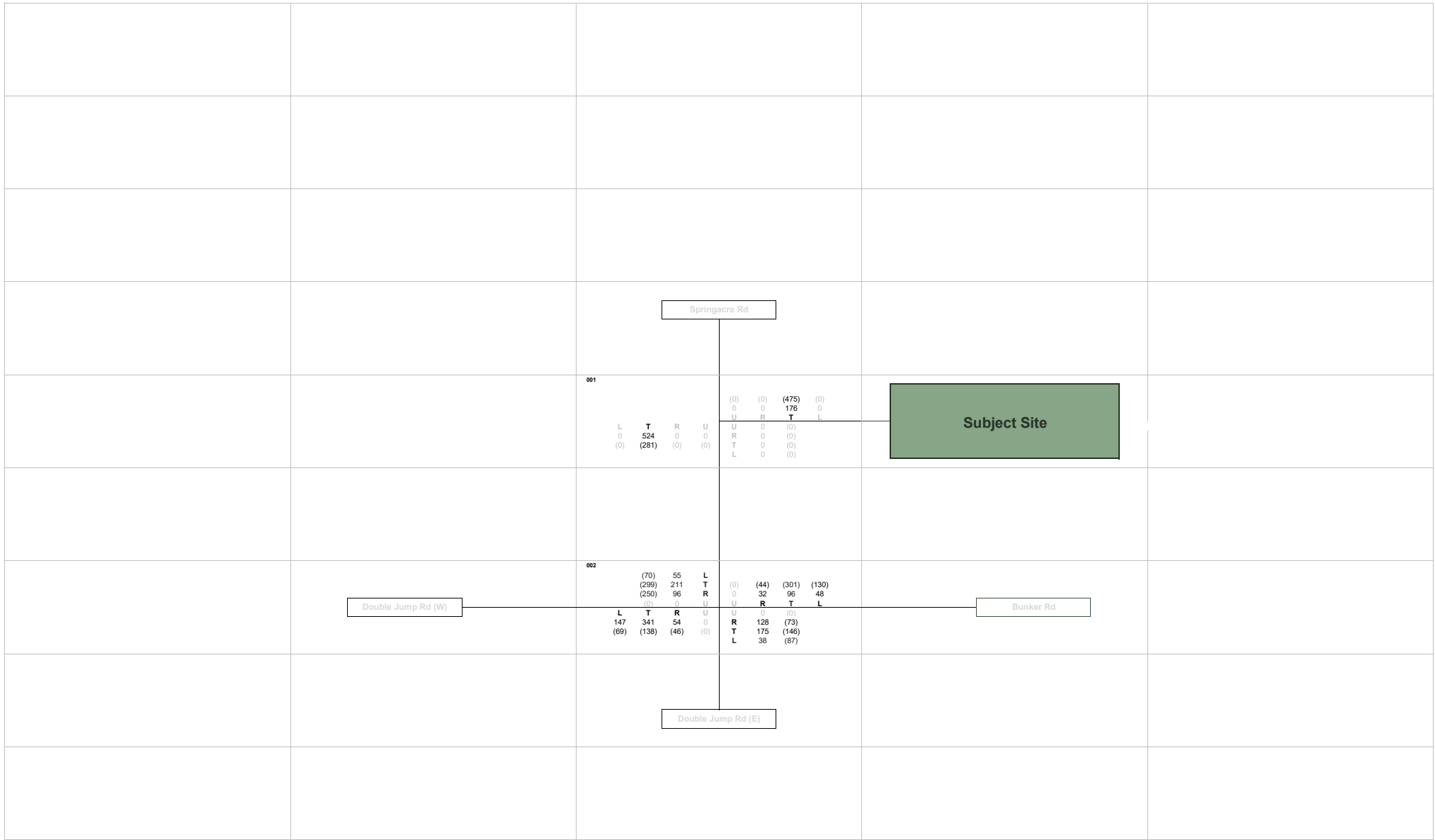
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes

 Subject Site





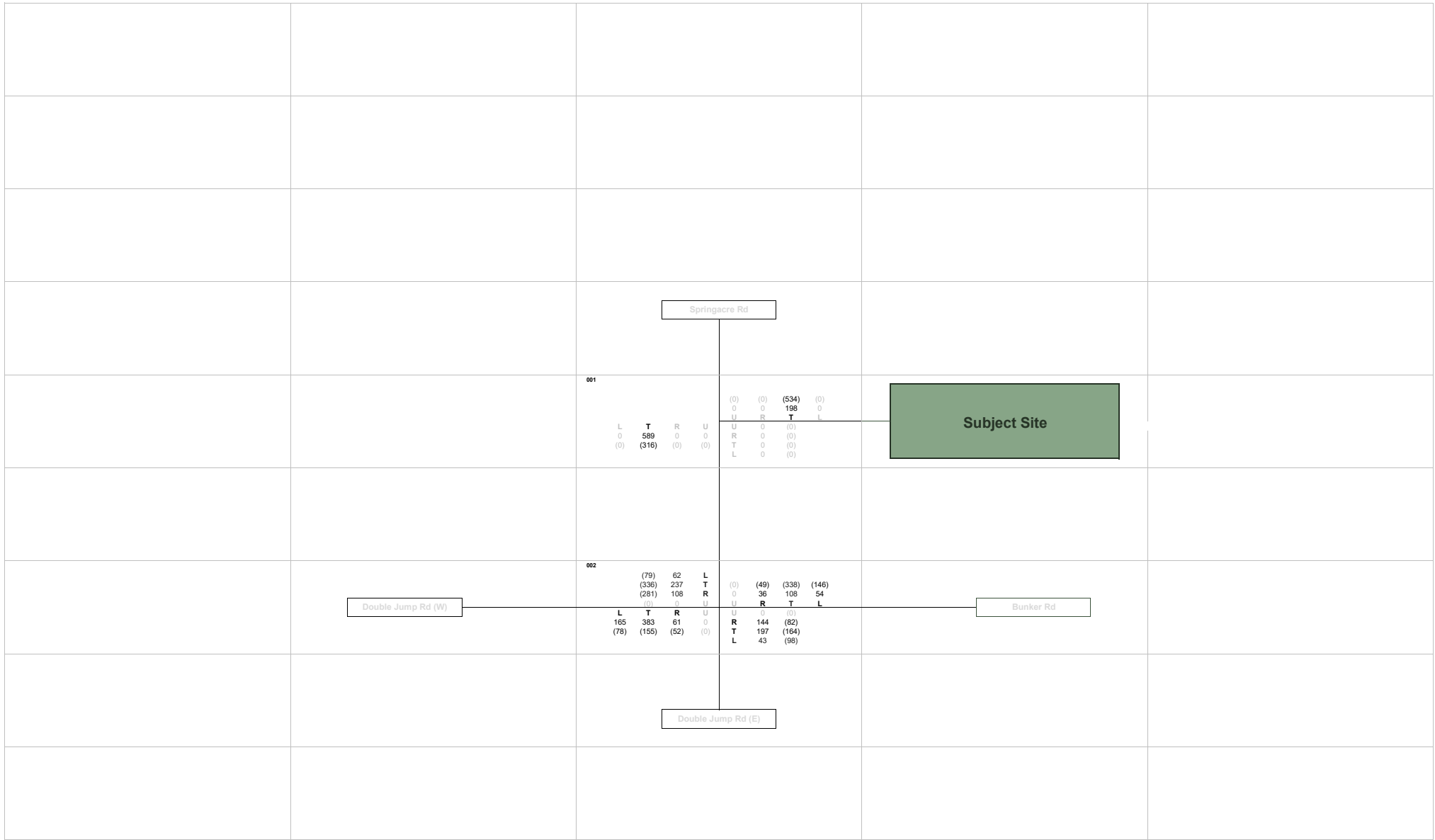




L Left Turn
 T Through
 R Right Turn
 U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site

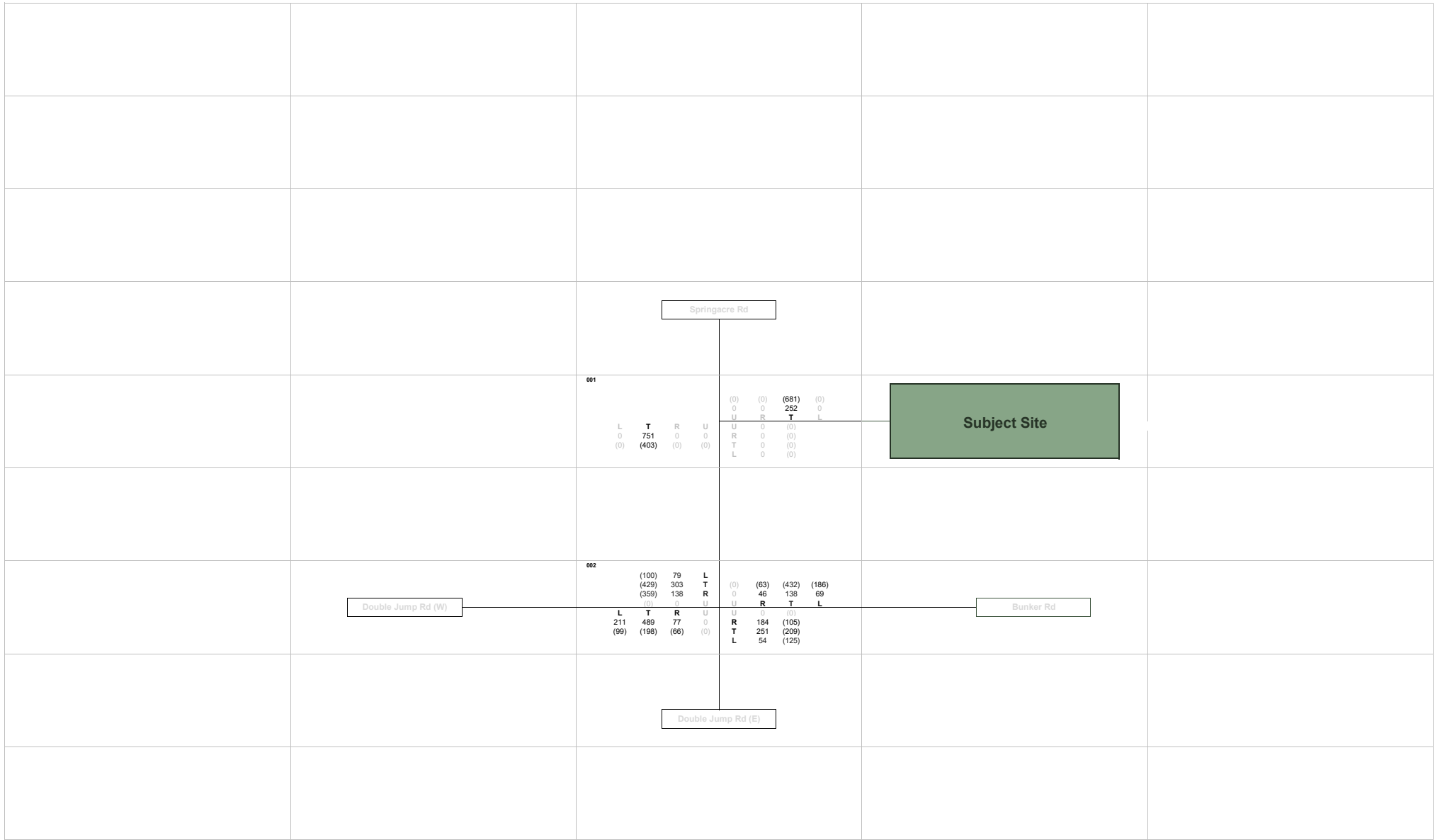




L Left Turn
 T Through
 R Right Turn
 U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site

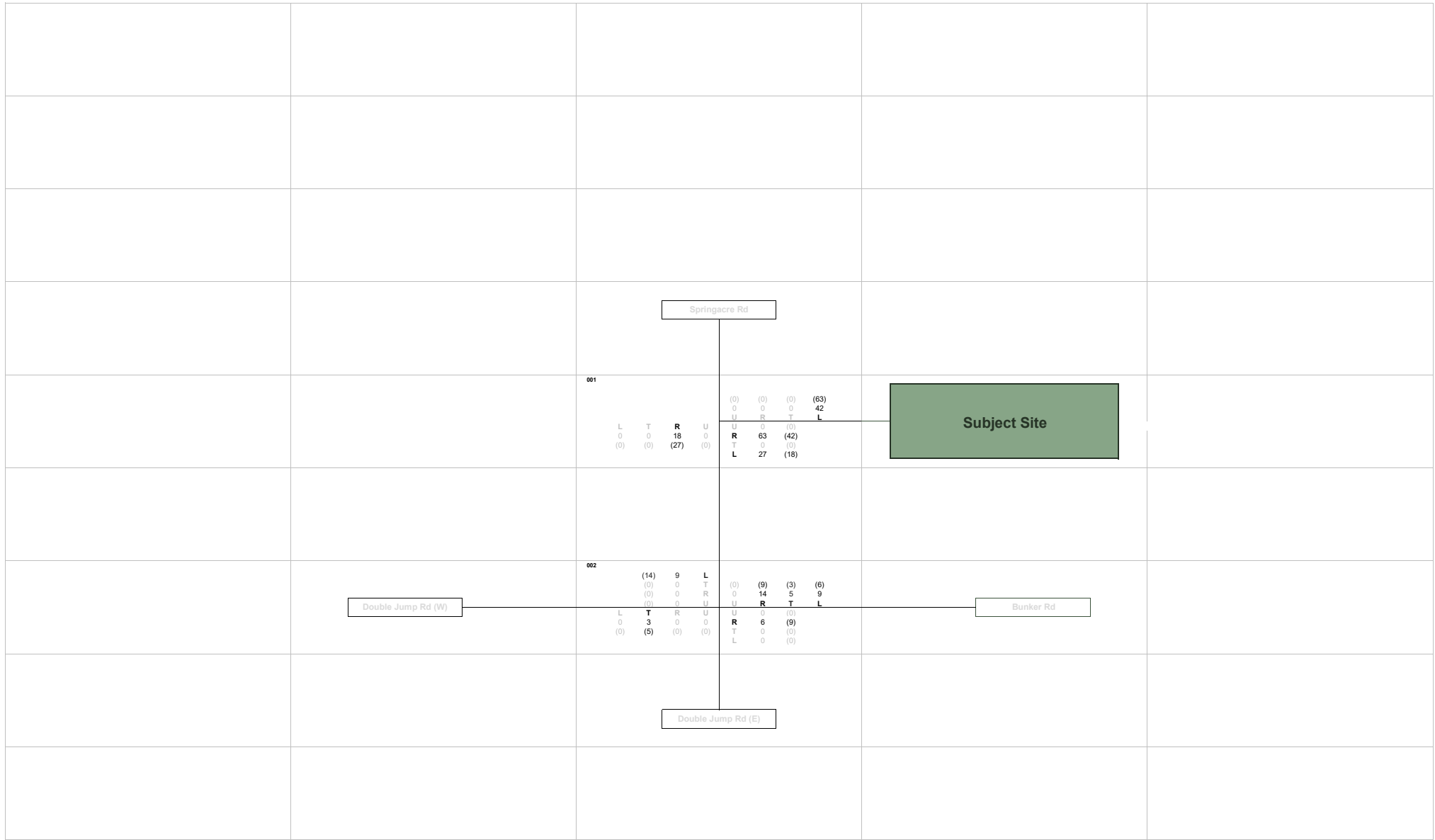


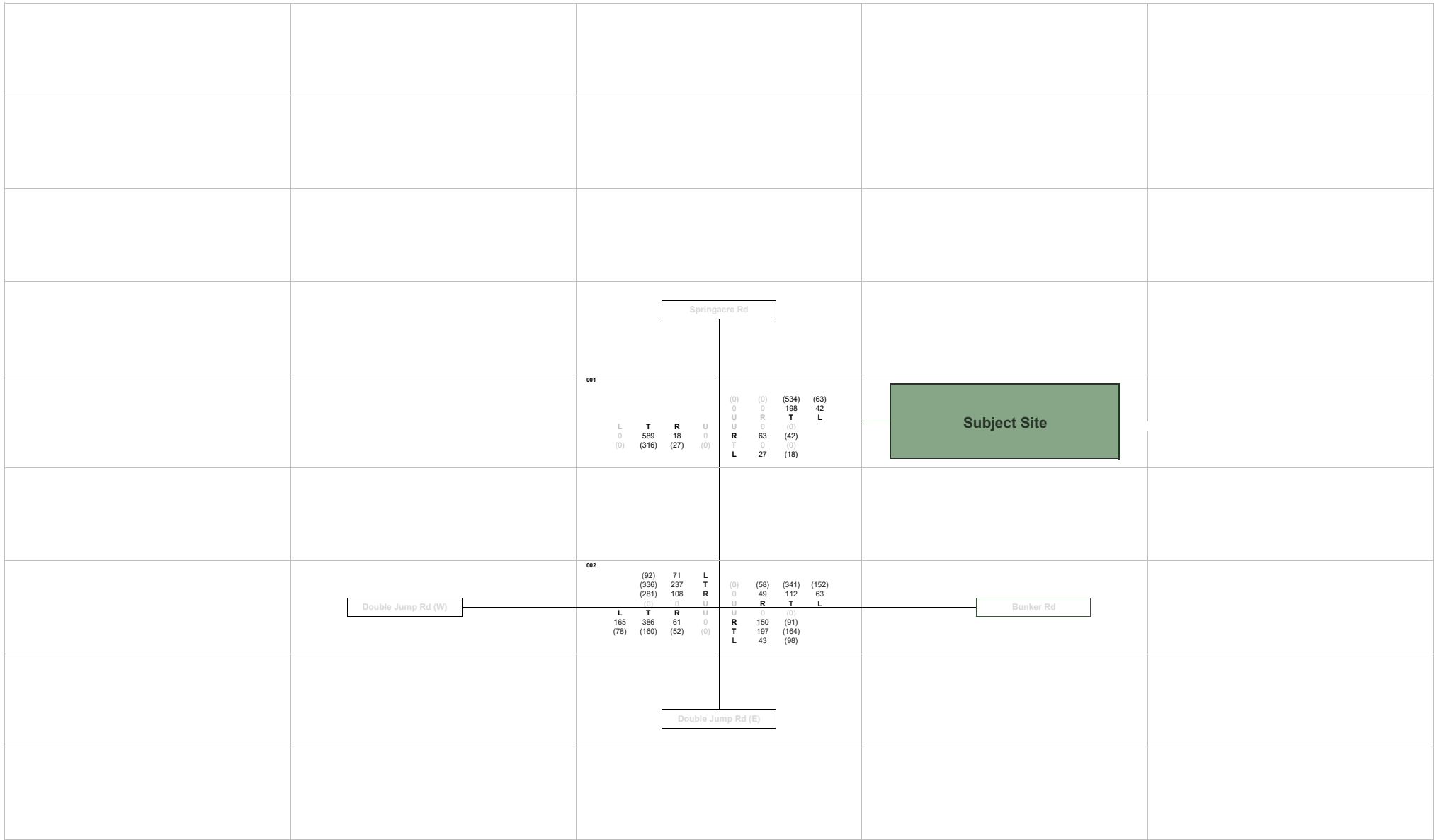


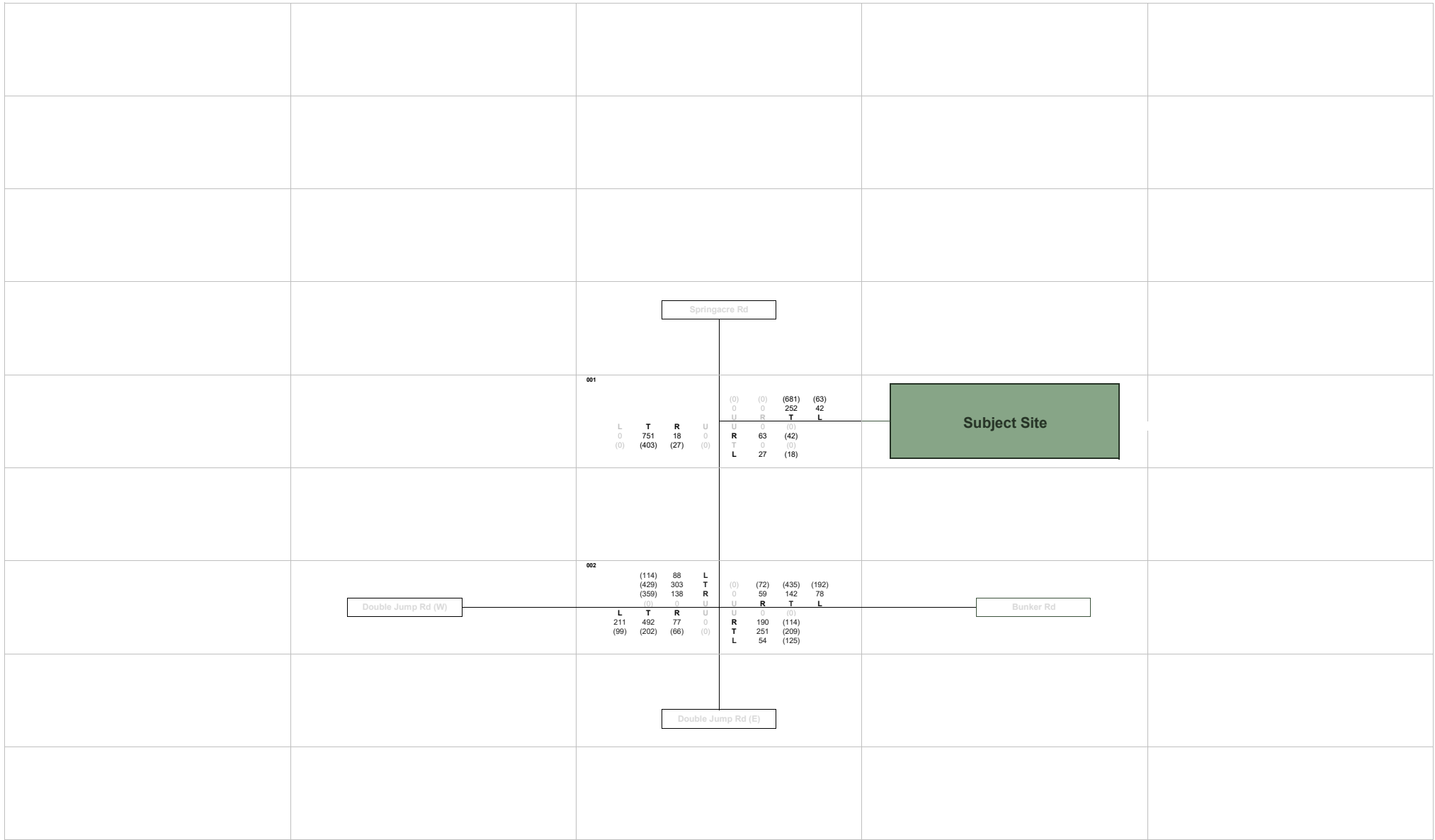
L Left Turn
 T Through
 R Right Turn
 U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site









A12
2037 Background with ERA Development Traffic Volumes (Design Horizon) - 4 Way
 620.040303.00001
 Southern Thornlands, Initial Release

L Left Turn
 T Through
 R Right Turn
 U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



Appendix D SIDRA Outputs

Southern Thornlands – Stage 1 & 2 RAL

Traffic Impact Assessment

Urbex Pty Ltd

SLR Project No.: 620.040303.00004

17 December 2025



SITE LAYOUT

 **Site: B [Access B. 2027 BG+D AM - Springacre Rd / Access Road (Site Folder: General)]**

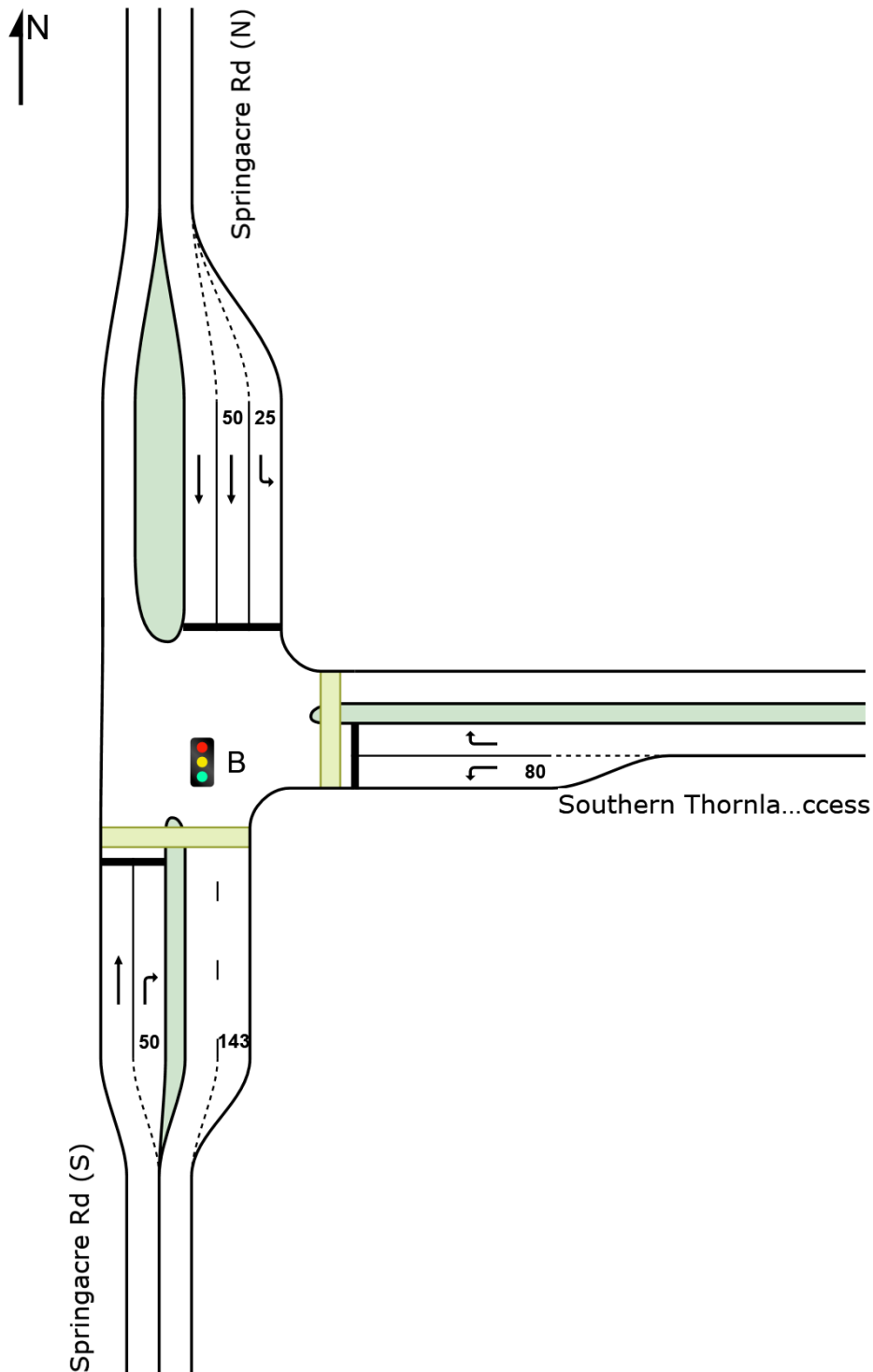
Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

 **Site: B [Access B. 2027 BG+D AM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Springacre Rd (S)														
2	T1	589	3.0	620	3.0	0.556	8.3	LOS A	11.3	80.8	0.66	0.59	0.66	52.8
3	R2	18	3.0	19	3.0	* 0.104	33.7	LOS C	0.5	3.9	0.94	0.69	0.94	37.6
Approach		607	3.0	639	3.0	0.556	9.1	LOS A	11.3	80.8	0.67	0.59	0.67	52.1
East: Southern Thornlands Access														
4	L2	27	3.0	28	3.0	0.072	26.4	LOS C	0.7	4.9	0.83	0.70	0.83	40.7
6	R2	63	3.0	66	3.0	* 0.168	26.9	LOS C	1.6	11.7	0.85	0.73	0.85	40.6
Approach		90	3.0	95	3.0	0.168	26.7	LOS C	1.6	11.7	0.84	0.72	0.84	40.6
North: Springacre Rd (N)														
7	L2	42	3.0	44	3.0	0.063	18.2	LOS B	0.8	5.9	0.66	0.69	0.66	44.6
8	T1	198	3.0	208	3.0	* 0.160	13.2	LOS B	2.3	16.4	0.69	0.55	0.69	49.4
Approach		240	3.0	252	3.0	0.160	14.1	LOS B	2.3	16.4	0.68	0.57	0.68	48.5
All Vehicles		937	3.0	986	3.0	0.556	12.1	LOS B	11.3	80.8	0.69	0.60	0.69	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Springacre Rd (S)												
P1	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
East: Southern Thornlands Access												
P2	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12
All Pedestrians		0	105	24.4	LOS C	0.1	0.1	0.90	0.90	178.2	200.0	1.12

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.

PHASING SUMMARY

 **Site: B [Access B. 2027 BG+D AM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase A

Input Phase Sequence: A, B*, C

Output Phase Sequence: A, B*, C

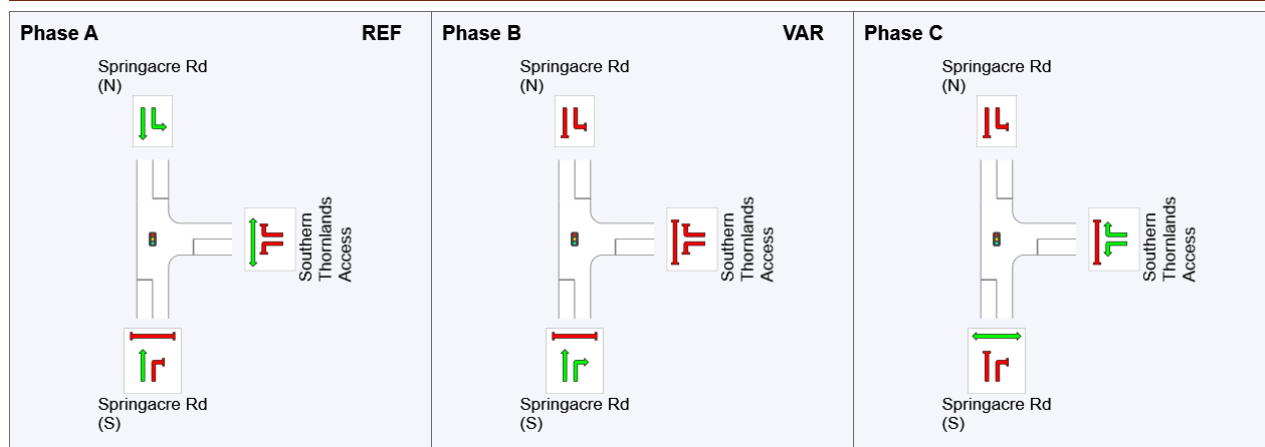
(* Variable Phase)

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	29	41
Green Time (sec)	23	6	13
Phase Time (sec)	29	12	19
Phase Split	48%	20%	32%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 **Site: B [Access B. 2027 BG+D PM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Springacre Rd (S)														
2	T1	589	3.0	620	3.0	* 0.480	6.7	LOS A	11.5	82.8	0.52	0.47	0.52	54.1
3	R2	27	3.0	28	3.0	0.208	45.6	LOS D	1.1	8.0	0.97	0.71	0.97	33.5
Approach		616	3.0	648	3.0	0.480	8.4	LOS A	11.5	82.8	0.54	0.48	0.54	52.7
East: Southern Thornlands Access														
4	L2	18	3.0	19	3.0	0.060	36.4	LOS D	0.6	4.5	0.86	0.69	0.86	36.8
6	R2	42	3.0	44	3.0	* 0.139	36.4	LOS D	1.5	10.7	0.88	0.73	0.88	36.7
Approach		60	3.0	63	3.0	0.139	36.4	LOS D	1.5	10.7	0.87	0.72	0.87	36.7
North: Springacre Rd (N)														
7	L2	63	3.0	66	3.0	0.069	15.5	LOS B	1.3	9.0	0.52	0.68	0.52	46.1
8	T1	534	3.0	562	3.0	0.314	11.7	LOS B	7.0	50.0	0.59	0.51	0.59	50.6
Approach		597	3.0	628	3.0	0.314	12.1	LOS B	7.0	50.0	0.59	0.53	0.59	50.1
All Vehicles		1273	3.0	1340	3.0	0.480	11.4	LOS B	11.5	82.8	0.58	0.51	0.58	50.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Springacre Rd (S)												
P1	Full	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
East: Southern Thornlands Access												
P2	Full	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
All Pedestrians		0	105	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06

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.

PHASING SUMMARY

 **Site: B [Access B. 2027 BG+D PM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase A

Input Phase Sequence: A, B*, C

Output Phase Sequence: A, B*, C

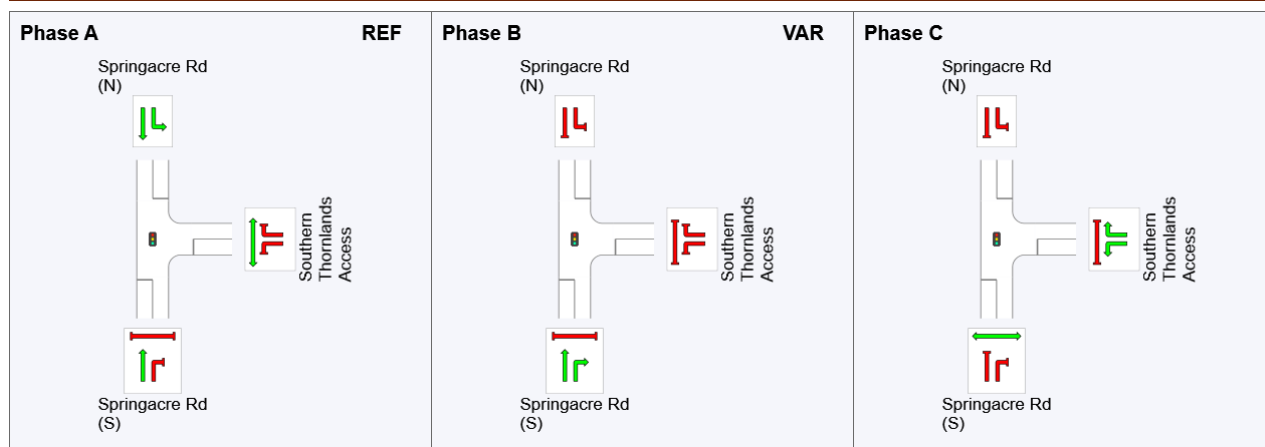
(* Variable Phase)

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	48	60
Green Time (sec)	42	6	14
Phase Time (sec)	48	12	20
Phase Split	60%	15%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 **Site: B [Access B. 2037 BG+D AM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Springacre Rd (S)														
2	T1	751	3.0	791	3.0	* 0.617	9.8	LOS A	17.1	122.6	0.60	0.55	0.60	53.2
3	R2	18	3.0	19	3.0	0.139	47.3	LOS D	0.7	5.3	0.96	0.69	0.96	33.7
Approach		769	3.0	810	3.0	0.617	10.7	LOS B	17.1	122.6	0.61	0.55	0.61	52.5
East: Southern Thornlands Access														
4	L2	27	3.0	28	3.0	0.089	36.3	LOS D	0.9	6.8	0.87	0.71	0.87	36.7
6	R2	63	3.0	66	3.0	* 0.208	36.9	LOS D	2.3	16.4	0.89	0.74	0.89	36.5
Approach		90	3.0	95	3.0	0.208	36.7	LOS D	2.3	16.4	0.89	0.73	0.89	36.6
North: Springacre Rd (N)														
7	L2	42	3.0	44	3.0	0.046	15.4	LOS B	0.8	5.9	0.51	0.67	0.51	46.2
8	T1	252	3.0	266	3.0	0.149	10.5	LOS B	3.0	21.5	0.54	0.44	0.54	51.3
Approach		294	3.0	310	3.0	0.149	11.2	LOS B	3.0	21.5	0.54	0.47	0.54	50.5
All Vehicles		1154	3.0	1215	3.0	0.617	12.8	LOS B	17.1	122.6	0.61	0.55	0.61	50.3

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Springacre Rd (S)												
P1	Full	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
East: Southern Thornlands Access												
P2	Full	50	53	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
All Pedestrians		0	105	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06

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.

PHASING SUMMARY

 **Site: B [Access B. 2037 BG+D AM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase A

Input Phase Sequence: A, B*, C

Output Phase Sequence: A, B*, C

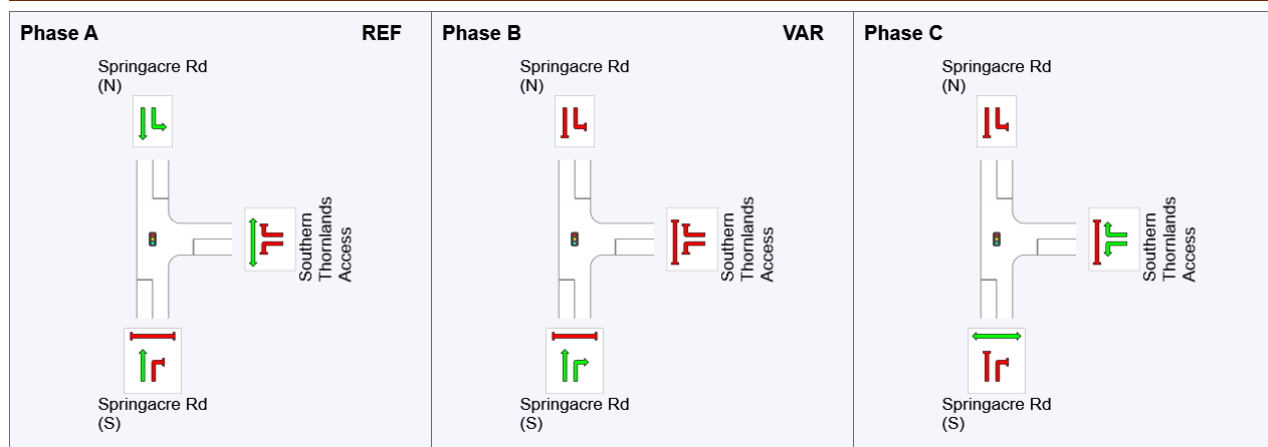
(* Variable Phase)

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	48	60
Green Time (sec)	42	6	14
Phase Time (sec)	48	12	20
Phase Split	60%	15%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 **Site: B [Access B. 2037 BG+D PM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 125 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Springacre Rd (S)														
2	T1	751	3.0	791	3.0	* 0.540	7.5	LOS A	18.2	130.3	0.42	0.39	0.42	54.9
3	R2	27	3.0	28	3.0	0.326	73.7	LOS E	1.8	12.9	1.00	0.72	1.00	27.0
Approach		778	3.0	819	3.0	0.540	9.8	LOS A	18.2	130.3	0.44	0.40	0.44	53.0
East: Southern Thornlands Access														
4	L2	18	3.0	19	3.0	0.081	58.9	LOS E	1.0	7.4	0.91	0.70	0.91	30.1
6	R2	42	3.0	44	3.0	* 0.190	59.1	LOS E	2.5	17.6	0.93	0.74	0.93	30.0
Approach		60	3.0	63	3.0	0.190	59.0	LOS E	2.5	17.6	0.92	0.73	0.92	30.0
North: Springacre Rd (N)														
7	L2	63	3.0	66	3.0	0.054	13.6	LOS B	1.3	9.4	0.35	0.65	0.35	48.0
8	T1	681	3.0	717	3.0	0.314	9.3	LOS A	9.9	71.1	0.43	0.37	0.43	52.8
Approach		744	3.0	783	3.0	0.314	9.6	LOS A	9.9	71.1	0.42	0.40	0.42	52.3
All Vehicles		1583	3.0	1666	3.0	0.540	11.6	LOS B	18.2	130.3	0.45	0.41	0.45	51.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Springacre Rd (S)												
P1	Full	50	53	56.8	LOS E	0.2	0.2	0.95	0.95	210.6	200.0	0.95
East: Southern Thornlands Access												
P2	Full	50	53	56.8	LOS E	0.2	0.2	0.95	0.95	210.6	200.0	0.95
All Pedestrians		0	105	56.8	LOS E	0.2	0.2	0.95	0.95	210.6	200.0	0.95

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.

PHASING SUMMARY

 **Site: B [Access B. 2037 BG+D PM - Springacre Rd / Access Road (Site Folder: General)]**

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 125 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase A

Input Phase Sequence: A, B*, C

Output Phase Sequence: A, B*, C

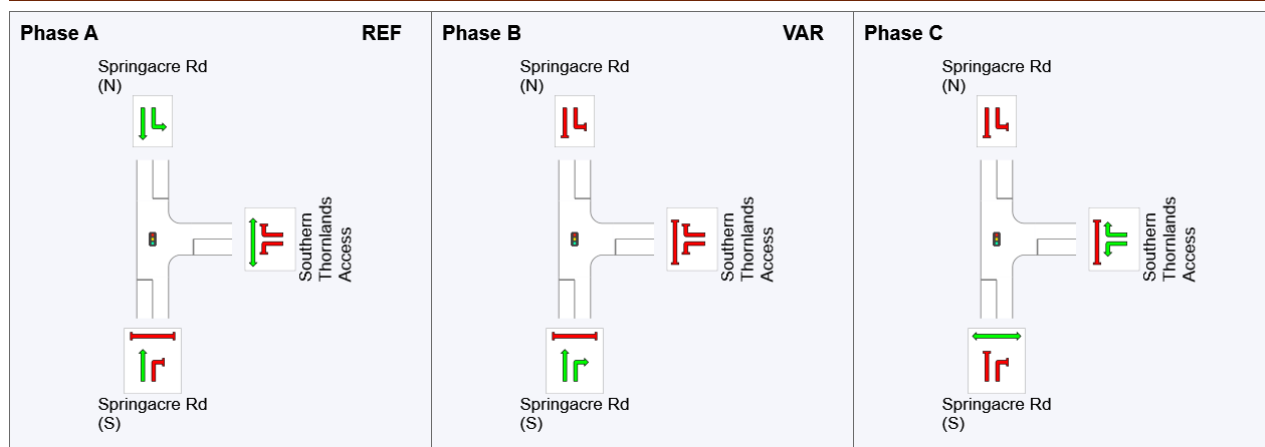
(* Variable Phase)

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	91	103
Green Time (sec)	85	6	16
Phase Time (sec)	91	12	22
Phase Split	73%	10%	18%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

SITE LAYOUT

▽ Site: 7a [7a. Survey AM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303

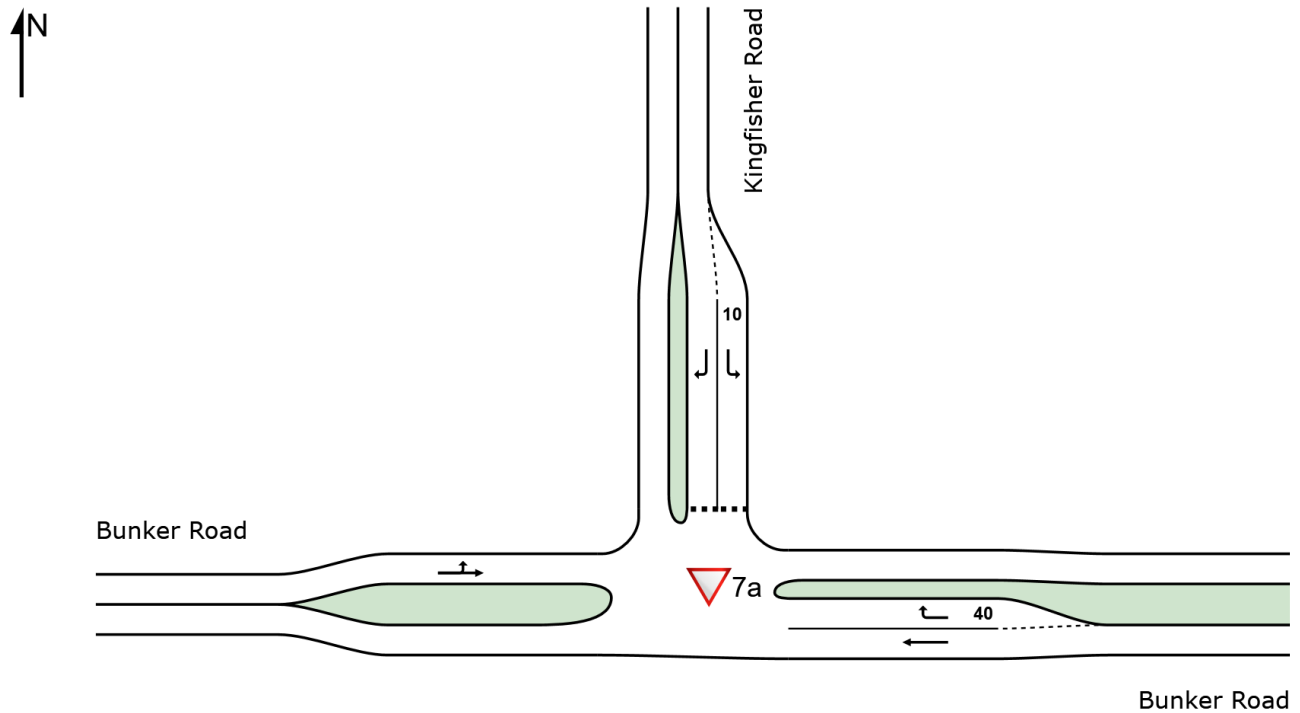
Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: H:\Projects-SLR\620-BNE\620-BNE\620.040303.00001 Southern Thornlands, Initial R\02 Analysis\2025 11 - Stage 1 & 2 RAL TIA\02

SIDRA\620.040303-S02-v0.4 Sidra 20251204.sip9

MOVEMENT SUMMARY

▼ Site: 7a [7a. Survey AM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	213	3.3	224	3.3	0.117	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	128	1.6	135	1.6	0.156	8.9	LOS A	0.6	4.5	0.60	0.80	0.60	54.8
Approach		341	2.6	359	2.6	0.156	3.4	NA	0.6	4.5	0.23	0.30	0.23	57.9
North: Kingfisher Road														
10	L2	48	4.2	51	4.2	0.040	6.5	LOS A	0.2	1.1	0.35	0.58	0.35	55.7
12	R2	128	7.0	135	7.0	0.346	16.1	LOS C	1.5	10.9	0.76	0.96	0.96	48.4
Approach		176	6.3	185	6.2	0.346	13.5	LOS B	1.5	10.9	0.64	0.85	0.79	50.2
West: Bunker Road														
1	L2	396	4.0	417	4.0	0.376	6.5	LOS A	0.0	0.0	0.00	0.45	0.00	60.0
2	T1	265	2.3	279	2.3	0.376	1.2	LOS A	0.0	0.0	0.00	0.45	0.00	64.8
Approach		661	3.3	696	3.3	0.376	4.4	NA	0.0	0.0	0.00	0.45	0.00	61.8
All Vehicles		1178	3.6	1240	3.6	0.376	5.5	NA	1.5	10.9	0.16	0.47	0.18	58.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7a. Survey PM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	233	2.1	245	2.1	0.128	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	73	5.5	77	5.5	0.078	8.1	LOS A	0.3	2.3	0.54	0.72	0.54	54.6
Approach		306	2.9	322	2.9	0.128	2.0	NA	0.3	2.3	0.13	0.17	0.13	58.6
North: Kingfisher Road														
10	L2	130	0.8	137	0.8	0.113	6.8	LOS A	0.5	3.2	0.41	0.64	0.41	56.4
12	R2	345	2.0	363	2.0	0.769	22.4	LOS C	6.5	46.1	0.88	1.32	2.11	45.5
Approach		475	1.7	500	1.7	0.769	18.2	LOS C	6.5	46.1	0.75	1.13	1.64	48.0
West: Bunker Road														
1	L2	208	5.8	219	5.8	0.313	6.2	LOS A	0.0	0.0	0.00	0.31	0.00	59.3
2	T1	345	3.5	363	3.5	0.313	0.7	LOS A	0.0	0.0	0.00	0.31	0.00	62.9
Approach		553	4.3	582	4.3	0.313	2.8	NA	0.0	0.0	0.00	0.31	0.00	61.5
All Vehicles		1334	3.1	1404	3.1	0.769	8.1	NA	6.5	46.1	0.30	0.57	0.61	55.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7a. 2027 BG AM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	239	3.3	252	3.3	0.132	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	144	1.6	151	1.6	0.199	9.7	LOS A	0.8	5.6	0.64	0.85	0.64	54.1
Approach		383	2.6	403	2.6	0.199	3.7	NA	0.8	5.6	0.24	0.32	0.24	57.6
North: Kingfisher Road														
10	L2	54	4.2	57	4.2	0.047	6.7	LOS A	0.2	1.3	0.37	0.60	0.37	55.7
12	R2	144	7.0	151	7.0	0.460	20.2	LOS C	2.0	15.2	0.83	1.03	1.18	46.0
Approach		198	6.2	208	6.3	0.460	16.5	LOS C	2.0	15.2	0.70	0.91	0.96	48.2
West: Bunker Road														
1	L2	445	4.0	469	4.0	0.423	6.6	LOS A	0.0	0.0	0.00	0.45	0.00	59.9
2	T1	298	2.3	314	2.3	0.423	1.2	LOS A	0.0	0.0	0.00	0.45	0.00	64.7
Approach		743	3.3	782	3.3	0.423	4.4	NA	0.0	0.0	0.00	0.45	0.00	61.8
All Vehicles		1324	3.6	1394	3.6	0.460	6.0	NA	2.0	15.2	0.17	0.48	0.21	58.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7a. 2027 BG PM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	262	2.1	276	2.1	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	82	5.5	86	5.5	0.096	8.6	LOS A	0.4	2.8	0.58	0.76	0.58	54.2
Approach		344	2.9	362	2.9	0.143	2.1	NA	0.4	2.8	0.14	0.18	0.14	58.4
North: Kingfisher Road														
10	L2	146	0.8	154	0.8	0.133	7.7	LOS A	0.5	3.8	0.44	0.67	0.44	56.3
12	R2	388	2.0	408	2.0	1.013	71.3	LOS F	21.0	149.4	1.00	2.42	5.96	28.4
Approach		534	1.7	562	1.7	1.013	53.9	LOS F	21.0	149.4	0.85	1.94	4.45	32.9
West: Bunker Road														
1	L2	234	5.8	246	5.8	0.352	6.3	LOS A	0.0	0.0	0.00	0.30	0.00	59.3
2	T1	388	3.5	408	3.5	0.352	0.7	LOS A	0.0	0.0	0.00	0.30	0.00	62.9
Approach		622	4.3	654	4.3	0.352	2.8	NA	0.0	0.0	0.00	0.30	0.00	61.5
All Vehicles		1499	3.1	1578	3.1	1.013	20.8	NA	21.0	149.4	0.33	0.86	1.62	46.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7a [7a. 2037 BG AM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	305	3.3	322	3.3	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	184	1.6	193	1.6	0.370	14.1	LOS B	1.6	11.5	0.80	0.98	1.03	50.9
Approach		489	2.6	515	2.6	0.370	5.3	NA	1.6	11.5	0.30	0.37	0.39	56.2
North: Kingfisher Road														
10	L2	69	4.2	72	4.2	0.065	7.1	LOS A	0.2	1.8	0.43	0.64	0.43	55.5
12	R2	184	7.0	193	7.0	0.926	65.6	LOS F	7.4	54.9	0.98	1.61	3.33	29.3
Approach		252	6.2	266	6.3	0.926	49.6	LOS E	7.4	54.9	0.83	1.34	2.54	33.6
West: Bunker Road														
1	L2	568	4.0	598	4.0	0.539	6.6	LOS A	0.0	0.0	0.00	0.45	0.00	59.8
2	T1	380	2.3	400	2.3	0.539	1.3	LOS A	0.0	0.0	0.00	0.45	0.00	64.6
Approach		948	3.3	998	3.3	0.539	4.5	NA	0.0	0.0	0.00	0.45	0.00	61.6
All Vehicles		1689	3.6	1778	3.6	0.926	11.5	NA	7.4	54.9	0.21	0.56	0.49	53.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7a [7a. 2037 BG PM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	334	2.1	352	2.1	0.183	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	105	5.5	110	5.5	0.159	10.2	LOS B	0.6	4.4	0.66	0.86	0.66	52.9
Approach		439	2.9	462	2.9	0.183	2.5	NA	0.6	4.4	0.16	0.20	0.16	58.1
North: Kingfisher Road														
10	L2	186	0.8	196	0.8	0.191	11.4	LOS B	0.8	5.4	0.51	0.73	0.51	56.0
12	R2	495	2.0	521	2.0	1.808	756.4	LOS F	149.6	1065.6	1.00	7.32	24.87	4.5
Approach		681	1.7	717	1.7	1.808	552.5	LOS F	149.6	1065.6	0.87	5.52	18.21	6.0
West: Bunker Road														
1	L2	298	5.8	314	5.8	0.449	6.3	LOS A	0.0	0.0	0.00	0.30	0.00	59.2
2	T1	495	3.5	521	3.5	0.449	0.8	LOS A	0.0	0.0	0.00	0.30	0.00	62.8
Approach		793	4.3	835	4.3	0.449	2.9	NA	0.0	0.0	0.00	0.30	0.00	61.4
All Vehicles		1913	3.1	2014	3.1	1.808	198.5	NA	149.6	1065.6	0.35	2.14	6.52	14.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7a. 2027 BG+D AM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	239	3.3	252	3.3	0.132	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	150	1.6	158	1.6	0.212	9.9	LOS A	0.8	6.0	0.66	0.85	0.66	54.0
Approach		389	2.6	410	2.6	0.212	3.8	NA	0.8	6.0	0.25	0.33	0.25	57.5
North: Kingfisher Road														
10	L2	63	4.2	66	4.2	0.054	6.7	LOS A	0.2	1.5	0.37	0.60	0.37	55.7
12	R2	162	7.0	170	7.0	0.527	21.8	LOS C	2.5	18.5	0.85	1.07	1.31	45.0
Approach		225	6.2	237	6.2	0.527	17.5	LOS C	2.5	18.5	0.71	0.94	1.05	47.6
West: Bunker Road														
1	L2	457	4.0	481	4.0	0.430	6.6	LOS A	0.0	0.0	0.00	0.45	0.00	60.0
2	T1	298	2.3	314	2.3	0.430	1.2	LOS A	0.0	0.0	0.00	0.45	0.00	64.8
Approach		755	3.3	795	3.3	0.430	4.5	NA	0.0	0.0	0.00	0.45	0.00	61.8
All Vehicles		1369	3.6	1441	3.6	0.527	6.4	NA	2.5	18.5	0.19	0.50	0.24	57.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7a [7a. 2027 BG+D PM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	262	2.1	276	2.1	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	91	5.5	96	5.5	0.109	8.7	LOS A	0.4	3.2	0.59	0.78	0.59	54.0
Approach		353	3.0	372	3.0	0.143	2.3	NA	0.4	3.2	0.15	0.20	0.15	58.3
North: Kingfisher Road														
10	L2	152	0.8	160	0.8	0.139	8.0	LOS A	0.6	3.9	0.44	0.67	0.44	56.3
12	R2	400	2.0	421	2.0	1.068	105.8	LOS F	29.7	211.6	1.00	2.93	7.77	22.5
Approach		552	1.7	581	1.7	1.068	78.9	LOS F	29.7	211.6	0.85	2.31	5.75	26.9
West: Bunker Road														
1	L2	252	5.8	265	5.8	0.363	6.3	LOS A	0.0	0.0	0.00	0.32	0.00	59.4
2	T1	388	3.5	408	3.5	0.363	0.8	LOS A	0.0	0.0	0.00	0.32	0.00	63.0
Approach		640	4.4	673	4.4	0.363	2.9	NA	0.0	0.0	0.00	0.32	0.00	61.5
All Vehicles		1544	3.1	1626	3.1	1.068	29.9	NA	29.7	211.6	0.34	1.00	2.09	41.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7a. 2037 BG+D AM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	305	3.3	322	3.3	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	190	1.6	200	1.6	0.392	14.5	LOS B	1.7	12.3	0.82	0.99	1.07	50.5
Approach		495	2.6	521	2.6	0.392	5.6	NA	1.7	12.3	0.31	0.38	0.41	55.9
North: Kingfisher Road														
10	L2	78	4.2	82	4.2	0.073	7.1	LOS A	0.3	2.0	0.43	0.64	0.43	55.5
12	R2	202	7.0	212	7.0	1.039	113.4	LOS F	14.3	106.0	1.00	2.14	5.40	21.2
Approach		279	6.2	294	6.2	1.039	83.8	LOS F	14.3	106.0	0.84	1.73	4.01	25.6
West: Bunker Road														
1	L2	580	4.0	610	4.0	0.546	6.6	LOS A	0.0	0.0	0.00	0.45	0.00	59.8
2	T1	380	2.3	400	2.3	0.546	1.3	LOS A	0.0	0.0	0.00	0.45	0.00	64.6
Approach		960	3.3	1010	3.3	0.546	4.5	NA	0.0	0.0	0.00	0.45	0.00	61.6
All Vehicles		1734	3.6	1826	3.6	1.039	17.6	NA	14.3	106.0	0.22	0.64	0.76	49.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7a. 2037 BG+D PM - Kingfisher Rd / Bunker Rd (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	334	2.1	352	2.1	0.183	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	114	5.5	120	5.5	0.178	10.5	LOS B	0.7	4.9	0.68	0.86	0.68	52.7
Approach		448	3.0	471	3.0	0.183	2.7	NA	0.7	4.9	0.17	0.22	0.17	57.9
North: Kingfisher Road														
10	L2	192	0.8	203	0.8	0.197	11.7	LOS B	0.8	5.6	0.52	0.73	0.52	56.0
12	R2	507	2.0	533	2.0	1.904	842.9	LOS F	162.2	1155.1	1.00	7.56	25.92	4.1
Approach		699	1.7	736	1.7	1.904	614.2	LOS F	162.2	1155.1	0.87	5.68	18.93	5.5
West: Bunker Road														
1	L2	316	5.8	333	5.8	0.460	6.3	LOS A	0.0	0.0	0.00	0.31	0.00	59.3
2	T1	495	3.5	521	3.5	0.460	0.8	LOS A	0.0	0.0	0.00	0.31	0.00	62.9
Approach		811	4.4	854	4.4	0.460	3.0	NA	0.0	0.0	0.00	0.31	0.00	61.4
All Vehicles		1958	3.1	2061	3.1	1.904	221.1	NA	162.2	1155.1	0.35	2.21	6.80	13.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

▽ Site: 7b [7b. Survey AM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303

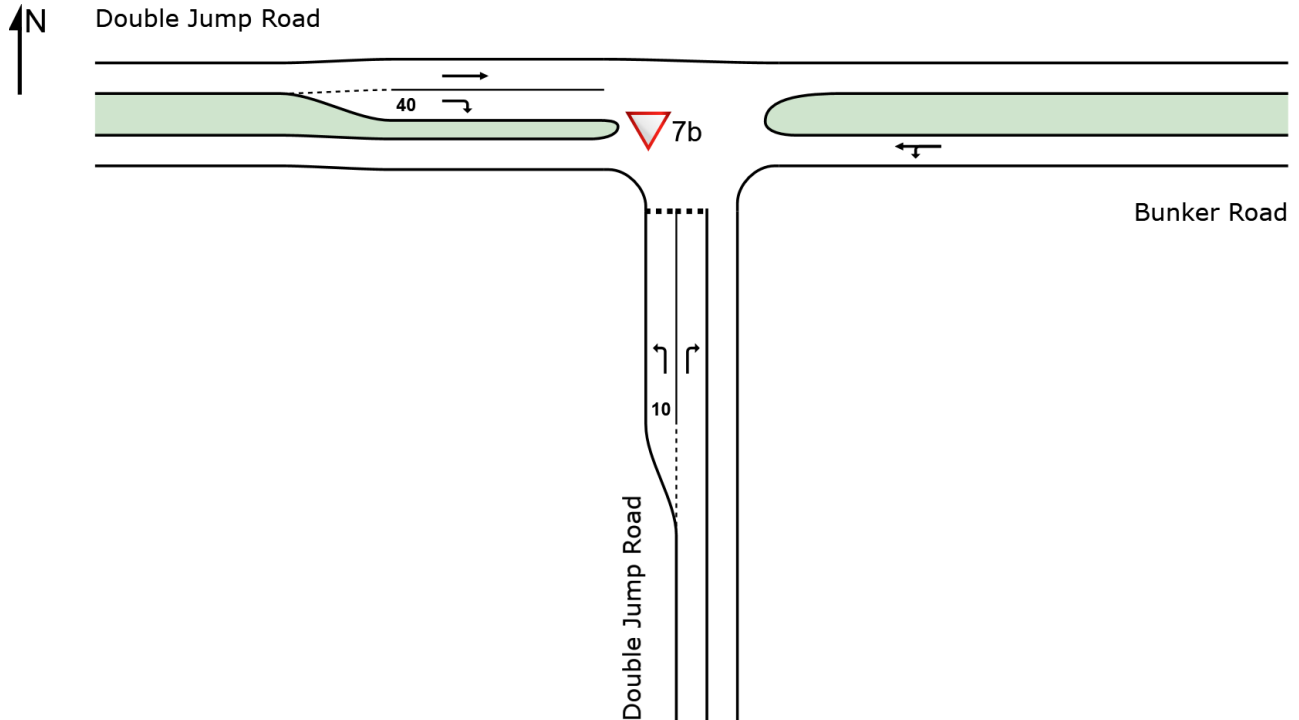
Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: H:\Projects-SLR\620-BNE\620-BNE\620.040303.00001 Southern Thornlands, Initial R\02 Analysis\2025 11 - Stage 1 & 2 RAL TIA\02
SIDRA\620.040303-S02-v0.4 Sidra 20251204.sip9

MOVEMENT SUMMARY

▼ Site: 7b [7b. Survey AM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	147	4.8	155	4.8	0.116	6.4	LOS A	0.5	3.5	0.32	0.58	0.32	51.7
3	R2	395	3.8	416	3.8	0.779	20.9	LOS C	7.6	55.3	0.85	1.34	2.11	43.1
Approach		542	4.1	571	4.1	0.779	17.0	LOS C	7.6	55.3	0.71	1.13	1.62	45.2
East: Bunker Road														
4	L2	134	8.2	141	8.2	0.194	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.2
8	T1	207	2.4	218	2.4	0.194	0.1	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		341	4.7	359	4.7	0.194	2.3	NA	0.0	0.0	0.00	0.23	0.00	56.8
West: Double Jump Road														
2	T1	266	2.6	280	2.6	0.146	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	96	10.4	101	10.4	0.084	7.1	LOS A	0.4	2.8	0.44	0.63	0.44	51.1
Approach		362	4.7	381	4.7	0.146	1.9	NA	0.4	2.8	0.12	0.17	0.12	57.3
All Vehicles		1245	4.4	1311	4.4	0.779	8.6	NA	7.6	55.3	0.34	0.61	0.74	51.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. Survey PM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	69	17.4	73	17.4	0.058	6.5	LOS A	0.2	1.8	0.30	0.57	0.30	51.3
3	R2	184	4.3	194	4.3	0.614	24.4	LOS C	3.2	23.1	0.88	1.13	1.52	41.4
Approach		253	7.9	266	7.9	0.614	19.5	LOS C	3.2	23.1	0.72	0.97	1.19	43.7
East: Bunker Road														
4	L2	388	1.5	408	1.5	0.327	5.6	LOS A	0.0	0.0	0.00	0.39	0.00	54.1
8	T1	190	3.2	200	3.2	0.327	0.1	LOS A	0.0	0.0	0.00	0.39	0.00	56.4
Approach		578	2.1	608	2.1	0.327	3.8	NA	0.0	0.0	0.00	0.39	0.00	54.8
West: Double Jump Road														
2	T1	369	4.3	388	4.3	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	250	4.4	263	4.4	0.279	8.8	LOS A	1.3	9.5	0.61	0.80	0.66	50.3
Approach		619	4.4	652	4.4	0.279	3.6	NA	1.3	9.5	0.25	0.32	0.27	55.6
All Vehicles		1450	4.1	1526	4.1	0.614	6.5	NA	3.2	23.1	0.23	0.47	0.32	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2027 BG AM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	165	4.8	174	4.8	0.134	7.5	LOS A	0.6	4.1	0.34	0.60	0.34	51.7
3	R2	444	3.8	467	3.8	1.027	74.0	LOS F	26.0	188.1	1.00	2.65	6.39	26.7
Approach		609	4.1	641	4.1	1.027	56.0	LOS F	26.0	188.1	0.82	2.09	4.75	30.7
East: Bunker Road														
4	L2	151	8.2	159	8.2	0.218	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.2
8	T1	233	2.4	245	2.4	0.218	0.1	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		383	4.7	403	4.7	0.218	2.3	NA	0.0	0.0	0.00	0.23	0.00	56.8
West: Double Jump Road														
2	T1	299	2.6	315	2.6	0.164	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	108	10.4	114	10.4	0.099	7.4	LOS A	0.4	3.3	0.47	0.66	0.47	51.0
Approach		407	4.7	428	4.7	0.164	2.0	NA	0.4	3.3	0.13	0.17	0.13	57.3
All Vehicles		1399	4.4	1473	4.4	1.027	25.6	NA	26.0	188.1	0.39	1.03	2.10	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2027 BG PM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	78	17.4	82	17.4	0.067	6.6	LOS A	0.3	2.1	0.32	0.58	0.32	51.2
3	R2	207	4.3	218	4.3	0.840	42.3	LOS E	5.8	42.2	0.96	1.40	2.54	34.4
Approach		284	7.9	299	7.9	0.840	32.6	LOS D	5.8	42.2	0.79	1.18	1.94	37.8
East: Bunker Road														
4	L2	436	1.5	459	1.5	0.368	5.7	LOS A	0.0	0.0	0.00	0.39	0.00	54.1
8	T1	214	3.2	225	3.2	0.368	0.1	LOS A	0.0	0.0	0.00	0.39	0.00	56.3
Approach		650	2.1	684	2.1	0.368	3.8	NA	0.0	0.0	0.00	0.39	0.00	54.8
West: Double Jump Road														
2	T1	415	4.3	437	4.3	0.230	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	281	4.4	296	4.4	0.347	10.0	LOS A	1.8	13.0	0.65	0.89	0.81	49.5
Approach		696	4.4	732	4.4	0.347	4.1	NA	1.8	13.0	0.26	0.36	0.33	55.2
All Vehicles		1630	4.1	1716	4.1	0.840	9.0	NA	5.8	42.2	0.25	0.52	0.48	51.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2037 BG AM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	211	4.8	222	4.8	0.183	10.2	LOS B	0.8	5.6	0.41	0.63	0.41	51.5
3	R2	566	3.8	596	3.8	1.682	639.7	LOS F	156.1	1128.5	1.00	7.67	24.65	5.2
Approach		777	4.1	818	4.1	1.682	469.0	LOS F	156.1	1128.5	0.84	5.77	18.08	6.9
East: Bunker Road														
4	L2	192	8.2	202	8.2	0.278	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.2
8	T1	297	2.4	312	2.4	0.278	0.1	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		489	4.7	515	4.7	0.278	2.3	NA	0.0	0.0	0.00	0.23	0.00	56.8
West: Double Jump Road														
2	T1	381	2.6	402	2.6	0.209	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	138	10.4	145	10.4	0.145	8.1	LOS A	0.6	4.7	0.54	0.73	0.54	50.6
Approach		519	4.7	546	4.7	0.209	2.2	NA	0.6	4.7	0.14	0.19	0.14	57.1
All Vehicles		1785	4.4	1879	4.4	1.682	205.4	NA	156.1	1128.5	0.41	2.63	7.91	13.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2037 BG PM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	99	17.4	104	17.4	0.091	11.1	LOS B	0.4	2.9	0.38	0.61	0.38	51.1
3	R2	264	4.3	278	4.3	1.815	778.0	LOS F	81.3	590.4	1.00	4.97	17.07	4.4
Approach		363	7.9	382	7.9	1.815	568.9	LOS F	81.3	590.4	0.83	3.78	12.51	5.8
East: Bunker Road														
4	L2	556	1.5	586	1.5	0.469	5.7	LOS A	0.0	0.0	0.00	0.39	0.00	54.0
8	T1	272	3.2	287	3.2	0.469	0.2	LOS A	0.0	0.0	0.00	0.39	0.00	56.2
Approach		829	2.1	872	2.1	0.469	3.9	NA	0.0	0.0	0.00	0.39	0.00	54.7
West: Double Jump Road														
2	T1	529	4.3	557	4.3	0.294	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
12	R2	359	4.4	377	4.4	0.596	15.0	LOS B	3.7	27.0	0.82	1.11	1.44	46.4
Approach		888	4.4	934	4.4	0.596	6.1	NA	3.7	27.0	0.33	0.45	0.58	53.6
All Vehicles		2079	4.1	2189	4.1	1.815	103.4	NA	81.3	590.4	0.29	1.01	2.43	22.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2027 BG+D AM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	165	4.8	174	4.8	0.136	7.7	LOS A	0.6	4.1	0.36	0.60	0.36	51.6
3	R2	447	3.8	471	3.8	1.066	100.5	LOS F	32.9	237.6	1.00	3.04	7.75	22.4
Approach		612	4.1	644	4.1	1.066	75.5	LOS F	32.9	237.6	0.83	2.38	5.75	26.4
East: Bunker Road														
4	L2	155	8.2	163	8.2	0.228	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.2
8	T1	246	2.4	259	2.4	0.228	0.1	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		401	4.7	422	4.7	0.228	2.2	NA	0.0	0.0	0.00	0.23	0.00	56.8
West: Double Jump Road														
2	T1	308	2.6	324	2.6	0.169	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	108	10.4	114	10.4	0.102	7.5	LOS A	0.4	3.3	0.48	0.67	0.48	51.0
Approach		416	4.7	438	4.7	0.169	2.0	NA	0.4	3.3	0.13	0.17	0.13	57.3
All Vehicles		1429	4.4	1505	4.4	1.066	33.5	NA	32.9	237.6	0.39	1.14	2.50	38.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2027 BG+D PM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	78	17.4	82	17.4	0.068	6.7	LOS A	0.3	2.1	0.33	0.58	0.33	51.2
3	R2	211	4.3	222	4.3	0.893	51.7	LOS F	7.1	51.8	0.97	1.54	3.05	31.6
Approach		289	7.8	304	7.8	0.893	39.6	LOS E	7.1	51.8	0.80	1.28	2.32	35.2
East: Bunker Road														
4	L2	439	1.5	462	1.5	0.374	5.7	LOS A	0.0	0.0	0.00	0.39	0.00	54.1
8	T1	223	3.2	234	3.2	0.374	0.1	LOS A	0.0	0.0	0.00	0.39	0.00	56.4
Approach		662	2.1	696	2.1	0.374	3.8	NA	0.0	0.0	0.00	0.39	0.00	54.8
West: Double Jump Road														
2	T1	428	4.3	451	4.3	0.238	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	281	4.4	296	4.4	0.354	10.2	LOS B	1.8	13.3	0.66	0.90	0.83	49.4
Approach		709	4.4	747	4.4	0.354	4.1	NA	1.8	13.3	0.26	0.36	0.33	55.2
All Vehicles		1660	4.1	1747	4.1	0.893	10.1	NA	7.1	51.8	0.25	0.53	0.54	50.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2037 BG+D AM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	211	4.8	222	4.8	0.185	10.5	LOS B	0.8	5.7	0.42	0.64	0.42	51.4
3	R2	569	3.8	599	3.8	1.754	704.7	LOS F	165.8	1198.0	1.00	7.87	25.57	4.8
Approach		780	4.1	821	4.1	1.754	517.2	LOS F	165.8	1198.0	0.84	5.92	18.78	6.3
East: Bunker Road														
4	L2	197	8.2	207	8.2	0.288	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.2
8	T1	310	2.4	327	2.4	0.288	0.1	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		507	4.7	534	4.7	0.288	2.3	NA	0.0	0.0	0.00	0.23	0.00	56.8
West: Double Jump Road														
2	T1	390	2.6	411	2.6	0.214	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	138	10.4	145	10.4	0.149	8.2	LOS A	0.6	4.8	0.55	0.74	0.55	50.5
Approach		528	4.7	556	4.7	0.214	2.2	NA	0.6	4.8	0.14	0.19	0.14	57.1
All Vehicles		1815	4.4	1911	4.4	1.754	223.6	NA	165.8	1198.0	0.40	2.66	8.11	12.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7b [7b. 2037 BG+D PM - Double Jump Road / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Double Jump Road														
1	L2	99	17.4	104	17.4	0.092	11.7	LOS B	0.4	2.9	0.38	0.62	0.38	51.0
3	R2	268	4.3	282	4.3	1.932	883.9	LOS F	88.3	641.5	1.00	5.10	17.68	3.9
Approach		367	7.9	387	7.9	1.932	649.0	LOS F	88.3	641.5	0.83	3.89	13.02	5.2
East: Bunker Road														
4	L2	559	1.5	589	1.5	0.476	5.7	LOS A	0.0	0.0	0.00	0.39	0.00	54.0
8	T1	281	3.2	296	3.2	0.476	0.2	LOS A	0.0	0.0	0.00	0.39	0.00	56.2
Approach		841	2.1	885	2.1	0.476	3.9	NA	0.0	0.0	0.00	0.39	0.00	54.7
West: Double Jump Road														
2	T1	543	4.3	571	4.3	0.301	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
12	R2	359	4.4	377	4.4	0.610	15.4	LOS C	3.8	27.7	0.83	1.13	1.48	46.1
Approach		901	4.4	949	4.4	0.610	6.2	NA	3.8	27.7	0.33	0.45	0.59	53.5
All Vehicles		2109	4.1	2220	4.1	1.932	117.2	NA	88.3	641.5	0.29	1.02	2.52	20.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

 Site: 7Up [7Up. 2027 BG AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303

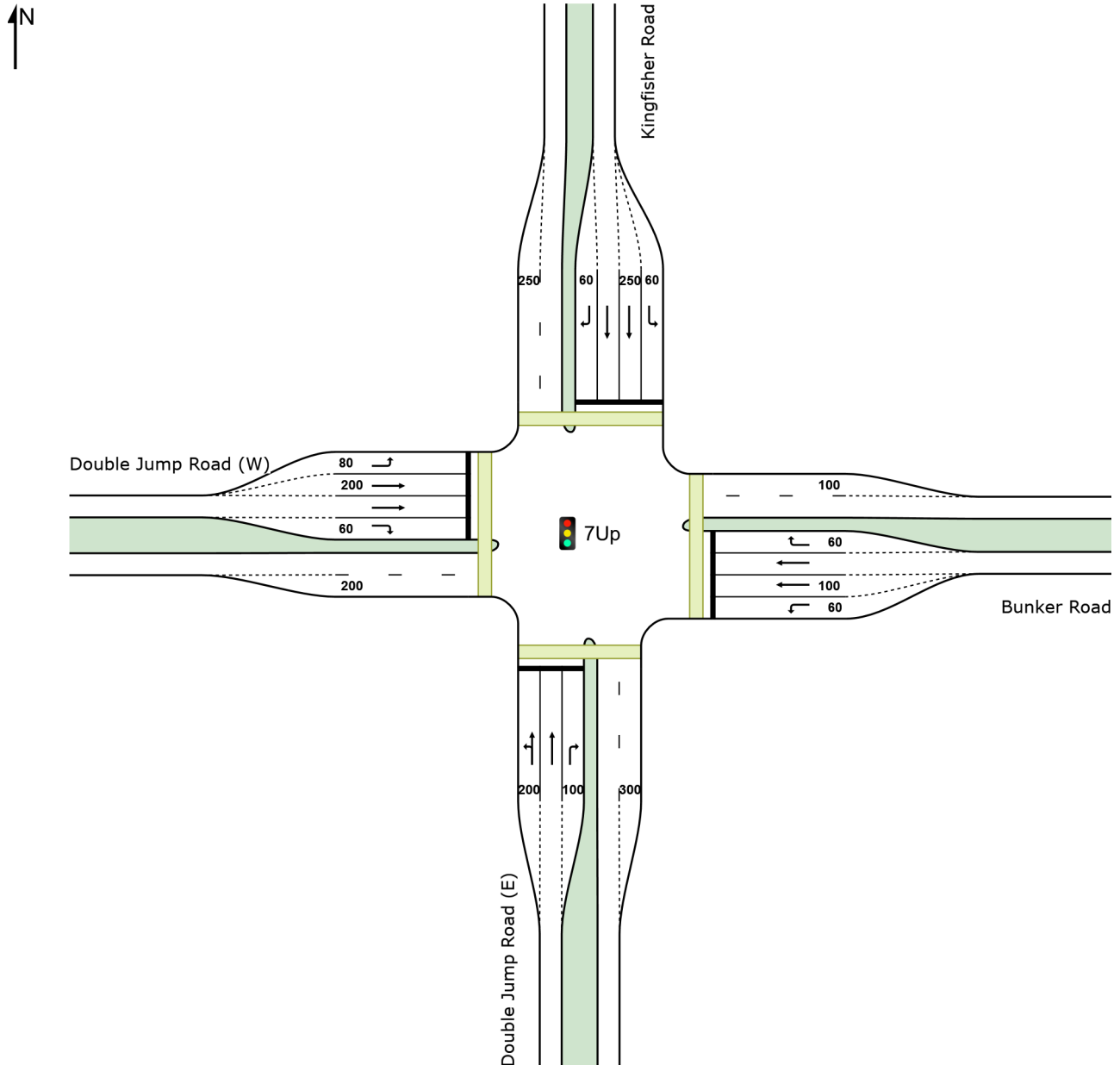
Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: H:\Projects-SLR\620-BNE\620-BNE\620.040303.00001 Southern Thornlands, Initial R\02 Analysis\2025 11 - Stage 1 & 2 RAL TIA\02

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MOVEMENT SUMMARY

Site: 7Up [7Up. 2027 BG AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Double Jump Road (E)														
1	L2	165	1.4	174	1.4	0.625	32.2	LOS C	9.0	63.5	0.95	0.82	0.95	39.2
2	T1	383	1.5	403	1.5	* 0.625	26.6	LOS C	9.2	65.3	0.95	0.80	0.95	41.6
3	R2	61	18.5	64	18.5	* 0.454	41.6	LOS D	2.3	18.4	0.99	0.75	0.99	34.8
Approach		609	3.1	641	3.1	0.625	29.6	LOS C	9.2	65.3	0.95	0.80	0.95	40.1
East: Bunker Road														
4	L2	43	18.4	45	18.4	0.137	31.7	LOS C	1.3	10.6	0.86	0.73	0.86	38.2
5	T1	197	8.0	207	8.0	0.279	26.5	LOS C	3.1	23.1	0.89	0.70	0.89	42.0
6	R2	144	0.8	151	0.8	* 0.638	39.3	LOS D	5.3	37.3	1.00	0.83	1.07	35.8
Approach		383	6.5	403	6.5	0.638	31.9	LOS C	5.3	37.3	0.93	0.75	0.95	39.0
North: Kingfisher Road														
7	L2	54	6.3	57	6.3	0.132	28.8	LOS C	1.5	11.4	0.82	0.73	0.82	39.6
8	T1	108	4.2	114	4.2	0.123	22.8	LOS C	1.5	11.2	0.81	0.62	0.81	43.9
9	R2	36	6.2	38	6.3	0.248	40.3	LOS D	1.3	9.6	0.97	0.72	0.97	35.4
Approach		198	5.1	208	5.1	0.248	27.6	LOS C	1.5	11.4	0.84	0.67	0.84	40.9
West: Double Jump Road (W)														
10	L2	62	3.6	65	3.6	0.180	32.3	LOS C	1.9	13.7	0.87	0.74	0.87	38.5
11	T1	237	3.8	250	3.8	* 0.410	27.0	LOS C	4.8	34.8	0.90	0.72	0.90	41.8
12	R2	108	1.0	114	1.0	0.479	37.9	LOS D	3.8	27.0	0.97	0.78	0.97	36.2
Approach		407	3.0	428	3.0	0.479	30.7	LOS C	4.8	34.8	0.92	0.74	0.92	39.6
All Vehicles		1597	4.2	1681	4.2	0.638	30.2	LOS C	9.2	65.3	0.92	0.76	0.93	39.8

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
East: Bunker Road												

P2 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
North: Kingfisher Road											
P3 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
West: Double Jump Road (W)											
P4 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
All Pedestrians	40	42	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09

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.

PHASING SUMMARY

 Site: 7Up [7Up. 2027 BG AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

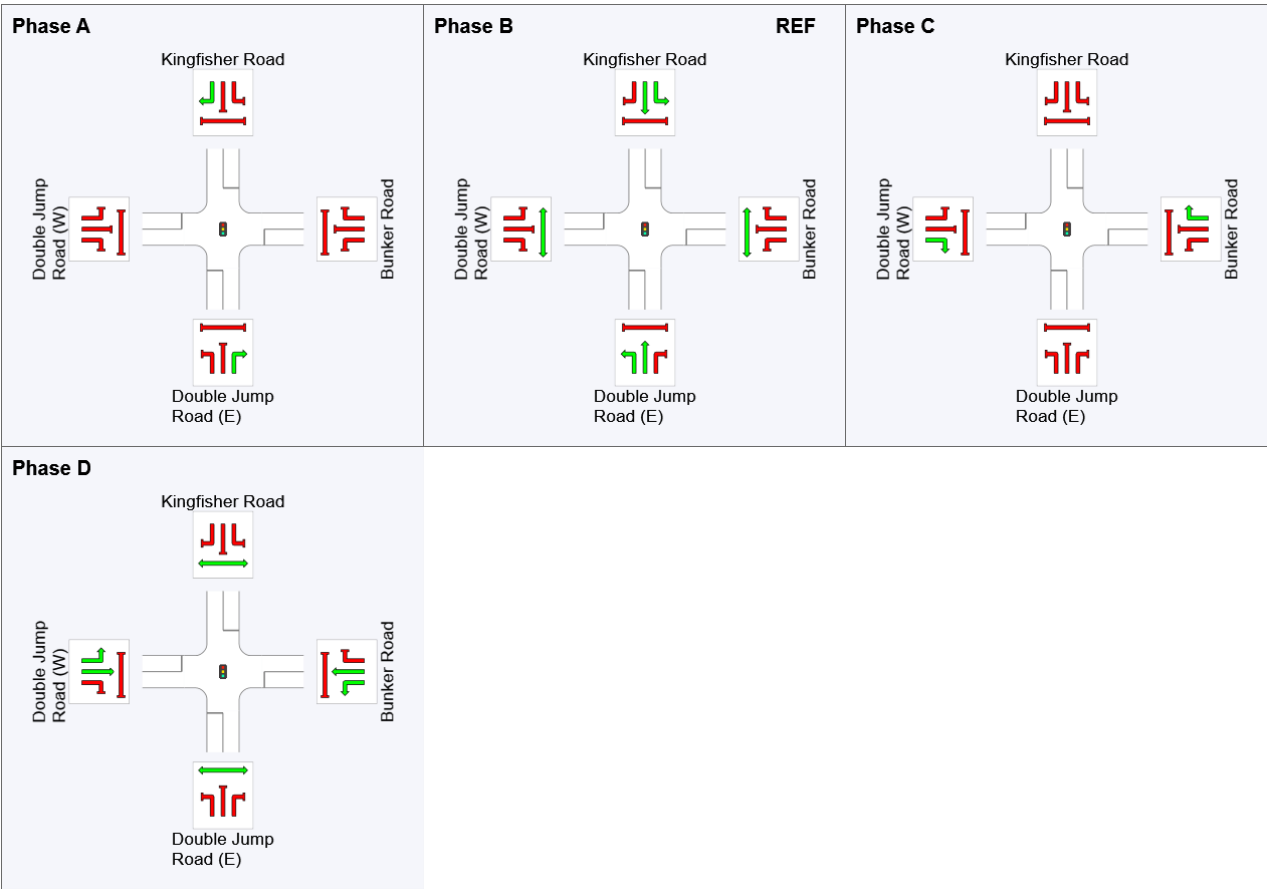
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond Rights
Reference Phase: Phase B
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	58	0	23	38
Green Time (sec)	6	17	9	14
Phase Time (sec)	12	23	15	20
Phase Split	17%	33%	21%	29%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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MOVEMENT SUMMARY

Site: 7Up [7Up. 2027 BG PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 103 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Double Jump Road (E)														
1	L2	78	17.4	82	17.4	0.368	46.5	LOS D	5.2	41.1	0.92	0.77	0.92	33.7
2	T1	155	5.1	163	5.1	0.368	40.4	LOS D	5.7	42.0	0.92	0.74	0.92	35.9
3	R2	52	2.2	54	2.2	* 0.511	60.3	LOS E	2.9	20.4	1.00	0.75	1.01	29.7
Approach		284	7.9	299	7.9	0.511	45.7	LOS D	5.7	42.0	0.93	0.75	0.94	34.0
East: Bunker Road														
4	L2	98	0.0	103	0.0	* 0.476	54.4	LOS D	5.0	35.3	0.98	0.78	0.98	31.3
5	T1	164	3.4	173	3.4	0.389	47.1	LOS D	4.2	30.0	0.97	0.75	0.97	34.0
6	R2	82	5.5	86	5.5	* 0.830	65.8	LOS E	4.9	35.8	1.00	0.93	1.37	28.4
Approach		344	2.9	362	2.9	0.830	53.6	LOS D	5.0	35.8	0.98	0.80	1.07	31.7
North: Kingfisher Road														
7	L2	146	0.8	154	0.8	0.451	47.2	LOS D	7.0	49.5	0.94	0.80	0.94	33.2
8	T1	338	2.0	356	2.0	* 0.501	42.1	LOS D	8.2	58.5	0.95	0.77	0.95	35.8
9	R2	49	2.3	52	2.3	0.489	60.2	LOS E	2.7	19.5	1.00	0.75	1.00	29.7
Approach		534	1.7	562	1.7	0.501	45.2	LOS D	8.2	58.5	0.95	0.78	0.95	34.4
West: Double Jump Road (W)														
10	L2	79	7.1	83	7.1	0.101	22.4	LOS C	2.3	17.1	0.59	0.71	0.59	42.6
11	T1	336	3.7	354	3.7	0.249	17.6	LOS B	6.6	48.0	0.63	0.52	0.63	46.8
12	R2	281	4.4	296	4.4	0.403	28.8	LOS C	10.5	76.3	0.76	0.78	0.76	39.7
Approach		696	4.4	732	4.4	0.403	22.7	LOS C	10.5	76.3	0.68	0.65	0.68	43.2
All Vehicles		1858	3.9	1956	3.9	0.830	38.4	LOS D	10.5	76.3	0.85	0.73	0.87	36.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
East: Bunker Road												

P2 Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
North: Kingfisher Road											
P3 Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
West: Double Jump Road (W)											
P4 Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
All Pedestrians	40	42	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00

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.

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PHASING SUMMARY

 Site: 7Up [7Up. 2027 BG PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 103 seconds (Site Optimum Cycle Time - Minimum Delay)

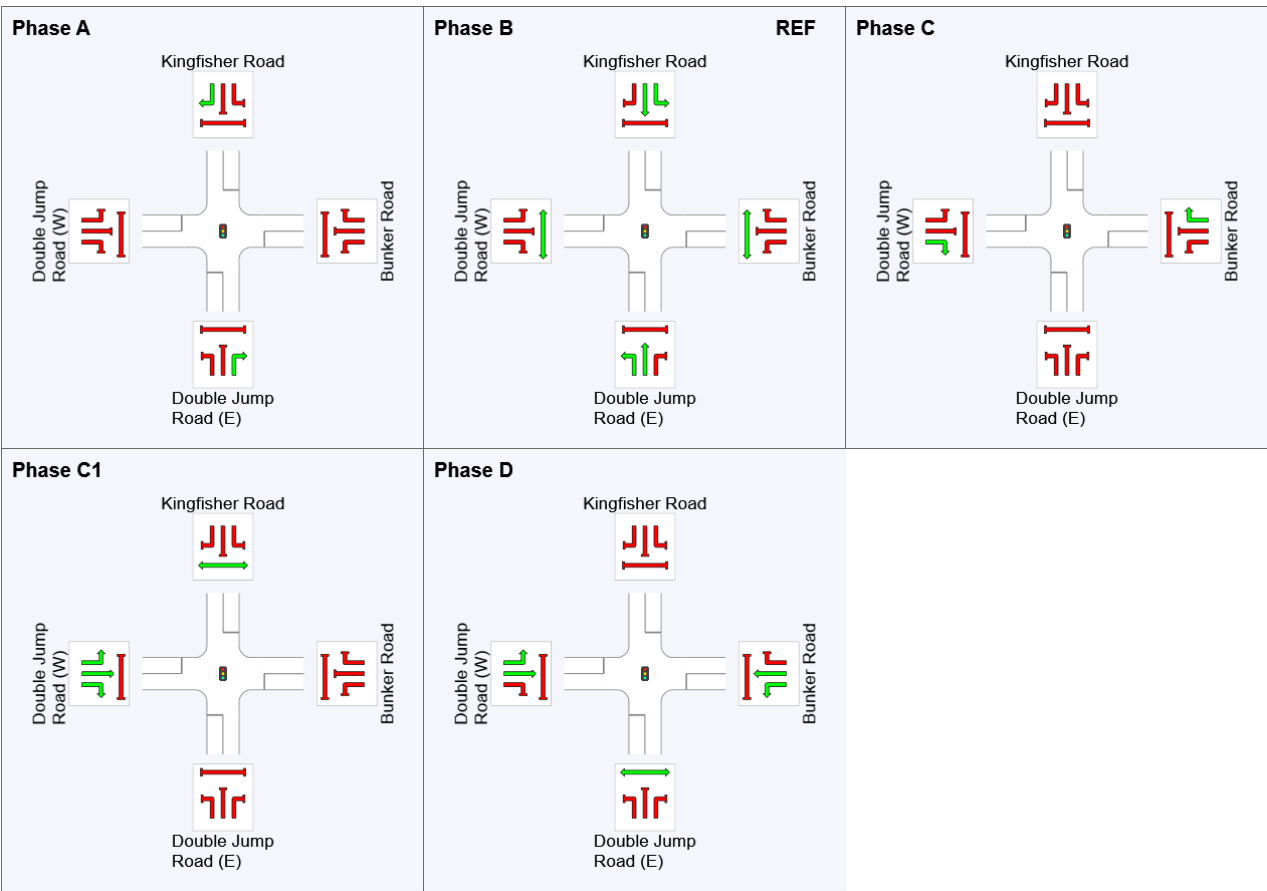
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase B
Input Phase Sequence: A, B, C, C1, D
Output Phase Sequence: A, B, C, C1, D

Phase Timing Summary

Phase	A	B	C	C1	D
Phase Change Time (sec)	91	0	25	37	73
Green Time (sec)	6	19	6	30	12
Phase Time (sec)	12	25	12	36	18
Phase Split	12%	24%	12%	35%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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Site: 7Up [7Up. 2037 BG AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
East: Bunker Road												

P2 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
North: Kingfisher Road											
P3 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
West: Double Jump Road (W)											
P4 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
All Pedestrians	40	42	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09

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.

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PHASING SUMMARY

 **Site: 7Up [7Up. 2037 BG AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]**

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

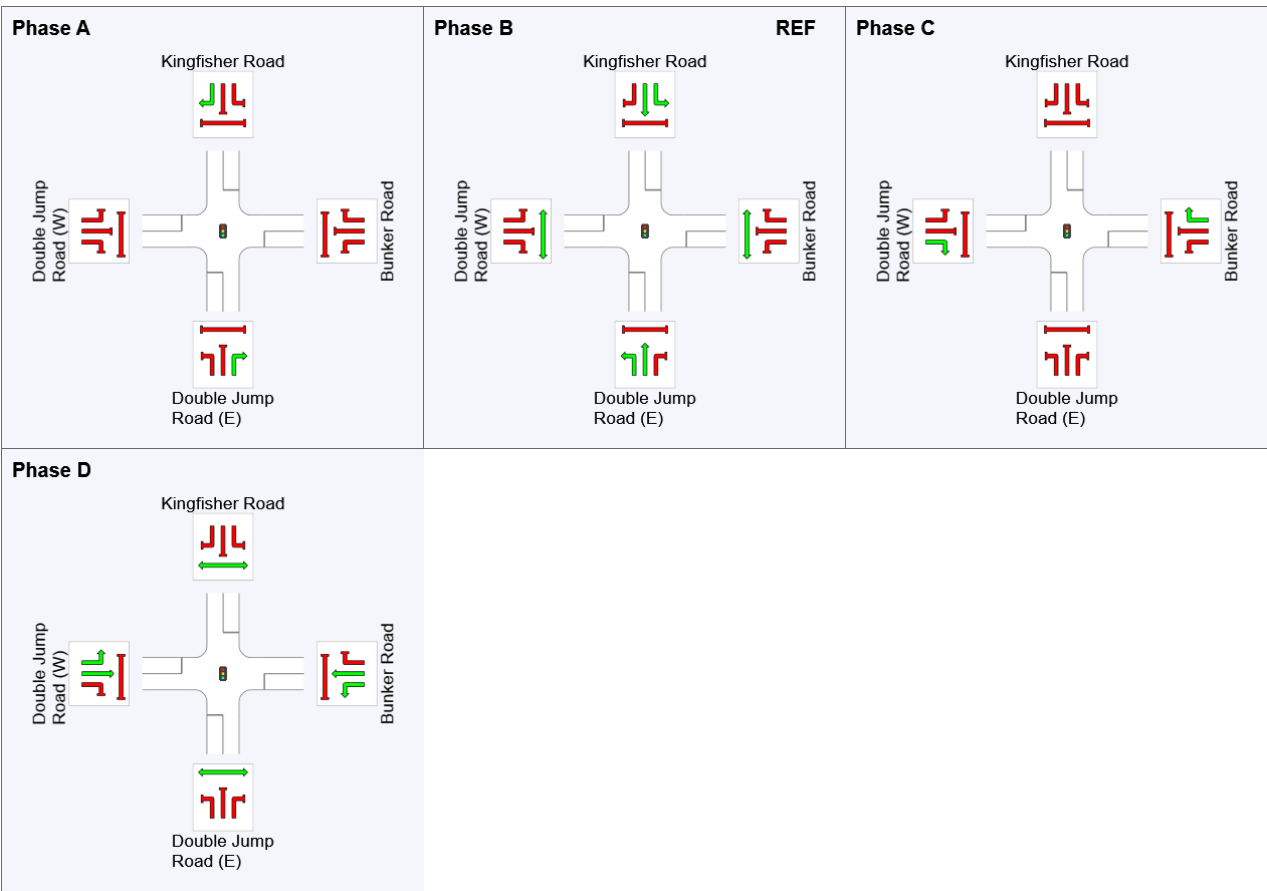
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond Rights
Reference Phase: Phase B
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	58	0	23	38
Green Time (sec)	6	17	9	14
Phase Time (sec)	12	23	15	20
Phase Split	17%	33%	21%	29%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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Site: 7Up [7Up. 2037 BG PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
East: Bunker Road												

P2 Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
North: Kingfisher Road											
P3 Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
West: Double Jump Road (W)											
P4 Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
All Pedestrians	40	42	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99

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.

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PHASING SUMMARY

 Site: 7Up [7Up. 2037 BG PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

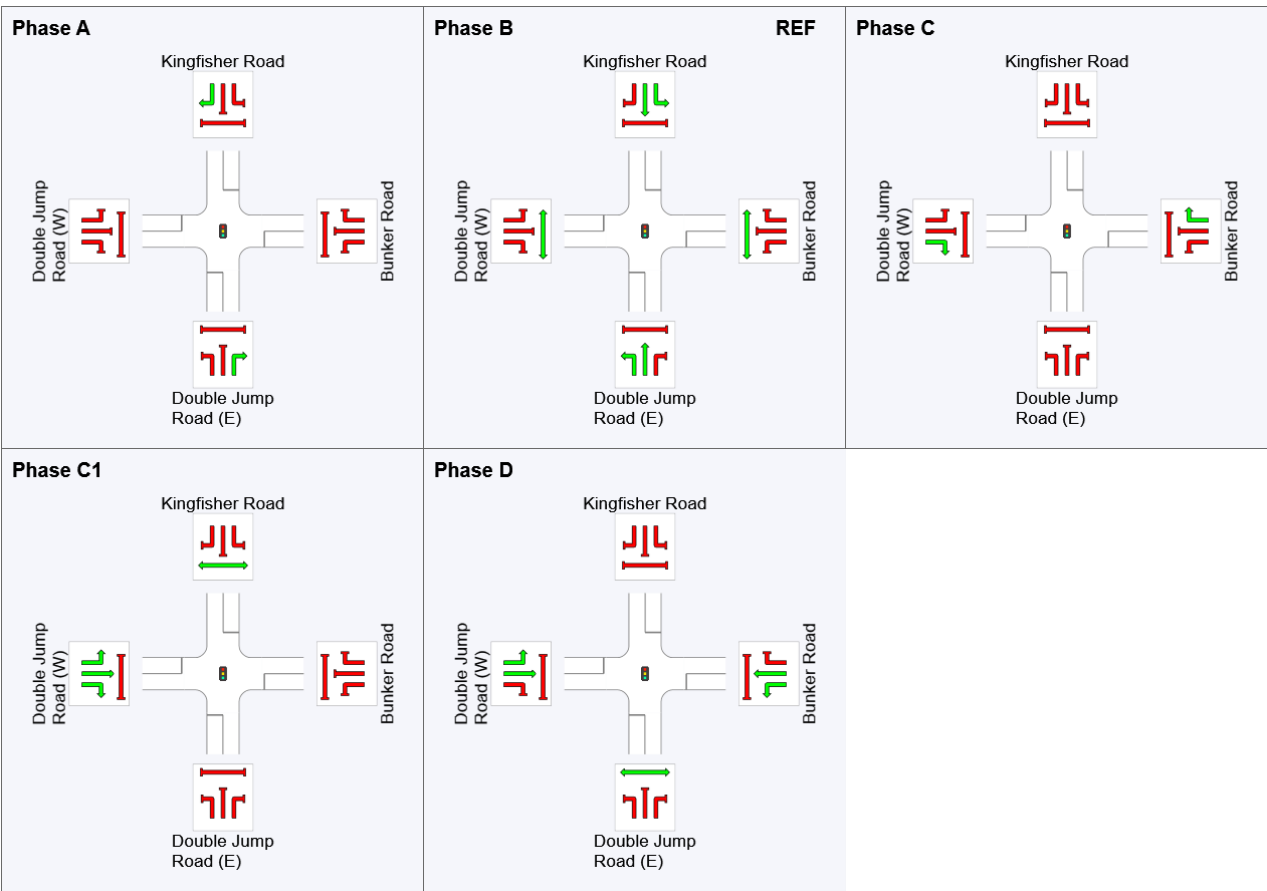
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase B
Input Phase Sequence: A, B, C, C1, D
Output Phase Sequence: A, B, C, C1, D

Phase Timing Summary

Phase	A	B	C	C1	D
Phase Change Time (sec)	97	0	26	43	79
Green Time (sec)	7	20	11	30	12
Phase Time (sec)	13	26	17	36	18
Phase Split	12%	24%	15%	33%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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Site: 7Up [7Up. 2027 BG+D AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
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 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
East: Bunker Road												

P2 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
North: Kingfisher Road											
P3 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
West: Double Jump Road (W)											
P4 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
All Pedestrians	40	42	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09

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.

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SIDRA\620.040303-S02-v0.4 Sidra 20251204.sip9

PHASING SUMMARY

 Site: 7Up [7Up. 2027 BG+D AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

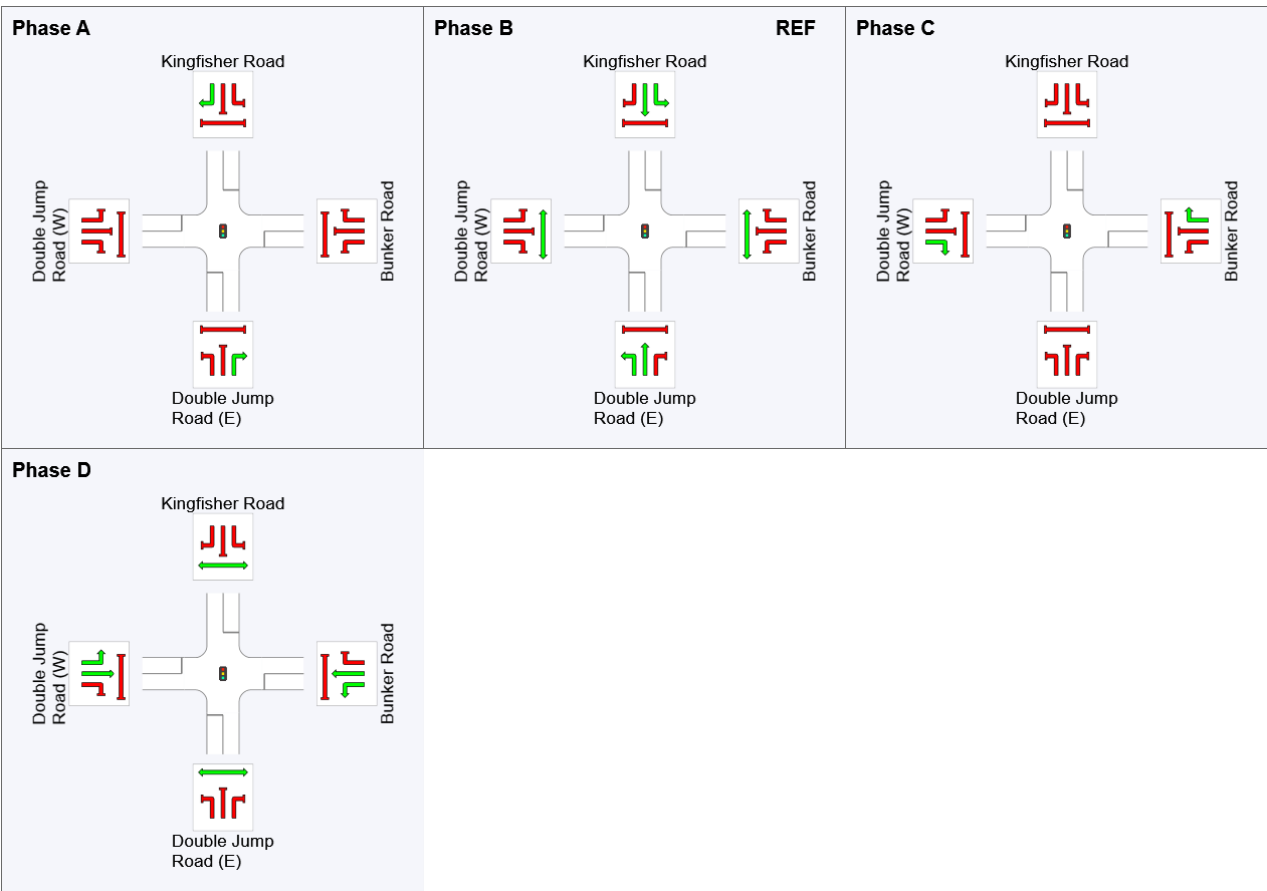
Timings based on settings in the Site Phasing & Timing dialog
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Phase Sequence: Diamond Rights
Reference Phase: Phase B
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	58	0	23	38
Green Time (sec)	6	17	9	14
Phase Time (sec)	12	23	15	20
Phase Split	17%	33%	21%	29%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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Site: 7Up [7Up. 2027 BG+D PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 103 seconds (Site Optimum Cycle Time - Minimum Delay)

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
East: Bunker Road												

P2 Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
North: Kingfisher Road											
P3 Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
West: Double Jump Road (W)											
P4 Full	10	11	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00
All Pedestrians	40	42	45.7	LOS E	0.0	0.0	0.94	0.94	199.5	200.0	1.00

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.

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Project: H:\Projects-SLR\620-BNE\620-BNE\620.040303.00001 Southern Thornlands, Initial R\02 Analysis\2025 11 - Stage 1 & 2 RAL TIA\02

SIDRA\620.040303-S02-v0.4 Sidra 20251204.sip9

PHASING SUMMARY

 **Site: 7Up [7Up. 2027 BG+D PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]**

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 103 seconds (Site Optimum Cycle Time - Minimum Delay)

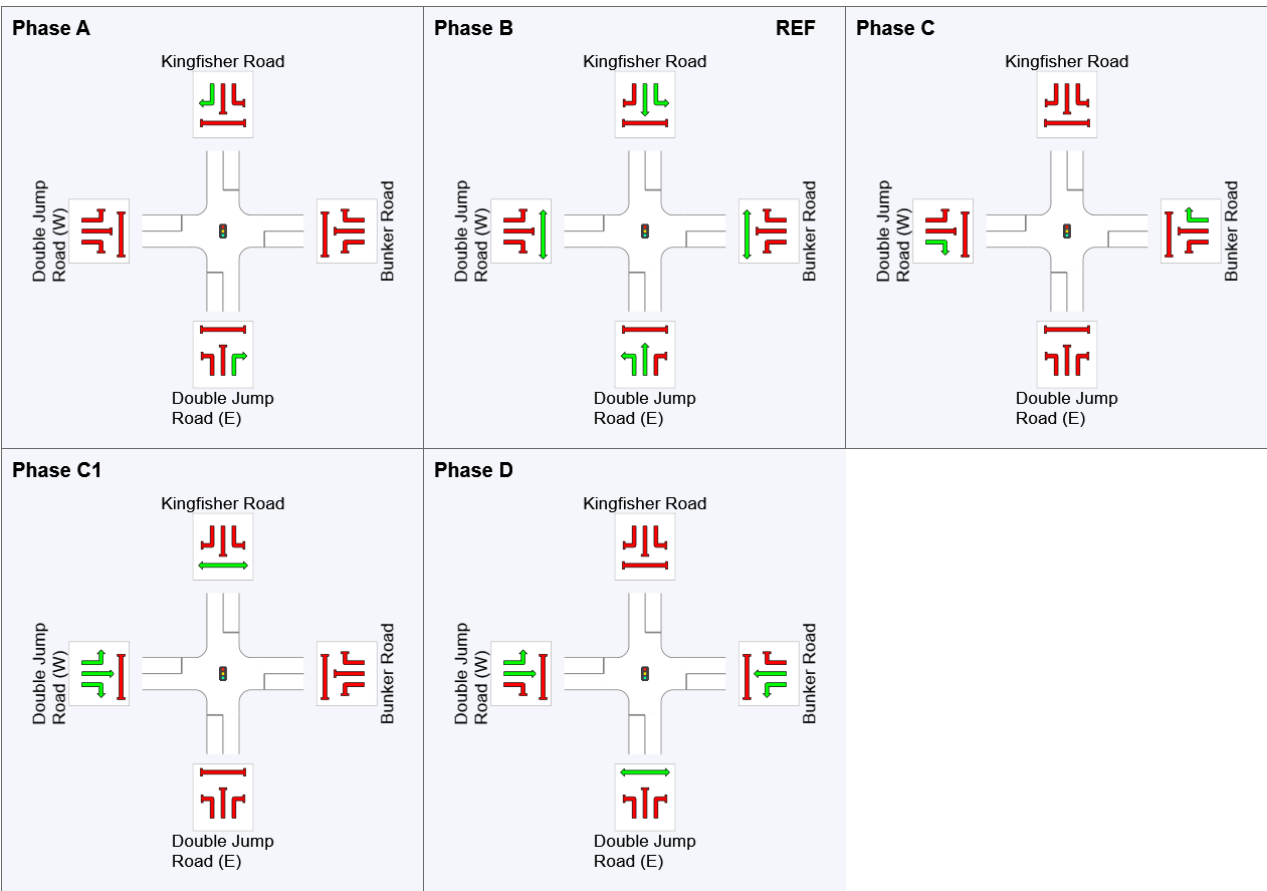
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase B
Input Phase Sequence: A, B, C, C1, D
Output Phase Sequence: A, B, C, C1, D

Phase Timing Summary

Phase	A	B	C	C1	D
Phase Change Time (sec)	91	0	25	37	73
Green Time (sec)	6	19	6	30	12
Phase Time (sec)	12	25	12	36	18
Phase Split	12%	24%	12%	35%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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MOVEMENT SUMMARY

Site: 7Up [7Up. 2037 BG+D AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Project Number: 620.040303

Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Double Jump Road (E)														
1	L2	211	1.4	222	1.4	0.800	37.5	LOS D	13.2	93.3	1.00	0.95	1.18	37.1
2	T1	492	1.5	518	1.5	* 0.800	31.8	LOS C	13.5	95.9	1.00	0.96	1.18	39.3
3	R2	77	18.5	82	18.5	* 0.580	42.4	LOS D	3.0	24.0	1.00	0.80	1.08	34.5
Approach		780	3.1	821	3.1	0.800	34.4	LOS C	13.5	95.9	1.00	0.94	1.17	38.2
East: Bunker Road														
4	L2	54	18.4	57	18.4	0.175	32.0	LOS C	1.7	13.6	0.86	0.74	0.86	38.1
5	T1	251	8.0	264	8.0	0.356	27.1	LOS C	4.0	30.1	0.90	0.72	0.90	41.8
6	R2	190	0.8	200	0.8	* 0.840	44.9	LOS D	7.8	54.8	1.00	1.00	1.37	34.0
Approach		495	6.4	521	6.4	0.840	34.4	LOS C	7.8	54.8	0.94	0.83	1.08	38.0
North: Kingfisher Road														
7	L2	78	6.3	82	6.2	0.190	29.4	LOS C	2.3	16.8	0.83	0.75	0.83	39.5
8	T1	142	4.2	150	4.2	0.162	23.1	LOS C	2.1	14.9	0.82	0.64	0.82	43.7
9	R2	59	6.3	63	6.3	0.410	41.0	LOS D	2.2	16.2	0.99	0.75	0.99	35.1
Approach		279	5.2	294	5.2	0.410	28.7	LOS C	2.3	16.8	0.86	0.69	0.86	40.4
West: Double Jump Road (W)														
10	L2	88	3.6	92	3.6	0.255	33.3	LOS C	2.8	19.9	0.88	0.76	0.88	38.3
11	T1	303	3.8	318	3.8	* 0.524	27.7	LOS C	6.3	45.6	0.92	0.75	0.92	41.5
12	R2	138	1.0	145	1.0	0.611	39.0	LOS D	5.0	35.5	0.99	0.82	1.05	35.8
Approach		528	3.0	556	3.0	0.611	31.5	LOS C	6.3	45.6	0.94	0.77	0.95	39.3
All Vehicles		2083	4.2	2192	4.2	0.840	32.9	LOS C	13.5	95.9	0.95	0.84	1.05	38.7

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
East: Bunker Road												

P2 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
North: Kingfisher Road											
P3 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
West: Double Jump Road (W)											
P4 Full	10	11	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09
All Pedestrians	40	42	29.3	LOS C	0.0	0.0	0.91	0.91	183.1	200.0	1.09

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.

PHASING SUMMARY

 **Site: 7Up [7Up. 2037 BG+D AM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]**

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

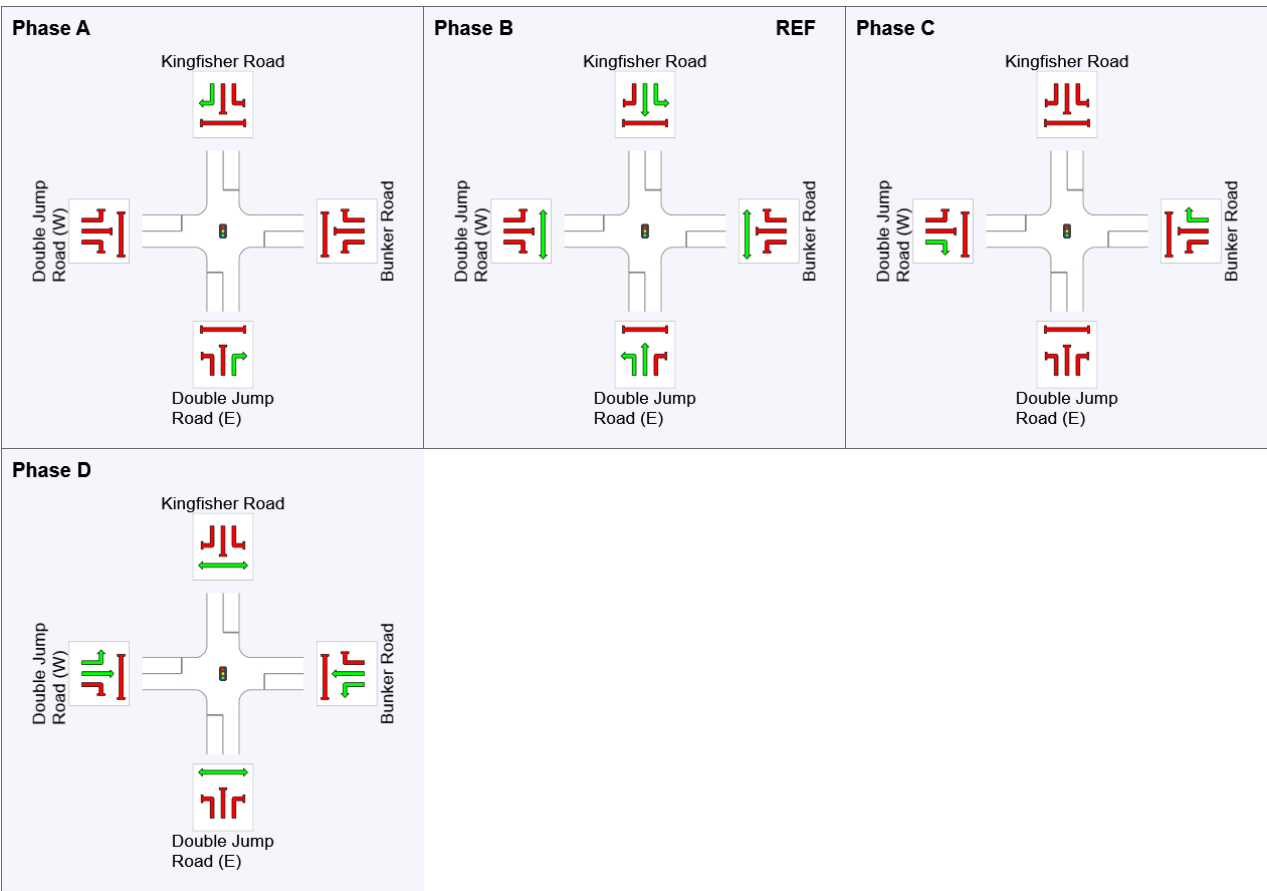
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond Rights
Reference Phase: Phase B
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	58	0	23	38
Green Time (sec)	6	17	9	14
Phase Time (sec)	12	23	15	20
Phase Split	17%	33%	21%	29%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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Site: 7Up [7Up. 2037 BG+D PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Double Jump Road (E)												
P1	Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
East: Bunker Road												

P2 Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
North: Kingfisher Road											
P3 Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
West: Double Jump Road (W)											
P4 Full	10	11	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99
All Pedestrians	40	42	49.2	LOS E	0.0	0.0	0.95	0.95	203.0	200.0	0.99

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.

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SIDRA\620.040303-S02-v0.4 Sidra 20251204.sip9

PHASING SUMMARY

 **Site: 7Up [7Up. 2037 BG+D PM - Kingfisher Rd / Bunker Road / Double Jump Road (Site Folder: General)]**

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

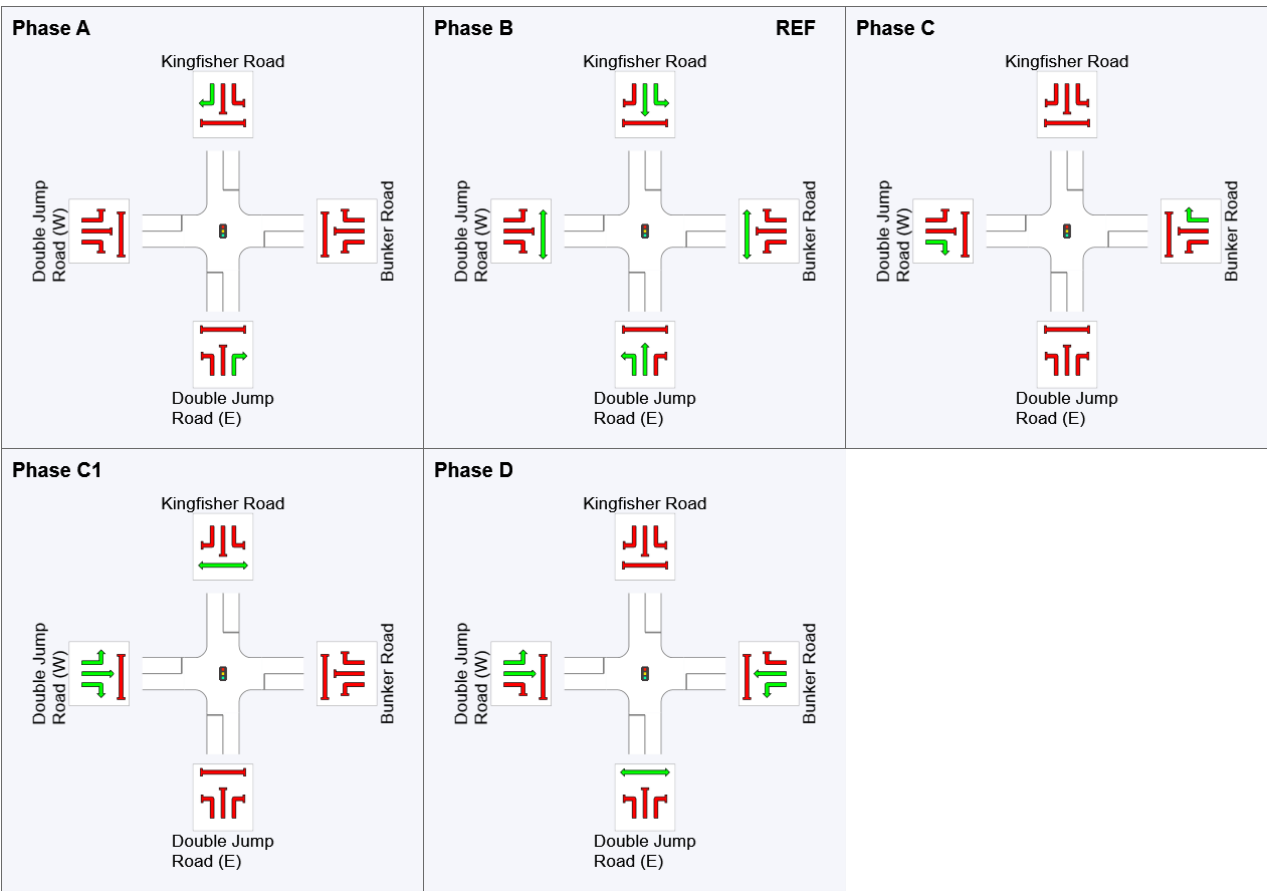
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase B
Input Phase Sequence: A, B, C, C1, D
Output Phase Sequence: A, B, C, C1, D

Phase Timing Summary

Phase	A	B	C	C1	D
Phase Change Time (sec)	97	0	26	43	79
Green Time (sec)	7	20	11	30	12
Phase Time (sec)	13	26	17	36	18
Phase Split	12%	24%	15%	33%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

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SITE LAYOUT

▽ Site: 7a [7aUp. 2027 BG+D AM - Kingfisher Rd / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303

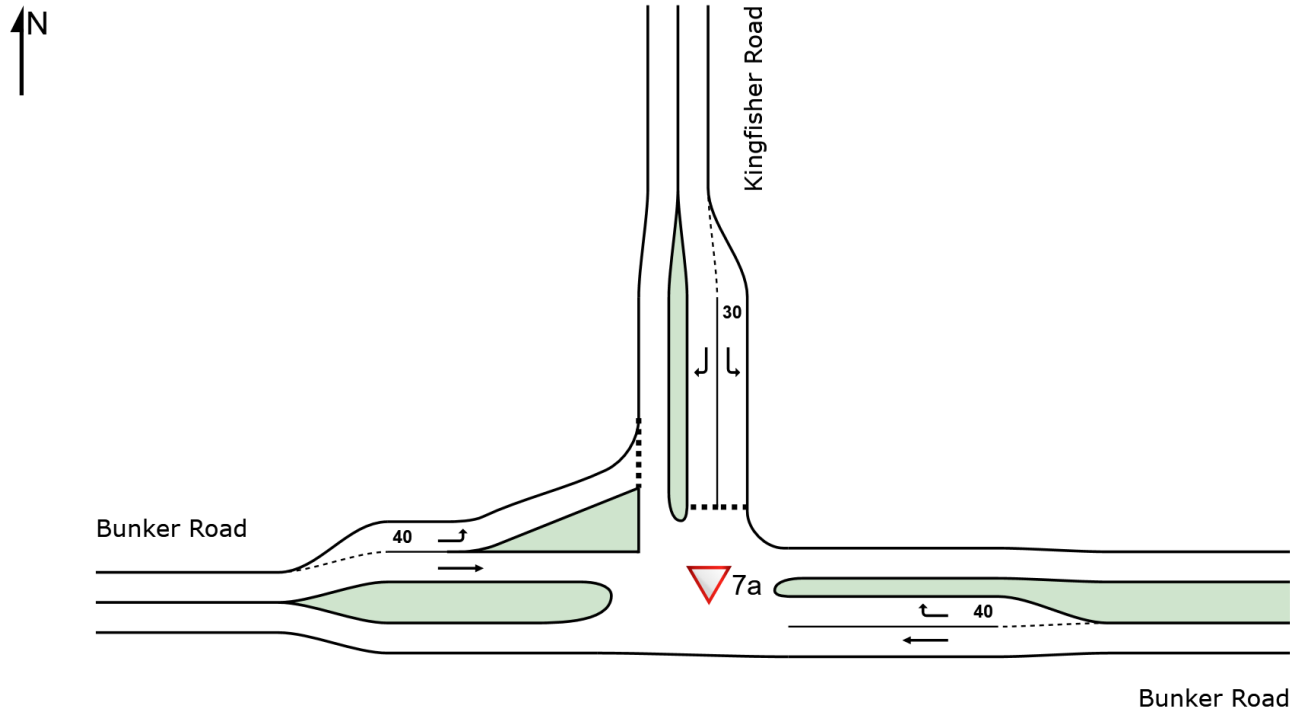
Project: Southern Thornlands - Stage 1 & 2 RAL

Prepared by: AM

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

▼ Site: 7a [7aUp. 2027 BG+D AM - Kingfisher Rd / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	239	3.3	252	3.3	0.132	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	150	1.6	158	1.6	0.117	6.7	LOS A	0.5	3.7	0.41	0.61	0.41	56.2
Approach		389	2.6	410	2.6	0.132	2.6	NA	0.5	3.7	0.16	0.24	0.16	58.4
North: Kingfisher Road														
10	L2	63	4.2	66	4.2	0.054	6.7	LOS A	0.2	1.5	0.37	0.60	0.37	55.7
12	R2	162	7.0	170	7.0	0.434	17.3	LOS C	2.0	15.1	0.78	1.00	1.10	47.8
Approach		225	6.2	237	6.2	0.434	14.3	LOS B	2.0	15.1	0.67	0.89	0.89	49.8
West: Bunker Road														
1	L2	457	4.0	481	4.0	0.341	8.1	LOS A	1.8	12.9	0.32	0.60	0.32	56.9
2	T1	298	2.3	314	2.3	0.163	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		755	3.3	795	3.3	0.341	4.9	LOS A	1.8	12.9	0.20	0.36	0.20	58.0
All Vehicles		1369	3.6	1441	3.6	0.434	5.8	NA	2.0	15.1	0.26	0.41	0.30	56.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 7a [7aUp. 2027 BG+D PM - Kingfisher Rd / Bunker Rd
(Site Folder: General)]

Project Number: 620.040303
Project: Southern Thornlands - Stage 1 & 2 RAL
Prepared by: AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
East: Bunker Road														
8	T1	262	2.1	276	2.1	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	91	5.5	96	5.5	0.084	7.3	LOS A	0.4	2.6	0.47	0.65	0.47	55.0
Approach		353	3.0	372	3.0	0.143	1.9	NA	0.4	2.6	0.12	0.17	0.12	58.6
North: Kingfisher Road														
10	L2	152	0.8	160	0.8	0.139	7.1	LOS A	0.6	4.0	0.45	0.67	0.45	56.2
12	R2	400	2.0	421	2.0	0.967	50.1	LOS F	16.5	117.5	0.98	2.09	4.74	33.9
Approach		552	1.7	581	1.7	0.967	38.2	LOS E	16.5	117.5	0.84	1.70	3.56	38.1
West: Bunker Road														
1	L2	252	5.8	265	5.8	0.182	7.8	LOS A	0.8	6.1	0.22	0.58	0.22	57.2
2	T1	388	3.5	408	3.5	0.214	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		640	4.4	673	4.4	0.214	3.1	LOS A	0.8	6.1	0.08	0.23	0.08	58.8
All Vehicles		1544	3.1	1626	3.1	0.967	15.4	NA	16.5	117.5	0.36	0.74	1.34	49.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
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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