SUBMISSIONS REPORT
LEP AMENDMENTS

69C, 81 & 85 TRINITY POINT DRIVE MORISSET PARK

RZ/14/2021
PROPOSED MIXED USE DEVELOPMENT (TOURISM, HOSPITALITY & RESIDENTIAL)

LOTS 101 & 102 DP 1256630
LOT 32 DP 1117408 (PUBLIC RESERVE)

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1.0 Introduction

1.1 INTRODUCTION

On 3 November 2022 a Concept Development Application for State Significant Development as provided for under Division 4.4 of the Environmental Planning and Assessment Act (EP&A Act) 1979 was submitted to the NSW Department of Planning and Environment (DPE) for a mixed-use tourist, hospitality and residential development including six buildings at 69C, 81 & 85 Trinity Point Drive, Morisset Park (Lots 101, 102 DP 1256630 and Lot 32 DP 1117408).

The application sets out concept proposals for the development of the site, including land uses and building envelope, with site wide landscape masterplan including through site links and public domain enhancement. In particular, concept development approval is sought for the following:

- Building envelopes for a mixed-use tourist, hospitality and residential development including six buildings incorporating sculptural rolling roofs and facades covered in greenery;
- Maximum GFA of 42,675m2 with substantial ground-plane landscape embellishment;
- Associated basement parking spaces; and
- Staging of the development.

The Concept Development Application proposes a staged development outcome of:

- 218 hotel rooms;
- 6 serviced suites;
- 180 residential apartments and associated landscaping and parking;
- A 300-seat function centre;
- Two 300 seat restaurants;
- A 300m^2 wellness centre;
- A 215m^2 business centre; and
- 535m^2 retail centre.

Detailed proposals are to be the subject of further staged development application/s to the local planning authority, generally consistent with a SSD Concept determination and any relevant conditions of approval.

A Planning Proposal has been prepared concurrently to amend Clause 7.16 of Lake Macquarie Local Environmental Plan (LM LEP2014). The objective of the Planning Proposal is to amend LMLEP 2014 to support and facilitate the proposed mixed-use tourist, hospitality and residential SSD, and to provide for increased building heights.

The SSD Concept Development Application, and its supporting Environmental Impact Statement, was publicly exhibited by the Department of Planning and Environment between 18 November 2022 and 19 December 2022 (extended by 3-days due to a Department system outage). The Planning Proposal was exhibited by Lake Macquarie City Council between 18 November 2022 and 16 December 2022.

The exhibition period provided opportunities for regulatory agencies, stakeholders and the general public to review the proposal and its supporting documentation and to make submissions in relation to the project. Submissions were made to the Department of Planning and Environment in respect of the SSD Concept Development Application and to Lake Macquarie City Council in respect of the proposed modification to LM LEP 2014.

The Department of Planning and Environment have advised that the exhibition of the EIS attracted 309 unique public submissions (264 in support and 44 in objection with 1 providing comments). In addition, 10 submissions were received from Government Agencies.

A separate Submissions Report provides the Applicant's formal response to the submissions received during the exhibition period for the SSD application. That report has been prepared in accordance with DPE's *State Significant Development Guidelines – Preparing a Submissions Report October 2022*.

In relation to the Planning Proposal, in a letter dated 9 January 2023, Lake Macquarie City Council advised that exhibition of the Planning Proposal attracted 363 submissions as well as advice from public authorities including Transport for NSW, NSW State Emergency Service, Environmental Protection Authority, and AUSGRID. A review of the submissions indicated that 265 are in support with 98 against.

Council further requested a written response to the issues raised during the exhibition period in relation to the proposed amendment to LM LEP 2014.

This Submissions Report will form an appendix to the SSD Submissions Report, and provides the Applicant's response to the submissions received during the exhibition of the **Planning Proposal**.

1.2 BACKGROUND TO THE DEVELOPMENT

On 5 September 2009, a Concept Plan (MP06_0309) approval was granted to JPG under the former Part 3A Section of the EP&A Act 1979 for a marina, tourist and residential accommodation, a restaurant, café, function centre and associated works at Trinity Point. The Concept Approval has been modified a number of times.

Whilst the site is zoned for tourism the Concept Plan approval recognised at the time the need for a permanent residential occupation of the site to support the feasibility of the tourism outcome and also to ensure permanent activation of the site during quieter tourism times such as winter. The Council amended the LEP in 2009 to permit a component of residential occupation of the site, as permitted via Clause 7.16 of the LEP.

The associated development applications for the Tourism and Hospitality components (DA/1731/2014) and Serviced and Residential Apartments (DA/496/2015) (which relates to 4 of the 8 apartment buildings concept plan approved) were both approved by the Hunter and Central Coast Joint Regional Planning Panel on 5th May, 2016 (not constructed). Both of these Part 4 development consents have each legally and physically commenced.

A marina (Stage 1 of 94 berths constructed and operational) and helipad (not constructed) have also been granted development consent. A separate development application (DA/226/2022) has been approved by the Hunter and Central Coast Joint Regional Planning Panel for the second stage of the Marina (final 94 berths).

A temporary restaurant (8@Trinity) has been established on the site, in conjunction with the stage 1 of the marina, to commence delivering the tourist outcome (ahead of residential) and to aid early activation of the precinct. This pop-up restaurant is very popular and has been serving over 1,200 patron sittings across its weekly service (Thursday – Sunday; Lunch and Dinner only).

In the 15 years that have passed since the mixed-use development was approved for the site there has been significant change, most notably a global pandemic but also, as above, tourism and recreational activation of the site in terms of a functional marina and a very popular restaurant.

In addition, and more recently, the site has been specifically included in Lake Macquarie Council's Local Strategic Planning Statement and Destination Management Plan for a significant tourist outcome (some of which have already been delivered) and there have been other major developments proposed and approved in the vicinity of the site that has synergies with the destination and proposed accommodation offerings at Trinity Point.

The mandatory lockdowns and prolonged work from home orders by government since February 2020 has had the effect of changing the work-life paradigm. Idyllic regional destinations within close proximity to large cities (in the case of Trinity Point, less than a 1 hour and 15 minutes' drive to Sydney), have gone from being largely tourism or weekender propositions to now being roundly adopted by the market as viable sea-change, work from home destinations. This shift makes places like Trinity Point even more important and in the case of Trinity Point can provide for both housing and tourism, which together will create an active and sustainable community.

These changes have required and are a catalyst for rethinking of the approach to the site. Accordingly, it is proposed to now develop the site in a more transformative way with a density and form of development that delivers a unique transformational hospitality and tourism outcome supported by housing and offering a greater level of sustainability. Of particular note a 30% increase in short stay accommodation when compared against the approved scheme is now proposed. This scale of development responds to the strategic planning objectives for the locality.

The proposed new development is different from that approved under the Concept Plan and it cannot be dealt with as a modification to the approved Concept Plan, noting the need to satisfy the "substantially the same" test. Whilst the previous Concept Plan approval and Development Consents remain valid, they are considered to be "parked or on hold" whilst this new application is considered and assessed.

2.0 Response to Submissions

This section provides a response to the comments contained within the submissions received by government agencies and authorities in relation to the planning proposal.

2.1 AGENCY AND AUTHOURITY SUBMISSIONS

Table 1: Response to Agency and Authority Submissions

COMMENT/ISSUE	RESPONSE
NSW State Emergency Service	
The consent authority will need to ensure that the planning proposal is considered against the relevant Ministerial Section 9.1 Directions, including 4.3 – Flood Prone Land and is consistent with the NSW Flood Prone Land Policy as set out in the NSW Floodplain Development Manual, 2005 (the Manual). Attention is drawn to the following principles outlined in the Manual which are of importance to the NSW SES role: • **Development must not result in an increase in risk to life, health or property of people living on the floodplain.** **Hotel Buildings** Lot 101 becomes completely inundated in a PMF (a level of 3.27m AHD) with hazards up to H4 (Flood Impact Assessment). This is where the proposed hotels are located. In a 1% AEP flood in 2100 the land that the hotel buildings are located on would flood to depths of up to approximately 1.3m. Although the habitable floor levels are proposed to be above 2.82m, this is below the PMF in 2100 and the buildings would be surrounded by flood water and therefore the risk of people located on the floodplain is increased, including emergency services personnel who may need to attend in a flood rescue capacity or due to medical or other secondary emergencies. **Residential Buildings** Lot 102 is largely above the PMF, where the apartment type buildings are proposed. A portion of one of the apartments may have H1 to H3 flooding surrounding it between a 1% AEP flood and a PMF. Although the hazard is unlikely to result in damaged or destroyed buildings on both lots, some of the buildings would be surrounded by flooding and rely on human behaviour not to enter the floodwater surrounding the buildings.	The project flood engineers have responded to the SES matters at **Appendix A.**

COMMENT/ISSUE	RESPONSE
• **Risk assessment should consider the full range of flooding, including events up to the Probable Maximum Flood (PMF) and not focus only on the 1% AEP flood.** The provided Flood Impact Assessment considers the full range of flooding, including projected changes to sea level resulting from climate change to 2100. • **Risk assessment should have regard to flood warning and evacuation demand on existing and future access/egress routes. Consideration should also be given to the impacts of localised flooding on evacuation routes.** The Flood Impact Assessment does consider the evacuation routes available, however does not adequately consider the evacuation demand on the routes should evacuation occur. The basement car parks have been designed to have crests above the PMF. Whilst this reduces the risk of basement flooding, the adjacent area would be flooded and therefore evacuation may not be possible as indicated in the Flood Impact Assessment. • **In the context of future development, self-evacuation of the community should be achievable in a manner which is consistent with the NSW SES's principles for evacuation. Future development must not conflict with the NSW SES's flood response and evacuation strategy for the existing community.** • **Evacuation must not require people to drive or walk through flood water.** If hotel guests were to drive out of the basement, they would drive straight into floodwater as although the basement is protected up to the PMF, the land is flooded surrounding the proposed basement. • **Development strategies relying on deliberate isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms, to evacuation.** 'Shelter in place' strategy is not an endorsed flood management strategy by the NSW SES for future development, as suggested in the Flood Impact Assessment. Such an approach is only considered suitable to allow existing dwellings that are currently at risk to reduce their risk, without increasing the number of people subject to such risk. The flood evacuation constraints in an area should not be used as a reason to justify new development by requiring the new development to have a suitable refuge above the PMF.	

COMMENT/ISSUE	RESPONSE
Allowing such development will increase the number of people exposed to the effects of flooding. Other secondary emergencies such as fires and medical emergencies may occur in buildings isolated by floodwater. During flooding it is likely that there will be a reduced capacity for the relevant emergency service agency to respond in these times. Even relatively brief periods of isolation, in the order of a few hours, can lead to personal medical emergencies that have to be responded to. • **Development strategies relying on an assumption that mass rescue may be possible where evacuation either fails or is not implemented are not acceptable to the NSW SES.** • **The NSW SES is opposed to the imposition of development consent conditions requiring private flood evacuation plans rather than the application of sound land use planning and flood risk management.** The Flood Impact Assessment has replied to our previous correspondence regarding this principle, that "flood evacuation should not be necessary but the route is flood free in a PMF in the year 2100". We consider this response unrelated to private evacuation plans, and page 16 of the same document states that "The development is to have a Flood Emergency Response Flood Plan prepared for the site to ensure flood risk is managed appropriately". It should be noted that the Manual specifically precludes the practice of consent conditions requiring a site plan if that plan is trying to overcome an underlying flood risk that would otherwise be considered too high to permit approval (see the Manual Annex L-3). In other words, if the existence of a flood plan is ignored, is the underlying flood risk unacceptable in the context of the proposed development? Although NSW SES encourages homes and businesses to be prepared and has developed a home FloodSafe toolkit and a Business FloodSafe toolkit, even well written plans are dependent on human application and often rely on technical support systems. Most plans will rely on the actions of one or more third parties and all plans require regular maintenance and review, and most importantly an ongoing commitment from all participants. These conditions are difficult enough to implement and monitor over the long term for a full-time emergency service and are unlikely to be achieved at all in a private ownership context where there is no external audit or monitoring.	

COMMENT/ISSUE	RESPONSE
• **NSW SES is opposed to development strategies that transfer residual risk, in terms of emergency response activities, to NSW SES and/or increase capability requirements of the NSW SES.** The proposal of pedestrian evacuation would require a bus or other vehicle to transport them to an evacuation centre, as the population is likely to be transient and without family or friends nearby to relocate to. Arranging transport and immediate welfare of evacuated residents and tourists is likely to be transferred as a responsibility to NSW SES. **Consent authorities should consider the cumulative impacts any development will have on risk to life and the existing and future community and emergency service resources in the future.**	
Transport for NSW	
a) Reference is made to queue length calibration in the Section 4.5.3.1 of the TIA. The TIA should document the detail regarding the queue length calibration. b) The departure lanes on Fishery Point Road have both been coded as continuous lanes. Recent aerial imagery shows them merging after approximately 100m. c) Some of the reported back of queue length appears to be the average queue lengths, not the 95th percentile queue lengths. This will need to be amended. d) The pedestrian movement has not been set as opposing the left turn movement into Fishery Point Road. e) It is advised that the traffic signals in Macquarie Street/Fishery Point Road are currently operating with a different phase order (A-C-B) to that modelled (A-B-C). f) For the closest representation of current condition, 120 seconds cycle time should be adopted for the Macquarie Street/Fishery Point Road intersection.	**Appendix B** includes a response from the project traffic engineers that specifically addresses the matters raised by Transport for NSW. The traffic response also addresses the matters Council raised in its submission to the Department of Planning in relation to the concurrent SSD EIS.

COMMENT/ISSUE	RESPONSE
Ausgrid	
Ausgrid requires that due consideration be given to the compatibility of proposed development with existing Ausgrid's infrastructure, particularly in relation to risks of electrocution, fire risks, Electric & Magnetic Fields (EMFs), noise, visual amenity and other matters that may impact on Ausgrid or the development Please note the following information in relation to the construction of the development: **Supply of Electricity** We recommend engaging an electrical professional who knows how to design your connection and the type of connection to apply for. To apply for a connection the developer will need to visit Ausgrid's website https://www.ausgrid.com.au/Connections/Get-connected. An assessment will be carried out based on the information provided which may include whether or not the existing network can support the expected electrical load of the development. For some developments, a substation may be required on-site. If an upgrade to the electricity network is necessary, the timeframe between the submission of the connection application and availability to connect the development will vary and may be exposed to a lengthy design and construction period. The submission of the Connection Application will allow us to begin planning and processing the connection and hopefully minimise any delays. Please direct the developer to Ausgrid's website, www.ausgrid.com.au for information regarding connecting to Ausgrid's network.	The EIS includes correspondence from Power Solutions in relation to electrical servicing. Power Solutions has assessed the existing High Voltage network regarding its accessibility, capacity, and likely suitability to allow for the proposed development. The proposed development has access to one existing Ausgrid 11kV feeder. It is anticipated that some of the development load can be supplied from the existing network without external network upgraded. However, to supply the full development load some network upgrades are anticipated. As a whole the development presents no unusual electrical supply risks and can be serviced via the standard Ausgrid Contestable process.
NSW EPA	
The application includes the proposed helipad at Bardens Bay, Lake Macquarie on Lot 1 DP 1252681 (the Premises). Existing boat mooring and storage activities at the Premises are the subject of Environment Protection Licence 20631 (the EPL) issued by the EPA under the Protection of the Environment Operations Act 1997 (the POEO Act) to Trinity Point Marina Pty Ltd (the Licensee).	The planning proposal seeks to make development for the purposes of a helipad permissible with consent. A helipad has already been approved on the site under DA/1176/2014. The mere addition of the helipad permissibility to this proposed LEP amendment is an administrative amendment only. The EPL requirements in relation to the helipad are known by the licensee / applicant and are noted.

COMMENT/ISSUE	RESPONSE
The EPA understands that the proposal includes permissible use of a helipad with consent under DA/1176/2014, which has: • a 25m x 25m pontoon; • maximum of six (6) movements per day (i.e., 3 landings and 3 departures); • maximum of 38 movements per week (i.e., 19 landings and 19 departures); • operating hours from 8am (Monday-Saturday) and from 9am (Sunday and public holidays), through to sunset (time seasonally variable), and no night-time use; and • no refuelling or maintenance facilities. Helicopter-related activities are licensed by the EPA under Schedule 1 of the POEO Act. Despite this, Air Services Australia are the regulatory authority for any noise impacts of helicopter take off, landing and inflight activities. As the proposal is for over 30 flight movements per week within 1 kilometre of a dwelling not associated with the landing, taking off or parking of helicopters, the helipad will need to be included on the EPL. The Licensee will need to apply to vary this EPL prior to commencing construction to include this activity, ensure that the construction and use of the helipad is appropriately managed and that they comply with the conditions of the EPL.	
RFS	
The NSW RFS has considered the information submitted and subsequently raise no concerns or issues in relation to bush fire.	Noted
Central Coast Council	
View Loss The planning proposal is supported by a Landscape and Visual Impact Assessment which has considered the impact on the visual catchment including areas across the lake such as Brightwaters, Mannering Park and Summerland Point. The planning proposal notes that a development of the scale proposed would significantly alter the character of the site and be a major introduction into the landscape resulting in loss of visual connectivity from existing residential development to the lake and changing the skyline profile.	Central Coast Council was contacted by the applicant during the exhibition period to seek clarification regarding their submission to Lake Macquarie City Council on the Planning Proposal Amendment. Correspondence is enclosed at **Appendix C** to this response to submissions, noting that Central Coast Council do not object to the Planning Proposal, rather providing suggestions for LMCC consideration. Notwithstanding, a visual impact assessment (VIA) has been prepared by DEM in support of the proposed development.

COMMENT/ISSUE	RESPONSE
The Landscape and Visual Impact Assessment assesses the impacts of a detailed architectural building design, highly articulated with curved roof, sloping facade and greenery (consistent with the SSD concept). A visual impact assessment is recommended for the building envelope/massing only, to consider the suitability of the proposed height and FSR controls of a more rectangular built form, should the concept proposal change. There is concern that apart from the direct view line between buildings C and D, the proposal appears as a largely solid visual barrier between the public spaces of Trinity Point Drive and Celestial Way and the waterfront. In particular there should be direct views to the water between buildings A and B and buildings D and E. Whilst the planning proposal includes mitigation measures to reduce visual impact from areas within the Central Coast LGA such as Summerland Point (e.g., "Incorporation of sculptural, rolling roofs and facades, covered in greenery to reflect the natural surrounding hills and to soften the built form. Incorporation of planting to assist in screening the proposed built elements and enhance visual amenity") these mitigation measures rely on detailed design elements applicable at the DA stage. The proposal relies on street trees to provide screening and softening of the development from the adjoining residential areas. Street trees should be an addition to, not a substitute for adequate planting on site.	The VIA comprehensively evaluates the landscape character of the site, the current visual amenity from selected viewpoints and the significance of change to the views based on the degree of change and visual sensitivity. The taller buildings along with organic building forms (not rectilinear) with curved shaped rolling roofs are designed to attract people to the site and provide for larger landscaped open space surrounding the site including for public access. It is anticipated that any approval issued for the concept will include conditions relating to future DAs being substantially the same as the built form envelope under any concept approval issued, which will not allow future rectangular building forms. Currently views to the foreshore through the site from further west along Trinity Point Drive (i.e., from within the adjoining residential area) are not available because of the topography and the curved alignment of Trinity Point Drive. Views of the foreshore are briefly available from a moving vehicle or as a pedestrian on approach to the roundabout outside the site. Viewpoint 21 of the VIA demonstrates how visual permeability will continue to be provided from the Trinity Point Drive roundabout through the development, between Buildings B and C, to the foreshore reserve. The adjacent public boulevard between Buildings B and C directly connects visitors to the foreshore walkway. The curved forms and greening of the buildings would contribute to the absorption of the visual effect. Streetscape amenity would be addressed through inclusion of a landscaped frontage as well as provision of a permeable interface along Trinity Point Drive, both visually and physically, through incorporation of visual corridors between the buildings and pedestrian through site linkages.

COMMENT/ISSUE	RESPONSE
Design Excellence Council understands the planning proposal seeks to increase the maximum building height to permit a maximum building height of 34 metres where a proposal demonstrates design excellence (42m for upper roof elements). Council has reviewed the draft Clause 7.16 provided on page 7 of the planning proposal and notes the likely wording will be: *"Development consent must not be granted to development to which this clause applies unless the consent authority is satisfied that the proposed development exhibits design excellence. In considering whether development exhibits design excellence, the consent authority must have regard to the following matters—* *a. whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved,* *b. Whether the built form and external appearance of the proposed development is unique and responds to the natural landscape and locality, including the Lake Macquarie waterway and the Watagan Mountains through organic forms"* Council recommends an additional clause be included in the LEP that outlines design excellence requirements. In particular, Council would encourage a requirement for the proposal to not detrimentally impact on view corridors.	The matter of view corridors is addressed above. There is no need to introduce an additional requirement in relation to view corridors. It is anticipated that any approval issued for the concept will include conditions relating to future DAs being substantially the same as the built form envelope under any concept approval issued which should ensure preservation of view corridors proposed under the current scheme. We note that Council and Department of Planning are, as a condition of the Gateway Determination, considering refining the proposed clause relating to Design Excellence.
Bulk and Scale It is understood that a State Significant Development Application is being assessed concurrently with the planning proposal and relies on the proposed LEP amendments. The planning proposal states "As the development outcome on the site is not intended to be a standard rectilinear box-type building/s an FSR of 1.25:1 is proposed to help control bulk and scale of future buildings across the site." Has consideration been given to if the final design concept is not for a curved roofline but rather a 'standard rectilinear box-type' building? Will the proposal be accompanied by a site-specific development control plan to manage bulk/scale and encourage façade articulation/greenery etc?	It is anticipated that any approval issued for the concept will include conditions relating to future DAs being substantially the same as the built form envelope under any concept approval issued, which will not allow future rectangular building forms. The proposal is also accompanied by Design Guidelines which will inform future DAs.

COMMENT/ISSUE	RESPONSE
There is also concern at the uniform height of the buildings is inconsistent with the "mountains meet the lake" concept shown. Buildings A and F should step down to connect the site to the waterfront.	

2.2 PUBLIC SUBMISSIONS

Table 2 below provides a response to the public submissions received in objection to the planning proposal. Matters raised in public submissions have been classified into the following categories:

- The Project;
- Procedural Matters;
- Environmental Impacts;
- Economic Impacts;
- Social Impacts;
- Justification and Evaluation; and
- Issues beyond the scope of the project or not relevant to the project.

Table 2: Response to Public Objections

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The Project	
There are no advantages to the community to change the existing LEP.	**2.1** Amending the LEP in the manner proposed will enable the current concept proposal to be approved, which in turn will have considerable social and economic benefits for the community.
It appears the developer and Council are trying to wear down local residents by constantly changing the plan regardless of local objections. After the modification of this concept on six occasions it is now time to listen to all the residents who will be affected by the current change.	**2.2** Market conditions change over time and development options need to reflect this. Approval for the project is subject to the NSW planning system and associated legislation. The developer is following the legislated process. The exhibition process showed that there is overwhelming local support for this proposed amendment and SSD scheme.
There are already a number of original homes up for sale, people are fed up and getting out.	**2.3** Homes in the area may be for sale for reasons unrelated to the proposed development. It is interesting to note that in promoting homes that come onto the market for sale, real estate agents regularly recognise the home's proximity to Trinity Point and the current offerings offered at Trinity in promoting the home to a new purchaser.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The developer has no intention of operating the hotel.	**2.4** The developer is seeking concept approval for the site. The future operation of the hotel does not need to be determined at this stage, noting that the applicant has bought forward delivery of the main hotel building as part of responding to submissions.
Splitting the tourist zoned land into 3 areas contravenes the approved intention for this site. What are the advantages for the community to split the tourist zoned land into 3 areas.	**2.5** The intention for the site includes a tourist outcome which forms part of the current DA. The underlying zoning of the site will not change and will remain SP3.
The site was never intended for the developer to build the residential component before the tourist component. A financial viability argument will be used to dispose of the tourist component. Zero evidence is provided as to why they require such a significant and dominating increase.	**2.6** There is no intention from the developer to dispose of the tourism component of the site. The developer has already demonstrated their commitment to delivering components of the development that attract people (tourists) to the area. The developer has proposed an amended staging, in response to submissions received, that ensures the project can be funded and that the main hotel building is provided at the earliest possible opportunity.
This is a gross over development of the site.	**2.7** The proposed development has been designed to suit the capacity of the site and have regard to all relevant site constraints. Adequate provision for car parking and open space has been included, including the ability for deep soil planting. Overall, only a modest FSR is proposed for the site and a slight increase in residential yield from that currently approved for the site and a substantial increase in short term accommodation offerings providing the "significant tourism offering" Council seeks as published in Council's LSPS.
There is a lack of information from LMCC regarding the LEP changes.	**2.8** The planning proposal and the EIS provide all relevant information regarding the proposed changes to properly inform the community.
The developer is requesting to change the zoning of a 2019 approved Helipad under a 2004 LEP when the 2014 LEP did not allow helicopters. The LEP should not be amended to allow a helipad.	**2.9** The planning proposal seeks to make development for the purposes of a helipad permissible with consent. A helipad is not proposed as part of the current DA but has already been approved on the site under DA/1176/2014. The addition of the proposed LEP amendment regarding a helipad is deemed to be an administrative amendment. The developer has no intention of departing from the helipad location approved in DA/1176/2014.
The door will be open for new submissions to have on-shore maintenance facilities at the marina reinstated if the hotel and convention centre are abandoned.	**2.10** The developer has invested a considerable amount of money building and promoting a tourism destination at Trinity Point. Onshore maintenance facilities for marine craft provide a non-compatible land use with the intent of the site as a tourist destination and are best placed in existing locations elsewhere on Lake Macquarie.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The developer makes zero commitment to maintain any aesthetically based form and actually makes the statement that the submission is "loose fit" and may be modified through design.	**2.11** It is anticipated that any approval issued for the concept will include conditions relating to future DAs being substantially the same as the built form envelope under any concept approval issued, which will limit the ability to change building forms. The proposal is also accompanied by Design Guidelines which will inform future DAs.
Procedural Matters	
Public Exhibition	
There is no guarantee that the proposed design will not be altered again once the planning proposal is approved.	**2.12** Any future amendments will be subject to a DA modification process. It is anticipated that any approval issued for the concept will include conditions relating to future DAs being substantially the same as the built form envelope under any concept approval issued.
A public meeting is warranted to discuss the development. The proposal has not been properly notified and engagement has been limited. As an impacted resident in Summerland Point, I have not received any information on the developer's proposal. There has been no consultation re traffic management	**2.13** Schedule 1 of the Environmental Planning and Assessment Act 1979 sets out the mandatory community participation requirements. In accordance with this schedule, and in particular Clause 9 of Division 2, the minimum requirement for community participation for applications seeking development consent for State significant development is 28 days. The EIS was publicly exhibited from Friday 18 November 2022 to Monday 19 December 2022 (exceeding the 28-day minimum period and therefore complying with the provisions of the Act) and notified to relevant public authorities and neighbouring land owners. There is no need for a public meeting to discuss the development, nor does the legislation call for such meeting to be held. Further, given Summerland Point is spatially separated from the Trinity Point site by the Lake Macquarie water body and because Summerland Point sits on its own peninsula, it is unclear how vehicular traffic impacts would affect, or concern, this submitter.
To suggest that this current proposal has an EIS is possibly criminal, and if accepted by the authorities, it may possibly become a criminal act.	**2.14** Approval for the project is subject to the NSW planning system and associated legislation. The developer is following the required process to achieve a determination for the development.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The developer has over the last decade or so lodged a large number of modifications/ amendments in December. This SSD proposal follows the same pattern, rendering detailed analysis and appraisal in a short time virtually impossible. The public response period needs to be extended another 28 days.	**2.15** The proposal has been publicly exhibited in accordance with the usual requirements for SSD and in accordance with the time period set out in the Environmental Planning and Assessment Act, 1979. For the record, the applicant was ready much earlier in 2022 for the proposal to be exhibited for public comment however had to wait several months for the Council to assess and seek a Council resolution to proceed with a Planning Proposal and for the Department of Planning to issue a Planning Proposal Gateway Determination.
Environmental Impacts	
Height	
The amendment for Council to change the height restrictions will create a precedent for all developers to build to whatever height they like. The additional height undermines the Council's LEP.	**2.16** The height amendment is limited to the site to accommodate the proposed development and will not create a precedent.
There are no advantages to the community to change the building height to 42m. The 16m maximum height limit should be retained.	**2.17** Amending the LEP in the manner proposed will enable the current concept proposal to be approved, which in turn will have considerable social and economic benefits for the community.
The current proposal limits the top of the accommodation floors to approximately RL 33m, with a further 8m height dedicated to the architectural roof. It is only a minor change to add three storeys increasing the height of accommodation levels to 42m.	**2.18** Amendments to Clause 7.16 of LMLEP 2014 include the following limitations which prohibit additional storeys: *(a) only architectural roof design and roof features and equipment for servicing the building (such as plant, lift motor rooms, fire stairs, green infrastructure and the like) contained in or supported by the roof design and roof features and fully integrated into the design of the roof feature are permitted above 34 metres;* *(b) the development exhibits a high-quality iconic and sustainable design; and* (c) *the maximum floor space ratio for a building on land subject to this clause is not to exceed 1.25:1.* If one was to even propose extending the number of storeys into this architectural roof space, then a further modification to the LEP and a modification to the SSD Concept Plan would be necessary which would be unlikely to be supported by Government.
The development of 34 metre high dwellings will set a new precedent for future development in Lake Macquarie that we have not seen around the lake before and there is simply no need for high rise living. This is an example of the excessive greed of the developer to stretch the planning provisions for self- interest.	**2.19** Trinity Point is one of only a few lake based tourism sites in the Lake Macquarie area, and represents a unique strategic opportunity to develop an innovative, transformative mixed-use tourist, hospitality and residential outcome in a landscaped setting.

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While the effort put into the architectural design is appreciated, the extent of the increased height seems excessive. Many other areas of Lake Macquarie are in much more developed locations than this site, rendering Trinity Point the least defensible location for the first high rise on the lake shores. The most southerly of the proposed buildings is 6 storeys high. A structure of this height on this part of the peninsula would be visible from a large area of southern lake Macquarie. Development in the area should be kept to two storey in height in keeping with existing buildings. A lower height would still accommodate a large hotel without compromising the aesthetics of the area. The development is far too high and bulky. This hotel and apartment development is three times the original approval in 2009. A lower height would still accommodate a large hotel and residential units without compromising the aesthetics of the area and creating traffic jams. The land slopes upwards at the southern end of the site which will result in the top of the southernmost building being considerably higher than 42m. The height of the buildings gnd the density of development is inappropriate to the site and does not fit with the natural environment.	The taller built form is designed to attract people to the site and provides for larger landscaped open space surrounding the site including for public access. A key element of the proposed development is its innovative, distinctive and organic building forms (not rectilinear) with curved shaped rolling roofs touching the ground, inspired by the Watagan Mountains, a strong feature when on Lake Macquarie. This built form combined with orientation of buildings and the incorporation of landscaping softens and mitigates potential impacts. The application seeks concept development approval and includes land uses and building envelopes. A 'reference scheme' has been prepared for each building to demonstrate that future built form can comply with the applicable statutory policies. The southern building will not be considerably higher than 42m and will be subject to the maximum 42m height limit set out in proposed amended clause 7.16 of LMLEP 2014.
The artist impression and perspective drawings provided have been drawn from a high angle, not from a natural vantage point which diminishes the perception of their vertical height. As such, residents are not properly equipped to make an informed opinion about the height of the structures.	**2.20** The Urban Design and Architecture Report (Appendix E of the EIS) and the Landscape and Visual Impact Assessment (Appendix I) provide images of the proposed development from natural vantage points.
The height of the buildings close to existing residents will allow a continuous flow of visitors to gaze over the backyards and inside the homes of residents in a large part of Morisset Park.	**2.21** The site is separated from adjoining residential areas by Trinity Point Drive. Existing and proposed trees along Trinity Point Drive will provide privacy screening at the lower levels. Residents at the upper levels will be further set back from the site boundaries due to the shape of the buildings with more oblique views. Further, for a large portion of Trinity Point Drive opposite the site, there is existing and approved 2 and 3 storey terrace's which further create a visual barrier.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
Visual Impact	
We don't need an ugly eyesore on the edge of this pristine lake. The building looks like the Loch Ness Monster. The visual impact on adjoining residents who have reasonably expected LMCCs maximum 16m height limit to be adhered to is unreasonable. A development of such height, bulk and scale should be set back at least 1km from the lake foreshore. The proposal will ruin the aesthetics and landscape character of the location and be the beginnings of a surfers paradise type appearance. The proposed development will change the character of the local community through increased visual pollution and the visual impact disadvantages the community. The development application could be modified to improve the visual appeal of the new design by retaining the character and limiting the height to 4 storeys. The proposal relies on street trees to provide screening and softening of the development from the adjoining residential areas. Street trees should be an addition to, not a substitute for adequate planting on site. Whilst the planning proposal includes mitigation measures to reduce visual impact from areas within the Central Coast LGA such as Summerland Point (e.g., "Incorporation of sculptural, rolling roofs and facades, covered in greenery to reflect the natural surrounding hills and to soften the built form, incorporation of planting to assist in screening the proposed built elements and enhance visual amenity") these mitigation measures rely on detailed design elements applicable at the DA stage. The bush views will be lost forever with 8 storeys. The visual impact of large numbers of solar panels sticking out above the roof would destroy the building form and simply wrapping the panels onto the curved roofs aligned as proposed would negate the efficiency.	**2.22** While building aesthetics is somewhat subjective the development has been designed by award winning architects taking into account site constraints and opportunities and having regard to relevant design requirements and legislation. A visual impact assessment (VIA) has been prepared by DEM in support of the proposed development. The VIA comprehensively evaluates the landscape character of the site, the current visual amenity from selected viewpoints and the significance of change to the views based on the degree of change and visual sensitivity. The taller buildings along with organic building forms (not rectilinear) with curved shaped rolling roofs together with substantial landscaping on the built form and around the site all serve to mitigate visual impacts while at the same time deliver the objective for a substantial tourist offering at Trinity Point consistent with a range of planning strategies. A substantial visual change to the landscape would be evident from the Trinity Point residential area. The streetscape and skyline profile would be altered, visual complexity would increase and there would be loss of views to the lake, foreshore vegetation and perceived grassed open space (being developed land) from dwellings and the public realm. However, from the public realm, views of the development would be sequential and short, reducing receptor sensitivity to change to a moderate level. Viewing would also be from an area modified, and undergoing further modification, for residential development with existing and proposed housing restricting many views of the site. From residences located a medium distance from the site, views would also be partially blocked by existing and proposed housing. However, in many locations the buildings would remain visually prominent elements. The proposed organic building forms, and green roofs and facades would assist in integrating the buildings into the landscape. In addition, gaps between the buildings would provide visual corridors connecting the residential area to the foreshore reserve and Lake Macquarie.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
	The greatest impact to visual amenity and scenic quality in the residential area would be from Trinity Point Drive and the adjoining townhouses immediately to the west of the site. Residents would experience views of the site frequently and for long periods of time, and given their proximity to the site, would experience a substantial level of change to visual amenity. The curved forms and greening of the buildings would contribute to the absorption of the visual effect. Streetscape amenity would be addressed through inclusion of a landscaped frontage as well as provision of a permeable interface along Trinity Point Drive, both visually and physically, through incorporation of visual corridors between the buildings and pedestrian through site linkages.
The artist impressions of the updated building design is just that, an impression with no guarantee that they will be built in this style once building costs are factored in.	**2.23** It is anticipated that any approval issued for the concept will include conditions requiring future DAs to be being substantially the same as the built form envelope under any concept approval issued.
Bulk and Scale	
The proposed application is significantly higher and larger than the previous approval, from 6 buildings up to 4 storeys high to 8 storeys high, from buildings up to 16m high to buildings up to 42m high, from 75 tourists to a 218-room hotel, from 75 residential apartments to 180 residential apartments, from 178 car parking spaces to 614 car parking spaces. The sheer mass of the buildings was never imagined for the peninsular and would be a complete eyesore. It is not clear why the previous development is no longer viable and requires change. Six Blocks of 8 storeys creates a wall of high rise that blocks the residential community on the peninsula from the lake.	**2.24** Notwithstanding this submitter has incorrectly noted the yield across the different schemes for the site, in the 5 years that have passed since the mixed-use development was approved for the site there has been significant change, most notably a global pandemic but also, as above, activation of the site in terms of a functional marina and a very popular restaurant. In addition, and more recently, the site has been specifically included in Council's Local Strategic Planning Statement and Destination Management Plan for a significant tourist outcome and there have been other major developments proposed and approved in the area that has synergies with the destination and accommodation offerings at Trinity Point. These changes have required and are a catalyst for rethinking of the approach to the site. Accordingly, it is proposed to now develop the site in a more transformative way with a density and form of development that delivers a unique transformational tourism outcome supported by housing and offering a greater level of sustainability. Of particular note a 30% increase in short stay accommodation when compared against the approved scheme is now proposed. This scale of development responds to the strategic planning objectives for the locality.

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	The building bulk and scale has been mitigated through an organic design, orientation of development and the inclusion of substantial landscaping. The approved scheme, with 158 tourist accommodation units divided across the site in 4 separate buildings, plus a separate building for a restaurant/café/function centre, was reviewed by operators as not being operationally viable.
Design	
It is recommended that an additional clause be included in the LEP that outlines design excellence requirements. In particular a requirement for the proposal to not detrimentally impact on view corridors.	**2.25** The Gateway Determination issued on 4 November 2022 includes a condition that the final planning proposal submitted to the Local Plan Making Authority is to identify heads of consideration for the design excellence provision in clause 7.16 to ensure the additional local provision can only be accessed where development exhibits design excellence and been considered by a relevant design review panel for both state significant development and other appropriate developments under Part 4 of the Act. View corridors are discussed further below.
Has consideration been given to if the final design concept is not for a curved roofline but rather a 'standard rectilinear box-type' building? Will the proposal be accompanied by a site-specific development control plan to manage bulk/scale and encourage façade articulation/greenery etc? The Landscape and Visual Impact Assessment assesses the impacts of a detailed architectural building design, highly articulated with curved roof, sloping facade and greenery (consistent with the SSD concept). A visual impact assessment is recommended for the building envelope/massing only, to consider the suitability of the proposed height and FSR controls of a more rectangular built form, should the concept proposal change.	**2.26** It is anticipated that any approval issued for the concept will include conditions requiring future DAs to be substantially the same as the built form envelope under any concept approval issued, which will not allow future rectangular building forms. The proposal is accompanied by Design Guidelines which will inform future DAs and is governed by site specific Local Environmental Plan controls (as sought to be modified).
There is no reason why a skilled architectural designer cannot provide a fabulous acceptable development within the existing planning controls.	**2.27** While building aesthetics is somewhat subjective the development has been designed by award winning architects taking into account site constraints and opportunities and having regard to relevant design requirements, legislation and local conditions and amenity.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
View Loss	
There is concern that apart from the direct view line between buildings C and D, the proposal appears as a largely solid visual barrier between the public spaces of Trinity Point Drive and Celestial Way and the waterfront. In particular there should be direct views to the water between buildings A and B and buildings D and E. Views from two storey town houses which have already been built will be obliterated.	**2.28** Neighbourhood views and sightlines between buildings to the waters edge have been informed through the design of the master plan, with the key public view corridors at the intersection of Celestial Drive and Trinity Point Drive to be retained. Currently views to the foreshore through the site from further west along Trinity Point Drive (i.e., from within the adjoining residential area) are not available because of the topography and the curved alignment of Trinity Point Drive. Views of the foreshore are briefly available from a moving vehicle or as a pedestrian on approach to the roundabout outside the site. Viewpoint 21 of the Visual Impact Assessment demonstrates how visual permeability will continue to be provided from the Trinity Point Drive roundabout through the development, between Buildings B and C, to the foreshore reserve. The adjacent public boulevard between Buildings B and C directly connects visitors to the foreshore walkway. A large void at ground through Building B visually connects the arrival plaza through a break in the foreshore trees to the lake. Other pedestrian corridors through the site link the existing residential area adjoining the site to the waters edge. All landscaped corridors are open to the sky, providing a break in the street frontage as you walk along Trinity Point Drive and allowing daylight and fresh air to flow between buildings.
Traffic and Parking	
The peninsula is already facing congestion problems. TfNSW seem to dismiss community concerns. We do not have the roads or infrastructure to support this sort of development. Traffic on the Morisset peninsula is under huge pressure. For instance Trinity Point Drive, the main street into the point is so narrow with trees cut into the bitumen and residents with caravans and boats parked out the front of houses. When you have 2 large cars driving down Trinity Point Drive, there is only enough room for a single car to pass.	**2.29** A traffic impact assessment was prepared in support of the proposed development. The key results of the TIA are: • The proposed development is estimated to generate around 241 and 292 vehicle trips in the AM peak and PM peak periods, respectively. Compared to the Approved Concept, the proposed development would generate 16 additional vehicle trips in the AM peak period and 37 less vehicle trips in the PM peak period;

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Three traffic pressure points are: - Trinity Point Drive between Charles Street roundabout and the Trinity Point roundabout; - T intersection Morisset Park Road and Fishery Point Road at Bonnells Bay School; - CNR Fishery Point Road and Macquarie Street Morisset. Morisset Park Road has a primary school on it and is already dangerous for students, families and staff. The proposed Myuna Bay Sports and Recreation Centre is also being relocated onto Morisset Park Road. Big trucks are using Morisset Park Road all day long to deliver to building sites at Trinity Point and the future increase in development is going to make the road much worse, particularly during construction. Current traffic congestion in Morisset is horrendous and this development coupled with the Cedar Mill project on the old golf club site will create gridlock for residents and visitors alike. The development should be put on hold until there has been a substantial improvement in the road infrastructure. There is nothing to suggest that Council or the State Government plan to spend millions building new road infrastructure servicing the areas planned for development. One way to help would be to put an off ramp from the M1 to allow access to Cooranbong and Dora Creek which would remove a lot of traffic from Morisset and Wyee Road. There are a number of retirement homes in the area along Fishery Point Road which have added to the significant traffic issues. The Traffic Impact Assessment has calculated trip rates inconsistently or not at all. In calculating the trip rates to be allocated to the proposed development, the report has used a combination of rates from the RTA Guide to Traffic Generating Developments (2002) and TfNSW Technical Direction TDT 2013/ 04a, selecting the rate that produces the lowest number of trip rates for the development. A consistent approach has not been applied. Where possible, the most up to date trip rates specified within TfNSW Technical Direction TDT 2013/ 04a should be used (as outlined in TfNSW Technical Direction TDT 2013/ 04a).	• Site generated trips, along with trips generated from the Trinity Point Marina, and background growth, have been assessed cumulatively using SIDRA Intersection software to determine the road network performance in the years 2024 (anticipated development opening year) and 2034 (plus 10 years post-opening); • Traffic modelling results indicate that the proposed development would result in minimal impacts to the road network operation. Overall, the road network conditions with the development traffic would be comparable to base case conditions in the respective study years (2024 and 2034). Across all future modelled scenarios, all intersections would operate at an acceptable LoS C or better during the road network peak periods; • There is adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development; and • The proposed development generates a statutory parking requirement of 604 car parking spaces, which would be fully accommodated on-site. Motorcycle and bicycle parking is also proposed on-site. In respect of some roads mentioned in the public submissions, the consent authority will impose conditions on future DA's to require the developer to contribute funds to Council toward road improvement works as identified, and levied, in Council's Section 7.11 Contributions Plan for the Morisset Planning District. This is no different to the contributions already imposed, and paid for, by the developer for development already delivered to date at Trinity Point. This Response to Submissions includes updated traffic advice from the project's traffic engineer in response to traffic replated comments made by both TfNSW and Council. This response is included at **Appendix B.**

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The current proposal will force people accessing the development to use 1 street heading into one small roundabout. There is simply not enough parking for all these people to come and go.	
Amenity	
The south lake area is a tourist and residential destination because of its quiet and unspoilt nature. The helipad will adversely affect the livability and tranquillity and ability to appreciate the natural area. The development is aimed at attracting larger groups of people and visitors who are less likely to act responsibly and care for the area. Approval of this application will set a precedent for future foreshore development applications on Lake Macquarie and destroy the amenity of the lake forever. Its all about increasing tourism for Lake Macquarie at the expense of the residents of the area. The development will result in a transient population which could total 1000 plus 500 in the hotel. This is not appropriate in the current residential area with families and children. There will be loss of easy access to the boat launching ramp at Morisset Park because of the increased local population and absence of a launching ramp at Trinity Point. Council see an opportunity to increase the rates base but it needs to realise that it is degrading the natural environment The development is going to overshadow houses in the adjoining streets. There is a lack of green public space in the proposed development, therefore the Council owned lands need to stay green. I object to the public domain and landscaping provisions. The proposal alienates the public from the waterfront reserve. There will be interference with vegetation/tree clearing which leads to decrease in habitat. How is all the greenery that is to adorn the balconies to be maintained.	**2.30** Consent has already been granted to the helipad (DA1176/2014). No additional helipads are proposed. It is anticipated that the proposed development will improve the amenity of the local area by delivering a high quality architectural and landscaping outcome. The proposed mixed-use tourist, hospitality and residential development aligns directly with the city vision as set out in the LSPS in that it will promote tourist visitation to Lake Macquarie, in particular the western side of Lake Macquarie, provide additional investment and economic uplift into the LGA and protect the natural environment. It is not anticipated that the development will significantly affect access to the existing boat ramp at Morisset Park. Council have collected Developer Contributions, including from the applicant, to upgrade boat ramp facilities in the Morisset Planning District. Drawings PP0476 – PP0478 provide a shadow analysis of the site between 9am and 3pm at the winter solstice. The east-west orientation of the site along with the siting, spacing and configuration of buildings ensures that key areas of open space within the site will have direct solar access at the winter solstice. Further, the shadow diagrams demonstrate that adjoining properties will not be overshadowed by the proposed development at the winter solstice.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
There is no reference to any study regarding the impact of night lighting from the 42m tall lakeside buildings. Nightime impact of light pollution will be dramatic.	A Landscape Masterplan has been prepared in support of the proposed development. The development concept incorporates a site wide landscape masterplan which structures the open space around the site and softens the interface of the development with the surrounding context. The proposed site landscaped area is 12,500m^2 (34.2% of site area) and landscaped private area 2,550m^2. The area available for deep soil planting is 10950m^2 or 30% of site area (36,500m^2). In addition, the design intent is to open the site for the enjoyment of the public and those who live locally, use the marina, the restaurant and the foreshore. Public access, public open space, pedestrian pathways and linkages are key elements within the design and transition through the site is encouraged. There will be no clearing of the adjoining Council land, ensuring existing habitat is retained. Details regarding maintenance of landscaping will be provided with future DAs. The architectural and landscape design of the development has not been resolved to a sufficient level of detail to allow for the detailed lighting design (and associated Lighting Impact Assessment) to be undertaken. To address this issue, it is recommended that conditions of consent that request the lighting impact assessment be undertaken at a later stage of the project (such as before issuing of the Construction Certificate) to ensure that lighting is in accordance with the requirements and limits set out in AS/NZS 4282:2019 Control of the Obtrusive Effects of Outdoor Lighting.
Noise	
Noise pollution from the helipad is unacceptable. There are alternative ways of getting "high value" tourists to the area such as the existing air facility at Pelican and high-speed rail through Morisset. We know that there will be future applications seeking aerial access to the development 7 days a week. Noise created by delivery trucks, waste disposal trucks etc will have a serious impact on local residents.	**2.31** Consent has already been granted to the helipad (DA1176/2014). Noise impacts from the helipad were found to be within acceptable standards for the locality. No additional aerial access is proposed as part of this DA.

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The helipad should be marketed as a drone pad for lower noise aircraft. There will be regular noise from partying on vessels moored at the marina.	In terms of acoustic impacts, a Noise and Vibration Impact Assessment has been prepared by Wilkinson Murray of the RWDI Group in support of the proposed development. The results of the assessment indicate in-principle that noise emissions from the site are capable of complying with the relevant acoustic requirements through considered design and the implementation of appropriate acoustic treatments and noise management controls.
Water Quality	
The marina development and the runoff from the increased dwellings will only worsen the water quality. Major fish kills have been a regular occurrence with the EPA having little understanding of gases rising from the depth of the lake.	**2.32** Stormwater from the development will discharge to Lake Macquarie via an existing drainage easement in the north-east corner of the site. Stormwater discharge will be subject to LMCC quality control requirements, as it is with any other discharge that occurs around the lake.
We are disappointed by the lack of controls on construction material and dirt run off into the lake. Unnamed bay is a prolific fish breeding ground which will be under threat.	A construction management plan was prepared as part of the EIS documentation. The site would be managed in accordance with the Protection of the Environment Operations Act 1997 to ensure that appropriate measures are implemented to manage sediment run-off.
Flooding and climate change	
The northern end of the development is only a metre or two above sea level and involves an underground parking area. Flooding will be an issue. The sustainability of the proposal is doubtful under expected climate change conditions. Appendix P of the JPG proposal is based on 2005 data which no longer reflects the scientific evidence for current sea level rise forecasts. A sea level rise of about 3m is expected by 2100. The proposal involves a very large excavation below the current water table, particularly towards the northern part of the site. There will be a high probability of water seepage into the basement. NSW Planning learnt nothing over the past decades on building in flood affected regions. To accept this proposal amounts to an irresponsible state government.	**2.33** The Flood Impact Assessment submitted with the DA demonstrates that the development addresses the requirements of Clause 5.21 of Lake Macquarie LEP 2014 in relation to flood planning. All proposed buildings would be on land that is above 1.0 m AHD, the still water level in 2100 taking into account projected sea level rise. Therefore, the buildings would not be constructed on land that would be permanently inundated by sea level rise by 2100. Most of the residential buildings (Buildings D – F) would be constructed on land above the flood level of the 1% AEP event in year 2100 (2.32 m AHD) and would therefore only be impacted by floods of greater magnitude than this event. All habitable floor levels will be above the 2100 PMF level (3.27m AHD). All basement areas will have access ramp crests above this level and therefore would exclude flood waters in events up to and including the PMF. The project flood engineers have responded to flood related matters raised during exhibition at **Appendix A.**

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
Bushfire	
How would evacuation be possible when there is one road in and one road out of the peninsula.	**2.34** In a letter dated 13 January 2023 the NSW RFS has not raised any concerns or issues in relation to bush fire. The site is not mapped as being bushfire affected and there is more than one option for site visitors in the event of a bushfire.
Foreshore Access	
Public access to the foreshore should be enhanced rather than restricted. The plans show 8 storey plus buildings overlapping the whole length of the foreshore. This will prohibit public access to the foreshore through the whole development. The land owned by Council should remain as public space and not be incorporated to profit the developer.	**2.35** Public access to the foreshore will be enhanced as a result of the proposal. Public access, public open space, pedestrian pathways and linkages are key elements within the design and transition through the site is encouraged, all of which are not available to the community at present. The foreshore land owned by Council will remain as public space. The works the developer proposes, in most part on its land, will benefit and enhance the Council land.
Waste and Recycling	
No allowance has been made for areas to house garbage bins, waste and recyclable material as well as adequate room to place these bins on the street kerbs for pickup service.	**2.36** Loading, unloading and servicing the development including waste storage and collection is to occur from within the basement parking area. An operational waste management plan has been prepared in support of the proposed development.
Economic Impacts	
The economic benefits are grossly exaggerated. The claim of regional and international tourist benefits does not stand up to empirical evidence for these types of resorts located in regional backwaters.	**2.37** There will be substantial economic benefits during construction and operation of the project which should provide significant economic uplift to the regional area.
The developer's request to allow residential development to occur before the proposed commercial development means that the viability of the commercial aspects of the proposal is under question.	**2.38** Proposed staging is being amended with future details to be provided to Council.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
Social Impacts	
Infrastructure and Services	
The provisions of the planning proposal do not provide an improved outcome for the local LMCC community.	**2.39** The planning proposal provides for substantially improved social outcomes for the community. The SIA prepared in support of the proposed development identifies the following social benefits of the development include: • **Provision of medium-density dwellings close to employment centres, transport and amenities** – The development will provide 180 high-quality residential apartments in a peaceful lakeside setting. This will add supply and choice to the housing market surrounding Morisset – an emerging strategic centre. • **Creation of significant numbers of employment opportunities for people in the local community** – The construction phase is estimated to generate over 1,000 Full-Time Equivalent (FTE) jobs, both direct construction jobs on site and indirect employment. Furthermore, the operational phase of the development is estimated to support an estimated 398 jobs on site. These jobs will be of particular benefit to the region as they will support Morisset's role as an emerging strategic centre and provide opportunities for employment close to an area with planned strong population growth. • **Boosting Lake Macquarie's draw for major events and tourism** – The Trinity Point development's function facilities will support the City's plan to attract more visitors to the Lake Macquarie area through hosting events. • **Improved accessibility for the community to the lake foreshore and public reserve** – The development will include a range of walkways providing easy, safe access for the general public to the lake foreshore and Bluff Point.
If the amendment to Clause 7.16 is approved, it will deprive the community of a most worthy education facility for our First Nations people.	**2.40** No Aboriginal education centre is proposed, nor was one approved for the site in the current development approval. Instead, Interpretation strategies have been adopted for the site and incorporated into the landscape design, in consultation with and endorsed by registered Local Aboriginal parties. In particular the proposed landscape solution for the site is linked to the Aboriginal cultural heritage and incorporates interactive water features, and interpretive signage. The intricate design forms reflect the value of country and materials reference the lake location, water, vegetation and the Aboriginal heritage and use of the site.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The planned population density is excessive and will put huge stress on existing infrastructure in the area. The Bonnels Bay shopping centre cannot service or accommodate as many people as this development proposes. Medical, dental, paramedical services and schools in the area are already stressed and will be unable to cope with the increased local population.	**2.41** Preliminary investigations with essential service providers has detailed that the locality has the necessary infrastructure to accommodate the development. Future DAs will demonstrate that the essential services have capacity to service future development.
Infrastructure cost requirements e.g., roads sewage and stormwater are ignored.	**2.42** The developer will contribute to infrastructure costs as required.
The proposed density will have negative effects on the safety and security of residents in Morisset Park and Trinity Point.	**2.43** There is no evidence to suggest that the proposed density will have a negative effect on the safety and security of residents. The proposed concept for the site has been designed to ensure a high level of safety and security.
Justification and Evaluation	
The Hunter Regional Plan 2041 identifies a number of objectives and strategies that identify policy positions and directions to be implemented through local planning or planning proposals. Relevant objectives to the planning proposal include: • *Objective 3: Create 15-minute neighbourhoods to support mixed, multi-modal, inclusive and vibrant communities* • *Objective 5: Plan for 'nimble neighbourhoods', diverse housing and sequenced development* • *Objective 8: Plan for businesses and services at the heart of healthy, prosperous and innovative communities* A review of these objectives has identified that the planning proposal does not comply with the strategies or performance outcomes. The planning proposal also conflicts with the planning priorities identified in the Lake Macquarie City Local Strategic Planning Statement. In particular: • *Planning priority 1: A city of vibrant centres - where people live, work, visit and play* • *Planning priority 2: A city to call home - where diverse housing options cater to everyone's needs* • *Planning priority 4: A city of close connections - where people, goods and services move efficiently.*	**2.44** The planning proposal and the EIS clearly demonstrate how the proposed LEP amendment is consistent with the Hunter Regional Plan 2041. Under this Plan, the regional vision for the Hunter is as follows: *"The leading regional economy in Australia, connected to and caring for Country, with a vibrant metropolitan city and sustainable 15-minute neighbourhoods at its heart."* The proposal is consistent with this vision, noting that it will attract tourism and investment into south-western Lake Macquarie, thus growing the economy of the Hunter Region, particularly when also considered as part of a network of recreational, entertainment and tourism offerings in south-western Lake Macquarie area. Part 3 of the Plan identifies specific District Planning and Growth Areas that build on and provide greater clarity and direction to the regional plan vision and objectives. The proposed development adjoins the Central Lakes district, where growth around Morisset will be managed to ensure it emerges as a regionally significant mixed-use city centre of employment and services for surrounding communities experiencing significant growth and transition. The proposed development will contribute to the regional significance of the area, as it will form part of the overall Trinity Point marina and land-based development, which will attract investment, employment and tourism.

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	Objective 3 will in part be satisfied by the availability of on-site services. It is anticipated that the site will be highly activated and offer substantial opportunity for the development of community. Objective 5 is promoted by the development by its offer of housing type that is not otherwise immediately available in the locality. Objective 8 is achieved with the development supporting Morisset as well as offering appropriate on-site business opportunities. The *Lake Macquarie City Local Strategic Planning Statement* (LSPS) describes how Lake Macquarie Council will achieve the city's vision and uphold the community's values, through strategic planning. It guides the growth of Lake Macquarie City as it evolves over future years in line with State and regional planning goals. The aim of the planning statement is to influence public and private investment so that it enhances the wellbeing of the city's people and the environment – making Lake Macquarie City one of the most productive, adaptable, sustainable and liveable places in Australia. To achieve this, the LSPS identifies: • The community's vision for future land use in the city; • Seven Planning Priorities that articulate the special characteristics of the city that will be enhanced; • Strategies that summarise how those priorities will be delivered, as well as a list of actions to drive the city forward; and • Key Change and Growth Areas that provide visual cues of where certain types of development will be focused to ensure the vision comes to life. The city vision is as follows: *"We balance our cherished environments with our need for great spaces to live and visit, smart transport options and a thriving economy; which adapt and strive to be fair for all."*

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
	The proposed mixed-use tourist, hospitality and residential development aligns directly with the city vision, noting that it: • Has been designed to protect the natural environment in which it is located and can perform in an environmentally satisfactory manner in relation to the receiving environment; • Will promote tourist visitation to Lake Macquarie, in particular the western side of Lake Macquarie; and • Will provide additional investment and economic uplift into the LGA and create local employment. The proposed development meets the planning priorities set out in the LSPS by contributing to the provision of diverse recreational, tourism and employment opportunities and achieving a vibrant recreational precinct within close proximity to the Morisset Town Centre.
Issues beyond the scope of the project	
If this development is passed it will mean Raferty's redevelopment will pass and next will be high rise apartments at the Morisset Hospital Site and Myuna Bay Sport and Rec developments once the state government approves the land sale as well, when will it stop?	**2.45** This DA is specific to Trinity Point and unrelated to other development around the lake. Each development is assessed on its own merits and independent of the other.
I feel sorry for the locals who moved to Lake Mac only to have Sydney ideas forced on to them. Take Wangi Wangi with the new multi storied place next to the RSL, when they move in the residents will complain about the smell and noise from the RSL.	**2.46** The proposed DA remains consistent with Council's long term established land use strategy for the site to be developed for Tourism supported by housing.
Little money has been spent on the western side of the lake, yet our rates continue to increase at an alarming rate. LMCC's support for the application is another grab for money.	**2.47**The proposed development will make contributions that can be utilised on the western side of the lake.
To get the locals on side you should finance a regular ferry to the top end of the lake and fund a dredging regime for the channel.	**2.48** This matter is outside the scope of the DA
I suspect the developer has made private approaches to Council and no amount of objections will influence things.	**2.49** Objections to the proposed development will be considered in detail and all submissions are welcome.

COMMENT/ISSUE RAISED	APPLICANT RESPONSE
The Myuna Bay Sport and Recreation facility around the corner was closed in 2019 due to the event of seismic activity possibly destroying the ash dam wall. Three years later the problem has not been rectified.	**2.50** This matter is unrelated to the consideration of the current development application for Trinity Point.
The Australian Bureau of Statistics National Health Survey 2017-2018 found that suburbs in close proximity to the proposed development are at risk of having populations with three or more chronic health conditions. Air quality contributes to many health issues whilst coal ash is blown over the suburbs and lake mixed with a concoction of illegally dumped asbestos and unnamed general waste.	**2.51** There is no evidence that the site is subject to impacts that prevent occupation of the site.
Both Vales Point power station and Eraring Ash power station and their dams contribute to the environmental degradation and health conditions of surrounding suburbs.	**2.52** There is no evidence that the site is subject to impacts that prevent occupation of the site.
The concept development will add carbon emissions to the environment.	**2.53** The proposed development offers a high level of sustainability including aimed at carbon reduction.

Table 3 below provides a response to the public submissions received in support the proposed development.

Table 3: Submissions in Support

COMMENT	RESPONSE
The Project	
This location is great for this type of development. Trinity Point is the best thing that has happened in Lake Macquarie. Support for an incredible development in the area.	The site is well located to cater for its intended purpose and the proposed development is consistent with strategic plans for the locality. The proposed development is significant for area and offers both social and economic benefits.
Procedural Matters	
Rezoning Council should amend the planning controls to support this development	Amendments to Lake Macquarie Local Environmental Plan are proposed in order to support the proposed development. The amendments are the subject of a separate but concurrent process.
Environmental Impacts	
Height This proposal is much better and there should be no height restrictions Support the 8 storey building, development height is not of concern	The proposed building heights have been developed in consideration of a large range of inputs, including site location, opportunities and constraints, views and visual impacts as well as overall design objectives and strategic plans for the locality. It is considered that the proposed height within the architectural form proposed has achieved a well-balanced outcome.

<u>Visual</u> The greenery will help blend it into the landscape. The proposal will integrate with the surroundings. The proposed underground parking is a big improvement.	The organic form of the building design and the incorporated landscaping on the buildings and throughout the development provides for a proposal that compliments the locality. The proposed underground parking supports a ground level dedicated primarily to pedestrian activity and provides greater opportunity for landscaping.
<u>Bulk and Scale</u> Regarding building scale, I don/t think it is overpowering.	The orientation of buildings and the organic form of the proposed buildings provides for an appropriate scale of building for the site and locality.
<u>Design</u> Support for access to the lake. Bushland and nature will not be damaged by this project. Appreciate the elegant and sustainable design. This new design exceeds the quality and aesthetics compared to the previous approved development. The design looks amazing, it is world class that raises the bar for NSW. This design is architecturally superior. The high-quality design will boost the value of local and surrounding areas. The proposal will be a landmark facility. The new design with increased open space and reduced building footprint is supported The development is located away from other residents and so will avoid impacts The unique architecture and characteristics of the buildings will attract people to the area. The development is a show piece for the area. The design achieves a good balance of residential and tourism. The design creates beautiful spaces for recreation	The proposed development promotes access through the site to the lake, welcoming the public to access through the site is a key element of the design. The proposed development involves minimal disturbance to existing bushland and the development proposes a significant landscape outcome. It is considered that the new design is of overall higher quality and aesthetics compared to the previous approved design. The buildings offer organic architectural expression more sympathetic to the site and will provide for a high level of sustainability together with increased landscaping. The overall high quality of design will add value to the locality. The unique form of architectural expression combined with the proposed landscaping and proposed land uses will make the proposal a landmark facility. An outcome of the proposal is for increased ground level landscaping throughout the site compared with the previously approved scheme. The site is generally separated from immediately adjoining development and when combined with the design ensures that there are no unacceptable impacts that cannot be managed. It is anticipated that the architectural form of the proposed buildings, together with proposed landscaping will offer high levels of visual interest that will encourage locals and tourists to the development.

The proposed boardwalk will be welcomed The design addresses all concerns about green space, environmental impact and accessibility to the area	The proposed development incorporates both a permanent residential population and a tourist population. The balance ensures that tourists can access the lake in a key location and at the same time provide for much needed housing. The permanent population will support the tourism related land uses, particularly during low peak tourist times. The site incorporates significant landscaped open space and in combination with the proposed boardwalk will offer a high level of amenity and recreation.
<u>View Loss</u> The design with reduced buildings improves views	The proposed development and orientation of buildings has been designed to ensure there is appropriate views through the site to the lake.
<u>Traffic</u> Support subject to road upgrades Support subject to parking	The proposed development will contribute to upgrading of the road system to cater for increased traffic. The proposed development provides for a substantial supply of parking on site to cater for the demand generated by the development.
<u>Amenity</u> The new design will enhance the area.	The proposed design and landscaping, incorporating public access through the site and to the lake will provide for a high level of amenity to site occupants and the locality.
Noise	
Heritage	
Water Quality	
Flooding and climate change	
Bushfire	
Foreshore Access	

Economic Impacts	
Support for job creation, both short and long term The project will support training. Will put Lake Macquarie on the map, supporting tourism locally as well as internationally Additional accommodation and places to eat are needed The area will benefit from high quality hotel services Additional business meeting place and function space supported. Stimulating the local economy will be supported by this development. It will be a huge draw card and provides economic benefits to the Hunter Region The existing restaurant is a much loved venue with amazing food, it is a success, this demonstrates the potential for the Trinity Point project. The developer has proven their ability to develop a successful development. This side of the Lake has been lacking in services for years and this will address this issue The proposal will provide accommodation for people attending the new entertainment centre approved for Morisset. The development will mean people will not have to drive to Sydney for access to this type of offering No good comes from restricting progress and LMCC needs to look at the future and move away from small town mentality	The proposed development will create substantial employment opportunities during construction and operational phases of the development. Training opportunities will exist as part of the development. It is anticipated that the proposed development will become well known as a tourism destination supported by the site location, the lake and the proposed design and land uses. This is consistent with strategies for the area including Lake Macquarie Council's Destination Management Plan. The proposed development offers additional housing and tourism accommodation and will offer additional eating opportunities. The existing restaurant on the site has been appreciated by many of the local community and wider afield. The development will support additional function space. The proposed development will make a significant contribution to the local and broader economies. The existing restaurant on the site has been developed to a high standard and has proven very popular. This bodes well for suture development of the site. This side of Lake Macquarie has lacked amenities for locals at Trinity Point to access. The proposed development will make a contribution to addressing this. Provision of facilities will reduce the need for people to travel to other areas to access a similar quality of development. It is anticipated that people attending the recently approved entertainment facility at Morisset will be looking for accommodation options that can be catered for by the proposed development. Lake Macquarie Council has development a number of strategies, including their Destination Management Plan that seek to increase jobs and economic stimulus. The proposed development is consistent with these strategies.

Social Impacts	
The facility will provide a facility for locals and visitors to enjoy food and leisure activities The facility will be enjoyed by many different people. Support for increased range of facilities. The project will support improved facilities such as BBQ and sea baths. High density housing will provide for the needs of a growing population The proposed development will support the creation of community, the site will come to life Improved facilities for boat users Our visiting family will now have a place to stay We appreciate that JPG are not just developers but also bring people together.	The proposed development incorporates a range of options for locals and tourists to enjoy including recreation and food. These facilities cater for a different people with varying needs and desires. Contributions from the proposed development can be directed to improved local facilities including BBQ area and potential upgrades to the sea baths. The increased supply of housing will assist in meeting strong demands for housing in the locality and the product type will provide for housing a choice of housing not well represented in the area. The proposed development will provide for the opportunity to create community and the existing successful restaurant on site has already started this process. The proposed development will increase recreation and food options for boat users that come to the site and access the approved marina.
Justification and Evaluation	
Issues beyond the scope of the project	

3.0 Conclusion

The Response to Submissions Report demonstrates that the proposed amendments to Clause 7.16 of Lake Macquarie LEP 2014 can be undertaken satisfactorily with regard to the matters raised by Government authorities and the community.

Appendix A

RESPONSE TO FLOOD RELATED SUBMISSIONS

MOLINO STEWART
ENVIRONMENT & NATURAL HAZARDS
a WATER TECHNOLOGY company

8 February 2023

Bryan Garland
Chief Development Officer
Johnson Property Group
27 Patrick Drive
Cooranbong, NSW, 2265

Dear Bryan,

Re: Trinity Point – Response to Flood-Related Submissions

Johnson Property Group has submitted a State Significant Development (SSD) application for a mixed-use tourism and residential development at 69C, 81 and 85 Trinity Point Drive, Morriset Park. Both the SSD application and the concurrent Planning Proposal were placed on exhibition from November to December 2022. This letter contains responses to flood-related submissions made by New South Wales State Emergency Service (NSW SES), the NSW Department of Planning and Environment (DPE) and others.

Overview

The proposed development is on the foreshores of Lake Macquarie and, as such, parts of the existing landforms are at risk for flooding and sea level rise. Consistent with Lake Macquarie Council's flood planning controls the development has taken into consideration a projected sea level rise of 0.9m by 2100.

The proposed development would see the flood prone parts of the site on which buildings are placed, filled to a level above the 2100 Probable Maximum Flood (PMF) level. This would effectively see those parts of the site transformed to be an extension of the existing, adjacent flood free land. Such a change would mean that no buildings would be flooded nor isolated in even the most extreme flood event combined with a 0.9m sea level rise. As such, the occupants of the development neither have to evacuate nor shelter in place during any flood as they will be able to access their buildings on flood free roads in the same way as their neighbours immediately to their west.

While placement of fill on the site would take up some volume on the perimeter of Lake Macquarie, this would lead to less than a 1mm rise in water levels across the lake in a 1% AEP flood if the site were classified as a Flood Storage area. However, it has been independently classified as Flood Fringe which means that development on the site would have no impact on flood levels elsewhere.

Response to Issues Raised by DPE

On 3 February 2021 DPE provided Johnson Property Group with a letter regarding Response to Submissions for the SSD application. The flood-related concerns were addressed in Part 6 Flood Behaviour and Risk. They were:

- *Consider and respond to the NSW SES advice provided to Council on the concurrent planning proposal (enclosed).*
- *Provide further information on the post development impacts of the proposal on flood behaviour and risk (including modelling data and illustrations) to demonstrate that the development will not result in detrimental impacts or changes to flood affectation.*

- *Provide further information regarding the Probable Maximum Flood (PMF), including the flood hazard categorisation during the PMF event and a statement regarding whether the site is located within a PMF floodway.*

A detailed response regarding the issues raise by the NSW SES follows, followed by the flood behaviour issues raised by DPE.

Response to Issues Raised by NSW SES

On 19 December 2022, NSW SES addressed its submission on the Planning Proposal to Lake Macquarie City Council. In the following discussion the issues raised by NSW SES are italicised, while Molino Stewart's responses to these issues are discussed in regular font.

Risk to Life, Health or Property

> ***Development must not result in an increase in risk to life, health or property of people living on the floodplain.***
>
> *Hotel Buildings*
>
> *Lot 101 becomes completely inundated in a PMF (a level of 3.27m AHD) with hazards up to H4 (Flood Impact Assessment). This is where the proposed hotels are located. In a 1% AEP flood in 2100 the land that the hotel buildings are located on would flood to depths of up to approximately 1.3m. Although the habitable floor levels are proposed to be above 2.82m, this is below the PMF in 2100 and the buildings would be surrounded by flood water and therefore the risk of people located on the floodplain is increased, including emergency services personnel who may need to attend in a flood rescue capacity or due to medical or other secondary emergencies.*
>
> *Residential Buildings*
>
> *Lot 102 is largely above the PMF, where the apartment type buildings are proposed. A portion of one of the apartments may have H1 to H3 flooding surrounding it between a 1% AEP flood and a PMF.*
>
> *Although the hazard is unlikely to result in damaged or destroyed buildings on both lots, some of the buildings would be surrounded by flooding and rely on human behaviour not to enter the floodwater surrounding the buildings.*

With regards to the hotel buildings (Buildings A and B), all habitable uses are proposed for the ground floor or above. The ground floors of both buildings have floor levels of 3.30 m AHD. This is 0.03 m above the PMF level in 2100 (3.27 m AHD). Therefore, all habitable areas of the hotel buildings would be located above the PMF in 2100.

It should also be noted that although Buildings A and B would be built on land which currently would have a hydraulic hazard of up to H4 in the 1% AEP lake flood in 2100, most of the ground level immediately surrounding these buildings will be raised to 3.30 m AHD or higher, placing it above the level of a PMF in 2100 (Figure 1). Land between the buildings and Trinity Point Drive via the porte cochere would not drop below 3.30 m AHD (Figure 2). Therefore, vehicular and pedestrian access to the hotel would be flood free in all floods up to and including the PMF in 2100.

In addition, both Buildings A and B can be accessed via the basement, which is protected up to the 2100 PMF level via passive measures, such as ground and floor levels and ramp crests. Access to the basement from Trinity Point Drive is flood free in all events up to and including the PMF in 2100, with the road and all ramp crests at or above 3.3 m AHD. Therefore, the proposed development does not directly increase the risk to life, health or property of people accessing the hotel buildings, including emergency services personnel.

Concept Finishes Plan 01 | L209
Trinity Point Mixed Use Development

Figure 1: Proposed Hotel Ground Levels

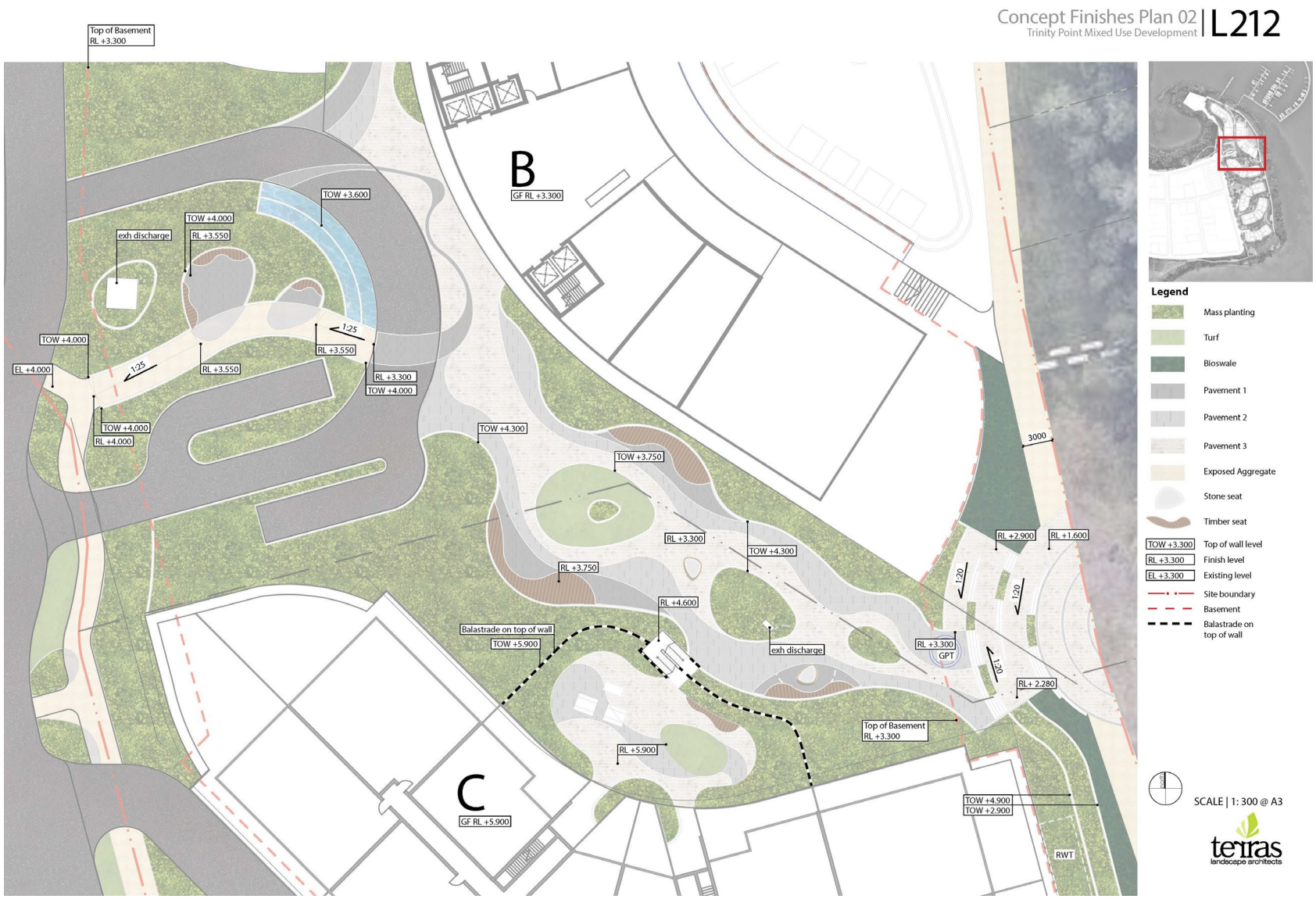


Figure 2: Ground Levels at Hotel Entrance

The proposed hotel development does potentially place a large number of people in a location adjacent to land that could be subject to flooding. However, they would have no need to enter the flood waters in events up the 2100 PMF as they can enter and exit the building on flood free land.

The ground floors of Buildings C, D, E and F range from 5.9 m AHD to 8.0 m AHD, would have basements passively protected from flooding beyond the 2100 PMF level and have flood free access to land on Trinity Point Drive which ranges from 4.0 m AHD to 7.0 m AHD (Figure 3, Figure 4 and Figure 5).

Demand on Existing Evacuation Routes

> ***Risk assessment should have regard to flood warning and evacuation demand on existing and future access/egress routes. Consideration should also be given to the impacts of localised flooding on evacuation routes.***
>
> *The Flood Impact Assessment does consider the evacuation routes available, however does not adequately consider the evacuation demand on the routes should evacuation occur. The basement car parks have been designed to have crests above the PMF. Whilst this reduces the risk of basement flooding, the adjacent area would be flooded and therefore evacuation may not be possible as indicated in the Flood Impact Assessment.*

As all parts of all buildings will be protected from flooding up to the 2100 PMF level there would be no need to evacuate because of a risk of building inundation. Furthermore, because there is flood free vehicular and pedestrian access to every building in such an event, and that extends all the way to Morriset, there would be no need to evacuate the buildings due to potential flood isolation.

Evacuation from the site is therefore not anticipated to be required due to flooding and the development would not place demands on local or regional flood evacuation routes.

Flood-Free Evacuation

> ***Evacuation must not require people to drive or walk through flood water.***
>
> *If hotel guests were to drive out of the basement, they would drive straight into floodwater as although the basement is protected up to the PMF, the land is flooded surrounding the proposed basement.*

This statement is incorrect. All driveways from the basements to Trinity Point Drive are at or above 3.3 m AHD and Trinity Point Drive is above this level. The entire route from the basement exit ramps to Morriset is above the PMF level in 2100. Therefore, while evacuation from the site is not anticipated to be required due to flooding, it would be possible for all site occupants to evacuate the site without driving or walking through floodwaters. Access to this site will be the same as for those neighbouring properties on the western side of Trinity Point Drive.

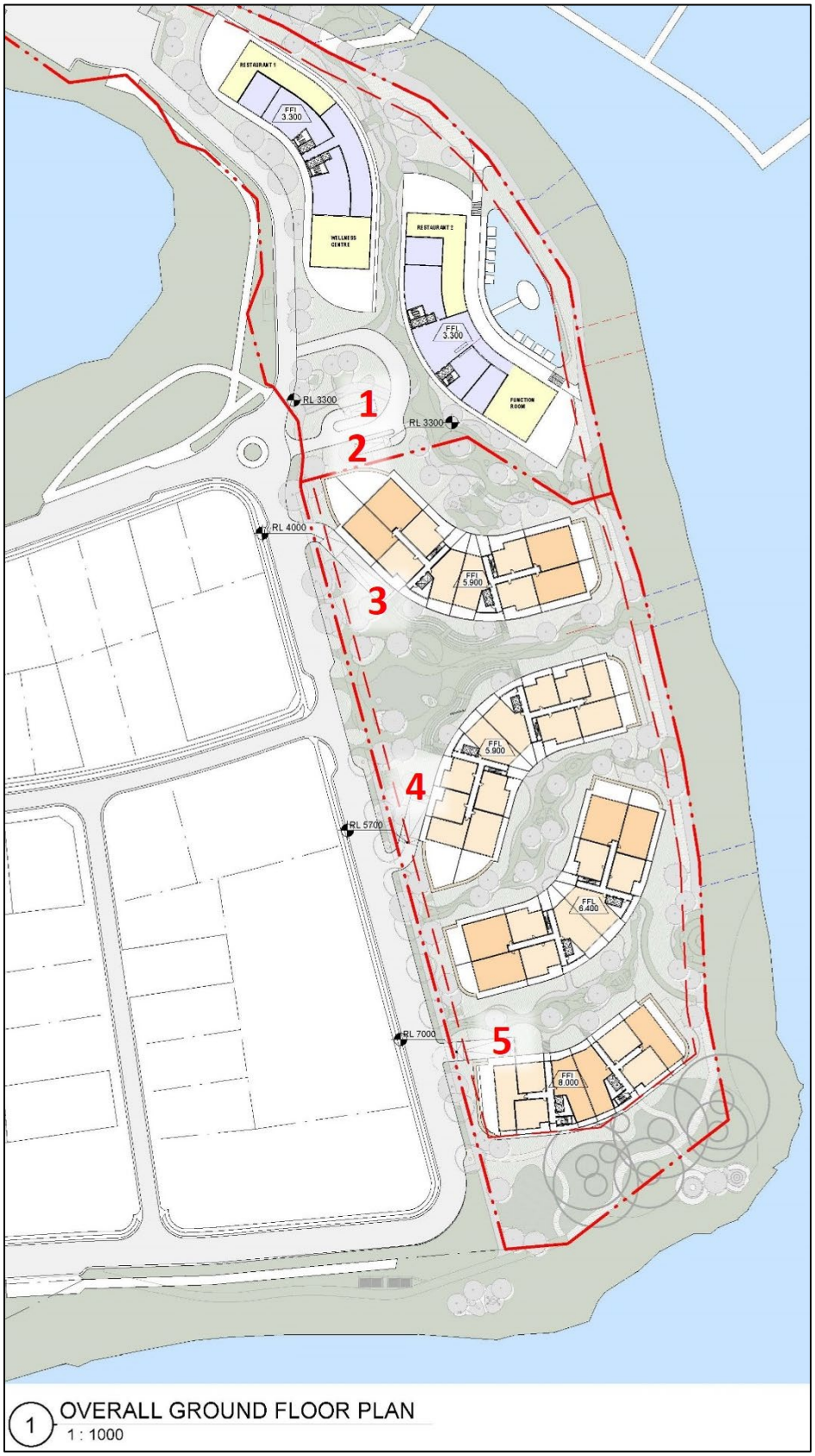


Figure 3: Building Ground Floor Levels and Trinity Point Drive Levels

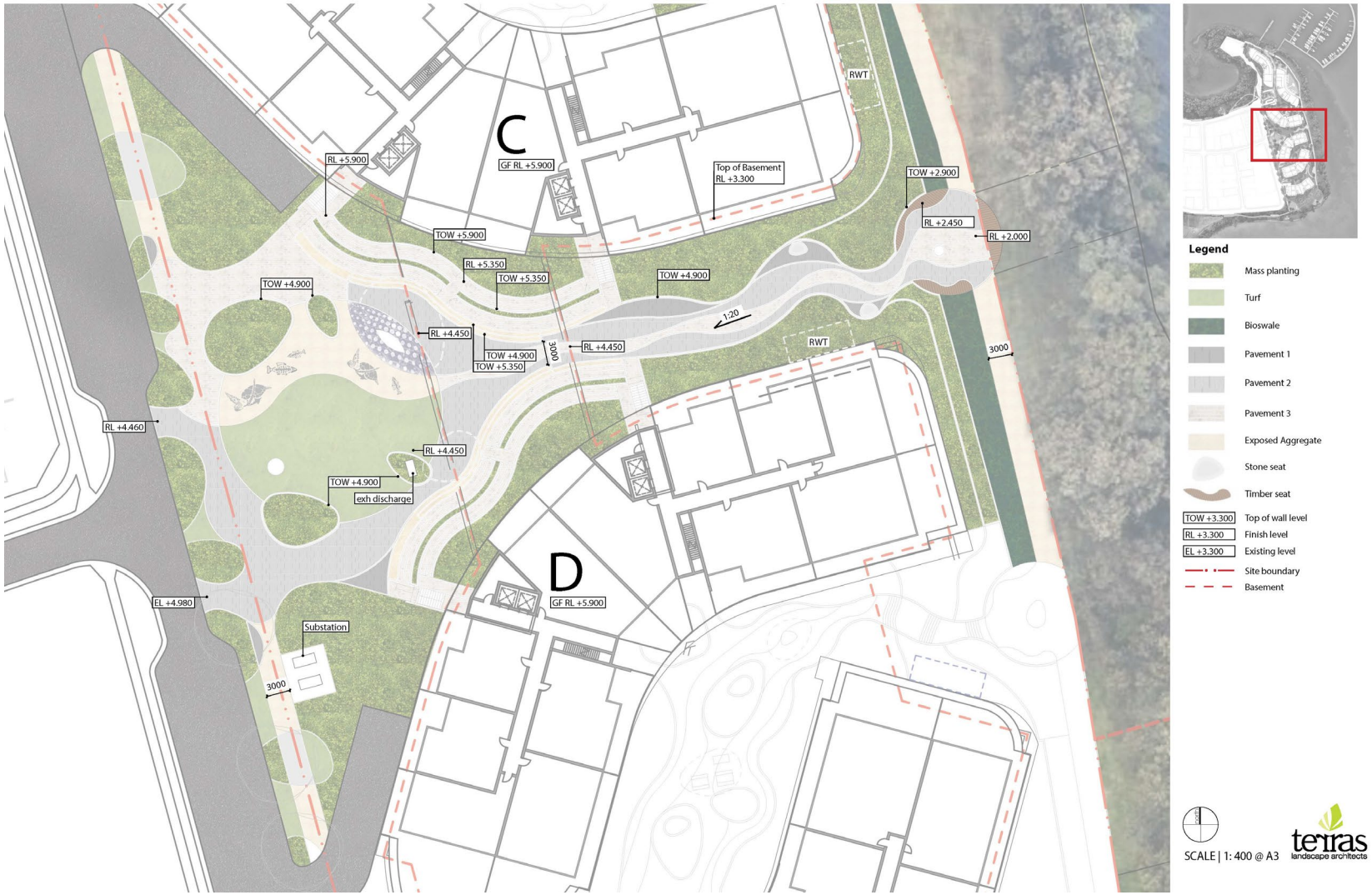


Figure 4: Ground levels between Buildings C and D

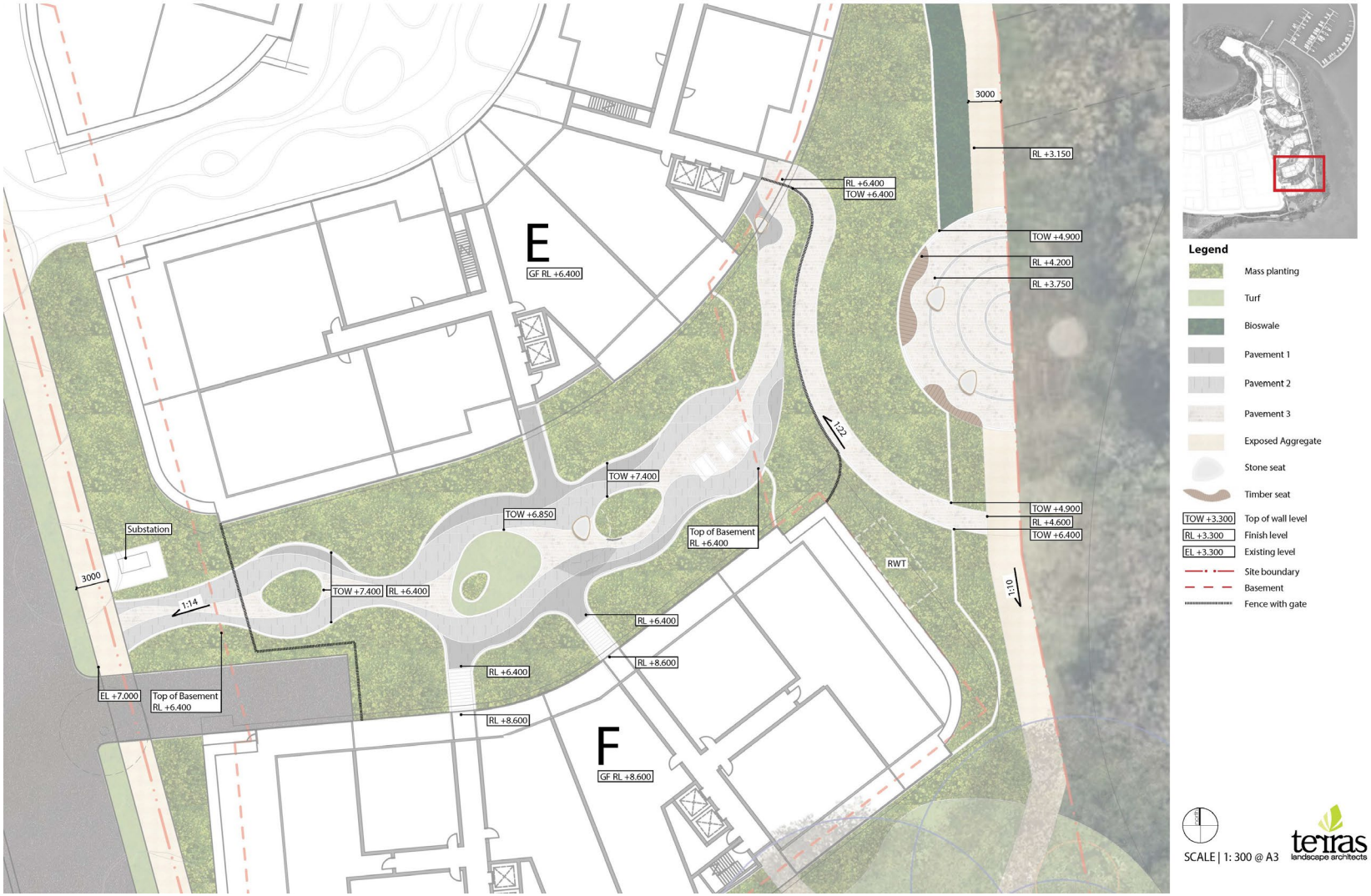


Figure 5: Ground levels between buildings E and F

Shelter in Place

> ***Development strategies relying on deliberate isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms, to evacuation.***
>
> *'Shelter in place' strategy is not an endorsed flood management strategy by the NSW SES for future development, as suggested in the Flood Impact Assessment. Such an approach is only considered suitable to allow existing dwellings that are currently at risk to reduce their risk, without increasing the number of people subject to such risk. The flood evacuation constraints in an area should not be used as a reason to justify new development by requiring the new development to have a suitable refuge above the PMF. Allowing such development will increase the number of people exposed to the effects of flooding. Other secondary emergencies such as fires and medical emergencies may occur in buildings isolated by floodwater. During flooding it is likely that there will be a reduced capacity for the relevant emergency service agency to respond in these times. Even relatively brief periods of isolation, in the order of a few hours, can lead to personal medical emergencies that have to be responded to.*

As demonstrated above (Demand on Existing Evacuation Routes), the proposed development would be accessible by both pedestrians and vehicles via flood-free routes in events up to and including the PMF in 2100. Therefore, the proposed development will not be isolated by floodwaters in a lake flood of any magnitude.

During a fire or medical emergency that may happen to coincide with a flood, the relevant emergency service agency would be able to respond and access the site as they would at any other time. Emergency responders would not need to traverse floodwaters to access the site. Nor would any site occupants leaving the site on foot or in a vehicle need to traverse floodwaters.

Neither evacuation nor sheltering in place are proposed as flood emergency response strategies for the site. As all habitable spaces and access to the development would be flood free in all lake floods up to and including the PMF in 2100, operation of the development could proceed almost as per normal during a flood, with the exception of closing access to flood-affected areas on the eastern side of the site.

Flood Evacuation Plans

> ***The NSW SES is opposed to the imposition of development consent conditions requiring private flood evacuation plans rather than the application of sound land use planning and flood risk management.***
>
> *The Flood Impact Assessment has replied to our previous correspondence regarding this principle, that "flood evacuation should not be necessary but the route is flood free in a PMF in the year 2100". We consider this response unrelated to private evacuation plans, and page 16 of the same document states that "The development is to have a Flood Emergency Response Flood Plan prepared for the site to ensure flood risk is managed appropriately".*
>
> *It should be noted that the Manual specifically precludes the practice of consent conditions requiring a site plan if that plan is trying to overcome an underlying flood risk that would otherwise be considered too high to permit approval (see the Manual Annex L-3). In other words, if the existence of a flood plan is ignored, is the underlying flood risk unacceptable in the context of the proposed development?*
>
> *Although NSW SES encourages homes and businesses to be prepared and has developed a home FloodSafe toolkit and a Business FloodSafe toolkit, even well written plans are dependent on human application and often rely on technical support systems. Most plans will rely on the actions of one or more third parties and all plans require regular maintenance and review, and*

most importantly an ongoing commitment from all participants. These conditions are difficult enough to implement and monitor over the long term for a full-time emergency service and are unlikely to be achieved at all in a private ownership context where there is no external audit or monitoring.

The development is not isolated by flooding in any event up to the PMF 2100. The flood risk to buildings has been managed by passively protecting all levels of the development from floodwaters. The flood risk to life has been managed by ensuring that all habitable uses are located above the PMF level in 2100 (3.27 m AHD), basements are protected from floodwaters by passive means up to that same level and that the development is accessible via flood-free routes in all events up to and including the PMF in 2100. The flood risk to life, health and property of the proposed development is low, with operations of the development able to proceed almost as normal during a flood of any magnitude.

There is some flood risk to property which is below the PMF level on the eastern side of the buildings. It is acknowledged that there is some residual risk to life should site occupants choose to enter the floodwaters on that side of the building.

To minimise this residual life risk, a Flood Emergency Response Plan (FERP) is to be prepared for the site to inform site occupants of the flood risk of the site, identify suitable triggers for actions and to detail responsibilities and actions to be undertaken in the event of a flood to minimise the risk of people entering floodwaters on the eastern side of the premises. This FERP is a flood risk management measure that will complement the flood risk management measures mentioned above. It is not intended to overcome any flood risks that would otherwise be considered too high to permit approval. The flood risks of the site are low.

Transfer of Residual Risk to NSW SES

NSW SES is opposed to development strategies that transfer residual risk, in terms of emergency response activities, to NSW SES and/or increase capability requirements of the NSW SES.

The proposal of pedestrian evacuation would require a bus or other vehicle to transport them to an evacuation centre, as the population is likely to be transient and without family or friends nearby to relocate to. Arranging transport and immediate welfare of evacuated residents and tourists is likely to be transferred as a responsibility to NSW SES.

Pedestrian evacuation is not the proposed flood emergency response strategy for the development. Neither evacuation nor sheltering in place are proposed as flood emergency response strategies for the site. As all habitable spaces and access to the development would be flood free in all lake floods up to and including the PMF in 2100, operation of the development could proceed almost as per normal during a flood. As a result, it is not anticipated that evacuation will be necessary due to flooding. However, should site occupants leave the development during a flood they could leave either via vehicle or on foot, as they would be able to at any other time. This would not require any bus or transport services beyond those that are usually scheduled for the area.

Flood Issues Raised by DPE

Impacts on Flood Behaviour and Risk

> *Provide further information on the post development impacts of the proposal on flood behaviour and risk (including modelling data and illustrations) to demonstrate that the development will not result in detrimental impacts or changes to flood affectation.*

If required Molino Stewart would be able to undertake modelling for a flood impact assessment of the proposed development. However, given the extremely small impact that the development could have on flood levels in the lake and its location of the foreshore that should not be necessary.

The *Lake Macquarie Waterway Flood Risk Management Study and Plan* (WMAwater, 2012) classifies all land on the perimeter of the lake as flood fringe, except the Swansea Channel and creek channels. Therefore, the flood prone lane on the Trinity Point site would be classified as flood fringe (Figure 6).

According to the *NSW Floodplain Development Manual* (DIPNR, 2005), flood fringe is defined as:

"…the remaining area of land affected by flooding, after floodway and flood storage areas have been defined. Development in flood fringe areas would not have any significant effect on the pattern of flood flows and/or flood levels."

Therefore, an independent flood study has defined the site as an area where development would not have a significant impact on flood flows or levels.

However, to provide some further perspective on this, the following rough calculations are provided to give a sense of the magnitude of potential impacts which are being contemplated. The following assumes that the land below the flood planning level (FPL) on site is actually has a more sensitive "Flood Storage" category (rather than Flood Fringe) where the occupation of flood storage volume on site will result in the displacement of floodwaters and an increase in flood levels elsewhere.

To estimate the displaced volume we have assumed that the volume of lake floodwaters displaced by the development in a flood up to the FPL would be equal to the area of the site below the FPL that will be impacted by fill (Figure 7) multiplied by the difference between the FPL and the minimum level impacted by fill (0.87 m AHD). This is a conservative approach, overestimating the volume of water displaced by the development because the existing landscape slopes down towards 0.87 m AHD at the eastern margin of the site, rather than being a flat surface at 0.87 m AHD.

The area of the site below the FPL that would be impacted by fill or a building would be 14,143 m^2. The FPL is 2.82 m AHD and the minimum level on site that may be impacted by fill is 0.87 m AHD. The volume of water that may potentially be displaced in a flood up to the FPL is therefore:

$$\begin{aligned} Volume_{displaced\ floodwater} &= Area_{impacted\ by\ fill} \times (FPL - Level_{lowest\ level\ where\ fill\ starts}) \\ &= 14{,}143\ m^2 \times (2.82\ m - 0.87\ m) \\ &= 27{,}579\ m^3 \end{aligned}$$

Figure 6: Hydraulic categorisation

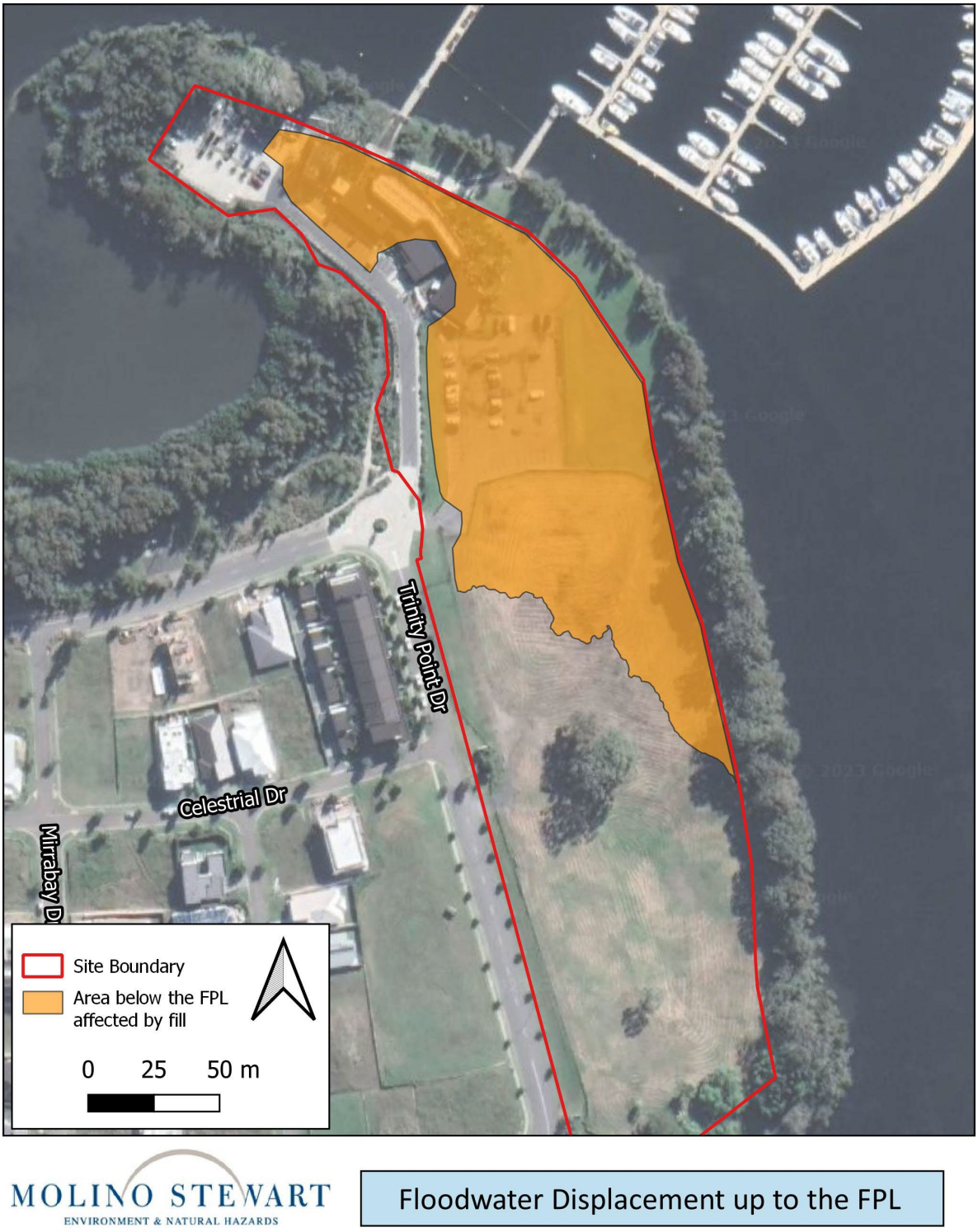


Figure 7: Area of the site below the FPL which will be filled

The surface area of Lake Macquarie is 110 km^2 (WMAwater 2012), which is 110,000,000 m^2. Therefore, the volume of the lake between 0.87 m AHD and 2.82 m AHD in existing conditions is:

$$Lake\ Volume_{existing\ conditions} = Lake\ Area \times (FPL - Level_{lowest\ level\ where\ fill\ starts})$$
$$= 110{,}000{,}000\ m^2 \times (2.82\ m - 0.87\ m)$$
$$= 214{,}500{,}000\ m^3$$

This is a conservative underestimation of the lake that assumes the surface area of the lake does not change as floodwaters rise. Due to the downward slope of the topography towards the water around the lake, in a flood event the surface area of the lake would increase as the lake level rises, resulting in a much larger lake volume than that estimated above.

In post-development conditions the development would displace up to 27,579 m^3 of floodwaters, which would be dispersed across the surface of the lake. The increase in flood level would be:

$$Increase\ in\ flood\ level = \frac{Volume_{displaced\ floodwater}}{Lake\ Area}$$
$$= \frac{27{,}579\ m^3}{110{,}000{,}000\ m^2}$$
$$= 0.00025\ m$$
$$= 0.25\ mm$$

The displacement of floodwaters would therefore result in a 0.25 mm increase in lake flood levels in a flood up to the FPL. However, this is an overestimation given that:

- The site is classed as Flood Fringe and not Flood Storage and by definition should not result in any displacement of flood volume
- the surface area of the lake would increase as floodwaters rise
- the topography of the site slopes down rather than being a flat surface at 0.87 m AHD.

In summary, the development should have no impact on flood levels elsewhere but should the hydraulic classification of the land be incorrect for some reason, any displaced flood storage volume would result in less than a 1mm increase in flood levels.

Probable Maximum Flood

> *Provide further information regarding the Probable Maximum Flood (PMF), including the flood hazard categorisation during the PMF event and a statement regarding whether the site is located within a PMF floodway.*

The hydraulic classification of flood extents is usually confined to floods up to the 1% AEP flood and, as per Figure 6, some parts of the site have been classified as Flood Fringe in that event.

If hydraulic classification in the PMF is to be contemplated, the definition of Floodway in the *NSW Floodplain Development Manual* (DIPNR, 2005) needs to be considered. It states:

"Floodways are those areas where a significant volume of water flows during floods and are often aligned with obvious natural channels. They are areas that, even if only partially blocked, would cause a significant increase in flood levels and/or a significant redistribution of flood flow, which may in turn adversely affect other areas. They are often, but not necessarily, areas with deeper flow or areas where higher velocities occur."

Given that the site is more than 2km from the nearest creek of any size and is not on a direct path between the creek outlet and the Lake Macquarie entrance way, it is physically inconceivable that the site could be classed as a Floodway even in a PMF.

With regard to flood hazard classification in a PMF, that will vary across the site and will be directly related to flood depth because flood velocities would be virtually zero. The 2100 PMF level is less than 3.3m AHD and the lowest part of the site is at about 0.1m AHD. Therefore the maximum flood depth in this event would be 3.2m.

According to the current method of hydraulic hazard classification (Figure 8), this would place the lowest parts of the site in an H5 category. The hydraulic classification would be is lower categories in those areas which have higher ground levels. With reference to the ground levels in Figure 1, Figure 2, Figure 4 and Figure 5, ground levels immediately east of the buildings will generally be around 2.3m AHD or higher, placing them in a H3 category or lower in the 2100 PMF.

Of course the areas between the buildings and to their west are above the 2100 PMF level and have no hydraulic hazard.

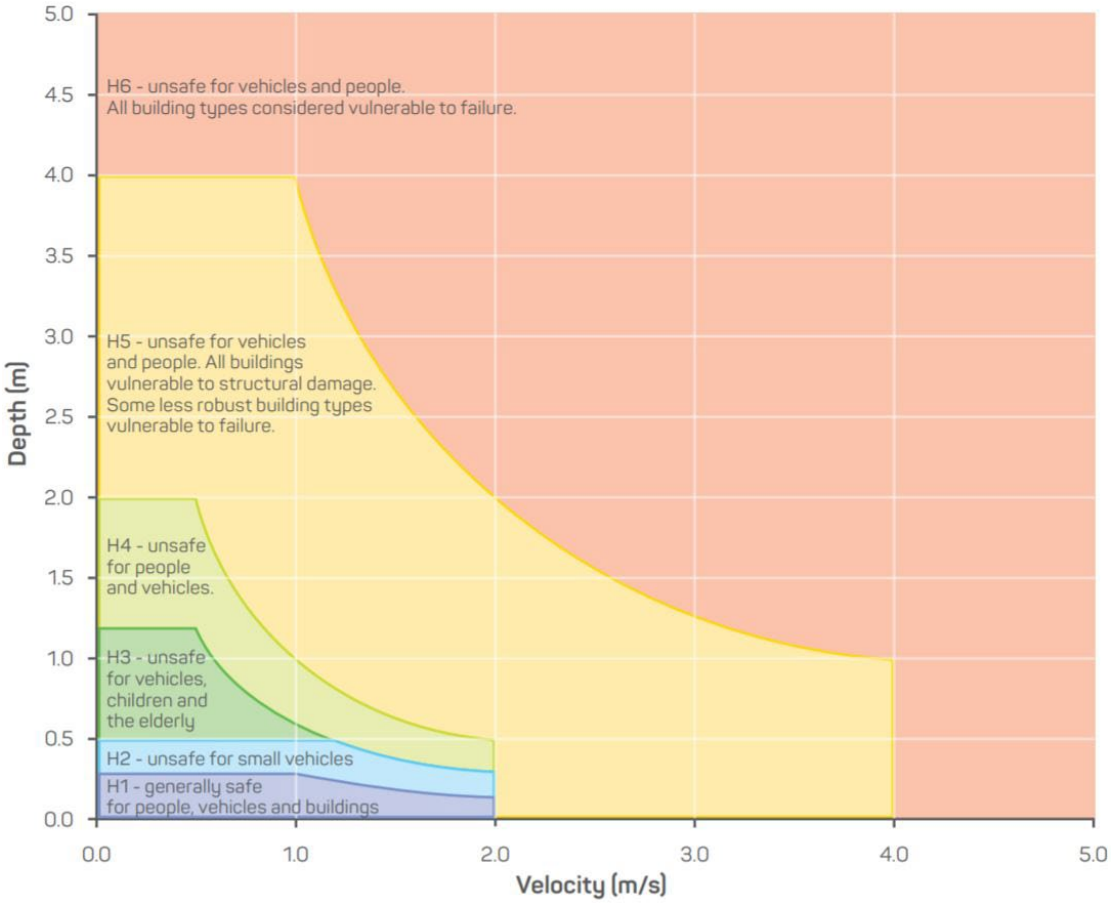


Figure 8: Flood hazard vulnerability curves (Smith et al., 2014)

Response to Submissions

It is understood that some submissions have questioned the use of 0.9 m Sea Level Rise (SLR) by 2100 for setting flood planning levels for the development.

The Lake Macquarie Development Control Plan (DCP) 2014 Part 6 2.10 states:

> *Council completed the Lake Macquarie Waterway Flood Study and Risk Management Plan in 2012. This flood study and risk management plan incorporated the implications of predicted sea level rise.*
>
> *Predicted sea level rise is based on expert advice from NSW Government agencies and expert scientific agencies, namely that projections of sea level rise along the NSW coast are for a rise relative to 1990 mean sea levels of 40cm by 2050 and 90cm by 2100.*

In addition, Table 4 of Part 6 of the DCP 2014 indicates that the minimum flood height for both medium and high density residential development and mixed-use development is the 1% AEP flood level for 2100 + 0.5 m freeboard, which the DCP specifies as 2.82 m AHD. These are Council's adopted sea level rise projections and development controls applicable to the proposed development.

Neither the NSW Government nor Lake Macquarie City Council have adopted revised sea level rise forecasts. The development has therefore responded to the mandated sea level rise provisions in the relevant planning controls.

Yours faithfully

For Molino Stewart

Steven Molino

Director

https://watertechnology.sharepoint.com/sites/Jobs1301-1400/Shared Documents/1332 Trinity Point Flood Assessment/Reports/Draft/1332 Molino Stewart - Response to Submissions v1.1.docx

Appendix B

TRINITY POINT TRAFFIC IMPACT ASSESSMENT RESPONSE TO SUBMISSIONS

Our Ref: 18362

31 January 2023

Johnson Property Group
27 Patrick Drive,
Cooranbong NSW 2265

Attention: Bryan Garland

Dear Bryan,

RE: TRINITY POINT, LAKE MACQUARIE TRAFFIC IMPACT ASSESSMENT RESPONSE TO SUBMISSIONS

As requested, please find herein The Transport Planning Partnership's (TTPP) response to submissions from agencies relating to traffic and transport matters in relation to the State Significant Development (SSD-27028161) as part of the Trinity Point Lake Macquarie Project.

Agencies which provided submissions include Transport for NSW and Lake Macquarie City Council. Responses to the submissions are provided herein.

Submissions by Transport for NSW

a) Reference is made to queue length calibration in the Section 4.5.3.1 of the TIA. The TIA should document the detail regarding the queue length calibration.

To clarify, the S0 Existing Conditions base case SIDRA model was validated against the queue length data recorded at the time of the traffic surveys. The maximum queue length (measured in number of vehicles) was recorded at roughly 5-minute intervals at the start of each green phase on the intersection approaches. The SIDRA model parameters were not required to be changed (i.e. calibrated) in order to match the queues of the survey data.

The queue length data which was used to validate the original SIDRA modelling is contained in Attachment One.

Notwithstanding this, it is noted that the signalised intersection of Macquarie Street/Fishery Point Road in the original SIDRA model used SCATS Interpreted history data (signal phasing and timing data) obtained from Transport for NSW. This data has been summarised for the peak hours in Attachment Two (the full dataset was previously provided as part of the TIA). From this, the intersection cycle time was input as follows:

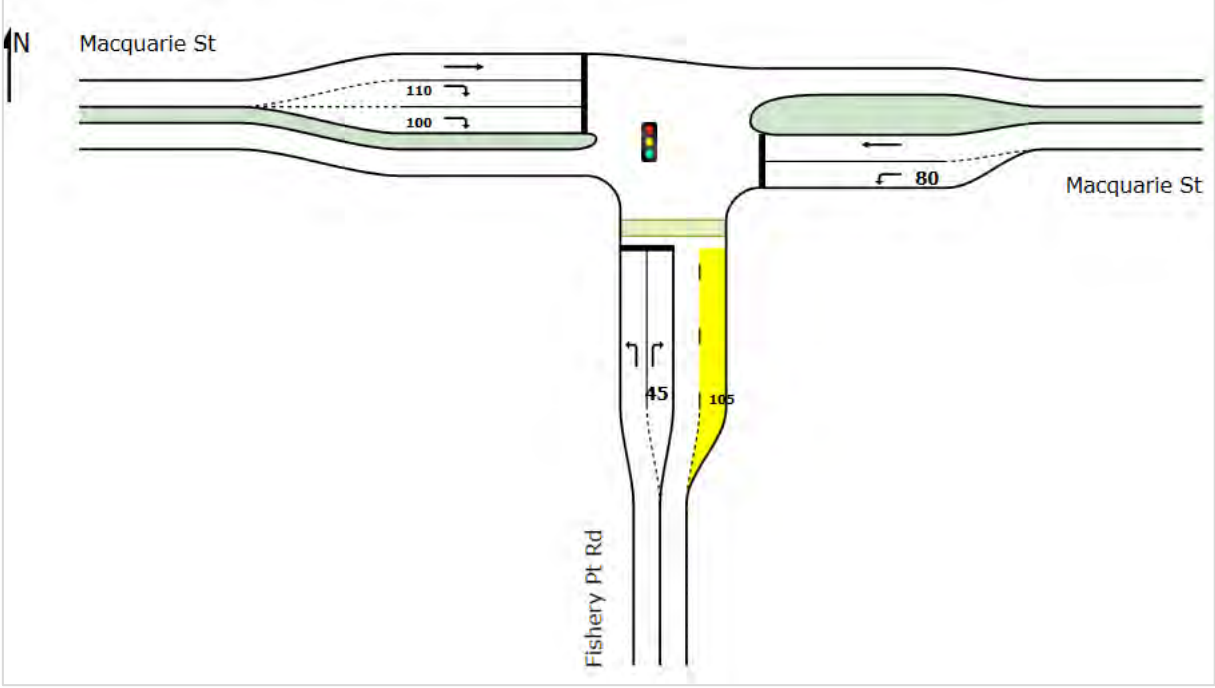
- AM peak hour (8.15am to 9.15am): 92 seconds nominal cycle time.
- PM peak hour (3.00pm to 4.00pm): 87 seconds nominal cycle time.

However as per TfNSW's request in item (f) below, the traffic signal cycle time has been amended to 120 seconds in each peak period. As a result, the queue length on the intersection approaches have changed as well as the average delay and Level of Service (LoS). A comparison of the changes is presented in the response to Item (f) further below.

b) The departure lanes on Fishery Point Road have both been coded as continuous lanes. Recent aerial imagery shows them merging after approximately 100m.

The SIDRA model has been updated to include a 105 m short lane on Fishery Point Road south approach. The updated intersection layout is shown below.

This update has been adopted across all scenarios within the SIDRA model.



c) Some of the reported back of queue length appears to be the average queue lengths, not the 95th percentile queue lengths. This will need to be amended.

The SIDRA model has been updated to reflect 95th percentile back of queue lengths, and the queue length survey data has been used to validate the existing conditions.

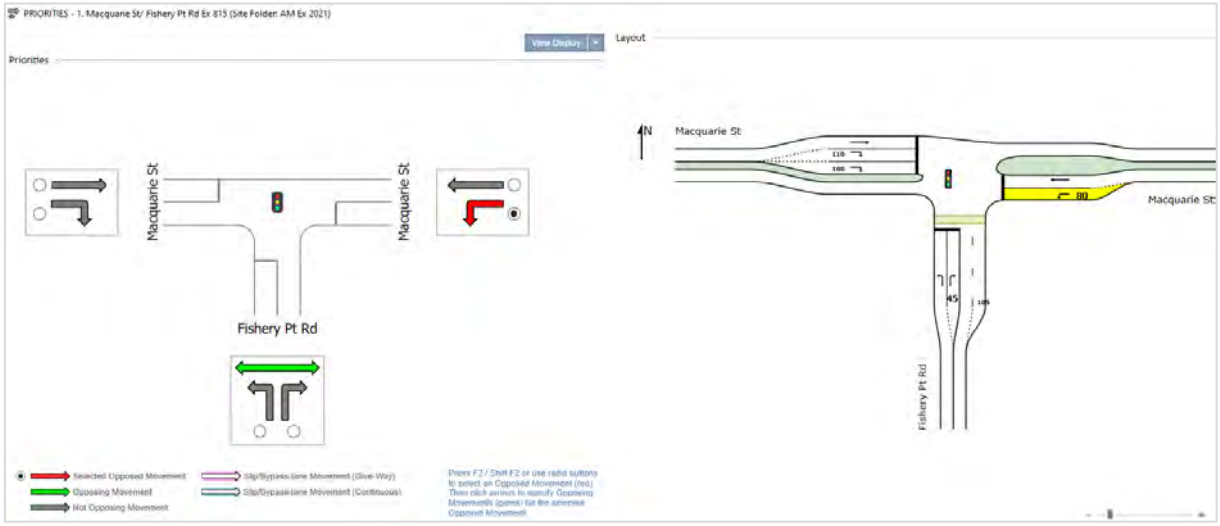
The updated SIDRA model is available for download via the Dropbox link below. In Attachment Three of this letter is the SIDRA Modelling Summary Outputs of the updated SIDRA model.

Dropbox Link to updated SIDRA model:
https://www.dropbox.com/s/631ptweeo8jzhhn/18362-S01V04-230124-Model.sip9?dl=0

d) The pedestrian movement has not been set as opposing the left turn movement into Fishery Point Road.

The SIDRA model has been updated to include the pedestrian movement opposing the left turn movement from Macquarie Street east approach to Fishery Point Road south approach, as shown below.

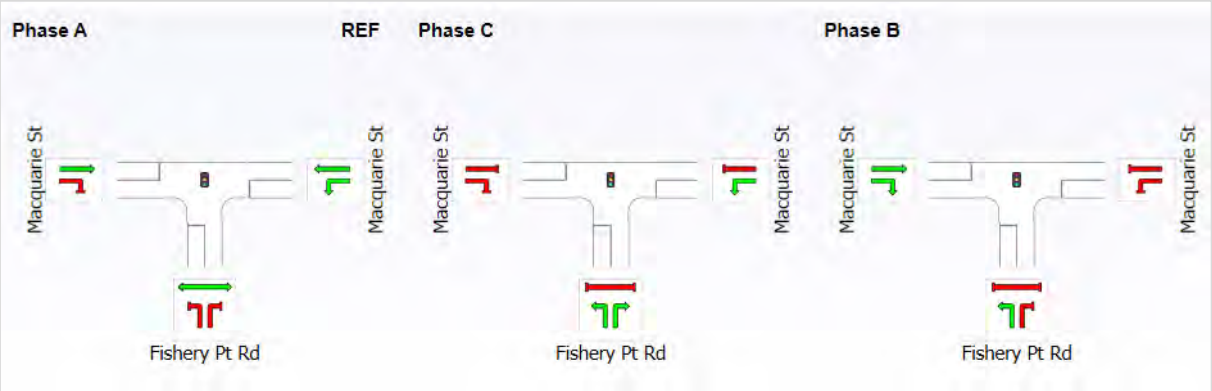
This update has been adopted across all scenarios within the SIDRA model.



e) It is advised that the traffic signals in Macquarie Street/ Fishery Point Road are currently operating with a different phase order (A-C-B) to that modelled (A-B-C).

The Macquarie Street- Fishery Point Road intersection phasing arrangement has been updated to 'A-C-B' as shown below.

This update has been adopted across all scenarios within the SIDRA model.



f) For the closest representation of current condition, 120 seconds cycle time should be adopted for the Macquarie Street/Fishery Point Road intersection.

For further information, the signal phasing timing has been input based on the Interpreted SCATS history data for the intersection recorded on the day of the traffic surveys. Specifically, the nominal cycle length averaged across the four 15-minute periods that comprise the peak hour was calculated. From this, the intersection cycle time was input as follows:

- AM peak hour (8.15am to 9.15am): 92 seconds nominal cycle time.
- PM peak hour (3.00pm to 4.00pm): 87 seconds nominal cycle time.

A summary of the analysed data has been provided in Attachment Two.

Notwithstanding the above, the intersection cycle time has been updated to a 120-second cycle time. The updated results for the Macquarie Street/Fishery Point Road intersection are presented in Table 1 while the SIDRA Modelling Summary Outputs of the updated SIDRA model are contained in Attachment Three.

As a reminder, a description of the various modelled scenarios is provided further below as extracted from the TIA report.

Table 1: Macquarie St/Fishery Point Rd SIDRA Results – Original Model vs Updated Model

Scenario	Peak Period	Original Model			Updated Model			Change in LoS
		Ave Delay	LoS	95th%ile Queue	Ave Delay	LoS	95th%ile Queue	
S0 – Existing (Base Case)	AM	25 s	B	153 m	29 s	C	190 m	LoS B→C
	PM	23 s	B	98 m	27 s	B	138 m	-
S1 - 2024, Background growth only	AM	26 s	B	168 m	29 s	C	205 m	LoS B→C
	PM	23 s	B	106 m	28 s	B	146 m	-
S2 - 2024, Background growth plus Case A2	AM	28 s	B	196 m	31 s	C	242 m	LoS B→C
	PM	24 s	B	115 m	29 s	C	183 m	LoS B→C
S3 - 2024, Background growth plus Case A3	AM	29 s	C	220 m	33 s	C	259 m	-
	PM	24 s	B	120 m	29 s	C	182 m	LoS B→C
S4 - 2034, Background growth only	AM	30 s	C	225 m	34 s	C	264 m	-
	PM	23 s	B	112 m	29 s	B	150 m	-
S5 - 2034, Background growth plus Case A2	AM	35 s	C	273 m	38 s	C	322 m	-
	PM	24 s	B	122 m	29 s	C	197 m	LoS B→C
S6 - 2034, Background growth plus Case A3	AM	38 s	C	294 m	41 s	C	351 m	-
	PM	24 s	B	125 m	29 s	C	193 m	LoS B→C

As a result of the amendments to the SIDRA model at this intersection, there has been a minor increase in the average delay and queue length across each peak hourly scenario. For some scenarios that were near the border of a LoS B and C in the original model, the model amendments have resulted in a change to the Level of Service from B to C. Notwithstanding this, a Level of Service C is still considered acceptable according to the Level of Service Criteria as shown in Table 2.

Importantly, there are minimal differences in the road network operating conditions assessed for the approved development and the proposed development, as has been concluded in the TIA.

Table 2: Intersection Level of Service Criteria

Level of Service (LoS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode.
F	Greater than 70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

Source: TfNSW Traffic Modelling Guidelines 2013, Table 14.4

3.2 Assessment Methodology

Given that the proposed development deviates from the Approved Concept Plan and development consents, so too will trip generation and parking provisions for the subject site.

Moreover, since the time that the Concept Plan was approved and DAs issued, there have been some revisions to trip generation and parking rates as a result of more recent data or application of more appropriate rates (for reasons as explained through this report). As such, the Approved Concept Plan has been reassessed in this TIA using the latest trip generation and parking rates to undertake a "like-for-like" assessment with the Proposal.

There are three distinct cases which have been assessed in this TIA; namely:

- Case A1: the Approved Concept Plan with historic rates
  - this is the Approved Concept Plan with trip generation and parking provision estimated using accepted/approved rates as per the TIA prepared by SECA Solution (October 2014).
- Case A2: the Approved Concept Plan with new rates
  - this is the Approved Concept Plan with trip generation and parking provision estimated using the revised rates.
- Case A3: the Proposed Development with new rates
  - this is the proposed development with trip generation and parking provision estimated using the revised rates.

In order to determine the net additional impacts of the proposed development (Case A3), this TIA assesses and compares Case A3 against Case A1, and Case A3 against Case A2.

A side-by-side comparison of historic rates and revised rates for trip generation and parking provision are provided in Chapter 4 and Chapter 5, respectively.

Submissions by Lake Macquarie City Council

Paragraph 1. An updated Traffic Impact Assessment (TIA) was submitted as part of the Planning Proposal (RZ/14/2021) but has not been submitted as part of this application. The TIA submitted with this application (SSD/2/2022/A) has errors which have been corrected by the updated TIA. It is recommended the updated TIA be requested for consideration if this document is to inform or form part of the concept plan approval.

The Applicant shall submit the relevant updated Traffic Impact Assessment, as requested by Council.

Paragraph 2. The applicant has indicated within the EIS that Trinity Point Drive is to be widened by an additional 2 metres which includes a 1.5 metre footpath. Due to the scale of the development it is recommended that this section include 3 metre wide footpath/ shared path to cater for the expected residents and visitors. The application has not indicated how the widening of Trinity Point Drive is to be achieved or whether any consultation with the residents being impacted has occurred. Investigation of the impact on existing residence and whether there is a major loss in amenity such as loss of on-street parking and landscaping should be considered.

The Applicant provides the following clarification:

The additional 2m of road proposed to be dedicated is along the section of Trinity Point Drive running in a north-south direction and which Lot 102 DP1256630 has frontage to. The Applicant has no intention, nor requirement, to widen the remaining sections of Trinity Point Drive. As Lot 102 is currently vacant, owned by an entity of the Applicant, there would not be a need to consult with any resident. Also, any third-party landowners and residents would not be affected by the road widening on the section of Trinity Point Drive as identified above.

For Council's reference, the proposal to dedicate the additional 2m of land along the frontage of Lot 102 stems from historical decisions of Council regarding Trinity Point Drive and including LMCC Condition 6 in DA/1046/2016 (noting this condition applies to a portion of Lot 102's frontage, not all, since the proposal in DA/1046/2016 did not extend as far as this SSD proposal).

Paragraph 3. The submitted TIA presents both Charles Avenue and Henry Road as being utilised for trip distribution. Both Charles Avenue and Henry Road are substandard and will require upgrading.

Currently, the two-way traffic flow on Charles Avenue and Henry Road is in the order of 16 trips/ hour (AM peak) and 21 trips/ hour (PM peak). In the 2034 future case for the approved development, there would have been 94 trips/ hour (AM peak) and 119 trips/ hour (PM peak). In the 2034 future case for the proposed development, there would be an estimated 109 trips/ hour (AM peak) and 134 trips/ hour (PM peak). The net change between the future development scenarios is 15 trips/ hour in the each of the AM and PM peak periods.

We are of the understanding that the approval granted included use of these streets by development traffic. Whilst there would be a few more vehicle trips generated by the proposed development in comparison to the approved development, the increase would be would result in a negligible impact on these streets i.e. plus 15 vehicle trips per peak hour.

According to the RTA Guide to Trip Generating Developments, the maximum peak hourly traffic volume on a local street is 300 vehicles. In the 2034 future scenarios, the peak hourly trips on Charles Avenue and Henry Road would be well below this threshold. An excerpt from the RTA Guide is provided below.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

When TTPP undertook an inspection of the surrounding road network in January 2020, there were no notable issues in relation to the condition of the road surface which has been checked against driving footage captured at the time.

Conclusively, the operating conditions of these streets would not be impacted negatively by the proposed development which was previously approved to carry a similar traffic volume as part of the approved development.

Paragraph 4. It is noted that there is a shared path around the lake side of the development that connects to the southern end of the site. A shared path is required along Trinity Point Drive (southern section) / Henry Road and Charles Avenue to connect to the shared path proposed on Morisset Park Road. This is to support the proposed development as it is expected that the development would be the starting or ending point for the majority of active transport users

The Applicant has advised TTPP that is does not propose to extend the shared pathway network beyond that which it proposes within the SSD application.

We trust the above is to your satisfaction. Should you have any queries regarding the above or require further information, please do not hesitate to contact the undersigned on 8437 7800.

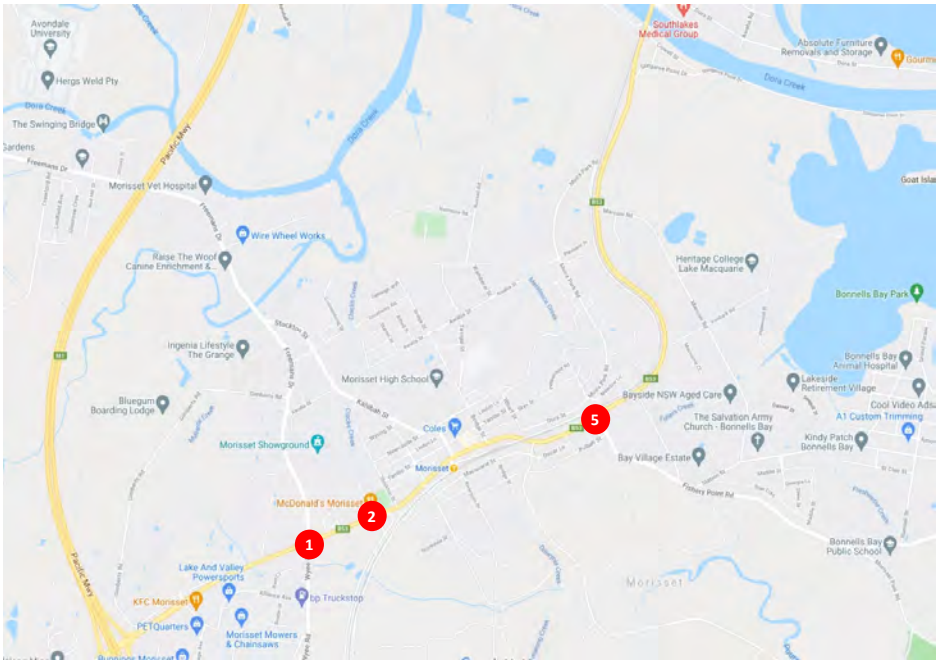
Yours sincerely,

Ken Hollyoak
Director

Attachment One

Queue Length Survey Data

Client	The Transport Planning Partnership Pty Ltd
Date	Tue, 23rd Nov 2021
Survey Time	07:00-10:00 & 14:00-18:00 (7hrs)
Description	Queue Length Survey

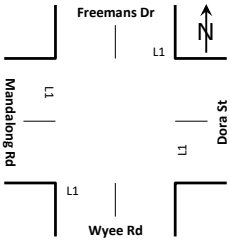


[Location]

1. Mandalong Rd / Wyee Rd / Dora St / Freemans Dr
2. Dora St / Ourimbah St

5. Macquarie St / Fishery Point Rd

Client The Transport Planning Partnership Pty Ltd
Location 1. Mandalong Rd / Wyee Rd / Dora St / Freemans Dr
Date Tue, 23rd Nov 2021
Survey Time 07:00-10:00 & 14:00-18:00 (7hrs)
Description Queue Length Survey

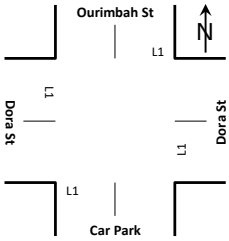


MATRIX Traffic and Transport Data

AM	South Leg (Wyee Rd)			East Leg (Dora St)			North Leg (Freemans Dr)			West Leg (Mandalong Rd)		
	Lane 1			Lane 1			Lane 1			Lane 1		
	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
8:00 to 8:05	11	0	11	26	1	27	10	0	10	6	0	6
8:05 to 8:10	6	0	6	27	**3**	30	4	0	4	6	**2**	8
8:10 to 8:15	5	0	5	13	1	14	5	0	5	5	0	5
8:15 to 8:20	6	2	8	27	1	28	5	0	5	6	1	7
8:20 to 8:25	18	2	20	29	2	31	9	0	9	3	0	3
8:25 to 8:30	13	1	14	19	0	19	7	0	7	9	1	10
8:30 to 8:35	7	1	8	22	1	23	3	0	3	3	0	3
8:35 to 8:40	14	2	16	9	0	9	11	1	12	6	1	7
8:40 to 8:45	12	1	13	10	0	10	**14**	1	**15**	12	0	12
8:45 to 8:50	13	2	15	14	1	15	4	0	4	3	0	3
8:50 to 8:55	9	**3**	12	11	0	11	6	0	6	1	**2**	3
8:55 to 9:00	11	0	11	11	0	11	7	0	7	5	1	6
9:00 to 9:05	16	0	16	17	1	18	12	0	12	7	0	7
9:05 to 9:10	4	1	5	16	2	18	1	1	2	4	0	4
9:10 to 9:15	9	1	10	14	2	16	5	0	5	2	1	3
MAX	22	3	24	30	3	32	14	2	15	14	2	15
MIN	1	0	3	2	0	2	1	0	2	1	0	1

PM	South Leg (Wyee Rd)			East Leg (Dora St)			North Leg (Freemans Dr)			West Leg (Mandalong Rd)		
	Lane 1			Lane 1			Lane 1			Lane 1		
	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
15:00 to 15:05	7	0	7	2	**1**	3	9	**1**	10	13	0	13
15:05 to 15:10	15	0	15	6	0	6	3	0	3	16	0	16
15:10 to 15:15	17	0	17	13	0	13	4	0	4	24	1	25
15:15 to 15:20	14	1	15	6	0	6	4	0	4	16	0	16
15:20 to 15:25	15	**2**	17	4	**1**	5	4	0	4	13	1	14
15:25 to 15:30	12	**2**	14	4	0	4	2	**1**	3	19	1	20
15:30 to 15:35	18	1	19	6	0	6	4	0	4	24	1	25
15:35 to 15:40	22	0	22	14	0	14	4	0	4	**36**	3	39
15:40 to 15:45	16	**2**	18	23	0	23	3	**1**	4	30	1	31
15:45 to 15:50	8	0	8	14	**1**	15	7	**1**	8	32	2	34
15:50 to 15:55	15	0	15	13	0	13	9	0	9	25	2	27
15:55 to 16:00	6	0	6	1	0	1	2	0	2	21	2	23
16:00 to 16:05	12	0	12	5	0	5	3	**1**	4	28	2	30
16:05 to 16:10	17	1	18	7	0	7	5	0	5	36	2	38
16:10 to 16:15	22	1	23	9	0	9	2	0	2	42	**4**	46
17:00 to 17:05	7	0	7	6	0	6	2	**1**	3	36	3	39
17:05 to 17:10	9	0	9	16	**1**	17	7	0	7	38	2	40
17:10 to 17:15	14	1	15	**24**	0	**24**	4	**1**	5	**44**	2	46
17:15 to 17:20	8	1	9	6	0	6	5	0	5	36	1	37
17:20 to 17:25	7	0	7	6	0	6	8	0	8	28	2	30
17:25 to 17:30	6	0	6	6	0	6	2	**1**	3	16	0	16
17:30 to 17:35	5	0	5	4	0	4	4	0	4	21	0	21
17:35 to 17:40	8	0	8	5	0	5	2	0	2	27	1	28
17:40 to 17:45	6	0	6	3	0	3	3	0	3	16	1	17
17:45 to 17:50	7	0	7	1	0	1	2	0	2	7	1	8
17:50 to 17:55	2	0	2	0	0	0	1	0	1	7	0	7
17:55 to 18:00	6	0	6	7	0	7	2	0	2	4	0	4
MAX	24	2	25	24	1	24	12	1	12	47	4	49
MIN	2	0	2	0	0	0	1	0	1	2	0	2

Client	The Transport Planning Partnership Pty Ltd
Location	2. Dora St / Ourimbah St
Date	Tue, 23rd Nov 2021
Survey Time	07:00-10:00 & 14:00-18:00 (7hrs)
Description	Queue Length Survey

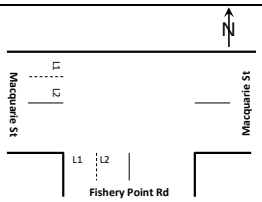


MATRIX Traffic and Transport Data

AM	South Leg (Car Park)			East Leg (Dora St)			North Leg (Ourimbah St)			West Leg (Dora St)		
	Lane 1			Lane 1			Lane 1			Lane 1		
	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
8:00 to 8:05	1	0	1	24	2	26	2	0	2	4	0	4
8:05 to 8:10	2	0	2	13	2	15	1	0	1	3	0	3
8:10 to 8:15	1	0	1	25	1	26	1	0	1	3	0	3
8:15 to 8:20	1	0	1	18	0	18	2	0	2	2	0	2
8:20 to 8:25	1	0	1	2	1	3	2	0	2	1	0	1
8:25 to 8:30	1	0	1	12	0	12	1	0	1	5	0	5
8:30 to 8:35	0	0	0	3	0	3	2	0	2	2	0	2
8:35 to 8:40	0	0	0	1	0	1	2	0	2	3	0	3
8:40 to 8:45	1	0	1	2	0	2	4	0	4	5	0	5
8:45 to 8:50	1	0	1	13	0	13	3	0	3	5	0	5
8:50 to 8:55	1	0	1	2	0	2	2	0	2	6	0	6
8:55 to 9:00	2	0	2	9	0	9	2	0	2	2	0	2
9:00 to 9:05	1	0	1	12	1	13	3	0	3	0	0	0
9:05 to 9:10	2	0	2	7	3	10	2	0	2	2	0	2
9:10 to 9:15	1	0	1	20	0	20	5	0	5	3	0	3
MAX	2	0	2	25	4	26	5	0	5	10	1	10
MIN	0	0	0	1	0	1	1	0	1	0	0	0

PM	South Leg (Car Park)			East Leg (Dora St)			North Leg (Ourimbah St)			West Leg (Dora St)		
	Lane 1			Lane 1			Lane 1			Lane 1		
	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
15:00 to 15:05	0	0	0	2	0	2	1	0	1	6	1	7
15:05 to 15:10	1	0	1	5	1	6	1	0	1	2	0	2
15:10 to 15:15	1	0	1	0	0	0	4	0	4	8	2	10
15:15 to 15:20	1	0	1	12	2	14	2	0	2	20	0	20
15:20 to 15:25	1	0	1	3	0	3	2	0	2	28	1	29
15:25 to 15:30	1	0	1	8	0	8	5	0	5	11	0	11
15:30 to 15:35	1	0	1	4	0	4	5	0	5	16	1	17
15:35 to 15:40	1	0	1	10	1	11	3	0	3	11	0	11
15:40 to 15:45	1	0	1	3	0	3	2	0	2	3	0	3
15:45 to 15:50	1	0	1	7	0	7	3	0	3	5	0	5
15:50 to 15:55	0	0	0	4	0	4	3	0	3	9	0	9
15:55 to 16:00	1	0	1	0	0	0	2	0	2	2	0	2
16:00 to 16:05	1	0	1	0	0	0	0	1	1	13	0	13
16:05 to 16:10	0	0	0	0	0	0	1	0	1	14	0	14
16:10 to 16:15	0	0	0	7	0	7	3	0	3	30	0	30
17:00 to 17:05	0	0	0	2	0	2	2	0	2	2	0	2
17:05 to 17:10	0	0	0	1	0	1	2	0	2	10	1	11
17:10 to 17:15	0	0	0	2	0	2	1	0	1	2	0	2
17:15 to 17:20	0	0	0	2	0	2	1	0	1	12	0	12
17:20 to 17:25	0	0	0	8	0	8	2	0	2	3	0	3
17:25 to 17:30	0	0	0	2	0	2	2	0	2	5	0	5
17:30 to 17:35	0	0	0	2	0	2	3	0	3	29	0	29
17:35 to 17:40	0	0	0	0	0	0	3	0	3	28	0	28
17:40 to 17:45	0	0	0	2	0	2	1	0	1	30	0	30
17:45 to 17:50	0	0	0	1	0	1	3	0	3	30	0	30
17:50 to 17:55	0	0	0	3	0	3	4	0	4	1	0	1
17:55 to 18:00	0	0	0	0	0	0	1	0	1	2	0	2
MAX	2	0	2	14	2	14	5	1	5	30	2	30
MIN	0	0	0	0	0	0	0	0	1	0	0	0

Client The Transport Planning Partnership Pty Ltd
Location 5. Macquarie St / Fishery Point Rd
Date Tue, 23rd Nov 2021
Survey Time 07:00-10:00 & 14:00-18:00 (7hrs)
Description Queue Length Survey



MATRIX Traffic and Transport Data

South Leg (Fishery Point Rd)								West Leg (Macquarie St)							
AM	Lane 1			AM	Lane 2			AM	Lane 1			Lane 2			
	Lights	Heavies	Total		Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total	
8:02:43	5	0	5	8:05:12	3	0	3	8:02:53	0	0	0	5	1	6	
8:03:40	2	1	3	8:06:53	1	1	2	8:04:03	2	0	2	7	0	7	
8:05:12	5	1	6	8:07:56	3	0	3	8:05:27	0	2	2	7	0	7	
8:06:53	9	0	9	8:09:08	3	0	3	8:07:07	0	0	0	3	0	3	
8:07:56	6	0	6	8:10:19	2	0	2	8:08:14	0	0	0	2	1	3	
8:09:08	3	0	3	8:11:34	0	1	1	8:09:26	0	0	0	4	0	4	
8:10:19	2	1	3	8:13:06	5	0	5	8:10:31	0	0	0	3	0	3	
8:11:34	8	0	8	8:14:37	6	0	6	8:11:45	2	0	2	3	0	3	
8:13:06	8	0	8	8:16:09	3	0	3	8:13:25	0	0	0	4	0	4	
8:14:37	9	1	10	8:17:47	3	0	3	8:14:59	6	0	6	2	0	2	
8:16:09	6	0	6	8:19:28	2	0	2	8:16:25	1	0	1	3	0	3	
8:17:47	7	1	8	8:20:56	3	0	3	8:18:03	0	0	0	4	0	4	
8:19:28	6	1	7	8:22:07	2	0	2	8:19:42	0	1	1	3	0	3	
8:20:56	7	2	9	8:23:53	3	0	3	8:21:11	0	1	1	3	0	3	
8:22:07	10	1	11	8:25:04	1	0	1	8:22:20	1	0	1	3	0	3	
8:23:53	9	0	9	8:26:40	3	0	3	8:24:09	1	0	1	6	0	6	
8:25:04	6	2	8	8:28:09	2	0	2	8:25:18	1	0	1	2	0	2	
8:26:40	12	0	12	8:29:11	4	0	4	8:26:55	4	0	4	8	0	8	
8:28:09	3	1	4	8:30:40	3	0	3	8:28:22	0	1	1	0	0	0	
8:29:11	2	0	2	8:32:16	4	0	4	8:29:29	0	1	1	5	0	5	
8:30:40	10	0	10	8:34:51	5	0	5	8:30:56	0	0	0	5	0	5	
8:32:16	7	0	7	8:36:27	2	0	2	8:32:36	0	1	1	7	1	8	
8:33:45	2	1	3	8:38:14	7	0	7	8:33:45	0	0	0	5	0	5	
8:34:51	4	0	4	8:39:56	3	0	3	8:35:18	0	0	0	3	0	3	
8:36:27	12	0	12	8:41:15	2	0	2	8:36:42	0	1	1	5	0	5	
8:38:14	9	0	9	8:42:55	2	0	2	8:38:38	0	2	2	7	0	7	
8:39:56	9	0	9	8:44:37	6	0	6	8:40:17	0	1	1	5	1	6	
8:41:15	9	0	9	8:46:25	4	0	4	8:41:28	0	0	0	4	1	5	
8:42:55	16	0	16	8:47:48	4	1	5	8:43:09	0	0	0	13	0	13	
8:44:37	9	0	9	8:49:31	2	0	2	8:45:03	3	1	4	10	0	10	
8:46:25	7	0	7	8:52:45	5	0	5	8:46:42	0	1	1	11	0	11	
8:47:48	7	0	7	8:55:29	3	0	3	8:48:07	1	1	2	4	0	4	
8:49:31	7	0	7	8:56:52	3	0	3	8:49:52	3	0	3	11	0	11	
8:51:15	15	0	15	8:58:21	0	0	0	8:51:15	1	0	1	9	1	10	
8:52:45	19	0	19	8:59:13	1	1	2	8:53:06	1	1	2	7	0	7	
8:54:12	11	0	11	9:00:46	4	0	4	8:54:11	0	0	0	0	0	0	
8:55:29	5	0	5	9:02:26	2	0	2	8:55:45	0	0	0	6	0	6	
8:56:52	9	1	10	9:03:45	1	0	1	8:57:08	3	0	3	7	0	7	
8:58:21	3	0	3	9:05:02	1	0	1	8:58:21	0	0	0	4	0	4	
8:59:13	4	0	4	9:06:46	5	2	7	8:59:27	3	0	3	7	1	8	
9:00:46	12	0	12	9:08:09	5	0	5	9:01:04	0	0	0	9	1	10	
9:02:26	1	0	1	9:09:44	1	0	1	9:02:39	2	0	2	3	0	3	
9:03:45	8	0	8	9:11:24	3	1	4	9:03:56	1	0	1	6	1	7	
9:05:02	7	1	8	9:12:30	0	2	2	9:05:13	2	0	2	6	0	6	
9:06:46	10	0	10	9:13:29	2	0	2	9:07:13	3	0	3	7	0	7	
9:08:09	9	0	9	9:14:39	1	0	1	9:08:29	3	0	3	7	0	7	
9:09:44	12	1	13	9:15:33	4	0	4	9:10:00	2	0	2	9	0	9	
9:11:24	7	1	8	9:16:53	1	0	1	9:11:42	0	0	0	4	0	4	
9:12:30	0	0	0	9:18:18	2	0	2	9:12:48	0	0	0	2	0	2	
9:13:29	5	1	6	9:19:15	0	0	0	9:13:41	0	0	0	3	0	3	
9:14:39	4	0	4	9:20:03	0	0	0	9:14:49	0	0	0	6	0	6	
9:48:44	2	1	3	MAX	7	2	7	9:50:12	0	0	0	8	0	8	
9:49:54	2	0	2	MIN	0	0	0	9:51:28	3	0	3	6	0	6	
9:51:17	5	0	5					9:52:47	2	0	2	4	0	4	
9:52:35	7	1	8					9:53:53	0	0	0	2	1	3	
9:53:56	7	1	8					9:55:32	1	0	1	7	0	7	
9:55:16	4	0	4					9:56:27	0	0	0	7	0	7	
9:56:28	2	0	2					9:57:39	0	0	0	5	0	5	
9:57:23	1	0	1					9:58:37	1	0	1	4	0	4	
9:58:23	5	0	5					9:59:46	0	1	1	5	1	6	
9:59:33	0	0	0					MAX	6	3	6	13	2	13	
MAX	19	2	19					MIN	0	0	0	0	0	0	
MIN	0	0	0												

South Leg (Fishery Point Rd)								West Leg (Macquarie St)							
PM	Lane 1			PM	Lane 2			PM	Lane 1			Lane 2			
	Lights	Heavies	Total		Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total	
15:00:07	2	0	2	15:05:17	3	0	3	15:05:34	4	0	4	2	0	2	
15:01:28	8	0	8	15:06:48	1	0	1	15:06:58	1	0	1	1	0	1	
15:03:07	8	1	9	15:08:18	5	0	5	15:08:41	6	0	6	4	0	4	
15:04:18	4	0	4	15:09:25	0	0	0	15:09:24	3	1	4	0	0	0	
15:05:17	4	0	4	15:10:16	3	0	3	15:10:31	1	0	1	0	0	0	
15:06:48	4	1	5	15:11:14	3	1	4	15:11:31	7	0	7	2	0	2	
15:08:18	5	0	5	15:12:32	4	1	5	15:12:56	10	0	10	8	0	8	
15:09:25	1	0	1	15:14:00	3	0	3	15:14:19	1	0	1	4	0	4	
15:10:16	3	0	3	15:15:19	3	0	3	15:15:34	1	0	1	2	0	2	
15:11:14	3	0	3	15:16:36	1	0	1	15:16:47	1	0	1	0	0	0	
15:12:32	7	0	7	15:18:22	0	0	0	15:17:28	5	0	5	3	0	3	
15:14:00	8	1	9	15:19:23	1	0	1	15:18:18	1	0	1	1	0	1	
15:15:19	4	0	4	15:20:35	1	0	1	15:19:33	5	0	5	2	0	2	
15:16:36	2	0	2	15:21:54	3	0	3	15:20:46	12	0	12	4	0	4	
15:18:22	3	0	3	15:23:10	5	0	5	15:22:10	8	0	8	2	1	3	
15:19:23	4	0	4	15:24:47	1	0	1	15:23:30	9	0	9	1	0	1	
15:20:35	3	0	3	15:26:15	0	0	0	15:24:59	3	0	3	1	1	2	
15:21:54	1	1	2	15:27:03	1	0	1	15:26:13	2	0	2	0	1	1	
15:23:10	10	0	10	15:28:14	1	0	1	15:27:14	5	0	5	2	0	2	
15:24:47	6	0	6	15:29:43	1	0	1	15:28:26	5	0	5	3	0	3	
15:26:15	4	0	4	15:31:03	1	0	1	15:29:54	2	0	2	0	0	0	
15:27:03	1	1	2	15:32:14	3	0	3	15:31:16	8	0	8	1	0	1	
15:28:14	2	0	2	15:33:33	1	0	1	15:32:30	4	0	4	1	0	1	
15:29:43	3	0	3	15:35:11	5	0	5	15:33:44	6	0	6	3	1	4	
15:31:03	2	0	2	15:36:38	0	0	0	15:35:31	10	0	10	4	0	4	
15:32:14	5	0	5	15:37:48	0	0	0	15:36:51	3	0	3	2	0	2	
15:33:33	5	1	6	15:38:33	3	0	3	15:37:46	1	0	1	1	0	1	
15:35:11	8	0	8	15:39:54	3	0	3	15:38:49	11	0	11	3	0	3	
15:36:38	9	0	9	15:41:28	4	0	4	15:40:16	8	0	8	4	0	4	
15:37:48	3	0	3	15:42:59	3	0	3	15:41:49	9	0	9	3	1	4	
15:38:33	7	0	7	15:44:25	3	0	3	15:43:15	3	0	3	4	0	4	
15:39:54	8	0	8	15:46:04	1	0	1	15:44:40	6	0	6	6	0	6	
15:41:28	7	2	9	15:47:27	0	0	0	15:46:16	3	0	3	4	0	4	
15:42:59	7	0	7	15:48:20	1	0	1	15:47:28	1	0	1	0	0	0	
15:44:25	7	0	7	15:49:28	1	0	1	15:48:32	5	0	5	0	0	0	
15:46:04	12	2	14	15:50:40	2	0	2	15:49:38	8	0	8	1	0	1	
15:47:27	1	0	1	15:52:06	6	0	6	15:50:57	1	0	1	1	0	1	
15:48:20	2	0	2	15:53:57	1	0	1	15:52:35	12	0	12	8	1	9	
15:49:28	4	2	6	15:55:05	2	0	2	15:54:09	9	0	9	1	2	3	
15:50:40	4	0	4	15:57:03	1	0	1	15:55:20	4	0	4	0	1	1	
15:52:06	7	0	7	15:58:13	3	0	3	15:55:59	1	0	1	0	0	0	
15:53:57	4	0	4	15:59:31	0	0	0	15:57:14	2	0	2	3	0	3	
15:55:05	5	0	5	16:00:22	2	0	2	15:58:32	10	1	11	3	0	3	
15:56:01	3	1	4	16:02:16	2	0	2	15:59:23	1	0	1	0	0	0	
15:57:03	4	0	4	16:03:26	2	0	2	16:00:35	8	0	8	4	0	4	
15:58:13	3	0	3	16:05:35	4	0	4	16:01:19	2	0	2	0	0	0	
15:59:31	2	0	2	16:06:49	0	0	0	16:02:33	8	0	8	2	0	2	
16:00:22	4	0	4	16:07:35	0	0	0	16:03:40	1	0	1	2	0	2	
16:01:20	1	0	1	16:08:47	1	0	1	16:04:33	2	0	2	1	0	1	
16:02:16	0	0	0	16:09:52	0	0	0	16:05:54	5	0	5	2	0	2	
16:03:26	0	0	0	16:11:29	1	0	1	16:07:32	2	0	2	1	1	2	
16:36:34	2	0	2	16:45:51	1	0	1	16:40:01	3	0	3	3	0	3	
16:37:17	4	0	4	16:47:06	0	0	0	16:41:04	1	0	1	0	0	0	
16:38:31	2	0	2	16:47:48	1	0	1	16:42:18	2	0	2	1	0	1	
16:38:57	0	0	0	16:48:56	1	0	1	16:43:45	9	0	9	2	0	2	
16:39:48	3	0	3	16:50:21	1	0	1	16:44:51	2	0	2	1	0	1	
16:41:06	2	0	2	16:51:38	2	0	2	16:46:03	4	1	5	5	0	5	
16:42:04	2	0	2	16:53:02	2	0	2	16:47:03	4	0	4	0	0	0	
16:43:28	1	0	1	16:54:31	0	0	0	16:47:59	2	0	2	2	0	2	
16:44:54	4	0	4	16:55:28	0	0	0	16:49:07	7	0	7	4	0	4	
16:45:51	1	0	1	16:56:33	1	0	1	16:50:30	8	0	8	1	0	1	
16:47:06	4	0	4	16:57:36	1	0	1	16:51:51	3	1	4	2	0	2	
16:47:48	3	0	3	16:58:46	1	0	1	16:53:20	5	0	5	5	0	5	
16:48:56	1	0	1	16:59:47	2	0	2	16:54:29	9	0	9	3	0	3	
17:49:00	1	0	1	MAX	6	1	6	17:51:38	5	0	5	1	1	2	
17:49:32	1	0	1	MIN	0	0	0	17:52:37	7	0	7	1	0	1	
17:50:30	1	0	1					17:53:29	2	0	2	0	0	0	
17:51:27	0	0	0					17:54:00	1	0	1	0	0	0	
17:52:37	2	0	2					17:54:42	3	0	3	1	0	1	
17:53:18	2	0	2					17:55:26	2	0	2	1	0	1	
17:54:01	4	0	4					17:56:45	2	0	2	3	0	3	
17:55:28	5	1	6					17:57:45	1	0	1	1	0	1	
17:56:34	1	0	1					17:58:37	4	0	4	1	0	1	
17:57:32	3	2	5					17:59:24	1	0	1	1	0	1	
17:58:38	1	1	2					MAX	12	7	12	8	2	9	
MAX	12	2	14					MIN	0	0	0	0	0	0	
MIN	0	0	0												

Attachment Two

Analysed Peak Hour Interpreted SCATS History Data

Time	8:15:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	10	25	45	34	346
B Phase	11	20	45	33	373
C Phase	10	15	20	17	175
Nominal Cycle Length	9	88	99	94	848
Time	8:30:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	9	27	46	38	345
B Phase	9	25	46	36	327
C Phase	8	15	27	20	165
Nominal Cycle Length	10	83	95	88	886
Time	8:45:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	10	24	45	36	360
B Phase	10	28	46	35	357
C Phase	7	18	27	21	148
Nominal Cycle Length	9	93	100	96	867
Time	9:00:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	11	18	46	33	373
B Phase	10	18	45	31	314
C Phase	11	13	29	18	205
Nominal Cycle Length	9	87	95	90	817
Time	AM Avg				
Data Item	Frequency	Minimum	Maximum	**Average**	Total
A Phase	10	24	46	35	356
B Phase	10	23	46	34	343
C Phase	9	15	26	19	173
Nominal Cycle Length	9	88	97	**92**	855

Time	15:00:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	11	17	44	30	337
B Phase	12	22	42	30	369
C Phase	10	12	25	17	178
Nominal Cycle Length	9	85	91	86	782
Time	15:15:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	12	17	44	30	361
B Phase	12	22	43	30	363
C Phase	9	12	22	15	140
Nominal Cycle Length	4	80	88	84	338
Time	15:30:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	11	18	43	32	352
B Phase	11	26	43	32	352
C Phase	10	13	25	18	182
Nominal Cycle Length	8	80	96	89	716
Time	15:45:00				
Data Item	Frequency	Minimum	Maximum	Average	Total
A Phase	12	17	43	29	353
B Phase	11	21	46	31	350
C Phase	9	12	28	16	147
Nominal Cycle Length	8	85	91	87	700
Time	PM				
Data Item	Frequency	Minimum	Maximum	**Average**	Total
A Phase	12	17	44	30	351
B Phase	12	23	44	31	359
C Phase	10	12	25	17	162
Nominal Cycle Length	7	83	92	**87**	634

Attachment Three

SIDRA Modelling Summary Outputs of the updated SIDRA mode

MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd Ex 815 (Site Folder: AM Ex 2021)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	633	22	666	3.5	* 0.749	24.5	LOS B	26.4	190.1	0.74	0.82	0.74	55.6
3	R2	121	9	127	7.4	0.333	48.7	LOS D	6.4	47.3	0.89	0.78	0.89	50.5
Approach		754	31	794	4.1	0.749	28.4	LOS B	26.4	190.1	0.76	0.82	0.76	54.9
East: Macquarie St														
4	L2	83	3	87	3.6	0.080	16.5	LOS B	2.1	15.1	0.44	0.68	0.44	56.3
5	T1	426	31	448	7.3	* 0.754	38.7	LOS C	23.4	174.2	0.94	0.84	0.96	46.0
Approach		509	34	536	6.7	0.754	35.1	LOS C	23.4	174.2	0.86	0.81	0.88	48.6
West: Macquarie St														
11	T1	301	23	317	7.6	0.250	7.6	LOS A	6.9	51.6	0.41	0.36	0.41	56.6
12	R2	264	26	278	9.8	0.341	40.4	LOS C	8.1	61.6	0.81	0.78	0.81	53.3
Approach		565	49	595	8.7	0.341	22.9	LOS B	8.1	61.6	0.60	0.55	0.60	54.2
All Vehicles		1828	114	1924	6.2	0.754	28.6	LOS C	26.4	190.1	0.74	0.73	0.74	53.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd Ex 815 (Site Folder: AM Ex 2021)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	14	1	15	7.1	0.013	4.4	LOS A	0.1	0.4	0.18	0.41	0.18	58.9
3	R2	1	0	1	0.0	0.013	9.0	LOS A	0.1	0.4	0.18	0.41	0.18	56.2
Approach		15	1	16	6.7	0.013	4.7	LOS A	0.1	0.4	0.18	0.41	0.18	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.039	3.9	LOS A	0.2	1.3	0.06	0.63	0.06	52.7
6	R2	50	2	53	4.0	0.039	8.8	LOS A	0.2	1.3	0.06	0.63	0.06	58.3
6u	U	1	0	1	0.0	0.039	10.8	LOS A	0.2	1.3	0.06	0.63	0.06	55.1
Approach		52	2	55	3.8	0.039	8.8	LOS A	0.2	1.3	0.06	0.63	0.06	58.2
North: Morisset Park Rd														
7	L2	36	4	38	11.1	0.032	4.0	LOS A	0.1	1.2	0.02	0.48	0.02	58.8
8	T1	6	0	6	0.0	0.032	4.1	LOS A	0.1	1.2	0.02	0.48	0.02	59.3
9u	U	3	2	3	66.7	0.032	11.6	LOS A	0.1	1.2	0.02	0.48	0.02	59.3
Approach		45	6	47	13.3	0.032	4.5	LOS A	0.1	1.2	0.02	0.48	0.02	58.9
All Vehicles		112	9	118	8.0	0.039	6.5	LOS A	0.2	1.3	0.06	0.54	0.06	58.6

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd Ex 815 (Site Folder: AM Ex 2021)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	179	2	188	1.1	0.120	0.3	LOS A	0.2	1.7	0.14	0.08	0.14	58.7
23	R2	25	0	26	0.0	0.120	7.1	LOS A	0.2	1.7	0.14	0.08	0.14	56.6
Approach		204	2	215	1.0	0.120	1.2	NA	0.2	1.7	0.14	0.08	0.14	58.5
NorthEast: Fishery Point Road														
24	L2	44	3	46	6.8	0.566	7.6	LOS A	3.9	28.2	0.55	0.91	0.85	50.1
26	R2	408	9	429	2.2	0.566	10.2	LOS A	3.9	28.2	0.55	0.91	0.85	49.8
Approach		452	12	476	2.7	0.566	10.0	LOS A	3.9	28.2	0.55	0.91	0.85	49.8
NorthWest: Fishery Point Rd														
27	L2	253	7	266	2.8	0.216	5.6	LOS A	0.0	0.0	0.00	0.39	0.00	54.9
28	T1	128	1	135	0.8	0.216	0.1	LOS A	0.0	0.0	0.00	0.39	0.00	56.5
Approach		381	8	401	2.1	0.216	3.8	NA	0.0	0.0	0.00	0.39	0.00	55.5
All Vehicles		1037	22	1092	2.1	0.566	6.0	NA	3.9	28.2	0.27	0.55	0.40	53.4

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St Ex 815 (Site Folder: AM Ex 2021)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	542	2	571	0.4	0.530	14.4	LOS A	10.8	75.7	0.67	0.78	0.67	53.1
6b	R3	16	0	17	0.0	* 0.039	19.1	LOS B	0.3	2.2	0.71	0.70	0.71	44.2
Approach		558	2	587	0.4	0.530	14.6	LOS B	10.8	75.7	0.67	0.78	0.67	52.7
NorthEast: Station St														
24b	L3	23	0	24	0.0	0.034	16.2	LOS B	0.4	2.9	0.60	0.67	0.60	45.0
26	R2	229	3	241	1.3	* 0.542	27.5	LOS B	6.6	46.8	0.92	0.81	0.92	39.0
Approach		252	3	265	1.2	0.542	26.5	LOS B	6.6	46.8	0.89	0.79	0.89	39.5
NorthWest: Fishery Point Rd														
27	L2	113	4	119	3.5	0.177	20.7	LOS B	2.5	17.7	0.71	0.75	0.71	43.5
27a	L1	343	7	361	2.0	* 0.516	22.0	LOS B	8.7	61.7	0.83	0.80	0.83	47.6
Approach		456	11	480	2.4	0.516	21.7	LOS B	8.7	61.7	0.80	0.79	0.80	46.5
All Vehicles		1266	16	1333	1.3	0.542	19.5	LOS B	10.8	75.7	0.76	0.78	0.76	47.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd Ex 1500 (Site Folder: PM Ex 2021)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	439	19	462	4.3	0.561	23.6	LOS B	16.4	119.4	0.66	0.78	0.66	55.8
3	R2	105	5	111	4.8	* 0.568	62.5	LOS E	6.4	46.6	1.00	0.79	1.00	48.5
Approach		544	24	573	4.4	0.568	31.1	LOS C	16.4	119.4	0.73	0.78	0.73	54.5
East: Macquarie St														
4	L2	131	1	138	0.8	0.144	22.5	LOS B	4.1	29.1	0.55	0.71	0.55	55.3
5	T1	368	25	387	6.8	* 0.579	33.4	LOS C	18.3	135.5	0.87	0.75	0.87	47.5
Approach		499	26	525	5.2	0.579	30.6	LOS C	18.3	135.5	0.78	0.74	0.78	50.6
West: Macquarie St														
11	T1	376	18	396	4.8	0.264	3.5	LOS A	5.9	43.3	0.28	0.25	0.28	58.4
12	R2	607	25	639	4.1	* 0.591	36.2	LOS C	19.0	137.6	0.82	0.82	0.82	53.9
Approach		983	43	1035	4.4	0.591	23.7	LOS B	19.0	137.6	0.61	0.60	0.61	54.7
All Vehicles		2026	93	2133	4.6	0.591	27.4	LOS B	19.0	137.6	0.69	0.68	0.69	53.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd Ex 1500 (Site Folder: PM Ex 2021)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	19	2	20	10.5	0.017	4.4	LOS A	0.1	0.6	0.14	0.40	0.14	59.0
3	R2	1	0	1	0.0	0.017	8.9	LOS A	0.1	0.6	0.14	0.40	0.14	56.4
Approach		20	2	21	10.0	0.017	4.6	LOS A	0.1	0.6	0.14	0.40	0.14	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.027	4.0	LOS A	0.1	1.0	0.12	0.60	0.12	52.6
6	R2	31	4	33	12.9	0.027	9.0	LOS A	0.1	1.0	0.12	0.60	0.12	58.1
Approach		32	4	34	12.5	0.027	8.8	LOS A	0.1	1.0	0.12	0.60	0.12	58.1
North: Morisset Park Rd														
7	L2	55	4	58	7.3	0.053	3.9	LOS A	0.3	1.9	0.02	0.46	0.02	58.9
8	T1	24	0	25	0.0	0.053	4.1	LOS A	0.3	1.9	0.02	0.46	0.02	59.3
9u	U	2	1	2	50.0	0.053	11.4	LOS A	0.3	1.9	0.02	0.46	0.02	59.4
Approach		81	5	85	6.2	0.053	4.2	LOS A	0.3	1.9	0.02	0.46	0.02	59.0
All Vehicles		133	11	140	8.3	0.053	5.4	LOS A	0.3	1.9	0.06	0.49	0.06	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd Ex 1500 (Site Folder: PM Ex 2021)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	186	2	196	1.1	0.157	1.4	LOS A	0.6	4.3	0.31	0.14	0.31	57.3
23	R2	44	0	46	0.0	0.157	9.2	LOS A	0.6	4.3	0.31	0.14	0.31	55.2
Approach		230	2	242	0.9	0.157	2.9	NA	0.6	4.3	0.31	0.14	0.31	56.9
NorthEast: Fishery Point Road														
24	L2	44	5	46	11.4	0.448	7.5	LOS A	2.3	16.5	0.54	0.86	0.77	49.5
26	R2	253	4	266	1.6	0.448	11.1	LOS A	2.3	16.5	0.54	0.86	0.77	49.4
Approach		297	9	313	3.0	0.448	10.5	LOS A	2.3	16.5	0.54	0.86	0.77	49.4
NorthWest: Fishery Point Rd														
27	L2	475	8	500	1.7	0.365	5.7	LOS A	0.0	0.0	0.00	0.43	0.00	54.6
28	T1	171	1	180	0.6	0.365	0.1	LOS A	0.0	0.0	0.00	0.43	0.00	56.0
Approach		646	9	680	1.4	0.365	4.2	NA	0.0	0.0	0.00	0.43	0.00	54.9
All Vehicles		1173	20	1235	1.7	0.448	5.5	NA	2.3	16.5	0.20	0.48	0.26	53.8

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St Ex 1500 (Site Folder: PM Ex 2021)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	397	6	418	1.5	* 0.395	13.3	LOS A	6.8	48.5	0.60	0.75	0.60	53.7
6b	R3	19	1	20	5.3	0.023	13.2	LOS A	0.3	1.9	0.46	0.69	0.46	47.6
Approach		416	7	438	1.7	0.395	13.3	LOS A	6.8	48.5	0.60	0.74	0.60	53.4
NorthEast: Station St														
24b	L3	20	1	21	5.0	0.056	24.7	LOS B	0.5	3.5	0.80	0.69	0.80	40.1
26	R2	165	4	174	2.4	* 0.401	25.8	LOS B	4.4	31.3	0.89	0.78	0.89	39.6
Approach		185	5	195	2.7	0.401	25.7	LOS B	4.4	31.3	0.88	0.77	0.88	39.7
NorthWest: Fishery Point Rd														
27	L2	163	4	172	2.5	0.168	13.2	LOS A	2.4	17.2	0.51	0.72	0.51	47.8
27a	L1	330	9	347	2.7	0.331	13.0	LOS A	5.4	38.9	0.58	0.73	0.58	53.8
Approach		493	13	519	2.6	0.331	13.0	LOS A	5.4	38.9	0.56	0.73	0.56	51.7
All Vehicles		1094	25	1152	2.3	0.401	15.3	LOS B	6.8	48.5	0.63	0.74	0.63	49.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S1 815 (Site Folder: S1 - AM Base Case 2024)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	655	23	689	3.5	* 0.786	25.7	LOS B	28.4	205.1	0.77	0.83	0.77	55.5
3	R2	125	9	132	7.2	0.358	49.8	LOS D	6.7	49.5	0.90	0.79	0.90	50.4
Approach		780	32	821	4.1	0.786	29.6	LOS C	28.4	205.1	0.79	0.83	0.79	54.7
East: Macquarie St														
4	L2	87	3	92	3.4	0.084	16.5	LOS B	2.2	15.9	0.44	0.68	0.44	56.3
5	T1	447	33	471	7.4	* 0.780	39.3	LOS C	25.1	186.6	0.94	0.86	0.98	45.8
Approach		534	36	562	6.7	0.780	35.6	LOS C	25.1	186.6	0.86	0.83	0.90	48.5
West: Macquarie St														
11	T1	301	23	317	7.6	0.247	7.2	LOS A	6.7	50.2	0.40	0.35	0.40	56.8
12	R2	268	26	282	9.7	0.346	40.4	LOS C	8.3	62.6	0.81	0.78	0.81	53.2
Approach		569	49	599	8.6	0.346	22.9	LOS B	8.3	62.6	0.59	0.55	0.59	54.2
All Vehicles		1883	117	1982	6.2	0.786	29.3	LOS C	28.4	205.1	0.75	0.74	0.76	53.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S1 815 (Site Folder: S1 - AM Base Case 2024)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	14	1	15	7.1	0.013	4.4	LOS A	0.1	0.4	0.18	0.41	0.18	58.9
3	R2	1	0	1	0.0	0.013	9.0	LOS A	0.1	0.4	0.18	0.41	0.18	56.2
Approach		15	1	16	6.7	0.013	4.7	LOS A	0.1	0.4	0.18	0.41	0.18	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.040	3.9	LOS A	0.2	1.3	0.07	0.63	0.07	52.7
6	R2	51	2	54	3.9	0.040	8.8	LOS A	0.2	1.3	0.07	0.63	0.07	58.3
6u	U	1	0	1	0.0	0.040	10.9	LOS A	0.2	1.3	0.07	0.63	0.07	55.1
Approach		53	2	56	3.8	0.040	8.8	LOS A	0.2	1.3	0.07	0.63	0.07	58.2
North: Morisset Park Rd														
7	L2	39	4	41	10.3	0.034	4.0	LOS A	0.2	1.2	0.02	0.48	0.02	58.9
8	T1	7	0	7	0.0	0.034	4.1	LOS A	0.2	1.2	0.02	0.48	0.02	59.3
9u	U	3	2	3	66.7	0.034	11.6	LOS A	0.2	1.2	0.02	0.48	0.02	59.3
Approach		49	6	52	12.2	0.034	4.5	LOS A	0.2	1.2	0.02	0.48	0.02	59.0
All Vehicles		117	9	123	7.7	0.040	6.4	LOS A	0.2	1.3	0.06	0.54	0.06	58.6

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd 24 S1 815 (Site Folder: S1 - AM Base Case 2024)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	180	2	189	1.1	0.099	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
23	R2	25	0	26	0.0	0.023	7.1	LOS A	0.1	0.7	0.47	0.62	0.47	52.0
Approach		205	2	216	1.0	0.099	0.9	NA	0.1	0.7	0.06	0.08	0.06	58.9
NorthEast: Fishery Point Road														
24	L2	45	3	47	6.7	0.034	6.1	LOS A	0.1	1.0	0.24	0.55	0.24	52.6
26	R2	420	9	442	2.1	0.424	9.3	LOS A	3.1	22.3	0.66	0.87	0.84	50.2
Approach		465	12	489	2.6	0.424	9.0	LOS A	3.1	22.3	0.62	0.83	0.78	50.4
NorthWest: Fishery Point Rd														
27	L2	279	8	294	2.9	0.238	5.6	LOS A	0.0	0.0	0.00	0.39	0.00	54.9
28	T1	141	1	148	0.7	0.238	0.1	LOS A	0.0	0.0	0.00	0.39	0.00	56.5
Approach		420	9	442	2.1	0.238	3.8	NA	0.0	0.0	0.00	0.39	0.00	55.4
All Vehicles		1090	23	1147	2.1	0.424	5.5	NA	3.1	22.3	0.27	0.52	0.34	53.8

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S1 815 (Site Folder: S1 - AM Base Case 2024)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	546	2	575	0.4	0.550	15.2	LOS B	11.3	79.5	0.69	0.79	0.69	52.5
6b	R3	16	0	17	0.0	* 0.041	19.8	LOS B	0.3	2.3	0.73	0.70	0.73	43.8
Approach		562	2	592	0.4	0.550	15.3	LOS B	11.3	79.5	0.69	0.78	0.69	52.2
NorthEast: Station St														
24b	L3	24	0	25	0.0	0.034	15.6	LOS B	0.4	3.0	0.58	0.67	0.58	45.4
26	R2	237	3	249	1.3	* 0.525	26.6	LOS B	6.7	47.5	0.91	0.81	0.91	39.4
Approach		261	3	275	1.1	0.525	25.6	LOS B	6.7	47.5	0.88	0.79	0.88	39.9
NorthWest: Fishery Point Rd														
27	L2	114	4	120	3.5	0.187	21.5	LOS B	2.5	18.3	0.73	0.75	0.73	43.1
27a	L1	347	7	365	2.0	* 0.546	23.0	LOS B	9.0	64.3	0.85	0.81	0.85	47.0
Approach		461	11	485	2.4	0.546	22.6	LOS B	9.0	64.3	0.82	0.80	0.82	46.0
All Vehicles		1284	16	1352	1.2	0.550	20.0	LOS B	11.3	79.5	0.78	0.79	0.78	47.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S1 1500 (Site Folder: S1 - PM Base Case 2024)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	442	19	465	4.3	0.592	25.7	LOS B	17.5	127.2	0.70	0.79	0.70	55.5
3	R2	106	5	112	4.7	* 0.621	64.2	LOS E	6.6	47.9	1.00	0.80	1.03	48.2
Approach		548	24	577	4.4	0.621	33.1	LOS C	17.5	127.2	0.76	0.79	0.77	54.2
East: Macquarie St														
4	L2	142	3	149	2.1	0.153	21.6	LOS B	4.4	31.1	0.54	0.71	0.54	55.4
5	T1	399	33	420	8.3	* 0.604	31.6	LOS C	19.5	146.3	0.85	0.75	0.85	48.0
Approach		541	36	569	6.7	0.604	29.0	LOS C	19.5	146.3	0.77	0.74	0.77	51.0
West: Macquarie St														
11	T1	376	18	396	4.8	0.262	3.2	LOS A	5.7	41.6	0.27	0.24	0.27	58.5
12	R2	608	26	640	4.3	* 0.619	37.9	LOS C	19.6	142.1	0.84	0.82	0.84	53.7
Approach		984	44	1036	4.5	0.619	24.7	LOS B	19.6	142.1	0.62	0.60	0.62	54.5
All Vehicles		2073	104	2182	5.0	0.621	28.0	LOS B	19.6	146.3	0.70	0.69	0.70	53.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S1 1500 (Site Folder: S1 - PM Base Case 2024)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	20	2	21	10.0	0.018	4.4	LOS A	0.1	0.6	0.14	0.40	0.14	59.0
3	R2	1	0	1	0.0	0.018	8.9	LOS A	0.1	0.6	0.14	0.40	0.14	56.4
Approach		21	2	22	9.5	0.018	4.6	LOS A	0.1	0.6	0.14	0.40	0.14	59.0
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.028	4.0	LOS A	0.1	1.0	0.12	0.61	0.12	52.6
6	R2	32	4	34	12.5	0.028	9.0	LOS A	0.1	1.0	0.12	0.61	0.12	58.1
Approach		33	4	35	12.1	0.028	8.8	LOS A	0.1	1.0	0.12	0.61	0.12	58.1
North: Morisset Park Rd														
7	L2	57	4	60	7.0	0.053	3.9	LOS A	0.3	1.9	0.02	0.46	0.02	58.9
8	T1	25	0	26	0.0	0.053	4.1	LOS A	0.3	1.9	0.02	0.46	0.02	59.3
9u	U	1	0	1	0.0	0.053	10.8	LOS A	0.3	1.9	0.02	0.46	0.02	59.7
Approach		83	4	87	4.8	0.053	4.1	LOS A	0.3	1.9	0.02	0.46	0.02	59.0
All Vehicles		137	10	144	7.3	0.053	5.3	LOS A	0.3	1.9	0.06	0.48	0.06	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S1 1500 (Site Folder: S1 - PM Base Case 2024)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	193	3	203	1.6	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
23	R2	46	0	48	0.0	0.059	8.8	LOS A	0.2	1.6	0.59	0.76	0.59	50.9
Approach		239	3	252	1.3	0.106	1.7	NA	0.2	1.6	0.11	0.15	0.11	58.0
NorthEast: Fishery Point Road														
24	L2	15	5	16	33.3	0.014	6.7	LOS A	0.1	0.5	0.29	0.54	0.29	51.4
26	R2	261	4	275	1.5	0.330	10.2	LOS A	1.9	13.3	0.68	0.91	0.81	49.6
Approach		276	9	291	3.3	0.330	10.0	LOS A	1.9	13.3	0.66	0.89	0.78	49.7
NorthWest: Fishery Point Rd														
27	L2	489	8	515	1.6	0.376	5.7	LOS A	0.0	0.0	0.00	0.43	0.00	54.6
28	T1	176	1	185	0.6	0.376	0.1	LOS A	0.0	0.0	0.00	0.43	0.00	56.0
Approach		665	9	700	1.4	0.376	4.2	NA	0.0	0.0	0.00	0.43	0.00	54.9
All Vehicles		1180	21	1242	1.8	0.376	5.1	NA	1.9	13.3	0.18	0.48	0.21	54.2

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S1 1500 (Site Folder: S1 - PM Base Case 2024)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	410	6	432	1.5	* 0.408	13.4	LOS A	7.1	50.6	0.61	0.75	0.61	53.6
6b	R3	20	1	21	5.0	0.024	13.2	LOS A	0.3	2.0	0.46	0.69	0.46	47.6
Approach		430	7	453	1.6	0.408	13.4	LOS A	7.1	50.6	0.60	0.75	0.60	53.3
NorthEast: Station St														
24b	L3	20	1	21	5.0	0.056	24.7	LOS B	0.5	3.5	0.80	0.69	0.80	40.1
26	R2	165	4	174	2.4	* 0.401	25.8	LOS B	4.4	31.3	0.89	0.78	0.89	39.6
Approach		185	5	195	2.7	0.401	25.7	LOS B	4.4	31.3	0.88	0.77	0.88	39.7
NorthWest: Fishery Point Rd														
27	L2	164	4	173	2.4	0.169	13.2	LOS A	2.4	17.3	0.51	0.72	0.51	47.8
27a	L1	331	9	348	2.7	0.332	13.0	LOS A	5.5	39.1	0.58	0.73	0.58	53.8
Approach		495	13	521	2.6	0.332	13.0	LOS A	5.5	39.1	0.56	0.73	0.56	51.7
All Vehicles		1110	25	1168	2.3	0.408	15.3	LOS B	7.1	50.6	0.63	0.74	0.63	49.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S2 815 (Site Folder: S2 - AM A2 2024)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	703	23	740	3.3	* 0.832	29.2	LOS C	33.6	241.5	0.79	0.86	0.83	54.9
3	R2	136	9	143	6.6	0.461	54.3	LOS D	7.7	56.7	0.95	0.80	0.95	49.7
Approach		839	32	883	3.8	0.832	33.3	LOS C	33.6	241.5	0.82	0.85	0.85	54.2
East: Macquarie St														
4	L2	116	3	122	2.6	0.120	19.3	LOS B	3.3	23.7	0.50	0.70	0.50	55.8
5	T1	447	33	471	7.4	* 0.816	42.7	LOS D	26.3	195.8	0.96	0.91	1.04	44.9
Approach		563	36	593	6.4	0.816	37.9	LOS C	26.3	195.8	0.86	0.87	0.93	48.2
West: Macquarie St														
11	T1	301	23	317	7.6	0.235	5.7	LOS A	6.0	44.8	0.36	0.31	0.36	57.4
12	R2	402	26	423	6.5	0.446	37.8	LOS C	12.3	90.7	0.80	0.79	0.80	53.6
Approach		703	49	740	7.0	0.446	24.1	LOS B	12.3	90.7	0.61	0.59	0.61	54.4
All Vehicles		2105	117	2216	5.6	0.832	31.4	LOS C	33.6	241.5	0.76	0.77	0.79	53.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S2 815 (Site Folder: S2 - AM A2 2024)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	69	1	73	1.4	0.059	4.4	LOS A	0.3	2.0	0.19	0.40	0.19	59.0
3	R2	1	0	1	0.0	0.059	9.0	LOS A	0.3	2.0	0.19	0.40	0.19	56.3
Approach		70	1	74	1.4	0.059	4.5	LOS A	0.3	2.0	0.19	0.40	0.19	59.0
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.044	4.0	LOS A	0.2	1.5	0.11	0.62	0.11	52.6
6	R2	54	2	57	3.7	0.044	8.9	LOS A	0.2	1.5	0.11	0.62	0.11	58.2
6u	U	1	0	1	0.0	0.044	10.9	LOS A	0.2	1.5	0.11	0.62	0.11	55.0
Approach		56	2	59	3.6	0.044	8.8	LOS A	0.2	1.5	0.11	0.62	0.11	58.2
North: Morisset Park Rd														
7	L2	189	4	199	2.1	0.135	3.9	LOS A	0.7	5.0	0.02	0.47	0.02	58.9
8	T1	21	0	22	0.0	0.135	4.1	LOS A	0.7	5.0	0.02	0.47	0.02	59.3
9u	U	3	2	3	66.7	0.135	11.6	LOS A	0.7	5.0	0.02	0.47	0.02	59.3
Approach		213	6	224	2.8	0.135	4.0	LOS A	0.7	5.0	0.02	0.47	0.02	59.0
All Vehicles		339	9	357	2.7	0.135	4.9	LOS A	0.7	5.0	0.07	0.48	0.07	58.9

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S2 815 (Site Folder: S2 - AM A2 2024)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	238	2	251	0.8	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	25	0	26	0.0	0.029	8.2	LOS A	0.1	0.8	0.55	0.70	0.55	51.4
Approach		263	2	277	0.8	0.130	0.8	NA	0.1	0.8	0.05	0.07	0.05	59.0
NorthEast: Fishery Point Road														
24	L2	45	3	47	6.7	0.041	6.8	LOS A	0.2	1.2	0.38	0.60	0.38	52.2
26	R2	420	9	442	2.1	0.577	13.8	LOS A	4.8	34.1	0.78	1.11	1.35	47.3
Approach		465	12	489	2.6	0.577	13.1	LOS A	4.8	34.1	0.74	1.06	1.26	47.7
NorthWest: Fishery Point Rd														
27	L2	279	8	294	2.9	0.326	5.7	LOS A	0.0	0.0	0.00	0.28	0.00	55.7
28	T1	305	1	321	0.3	0.326	0.1	LOS A	0.0	0.0	0.00	0.28	0.00	57.4
Approach		584	9	615	1.5	0.326	2.8	NA	0.0	0.0	0.00	0.28	0.00	56.6
All Vehicles		1312	23	1381	1.8	0.577	6.0	NA	4.8	34.1	0.27	0.51	0.46	53.5

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S2 815 (Site Folder: S2 - AM A2 2024)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	604	2	636	0.3	0.544	12.9	LOS A	11.2	78.7	0.62	0.77	0.62	54.3
6b	R3	16	0	17	0.0	* 0.045	20.6	LOS B	0.3	2.3	0.74	0.70	0.74	43.4
Approach		620	2	653	0.3	0.544	13.1	LOS A	11.2	78.7	0.63	0.77	0.63	53.9
NorthEast: Station St														
24b	L3	24	0	25	0.0	0.040	18.2	LOS B	0.5	3.3	0.65	0.68	0.65	44.0
26	R2	237	3	249	1.3	* 0.700	32.2	LOS C	7.7	54.2	0.99	0.87	1.10	37.2
Approach		261	3	275	1.1	0.700	30.9	LOS C	7.7	54.2	0.95	0.86	1.06	37.7
NorthWest: Fishery Point Rd														
27	L2	114	4	120	3.5	0.158	18.5	LOS B	2.3	16.4	0.65	0.74	0.65	44.7
27a	L1	511	7	538	1.4	* 0.681	21.4	LOS B	13.5	95.5	0.87	0.84	0.87	48.1
Approach		625	11	658	1.8	0.681	20.9	LOS B	13.5	95.5	0.83	0.82	0.83	47.4
All Vehicles		1506	16	1585	1.1	0.700	19.4	LOS B	13.5	95.5	0.77	0.80	0.79	47.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S2 1500 (Site Folder: S2 - PM A2 2024)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	501	19	527	3.8	0.611	22.5	LOS B	18.6	134.5	0.66	0.79	0.66	56.0
3	R2	120	5	126	4.2	* 0.700	65.6	LOS E	7.6	55.2	1.00	0.84	1.10	48.0
Approach		621	24	654	3.9	0.700	30.8	LOS C	18.6	134.5	0.73	0.80	0.74	54.5
East: Macquarie St														
4	L2	183	3	193	1.6	0.217	26.4	LOS B	6.4	45.5	0.61	0.74	0.61	54.7
5	T1	399	33	420	8.3	* 0.730	37.4	LOS C	21.3	159.7	0.92	0.81	0.93	46.4
Approach		582	36	613	6.2	0.730	33.9	LOS C	21.3	159.7	0.83	0.79	0.83	50.1
West: Macquarie St														
11	T1	376	18	396	4.8	0.262	3.2	LOS A	5.7	41.6	0.27	0.24	0.27	58.5
12	R2	798	26	840	3.3	* 0.726	35.4	LOS C	25.5	183.2	0.84	0.83	0.84	54.1
Approach		1174	44	1236	3.7	0.726	25.1	LOS B	25.5	183.2	0.66	0.64	0.66	54.7
All Vehicles		2377	104	2502	4.4	0.730	28.7	LOS C	25.5	183.2	0.72	0.72	0.72	53.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S2 1500 (Site Folder: S2 - PM A2 2024)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	34	2	36	5.9	0.031	4.6	LOS A	0.1	1.1	0.25	0.42	0.25	58.9
3	R2	1	0	1	0.0	0.031	9.2	LOS A	0.1	1.1	0.25	0.42	0.25	56.0
Approach		35	2	37	5.7	0.031	4.8	LOS A	0.1	1.1	0.25	0.42	0.25	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.080	4.3	LOS A	0.4	2.7	0.23	0.61	0.23	52.2
6	R2	91	4	96	4.4	0.080	9.2	LOS A	0.4	2.7	0.23	0.61	0.23	58.1
Approach		92	4	97	4.3	0.080	9.2	LOS A	0.4	2.7	0.23	0.61	0.23	58.1
North: Morisset Park Rd														
7	L2	235	4	247	1.7	0.196	3.9	LOS A	1.1	8.0	0.02	0.46	0.02	59.0
8	T1	80	0	84	0.0	0.196	4.1	LOS A	1.1	8.0	0.02	0.46	0.02	59.3
9u	U	1	0	1	0.0	0.196	10.8	LOS A	1.1	8.0	0.02	0.46	0.02	59.7
Approach		316	4	333	1.3	0.196	4.0	LOS A	1.1	8.0	0.02	0.46	0.02	59.0
All Vehicles		443	10	466	2.3	0.196	5.1	LOS A	1.1	8.0	0.08	0.49	0.08	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S2 1500 (Site Folder: S2 - PM A2 2024)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	266	3	280	1.1	0.146	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	46	0	48	0.0	0.092	11.8	LOS A	0.3	2.3	0.73	0.89	0.73	48.9
Approach		312	3	328	1.0	0.146	1.8	NA	0.3	2.3	0.11	0.13	0.11	58.0
NorthEast: Fishery Point Road														
24	L2	45	5	47	11.1	0.047	7.4	LOS A	0.2	1.4	0.45	0.65	0.45	51.8
26	R2	263	6	277	2.3	0.539	17.7	LOS B	3.4	24.2	0.84	1.09	1.37	45.0
Approach		308	11	324	3.6	0.539	16.2	LOS B	3.4	24.2	0.79	1.03	1.23	45.9
NorthWest: Fishery Point Rd														
27	L2	489	8	515	1.6	0.501	5.7	LOS A	0.0	0.0	0.00	0.32	0.00	55.3
28	T1	408	1	429	0.2	0.501	0.2	LOS A	0.0	0.0	0.00	0.32	0.00	56.8
Approach		897	9	944	1.0	0.501	3.2	NA	0.0	0.0	0.00	0.32	0.00	56.0
All Vehicles		1517	23	1597	1.5	0.539	5.6	NA	3.4	24.2	0.18	0.43	0.27	54.0

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S2 1500 (Site Folder: S2 - PM A2 2024)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	483	6	508	1.2	0.440	12.0	LOS A	7.8	55.4	0.57	0.74	0.57	54.8
6b	R3	20	1	21	5.0	0.022	11.8	LOS A	0.2	1.7	0.41	0.69	0.41	48.4
Approach		503	7	529	1.4	0.440	12.0	LOS A	7.8	55.4	0.56	0.74	0.56	54.5
NorthEast: Station St														
24b	L3	20	1	21	5.0	0.072	27.6	LOS B	0.5	3.8	0.85	0.69	0.85	38.9
26	R2	165	4	174	2.4	* 0.510	29.1	LOS C	4.7	33.8	0.95	0.79	0.95	38.3
Approach		185	5	195	2.7	0.510	28.9	LOS C	4.7	33.8	0.94	0.78	0.94	38.3
NorthWest: Fishery Point Rd														
27	L2	164	4	173	2.4	0.155	11.7	LOS A	2.1	15.3	0.46	0.71	0.46	48.8
27a	L1	563	9	593	1.6	* 0.514	12.4	LOS A	9.7	69.1	0.61	0.76	0.61	54.5
Approach		727	13	765	1.8	0.514	12.3	LOS A	9.7	69.1	0.58	0.75	0.58	53.1
All Vehicles		1415	25	1489	1.8	0.514	14.3	LOS A	9.7	69.1	0.62	0.75	0.62	51.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd 24 A3 815 (Site Folder: S3 - AM A3 2024)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	728	23	766	3.2	* 0.850	30.7	LOS C	36.0	259.2	0.80	0.87	0.86	54.7
3	R2	142	9	149	6.3	0.459	53.4	LOS D	7.9	58.6	0.94	0.80	0.94	49.8
Approach		870	32	916	3.7	0.850	34.4	LOS C	36.0	259.2	0.82	0.86	0.87	54.0
East: Macquarie St														
4	L2	117	3	123	2.6	0.121	19.4	LOS B	3.3	23.9	0.50	0.70	0.50	55.8
5	T1	447	33	471	7.4	* 0.841	45.8	LOS D	27.4	203.8	0.97	0.95	1.09	44.1
Approach		564	36	594	6.4	0.841	40.3	LOS C	27.4	203.8	0.87	0.90	0.97	47.7
West: Macquarie St														
11	T1	301	23	317	7.6	0.238	6.1	LOS A	6.2	46.1	0.37	0.32	0.37	57.3
12	R2	400	26	421	6.5	0.444	37.8	LOS C	12.2	90.2	0.80	0.79	0.80	53.6
Approach		701	49	738	7.0	0.444	24.2	LOS B	12.2	90.2	0.62	0.59	0.62	54.4
All Vehicles		2135	117	2247	5.5	0.850	32.6	LOS C	36.0	259.2	0.77	0.78	0.81	53.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S3 815 (Site Folder: S3 - AM A3 2024)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	81	1	85	1.2	0.070	4.5	LOS A	0.3	2.4	0.23	0.41	0.23	59.0
3	R2	1	0	1	0.0	0.070	9.1	LOS A	0.3	2.4	0.23	0.41	0.23	56.2
Approach		82	1	86	1.2	0.070	4.6	LOS A	0.3	2.4	0.23	0.41	0.23	59.0
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.059	4.0	LOS A	0.3	2.0	0.12	0.61	0.12	52.5
6	R2	74	2	78	2.7	0.059	8.9	LOS A	0.3	2.0	0.12	0.61	0.12	58.2
6u	U	1	0	1	0.0	0.059	10.9	LOS A	0.3	2.0	0.12	0.61	0.12	55.0
Approach		76	2	80	2.6	0.059	8.8	LOS A	0.3	2.0	0.12	0.61	0.12	58.2
North: Morisset Park Rd														
7	L2	184	4	194	2.2	0.134	3.9	LOS A	0.7	5.0	0.02	0.47	0.02	58.9
8	T1	24	0	25	0.0	0.134	4.1	LOS A	0.7	5.0	0.02	0.47	0.02	59.3
9u	U	3	2	3	66.7	0.134	11.6	LOS A	0.7	5.0	0.02	0.47	0.02	59.3
Approach		211	6	222	2.8	0.134	4.0	LOS A	0.7	5.0	0.02	0.47	0.02	59.0
All Vehicles		369	9	388	2.4	0.134	5.1	LOS A	0.7	5.0	0.09	0.49	0.09	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S3 815 (Site Folder: S3 - AM A3 2024)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	270	2	284	0.7	0.148	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	25	0	26	0.0	0.029	8.1	LOS A	0.1	0.8	0.55	0.69	0.55	51.4
Approach		295	2	311	0.7	0.148	0.7	NA	0.1	0.8	0.05	0.06	0.05	59.1
NorthEast: Fishery Point Road														
24	L2	45	3	47	6.7	0.041	6.8	LOS A	0.2	1.2	0.38	0.60	0.38	52.2
26	R2	420	9	442	2.1	0.597	14.5	LOS A	5.0	35.8	0.79	1.13	1.42	46.9
Approach		465	12	489	2.6	0.597	13.7	LOS A	5.0	35.8	0.75	1.08	1.32	47.4
NorthWest: Fishery Point Rd														
27	L2	279	8	294	2.9	0.325	5.7	LOS A	0.0	0.0	0.00	0.28	0.00	55.7
28	T1	303	1	319	0.3	0.325	0.1	LOS A	0.0	0.0	0.00	0.28	0.00	57.3
Approach		582	9	613	1.5	0.325	2.8	NA	0.0	0.0	0.00	0.28	0.00	56.6
All Vehicles		1342	23	1413	1.7	0.597	6.1	NA	5.0	35.8	0.27	0.51	0.47	53.5

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S3 815 (Site Folder: S3 - AM A3 2024)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	636	2	669	0.3	0.584	13.1	LOS A	12.1	85.1	0.64	0.78	0.64	54.1
6b	R3	16	0	17	0.0	* 0.044	20.6	LOS B	0.3	2.3	0.74	0.70	0.74	43.4
Approach		652	2	686	0.3	0.584	13.3	LOS A	12.1	85.1	0.64	0.77	0.64	53.8
NorthEast: Station St														
24b	L3	24	0	25	0.0	0.040	18.2	LOS B	0.5	3.3	0.65	0.68	0.65	44.0
26	R2	237	3	249	1.3	* 0.700	32.2	LOS C	7.7	54.2	0.99	0.87	1.10	37.2
Approach		261	3	275	1.1	0.700	30.9	LOS C	7.7	54.2	0.95	0.86	1.06	37.7
NorthWest: Fishery Point Rd														
27	L2	114	4	120	3.5	0.158	18.5	LOS B	2.3	16.4	0.65	0.74	0.65	44.7
27a	L1	509	7	536	1.4	* 0.678	21.4	LOS B	13.4	94.8	0.87	0.84	0.87	48.1
Approach		623	11	656	1.8	0.678	20.8	LOS B	13.4	94.8	0.83	0.82	0.83	47.5
All Vehicles		1536	16	1617	1.0	0.700	19.3	LOS B	13.4	94.8	0.77	0.81	0.79	47.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S3 1500 (Site Folder: S3 - PM A3 2024)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	541	19	569	3.5	0.668	23.7	LOS B	21.2	152.7	0.69	0.80	0.69	55.8
3	R2	129	5	136	3.9	* 0.694	64.5	LOS E	8.1	58.7	1.00	0.84	1.09	48.2
Approach		670	24	705	3.6	0.694	31.6	LOS C	21.2	152.7	0.75	0.81	0.77	54.4
East: Macquarie St														
4	L2	179	3	188	1.7	0.205	25.0	LOS B	6.0	42.9	0.59	0.73	0.59	54.9
5	T1	399	33	420	8.3	* 0.707	36.2	LOS C	20.9	156.8	0.91	0.80	0.91	46.7
Approach		578	36	608	6.2	0.707	32.7	LOS C	20.9	156.8	0.81	0.78	0.81	50.4
West: Macquarie St														
11	T1	376	18	396	4.8	0.264	3.5	LOS A	5.9	43.3	0.28	0.25	0.28	58.4
12	R2	777	26	818	3.3	* 0.736	36.8	LOS C	25.3	182.0	0.85	0.84	0.85	53.9
Approach		1153	44	1214	3.8	0.736	25.9	LOS B	25.3	182.0	0.67	0.65	0.67	54.5
All Vehicles		2401	104	2527	4.3	0.736	29.1	LOS C	25.3	182.0	0.73	0.72	0.73	53.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S3 1500 (Site Folder: S3 - PM A3 2024)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	37	2	39	5.4	0.036	4.9	LOS A	0.2	1.3	0.31	0.44	0.31	58.8
3	R2	1	0	1	0.0	0.036	9.4	LOS A	0.2	1.3	0.31	0.44	0.31	55.7
Approach		38	2	40	5.3	0.036	5.0	LOS A	0.2	1.3	0.31	0.44	0.31	58.8
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.120	4.4	LOS A	0.6	4.2	0.25	0.61	0.25	52.2
6	R2	138	4	145	2.9	0.120	9.3	LOS A	0.6	4.2	0.25	0.61	0.25	58.1
Approach		139	4	146	2.9	0.120	9.2	LOS A	0.6	4.2	0.25	0.61	0.25	58.1
North: Morisset Park Rd														
7	L2	196	4	206	2.0	0.179	3.9	LOS A	1.1	7.5	0.02	0.45	0.02	58.9
8	T1	92	0	97	0.0	0.179	4.1	LOS A	1.1	7.5	0.02	0.45	0.02	59.3
9u	U	1	0	1	0.0	0.179	10.8	LOS A	1.1	7.5	0.02	0.45	0.02	59.7
Approach		289	4	304	1.4	0.179	4.0	LOS A	1.1	7.5	0.02	0.45	0.02	59.1
All Vehicles		466	10	491	2.1	0.179	5.6	LOS A	1.1	7.5	0.11	0.50	0.11	58.7

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S3 1500 (Site Folder: S3 - PM A3 2024)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	316	3	333	0.9	0.173	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	46	0	48	0.0	0.087	11.3	LOS A	0.3	2.2	0.71	0.88	0.71	49.2
Approach		362	3	381	0.8	0.173	1.5	NA	0.3	2.2	0.09	0.11	0.09	58.3
NorthEast: Fishery Point Road														
24	L2	45	5	47	11.1	0.046	7.3	LOS A	0.2	1.3	0.43	0.64	0.43	51.8
26	R2	261	4	275	1.5	0.541	17.9	LOS B	3.4	24.1	0.85	1.10	1.37	44.9
Approach		306	9	322	2.9	0.541	16.3	LOS B	3.4	24.1	0.79	1.03	1.23	45.8
NorthWest: Fishery Point Rd														
27	L2	489	8	515	1.6	0.487	5.7	LOS A	0.0	0.0	0.00	0.33	0.00	55.3
28	T1	382	1	402	0.3	0.487	0.2	LOS A	0.0	0.0	0.00	0.33	0.00	56.8
Approach		871	9	917	1.0	0.487	3.3	NA	0.0	0.0	0.00	0.33	0.00	55.9
All Vehicles		1539	21	1620	1.4	0.541	5.5	NA	3.4	24.1	0.18	0.42	0.27	54.1

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S3 1500 (Site Folder: S3 - PM A3 2024)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	533	6	561	1.1	0.485	12.2	LOS A	9.0	63.5	0.59	0.75	0.59	54.6
6b	R3	20	1	21	5.0	0.022	11.8	LOS A	0.2	1.7	0.41	0.69	0.41	48.4
Approach		553	7	582	1.3	0.485	12.2	LOS A	9.0	63.5	0.59	0.75	0.59	54.4
NorthEast: Station St														
24b	L3	20	1	21	5.0	0.072	27.6	LOS B	0.5	3.8	0.85	0.69	0.85	38.9
26	R2	165	4	174	2.4	* 0.510	29.1	LOS C	4.7	33.8	0.95	0.79	0.95	38.3
Approach		185	5	195	2.7	0.510	28.9	LOS C	4.7	33.8	0.94	0.78	0.94	38.3
NorthWest: Fishery Point Rd														
27	L2	164	4	173	2.4	0.155	11.7	LOS A	2.1	15.3	0.46	0.71	0.46	48.8
27a	L1	537	9	565	1.7	* 0.490	12.3	LOS A	9.1	64.6	0.60	0.75	0.60	54.6
Approach		701	13	738	1.9	0.490	12.1	LOS A	9.1	64.6	0.56	0.74	0.56	53.1
All Vehicles		1439	25	1515	1.7	0.510	14.3	LOS A	9.1	64.6	0.62	0.75	0.62	51.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S4 815 (Site Folder: S4 - AM Base Case 2034)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	684	24	720	3.5	* 0.859	35.8	LOS C	36.6	263.9	0.84	0.89	0.92	54.0
3	R2	131	10	138	7.6	0.408	52.1	LOS D	7.2	53.6	0.92	0.79	0.92	50.0
Approach		815	34	858	4.2	0.859	38.4	LOS C	36.6	263.9	0.85	0.87	0.92	53.4
East: Macquarie St														
4	L2	100	4	105	4.0	0.096	16.3	LOS B	2.5	18.1	0.44	0.68	0.44	56.3
5	T1	511	37	538	7.2	* 0.848	43.0	LOS D	30.9	230.0	0.96	0.94	1.07	44.8
Approach		611	41	643	6.7	0.848	38.6	LOS C	30.9	230.0	0.87	0.90	0.97	47.7
West: Macquarie St														
11	T1	354	27	373	7.6	0.283	6.7	LOS A	7.8	58.0	0.39	0.35	0.39	57.0
12	R2	311	31	327	10.0	0.414	41.9	LOS C	9.9	75.2	0.84	0.79	0.84	53.0
Approach		665	58	700	8.7	0.414	23.2	LOS B	9.9	75.2	0.60	0.55	0.60	54.2
All Vehicles		2091	133	2201	6.4	0.859	33.6	LOS C	36.6	263.9	0.78	0.78	0.83	52.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S4 815 (Site Folder: S4 - AM Base Case 2034)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	16	1	17	6.3	0.015	4.5	LOS A	0.1	0.5	0.19	0.41	0.19	58.9
3	R2	1	0	1	0.0	0.015	9.0	LOS A	0.1	0.5	0.19	0.41	0.19	56.2
Approach		17	1	18	5.9	0.015	4.7	LOS A	0.1	0.5	0.19	0.41	0.19	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.043	3.9	LOS A	0.2	1.4	0.06	0.63	0.06	52.7
6	R2	56	2	59	3.6	0.043	8.8	LOS A	0.2	1.4	0.06	0.63	0.06	58.3
6u	U	1	0	1	0.0	0.043	10.8	LOS A	0.2	1.4	0.06	0.63	0.06	55.1
Approach		58	2	61	3.4	0.043	8.8	LOS A	0.2	1.4	0.06	0.63	0.06	58.2
North: Morisset Park Rd														
7	L2	44	5	46	11.4	0.037	4.0	LOS A	0.2	1.4	0.02	0.47	0.02	58.8
8	T1	7	0	7	0.0	0.037	4.1	LOS A	0.2	1.4	0.02	0.47	0.02	59.2
9u	U	2	2	2	100.0	0.037	11.9	LOS A	0.2	1.4	0.02	0.47	0.02	59.1
Approach		53	7	56	13.2	0.037	4.3	LOS A	0.2	1.4	0.02	0.47	0.02	58.9
All Vehicles		128	10	135	7.8	0.043	6.4	LOS A	0.2	1.4	0.06	0.54	0.06	58.6

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S4 815 (Site Folder: S4 - AM Base Case 2034)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	205	2	216	1.0	0.112	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	29	0	31	0.0	0.028	7.3	LOS A	0.1	0.8	0.49	0.64	0.49	52.0
Approach		234	2	246	0.9	0.112	0.9	NA	0.1	0.8	0.06	0.08	0.06	58.8
NorthEast: Fishery Point Road														
24	L2	50	3	53	6.0	0.038	6.1	LOS A	0.2	1.1	0.26	0.55	0.26	52.6
26	R2	460	8	484	1.7	0.497	10.5	LOS A	4.1	29.3	0.71	0.97	1.03	49.4
Approach		510	11	537	2.2	0.497	10.1	LOS A	4.1	29.3	0.66	0.93	0.95	49.7
NorthWest: Fishery Point Rd														
27	L2	307	9	323	2.9	0.262	5.6	LOS A	0.0	0.0	0.00	0.39	0.00	54.9
28	T1	155	1	163	0.6	0.262	0.1	LOS A	0.0	0.0	0.00	0.39	0.00	56.5
Approach		462	10	486	2.2	0.262	3.8	NA	0.0	0.0	0.00	0.39	0.00	55.4
All Vehicles		1206	23	1269	1.9	0.497	5.9	NA	4.1	29.3	0.29	0.56	0.42	53.4

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S4 815 (Site Folder: S4 - AM Base Case 2034)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	620	2	653	0.3	0.637	15.8	LOS B	13.7	95.9	0.74	0.81	0.74	52.0
6b	R3	18	0	19	0.0	* 0.049	20.6	LOS B	0.4	2.6	0.75	0.70	0.75	43.4
Approach		638	2	672	0.3	0.637	15.9	LOS B	13.7	95.9	0.74	0.80	0.74	51.8
NorthEast: Station St														
24b	L3	26	0	27	0.0	0.037	15.6	LOS B	0.5	3.2	0.58	0.67	0.58	45.4
26	R2	256	3	269	1.2	* 0.567	26.9	LOS B	7.3	51.9	0.92	0.81	0.92	39.3
Approach		282	3	297	1.1	0.567	25.8	LOS B	7.3	51.9	0.89	0.80	0.89	39.8
NorthWest: Fishery Point Rd														
27	L2	124	4	131	3.2	0.203	21.6	LOS B	2.8	20.0	0.73	0.75	0.73	43.1
27a	L1	378	8	398	2.1	* 0.595	23.4	LOS B	10.1	71.8	0.87	0.82	0.87	46.8
Approach		502	12	528	2.4	0.595	22.9	LOS B	10.1	71.8	0.84	0.80	0.84	45.8
All Vehicles		1422	17	1497	1.2	0.637	20.4	LOS B	13.7	95.9	0.80	0.80	0.80	46.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S4 1500 (Site Folder: S4 - PM Base Case 2034)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	458	20	482	4.4	* 0.622	26.7	LOS B	18.7	136.0	0.72	0.80	0.72	55.3
3	R2	109	5	115	4.6	0.547	61.3	LOS E	6.6	47.8	0.99	0.79	0.99	48.6
Approach		567	25	597	4.4	0.622	33.3	LOS C	18.7	136.0	0.77	0.80	0.77	54.1
East: Macquarie St														
4	L2	148	1	156	0.7	0.151	19.0	LOS B	4.3	30.3	0.51	0.71	0.51	55.7
5	T1	415	28	437	6.7	* 0.615	31.0	LOS C	20.2	149.5	0.85	0.75	0.85	48.2
Approach		563	29	593	5.2	0.615	27.9	LOS B	20.2	149.5	0.76	0.74	0.76	51.2
West: Macquarie St														
11	T1	410	20	432	4.9	0.291	3.8	LOS A	6.9	50.4	0.30	0.27	0.30	58.2
12	R2	660	27	695	4.1	0.563	40.2	LOS C	16.6	120.0	0.87	0.83	0.87	53.3
Approach		1070	47	1126	4.4	0.563	26.2	LOS B	16.6	120.0	0.65	0.62	0.65	54.2
All Vehicles		2200	101	2316	4.6	0.622	28.5	LOS B	20.2	149.5	0.71	0.69	0.71	53.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S4 1500 (Site Folder: S4 - PM Base Case 2034)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	21	2	22	9.5	0.019	4.4	LOS A	0.1	0.7	0.16	0.40	0.16	59.0
3	R2	1	0	1	0.0	0.019	8.9	LOS A	0.1	0.7	0.16	0.40	0.16	56.3
Approach		22	2	23	9.1	0.019	4.6	LOS A	0.1	0.7	0.16	0.40	0.16	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.032	4.0	LOS A	0.1	1.1	0.14	0.60	0.14	52.6
6	R2	36	5	38	13.9	0.032	9.1	LOS A	0.1	1.1	0.14	0.60	0.14	58.1
Approach		37	5	39	13.5	0.032	8.9	LOS A	0.1	1.1	0.14	0.60	0.14	58.1
North: Morisset Park Rd														
7	L2	63	5	66	7.9	0.062	3.9	LOS A	0.3	2.3	0.02	0.47	0.02	58.9
8	T1	27	0	28	0.0	0.062	4.1	LOS A	0.3	2.3	0.02	0.47	0.02	59.3
9u	U	5	4	5	80.0	0.062	11.7	LOS A	0.3	2.3	0.02	0.47	0.02	59.2
Approach		95	9	100	9.5	0.062	4.4	LOS A	0.3	2.3	0.02	0.47	0.02	59.0
All Vehicles		154	16	162	10.4	0.062	5.5	LOS A	0.3	2.3	0.07	0.49	0.07	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S4 1500 (Site Folder: S4 - PM Base Case 2034)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	199	3	209	1.5	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	47	0	49	0.0	0.063	9.0	LOS A	0.2	1.7	0.60	0.78	0.60	50.8
Approach		246	3	259	1.2	0.109	1.7	NA	0.2	1.7	0.11	0.15	0.11	57.9
NorthEast: Fishery Point Road														
24	L2	50	6	53	12.0	0.041	6.3	LOS A	0.2	1.2	0.29	0.56	0.29	52.2
26	R2	287	5	302	1.7	0.373	10.8	LOS A	2.3	16.2	0.70	0.95	0.89	49.2
Approach		337	11	355	3.3	0.373	10.2	LOS A	2.3	16.2	0.64	0.89	0.80	49.6
NorthWest: Fishery Point Rd														
27	L2	504	9	531	1.8	0.387	5.7	LOS A	0.0	0.0	0.00	0.43	0.00	54.5
28	T1	181	1	191	0.6	0.387	0.1	LOS A	0.0	0.0	0.00	0.43	0.00	56.0
Approach		685	10	721	1.5	0.387	4.2	NA	0.0	0.0	0.00	0.43	0.00	54.9
All Vehicles		1268	24	1335	1.9	0.387	5.3	NA	2.3	16.2	0.19	0.50	0.24	54.0

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S4 1500 (Site Folder: S4 - PM Base Case 2034)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	421	6	443	1.4	* 0.419	13.5	LOS A	7.4	52.3	0.62	0.75	0.62	53.6
6b	R3	20	1	21	5.0	0.024	13.2	LOS A	0.3	2.0	0.46	0.69	0.46	47.6
Approach		441	7	464	1.6	0.419	13.4	LOS A	7.4	52.3	0.61	0.75	0.61	53.3
NorthEast: Station St														
24b	L3	22	1	23	4.5	0.062	24.7	LOS B	0.5	3.9	0.80	0.69	0.80	40.2
26	R2	181	4	191	2.2	* 0.439	26.0	LOS B	4.9	34.6	0.90	0.79	0.90	39.5
Approach		203	5	214	2.5	0.439	25.9	LOS B	4.9	34.6	0.89	0.78	0.89	39.6
NorthWest: Fishery Point Rd														
27	L2	179	4	188	2.2	0.184	13.3	LOS A	2.7	19.0	0.52	0.72	0.52	47.8
27a	L1	364	10	383	2.7	0.365	13.1	LOS A	6.1	44.0	0.59	0.74	0.59	53.7
Approach		543	14	572	2.6	0.365	13.2	LOS A	6.1	44.0	0.57	0.73	0.57	51.6
All Vehicles		1187	26	1249	2.2	0.439	15.5	LOS B	7.4	52.3	0.64	0.75	0.64	49.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S5 815 (Site Folder: S5 - AM A2 2034)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	732	24	771	3.3	* 0.906	44.5	LOS D	44.7	321.9	0.86	0.93	1.03	52.7
3	R2	142	10	149	7.0	0.507	55.7	LOS D	8.1	60.4	0.96	0.80	0.96	49.5
Approach		874	34	920	3.9	0.906	46.3	LOS D	44.7	321.9	0.88	0.91	1.02	52.3
East: Macquarie St														
4	L2	129	4	136	3.1	0.130	18.6	LOS B	3.6	25.7	0.49	0.70	0.49	55.9
5	T1	511	37	538	7.2	* 0.889	49.9	LOS D	33.5	249.2	0.97	1.01	1.16	43.1
Approach		640	41	674	6.4	0.889	43.6	LOS D	33.5	249.2	0.87	0.95	1.03	46.8
West: Macquarie St														
11	T1	354	27	373	7.6	0.274	5.6	LOS A	7.1	53.0	0.36	0.32	0.36	57.5
12	R2	445	31	468	7.0	0.521	40.2	LOS C	14.3	105.7	0.84	0.81	0.84	53.3
Approach		799	58	841	7.3	0.521	24.9	LOS B	14.3	105.7	0.63	0.59	0.63	54.2
All Vehicles		2313	133	2435	5.8	0.906	38.2	LOS C	44.7	321.9	0.79	0.81	0.88	51.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S5 815 (Site Folder: S5 - AM A2 2034)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	71	1	75	1.4	0.061	4.4	LOS A	0.3	2.1	0.20	0.41	0.20	59.0
3	R2	1	0	1	0.0	0.061	9.0	LOS A	0.3	2.1	0.20	0.41	0.20	56.3
Approach		72	1	76	1.4	0.061	4.5	LOS A	0.3	2.1	0.20	0.41	0.20	59.0
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.048	4.0	LOS A	0.2	1.6	0.11	0.62	0.11	52.6
6	R2	59	2	62	3.4	0.048	8.9	LOS A	0.2	1.6	0.11	0.62	0.11	58.2
6u	U	1	0	1	0.0	0.048	10.9	LOS A	0.2	1.6	0.11	0.62	0.11	55.0
Approach		61	2	64	3.3	0.048	8.8	LOS A	0.2	1.6	0.11	0.62	0.11	58.2
North: Morisset Park Rd														
7	L2	194	5	204	2.6	0.138	3.9	LOS A	0.7	5.1	0.02	0.47	0.02	58.9
8	T1	21	0	22	0.0	0.138	4.1	LOS A	0.7	5.1	0.02	0.47	0.02	59.3
9u	U	2	2	2	100.0	0.138	11.9	LOS A	0.7	5.1	0.02	0.47	0.02	59.1
Approach		217	7	228	3.2	0.138	4.0	LOS A	0.7	5.1	0.02	0.47	0.02	59.0
All Vehicles		350	10	368	2.9	0.138	4.9	LOS A	0.7	5.1	0.07	0.48	0.07	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S5 815 (Site Folder: S5 - AM A2 2034)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	263	2	277	0.8	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	29	0	31	0.0	0.036	8.5	LOS A	0.1	1.0	0.57	0.72	0.57	51.2
Approach		292	2	307	0.7	0.144	0.9	NA	0.1	1.0	0.06	0.07	0.06	58.9
NorthEast: Fishery Point Road														
24	L2	50	3	53	6.0	0.046	6.9	LOS A	0.2	1.3	0.39	0.61	0.39	52.2
26	R2	462	10	486	2.2	0.688	16.9	LOS B	6.6	47.4	0.83	1.24	1.76	45.5
Approach		512	13	539	2.5	0.688	15.9	LOS B	6.6	47.4	0.79	1.18	1.63	46.0
NorthWest: Fishery Point Rd														
27	L2	307	9	323	2.9	0.350	5.7	LOS A	0.0	0.0	0.00	0.29	0.00	55.7
28	T1	319	1	336	0.3	0.350	0.1	LOS A	0.0	0.0	0.00	0.29	0.00	57.3
Approach		626	10	659	1.6	0.350	2.8	NA	0.0	0.0	0.00	0.29	0.00	56.5
All Vehicles		1430	25	1505	1.7	0.688	7.1	NA	6.6	47.4	0.29	0.56	0.60	52.7

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S5 815 (Site Folder: S5 - AM A2 2034)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	678	2	714	0.3	0.623	13.4	LOS A	13.4	94.1	0.67	0.79	0.67	53.9
6b	R3	18	0	19	0.0	* 0.053	21.5	LOS B	0.4	2.7	0.76	0.70	0.76	42.9
Approach		696	2	733	0.3	0.623	13.6	LOS A	13.4	94.1	0.67	0.78	0.67	53.5
NorthEast: Station St														
24b	L3	26	0	27	0.0	0.044	18.2	LOS B	0.5	3.6	0.65	0.68	0.65	44.0
26	R2	256	3	269	1.2	* 0.756	33.7	LOS C	8.6	60.8	1.00	0.91	1.19	36.6
Approach		282	3	297	1.1	0.756	32.2	LOS C	8.6	60.8	0.97	0.89	1.14	37.2
NorthWest: Fishery Point Rd														
27	L2	125	5	132	4.0	0.174	18.7	LOS B	2.5	18.2	0.66	0.74	0.66	44.6
27a	L1	543	9	572	1.7	* 0.742	23.3	LOS B	15.4	109.6	0.89	0.87	0.95	46.9
Approach		668	14	703	2.1	0.742	22.4	LOS B	15.4	109.6	0.85	0.85	0.90	46.5
All Vehicles		1646	19	1733	1.2	0.756	20.4	LOS B	15.4	109.6	0.79	0.83	0.84	47.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S5 1500 (Site Folder: S5 - PM A2 2034)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	517	20	544	3.9	0.622	22.0	LOS B	19.1	138.0	0.66	0.79	0.66	56.0
3	R2	123	5	129	4.1	* 0.717	66.0	LOS E	7.8	56.9	1.00	0.84	1.12	48.0
Approach		640	25	674	3.9	0.717	30.5	LOS C	19.1	138.0	0.72	0.80	0.74	54.6
East: Macquarie St														
4	L2	89	1	94	1.1	0.107	25.7	LOS B	3.0	21.0	0.58	0.71	0.58	54.8
5	T1	415	28	437	6.7	* 0.748	39.1	LOS C	22.8	169.2	0.94	0.84	0.96	45.9
Approach		504	29	531	5.8	0.748	36.8	LOS C	22.8	169.2	0.88	0.82	0.89	48.3
West: Macquarie St														
11	T1	410	20	432	4.9	0.285	3.3	LOS A	6.4	46.5	0.28	0.25	0.28	58.5
12	R2	850	27	895	3.2	* 0.778	35.7	LOS C	27.4	196.8	0.84	0.84	0.85	54.0
Approach		1260	47	1326	3.7	0.778	25.2	LOS B	27.4	196.8	0.66	0.65	0.67	54.7
All Vehicles		2404	101	2531	4.2	0.778	29.0	LOS C	27.4	196.8	0.72	0.72	0.73	53.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S5 1515 (Site Folder: S5 - PM A2 2034)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	35	2	37	5.7	0.033	4.7	LOS A	0.2	1.1	0.26	0.42	0.26	58.9
3	R2	1	0	1	0.0	0.033	9.2	LOS A	0.2	1.1	0.26	0.42	0.26	55.9
Approach		36	2	38	5.6	0.033	4.8	LOS A	0.2	1.1	0.26	0.42	0.26	58.9
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.085	4.3	LOS A	0.4	2.9	0.24	0.61	0.24	52.2
6	R2	95	5	100	5.3	0.085	9.3	LOS A	0.4	2.9	0.24	0.61	0.24	58.1
Approach		96	5	101	5.2	0.085	9.2	LOS A	0.4	2.9	0.24	0.61	0.24	58.1
North: Morisset Park Rd														
7	L2	241	5	254	2.1	0.205	3.9	LOS A	1.2	8.6	0.02	0.46	0.02	58.9
8	T1	82	0	86	0.0	0.205	4.1	LOS A	1.2	8.6	0.02	0.46	0.02	59.3
9u	U	5	4	5	80.0	0.205	11.7	LOS A	1.2	8.6	0.02	0.46	0.02	59.2
Approach		328	9	345	2.7	0.205	4.1	LOS A	1.2	8.6	0.02	0.46	0.02	59.0
All Vehicles		460	16	484	3.5	0.205	5.2	LOS A	1.2	8.6	0.08	0.49	0.08	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S5 1500 (Site Folder: S5 - PM A2 2034)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	272	3	286	1.1	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	47	0	49	0.0	0.098	12.2	LOS A	0.4	2.5	0.74	0.89	0.74	48.7
Approach		319	3	336	0.9	0.149	1.8	NA	0.4	2.5	0.11	0.13	0.11	58.0
NorthEast: Fishery Point Road														
24	L2	50	6	53	12.0	0.053	7.5	LOS A	0.2	1.6	0.46	0.66	0.46	51.7
26	R2	287	5	302	1.7	0.604	19.5	LOS B	4.1	29.0	0.87	1.15	1.54	44.1
Approach		337	11	355	3.3	0.604	17.7	LOS B	4.1	29.0	0.81	1.07	1.38	45.1
NorthWest: Fishery Point Rd														
27	L2	504	9	531	1.8	0.513	5.7	LOS A	0.0	0.0	0.00	0.32	0.00	55.3
28	T1	413	1	435	0.2	0.513	0.2	LOS A	0.0	0.0	0.00	0.32	0.00	56.8
Approach		917	10	965	1.1	0.513	3.3	NA	0.0	0.0	0.00	0.32	0.00	55.9
All Vehicles		1573	24	1656	1.5	0.604	6.1	NA	4.1	29.0	0.19	0.45	0.32	53.6

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S5 1500 (Site Folder: S5 - PM A2 2034)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	494	6	520	1.2	0.450	12.0	LOS A	8.1	57.1	0.58	0.75	0.58	54.8
6b	R3	20	1	21	5.0	0.022	11.8	LOS A	0.2	1.7	0.41	0.69	0.41	48.4
Approach		514	7	541	1.4	0.450	12.0	LOS A	8.1	57.1	0.57	0.74	0.57	54.5
NorthEast: Station St														
24b	L3	22	1	23	4.5	0.079	27.6	LOS B	0.6	4.2	0.85	0.70	0.85	38.9
26	R2	181	4	191	2.2	* 0.559	29.3	LOS C	5.3	37.5	0.96	0.80	0.96	38.2
Approach		203	5	214	2.5	0.559	29.1	LOS C	5.3	37.5	0.95	0.79	0.95	38.3
NorthWest: Fishery Point Rd														
27	L2	179	4	188	2.2	0.169	11.8	LOS A	2.4	16.8	0.46	0.71	0.46	48.7
27a	L1	596	10	627	1.7	* 0.544	12.6	LOS A	10.6	75.3	0.63	0.77	0.63	54.3
Approach		775	14	816	1.8	0.544	12.4	LOS A	10.6	75.3	0.59	0.75	0.59	52.9
All Vehicles		1492	26	1571	1.7	0.559	14.6	LOS B	10.6	75.3	0.63	0.75	0.63	50.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S6 815 (Site Folder: S6 - AM A3 2034)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	757	24	797	3.2	* 0.923	48.9	LOS D	48.8	350.9	0.87	0.95	1.07	52.2
3	R2	148	10	156	6.8	0.502	54.8	LOS D	8.4	62.3	0.95	0.80	0.95	49.6
Approach		905	34	953	3.8	0.923	49.8	LOS D	48.8	350.9	0.88	0.93	1.05	51.8
East: Macquarie St														
4	L2	130	4	137	3.1	0.131	18.6	LOS B	3.6	25.9	0.49	0.70	0.49	55.9
5	T1	511	37	538	7.2	* 0.913	55.9	LOS D	35.6	264.3	0.98	1.07	1.23	41.7
Approach		641	41	675	6.4	0.913	48.3	LOS D	35.6	264.3	0.88	1.00	1.08	45.8
West: Macquarie St														
11	T1	354	27	373	7.6	0.277	6.0	LOS A	7.3	54.6	0.37	0.33	0.37	57.3
12	R2	443	31	466	7.0	0.519	40.1	LOS C	14.2	105.2	0.84	0.81	0.84	53.3
Approach		797	58	839	7.3	0.519	25.0	LOS B	14.2	105.2	0.63	0.59	0.63	54.2
All Vehicles		2343	133	2466	5.7	0.923	41.0	LOS C	48.8	350.9	0.80	0.83	0.92	51.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S6 815 (Site Folder: S6 - AM A3 2034)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	83	1	87	1.2	0.072	4.5	LOS A	0.3	2.5	0.23	0.42	0.23	59.0
3	R2	1	0	1	0.0	0.072	9.2	LOS A	0.3	2.5	0.23	0.42	0.23	56.1
Approach		84	1	88	1.2	0.072	4.6	LOS A	0.3	2.5	0.23	0.42	0.23	59.0
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.063	4.0	LOS A	0.3	2.1	0.12	0.62	0.12	52.5
6	R2	79	2	83	2.5	0.063	8.9	LOS A	0.3	2.1	0.12	0.62	0.12	58.2
6u	U	1	0	1	0.0	0.063	10.9	LOS A	0.3	2.1	0.12	0.62	0.12	55.0
Approach		81	2	85	2.5	0.063	8.8	LOS A	0.3	2.1	0.12	0.62	0.12	58.2
North: Morisset Park Rd														
7	L2	189	5	199	2.6	0.137	3.9	LOS A	0.7	5.1	0.02	0.47	0.02	58.9
8	T1	24	0	25	0.0	0.137	4.1	LOS A	0.7	5.1	0.02	0.47	0.02	59.3
9u	U	2	2	2	100.0	0.137	11.9	LOS A	0.7	5.1	0.02	0.47	0.02	59.1
Approach		215	7	226	3.3	0.137	4.0	LOS A	0.7	5.1	0.02	0.47	0.02	59.0
All Vehicles		380	10	400	2.6	0.137	5.2	LOS A	0.7	5.1	0.09	0.49	0.09	58.8

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S6 1515 (Site Folder: S6 - AM A3 2034)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	295	2	311	0.7	0.161	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	29	0	31	0.0	0.035	8.5	LOS A	0.1	1.0	0.57	0.72	0.57	51.2
Approach		324	2	341	0.6	0.161	0.8	NA	0.1	1.0	0.05	0.06	0.05	59.0
NorthEast: Fishery Point Road														
24	L2	52	5	55	9.6	0.049	6.9	LOS A	0.2	1.4	0.39	0.61	0.39	52.0
26	R2	462	10	486	2.2	0.712	18.0	LOS B	7.1	50.4	0.85	1.28	1.89	44.8
Approach		514	15	541	2.9	0.712	16.9	LOS B	7.1	50.4	0.80	1.21	1.74	45.5
NorthWest: Fishery Point Rd														
27	L2	307	9	323	2.9	0.349	5.7	LOS A	0.0	0.0	0.00	0.29	0.00	55.7
28	T1	317	1	334	0.3	0.349	0.1	LOS A	0.0	0.0	0.00	0.29	0.00	57.3
Approach		624	10	657	1.6	0.349	2.8	NA	0.0	0.0	0.00	0.29	0.00	56.5
All Vehicles		1462	27	1539	1.8	0.712	7.3	NA	7.1	50.4	0.29	0.56	0.62	52.5

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S6 815 (Site Folder: S6 - AM A3 2034)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 62 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	709	2	746	0.3	0.651	13.6	LOS A	14.4	101.2	0.69	0.79	0.69	53.7
6b	R3	18	0	19	0.0	* 0.053	21.5	LOS B	0.4	2.7	0.76	0.70	0.76	42.9
Approach		727	2	765	0.3	0.651	13.8	LOS A	14.4	101.2	0.69	0.79	0.69	53.4
NorthEast: Station St														
24b	L3	26	0	27	0.0	0.044	18.2	LOS B	0.5	3.6	0.65	0.68	0.65	44.0
26	R2	256	3	269	1.2	* 0.756	33.7	LOS C	8.6	60.8	1.00	0.91	1.19	36.6
Approach		282	3	297	1.1	0.756	32.2	LOS C	8.6	60.8	0.97	0.89	1.14	37.2
NorthWest: Fishery Point Rd														
27	L2	125	5	132	4.0	0.174	18.7	LOS B	2.5	18.2	0.66	0.74	0.66	44.6
27a	L1	541	9	569	1.7	* 0.738	23.1	LOS B	15.3	108.6	0.89	0.87	0.95	47.0
Approach		666	14	701	2.1	0.738	22.3	LOS B	15.3	108.6	0.85	0.85	0.89	46.5
All Vehicles		1675	19	1763	1.1	0.756	20.3	LOS B	15.3	108.6	0.80	0.83	0.85	47.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	6	6	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	4	4	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13
All Pedestrians		0	11	25.3	LOS C	0.0	0.0	0.90	0.90	188.3	211.9	1.13

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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MOVEMENT SUMMARY

Site: 101 [1. Macquarie St/ Fishery Pt Rd S6 1500 (Site Folder: S6 - PM A3 2034)]

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fishery Pt Rd														
1	L2	557	20	586	3.6	0.678	23.3	LOS B	21.7	156.5	0.69	0.80	0.69	55.8
3	R2	132	5	139	3.8	* 0.768	67.6	LOS E	8.6	62.1	1.00	0.87	1.18	47.8
Approach		689	25	725	3.6	0.768	31.7	LOS C	21.7	156.5	0.75	0.81	0.78	54.4
East: Macquarie St														
4	L2	185	1	195	0.5	0.218	26.5	LOS B	6.5	45.5	0.61	0.74	0.61	54.7
5	T1	415	28	437	6.7	* 0.764	38.9	LOS C	22.8	169.0	0.93	0.84	0.96	45.9
Approach		600	29	632	4.8	0.764	35.1	LOS C	22.8	169.0	0.83	0.81	0.86	49.8
West: Macquarie St														
11	T1	410	20	432	4.9	0.285	3.3	LOS A	6.4	46.5	0.28	0.25	0.28	58.5
12	R2	829	27	873	3.3	* 0.768	36.2	LOS C	26.8	192.7	0.85	0.84	0.85	54.0
Approach		1239	47	1304	3.8	0.768	25.3	LOS B	26.8	192.7	0.66	0.64	0.66	54.6
All Vehicles		2528	101	2661	4.0	0.768	29.4	LOS C	26.8	192.7	0.73	0.73	0.74	53.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Fishery Pt Rd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98
All Pedestrians		1	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.7	215.2	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Trinity Pt Dr/ Charles Ave/ Morisset Park Rd S6 1500 (Site Folder: S6 - PM A3 2034)]

New Site
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Charles Ave														
2	T1	38	2	40	5.3	0.037	4.9	LOS A	0.2	1.3	0.32	0.44	0.32	58.8
3	R2	1	0	1	0.0	0.037	9.5	LOS A	0.2	1.3	0.32	0.44	0.32	55.7
Approach		39	2	41	5.1	0.037	5.0	LOS A	0.2	1.3	0.32	0.44	0.32	58.8
East: Trinity Point Dr														
4	L2	1	0	1	0.0	0.125	4.4	LOS A	0.6	4.4	0.26	0.61	0.26	52.1
6	R2	142	5	149	3.5	0.125	9.3	LOS A	0.6	4.4	0.26	0.61	0.26	58.1
Approach		143	5	151	3.5	0.125	9.3	LOS A	0.6	4.4	0.26	0.61	0.26	58.1
North: Morisset Park Rd														
7	L2	202	5	213	2.5	0.188	3.9	LOS A	1.1	8.0	0.02	0.46	0.02	58.9
8	T1	94	0	99	0.0	0.188	4.1	LOS A	1.1	8.0	0.02	0.46	0.02	59.3
9u	U	5	4	5	80.0	0.188	11.7	LOS A	1.1	8.0	0.02	0.46	0.02	59.2
Approach		301	9	317	3.0	0.188	4.1	LOS A	1.1	8.0	0.02	0.46	0.02	59.1
All Vehicles		483	16	508	3.3	0.188	5.7	LOS A	1.1	8.0	0.12	0.50	0.12	58.7

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

MOVEMENT SUMMARY

Site: 101 [3. Fishery Pt Rd/ Morisset Park Rd S6 1500 (Site Folder: S6 - PM A3 2034)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Morisset Park Rd														
22	T1	322	3	339	0.9	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
23	R2	47	0	49	0.0	0.092	11.7	LOS A	0.3	2.3	0.72	0.89	0.72	49.0
Approach		369	3	388	0.8	0.176	1.5	NA	0.3	2.3	0.09	0.11	0.09	58.3
NorthEast: Fishery Point Road														
24	L2	50	6	53	12.0	0.052	7.3	LOS A	0.2	1.5	0.44	0.64	0.44	51.8
26	R2	287	5	302	1.7	0.616	20.1	LOS B	4.2	29.9	0.87	1.16	1.58	43.7
Approach		337	11	355	3.3	0.616	18.2	LOS B	4.2	29.9	0.81	1.08	1.41	44.8
NorthWest: Fishery Point Rd														
27	L2	504	9	531	1.8	0.499	5.7	LOS A	0.0	0.0	0.00	0.33	0.00	55.2
28	T1	387	1	407	0.3	0.499	0.2	LOS A	0.0	0.0	0.00	0.33	0.00	56.7
Approach		891	10	938	1.1	0.499	3.3	NA	0.0	0.0	0.00	0.33	0.00	55.9
All Vehicles		1597	24	1681	1.5	0.616	6.1	NA	4.2	29.9	0.19	0.44	0.32	53.6

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

MOVEMENT SUMMARY

Site: 101v [4. Fishery Pt Rd/ Station St S6 1500 (Site Folder: S6 - PM A3 2034)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 59 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Fishery Point Rd														
6a	R1	544	6	573	1.1	0.509	12.9	LOS A	9.7	68.3	0.63	0.76	0.63	54.1
6b	R3	20	1	21	5.0	0.023	12.2	LOS A	0.2	1.8	0.43	0.69	0.43	48.1
Approach		564	7	594	1.2	0.509	12.9	LOS A	9.7	68.3	0.62	0.76	0.62	53.8
NorthEast: Station St														
24b	L3	22	1	23	4.5	0.072	26.6	LOS B	0.6	4.1	0.84	0.70	0.84	39.4
26	R2	181	4	191	2.2	* 0.512	28.2	LOS B	5.1	36.5	0.94	0.80	0.94	38.6
Approach		203	5	214	2.5	0.512	28.0	LOS B	5.1	36.5	0.93	0.79	0.93	38.7
NorthWest: Fishery Point Rd														
27	L2	179	4	188	2.2	0.174	12.2	LOS A	2.5	17.5	0.48	0.72	0.48	48.4
27a	L1	570	10	600	1.8	* 0.536	13.1	LOS A	10.4	73.6	0.64	0.77	0.64	53.9
Approach		749	14	788	1.9	0.536	12.9	LOS A	10.4	73.6	0.60	0.76	0.60	52.5
All Vehicles		1516	26	1596	1.7	0.536	14.9	LOS B	10.4	73.6	0.65	0.76	0.65	50.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Station St												
P6	Full	1	1	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
NorthWest: Fishery Point Rd												
P7	Full	2	2	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13
All Pedestrians		0	3	23.8	LOS C	0.0	0.0	0.90	0.90	186.8	211.9	1.13

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.

4:33:18 PM
Project: X:\18362 Trinity Point, Lake Macquarie\07 Modelling Files\18362-S01V04-230124-Model.sip9

Appendix C

CENTRAL COAST COUNCIL RESPONSE LETTER

16 December 2022

Ms Kate Cramp
Senior Development Manager
Johnson Property Group
27 Patrick Drive
Cooranbong NSW 2265

Via email: Kate@johnsonpropertygroup.com.au

Dear Ms Cramp

Council Submission to Planning Proposal - 69C, 81, 81D & 85 Trinity Point Drive, Morisset Park

Thank you for your email dated 7 December 2022 regarding Council's submission on your Planning Proposal for land at 69C, 81, 81D and 85 Trinity Point Drive, Morisset Park (Trinity Point).

Council was notified by Lake Macquarie City Council (LMCC) of the proposed Planning Proposal and Concept State Significant Development (SSD) application. Council's Strategic Planning team was invited to provide comment as several suburbs of the Central Coast LGA were determined to be within the visual catchment of the subject site (across the lake).

Council's submission was informed by input from both Strategic Planning staff and Council's Urban Designer. The team spent time carefully reviewing the Planning Proposal and supporting information, in particular the Landscape and Visual Impact Assessment.

Council appreciates that significant work has gone into both the Planning Proposal and concurrent SSD application. Council's submission sought clarity on how the proposed LEP amendments seek to manage visual impacts and protect view corridors, should the development concept plan change.

Council staff do not object to the Planning Proposal. The submission sought to ensure a good planning outcome with minimal impact on Central Coast residents. The matters raised in the submission were for consideration by LMCC and made suggestions only.

Should you have any further enquiries in relation to this matter, please do not hesitate to contact me via phone on 0428 168 354 or email to alice.howe@centralcoast.nsw.gov.au.

Yours sincerely,

Dr Alice Howe
Director
Environment and Planning
Our reference: D15469065

APPENDIX D

SUMMARY OF COMMUNITY ENGAGEMENT

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