PROPOSED HEALTHCARE FACILITY

99 CORNWALL STREET, ANNERLEY

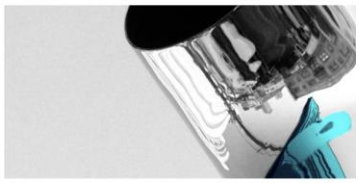
TRAFFIC IMPACT ASSESSMENT

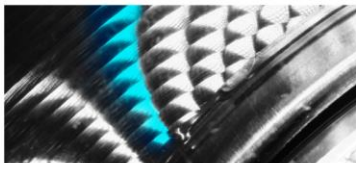
22 AUGUST 2023

PREPARED FOR

chp Fund

PEKOL TRAFFIC & TRANSPORT





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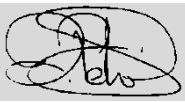
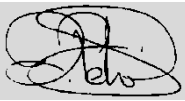
DOCUMENT CONTROL RECORD

DOCUMENT	
Report Title:	99 Cornwall Street, Annerley - Traffic Impact Assessment
Client:	Cornerstone Building Developments
Project Number:	22-783

REV	PURPOSE	DATE	AUTHOR	REVIEWER	APPROVED	SIGNED
A	DRAFT	AUG-23	CB	JG	AAP (RPEQ 5286)	
B	FINAL	AUG-23	CB	JG	AAP (RPEQ 5286)	

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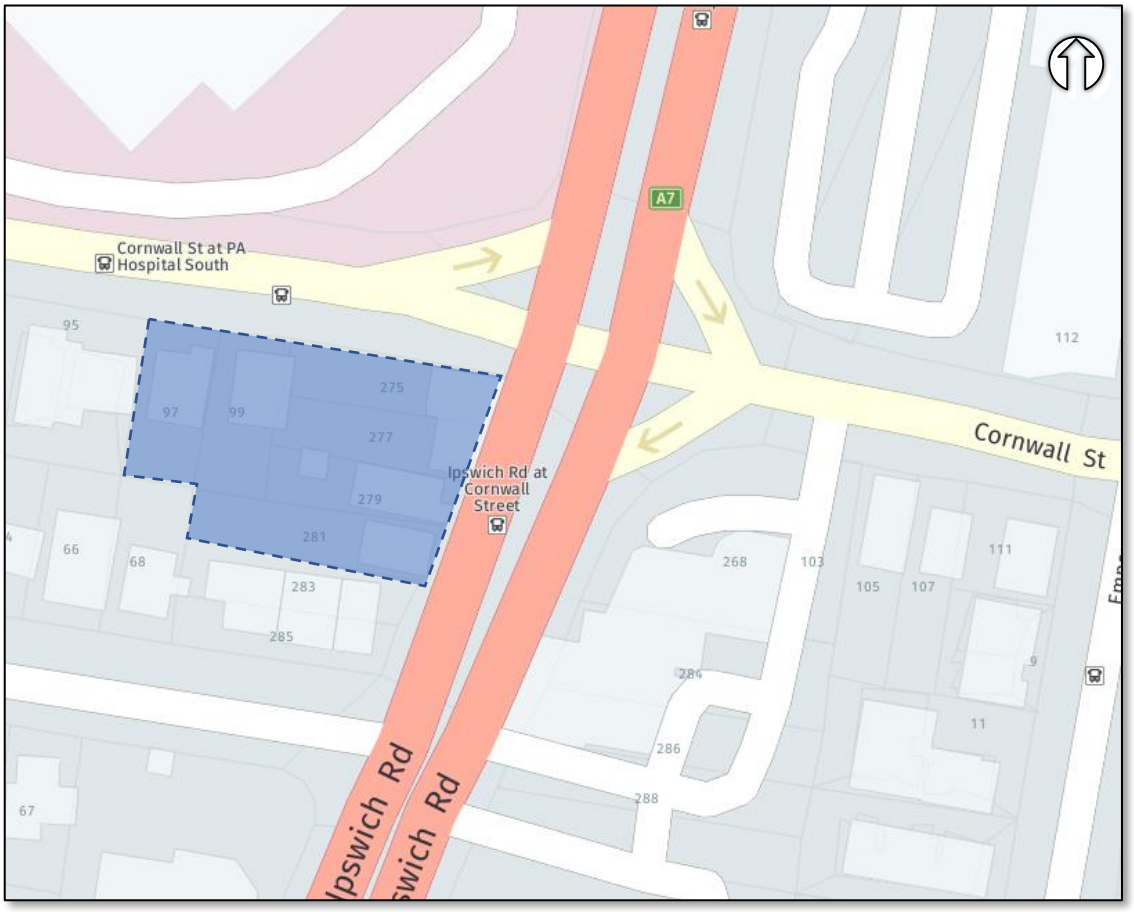
1.0 INTRODUCTION

1.1 Background

In June 2022 Pekol Traffic and Transport (PTT) was commissioned by Cornerstone Building Developments to undertake a traffic impact assessment for a proposed health care service development, located at 99 Cornwall Steet, Annerley, as shown in Figure 1.1

Figure 1.1: SITE LOCALITY



1.2 Aim

The aim of this assessment is to evaluate the proposed development in terms of its access, car parking and servicing arrangements, pedestrian / cyclist facilities, peak hour traffic generation and impact on the surrounding road network.

1.3 Scope of Report

This report begins by summarising the characteristics of the existing site, external road network and traffic operations (Chapter 2), followed by a description of the scope and scale of the proposed development, including a consideration of the parking, servicing and site access arrangements (Chapter 3). The likely traffic operating characteristics are overlayed on top of future year peak hour traffic operations on the adjacent road network to identify potential future traffic impacts (Chapter 4). The report concludes with a summary of key findings (Chapter 5).

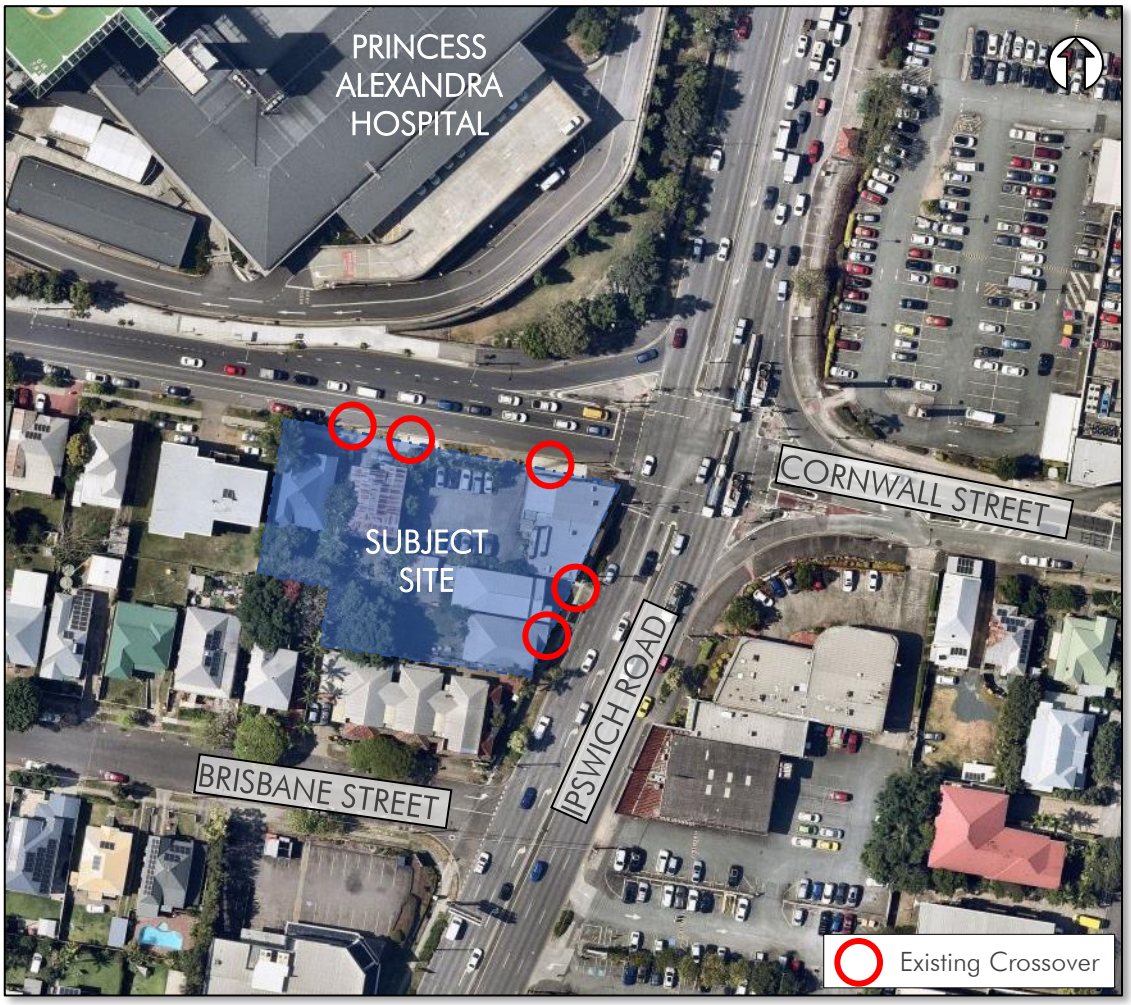
2.0 EXISTING CONDITIONS

2.1 Subject Site

The subject site is located at 275 – 281 Ipswich Road and 97 – 99 Cornwall Street, Annerley and is formally described as Lots 1 – 4 and Lots 72 – 73 on RP37992. The site comprises a total area of approximately 2,460m^2, is zoned as a 'low-medium density residential' and 'character' use according to the Brisbane City Council (BCC) City Plan (2014). The subject site has a total frontage of approximately 70m to Cornwall Street and around 30m to Ipswich Road. The site is currently occupied by four detached residential dwellings on Lots 3, 4, 72 and 73, with a single storey commercial building on Lots 1 and 2.

The site is bounded to the north by Cornwall Street to the north, to the east by Ipswich Road and to the south and west by residential uses. An arial view of the site is shown in Figure 2.1

Figure 2.1: EXISTING SITE



2.2 Access

Vehicular access to the subject site is currently provided by two driveway crossovers (limited to left-in / left-out operations) on Ipswich Road (both within the existing bus stop) and three crossovers on Cornwall Street, as indicated in Figure 2.1.

2.3 Road Network

Key attributes of the road network proximate to the site are summarised in Table 2.1.

Table 2.1: ROAD NETWORK ATTRIBUTES

ATTRIBUTE	IPSWICH ROAD	CORNWALL STREET
Road Hierarchy	Arterial Road	Suburban (sub-arterial) Road
Cross-section	Median-divided, with three lanes of traffic in each	Undivided, with one lane of traffic in each direction
Speed Limit (km/h)	50-60	60
Jurisdiction	Council	Council
Predominant Land Use	Residential / Commercial / Retail	Residential / Health / Commercial
Dedicated Parking	Yes (clear-way with no parking permitted 7am – 7pm Monday to Sunday)	Yes
Footpaths	Yes	Yes
Bicycle Lanes	No	No
Bus Route	Yes	Yes

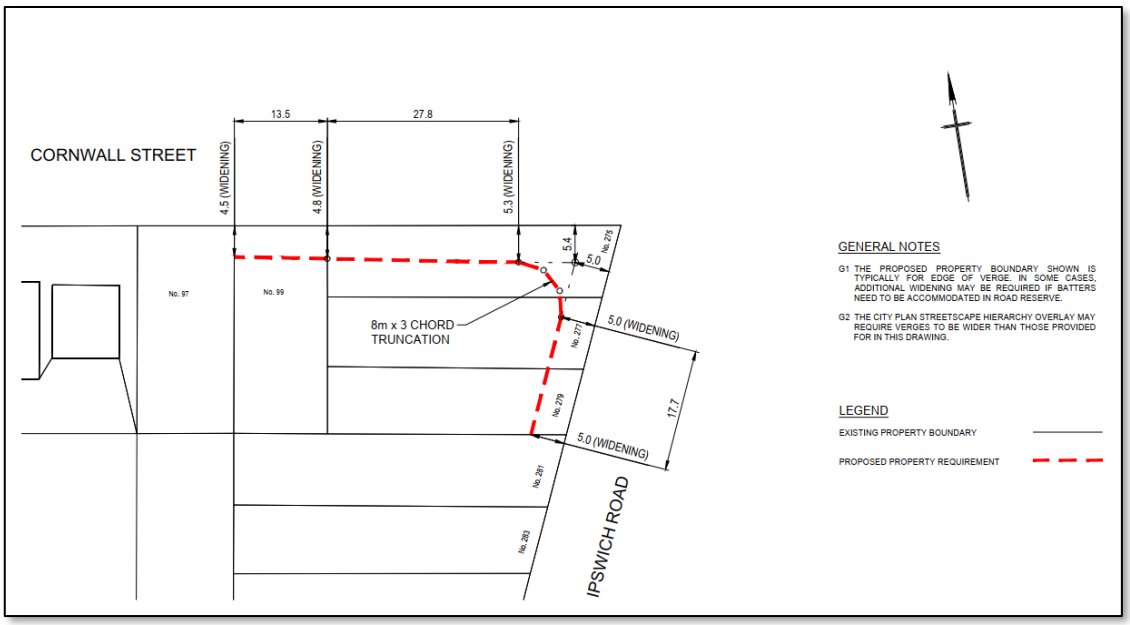
Ipswich Road meets Cornwall Street at a four-way traffic signal-controlled intersection. The intersection accommodates all movements, although the westbound through movement (ie from Cornwall Street east to Cornwall Street west) is limited to buses only.

2.4 Future Road Upgrade

The BCC Local Government Infrastructure Plan (LGIP) identifies a road intersection project at the Ipswich Road / Cornwall Street intersection, with $1.6m allocated in the budget (LGIP item: WOO-RI-002). The upgrade will include road widening impacting both the Ipswich Road and Cornwall Street site frontages. It is understood that the road widening would accommodate intersection upgrades including:

- an additional right turn lane and through lane on the southern Ipswich Road approach
- a dedicated right turn lane on the eastern Cornwall Street approach and on-road bicycle lanes in both directions
- a corner truncation with 6m by 3m chords

Figure 2.2 IPSWICH ROAD / CORNWALL STREET INTERSECTION UPGRADE



2.5 Traffic Volumes

To assist in the quantification of existing road network operations proximate to the site, turning movement surveys were obtained for the Cornwall Street / Ipswich Road signalised intersection. These were undertaken from 7:00 to 9:00am and from 4:00 to 6:00pm on Tuesday 20 July, 2021, to capture the existing morning and evening peak period traffic.

The peak periods for the intersection is shown in Table 2.2, along with key operational attributes of the intersection. The volumes shown represent all vehicles movements through the intersection in the peak hour periods. The traffic count data is provided in Appendix A

Table 2.2: INTERSECTION ATTRIBUTES

ATTRIBUTE	WEEKDAY MORNING PEAK	WEEKDAY EVENING PEAK
Ipswich Road / Cornwall Street		
Peak Hour	7:00 – 8:00am	4:30 – 5:30pm
Volume (vph)	4,310 vehicles	5,190 vehicles
% Heavy Vehicles	7.0%	2.9%
Peak Flow Factor	0.99	0.99

2.6 Intersection Operations

2.6.1 SIDRA Analysis Parameters

A SIDRA analysis was conducted to quantity the existing traffic operations on the adjacent external road network. The analysis was based on the traffic count data presented in Appendix A, with:

- peak flow factors as detailed in Table 2.2
- the observed proportion of heavy vehicles (%HV) for each movement
- signal phasing data sourced from Council and "practical" cycle times as determined by SIDRA (with a lower bound of 60 seconds permitted)
- SIDRA default values for other parameters

The results are presented in terms of the degree of saturation (DOS), 95th percentile vehicle queues and critical movement. The degree of saturation for a movement is defined as the ratio of traffic demand to the capacity of the movement. The critical movement relates to the approach or movement with the highest degree of saturation. Table 2.3 is an extract from the SIDRA manual and defines the operational rating and level of service for all intersection types.

Table 2.3: SIDRA INTERSECTION RATINGS

LEVEL OF SERVICE	DEGREE OF SATURATION		
	SIGNALS	ROUNDABOUT	PRIORITY
LOS A	x ≤ 60%	x ≤ 60%	x ≤ 60%
LOS B	60% < x ≤ 70%	60% < x ≤ 70%	60% < x ≤ 70%
LOS C	70% < x ≤ 90%	70% < x ≤ 85%	70% < x ≤ 80%
LOS D	90% < x ≤ 95%	85% < x ≤ 95%	80% < x ≤ 90%
LOS E	95% < x ≤ 100%	95% < x ≤ 100%	90% < x ≤ 100%
LOS F	100% < x	100% < x	100% < x

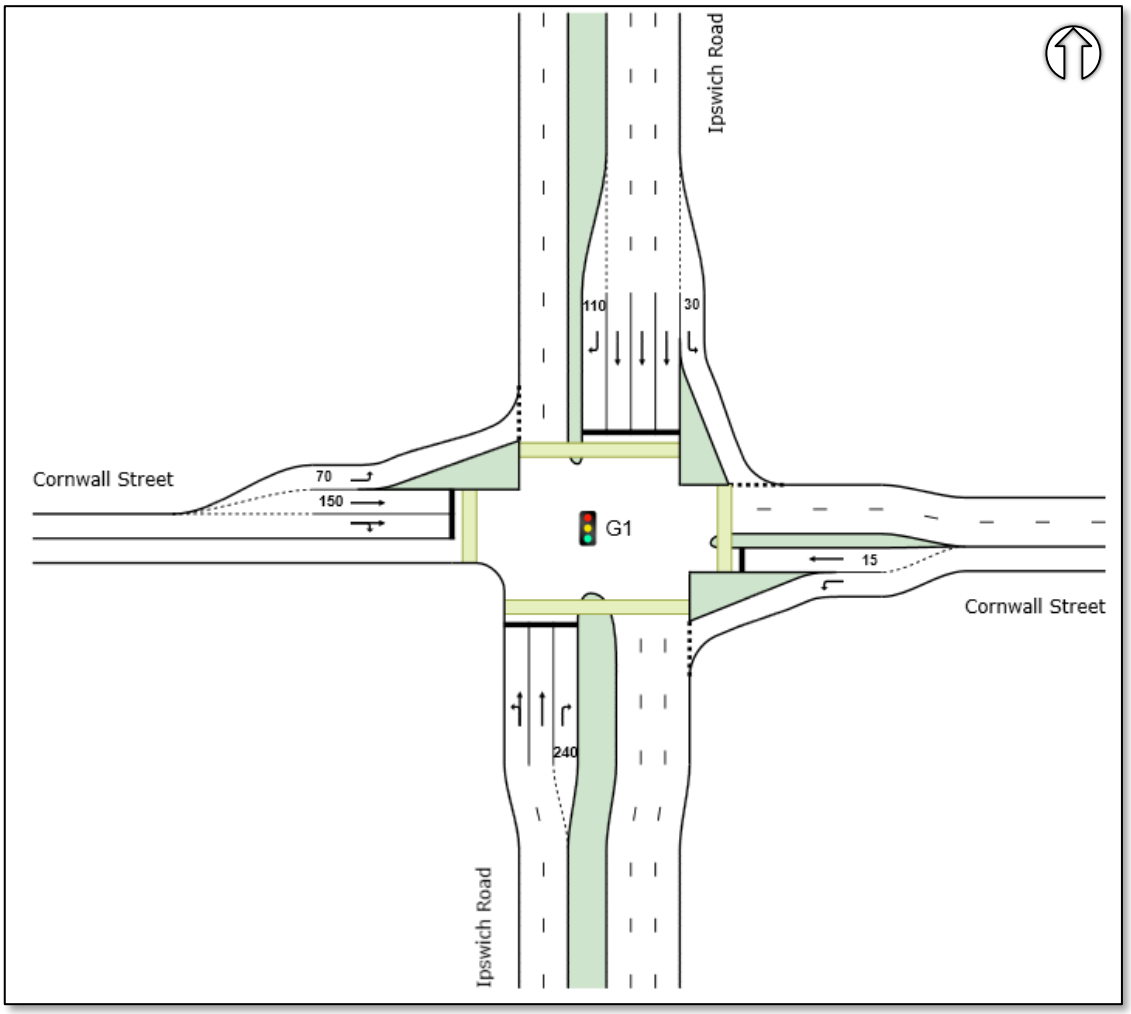
2.6.3 Ipswich Road / Cornwall Street Intersection

The results of the Ipswich Road / Cornwall Street signalised intersection analysis are summarised in Table 2.4 and attached in Appendix C. The results indicate that the intersection currently experiences LOS C operations during the weekday morning and evening peak hours.

Table 2.4: EXISTING INTERSECTION OPERATIONS

SCENARIO	DOS	CYCLE TIME	95% QUEUE	CRITICAL MOVEMENT
Weekday Morning	76%	140s	41.8 vehicles	South: Ipswich Road
Weekday Evening	91%	140s	54.0 vehicles	North: Ipswich Road

Figure 2.3: SIDRA REPRESENTATION OF INTERSECTION



2.7 Active and Public Transport

2.7.1 Active Transport

There are pedestrian footpaths provided on both sides of Ipswich Road and Cornwall Street in the vicinity of the site, with crossing facilities provided on all four approaches at the Ipswich Road / Cornwall Street signalised intersection.

According to BCC's City Plan 2014, Ipswich Road and Cornwall Street form part of the secondary cycle route. However, there are currently no on or off-road cycle facilities or infrastructure in the vicinity of the site.

2.7.2 Public Transport

There are public bus stops on both sides of Ipswich Road and Cornwall Street within 100m of the subject site. This includes two bus stops on the site frontage (one on Ipswich Road and one on the Cornwall Street frontage). These stops are serviced by numerous TransLink bus Routes inclusive of route 113, 117, 124, 125, 172, 198 and 202. These routes operate between Fortitude Valley and Acacia Ridge. Services operate approximately four times an hour on weekdays and twice an hour on weekends, between 5:20am and 6:20pm. The two bus stops on the site frontage provide 12 bus services per hour on weekdays, which equates to one bus every five minutes.

The Princess Alexandra Hospital bus station is located approximately 500m to the north of the subject site, while Dutton Park rail station is around 520m to the west. Both of these stations would meet the definition of a major public transport interchange as detailed in the BCC Transport, Access, Parking and Servicing (TAPS) Planning Scheme Policy. Accordingly, the site is very well served by public transport.

3.0 PROPOSED DEVELOPMENT

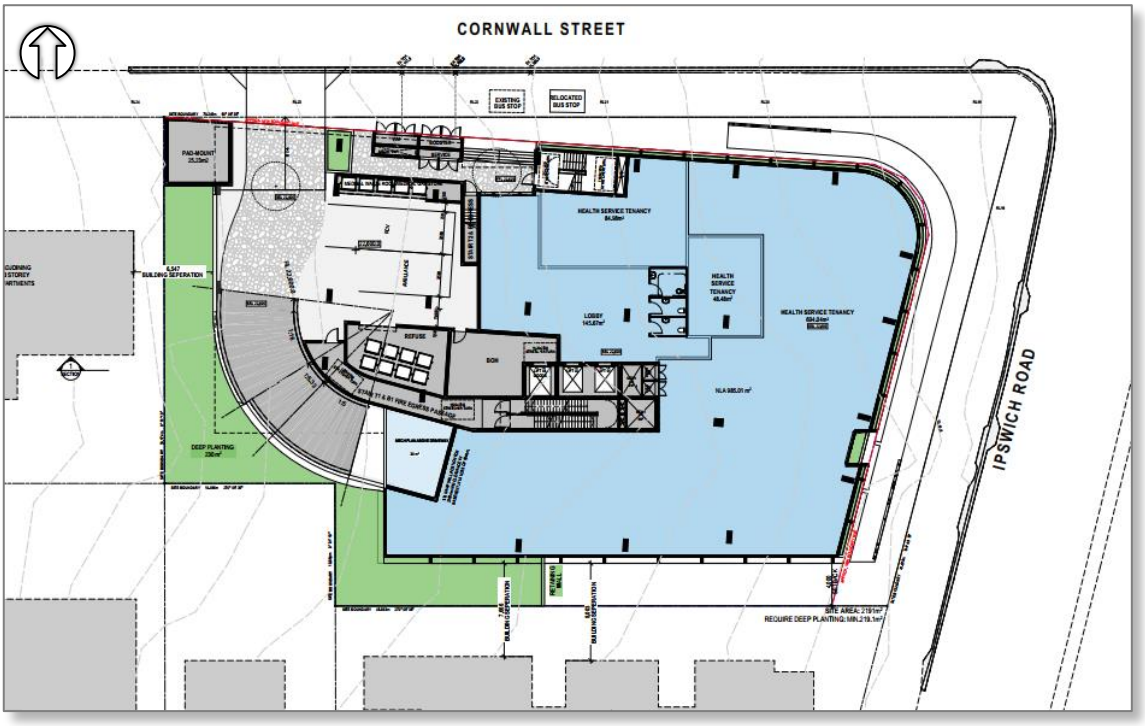
3.1 Proposed Development

The proposal seeks to redevelop the subject site to establish a five-storey integrated health care services facility. The development proposal incorporates a total gross floor area (GFA) of 7,762m^2 and a net leasable floor area (NLA) of 7,560m^2.

The development would be supported by a total of 200 on-site car parking spaces provided at ground level and three levels of basement parking.

The proposed level 1 and ground floor layouts are shown in Figures 3.1 and 3.2 respectively, with detailed plans attached in Appendix B.

Figure 3.1: PROPOSED LEVEL 1 LAYOUT



3.2 Vehicular Access Arrangements

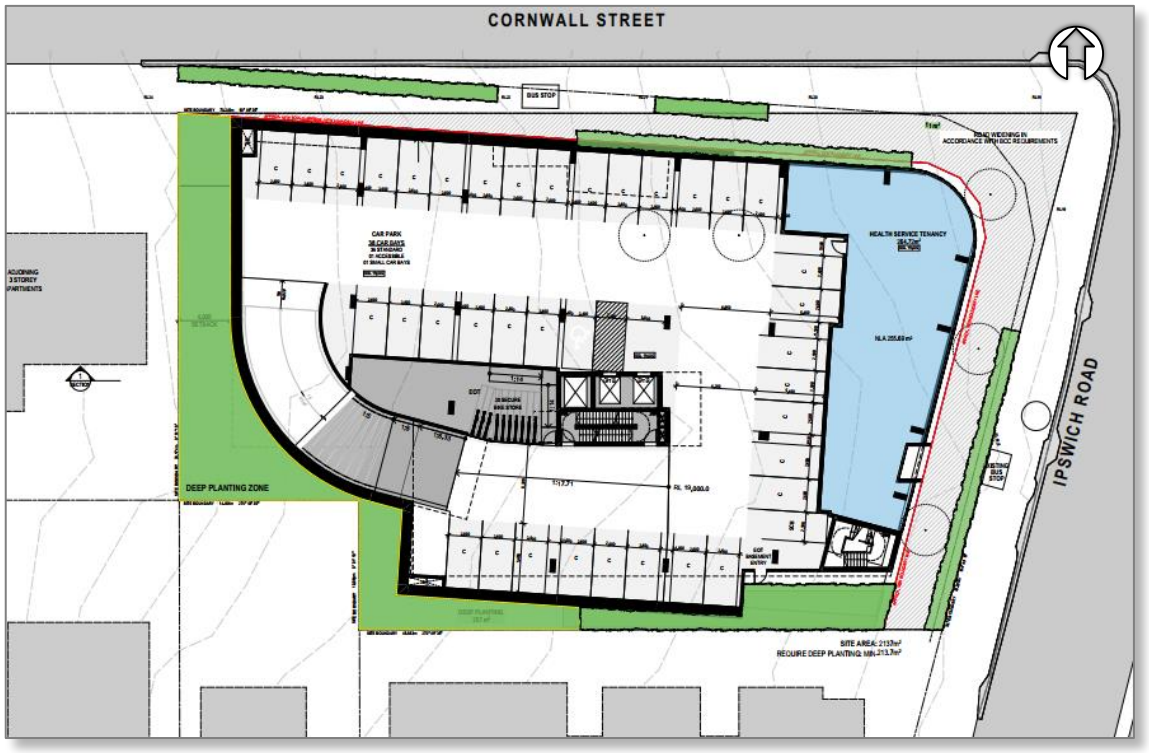
3.2.1 Location

The BCC TAPS Policy requires accesses on major roads (ie Cornwall Street) to be restricted to left-in / left-out operations, with a minimum 30m separation from intersections with major roads and 15m separation from adjacent driveways.

A single access driveway is proposed on Cornwall Street. Therefore, the development would result in a significant rationalisation of access points along the site frontage, with the five existing crossovers (including two on the Ipswich Road frontage) consolidated to provide a single access driveway.

In terms of location, the proposed driveway on Cornwall Street has adequate separation from adjacent intersections and driveways and the westbound bus stop (TransLink Stop ID: 003729), consistent with the BCC TAPS Planning Scheme Policy. In particular, the site access is located approximately 60m and as far as practical from the signal-controlled Ipswich Road / Cornwall Street intersection.

Figure 3.2: PROPOSED GROUND FLOOR LAYOUT



3.2.2 Design

As outlined in section 3.5, the adopted design vehicles for the proposed development for the development are a refuse collection vehicle (RCV) and a medium rigid vehicle (MRV). Provision for a dedicated ambulance bay is also typically provided for health care services use. Based on the design vehicle (ie MRV / RCV), type of access road (ie major), proposed car park capacity (ie around 200 spaces) and turnover rate (ie high), the BCC TAPS Planning Scheme Policy would technically requires a Type C2 crossover, designed in accordance with Standard Drawing BSD-2021.

However, it is proposed to provide a 6.5m wide Type B2 driveway. This crossover type is expected to operate safely and efficiently because:

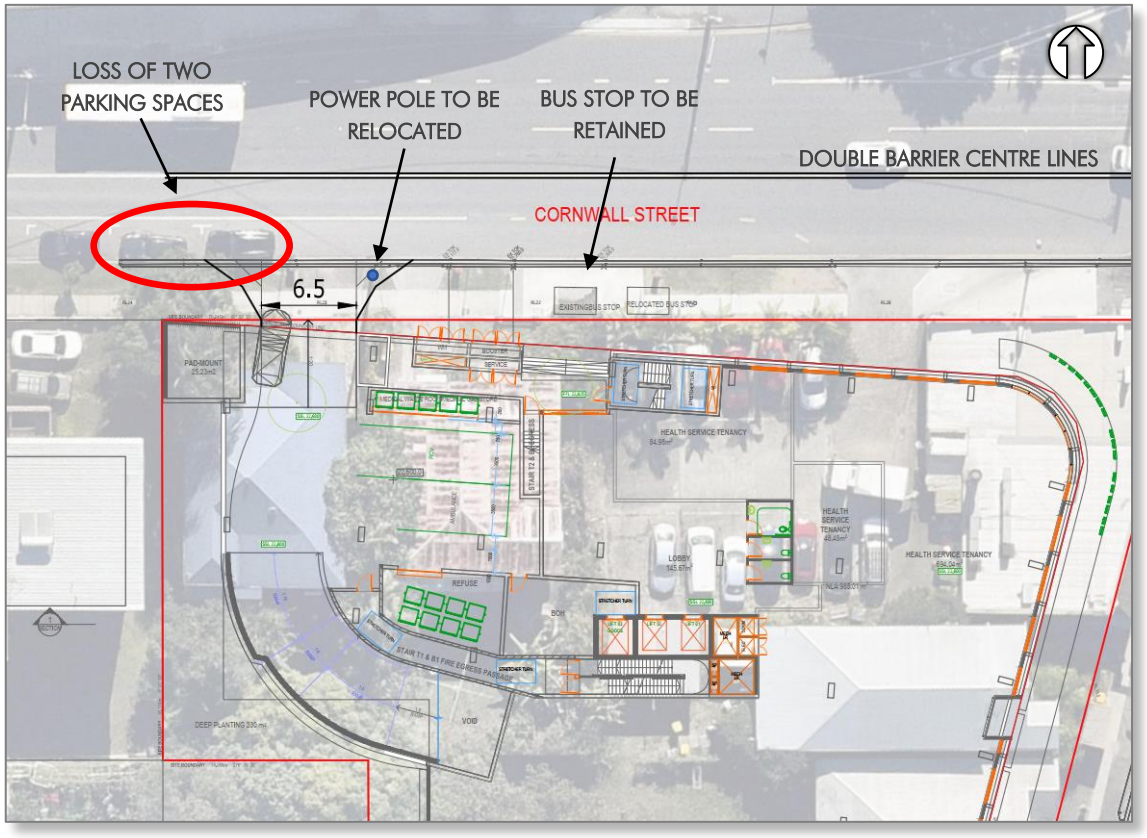
- it is sufficiently wide to facilitate simultaneous operations for passenger vehicles (ie a vehicle would be able to enter the site with a vehicle exiting at the same time)
- it is sufficient to facilitate service vehicle (ie a RCV / MRV) access (utilising the entire width of the driveway)
- it minimises the driveway crossing distance for pedestrians

It is recommended that left-in / left-out operations at the site access be reinforced by the installation of a double barrier centre-line on Cornwall Street, which could extend from the Ipswich Road

intersection to the western site boundary. It is expected that a centre median would ultimately be constructed on Cornwall Street along the site frontage as part of the LGIP intersection upgrade project, which would reinforce left-in / left-out operations at the access in the future.

The proposed access driveway will require the relocation of some existing services and signage, including a power pole and a regulatory car parking zone sign. It would also result expected to result in the loss of two on-street car parking bays, as shown in Figure 3.3.

Figure 3.3: SITE ACCESS ARRANGEMENTS



3.2.3 Sight Distance

On a 60km/h road (ie Cornwall Street), the BCC TAPS Planning Scheme Policy requires a desirable sight distance of 110m. On-site observations indicate the proposed access location achieves sight distance of approximately 70m to the east (ie as far as the intersection with Ipswich Road). However, vehicle speeds at the Ipswich Road / Cornwall Street intersection are expected to be in the order of 20-30km/h having just performed a left or right turn (with only buses permitted to perform a through movement from the eastern approach). Therefore, the access location is considered adequate in terms of sight distance.

3.3 Parking

3.3.1 Council Requirements

Based on the current zoning of the development site, the standard minimum car parking rates from Table 14 of the BCC TAPS Planning Scheme Policy would technically apply. A car parking provision of 402 spaces is required to support the proposed development, as shown in Table 3.1.

Table 3.1: PARKING REQUIREMENT

LAND USE	SCALE	PARKING RATE	SOURCE	REQUIRED
Health care service	7,762m^2 GFA	14 spaces plus 5 spaces per 100m^2 GFA	BCC	402

However, while not captured in the current BCC City Plan zoning, the nature and scale of the proposed development would effectively transform the use of site into a district centre category. Therefore, the development site would, for all intents and purposes, operate as an extension to the adjacent district centre located on the eastern side of Ipswich Road.

In addition, the development site has excellent accessibility to public transport which includes:

- up to 12 bus services per hour accessible from the two bus stops on the Ipswich Road and Cornwall Street site frontages
- the proximity to two public transport interchanges at the Princess Alexandra Hospital bus station and Dutton Park rail station, which are within a 520m walk distance of the site (ie a 6 – 7 minute walk)

Accordingly, the car parking rates contained in Table 13 of the BCC TAPS Planning Scheme Policy for centre activities within 400m walking distance of a dedicated public pedestrian access point of a major public transport interchange are a more relevant benchmark for application to the development site. In this instance, the development would need to be supported by a maximum of 193 car parking spaces, as demonstrated in Table 3.2.

Table 3.2: REVISED PARKING REQUIREMENT

LAND USE	SCALE	PARKING RATE	REQUIRED
Centre Activities	Ground: 1,258m^2 GFA Other: 6,504m^2 GFA	Maximum 5 spaces per 100m^2 GFA at ground level, plus maximum 2 spaces per 100m^2 GFA on other levels	193 spaces

3.3.2 Provision

The proposal incorporates a total of 200 on-site car parking spaces, including 22 small car spaces and four person with disability (PWD) bays. Therefore, the on-site car parking for the proposed development would exceed the maximum standards set out in Table 3.2.

In addition, the proposed parking provision is consistent with the average parking rate of recently approved healthcare services developments in Brisbane and surrounding areas. These existing developments and equivalent parking rates are summarised in Table 3.3.

Table 3.2: REDUCED PARKING REQUIREMENT

SITE	NLA	PARKING SPACES	RATE
College Junction Medical Centre 10 Wagner Road, Clayfield	2,961m^2	62	2.1 spaces per 100m^2 GFA
North Lakes Specialist Medical Centre 6 North Lakes Drive, North Lakes	2,440m^2	70	2.9 spaces per 100m^2 GFA
Chermside Health Hub 621 Gympie Road, Chermside	5,070m^2	157	3.1 spaces per 100m^2 GFA
Mt Gravatt Medical Precinct 1808-1812 Logan Road, Upper Mount Gravatt	4,747m^2	147	3.1 spaces per 100m^2 GFA
Caboolture Medical Hub, 120-124 McKean Street, Caboolture	1,758m^2	56	3.2 spaces per 100m^2 GFA
Buranda Health Hub 7-17 Wolseley Steet, Woolloongabba	12,319m^2	195	1.6 spaces per 100m^2 GFA
Springwood Health Hub 3348 Pacific Highway, Springwood	4,615m^2	111	2.4 spaces per 100m^2 GFA
Average of Existing			**2.6 spaces per 100m^2 GFA**
Proposed Development	7,560m^2	200	2.6 spaces per 100m^2 GFA

On this basis, the proposed on-site car parking provision is consistent with the performance outcome (PO)13 of the BCC TAPS Code.

3.3.3 PWD Parking

The BCC TAPS Planning Scheme Policy requires persons with disability (PWD) spaces to be provided at a rate of one space per 50 ordinary car parking spaces, constructed in accordance with Australian Standards AS2890.6 for Off-Street Parking for People with Disabilities. The proposed layout provides four PWD parking spaces, which is generally consistent with BCC requirements, based on a total parking provision of 200 spaces.

3.3.4 Design

The proposed car park layout has been assessed in accordance with the requirements of the BCC TAPS Planning Scheme Policy, in terms of minimum bay dimensions, aisle widths and maximum grade. These requirements are typified by:

- regular parking spaces dimensioned 2.6m wide by 5.4m long
- small car parking spaces dimensioned 2.3m wide by 5.0m long

- PWD spaces dimensioned 2.4m wide by 5.4m long, with an adjacent 2.4m wide shared area
- minimum 6.2m wide parking aisles
- a minimum 0.3m clearance between parking spaces and adjacent walls or obstructions
- a maximum ramp gradient of 1 in 5 (or 20%) with 2.0m transitions at the top and bottom of the ramp with a gradient of 1 in 8 (12.5%)
- a maximum rate of grade change on the ramp of 12.5% in accordance with AS2890.1
- a minimum height clearance of 2.5m at basement parking levels
- height clearance above the proposed loading area of 4.5m

The maximum grade of 1:5 (ie 20%) proposed on the basement access ramps exceeds the maximum grade permitted by the BCC TAPS Planning Policy. However, the ramp grade does comply with AS2890.1, which permits a maximum grade of 1:5 on ramps less than 20m long in public car parks, and is considered acceptable on this basis.

Based on our review of the car parking layout, it is recommended that:

- small car spaces be designated for staff use
- wheel stops be provided for all car parking spaces
- tandem spaces be allocated to the same tenancy

3.4 Queuing

The BCC TAPS Planning Scheme Policy identifies that a minimum on-site queuing space of six cars (ie 36m) is required for a development with around 200 car parking spaces. The proposed development layout provides approximately 40m of on-site queuing provision (measured between the property boundary and closest car parking space at basement 1 level), which is generally consistent with BCC TAPS Planning Scheme Policy requirements.

3.5 Servicing

The design vehicle for the development is expected to be a Refuse Collection Vehicle (RCV) and a Medium Rigid Vehicle (MRV). Provision for a dedicated ambulance bay is also typically provided for health care services use.

To accommodate the design service vehicles the following loading bays are proposed:

- one small rigid vehicle (SRV) / ambulance bay dimensioned 3.5m wide by 7.0m long
- one RCV / MRV bay dimensioned 3.5m wide by 10.5m long

The proposed service bays comply with BCC's TAPS Policy requirements, in terms of minimum bay dimensions and vertical clearance. Swept path analyses of RCV / MRV and SRV access and egress have been undertaken. As shown in Figures 3.4 to 3.5 (and attached in Appendix D), the proposed layout is sufficient to accommodate RCV / MRV and SRV access and egress to / from Cornwall Street in a forward gear.

Figure 3.4: RCV ACCESS

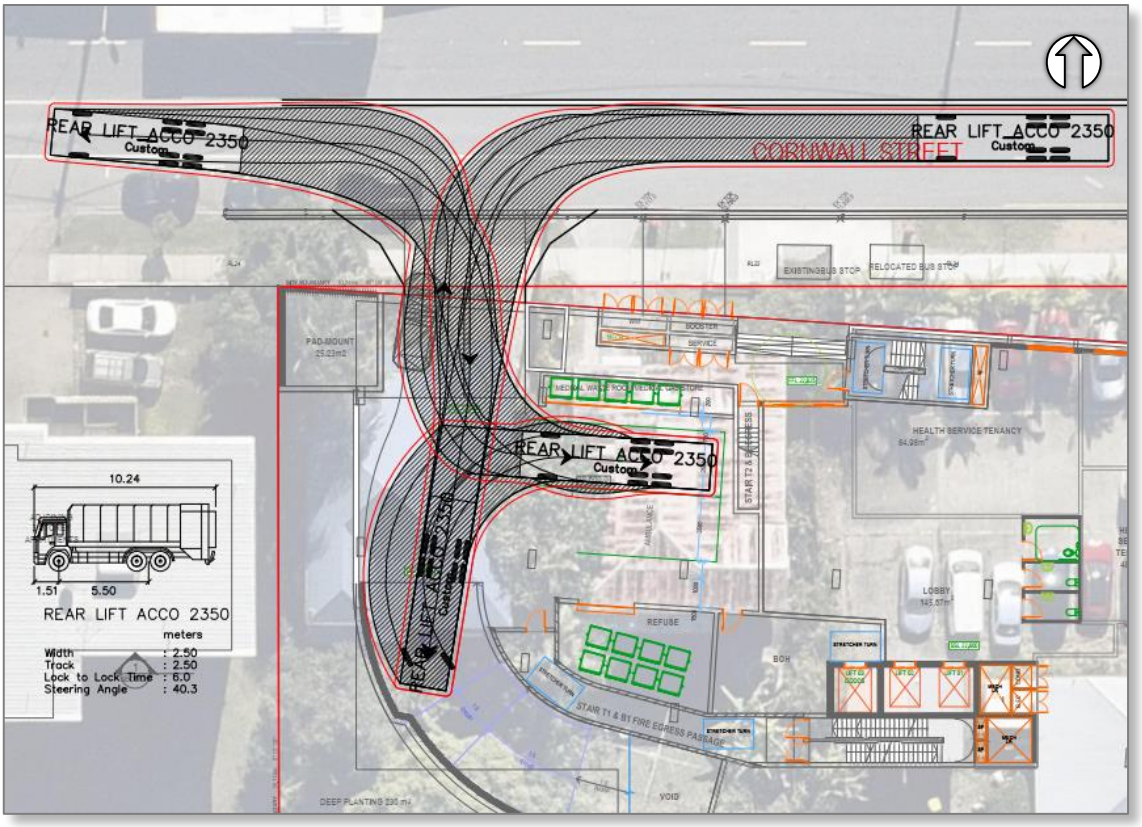
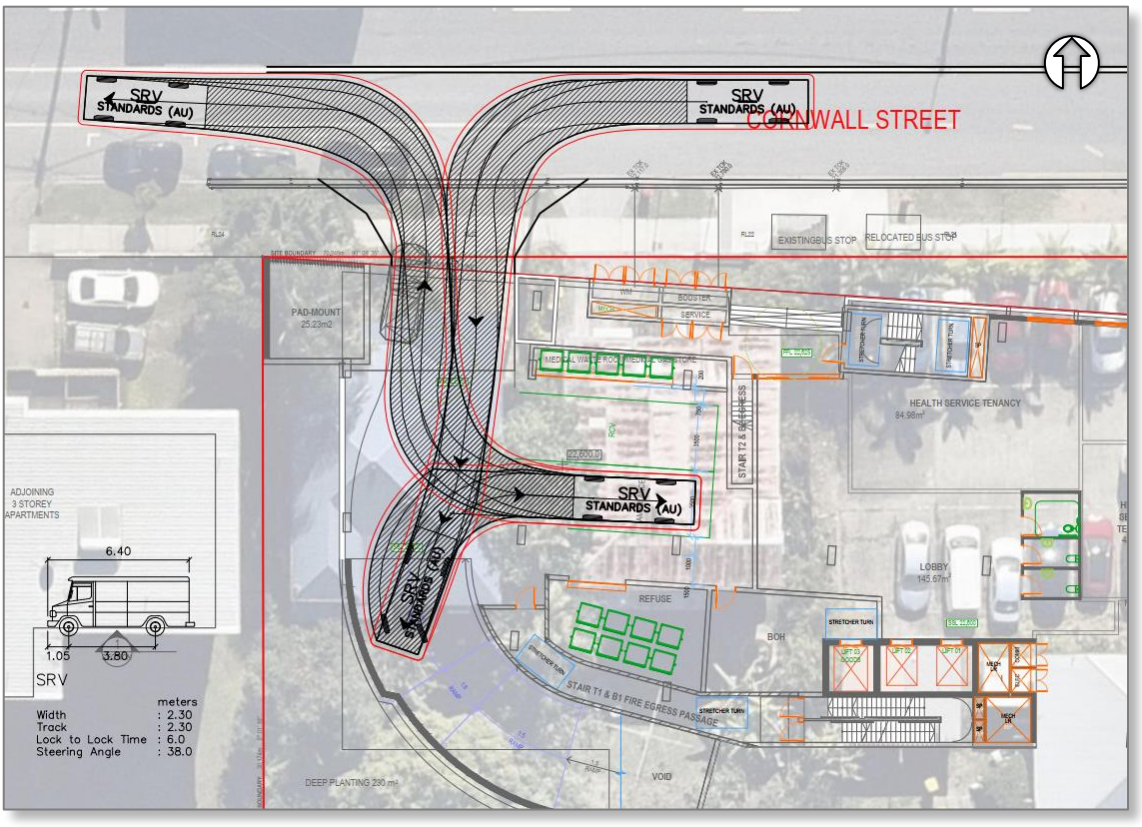


Figure 3.5: SRV ACCESS OPERATIONS



3.6 Active and Public Transport

3.6.1 Pedestrians

Pedestrian access to the site is proposed via a dedicated entrances (ie separate from the driveway) via Ipswich Road and Cornwall Street.

The BCC TAPS Policy requires that a 2.0m wide by 5.0m long pedestrian sight splays be provided on the egress side of access driveways to ensure adequate visibility between drivers exiting the site and pedestrians on the footpath. The layout provides this pedestrian splay with a clear sight line provided between the edge of the driveway and the pad mount transformer.

No permanent obstructions to sight distance should be constructed or installed within the identified sight splay area.

3.6.2 Cyclists

The BCC TAPS Policy has no prescribed rate for bicycle parking at health care service developments. Considering the proposed use as a health care service, the demand for visitor bicycle parking is expected to be low. However, it is anticipated that some staff may travel to and from the site by bicycle. The Austroads' Cycling Aspects of Austroads Guides recommends employee bicycle parking be provided at medical centres at a rate of one space per 400m^2 GFA (ie 20 spaces).

The proposed layout provides a staff bicycle parking area with capacity for 20 bicycles in a secure room on the ground level. This room would also provide end of trip facilities including lockers, showers and changing rooms. The proposed staff bicycle parking area has designed generally consistently with the requirements of Australian Standards AS2890.3 for Bicycle Parking requirements in terms of location, facilities, security and accessibility.

It is also recommended that a small number of visitor bicycle parking spaces (say five bicycle parking spaces) be provided in the form of racks / rails in a well lit publicly accessible area with good passive surveillance.

4.0 TRAFFIC OPERATIONS

4.1 Development Profile

4.1.1 Development Staging

Full occupation of the development is expected to occur in 2025. While it is typical to adopt a ten-year design horizon from the year of full occupation (ie a 2035 design year), it is expected that the Cornwall Street / Ipswich Road intersection will have been upgraded, in accordance with the LGIP, well before this time. Therefore, any consideration of the existing intersection layout in the 2035 design year would be of limited value and the following development staging has been adopted:

- traffic data: 2021
- construction and occupation: 2025

4.1.2 Assessment Scenarios

The following assessment scenarios have been adopted:

- existing year (2021)
- opening year (2025) pre-development
- opening year (2025) post-development

4.1.3 Background Traffic Growth

A background traffic growth rate of 1.0% per annum has been adopted, which is consistent with the forecast population data published by the Queensland Government Statisticians Office for the Brisbane South Statistical Area 4 between 2021 and 2041. The application of this rate equates to a 4.1% increase in traffic volumes over a four-year period (ie 2021-2025).

4.2 Traffic Generation

4.2.1 Existing Site

To determine the increase in traffic generation associated with the proposed development, the trip generation of the existing site has been estimated using the rates provided in the RTA Guide to Traffic Generating Developments for residential and restaurant uses. As shown in Table 4.1, the existing site is expected to generate 16 vehicle trips during the peak hour.

Table 4.1: EXISTING SITE TRIP GENERATION

LAND USE	SCALE	TRIP RATE	TRIPS
Residential	4 dwellings	0.8 trips per dwelling	3 vph
Restaurant	250m^2 GFA	5 trips per 100m^2 GFA	13 vph
Total			16 vph

4.2.2 Development Traffic Generation

Trip generation rates for medical centres have been sourced from the TMR Traffic Generation Data. The TMR data includes data for eight sites in Queensland, ranging from approximately 300m² GFA to 2,200m² GFA.

The 85th percentile morning and evening trip generation rates for the three sites in South-East Queensland with a GFA of 1,000m² or greater are shown in Figures 4.1 and 4.2 respectively.

Figure 4.1: MORNING PEAK HOUR TRAFFIC GENERATION (85TH PERCENTILE)

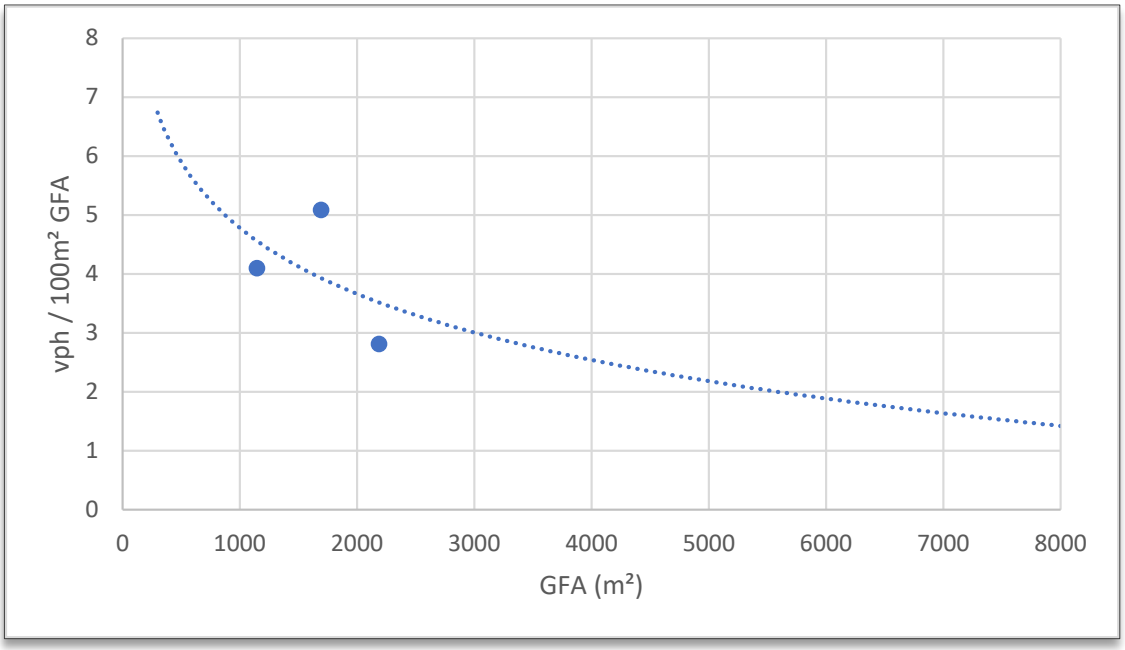
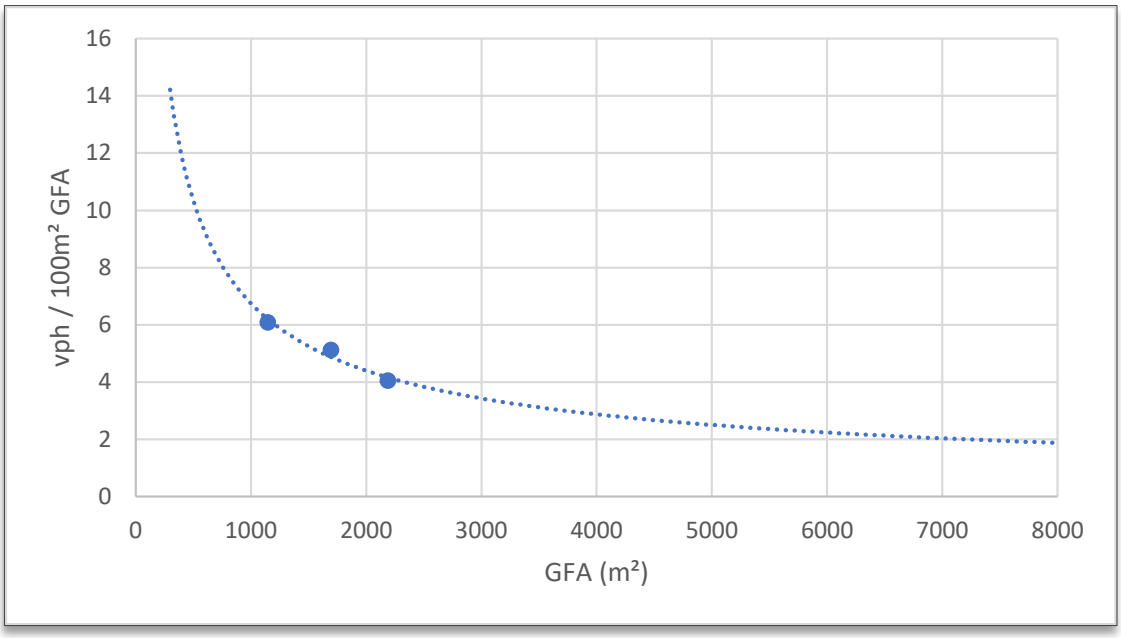


Figure 4.2: EVENING PEAK HOUR TRAFFIC GENERATION (85TH PERCENTILE)



As demonstrated in Figures 4.1 and 4.2, the TMR traffic generation data:

- contains no sites that are directly comparable to the proposed development in terms of scale (with the largest site in the TMR data set being approximately half the size of the proposed medical centre)
- clearly indicates that the traffic generation rate for a medical centre decreases as the scale of the facility (ie GFA) increases

Accordingly, to estimate the traffic generation of the proposed development, we have calculated the 85th percentile traffic generation rates for the largest site in the TMR data set. This site incorporates a 2,190m^2 GFA medical centre in Taringa (Site ID MD1), which has five days of data for the morning peak hour and 10 days of data for the evening peak hour. Based on this approach, the predicted traffic generation rates are as follows:

- morning peak hour: 2.8 trips per 100m^2 GFA
- evening peak hour: 4.0 trips per 100m^2 GFA

The corresponding predicted trip generation of the proposed development for the morning and evening peak hours is summarised in Table 4.2. An in:out split of 50:50 has been applied to development generated traffic in the morning and evening peak hours.

Table 4.2: DEVELOPMENT PEAK HOUR TRIP GENERATION

LAND USE	GFA	TRIP RATE	TRIPS	IN:OUT SPLIT
Morning Peak Hour				
Medical Centre	7,762m^2	1 trip per 2.8m^2 GFA	218	109 : 109
Evening Peak Hour				
Medical Centre	7,762m^2	1 trip per 4.0m^2 GFA	310	155 : 155

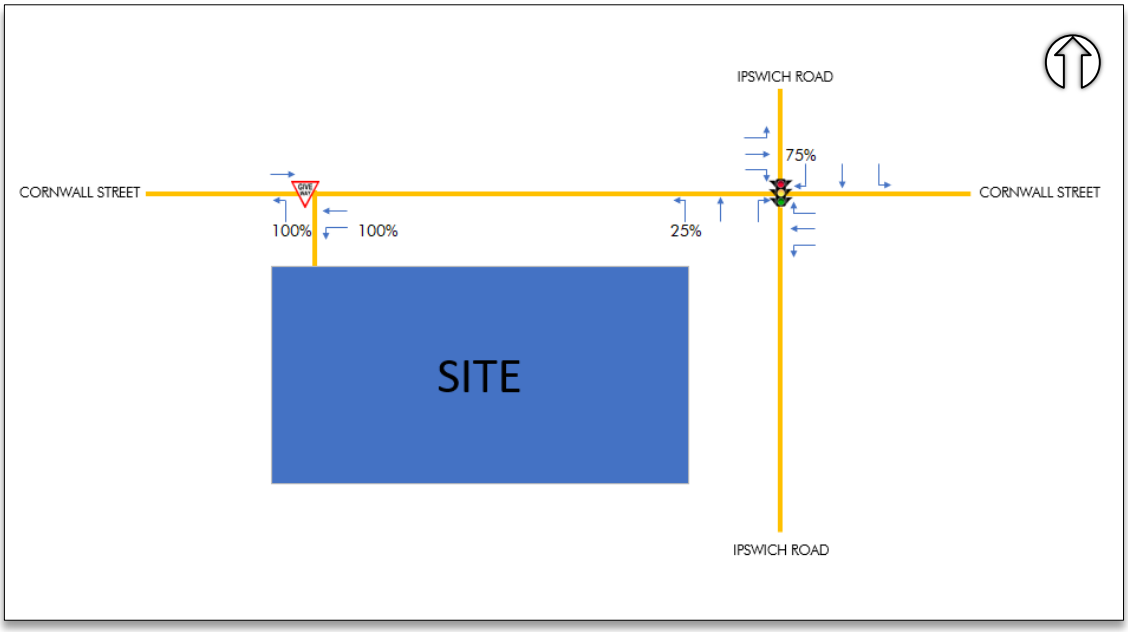
As shown in Table 4.2, the proposed development is expected to generate approximately 218 trips (109 in and 109 out) during the weekday morning peak hour, with 310 trips (155 in and 155 out) in the weekday evening peak hour.

Compared to the existing use of the site, the proposed development is expected to generate an additional 202 trips (102 in and 100 out) during the weekday morning peak hour, with 294 trips (147 in and 148 out) in the weekday evening peak hour.

4.3 Directional Distribution

The distribution of development related traffic on the existing road network has been estimated based on left-in / left-out operations at the site access and the directional split inherent in the traffic surveys at the Cornwall Street / Ipswich Road intersection. The resulting distribution is shown in Figures 4.2 for both the weekday morning and evening peak hours.

Figure 4.2: PREDICTED PEAK HOUR DISTRIBUTION



4.4 Intersection Performance

The likely impact of the proposed development on the future year (2025) peak hour operations on the surrounding road network has been assessed using SIDRA. These analyses are based on the peak hour turning movement forecasts presented in Appendix E.

4.4.1 Ipswich Road / Cornwall Street Intersection

The results of the analysis in the Ipswich Road / Cornwall Street signalised intersection are summarised in Table 4.3 and attached in Appendix C. These results are based on the SIDRA intersection layout shown in Section 2.5 of this report.

As demonstrated, the intersection is expected to experience LOS C operations during the weekday morning and LOS E operations during the weekday evening peak hours, under both 2025 pre and post development scenarios. The addition of development generated traffic is not expected to have a significant adverse impact on the intersection operations.

Table 4.3: INTERSECTION OPERATIONS – IPSWICH ROAD / CORNWALL STREET

PEAK HOUR & SCENARIO	DOS	CYCLE TIME	AVG DELAY	95% QUEUE	CRITICAL MOVEMENT
Weekday Morning					
2025 Pre Development	82%	140s	35.7s	47.4 vehicles	South: Ipswich Road
2025 Post Development	88%	140s	39.6s	56.1 vehicles	South: Ipswich Road
Weekday Evening					
2025 Pre Development	95%	140s	52.9s	63.4 vehicles	North: Ipswich Road
2025 Post Development	97%	140s	62.5s	68.3 vehicles	North: Ipswich Road

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The proposed five-storey integrated health care services at 275 – 281 Ipswich Road and 97 – 99 Cornwall Street, Annerley arrangements, pedestrian / cyclist facilities and impact on the surrounding road network. The main points to note are:

- the proposed development comprises of 7,762m^2 GFA (7,560m^2 NLA) of healthcare services use
- access is proposed via a 6.5m wide Type B2 driveway crossover on Cornwall Street, which would be restricted to left-in / left-out movements
- sight distance and on-site queuing provision at the site access is considered acceptable
- the proposed parking provision of 200 spaces does not meet the standard requirement from the BCC TAPS Policy, however it is consistent with the rate for centre activities (within 400m walking distance of a major public transport interchange) and the average parking rate of approved healthcare services developments in Brisbane and surrounding areas
- the design of parking facilities is consistent with the BCC TAPS Policy requirements in terms of minimum bay and parking aisle dimensions and queuing provision
- the proposed development facilitates RCV, MRV and SRV access and egress in a forward gear
- the proposed development is expected to generate an additional 218 trips (109 in and 109 out) during the weekday morning peak hour, with 310 trips (155 in and 155 out) in the weekday evening peak hour
- the addition of development generated traffic is not expected to have a significant adverse impact on the operation of the surrounding road network

5.2 Recommendations

Based on our analysis it is recommended that:

- left-in / left-out operations at the site access be reinforced by the installation of a double barrier centre-line on Cornwall Street, which could extend from the Ipswich Road intersection to the western boundary
- a power pole and three on-street car parking spaces be removed to accommodate the site access
- small car spaces be designated for staff use
- wheel stops be provided for all car parking spaces
- tandem spaces be allocated to the same tenancy
- landscaping and other obstructions be kept clear of pedestrian sight splays at the site access
- a small number of visitor bicycle parking spaces (say five bicycle parking spaces) be provided in the form of racks / rails in a well-lit publicly accessible area with good passive surveillance

APPENDIX A
TRAFFIC COUNT DATA

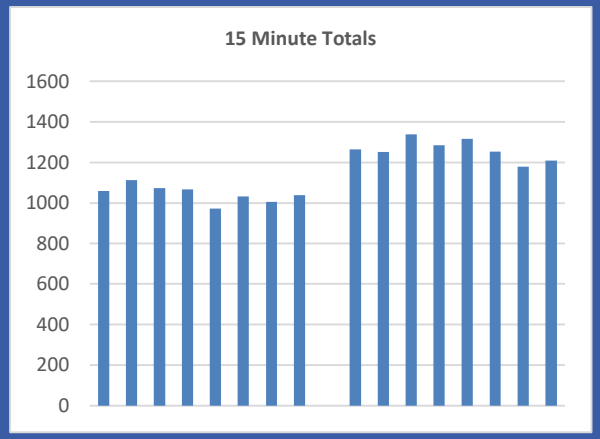
Survey Details

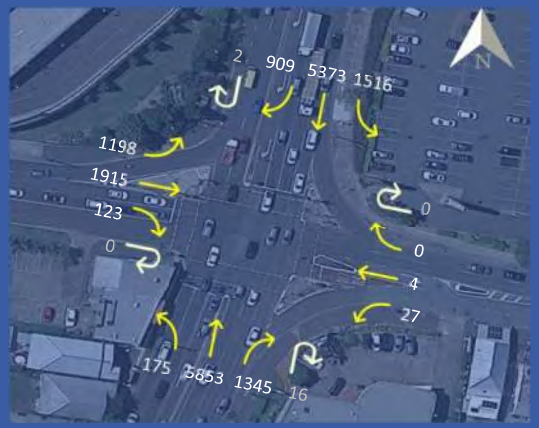
TTM Reference: **21BRT0170**
Location: **Cornwall St / Ipswich Rd**
Suburb: **Woolloongabba**
Date: **Tuesday, July 20, 2021**
Duration: **0700-0900 & 1600-1800**
Weather: **Fine**
AM Peak Hour: **07:00-08:00**
PM Peak Hour: **16:30-17:30**
Notes:

DATA

Quick display - Summaries

Survey Period: Full Duration to 17:00

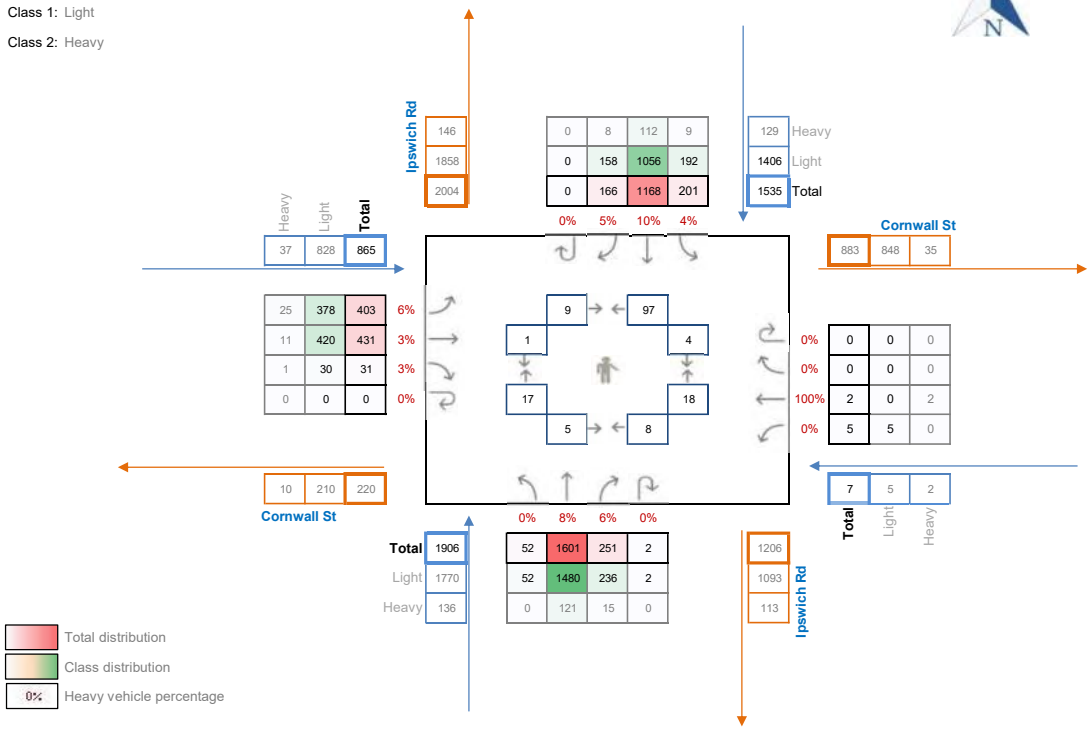


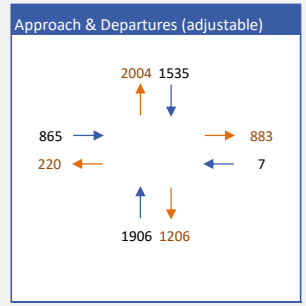


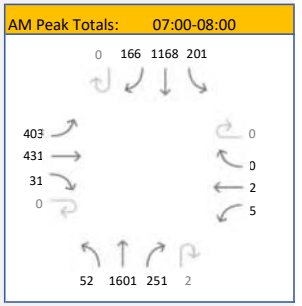
Location: Cornwall St / Ipswich Rd
Date: Tuesday, July 20, 2021
Survey Duration: 0700-0900 & 1600-1800
Survey Period: AM Peak to 17:00
Notes: 0

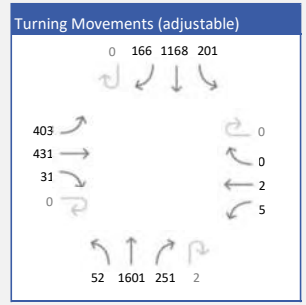
AM Peak: 07:00-08:00
PM Peak: 16:30-17:30

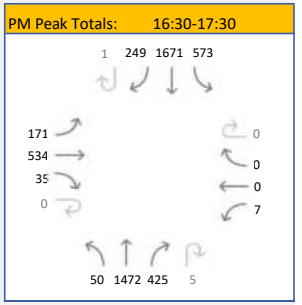
Class 1: Light
Class 2: Heavy







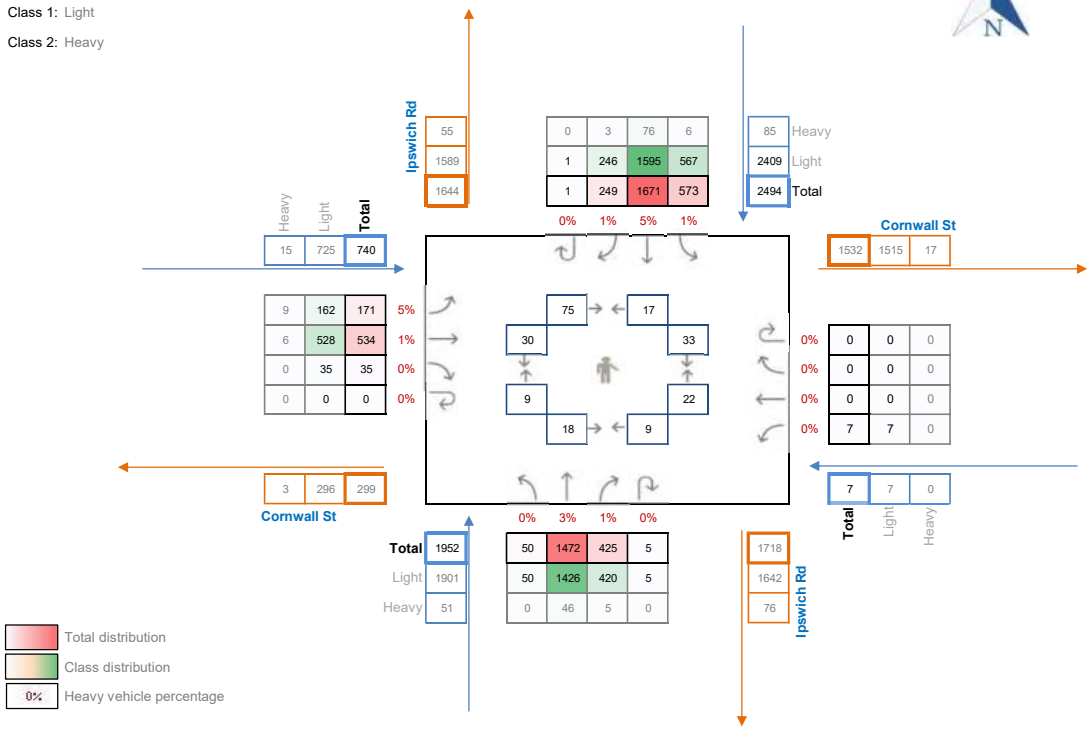




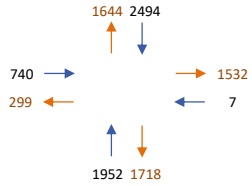
Location: Cornwall St / Ipswich Rd
Date: Tuesday, July 20, 2021
Survey Duration: 0700-0900 & 1600-1800
Survey Period: PM Peak to 17:00
Notes: 0

AM Peak: 07:00-08:00
PM Peak: 16:30-17:30

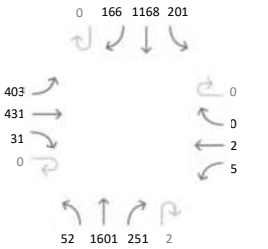
Class 1: Light
Class 2: Heavy



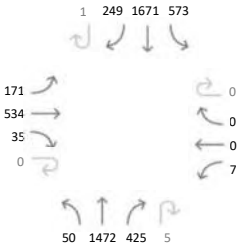
Approach & Departures (adjustable)



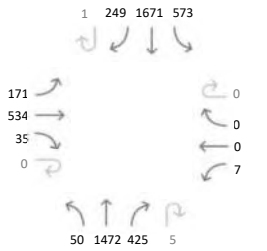
AM Peak Totals: 07:00-08:00



Turning Movements (adjustable)



PM Peak Totals: 16:30-17:30



APPENDIX B
DEVELOPMENT SITE LAYOUT

2 SECTION

CORNWALL STREET

SITE BOUNDARY 70.245m 90° 09' 35"

APPROX. NEW BOUNDARY LINE

ROAD WIDENING IN
ACCORDANCE WITH BCC REQUIREMENTS

APPROX. NEW BOUNDARY LINE

CAR PARK
56 CAR BAYS
48 STANDARD
01 ACCESSIBLE
07 SMALL CAR BAYS

SSL 10.000

4,000
SETBACK

LIFT 02 LIFT 01

1:5 RAMP 1:8 RAMP

DEEP PLANTING ZONE

DEEP PLANTING
222 m²

APPROX. NEW BOUNDARY LINE

APPROX. NEW BOUNDARY LINE

IPSWICH ROAD

SITE BOUNDARY 30.174m 0° 01' 10"

SITE BOUNDARY 14.066m 270° 09' 35"

SITE BOUNDARY 10.059m 0° 01' 10"

SITE BOUNDARY 45.563m 270° 09' 35"

SITE BOUNDARY 41.670m 164° 49' 15"

1 SECTION

1 SECTION

SITE AREA: 2191m²
REQUIRE DEEP PLANTING: MIN.219.1m²

1 / - FLOOR PLAN - BASEMENT 03
SCALE @ A1 1:125

SCALE 1: 125 @ A1
SCALE 1: 250 @ A3

0 2.5 5 7.5 10 12.5

(PROJECT NORTH)

BIMcloud: CPACLDBIMM01 - BIMcloud/2200/6883 Cornwall St Woolloongabba Master: 22/08/2023: 4:01 PM

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F	DEVELOPMENT APPLICATION	17/08/2023	VAR	SH	MT
E	DEVELOPMENT APPLICATION DRAFT	02/08/2023	SH	DW	MT
D	DEVELOPMENT APPLICATION DRAFT	28/04/2023	SN	JH	MT
C	DEVELOPMENT APPLICATION DRAFT	03/03/2023	SN	JH	MT
B	DEVELOPMENT APPLICATION DRAFT	9/02/2023	JH	DW	JH

DEVELOPMENT APPLICATION

ANNERLEY HEALTH HUB

101 CORNWALL STREET, WOOLLOONGABBA

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DRAWING TITLE
FLOOR PLAN - BASEMENT 03

JOB No	DRAWING No	ISSUE
6883	SD2007	F

2 SECTION

CORNWALL STREET

SITE BOUNDARY 70.245m 90° 09' 35"

APPROX. NEW BOUNDARY LINE

ROAD WIDENING IN
ACCORDANCE WITH BCC REQUIREMENTS

APPROX. NEW BOUNDARY LINE

CAR PARK
53 CAR BAYS
45 STANDARD
01 ACCESSIBLE
07 SMALL CAR BAYS
SSL 13,000

4,000
SETBACK

1:8 RAMP

1:5 RAMP

1:5 RAMP

1:8 RAMP

LIFT 02

LIFT 01

APPROX. NEW BOUNDARY LINE

IPSWICH ROAD

1 SECTION

SITE BOUNDARY 30.174m 0° 01' 10"

DEEP PLANTING ZONE

SITE BOUNDARY 14.066m 270° 09' 35"

SITE BOUNDARY 10.669m 0° 01' 10"

DEEP PLANTING
222 m²

SITE BOUNDARY 45.563m 270° 09' 35"

APPROX. NEW BOUNDARY LINE

SITE BOUNDARY 41.169m 194° 49' 15"

1 SECTION

SITE AREA: 2191m²
REQUIRE DEEP PLANTING: MIN.219.1m²

1 / - FLOOR PLAN - BASEMENT 02
SCALE @ A1 1:125

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0 2.5 5 7.5 10 12.5

SCALE 1: 125 @ A1
SCALE 1: 250 @ A3

(PROJECT NORTH)

BIMcloud: CPACLDBIMM01 - BIMcloud/2200/6883 Cornwall St Woollongabba Master: 22/08/2023: 4:01 PM

ISSUE	PURPOSE	DATE	D	C	A
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E	DEVELOPMENT APPLICATION DRAFT	02/08/2023	SH	DW	MT
D	DEVELOPMENT APPLICATION DRAFT	28/04/2023	SN	JH	MT
C	DEVELOPMENT APPLICATION DRAFT	03/03/2023	SN	JH	MT
B	DEVELOPMENT APPLICATION DRAFT	9/02/2023	JH	DW	JH

DEVELOPMENT APPLICATION

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DRAWING TITLE
FLOOR PLAN - BASEMENT 02

JOB No	DRAWING No	ISSUE
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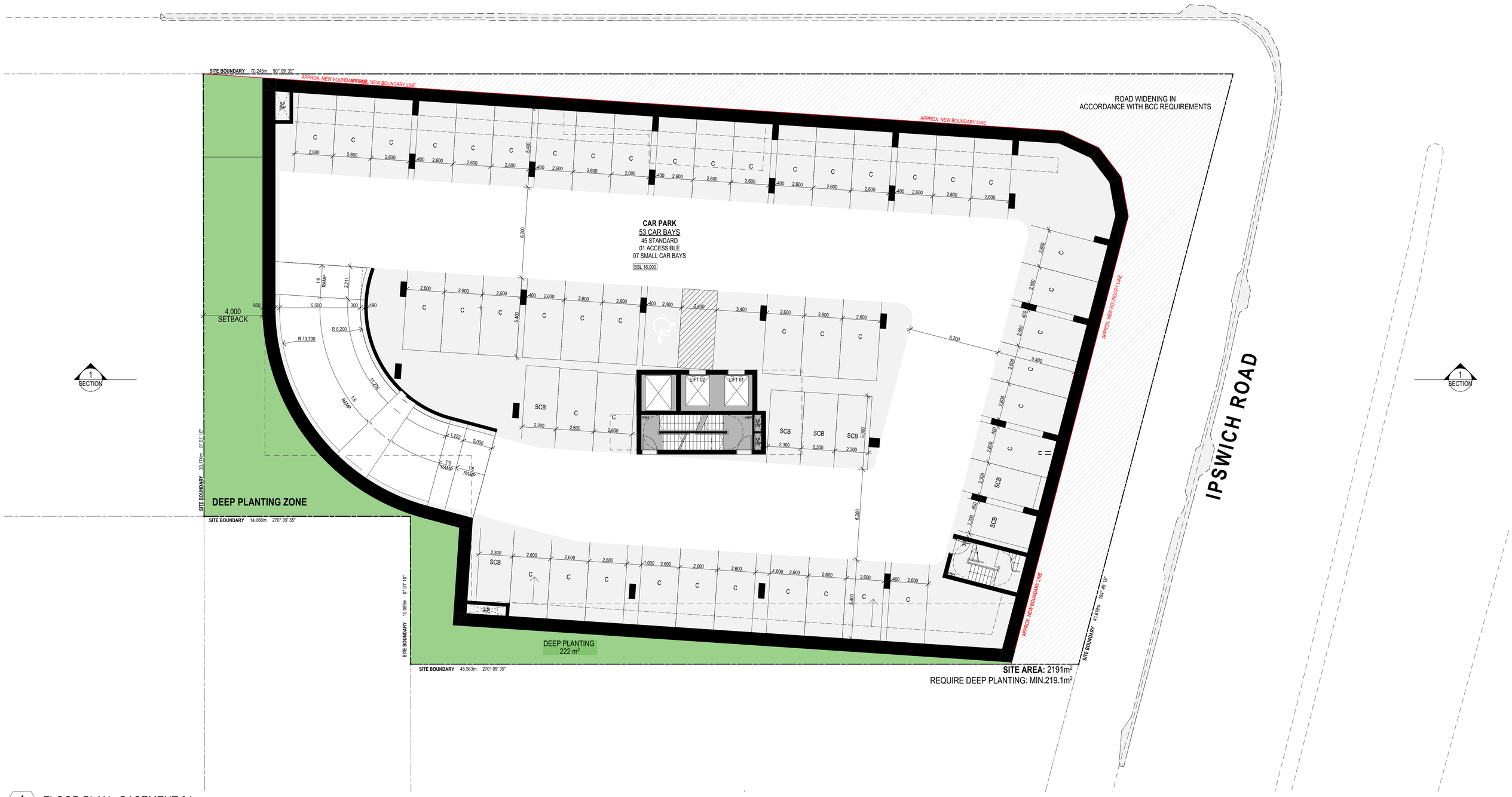
2 SECTION

CORNWALL STREET



SITE AREA: 2191m²
REQUIRE DEEP PLANTING: MIN.219.1m²

1 / - FLOOR PLAN - BASEMENT 01
SCALE @ A1 1:125

SCALE 1: 125 @ A1
SCALE 1: 250 @ A3

0 2.5 5 7.5 10 12.5

(PROJECT NORTH)

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E	DEVELOPMENT APPLICATION DRAFT	02/08/2023	SH	DW	MT
D	DEVELOPMENT APPLICATION DRAFT	28/04/2023	SN	JH	MT
C	DEVELOPMENT APPLICATION DRAFT	03/03/2023	SN	JH	MT
B	DEVELOPMENT APPLICATION DRAFT	9/02/2023	JH	DW	JH
ISSUE PURPOSE		DATE	D	C	A

DEVELOPMENT APPLICATION

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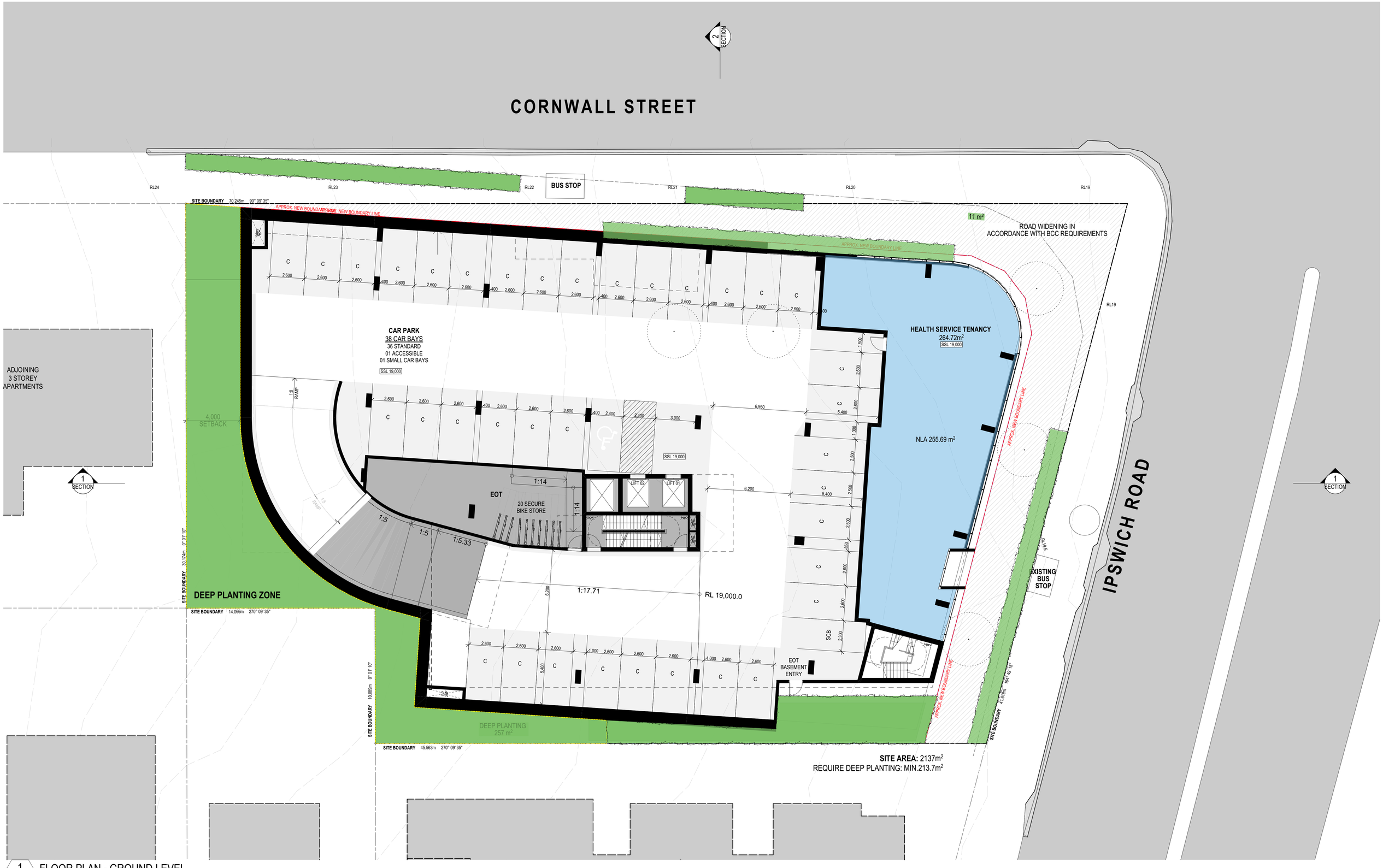
DRAWING TITLE
FLOOR PLAN - BASEMENT 01

JOB No	DRAWING No	ISSUE
6883	SD2009	F



SITE AREA: 2137m²
REQUIRE DEEP PLANTING: MIN.213.7m²

1 / - FLOOR PLAN - GROUND LEVEL
SCALE @ A1 1:125

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SCALE 1: 125 @ A1
SCALE 1: 250 @ A3

(PROJECT NORTH)

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E	DEVELOPMENT APPLICATION DRAFT	02/08/2023	SH	DW	MT
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B	DEVELOPMENT APPLICATION DRAFT	9/02/2023	JH	DW	JH

DEVELOPMENT APPLICATION

ANNERLEY HEALTH HUB

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DRAWING TITLE
FLOOR PLAN - LEVEL 00 GROUND

JOB No	DRAWING No	ISSUE
6883	SD2010	F

1 FLOOR PLAN - LEVEL 01

SCALE @ A1 1:125

SCALE 1:125 @ A1
SCALE 1:250 @ A3

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ISSUE	PURPOSE	DATE	D	C	A
F	DEVELOPMENT APPLICATION	17/08/2023	VAR	SH	MT
E	DEVELOPMENT APPLICATION DRAFT	02/08/2023	SH	DW	MT
D	DEVELOPMENT APPLICATION DRAFT	28/04/2023	SN	JH	MT
C	DEVELOPMENT APPLICATION DRAFT	03/03/2023	SN	JH	MT
B	DEVELOPMENT APPLICATION DRAFT	9/02/2023	JH	DW	JH

DEVELOPMENT APPLICATION

ANNERLEY HEALTH HUB

101 CORNWALL STREET, WOOLLOONGABBA
CLIENT - CORNERSTONE DEVELOPMENTS MANAGEMENT PTY LTD

DRAWING TITLE
FLOOR PLAN - LEVEL 01

JOB No	DRAWING No	ISSUE
6883	SD2011	F

BIMcloud: CPACLDBIMM01 - BIMcloud/2200/6883 Cornwall St Woollongabba Master: 22/08/2023: 4:01 PM

APPENDIX C
INTERSECTION ANALYSES

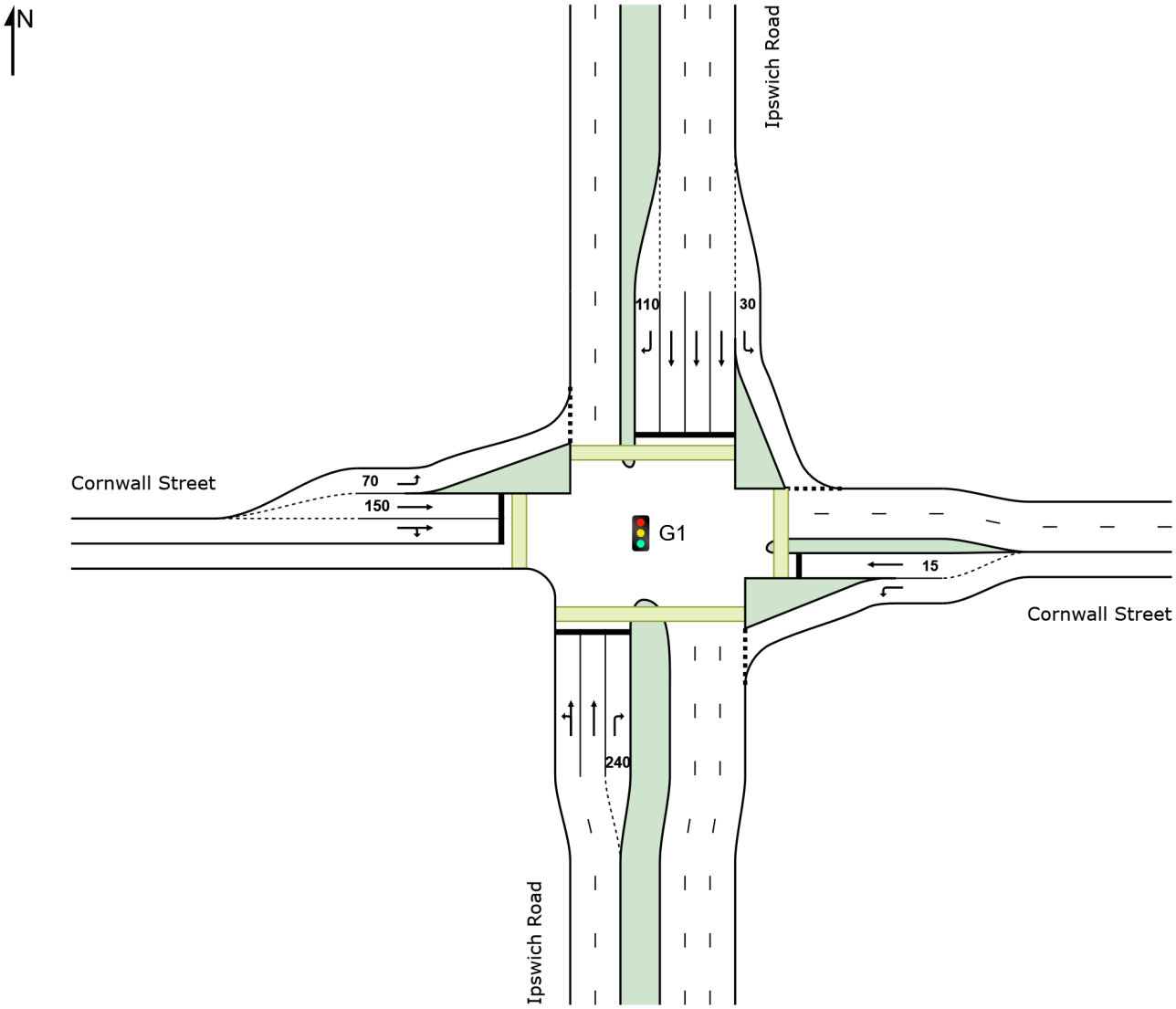
SITE LAYOUT

Site: G1 [AM Existing Conditions (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

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: G1 [AM Existing Conditions (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ipswich Road														
1	L2	52	0.0	53	0.0	* 0.761	27.5	LOS C	41.8	311.7	0.81	0.76	0.81	39.7
2	T1	1601	8.0	1617	8.0	0.761	22.9	LOS C	41.8	311.7	0.81	0.75	0.81	38.0
3	R2	253	6.0	256	6.0	0.537	52.1	LOS D	15.0	110.2	0.91	0.82	0.91	30.3
Approach		1906	7.5	1925	7.5	0.761	26.9	LOS C	41.8	312.9	0.83	0.76	0.83	36.8
East: Cornwall Street														
4	L2	5	0.0	5	0.0	0.005	9.1	LOS A	0.1	0.5	0.28	0.59	0.28	48.3
5	T1	2	100.0	2	100.0	0.010	52.7	LOS D	0.1	1.5	0.86	0.55	0.86	32.3
Approach		7	28.6	7	28.6	0.010	21.6	LOS C	0.1	1.5	0.45	0.58	0.45	42.3
North: Ipswich Road														
7	L2	201	4.0	203	4.0	0.180	11.7	LOS B	4.6	33.5	0.40	0.63	0.40	45.8
8	T1	1168	10.0	1180	10.0	0.527	29.5	LOS C	21.1	160.5	0.76	0.67	0.76	35.7
9	R2	166	5.0	168	5.0	* 0.762	73.1	LOS E	11.8	85.9	1.00	0.88	1.12	25.8
Approach		1535	8.7	1551	8.7	0.762	31.8	LOS C	21.1	160.5	0.74	0.69	0.75	35.2
West: Cornwall Street														
10	L2	403	6.0	407	6.0	0.611	40.1	LOS D	19.3	142.1	0.87	1.00	0.87	34.3
11	T1	431	3.0	435	3.0	* 0.762	63.4	LOS E	16.5	118.4	1.00	0.89	1.08	29.5
12	R2	31	3.0	31	3.0	0.762	69.3	LOS E	15.4	110.5	1.00	0.89	1.09	27.9
Approach		865	4.4	874	4.4	0.762	52.8	LOS D	19.3	142.1	0.94	0.94	0.99	31.5
All Vehicles		4313	7.3	4357	7.3	0.762	33.8	LOS C	41.8	312.9	0.82	0.77	0.83	35.1

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.
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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ipswich Road												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	240.0	228.5	0.95
East: Cornwall Street												
P2	Full	50	53	27.7	LOS C	0.1	0.1	0.63	0.63	192.7	214.5	1.11
North: Ipswich Road												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	237.3	225.0	0.95

West: Cornwall Street											
P4 Full	50	53	15.6	LOS B	0.1	0.1	0.47	0.47	179.1	212.5	1.19
All Pedestrians	200	211	43.0	LOS E	0.2	0.2	0.76	0.76	212.3	220.1	1.04

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: G1 [AM Existing Conditions (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

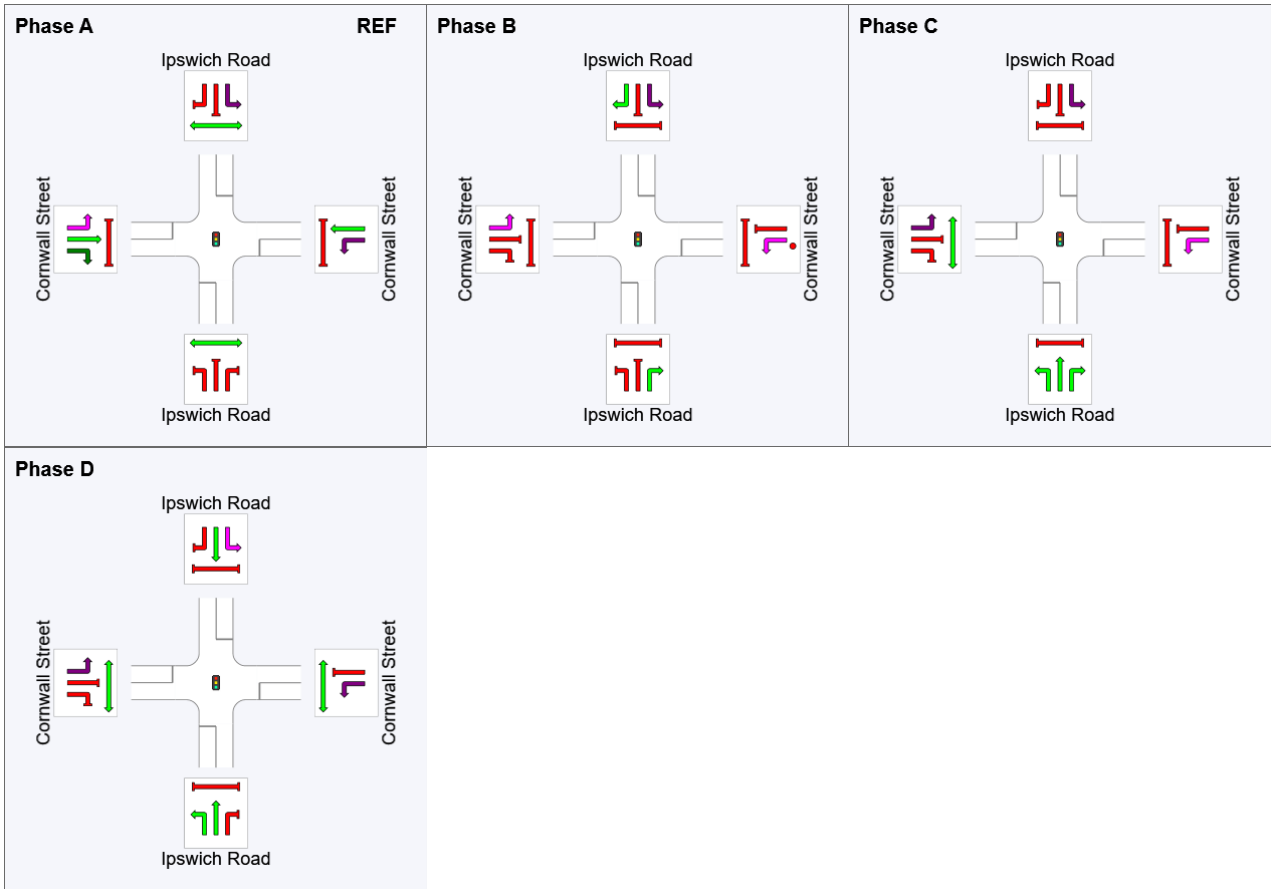
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Three-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

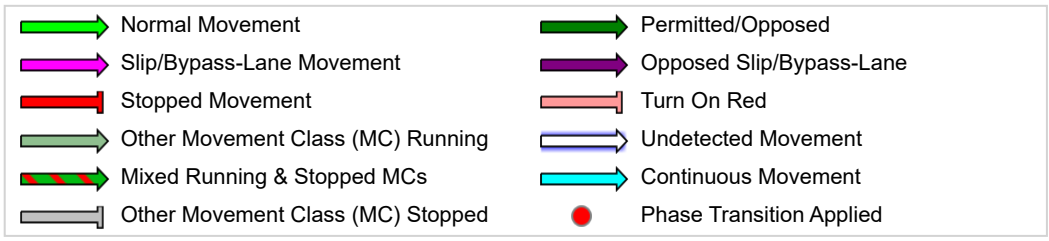
Phase	A	B	C	D
Phase Change Time (sec)	0	29	52	72
Green Time (sec)	23	17	14	62
Phase Time (sec)	29	23	20	68
Phase Split	21%	16%	14%	49%

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



MOVEMENT SUMMARY

Site: G1 [PM Existing Conditions (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ipswich Road														
1	L2	50	0.0	51	0.0	0.785	34.5	LOS C	42.3	303.0	0.89	0.82	0.89	35.1
2	T1	1472	3.0	1487	3.0	0.785	29.9	LOS C	42.3	304.1	0.89	0.81	0.89	35.4
3	R2	430	1.0	434	1.0	* 0.907	73.8	LOS E	33.5	236.6	1.00	0.99	1.23	24.9
Approach		1952	2.5	1972	2.5	0.907	39.7	LOS D	42.3	304.1	0.91	0.85	0.96	32.4
East: Cornwall Street														
4	L2	7	0.0	7	0.0	0.009	18.1	LOS B	0.2	1.4	0.48	0.61	0.48	45.9
5	T1	1	100.0	1	100.0	0.004	48.6	LOS D	0.1	0.7	0.82	0.51	0.82	33.5
Approach		8	12.5	8	12.5	0.009	21.9	LOS C	0.2	1.4	0.52	0.60	0.52	43.8
North: Ipswich Road														
7	L2	573	1.0	579	1.0	0.615	28.6	LOS C	22.4	158.3	0.76	0.92	0.76	36.1
8	T1	1671	5.0	1688	5.0	* 0.909	54.6	LOS D	53.9	393.8	0.92	0.98	1.11	28.6
9	R2	250	1.0	253	1.0	0.791	68.7	LOS E	17.5	123.5	1.00	0.89	1.11	25.8
Approach		2494	3.7	2519	3.7	0.909	50.1	LOS D	53.9	393.8	0.89	0.96	1.03	29.7
West: Cornwall Street														
10	L2	171	5.0	173	5.0	0.220	22.3	LOS C	7.0	50.9	0.66	0.75	0.66	43.5
11	T1	534	1.0	539	1.0	0.795	61.9	LOS E	20.5	145.0	1.00	0.91	1.10	29.9
12	R2	35	0.0	35	0.0	* 0.795	67.6	LOS E	18.9	132.9	1.00	0.92	1.10	29.4
Approach		740	1.9	747	1.9	0.795	53.0	LOS D	20.5	145.0	0.92	0.88	0.99	32.2
All Vehicles		5194	3.0	5246	3.0	0.909	46.5	LOS D	53.9	393.8	0.90	0.91	1.00	31.0

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.
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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ipswich Road												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	240.0	228.5	0.95
East: Cornwall Street												
P2	Full	50	53	29.6	LOS C	0.1	0.1	0.65	0.65	194.6	214.5	1.10
North: Ipswich Road												
P3	Full	50	53	61.4	LOS F	0.2	0.2	0.94	0.94	234.5	225.0	0.96

West: Cornwall Street											
P4 Full	50	53	21.2	LOS C	0.1	0.1	0.55	0.55	184.7	212.5	1.15
All Pedestrians	200	211	44.1	LOS E	0.2	0.2	0.77	0.77	213.5	220.1	1.03

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: G1 [PM Existing Conditions (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

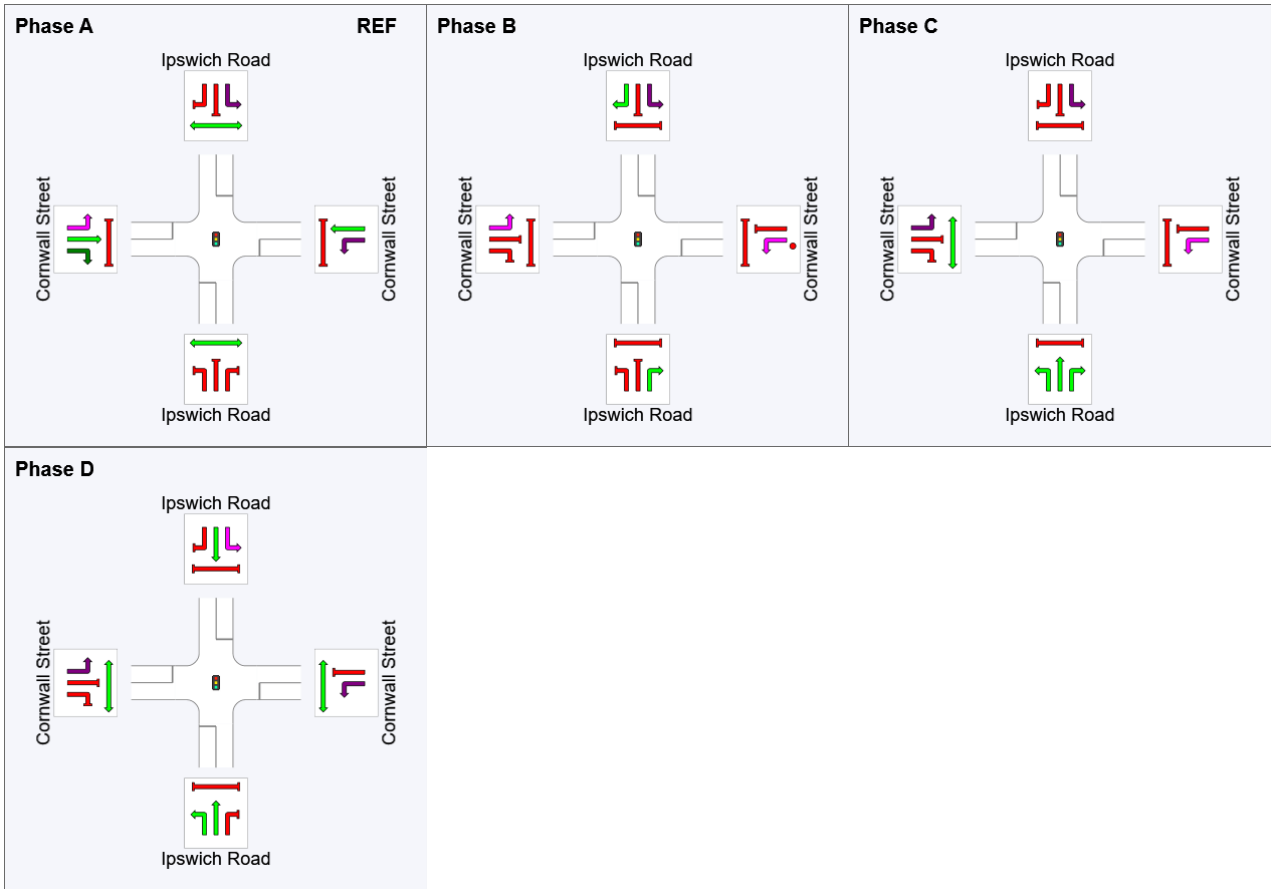
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Three-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

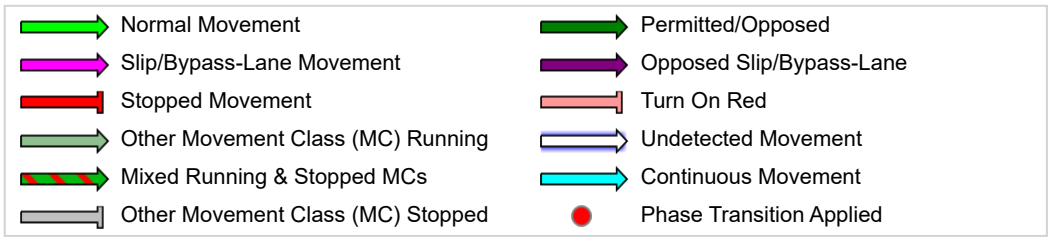
Phase	A	B	C	D
Phase Change Time (sec)	0	33	63	75
Green Time (sec)	27	24	6	59
Phase Time (sec)	33	30	12	65
Phase Split	24%	21%	9%	46%

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



MOVEMENT SUMMARY

Site: G1 [AM 2025 Pre Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ipswich Road														
1	L2	54	0.0	55	0.0	* 0.822	30.8	LOS C	47.4	353.0	0.88	0.82	0.88	38.4
2	T1	1666	8.0	1683	8.0	0.822	26.2	LOS C	47.4	353.0	0.88	0.82	0.88	36.8
3	R2	263	6.0	266	6.0	0.559	52.5	LOS D	15.7	115.3	0.92	0.82	0.92	30.2
Approach		1983	7.5	2003	7.5	0.822	29.8	LOS C	47.4	354.4	0.89	0.82	0.89	35.8
East: Cornwall Street														
4	L2	5	0.0	5	0.0	0.005	9.8	LOS A	0.1	0.5	0.30	0.59	0.30	47.9
5	T1	2	100.0	2	100.0	0.009	49.8	LOS D	0.1	1.5	0.84	0.54	0.84	33.2
Approach		7	28.6	7	28.6	0.009	21.2	LOS C	0.1	1.5	0.46	0.57	0.46	42.5
North: Ipswich Road														
7	L2	209	4.0	211	4.0	0.193	12.2	LOS B	5.0	36.2	0.41	0.64	0.41	45.5
8	T1	1215	10.0	1227	10.0	0.579	32.2	LOS C	23.3	177.1	0.80	0.71	0.80	34.7
9	R2	173	5.0	175	5.0	* 0.794	74.6	LOS E	12.5	91.0	1.00	0.90	1.16	25.6
Approach		1597	8.7	1613	8.7	0.794	34.2	LOS C	23.3	177.1	0.77	0.72	0.79	34.5
West: Cornwall Street														
10	L2	419	6.0	423	6.0	0.629	42.4	LOS D	19.7	144.7	0.88	1.00	0.88	33.6
11	T1	449	3.0	454	3.0	0.701	58.6	LOS E	16.4	117.4	0.99	0.85	1.01	30.7
12	R2	32	3.0	32	3.0	* 0.701	64.4	LOS E	15.3	109.9	0.99	0.85	1.02	28.9
Approach		900	4.4	909	4.4	0.701	51.3	LOS D	19.7	144.7	0.94	0.92	0.95	31.9
All Vehicles		4487	7.3	4532	7.3	0.822	35.7	LOS D	47.4	354.4	0.86	0.80	0.87	34.5

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.
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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ipswich Road												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	240.0	228.5	0.95
East: Cornwall Street												
P2	Full	50	53	29.6	LOS C	0.1	0.1	0.65	0.65	194.6	214.5	1.10
North: Ipswich Road												
P3	Full	50	53	62.4	LOS F	0.2	0.2	0.94	0.94	235.4	225.0	0.96

West: Cornwall Street											
P4 Full	50	53	17.0	LOS B	0.1	0.1	0.49	0.49	180.5	212.5	1.18
All Pedestrians	200	211	43.3	LOS E	0.2	0.2	0.76	0.76	212.7	220.1	1.04

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: G1 [AM 2025 Pre Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

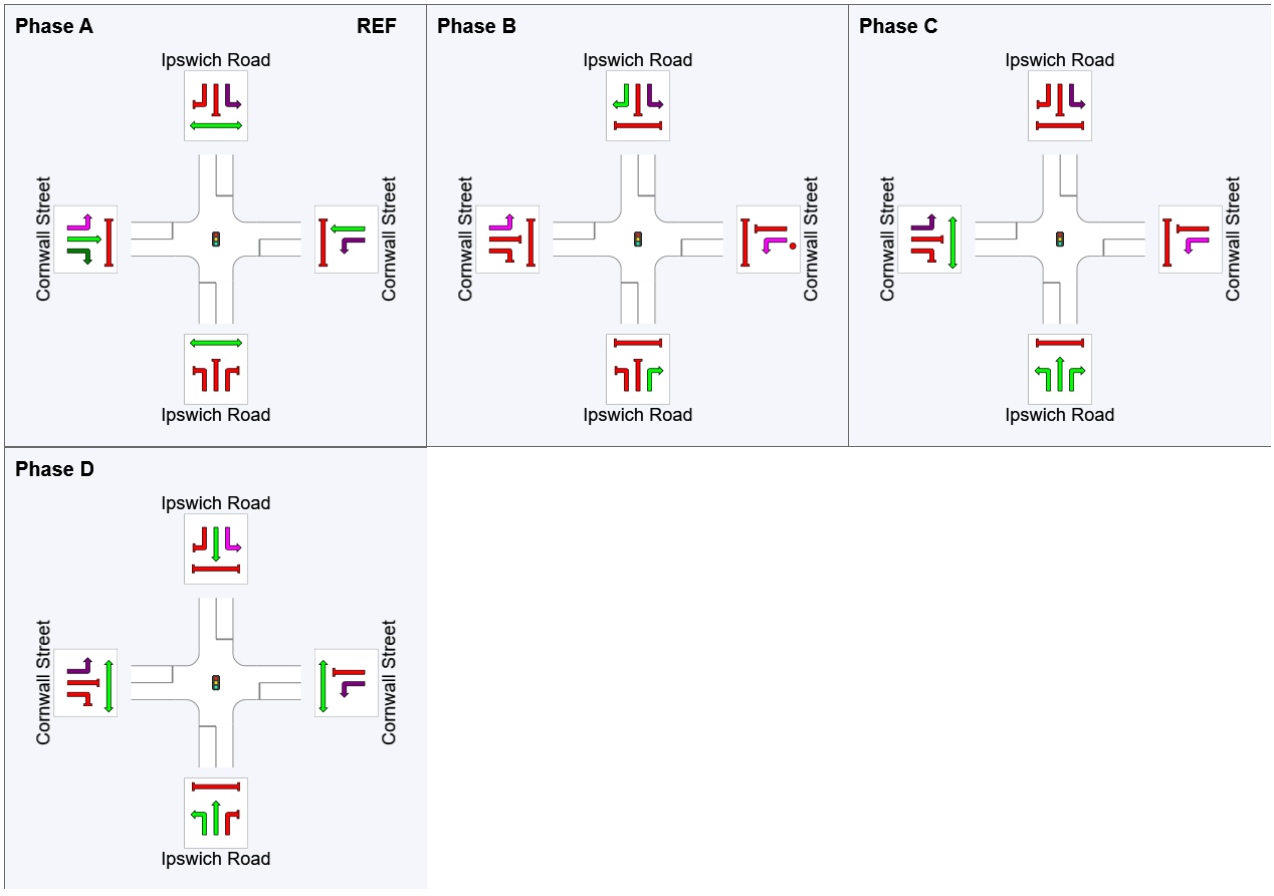
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Three-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

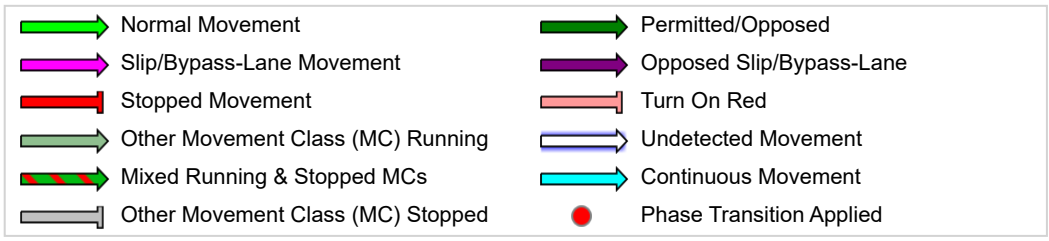
Phase	A	B	C	D
Phase Change Time (sec)	0	32	55	75
Green Time (sec)	26	17	14	59
Phase Time (sec)	32	23	20	65
Phase Split	23%	16%	14%	46%

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



MOVEMENT SUMMARY

Site: G1 [AM 2025 Post Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ipswich Road														
1	L2	80	0.0	81	0.0	*0.879	40.1	LOS D	56.1	416.9	0.95	0.92	1.00	34.9
2	T1	1666	8.0	1683	8.0	0.879	35.5	LOS D	56.1	416.9	0.95	0.92	1.00	33.6
3	R2	263	6.0	266	6.0	0.559	52.5	LOS D	15.7	115.3	0.92	0.82	0.92	30.2
Approach		2009	7.4	2029	7.4	0.879	37.9	LOS D	56.1	419.3	0.95	0.91	0.99	33.2
East: Cornwall Street														
4	L2	5	0.0	5	0.0	0.005	9.6	LOS A	0.1	0.5	0.30	0.59	0.30	48.0
5	T1	2	100.0	2	100.0	0.010	51.7	LOS D	0.1	1.5	0.85	0.54	0.85	32.6
Approach		7	28.6	7	28.6	0.010	21.6	LOS C	0.1	1.5	0.45	0.58	0.45	42.3
North: Ipswich Road														
7	L2	209	4.0	211	4.0	0.191	12.5	LOS B	5.1	36.8	0.42	0.64	0.42	45.3
8	T1	1215	10.0	1227	10.0	0.559	30.6	LOS C	22.7	172.2	0.78	0.69	0.78	35.3
9	R2	249	5.0	252	5.0	*0.845	73.7	LOS E	18.3	133.5	1.00	0.94	1.19	25.7
Approach		1673	8.5	1690	8.5	0.845	34.7	LOS C	22.7	172.2	0.77	0.72	0.80	34.3
West: Cornwall Street														
10	L2	419	6.0	423	6.0	0.584	40.7	LOS D	18.9	139.0	0.84	0.98	0.84	34.1
11	T1	449	3.0	454	3.0	0.760	62.5	LOS E	17.1	122.5	1.00	0.89	1.08	29.7
12	R2	32	3.0	32	3.0	*0.760	68.4	LOS E	15.9	114.5	1.00	0.89	1.08	28.1
Approach		900	4.4	909	4.4	0.760	52.6	LOS D	18.9	139.0	0.92	0.93	0.96	31.5
All Vehicles		4589	7.3	4635	7.3	0.879	39.6	LOS D	56.1	419.3	0.88	0.84	0.92	33.3

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ipswich Road												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	240.0	228.5	0.95
East: Cornwall Street												
P2	Full	50	53	28.4	LOS C	0.1	0.1	0.64	0.64	193.4	214.5	1.11
North: Ipswich Road												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	237.3	225.0	0.95

West: Cornwall Street											
P4 Full	50	53	19.1	LOS B	0.1	0.1	0.52	0.52	182.5	212.5	1.16
All Pedestrians	200	211	44.0	LOS E	0.2	0.2	0.77	0.77	213.3	220.1	1.03

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: G1 [AM 2025 Post Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

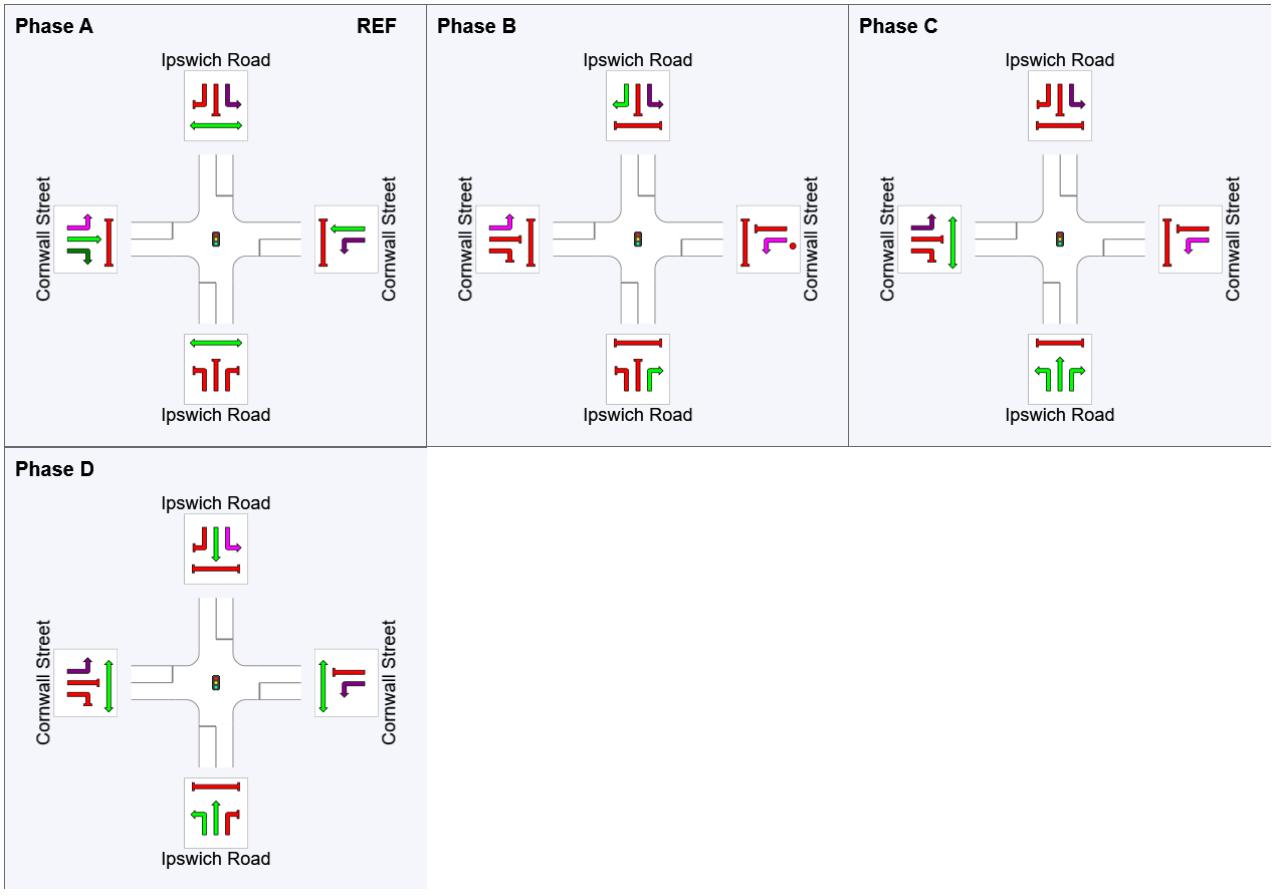
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Three-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

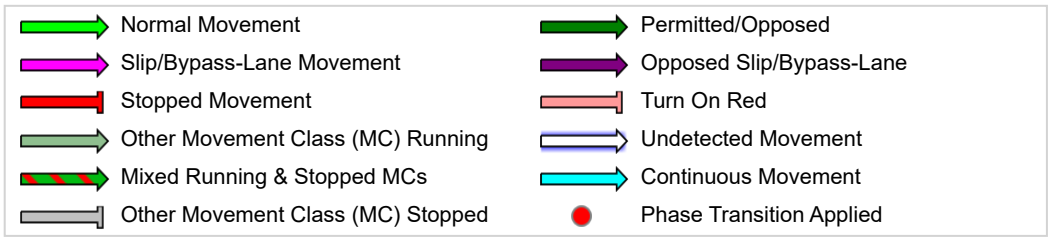
Phase	A	B	C	D
Phase Change Time (sec)	0	30	59	73
Green Time (sec)	24	23	8	61
Phase Time (sec)	30	29	14	67
Phase Split	21%	21%	10%	48%

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



MOVEMENT SUMMARY

Site: G1 [PM 2025 Pre Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ipswich Road														
1	L2	52	0.0	53	0.0	0.817	35.3	LOS D	45.2	324.2	0.91	0.84	0.91	34.9
2	T1	1532	3.0	1547	3.0	0.817	30.8	LOS C	45.3	325.3	0.91	0.84	0.91	35.2
3	R2	447	1.0	452	1.0	* 0.942	83.6	LOS F	37.5	265.1	1.00	1.04	1.32	23.3
Approach		2031	2.5	2052	2.5	0.942	42.5	LOS D	45.3	325.3	0.93	0.88	1.00	31.6
East: Cornwall Street														
4	L2	7	0.0	7	0.0	0.009	19.9	LOS B	0.2	1.5	0.51	0.61	0.51	44.9
5	T1	1	100.0	1	100.0	0.004	48.6	LOS D	0.1	0.7	0.82	0.51	0.82	33.5
Approach		8	12.5	8	12.5	0.009	23.5	LOS C	0.2	1.5	0.55	0.60	0.55	43.0
North: Ipswich Road														
7	L2	596	1.0	602	1.0	0.649	30.9	LOS C	23.5	165.7	0.78	0.95	0.78	35.3
8	T1	1739	5.0	1757	5.0	* 0.950	68.7	LOS E	63.4	462.5	0.93	1.07	1.22	25.8
9	R2	259	1.0	262	1.0	0.819	70.5	LOS E	18.5	130.7	1.00	0.91	1.14	25.5
Approach		2594	3.7	2620	3.7	0.950	60.2	LOS E	63.4	462.5	0.91	1.03	1.12	27.5
West: Cornwall Street														
10	L2	178	5.0	180	5.0	0.229	23.6	LOS C	7.4	54.0	0.67	0.75	0.67	42.8
11	T1	556	1.0	562	1.0	0.839	65.1	LOS E	22.5	158.9	1.00	0.96	1.15	29.1
12	R2	36	0.0	36	0.0	* 0.839	70.9	LOS E	20.0	141.0	1.00	0.96	1.17	28.6
Approach		770	1.9	778	1.9	0.839	55.8	LOS E	22.5	158.9	0.92	0.91	1.04	31.4
All Vehicles		5403	3.0	5458	3.0	0.950	52.9	LOS D	63.4	462.5	0.92	0.96	1.06	29.5

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.
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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ipswich Road												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	240.0	228.5	0.95
East: Cornwall Street												
P2	Full	50	53	29.6	LOS C	0.1	0.1	0.65	0.65	194.6	214.5	1.10
North: Ipswich Road												
P3	Full	50	53	61.4	LOS F	0.2	0.2	0.94	0.94	234.5	225.0	0.96

West: Cornwall Street											
P4 Full	50	53	21.2	LOS C	0.1	0.1	0.55	0.55	184.7	212.5	1.15
All Pedestrians	200	211	44.1	LOS E	0.2	0.2	0.77	0.77	213.5	220.1	1.03

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: G1 [PM 2025 Pre Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

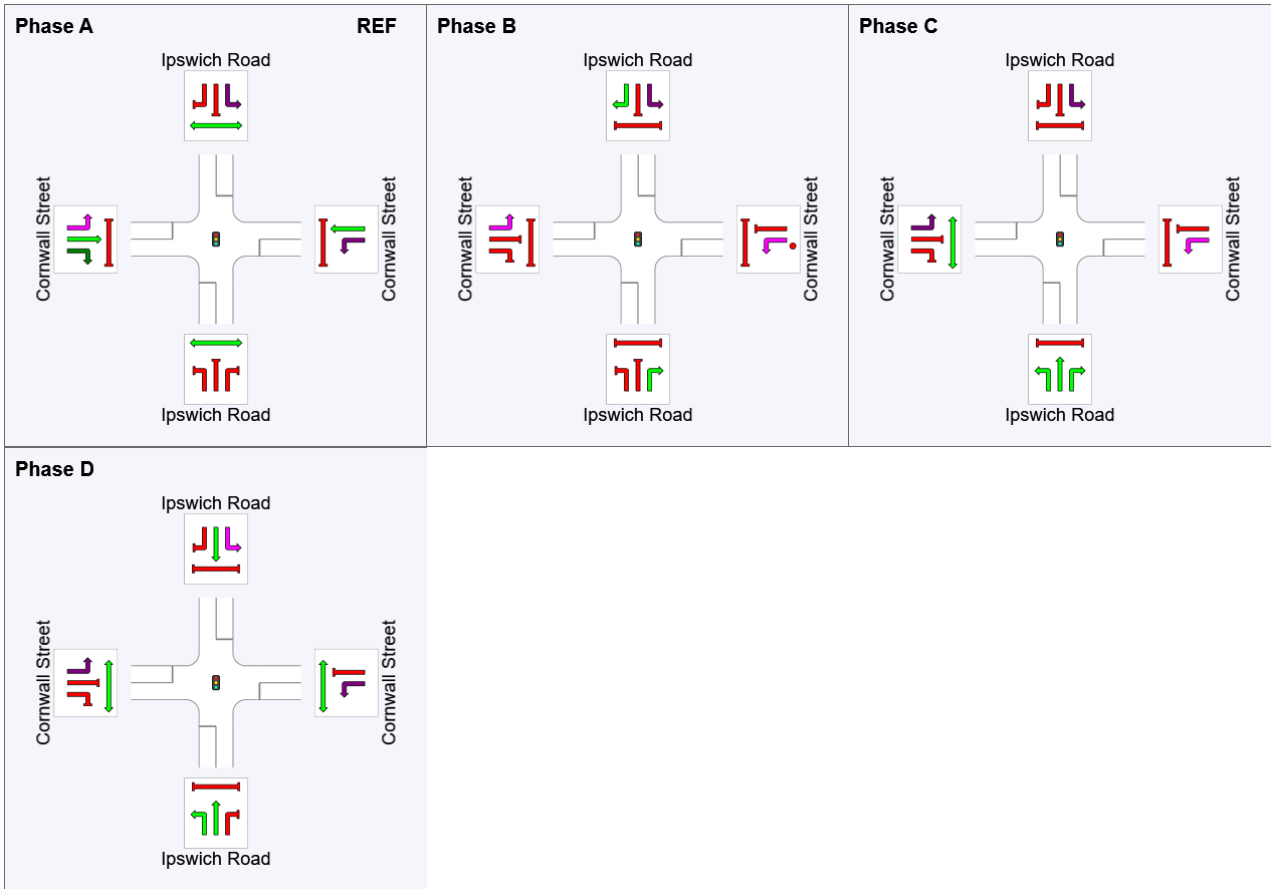
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Three-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

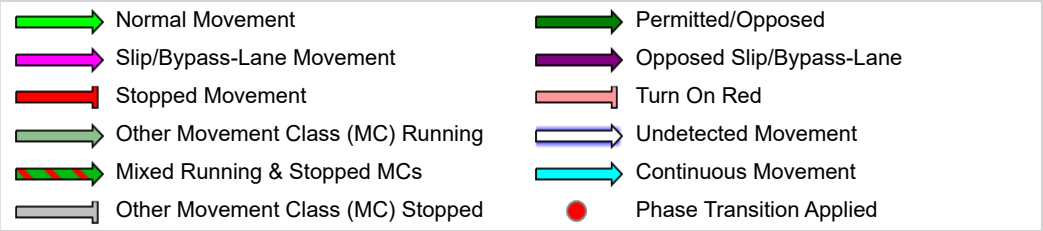
Phase	A	B	C	D
Phase Change Time (sec)	0	33	63	75
Green Time (sec)	27	24	6	59
Phase Time (sec)	33	30	12	65
Phase Split	24%	21%	9%	46%

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



MOVEMENT SUMMARY

Site: G1 [PM 2025 Post Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ipswich Road														
1	L2	89	0.0	90	0.0	0.914	55.0	LOS D	59.8	428.1	1.00	1.02	1.13	29.3
2	T1	1532	3.0	1547	3.0	0.914	50.4	LOS D	59.9	430.3	1.00	1.02	1.13	29.6
3	R2	447	1.0	452	1.0	* 0.942	83.6	LOS F	37.5	265.1	1.00	1.04	1.32	23.3
Approach		2068	2.4	2089	2.4	0.942	57.8	LOS E	59.9	430.3	1.00	1.02	1.17	27.9
East: Cornwall Street														
4	L2	7	0.0	7	0.0	0.009	20.7	LOS C	0.2	1.5	0.52	0.61	0.52	44.4
5	T1	1	100.0	1	100.0	0.004	48.6	LOS D	0.1	0.7	0.82	0.51	0.82	33.5
Approach		8	12.5	8	12.5	0.009	24.2	LOS C	0.2	1.5	0.55	0.60	0.55	42.7
North: Ipswich Road														
7	L2	596	1.0	602	1.0	0.650	30.9	LOS C	23.5	165.7	0.78	0.95	0.78	35.3
8	T1	1739	5.0	1757	5.0	* 0.968	77.1	LOS E	68.3	498.9	0.93	1.11	1.28	24.4
9	R2	369	1.0	373	1.0	0.934	84.1	LOS F	30.4	214.9	1.00	1.03	1.33	23.3
Approach		2704	3.6	2731	3.6	0.968	67.9	LOS E	68.3	498.9	0.91	1.07	1.18	26.0
West: Cornwall Street														
10	L2	178	5.0	180	5.0	0.214	26.2	LOS C	6.9	50.5	0.63	0.76	0.63	41.6
11	T1	556	1.0	562	1.0	0.841	65.3	LOS E	22.6	159.6	1.00	0.96	1.16	29.1
12	R2	36	0.0	36	0.0	* 0.841	71.0	LOS E	20.0	140.9	1.00	0.96	1.17	28.6
Approach		770	1.9	778	1.9	0.841	56.5	LOS E	22.6	159.6	0.91	0.91	1.04	31.2
All Vehicles		5550	2.9	5606	2.9	0.968	62.5	LOS E	68.3	498.9	0.94	1.03	1.15	27.3

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ipswich Road												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	240.0	228.5	0.95
East: Cornwall Street												
P2	Full	50	53	29.6	LOS C	0.1	0.1	0.65	0.65	194.6	214.5	1.10
North: Ipswich Road												
P3	Full	50	53	61.4	LOS F	0.2	0.2	0.94	0.94	234.5	225.0	0.96

West: Cornwall Street											
P4 Full	50	53	24.7	LOS C	0.1	0.1	0.59	0.59	188.1	212.5	1.13
All Pedestrians	200	211	45.0	LOS E	0.2	0.2	0.79	0.79	214.3	220.1	1.03

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: G1 [PM 2025 Post Dev (Site Folder: General)]

Four-way intersection with varying number of lanes and a slip/bypass lane (Signals)

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

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

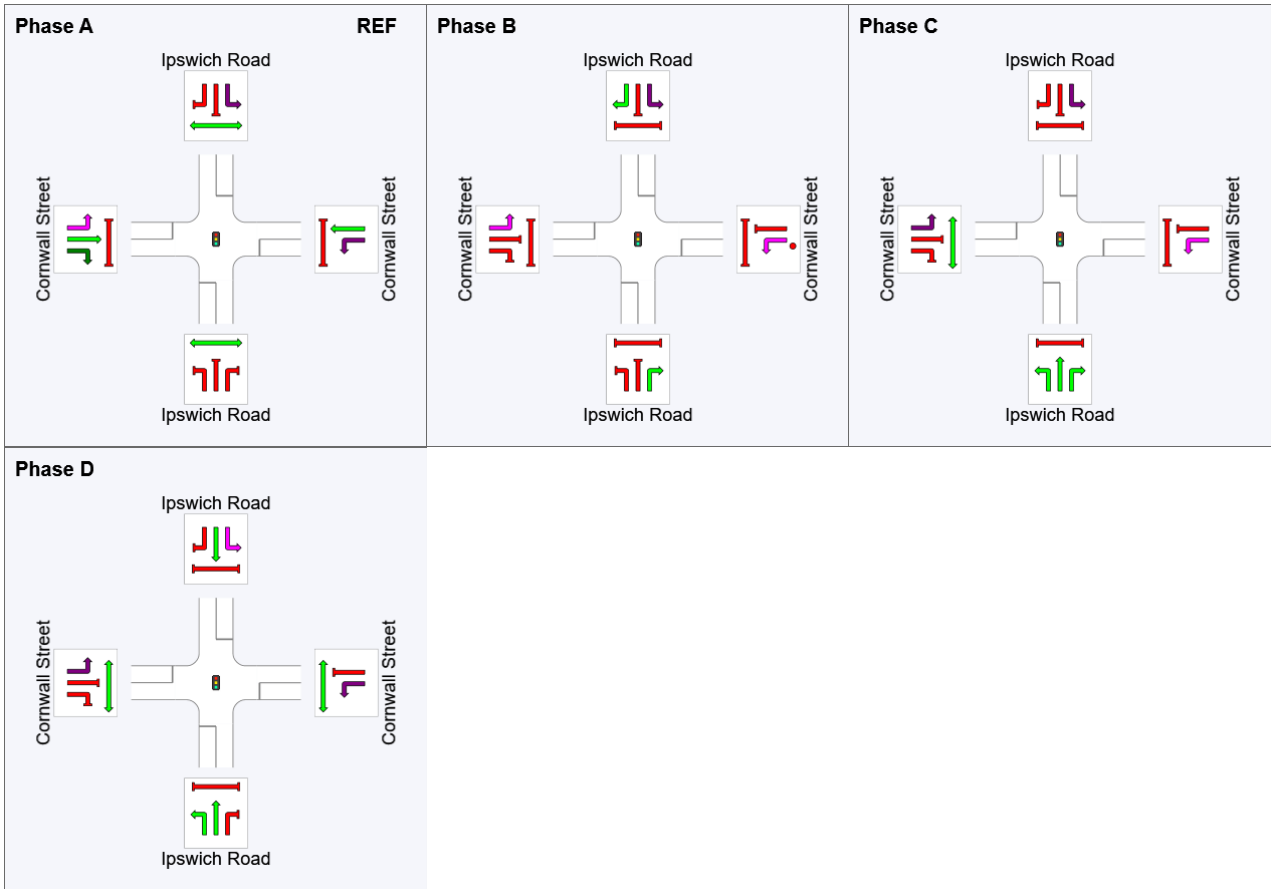
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	33	69	75
Green Time (sec)	27	30	***	59
Phase Time (sec)	33	36	6	65
Phase Split	24%	26%	4%	46%

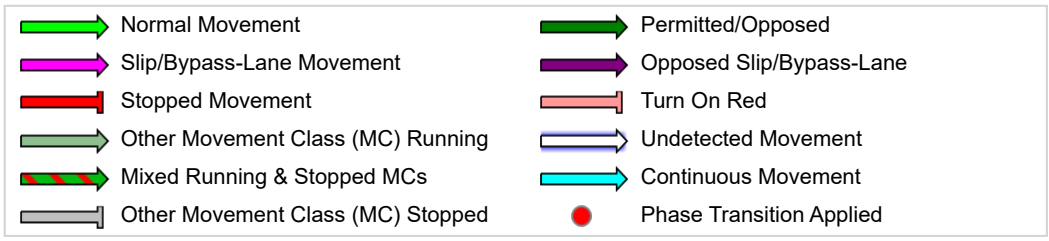
See the Timing Analysis report for more detailed information including input values of
Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time,
Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation
and Phase Frequency values (user-specified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

*** No green time has been calculated for this phase because the next phase starts during its intergreen time.
This occurs with overlap phasing where there is no single movement connecting this phase to the next, or
where the only such movement is a dummy movement with zero minimum green time specified.
If a green time is required for this phase, specify a dummy movement with a non-zero minimum green time.

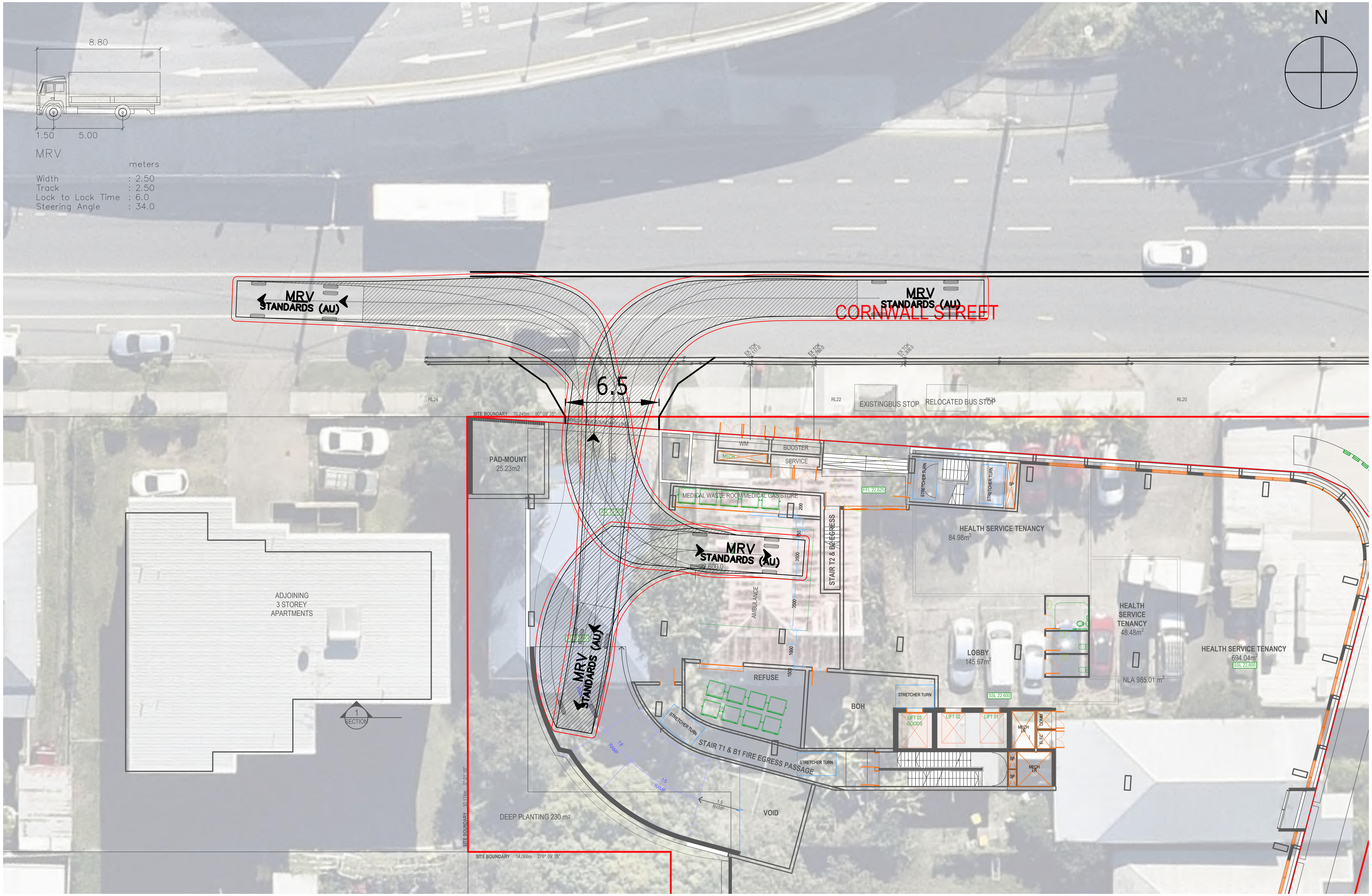
Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



APPENDIX D
SWEPT PATH ANALYSES



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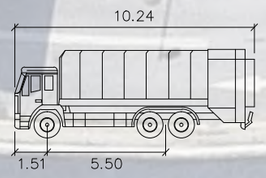
REV.	AMENDMENTS	DRN	DATE

PROJECT TITLE: 99 CORNWALL STREET, ANNERLEY

DRAWING TITLE: MRV SWEPT PATHS

CLIENT:	CORNERSTONE BUILDING DEVELOPMENTS		
DATE: 02/08/2023	SCALE: 1:250@A3	DRAWN: CB	APPROVED: JG
DRAWING NO. 22-783-001	REV	JOB NO. 22-783	



REAR LIFT ACCO 2350

meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.3

N

REAR LIFT_ACCO 2350 Custom

REAR LIFT_ACCO 2350 Custom

CORNWALL STREET

6.5

EXISTINGBUS STOP

RELOCATED BUS STOP

SITE BOUNDARY 70.245m 90° 09' 35"

PAD-MOUNT 25.23m2

WM

BOOSTER

MECH

SERVICE

MEDICAL WASTE ROOM MEDICAL GAS STORE

FFL 22.625

STRETCHER TURN

HEALTH SERVICE TENANCY 84.98m²

REAR LIFT ACCO 2350 Custom

STAIR T2 & B2 EGRESS

AMBULANCE

REAR LIFT ACCO 2350 Custom

ADJOINING 3 STOREY APARTMENTS

1 SECTION

REFUSE

BOH

LOBBY 145.67m²

HEALTH SERVICE TENANCY 48.48m²

HEALTH SERVICE TENANCY 694.04m²

SSL 22.600

NLA 985.01 m²

LIFT 03

LIFT 02

LIFT 01

MECH ER

COMMS

STAIR T1 & B1 FIRE EGRESS PASSAGE

STRETCHER TURN

RAMP

DEEP PLANTING 230 m²

VOID

SITE BOUNDARY 14.066m 270° 09' 35"

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REV.	AMENDMENTS	DRN	DATE

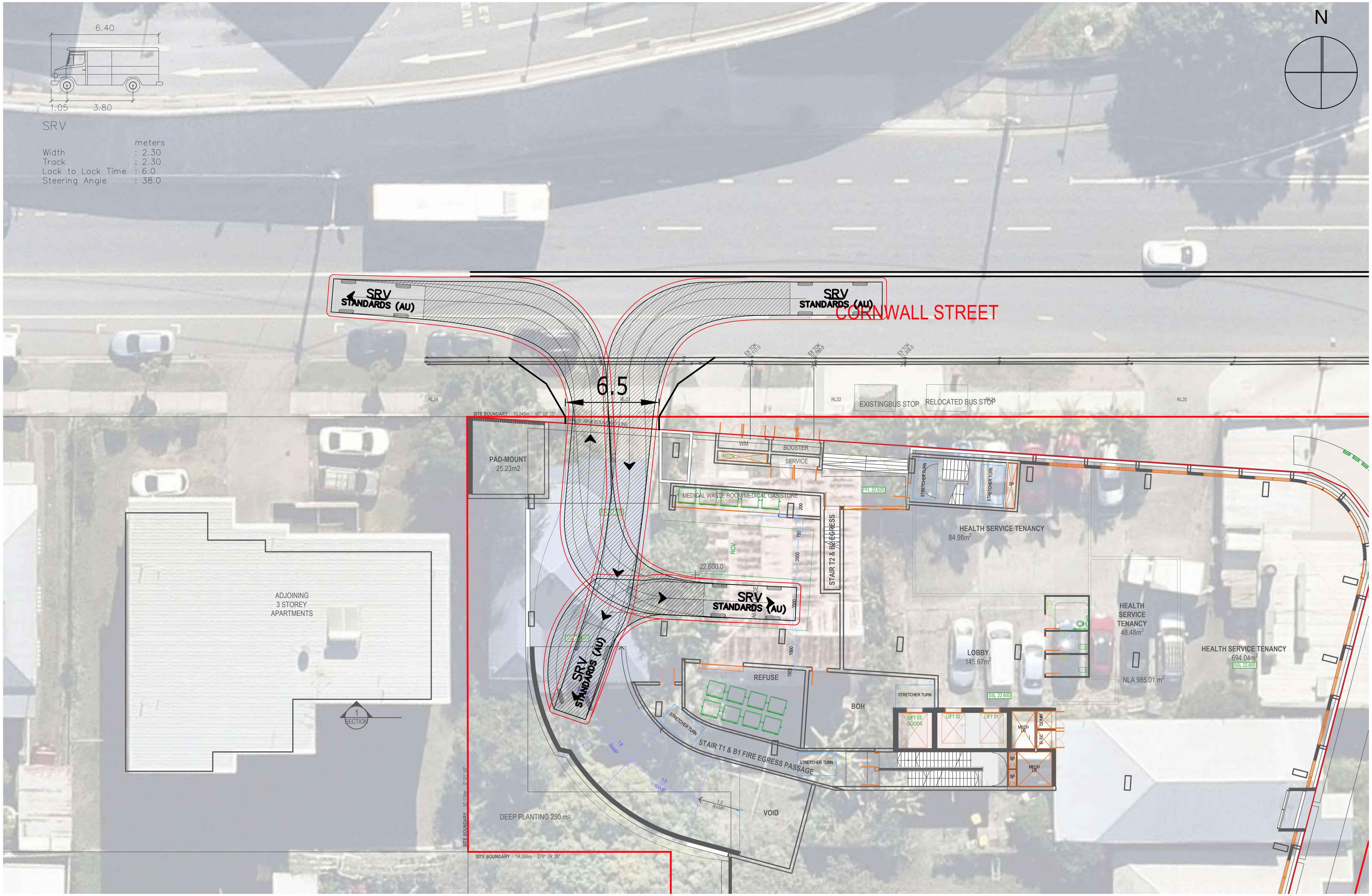
PROJECT TITLE: 99 CORNWALL STREET, ANNERLEY

DRAWING TITLE: RCV SWEPT PATHS

CLIENT: CORNERSTONE BUILDING DEVELOPMENTS

DATE:	SCALE:	DRAWN:	APPROVED:
02/08/2023	1:250@A3	CB	JG

DRAWING NO.	REV	JOB NO.
22-783-002		22-783



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TRAFFIC & TRANSPORT ENGINEERING

REV.	AMENDMENTS	DRN	DATE

PROJECT TITLE: 99 CORNWALL STREET, ANNERLEY

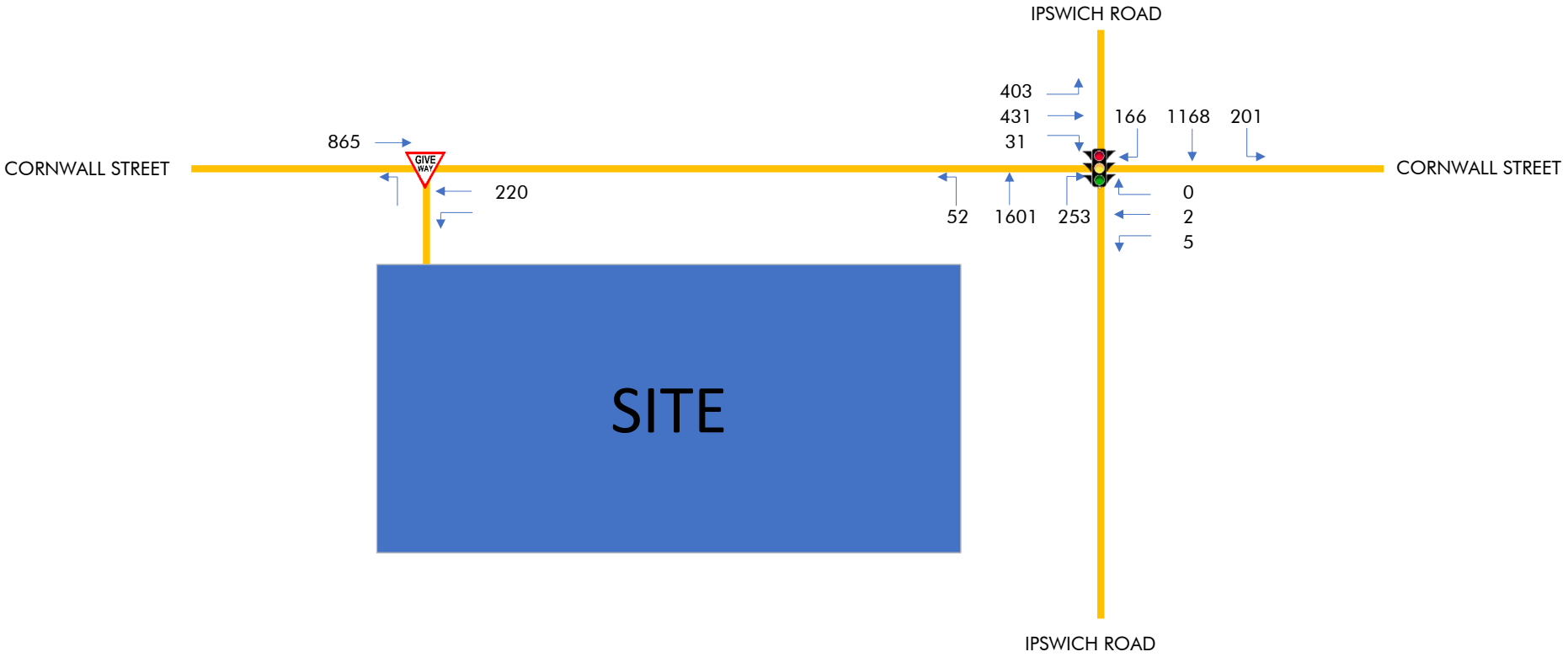
DRAWING TITLE: SRV SWEPT PATHS

CLIENT: CORNERSTONE BUILDING DEVELOPMENTS

DATE:	SCALE:	DRAWN:	APPROVED:
02/08/2023	1:250@A3	CB	JG

DRAWING NO.	REV	JOB NO.
22-783-003		22-783

APPENDIX E
PEAK HOUR TURNING MOVEMENT FORECASTS



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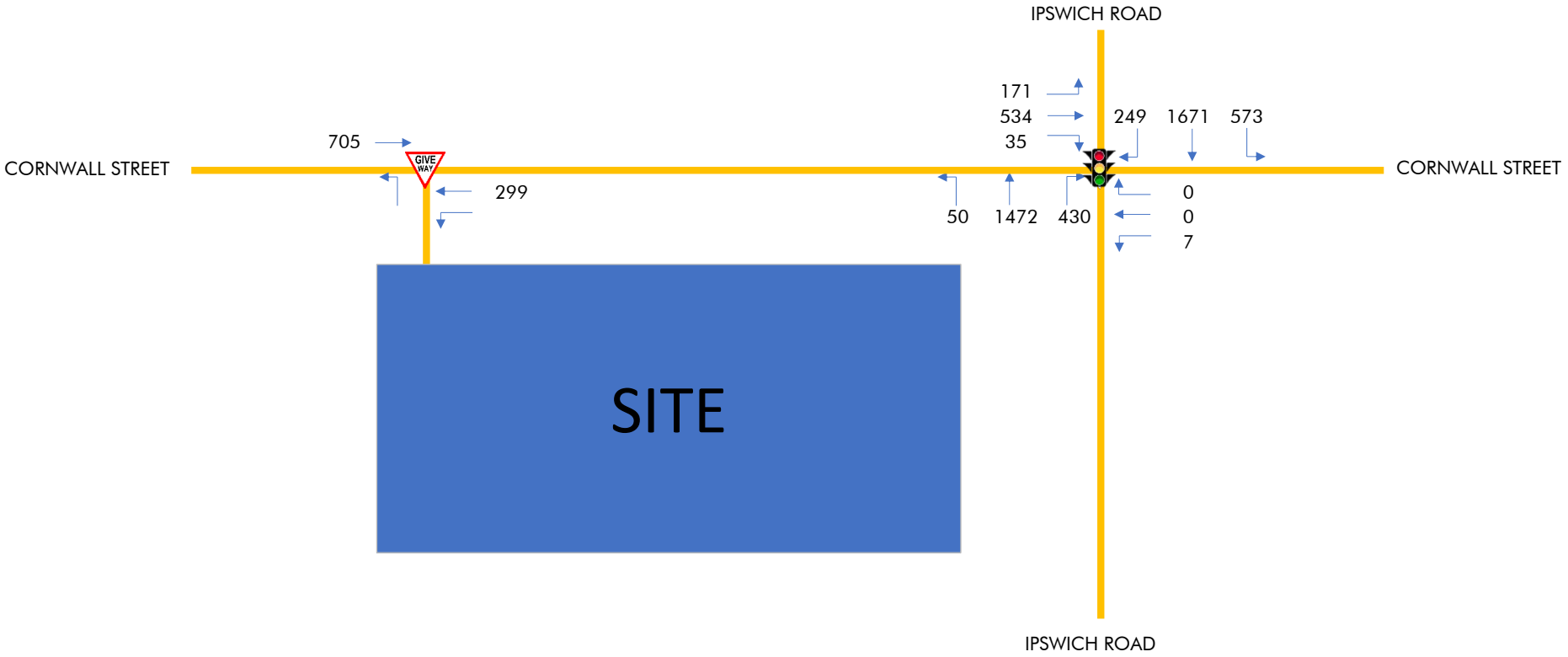
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 1
Job No.	22-783		

2021 Existing Morning Peak Hour



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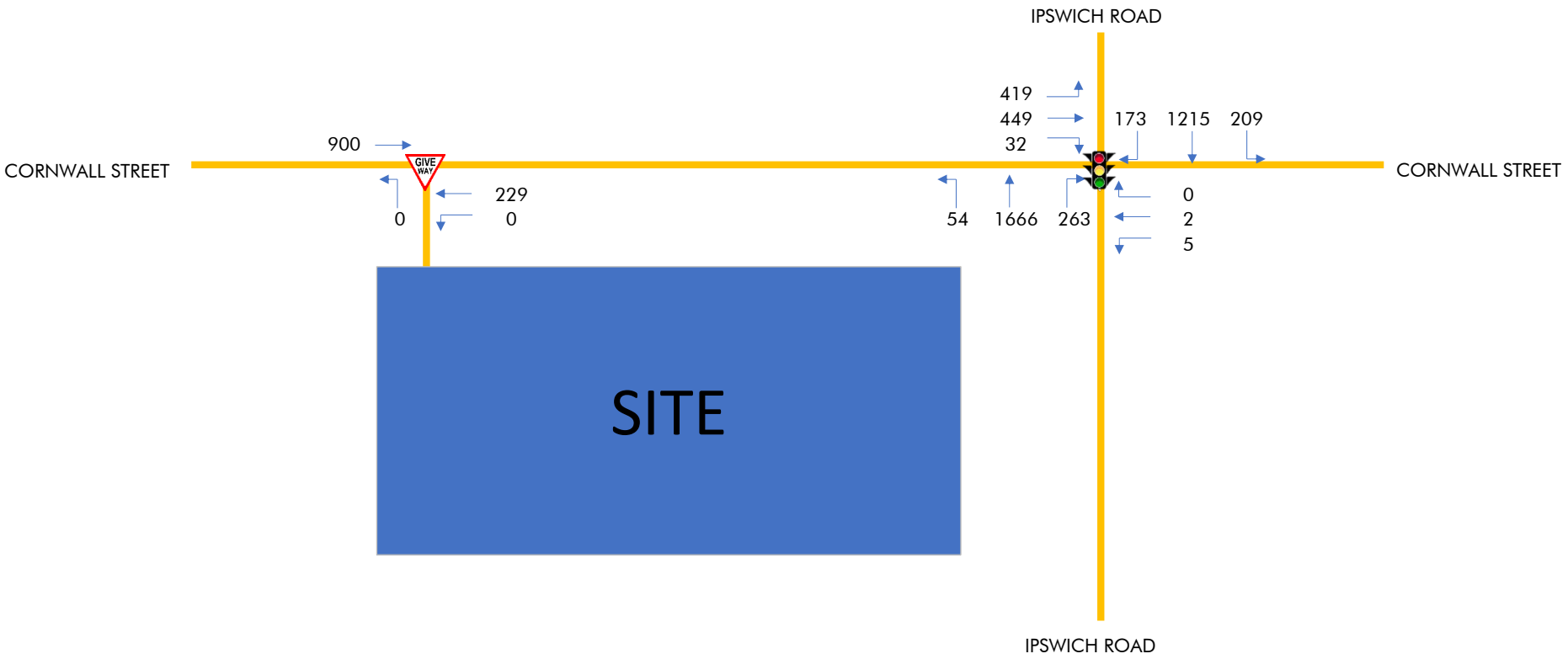
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 2
Job No.	22-783		

2021 Existing Evening Peak Hour



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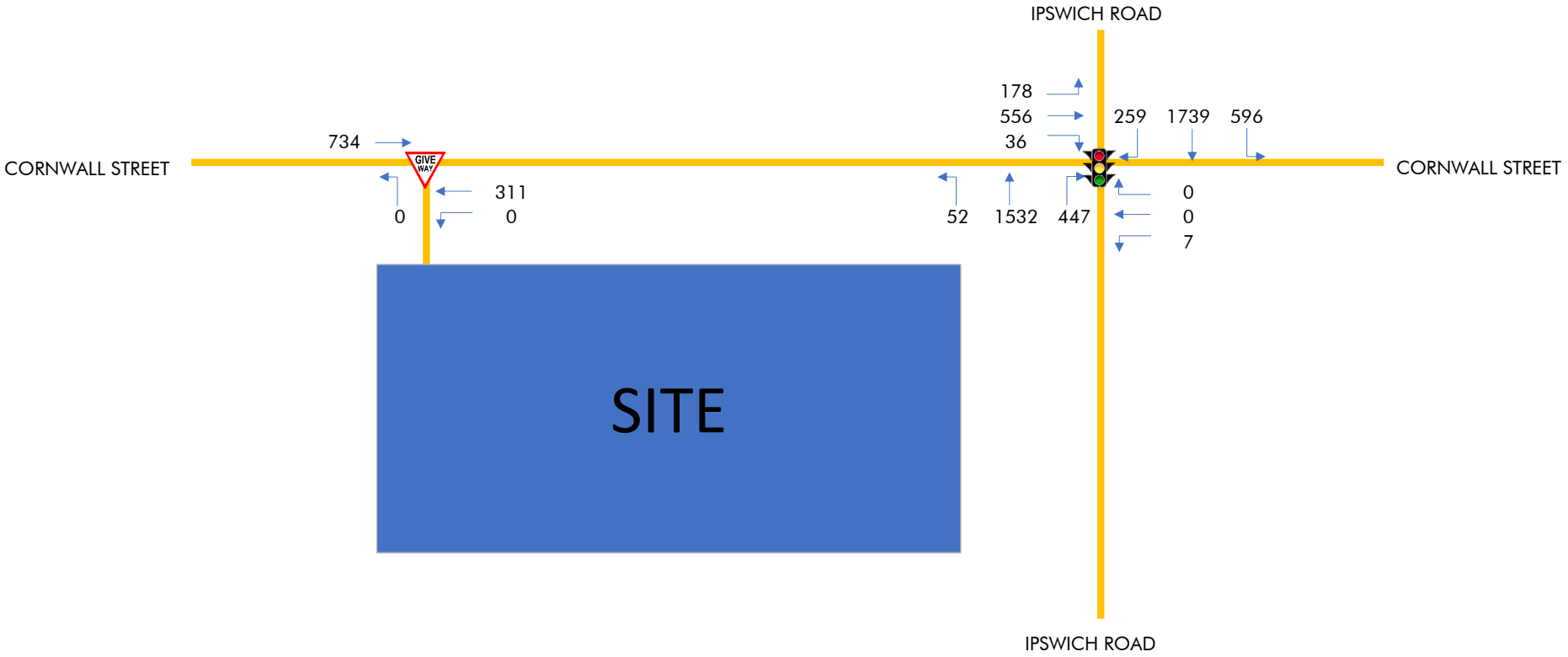
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 3
Job No.	22-783		

2025 Pre-Development Morning Peak Hour



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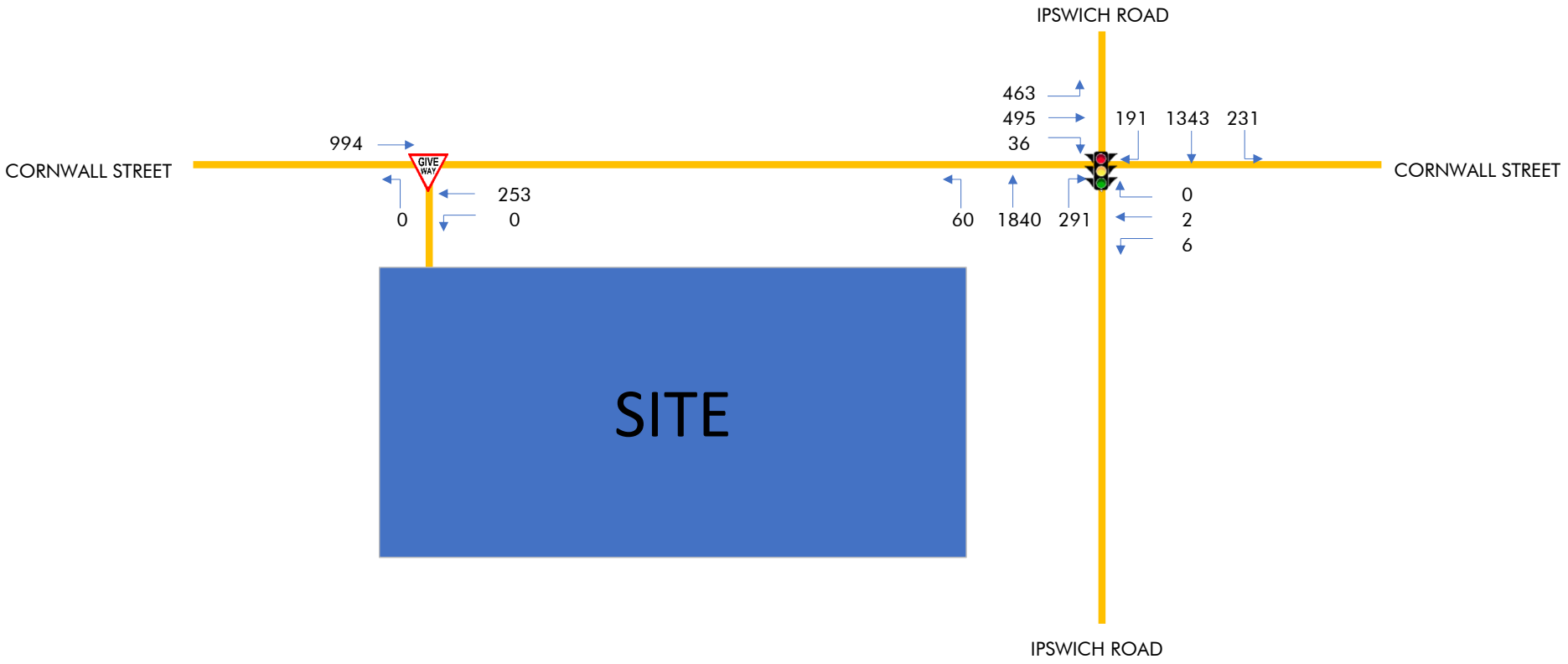
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 4
Job No.	22-783		

2025 Pre-Development Evening Peak Hour



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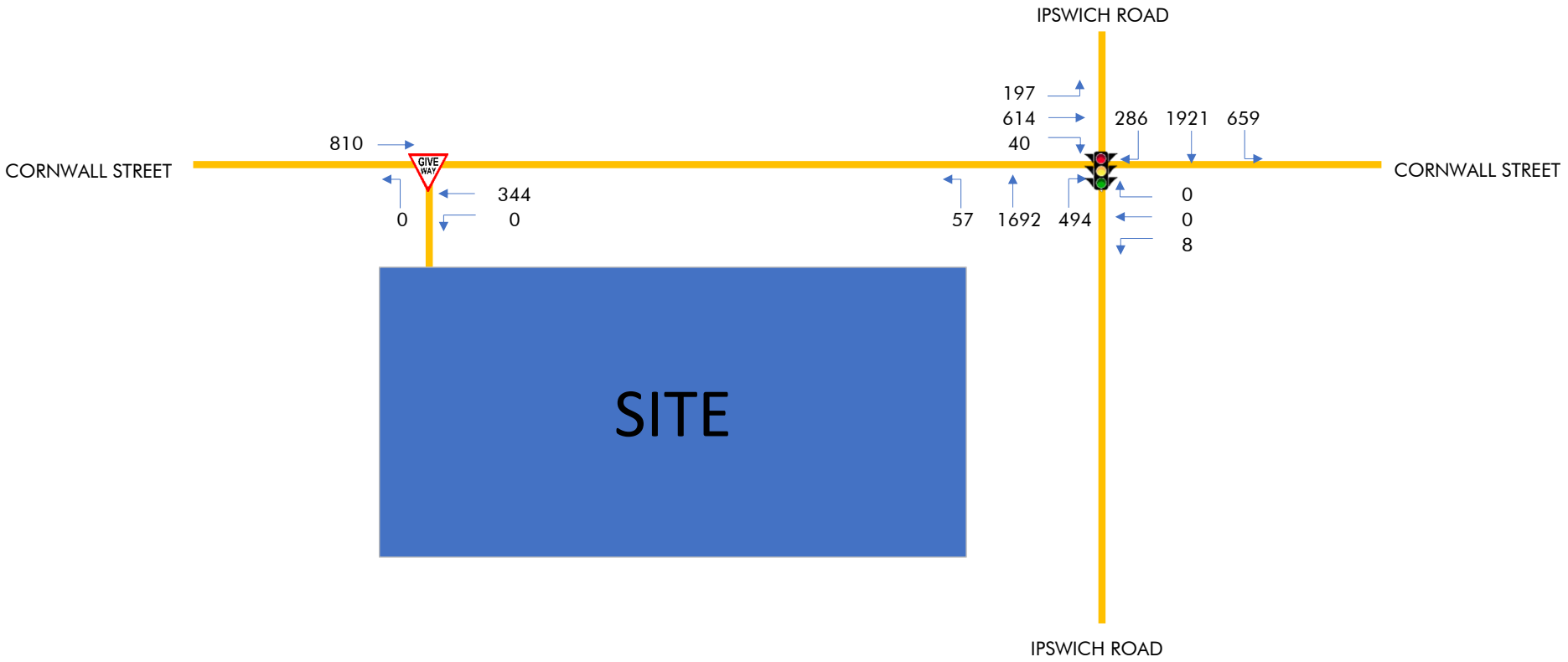
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 5
Job No.	22-783		

2035 Pre-Development Morning Peak Hour



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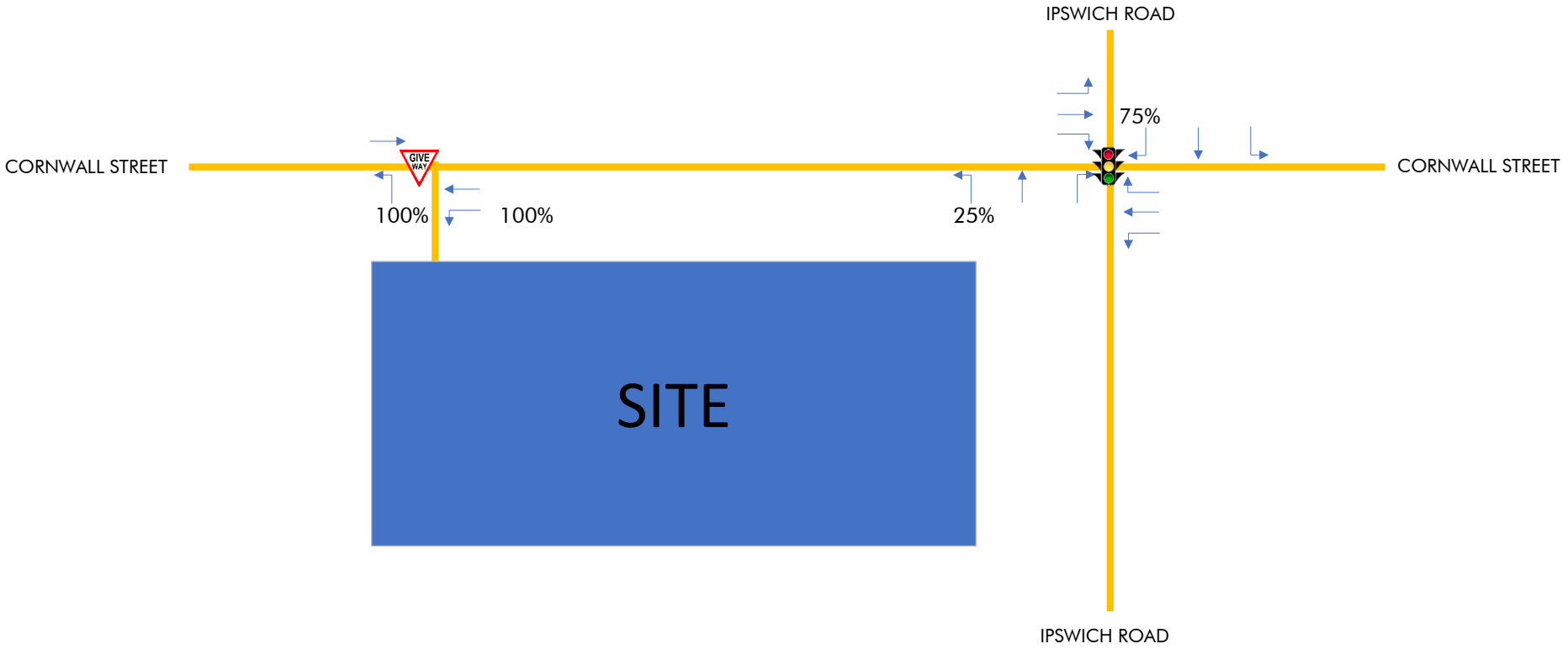
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 6
Job No.	22-783		

2035 Pre-Development Evening Peak Hour



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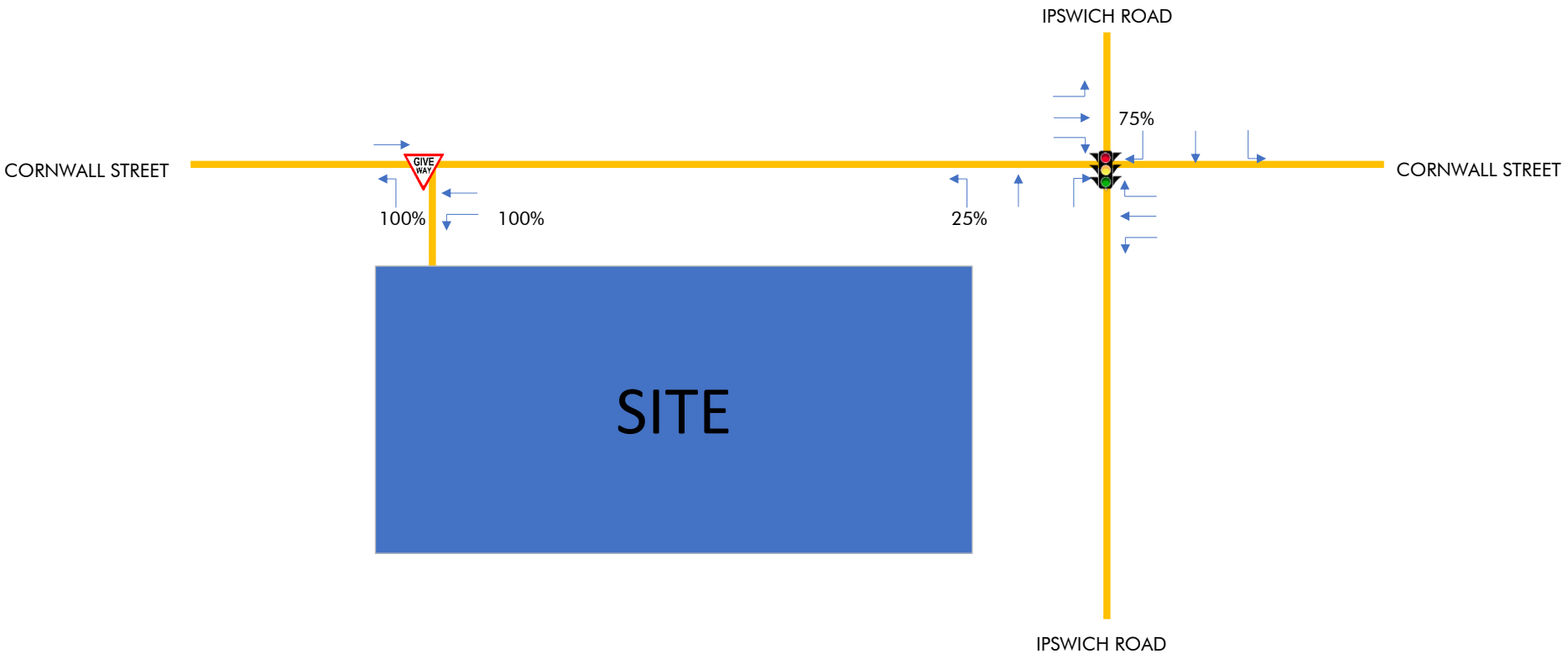
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 7
Job No.	22-783		

Development Traffic Distribution - Morning Peak Hour



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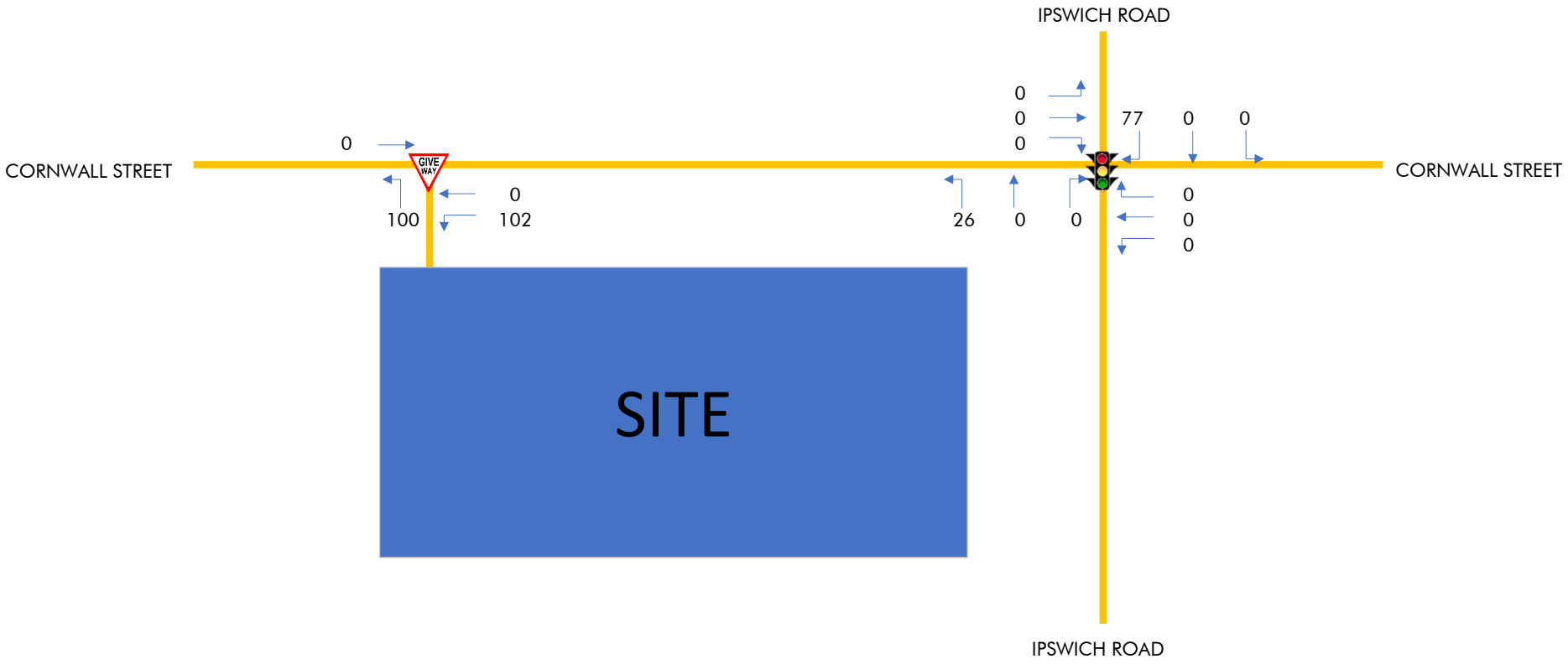
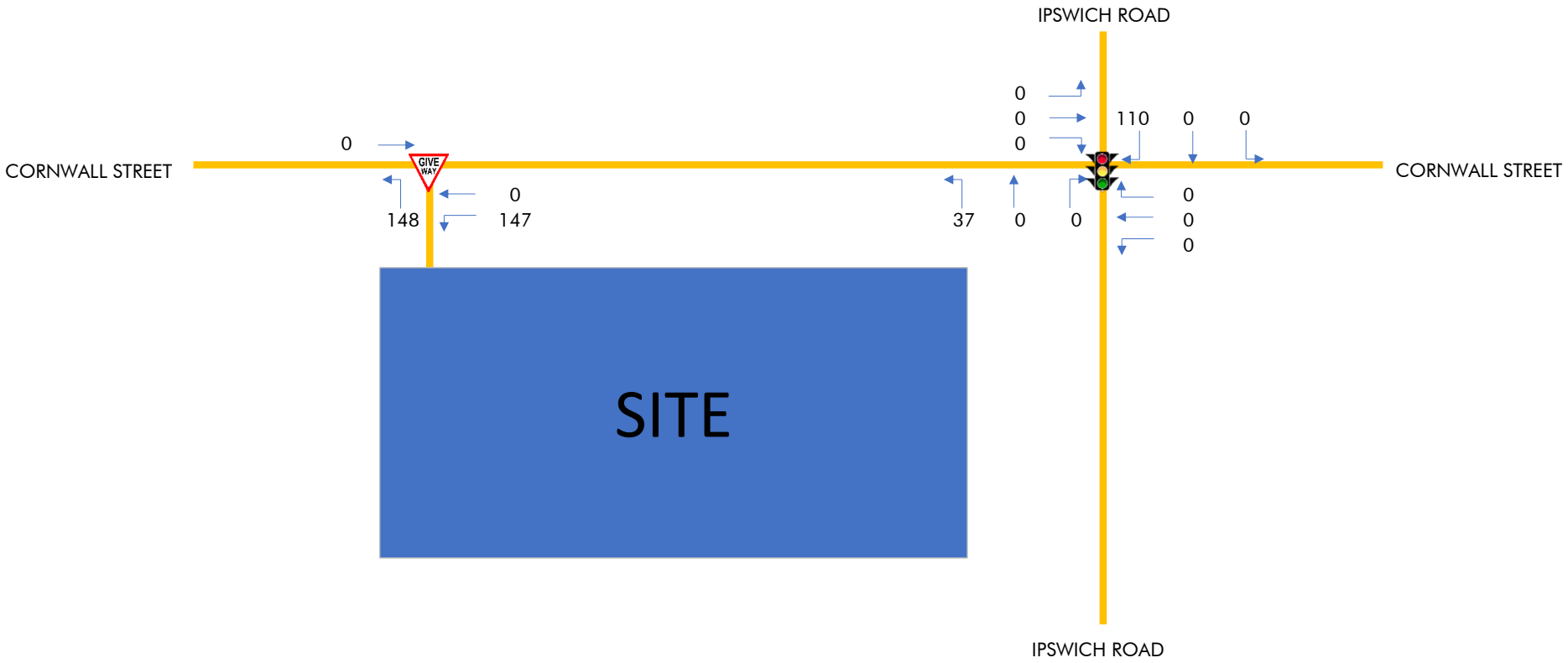
Client	CHP			**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 8	**Job No.**	22-783
Development Traffic Distribution - Evening Peak Hour					



PTT TRAFFIC & TRANSPORT ENGINEERING PTT ABN 96 067 593 962 P 07 3839 6771 WWW.PTT.COM.AU Level 2, 62 Astor Tce, Spring Hill QLD 4000	**Client** CHP	**Project** 99 Cornwall Street, Annerley	
	Date 4/04/2023	**Figure** Figure 9	**Job No.** 22-783
	Development Traffic Generation - Morning Peak Hour		



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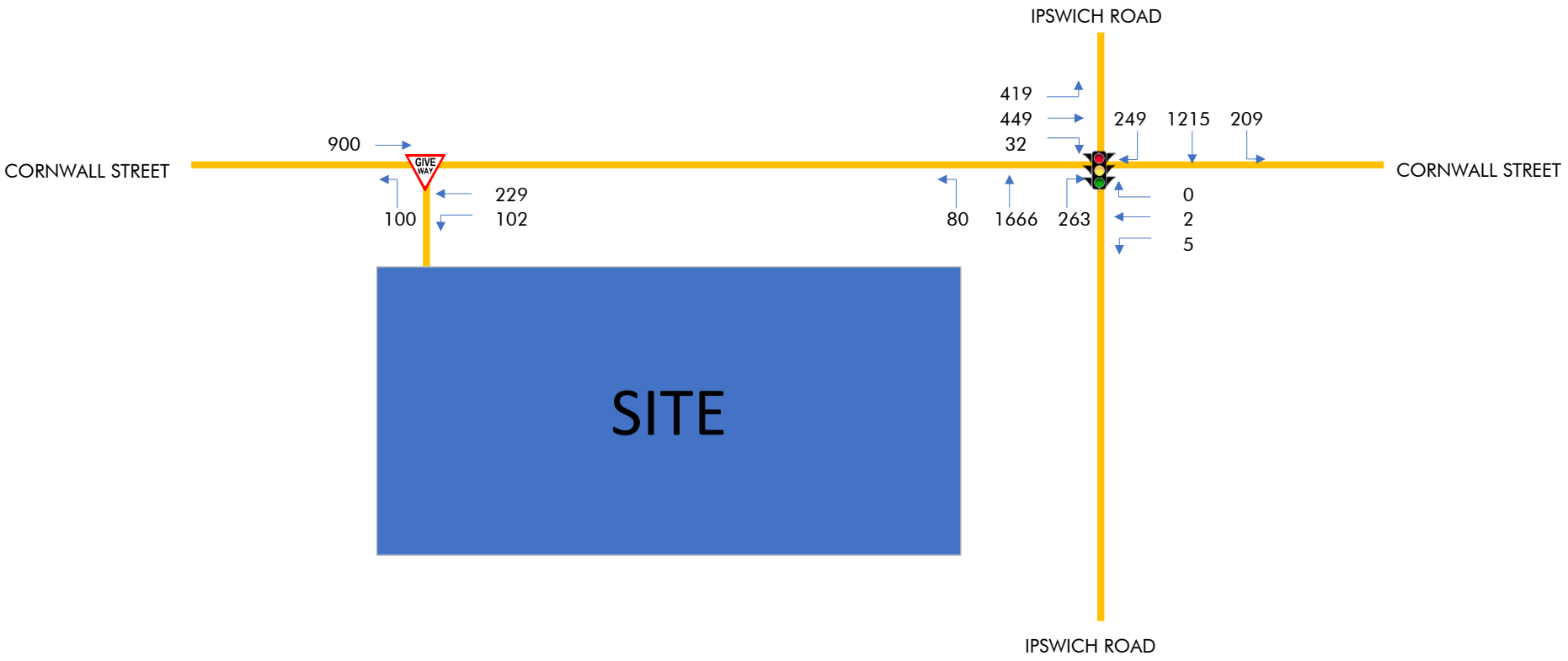
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 10
Job No.	22-783		

Development Traffic Generation - Evening Peak Hour



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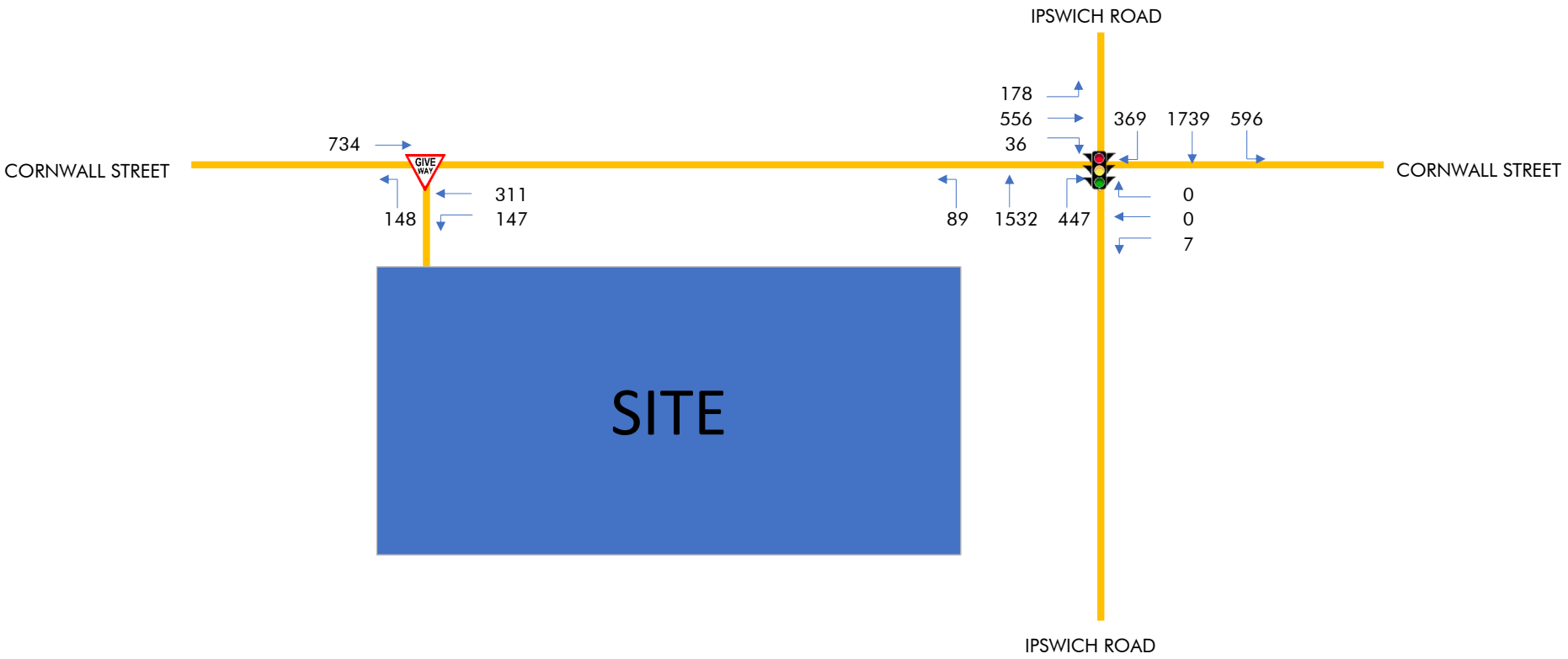
Client	CHP	**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 11
Job No.	22-783		

2025 Post-Development Morning Peak Hour



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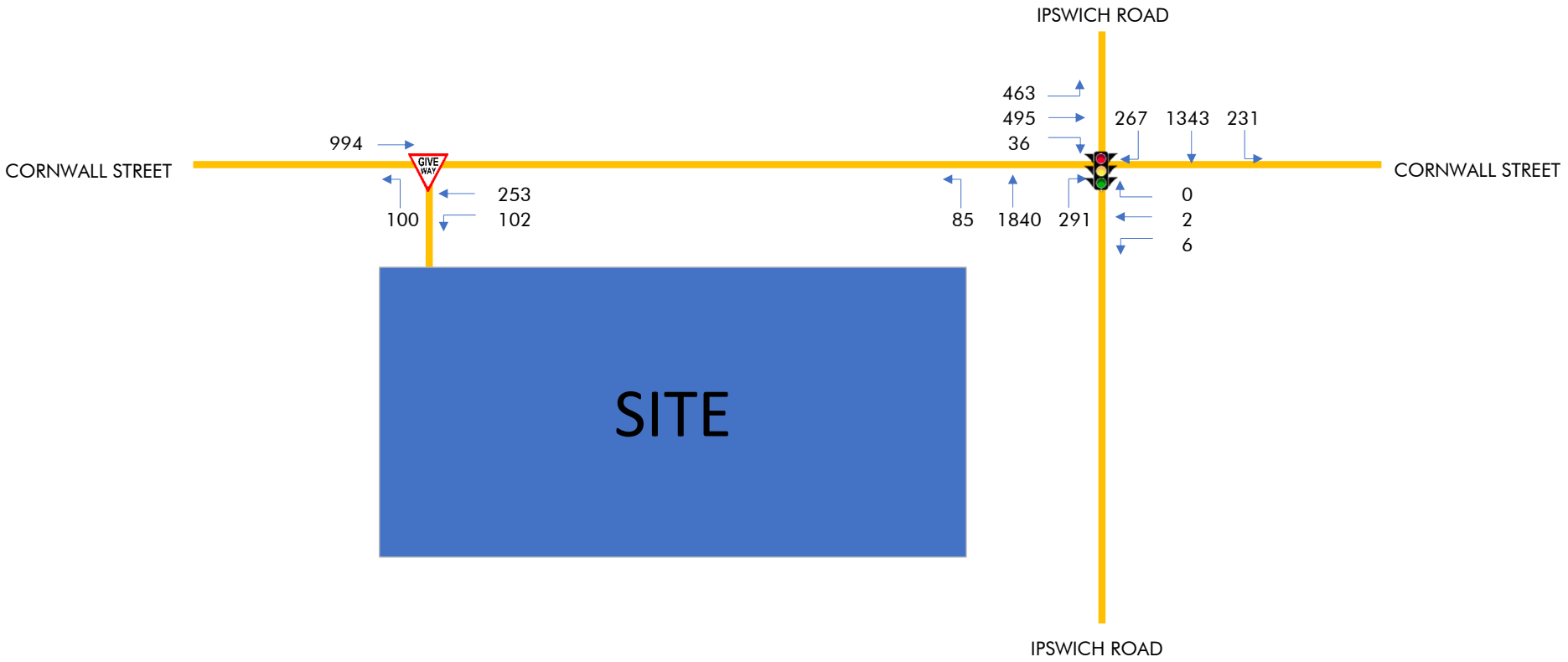
Client	CHP			**Project**	99 Cornwall Street, Annerley
Date	4/04/2023	**Figure**	Figure 12	**Job No.**	22-783
2025 Post-Development Evening Peak Hour					



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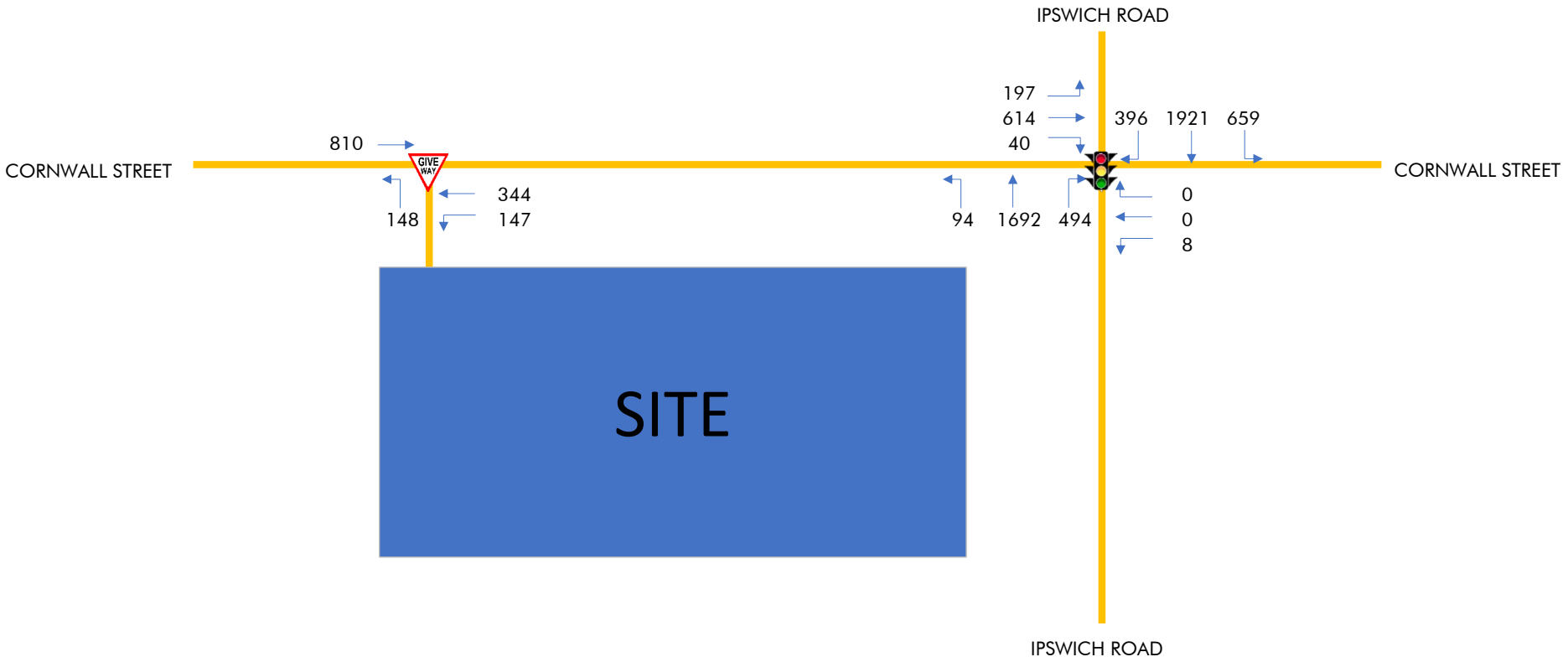
Client	CHP		**Project**	99 Cornwall Street, Annerley	
Date	4/04/2023	**Figure**	Figure 13	**Job No.**	22-783
2035 Post-Development Morning Peak Hour					



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Date	4/04/2023	**Figure**	Figure 14	**Job No.**	22-783
2035 Post-Development Evening Peak Hour					