The Hon Jarrod Bleijie MP
Deputy Premier
Minister for State Development,
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Minister for Industrial Relations

DELIVERING FOR QUEENSLAND | Queensland Government

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DECISION NOTICE

Ministerial Infrastructure Designation for the Hub68 Centre for Excellence

Decision details

Decision:	Ministerial Infrastructure Designation (MID) made under section 38 of the *Planning Act 2016*
Date of decision:	27 February 2026
Type of infrastructure:	Planning Regulation 2017, Schedule 5, Part 2: • Item 6: Education facilities • Item 12: Hospitals and health care services • Item 15: Residential care facilities
DSDIP MID reference:	MID-0523-0700

Premises details

Street address:	58-68 Delancey Street, Ormiston, QLD 4160
Real property description:	Lot 0 on SP308738, Lot 1 on SP308739, Lot 1 on SP308739 and Lots 10 to 16 on SP314782
Local Government area:	Redland City Council (the Council)

Infrastructure entity details

Infrastructure entity:	The Hub Precinct Pty Ltd

Requirements

A notice of requirements included in the MID is at **Schedule 1**.

Advice to the entity

Despite the MID, the entity is responsible for determining what obligations exist under previous development approvals that apply to the premises. Advice is also provided at **Schedule 2**.

Submissions

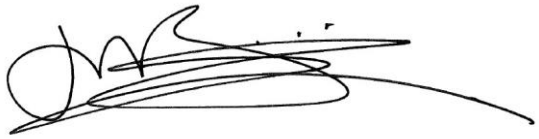
A notice of how I have considered submissions is at **Schedule 3**.

Effective date

As set out in section 9(3) of the *Planning Act 2016*, the MID will take effect from the date the gazette notice for this MID is published in the Queensland Government Gazette.

Duration of MID

The duration of the MID is set out in section 39 of the *Planning Act 2016.*



JARROD BLEIJIE MP
DEPUTY PREMIER
Minister for State Development, Infrastructure and Planning
Minister for Industrial Relations

Enc (3)

Schedule 1 - Notice of requirements included in the MID

Development under the MID is to be carried out in accordance with the requirements included in **Table 1**.

Table 1 - Requirements	
Plan of designation	
1.	The extent of development is to be carried out generally in accordance with the 'Plan of designation for the Hub68 Centre for Excellence', ref. MID-0523-0700 and included at **Annexure 1** (Plan of designation).
Amalgamation of Lots	
2.	Prior to the commencement of works, reconfigure or amalgamate the existing Access Restriction Strip (Lot 3 on RP213631) with Lot 0 on SP308738.
Design/built form	
3.	The design of each new building is to be of a bulk, scale and massing generally in accordance with the Concept Elevations (Ref: A180 4-11), Concept Elevations – Residential Aged Care (Ref: A180 13-14) and included at **Annexure 2** and include/incorporate: i. variation in roof form ii. modulation through recessed wall planes at regular intervals iii. articulation through the use of vertical and horizontal elements, blades, screens, slab projections, variation in wall cladding, materials and neutral colours and finishes iv. slope sensitive design to minimise the degree of cut and fill and to ensure buildings do not dominate the landscape v. easy to identify building entrances vi. well disguised service elements including screening of mechanical plant and equipment from public view vii. crime prevention through environmental design standards at street level to allow for sight lines between buildings and minimises blind corners and dark unlit areas.
Car parking	
4.	(a) Prior to the commencement of use of the private hospital main building and residential aged care facility, as shown in STG1 - Site Plan - Hospital & RAC, Drawing No. A121 Rev.6 prepared by Destravis Group and dated 15 July 2024 (included at **Annexure 3**), provide a minimum of: i. 549 car parking spaces ii. One per cent of parking spaces provided on site must for Persons with a Disability (PWD) car parking spaces iii. One per cent of parking spaces (excluding PWD and service vehicle bays) provided on site must be parking spaces for motorcycles.

	(b) All new car parking spaces are to comply with the relevant Council or Australian standards.
5.	(a) Prior to the commencement of use of the expanded private hospital and research and education centre and the expanded residential aged care facility, as shown in STG2 - SITE PLAN, Drawing No. A141 Rev.5, prepared by Destravis Group and dated 15 July 2024 amended in red by DSDIP (included at **Annexure 3**), provide a minimum of: i. 310 additional car parking spaces (total of 859) ii. One per cent of parking spaces provided on site must for PWD car parking spaces iii. One per cent of parking spaces (excluding PWD and service vehicle bays) provided on site must be parking spaces for motorcycles. (b) All new car parking spaces are to comply with the relevant Council or Australian standards.
6.	(a) Prior to the commencement of use of the private hospital main building, provide a dedicated passenger pick-up and drop off zone which provides: i. a minimum passenger loading zone capacity for the parking of three vehicles ii. a taxi rank with minimum capacity for the concurrent parking of two x standard taxis iii. a 15 minute PWD loading bay iv. a pathway of four-metre minimum width along the left hand side of the pick-up and drop off zone, including a shelter with seats for waiting and boarding/alighting passengers. (b) Prior to the commencement of use of the private hospital main building, provide six dedicated rideshare pick up and drop off bays to be located in the basement car park adjacent to the lift entry. (c) All dedicated passenger pick up and drop off zones are to comply with relevant Council or Australian standards.
7.	(a) Prior to the commencement of use of the residential care facility, provide a dedicated passenger pick-up and drop off zone including a shelter with seats. (b) All dedicated passenger pick up and drop off zones are to comply with relevant Council or Australian standards.
8.	All new permanent vehicle manoeuvring and servicing areas, including pedestrian areas, are to be designed to facilitate servicing and manoeuvring on-site, and accord with the relevant Council or Australian standards.
Active transport	
9.	(a) Prior to the commencement of use, provide the following to meet the expected demand: i. secure cycle parking and end-of-trip facilities for staff ii. visitor cycle, scooter and personal mobility device parking spaces.

	(b) End of trip facilities and active transport parking spaces are to be designed in accordance with the relevant Council or Australian standards.
Safety and security	
10.	Prior to the commencement of use, incorporate Crime Prevention Through Environmental Design (CPTED) principles/measures, including lighting, CCTV and call points into the design and construction of new buildings, car parking areas and internal pathways.
External works/upgrades	
11.	(a) Prior to the commencement of use, obtain the relevant approvals and carry out works to Finucane Road and the Finucane Road/Delancey Street intersection as shown on the following plans prepared by Mortons Urban Solutions (included at **Annexure 4**): i. External General Arrangement and Notes - Drawing No. 37801-XWP-005 Amend. D, dated 30 September 2024 ii. External Functional Layout Plan – Drawing No. 37801-XWP- 006 Amend. B, dated 30 September 2024 iii. External Roadworks Plan Sheet 1 – Drawing No. 37801-XWP-100 Amend. C, dated 30 September 2024 iv. External Roadworks Plan Sheet 2 – Drawing No. 37801-XWP-101 Amend. D, dated 30 September 2024 v. External Roadworks Plan Sheet 3 – Drawing No. 37801-XWP-102 Amend. C, dated 30 September 2024 vi. External Roadworks Details Sheet 01 – Drawing No. 37801-XWP-120 Amend B, dated 11 April 2023 vii. External Longitudinal Sections Finucane Road Sheet 1 – Drawing No. 37801-XWP-200 Amend. C, dated 30 September 2024 viii. External Longitudinal Sections Finucane Road Sheet 2 – Drawing No. 37801-XWP-201 Amend. C, dated 30 September 2024 ix. External Longitudinal Sections Finucane Road Sheet 3 – Drawing No. 37801-XWP-202 Amend. C, dated 30 September 2024 x. External Longitudinal Sections Delancey Street – Drawing No. 37801-XWP-203 Amend. C, dated 30 September 2024. (b) The works should include the following: i. Upgrade to Delancey Street access to include the restriction of access to all movements entry and left out only, with a 20-metre left turn lane on Delancey Street. ii. Upgrade to Finucane Road/ Delancey Street / Shore Street West intersection to include: ▪ construction to accommodate a single-unit rigid bus of 14.5-metres ▪ retention and/or reinstatement of the existing bus stops ID: 310816 and ID: 310372

	▪ provision of a paved pedestrian footpath with a minimum dimension of 1.5-metres along Finucane Road westbound between the Delancey Street kerb ramp and the bus stop ID: 310372 ▪ provision of an additional signalised pedestrian crossing at the western leg of the intersection ▪ provision of improved safety controls for pedestrian crossings at each slip lane including signage, pavement marking and pedestrian priority measures such as raised zebra crossings ▪ installation of safety fencing/barriers along the embankment adjacent to the pedestrian footpath on the site's Finucane Road frontage iii. A new Finucane Road access and signalised intersection to include: ▪ a 2.5-metre wide off road cycle pathway along the Finucane Road frontage of the site ▪ signalised pedestrian crossings across the Finucane Road site access and the Finucane Road eastern approach.
12.	All external works associated with the proposed development are to be designed and constructed in accordance with the relevant Department of Transport and Main Roads (DTMR), Council or Australian standards.
Internal movement networks	
13.	(a) Prior to the commencement of use, the following must be provided on site: i. an internal vehicular circulation network that includes: ▪ U-turn facilities to allow re-circulation to the residential aged care passenger pick up and drop off zone ▪ recirculation to the hospital drop off/pick up zone and the hospital car park areas ▪ service zones positioned to avoid interference with vehicle and pedestrian circulation. ii. a shared zone in the internal laneway along the eastern side of the hospital, that is constructed of either coloured and/or textured pavement and signposted as a Shared Zone iii. an internal active transport network (for pedestrians and cyclists) that provides safe, direct, convenient and inclusive access between all components of the development and connectivity to the external active transport network (for pedestrians and cyclists), that includes raised zebra crossings (including advance warning signage) across the internal east/west and north/south roadways, and vehicle circulation aisles within car parks coinciding with key pedestrian desire lines. iv. wayfinding measures to direct visitors to public transport, passenger loading zones and to the active transport network.
14.	All internal road works, including pedestrian pathways in external car parks are to be designed and constructed in accordance with the relevant Council or Australian standards.

Bushfire	
15.	Prior to the commencement of use, implement and maintain the measures outlined with Section 6 – Bushfire Mitigation Plan of the Bushfire Management Plan (BMP), prepared by Land and Environment Consultants, Report No: 22087, Rev FinalV1 and dated 28 April 2023, as included at **Annexure 5**.
16.	(a) Prior to the commencement of use prepare a Bushfire Emergency and Evacuation Plan (BEEP) which includes the following: i. site layout maps, including onsite emergency refuge and assembly points, firefighting water supply, and evacuation routes ii. safe refuges (buildings) and assembly areas iii. evacuation procedures during a bushfire emergency in the vicinity iv. emergency team roles and responsibilities including contact details v. fire drill training. (b) Submit a copy of the BEEP to the Department of State Development, Infrastructure and Planning (DSDIP) (infrastructuredesignation@dsdilgp.qld.gov.au). (c) Prior to the commencement of use, implement the BEEP.
Noise attenuation	
17.	Prior to commencement of use, implement the recommendations outlined in the following sections of the Environmental Noise Assessment (ENA), prepared by TTM Consulting (22BRA0115 R01_3) and dated 14 November 2023, as included at **Annexure 6:** i. Section 5.2 - Environmental Noise ii. Section 7.6 - Preliminary Mechanical Plant Advice iii. Section 8.1 - Façade Attenuation iv. Section 8.2 - Onsite Noise.
Operational management plan	
18.	Prior to commencement of use, prepare and implement an Operational Management Plan (OMP) that includes/addresses: i. noise management, including restricting use of outdoor terrace/balcony areas adjoining the northern boundary between 10pm and 7am ii. complaint resolution procedures, including who to contact and a record of how complaints have been addressed.
Hours of Operation	
19.	Loading docks and servicing areas are only to be used between 7am and 10pm, except for emergency purposes.

Stormwater management	
20.	(a) Prior to the commencement of any works, prepare a new or updated Stormwater Management Plan (SMP). (b) The new or updated SMP must be certified by a Registered Professional Engineer of Queensland (RPEQ) and: i. demonstrate a lawful point of discharge for internal site drainage ii. demonstrate staging of stormwater infrastructure delivery iii. demonstrate no material worsening to adjoining and downstream properties iv. demonstrate no stormwater worsening on the state-controlled road corridor due to the proposed upgrades along Finucane Road and Delancey Street v. provides details of and addresses the storm water flow width, velocity and depth requirements demonstrating no adverse effect on Finucane Road and Delancey Street and other DTMR assets vi. demonstrate compliance with the State Planning Policy (SPP) water quantity and quality benchmarks. (c) Submit a copy of the new or updated SMP to DSDIP (infrastructuredesignation@dsdilgp.qld.gov.au) and DTMR compliance unit (Metropolitan.IDAS@tmr.qld.gov.au). (d) Implement stormwater quantity and quality measures in accordance with the new or updated SMP.
Landscaping	
21.	Prior to the commencement of use, implement and maintain landscaping generally in accordance with the Landscape Concept Plans (Sheets 3-18 Rev.D dated 15 May 2023) prepared by Andrew Gold Landscape Architecture, included at **Annexure 7**.
Vegetation	
22.	(a) Prior to the commencement of works, implement the following measures generally in accordance with *Section 4 – Conclusions and Recommendations* of the Ecological Assessment (File No, 0511-001 V.1, dated 22 August 2022) prepared by Biodiversity Assessment and Management Pty Ltd, as included at **Annexure 8**: i. preparation of an Arborist's report to assess the potential for impacts of the retaining wall on adjacent trees, with recommendations for treatments to minimise the risk of tree death where root zones are affected ii. any unavoidable clearing of habitat is to be undertaken in accordance with the requirements of the Queensland Nature Conservation (Koala) Conservation Plan 2017, including the sequential clearing conditions outlined in Section 10, and the Koala spotter requirements outlined in Section 11

	iii. all trees to be removed are to be inspected prior to clearing to determine if any active animal breeding places are present and any necessary species management program is obtained prior to works. (b) Prior to the commencement of use, carry out the following: i. koala exclusion fencing must be installed between the area identified as 'Protected vegetation' on the Plan of designation, included at **Annexure 1**, and the adjoining western vehicle accessway ii. design and install fauna guide fencing along the western boundary to tie in with existing guide fencing for the Hilliards Creek fauna underpass beneath Finucane Road iii. revegetate the area identified as 'Protected vegetation' on the Plan of designation, included at **Annexure 1**, with locally native species that match the adjacent Conservation Area and the Coastal Swamp Sclerophyll Forest ecosystem of South East Queensland and New South Wales iv. the species palette for the *Protected Vegetation* area must not compromise the modelled radiant heat flux setback distances or nominated asset protection zones as determined in the bushfire hazard assessment report and/or bushfire management plan. (c) Koala exclusion fencing must be maintained in good condition in perpetuity to ensure continued effectiveness in excluding koalas from unsafe areas. Any damage or deterioration must be repaired in a timely manner.
23.	No clearing of native, mature trees, except for bushfire management purposes, is to occur within the area identified as 'Protected vegetation' on the Plan of designation, included at **Annexure 1**.
24.	(a) Prior to the commencement of works, undertake the necessary actions to protect trees that are not required to be cleared from construction impacts in accordance with the AS4970-2009 Protection of Trees on Development Sites. (b) Retain existing mature trees unless required to be removed to facilitate the proposed development or to respond to an unacceptable safety risk which is to be confirmed by a suitably qualified person.
25.	Where development is located within a Tree Protection Zone (TPZ), prepare a Tree Protection Report by a suitably qualified arborist addressing the requirements of AS 4970-2009 that includes: i. percentage of proposed incursion into the TPZ ii. details of the construction activities and their likely impact iii. tree protection measures (where no impact is proposed) iv. tree protection and mitigation measures (where incursion into the TPZ is proposed).
Lighting	
26.	(a) All external lighting must be installed and maintained in accordance with Australian standards and shielded to avoid light spill to surrounding residential properties.

	(b) Lighting within the western accessway area must be sensitively designed and should be directed downwards and away from the area identified as 'Protected vegetation' on the Plan of designation, included at **Annexure 1**.
Waste Management	
27.	(a) Prior to the commencement of use, liaise with the Council and prepare a waste management strategy (WMS). (b) The WMS and include/address the following: i. number and size of bins ii. collection times iii. frequency of collection iv. safe refuse vehicle movements. (c) Submit a copy of the WMS to the Council (rcc@redland.qld.gov.au) and DSDIP (infrastructuredesignation@dsdilgp.qld.gov.au) (d) From commencement of use, implement the WMS.
Due Diligence Site Access	
28.	(a) Prior to the commencement of works, provide RPEQ-certified documentation demonstrating that all proposed vehicle access and mitigation road works function within the road corridor without requiring land from other properties, and will not impact on existing driveways of adjoining sites. (b) Submit a copy of the documentation required under (a) above to the Metropolitan District Compliance Unit (Metropolitan.IDAS@tmr.qld.gov.au). (c) Prior to commencement of use, submit RPEQ-certified documentation to the Metropolitan District Compliance Unit (Metropolitan.IDAS@tmr.qld.gov.au) confirming that the development has been constructed in accordance with part (a) of this requirement.
29.	(a) Prior to the commencement of works, provide a new or updated Functional Layout Plan and External Road Works Plan in accordance with the relevant DTMR standards. The new or updated plans must: i. confirm the length of the required queuing provision on site, based on the SIDRA intersection data analysis included at **Annexure 9** ii. address safety mitigation requirements at existing and proposed intersection upgrades, including slip lanes, to ensure risk for drivers and pedestrian's right of way is clear iii. include swept path diagrams for the largest design vehicle movements at: ▪ the new right turn lanes at Delancey Street / Shore Street intersection ▪ the new left turn movements exiting the site

	iv. include cross-sectional details, confirming the widths of proposed median islands on Finucane Road, including where streetlights are proposed or retained v. demonstrate that the existing paired bus stops (Finucane Road at Redland Research Station, Ormiston ID 310816 and Finucane Road at Redland Research Station, Cleveland ID 310372), including bus zones and pedestrian pathway connections, are not compromised by any proposed roadworks. (b) Prior to the commencement of works, submit RPEQ-certified documentation to DSDIP (infrastructuredesignation@dsdilgp.qld.gov.au) and DTMR – Metropolitan District Compliance Unit (Metropolitan.IDAS@tmr.qld.gov.au) confirming that the development has been designed in accordance with part (a) of this requirement.
30.	(a) Prior to the commencement of works, prepare an RPEQ certified Traffic Design Report, for any proposed non-standard roadworks to State-controlled road or at intersections with local roads, including but not limited to: i. new intersection access ii. driveways iii. road safety mitigation measures iv. footpaths. (b) The Traffic Design report referenced in (a) above must: i. demonstrate compliance with the relevant DTMR standards and where not conforming with DTMR standards, clearly identify any proposed Design Exceptions (DE) or Extended Design Domains (EDD), including justification for why standard design domain limits cannot be achieved ii. provide evidence that the proposed DE or EDD will not introduce new safety risks or exacerbate existing issues, and demonstrate the proposed outcomes will not result in adverse delays. (c) Prior to commencement of works, submit RPEQ-certified documentation to DSDIP (infrastructuredesignation@dsdilgp.qld.gov.au) and DTMR – Metropolitan District Compliance Unit (Metropolitan.IDAS@tmr.qld.gov.au) confirming that the development has been designed in accordance with part (a) and (b) of this requirement.
Earthworks	
31.	(a) All site works involving excavation, filling, compaction, retaining structures, utilities infrastructure, and ground disturbance must not: i. cause structural instability, damage, or encroachment onto the state-controlled road corridor ii. result in the addition or removal of lateral loads or result in additional surcharge loads that may compromise the integrity of the road infrastructure iii. cause erosion, groundwater seepage, or other geotechnical impacts affecting the road corridor.

	(b) Submit RPEQ-certified documentation to DTMR – Metropolitan District Compliance Unit (Metropolitan.IDAS@tmr.qld.gov.au) confirming that the development has been designed in accordance with part (a) of this requirement. (c) Submit RPEQ-certified documentation to DTMR – Metropolitan District Compliance Unit (Metropolitan.IDAS@tmr.qld.gov.au) confirming that the development has been constructed in accordance with part (a) of this requirement. Supporting documentation must include any ancillary works approval issued under section 50 of the *Transport Infrastructure Act 1994.*
Refuse and plant screening	
32.	All new refuse storage bin locations, and all new plant, equipment and water tanks are to be located behind fencing or screened from view from public roads and public open space, and adjoining residential properties, unless otherwise required to meet relevant Australian safety standards.
Construction management	
33.	(a) Prior to commencement of work, prepare a Construction Environmental Management Plan (CEMP). (b) The CEMP must include/address: i. an Erosion and Sediment Control Plan that addresses the erosion risk and surface water run-off ii. dust mitigation methods (such as use of water to suppress potential dust) and air quality management measures iii. hours of construction, vibration, and construction noise (including the default noise standards), in accordance with the Environmental Protection Act 1994 (s440R & 440S) iv. construction waste control and management, in conjunction with a waste management plan if deemed necessary v. disposal and management of hazardous materials and regulated waste, including removal by a suitably licenced contractor where deemed necessary vi. chemical and fuel used during construction stored in bunded areas vii. access locations for and management of construction vehicle traffic (any construction parking off-site is subject to engagement with Council and relevant landowners) viii. appropriate machine hygiene measures ix. proximity of works to easements and services and any necessary design measures, additional analysis or safe work methods x. protection of the structural integrity and physical condition of existing surrounding buildings and structures, including public passenger transport and active transport infrastructure, and where required, its reinstatement to relevant standards xi. other required permits from the Council, easement holders or utility providers

	xii. maintenance of safe pedestrian and cyclist access/movement around the site, including access to bus stops xiii. complaint resolution procedures, including who to contact and a record of how complaints have been addressed xiv. a construction communication plan including: ▪ how neighbouring properties will be advised of construction and demolition activities for each stage ▪ how the appropriate extent of neighbouring properties to be notified will be determined ▪ timeframes for notification of construction activities, with notification to occur prior to works commencing. (c) Submit a copy of the CEMP to DSDIP (infrastructuredesignation@dsdilgp.qld.gov.au). (d) Construction of the development is to be undertaken in accordance with the CEMP.
Information signage	
34.	(a) Prior to the commencement of works place information signs on the site. (b) The information signs are to: i. include the following details: ▪ a link to where a copy of the MID decision and relevant CEMP can be viewed on the DSDIP website; and ▪ the name, postal and/or email address and a contact telephone number for the key contact/principal contractor ii. be positioned on the Delancey Street and Finucane Road site frontages and be clearly visible for a pedestrian iii. be non-illuminated and maintained at all times during construction.
Servicing	
35.	(a) Prior to the commencement of work, confirm the adequacy, capability and location of utilities including water, sewer, electricity and telecommunications to service the proposed development. (b) Prior to the commencement of use, obtain the relevant approvals and carry out any works to upgrade or install new utilities including water, sewer, electricity, and telecommunications to service the development. (c) Prior to the commencement of use, ensure the development is connected to all available utilities including water, sewer, electricity, and telecommunications to service the development.
Private sewer pump station	
36.	(a) Prior to the commencement of work, the following must be undertaken for the proposed on-site private sewer pump station (SPS) to service the development:

	i. submit to DSDIP (infrastructuredesignation@dsdilgp.qld.gov.au) certification from an RPEQ, confirming the adequacy, capability and location of the proposed SPS ii. obtain relevant approvals for the SPS from the statutory authority for sewer and water approvals iii. obtain any relevant environmental licenses for the SPS iv. the SPS must be designed and located to ensure it does not cause environmental nuisance at a nuisance-sensitive place, in accordance with Section 15 of the Environmental Protection Act 1994. (b) Prior to commencement of use, the applicant must: i. obtain all relevant approvals for the SPS ii. complete installation of the SPS in accordance with the certified design iii. ensure the SPS is fully operational to service the development.
Geotechnical conditions	
37.	As part of detailed design associated with each new building, undertake a geotechnical investigation that confirms the ground conditions and informs building requirements.
Acid sulfate soils	
38.	If potential or actual acid sulfate soil (ASS) is identified during construction of the new CSB development, an ASS investigation is to be carried out and managed in accordance with an ASS management plan.

Schedule 2 – Advice

Infrastructure Charges
A Ministerial Infrastructure Designation (MID) does not remove the requirement for entities to obtain building works approvals under the *Building Act 1975*. Except for developments listed under section 113(3) of the *Planning Act 2016*, Local Governments and distributor retailer authorities can levy infrastructure charges for the carrying out of building works associated with a MID that generates extra demand on trunk infrastructure networks.

Schedule 3 – Notice of how submissions were considered

Submissions received during Minister's consultation

On 31 July 2023, the former Minister gave notice to the Council and the relevant landowners advising that he was proposing to make the MID and inviting submissions within 25 business days.

The entity undertook community consultation between 7 September 2023 and 13 October 2023. Community consultation involved the placement of notices on the land and in the local newspaper and letters were sent to adjoining landowners, elected representatives, and Cultural Heritage Party.

Thirty-one submissions were received during the consultation period. The submissions were from the Council and local residents.

A summary of how I have considered submissions is provided in **Table 2**:

Table 2

Matters raised	Response
Transport Network	
The site is not well serviced by public transport and is reliant on private vehicles.	Existing bus stops are located nearby on Finucane Road and Delancey Street, with Cleveland and Ormiston train stations within walking distance (approximately 1.6 kilometres east and north-east of the site). Therefore, the subject site is considered to be adequately serviced by public transport. The project also provides for taxi and shuttle bus services.
Vehicle access to Finucane Road (a limited access road) is inappropriate. The scale should be reduced so only access via Delancey Street is required.	The proposal has been reviewed by DTMR who have found the proposed vehicle access to Finucane Road to be acceptable subject to site access works and upgrades to the Finucane Road / Delancey Street intersection. The proponent is required to seek to relevant approvals and undertaker the road works prior to commencement of use of the centre.
Access should be restricted to Finucane Road only, as Delancey Street cannot cope with the increased traffic. This will also deter on-street parking on Delancey Street.	Access is primarily proposed from Finucane Road to limit traffic impacts on Delancey Street.
The TIA relies on flawed parameters. The proposal will exacerbate existing traffic, parking issues and safety risks in the area. Opposition to the installation of traffic lights on Finucane Road, charging for on-site	The TIA certified by a RPEQ and was prepared in accordance with the standards for undertaking TIAs. Upgrades/mitigation works are to be undertaken to support the proposal, including

Matters raised	Response
parking, and reducing the speed limit on Finucane Road. Requests for further upgrades to the surrounding road network.	upgrades to the Finucane Road/Delancey Street intersection. With the inclusion of the required mitigation works, the local road network is considered to adequately accommodate the proposed development without resulting in unreasonable adverse impacts on traffic operations or overall network performance. The proponent is required to seek to relevant approvals and undertaker the road works prior to commencement of use of the centre.
Future plans should not include access to Lucy Court or Winship Road from the subject site.	There is no proposed access to Lucy Court or Winship Road.
Design and built form	
Proposal lacks sufficient supporting technical reports including architectural and landscape visual analysis / design review assessing built form, bulk and scale.	The information and plans provided by the entity was considered adequate to undertake a detailed assessment of the proposal.
Concerns regarding the proposed design, setbacks, bulk and scale. Council noted the site's visual prominence.	While the proposal introduces a significant change in on-site scale, its bulk and overall massing are deemed appropriate in light of the generous setbacks, the substantial size of the site, and the proposed landscaping treatments. Overall, the development is a suitable and well-considered use of the land, capable of effectively mitigating potential amenity impacts on nearby sensitive uses, while delivering vital health care services that benefit the broader community.
Amenity	
Proposal lacks details on managing noise impacts including hours of operation, traffic, mechanical plant, meeting room locations and emergency facilities/vehicles.	The submitted Noise Impact Assessment identifies that with the implementation of the mitigation measures proposed, including acoustic fencing, screening of plant and equipment and design responses across the built form, the proposal can adequately address impacts from the land use on adjoining residences.
Concerns regarding adverse impacts relating to noise, overlooking/privacy, available outdoor space, landscaping and lighting.	To assist in mitigating potential overlooking impacts, the design of the aged care building incorporates: • 10-metre setback from the shared northern boundary

Matters raised	Response
	• landscape screening ranging from four metres to 20 metres in height along the northern. • acoustic barriers of 2.2 metres to 2.6 metres in height along the northern boundary • outdoor areas are restricted to operation between 7am and 10pm.
Construction	
Construction works may cause adverse impacts on surrounding properties relating to air quality, noise, structural integrity, on- and street parking. Request for commencement and completion timeframes.	Dust, noise, fumes, and other construction impacts will be managed in accordance with a CEMP, to be prepared prior to commencement of works. Construction timeframes are a matter for the entity to advise on.
Stormwater and flooding	
Concerns that the proposal may be affected during flood events and that the proposal could result in adverse stormwater impacts on Finucane Road.	The proposed development is considered to adequately address the management of stormwater quantity and quality. The MID requires the development to be carried out in accordance with a new or updated SMP and drainage plans, so as not result in worsening to downstream and adjoining properties and the State-controlled Finucane Road. A review of Council's planning scheme shows that the subject site is not mapped as being within a Flood and Storm Tide Hazard Overly.
Infrastructure	
The proposal would place additional demand on the Council's infrastructure network and may require the nearby pump station to be upgraded.	A MID does not remove the need for the entity to obtain building works approvals under the *Building Act 1975.* With the exception of developments listed under section 113(3) of *the Planning Act 2016*, Local Governments and distributer retailer authorities can levy infrastructure charges for the carrying out of building works associated with a MID that generates extra demand on trunk infrastructure networks. The submitted sewer service strategy identifies that the site will provide an on-site private sewage pump station (SPS) that can discharge to a number of gravity mains east and south of the subject site. The entity is required to confirm the capacity of existing infrastructure (which would include

Matters raised	Response
	nearby pump stations) and obtain the relevant approvals and undertake any works required to appropriately service the site.
Councils Local Government Infrastructure Plan identifies an upgrade of a 2.5-metre wide, off road cycle pathway along the Delancey Street road frontage.	The Council comments are noted.
Redland Planning Scheme (planning scheme)	
Opposition to the use of the MID process to determine the proposal.	Queensland planning legislation includes provisions for the Planning Minister to designate land for a range of purposes, including hospitals and health care services and residential care facilities. As such, the designation process is an appropriate assessment pathway for this type of development.
The proposed use is inconsistent with the zoning and historic planning decisions. The proposal could undermine the land use strategy outlined in *ShapingSEQ* and *City Plan*. Alternative site options have not been thoroughly assessed.	The Council's previous acceptance of medical uses on the site indicates that the current proposal aligns with the ongoing transition from low-intensity industrial activities to health care services. There is limited utility of the existing zoning for recreation and open space as it is isolated, poorly connected, and lacks public access. The proposal is supported by an economic assessment which evaluated alternative locations, identifying constraints that effectively preclude their suitability. Upon assessment, the current site is deemed appropriate to accommodate the proposed use.
Economic need	
Concerns have been raised about insufficient regional demand to support both the Redlands Health and Wellness Precinct (RHWP) and the proposed development, along with disagreement that the RHWP is too constrained to accommodate the proposal.	The proposal is supported by an economic assessment confirming sufficient demand for health services in the Redlands region to sustain both the proposed development and additional services at the existing RHWP site. Council's prior acceptance of medical uses on site also suggests such uses would not compromise the viability of other Specialised Centre Zones within Redland City.
The 6,000m² ancillary retail GFA noted in the economic assessment report, though	Council's comments are noted. Any retail GFA will be ancillary to the hospital and aged care centre and will not operate as a separate

Matters raised	Response
outside the MID, may impact the centre's planning hierarchy.	retail centre and therefore not conflicting with the Council's centres planning hierarchy under the planning scheme.
Biodiversity	
The proposal may have adverse impacts on biodiversity and nearby waterways.	The proposal is supported by an Ecological Assessment. The MID requires the recommendations of the Ecological assessment to be implemented. Additionally, no clearing of mature vegetation on the site is proposed, with the densely vegetated western extent identified on the Plan of Designation as 'Protected Vegetation'.
Consultation	
Lack of consultation.	The MID process required the entity to undertake engagement with key stakeholders, including the surrounding community prior to requesting a MID. Once submitted, the MID process included additional consultation for a 20-business day period for public feedback on the proposal. This included the placement of signs on the land, letters to adjacent and surrounding local residents and an advertisement in the local/regional newspaper. It is considered that adequate consultation has been undertaken.
Security	
Request for further information on what security measures are in place.	The MID requires Crime Prevention Through Environmental Design (CPTED) principles/ measures, including lighting, CCTV and call points to be incorporated into the design and construction of new buildings, car parking areas and internal pathways.
Miscellaneous	
Request for information on the second road that was planned from Cleveland to Capalaba.	This request falls outside the scope of the MID proposal.

Matters raised	Response
Request for information on employment opportunities associated with the proposal.	This request falls outside the scope of the MID proposal.

Annexure 1 to Schedule 1 – Plan of designation

Legend

- Built form envelope comprising buildings and structures not exceeding 5 storeys comprising basement carparking
- Built form envelope comprising buildings and structures not exceeding 3 storeys comprising basement carparking
- Built form envelope comprising buildings and structures not exceeding 2 storeys comprising basement carparking
- Underground carparking / Road Reserve / Proposed Roads
- Landscape Buffer / Recreation Space
- Protected Vegetation
- Car Parking / Proposed Roads
- Acoustic barrier/fence (2.6m)
- Acoustic barrier/ fence (2.2m)
- Acoustic barrier/fence (2m)
- Vehicular ingress/egress
- MID boundary

Title: Plan of designation for Hub68 Centre for Excellence
Address: 58-68 Delancey Street, Ormiston, 4160
Reference: MID-0523-0700

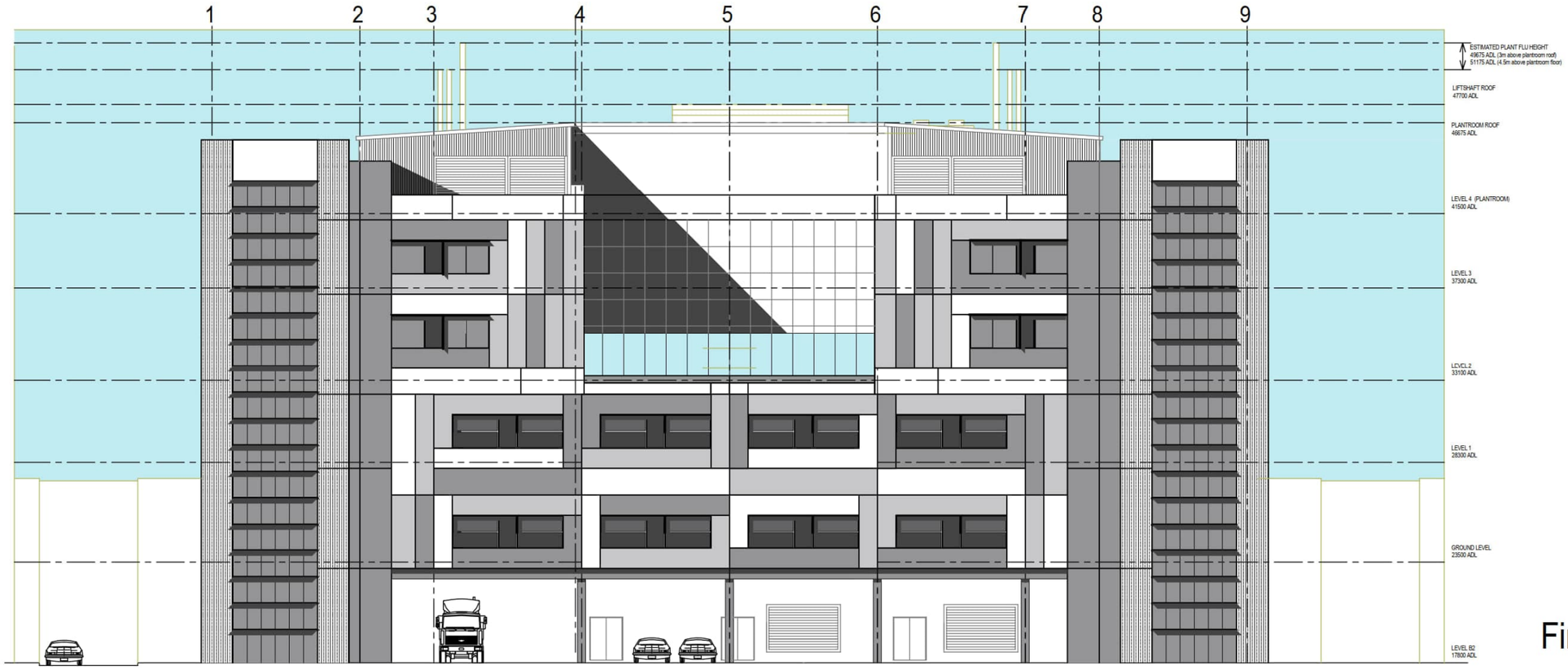
Approximate scale (metres)
0 20 40 60 80

Queensland Government

Annexure 2 to Schedule 1 – Design/Built Form

Hub 68 Design Concept and Materials

WEST ELEVATION

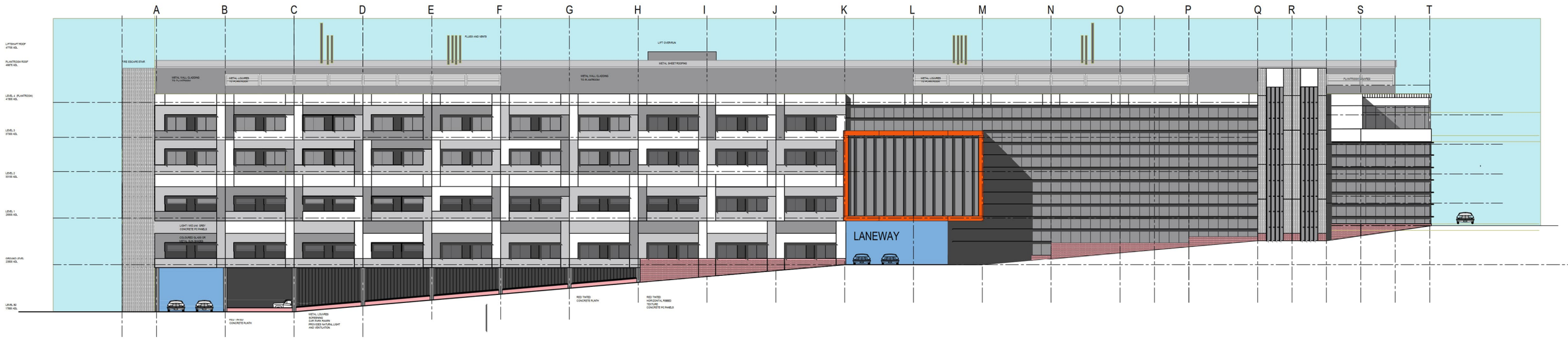


Main Hospital

Finucane Road

Hub 68 Design Concept and Materials

SOUTH ELEVATION to Finucane Road

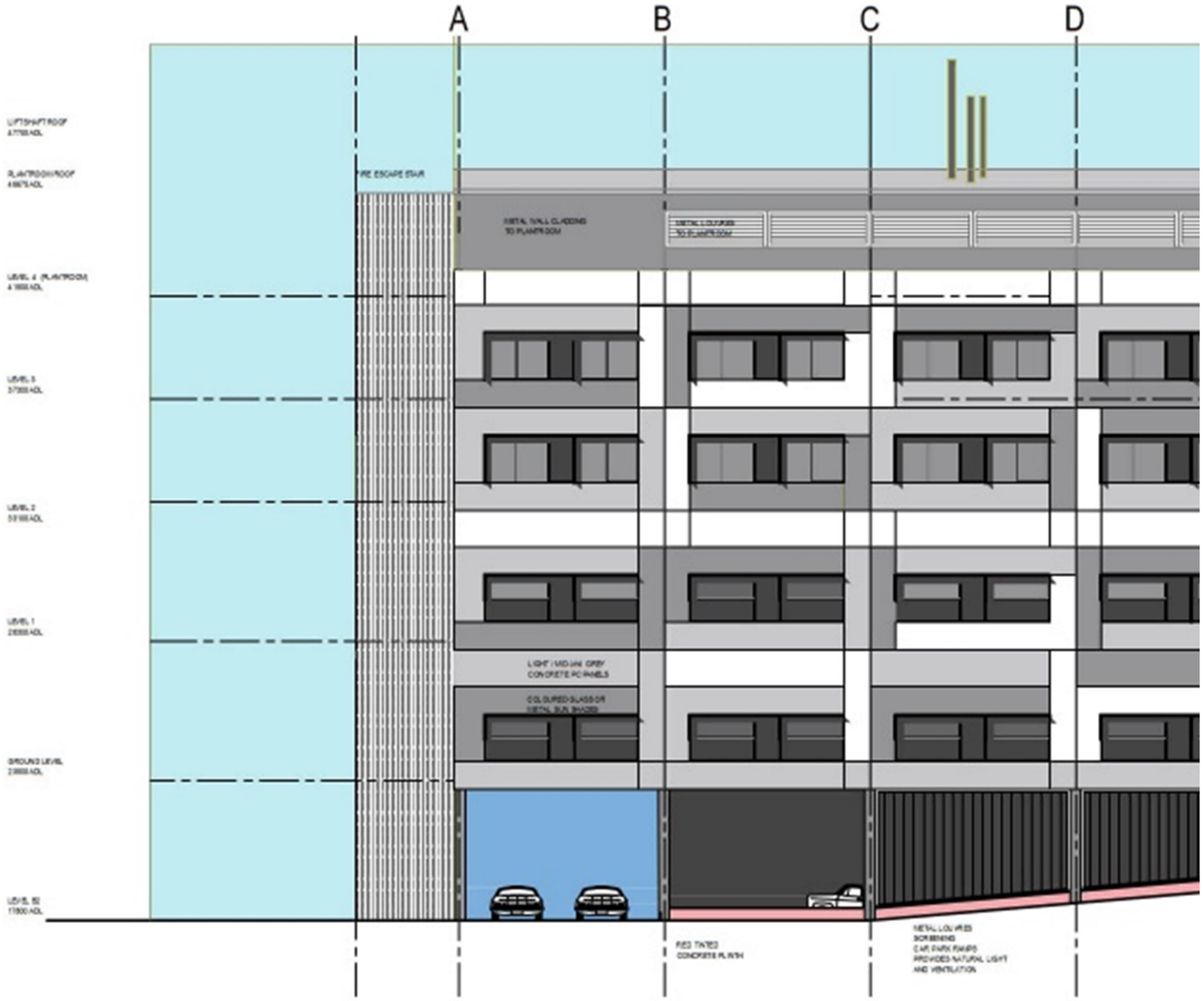


LIGHT GREY VERTICAL RIBBED TEXTURE CONCRETE PANELS	Hospital	Laneway	Consulting Suites	Research and Education

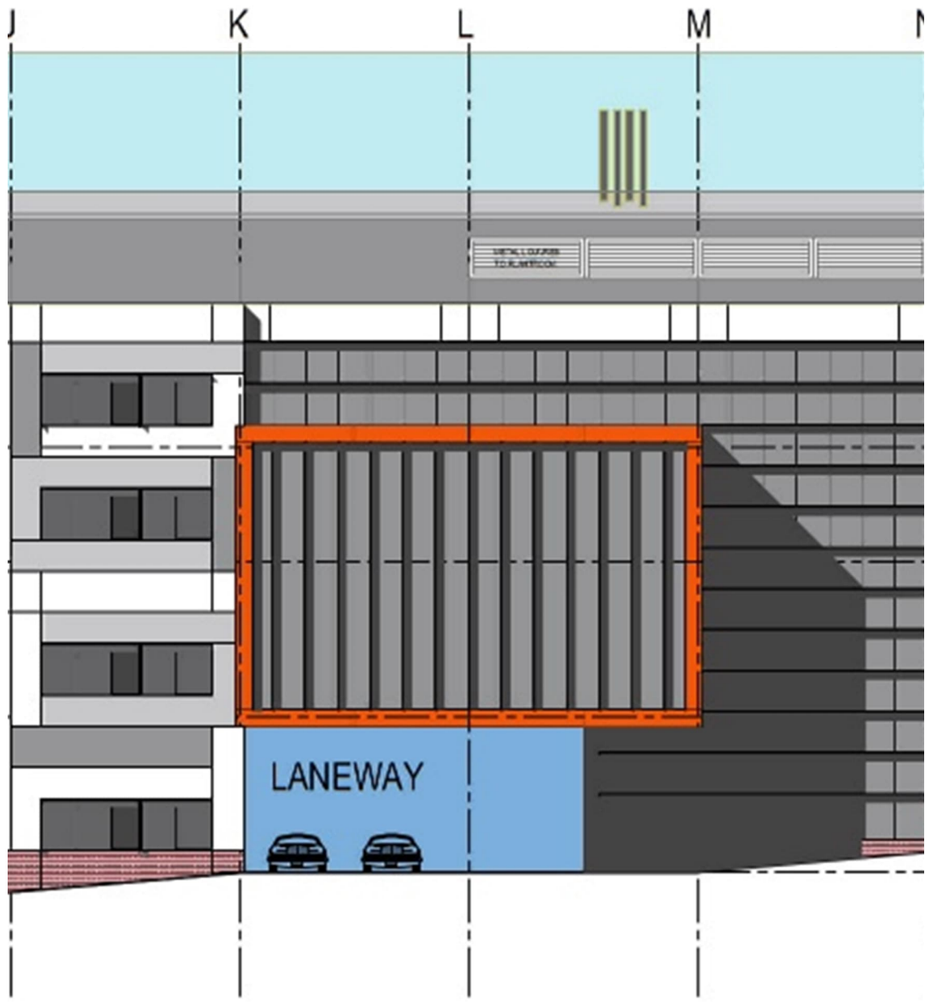
A180-5

Concept elevations

Hub 68 Design Concept and Materials



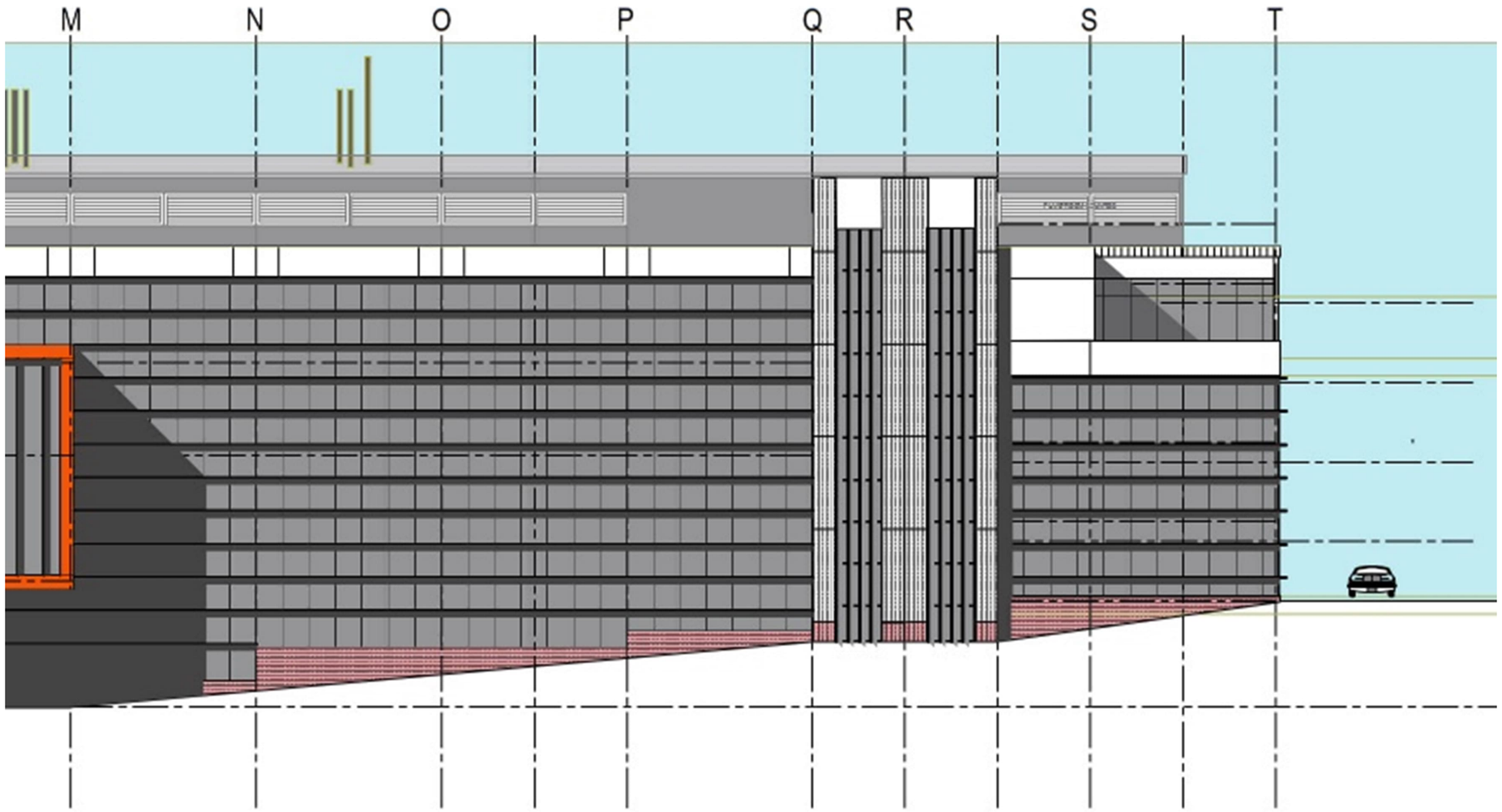
Exit Route



Laneway Entrance

Main Hospital – Part Elevation to Finucane Road

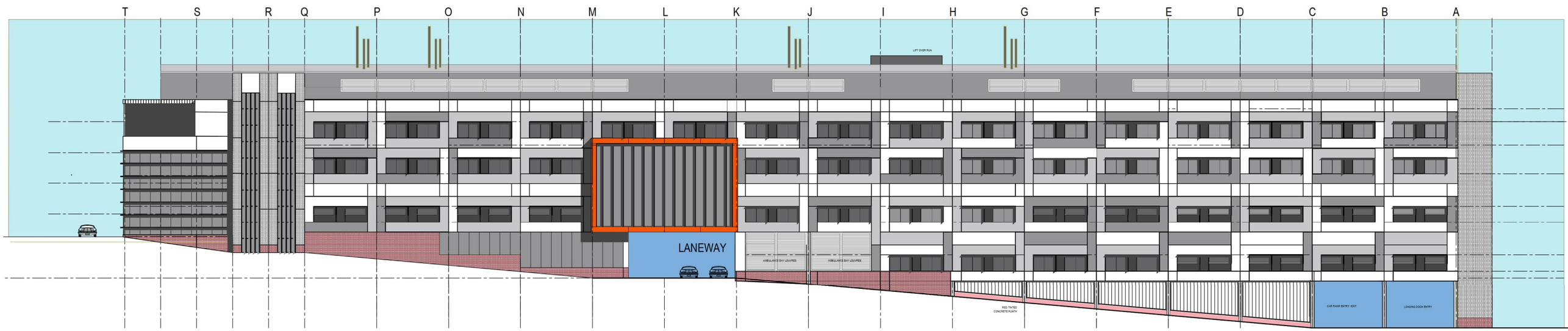
Hub 68 Design Concept and Materials



Main Hospital – Part Elevation to Finucane Road

Hub 68 Design Concept and Materials

NORTH ELEVATION to RAC



Research and Education

Laneway

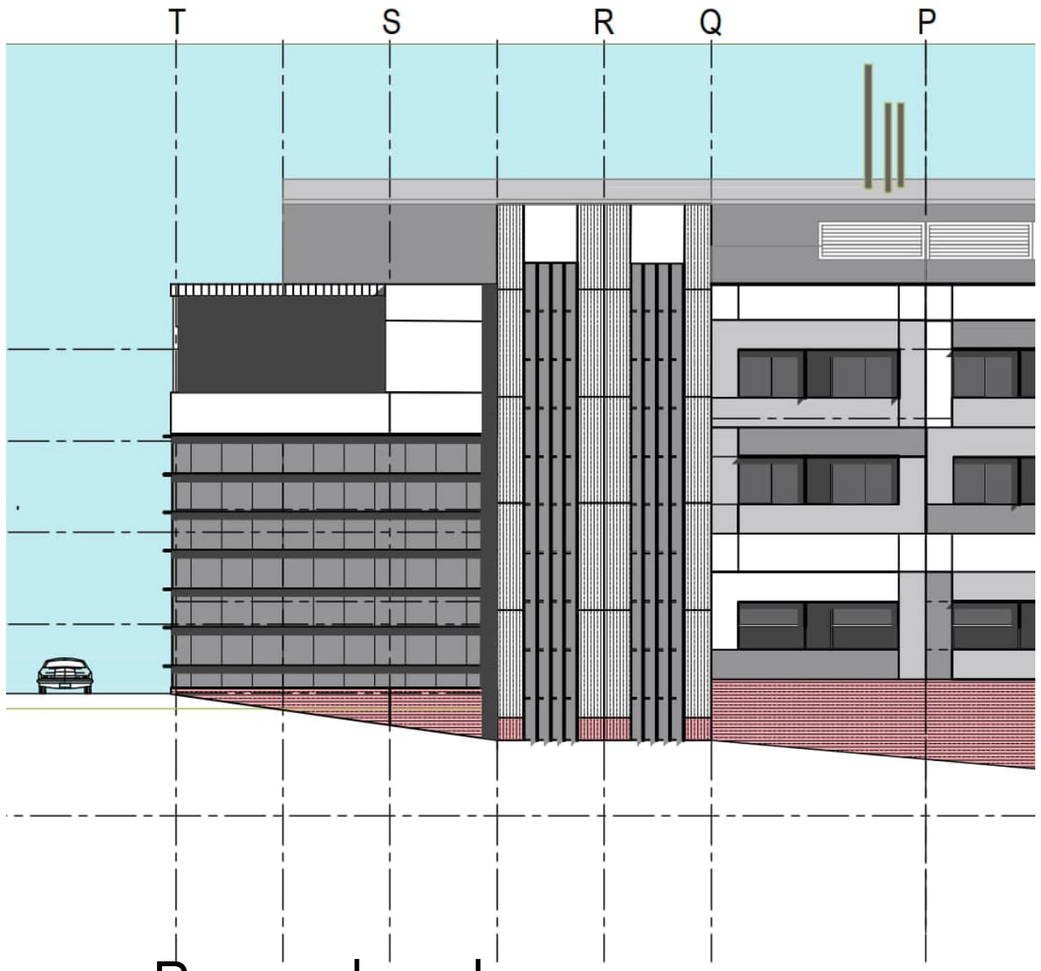
Hospital

FM Entry

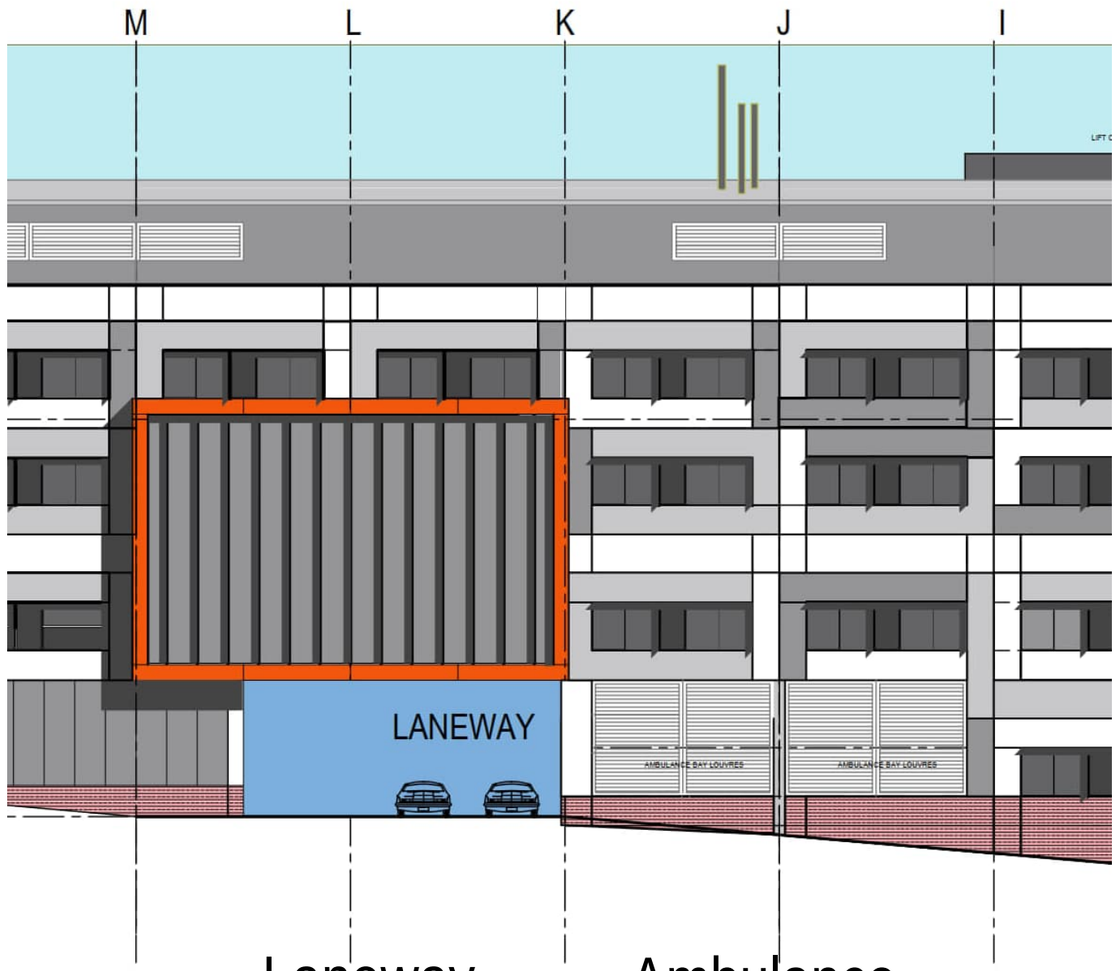
A180-8

Concept elevations

Hub 68 Design Concept and Materials



Research and Education



Laneway

Ambulance

A180-9 Concept elevations

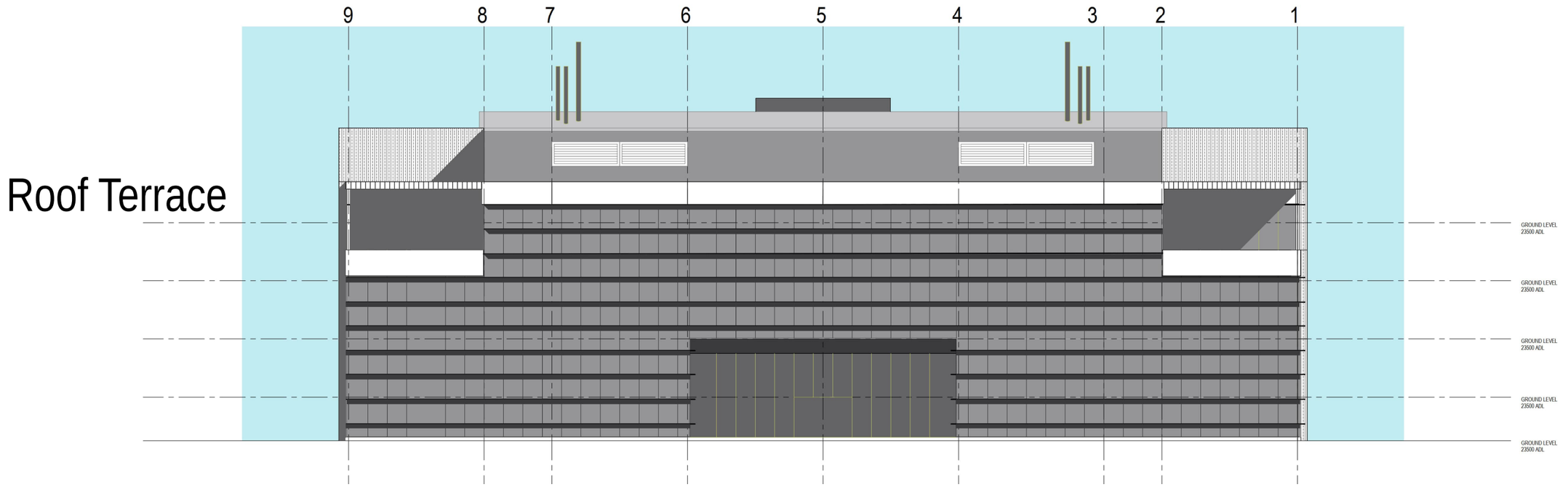
Hub 68 Design Concept and Materials

Car Park Entry

Goods Entry

A180-10 Concept elevations

EAST ELEVATION (Research and Education)

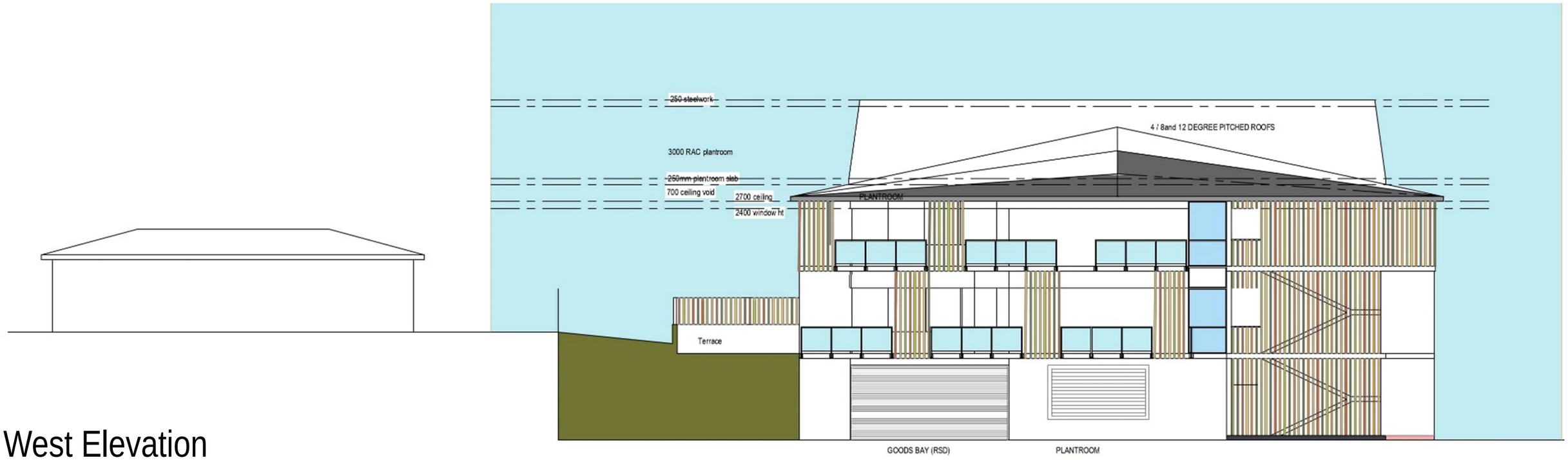


Hub 68 Design Concept and Materials

Part South Elevation (similar for North)

A180-13 Concept Elevations - Residential Aged Care

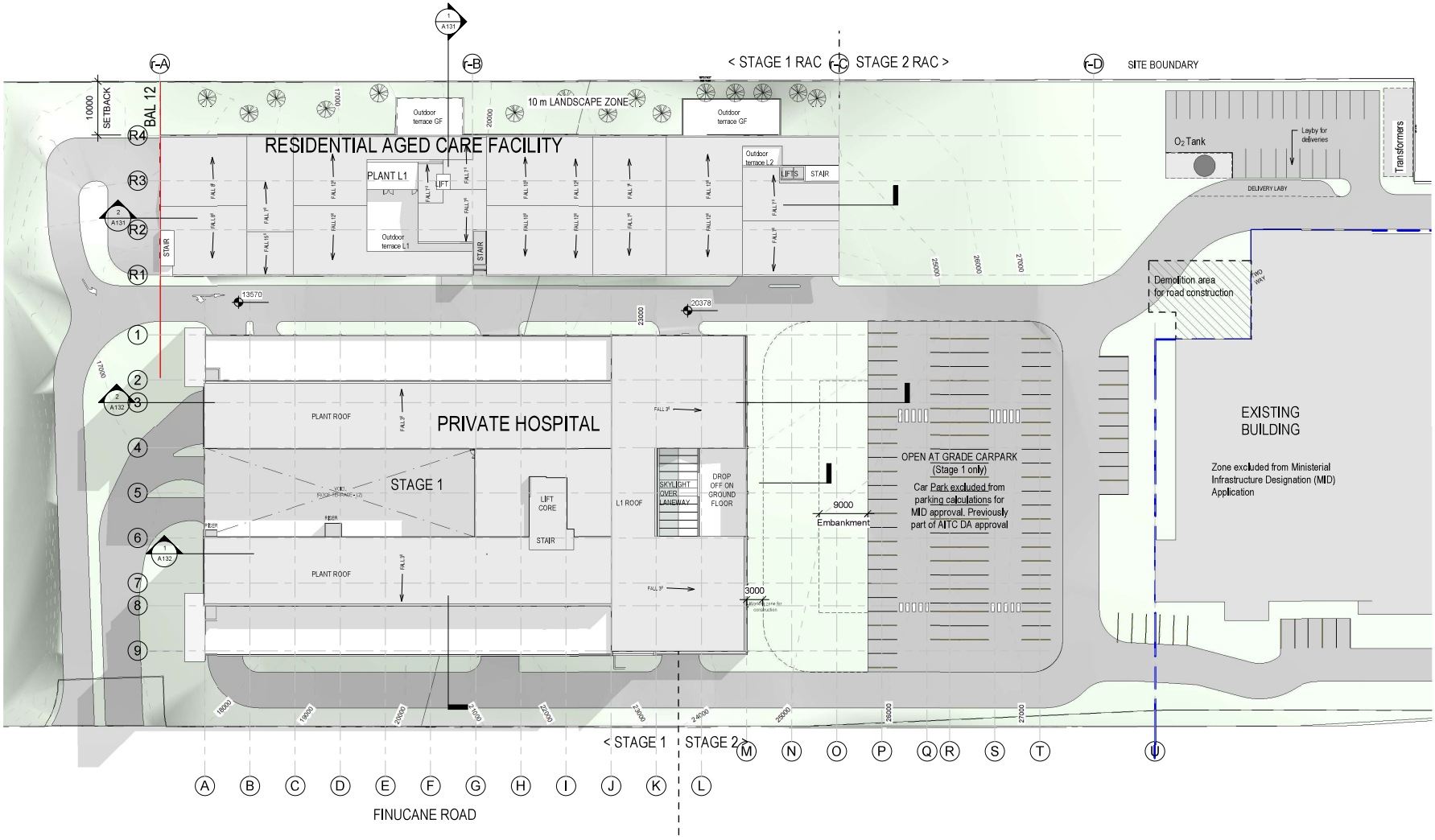
Hub 68 Design Concept and Materials



West Elevation

A180-14 Concept Elevations - Residential Aged Care

Annexure 3 to Schedule 1 – Car parking



Carparking - STAGE 1	
Level	Count
B4	146
B3	155
LG3	97
B2	41
LG2	38
B1	44
LG1	28
Grand Total	549
Carparking Summary	
Required	479
Provided	549
Surplus	70

1 STAGE ONE HOSPITAL AND RAC
1 : 400

CLARIFICATIONS AND DISCLAIMERS

1. THE MAXIMUM BUILDING HEIGHT VARIES IN RELATION TO THE ADJACENT AT GRADE GROUND LEVEL DUE TO SITE TOPOGRAPHY
2. REFER TO BUILDING SECTIONS FOR BUILDING HEIGHT INFORMATION, WHICH ARE TO BE READ IN CONJUNCTION WITH SITE PLANS FOR AT GRADE GROUND LEVELS
3. ALL PLANS ARE PRELIMINARY AND SUBJECT TO FURTHER DEVELOPMENT OF THE FUNCTIONAL BRIEF AND FINAL DESIGN
4. TENANCY SPACES ARE PROVIDED AS "COLD SHELL" AREAS FOR FIT OUT BY TENANTS
5. PARKING NUMBERS ARE SUBJECT TO DEVELOPMENT OF THE FINAL DESIGN FINAL DESIGN

DESTRAVIS GROUP

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PRELIMINARY

REV	DESCRIPTION	DATE	INIT
1	Revision 1	10/02/2023	
2	Revision 3	15/03/2023	NB
3	Coordination and Comments	27/03/2023	NB
4	Client's comments incorporated	04/04/2023	NS
5	MID Issue	25/04/2023	NS
6	Transport Issue	15/07/2024	CT

CLIENT: THE HUB PRECINCT PTY LTD

PROJECT NAME: Hub68 Centre of Excellence - Aging & Wellness

LOCATION: 58-68 DELANCEY STREET, ORMISTON QLD 4160

STATUS: MID ISSUE

DRAWING: STG1 - SITE PLAN - HOSPITAL & RAC

SCALE @ A1: 1 : 400

DATE: 15/07/2024

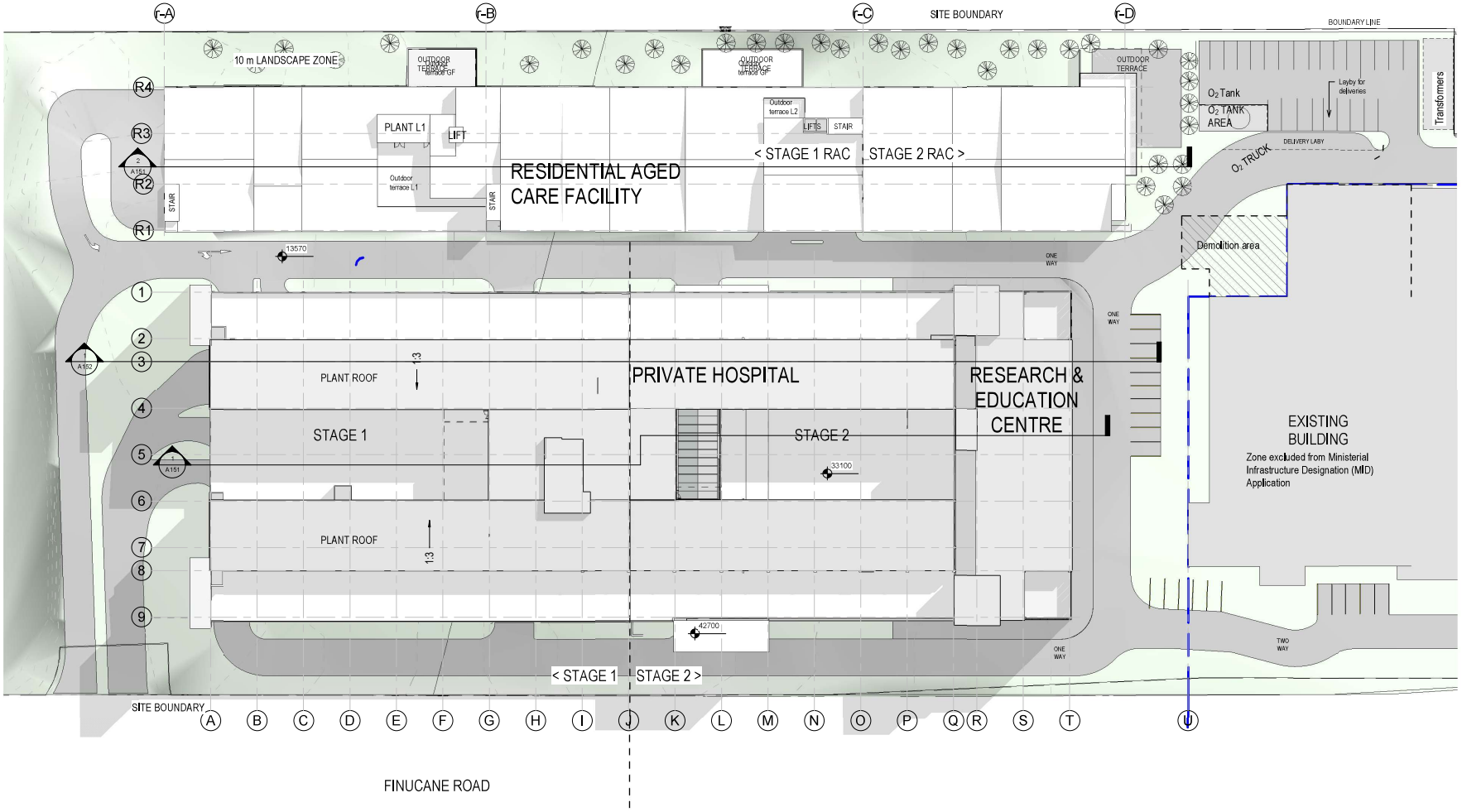
DRAWN BY: JPS, NB & NS

JOB No: 4_2301_03

DWG No: A121

REV: 6

NORTH



1 1_SITE PLAN Stg 1 & 2
1 : 400

Carparking - STAGE 1	
Level	Count
B4	146
B3	155
LG3	97
B2	41
LG2	38
B1	44
LG1	28
Grand Total	549
Carparking Summary	
Required	479
Provided	549
Surplus	70

Carparking - STAGE 2	
Level	Count
B3	48
B2	86
B1	86
Hosp Ground	51
RAC Ground	34
Grand total	305
Carparking Summary	
Required	380
Provided	310 ~~305~~
St1 surplus	70
Shortfall	5

Shortfall to be optimised during next design stage

As amended in red by DSDIP

CLARIFICATIONS AND DISCLAIMERS

1. THE MAXIMUM BUILDING HEIGHT VARIES IN RELATION TO THE ADJACENT AT GRADE GROUND LEVEL DUE TO SITE TOPOGRAPHY
2. REFER TO BUILDING SECTIONS FOR BUILDING HEIGHT INFORMATION, WHICH ARE TO BE READ IN CONJUNCTION WITH SITE PLANS FOR AT GRADE GROUND LEVELS
3. ALL PLANS ARE PRELIMINARY AND SUBJECT TO FURTHER DEVELOPMENT OF THE FUNCTIONAL BRIEF AND FINAL DESIGN
4. TENANCY SPACES ARE PROVIDED AS "COLD SHELL" AREAS FOR FIT OUT BY TENANTS
5. PARKING NUMBERS ARE SUBJECT TO DEVELOPMENT OF THE FINAL DESIGN FINAL DESIGN

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PRELIMINARY

REV	DESCRIPTION	DATE	INIT
1	Revision 3	16/03/2023	NB
2	Coordination and Comments	27/03/2023	NB
3	Client's comments incorporated	04/04/2023	NS
4	MID Issue	26/04/2023	NS
5	Transport Issue	15/07/2024	CT

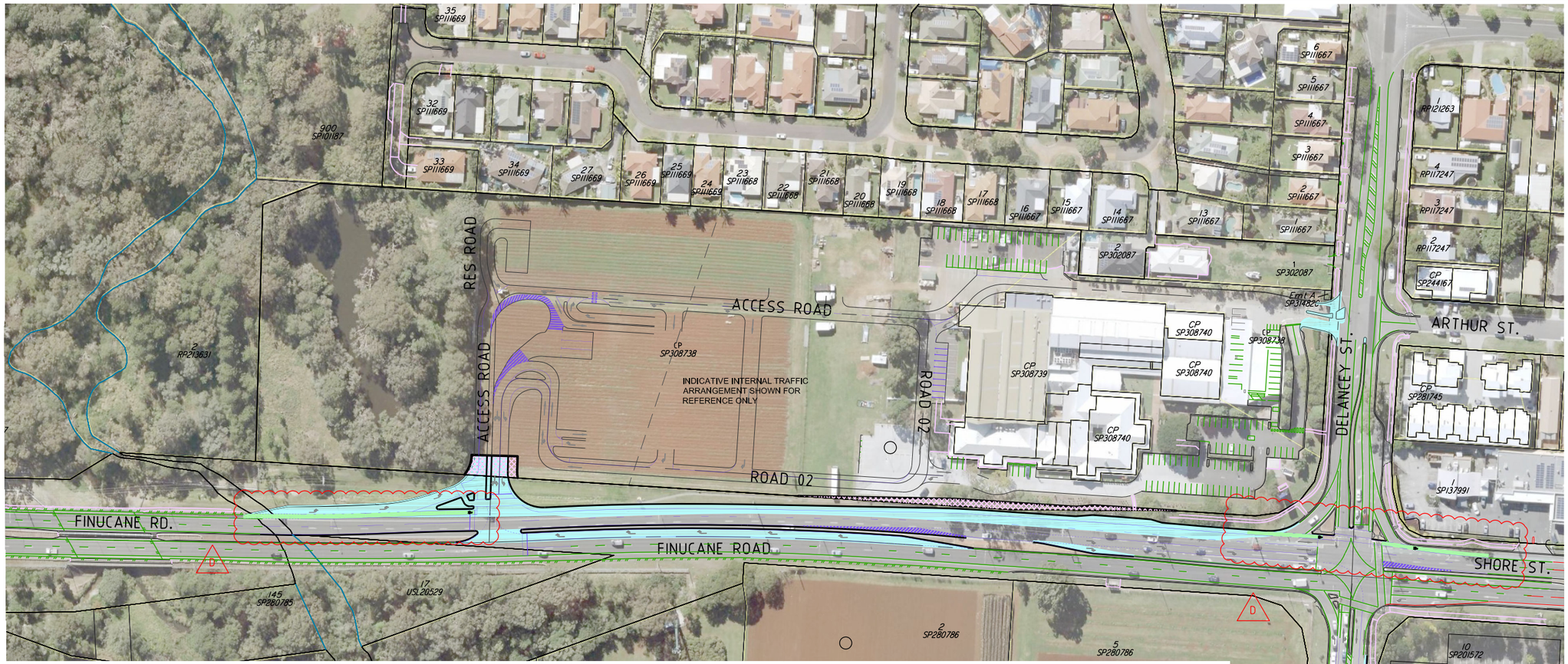
CLIENT: THE HUB PRECINCT PTY LTD
PROJECT NAME: Hub68 Centre of Excellence - Aging & Wellness
LOCATION: 58-68 DELANCEY STREET, ORMISTON QLD 4160

STATUS: MID ISSUE
DRAWING: STG2 - SITE PLAN

SCALE @ A1: 1 : 400
DATE: 15/07/2024
DRAWN BY: JPS, NB & NS
JOB No: 4_2301_03
DWG No: A141
REV: 5

NORTH

Annexure 4 to Schedule 1 – External works/upgrades



GENERAL

1. CONTRACT SPECIFICATIONS
   ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
2. SETOUT
   SURVEY SETOUT INFORMATION HAS BEEN ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR TO ENABLE THE CONTRACTOR TO ACCURATELY SETOUT THE WORKS TO THE CO-ORDINATES SHOWN. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. DATUM
   LEVELS SHOWN ARE TO A.H.D.
4. TRENCH SPOIL
   ALL MATERIALS ARISING FROM ROADS & SERVICES ARE TO BE COMPACTED TO FUTURE STAGES, TO LEVEL 1 IF NO SPOIL AREA IS AVAILABLE THESE MATERIALS SHALL BE TRUCKED TO A LICENSED TIP. THESE WORKS FORM PART OF THE CONTRACTED WORKS.
5. CHECK ELECTRONIC SETOUT
   CONTRACTOR IS RESPONSIBLE TO ENSURE ANY ELECTRONIC DATA FILES MATCH THE DRAWINGS.
6. PRE START
   a. ERECT SITE SIGNAGE, CONSTRUCT ENTRY & EXIT POINT AS INDICATED.
   b. CONSTRUCT VEHICLE WASHDOWN AREA & ASSOCIATED SILT MANAGEMENT DEVICES.
   c. CONSTRUCT SITE OFFICE & STORAGE COMPOUND AREA.
   d. INSTALL EROSION & SEDIMENT CONTROL DEVICES AS PER THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN.
   e. ERECT TEMPORARY TREE PROTECTION FENCING IN ACCORDANCE WITH THE APPROVED VEGETATION MANAGEMENT PLAN & AUTHORITIES APPROVAL CONDITIONS (IF REQUIRED).
7. HEALTH & SAFETY
   ALL WORKS UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH & SAFETY LEGISLATION.
8. STOCKPILING
   STOCKPILING OF ANY SURPLUS MATERIAL IS NOT PERMITTED

EXTENT OF ROAD WIDENING CONSTRUCTION & EXISTING PAVEMENT RECONSTRUCTION WORKS TO BE DETERMINED AS PART OF OPERATIONAL WORKS APPLICATION.

PROJECT SPECIFIC REPORTS

THE CONTRACTOR MUST FOLLOW THE RECOMMENDATIONS & PROCEDURES OUTLINED IN THE FOLLOWING REPORTS AT ALL TIMES:

a) GEOTECHNICAL INVESTIGATION REPORTS (INCLUDING ANY ACID SULPHATE OR DISPERSIVE SOIL REPORTING)
b) VEGETATION & FAUNA MANAGEMENT PLANS
c) OTHER MANAGEMENT PLANS NOMINATED IN THE CONTRACT, AUTHORITIES APPROVAL CONDITIONS OR BY THE SUPERINTENDENT.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED ROAD WORKS
- PROPOSED RESUMPTION AREA

RESUMPTION AREA	
LOT	AREA
CP 308738	443.4m²
ACCESS RESTRICTION STRIP	18.2m²

INTERSECTION LANE WIDTH ANALYSIS		EXISTING	PROPOSED	COMMENTS		COMPLIANCE
ACCESS ROAD INTERSECTION						
Eastbound Finucane Rd	BIKE / BREAKDOWN	1.5-1.9 SHOULDER	2.0	LANE RATIONALISED WITH KERB & CHANNEL		
Eastbound Finucane Rd	AUL	n/a	3.5	NEW AUL		COMPLIES WITH AUSTROADS
Eastbound Through lane	LANE 1 (INSIDE)	3.3	3.3	DEVIATION TO ALLOW FOR WESTBOUND CHR		COMPLIES WITH AUSTROADS
Eastbound Through lane	LANE 2 (OUTSIDE)	3.3	3.3	DEVIATION TO ALLOW FOR WESTBOUND CHR		COMPLIES WITH AUSTROADS
WEST SIDE FINUCANE RD	MEDIAN	2.4-3.3	2.4-4.6	WIDENED TO SUIT LANE ALIGNMENT		COMPLIES WITH AUSTROADS
EAST SIDE FINUCANE RD	MEDIAN	1.95-4.2	1.5	+ 0.3m LANE OFFSET		REFER TO L & R RESPONSE
Westbound Finucane Rd	CHR	n/a	3.5	INCLUDES 0.3m MEDIAN OFFSET		COMPLIES WITH AUSTROADS
Westbound Through lane	LANE 1 (INSIDE)	3.3	3.3	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
WestboundThrough lane	LANE 2 (OUTSIDE)	3.3	3.3	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
DELANCEY ST INTERSECTION						
Eastbound Finucane Rd	BIKE / BREAKDOWN	1.5	1.5	TRAFFIC ISLANDS MODIFIED TO SUIT		COMPLIES WITH AUSTROADS
Eastbound Finucane Rd	LANE 1 (INSIDE)	3.3	3.3	DEVIATION TO ALLOW FOR EASTBOUND CHR		MAINTAINS EXISTING LANE WIDTH
Eastbound Finucane Rd	LANE 2 (OUTSIDE)	3.3	3.3	DEVIATION TO ALLOW FOR EASTBOUND CHR		MAINTAINS EXISTING LANE WIDTH
Eastbound Finucane Rd	Free left turn	5.3 min.	5.3 min.	KERB AND TRAFFIC ISLANDS MODIFIED TO SUIT		COMPLIES WITH AUSTROADS
WEST SIDE FINUCANE RD	MEDIAN	1.0-1.35	1.0-1.35	NO CHANGE TO EXISTING		NO CHANGE TO EXISTING
EAST SIDE FINUCANE RD	MEDIAN	1.5-1.6	1.5-1.6	NO CHANGE TO EXISTING		NO CHANGE TO EXISTING
Westbound Finucane Rd	CHR					
Westbound Through lane	LANE 1 (INSIDE)	3.3	3.3	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Westbound Through lane	LANE 2 (OUTSIDE)	3.3	3.3	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Westbound AUL	AUL	3.9	3.9	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
SOUTH SIDE OF DELANCEY ST						
SOUTH SIDE DELANCEY ST	MEDIAN	1.7	1.7	NO CHANGE TO EXISTING		NO CHANGE TO EXISTING
Northbound Delancey St	LEFT	3.0-4.3	3.0-4.3	EXTEND FREE LEFT TURN FOR STORAGE		COMPLIES WITH AUSTROADS
Northbound Delancey St	BIKE LANE	1.2	1.2	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Northbound Delancey St	RIGHT TURN / STRAIGHT	3.3	3.3	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Southbound Delancey St	THROUGH LANE	4.9	3.3	LINEMARKING TO ALLOW MERGE LANE		COMPLIES WITH AUSTROADS
Southbound Delancey St	MERGE LANE	N/A	3.3	EXTEND TO ALLOW MERGE LANE		COMPLIES WITH AUSTROADS
NORTH SIDE DELANCEY ST						
Northbound Delancey St	BIKE LANE	1.2	1.2	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Northbound Delancey St	THROUGH LANE	4.3-3.2	4.3-3.2	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Southbound Delancey St	RIGHT TURN	3.3	3.3	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Southbound Delancey St	RIGHT TURN / STRAIGHT	3.2	3.2	NO CHANGE TO EXISTING LANES		NO CHANGE TO EXISTING
Southbound Delancey St	Free left turn	3.9 min.	3.9 min.	KERB AND TRAFFIC ISLANDS MODIFIED TO SUIT		NO CHANGE TO EXISTING

DIAL BEFORE YOU DIG www.1100.com.au

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION
LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

NORTH

0 10 20 30 40 50m
Scale 1:1000 - A1 (1:2000 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	" " "	
CONSTRUCTION	"	

PRE	DATE	AMENDMENT
D	30-09-24	BIKE LANE ADDED
C	12.06.24	REMOVE FUNCTIONAL LAYOUT TO DRG 006
B	11.04.23	ADJUST INERNAL REFERENCE WORKS
A	22.11.22	COUNCIL ISSUE

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ASSOCIATED CONSULTANTS
DESTRAVIS GROUP
LAMBERT & REHBEIN ENGINEERS • MANAGERS • SCIENTISTS
BIOME WATER AND ENVIRONMENTAL CONSULTING

DRAWING TITLE

EXTERNAL GENERAL ARRANGEMENT AND NOTES

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RCB	DRAWN	RCB
APPROVED		RPEQ	DATE 22.11.22

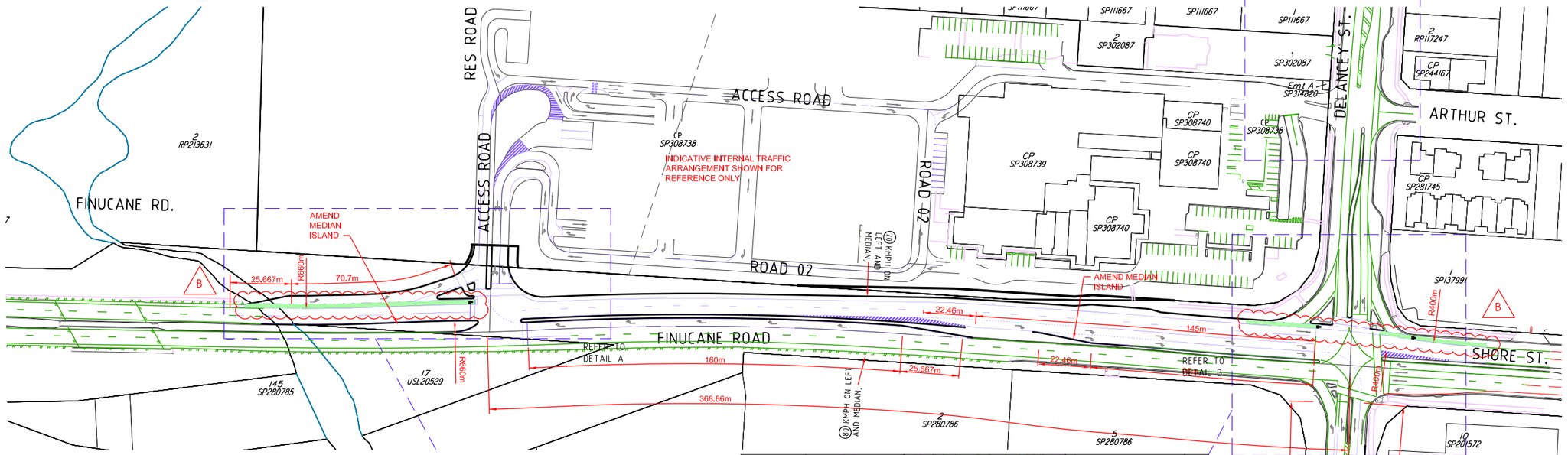
DRAWING NUMBER 37801-XWP-005
AMEND. D

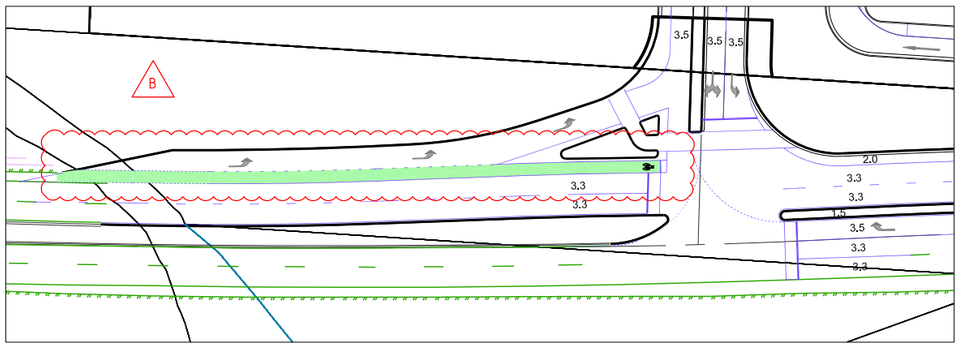
F:\Autocad Client\3778 - CLEVELAND RURAL\01 - Delancy St\Overall\Engineering Drawings\Prelim external\Current\37801-PRE-005.dwg, ROAD HIERARCHY & STAGING PLAN, 28/11/2024 2:06:10 PM, 1:2

	LANE TYPE	Posted Speed	Longitudinal Grade	Taper Required	Taper PROVIDED	Deceleration Required	Deceleration PROVIDED	Storage Required	Storage PROVIDED	OVERALL Length IF incl. deceleration	OVERALL Length PROVIDED	Comments
ACCESS ROAD INTERSECTION												
Eastbound Finucane Rd	AUL	80	3	24.2	25.667	61.8	storage + taper	69.5	70.7	86	86	COMPLIES WITH AUSTROADS
Westbound Finucane Rd	CHR	80	-6	25.667	25.667	105.667	storage + taper	160	160	265.667	185.667	COMPLIES WITH AUSTROADS - DECELLERATION PART OF STORAGE
DELANCEY ST INTERSECTION												
Eastbound Finucane Rd	CHR LANE 1st lane	70	0.6	22.46	22.46	77.46	storage + taper	145	145	237.458	167.46	COMPLIES WITH AUSTROADS - DECELLERATION PART OF STORAGE
Eastbound Finucane Rd	CHR LANE 2nd lane	70	0.6	22.46	22.46	77.46	storage + taper	95	95	237.458	117.46	COMPLIES WITH AUSTROADS - DECELLERATION PART OF STORAGE
Eastbound Finucane Rd	Free left turn	70	0.6	EXISTING	EXISTING	EXISTING		EXISTING				
Westbound Finucane Rd	CHR	70	3	EXISTING								NO CHANGE TO EXISTING
Westbound Finucane Rd	AUL	70	3	EXISTING								NO CHANGE TO EXISTING
Northbound Delancey St	LEFT	50	0.4	16.042	19.25	27	storage + taper	130	130	176.25	149.25	COMPLIES WITH AUSTROADS - DECELLERATION PART OF STORAGE
Northbound Delancey St	RIGHT TURN / STRAIGHT	50	0.4	NA		27		130	130	NA		COMPLIES WITH AUSTROADS - DECELLERATION PART OF STORAGE
Southbound Delancey St	MERGE LANE	50	-0.4	33.000	33	NA		125	125	158.00	158.00	COMPLIES WITH AUSTROADS MERGE REQUIREMENTS
Southbound Delancey St	RIGHT TURN	50	0.4	EXISTING	EXISTING	EXISTING		EXISTING				NO CHANGE TO EXISTING
Southbound Delancey St	RIGHT TURN / STRAIGHT	50	0.4	EXISTING	EXISTING	EXISTING		EXISTING				NO CHANGE TO EXISTING
Southbound Delancey St	Free left turn	50	0.4	EXISTING	EXISTING	EXISTING		EXISTING				NO CHANGE TO EXISTING

LANE LENGTH COMPLIANCE TABLE

DETAIL C

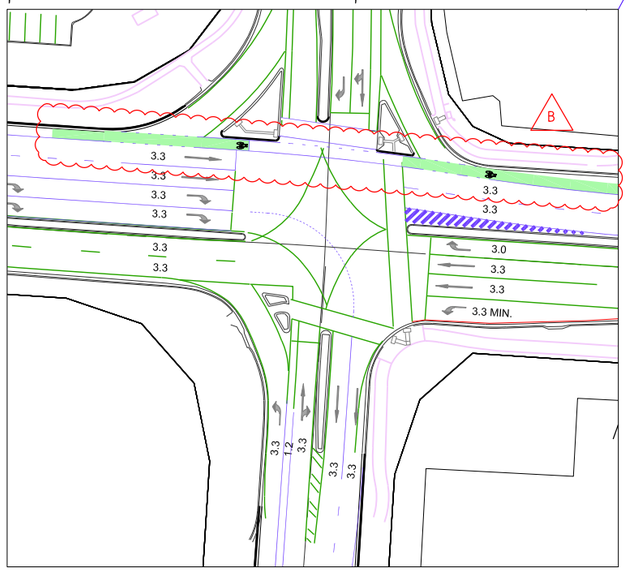




DETAIL A

	SIGHT CRITERIA	DESIGN SPEED (KMPH)	LONGITUDINAL GRADE %	S.I.S.D 1.1 TO 1.25	S.S.D 1.1 TO 0.8	DISTANCE ACHIEVED	POSTED SPEED	COMMENTS
ACCESS ROAD INTERSECTION								
EASTBOUND FINUCANE RD	SISD - CAR - NDD	90	5	202.78		>250m	80	MEETS CRITERIA FOR NDD
EASTBOUND FINUCANE RD	SSD - CAR - NDD	80	5		105.90	111.7	70	MEETS CRITERIA FOR NDD
WESTBOUND FINUCANE RD	SISD - CAR - NDD	90	-5	227.87		>250m		MEETS CRITERIA FOR NDD
WESTBOUND FINUCANE RD	SSD - CAR - NDD	80	-5		125.72	125.8	70	MEETS CRITERIA FOR NDD
DELANCEY ST INTERSECTION								
EASTBOUND FINUCANE RD	SISD - CAR - NDD	80	5	172.57		184.9	70	MEETS CRITERIA FOR NDD
EASTBOUND FINUCANE RD	SSD - CAR - NDD	80	5		105.90	158.8	70	MEETS CRITERIA FOR NDD
WESTBOUND FINUCANE RD	SISD - CAR - NDD	80	-5	192.39		218.1	70	MEETS CRITERIA FOR NDD
WESTBOUND FINUCANE RD	SSD - CAR - NDD	80	-5		125.72	163.8	70	MEETS CRITERIA FOR NDD
NORTHBOUND DELANCEY ST	SISD - CAR - NDD	60	1	121.64		>200m	50	MEETS CRITERIA FOR NDD
NORTHBOUND DELANCEY ST	SSD - CAR - NDD	60	1		71.64	169.4	50	MEETS CRITERIA FOR NDD
SOUTHBOUND DELANCEY ST	SISD - CAR - NDD	60	1	121.64		>200m	50	MEETS CRITERIA FOR NDD
SOUTHBOUND DELANCEY ST	SSD - CAR - NDD	60	1		71.64	191.8	50	MEETS CRITERIA FOR NDD

SIGHT DISTANCE COMPLIANCE TABLE



DETAIL B

LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)

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F:\Autocad Client\378 - CLEVELAND RURAL\01 - Delancy St\Overall\Engineering Drawings\Prelim external\Current\37801-PRE-006.dwg, FUNCTIONAL LAYOUT PLAN, 28/11/2024 2:00:34 PM, 1:2

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION

LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

NORTH

0 10 20 30 40 50m
Scale 1:1000 - A1 (1:2000 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	. . .	
CONSTRUCTION	..	

PRE	DATE	AMENDMENT
B	30-09-24	BIKE LANE ADDED
A	12.06.24	COUNCIL ISSUE

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DESTRAVIS GROUP
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BIOME WATER AND ENVIRONMENTAL CONSULTING

DRAWING TITLE

EXTERNAL
FUNCTIONAL LAYOUT PLAN

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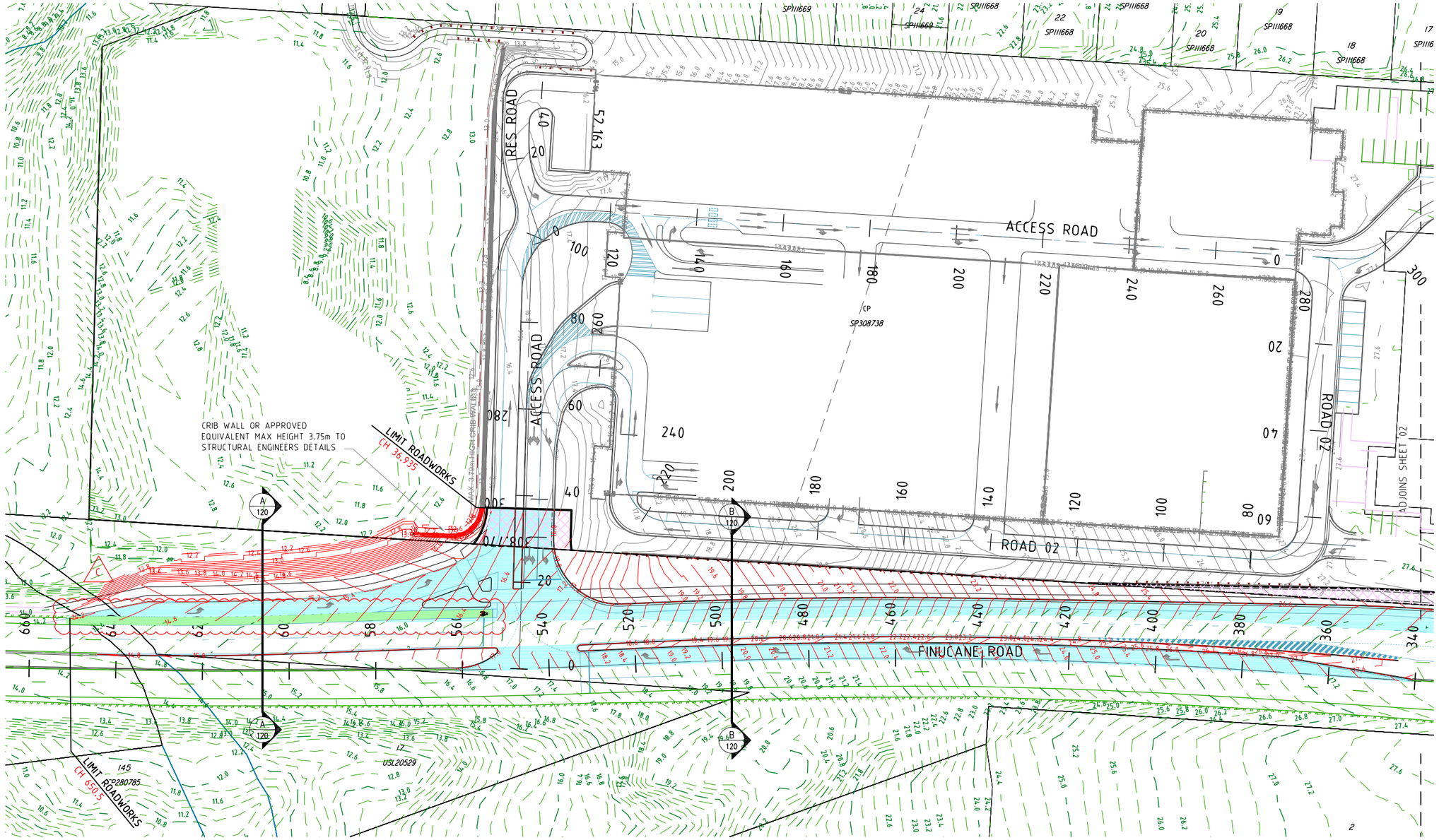
APPROVED		RPEQ	DATE 12.06.24

DRAWING NUMBER 37801-XWP-006 AMEND. B



37801-PRE-100 | 37801-PRE-101 | 37801-PRE-102

SHEET LAYOUT

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ROADWORKS

1. PAVEMENT DEPTHS
   a) THE DESIGN PAVEMENT DEPTHS ALLOWED IN EARTHWORKS CALCULATIONS ARE BASED ON THE DEPTHS SHOWN IN THE SCHEDULE OF PAVEMENT DEPTHS ON DRAWING 120.
   b) THE PAVEMENT DEPTHS GIVEN ARE DESIGN DEPTHS ONLY & MAY BE VARIED AFTER SUB-GRADE TESTS ARE TAKEN. THE CONTRACTOR IS TO PROVIDE THE SUPERINTENDENT A SUBGRADE C.B.R. REPORT PREPARED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.
   THE SUPERINTENDENT WILL COORDINATE THE AUTHORITIES APPROVAL OF THE PAVEMENT DESIGN.
   c) REFER TO DWG. 120 FOR TYPICAL ROAD SECTIONS.
2. TESTING
   ALL COMPACTION TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY. ALL SITE FILLING SHALL BE TESTED AT LEVEL 1 REQUIREMENTS.
3. SUBSOIL DRAINS
   SUBSOIL DRAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL AUTHORITY'S SPECIFICATIONS. SUBSOIL DRAINS SHALL BE PLACED UNDER ALL KERB STRUCTURES & ARE TO BE CONSTRUCTED TO A DEPTH GREATER THAN THAT OF THE INVERT OF THE DEEPEST SERVICE CROSSING.
4. MITRE DRAINS
   MITRE DRAINS ARE TO BE CONSTRUCTED ALONG THE CUT/FILL INTERFACE & SAG/LOW POINTS OF ALL ROADS. CONTRACTOR TO REQUEST DIRECTION FROM SUPERINTENDENT WHETHER TO INSTALL MITRE DRAIN AT ROCK ENCOUNTERED IN SUBGRADE. ALL MITRE DRAINS MUST BE FREE DRAINING & TIE INTO THE ADJACENT SUBSOIL DRAINS.
1. ROCK
   THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR RATES.
2. TURF
   1.0m TURF STRIP TO BE INSTALLED BEHIND THE BACK OF ALL KERBS. A PERPENDICULAR TURF STRIP AT MAXIMUM 10m INCREMENTS MUST BE INSTALLED TO FULL VERGE WIDTH FOR SEDIMENT & EROSION CONTROL PURPOSES.
7. KERBS
   ALL KERBS TO BE CONSTRUCTED IN ACCORDANCE WITH AUTHORITY STANDARDS
8. PAVEMENT TIE-IN
   PAVEMENT TIE-IN TO BE IN ACCORDANCE WITH DWG. 120

LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- FUTURE CONTOURS
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- DESIGN CONTOURS
- PROPOSED ROAD WORKS
- PROPOSED RESUMPTION AREA
- 41.065 CENTRELINE CHAINAGE

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION
LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	. . .	
CONSTRUCTION	..	

C	30-09-24	BIKE LANE ADDED
B	11.04.23	ADJUST REFERENCE INTERNAL WORKS
A	22.11.22	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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DRAWING TITLE

EXTERNAL ROADWORKS PLAN SHEET 1

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DESIGNED	RCB	DRAWN	RCB
APPROVED		RPEQ	DATE 22.11.22

DRAWING NUMBER 37801-XWP-100 | AMEND. C

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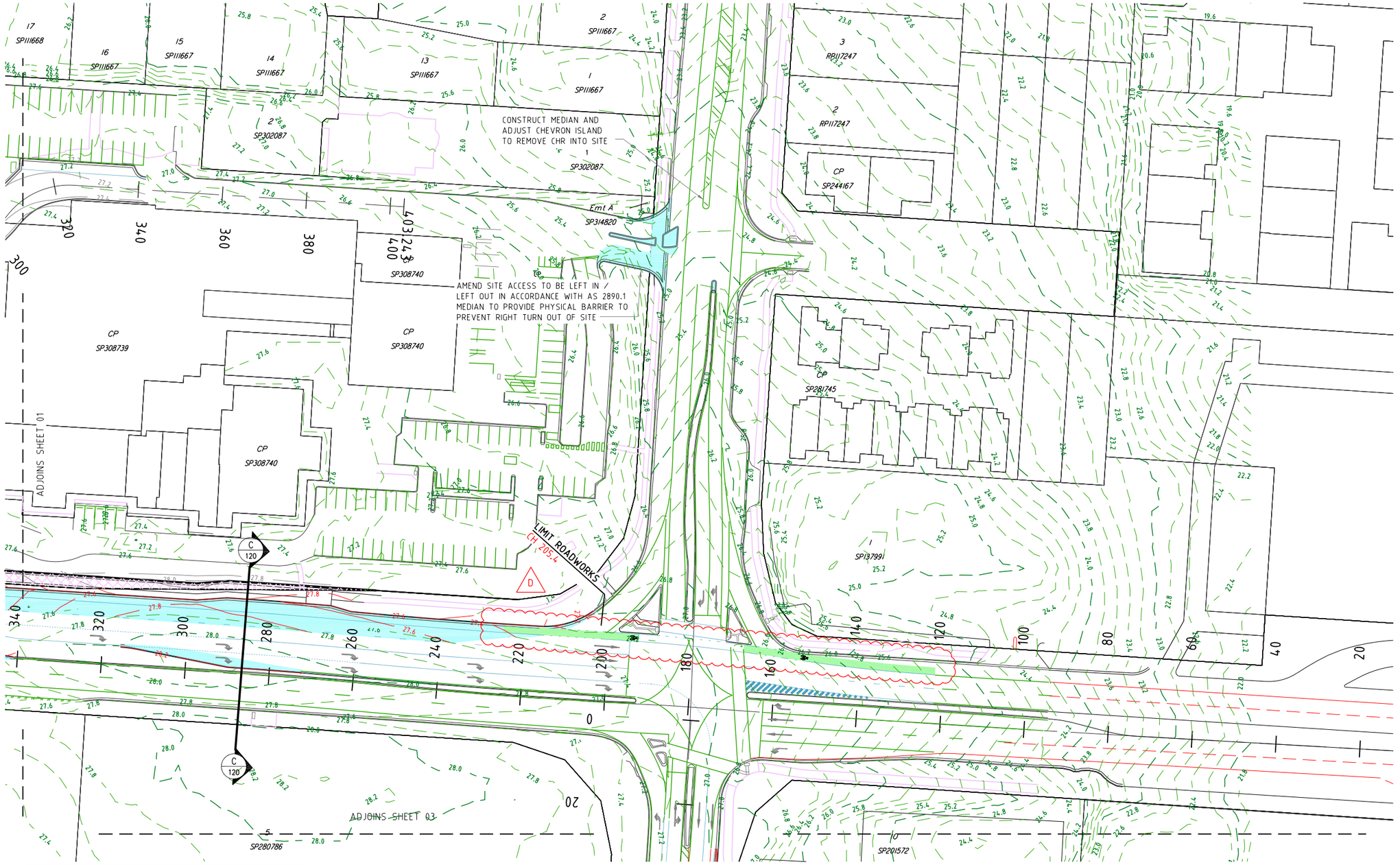

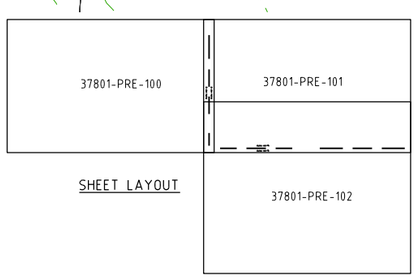

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PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION

LOT 0 SP308738, LOTS 0-2 SP308739, LOT 0 SP308740, LOT 4 SP308740, LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	. . .	
CONSTRUCTION	..	

D	30-09-24	BIKE LANE ADDED
C	09.07.24	AMEND DELANCEY ST ACCESS
B	11.04.23	ADJUST REFERENCE INTERNAL WORKS
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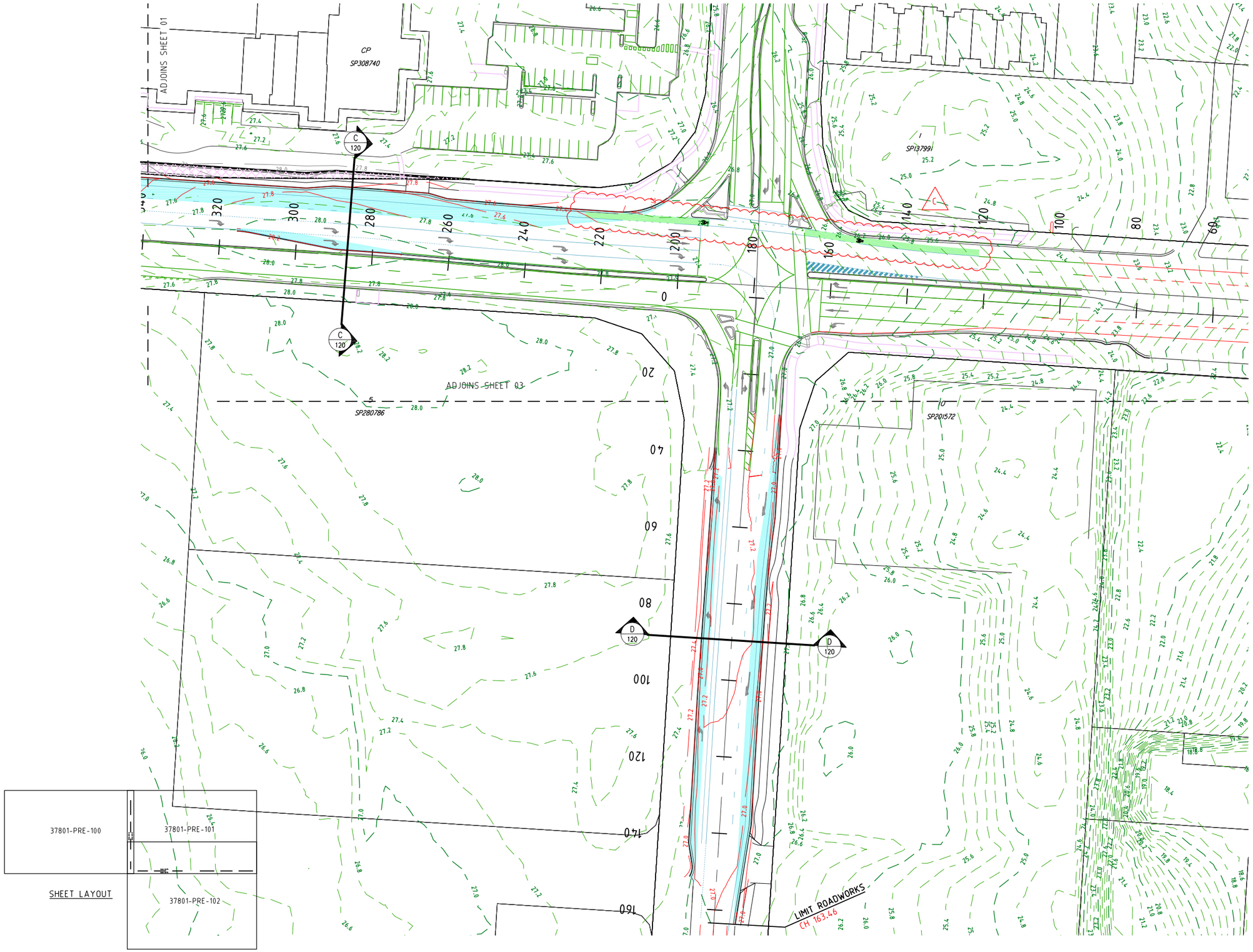

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PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION

LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	. . .	
CONSTRUCTION	..	

PRE	DATE	AMENDMENT
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B	11.04.23	ADJUST REFERENCE INTERNAL WORKS
A	22.11.22	COUNCIL ISSUE

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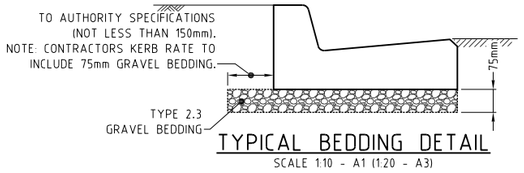
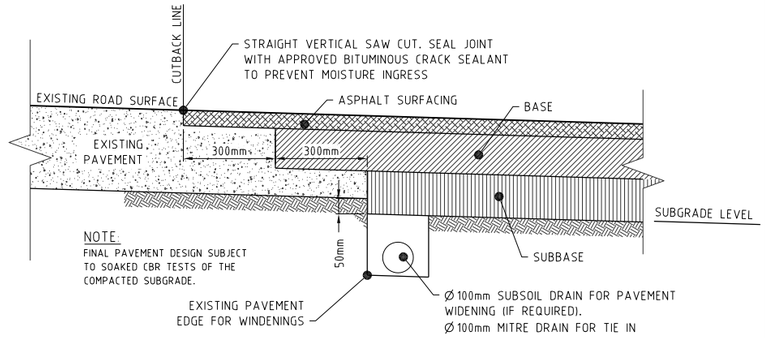
SCHEDULE OF PAVEMENT DESIGN		
ROAD NAME	REVEVANT AUTHORITY	DESIGN GUIDE
FINUCANE ROAD	TMR	TO COMPLY WITH AUTHORITY REQUIREMENT
DELANCEY STREET	REDLAND CITY COUNCIL	TO COMPLY WITH AUTHORITY REQUIREMENT



TYPICAL BEDDING DETAIL

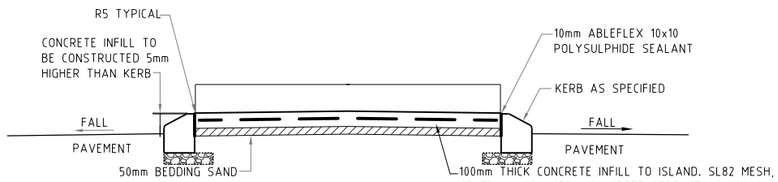
SCALE 1:10 - A1 (1:20 - A3)

SCHEDULE OF KERB TYPES		
KERB TYPE	IMAGE	REFERENCE
B1		IPWEA DWG. RS-080 NOTE: SUBSOIL DRAINS TO BE PLACED UNDER ALL KERBS.
B2		
SM3		



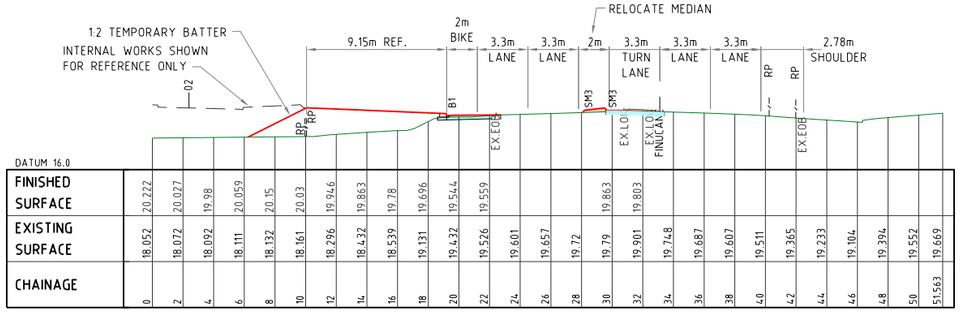
PAVEMENT WIDENING AND TIE-IN DETAIL

NOT TO SCALE



ISLAND WITH CONCRETE INFILL DETAIL

NOT TO SCALE



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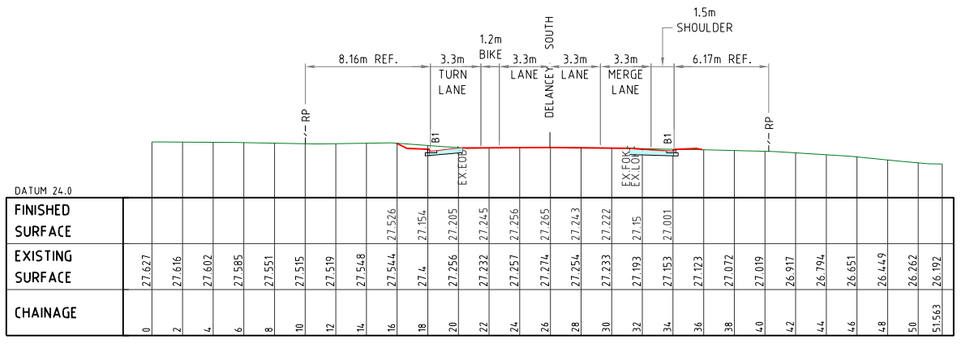
Vertical scale 1:200



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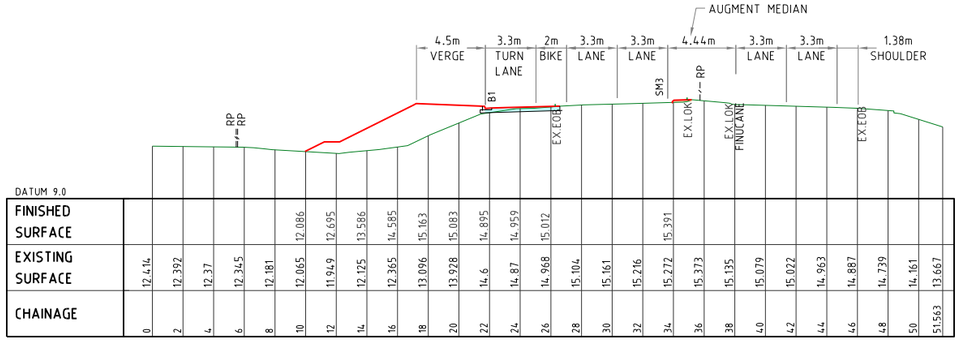
Vertical scale 1:200



TYPICAL SECTION A

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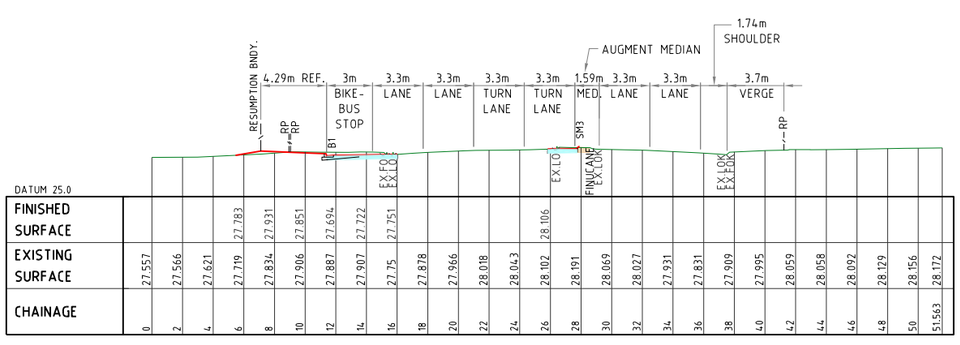
Vertical scale 1:200



TYPICAL SECTION C

Horizontal scale 1:200
Vertical scale 1:200

PROJECT NAME

hub 68 — CENTRE OF EXCELLENCE — AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION
LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

0 0.1 0.2 0.3 0.4 0.5m
Scale 1:10 - A1 (1:20 - A3)
0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	. . .	
CONSTRUCTION	..	

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Gold Coast Office
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Southport QLD 4215

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APPROVED		RPEQ	DATE 22.11.22

DRAWING NUMBER 37801-XWP-120 — AMEND. B

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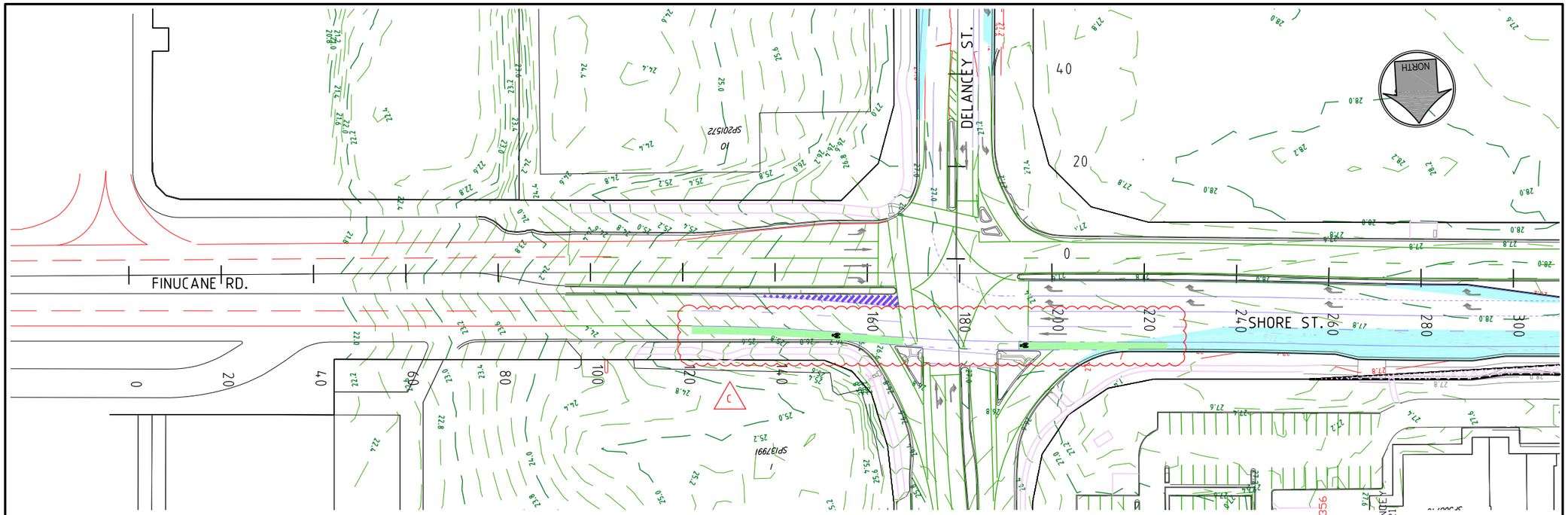

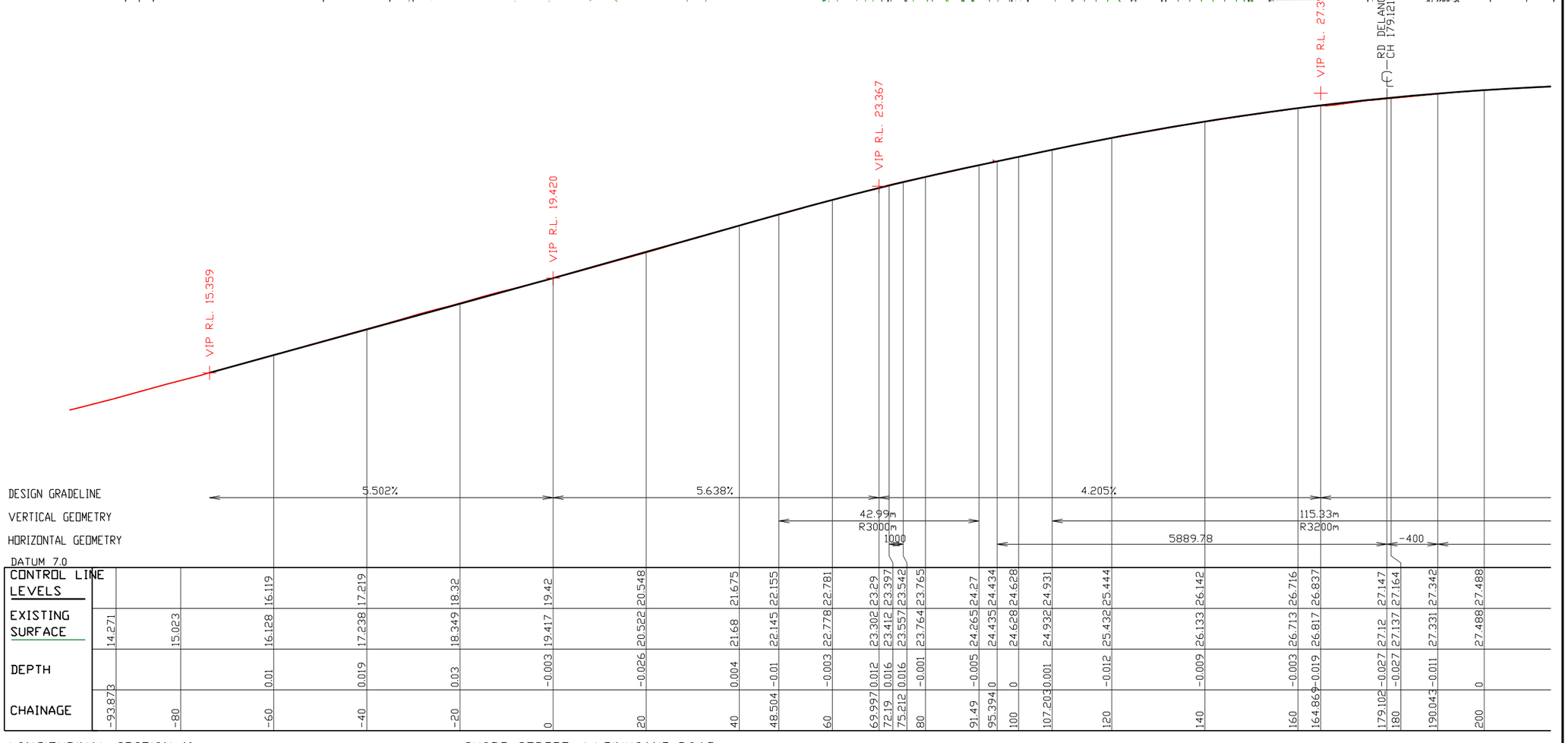

CONTROL LINE LEVELS																														
			16.119		17.219		18.32		19.42		20.548		21.675	22.155	22.781	23.29	23.397	23.542	23.765	24.27	24.434	24.628	24.931	25.444	26.142	26.716	26.837	27.147	27.164	27.342	27.488
EXISTING SURFACE	14.271	15.023	16.128	17.238	18.349	19.417	20.522	21.68	22.145	22.778	23.302	23.412	23.557	23.764	24.265	24.435	24.628	24.932	25.432	26.133	26.713	26.817	27.12	27.137	27.331	27.488				
DEPTH			0.01	0.019	0.03	-0.003	-0.026	0.004	-0.01	-0.003	0.012	0.016	0.016	-0.001	-0.005	0	0	0.001	-0.012	-0.009	-0.003	-0.019	-0.027	-0.027	-0.011	0				
CHAINAGE	-93.873	-80	-60	-40	-20	0	20	40	48.504	60	69.997	72.19	75.212	80	91.49	95.394	100	107.203	120	140	160	164.869	179.102	180	190.043	200				

LONGITUDINAL SECTION 10

SHORE STREET // FINUCANE ROAD

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION

LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE	
TENDER		
COUNCIL	. . .	
CONSTRUCTION	..	

PRE	DATE	AMENDMENT
C	30-09-24	BIKE LANE ADDED
B	11.04.23	ADJUST REFERENCE INTERNAL WORKS
A	22.11.22	COUNCIL ISSUE

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EXTERNAL
LONGITUDINAL SECTIONS
FINUCANE ROAD
SHEET 1

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Project Coordination

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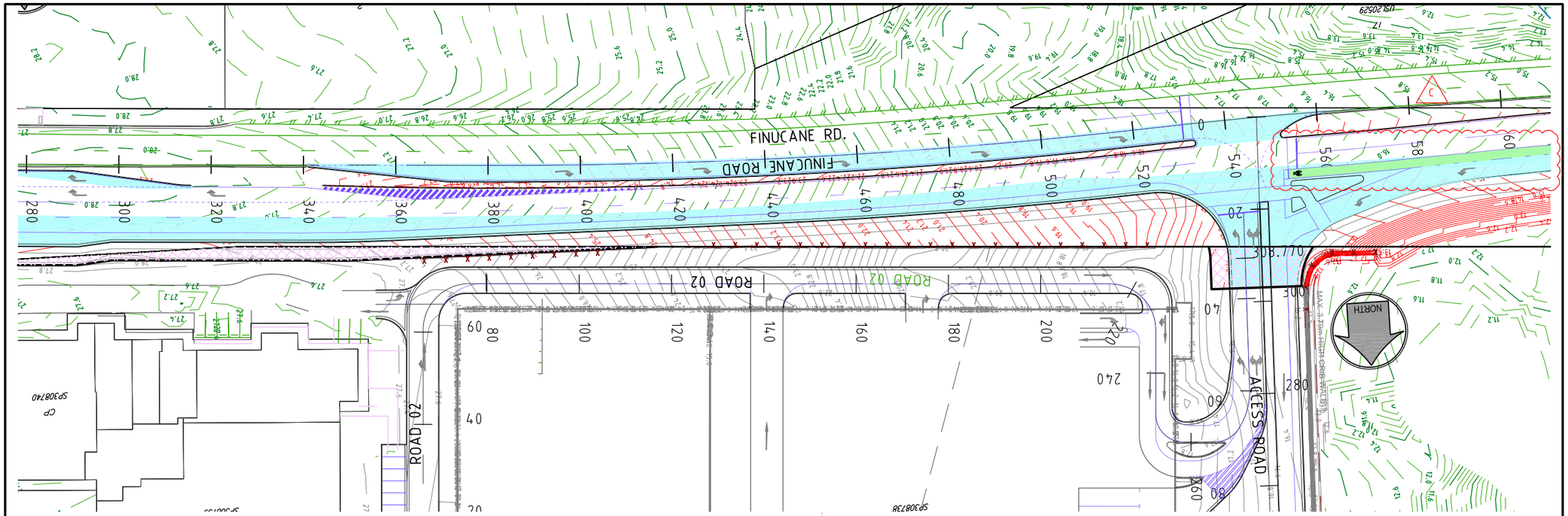

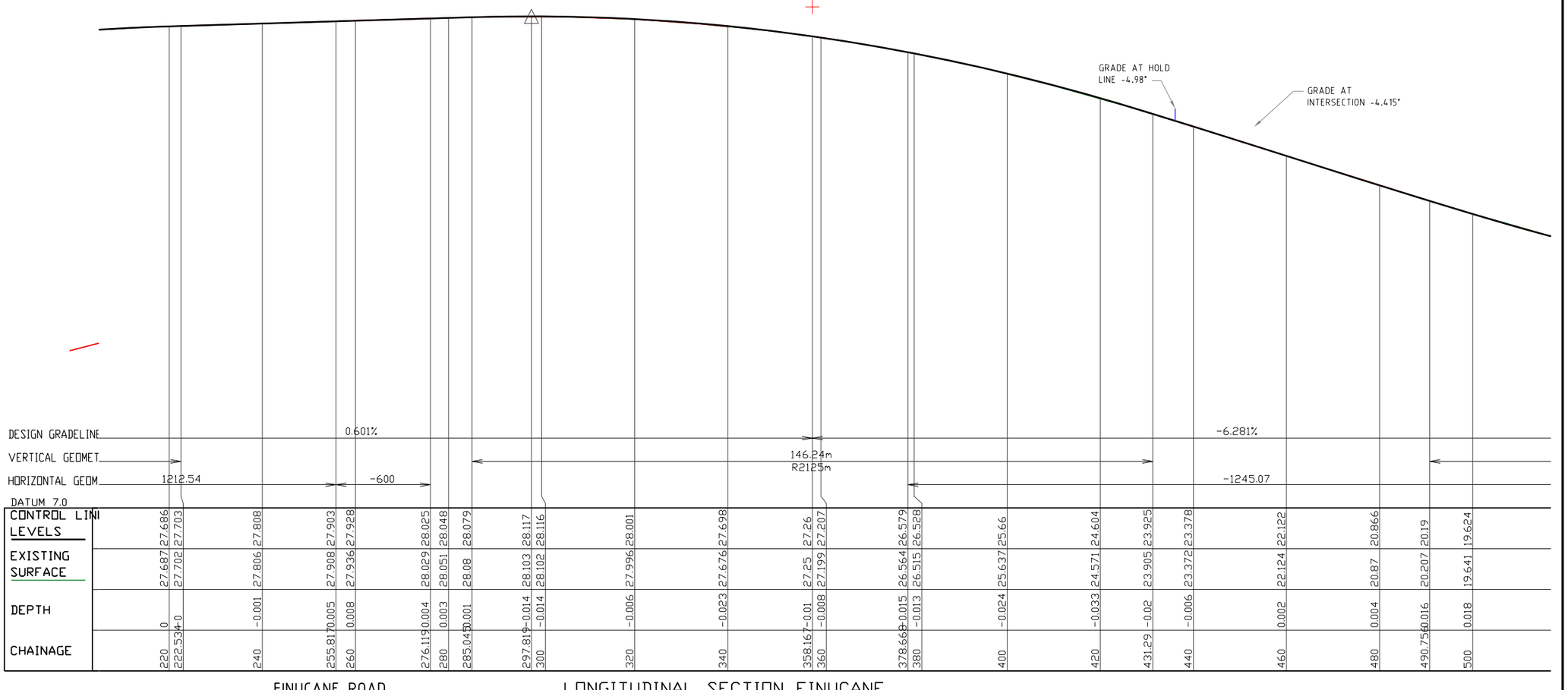

FINUCANE ROAD

LONGITUDINAL SECTION FINUCANE

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION

LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE	
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C	30-09-24	BIKE LANE ADDED
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DRAWING TITLE

EXTERNAL
LONGITUDINAL SECTIONS
FINUCANE ROAD
SHEET 2

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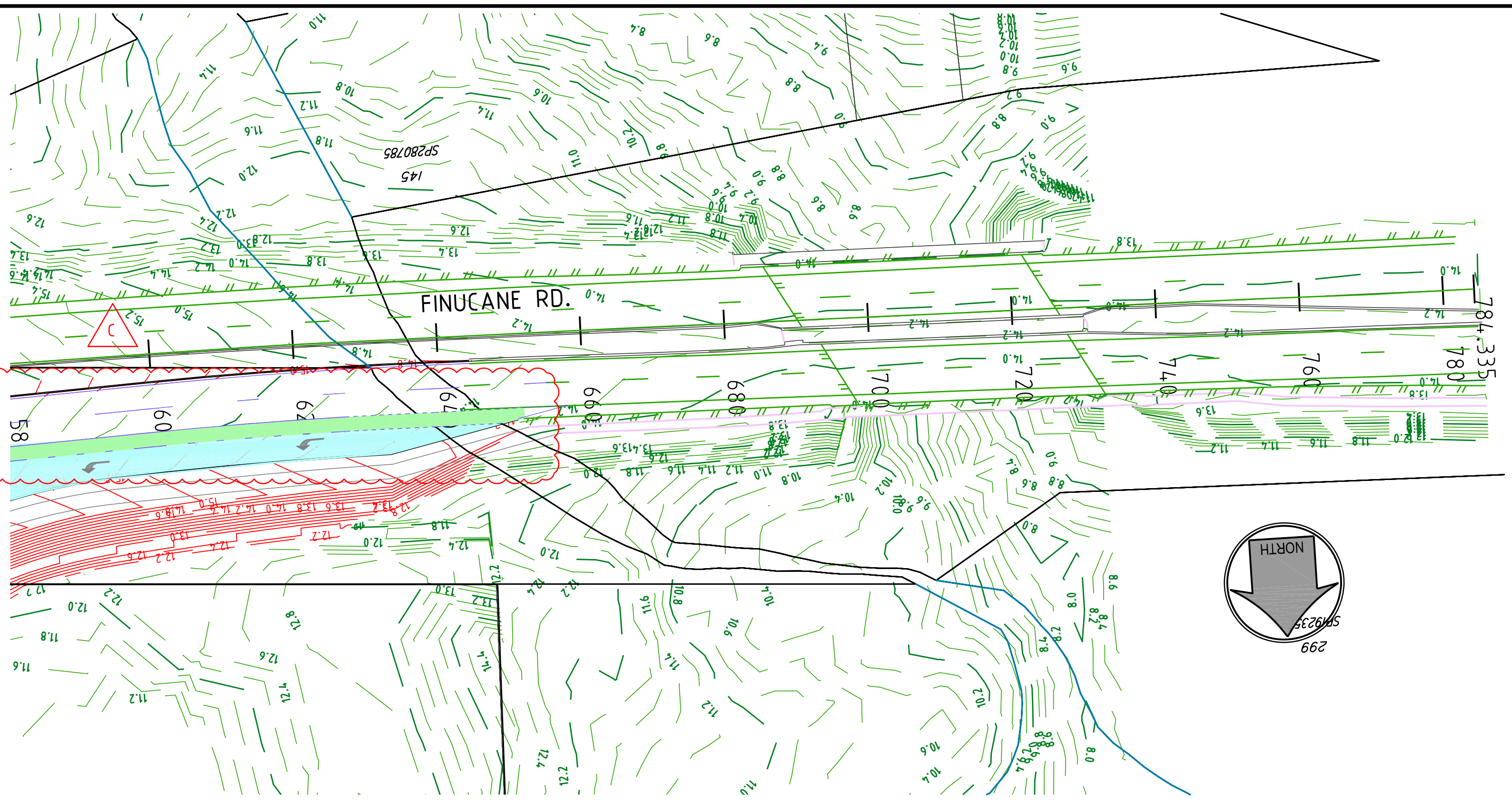

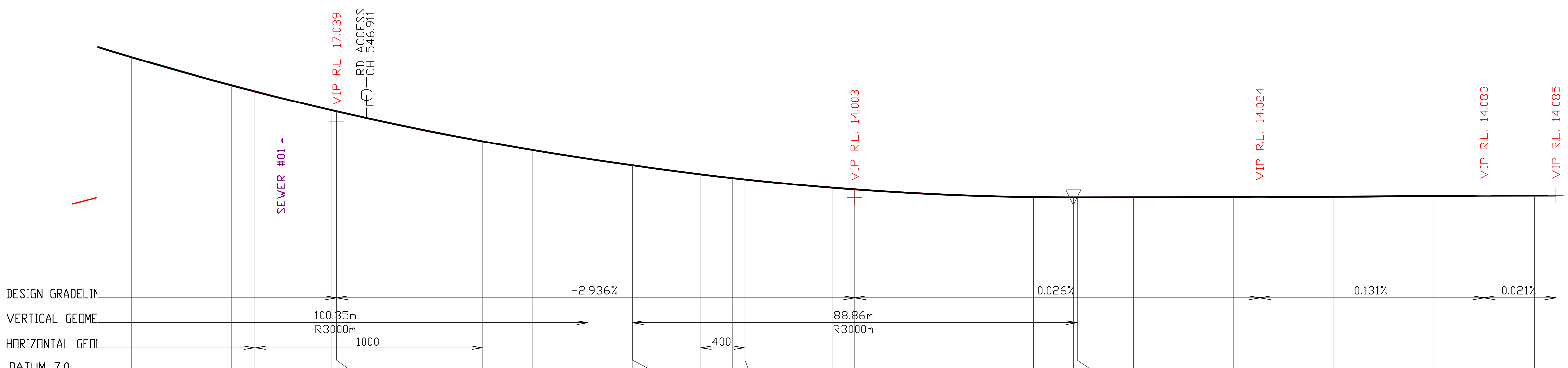

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524.653	18.252	18.272	0.02
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540.933	17.458	17.458	-0.001
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570.13	16.255	16.25	-0.005
580	15.912	15.913	0.001
591.109	15.565	15.564	-0.002
599.907	15.307	15.306	-0.001
600	15.304	15.303	-0.001
613.521	14.938	14.948	0.01
620	14.785	14.791	0.006
622.41	14.731	14.741	0.01
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644.338	14.332	14.346	0.014
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769.967	14.083	14.082	-0
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FINUCANE ROAD

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

RP DESCRIPTION
LOT 0 SP308738, LOTS 0-2 SP308739,
LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

THE HUB PRECINCT PTY LTD

0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

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DRAWING TITLE

EXTERNAL
LONGITUDINAL SECTIONS
FINUCANE ROAD
SHEET 3

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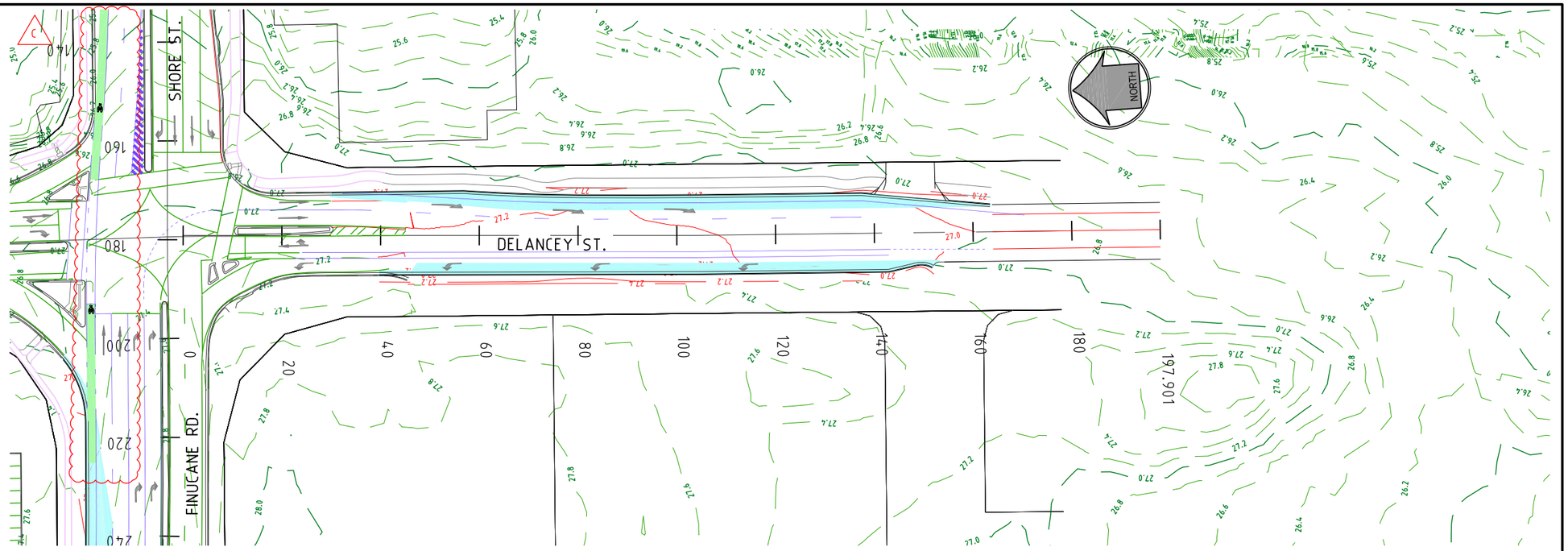

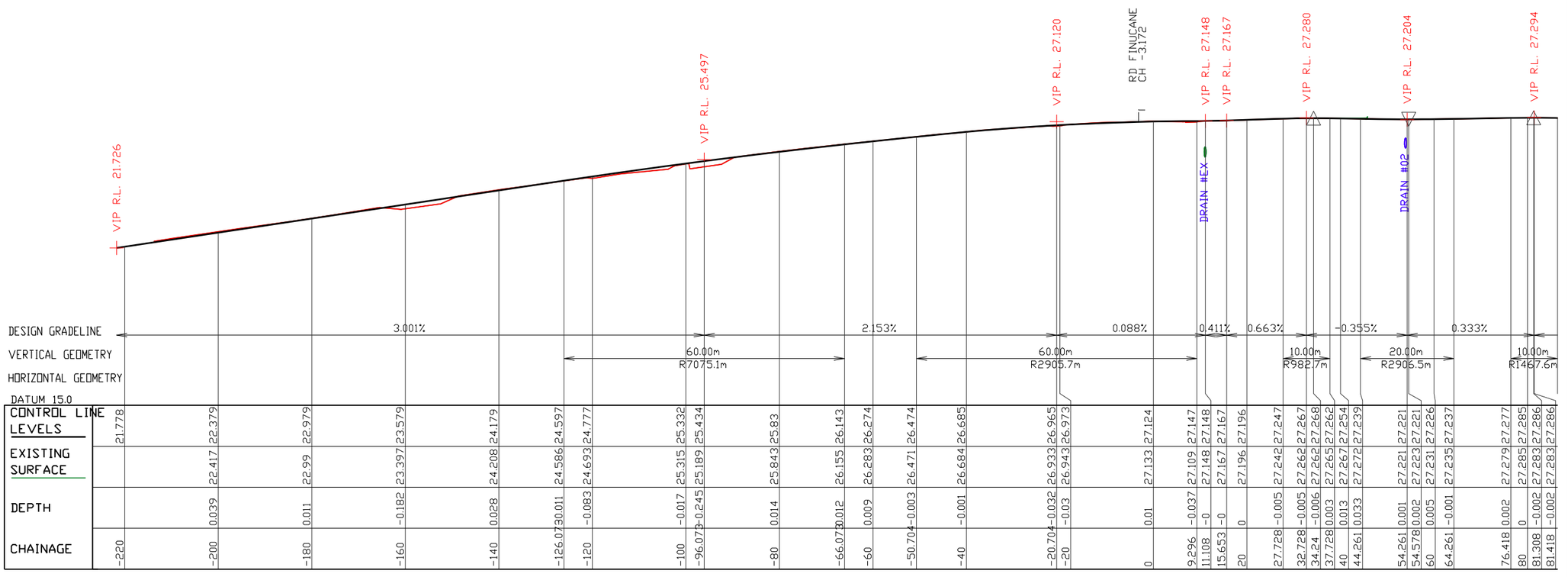

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CONTROL LINE LEVELS	21.778	22.379	22.979	23.579	24.179	24.597	24.777	25.332	25.434	25.83	26.143	26.274	26.474	26.685	26.965	26.973	27.124	27.147	27.148	27.167	27.196	27.247	27.267	27.268	27.262	27.254	27.239	27.221	27.221	27.223	27.226	27.237	27.277	27.285	27.286	27.286
EXISTING SURFACE		22.417	22.99	23.397	24.208	24.586	24.693	25.315	25.189	25.843	26.155	26.283	26.471	26.684	26.933	26.943	27.133	27.109	27.148	27.167	27.196	27.242	27.262	27.262	27.265	27.267	27.272	27.221	27.221	27.231	27.235		27.279	27.285	27.283	27.283
DEPTH		0.039	0.011	-0.182	0.028	0.011	-0.083	-0.017	0.245	0.014	0.012	0.009	-0.003	-0.001	-0.032	-0.03	0.01	-0.037	-0	-0	0	-0.005	-0.005	-0.006	0.003	0.013	0.033	0.001	0.002	0.005	-0.001		0.002	0	-0.002	-0.002

LONGITUDINAL SECTION 01

LONGITUDINAL SECTION DELANCEY SOUTH

PROJECT NAME

hub 68 CENTRE OF EXCELLENCE AGEING & WELLNESS

EXTERNAL WORKS PRELIMINARY

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LOT 0 SP308740, LOT 4 SP308740,
LOTS 10-16 SP314782
58-68 DELANCEY STREET
LOCALITY OF ORMISTON

CLIENT

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COUNCIL	. . .	
CONSTRUCTION	..	

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DELANCEY STREET

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Annexure 5 to Schedule 1 – Bushfire

6 Bushfire mitigation plan

This chapter identifies mitigation measures that must be implemented as part of the proposed development to comply with the SPP bushfire prone area overlay code.

It is the total of the mitigation measures in this chapter that will reduce the risk of bushfire hazards to a tolerable level. Failure to implement all actions in their entirety could result in an increased level of exposure to the bushfire hazards.

6.1 Asset protection zone

The APZ shown in Figure 6.1 must be established and maintained within the site. It is designed to ensure the proposed development achieves a radiant heat flux ≤ 10 kW/m^2.

Buildings and structures other than pathways/driveways, outdoor carparks, fencing or retaining walls must not be constructed within the APZ. Any construction within the APZ must be of fire-resisting materials.

An emergency assembly area or evacuation area must not be located within the APZ.

Landscaping within the APZ must be designed in accordance with Part 5 of *Bushfire Resilient Building Guidance for Queensland Homes* (QRA 2020) (**Bushfire resilient building**) which is publicly available online. Plant selection must favour species in Appendix E of Bushfire resilient building.

The APZ must be maintained as a low fuel hazard area with discontinuous bushfire fuels. Fallen leaves and branches and garden waste must be removed at regular time intervals during a calendar year. Lawn must be maintained at a nominal height of 100 millimetres.

6.2 Storage of hazardous materials

Hazardous materials must not be stored within the APZ. If hazardous materials are to be stored within 100 m of the edge of hazardous vegetation shown in Figure 6.1, the storage area must be indoors or have shielding against ember attack.

6.3 Access and egress

Driveways and carparks must be designed and constructed to meet the design requirements for urban fire trucks in the *Queensland Fire and Emergency Services – Fire Hydrant and Vehicle Access Guidelines for Residential Commercial and Industrial Lots* (QFES 2019) (**Fire hydrant and vehicle access guidelines**) which defers to the *Road Planning and Design Manual – 2nd Edition* (DTMR 2013) for load bearing capacity, geometry and turning radii.

Driveways and connections to Finucane Road and Delancey Street are shown in Figure 6.1.

6.4 Fire-fighter water supply

The proposed development must be connected to mains water and advice must be obtained from a hydraulic engineer about requirements for a hydrant system within the site.

The mains connection must be tested (and if required, augmented) to ensure that it has sufficient flow and pressure characteristics for fire-fighting purposes at all times, ie minimum pressure and flow of 10 litres/second at 200 kilopascals.

A hydraulic engineer must provide design and construction specifications for the hydrant system. Notwithstanding, these are outlined in Fire hydrant and vehicle access guidelines which defers to the

local water retailer's specifications and the *Australian Standard* (**AS 2419.1-2021**) *Fire hydrant installations System design, installation and commissioning.*

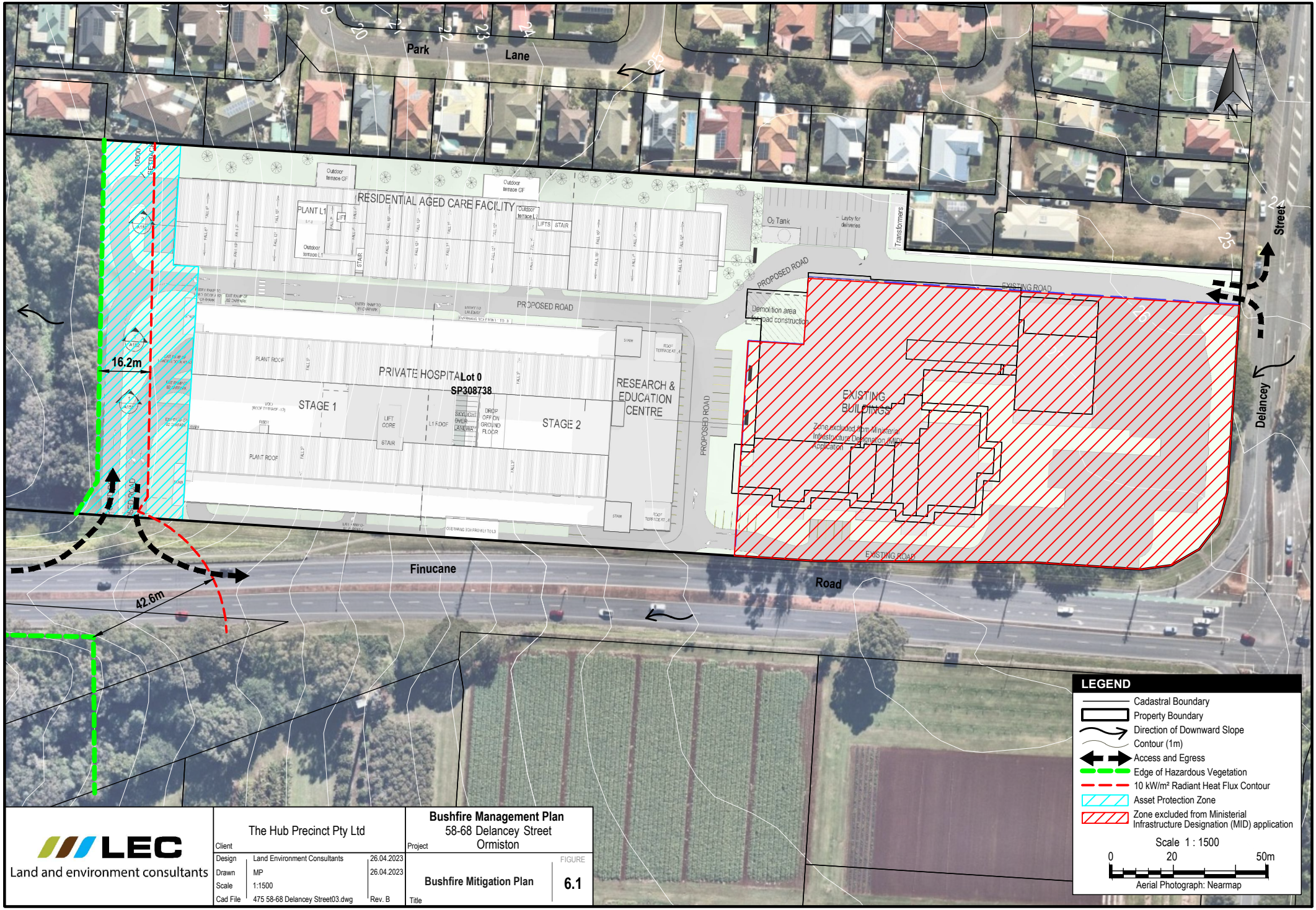
Fire hydrant and vehicle access guidelines state, where there are differences between a local water retailer's specifications and AS 2419.1-2021 the higher-level standard should prevail.

6.5 Service installation

Reticulated services, ie water, electricity and gas, must be installed underground.

6.6 Disaster management capacity and capability

In addition to the requirements in Sections 6.1-6.5, the proposed development must be developed and operated in accordance with requirements of the WHS Act and associated regulation and guidelines, the EP Act and the relevant building assessment provisions under the Building Act.



LEGEND

- Cadastral Boundary
- Property Boundary
- Direction of Downward Slope
- Contour (1m)
- Access and Egress
- Edge of Hazardous Vegetation
- 10 kW/m² Radiant Heat Flux Contour
- Asset Protection Zone
- Zone excluded from Ministerial Infrastructure Designation (MID) application

Scale 1 : 1500

0 20 50m

Aerial Photograph: Nearmap

LEC
Land and environment consultants

Client	The Hub Precinct Pty Ltd	Project	**Bushfire Management Plan** 58-68 Delancey Street Ormiston
Design	Land Environment Consultants	26.04.2023	
Drawn	MP	26.04.2023	
Scale	1:1500		
Cad File	475 58-68 Delancey Street03.dwg	Rev. B	
Title	**Bushfire Mitigation Plan**	FIGURE	**6.1**

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Annexure 6 to Schedule 1 – Noise Attenuation

5.2 Environmental Noise

The Redland City Plan references the *Environmental Protection (Noise) Policy 2008* (EPP) for assessing noise emissions to a noise sensitive receiver. The criteria of the EPP are summarised below.

5.2.1 Acoustic Quality Objectives (EPP 2008)

Table 4 presents the acoustic quality objectives at noise sensitive receivers as detailed in Schedule 1 of the EPP2008.

Table 4: Acoustic Quality Objectives at Noise Sensitive Receivers (EPP2008)

Sensitive Receiver	Time of Day	Acoustic Quality Objectives, dB(A)		
		$L_{Aeq,adj,1hr}$	$L_{A10,adj,1hr}$	$L_{A1,adj,1hr}$
Dwelling (Outdoors)	Day and Evening (7am – 10pm)	50	55	65
Dwelling (Indoors)	Day and Evening (7am – 10pm)	35	40	45
	Night (10pm – 7am)	30	35	40

5.2.2 Background Creep (EPP 2008)

This criterion is to prevent background noise progressively increasing or creeping higher over time with the establishment of new developments in a locality. EPP2008 states that:

2. *To the extent that it is reasonable to do so, noise from an activity must not be—*
   - *for noise that is continuous noise measured by $L_{A90,T}$—more than nil dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$; or*
   - *for noise that varies over time measured by $L_{Aeq,adj,T}$—more than 5dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$.*

In accordance with the Environmental Protection Regulation 2008, the time period (T) is considered to be a time interval of at least 15 minutes.

The Background Creep criteria for steady-state and transient noise sources are stated in Table 5.

Table 5: Background Creep Noise Limits at Noise Sensitive Properties (EPP2008)

Time Period	Steady-State Noise Emission Criteria, dB(A)	Time Varying Noise Emission Criteria, dB(A)
	$L_{A90,T}$	$L_{Aeq,T}$
Daytime (7am – 6pm)	49	54
Evening (6pm – 10pm)	46	51
Night (10pm – 7am)	31	36

7.6.2 Mechanical Plant Advice – Residential Aged Care

At this stage, plant equipment selections, location and noise emission data are not available. A noise assessment using a reverse calculation was conducted based on the following parameters:

- Mechanical plants assumed to be on rooftop of Level 1 and 2 with the recommended acoustic barriers as shown in Figures 14 and 15
- The acoustic barrier should have a minimum height of at least 1.0m above the top of the mechanical plant equipment, be solid with no gaps, and have a minimum density of 12.5kg/m^2.
  - The building structure is considered an acoustic barrier as it will meet the minimum density requirement.

Figure 14: Mechanical Plant – Level 1

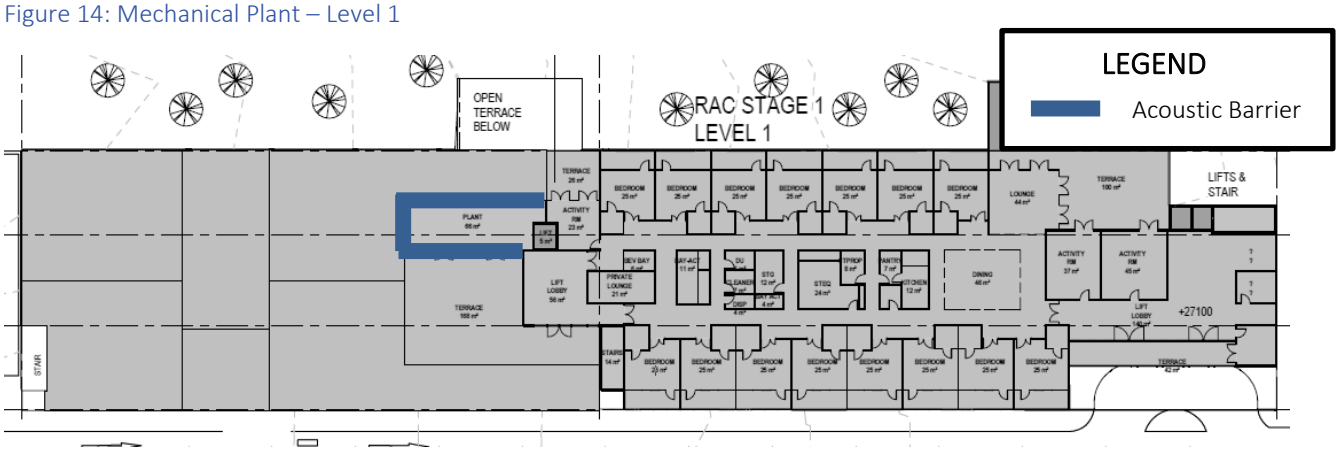
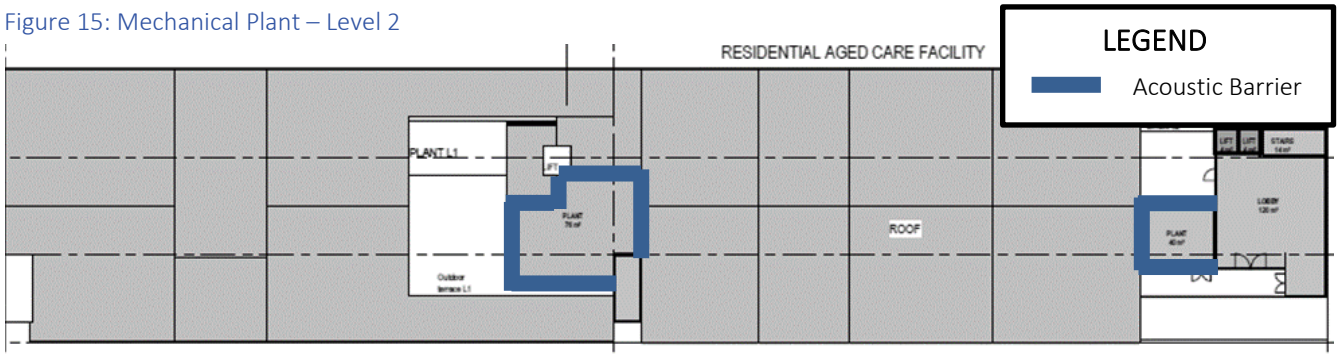


Figure 15: Mechanical Plant – Level 2



Based on the steady-state Background Creep criteria, barrier attenuation and distance attenuation from the nearest potential location to the nearest residential receiver, the allowable mechanical noise levels are presented in Table 18.

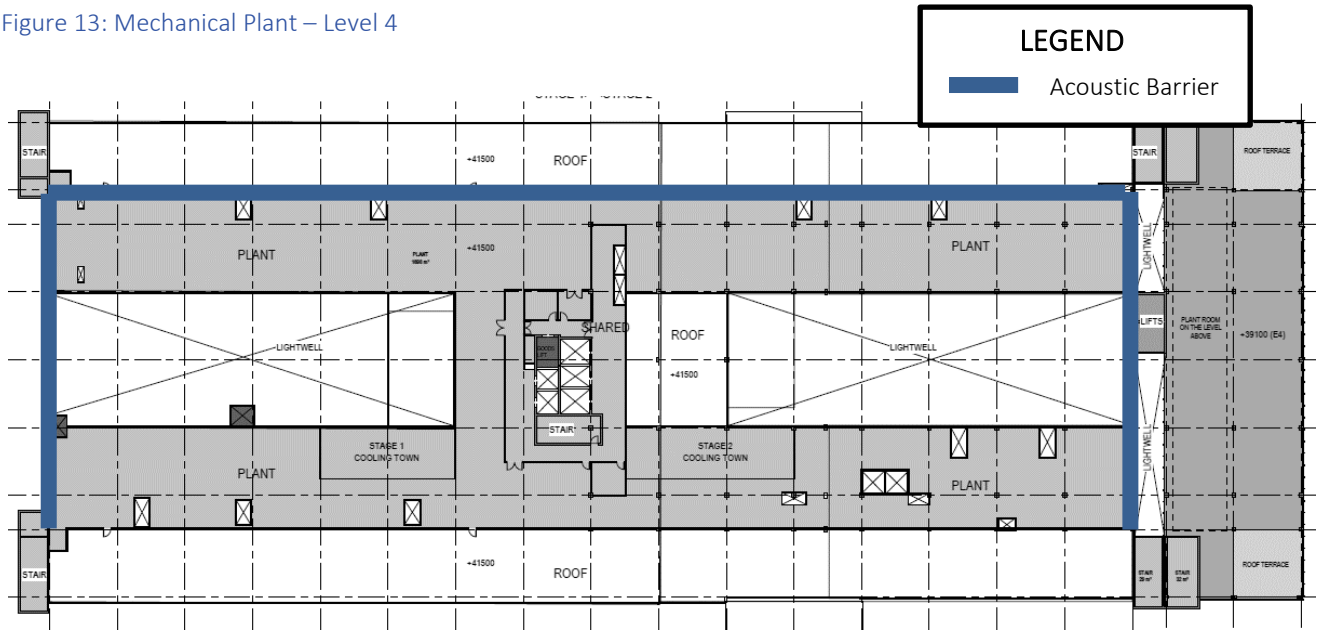
7.6 Preliminary Mechanical Plant Advice

7.6.1 Mechanical Plant Advice - Hospital

At this stage, plant equipment selections, location and noise emission data are not available. A noise assessment using a reverse calculation was conducted based on the following parameters:

- Mechanical plant assumed to be on rooftop of Level 4 with the recommended acoustic barriers as shown in Figure 13.
- The acoustic barrier should have a minimum height of at least 0.5m above the top of the mechanical plant equipment, be solid with no gaps, and have a minimum density of 12.5kg/m^2.

Figure 13: Mechanical Plant – Level 4



Based on the steady-state Background Creep criteria, barrier attenuation and distance attenuation from the nearest potential location to the nearest residential receiver, the allowable mechanical noise levels are presented in Table 17.

Table 17: Mechanical Plant Noise Limit for Compliance - Hospital

Plant location	Allowable noise level at 1m from the nearest piece of plant to receiver to achieve compliance, L_{eq} dB(A)		
	Day (7am – 6pm)	Evening (6pm – 10pm)	Night (10pm – 7am)
Level 4 Rooftop	106	103	88

Further acoustic treatment to the plant may allow a higher noise limit. A mechanical plant noise assessment should be conducted by a suitably qualified acoustic consultant once plant selections are finalised.

Table 18: Mechanical Plant Noise Limit for Compliance - RAC

Plant location	Allowable noise level at 1m from the nearest piece of plant to receiver to achieve compliance, L_{eq} dB(A)		
	Day (7am – 6pm)	Evening (6pm – 10pm)	Night (10pm – 7am)
Level 1 Rooftop	96	93	78
Level 2 Rooftop	100	97	82

Further acoustic treatment to the plant may allow a higher noise limit. A mechanical plant noise assessment should be conducted by a suitably qualified acoustic consultant once plant selections are finalised.

8 TTM Recommendations

The recommended acoustic treatments are presented in the sections below to achieve predicted compliance with the relevant assessment criteria.

8.1 Façade Attenuation

8.1.1 Road Traffic Noise

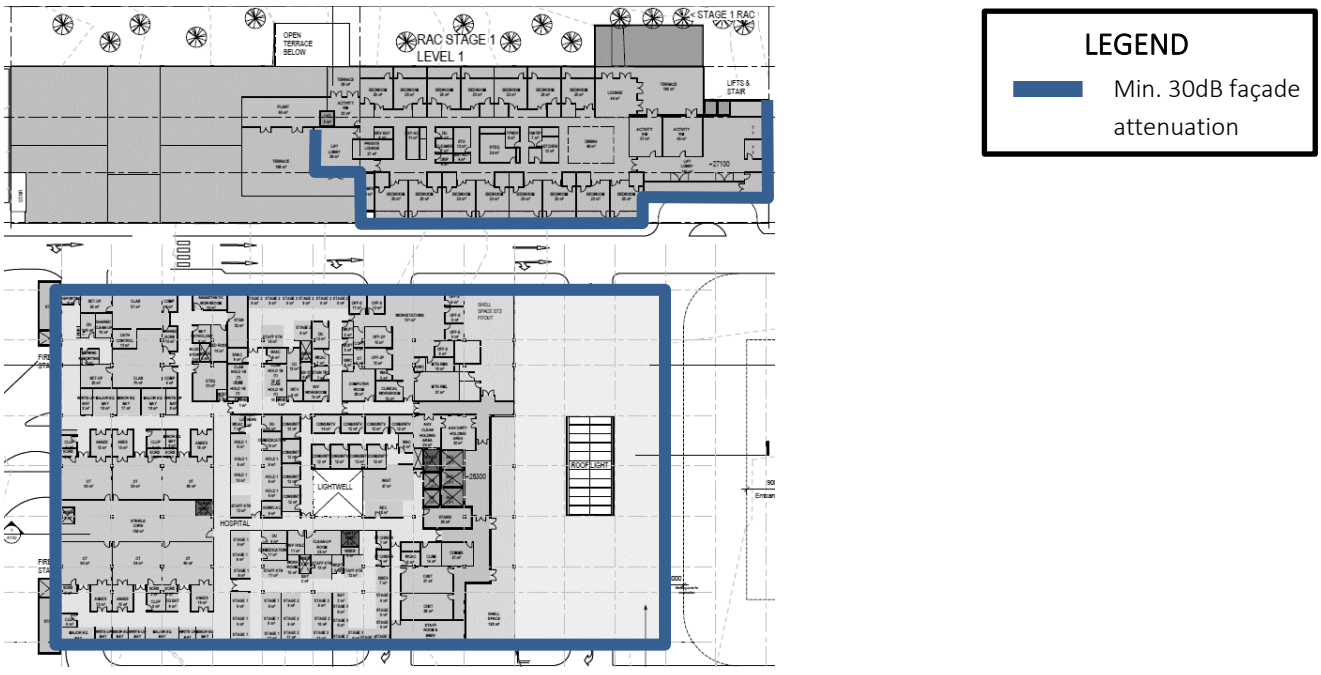
Façade construction for road traffic noise intrusion for the hospital is required to achieve up to 37dB noise reduction for the eastern, southern and western facades as shown in Table 9. Masonry wall construction is recommended for the wall materials. It is recommended that detailed design for glazing is conducted once window and patient care room dimensions are finalised during design development stage, to determine the required glazing sound reduction ratings (R_W). Double glazing window systems may be required, particularly for larger windows on exposed facades.

8.1.2 Onsite Noise

Façade construction for onsite noise intrusion for the hospital (all facades directions) and residential aged care dwellings (East, South and West facades) is required to achieve 30dB noise reduction. This is required for all floors for sensitive receivers (patient care areas and residential dwellings).

Masonry wall construction is recommended for the wall materials. It is recommended that detailed design for glazing is conducted once window dimensions are finalised during design development stage. An example level is shown in Figure 11.

Figure 16: Façade Attenuation – Onsite Noise (only Level 1 shown)



8.1.3 Hospital - Combined Façade Attenuation (road traffic and onsite noise)

Hospital façade construction requirements for both road traffic noise and onsite noise is shown in Table 19. Receivers in Table 19 correspond to the locations shown in Figure 6 and Figure 7 in Section 6.3.

Table 19: Predicted Road Traffic Noise Levels - Hospital

Direction	Receiver	Floor	Required Façade Attenuation dB
North	R1	Ground	30*
		Level 1	30*
		Level 2	30*
		Level 3	30*
East	R2	Level 1	30*
		Level 2	30*
		Level 3	30*
	R3	Level 1	30*
		Level 2	30*
		Level 3	30
South	R4	Ground	32
		Level 1	36
		Level 2	36
		Level 3	36
East	R5	Level 2	34
		Level 3	35
		Level 4	34
South	R6	Level 2	37
		Level 3	37
		Level 4	37
West	R7	Level 2	34
		Level 3	34
		Level 4	34
South	R8	Ground	35
		Level 1	36
		Level 2	36
		Level 3	35
West	R9	Ground	30*
		Level 1	30
		Level 2	30
		Level 3	30
	R10	Ground	30*
		Level 1	30*
		Level 2	30*
		Level 3	30*
Setdown Area	R11	Ground	30*
	R12	Ground	30*
	R13	Ground	30*

* 30dB minimum noise reduction for onsite noise.

8.2 Onsite Noise

8.2.1 Acoustic Barriers

The following acoustic barriers along the northern boundary of the site are required to reduce noise levels from the development onto noise sensitive receivers.

Barrier recommendations are as follows:

a. The existing section of the acoustic barriers is to be maintained, as shown in Figure 17.

b. The acoustic barrier must extend along the entire northern boundary of the site.

c. The acoustic barrier must be the minimum height above ground level as shown in Figure 17.

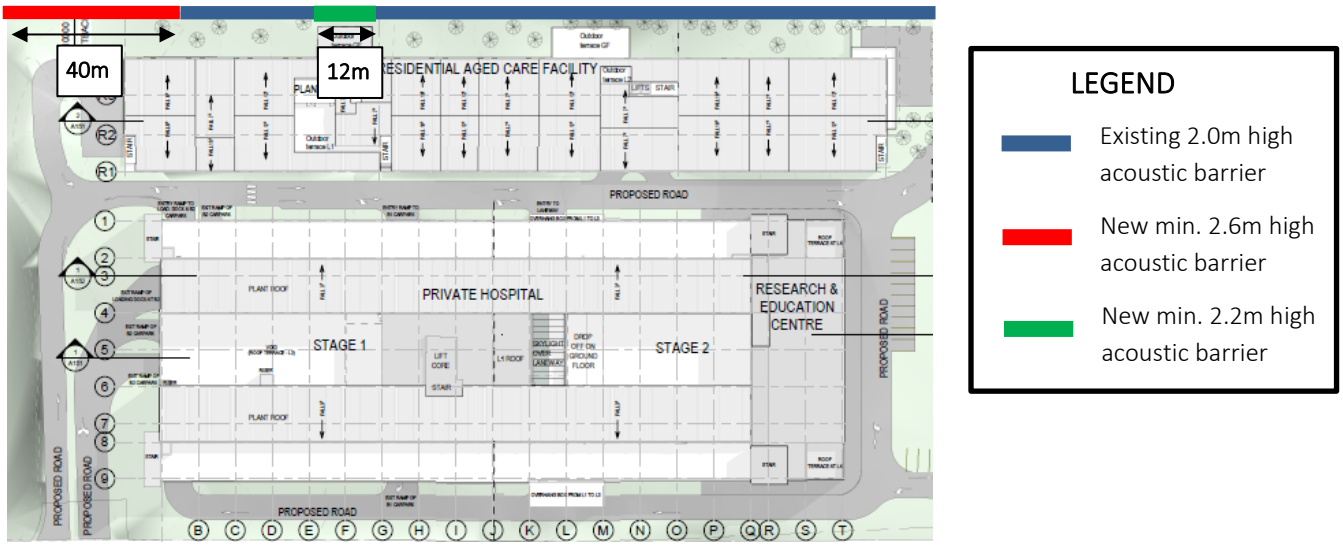
d. The acoustic barrier must have no gaps or holes should be evident in the barrier construction including at the base.

e. The 2.2m high section of acoustic barrier (shown as green in Figure 17) must extend the length of the outdoor terrace.

f. The acoustic barrier must be constructed of a material with a surface mass not less than 12.5kg/m2.

g. Suitable materials may include lapped timber, earth mound, steel panels, fibre cement sheeting, plywood, glass, masonry, or a combination of materials.

Figure 17: Acoustic Barriers



8.2.2 Solid Balustrades

Solid balustrades / barriers along the outdoor terraces at level 1 and level 2 of the Residential Aged Care are required to reduce noise levels from the development onto noise sensitive receivers.

Balustrade / barrier recommendations are as follows:

a. The solid balustrades are recommended at the locations, extent and heights as shown in Figures 18 and 19.

b. Solid balustrades / barriers must be continuous solid gap-free structure (excluding gaps required for drainage purposes to comply with the Building Code of Australia)

c. The solid balustrades / barriers must be constructed of a material with a surface mass not less than 12.5kg/m^2.

d. Examples of possible construction materials for solid balustrading are masonry, glazing or other solid materials with no gaps or holes.

Figure 18: Noise Source Locations – RAC Level 1

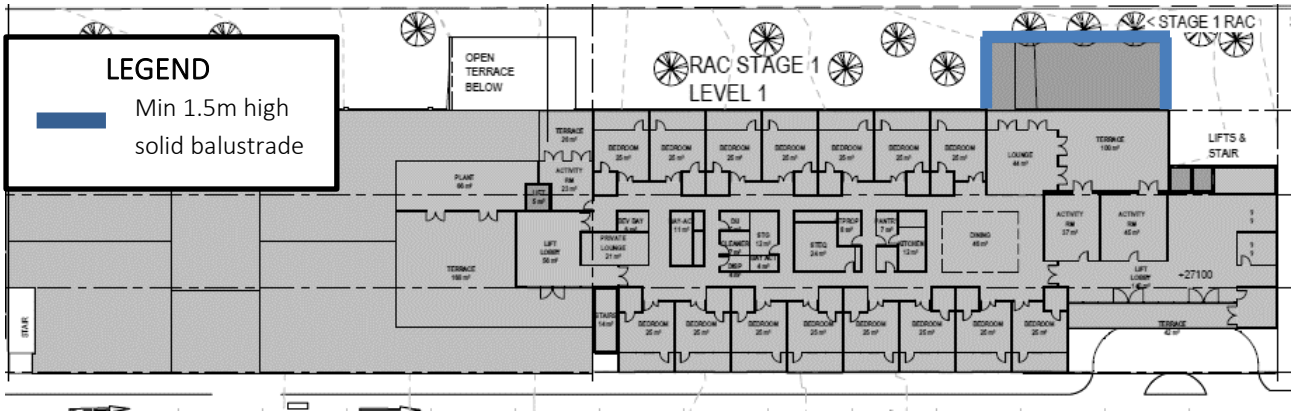


Figure 19: Noise Source Locations – RAC Level 2

8.2.3 Noise Management Strategies

The following management strategies are recommended to minimise noise annoyance:

a. Residential aged care outdoor areas to only operate between 7am and 10pm.

b. All heavy vehicles are recommended to access the site via Finucane Road.

c. Any speed humps should be bitumen, concrete (as part of the slab) or rubber, not metal.

d. Any grates or other protective covers in the handstand and access driveway must be rigidly fixed in position to eliminate clanging, and be maintained.

8.2.4 Mechanical Plant Noise

As detailed plant selections are not available at this stage, it is not possible to carry out a detailed examination of the noise control measures that may be required to achieve the noise targets for mechanical plant.

A preliminary assessment of allowable plant noise for the hospital rooftop plant to achieve compliance was conducted in Section 7.6.

It is recommended mechanical plant is screened from the northern receivers with acoustic barriers and/or building structures, the mechanical plant may need to be further acoustically treated to achieve the criteria detailed in Section 5 to prevent noise emissions from adversely impacting the surrounding properties. This may include selecting the quietest plant possible, or treating the plant equipment with enclosures, duct lining and silencers, etc.

A full mechanical plant noise assessment should be conducted by a suitably qualified acoustic consultant once plant selections are finalised.

Annexure 7 to Schedule 1 – Landscaping

OVERALL LANDSCAPE CONCEPT PLAN

NEARMAP DATED: 17/03/23

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
23.061	3	D	15/05/23	AG / AA

1:1000@A3
0 10 20 50m

agla

LANDSCAPE CONCEPT PLAN - STAGE 1

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule
(ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

2. MEDIUM SHADE/ SCREEN TREE
Medium sized trees that assist in the landscape presentation of neighbouring property; provides visual and climatic amenity, primary screening, as well as shade to hardstand areas; Refer Proposed Planting Schedule
(ie: *Elaeocarpus eumundii, Tristaniopsis laurina Luscious*)

3. SMALL FEATURE TREE
Small canopied feature trees adjacent to communal areas to provide climatic and visual amenity; Refer Proposed Planting Schedule
(ie: *Lagerstroemia indica x fauriei* White, *Lagerstroemia indica x fauriei* Sioux)

4. SCREEN PLANTING
Planting to provide visual amenity and privacy screeningto neighbouring properties; Refer Proposed Planting Schedule
(ie: *Syzygium australe* Resilience, *Radermachera pierrei* Summerscent)

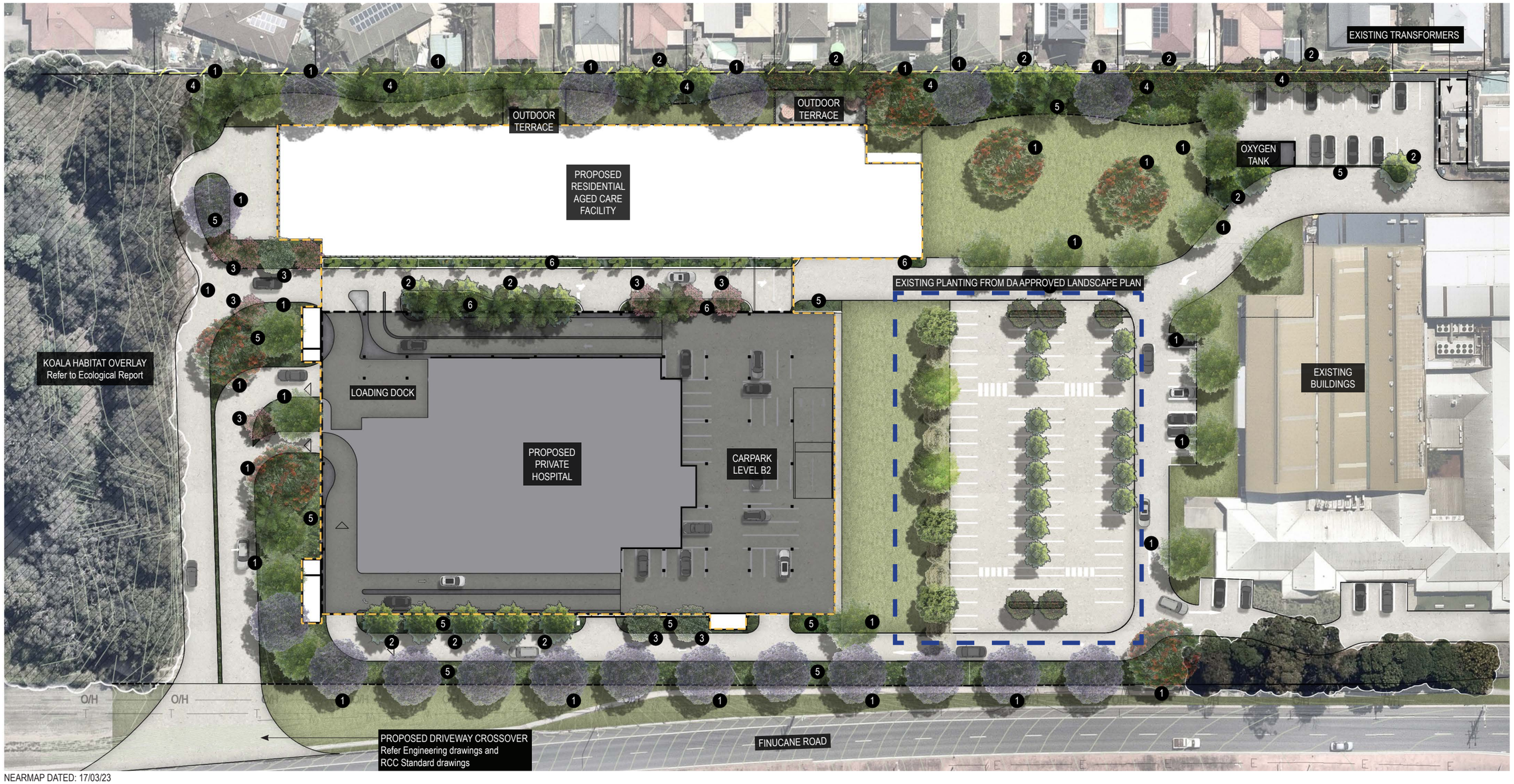
5. SHRUBS AND GROUNDCOVERS
Mass planting to large areas to assist in building presentation to the streetscape and to provide visual amenity; Refer Proposed Planting Schedule

6. FEATURE SHADE PLANTING
Planting of shade tolerant planting with striking feature planting to provide visual amenity and interest. Refer Proposed Planting Schedule
(ie: *Alocasia macrorrhiza, Calathea lutea, Cyathea cooperi*)

PROPOSED SCREEN FENCE
1800mm high timber fence, if required

PROPOSED GARDEN EDGE
To future detail

LINE OF PROPOSED BASEMENT CARPARK UNDER
As taken from Architectural drawings



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23.061	4	D	15/05/23	AG / AA

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0 4 8 12 16 20 40m

LANDSCAPE CONCEPT PLAN - STAGE 1 & 2

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule
(ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

2. MEDIUM SHADE/ SCREEN TREE
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(ie: *Elaeocarpus eumundii, Tristaniopsis laurina Luscious*)

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(ie: *Alocasia macrorrhiza, Calathea lutea, Cyathea cooperi*)

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PROPOSED GARDEN EDGE
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LANDSCAPE CONCEPT PLAN - STAGE 1 LEVEL 2 TERRACE

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule (ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

2. MEDIUM SHADE/ SCREEN TREE
Medium sized trees that assist in the landscape presentation of neighbouring property; provides visual and climatic amenity, primary screening, as well as shade to hardstand areas; Refer Proposed Planting Schedule (ie: *Elaeocarpus eumundii, Tristaniopsis laurina Luscious*)

3. SMALL FEATURE TREE
Small canopied feature trees adjacent to communal areas to provide climatic and visual amenity; Refer Proposed Planting Schedule (ie: *Lagerstroemia indica x fauriei* White, *Lagerstroemia indica x fauriei* Sioux)

4. SCREEN PLANTING
Planting to provide visual amenity and privacy screeningto neighbouring properties; Refer Proposed Planting Schedule (ie: *Syzygium australe* Resilience, *Radermachera pierrei* Summerscent)

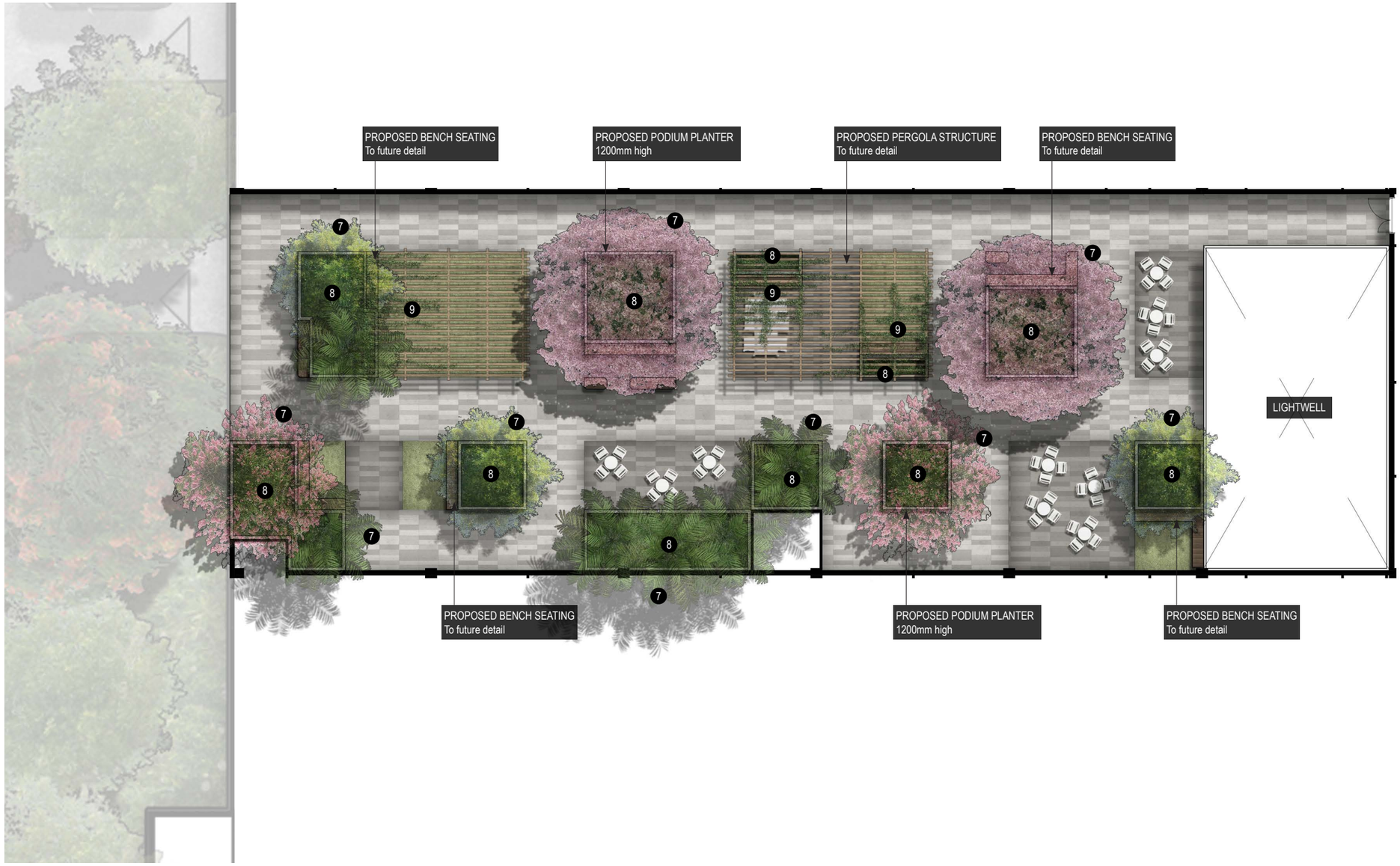
5. SHRUBS AND GROUNDCOVERS
Mass planting to large areas to assist in building presentation to the streetscape and to provide visual amenity; Refer Proposed Planting Schedule

6. FEATURE SHADE PLANTING
Planting of shade tolerant planting with striking feature planting to provide visual amenity and interest. Refer Proposed Planting Schedule (ie: *Alocasia macrorrhiza, Calathea lutea, Cyathea cooperi*)

7. PODIUM TREES AND PALM
Median sized canopy trees to large podium planters to provide visual and climatic amenity to the podium level as well as vertical softening of the building; Refer Proposed Planting Schedule (ie: *Calodendron capense, Lagerstroemia indica x fauriei* Sioux, *Ptychosperma elegans*, *Tristaniopsis laurina* 'Luscious')

8. PODIUM SHRUBS AND GROUNDCOVERS
Mass planting to landscape areas on podium to provide visual amenity, soften building and podium planters; Refer Proposed Planting Schedule

9. CLIMBERS
Vertical plant softening to pergola structure to provide shade and increased visual amenity; Refer Proposed Planting Schedule (ie: *Hardenbergia violacea* Edna Walling Snow White, *Wisteria floribunda* Alba)



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23.061	6	D	15/05/23	AG / AA

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0 1 2 3 4 5 10m

LANDSCAPE CONCEPT PLAN - STAGE 1 LEVEL 2 TERRACE

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule (ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

2. MEDIUM SHADE/ SCREEN TREE
Medium sized trees that assist in the landscape presentation of neighbouring property; provides visual and climatic amenity, primary screening, as well as shade to hardstand areas; Refer Proposed Planting Schedule (ie: *Elaeocarpus eumundii, Tristaniopsis laurina Luscious*)

3. SMALL FEATURE TREE
Small canopied feature trees adjacent to communal areas to provide climatic and visual amenity; Refer Proposed Planting Schedule (ie: *Lagerstroemia indica x fauriei* White, *Lagerstroemia indica x fauriei* Sioux)

4. SCREEN PLANTING
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5. SHRUBS AND GROUNDCOVERS
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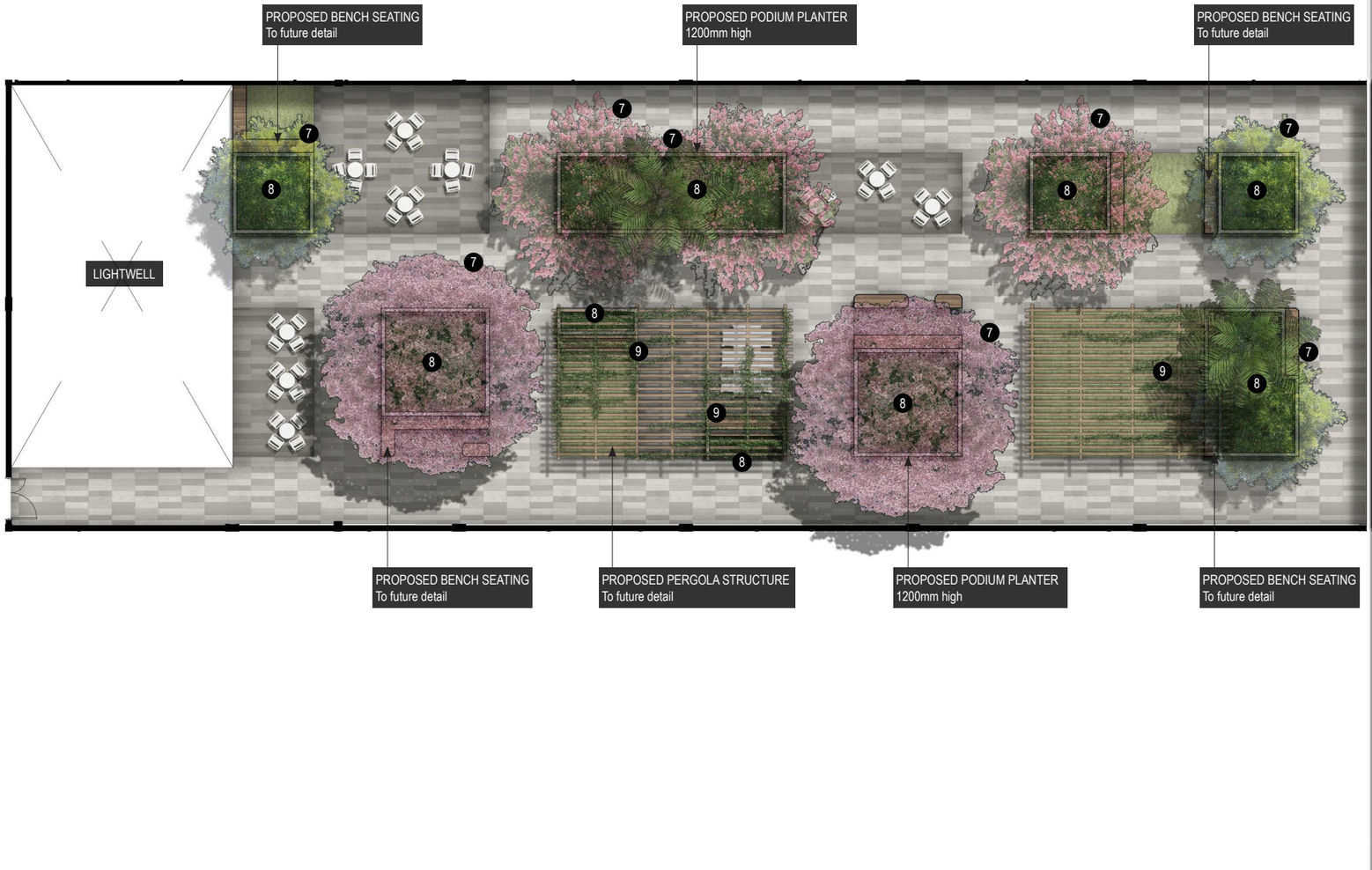

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1:200@A3
0 1 2 3 4 5 10m

LANDSCAPE CONCEPT PLAN - STAGE 1 BLOW-UP PLAN

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule
(ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

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(ie: *Alocasia macrorrhiza, Calathea lutea, Cyathea cooperi*)

PROPOSED GARDEN EDGE
To future detail

LINE OF PROPOSED BASEMENT CARPARK UNDER
As taken from Architectural drawings

NEARMAP DATED: 17/03/23

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

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23.061	8	D	15/05/23	AG / AA

1:400@A3
0 2 4 6 8 10 20m

LANDSCAPE CONCEPT PLAN - STAGE 2 BLOW-UP PLAN

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule
(ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

2. MEDIUM SHADE/ SCREEN TREE
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(ie: *Elaeocarpus eumundii, Tristaniopsis laurina Luscious*)

3. SMALL FEATURE TREE
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To future detail

LINE OF PROPOSED BASEMENT CARPARK UNDER
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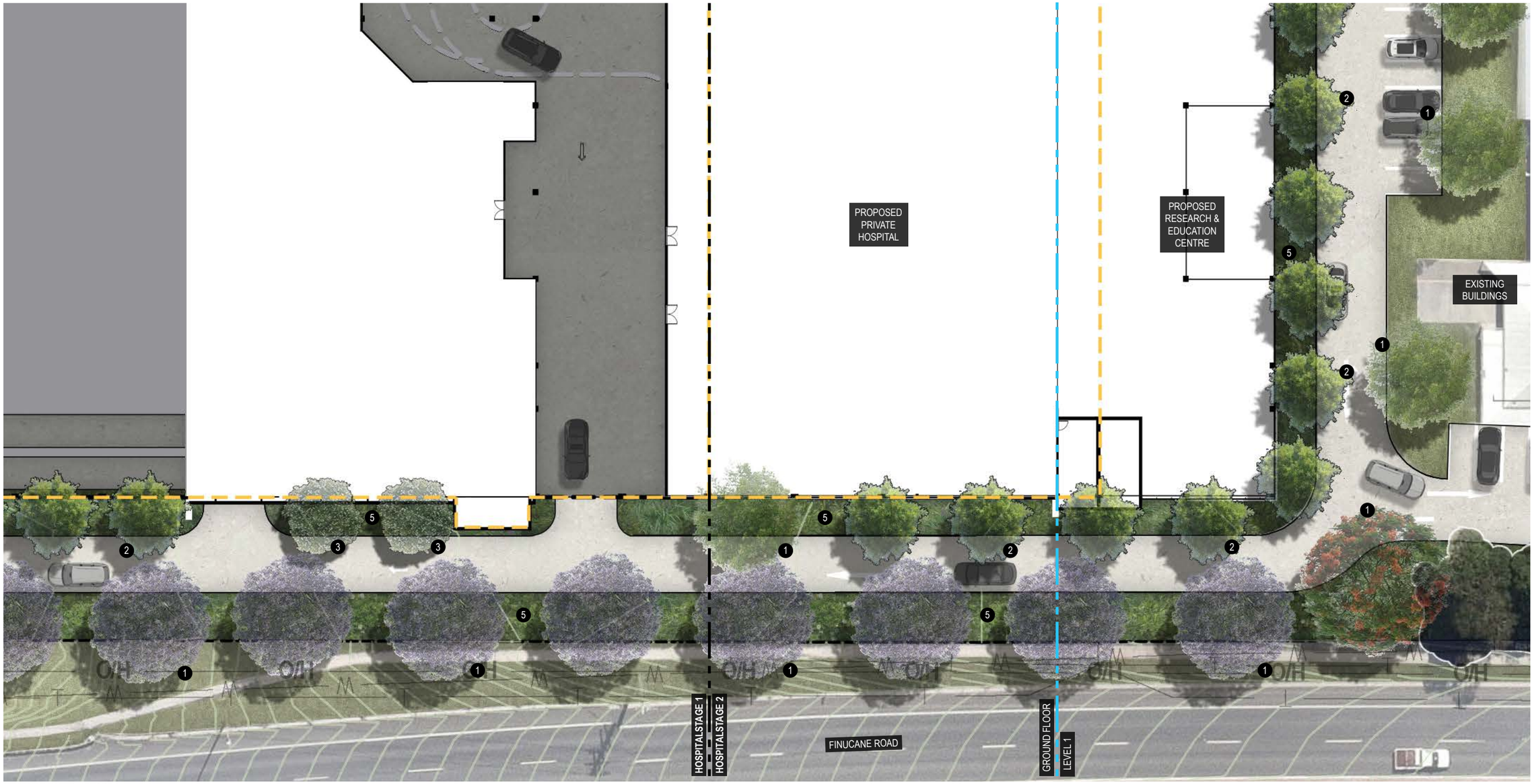

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1:400@A3
0 2 4 6 8 10 20m

LANDSCAPE CONCEPT PLAN - STAGE 1 BLOW-UP PLAN

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule
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(ie: *Alocasia macrorrhiza, Calathea lutea, Cyathea cooperi*)

PROPOSED SCREEN FENCE
1800mm high timber fence, if required

LINE OF PROPOSED BASEMENT CARPARK UNDER
As taken from Architectural drawings

NEARMAP DATED: 17/03/23

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23.061	10	D	15/05/23	AG / AA

1:400@A3
0 2 4 6 8 10 20m

LANDSCAPE CONCEPT PLAN - STAGE 2 BLOW-UP PLAN

1. LARGE FEATURE SHADE/ SCREEN TREE
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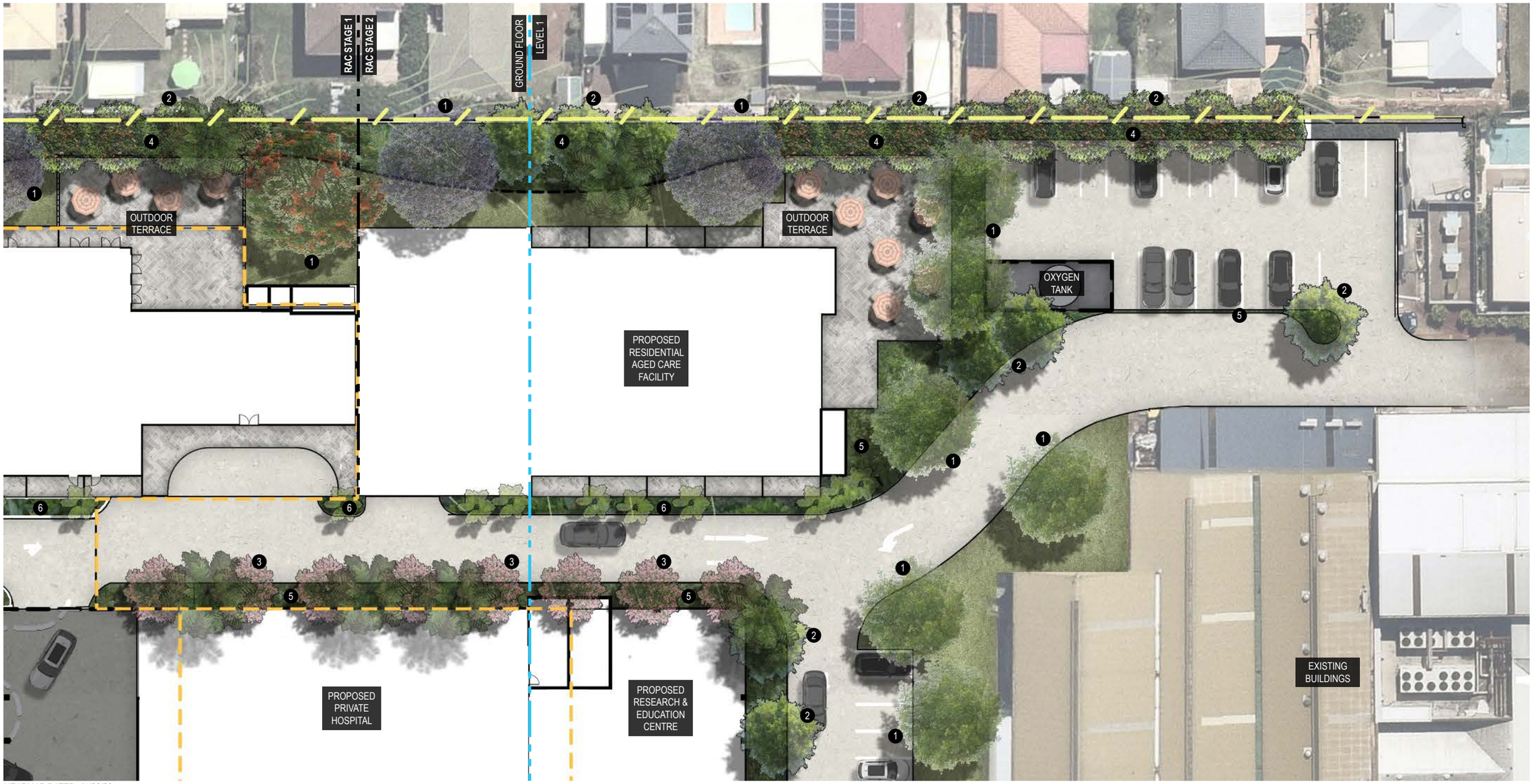

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23.061	11	D	15/05/23	AG / AA

1:400@A3
0 2 4 6 8 10 20m

LANDSCAPE ELEVATIONS

1 LARGE FEATURE SHADE/ SCREEN TREE
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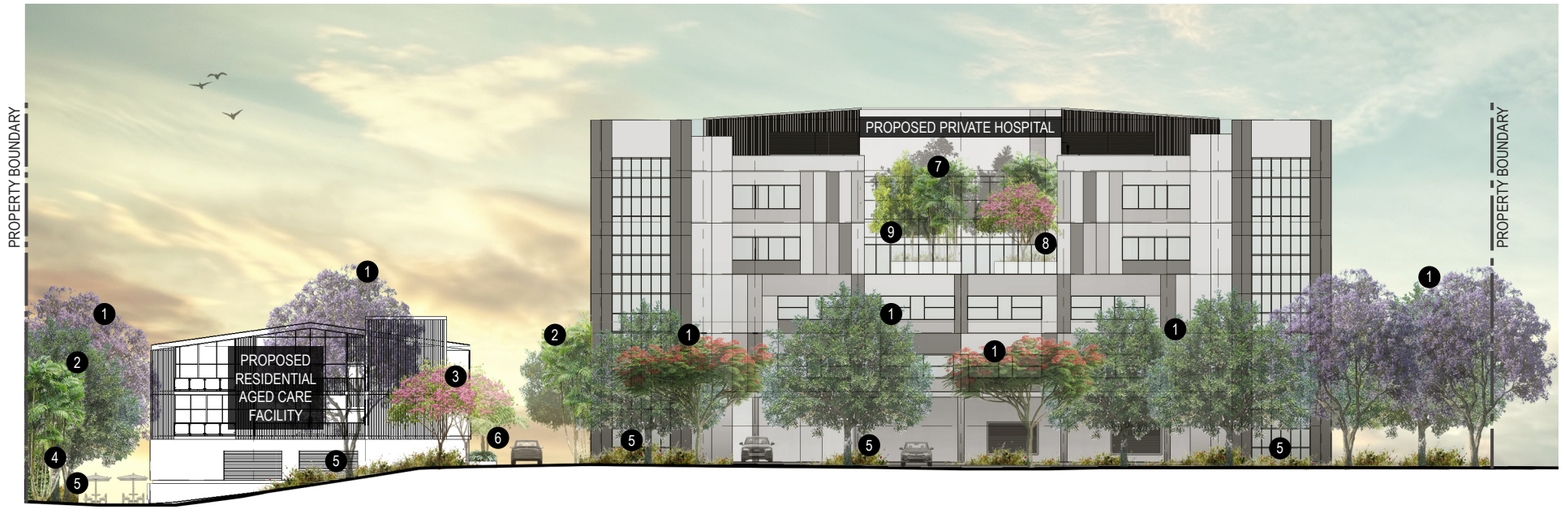
SOUTH ELEVATION
SCALE 1:500 @ A3

WEST ELEVATION
SCALE 1:500 @ A3



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0 5 10 25m

LANDSCAPE ELEVATIONS

1. LARGE FEATURE SHADE/ SCREEN TREE
Large canopied rounded tree species to deep planting zones capable of growing to a minimum height of 15m at maturity and to provide shade over the frontage, provide visual amenity and landscape softening of the proposed dwellings; Refer Proposed Planting Schedule
(ie: *Cupaniopsis anacardioides, Delonix regia, Jacaranda mimosifolia*)

2. MEDIUM SHADE/ SCREEN TREE
Medium sized trees that assist in the landscape presentation of neighbouring property; provides visual and climatic amenity, primary screening, as well as shade to hardstand areas; Refer Proposed Planting Schedule
(ie: *Elaeocarpus eumundii, Tristaniopsis laurina Luscious*)

3. SMALL FEATURE TREE
Small canopied feature trees adjacent to communal areas to provide climatic and visual amenity; Refer Proposed Planting Schedule
(ie: *Lagerstroemia indica x fauriei* White, *Lagerstroemia indica x fauriei* Sioux)

4. SCREEN PLANTING
Planting to provide visual amenity and privacy screeningto neighbouring properties; Refer Proposed Planting Schedule
(ie: *Syzygium australe* Resilience, *Radermachera pierrei* Summerscent)

5. SHRUBS AND GROUNDCOVERS
Mass planting to large areas to assist in building presentation to the streetscape and to provide visual amenity; Refer Proposed Planting Schedule

6. FEATURE SHADE PLANTING
Planting of shade tolerant planting with striking feature planting to provide visual amenity and interest. Refer Proposed Planting Schedule
(ie: *Alocasia macrorrhiza, Calathea lutea, Cyathea cooperi*)

RESIDENTIAL AGED CARE FACILITY NORTH ELEVATION

SCALE 1:500 @ A3

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
23.061	13	D	15/05/23	AG / AA

1:500@A3
0 5 10 25m

agla

PROPOSED PLANTING SCHEDULE

CODE (m)	SPECIES	COMMON NAME	SIZE**	SPACING(m)	HEIGHT(m)	WIDTH
PROPOSED LARGE FEATURE SHADE/ SCREEN TREES						
As taken from SC6.24 Planting species planning scheme policy						
1.1	*Cupaniopsis anacardioides*	Tuckeroo	45L	as shown	15	10
1.2	*Delonix regia*	Poinciana	100L	as shown	10	15
1.3	*Ficus macrocarpa* var. *hilli*	Hill's fig	200L	as shown	20	15
1.4	*Handroanthus impetiginosus*	Pink trumpet tree	100L	as shown	10	8
1.5	*Hymenosporum flavum*	Native Frangipani	100L	as shown	12	6
1.6	*Jacaranda mimosifolia*	Jacaranda	200L	as shown	15	12
PROPOSED MEDIUM SHADE/ SCREEN TREES						
2.1	*Buckinghamia celsissima*	Ivory Curl	45L	as shown	8	5
2.2	*Elaeocarpus eumundii*	Smooth Leaved Quandong	45L	as shown	8	5
2.3	*Harpullia pendula*	Tulipwood	45L	as shown	15	6
2.4	*Ptychosperma elegans*	Solitaire Palm	200L	as shown	12	6
2.5	*Tristaniopsis laurina* Luscious	Water Gum	45L	as shown	10	5
2.6	Xanthostemon chrysanthus	Golden Penda	45L	as shown	12	5

****PLANT CONTAINER SIZE:**

200L	200 Litre container stock min	Min. height at time of planting: 3.6m
100L	100 Litre container stock min	Min. height at time of planting: 2.4m
45L	45 Litre container stock min	Min. height at time of planting: 1.9-2.3m

The spacing of plants shown on plan have been derived as a compromise between growth rate, anticipated size, and the ability to provide a good vegetative cover within a reasonable space of time.

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
23.061	14	D	15/05/23	AG / AA

PROPOSED PLANTING SCHEDULE

CODE (m)	SPECIES	COMMON NAME	SIZE**	SPACING(m)	HEIGHT(m)	WIDTH
PROPOSED SMALL FEATURE TREES						
3.1	*Calodendron capense*	Cape Chestnut Tree	200L	as shown	5-8	5-8
3.2	*Lagerstroemia indica x fauriei* Sioux	Pink Crepe Myrtle	200L	as shown	8	5
3.3	*Lagerstroemia indica x fauriei* White	White Crepe Myrtle	200L	as shown	8	6
3.4	*Magnolia grandiflora* Teddy Bear	Dwarf Magnolia Tree	200L	as shown	4	3
3.5	*Plumeria obtusa* Singapore White	Frangipani	200L	as shown	8	8
PROPOSED SCREEN PLANTING						
4.1	*Callistemon viminale* Wildfire	Bottlebrush	200mm	1.8	4	2
4.2	*Grevillea longistyla x venusta* Firesprite	Grevillea Spider Flower	200mm	2	5	2
4.3	*Grevillea* Moonlight	Grevillea	300mm	2.5	5	3
4.4	*Radermachera pierrei* Summerscent	Summerscent	300mm	1.5	3-4	2.5
4.5	*Syzygium australe* Resilience	Lillypilly	300mm	1.5	3	2

****PLANT CONTAINER SIZE:**

200L	200 Litre container stock min	Min. height at time of planting: 3.6m
300mm	300mm dia minimum pot size	
200mm	200mm dia minimum pot size	

The spacing of plants shown on plan have been derived as a compromise between growth rate, anticipated size, and the ability to provide a good vegetative cover within a reasonable space of time.

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
23.061	15	D	15/05/23	AG / AA

PROPOSED PLANTING SCHEDULE

CODE (m)	SPECIES	COMMON NAME	SIZE**	SPACING(m)	HEIGHT(m)	WIDTH
PROPOSED SHRUBS AND GROUNDCOVERS						
5.1	*Alpinia nutans*	*Dwarf Cardamom*	200mm	1	1	1.2
5.2	*Alpinia zerumbet* Variegata	Variegated shell ginger	200mm	1.8	2	2
5.3	*Babingtonia virgata* La Petite	Heath Myrtle	200mm	0.8	1	1
5.4	*Carissa grandiflora*	Desert Star	200mm	0.7	1	1
5.5	*Gardenia augusta* Florida	Gardenia	200mm	0.8	1.2	1
5.6	*Gardenia jasminoides* Radicans	Creeping Gardenia	200mm	0.8	0.5	2
5.7	*Juniperus conferta*	Shore juniper	200mm	0.8	0.5	3
5.8	*Leptospermum hybrid* Pink Cascade	Pink Cascade	200mm	1	0.5-0.8	1-1.5
5.9	*Lirope muscari* Evergreen Giant	Lirope	140mm	0.6	0.8	0.8
5.10	*Pittosporum tobira* Wheelers Dwarf	Japanese pittosporum	200mm	1	1	1.2
5.11	R*haphiolepis indica* Rapopink Oriental Pink	Indian Hawthorn hybrid	200mm	0.8	1	1
5.12	*Rosmarinus officinalis* Huntington Carpet	Creeping Rosemary	200mm	1	0.3-0.5	2
PROPOSED FEATURE SHADE PLANTING						
6.1	*Alocasia macrorrhiza*	Giant Elephant Ear	200mm	1.5	2	1.5
6.2	*Alpinia nutans*	Dwarf Cardamom	200mm	1	1	1.2
6.3	*Calathea lutea*	Cigar Plant	200mm	1.2	3	1.5
6.4	*Cyathea cooperi*	Lacey tree fern	300mm	as shown	5	3
6.5	*Thaumatophyllum* Xanadu	Xanadu	140mm	0.8	1	1

****PLANT CONTAINER SIZE:**

300mm	300mm dia minimum pot size
200mm	200mm dia minimum pot size
140mm	140mm dia minimum pot size

The spacing of plants shown on plan have been derived as a compromise between growth rate, anticipated size, and the ability to provide a good vegetative cover within a reasonable space of time.

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
23.061	16	D	15/05/23	AG / AA

PROPOSED PLANTING SCHEDULE

CODE (m)	SPECIES	COMMON NAME	SIZE**	SPACING(m)	HEIGHT(m)	WIDTH
PROPOSED PODIUM TREES AND PALM						
3.1	*Calodendron capense*	Cape Chestnut Tree	200L	as shown	8	8
3.2	*Lagerstroemia indica x fauriei* Sioux	Pink Crepe Myrtle	200L	as shown	8	6
2.4	*Ptychosperma elegans*	Solitaire Palm	200L	as shown	12	6
2.5	*Tristaniopsis laurina* Luscious	Water Gum	100L	as shown	10	5
PROPOSED PODIUM SHRUBS AND GROUNDCOVERS						
8.1	*Carpobrotus rossii* White Hot	Karkalla	140mm	0.8	0.4	1
8.2	*Gardenia jasminoides* Radicans	Creeping Gardenia	200mm	0.8	0.5	2
8.3	*Leptospermum hybrid* Pink Cascade	Pink Cascade	140mm	1	0.8	1.5
8.4	*Rosmarinus officinalis* Huntington Carpet	Creeping Rosemary	140mm	1	0.5	2
PROPOSED CLIMBERS						
9.1	*Hardenbergia violacea* Edna Walling Snow White	Corel Pea	200mm	as shown	3	2
9.2	*Wisteria floribunda Alba*	White Japanese Wisteria	200mm	3	3-9	3-6

****PLANT CONTAINER SIZE:**

200L	200 Litre container stock min	Min. height at time of planting: 3.6m
100L	100 Litre container stock min	Min. height at time of planting: 2.4m
200mm	200mm dia minimum pot size	
140mm	140mm dia minimum pot size	

The spacing of plants shown on plan have been derived as a compromise between growth rate, anticipated size, and the ability to provide a good vegetative cover within a reasonable space of time.

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HUB68 CENTRE OF EXCELLENCE – AGING AND WELLNESS
56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
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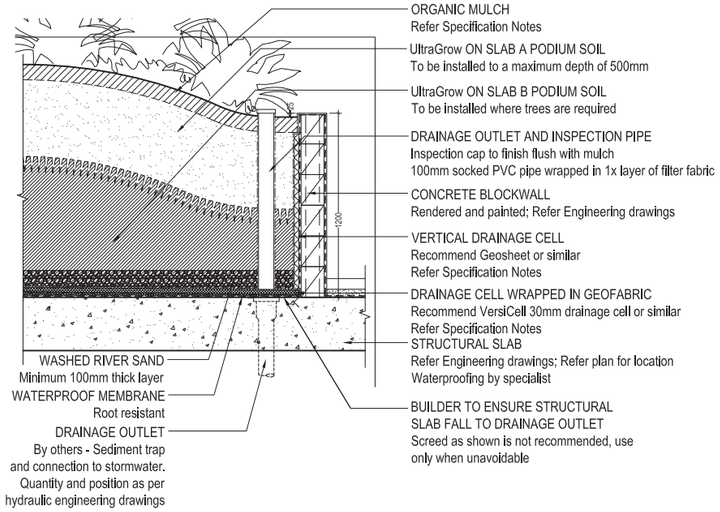

TYPICAL 1200mm HIGH PODIUM PLANTER
SCALE 1:40 @ A3

LANDSCAPE SPECIFICATION NOTES

PODIUM PLANTERS

TOPSOIL:
Supply and install imported topsoil suitable for podium planters (UltraGrow Platinum Podium and Container Mix.)
Proposed topsoil must comply with Australian Standards AS4419-2003 and Australian Standards AS3743-2003 'Potting Mixes'
Provide certification of soil types delivered to site, as per AS3743-2003.

TOPSOIL AERATION AND DECOMPOSITION:
Contractor must allow to maintain finished levels allowing for potential slumping and subsidence. Tamping down and light wetting up of soil during placement on podium to ensure air pockets and voids are managed out.

FERTILIZER:
Ensure soil nutrient and PH levels are suitable for specific plant species (ie. native or exotic species)
Apply appropriate slow release fertilizer (ie. native / exotic species) to each plant as per manufacturer's recommended rates.
A slow or controlled release fertiliser organic or inorganic to be incorporated generally into the imported (or excavated / site topsoil). We recommend the following:

Inorganic Slow or Controlled Release fertilisers:
- Osmocote
- Nutricote
- Macrocote
- E-Scape PRO by eCo-Enviroment

Organic slow release:
- Dynamic Lifter
- Organic Link by Plant of Health

PLANTING:
To locations as shown on the plan and to the sizes and numbers as shown on the schedule.

ORGANIC MULCHING:
Where specified, proposed mulch must comply with Australian Standards AS4454-2003. Spread 1" Hoop Bark to a minimum depth of 75mm entirely over planting bed areas.

INORGANIC MULCH:
Where specified, spread recycled brick to a minimum depth of 20mm entirely over planting bed areas.
Where specified, spread Winter Grey 20-60mm (ie: https://centenarylandscaping.com.au/shop-products/pebbles-gravels-rock/winter-grey) to a minimum depth of 75mm entirely over planting bed areas, unless otherwise shown in the details.

DRAINAGE CELLS:
Use drainage cells to podium planters

Horizontal Application:
Install VersiCell 30mm (https://elmich.com.au/products/versicell-subsoil-drainage/) or similar drainage cell, installed to manufacturer's recommendations.
Ensure all corners and sharp edges are removed and tapped to avoid damaging the waterproof membrane. Apply final layer of geofabric/ filter fabric (refer below) over entire drain cell area. Lap material minimum 400mm at junctions or joins. Turn fabric up walls and service risers minimum 300mm. Ensure neat holes cut in around services with minimum 15mm clearance.

Vertical Application (to planter walls):
Install to manufacturer's specifications to all podium planter garden bed walls over 400mm in height. Lapping joins and junctions by minimum 100mm.

GEOFABRIC:
Install Filterwrap (https://www.geofabrics.co/products/filterwrap™) as per Geosystems Australia details and specifications.

VOID FILLER:
Install polystyrene blocks cut to size to podium planters as shown on details. Contact Polystyrene Products (or similar) for space fillers. Ensure geofabric is installed over, to separate soil media from the polystyrene product. (https://www.polystyreneproducts.com.au)

IRRIGATION:
Ensure irrigation is provided as per specification.

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56-68 DELANCEY STREET, ORMISTON

JOB NUMBER	SHEET NO.	ISSUE	DATE	DRAWN BY
23.061	18	D	15/05/23	AG / AA

Annexure 8 to Schedule 1 – Ecology

development to avoid or minimise and mitigate significant impacts on matters of national, state and local environmental significance. Key considerations are that the development should not:

- result in a significant reduction in the level or condition of biodiversity and ecological functions and processes in the locality;
- cause substantial fragmentation of habitat areas; or
- disrupt connections between habitat areas or inhibit the movement of key species.

Concept designs provided to inform this assessment indicate that the proposed designation is unlikely to result in such impacts.

When considered in conjunction with the proposed restoration activities in the western portion of the site there would be an overall increase in fauna habitat values.

4.0 CONCLUSIONS AND RECOMMENDATIONS

No significant impacts on MNES are expected as a result of the proposed development, and a referral to the Commonwealth is not considered necessary.

The proposed designation will not result in any clearing of State-mapped regulated vegetation, and any interference with Koala habitat is likely to be in accordance with applicable exemptions under the Queensland Planning framework. Avoidance through design has been achieved and the amount of clearing proposed is unlikely to have any significant residual impact.

The proposed development is expected to comply with the objectives of the Environmental Significance Overlay Code under the Redland City Plan.

The following recommendations are designed to minimise the impacts on habitat values as a result of the Ministerial Infrastructure Designation:

- Preparation of an Arborists report to assess the potential for impacts of the retaining wall on adjacent trees, with recommendations for treatments to minimise the risk of tree death where root zones are affected.
- To improve habitat values and replace the cleared trees, the area shown as the 'Recommended restoration area' on **Figure 3.1** should be revegetated with locally endemic flora species reflective of vegetation within the adjacent Conservation Area and reflective of the Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland TEC;
- Design and install fauna guide fencing adjacent to the western 1 ha of habitat to tie in with existing guide fencing for the Hilliards Creek fauna underpass beneath Finucane Road.
- Any unavoidable clearing of habitat is to be undertaken in accordance with the requirements of the Queensland *Nature Conservation (Koala) Conservation Plan 2017*, including the sequential clearing conditions outlined in Section 10, and the Koala spotter requirements outlined in Section 11.
- All trees to be removed are to be inspected prior to clearing to determine if any active animal breeding places are present and any necessary SMP is obtained prior to works, as advised by DES.

5.0 REFERENCES

DAWE (2021). National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus. Department of Agriculture, Water and the Environment, Commonwealth of Australia 2021.

Annexure 9 to Schedule 1 – Traffic Impact Assessment

4.1.2 Intersection 2 - Finucane Road / Delancey Street / Shore Street West Signalised Intersection

SIDRA Intersection software has been used to assess the performance of the existing and upgraded Finucane Road / Delancey Street signalised intersection. **Figure 5** & **Figure 6** show the existing and upgraded intersection configuration as modelled in the SIDRA analysis. We note that these are consistent with the SIDRA intersection layouts used as documented to date.

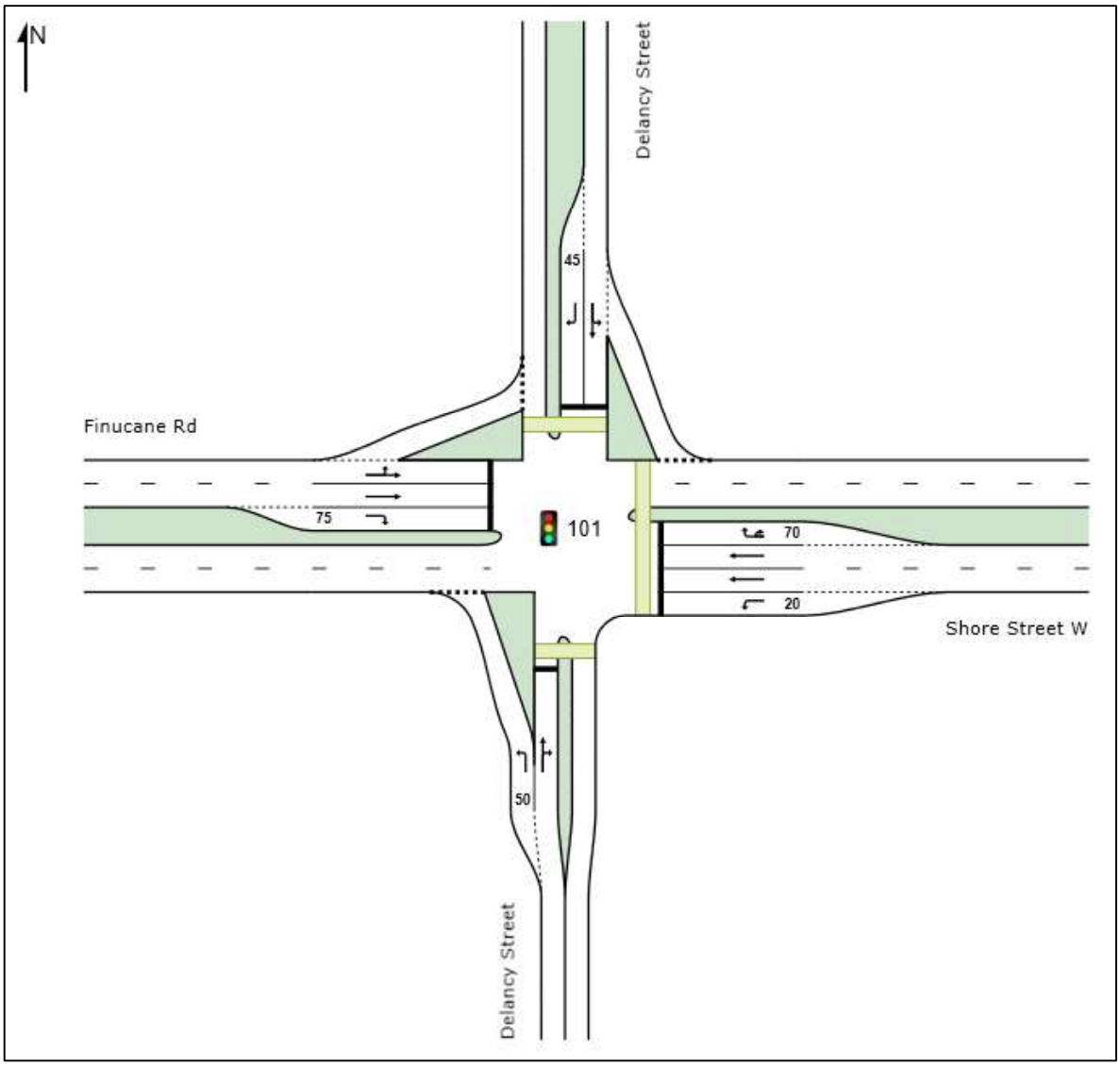


Figure 5 Finucane Road / Delancey Street Intersection Existing – SIDRA Layout

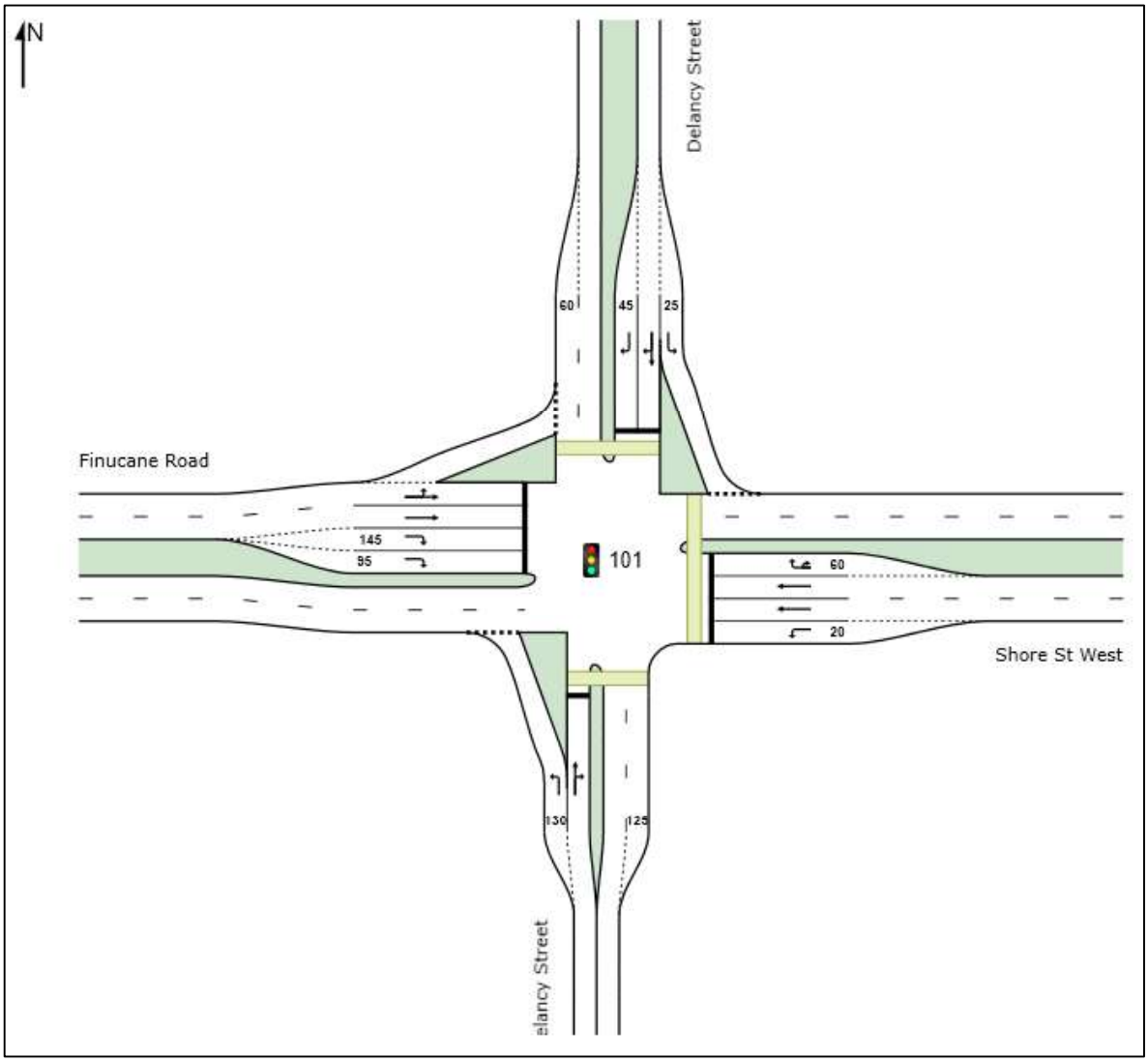


Figure 6 Finucane Road / Delancey Street Intersection Upgraded – SIDRA Layout

Intersection 2 Modelling Assumptions

- Given the proposed Finucane Road Site Access Intersection will be located in close proximity to the adjacent signalised intersection, we have changed the default signal coordination to highly favourable conditions (AT5) on the western approach and favourable arrival conditions (AT4) on the eastern approach for the design scenarios only. In the background, we have retained favourable arrival conditions (AT4) on the eastern approach only.
- A cycle time of 160s and 130s for the AM and PM peak periods has been adopted respectively. This is consistent with assessment undertaken to date and ensure that the cycle times are consistent with the proposed site access intersection cycle times.
- The adopted phasing sequences for the AM and PM peak periods are illustrated below in **Figure 7** and **Figure 8** respectively. We note these are consistent with SIDRA modelling completed to date.
- The upgraded intersection option is as per the proposed upgrades represented by the plans provided by Morton's Urban Solutions. As described in previous submission documents the proposed intersection upgrade is being recommended as part of the project to offset the net-delay

impacts of the proposal on the network. This remain current for this updated analysis due to the impacts of the proposal without any road network improvements being proposed.

- The assessment of the net-delays and the impacts of the upgraded intersection as noted in Figure 6 above is further documented in Section 4.2 following.

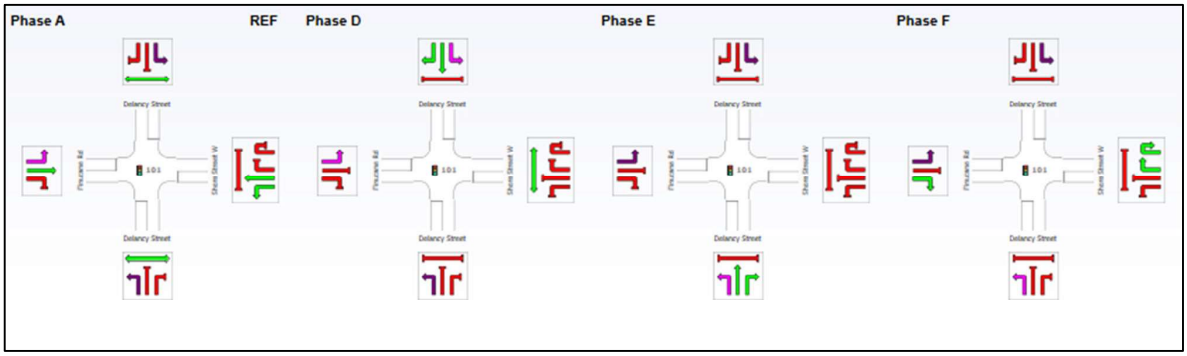


Figure 7 AM peak period phasing sequence

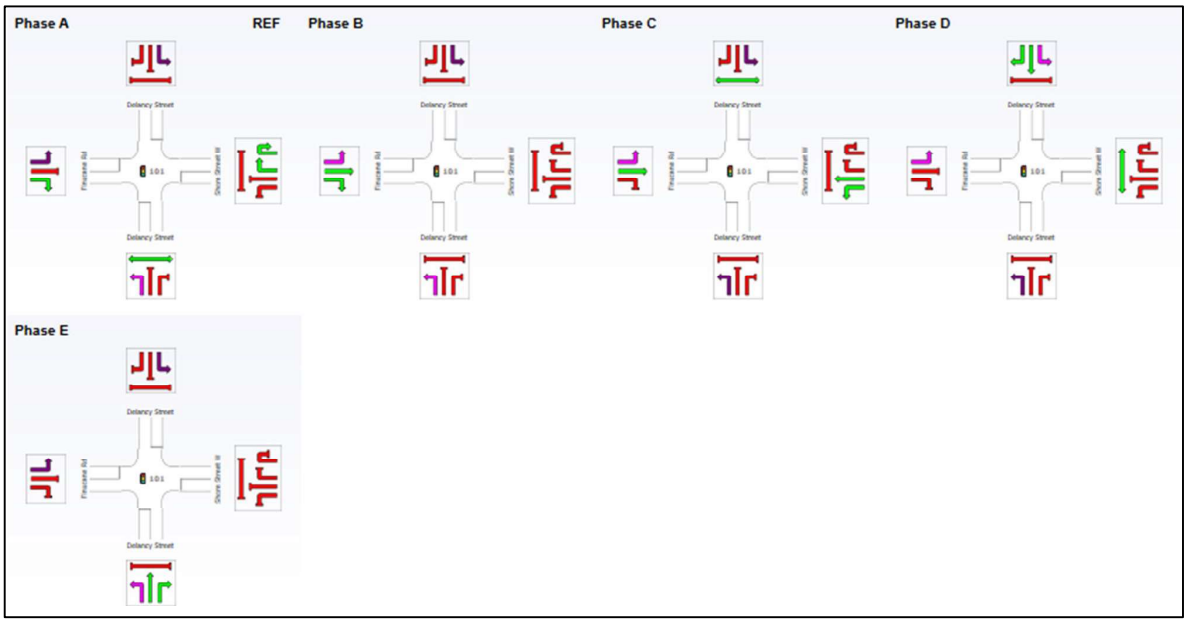


Figure 8 PM peak period phasing sequence

Table 3 presents the results of the Finucane Road / Delancey Street signalised intersection SIDRA analysis with detailed movement and phasing SIDRA Outputs attached in **Appendix B** of this Technical Note.

Table 3 Finucane Road / Delancey Street Intersection SIDRA Analysis Results

SCENARIO	APPROACH	AM PEAK				PM PEAK			
		DoS	Avg Delay (s)	LoS	95% Back of Queue (m)	DoS	Avg Delay (s)	LoS	95% Back of Queue (m)
2027 Background Traffic	Delancey Street (S)	1.064	107.2	LOS F	210.2	0.850	36.4	LOS D	125.3
	Shore Street West (E)	0.617	65.7	LOS E	177.1	0.892	81.1	LOS F	193.9
	Delancey Street (N)	1.025	156.8	LOS F	243.9	0.748	52.7	LOS D	95.1
	Finucane Road (W)	1.041	170.7	LOS F	702.6	0.865	43.0	LOS D	202.9
2027 Background Traffic + Development Traffic (No Upgrades)	Delancey Street (S)	1.196	170.4	LOS F	342.9	1.032	63.8	LOS E	138.4
	Shore Street West (E)	0.705	72.2	LOS E	208.4	1.058	192.5	LOS F	372.7
	Delancey Street (N)	1.157	270.2	LOS F	361.6	0.804	51.9	LOS D	100.5
	Finucane Road (W)	1.164	351.4	LOS F	1097.6	1.093	76.8	LOS E	480.7
2027 Background Traffic + Development Traffic (Upgrades)	Delancey Street (S)	0.881	39.5	LOS D	213.8	0.728	29.2	LOS C	158.4
	Shore Street West (E)	0.648	54.6	LOS D	169.9	0.746	60.9	LOS E	163.8
	Delancey Street (N)	0.872	108.4	LOS F	128.1	0.622	59.6	LOS E	69.5
	Finucane Road (W)	0.894	39.6	LOS D	320.6	0.759	24.7	LOS C	157.6

As illustrated in **Table 3**, the Finucane Road / Delancey Street signalised intersection will theoretically operate above the practical capacity (DoS ≤0.95) for a signalised intersection in the AM peak period for the 2027 background traffic scenario. It is noted that the western Finucane Road approach is significant in terms of the queue lengths recorded in the analysis with these extending in excess of 700m to the west of the intersection during this critical AM peak. It is worth noting that the results of the SIDRA analysis insofar as they relate to queues and delays do become unreliable when the analysis shows that the volumes of traffic exceed the capacity of the intersection.

The operational performance of this intersection in the PM peak will theoretically be operating under this DoS threshold.

The results above show that the "with development" scenario is commensurately worse with the addition of the development related traffic volumes. This, along with the results of the net-delay assessment discussed further in **Section 4.2** below, has resulted in the consideration of the upgraded intersection as is proposed as part of the development works.

The proposed upgrades to this intersection will reduce the capacity issues and queue lengths to acceptable levels on all approaches (without queueing back to the site access intersection along Finucane Road). We note the form of the upgraded intersection is consistent with the form presented in Technical Note B19590TN003_Final prepared by L&R (dated 16 July 2024).

4.1.3 Intersection 3- Shore Street West / Wellington Street Roundabout

SIDRA Intersection software has been used to assess the performance of the Shore Street West / Wellington Street roundabout. **Figure 9** shows the intersection configuration as modelled in the SIDRA analysis.

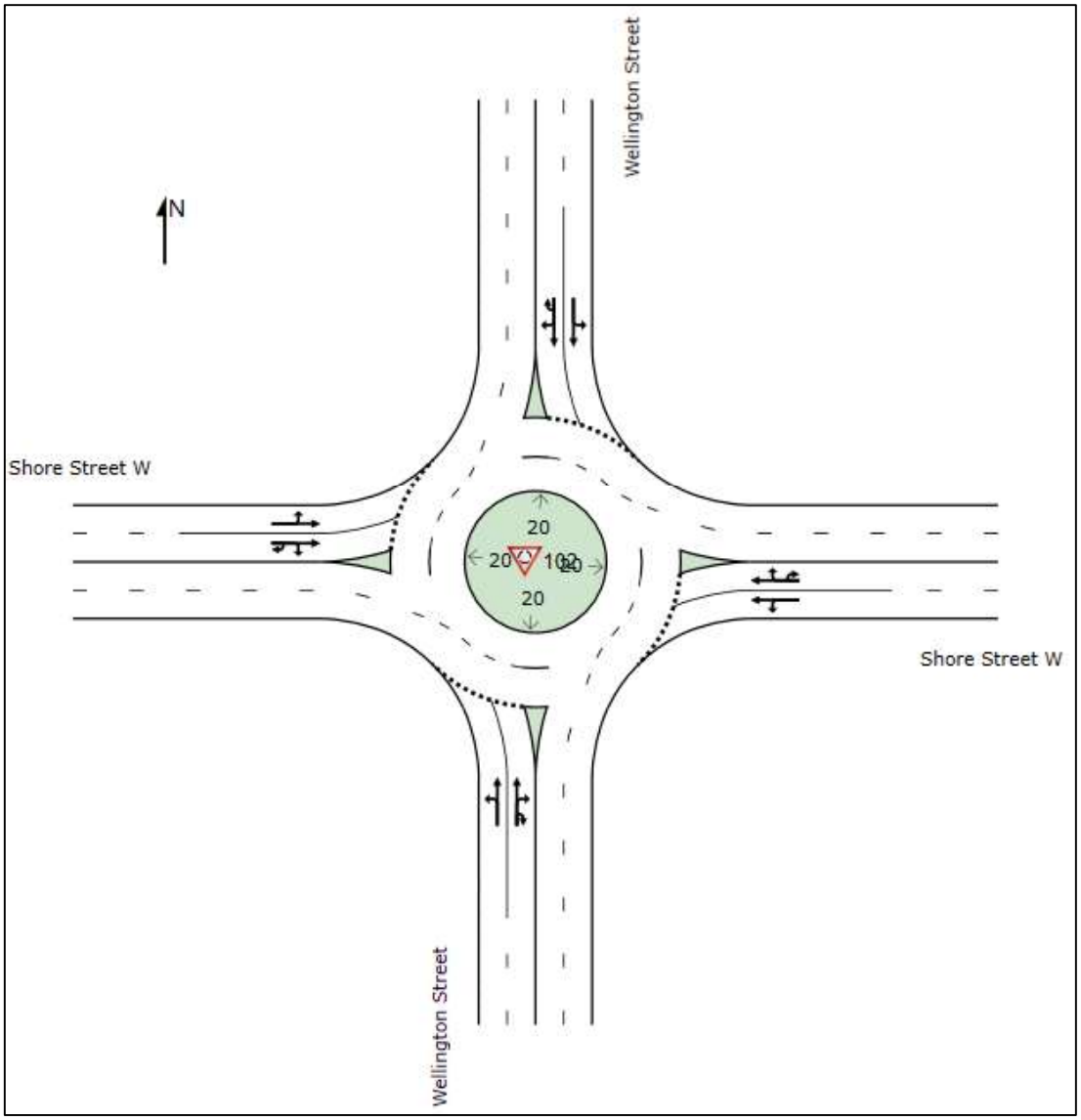


Figure 9 Shore Street West / Wellington Street Roundabout – SIDRA Layout

Table 4 presents the results of the Shore Street West / Wellington Street roundabout SIDRA analysis with detailed movement SIDRA Outputs attached in **Appendix B** of this Technical Note.

Table 4 Shore Street West / Wellington Street Roundabout SIDRA Analysis Results

SCENARIO	APPROACH	AM PEAK				PM PEAK			
		DoS	Avg Delay (s)	LoS	95% Back of Queue (m)	DoS	Avg Delay (s)	LoS	95% Back of Queue (m)
2027 Background Traffic	Wellington Street (S)	0.487	9.8	LOS A	22.1	0.517	10.0	LOS B	24.1
	Shore Street W (E)	0.715	14.9	LOS B	47.6	0.645	11.7	LOS B	38.5
	Wellington Street (N)	0.731	13.8	LOS B	42.5	0.503	9.6	LOS A	22.5
	Shore Street W (W)	0.698	11.8	LOS B	45.3	0.660	11.8	LOS B	39.1
2027 Background Traffic + Development Traffic (No Upgrades)	Wellington Street (S)	0.521	10.4	LOS B	24.5	0.548	10.6	LOS B	26.3
	Shore Street W (E)	0.778	16.9	LOS B	58.7	0.691	12.3	LOS B	44.8
	Wellington Street (N)	0.774	15.5	LOS B	47.6	0.530	10.1	LOS B	24.4
	Shore Street W (W)	0.738	12.4	LOS B	51.9	0.703	12.4	LOS B	44.9

As illustrated in **Table 4**, the Shore Street West / Wellington Street roundabout will theoretically operate below the practical capacity (DoS ≤0.85) for a roundabout in both peak periods, in both the background and design traffic scenarios. In the design traffic scenario, the development generated traffic will result in minor increases in degree of saturation, average delay and queue lengths on all approaches.

4.2 Aggregate Delay Assessment

The following section outlines the aggregate delay assessment results for each intersection on the state-controlled road network. In accordance with DTMR's GTIA guidelines, the development's aggregate intersection delay has been calculated across each of the adopted intersections on the state-controlled network and across all design peak periods as per the following equation:

$$Intersection\ Delay = \sum_{i=1}^{n} With\ Development - \sum_{i=1}^{n} Base\ Case$$

Figure 10 Aggregate Delay Assessment Equation

As outlined in DTMR's GTIA, it is considered unreasonable to require the mitigation of impacts where the development increases average delay to base traffic movement by less than 5% in aggregate.

Table 5 summarises the Base Case delay (BC) (vehicle minutes), With Development delay (WD) (vehicle minutes) and aggregate intersection delay (ID) in vehicle minutes and as a percentage, with no upgrades proposed to Intersection 2.

Detailed summaries of the aggregate delay assessment have been attached in **Appendix C** of this Technical Note.

Table 5 Summary of Aggregate Intersection Delay – Without Upgrades

INTERSECTION		PEAK HOUR	BC	WD	ID	AGGREGATE DELAY
1	Finucane Rd / Site Access	AM	0	878.8	878.8	-
		PM	0	729.1	729.1	-
	Total		0	1607.9	1607.9	-
2	Finucane Rd / Delancey St / Shore St West	AM	8470.8	15297.1	6826.3	80.6%
		PM	3146.4	5837.1	2690.6	85.5%
	Total		11617.2	21134.1	9516.9	81.9%
3	Shore St W / Wellington St	AM	776.8	857.4	80.6	10.4%
		PM	637.2	675.6	38.3	6.0%
	Total		1414.1	1533.0	118.9	8.4%
TOTAL			**13031.3**	**24275.0**	**11243.7**	**86.3%**

As seen in **Table 5**, the development related traffic is estimated to increase intersection delay across the impact assessment area by approximately **86.3%** without any road network upgrades**.** As such, and noting the significant delay issues recorded at the intersection of Finucane Road / Delancey Street / Shore Street West, it is clear that mitigation works would be required across the impact assessment area to satisfy DTMR's GTIA guidelines relating to no net worsening of delays across the network.

While intersection upgrades can reasonably be applied to any intersection within the Impact Assessment Area, as previously noted and documented it is proposed to implement upgrades at the aforementioned intersection to improve operational performance for all road users.

Table 6 summarises the Impact Assessment Area's Base Case delay (BC) (vehicle minutes), With Development delay (WD) (vehicle minutes) and aggregate intersection delay (ID) in vehicle minutes and as a percentage, with upgrades to Intersection 2 included in the analysis.

Detailed summaries of the aggregate delay assessment have been attached in **Appendix C** of this Technical Note.

Table 6 Summary of Aggregate Intersection Delay – With Upgrades

INTERSECTION		PEAK HOUR	BC	WD	ID	AGGREGATE DELAY
1	Finucane Rd / Site Access	AM	0.0	878.8	878.8	-
		PM	0.0	729.1	729.1	-
	Total		0.0	1607.9	1607.9	-
2	Finucane Rd / Delancey St / Shore St West	AM	8470.8	3403.1	-5067.7	-59.8%
		PM	3146.4	2305.3	-841.1	-26.7%
	Total		11617.2	5708.4	-5908.8	-50.9%
3	Shore St W / Wellington St	AM	776.8	857.4	80.6	10.4%
		PM	637.2	675.6	38.3	6.0%
	Total		1414.1	1533.0	118.9	8.4%
TOTAL			**13031.3**	**8849.3**	**-4182.0**	**-32.1%**

As seen in **Table 6**, the upgrades to the subject intersection will result in significant reductions in the net-delays experience across the three intersections considered in this analysis. It is clear from the results above, in combination with the results shown in Table 3 previously, that these upgrades will deliver a significant benefit to all road users. The results show that with the development and the upgrades to be delivered with the development, it estimated to significantly reduce the intersection delay across the impact assessment area by **-32.1%** as a result of the proposed upgrades to Intersection 2**.**

As such, no further mitigation works would be required across the impact assessment area to satisfy DTMR's GTIA guidelines and only the proposed upgrades to this intersection would be require to offset the increase in delays within the network including as a consequence of the construction of the new access intersection.

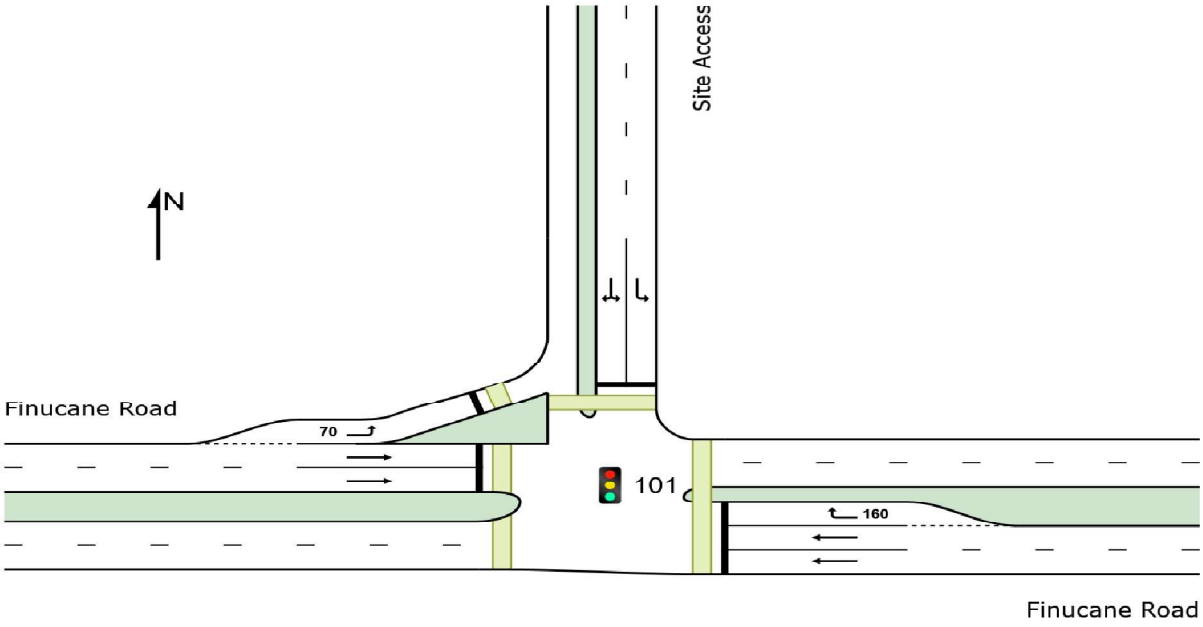
Appendix B – SIDRA Outputs

SITE LAYOUT

Site: 101 [DES AM 2027 (Site Folder: 1. Finucane Road / Site Access)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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Organisation: LAMBERT AND REHBEIN (SEQ) PTY LTD | Licence: NETWORK / 1PC | Created: Monday, 18 August 2025 9:04:59 AM
Project: F:\Jobs\B19500\B19590\Design\Traffic\2025 Updated assessment (Kate and Irtaza)\B19590 SIDRAS_KC.sip9

MOVEMENT SUMMARY

Site: 101 [DES AM 2027 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Finucane Road															
5	T1	All MCs	1641	2.1	1641	2.1	0.569	0.5	LOS A	2.8	20.0	0.05	0.05	0.05	59.7
6	R2	All MCs	165	0.0	165	0.0	* 0.748	74.7	LOS E	12.5	87.8	0.99	0.83	1.04	24.2
Approach			1806	1.9	1806	1.9	0.748	7.2	LOS A	12.5	87.8	0.14	0.12	0.14	55.3
North: Site Access															
7	L2	All MCs	154	0.0	154	0.0	0.282	51.8	LOS D	9.1	64.0	0.82	0.78	0.82	29.3
9	R2	All MCs	200	0.0	200	0.0	* 0.783	81.7	LOS F	15.9	111.1	1.00	0.89	1.10	32.6
Approach			354	0.0	354	0.0	0.783	68.7	LOS E	15.9	111.1	0.92	0.84	0.98	31.6
West: Finucane Road															
10	L2	All MCs	241	0.0	241	0.0	0.161	22.8	LOS C	4.0	28.3	0.24	0.63	0.24	53.9
11	T1	All MCs	1617	3.9	1617	3.9	* 0.784	32.1	LOS C	51.4	371.8	0.83	0.76	0.83	46.7
Approach			1858	3.4	1858	3.4	0.784	30.9	LOS C	51.4	371.8	0.75	0.74	0.75	47.6
All Vehicles			4018	2.4	4018	2.4	0.784	23.6	LOS C	51.4	371.8	0.49	0.47	0.50	48.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Finucane Road												
P2	Full	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
North: Site Access												
P3	Full	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
West: Finucane Road												
P41	Stage 1	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
P42	Stage 2	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
P4B	Slip/ Bypass	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
All Pedestrians		50	50	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 101 [DES AM 2027 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

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

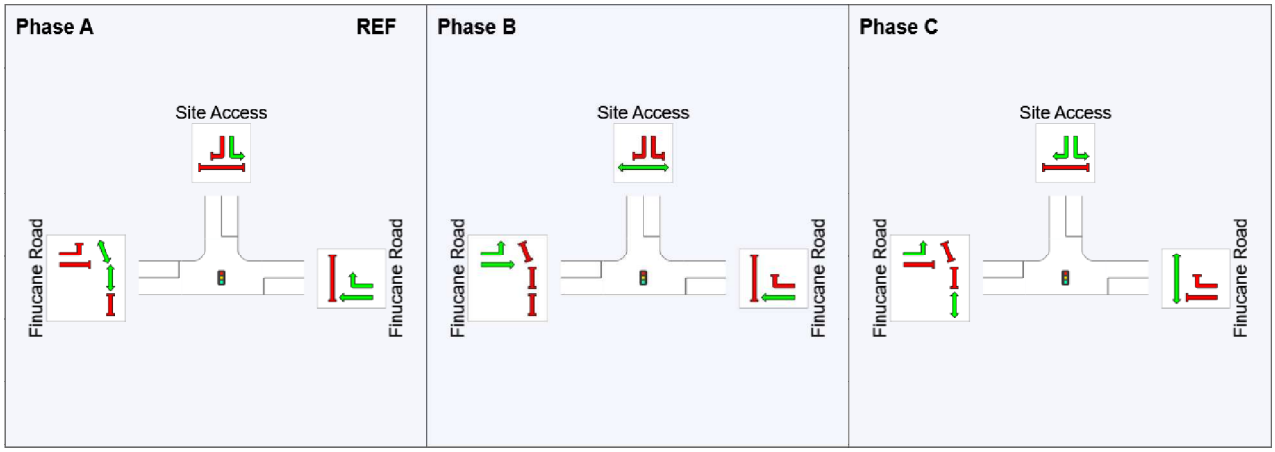
Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	25	126
Green Time (sec)	19	95	28
Phase Time (sec)	25	101	34
Phase Split	16%	63%	21%
Phase Frequency (%)	100.0[4]	100.0	100.0[4]

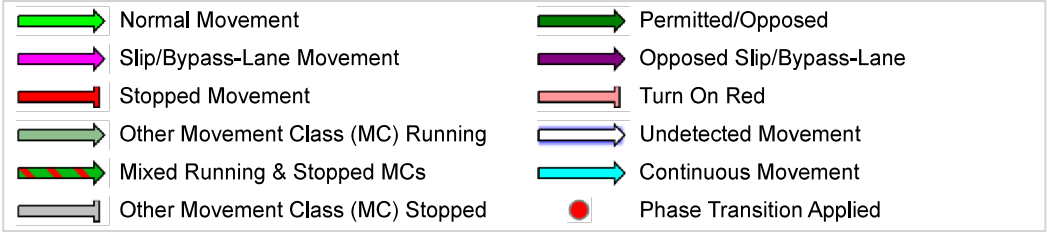
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 101 [DES PM 2027 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Finucane Road															
5	T1	All MCs	1473	1.7	1473	1.7	0.546	0.4	LOS A	2.0	13.9	0.05	0.04	0.05	59.7
6	R2	All MCs	139	0.0	139	0.0	*0.748	65.5	LOS E	8.8	61.9	1.00	0.83	1.07	26.0
Approach			1612	1.6	1612	1.6	0.748	6.0	LOS A	8.8	61.9	0.13	0.11	0.13	56.0
North: Site Access															
7	L2	All MCs	172	0.0	172	0.0	0.301	42.3	LOS D	8.3	57.9	0.81	0.78	0.81	32.2
9	R2	All MCs	222	0.0	222	0.0	*0.740	64.3	LOS E	14.0	98.1	1.00	0.87	1.07	36.0
Approach			394	0.0	394	0.0	0.740	54.7	LOS D	14.0	98.1	0.92	0.83	0.96	34.8
West: Finucane Road															
10	L2	All MCs	203	0.0	203	0.0	0.135	18.4	LOS B	2.7	18.9	0.23	0.62	0.23	54.2
11	T1	All MCs	1523	1.0	1523	1.0	*0.761	28.3	LOS C	39.3	277.7	0.84	0.77	0.84	47.6
Approach			1726	0.9	1726	0.9	0.761	27.1	LOS C	39.3	277.7	0.76	0.75	0.76	48.4
All Vehicles			3732	1.1	3732	1.1	0.761	20.9	LOS C	39.3	277.7	0.51	0.48	0.51	49.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Finucane Road												
P2	Full	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
North: Site Access												
P3	Full	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
West: Finucane Road												
P41	Stage 1	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
P42	Stage 2	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
P4B	Slip/ Bypass	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
All Pedestrians		50	50	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94

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: 101 [DES PM 2027 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

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

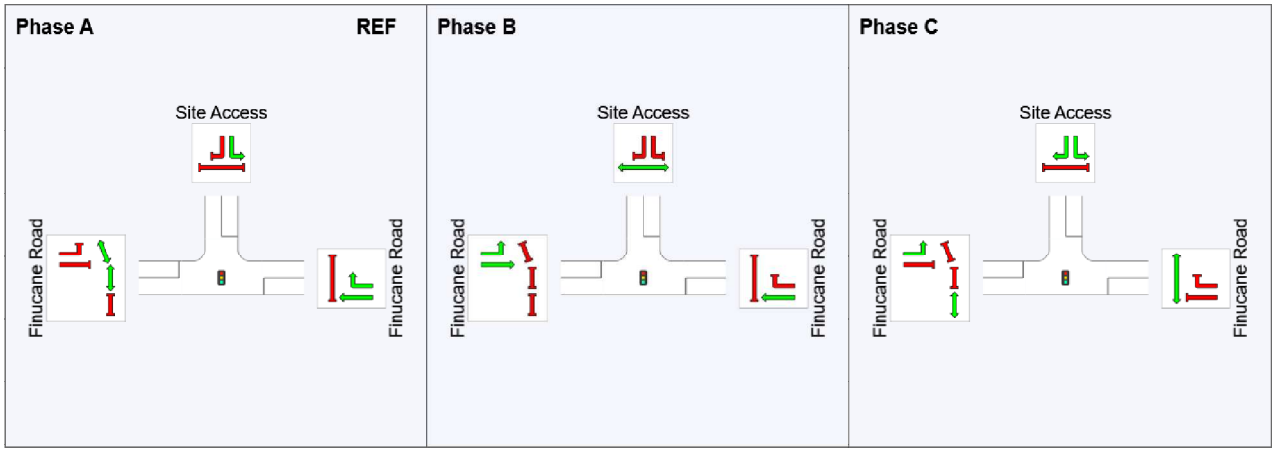
Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	19	97
Green Time (sec)	13	72	27
Phase Time (sec)	19	78	33
Phase Split	15%	60%	25%
Phase Frequency (%)	100.0[4]	100.0	100.0[4]

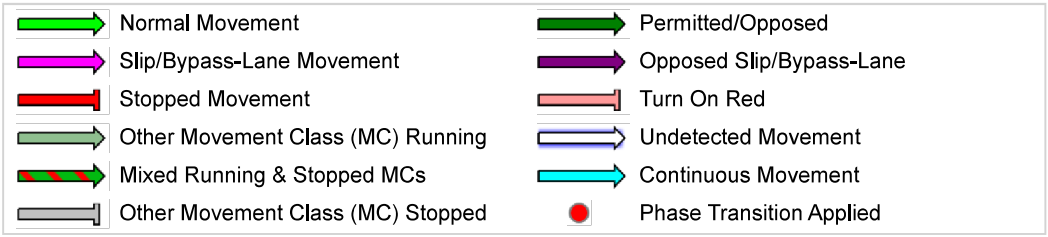
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 101 [DES AM 2037 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Finucane Road															
5	T1	All MCs	1785	1.9	1785	1.9	0.613	0.4	LOS A	3.4	24.1	0.05	0.05	0.05	59.7
6	R2	All MCs	165	0.0	165	0.0	*0.790	77.0	LOS E	12.8	89.7	1.00	0.85	1.07	23.8
Approach			1950	1.7	1950	1.7	0.790	6.9	LOS A	12.8	89.7	0.13	0.12	0.14	55.5
North: Site Access															
7	L2	All MCs	154	0.0	154	0.0	0.295	53.5	LOS D	9.3	65.2	0.83	0.78	0.83	28.8
9	R2	All MCs	200	0.0	200	0.0	*0.821	84.8	LOS F	16.3	113.9	1.00	0.92	1.16	32.1
Approach			354	0.0	354	0.0	0.821	71.2	LOS E	16.3	113.9	0.93	0.86	1.01	31.1
West: Finucane Road															
10	L2	All MCs	241	0.0	241	0.0	0.160	23.9	LOS C	3.9	27.4	0.23	0.62	0.23	54.0
11	T1	All MCs	1759	3.6	1759	3.6	*0.833	33.1	LOS C	58.4	421.6	0.87	0.80	0.87	46.5
Approach			2000	3.2	2000	3.2	0.833	32.0	LOS C	58.4	421.6	0.79	0.77	0.79	47.4
All Vehicles			4304	2.3	4304	2.3	0.833	23.9	LOS C	58.4	421.6	0.50	0.48	0.51	48.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Finucane Road												
P2	Full	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
North: Site Access												
P3	Full	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
West: Finucane Road												
P41	Stage 1	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
P42	Stage 2	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
P4B	Slip/ Bypass	10	10	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88
All Pedestrians		50	50	74.1	LOS F	0.0	0.0	0.96	0.96	228.0	200.0	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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PHASING SUMMARY

Site: 101 [DES AM 2037 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

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

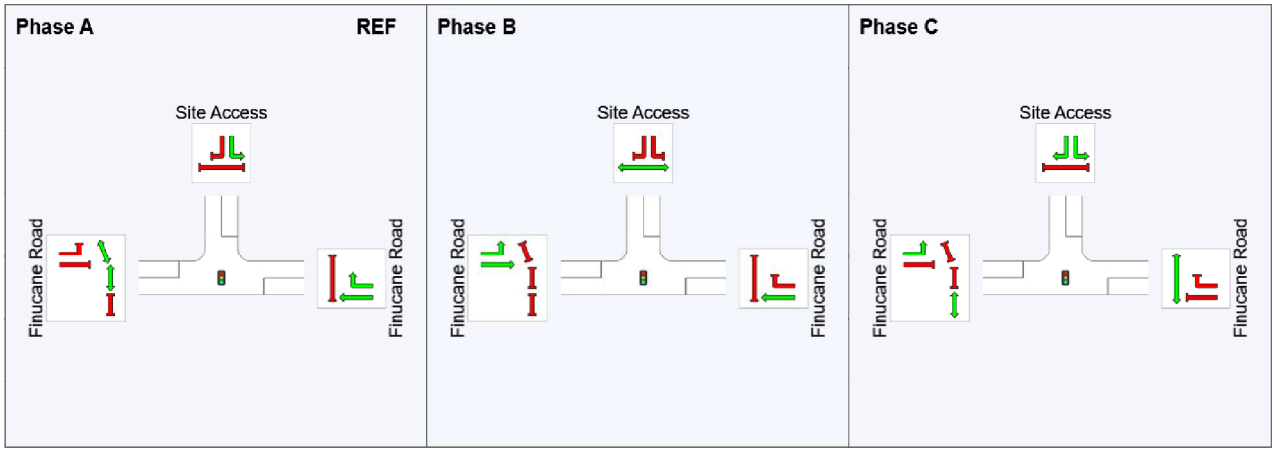
Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	24	127
Green Time (sec)	18	97	27
Phase Time (sec)	24	103	33
Phase Split	15%	64%	21%
Phase Frequency (%)	100.0[4]	100.0	100.0[4]

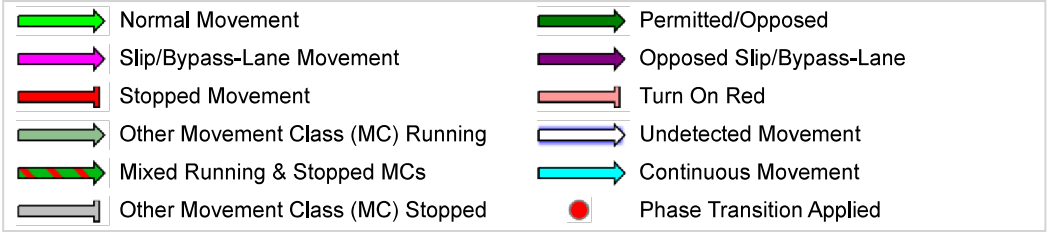
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 101 [DES PM 2037 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Finucane Road															
5	T1	All MCs	1603	1.6	1603	1.6	0.587	0.4	LOS A	2.3	16.6	0.05	0.05	0.05	59.7
6	R2	All MCs	139	0.0	139	0.0	*0.811	68.2	LOS E	9.1	63.8	1.00	0.86	1.12	25.5
Approach			1742	1.4	1742	1.4	0.811	5.8	LOS A	9.1	63.8	0.13	0.11	0.14	56.1
North: Site Access															
7	L2	All MCs	172	0.0	172	0.0	0.317	44.0	LOS D	8.5	59.3	0.83	0.78	0.83	31.6
9	R2	All MCs	222	0.0	222	0.0	*0.777	66.7	LOS E	14.4	100.6	1.00	0.90	1.11	35.5
Approach			394	0.0	394	0.0	0.777	56.8	LOS E	14.4	100.6	0.92	0.85	0.99	34.3
West: Finucane Road															
10	L2	All MCs	203	0.0	203	0.0	0.134	19.3	LOS B	2.6	18.1	0.22	0.62	0.22	54.3
11	T1	All MCs	1657	0.9	1657	0.9	*0.806	28.7	LOS C	44.2	311.6	0.86	0.79	0.86	47.6
Approach			1860	0.8	1860	0.8	0.806	27.7	LOS C	44.2	311.6	0.79	0.77	0.79	48.4
All Vehicles			3996	1.0	3996	1.0	0.811	21.0	LOS C	44.2	311.6	0.52	0.49	0.53	49.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Finucane Road												
P2	Full	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
North: Site Access												
P3	Full	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
West: Finucane Road												
P41	Stage 1	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
P42	Stage 2	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
P4B	Slip/ Bypass	10	10	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94
All Pedestrians		50	50	59.2	LOS E	0.0	0.0	0.95	0.95	213.0	200.0	0.94

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: 101 [DES PM 2037 (Site Folder: 1. Finucane Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

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

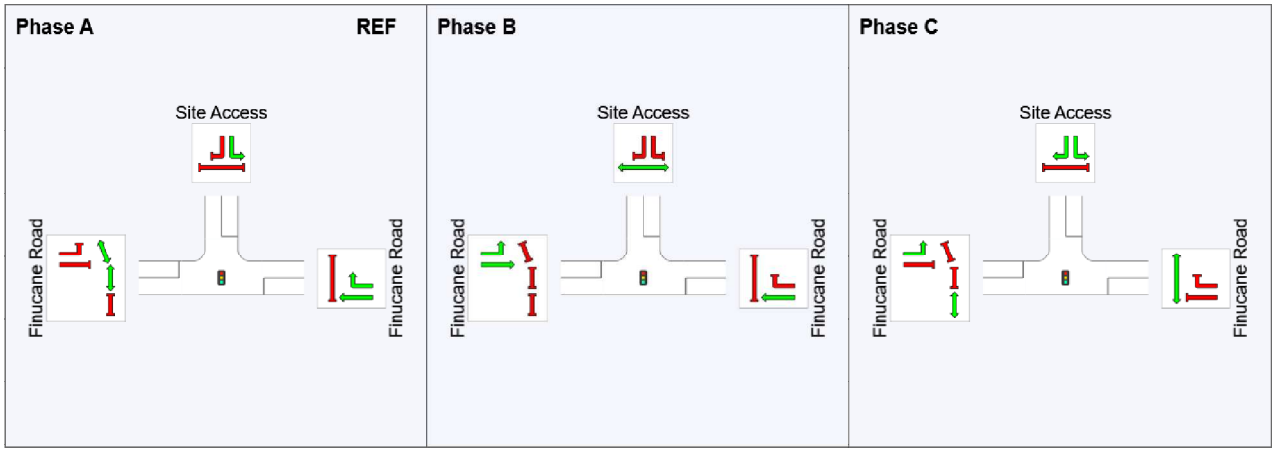
Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	18	98
Green Time (sec)	12	74	26
Phase Time (sec)	18	80	32
Phase Split	14%	62%	25%
Phase Frequency (%)	100.0[4]	100.0	100.0[4]

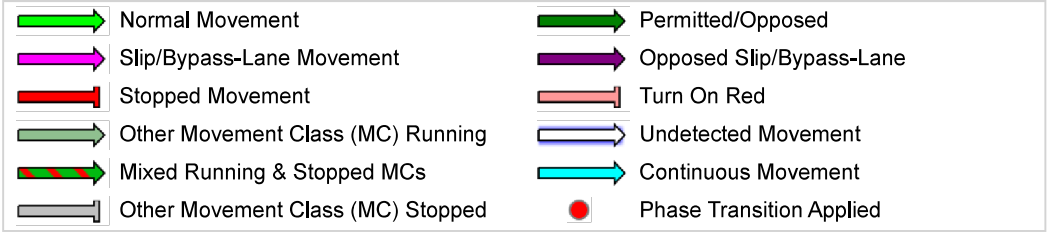
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

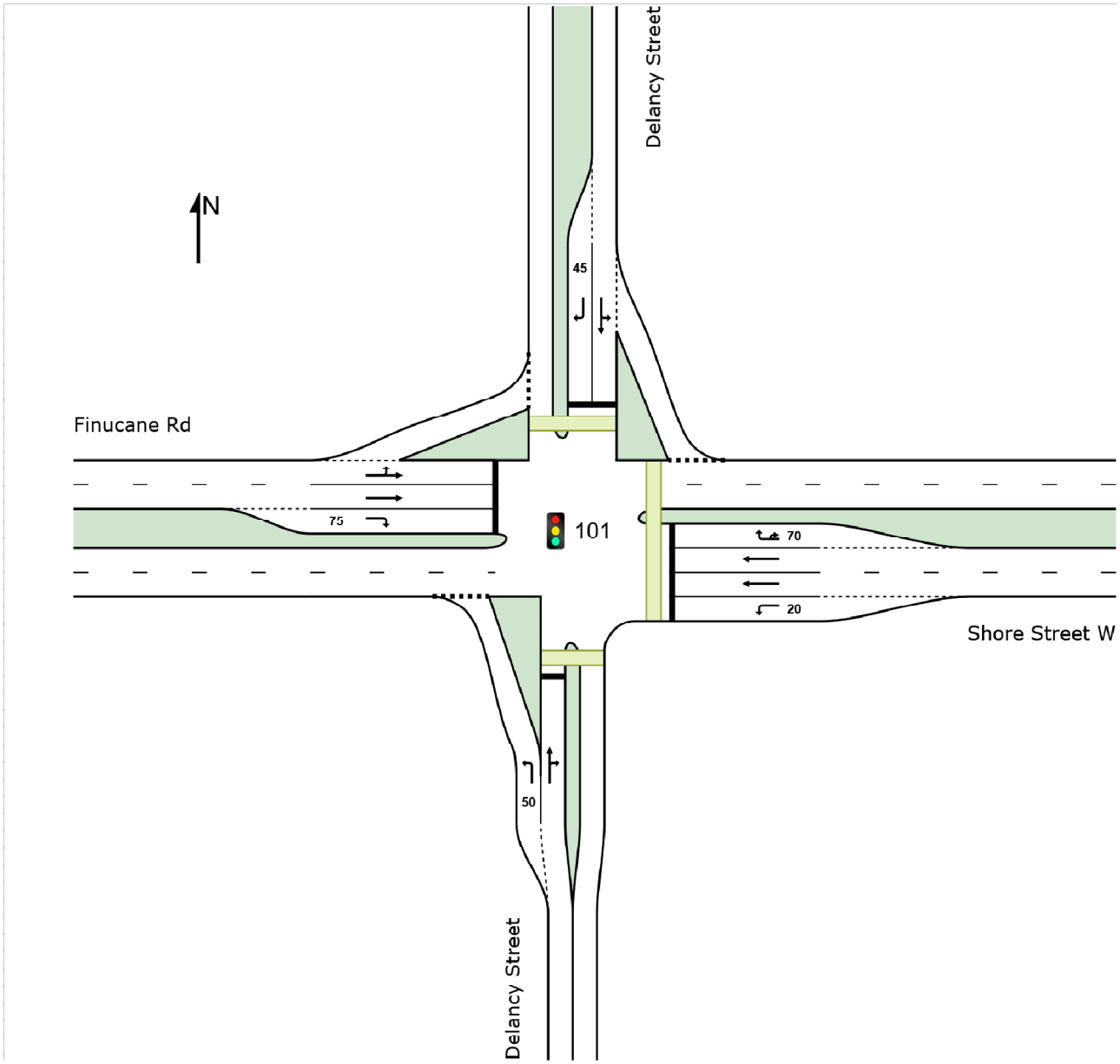


SITE LAYOUT

Site: 101 [BG AM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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Organisation: LAMBERT AND REHBEIN (SEQ) PTY LTD | Licence: NETWORK / 1PC | Created: Monday, 18 August 2025 9:13:13 AM
Project: F:\Jobs\B19500\B19590\Design\Traffic\2025 Updated assessment (Kate and Irtaza)\B19590 SIDRAS_KC.sip9

MOVEMENT SUMMARY

Site: 101 [BG AM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Delancy Street															
1	L2	All MCs	563	0.0	563	0.0	0.536	56.9	LOS E	26.4	185.1	0.73	1.20	0.73	47.8
2	T1	All MCs	184	0.0	184	0.0	* 1.064	241.4	LOS F	30.0	210.2	1.00	1.68	2.18	9.7
3	R2	All MCs	26	0.0	26	0.0	1.064	247.0	LOS F	30.0	210.2	1.00	1.68	2.18	11.8
Approach			773	0.0	773	0.0	1.064	107.2	LOS F	30.0	210.2	0.81	1.33	1.13	32.7
East: Shore Street W															
4	L2	All MCs	21	0.0	21	0.0	0.034	78.2	LOS E	1.0	6.9	0.64	0.67	0.64	33.1
5	T1	All MCs	806	3.8	806	3.8	0.617	63.8	LOS E	24.5	177.1	0.82	0.72	0.82	44.5
6	R2	All MCs	119	0.8	119	0.8	0.399	74.9	LOS E	9.2	64.7	0.89	0.79	0.89	21.4
6u	U	All MCs	20	0.0	20	0.0	0.399	76.2	LOS E	9.2	64.7	0.89	0.79	0.89	25.3
Approach			966	3.3	966	3.3	0.617	65.7	LOS E	24.5	177.1	0.83	0.73	0.83	42.0
North: Delancy Street															
7	L2	All MCs	135	0.7	135	0.7	0.741	84.0	LOS F	15.6	109.9	0.99	0.94	1.01	23.9
8	T1	All MCs	140	0.0	140	0.0	0.741	138.8	LOS F	15.6	109.9	0.99	0.94	1.01	26.7
9	R2	All MCs	272	2.6	272	2.6	* 1.025	202.2	LOS F	34.1	243.9	1.00	1.30	1.86	22.2
Approach			547	1.5	547	1.5	1.025	156.8	LOS F	34.1	243.9	0.99	1.12	1.43	23.0
West: Finucane Rd															
10	L2	All MCs	214	2.3	214	2.3	1.041	120.1	LOS F	97.5	702.6	1.00	1.34	1.73	22.0
11	T1	All MCs	1109	3.8	1109	3.8	* 1.041	170.7	LOS F	97.5	702.6	1.00	1.48	1.77	23.8
12	R2	All MCs	294	0.0	294	0.0	* 1.031	207.8	LOS F	37.1	260.0	1.00	1.29	1.87	24.0
Approach			1617	2.9	1617	2.9	1.041	170.7	LOS F	97.5	702.6	1.00	1.43	1.78	23.6
All Vehicles			3903	2.2	3903	2.2	1.064	130.2	LOS F	97.5	702.6	0.92	1.19	1.37	28.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Delancy Street												
P1	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88

East: Shore Street W											
P2	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
North: Delancy Street											
P3	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
All Pedestrians		150	150	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88

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

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PHASING SUMMARY

Site: 101 [BG AM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: DTMR PHASING AM - Import
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F
Reference Phase: Phase A

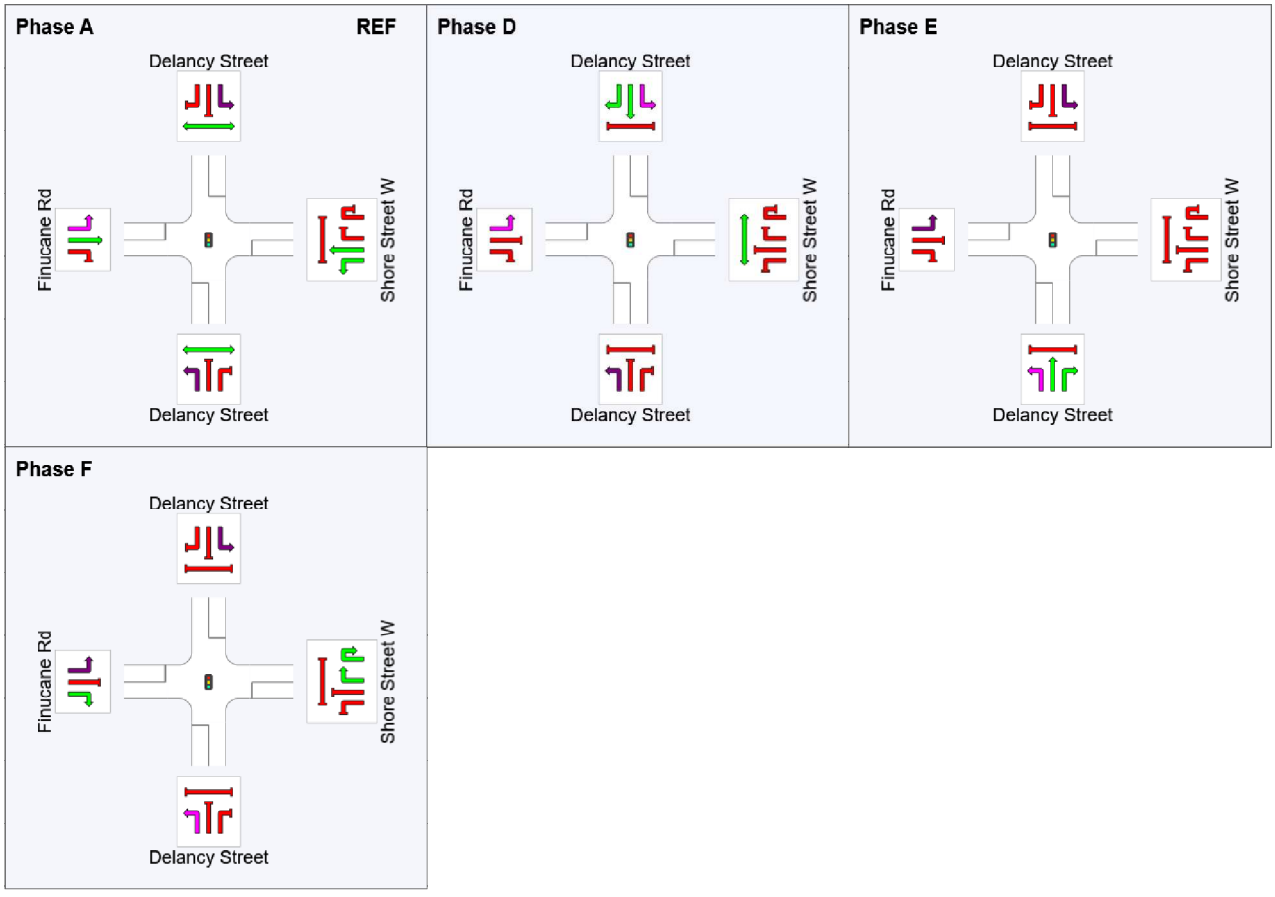
Phase Timing Summary

Phase	A	D	E	F
Phase Change Time (sec)	0	58	94	126
Green Time (sec)	52	30	26	28
Phase Time (sec)	58	36	32	34
Phase Split	36%	23%	20%	21%
Phase Frequency (%)	100.0[4]	100.0[4]	100.0[4]	100.0[4]

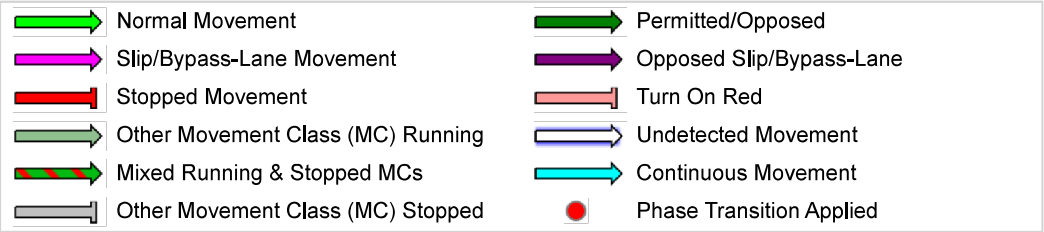
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 101 [BG PM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Delancy Street															
1	L2	All MCs	530	0.0	530	0.0	0.489	23.8	LOS C	17.9	125.3	0.62	0.76	0.62	51.3
2	T1	All MCs	129	0.0	129	0.0	*0.850	76.1	LOS E	11.4	79.5	1.00	0.99	1.29	22.6
3	R2	All MCs	35	0.0	35	0.0	0.850	81.7	LOS F	11.4	79.5	1.00	0.99	1.29	25.7
Approach			694	0.0	694	0.0	0.850	36.4	LOS D	17.9	125.3	0.71	0.81	0.78	45.6
East: Shore Street W															
4	L2	All MCs	27	0.0	27	0.0	0.070	85.6	LOS F	1.3	8.8	0.77	0.70	0.77	31.8
5	T1	All MCs	779	4.6	779	4.6	*0.892	81.2	LOS F	26.6	193.9	1.00	1.01	1.19	40.5
6	R2	All MCs	70	0.0	70	0.0	0.693	79.2	LOS E	7.3	51.2	1.00	0.82	1.07	20.6
6u	U	All MCs	44	0.0	44	0.0	0.693	80.5	LOS F	7.3	51.2	1.00	0.82	1.07	24.5
Approach			920	3.9	920	3.9	0.892	81.1	LOS F	26.6	193.9	0.99	0.98	1.16	38.7
North: Delancy Street															
7	L2	All MCs	119	3.4	119	3.4	0.748	25.7	LOS C	13.4	95.1	0.99	0.96	1.05	25.3
8	T1	All MCs	156	0.0	156	0.0	*0.748	67.1	LOS E	13.4	95.1	0.99	0.96	1.05	28.2
9	R2	All MCs	166	2.4	166	2.4	0.514	58.5	LOS E	9.7	69.1	0.96	0.81	0.96	37.7
Approach			441	1.8	441	1.8	0.748	52.7	LOS D	13.4	95.1	0.98	0.90	1.02	32.5
West: Finucane Rd															
10	L2	All MCs	212	0.5	212	0.5	0.698	8.7	LOS A	28.8	202.9	0.84	0.87	0.84	45.4
11	T1	All MCs	923	1.0	923	1.0	0.698	39.8	LOS D	28.8	202.9	0.86	0.82	0.86	47.2
12	R2	All MCs	390	0.0	390	0.0	*0.865	69.3	LOS E	26.5	185.7	1.00	0.96	1.18	39.0
Approach			1525	0.7	1525	0.7	0.865	43.0	LOS D	28.8	202.9	0.89	0.86	0.94	44.5
All Vehicles			3580	1.5	3580	1.5	0.892	52.7	LOS D	28.8	202.9	0.89	0.89	0.98	41.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Delancy Street												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94

East: Shore Street W											
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94
North: Delancy Street											
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94
All Pedestrians		150	150	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94

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: 101 [BG PM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: EXISTING PHASING 3 - Import
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

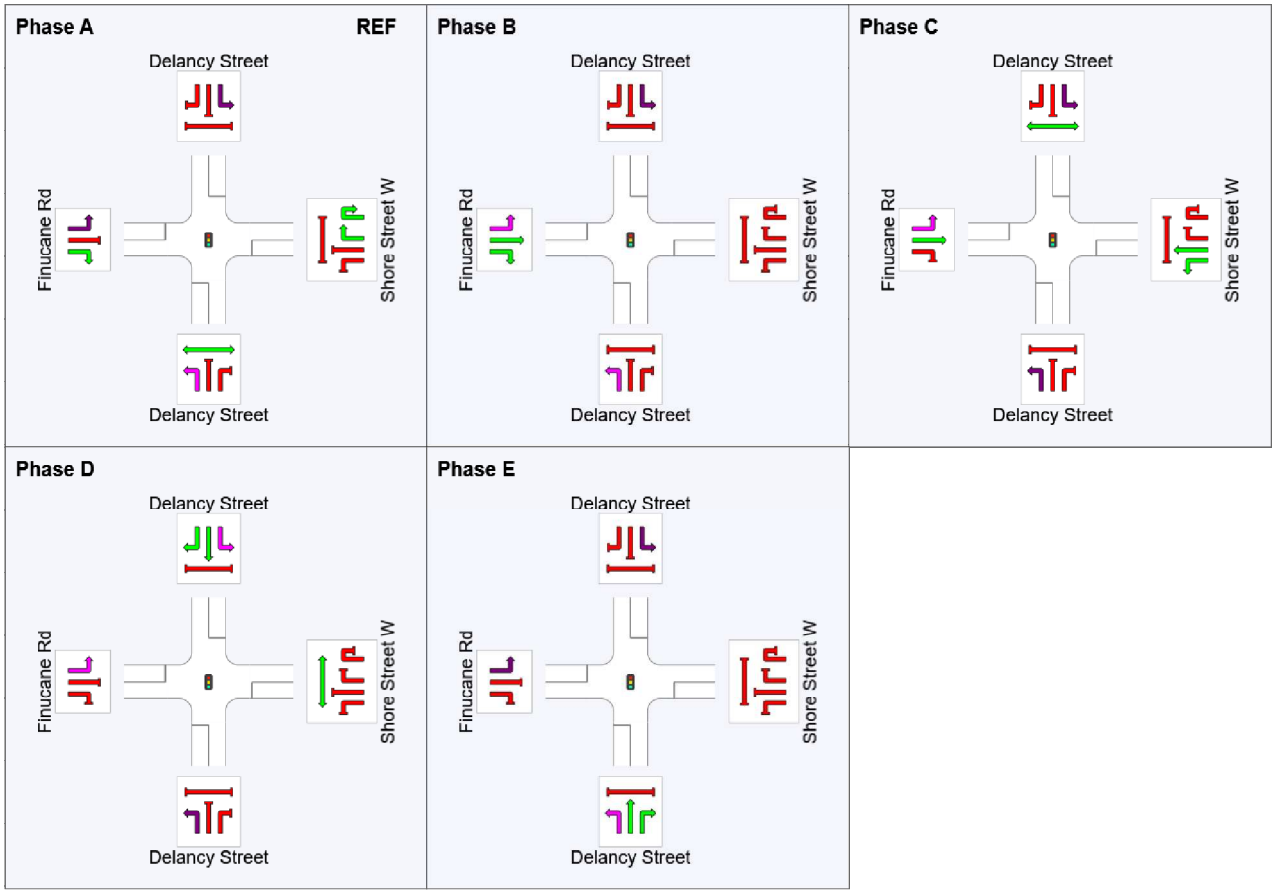
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	19	44	82	111
Green Time (sec)	13	19	32	23	13
Phase Time (sec)	19	25	38	29	19
Phase Split	15%	19%	29%	22%	15%
Phase Frequency (%)	100.0[4]	100.0[4]	100.0[4]	100.0[4]	100.0[4]

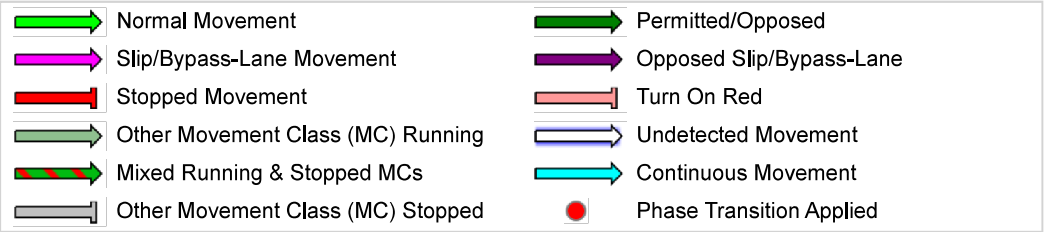
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 101 [DES AM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Delancy Street															
1	L2	All MCs	662	0.0	662	0.0	0.643	66.8	LOS E	29.1	203.4	0.76	1.22	0.76	36.9
2	T1	All MCs	209	0.0	209	0.0	* 1.196	461.6	LOS F	49.0	342.9	1.00	2.20	3.09	5.4
3	R2	All MCs	26	0.0	26	0.0	1.196	467.2	LOS F	49.0	342.9	1.00	2.20	3.09	6.6
Approach			897	0.0	897	0.0	1.196	170.4	LOS F	49.0	342.9	0.83	1.48	1.37	15.8
East: Shore Street W															
4	L2	All MCs	21	0.0	21	0.0	0.036	84.8	LOS F	1.0	7.1	0.66	0.68	0.66	32.6
5	T1	All MCs	872	3.4	872	3.4	0.705	71.9	LOS E	28.9	208.4	0.88	0.77	0.88	31.0
6	R2	All MCs	136	2.9	136	2.9	0.361	72.0	LOS E	9.6	68.6	0.84	0.78	0.84	23.0
6u	U	All MCs	20	0.0	20	0.0	0.361	73.3	LOS E	9.6	68.6	0.84	0.78	0.84	27.0
Approach			1049	3.2	1049	3.2	0.705	72.2	LOS E	28.9	208.4	0.87	0.77	0.87	29.8
North: Delancy Street															
7	L2	All MCs	135	3.0	135	3.0	0.885	98.3	LOS F	19.0	134.8	1.00	1.06	1.24	20.5
8	T1	All MCs	140	0.0	140	0.0	0.885	162.9	LOS F	19.0	134.8	1.00	1.06	1.24	23.1
9	R2	All MCs	272	0.7	272	0.7	* 1.157	410.8	LOS F	51.3	361.6	1.00	1.69	2.79	4.9
Approach			547	1.1	547	1.1	1.157	270.2	LOS F	51.3	361.6	1.00	1.37	2.01	8.5
West: Finucane Rd															
10	L2	All MCs	214	5.6	214	5.6	1.164	311.8	LOS F	150.9	1097.6	1.00	1.77	2.65	5.3
11	T1	All MCs	1176	4.2	1176	4.2	* 1.164	348.0	LOS F	150.9	1097.6	1.00	2.03	2.66	7.0
12	R2	All MCs	381	0.0	381	0.0	* 1.158	384.0	LOS F	70.4	493.1	1.00	1.65	2.66	7.6
Approach			1771	3.4	1771	3.4	1.164	351.4	LOS F	150.9	1097.6	1.00	1.92	2.66	7.0
All Vehicles			4264	2.4	4264	2.4	1.196	234.2	LOS F	150.9	1097.6	0.93	1.47	1.86	10.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Delancy Street												
P1	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88

East: Shore Street W											
P2	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
North: Delancy Street											
P3	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
All Pedestrians		150	150	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88

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

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PHASING SUMMARY

Site: 101 [DES AM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: DTMR PHASING AM - Import
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F
Reference Phase: Phase A

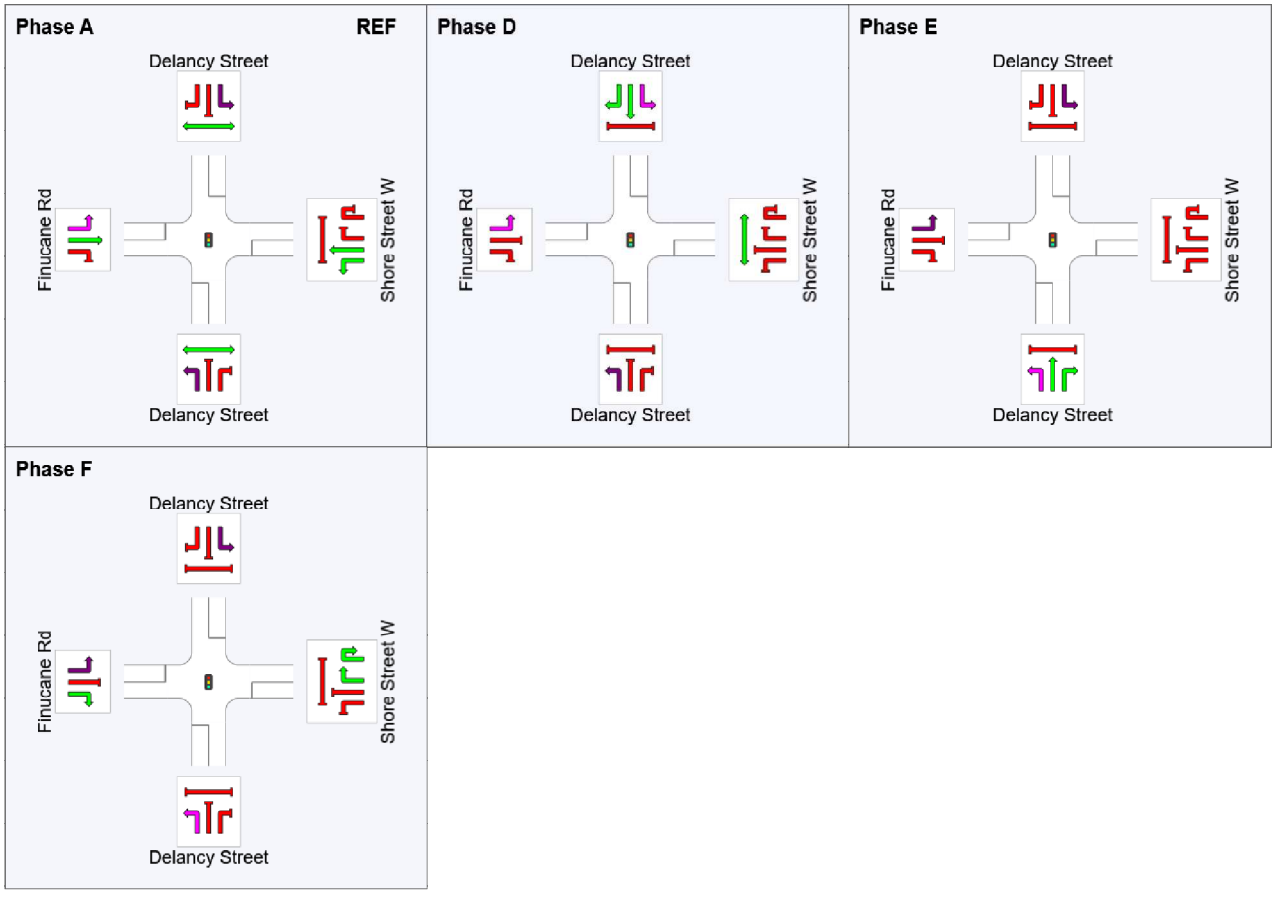
Phase Timing Summary

Phase	A	D	E	F
Phase Change Time (sec)	0	56	87	119
Green Time (sec)	50	25	26	35
Phase Time (sec)	56	31	32	41
Phase Split	35%	19%	20%	26%
Phase Frequency (%)	100.0[4]	100.0[4]	100.0[4]	100.0[4]

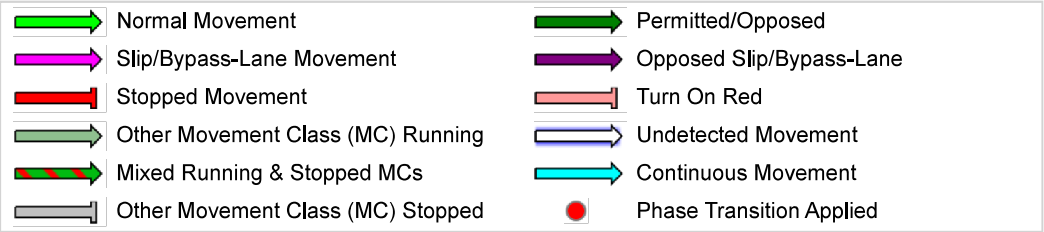
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 101 [DES PM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Delancy Street															
1	L2	All MCs	611	0.0	611	0.0	0.566	32.2	LOS C	19.6	136.9	0.67	0.86	0.67	41.0
2	T1	All MCs	149	0.0	149	0.0	* 1.032	167.8	LOS F	19.8	138.4	1.00	1.44	2.16	12.9
3	R2	All MCs	35	0.0	35	0.0	1.032	173.4	LOS F	19.8	138.4	1.00	1.44	2.16	15.4
Approach			795	0.0	795	0.0	1.032	63.8	LOS E	19.8	138.4	0.75	0.99	1.02	28.7
East: Shore Street W															
4	L2	All MCs	27	0.0	27	0.0	0.079	94.1	LOS F	1.3	9.2	0.80	0.70	0.80	30.9
5	T1	All MCs	838	2.7	838	2.7	* 1.058	212.6	LOS F	52.0	372.7	1.00	1.73	2.13	12.1
6	R2	All MCs	84	0.0	84	0.0	0.666	81.5	LOS F	8.0	56.1	0.99	0.82	1.03	21.2
6u	U	All MCs	44	0.0	44	0.0	0.666	82.8	LOS F	8.0	56.1	0.99	0.82	1.03	25.1
Approach			993	2.3	993	2.3	1.058	192.5	LOS F	52.0	372.7	0.99	1.59	1.95	13.1
North: Delancy Street															
7	L2	All MCs	119	0.0	119	0.0	0.804	15.8	LOS B	14.4	100.5	1.00	0.94	1.13	26.2
8	T1	All MCs	156	0.0	156	0.0	* 0.804	69.9	LOS E	14.4	100.5	1.00	0.94	1.13	29.1
9	R2	All MCs	166	0.6	166	0.6	0.556	60.9	LOS E	9.9	69.5	0.97	0.81	0.97	21.1
Approach			441	0.2	441	0.2	0.804	51.9	LOS D	14.4	100.5	0.99	0.89	1.07	25.1
West: Finucane Rd															
10	L2	All MCs	212	0.0	212	0.0	0.677	6.6	LOS A	14.0	98.9	0.42	0.57	0.42	44.4
11	T1	All MCs	990	1.5	990	1.5	0.677	15.7	LOS B	18.3	129.8	0.49	0.55	0.49	48.2
12	R2	All MCs	496	0.0	496	0.0	* 1.093	228.6	LOS F	68.7	480.7	1.00	1.59	2.37	11.3
Approach			1698	0.9	1698	0.9	1.093	76.8	LOS E	68.7	480.7	0.63	0.86	1.03	23.1
All Vehicles			3927	1.0	3927	1.0	1.093	100.6	LOS F	68.7	480.7	0.79	1.07	1.27	20.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Delancy Street												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94

East: Shore Street W											
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94
North: Delancy Street											
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94
All Pedestrians		150	150	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94

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: 101 [DES PM 2027 - No Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: EXISTING PHASING 3 - Import
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

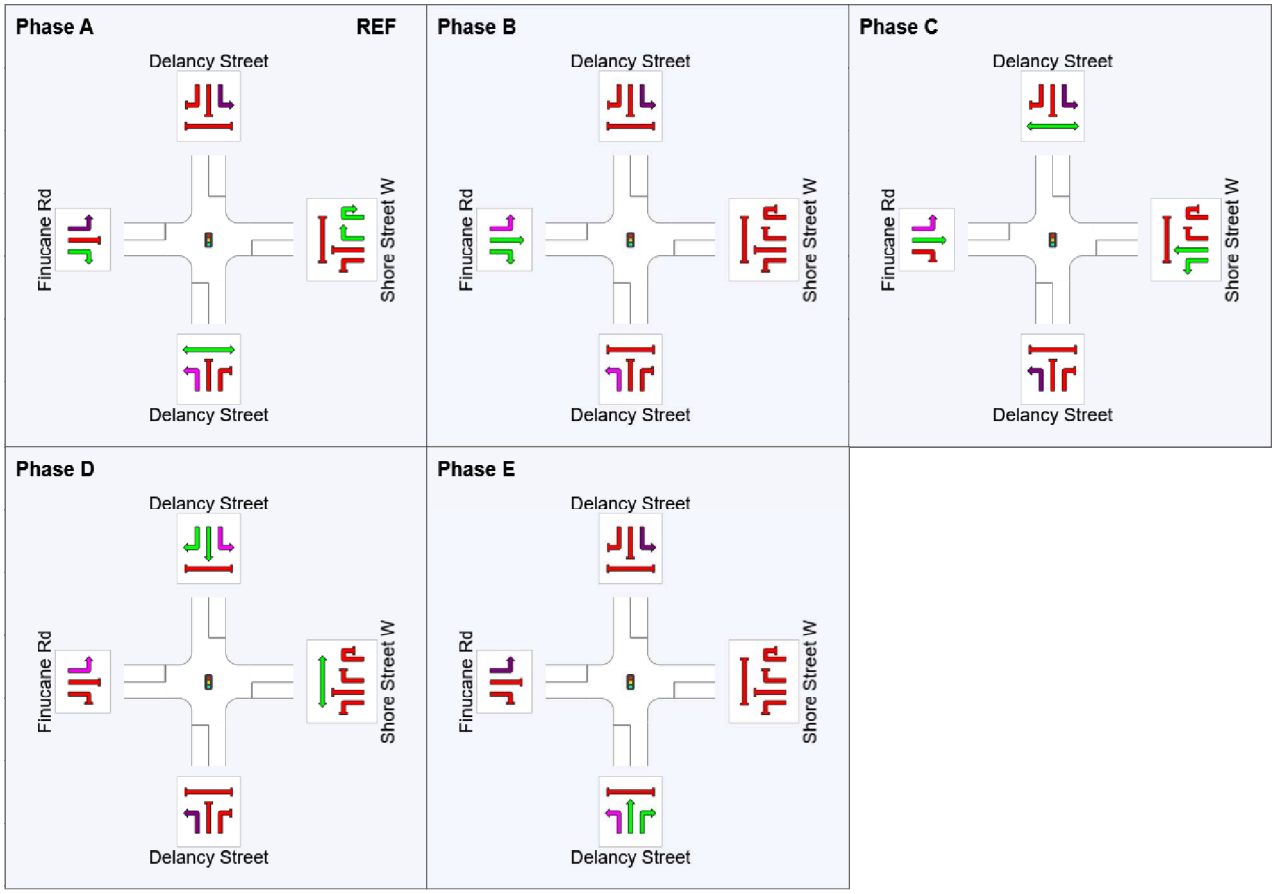
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	21	50	85	112
Green Time (sec)	15	23	29	21	12
Phase Time (sec)	21	29	35	27	18
Phase Split	16%	22%	27%	21%	14%
Phase Frequency (%)	100.0[4]	100.0[4]	100.0[4]	100.0[4]	100.0[4]

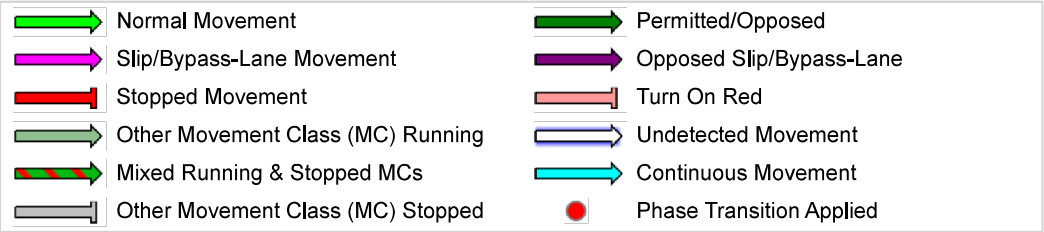
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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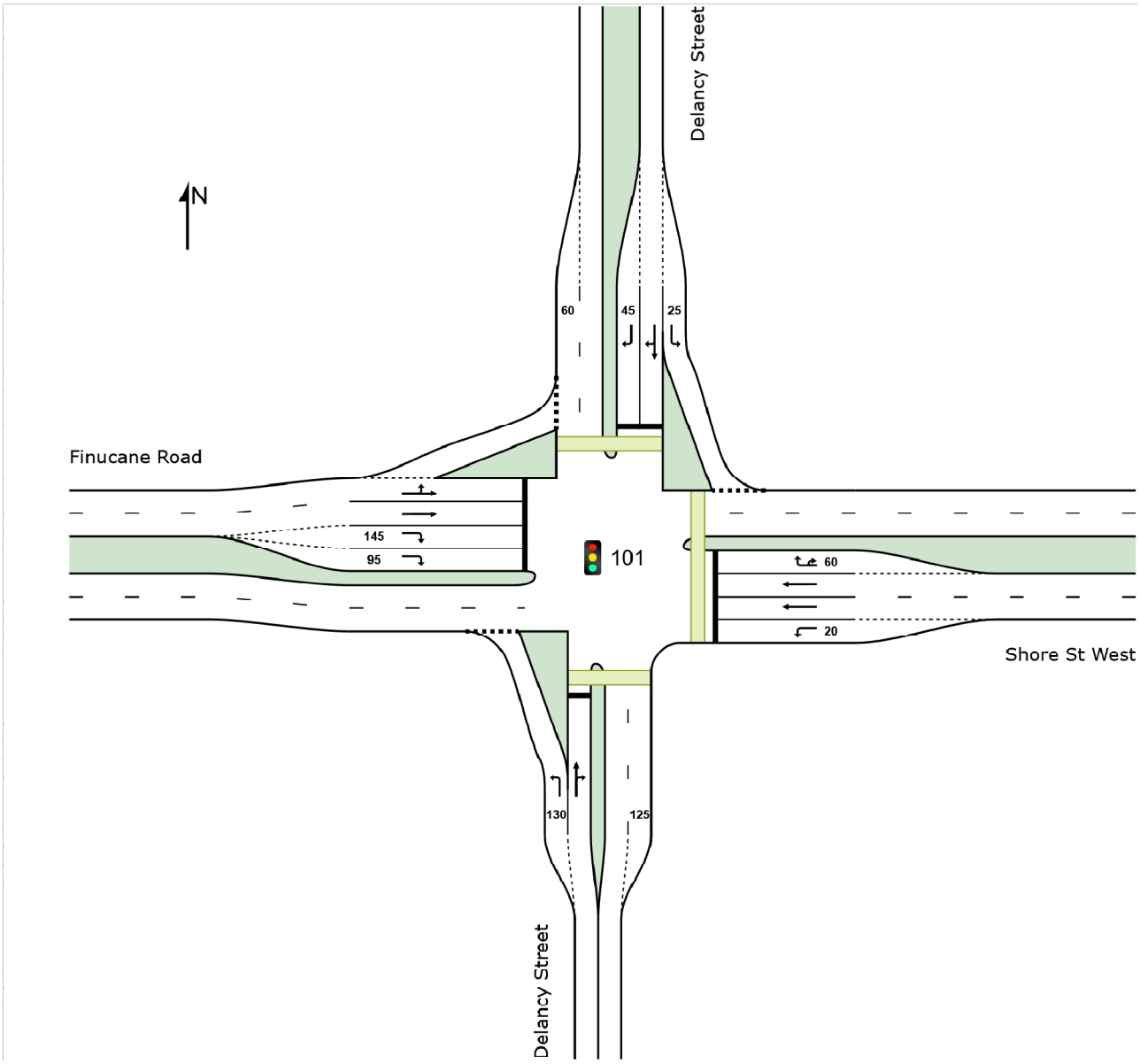
SITE LAYOUT

Site: 101 [DES AM 2027 - Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



MOVEMENT SUMMARY

Site: 101 [DES AM 2027 - Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Delancy Street															
1	L2	All MCs	662	0.0	662	0.0	0.621	23.3	LOS C	30.5	213.8	0.70	0.80	0.70	49.5
2	T1	All MCs	209	0.0	209	0.0	* 0.881	84.6	LOS F	20.0	140.2	1.00	1.03	1.25	20.3
3	R2	All MCs	26	0.0	26	0.0	0.881	89.9	LOS F	20.0	140.2	1.00	1.03	1.25	23.4
Approach			897	0.0	897	0.0	0.881	39.5	LOS D	30.5	213.8	0.78	0.86	0.84	42.7
East: Shore St West															
4	L2	All MCs	21	0.0	21	0.0	0.030	61.0	LOS E	0.8	5.7	0.53	0.66	0.53	36.8
5	T1	All MCs	872	3.4	872	3.4	0.606	49.2	LOS D	23.6	169.9	0.73	0.64	0.73	47.7
6	R2	All MCs	136	2.9	136	2.9	0.648	83.4	LOS F	11.5	82.3	0.98	0.81	0.98	19.7
6u	U	All MCs	20	0.0	20	0.0	0.648	84.7	LOS F	11.5	82.3	0.98	0.81	0.98	23.5
Approach			1049	3.2	1049	3.2	0.648	54.6	LOS D	23.6	169.9	0.76	0.67	0.76	44.2
North: Delancy Street															
7	L2	All MCs	135	3.0	135	3.0	0.153	91.5	LOS F	4.1	29.2	0.46	0.68	0.46	39.2
8	T1	All MCs	140	0.0	140	0.0	* 0.872	120.7	LOS F	17.0	119.3	1.00	1.02	1.27	20.4
9	R2	All MCs	272	0.7	272	0.7	0.872	110.4	LOS F	18.2	128.1	1.00	0.99	1.26	32.2
Approach			547	1.1	547	1.1	0.872	108.4	LOS F	18.2	128.1	0.87	0.92	1.06	30.2
West: Finucane Road															
10	L2	All MCs	214	5.6	214	5.6	0.894	14.2	LOS B	44.1	320.6	0.83	0.91	0.88	46.6
11	T1	All MCs	1176	4.2	1176	4.2	* 0.894	32.6	LOS C	44.1	320.6	0.85	0.86	0.90	48.2
12	R2	All MCs	381	0.0	381	0.0	* 0.881	75.3	LOS E	18.2	127.1	0.98	0.87	1.06	36.8
Approach			1771	3.4	1771	3.4	0.894	39.6	LOS D	44.1	320.6	0.87	0.87	0.93	44.9
All Vehicles			4264	2.4	4264	2.4	0.894	52.1	LOS D	44.1	320.6	0.82	0.82	0.89	42.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Delancy Street												
P1	Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88

East: Shore St West											
P2 Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
North: Delancy Street											
P3 Full	50	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
All Pedestrians	150	150	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88

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

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PHASING SUMMARY

Site: 101 [DES AM 2027 - Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: DTMR PHASING AM - Import
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F
Reference Phase: Phase A

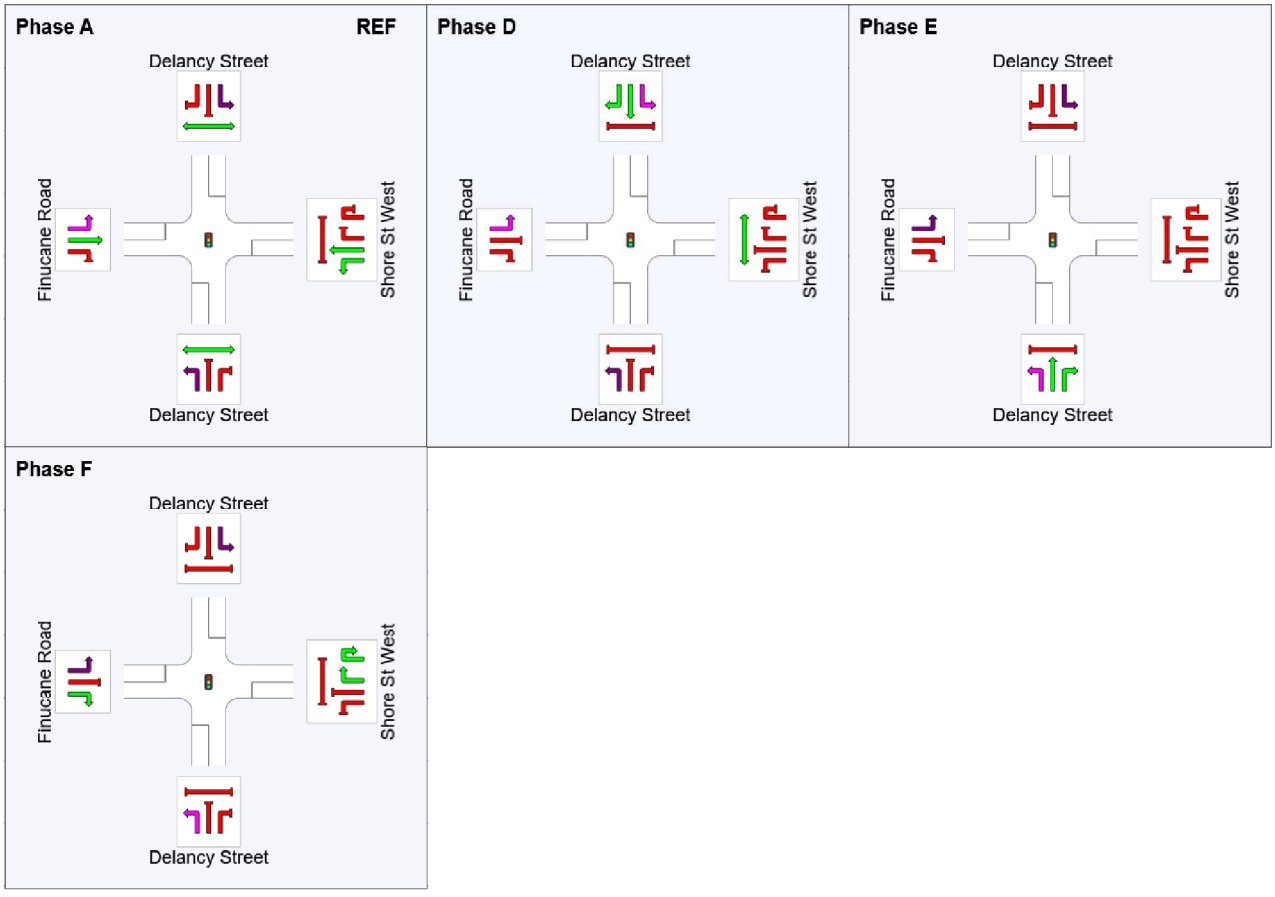
Phase Timing Summary

Phase	A	D	E	F
Phase Change Time (sec)	0	71	104	132
Green Time (sec)	65	27	22	22
Phase Time (sec)	71	33	28	28
Phase Split	44%	21%	18%	18%
Phase Frequency (%)	100.0[4]	100.0[4]	100.0[4]	100.0[4]

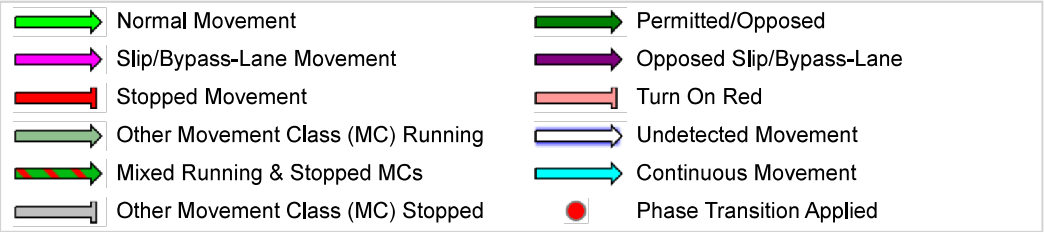
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 101 [DES PM 2027 - Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Delancy Street															
1	L2	All MCs	611	0.0	611	0.0	0.576	19.1	LOS B	22.6	158.4	0.69	0.79	0.69	51.0
2	T1	All MCs	149	0.0	149	0.0	*0.728	61.6	LOS E	11.7	82.2	1.00	0.87	1.08	24.6
3	R2	All MCs	35	0.0	35	0.0	0.728	67.1	LOS E	11.7	82.2	1.00	0.87	1.08	27.7
Approach			795	0.0	795	0.0	0.728	29.2	LOS C	22.6	158.4	0.76	0.81	0.78	46.2
East: Shore St West															
4	L2	All MCs	27	0.0	27	0.0	0.052	70.0	LOS E	1.1	7.6	0.67	0.69	0.67	34.7
5	T1	All MCs	838	2.7	838	2.7	0.746	57.9	LOS E	22.9	163.8	0.89	0.79	0.90	45.7
6	R2	All MCs	84	0.0	84	0.0	*0.713	78.3	LOS E	8.2	57.4	1.00	0.84	1.08	20.9
6u	U	All MCs	44	0.0	44	0.0	0.713	79.6	LOS E	8.2	57.4	1.00	0.84	1.08	24.7
Approach			993	2.3	993	2.3	0.746	60.9	LOS E	22.9	163.8	0.90	0.79	0.92	43.2
North: Delancy Street															
7	L2	All MCs	119	0.0	119	0.0	0.127	42.0	LOS D	2.1	14.8	0.35	0.65	0.35	44.5
8	T1	All MCs	156	0.0	156	0.0	*0.622	72.0	LOS E	9.4	65.5	0.98	0.80	0.98	26.4
9	R2	All MCs	166	0.6	166	0.6	0.556	60.6	LOS E	9.9	69.5	0.97	0.81	0.97	37.3
Approach			441	0.2	441	0.2	0.622	59.6	LOS E	9.9	69.5	0.81	0.76	0.81	34.7
West: Finucane Rd															
10	L2	All MCs	212	0.0	212	0.0	0.720	7.9	LOS A	18.2	128.5	0.54	0.67	0.54	52.1
11	T1	All MCs	990	1.5	990	1.5	*0.720	16.3	LOS B	22.2	157.6	0.61	0.62	0.61	53.1
12	R2	All MCs	496	0.0	496	0.0	0.759	48.5	LOS D	16.9	118.5	0.90	0.82	0.92	42.3
Approach			1698	0.9	1698	0.9	0.759	24.7	LOS C	22.2	157.6	0.69	0.69	0.69	49.1
All Vehicles			3927	1.0	3927	1.0	0.759	38.7	LOS D	22.9	163.8	0.77	0.75	0.78	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Delancy Street												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94

East: Shore St West											
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94
North: Delancy Street											
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94
All Pedestrians		150	150	59.3	LOS E	0.2	0.2	0.96	0.96	213.1	200.0	0.94

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: 101 [DES PM 2027 - Upgrades (Site Folder: 2. Finucane Road / Delancey Street / Shore Street W)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: EXISTING PHASING 3 - Import
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

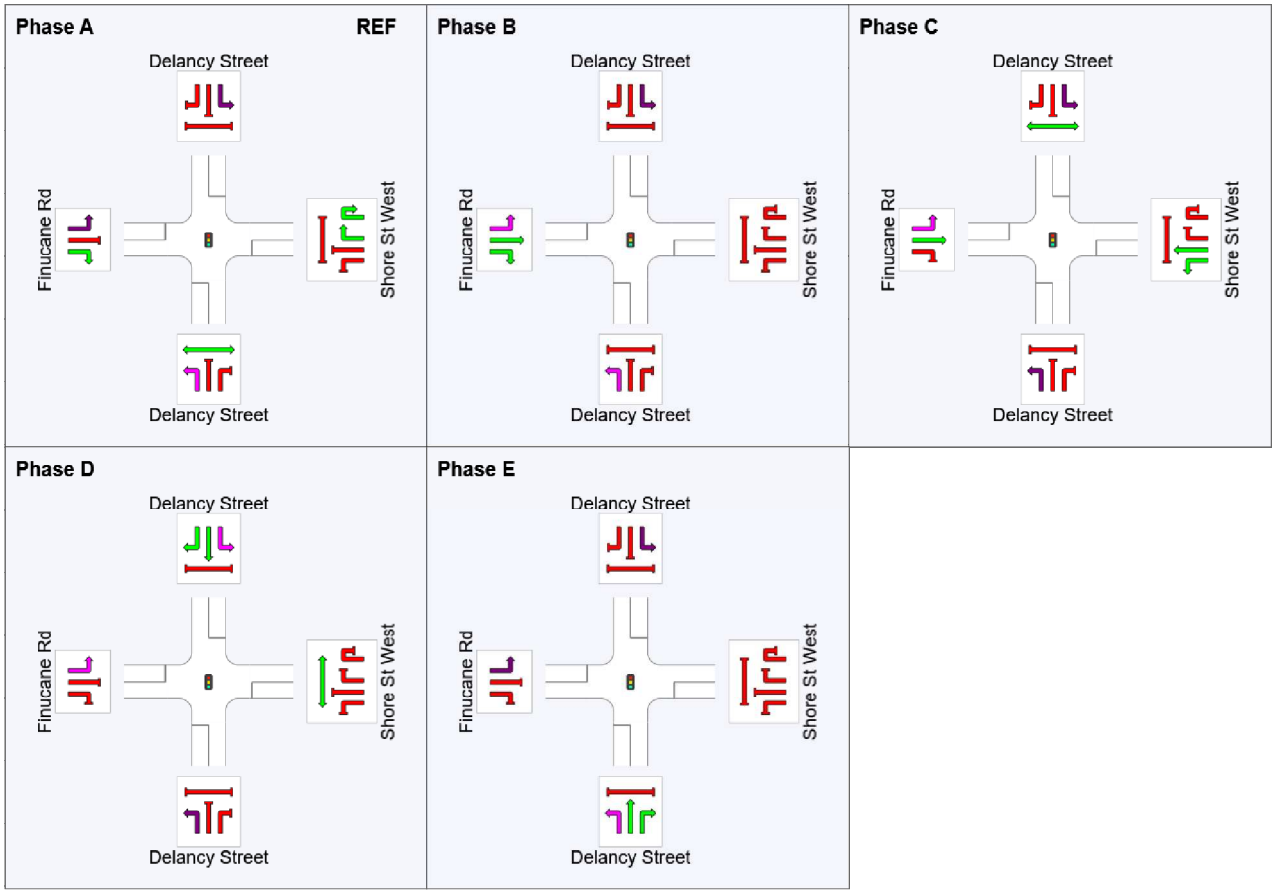
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	20	33	80	107
Green Time (sec)	14	7	41	21	17
Phase Time (sec)	20	13	47	27	23
Phase Split	15%	10%	36%	21%	18%
Phase Frequency (%)	100.0[4]	100.0[4]	100.0[4]	100.0[4]	100.0[4]

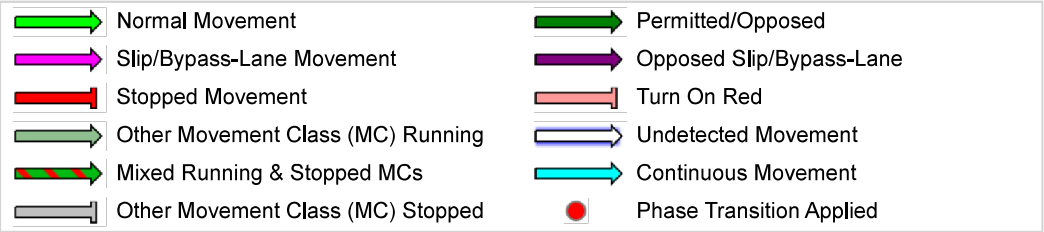
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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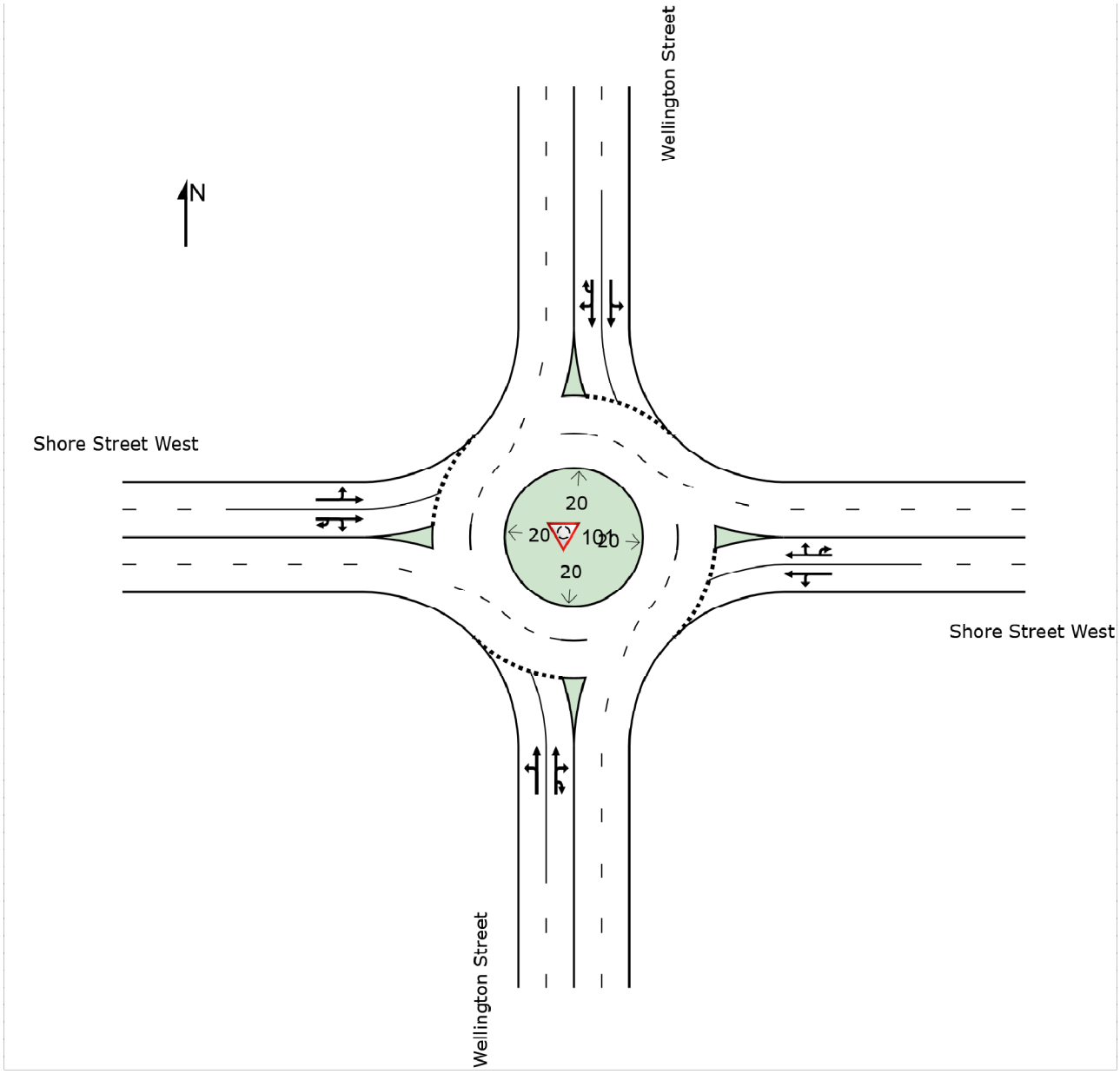
SITE LAYOUT

Site: 101 [BG AM 2027 (Site Folder: 3. Shore Street West / Wellington Street)]

New Site
Site Category: (None)
Roundabout

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



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MOVEMENT SUMMARY

Site: 101 [BG AM 2027 (Site Folder: 3. Shore Street West / Wellington Street)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wellington Street															
1	L2	All MCs	171	10.5	171	10.5	0.487	8.9	LOS A	3.0	22.1	0.82	0.87	0.95	50.4
2	T1	All MCs	358	0.8	358	0.8	0.487	9.0	LOS A	3.0	22.1	0.81	0.89	0.95	48.4
3	R2	All MCs	87	1.1	87	1.1	0.487	14.1	LOS B	2.9	20.1	0.81	0.90	0.95	49.8
3u	U	All MCs	4	0.0	4	0.0	0.487	16.2	LOS B	2.9	20.1	0.81	0.90	0.95	50.3
Approach			620	3.5	620	3.5	0.487	9.8	LOS A	3.0	22.1	0.81	0.88	0.95	49.3
East: Shore Street West															
4	L2	All MCs	55	7.3	55	7.3	0.715	13.4	LOS B	6.6	47.6	0.91	1.02	1.35	48.6
5	T1	All MCs	689	2.6	689	2.6	0.715	13.6	LOS B	6.6	47.6	0.91	1.03	1.35	46.9
6	R2	All MCs	211	1.4	211	1.4	0.715	19.2	LOS B	6.1	43.6	0.90	1.05	1.36	41.8
6u	U	All MCs	7	0.0	7	0.0	0.715	21.3	LOS C	6.1	43.6	0.90	1.05	1.36	45.9
Approach			962	2.6	962	2.6	0.715	14.9	LOS B	6.6	47.6	0.91	1.03	1.36	46.0
North: Wellington Street															
7	L2	All MCs	257	3.9	257	3.9	0.731	12.1	LOS B	5.9	42.5	0.91	1.04	1.31	45.4
8	T1	All MCs	472	3.0	472	3.0	0.731	13.1	LOS B	5.9	42.5	0.90	1.05	1.32	45.3
9	R2	All MCs	133	5.3	133	5.3	0.731	18.8	LOS B	5.3	38.7	0.90	1.07	1.33	40.7
9u	U	All MCs	8	12.5	8	12.5	0.731	21.5	LOS C	5.3	38.7	0.90	1.07	1.33	34.6
Approach			870	3.7	870	3.7	0.731	13.8	LOS B	5.9	42.5	0.90	1.05	1.32	44.6
West: Shore Street West															
10	L2	All MCs	89	1.1	89	1.1	0.698	9.6	LOS A	6.4	45.3	0.83	0.87	1.08	46.0
11	T1	All MCs	712	2.1	712	2.1	0.698	9.8	LOS A	6.4	45.3	0.83	0.89	1.09	49.6
12	R2	All MCs	347	7.8	347	7.8	0.698	15.5	LOS B	6.1	44.4	0.83	0.94	1.13	46.8
12u	U	All MCs	63	1.6	63	1.6	0.698	17.3	LOS B	6.1	44.4	0.83	0.94	1.13	45.2
Approach			1211	3.6	1211	3.6	0.698	11.8	LOS B	6.4	45.3	0.83	0.90	1.10	48.3
All Vehicles			3663	3.4	3663	3.4	0.731	12.7	LOS B	6.6	47.6	0.86	0.97	1.19	47.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [BG PM 2027 (Site Folder: 3. Shore Street West / Wellington Street)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wellington Street															
1	L2	All MCs	161	10.6	161	10.6	0.517	9.2	LOS A	3.3	24.1	0.82	0.88	0.97	50.3
2	T1	All MCs	418	1.0	418	1.0	0.517	9.3	LOS A	3.3	24.1	0.81	0.89	0.98	48.3
3	R2	All MCs	98	1.0	98	1.0	0.517	14.4	LOS B	3.1	22.1	0.81	0.91	0.98	49.7
3u	U	All MCs	2	0.0	2	0.0	0.517	16.5	LOS B	3.1	22.1	0.81	0.91	0.98	50.1
Approach			679	3.2	679	3.2	0.517	10.0	LOS B	3.3	24.1	0.82	0.89	0.98	49.0
East: Shore Street West															
4	L2	All MCs	117	0.0	117	0.0	0.645	9.9	LOS A	5.4	38.5	0.82	0.88	1.08	50.8
5	T1	All MCs	654	2.8	654	2.8	0.645	10.3	LOS B	5.4	38.5	0.82	0.90	1.09	49.2
6	R2	All MCs	262	2.7	262	2.7	0.645	15.6	LOS B	5.1	36.7	0.83	0.93	1.11	44.0
6u	U	All MCs	14	0.0	14	0.0	0.645	17.6	LOS B	5.1	36.7	0.83	0.93	1.11	47.9
Approach			1047	2.4	1047	2.4	0.645	11.7	LOS B	5.4	38.5	0.83	0.90	1.09	48.2
North: Wellington Street															
7	L2	All MCs	219	1.4	219	1.4	0.503	8.4	LOS A	3.2	22.5	0.81	0.86	0.94	48.3
8	T1	All MCs	350	1.1	350	1.1	0.503	9.0	LOS A	3.2	22.5	0.81	0.89	0.95	48.4
9	R2	All MCs	97	2.1	97	2.1	0.503	14.2	LOS B	3.0	21.0	0.80	0.91	0.96	44.4
9u	U	All MCs	7	0.0	7	0.0	0.503	16.2	LOS B	3.0	21.0	0.80	0.91	0.96	39.9
Approach			673	1.3	673	1.3	0.503	9.6	LOS A	3.2	22.5	0.81	0.88	0.95	47.8
West: Shore Street West															
10	L2	All MCs	107	0.0	107	0.0	0.660	9.7	LOS A	5.5	39.1	0.83	0.89	1.08	46.0
11	T1	All MCs	626	1.6	626	1.6	0.660	10.0	LOS A	5.5	39.1	0.83	0.90	1.09	49.4
12	R2	All MCs	288	1.4	288	1.4	0.660	15.3	LOS B	5.3	37.2	0.83	0.94	1.11	47.1
12u	U	All MCs	58	0.0	58	0.0	0.660	17.4	LOS B	5.3	37.2	0.83	0.94	1.11	45.4
Approach			1079	1.3	1079	1.3	0.660	11.8	LOS B	5.5	39.1	0.83	0.91	1.10	48.3
All Vehicles			3478	2.0	3478	2.0	0.660	11.0	LOS B	5.5	39.1	0.82	0.90	1.04	48.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [DES AM 2027 (Site Folder: 3. Shore Street West / Wellington Street)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wellington Street															
1	L2	All MCs	171	10.5	171	10.5	0.521	9.5	LOS A	3.3	24.5	0.85	0.90	1.01	50.1
2	T1	All MCs	358	0.8	358	0.8	0.521	9.7	LOS A	3.3	24.5	0.84	0.92	1.01	47.9
3	R2	All MCs	87	1.1	87	1.1	0.521	14.9	LOS B	3.1	22.1	0.84	0.93	1.01	49.4
3u	U	All MCs	4	0.0	4	0.0	0.521	16.9	LOS B	3.1	22.1	0.84	0.93	1.01	49.8
Approach			620	3.5	620	3.5	0.521	10.4	LOS B	3.3	24.5	0.84	0.92	1.01	48.8
East: Shore Street West															
4	L2	All MCs	55	7.3	55	7.3	0.778	15.4	LOS B	8.2	58.7	0.94	1.09	1.53	47.5
5	T1	All MCs	772	2.3	772	2.3	0.778	15.7	LOS B	8.2	58.7	0.94	1.10	1.54	45.7
6	R2	All MCs	211	1.4	211	1.4	0.778	21.4	LOS C	7.5	53.6	0.93	1.12	1.55	40.5
6u	U	All MCs	7	0.0	7	0.0	0.778	23.5	LOS C	7.5	53.6	0.93	1.12	1.55	44.8
Approach			1045	2.4	1045	2.4	0.778	16.9	LOS B	8.2	58.7	0.94	1.10	1.54	44.8
North: Wellington Street															
7	L2	All MCs	257	3.9	257	3.9	0.774	13.7	LOS B	6.6	47.6	0.93	1.09	1.43	44.2
8	T1	All MCs	472	3.0	472	3.0	0.774	14.8	LOS B	6.6	47.6	0.93	1.10	1.44	44.1
9	R2	All MCs	133	5.3	133	5.3	0.774	20.8	LOS C	5.9	43.0	0.92	1.12	1.45	39.3
9u	U	All MCs	8	12.5	8	12.5	0.774	23.4	LOS C	5.9	43.0	0.92	1.12	1.45	33.2
Approach			870	3.7	870	3.7	0.774	15.5	LOS B	6.6	47.6	0.93	1.10	1.44	43.3
West: Shore Street West															
10	L2	All MCs	89	1.1	89	1.1	0.738	10.2	LOS B	7.3	51.9	0.85	0.91	1.17	45.4
11	T1	All MCs	779	1.9	779	1.9	0.738	10.5	LOS B	7.3	51.9	0.86	0.93	1.18	49.0
12	R2	All MCs	347	7.8	347	7.8	0.738	16.3	LOS B	6.9	50.8	0.86	0.97	1.21	46.4
12u	U	All MCs	63	1.6	63	1.6	0.738	18.1	LOS B	6.9	50.8	0.86	0.97	1.21	44.8
Approach			1278	3.4	1278	3.4	0.738	12.4	LOS B	7.3	51.9	0.86	0.94	1.19	47.9
All Vehicles			3813	3.2	3813	3.2	0.778	14.0	LOS B	8.2	58.7	0.89	1.02	1.31	46.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [DES PM 2027 (Site Folder: 3. Shore Street West / Wellington Street)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wellington Street															
1	L2	All MCs	161	10.6	161	10.6	0.548	9.8	LOS A	3.6	26.3	0.84	0.91	1.03	50.0
2	T1	All MCs	418	1.0	418	1.0	0.548	9.9	LOS A	3.6	26.3	0.84	0.92	1.03	47.8
3	R2	All MCs	98	1.0	98	1.0	0.548	15.1	LOS B	3.4	23.9	0.84	0.94	1.04	49.2
3u	U	All MCs	2	0.0	2	0.0	0.548	17.2	LOS B	3.4	23.9	0.84	0.94	1.04	49.6
Approach			679	3.2	679	3.2	0.548	10.6	LOS B	3.6	26.3	0.84	0.92	1.03	48.6
East: Shore Street West															
4	L2	All MCs	117	0.0	117	0.0	0.691	10.6	LOS B	6.3	44.8	0.85	0.92	1.16	50.3
5	T1	All MCs	727	2.5	727	2.5	0.691	11.0	LOS B	6.3	44.8	0.85	0.93	1.17	48.6
6	R2	All MCs	262	2.7	262	2.7	0.691	16.4	LOS B	5.9	42.5	0.85	0.96	1.19	43.6
6u	U	All MCs	14	0.0	14	0.0	0.691	18.4	LOS B	5.9	42.5	0.85	0.96	1.19	47.5
Approach			1120	2.2	1120	2.2	0.691	12.3	LOS B	6.3	44.8	0.85	0.94	1.18	47.8
North: Wellington Street															
7	L2	All MCs	219	1.4	219	1.4	0.530	8.9	LOS A	3.4	24.4	0.83	0.89	0.99	48.0
8	T1	All MCs	350	1.1	350	1.1	0.530	9.5	LOS A	3.4	24.4	0.83	0.91	1.00	48.0
9	R2	All MCs	97	2.1	97	2.1	0.530	14.8	LOS B	3.2	22.6	0.83	0.93	1.01	43.9
9u	U	All MCs	7	0.0	7	0.0	0.530	16.8	LOS B	3.2	22.6	0.83	0.93	1.01	39.3
Approach			673	1.3	673	1.3	0.530	10.1	LOS B	3.4	24.4	0.83	0.91	1.00	47.4
West: Shore Street West															
10	L2	All MCs	107	0.0	107	0.0	0.703	10.3	LOS B	6.3	44.9	0.85	0.92	1.16	45.4
11	T1	All MCs	693	1.4	693	1.4	0.703	10.7	LOS B	6.3	44.9	0.85	0.94	1.17	48.9
12	R2	All MCs	288	1.4	288	1.4	0.703	16.1	LOS B	6.0	42.6	0.86	0.97	1.19	46.7
12u	U	All MCs	58	0.0	58	0.0	0.703	18.1	LOS B	6.0	42.6	0.86	0.97	1.19	45.0
Approach			1146	1.2	1146	1.2	0.703	12.4	LOS B	6.3	44.9	0.85	0.95	1.18	47.9
All Vehicles			3618	1.9	3618	1.9	0.703	11.6	LOS B	6.3	44.9	0.85	0.93	1.12	47.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Appendix C – Aggregate Delay Assessment

2027 Design (No Upgrades)

TOTALS

	BC	WD	ID	ID%
AM	9247.6	17033.3	7785.6	84.2%
PM	3783.7	7241.7	3458.1	91.4%
Total	13031.3	24275.0	11243.7	**86.3%**

Intersection 9 - Finucane Rd / Site Access

	BC	WD	ID	ID%
AM	0.0	878.8	878.8	#DIV/0!
PM	0.0	729.1	729.1	#DIV/0!
Total	0.0	1607.9	1607.9	#DIV/0!

Design - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	Demand Flows HV] %	Arrival Flows [Total veh/h	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
East: Finucane Road																
5	T1	All MCs	1641	2.1	1641	2.1	0.569	0.5	LOS A	2.8	20	0.05	0.05	0.05	13.675	
6	R2	All MCs	165	0	165	0	* 0.748	74.7	LOS E	12.5	87.8	0.99	0.83	1.04		
Approach			1806	1.9	1806	1.9	0.748	7.2	LOS A	12.5	87.8	0.14	0.12	0.14		
North: Site Access																
7	L2	All MCs	154	0	154	0	0.282	51.8	LOS D	9.1	64	0.82	0.78	0.82		
9	R2	All MCs	200	0	200	0	* 0.783	81.7	LOS F	15.9	111.1	1	0.89	1.1		
Approach			354	0	354	0	0.783	68.7	LOS E	15.9	111.1	0.92	0.84	0.98		
West: Finucane Road																
10	L2	All MCs	241	0	241	0	0.161	22.6	LOS C	4	28.3	0.24	0.63	0.24		
11	T1	All MCs	1617	3.9	1617	3.9	* 0.784	32.1	LOS C	51.4	371.8	0.83	0.76	0.83	865.095	
Approach			1858	3.4	1858	3.4	0.784	30.9	LOS C	51.4	371.8	0.75	0.74	0.75		
All Vehicles			4018	2.4	4018	2.4	0.784	23.6	LOS C	51.4	371.8	0.49	0.47	0.5		

Design - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	Demand Flows HV] %	Arrival Flows [Total veh/h	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
East: Finucane Road																
5	T1	All MCs	1473	1.7	1473	1.7	0.546	0.4	LOS A	2	13.9	0.05	0.04	0.05	9.833333333	
6	R2	All MCs	139	0	139	0	* 0.748	65.5	LOS E	8.8	61.9	1	0.83	1.07		
Approach			1612	1.8	1612	1.8	0.748	6	LOS A	8.8	61.9	0.13	0.11	0.13		
North: Site Access																
7	L2	All MCs	172	0	172	0	0.301	42.3	LOS D	8.3	57.9	0.81	0.78	0.81		
9	R2	All MCs	222	0	222	0	* 0.740	64.3	LOS E	14	98.1	1	0.87	1.07		
Approach			394	0	394	0	0.74	54.7	LOS D	14	98.1	0.92	0.83	0.96		
West: Finucane Road																
10	L2	All MCs	203	0	203	0	0.135	18.4	LOS B	2.7	18.9	0.23	0.62	0.23		
11	T1	All MCs	1523	1	1523	1	* 0.761	28.3	LOS C	39.3	277.7	0.84	0.77	0.84	719.2916667	
Approach			1726	0.9	1726	0.9	0.761	27.1	LOS C	39.3	277.7	0.76	0.75	0.76		
All Vehicles			3732	1.1	3732	1.1	0.761	20.9	LOS C	39.3	277.7	0.51	0.48	0.51		

Intersection 3 - Finucane Rd / Shore St W / Delancey St

	BC	WD	ID	ID%
AM	8470.8	15297.1	6826.3	80.6%
PM	3146.4	5837.1	2690.6	85.5%
Total	11617.2	21134.1	9516.9	81.9%

Background - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV] %	Arrival Flows [Total veh/h]	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	563	0	563	0	0.536	56.9	LOS E	26.4	185.1	0.73	1.2	0.73	533.9116667	
2	T1	All MCs	184	0	184	0	* 1.064	241.4	LOS F	30	210.2	1	1.68	2.18	740.2933333	
3	R2	All MCs	26	0	26	0	1.064	247	LOS F	30	210.2	1	1.68	2.18	107.0333333	
Approach			773	0	773	0	1.064	107.2	LOS F	30	210.2	0.81	1.33	1.13		
East: Shore Street W																
4	L2	All MCs	21	0	21	0	0.034	78.2	LOS E	1	6.9	0.64	0.67	0.64	27.37	
5	T1	All MCs	806	3.8	806	3.8	0.617	63.6	LOS E	24.5	177.1	0.82	0.72	0.82	857.0466667	
6	R2	All MCs	119	0.8	119	0.8	0.399	74.9	LOS E	9.2	64.7	0.89	0.79	0.89	148.5516667	
6u	U	All MCs	20	0	20	0	0.399	78.2	LOS E	9.2	64.7	0.89	0.79	0.89	25.4	
Approach			966	3.3	966	3.3	0.617	65.7	LOS E	24.5	177.1	0.83	0.73	0.83		
North: Delancy Street																
7	L2	All MCs	135	0.7	135	0.7	0.741	84	LOS F	15.6	109.9	0.99	0.94	1.01	189	
8	T1	All MCs	140	0	140	0	0.741	136.6	LOS F	15.6	109.9	0.99	0.94	1.01	323.8666667	
9	R2	All MCs	272	2.6	272	2.6	* 1.025	202.2	LOS F	34.1	243.9	1	1.3	1.86	916.64	
Approach			547	1.5	547	1.5	1.025	156.8	LOS F	34.1	243.9	0.99	1.12	1.43		
West: Finucane Rd																
10	L2	All MCs	214	2.3	214	2.3	1.041	120.1	LOS F	97.5	702.6	1	1.34	1.73	428.3566667	
11	T1	All MCs	1109	3.8	1109	3.8	* 1.041	170.7	LOS F	97.5	702.6	1	1.48	1.77	3155.105	
12	R2	All MCs	294	0	294	0	* 1.031	207.8	LOS F	37.1	260	1	1.29	1.87	1018.22	
Approach			1617	2.9	1617	2.9	1.041	170.7	LOS F	97.5	702.6	1	1.43	1.78		
All Vehicles			3903	2.2	3903	2.2	1.064	130.2	LOS F	97.5	702.6	0.92	1.19	1.37		

Background - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV] %	Arrival Flows [Total veh/h]	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	530	0	530	0	0.489	23.8	LOS C	17.9	125.3	0.62	0.76	0.62	210.2333333	
2	T1	All MCs	129	0	129	0	* 0.850	76.1	LOS E	11.4	79.5	1	0.99	1.29	163.615	
3	R2	All MCs	35	0	35	0	0.85	81.7	LOS F	11.4	79.5	1	0.99	1.29	47.65833333	
Approach			694	0	694	0	0.85	36.4	LOS D	17.9	125.3	0.71	0.81	0.78		
East: Shore Street W																
4	L2	All MCs	27	0	27	0	0.07	85.6	LOS F	1.3	8.8	0.77	0.7	0.77	38.52	
5	T1	All MCs	779	4.6	779	4.6	* 0.892	81.2	LOS F	26.6	193.9	1	1.01	1.19	1054.246667	
6	R2	All MCs	70	0	70	0	0.693	79.2	LOS E	7.3	51.2	1	0.82	1.07	92.4	
6u	U	All MCs	44	0	44	0	0.693	80.5	LOS F	7.3	51.2	1	0.82	1.07	59.03333333	
Approach			920	3.9	920	3.9	0.892	81.1	LOS F	26.6	193.9	0.99	0.98	1.16		
North: Delancy Street																
7	L2	All MCs	119	3.4	119	3.4	0.748	25.7	LOS C	13.4	95.1	0.99	0.96	1.05	50.97166667	
8	T1	All MCs	156	0	156	0	* 0.748	67.1	LOS E	13.4	95.1	0.99	0.96	1.05	174.46	
9	R2	All MCs	166	2.4	166	2.4	0.514	58.5	LOS E	9.7	69.1	0.96	0.81	0.96	161.85	
Approach			441	1.8	441	1.8	0.748	52.7	LOS D	13.4	95.1	0.98	0.9	1.02		
West: Finucane Rd																
10	L2	All MCs	212	0.5	212	0.5	0.698	8.7	LOS A	28.8	202.9	0.84	0.87	0.84	30.74	
11	T1	All MCs	923	1	923	1	0.698	39.8	LOS D	28.8	202.9	0.86	0.82	0.86	612.2566667	
12	R2	All MCs	390	0	390	0	* 0.865	69.3	LOS E	26.5	185.7	1	0.96	1.18	450.45	
Approach			1525	0.7	1525	0.7	0.865	43	LOS D	28.8	202.9	0.89	0.86	0.94		
All Vehicles			3580	1.5	3580	1.5	0.892	52.7	LOS D	28.8	202.9	0.89	0.89	0.98		

Design - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV] %	Arrival Flows [Total veh/h]	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	662	0	662	0	0.643	66.8	LOS E	29.1	203.4	0.76	1.22	0.76	626.8066667	92.895
2	T1	All MCs	209	0	209	0	* 1.196	461.6	LOS F	49	342.9	1	2.2	3.09	1415.573333	675.28
3	R2	All MCs	26	0	26	0	1.196	467.2	LOS F	49	342.9	1	2.2	3.09	202.4533333	95.42
Approach			897	0	897	0	1.196	170.4	LOS F	49	342.9	0.83	1.48	1.37		
East: Shore Street W																
4	L2	All MCs	21	0	21	0	0.036	84.6	LOS F	1	7.1	0.66	0.68	0.66	29.68	2.31
5	T1	All MCs	872	3.4	872	3.4	0.705	71.9	LOS E	28.9	208.4	0.88	0.77	0.88	965.8566667	108.81
6	R2	All MCs	136	2.9	136	2.9	0.361	72	LOS E	9.6	68.6	0.84	0.78	0.84	142.8	-5.751666667
6u	U	All MCs	20	0	20	0	0.361	73.3	LOS E	9.6	68.6	0.84	0.78	0.84	24.43333333	-0.966666667
Approach			1049	3.2	1049	3.2	0.705	72.2	LOS E	28.9	208.4	0.87	0.77	0.87		
North: Delancy Street																
7	L2	All MCs	135	3	135	3	0.885	98.3	LOS F	19	134.8	1	1.06	1.24	221.175	32.175
8	T1	All MCs	140	0	140	0	0.885	162.9	LOS F	19	134.8	1	1.06	1.24	380.1	56.23333333
9	R2	All MCs	272	0.7	272	0.7	* 1.157	410.8	LOS F	51.3	361.6	1	1.69	2.79	1862.293333	945.6533333
Approach			547	1.1	547	1.1	1.157	270.2	LOS F	51.3	361.6	1	1.37	2.01		
West: Finucane Rd																
10	L2	All MCs	214	5.6	214	5.6	1.164	311.8	LOS F	150.9	1097.6	1	1.77	2.65	1112.086667	683.73
11	T1	All MCs	1176	4.2	1176	4.2	* 1.164	348	LOS F	150.9	1097.6	1	2.03	2.66	6432.2	3277.095
12	R2	All MCs	381	0	381	0	* 1.158	384	LOS F	70.4	493.1	1	1.65	2.66	1881.6	863.38
Approach			1771	3.4	1771	3.4	1.164	351.4	LOS F	150.9	1097.6	1	1.92	2.66		
All Vehicles			4264	2.4	4264	2.4	1.196	234.2	LOS F	150.9	1097.6	0.93	1.47	1.86		

Design - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV] %	Arrival Flows [Total veh/h]	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	611	0	611	0	0.566	32.2	LOS C	19.6	136.9	0.67	0.86	0.67	284.4333333	74.2
2	T1	All MCs	149	0	149	0	* 1.032	167.8	LOS F	19.8	138.4	1	1.44	2.16	360.77	197.155
3	R2	All MCs	35	0	35	0	1.032	173.4	LOS F	19.8	138.4	1	1.44	2.16	101.15	53.49166667
Approach			795	0	795	0	1.032	63.8	LOS E	19.8	138.4	0.75	0.99	1.02		
East: Shore Street W																
4	L2	All MCs	27	0	27	0	0.079	94.1	LOS F	1.3	9.2	0.8	0.7	0.8	42.345	3.825
5	T1	All MCs	838	2.7	838	2.7	* 1.058	212.6	LOS F	52	372.7	1	1.73	2.13	2760.256667	1706.01
6	R2	All MCs	84	0	84	0	0.666	81.5	LOS F	8	56.1	0.99	0.82	1.03	95.08333333	2.683333333
6u	U	All MCs	44	0	44	0	0.666	82.8	LOS F	8	56.1	0.99	0.82	1.03	60.72	1.686666667
Approach			993	2.3	993	2.3	1.058	192.5	LOS F	52	372.7	0.99	1.59	1.95		
North: Delancy Street																
7	L2	All MCs	119	0	119	0	0.804	15.8	LOS B	14.4	100.5	1	0.94	1.13	31.33666667	-19.635
8	T1	All MCs	156	0	156	0	* 0.804	69.9	LOS E	14.4	100.5	1	0.94	1.13	181.74	7.28
9	R2	All MCs	166	0.6	166	0.6	0.556	60.9	LOS E	9.9	69.5	0.97	0.81	0.97	168.49	6.64
Approach			441	0.2	441	0.2	0.804	51.9	LOS D	14.4	100.5	0.99	0.89	1.07		
West: Finucane Rd																
10	L2	All MCs	212	0	212	0	0.677	6.6	LOS A	14	98.9	0.42	0.57	0.42	23.32	-7.42
11	T1	All MCs	990	1.5	990	1.5	0.677	15.7	LOS B	18.3	129.8	0.49	0.55	0.49	241.5183333	-370.7383333
12	R2	All MCs	496	0	496	0	* 1.093	228.6	LOS F	68.7	480.7	1	1.59	2.37	1485.9	1035.45
Approach			1698	0.9	1698	0.9	1.093	76.8	LOS E	68.7	480.7	0.63	0.86	1.03		
All Vehicles			3927	1	3927	1	1.093	100.6	LOS F	68.7	480.7	0.79	1.07	1.27		

Intersection 4 - Shore St W / Wellington Street

	BC	WD	ID	ID%
AM	776.8	857.4	80.6	10.4%
PM	637.2	675.6	38.3	6.0%
Total	1414.1	1533.0	118.9	8.4%

Background - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	171	10.5	171	10.5	0.487	8.9	LOS A	3	22.1	0.82	0.87	0.95	25.365	
2	T1	All MCs	358	0.8	358	0.8	0.487	9	LOS A	3	22.1	0.81	0.89	0.95	53.7	
3	R2	All MCs	87	1.1	87	1.1	0.487	14.1	LOS B	2.9	20.1	0.81	0.9	0.95	20.445	
3u	U	All MCs	4	0	4	0	0.487	16.2	LOS B	2.9	20.1	0.81	0.9	0.95	1.08	
Approach			620	3.5	620	3.5	0.487	9.8	LOS A	3	22.1	0.81	0.88	0.95		
East: Shore Street West																
4	L2	All MCs	55	7.3	55	7.3	0.715	13.4	LOS B	6.6	47.6	0.91	1.02	1.35	12.28333333	
5	T1	All MCs	689	2.6	689	2.6	0.715	13.6	LOS B	6.6	47.6	0.91	1.03	1.35	156.1733333	
6	R2	All MCs	211	1.4	211	1.4	0.715	19.2	LOS B	6.1	43.6	0.9	1.05	1.36	67.52	
6u	U	All MCs	7	0	7	0	0.715	21.3	LOS C	6.1	43.6	0.9	1.05	1.36	2.485	
Approach			962	2.6	962	2.6	0.715	14.9	LOS B	6.6	47.6	0.91	1.03	1.36		
North: Wellington Street																
7	L2	All MCs	257	3.9	257	3.9	0.731	12.1	LOS B	5.9	42.5	0.91	1.04	1.31	51.82833333	
8	T1	All MCs	472	3	472	3	0.731	13.1	LOS B	5.9	42.5	0.9	1.05	1.32	103.0533333	
9	R2	All MCs	133	5.3	133	5.3	0.731	18.8	LOS B	5.3	38.7	0.9	1.07	1.33	41.67333333	
9u	U	All MCs	8	12.5	8	12.5	0.731	21.5	LOS C	5.3	38.7	0.9	1.07	1.33	2.866666667	
Approach			870	3.7	870	3.7	0.731	13.8	LOS B	5.9	42.5	0.9	1.05	1.32		
West: Shore Street West																
10	L2	All MCs	89	1.1	89	1.1	0.698	9.6	LOS A	6.4	45.3	0.83	0.87	1.08	14.24	
11	T1	All MCs	712	2.1	712	2.1	0.698	9.8	LOS A	6.4	45.3	0.83	0.89	1.09	116.2933333	
12	R2	All MCs	347	7.8	347	7.8	0.698	15.5	LOS B	6.1	44.4	0.83	0.94	1.13	89.64166667	
12u	U	All MCs	63	1.6	63	1.6	0.698	17.3	LOS B	6.1	44.4	0.83	0.94	1.13	18.165	
Approach			1211	3.6	1211	3.6	0.698	11.8	LOS B	6.4	45.3	0.83	0.9	1.1		
All Vehicles			3663	3.4	3663	3.4	0.731	12.7	LOS B	6.6	47.6	0.86	0.97	1.19		

Background - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	161	10.6	161	10.6	0.517	9.2	LOS A	3.3	24.1	0.82	0.88	0.97	24.68666667	
2	T1	All MCs	418	1	418	1	0.517	9.3	LOS A	3.3	24.1	0.81	0.89	0.98	64.79	
3	R2	All MCs	98	1	98	1	0.517	14.4	LOS B	3.1	22.1	0.81	0.91	0.98	23.52	
3u	U	All MCs	2	0	2	0	0.517	16.5	LOS B	3.1	22.1	0.81	0.91	0.98	0.55	
Approach			679	3.2	679	3.2	0.517	10	LOS B	3.3	24.1	0.82	0.89	0.98		
East: Shore Street West																
4	L2	All MCs	117	0	117	0	0.645	9.9	LOS A	5.4	38.5	0.82	0.88	1.08	19.305	
5	T1	All MCs	654	2.8	654	2.8	0.645	10.3	LOS B	5.4	38.5	0.82	0.9	1.09	112.27	
6	R2	All MCs	262	2.7	262	2.7	0.645	15.6	LOS B	5.1	36.7	0.83	0.93	1.11	68.12	
6u	U	All MCs	14	0	14	0	0.645	17.6	LOS B	5.1	36.7	0.83	0.93	1.11	4.106666667	
Approach			1047	2.4	1047	2.4	0.645	11.7	LOS B	5.4	38.5	0.83	0.9	1.09		
North: Wellington Street																
7	L2	All MCs	219	1.4	219	1.4	0.503	8.4	LOS A	3.2	22.5	0.81	0.86	0.94	30.66	
8	T1	All MCs	350	1.1	350	1.1	0.503	9	LOS A	3.2	22.5	0.81	0.89	0.95	52.5	
9	R2	All MCs	97	2.1	97	2.1	0.503	14.2	LOS B	3	21	0.8	0.91	0.96	22.95666667	
9u	U	All MCs	7	0	7	0	0.503	16.2	LOS B	3	21	0.8	0.91	0.96	1.89	
Approach			673	1.3	673	1.3	0.503	9.6	LOS A	3.2	22.5	0.81	0.88	0.95		
West: Shore Street West																
10	L2	All MCs	107	0	107	0	0.66	9.7	LOS A	5.5	39.1	0.83	0.89	1.08	17.29833333	
11	T1	All MCs	626	1.8	626	1.8	0.66	10	LOS A	5.5	39.1	0.83	0.9	1.09	104.3333333	
12	R2	All MCs	288	1.4	288	1.4	0.66	15.3	LOS B	5.3	37.2	0.83	0.94	1.11	73.44	
12u	U	All MCs	58	0	58	0	0.66	17.4	LOS B	5.3	37.2	0.83	0.94	1.11	16.82	
Approach			1079	1.3	1079	1.3	0.66	11.8	LOS B	5.5	39.1	0.83	0.91	1.1		
All Vehicles			3478	2	3478	2	0.66	11	LOS B	5.5	39.1	0.82	0.9	1.04		

Design - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	171	10.5	171	10.5	0.521	9.5	LOS A	3.3	24.5	0.85	0.9	1.01	27.075	1.71
2	T1	All MCs	358	0.8	358	0.8	0.521	9.7	LOS A	3.3	24.5	0.84	0.92	1.01	57.87666667	4.176666667
3	R2	All MCs	87	1.1	87	1.1	0.521	14.9	LOS B	3.1	22.1	0.84	0.93	1.01	21.605	1.16
3u	U	All MCs	4	0	4	0	0.521	16.9	LOS B	3.1	22.1	0.84	0.93	1.01	1.126666667	0.046666667
Approach			620	3.5	620	3.5	0.521	10.4	LOS B	3.3	24.5	0.84	0.92	1.01		
East: Shore Street West																
4	L2	All MCs	55	7.3	55	7.3	0.778	15.4	LOS B	8.2	58.7	0.94	1.09	1.53	14.11666667	1.833333333
5	T1	All MCs	772	2.3	772	2.3	0.778	15.7	LOS B	8.2	58.7	0.94	1.1	1.54	180.2883333	24.115
6	R2	All MCs	211	1.4	211	1.4	0.778	21.4	LOS C	7.5	53.6	0.93	1.12	1.55	75.25666667	7.736666667
6u	U	All MCs	7	0	7	0	0.778	23.5	LOS C	7.5	53.6	0.93	1.12	1.55	2.741666667	0.256666667
Approach			1045	2.4	1045	2.4	0.778	16.9	LOS B	8.2	58.7	0.94	1.1	1.54		
North: Wellington Street																
7	L2	All MCs	257	3.9	257	3.9	0.774	13.7	LOS B	6.6	47.6	0.93	1.09	1.43	58.68166667	6.853333333
8	T1	All MCs	472	3	472	3	0.774	14.8	LOS B	6.6	47.6	0.93	1.1	1.44	116.4266667	13.37333333
9	R2	All MCs	133	5.3	133	5.3	0.774	20.8	LOS C	5.9	43	0.92	1.12	1.45	46.10666667	4.433333333
9u	U	All MCs	8	12.5	8	12.5	0.774	23.4	LOS C	5.9	43	0.92	1.12	1.45	3.12	0.253333333
Approach			870	3.7	870	3.7	0.774	15.5	LOS B	6.6	47.6	0.93	1.1	1.44		
West: Shore Street West																
10	L2	All MCs	89	1.1	89	1.1	0.738	10.2	LOS B	7.3	51.9	0.85	0.91	1.17	15.13	0.89
11	T1	All MCs	779	1.9	779	1.9	0.738	10.5	LOS B	7.3	51.9	0.86	0.93	1.18	124.6	8.306666667
12	R2	All MCs	347	7.8	347	7.8	0.738	16.3	LOS B	6.9	50.8	0.86	0.97	1.21	94.26833333	4.626666667
12u	U	All MCs	63	1.6	63	1.6	0.738	18.1	LOS B	6.9	50.8	0.86	0.97	1.21	19.005	0.84
Approach			1278	3.4	1278	3.4	0.738	12.4	LOS B	7.3	51.9	0.86	0.94	1.19		
All Vehicles			3813	3.2	3813	3.2	0.778	14	LOS B	8.2	58.7	0.89	1.02	1.31		

Design - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	161	10.6	161	10.6	0.548	9.8	LOS A	3.6	26.3	0.84	0.91	1.03	26.29666667	1.61
2	T1	All MCs	418	1	418	1	0.548	9.9	LOS A	3.6	26.3	0.84	0.92	1.03	68.97	4.18
3	R2	All MCs	98	1	98	1	0.548	15.1	LOS B	3.4	23.9	0.84	0.94	1.04	24.66333333	1.143333333
3u	U	All MCs	2	0	2	0	0.548	17.2	LOS B	3.4	23.9	0.84	0.94	1.04	0.573333333	0.023333333
Approach			679	3.2	679	3.2	0.548	10.6	LOS B	3.6	26.3	0.84	0.92	1.03		
East: Shore Street West																
4	L2	All MCs	117	0	117	0	0.691	10.6	LOS B	6.3	44.8	0.85	0.92	1.16	20.67	1.365
5	T1	All MCs	727	2.5	727	2.5	0.691	11	LOS B	6.3	44.8	0.85	0.93	1.17	119.9	7.63
6	R2	All MCs	262	2.7	262	2.7	0.691	16.4	LOS B	5.9	42.5	0.85	0.96	1.19	71.61333333	3.493333333
6u	U	All MCs	14	0	14	0	0.691	18.4	LOS B	5.9	42.5	0.85	0.96	1.19	4.293333333	0.186666667
Approach			1120	2.2	1120	2.2	0.691	12.3	LOS B	6.3	44.8	0.85	0.94	1.18		
North: Wellington Street																
7	L2	All MCs	219	1.4	219	1.4	0.53	8.9	LOS A	3.4	24.4	0.83	0.89	0.99	32.485	1.825
8	T1	All MCs	350	1.1	350	1.1	0.53	9.5	LOS A	3.4	24.4	0.83	0.91	1	55.41666667	2.916666667
9	R2	All MCs	97	2.1	97	2.1	0.53	14.8	LOS B	3.2	22.8	0.83	0.93	1.01	23.92666667	0.97
9u	U	All MCs	7	0	7	0	0.53	16.8	LOS B	3.2	22.8	0.83	0.93	1.01	1.96	0.07
Approach			673	1.3	673	1.3	0.53	10.1	LOS B	3.4	24.4	0.83	0.91	1		
West: Shore Street West																
10	L2	All MCs	107	0	107	0	0.703	10.3	LOS B	6.3	44.9	0.85	0.92	1.16	18.36833333	1.07
11	T1	All MCs	693	1.4	693	1.4	0.703	10.7	LOS B	6.3	44.9	0.85	0.94	1.17	111.6366667	7.303333333
12	R2	All MCs	288	1.4	288	1.4	0.703	16.1	LOS B	6	42.6	0.86	0.97	1.19	77.28	3.84
12u	U	All MCs	58	0	58	0	0.703	18.1	LOS B	6	42.6	0.86	0.97	1.19	17.49666667	0.676666667
Approach			1146	1.2	1146	1.2	0.703	12.4	LOS B	6.3	44.9	0.85	0.95	1.18		
All Vehicles			3818	1.9	3818	1.9	0.703	11.6	LOS B	6.3	44.9	0.85	0.93	1.12		

2027 Design (Upgrades @ Finucane Rd / Shore St W / Delancey St)

TOTALS

	BC	WD	ID	ID%
AM	9247.6	5139.3	-4108.3	-44.4%
PM	3783.7	3710.0	-73.7	-1.9%
Total	13031.3	8849.3	-4182.0	**-32.1%**

Intersection 9 - Finucane Rd / Site Access

	BC	WD	ID	ID%
AM	0.0	878.8	878.8	#DIV/0!
PM	0.0	729.1	729.1	#DIV/0!
Total	0.0	1607.9	1607.9	#DIV/0!

Design - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV] %	Arrival Flows [Total veh/h]	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
East: Finucane Road																
5	T1	All MCs	1641	2.1	1641	2.1	0.569	0.5	LOS A	2.8	20	0.05	0.05	0.05	13.675	
6	R2	All MCs	165	0	165	0	* 0.748	74.7	LOS E	12.5	87.8	0.99	0.83	1.04		
Approach			1806	1.9	1806	1.9	0.748	7.2	LOS A	12.5	87.8	0.14	0.12	0.14		
North: Site Access																
7	L2	All MCs	154	0	154	0	0.282	51.8	LOS D	9.1	64	0.82	0.78	0.82		
9	R2	All MCs	200	0	200	0	* 0.783	81.7	LOS F	15.9	111.1	1	0.89	1.1		
Approach			354	0	354	0	0.783	68.7	LOS E	15.9	111.1	0.92	0.84	0.96		
West: Finucane Road																
10	L2	All MCs	241	0	241	0	0.161	22.8	LOS C	4	28.3	0.24	0.63	0.24		
11	T1	All MCs	1617	3.9	1617	3.9	* 0.784	32.1	LOS C	51.4	371.8	0.83	0.76	0.83	865.095	
Approach			1858	3.4	1858	3.4	0.784	30.9	LOS C	51.4	371.8	0.75	0.74	0.75		
All Vehicles			4018	2.4	4018	2.4	0.784	23.6	LOS C	51.4	371.8	0.49	0.47	0.5		

Design - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV] %	Arrival Flows [Total veh/h]	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
East: Finucane Road																
5	T1	All MCs	1473	1.7	1473	1.7	0.546	0.4	LOS A	2	13.9	0.05	0.04	0.05	9.833333333	
6	R2	All MCs	139	0	139	0	* 0.748	65.5	LOS E	8.8	61.9	1	0.83	1.07		
Approach			1612	1.8	1612	1.8	0.748	6	LOS A	8.8	61.9	0.13	0.11	0.13		
North: Site Access																
7	L2	All MCs	172	0	172	0	0.301	42.3	LOS D	8.3	57.9	0.81	0.78	0.81		
9	R2	All MCs	222	0	222	0	* 0.740	64.3	LOS E	14	98.1	1	0.87	1.07		
Approach			394	0	394	0	0.74	54.7	LOS D	14	98.1	0.92	0.83	0.96		
West: Finucane Road																
10	L2	All MCs	203	0	203	0	0.135	18.4	LOS B	2.7	18.9	0.23	0.62	0.23		
11	T1	All MCs	1523	1	1523	1	* 0.761	28.3	LOS C	39.3	277.7	0.84	0.77	0.84	719.2916667	
Approach			1726	0.9	1726	0.9	0.761	27.1	LOS C	39.3	277.7	0.76	0.75	0.76		
All Vehicles			3732	1.1	3732	1.1	0.761	20.9	LOS C	39.3	277.7	0.51	0.48	0.51		

Intersection 3 - Finucane Rd / Shore St W / Delancey St (Upgraded)

	BC	WD	ID	ID%
AM	8470.8	3403.1	-5067.7	-59.8%
PM	3146.4	2305.3	-841.1	-26.7%
Total	11617.2	5708.4	-5908.8	-50.9%

Background - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	Demand Flows HV] %	Arrival Flows [Total veh/h	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	563	0	563	0	0.536	56.9	LOS E	26.4	185.1	0.73	1.2	0.73	533.9116667	
2	T1	All MCs	184	0	184	0	* 1.064	241.4	LOS F	30	210.2	1	1.68	2.18	740.2933333	
3	R2	All MCs	26	0	26	0	1.064	247	LOS F	30	210.2	1	1.68	2.18	107.0333333	
Approach			773	0	773	0	1.064	107.2	LOS F	30	210.2	0.81	1.33	1.13		
East: Shore Street W																
4	L2	All MCs	21	0	21	0	0.034	78.2	LOS E	1	6.9	0.64	0.67	0.64	27.37	
5	T1	All MCs	806	3.8	806	3.8	0.617	63.8	LOS E	24.5	177.1	0.82	0.72	0.82	857.0466667	
6	R2	All MCs	119	0.8	119	0.8	0.399	74.9	LOS E	9.2	64.7	0.89	0.79	0.89	148.5516667	
6u	U	All MCs	20	0	20	0	0.399	76.2	LOS E	9.2	64.7	0.89	0.79	0.89	25.4	
Approach			966	3.3	966	3.3	0.617	65.7	LOS E	24.5	177.1	0.83	0.73	0.83		
North: Delancy Street																
7	L2	All MCs	135	0.7	135	0.7	0.741	84	LOS F	15.6	109.9	0.99	0.94	1.01	189	
8	T1	All MCs	140	0	140	0	0.741	138.8	LOS F	15.6	109.9	0.99	0.94	1.01	323.8666667	
9	R2	All MCs	272	2.6	272	2.6	* 1.025	202.2	LOS F	34.1	243.9	1	1.3	1.86	916.64	
Approach			547	1.5	547	1.5	1.025	156.8	LOS F	34.1	243.9	0.99	1.12	1.43		
West: Finucane Rd																
10	L2	All MCs	214	2.3	214	2.3	1.041	120.1	LOS F	97.5	702.6	1	1.34	1.73	428.3566667	
11	T1	All MCs	1109	3.8	1109	3.8	* 1.041	170.7	LOS F	97.5	702.6	1	1.48	1.77	3155.105	
12	R2	All MCs	294	0	294	0	* 1.031	207.8	LOS F	37.1	260	1	1.29	1.87	1018.22	
Approach			1617	2.9	1617	2.9	1.041	170.7	LOS F	97.5	702.6	1	1.43	1.78		
All Vehicles			3903	2.2	3903	2.2	1.064	130.2	LOS F	97.5	702.6	0.92	1.19	1.37		

Background - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	Demand Flows HV] %	Arrival Flows [Total veh/h	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	530	0	530	0	0.489	23.8	LOS C	17.9	125.3	0.82	0.76	0.82	210.2333333	
2	T1	All MCs	129	0	129	0	* 0.850	76.1	LOS E	11.4	79.5	1	0.99	1.29	163.615	
3	R2	All MCs	35	0	35	0	0.85	81.7	LOS F	11.4	79.5	1	0.99	1.29	47.65833333	
Approach			694	0	694	0	0.85	36.4	LOS D	17.9	125.3	0.71	0.81	0.78		
East: Shore Street W																
4	L2	All MCs	27	0	27	0	0.07	85.6	LOS F	1.3	8.8	0.77	0.7	0.77	38.52	
5	T1	All MCs	779	4.6	779	4.6	* 0.892	81.2	LOS F	26.6	193.9	1	1.01	1.19	1054.246667	
6	R2	All MCs	70	0	70	0	0.893	79.2	LOS E	7.3	51.2	1	0.82	1.07	92.4	
6u	U	All MCs	44	0	44	0	0.893	80.5	LOS F	7.3	51.2	1	0.82	1.07	59.03333333	
Approach			920	3.9	920	3.9	0.892	81.1	LOS F	26.6	193.9	0.99	0.98	1.16		
North: Delancy Street																
7	L2	All MCs	119	3.4	119	3.4	0.748	25.7	LOS C	13.4	95.1	0.99	0.96	1.05	50.97166667	
8	T1	All MCs	156	0	156	0	* 0.748	67.1	LOS E	13.4	95.1	0.99	0.96	1.05	174.46	
9	R2	All MCs	166	2.4	166	2.4	0.514	58.5	LOS E	9.7	69.1	0.96	0.81	0.96	161.85	
Approach			441	1.8	441	1.8	0.748	52.7	LOS D	13.4	95.1	0.96	0.9	1.02		
West: Finucane Rd																
10	L2	All MCs	212	0.5	212	0.5	0.898	8.7	LOS A	28.8	202.9	0.84	0.87	0.84	30.74	
11	T1	All MCs	923	1	923	1	0.898	39.8	LOS D	28.8	202.9	0.86	0.82	0.86	612.2566667	
12	R2	All MCs	390	0	390	0	* 0.865	69.3	LOS E	26.5	185.7	1	0.96	1.18	450.45	
Approach			1525	0.7	1525	0.7	0.865	43	LOS D	28.8	202.9	0.89	0.86	0.94		
All Vehicles			3580	1.5	3580	1.5	0.892	52.7	LOS D	28.8	202.9	0.89	0.89	0.98		

Design - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	Demand Flows HV] %	Arrival Flows [Total veh/h	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	662	0	662	0	0.621	23.3	LOS C	30.5	213.8	0.7	0.8	0.7	218.6316667	-315.28
2	T1	All MCs	209	0	209	0	* 0.881	84.6	LOS F	20	140.2	1	1.03	1.25	259.44	-480.8533333
3	R2	All MCs	26	0	26	0	0.881	89.9	LOS F	20	140.2	1	1.03	1.25	38.95666667	-68.07666667
Approach			897	0	897	0	0.881	39.5	LOS D	30.5	213.8	0.78	0.86	0.84		
East: Shore St West																
4	L2	All MCs	21	0	21	0	0.03	61	LOS E	0.8	5.7	0.53	0.66	0.53	21.35	-6.02
5	T1	All MCs	872	3.4	872	3.4	0.606	46.2	LOS D	23.6	169.9	0.73	0.64	0.73	660.92	-196.1266667
6	R2	All MCs	136	2.9	136	2.9	0.648	83.4	LOS F	11.5	82.3	0.98	0.81	0.98	165.41	16.85833333
6u	U	All MCs	20	0	20	0	0.648	84.7	LOS F	11.5	82.3	0.98	0.81	0.98	28.23333333	2.833333333
Approach			1049	3.2	1049	3.2	0.648	54.6	LOS D	23.6	169.9	0.76	0.67	0.76		
North: Delancy Street																
7	L2	All MCs	135	3	135	3	0.153	91.5	LOS F	4.1	29.2	0.46	0.68	0.46	205.875	16.875
8	T1	All MCs	140	0	140	0	* 0.872	120.7	LOS F	17	119.3	1	1.02	1.27	281.6333333	-42.23333333
9	R2	All MCs	272	0.7	272	0.7	0.872	110.4	LOS F	18.2	128.1	1	0.99	1.26	500.48	-416.16
Approach			547	1.1	547	1.1	0.872	108.4	LOS F	18.2	128.1	0.87	0.92	1.06		
West: Finucane Road																
10	L2	All MCs	214	5.8	214	5.8	0.894	14.2	LOS B	44.1	320.6	0.83	0.91	0.88	50.64666667	-377.71
11	T1	All MCs	1176	4.2	1176	4.2	* 0.894	32.8	LOS C	44.1	320.6	0.85	0.86	0.9	602.5566667	-2552.548333
12	R2	All MCs	381	0	381	0	* 0.881	75.3	LOS E	18.2	127.1	0.98	0.87	1.06	368.97	-649.25
Approach			1771	3.4	1771	3.4	0.894	39.6	LOS D	44.1	320.6	0.87	0.87	0.93		
All Vehicles			4264	2.4	4264	2.4	0.894	52.1	LOS D	44.1	320.6	0.82	0.82	0.89		

Design - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	Demand Flows HV] %	Arrival Flows [Total veh/h	Arrival Flows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	95% Back Of Queue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Delancy Street																
1	L2	All MCs	611	0	611	0	0.576	19.1	LOS B	22.6	158.4	0.89	0.79	0.89	168.7166667	-41.51666667
2	T1	All MCs	149	0	149	0	* 0.728	61.6	LOS E	11.7	82.2	1	0.87	1.08	132.44	-31.175
3	R2	All MCs	35	0	35	0	0.728	67.1	LOS E	11.7	82.2	1	0.87	1.08	39.14166667	-8.516666667
Approach			795	0	795	0	0.728	29.2	LOS C	22.6	158.4	0.76	0.81	0.78		
East: Shore St West																
4	L2	All MCs	27	0	27	0	0.052	70	LOS E	1.1	7.6	0.87	0.69	0.67	31.5	-7.02
5	T1	All MCs	838	2.7	838	2.7	0.746	57.9	LOS E	22.9	163.8	0.89	0.79	0.9	751.735	-302.5116667
6	R2	All MCs	84	0	84	0	* 0.713	78.3	LOS E	8.2	57.4	1	0.84	1.08	91.35	-1.05
6u	U	All MCs	44	0	44	0	0.713	79.6	LOS E	8.2	57.4	1	0.84	1.08	58.37333333	-0.66
Approach			993	2.3	993	2.3	0.746	60.9	LOS E	22.9	163.8	0.9	0.79	0.92		
North: Delancy Street																
7	L2	All MCs	119	0	119	0	0.127	42	LOS D	2.1	14.8	0.35	0.65	0.35	83.3	32.32833333
8	T1	All MCs	156	0	156	0	* 0.822	72	LOS E	9.4	65.5	0.96	0.8	0.98	187.2	12.74
9	R2	All MCs	166	0.6	166	0.6	0.556	60.8	LOS E	9.9	68.5	0.97	0.81	0.97	167.66	5.81
Approach			441	0.2	441	0.2	0.822	58.6	LOS E	9.9	68.5	0.81	0.76	0.81		
West: Finucane Rd																
10	L2	All MCs	212	0	212	0	0.72	7.9	LOS A	18.2	128.5	0.54	0.87	0.54	27.91333333	-2.826666667
11	T1	All MCs	990	1.5	990	1.5	* 0.720	16.3	LOS B	22.2	157.6	0.61	0.82	0.61	250.7483333	-361.5083333
12	R2	All MCs	496	0	496	0	0.759	48.5	LOS D	16.9	118.5	0.9	0.82	0.92	315.25	-135.2
Approach			1698	0.9	1698	0.9	0.759	24.7	LOS C	22.2	157.6	0.89	0.89	0.89		
All Vehicles			3927	1	3927	1	0.759	38.7	LOS D	22.9	163.8	0.77	0.75	0.78		

Intersection 4 - Shore St W / Wellington Street

	BC	WD	ID	ID%
AM	776.8	857.4	80.6	10.4%
PM	637.2	675.6	38.3	6.0%
Total	1414.1	1533.0	118.9	8.4%

Background - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	171	10.5	171	10.5	0.487	8.9	LOS A	3	22.1	0.82	0.87	0.95	25.365	
2	T1	All MCs	358	0.8	358	0.8	0.487	9	LOS A	3	22.1	0.81	0.89	0.95	53.7	
3	R2	All MCs	87	1.1	87	1.1	0.487	14.1	LOS B	2.9	20.1	0.81	0.9	0.95	20.445	
3u	U	All MCs	4	0	4	0	0.487	16.2	LOS B	2.9	20.1	0.81	0.9	0.95	1.08	
Approach			620	3.5	620	3.5	0.487	9.8	LOS A	3	22.1	0.81	0.88	0.95		
East: Shore Street West																
4	L2	All MCs	55	7.3	55	7.3	0.715	13.4	LOS B	6.6	47.6	0.91	1.02	1.35	12.28333333	
5	T1	All MCs	689	2.6	689	2.6	0.715	13.6	LOS B	6.6	47.6	0.91	1.03	1.35	156.1733333	
6	R2	All MCs	211	1.4	211	1.4	0.715	19.2	LOS B	6.1	43.6	0.9	1.05	1.36	67.52	
6u	U	All MCs	7	0	7	0	0.715	21.3	LOS C	6.1	43.6	0.9	1.05	1.36	2.485	
Approach			962	2.6	962	2.6	0.715	14.9	LOS B	6.6	47.6	0.91	1.03	1.36		
North: Wellington Street																
7	L2	All MCs	257	3.9	257	3.9	0.731	12.1	LOS B	5.9	42.5	0.91	1.04	1.31	51.82833333	
8	T1	All MCs	472	3	472	3	0.731	13.1	LOS B	5.9	42.5	0.9	1.05	1.32	103.0533333	
9	R2	All MCs	133	5.3	133	5.3	0.731	18.8	LOS B	5.3	38.7	0.9	1.07	1.33	41.67333333	
9u	U	All MCs	8	12.5	8	12.5	0.731	21.5	LOS C	5.3	38.7	0.9	1.07	1.33	2.866666667	
Approach			870	3.7	870	3.7	0.731	13.8	LOS B	5.9	42.5	0.9	1.05	1.32		
West: Shore Street West																
10	L2	All MCs	89	1.1	89	1.1	0.698	9.6	LOS A	6.4	45.3	0.83	0.87	1.08	14.24	
11	T1	All MCs	712	2.1	712	2.1	0.698	9.8	LOS A	6.4	45.3	0.83	0.89	1.09	116.2933333	
12	R2	All MCs	347	7.8	347	7.8	0.698	15.5	LOS B	6.1	44.4	0.83	0.94	1.13	89.64166667	
12u	U	All MCs	63	1.6	63	1.6	0.698	17.3	LOS B	6.1	44.4	0.83	0.94	1.13	18.165	
Approach			1211	3.6	1211	3.6	0.698	11.8	LOS B	6.4	45.3	0.83	0.9	1.1		
All Vehicles			3663	3.4	3663	3.4	0.731	12.7	LOS B	6.6	47.6	0.86	0.97	1.19		

Background - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	161	10.6	161	10.6	0.517	9.2	LOS A	3.3	24.1	0.82	0.88	0.97	24.68666667	
2	T1	All MCs	418	1	418	1	0.517	9.3	LOS A	3.3	24.1	0.81	0.89	0.98	64.79	
3	R2	All MCs	98	1	98	1	0.517	14.4	LOS B	3.1	22.1	0.81	0.91	0.98	23.52	
3u	U	All MCs	2	0	2	0	0.517	16.5	LOS B	3.1	22.1	0.81	0.91	0.98	0.55	
Approach			679	3.2	679	3.2	0.517	10	LOS B	3.3	24.1	0.82	0.89	0.98		
East: Shore Street West																
4	L2	All MCs	117	0	117	0	0.645	9.9	LOS A	5.4	38.5	0.82	0.88	1.08	19.305	
5	T1	All MCs	654	2.8	654	2.8	0.645	10.3	LOS B	5.4	38.5	0.82	0.9	1.09	112.27	
6	R2	All MCs	262	2.7	262	2.7	0.645	15.6	LOS B	5.1	36.7	0.83	0.93	1.11	68.12	
6u	U	All MCs	14	0	14	0	0.645	17.6	LOS B	5.1	36.7	0.83	0.93	1.11	4.106666667	
Approach			1047	2.4	1047	2.4	0.645	11.7	LOS B	5.4	38.5	0.83	0.9	1.09		
North: Wellington Street																
7	L2	All MCs	219	1.4	219	1.4	0.503	8.4	LOS A	3.2	22.5	0.81	0.86	0.94	30.66	
8	T1	All MCs	350	1.1	350	1.1	0.503	9	LOS A	3.2	22.5	0.81	0.89	0.95	52.5	
9	R2	All MCs	97	2.1	97	2.1	0.503	14.2	LOS B	3	21	0.8	0.91	0.96	22.95666667	
9u	U	All MCs	7	0	7	0	0.503	16.2	LOS B	3	21	0.8	0.91	0.96	1.89	
Approach			673	1.3	673	1.3	0.503	9.6	LOS A	3.2	22.5	0.81	0.88	0.95		
West: Shore Street West																
10	L2	All MCs	107	0	107	0	0.66	9.7	LOS A	5.5	38.1	0.83	0.89	1.08	17.29833333	
11	T1	All MCs	626	1.6	626	1.6	0.66	10	LOS A	5.5	38.1	0.83	0.9	1.09	104.3333333	
12	R2	All MCs	288	1.4	288	1.4	0.66	15.3	LOS B	5.3	37.2	0.83	0.94	1.11	73.44	
12u	U	All MCs	58	0	58	0	0.66	17.4	LOS B	5.3	37.2	0.83	0.94	1.11	16.82	
Approach			1079	1.3	1079	1.3	0.66	11.8	LOS B	5.5	38.1	0.83	0.91	1.1		
All Vehicles			3478	2	3478	2	0.66	11	LOS B	5.5	38.1	0.82	0.9	1.04		

Design - AM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	171	10.5	171	10.5	0.521	9.5	LOS A	3.3	24.5	0.85	0.9	1.01	27.075	1.71
2	T1	All MCs	358	0.8	358	0.8	0.521	9.7	LOS A	3.3	24.5	0.84	0.92	1.01	57.87666667	4.176666667
3	R2	All MCs	87	1.1	87	1.1	0.521	14.9	LOS B	3.1	22.1	0.84	0.93	1.01	21.605	1.16
3u	U	All MCs	4	0	4	0	0.521	16.9	LOS B	3.1	22.1	0.84	0.93	1.01	1.126666667	0.046666667
Approach			620	3.5	620	3.5	0.521	10.4	LOS B	3.3	24.5	0.84	0.92	1.01		
East: Shore Street West																
4	L2	All MCs	55	7.3	55	7.3	0.778	15.4	LOS B	8.2	58.7	0.94	1.09	1.53	14.11666667	1.833333333
5	T1	All MCs	772	2.3	772	2.3	0.778	15.7	LOS B	8.2	58.7	0.94	1.1	1.54	180.2883333	24.115
6	R2	All MCs	211	1.4	211	1.4	0.778	21.4	LOS C	7.5	53.6	0.93	1.12	1.55	75.25666667	7.736666667
6u	U	All MCs	7	0	7	0	0.778	23.5	LOS C	7.5	53.6	0.93	1.12	1.55	2.741666667	0.256666667
Approach			1045	2.4	1045	2.4	0.778	16.9	LOS B	8.2	58.7	0.94	1.1	1.54		
North: Wellington Street																
7	L2	All MCs	257	3.9	257	3.9	0.774	13.7	LOS B	6.6	47.6	0.93	1.09	1.43	58.68166667	6.853333333
8	T1	All MCs	472	3	472	3	0.774	14.8	LOS B	6.6	47.6	0.93	1.1	1.44	116.4266667	13.37333333
9	R2	All MCs	133	5.3	133	5.3	0.774	20.8	LOS C	5.9	43	0.92	1.12	1.45	46.10666667	4.433333333
9u	U	All MCs	8	12.5	8	12.5	0.774	23.4	LOS C	5.9	43	0.92	1.12	1.45	3.12	0.253333333
Approach			870	3.7	870	3.7	0.774	15.5	LOS B	6.6	47.6	0.93	1.1	1.44		
West: Shore Street West																
10	L2	All MCs	89	1.1	89	1.1	0.738	10.2	LOS B	7.3	51.9	0.85	0.91	1.17	15.13	0.89
11	T1	All MCs	779	1.9	779	1.9	0.738	10.5	LOS B	7.3	51.9	0.86	0.93	1.18	124.6	8.306666667
12	R2	All MCs	347	7.8	347	7.8	0.738	16.3	LOS B	6.9	50.8	0.86	0.97	1.21	94.26833333	4.626666667
12u	U	All MCs	63	1.6	63	1.6	0.738	18.1	LOS B	6.9	50.8	0.86	0.97	1.21	19.005	0.84
Approach			1278	3.4	1278	3.4	0.738	12.4	LOS B	7.3	51.9	0.86	0.94	1.19		
All Vehicles			3813	3.2	3813	3.2	0.778	14	LOS B	8.2	58.7	0.89	1.02	1.31		

Design - PM

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows HV [%]	Arrival Flows [Total veh/h]	Arrival Flows HV [%]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	95% Back Of Queue [Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Movement Delay (min)	Increase (Min)
South: Wellington Street																
1	L2	All MCs	161	10.6	161	10.6	0.548	9.8	LOS A	3.6	26.3	0.84	0.91	1.03	26.29666667	1.61
2	T1	All MCs	418	1	418	1	0.548	9.9	LOS A	3.6	26.3	0.84	0.92	1.03	68.97	4.18
3	R2	All MCs	98	1	98	1	0.548	15.1	LOS B	3.4	23.9	0.84	0.94	1.04	24.66333333	1.143333333
3u	U	All MCs	2	0	2	0	0.548	17.2	LOS B	3.4	23.9	0.84	0.94	1.04	0.573333333	0.023333333
Approach			679	3.2	679	3.2	0.548	10.6	LOS B	3.6	26.3	0.84	0.92	1.03		
East: Shore Street West																
4	L2	All MCs	117	0	117	0	0.691	10.6	LOS B	6.3	44.8	0.85	0.92	1.16	20.67	1.365
5	T1	All MCs	727	2.5	727	2.5	0.691	11	LOS B	6.3	44.8	0.85	0.93	1.17	119.9	7.63
6	R2	All MCs	262	2.7	262	2.7	0.691	16.4	LOS B	5.9	42.5	0.85	0.96	1.19	71.61333333	3.493333333
6u	U	All MCs	14	0	14	0	0.691	18.4	LOS B	5.9	42.5	0.85	0.96	1.19	4.293333333	0.186666667
Approach			1120	2.2	1120	2.2	0.691	12.3	LOS B	6.3	44.8	0.85	0.94	1.18		
North: Wellington Street																
7	L2	All MCs	219	1.4	219	1.4	0.53	8.9	LOS A	3.4	24.4	0.83	0.89	0.99	32.485	1.825
8	T1	All MCs	350	1.1	350	1.1	0.53	9.5	LOS A	3.4	24.4	0.83	0.91	1	55.41666667	2.916666667
9	R2	All MCs	97	2.1	97	2.1	0.53	14.8	LOS B	3.2	22.6	0.83	0.93	1.01	23.92666667	0.97
9u	U	All MCs	7	0	7	0	0.53	16.8	LOS B	3.2	22.6	0.83	0.93	1.01	1.96	0.07
Approach			673	1.3	673	1.3	0.53	10.1	LOS B	3.4	24.4	0.83	0.91	1		
West: Shore Street West																
10	L2	All MCs	107	0	107	0	0.703	10.3	LOS B	6.3	44.9	0.85	0.92	1.16	18.36833333	1.07
11	T1	All MCs	693	1.4	693	1.4	0.703	10.7	LOS B	6.3	44.9	0.85	0.94	1.17	111.6366667	7.303333333
12	R2	All MCs	288	1.4	288	1.4	0.703	16.1	LOS B	6	42.6	0.86	0.97	1.19	77.28	3.84
12u	U	All MCs	58	0	58	0	0.703	18.1	LOS B	6	42.6	0.86	0.97	1.19	17.49666667	0.676666667
Approach			1146	1.2	1146	1.2	0.703	12.4	LOS B	6.3	44.9	0.85	0.95	1.18		
All Vehicles			3818	1.9	3818	1.9	0.703	11.6	LOS B	6.3	44.9	0.85	0.93	1.12		