



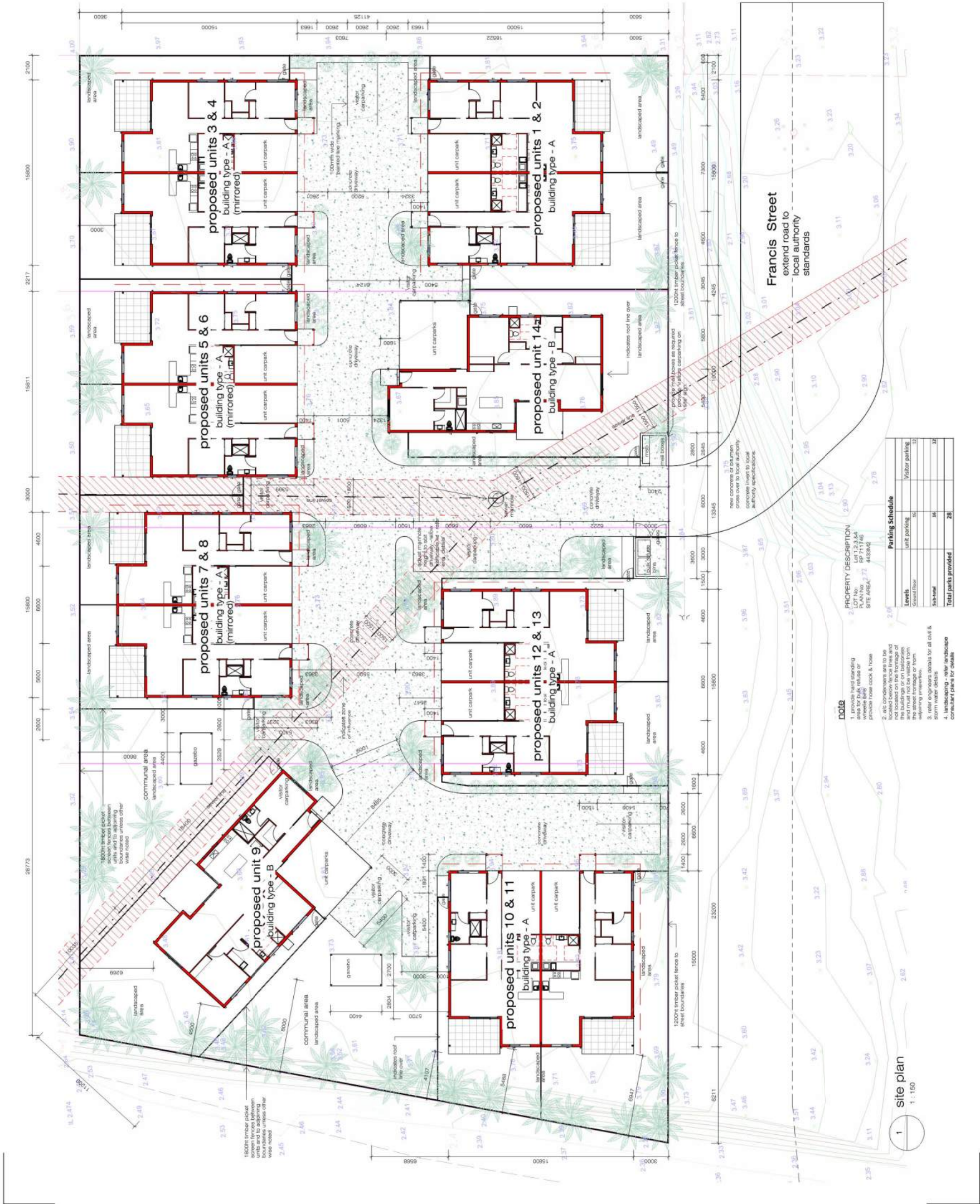
Appendix B: Site Plan

NOTES

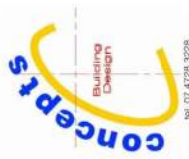
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Revision Schedule

No.	Description	Date



Preliminary
Not to be used for construction purposes



Project:
Proposed Multiple Dwellings

for:
RJ Builders

at:
177-179 Francis Street
Westend

Issue Date: 01/05/2025

Drawn

Author

Scale

As indicated

Sheet

A1 of 02

Issued

18/05/2025 9:35 AM

25-051

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Appendix C: Concept Earthworks



Appendix D: Concept Civil Works



Appendix E: Atlan FlowFilter



Appendix F: Water and Sewer Planning Report



177-179 FRANCIS STREET, WEST END RESIDENTIAL UNITS

WATER SUPPLY & SEWERAGE PLANNING REPORT

**Date: 20 March 2026
(Revision A)**

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APPENDICES

Appendix A	Residential Unit Development Plans
Appendix B	Water Network Modelling & Results
Appendix C	Sewer Network Modelling & Results

REPORT AUTHORISATION				
Revision	Revision Date	Details	Prepared by	Signature
A	20/03/2026	Original Report	Desmond Moseley (RPEQ 7565)	

1 INTRODUCTION

A development that will consist of 14 residential units is proposed for No 177 – 179 Francis St, West End. This site is located on the northern side of Francis St and at the intersection with Percy St. This site is currently undeveloped as per the Townsville Council GIS image below.



Figure 1.1 – Development Site Location

The site is proposed to be developed into a single-story residential unit complex with a total of 14 units. The development plans are included in Appendix A with the development layout plan extract provided below as Figure 1.2 below.

To ensure the residential unit development can be adequately serviced by with a potable water supply and sewage system in accordance with Council standards, an assessment of the system capacities have been undertaken. This report summarises the assessment of the existing water and sewerage network with this illustrating:

- The water network modelling shows the existing DN100 AC water main along the Francis St frontage is adequately sized to service the development to meet Townsville Council standards.
- The existing DN225 gravity sewer that runs through the development site has sufficient capacity to service the development.

The water network modelling and sewer system capacity assessment undertaken for this development is summarised in the following report sections.

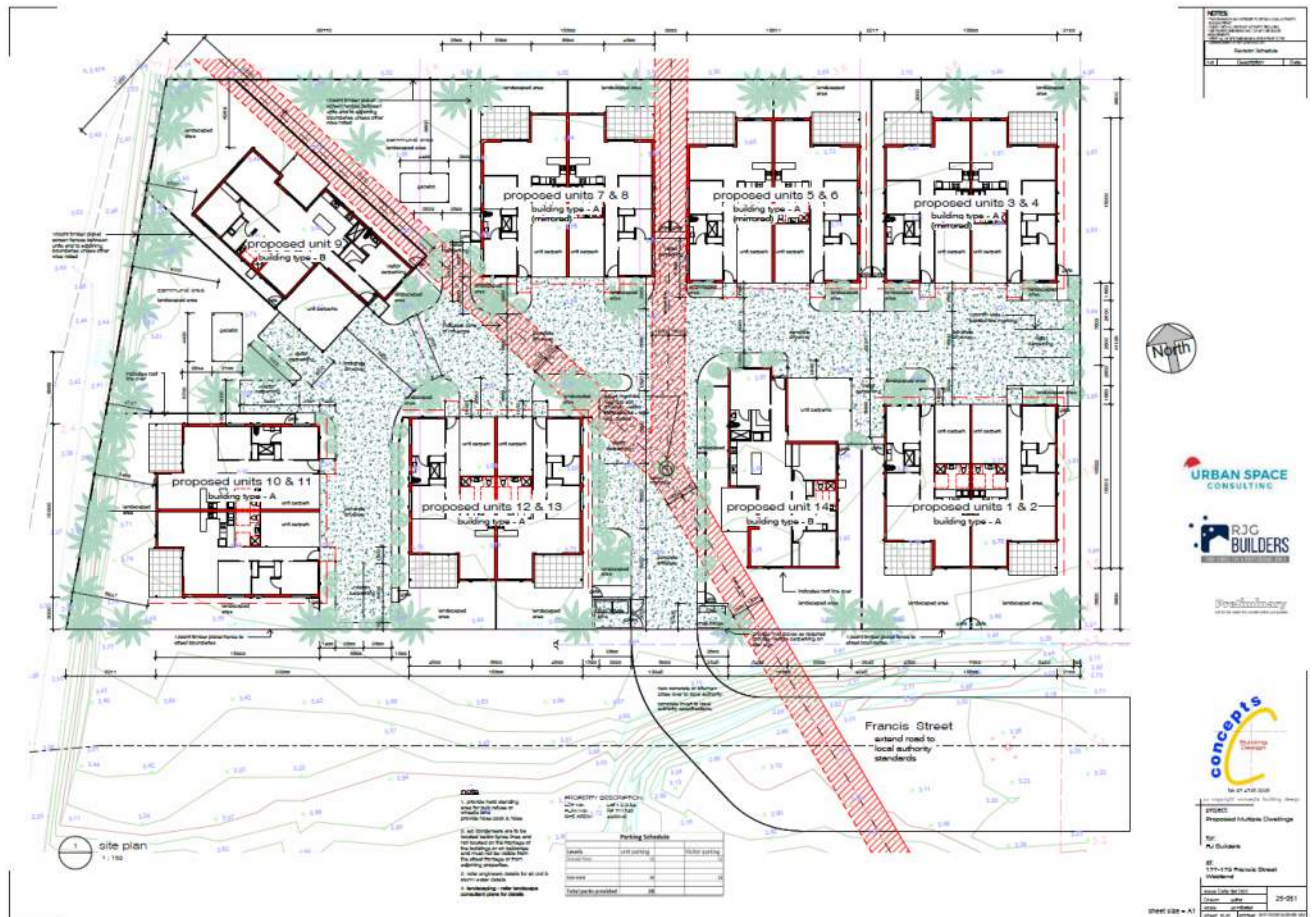


Figure 1.2 – Development Layout Plan Extract

2 POPULATION ASSESSMENT

The following Table 2.1 provides the equivalent population assessment for the proposed residential unit development on 177-179 Francis Street. The equivalent population for each residential unit is in accordance with the CTM Code.

Table 2.1 –Population Assessment

	Number	Rate	EP
Residential Units	14 units	1.8 EP/lot	25.2 EP

The above equivalent has been used in the water & sewer infrastructure capacity assessment.

3 WATER SUPPLY PLANNING

3.1 Water Demand

Water demands have been calculated in accordance with Townsville City Council planning scheme and CTM Code. The following table provides the “residential” water demand parameters from the CTM Code for each equivalent person (EP).

Table 3.1 - Water Supply Unit Demand Parameters

Parameter	Unit Demand	Peaking Factor
Average Day (AD)	600 L/day/EP	
Mean Day Max Month (MDMM)	900 L/day/EP	1.5 AD
Peak Day (PD)	1125 L/day/EP	1.25 MDMM
Peak Hour (PH)	0.033 L/s/EP	2.56 PD

The peak hour residential water demands have been applied to the proposed unit development, giving a peak water demand of $25.2 \text{ EP} \times 0.033 \text{ l/s/EP} = 0.84 \text{ l/s}$.

In addition to the above, as the development is residential, the 15 l/s residential fire flow is applicable in accordance with the CTM Code. This fire flow has been used to assess the theoretical performance of the water network.

3.2 Water Supply Assessment & Network Modelling

The site for the proposed 14 unit development is on the northern side of Francis St in West End. The existing water infrastructure that services the site includes:

- A DN100 Asbestos Cement (AC) water main along the northern side of Francis St. This is along the frontage of the proposed development. The existing DN100 water main extends to the east along Francis St where it links to the DN375 trunk water main at the intersection of Francis St & Leigh St. The DN100 AC main also connects into a number of other reticulation water mains on Tuffley St and Henry St.
- The DN375 DICL water main then immediately connects to a DN450 trunk main that runs to the west under Francis St to connect to the DN375 PVC trunk water main that is located on the eastern side of Henry Street.
- The DN375 PVC trunk water main extends to the south where it connects to a DN450 MSCL trunk water main that is fed from the Mount Louisa Reservoirs.
- It is noted that the DN375 DICL water main on Leigh St runs to the north east where it connects to the existing West End Reservoir which is not currently operational. The West End reservoir is planned to be renewed and put back into operation in the next year or two. This will further improve the water network operation and performance in the West End area.
- The development site and the West End area is generally well serviced with a network of reticulation and trunk water mains.

The following extract from the Council GIS illustrates the existing water infrastructure that services the development site.



Figure 3.1 – Council GIS Plot of Water Network

Theoretical water network modelling has been performed to assess the capacity of the existing reticulation network. The modelling was undertaken using the WaterGEMS network model of Townsville for both the peak hour demands and fire flows.

The WaterGems network modelling results with the inclusion of the water demands from the proposed development shows:

- The existing DN100 AC water main along Francis St frontage is shown to be adequately sized to service the development with peak hour and fire flows.
- The peak hour pressures at 7 pm (ie the peak residential demand period) are reduced to 410 kPa. This meets the minimum pressure requirement of 220 kPa.
- The existing DN100 AC water main along Francis St from Tuffley St to the development site had a velocity of 0.11 m/s and a headloss gradient of less than 0.001 m/m therefore meets TCC standards of 2.5 m/s and headloss gradient of less than 0.005 m/m.
- The existing DN100 AC water main further to the east along Francis St (under the Henry St intersection) was shown to have a velocity of 0.75 m/s and a headloss gradient of up to 0.012 m/m. The headloss gradient is higher than the recommended value of 0.005 m/m but the velocity is well under the maximum recommended value of 2.5 m/s. It is noted that the headloss gradient along the existing DN100 AC water main without the additional demands from the unit development was already up to 0.010 m/m so was already higher than TCC recommended values. The headloss gradient is only an indication of the efficiency of the water main so the existing water main is adequately sized to service the development.

- With the inclusion of the 15 l/s fire flow the water pressures are reduced to 277 kPa within the water main (not accounting for pressure losses through the hydrant tee and standpipe). This is the pressure at 7pm and is concurrent with the peak residential demand period and meets the minimum pressure requirement of 120 kPa.
- The velocity along the DN100 reticulation main on Francis St for the fire flow assessment is 2.02 m/s and meets the Council design standards of being less than 4.0 m/s for fire flows.
- The WaterGems figure and results table are provided in Appendix B.

The above water network modelling shows that the proposed residential unit development is able to be serviced with a reticulated water supply that meets Council's standards with no upgrades required.

The following figure illustrates the peak hour demands and residual water pressure at the proposed residential unit site.

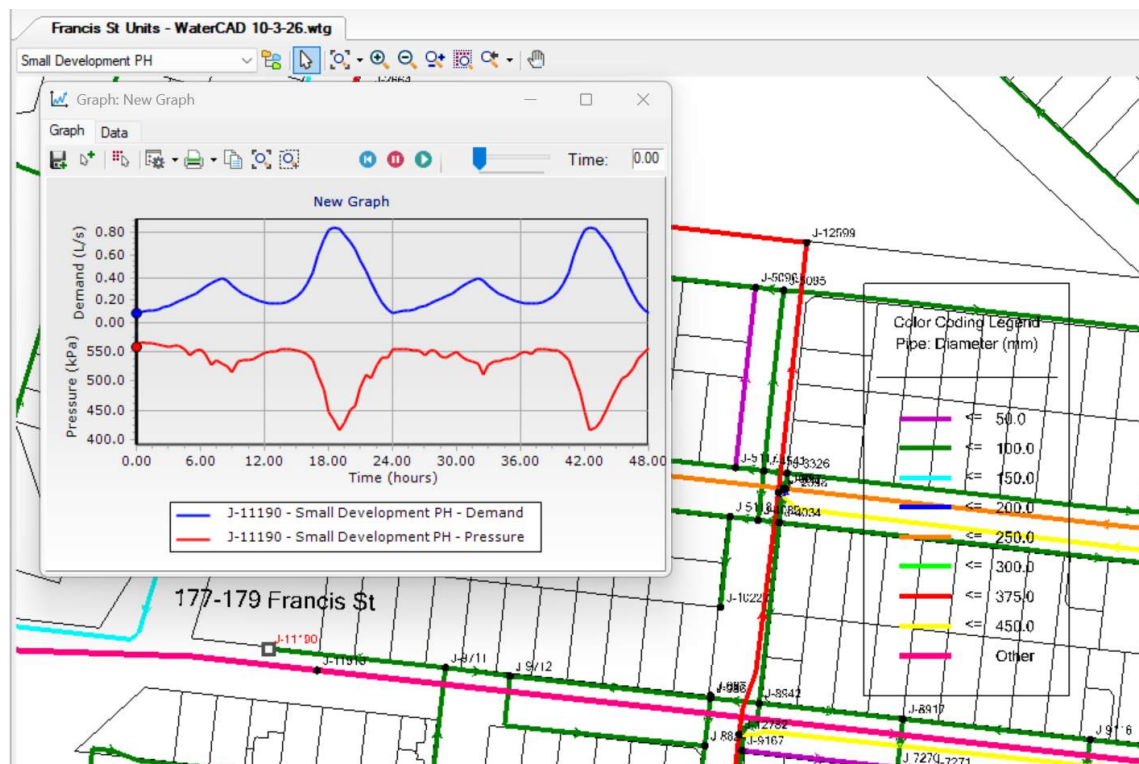


Figure 3.2 – Peak Hour Water Demand & Pressures

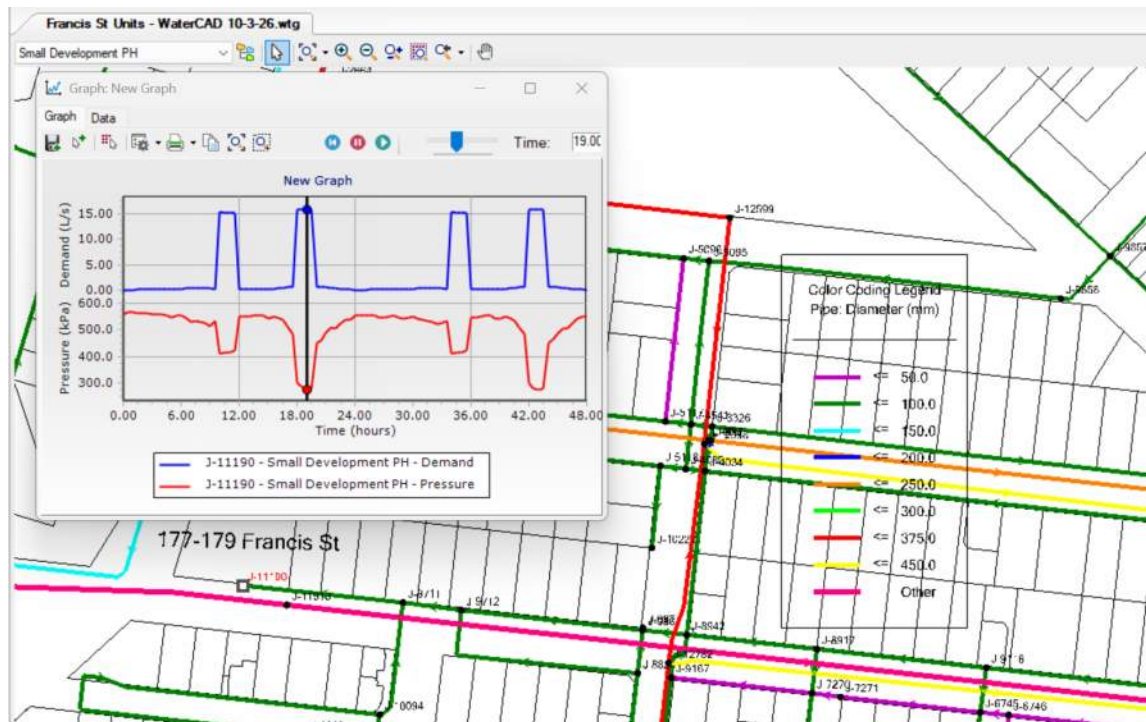


Figure 3.3 – 15 l/s Fire Flow Water Demand & Pressures

It is noted that the fire flow WaterGEMS network modelling is to assess the proposed developments performance against Townsville Council planning standards. Based on the type/classification of the residential unit development, the Building Code may require different fire flow and pressure standards. This assessment has not specifically assessed the performance against the building code requirements.

4 SEWAGE SYSTEM PLANNING

The existing site for the proposed residential unit development is currently serviced with a reticulated gravity sewer system. The existing gravity sewer system consists of:

- A DN225 PVC relined sewer from MH 25/A6A which extends under Percy St and into the development site to existing MH 24/A6A. MH 24/A6A is located within the development site on 177-179 Francis St. The DN225 sewer continues to the south east under Francis St to MH 18/A6A.
- The sewer increases to a DN300 sewer at MH 18/A6A and continues to the south west and through to PS A6A that is located on the southern side of Ingham Rd and western side of Kings Rd. PS A6A pumps sewage along a common pressure main through to the Cleveland Bay STP.
- A DN150 sewer runs through the development site from MH 1/A6A8 to MH 26/A6A.
- There is also a DN225 environmental overflows from this sewer system. The environmental overflow is from existing MH 25/A6A that is located on the western side of Percy St and is into an open stormwater drainage system.

The DN225 sewer that services the development site used to have capacity issues, however in 2016 a new PS A8C (Harold St) was constructed. Much of the sewage flows along the DN225 sewer were diverted to the new pump station at MH B32/A6A on Harold St. If there are any ongoing capacity constraints in this sewer system, they would be related to excessive infiltration and inflow issues into the aging sewer infrastructure.

Figure 4.1 below is a plot from the Council GIS that illustrates the existing DN225 reticulation sewer system that services the development site. The capacity of the existing sewer system is provided in the following report sections.

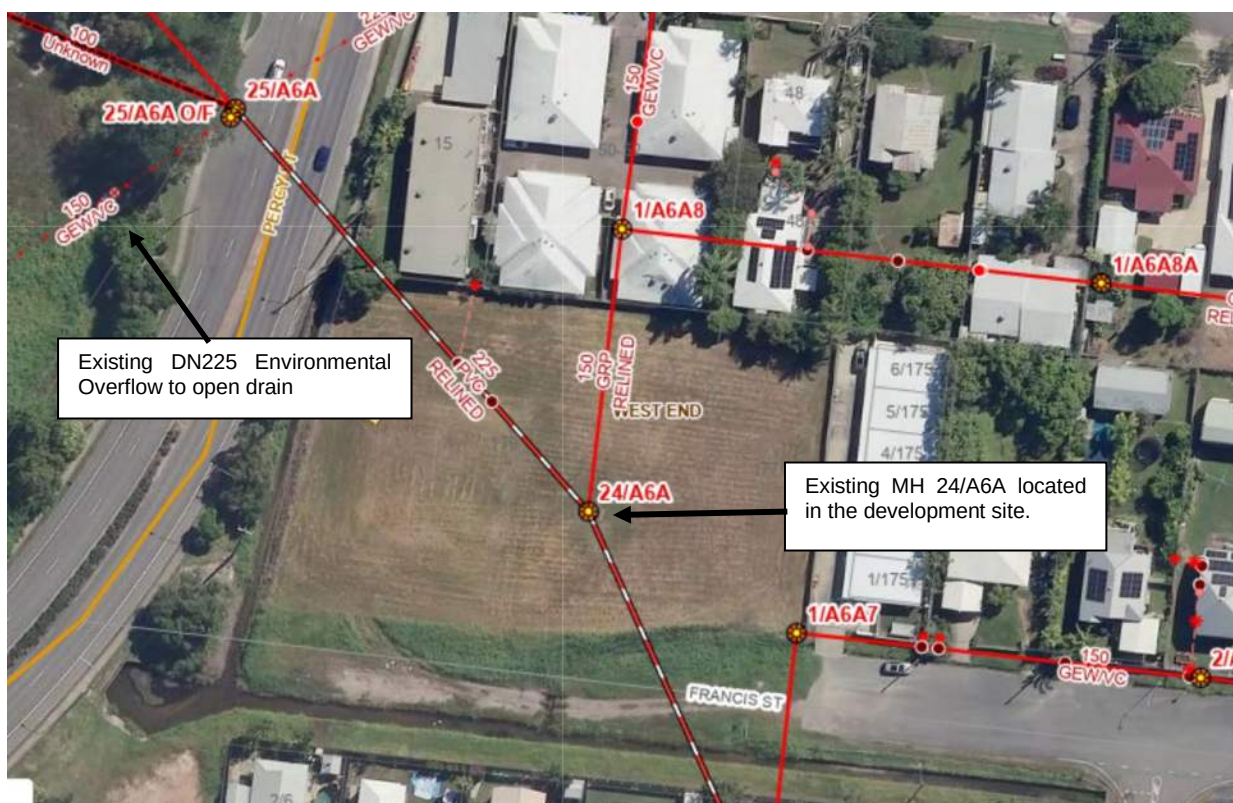


Figure 4.1 – GIS Plot of Existing Sewer System

It is noted that the layout for the 14 unit development has the buildings aligned so that the existing gravity sewers that traverse the site are not located under any of the proposed building.

4.1 Sewage Infrastructure Capacity

The capacity of the existing gravity sewer system to cater for the proposed residential unit development was assessed using the SewerGEMS model developed for the Eastern & Western suburbs of Townsville.

The SewerGEMS model includes the existing reticulation and trunk gravity sewer system from the development site through to PS A6 (Kings Rd). The additional residential equivalent population loading on MH 24/A6A is illustrated in the extract from the SewerGEMS model on Figure 4.2 below.

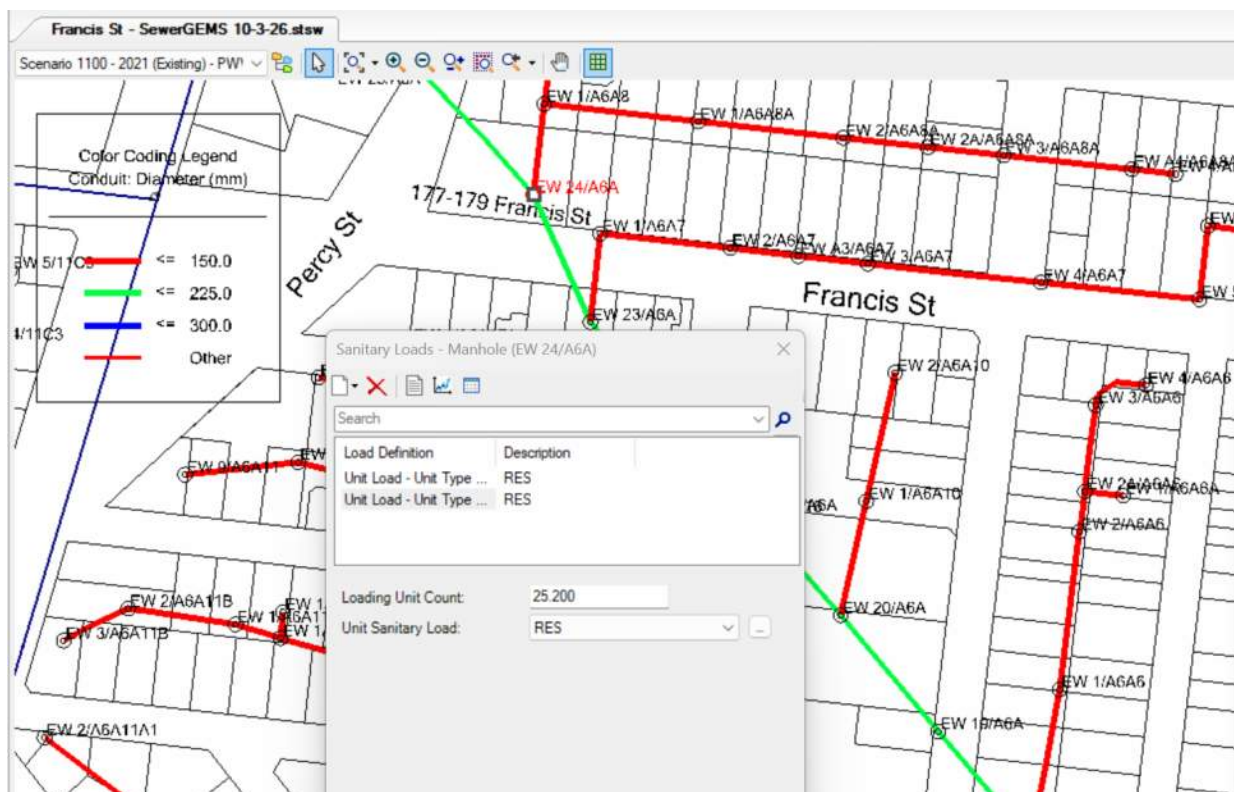


Figure 4.2 – Additional Residential Loading on MH 24/A6A

With the inclusion of the additional equivalent population loading on the existing gravity sewer system, the SewerGEMS model has illustrated:

- The existing DN225 sewer from MH 25/A6A to MH 18/A6A (being the sewer line crossing of Percy St and gravity sewer that runs through the proposed unit development site) flow up to 59% full for the peak wet weather flows. This is the reticulation sewer that will service the development site.
- The existing DN300 trunk sewer from MH 18/A6A to PS A6 (being the trunk sewer that runs to the south west through West End) flows up to 51% full for the peak wet weather flows.
- All the existing sewers flow less than 75% full which is the maximum value allowable in the CTM code.

The following Figure 4.3 provides the flows and performance of the existing gravity sewer system with the inclusion of the additional loading from the proposed development. A larger version of the modelling results is provided in Appendix D.

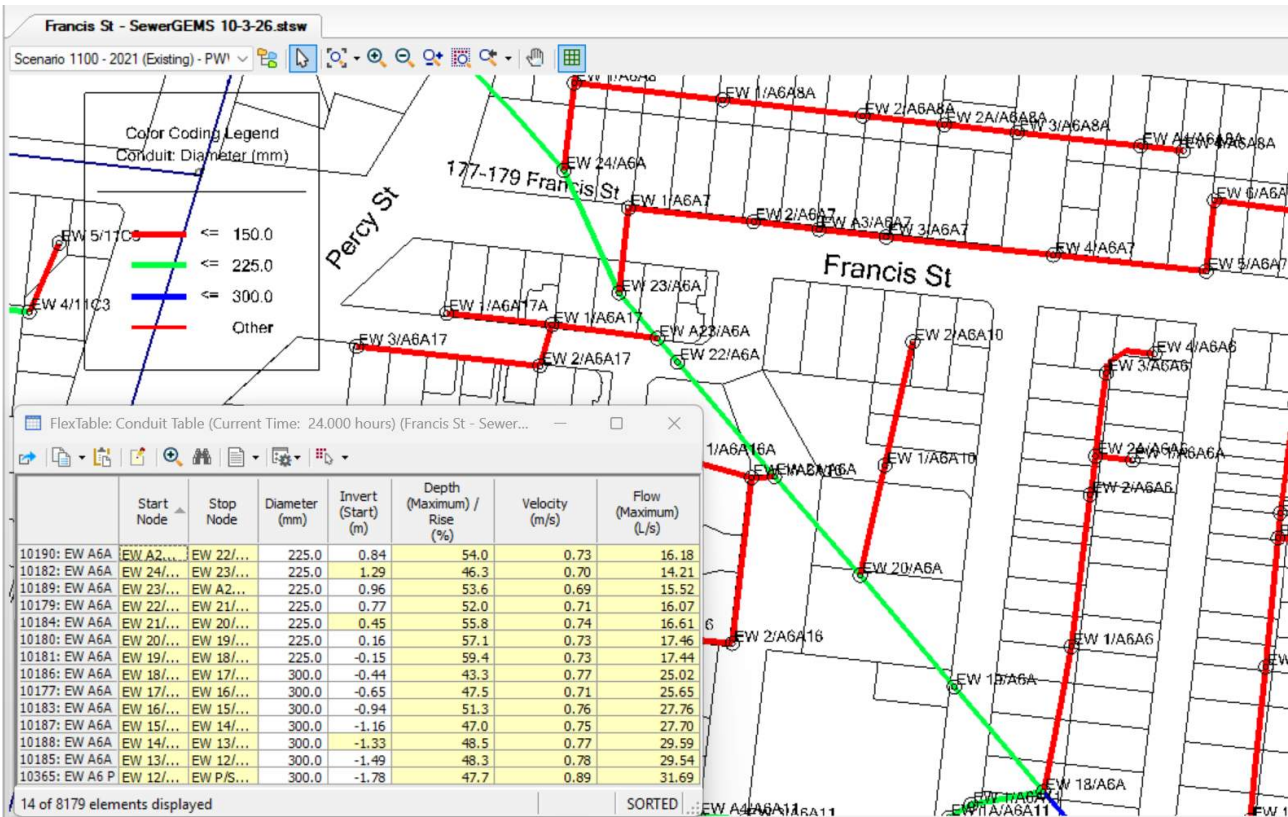


Figure 4.3 – SewerGEMS Modelling Results

The above assessment illustrates the existing gravity sewer system has sufficient capacity to cater for the proposed residential unit development at 177-179 Francis St, West End.

APPENDIX A
177-179 FRANCIS STREET SITE DEVELOPMENT
PLANS

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Revision Schedule		
No	Description	Date
1		



1 francis street - view 1



3 francis street - view 3

Sheet List		
Count	Sheet Number	Sheet Name
1	sk_01	title page
1	sk_02	site plan
1	sk_03	site area breakdown
1	sk_04	services & detail survey plan
1	sk_05	Building - A
1	sk_06	Building - B

Grand total: 6



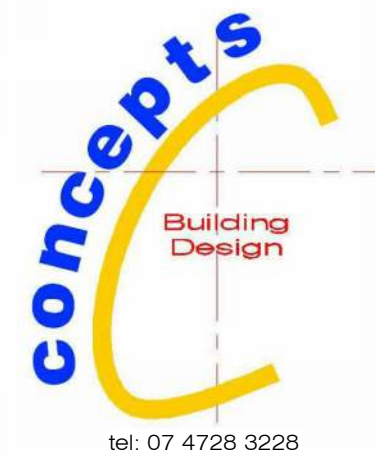
5 francis street - view aerial



4 percy street - view -1



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Proposed Multiple Dwellings

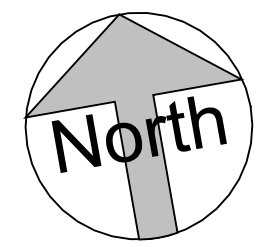
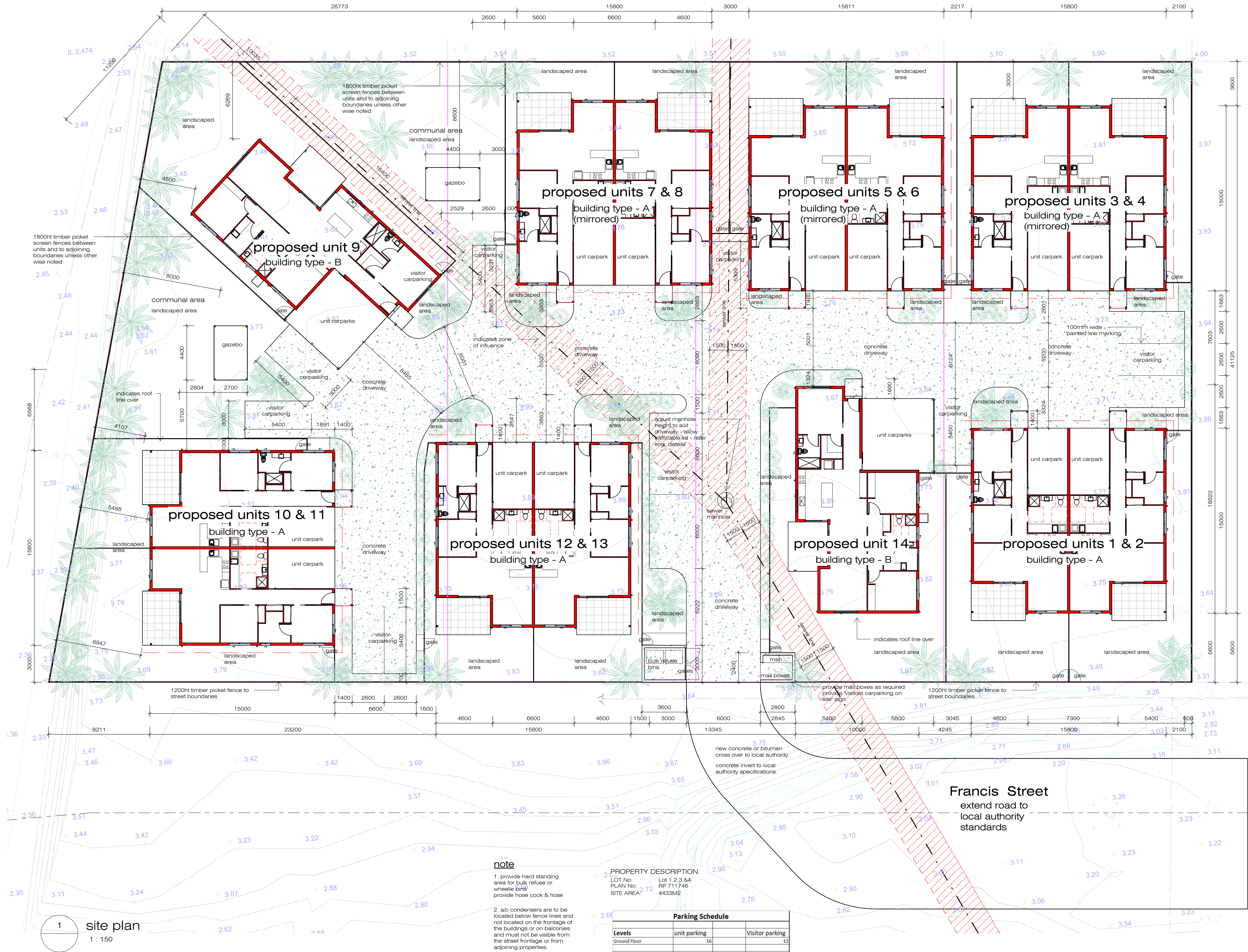
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at:
177-179 Francis Street
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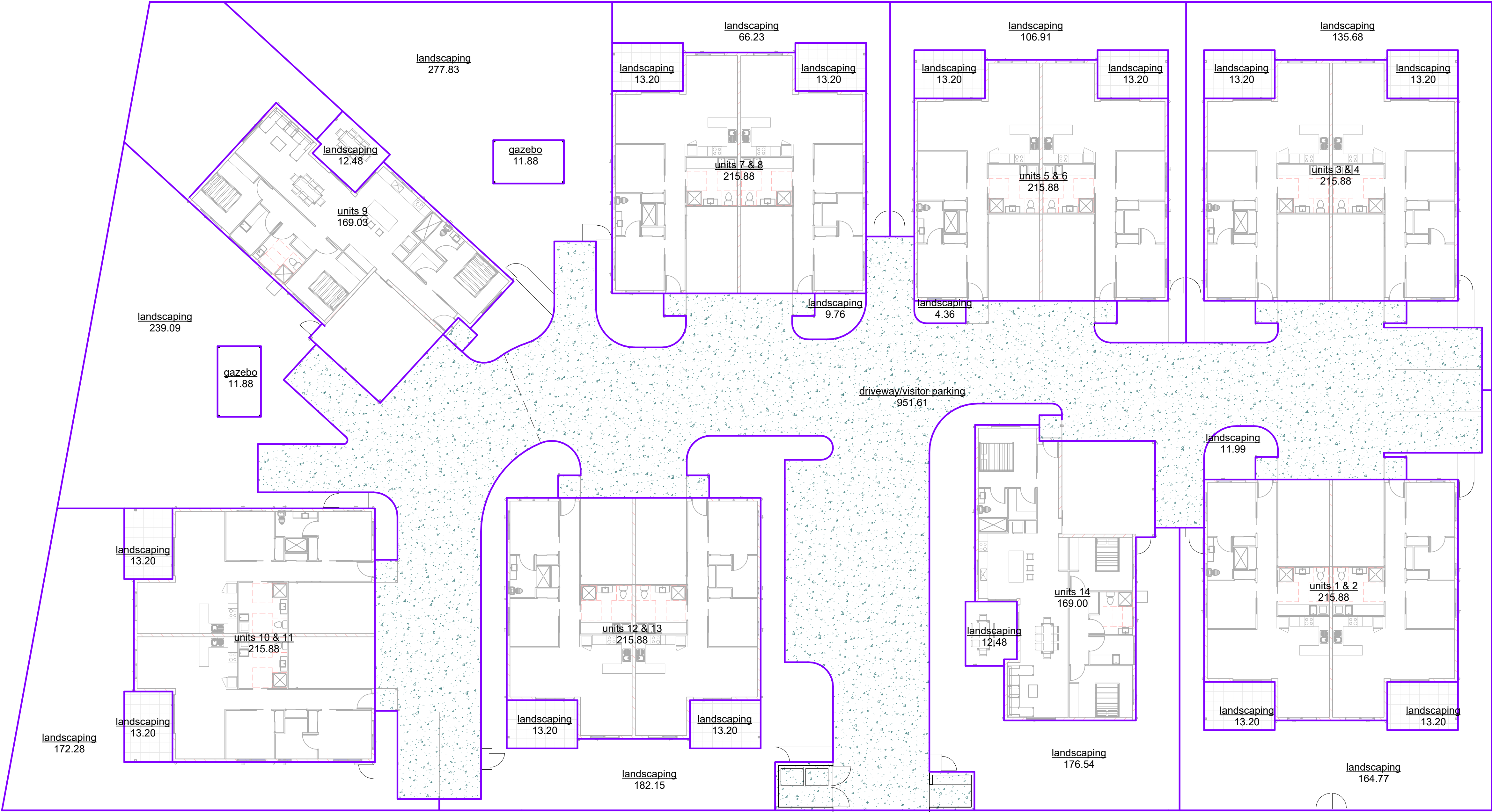
1. provide hard standing area for bulk refuse or wheeler bins provide hose cock & hose
2. a/c condensers are to be located below fence lines and not located on the frontage of the buildings or on balconies and must not be visible from the street frontage or from adjoining properties.
3. refer engineers details for all civil & storm water details
4. landscaping - refer landscape consultant plans for details

PROPERTY DESCRIPTION
LOT No: Lot 1,2,3,4
PLAN No: RP 711746
SITE AREA: 4433M2

Parking Schedule		
Levels	unit parking	Visitor parking
Ground Floor	16	12
Sub-total	16	12
Total parks provided	28	

Gross Area Schedule				
number	Count	Name	Area	percentage
building				
1	1	units 1 & 2	215.88 m²	5%
2	1	units 3 & 4	215.88 m²	5%
3	1	units 5 & 6	215.88 m²	5%
4	1	units 7 & 8	215.88 m²	5%
5	1	units 9	169.03 m²	4%
6	1	units 10 & 11	215.88 m²	5%
46	1	units 12 & 13	215.88 m²	5%
47	1	units 14	169.00 m²	4%
building: 8	8		1633.31 m²	38%
driveway/parking				
7	1	driveway/visitor parking	951.61 m²	22%
driveway/parking: 1	1		951.61 m²	22%
landscape				
48	1	gazebo	11.88 m²	0%
49	1	gazebo	11.88 m²	0%
13	1	landscaping	13.20 m²	0%
16	1	landscaping	11.99 m²	0%
17	1	landscaping	176.54 m²	4%
24	1	landscaping	164.77 m²	4%
25	1	landscaping	135.68 m²	3%

Gross Area Schedule				
number	Count	Name	Area	percentage
26	1	landscaping	106.91 m²	2%
27	1	landscaping	66.23 m²	2%
28	1	landscaping	277.83 m²	6%
29	1	landscaping	182.15 m²	4%
30	1	landscaping	172.28 m²	4%
31	1	landscaping	9.76 m²	0%
32	1	landscaping	4.36 m²	0%
33	1	landscaping	13.20 m²	0%
34	1	landscaping	12.48 m²	0%
35	1	landscaping	13.20 m²	0%
36	1	landscaping	13.20 m²	0%
37	1	landscaping	13.20 m²	0%
38	1	landscaping	13.20 m²	0%
39	1	landscaping	12.48 m²	0%
40	1	landscaping	13.20 m²	0%
41	1	landscaping	13.20 m²	0%
42	1	landscaping	13.20 m²	0%
43	1	landscaping	13.20 m²	0%
44	1	landscaping	13.20 m²	0%
45	1	landscaping	13.20 m²	0%
50	1	landscaping	239.09 m²	6%
landscape: 28	28		1754.73 m²	40%
Grand total: 37	37		4339.65 m²	100%



1 site area break down
1 : 150

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Revision Schedule		
No	Description	Date
1		



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project:
Proposed Multiple Dwellings

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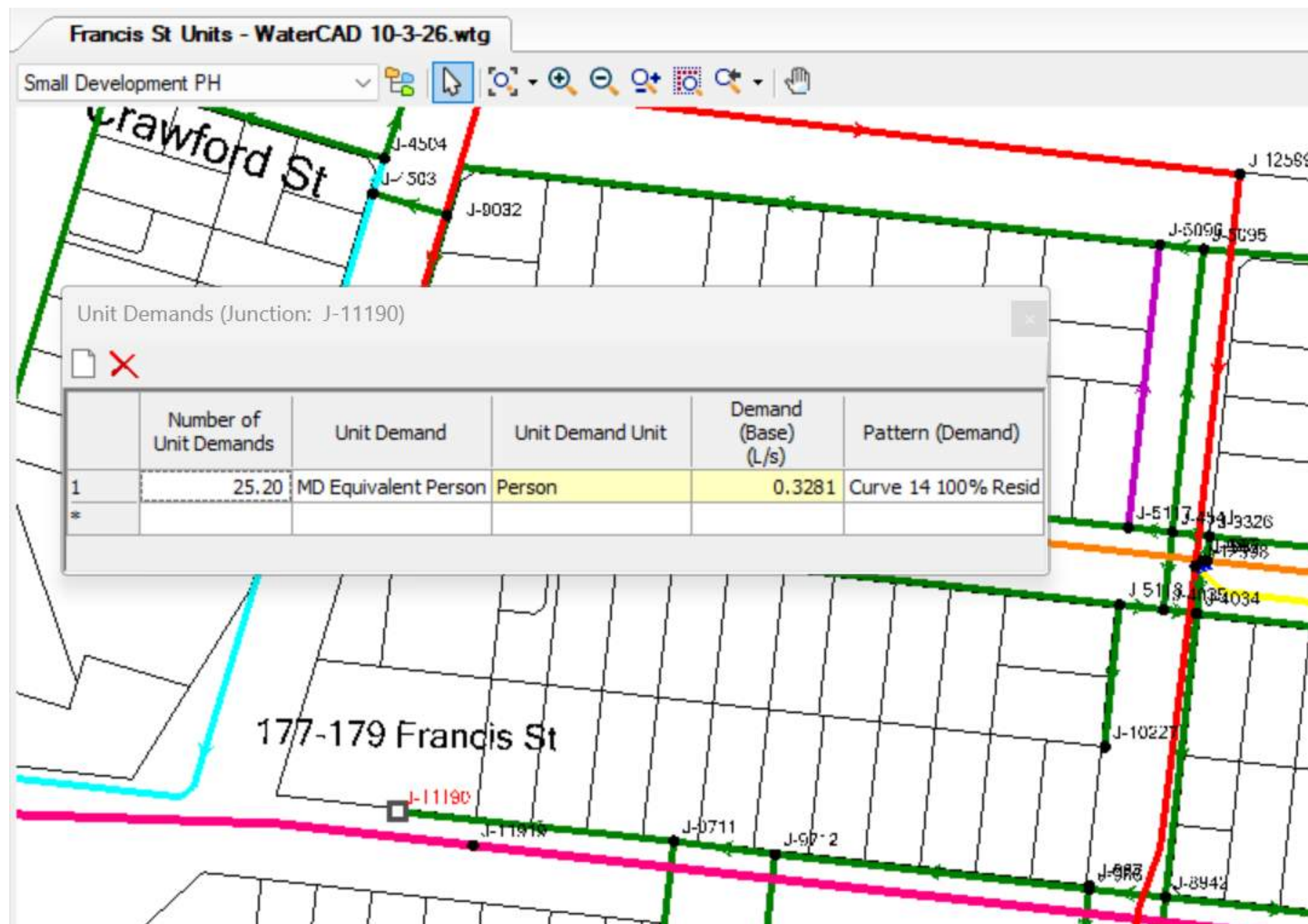
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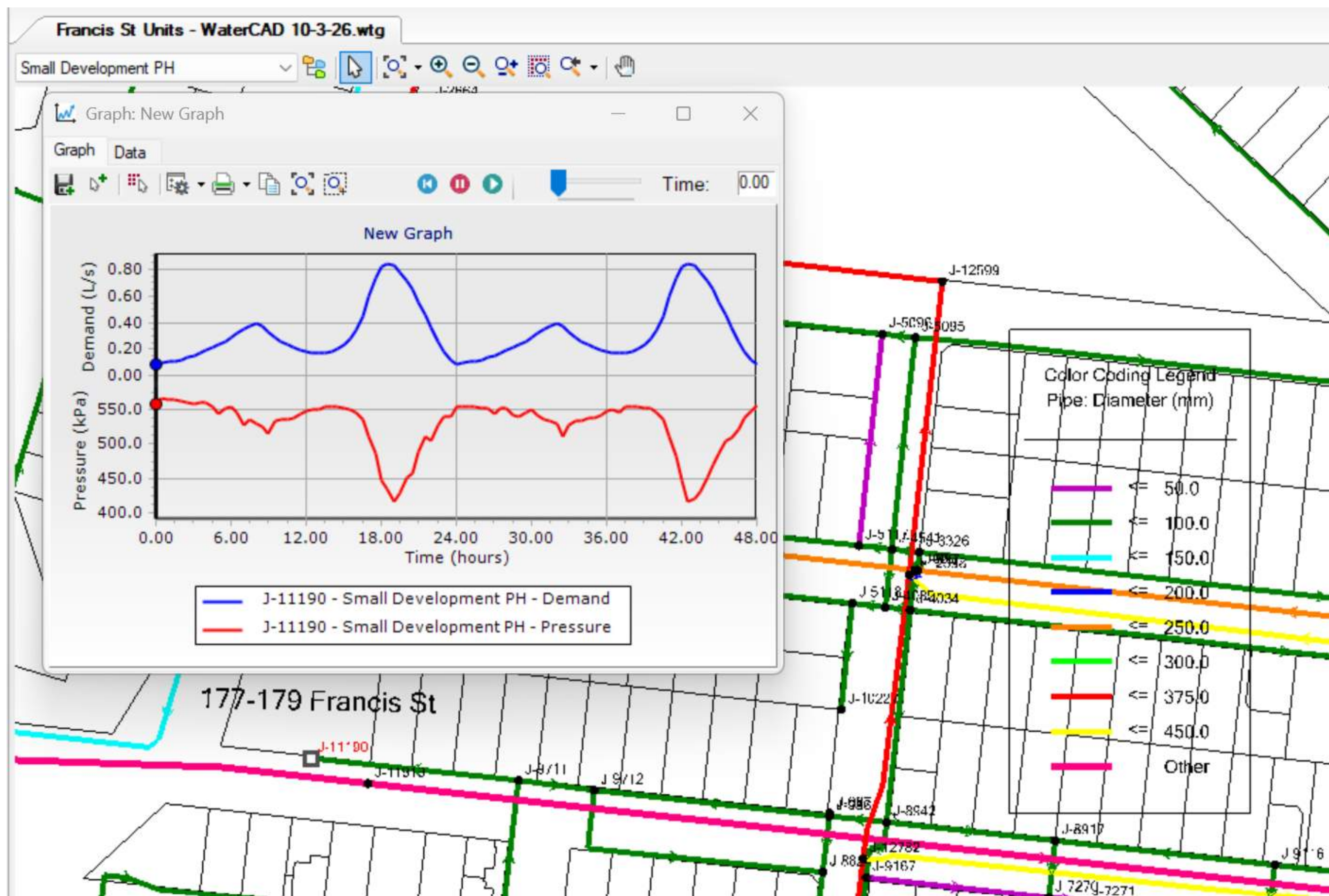
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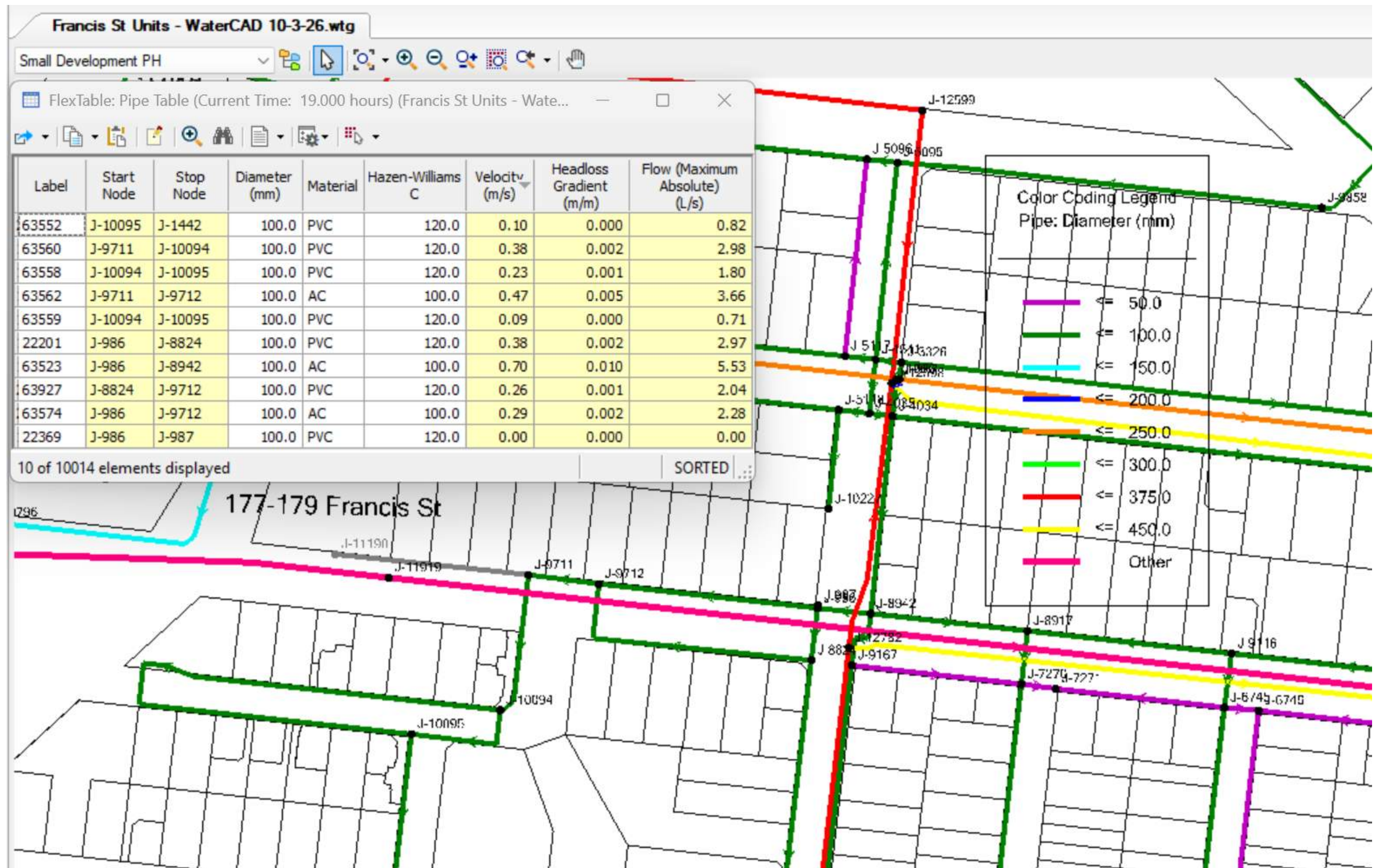
APPENDIX B

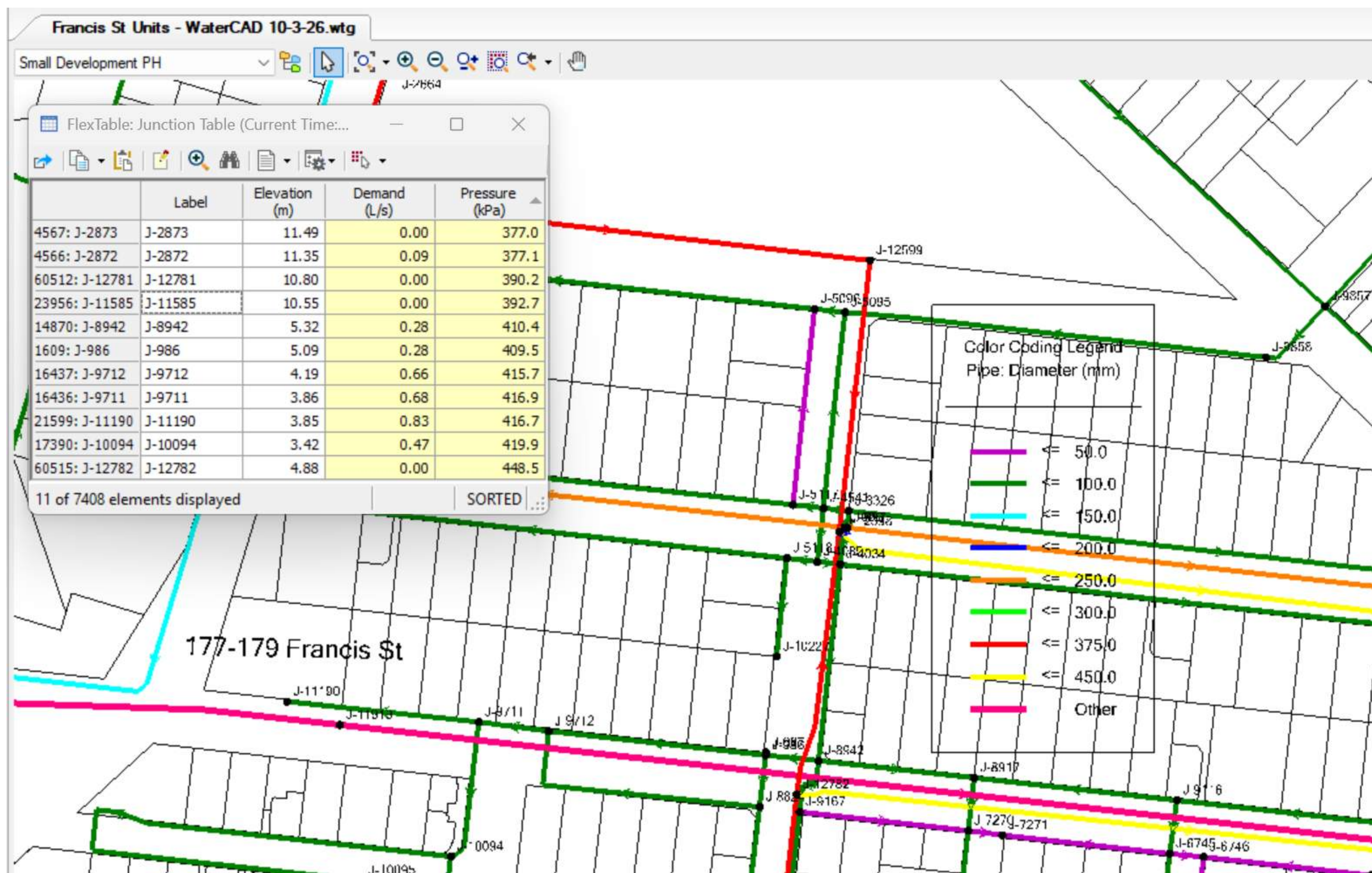
WATERGEMS MODELLING RESULTS

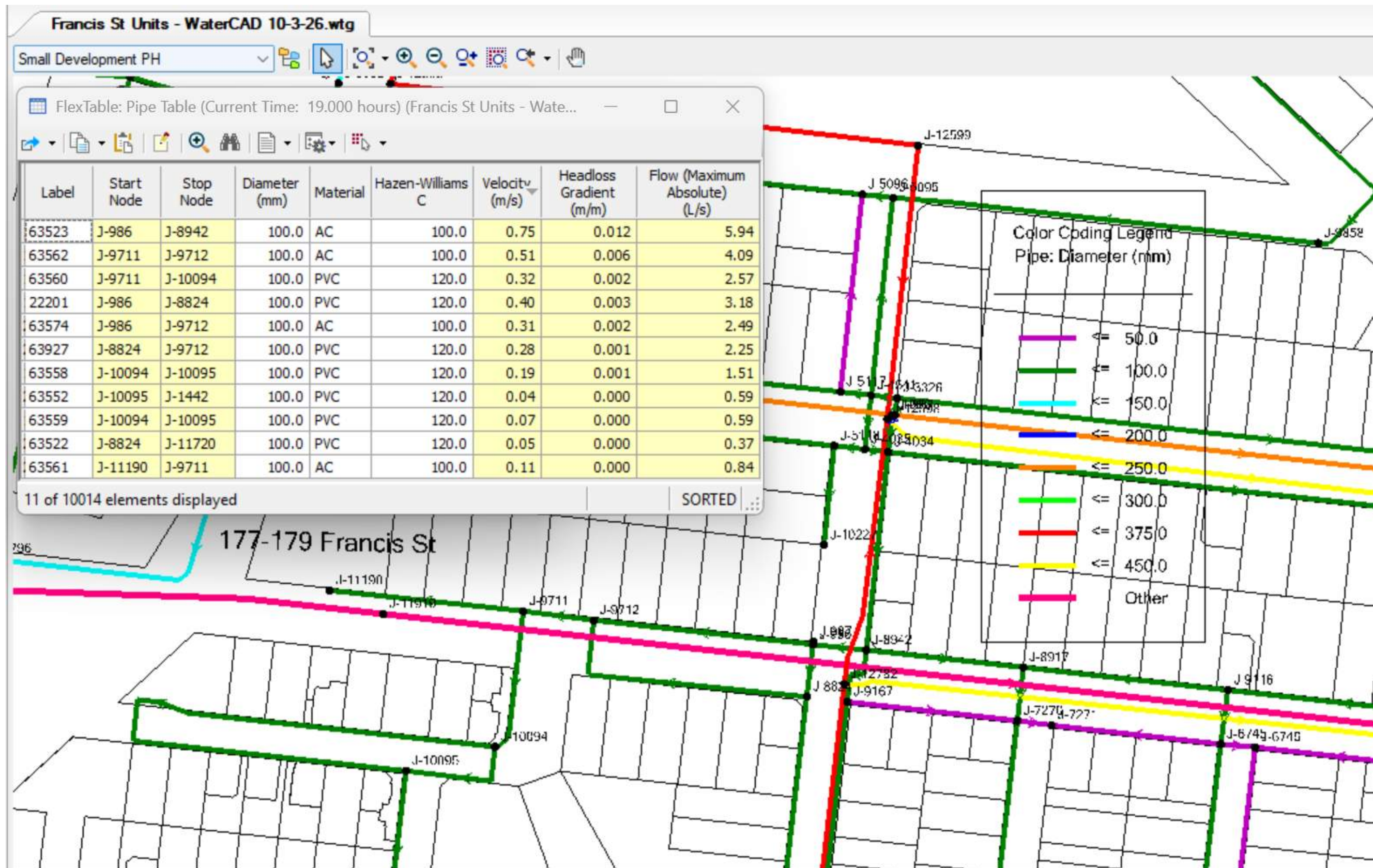


WATERGEMS Model With 28 Residential Units - Water Demand Added

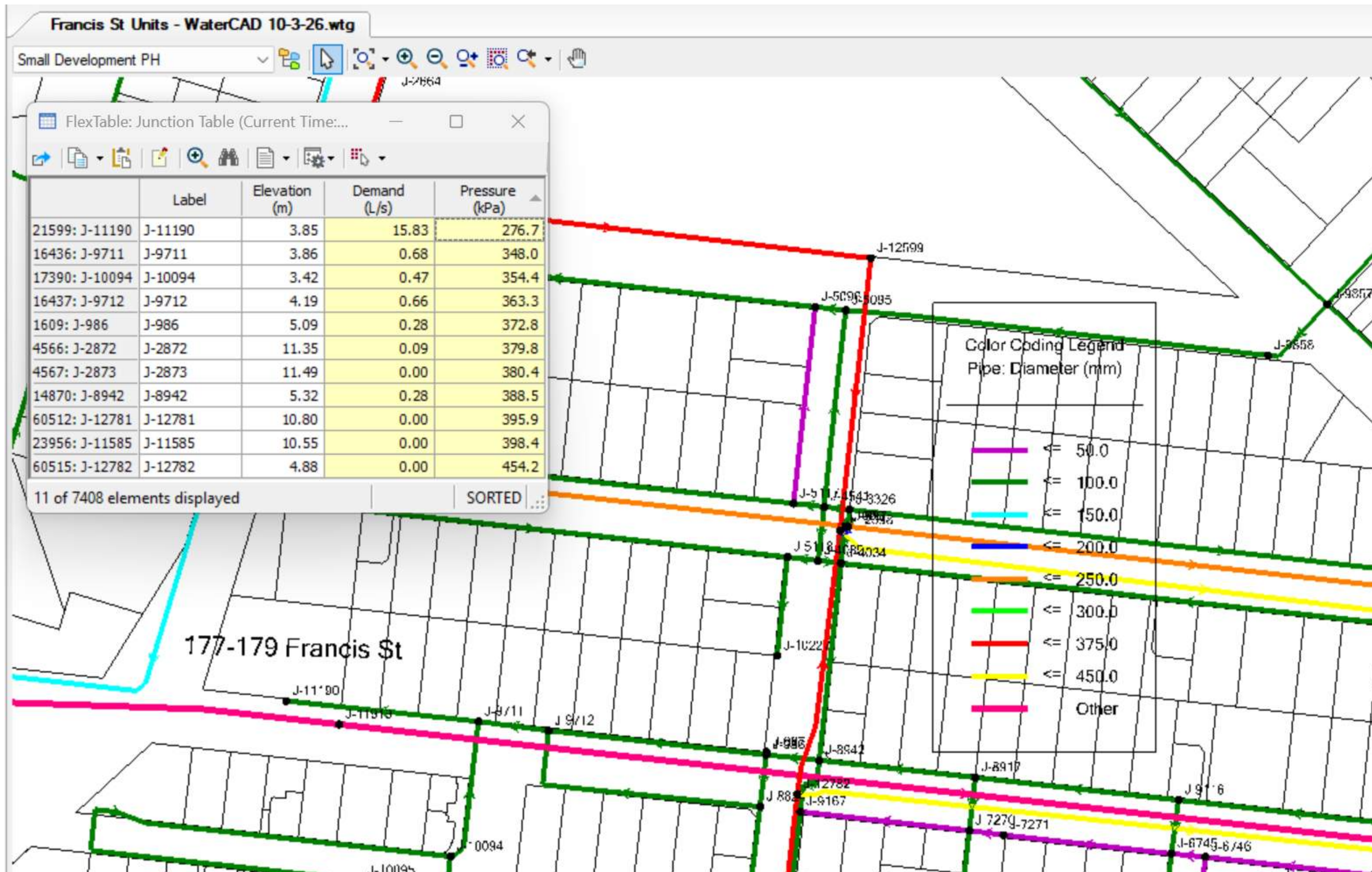




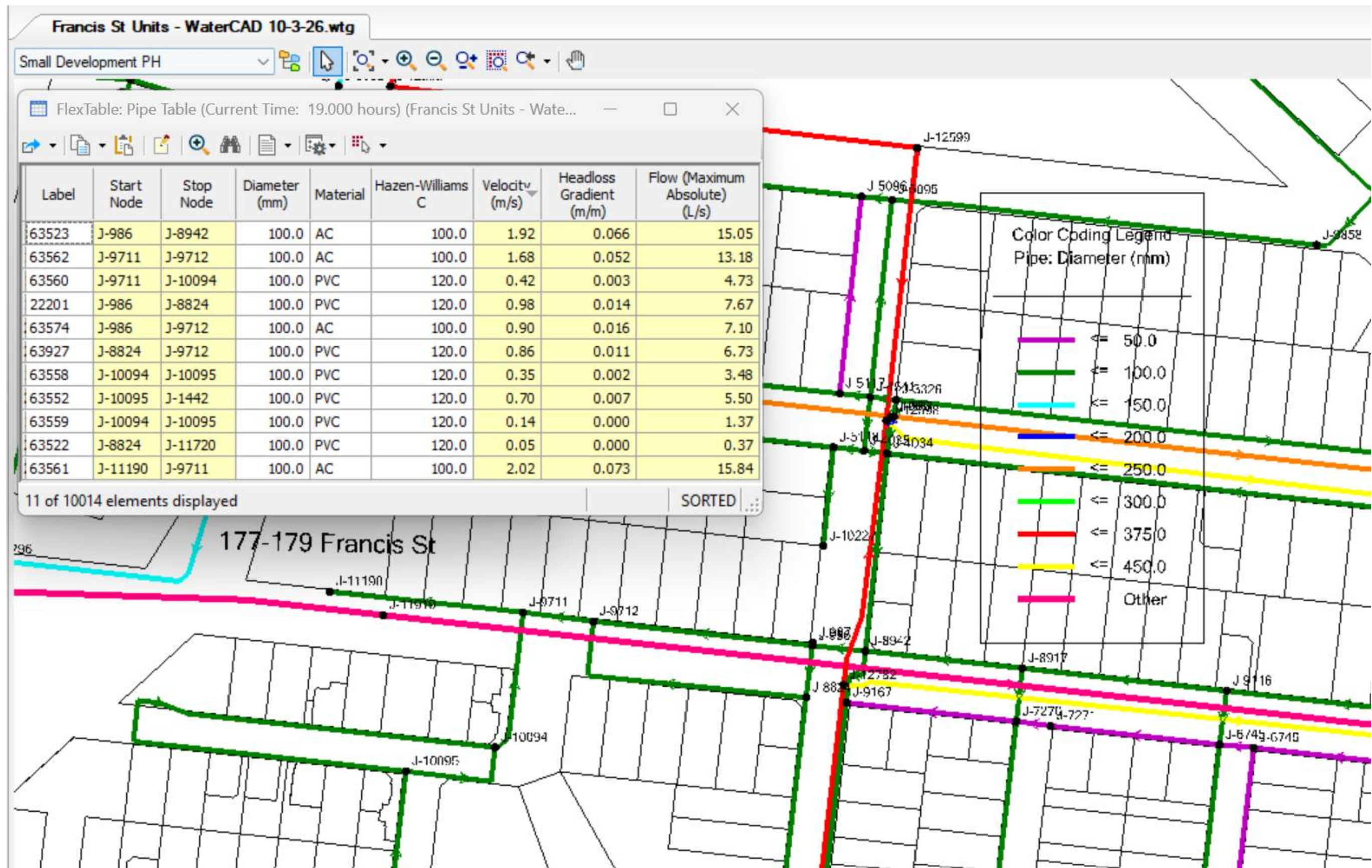




Peak Hour Pipes Modelling Results – 7 pm

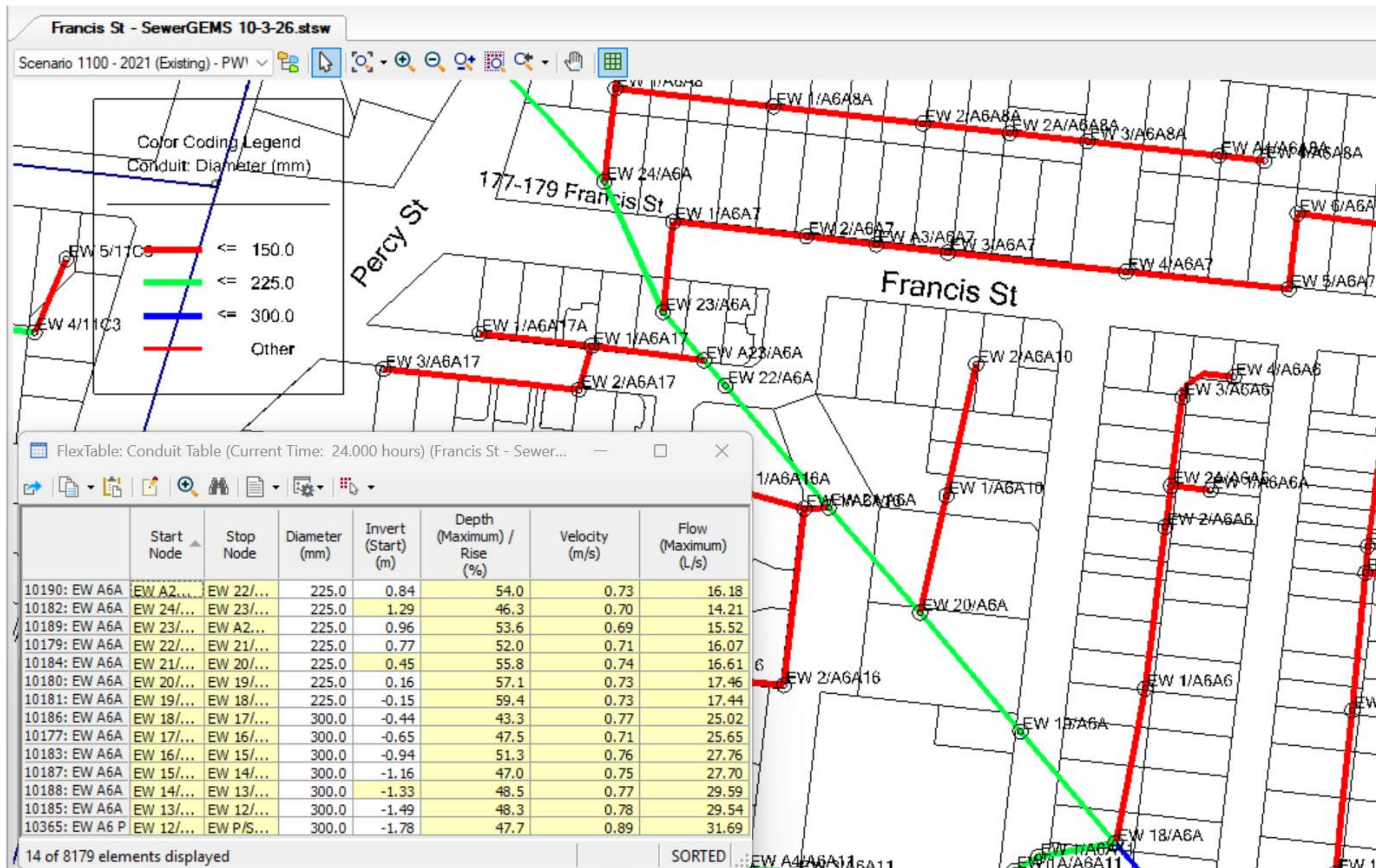


Peak Hour Node + 15 l/s Fire Flow Results – 7 pm



APPENDIX C

SEWERGEMS MODELLING RESULTS & FIGURES



PWWF Sewer Capacity Assessment Results

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APPENDIX I



Proposed Residential Development
Material Change of Use
179 Francis Street
West End

ACOUSTIC REPORT



Client:
Kaenetto Investments Pty Ltd

Reference:
2026025 R01B 179 Francis Street, West End RTN.docx

Date Issued:
25 March 2026

Document Information

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25/03/26	R01A (DRAFT)	Kaitlyn Meldrum	Kayleigh Styles	ME
25/03/26	R01B	Kaitlyn Meldrum	Kayleigh Styles	ME

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1. Introduction

This report is in response to a request by Kaenetto Investments Pty Ltd for a road traffic noise assessment of a proposed residential development to be located at 179 Francis Street, West End. To facilitate the assessment, unattended noise monitoring was conducted to establish existing road traffic impacts from Percy Street to the proposed development. Based on the results of the assessment, recommendations for acoustic treatments are specified in this report.

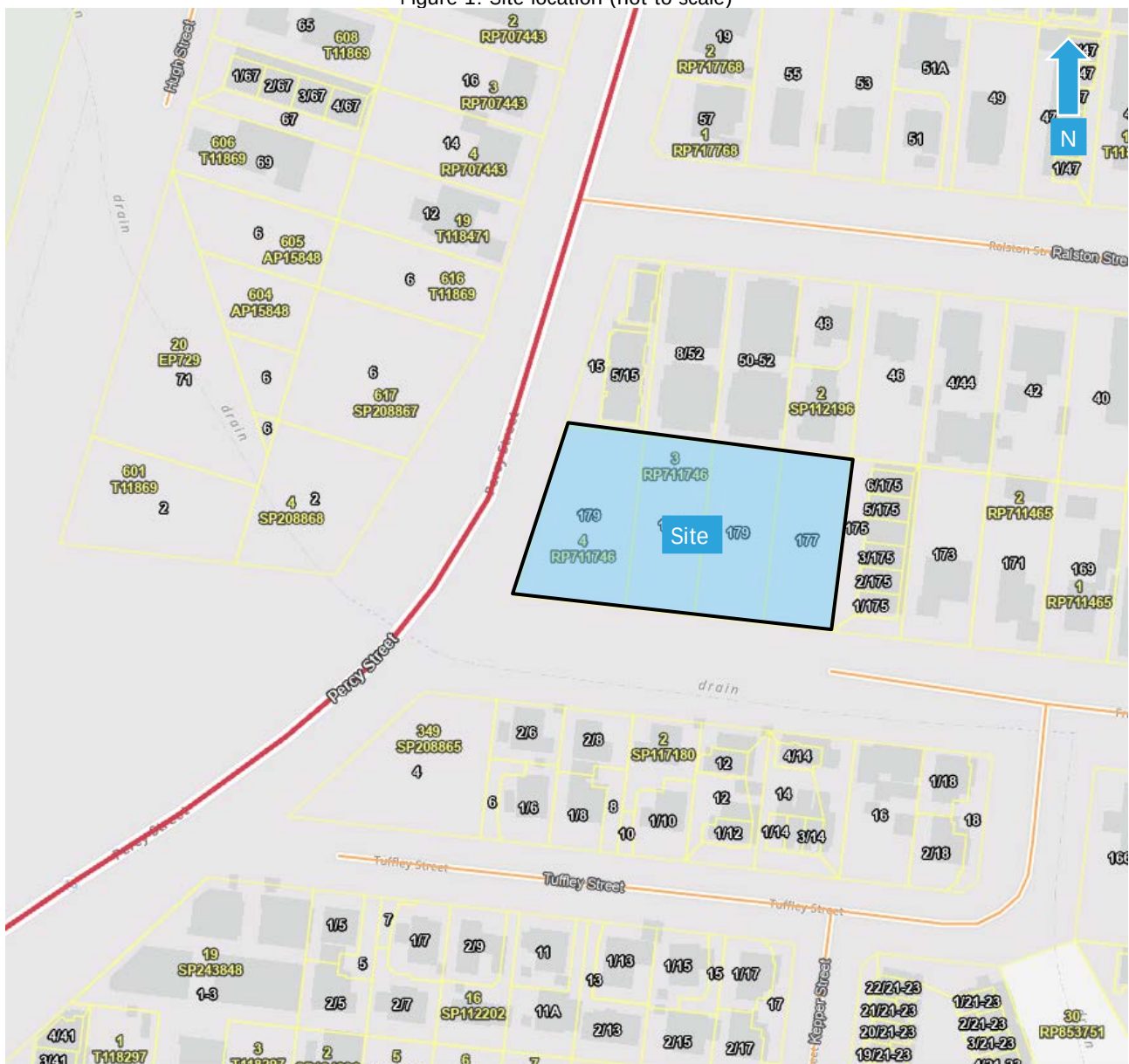
2. Site Description

2.1 Site Location

The site is described by the following;

177-179 Francis Street, West End
Lots 1-4 on RP711746

Figure 1: Site location (not to scale)



A site survey was conducted on 17 February 2026 which identified the following in relation to the site;

- a) The site is currently vacant and ready for construction.
- b) Residential land uses bound the site to the north and east.
- c) Francis Street is located to the southeast of the site, separating it from residential dwellings.
- d) Percy Street bounds the site to the west, separating it from vacant land.

2.2 Proposal

The proposal is to construct 14 single residential units comprised of the following;

- Total site area: 4,433m².
- 6 duplex and 2 villas.
- 11 visitor carparking spaces
- Site access via Francis Street.

2.3 Acoustic Environment

The ambient noise environment at the site is primarily affected by road traffic noise from Percy Street.

3. Equipment

The following equipment was used to record noise levels:

- Rion NL42 Environmental Noise Monitor
- Pulsar Model 105 Sound Calibrator

The sound measuring equipment holds current NATA Laboratory Certification and was field calibrated before and after the monitoring period with no significant drift from the reference signal recorded.

4. Noise Monitoring

4.1 Unattended Noise Monitoring

4.1.1 Road Traffic Noise Monitoring

A Rion NL42 road traffic noise monitor was placed at 21 Percy Street approximately 8m from the nearest lane of the Percy Street to measure road traffic noise levels. The monitor was located in a free field position with the microphone approximately 1.4 metres above ground surface level. The monitor was set to record noise levels between 17 February and 11 March 2026.

The road traffic noise monitor was set to record noise levels in "A" weighting, fast response using 1-hour statistical intervals. Road traffic noise monitoring was conducted in accordance with Australian Standard *AS2702:1984 'Acoustics - Methods for the measurement of road traffic noise'*.

Refer to Figure 2 for noise monitoring location.

Figure 2: Site and Noise Monitoring Location



5. Measured Noise Levels

The following tables present the measured traffic noise levels from the unattended noise surveys. Any periods of inclement weather or extraneous noise were omitted from the measured data prior to determining the results.

5.1 Meteorological Conditions

Meteorological observations during the unattended noise monitoring survey were obtained from the Bureau of Meteorology website (<http://www.bom.gov.au/climate/data>), shown in Table 1 below.

Table 1: Meteorological Conditions – Townsville

Day	Date	Rainfall (mm)	Wind			
			9am		3pm	
			Direction	Speed (km/h)	Direction	Speed (km/h)
Tuesday	17/02/2026	7.2	ESE	11	8	ENE
Wednesday	18/02/2026	31.6	SSE	17	8	E
Thursday	19/02/2026	66.8	-	Calm	3	NNE
Friday	20/02/2026	73.8	ENE	9	8	WNW
Saturday	21/02/2026	11.6	E	6	8	ENE
Sunday	22/02/2026	18	SE	13	8	ENE
Monday	23/02/2026	0	SSW	6	-	NE
Tuesday	24/02/2026	1.6	SE	15	8	E
Wednesday	25/02/2026	0	S	13	2	ENE
Thursday	26/02/2026	0	ESE	17	8	ESE
Friday	27/02/2026	0.8	SW	6	-	NE
Saturday	28/02/2026	0.6	SE	17	-	ENE
Sunday	1/03/2026	1	SSE	11	E	33
Monday	2/03/2026	12	ESE	24	ESE	24
Tuesday	3/03/2026	0.4	SSE	19	E	31
Wednesday	4/03/2026	4.8	SSE	17	E	24
Thursday	5/03/2026	0	SSE	20	SE	24
Friday	6/03/2026	5.8	S	13	E	19
Saturday	7/03/2026	27.2	N	26	N	26
Sunday	8/03/2026	23	N	20	N	22
Monday	9/03/2026	7	NNW	17	5	N
Tuesday	10/03/2026	10.8	NW	17	NW	8

5.2 Road Traffic Noise Levels

The measured road traffic noise levels at the monitoring locations were as follows:

Table 2: Measured ambient and road noise levels – all time periods

Day	Date	L10(18h)	Leq(1h) Day	Leq(1h) Night	L90(8h)	L90(18h)
Tuesday	17/02/2026	69.7	69.5	61.3	43.0	49.0
Wednesday	18/02/2026	71.4	72.6	67.4	46.6	52.8
Thursday	19/02/2026	70.1	72.7	74.4	49.8	50.9
Friday	20/02/2026	72.1	72.0	70.6	47.6	54.5
Saturday^	21/02/2026	70.5	69.2	65.6	44.8	50.7
Sunday^	22/02/2026	69.5	73.3	65.2	45.8	48.7
Monday	23/02/2026	69.2	69.6	65.7	45.0	49.8
Tuesday	24/02/2026	69.5	72.5	65.7	45.8	50.5
Wednesday	25/02/2026	69.5	69.9	68.6	43.9	50.4
Thursday	26/02/2026	69.7	67.8	65.6	43.1	50.3
Friday	27/02/2026	70.5	69.3	67.4	43.8	50.2
Saturday^	28/02/2026	69.9	72.1	65.7	41.1	48.2
Sunday^	1/03/2026	69.0	69.7	62.7	40.0	49.0
Monday	2/03/2026	70.0	72.4	67.0	40.7	50.0
Tuesday	3/03/2026	70.3	71.0	67.6	41.2	50.0
Wednesday	4/03/2026	69.9	70.5	66.6	40.6	49.3
Thursday	5/03/2026	69.9	72.3	66.5	40.1	50.5
Friday	6/03/2026	71.4	70.9	65.9	41.2	51.5
Saturday^	7/03/2026	70.8	70.4	66.6	46.5	50.0
Sunday^	8/03/2026	69.9	70.7	63.8	46.8	50.8
Monday	9/03/2026	70.0	69.0	66.9	43.9	51.3
Tuesday	10/03/2026	71.9	69.8	66.9	45.7	52.3
Overall value		70.1	70.5	66.2	42.8	50.3

*Note rainfall 18-20 February and 9 March for all time periods was found to affect the measurements, therefore the data was omitted for the affected time periods.

^The proposed development is located within a state-controlled transport noise corridor overlay. To be consistent with the advice in Section 4.3.1.2 of the Transport Noise Management Code of Practice, road traffic data for weekend periods and public holidays was not utilised in the assessment. The code specifies that measurements of traffic noise shall not be conducted during periods of atypical traffic flows. Periods of atypical traffic flows and patterns generally include weekends, school and public holidays.

Refer to the appendix for a graphical representation of the noise monitoring.

6. Noise Criteria

6.1 Road Traffic Noise Criteria

As the development is located near a state-controlled road (Percy Street), the *State Development Assessment Provisions (SDAP)* criteria detailed in Section 6.1.1 applies.

6.1.1 State Development Assessment Provisions (SDAP)

The criteria applied are in accordance with the *SDAP* Version 3.5 dated 12 December 2025 by the Department of State Development, Manufacturing, Infrastructure and Planning. The *SDAP State Code 1: Development in a state-controlled road environment* sets out matters of interest for the assessment of developments near state-controlled roads or multi-modal corridors. The applicable criteria for the development in the year 2035 (ten-year planning horizon) requires road traffic noise to be assessed in accordance with Table 1.5 of the policy statement as follows;

Table 3: SDAP Road Traffic Noise Criteria

Material change of use (accommodation activity)	
Ground floor level requirements adjacent to a state-controlled road or type 1 multi-modal corridor	
PO39 Development minimises noise intrusion from a state-controlled road in private open space.	AO39.1 Development provides a noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.2) for private open space at the ground floor level; 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO39.2 Development achieves the maximum free field acoustic level in reference table 2 (item 2.2) for private open space by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.
PO40 Development (excluding a relevant residential building or relocated building) minimises noise intrusion from a state controlled road in habitable rooms at the facade.	AO40.1 Development (excluding a relevant residential building or relocated building) provides a noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum building façade acoustic level in reference table 1 (item 1.1) for habitable rooms; 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO40.2 Development (excluding a relevant residential building or relocated building) achieves the maximum building façade acoustic level in reference table 1 (item 1.1) for habitable rooms by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.

PO41 Habitable rooms (excluding a relevant residential building or relocated building) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.
Above ground floor level requirements (accommodation activity) adjacent to a state-controlled road or type 1 multi-modal corridor	
PO42 Balconies, podiums, and roof decks include: 1. a continuous solid gap-free structure or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia); 2. highly acoustically absorbent material treatment for the total area of the soffit above balconies, podiums, and roof decks.	No acceptable outcome is provided.
PO43 Habitable rooms (excluding a relevant residential building or relocated building) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.

Table 4: Table 1 of SDAP Maximum Building Façade Acoustic Levels

Applicable use	Acoustic levels
1.1: Accommodation activity	a. ≤ 60 dB(A) L10 (18 hour) façade corrected (measured L90 (8 hour) free field between 10pm and 6am ≤ 40 dB(A)) OR b. ≤ 63 dB(A) L10 (18 hour) façade corrected (measured L90 (8 hour) free field between 10pm and 6am > 40 dB(A))

Table 5: Table 2 of SDAP Maximum Free Field Acoustic Levels

Applicable use	Acoustic levels
2.2: Private open space for an accommodation activity (including lots created for a future accommodation activity)	a. ≤ 57 dB(A) L10 (18 hour) free field (measured L90 (18 hour) free field between 6am and 12 midnight ≤ 45 dB(A)) OR b. ≤ 60 dB(A) L10 (18 hour) free field (measured L90 (18 hour) free field between 6am and 12 midnight > 45 dB(A))

Table 6: Table 3 of SDAP Maximum Internal Acoustic Levels

Applicable use	Acoustic levels
3.1: Habitable rooms in an accommodation activity (excluding uses addressed in QDC MP4.4)	≤ 35 dB(A) Leq (1 hour) (maximum hour over 24 hours)

6.1.2 Queensland Design Code MP4.4

To determine the minimum design requirements for any new residential buildings located in a transport noise corridor, the Queensland Development Code Part 4.4 may be applied if no alternative solutions are provided. In accordance with MP4.4, the noise categories are stated in Table 7.

Table 7: Queensland Development Code Noise Categories

Category	Noise level L10 (18hr) dBA (including façade correction)
Category 4	≥ 73
Category 3	68-72
Category 2	63-67
Category 1	58-62
Category 0	≤ 57

The building treatment for any future development onsite shall be determined at Building Approval stage, in general accordance with the Queensland Development Code. Alternative solution may be provided on request.

7. Road Traffic Assessment

Road traffic noise associated with Percy Street for a ten-year planning horizon was assessed at the development to determine compliance with SDAP criteria (refer to Section 6.1.1) and any requirements for acoustic treatments.

7.1 Traffic Volumes

Traffic volume for Francis Street was obtained from Transport and Main Roads Traffic Census and is presented in Table 8, with a growth rate of 2.92% used to predict the future AADT.

Table 8: Traffic Volumes

Location	2023 AADT	2026 Predicted AADT	2036 Predicted AADT	Percentage of Heavy Vehicles
Francis Street	24,660	26,883	35,850	3%

7.2 Road Traffic Noise Verification

To ensure the CoRTN noise model is accurate, a verification model of the predicted $L_{A10(18hr)}$ was created and compared to the measured noise level. The CoRTN method allows a 2dB(A) variation from the predicted and measured level, if the variation exceeds 2dB(A) a correction to the predicted level is required.

Table 9: Comparison of measured and predicted noise levels

Location	Measured $L_{A10(18hr)}$ dB(A)	Predicted $L_{A10(18hr)}$ dB(A)	Correction
Francis Street	70.1	70.3	0

Figure 3: SoundPLAN verification of noise monitoring location – Road Traffic

Receiver	FI	L10(18h) dB(A)
Logger location	GF	70.3

Inputs applied in the verification of the noise modelling are as follows:

- Speed: 60km/hr
- Road Surface correction: 0dBA, as per the Transport Noise Code of Practice the road surface was identified as Bitumen Dense Graded Asphalt.
- Width of each Lane: 3.5m.
- -0.7 free field correction.

7.3 Predicted Road Traffic Noise Levels - 2036

Road traffic noise modelling for the proposed development was based on the following information:

- Site layout provided by Concepts Building Design, project number 25-051, dated December 2025.
- Percy Street speed limit of 60km/h.
- Receiver heights were based on 1.5m above finished level.
- +2.5dB(A) Façade correction.
- -0.7dBA free field correction and -1.7dBA façade correction for Queensland conditions.

Table 10: Predicted Road Traffic Noise Impacts 2036 – with acoustic barrier

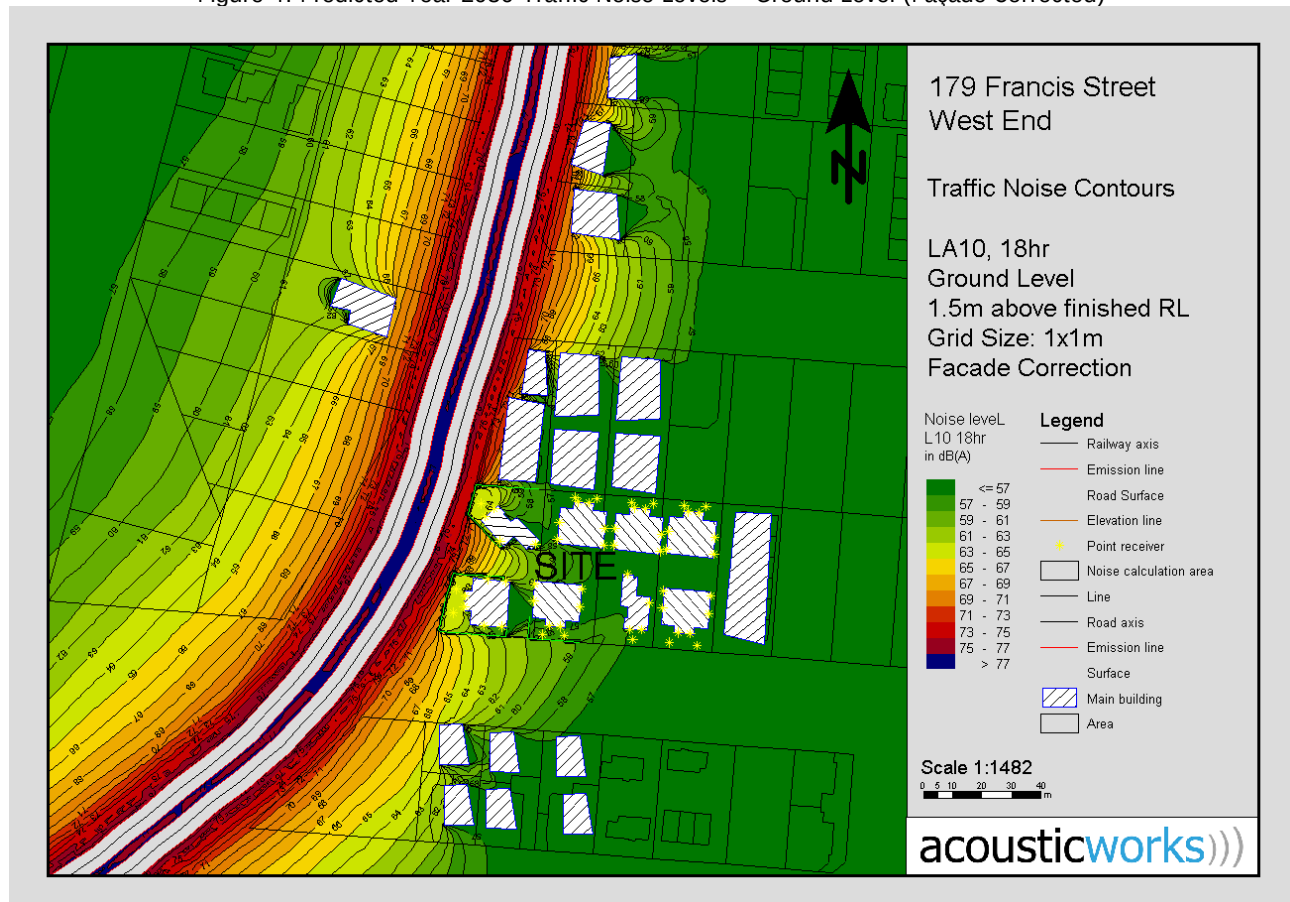
Unit	Floor	Room	Predicted Road Traffic Noise Levels	
			L10 (18h) dB(A)	QDC Noise Category
U1	GF	Bed 1	52	0
U1	GF	Bed 2	51	0
U1	GF	Living/kitchen/dining	54	0
U2	GF	Bed 1	47	0
U2	GF	Bed 2	47	0
U2	GF	Living/kitchen/dining	54	0
U3	GF	Bed 1	51	0
U3	GF	Bed 2	51	0
U3	GF	Living/kitchen/dining	51	0
U4	GF	Bed 1	47	0
U4	GF	Bed 2	47	0
U4	GF	Living/kitchen/dining	51	0
U5	GF	Bed 1	54	0
U5	GF	Bed 2	53	0
U5	GF	Living/kitchen/dining	51	0
U6	GF	Bed 1	48	0
U6	GF	Bed 2	48	0
U6	GF	Living/kitchen/dining	51	0
U7	GF	Bed 1	56	0
U7	GF	Bed 2	56	0
U7	GF	Living/kitchen/dining	53	0
U8	GF	Bed 1	50	0
U8	GF	Bed 2	50	0
U8	GF	Living/kitchen/dining	52	0
U9	GF	Bed 1	52	0
U9	GF	Bed 2	61	1
U9	GF	Bed 3	64	2
U9	GF	Living/kitchen/dining	63	2
U10	GF	Bed 1	57	0
U10	GF	Bed 2	60	1
U10	GF	Living/kitchen/dining	64	2
U11	GF	Bed 1	58	1
U11	GF	Bed 2	58	1
U11	GF	Living/kitchen/dining	63	2
U12	GF	Bed 1	60	1
U12	GF	Bed 2	58	1
U12	GF	Living/kitchen/dining	57	0
U13	GF	Bed 1	50	0
U13	GF	Bed 2	50	0
U13	GF	Living/kitchen/dining	57	0
U14	GF	Bed 1	53	0

Unit	Floor	Room	Predicted Road Traffic Noise Levels	
			L10 (18h) dB(A)	QDC Noise Category
U14	GF	Bed 2	48	0
U14	GF	Bed 3	56	0
U14	GF	Living/kitchen/dining	56	0

Based on the predicted noise impacts, additional facade treatments are required in accordance with QDC MP4.4. Refer to Section 8 for further recommendations.

The 3D SoundPLAN CoRTN noise model predicts $L_{A10,18\text{hour}}$ levels as shown Figure 4.

Figure 4: Predicted Year 2036 Traffic Noise Levels – Ground Level (Façade Corrected)



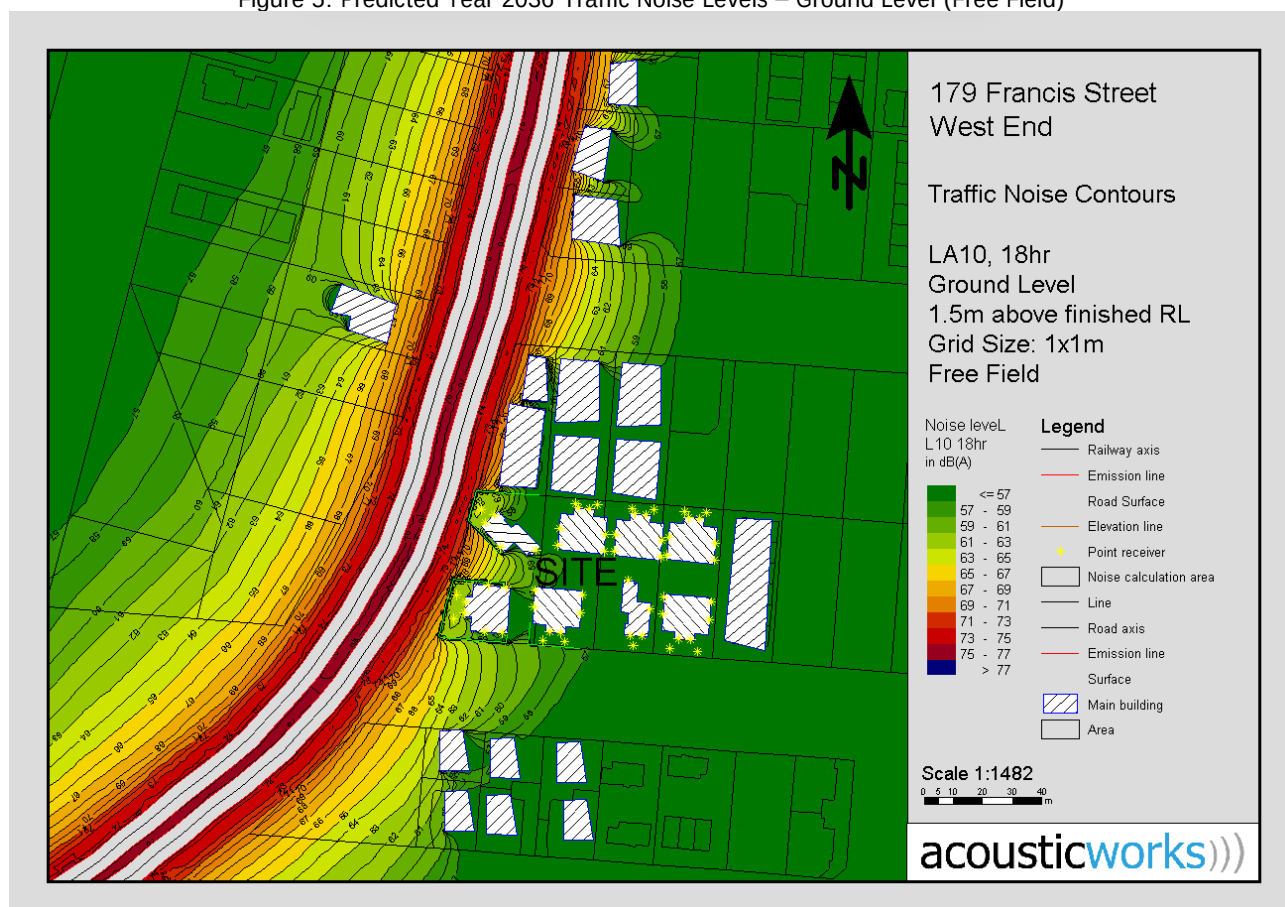
Noise impacts to passive recreation areas are presented in the following table:

Table 11: Road Traffic Noise Impacts to Passive Recreation Areas – with acoustic barrier

Location			Predicted Road Traffic Noise Impacts (Free Field) 2036	Compliance to SDAP Criteria <60dB(A) (yes/no)
Unit	Floor	Area	L _{A10(18hr)} dB(A)	
U1	GF	Yard	54	yes
U2	GF	Yard	53	yes
U3	GF	Yard	53	yes
U4	GF	Yard	52	yes
U5	GF	Yard	53	yes
U6	GF	Yard	52	yes
U7	GF	Yard	54	yes
U8	GF	Yard	53	yes
U9	GF	Yard	63	no
U10	GF	Yard	62	no
U11	GF	Yard	62	no
U12	GF	Yard	56	yes
U13	GF	Yard	56	yes
U14	GF	Yard	55	yes

The 3D SoundPLAN CoRTN noise model predicts L_{A10,18hour} levels as shown Figure 5.

Figure 5: Predicted Year 2036 Traffic Noise Levels – Ground Level (Free Field)



8. Recommendations

8.1 Acoustic Barriers

Acoustic barriers are recommended to be constructed along the passive recreational boundaries of units 9-13 as shown in Figure 6. The barriers are recommended to be built to a height of 2.0 metres for units 9-11 and 1.8m for units 12 and 13 above the finished recreational level or boundary level (whichever is higher).

The barrier shall be constructed using materials that achieve a minimum surface density of 15kg/m². The barriers shall be constructed in accordance with Main Roads Standard Specification MRTS15 "Noise Fences". The barrier shall be free of gaps and holes.

Figure 6: TMR Acoustic Barriers



Table 12: Recommended Acoustic Barrier Height

Reference Point	Approximate Finished Recreational Level (m)	Recommended Barrier Height (m)	Approximate Finished Top Barrier Level (m)
I	3.27	2.0	5.3
II	3.00	2.0	5.0
III	3.00	2.0	5.0
IV	3.00	2.0	5.0
V	3.00	1.8	4.8

8.1.1 Glazing

The minimum glazing treatments are required to comply with the following:

- The minimum glass thickness specified shall not be reduced regardless of the R_w performance of the glass unless the glazier can provide a specific (non-generic) NATA Test report proving the proposed glazing system complies (the test report must be based on the same configuration proposed for the development). Note an estimation or calculated performance will not be accepted.
- If compliance cannot be achieved with the minimum R_w ratings, the glazing system shall be upgraded until compliance is achieved.
- Glazing specified with acoustic seals requires a seal that has been tested with a glazing system or door to achieve an R_w rating in accordance with AS/NZS ISO 717.1 (Q-Ion seals or an equivalent product), mohair seals are not acceptable.
- The glazier shall provide NATA test reports on request to verify compliance with the minimum R_w ratings. Generic reports are not acceptable.
- Living areas are defined as habitable rooms other than bedrooms (excluding garages, kitchens, bathrooms & hallways).

Table 13: Required façade acoustic ratings

Unit	Floor	Room	QDC Noise Category	QDC R_w Ratings			QDC Glazing Minimum Construction Requirements	Acoustic seals
				Wall	Roof	Glazing		
U1	GF	Bed 1	0	-	-	-	Standard	no
U1	GF	Bed 2	0	-	-	-	Standard	no
U1	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U2	GF	Bed 1	0	-	-	-	Standard	no
U2	GF	Bed 2	0	-	-	-	Standard	no
U2	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U3	GF	Bed 1	0	-	-	-	Standard	no
U3	GF	Bed 2	0	-	-	-	Standard	no
U3	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U4	GF	Bed 1	0	-	-	-	Standard	no
U4	GF	Bed 2	0	-	-	-	Standard	no
U4	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U5	GF	Bed 1	0	-	-	-	Standard	no
U5	GF	Bed 2	0	-	-	-	Standard	no
U5	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U6	GF	Bed 1	0	-	-	-	Standard	no
U6	GF	Bed 2	0	-	-	-	Standard	no
U6	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U7	GF	Bed 1	0	-	-	-	Standard	no
U7	GF	Bed 2	0	-	-	-	Standard	no
U7	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U8	GF	Bed 1	0	-	-	-	Standard	no
U8	GF	Bed 2	0	-	-	-	Standard	no
U8	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U9	GF	Bed 1	0	-	-	-	Standard	no
U9	GF	Bed 2	1	35	35	27	4mm float	yes
U9	GF	Bed 3	2	41	38	35	10.38 lam	yes
U9	GF	Living/kitchen/dining	2	41	38	35	10.38 lam	yes
U10	GF	Bed 1	0	-	-	-	Standard	no
U10	GF	Bed 2	1	35	35	27	4mm float	yes

Unit	Floor	Room	QDC Noise Category	QDC Rw Ratings			QDC Glazing	Acoustic seals
				Wall	Roof	Glazing	Minimum Construction Requirements	
U10	GF	Living/kitchen/dining	2	41	38	35	10.38 lam	yes
U11	GF	Bed 1	1	35	35	27	4mm float	yes
U11	GF	Bed 2	1	35	35	27	4mm float	yes
U11	GF	Living/kitchen/dining	2	41	38	35	10.38 lam	yes
U12	GF	Bed 1	1	35	35	27	4mm float	yes
U12	GF	Bed 2	1	35	35	27	4mm float	yes
U12	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U13	GF	Bed 1	0	-	-	-	Standard	no
U13	GF	Bed 2	0	-	-	-	Standard	no
U13	GF	Living/kitchen/dining	0	-	-	-	Standard	no
U14	GF	Bed 1	0	-	-	-	Standard	no
U14	GF	Bed 2	0	-	-	-	Standard	no
U14	GF	Bed 3	0	-	-	-	Standard	no
U14	GF	Living/kitchen/dining	0	-	-	-	Standard	no

Any locations not identified in Table 13 shall require standard construction, with minimum 4mm float for windows (minimum Rw 22) and 4mm toughened for sliding doors (minimum Rw 23).

8.1.2 Alternative Ventilation

To achieve the required internal noise levels, it would be necessary that all locations nominated in Table 13 as QDC Noise Category 2 to close the facade doors and windows. Therefore these locations would require the provision for alternative ventilation. To achieve this, mechanically assisted ventilation or air conditioning can be used.

Penetrations through the wall or ceiling shall not reduce the overall acoustic performance of the installed system.

8.1.3 Wall Construction

The wall construction recommendations from QDC MP4.4 are included in the table below. Note that these are not the only allowable methods of construction for the development, and alternative constructions to achieve the required Rw ratings may also be provided.

Table 14: QDC typical wall construction

QDC Noise Category	Wall Rw	QDC Acceptable forms of construction
2	41	Two leaves of clay brick masonry at least 110mm thick with cavity not less than 50mm between leaves OR Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11kg/m ³ positioned between studs; and (iii) One layer of plasterboard at least 10mm thick fixed to outside face of studs OR Single leaf of brick masonry at least 110mm thick with at least 13mm thick render on each face OR Concrete brickwork at least 110mm thick OR In-situ concrete at least 100mm thick OR Precast concrete at least 100mm thick and without joints. OR 1 layer of 9mm FC, 90mm timber stud with 75mm glasswool batts (density 11kg/m ³) and 1 layer of 13mm plasterboard internally.
1	35	Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) One layer of plasterboard at least 10mm thick fixed to outside face of studs OR Minimum 6mm thick fibre cement sheeting or weatherboards or plank cladding externally, minimum 90mm deep timber stud or 92mm metal stud, standard plasterboard at least 13mm thick internally.
0	N/A	Standard Construction

8.1.4 Roof/ceiling Construction

The roof/ceiling construction recommendations from QDC MP4.4 are included in the table below. Note that these are not the only allowable methods of construction for the development, and alternative constructions to achieve the required Rw ratings may also be provided.

Table 15: QDC typical roof construction

QDC Noise Category	Roof Rw	QDC Acceptable forms of construction
2	38	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity, mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m ³ .
1	35	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity.
0	n/a	Standard Construction

9. Conclusion

A traffic noise assessment has been conducted for the proposed residential development to be located at 179 Francis Street, West End. On condition the recommendations in Section 8 are implemented, compliance is predicted with SDAP MP4.4 criteria.

If you should have any queries please do not hesitate to contact us.

Report Prepared by:



Kaitlyn Meldrum
Acoustic Consultant

acousticworks)))

10. Appendices

10.1 Development Plans



Gross Area Schedule				
Number	Count	Name	Area	percentage
1	1	1000000000	1000000000	100%
2	1	1000000000	1000000000	100%
3	1	1000000000	1000000000	100%
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5	1	1000000000	1000000000	100%
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9	1	1000000000	1000000000	100%
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11	1	1000000000	1000000000	100%
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62	1	1000000000	1000000000	100%
63	1	1000000000	1000000000	100%
64	1	1000000000	1000000000	100%

NOTES:
 1. This is a preliminary report and is subject to change.
 2. This is a preliminary report and is subject to change.
 3. This is a preliminary report and is subject to change.
 4. This is a preliminary report and is subject to change.
 5. This is a preliminary report and is subject to change.

No.	Description	Date
1		



1 site area break down
1 : 150

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CONSULTING

 **R3G**
BUILDERS
DESIGN • BUILD • MANAGE

Preliminary
not for construction or construction management

 **concepts**
+ Planning Group
PO BOX 3026
ST. LOUIS, MO 63106

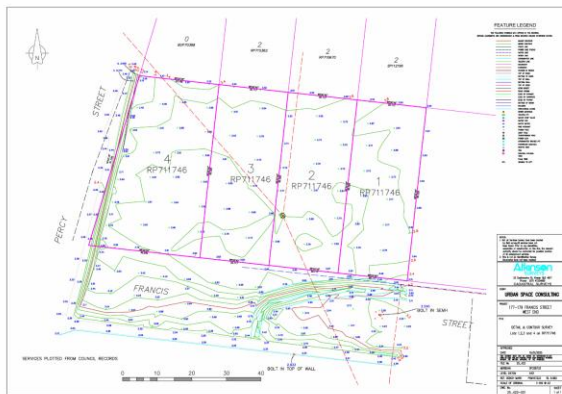
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for
Full Builders

at
177 - 179 Francis Street
Westerville

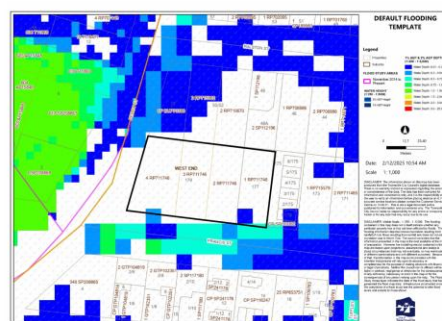
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Drawing Title: 10-00

sheet size = A1

25-001



NOTES:		
The following are required to enter class activity & assessment: -Complete the following assessment -Complete the following assessment -Complete the following assessment -Complete the following assessment -Complete the following assessment		
Revision Schedule		
Date	Description	Cost





URBAN SPACE CONSULTING



R3C BUILDERS

Frederickburg
 where the world comes to build



 907-438-3020

project:
 Proposed Multiple Dwellings
 for
 Tui Builders

at:
 177-179 Francis Street
 Westport

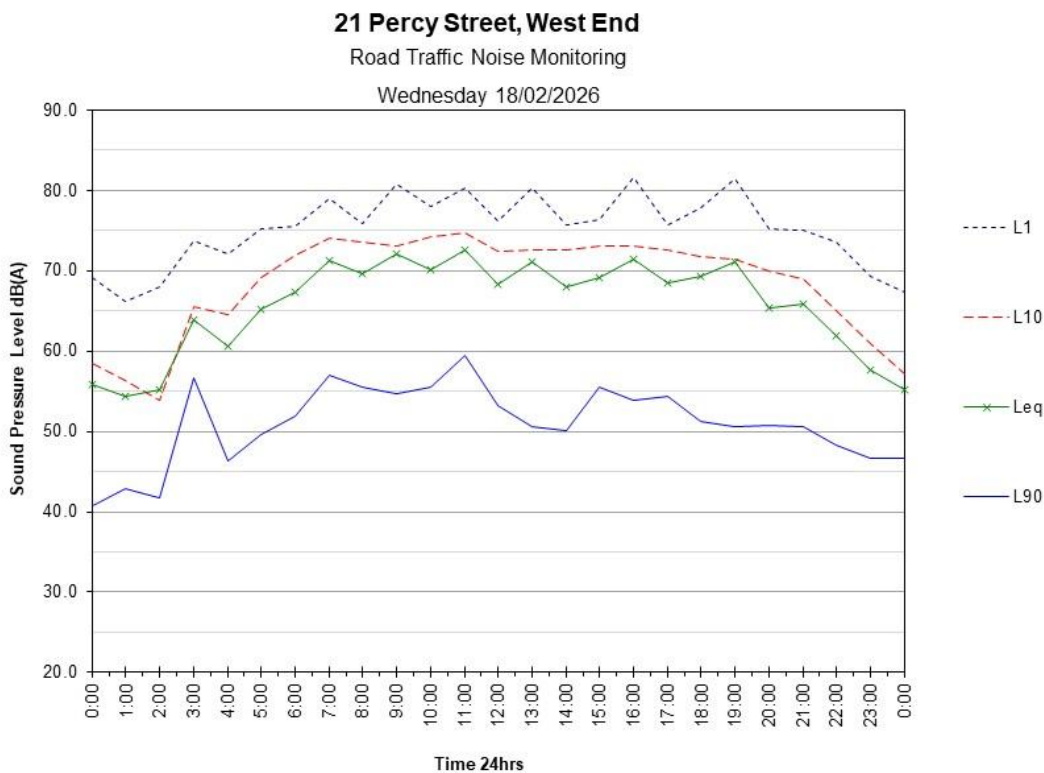
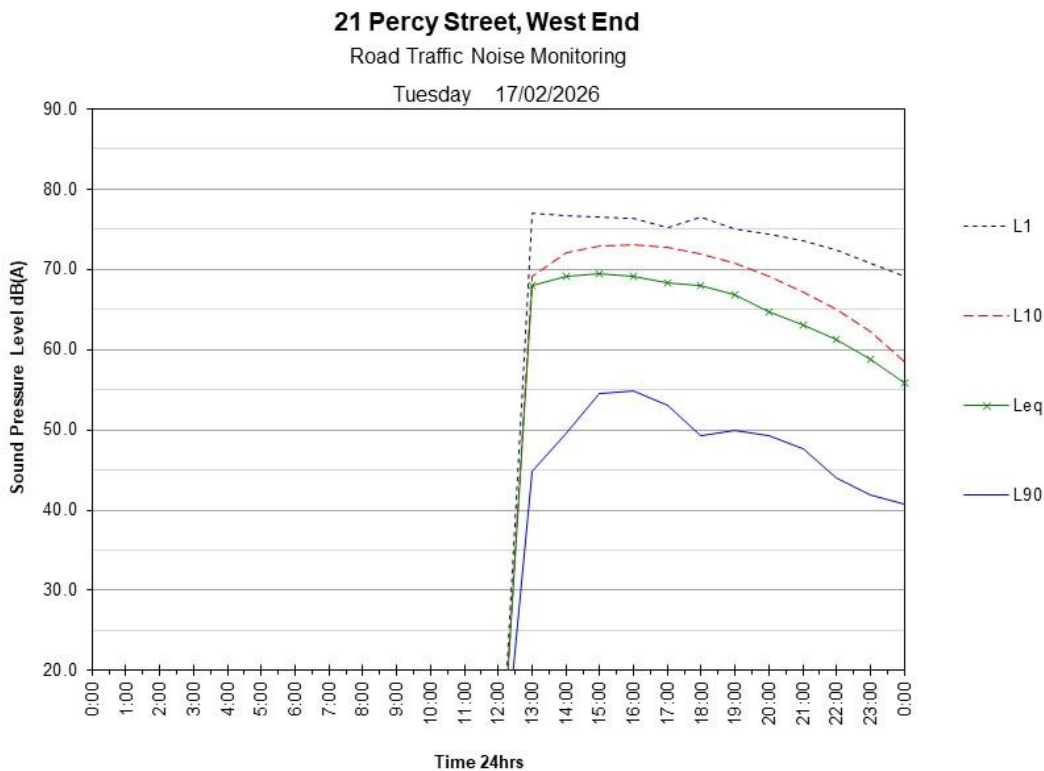
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 2022-2023
 2023-2024
 2024-2025

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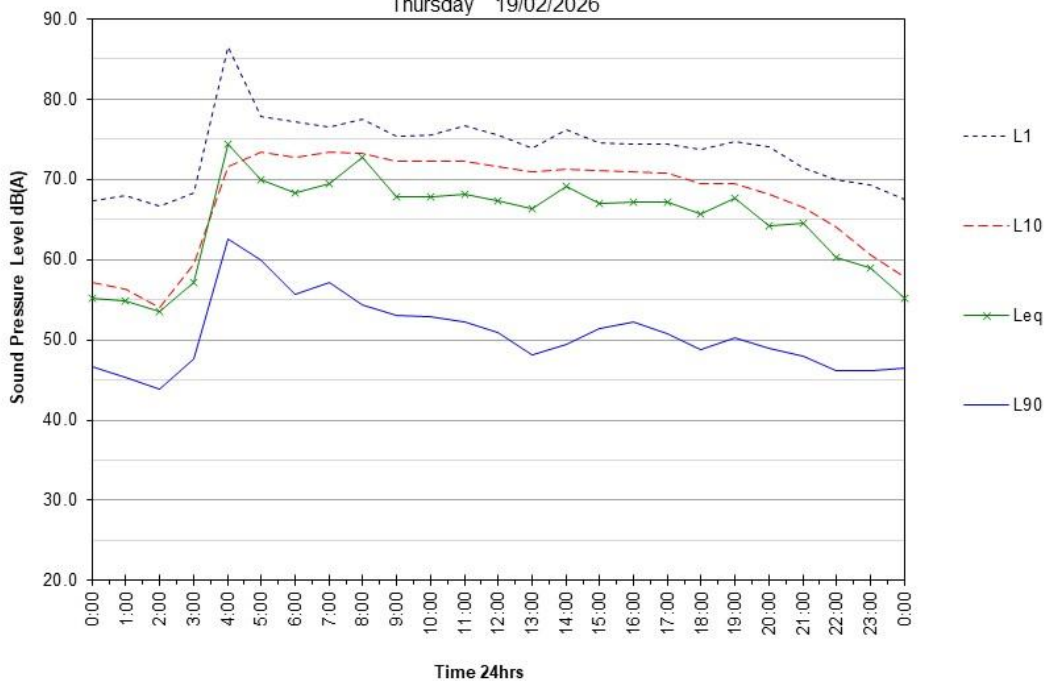
10.2 Noise Monitoring Charts

10.2.1 Road Traffic Noise Monitoring



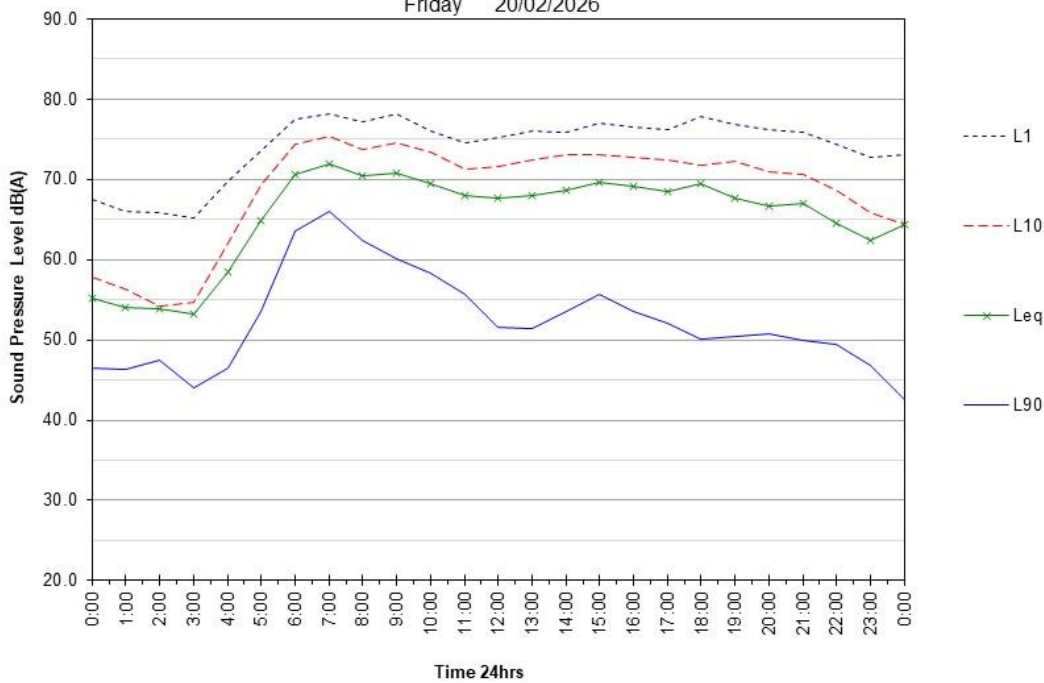
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Road Traffic Noise Monitoring

Thursday 19/02/2026



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Road Traffic Noise Monitoring

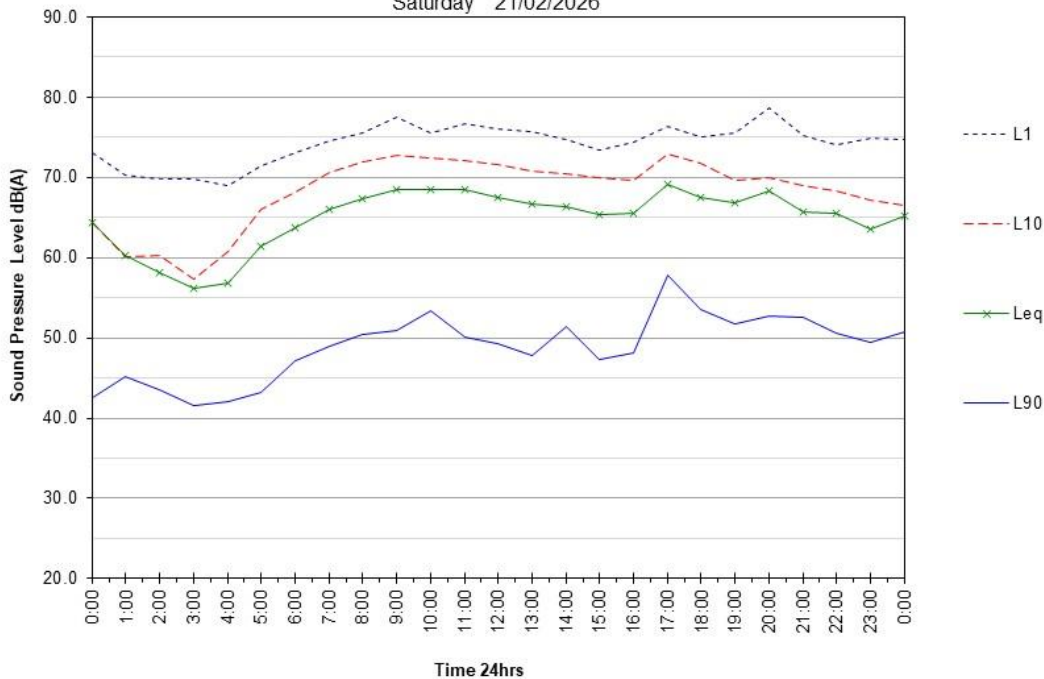
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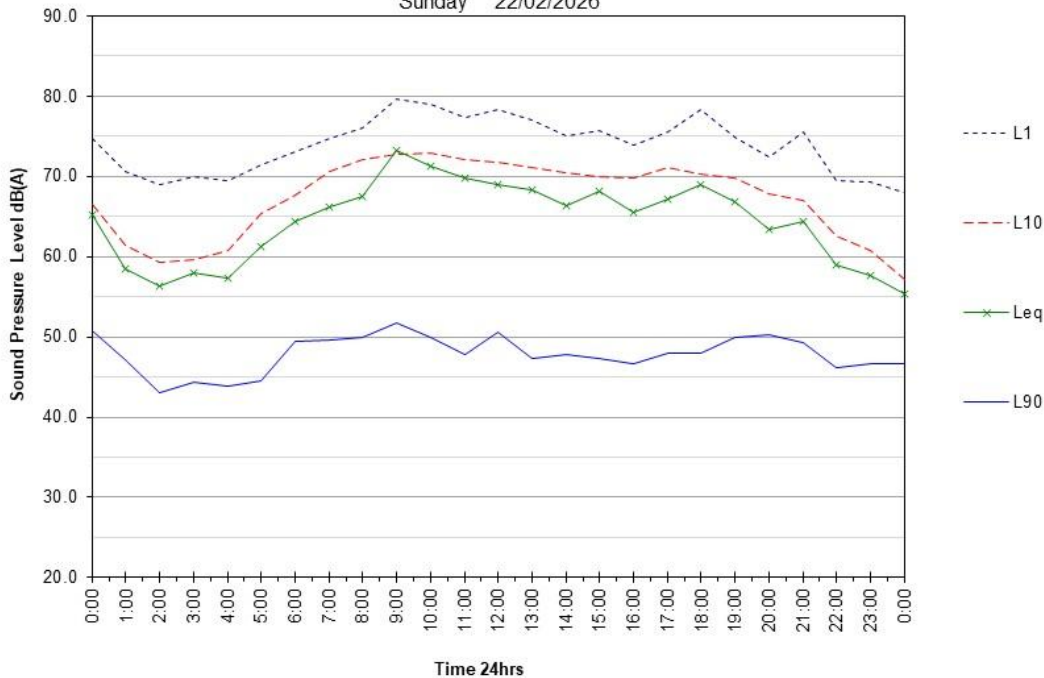
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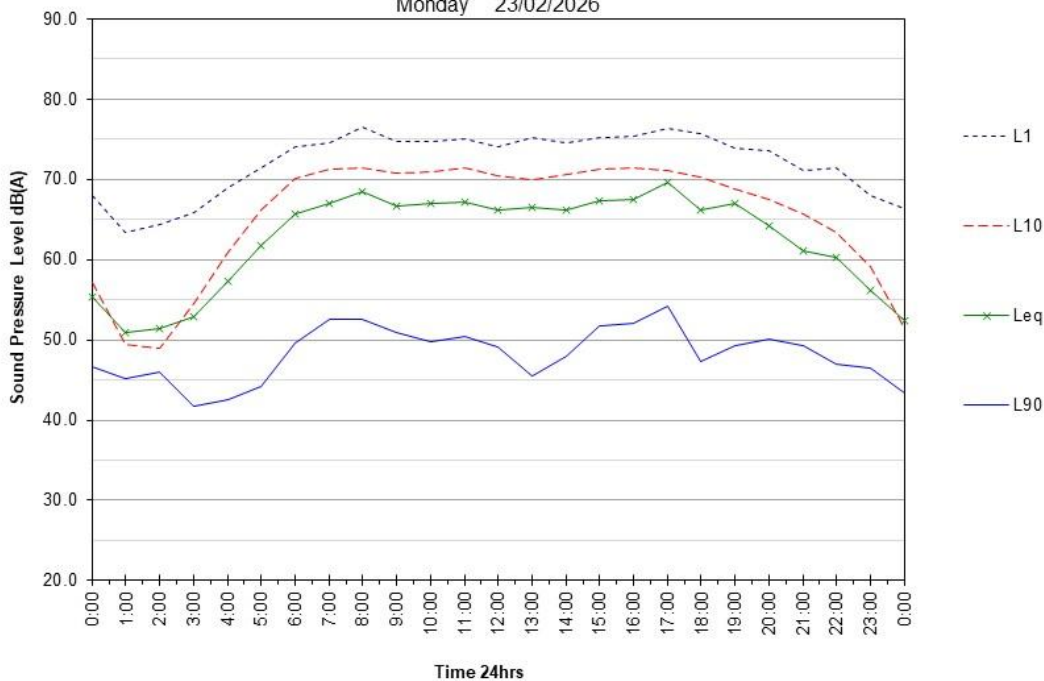
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Road Traffic Noise Monitoring

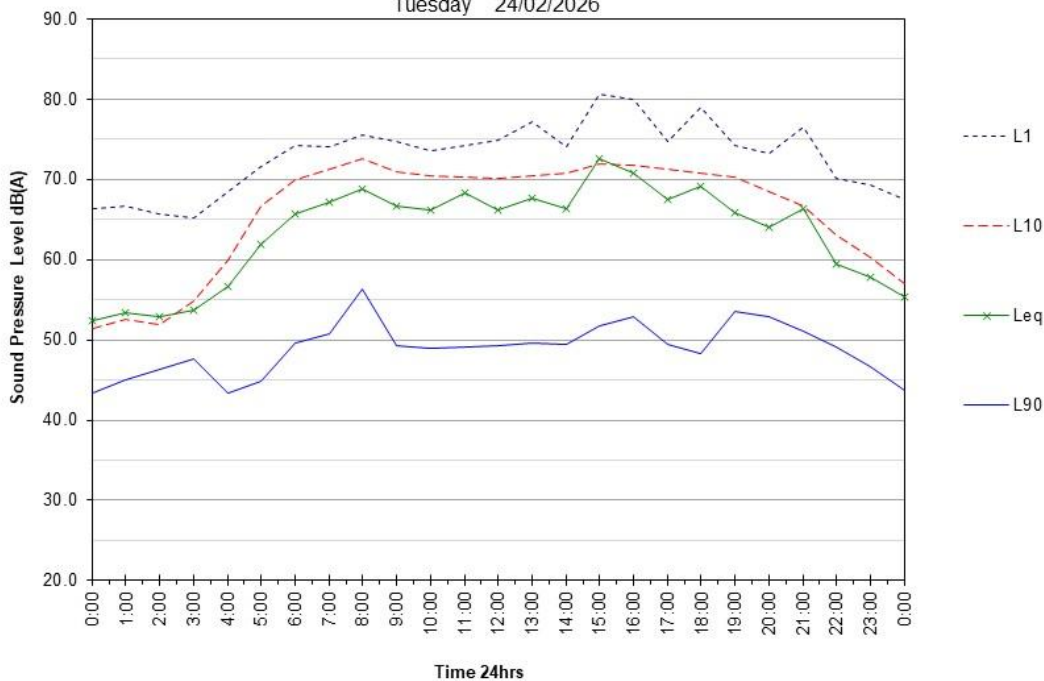
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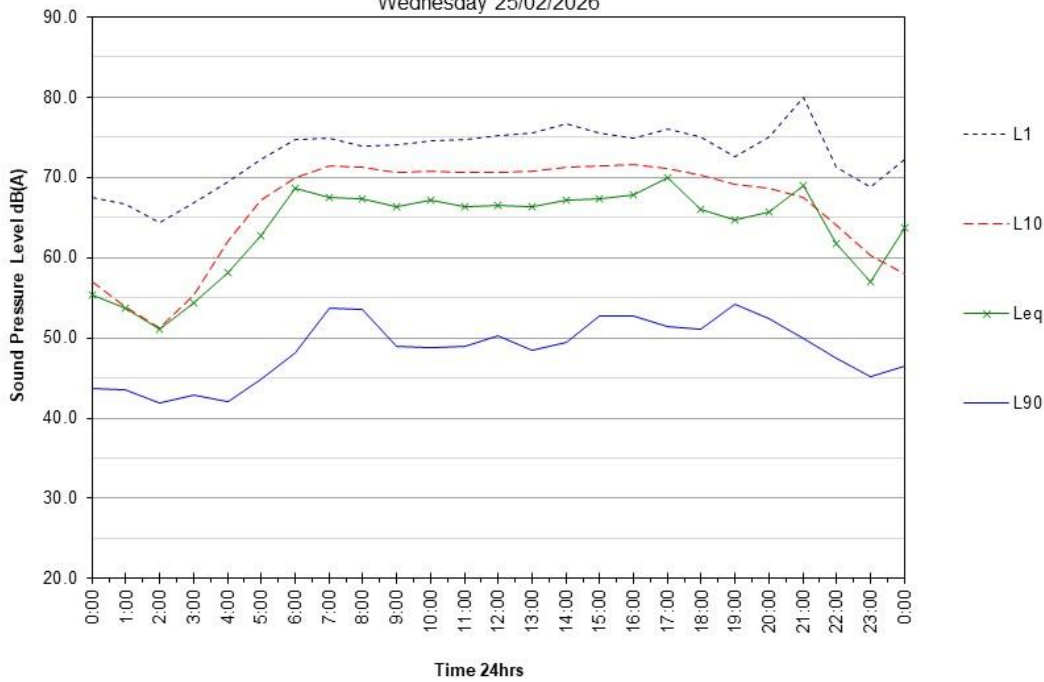
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Road Traffic Noise Monitoring

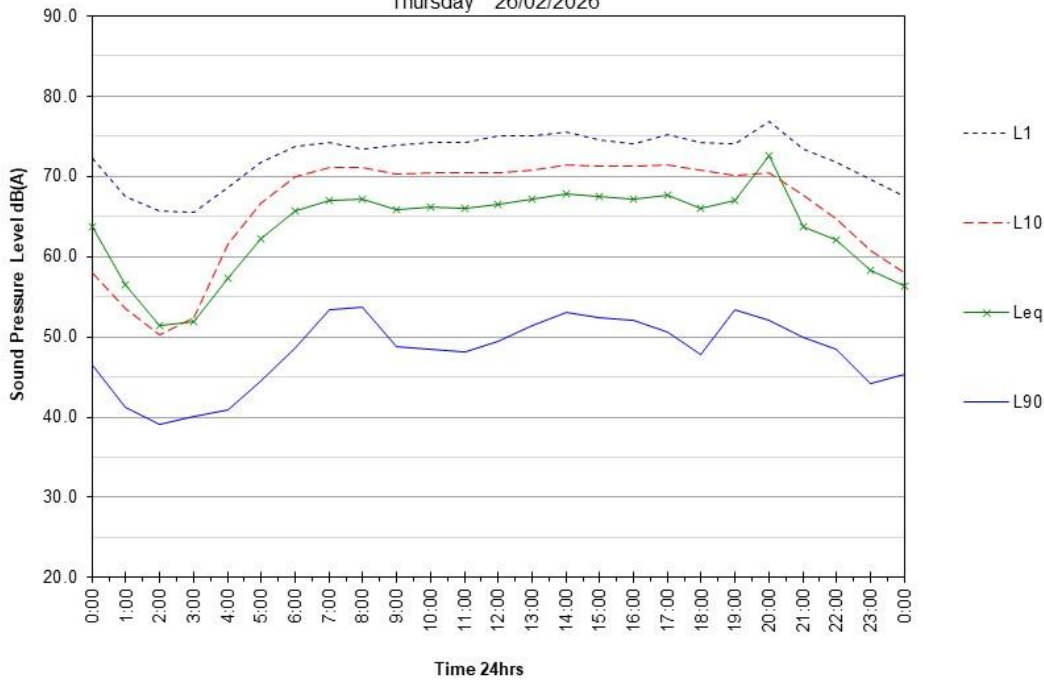
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Road Traffic Noise Monitoring
Wednesday 25/02/2026



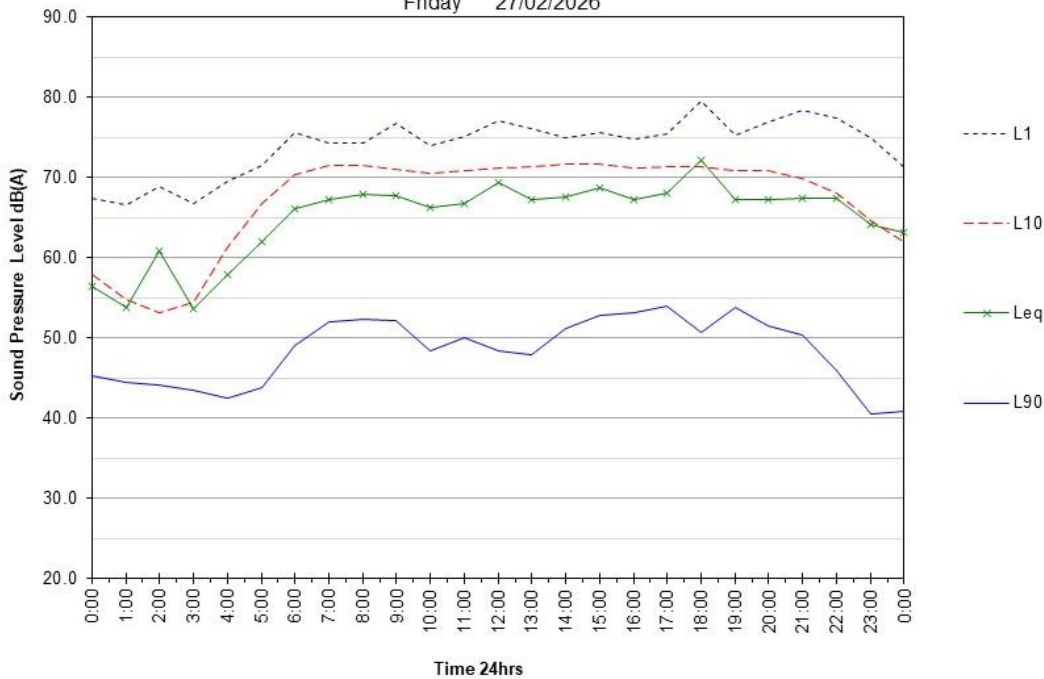
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Road Traffic Noise Monitoring
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Road Traffic Noise Monitoring

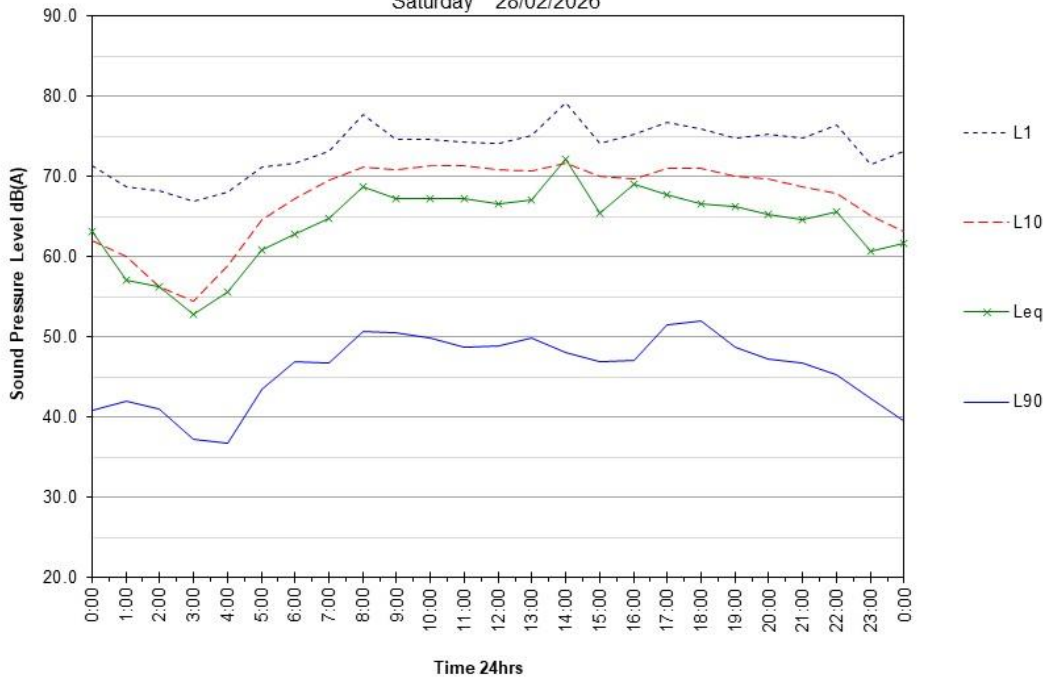
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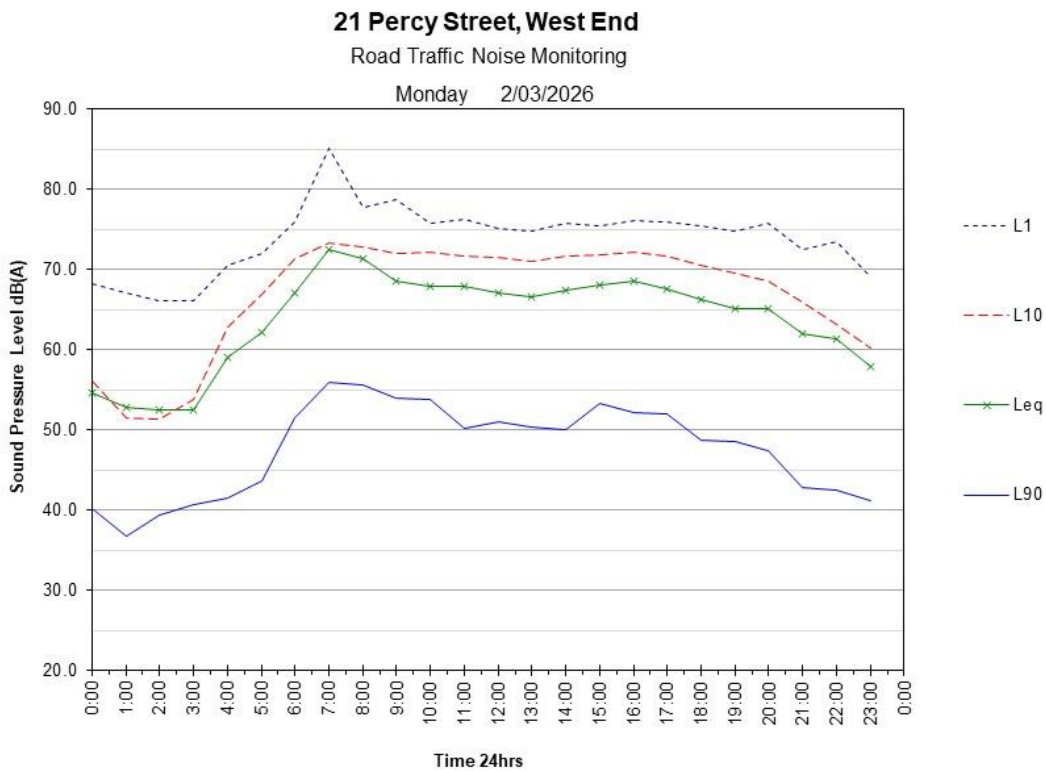
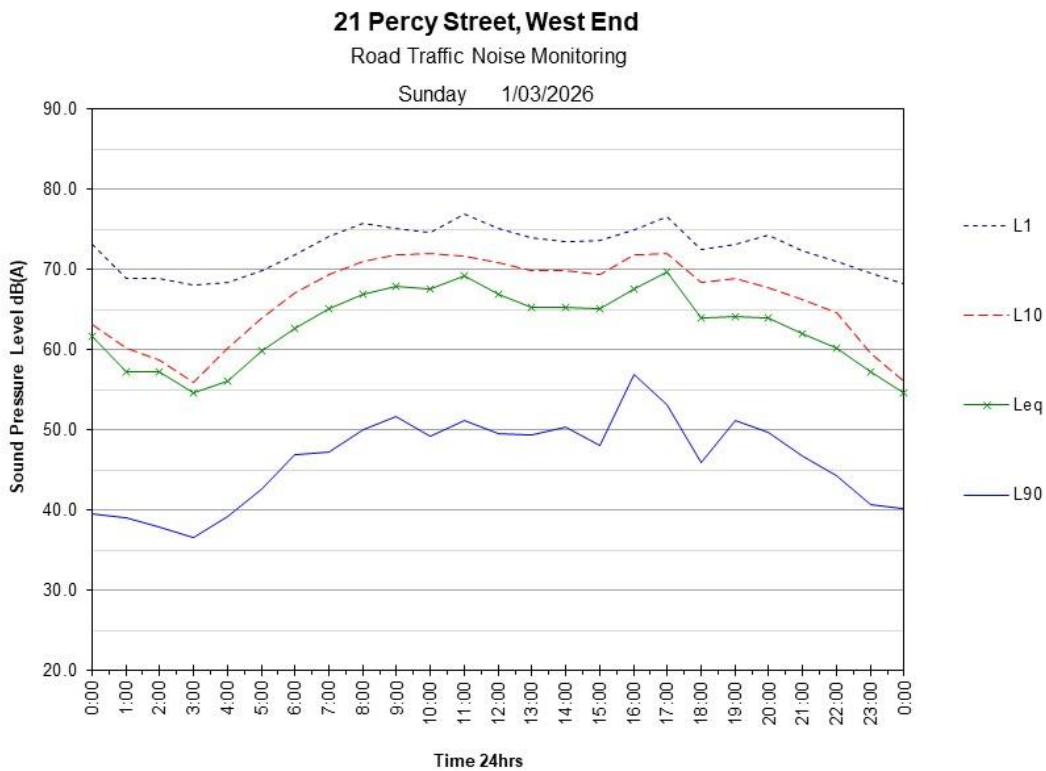


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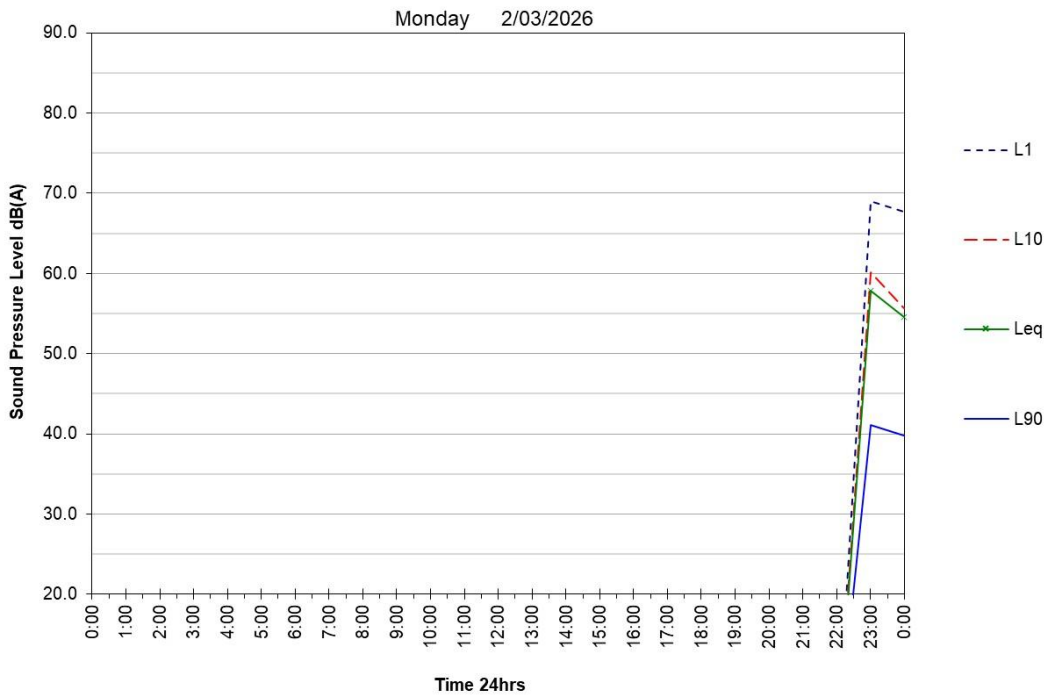
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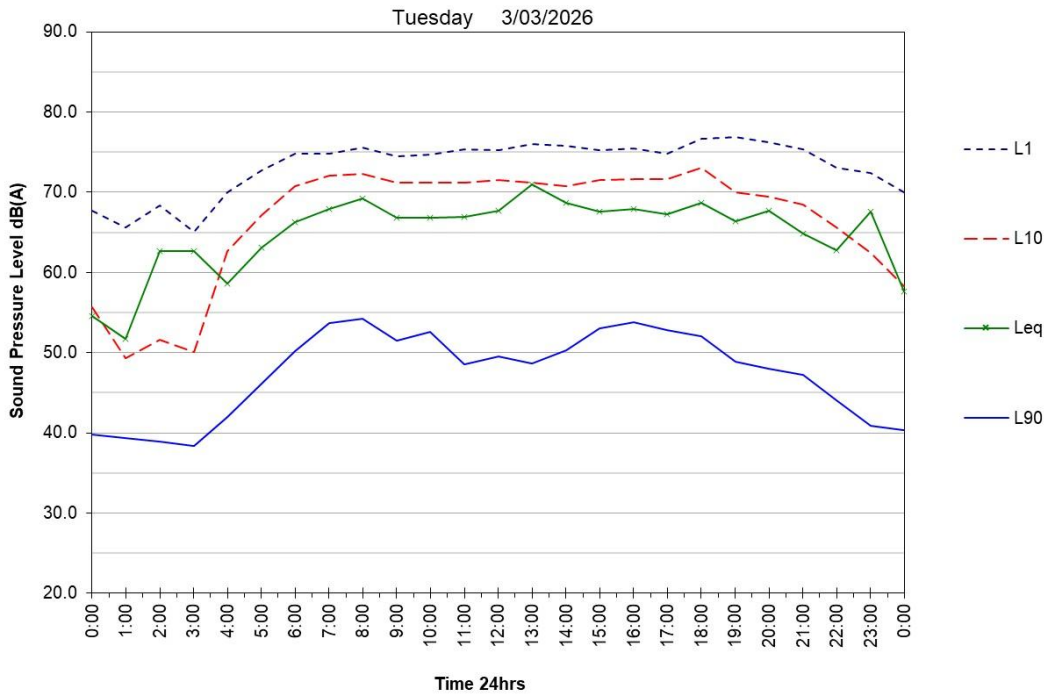




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Road Traffic Noise Monitoring



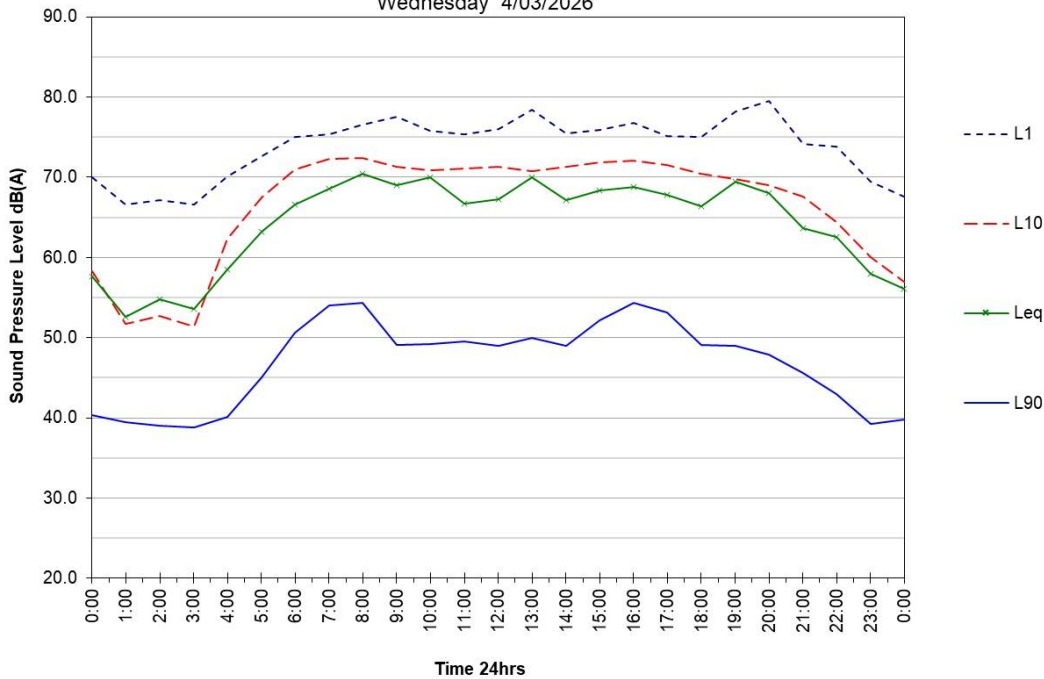
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Road Traffic Noise Monitoring



21 Percy Street, West End

Road Traffic Noise Monitoring

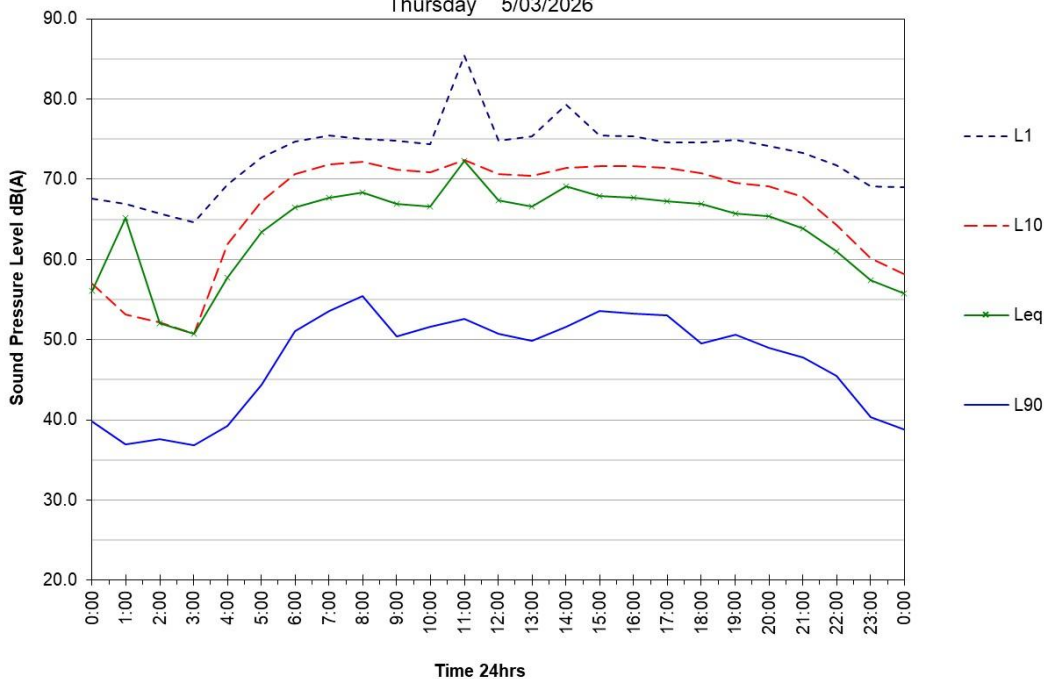
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Road Traffic Noise Monitoring

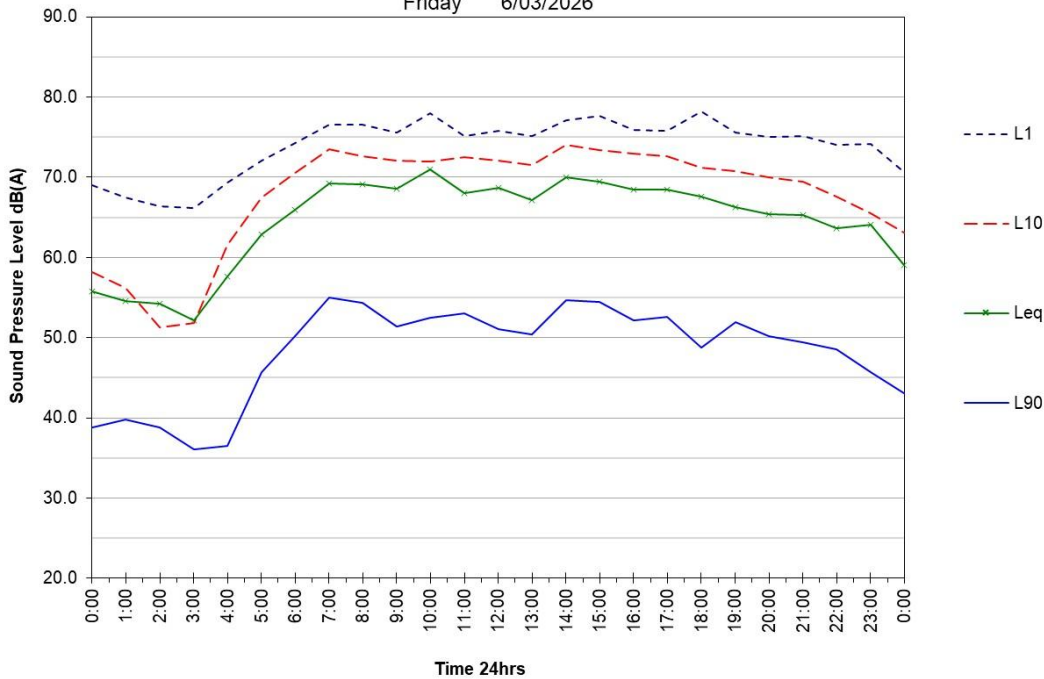
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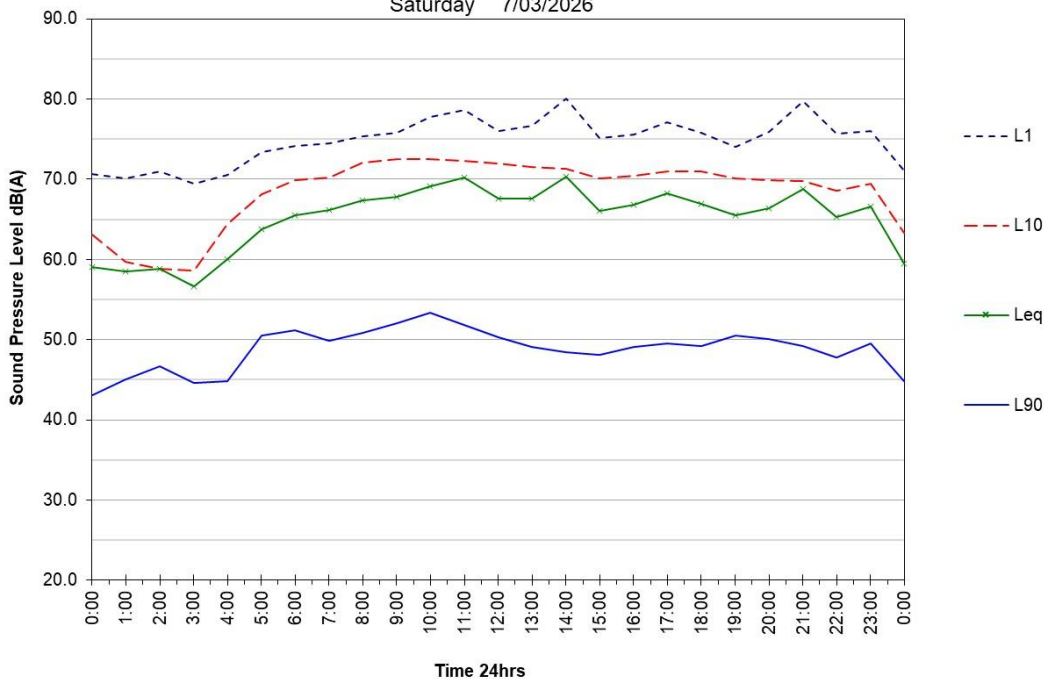
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Road Traffic Noise Monitoring

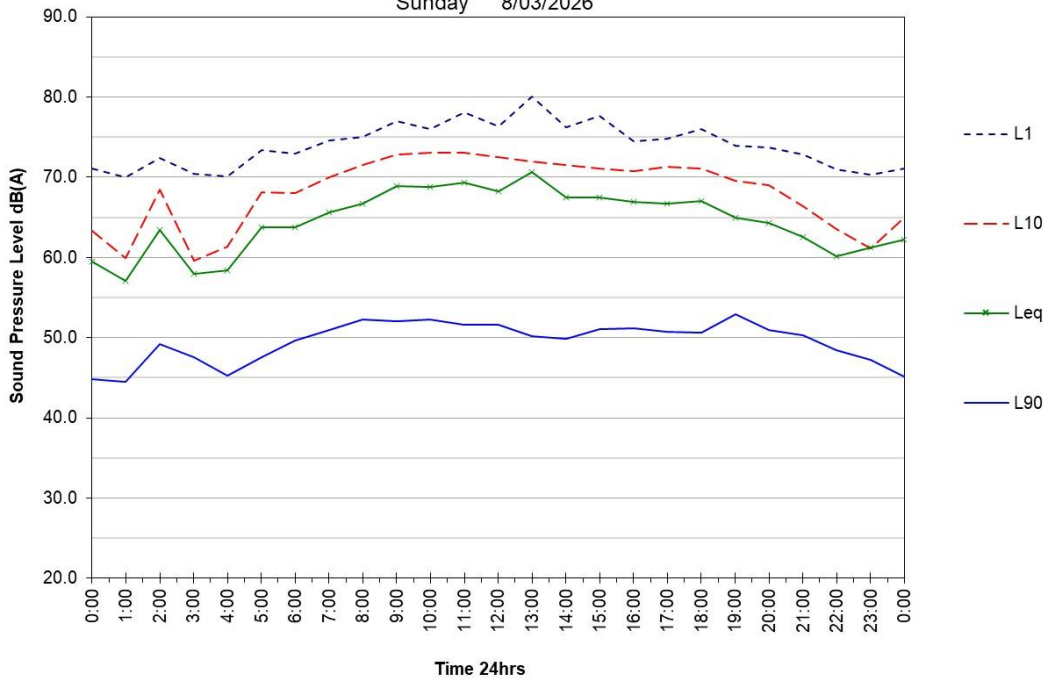
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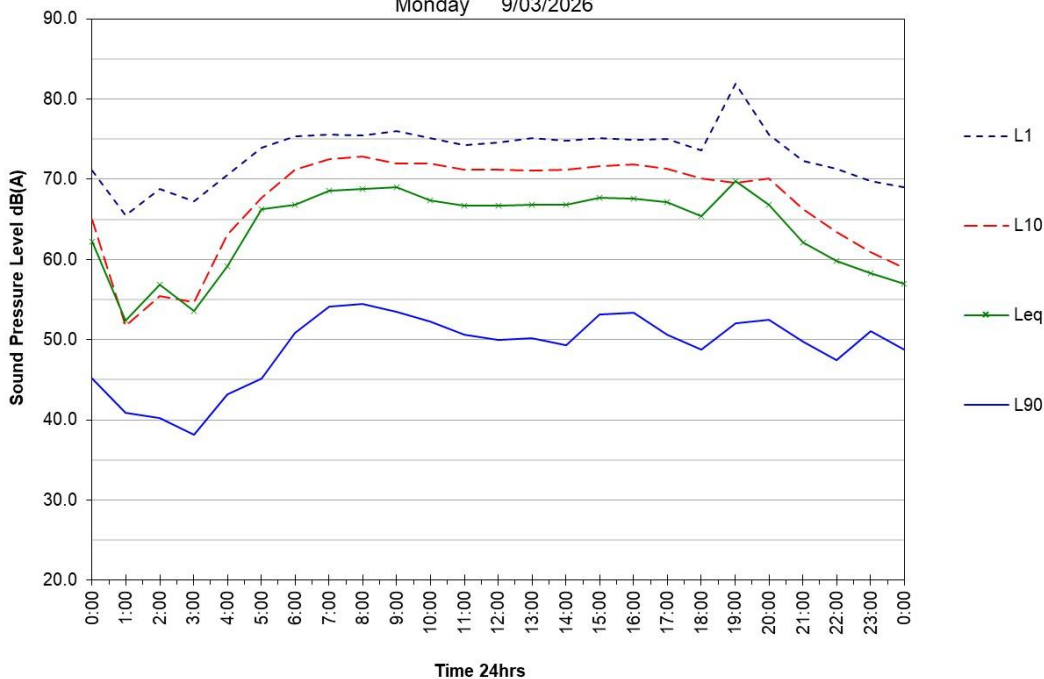
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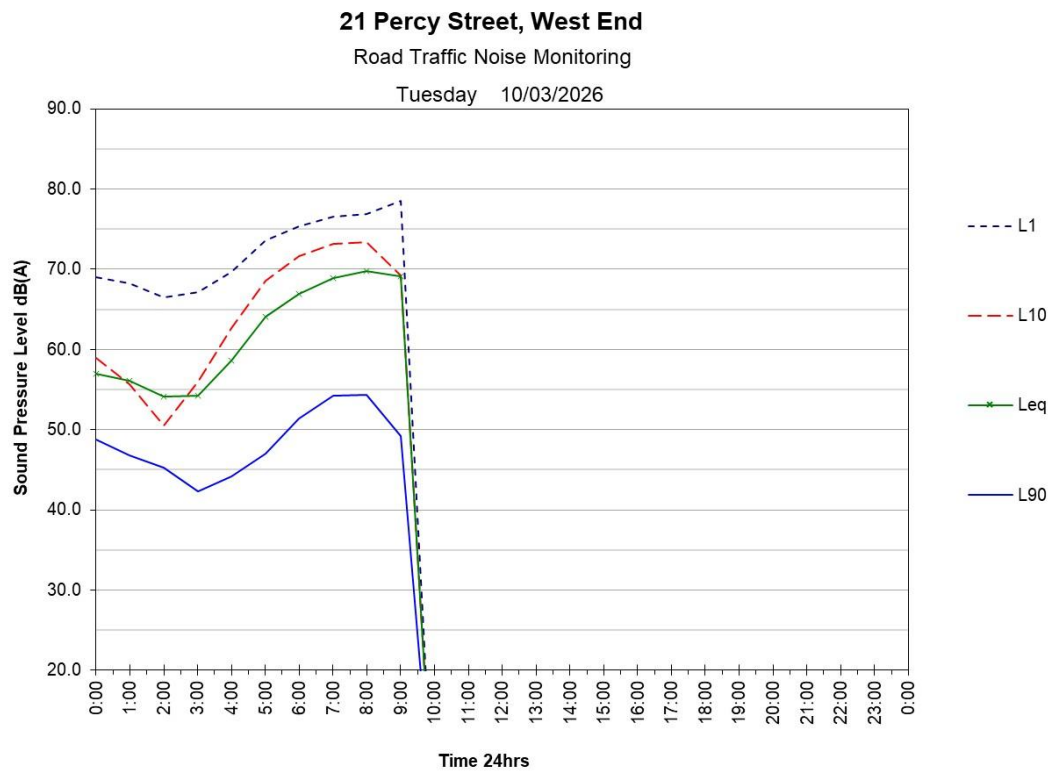


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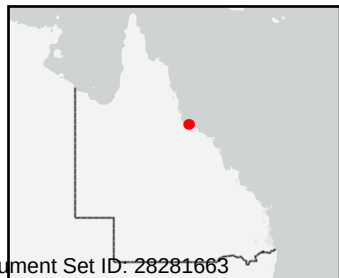
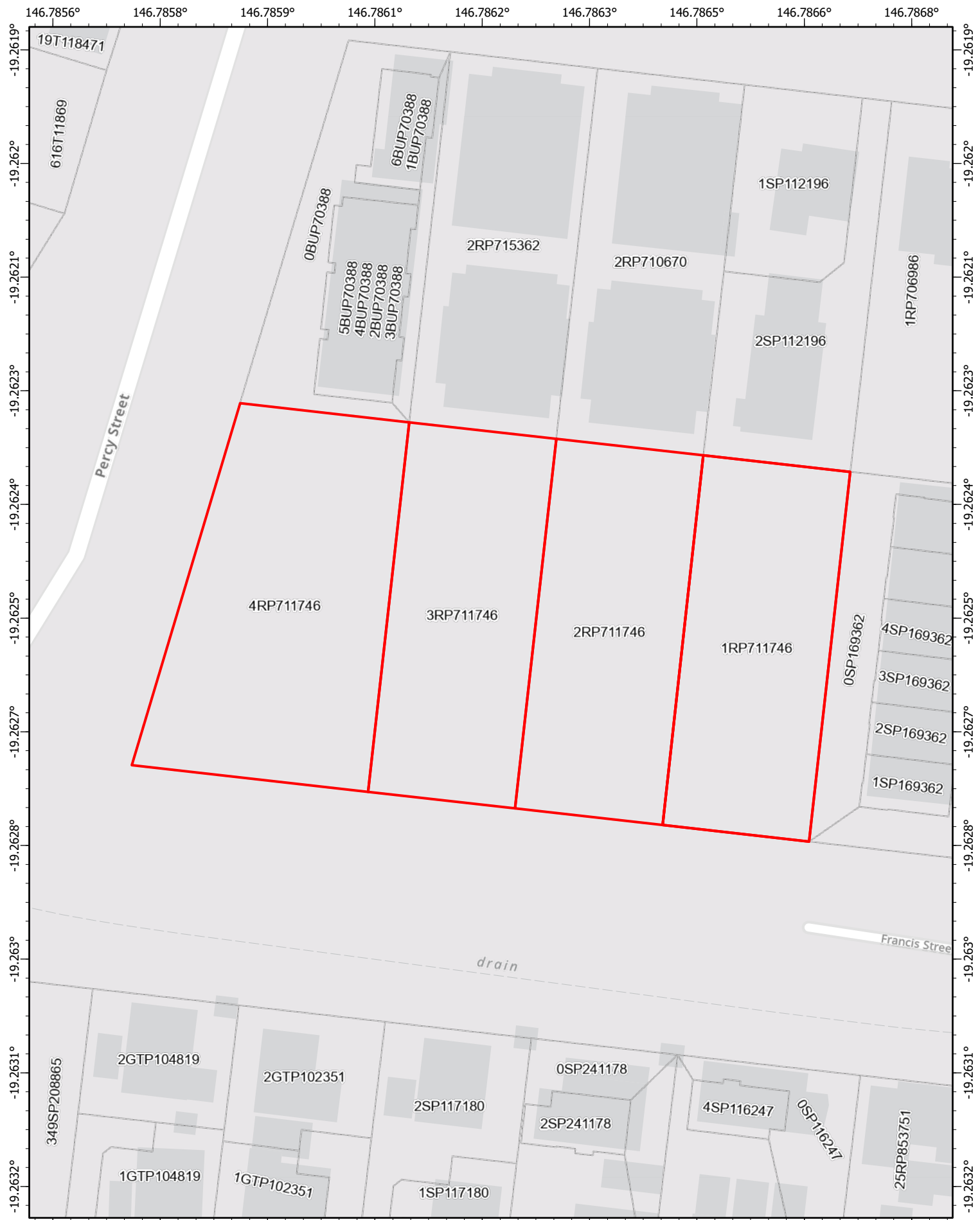
Road Traffic Noise Monitoring

Monday 9/03/2026

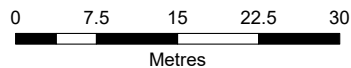




APPENDIX J



Scale: 1:700



Date: 25/03/2026

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Government



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State Planning Policy mapping layers - consolidated list for all selected Lot Plans

State Planning Policy mapping layers - consolidated list for all selected Lot Plans

(Note: Please refer to following pages for State Interests listed for each selected Lot Plan)

STRATEGIC AIRPORTS AND AVIATION FACILITIES

- Wildlife hazard buffer zone
- Lighting area buffer 6km
- Aviation facility
- Height restriction zone 15m

NATURAL HAZARDS RISK AND RESILIENCE

- Medium storm tide inundation area
- Flood hazard area - Level 1 - Queensland floodplain assessment overlay
- Flood hazard area - local government flood mapping area

TRANSPORT INFRASTRUCTURE

- State-controlled road

BIODIVERSITY

- MSES - Regulated vegetation (category R)

State Planning Policy
Making or amending a local planning instrument
and designating land for community infrastructure
Date: 25/03/2026



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State Planning Policy mapping layers for selected

Lot Plan: 1RP711746 (Area: 1014 m²)

NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area
- Medium storm tide inundation area
- Flood hazard area - Level 1 - Queensland floodplain assessment overlay

STRATEGIC AIRPORTS AND AVIATION FACILITIES

- Lighting area buffer 6km
- Wildlife hazard buffer zone
- Height restriction zone 15m
- Aviation facility

Lot Plan: 1RP711746 (Area: 1014 m²)

NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area
- Medium storm tide inundation area
- Flood hazard area - Level 1 - Queensland floodplain assessment overlay

STRATEGIC AIRPORTS AND AVIATION FACILITIES

- Lighting area buffer 6km
- Wildlife hazard buffer zone
- Height restriction zone 15m
- Aviation facility

Lot Plan: 2RP711746 (Area: 1014 m²)

NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area
- Medium storm tide inundation area
- Flood hazard area - Level 1 - Queensland floodplain assessment overlay

STRATEGIC AIRPORTS AND AVIATION FACILITIES

- Lighting area buffer 6km
- Wildlife hazard buffer zone
- Height restriction zone 15m
- Aviation facility

Lot Plan: 3RP711746 (Area: 1012 m²)

NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area
- Medium storm tide inundation area
- Flood hazard area - Level 1 - Queensland floodplain assessment overlay

STRATEGIC AIRPORTS AND AVIATION FACILITIES

- Lighting area buffer 6km
- Wildlife hazard buffer zone
- Height restriction zone 15m
- Aviation facility

Lot Plan: 4RP711746 (Area: 1396 m²)

BIODIVERSITY

- MSES - Regulated vegetation (category R)

NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area
- Medium storm tide inundation area

State Planning Policy

**Making or amending a local planning instrument
and designating land for community infrastructure**

Date: 25/03/2026



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- Flood hazard area - Level 1 - Queensland floodplain assessment overlay

TRANSPORT INFRASTRUCTURE

- State-controlled road

STRATEGIC AIRPORTS AND AVIATION FACILITIES

- Lighting area buffer 6km
- Wildlife hazard buffer zone
- Height restriction zone 15m
- Aviation facility

State Planning Policy

**Making or amending a local planning instrument
and designating land for community infrastructure**

Date: 25/03/2026



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APPENDIX K

Matters of Interest for all selected Lot Plans

Coastal area - medium storm tide inundation area

Area within 25m of a State-controlled road

State-controlled road

Matters of Interest by Lot Plan

Lot Plan: 1RP711746 (Area: 1014 m²)

Coastal area - medium storm tide inundation area

Lot Plan: 1RP711746 (Area: 1014 m²)

Coastal area - medium storm tide inundation area

Lot Plan: 2RP711746 (Area: 1014 m²)

Coastal area - medium storm tide inundation area

Lot Plan: 3RP711746 (Area: 1012 m²)

Coastal area - medium storm tide inundation area

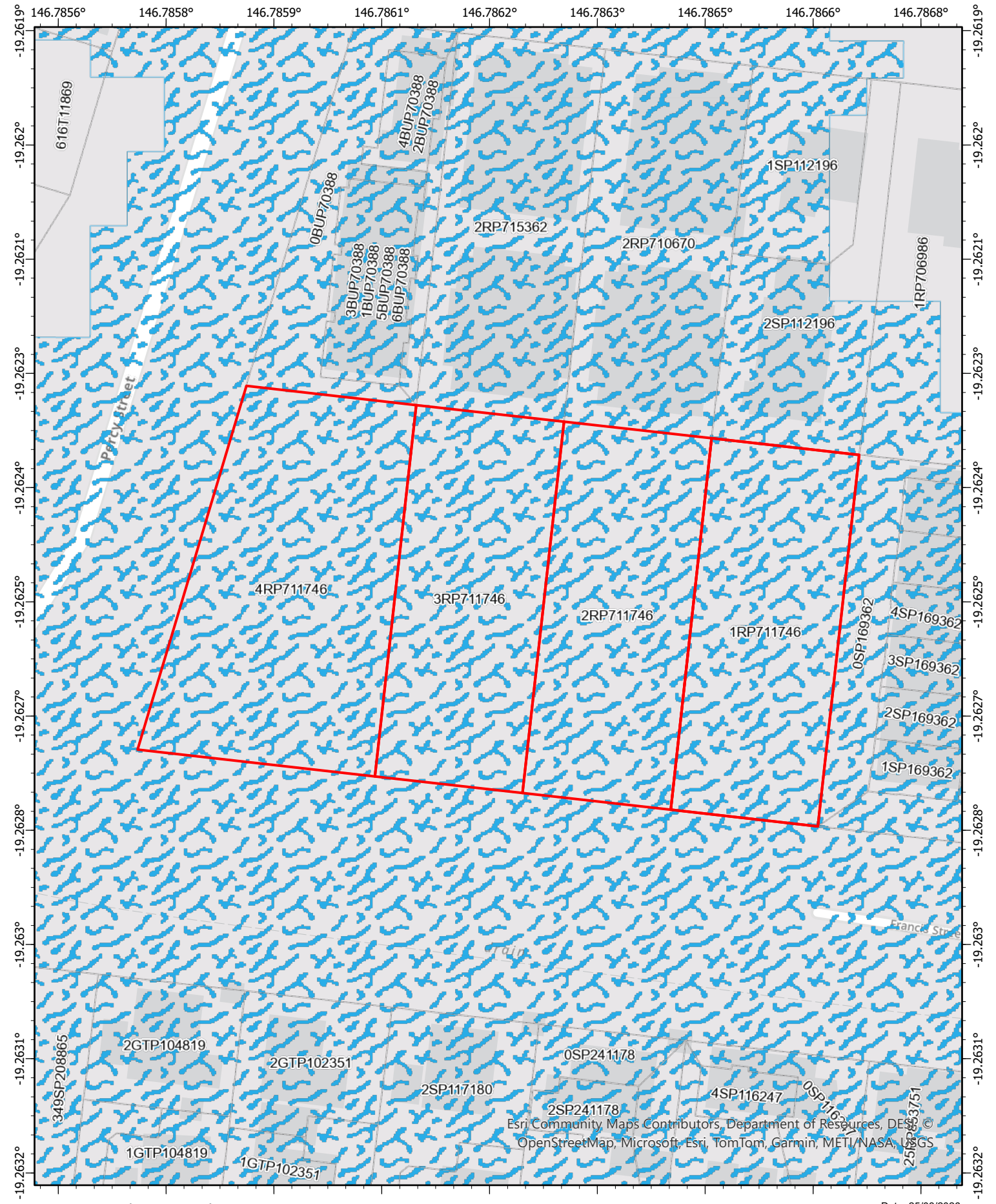
Area within 25m of a State-controlled road

Lot Plan: 4RP711746 (Area: 1396 m²)

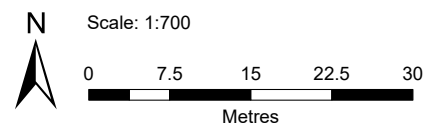
Coastal area - medium storm tide inundation area

State-controlled road

Area within 25m of a State-controlled road



 Coastal area - medium storm tide inundation area

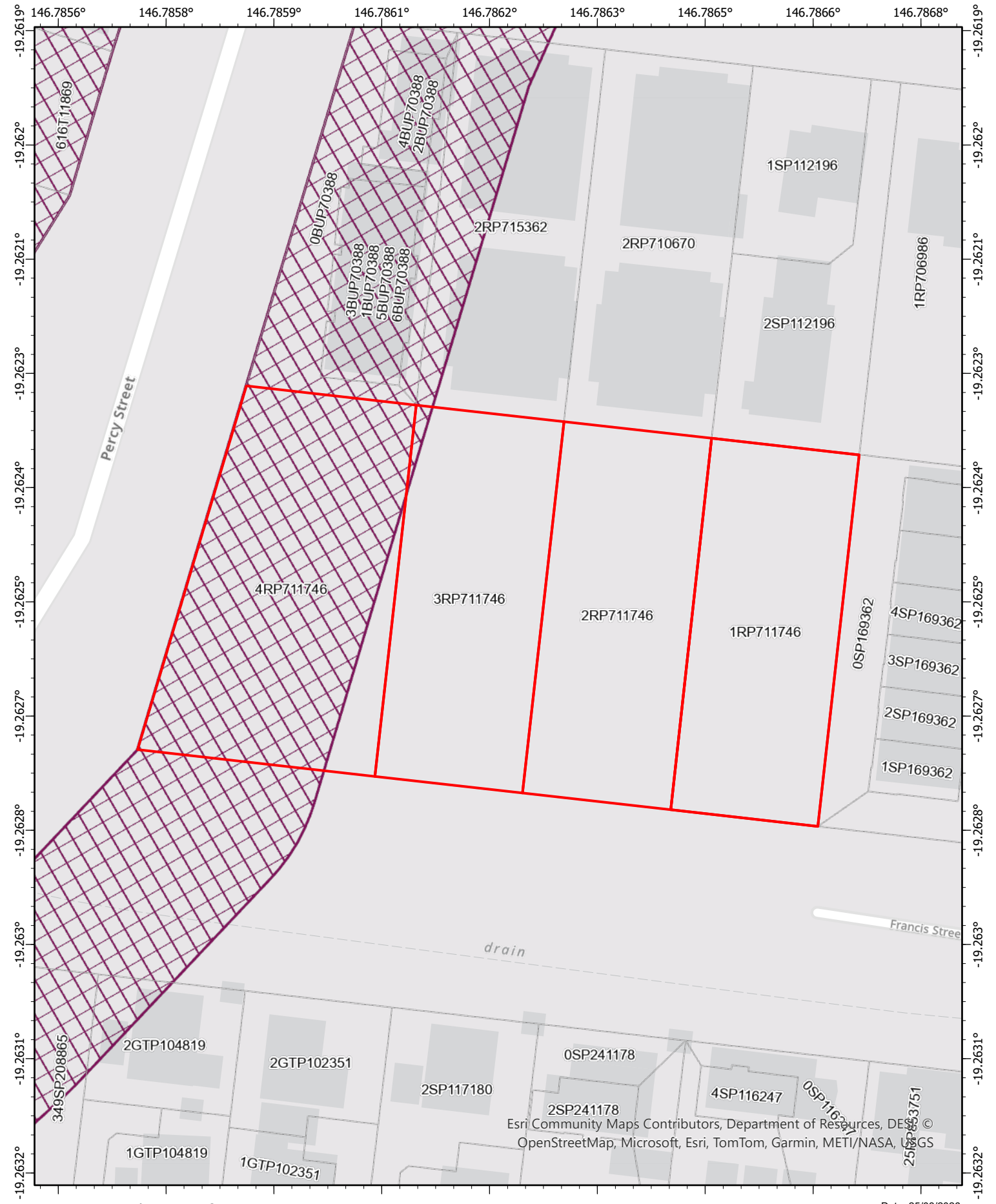


Date: 25/03/2026

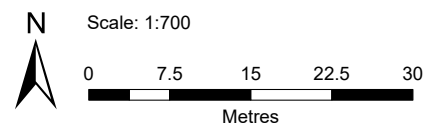
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 Area within 25m of a State-controlled road

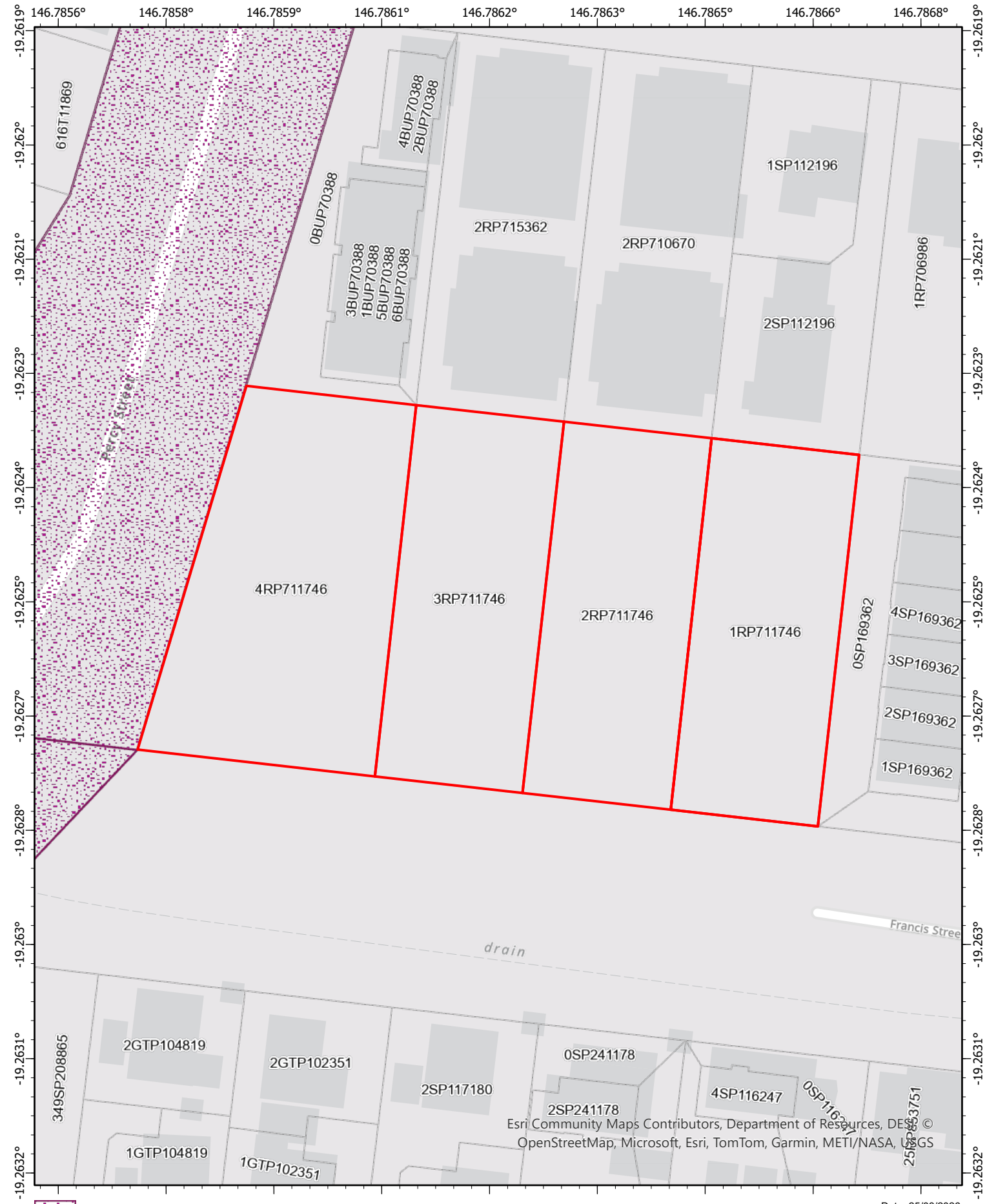


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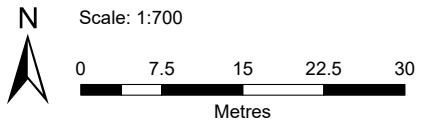
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Document ID: 28281663
Version: 1, Version Date: 21/04/2026



 State-controlled road

Date: 25/03/2026



APPENDIX L

State code 1: Development in a state-controlled road environment

State Development Assessment Provisions guideline - State Code 1: Development in a state-controlled road environment. This guideline provides direction on how to address State Code 1.

Table 1.1 Development in general

Performance outcomes	Acceptable outcomes	Response
Buildings, structures, infrastructure, services and utilities		
PO1 The location of the development does not create a safety hazard for users of the state-controlled road .	AO1.1 Development is not located in a state-controlled road . AND AO1.2 Development can be maintained without requiring access to a state-controlled road .	Complies. - No buildings or structures are proposed within the state-controlled road corridor. - The development layout maintains safe separation from Percy Street.
PO2 The design and construction of the development does not adversely impact the structural integrity or physical condition of the state-controlled road or road transport infrastructure .	No acceptable outcome is prescribed.	Complies. - No works are proposed that would affect the structural integrity of Percy Street. - Access works will be designed and constructed to relevant TMR standards. - Any detailed design matters can be conditioned.
PO3 The location of the development does not obstruct road transport infrastructure or adversely impact the operating performance of the state-controlled road .	No acceptable outcome is prescribed.	Complies. The development does not obstruct existing road transport infrastructure.
PO4 The location, placement, design and operation of advertising devices, visible from the state-controlled road , do not create a	No acceptable outcome is prescribed.	Not applicable. No advertising devices are proposed.

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

Page 1 of 19

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Performance outcomes	Acceptable outcomes	Response
safety hazard for users of the state-controlled road .		
PO5 The design and construction of buildings and structures does not create a safety hazard by distracting users of the state-controlled road .	AO5.1 Facades of buildings and structures fronting the state-controlled road are made of non-reflective materials. AND AO5.2 Facades of buildings and structures do not direct or reflect point light sources into the face of oncoming traffic on the state-controlled road. AND AO5.3 External lighting of buildings and structures is not directed into the face of oncoming traffic on the state-controlled road. AND AO5.4 External lighting of buildings and structures does not involve flashing or laser lights.	Complies The development does not include reflective materials, reflect point light sources, external lighting or flashing/laser lights to the state-controlled road.
PO6 Road, pedestrian and bikeway bridges over a state-controlled road are designed and constructed to prevent projectiles from being thrown onto the state-controlled road .	AO6.1 Road, pedestrian and bikeway bridges over the state-controlled road include throw protection screens in accordance with section 4.11 of the Design Criteria for Bridges and Other Structures Manual, Department of Transport and Main Roads, 2020.	Not applicable. No bridges are proposed.
Landscaping		
PO7 The location of landscaping does not create a safety hazard for users of the state-controlled road .	AO7.1 Landscaping is not located in a state-controlled road .	Not applicable. The development's landscape will not be a safety hazard to the state-controlled road.

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

Page 2 of 19

URBAN SPACE CONSULTING

Performance outcomes	Acceptable outcomes	Response
	AND AO7.2 Landscaping can be maintained without requiring access to a state-controlled road. AND AO7.3 Landscaping does not block or obscure the sight lines for vehicular access to a state-controlled road.	
Stormwater and overland flow		
PO8 Stormwater run-off or overland flow from the development site does not create or exacerbate a safety hazard for users of the state-controlled road .	No acceptable outcome is prescribed.	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO9 Stormwater run-off or overland flow from the development site does not result in a material worsening of the operating performance of the state-controlled road or road transport infrastructure .	No acceptable outcome is prescribed.	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO10 Stormwater run-off or overland flow from the development site does not adversely impact the structural integrity or physical condition of the state-controlled road or road transport infrastructure .	No acceptable outcome is prescribed.	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO11 Development ensures that stormwater is lawfully discharged.	AO11.1 Development does not create any new points of discharge to a state-controlled road. AND AO11.2 Development does not concentrate flows to a state-controlled road. AND	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

Page 3 of 19

URBAN SPACE CONSULTING

Performance outcomes	Acceptable outcomes	Response
	AO11.3 Stormwater run-off is discharged to a lawful point of discharge. AND AO11.4 Development does not worsen the condition of an existing lawful point of discharge to the state-controlled road.	
Flooding		
PO12 Development does not result in a material worsening of flooding impacts within a state-controlled road.	AO12.1 For all flood events up to 1% annual exceedance probability, development results in negligible impacts (within +/- 10mm) to existing flood levels within a state-controlled road. AND AO12.2 For all flood events up to 1% annual exceedance probability, development results in negligible impacts (up to a 10% increase) to existing peak velocities within a state-controlled road. AND AO12.3 For all flood events up to 1% annual exceedance probability, development results in negligible impacts (up to a 10% increase) to existing time of submergence of a state-controlled road.	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
Drainage Infrastructure		

Performance outcomes	Acceptable outcomes	Response
PO13 Drainage infrastructure does not create a safety hazard for users in the state-controlled road .	AO13.1 Drainage infrastructure is wholly contained within the development site, except at the lawful point of discharge . AND AO13.2 Drainage infrastructure can be maintained without requiring access to a state-controlled road .	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO14 Drainage infrastructure associated with, or within, a state-controlled road is constructed, and designed to ensure the structural integrity and physical condition of existing drainage infrastructure and the surrounding drainage network.	No acceptable outcome is prescribed.	Complies. Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.

Table 1.2 Vehicular access, road layout and local roads

Performance outcomes	Acceptable outcomes	Response
Vehicular access to a state-controlled road or within 100 metres of a state-controlled road intersection		
PO15 The location, design and operation of a new or changed access to a state-controlled road does not compromise the safety of users of the state-controlled road .	No acceptable outcome is prescribed.	Not applicable The development does not propose direct vehicle access to the state-controlled road.
PO16 The location, design and operation of a new or changed access does not adversely impact the functional requirements of the state-controlled road .	No acceptable outcome is prescribed.	Not applicable The development does not propose direct vehicle access to the state-controlled road.
PO17 The location, design and operation of a new or changed access is consistent with the future intent of the state-controlled road .	No acceptable outcome is prescribed.	Not applicable The development does not propose direct vehicle access to the state-controlled road.
PO18 New or changed access is consistent with the access for the relevant limited access road policy : 1. LAR 1 where direct access is prohibited; or 2. LAR 2 where access may be permitted, subject to assessment.	No acceptable outcome is prescribed.	Not applicable The development does not propose direct vehicle access to the state-controlled road.
PO19 New or changed access to a local road within 100 metres of an intersection with a state-controlled road does not compromise the safety of users of the state-controlled road .	No acceptable outcome is prescribed.	Not applicable The development does not propose direct vehicle access to the state-controlled road.
PO20 New or changed access to a local road within 100 metres of an intersection with a state-controlled road does not adversely impact on the operating performance of the intersection.	No acceptable outcome is prescribed.	Not applicable The development does not propose direct vehicle access to the state-controlled road.
Public passenger transport and active transport		
PO21 Development does not compromise the safety of users of public passenger transport infrastructure, public passenger services and active transport infrastructure .	No acceptable outcome is prescribed.	Complies The proposed development will not impact the nearby public transport infrastructure.

Performance outcomes	Acceptable outcomes	Response
PO22 Development maintains the ability for people to access public passenger transport infrastructure, public passenger services and active transport infrastructure .	No acceptable outcome is prescribed.	Complies The proposed development will not impact access to the nearby public transport infrastructure.
PO23 Development does not adversely impact the operating performance of public passenger transport infrastructure, public passenger services and active transport infrastructure .	No acceptable outcome is prescribed.	Complies The proposed development will not impact the nearby public transport infrastructure.
PO24 Development does not adversely impact the structural integrity or physical condition of public passenger transport infrastructure and active transport infrastructure .	No acceptable outcome is prescribed.	Complies The proposed development will not impact the nearby public transport infrastructure.

Table 1.3 Network impacts

Performance outcomes	Acceptable outcomes	Response
PO25 Development does not compromise the safety of users of the state-controlled road network.	No acceptable outcome is prescribed.	Complies The proposed development does not compromise the state-controlled road.
PO26 Development ensures no net worsening of the operating performance of the state-controlled road network.	No acceptable outcome is prescribed.	Complies The proposed development does not compromise the state-controlled road.
PO27 Traffic movements are not directed onto a state-controlled road where they can be accommodated on the local road network.	No acceptable outcome is prescribed.	Complies The proposed development does not compromise the state-controlled road.
PO28 Development involving haulage exceeding 10,000 tonnes per year does not adversely impact the pavement of a state-controlled road .	No acceptable outcome is prescribed.	Not applicable The development does not propose haulage of over 10,000 tonnes.
PO29 Development does not impede delivery of planned upgrades of state-controlled roads .	No acceptable outcome is prescribed.	Complies The proposed development does not impede delivery of planned upgrades to the state-controlled road.
PO30 Development does not impede delivery of corridor improvements located entirely within the state-controlled road corridor .	No acceptable outcome is prescribed.	Complies The proposed development does not impede delivery of corridor improvements to the state-controlled road.

Table 1.4 Filling, excavation, building foundations and retaining structures

Performance outcomes	Acceptable outcomes	Response
PO31 Development does not create a safety hazard for users of the state-controlled road or road transport infrastructure .	No acceptable outcome is prescribed.	Complies Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO32 Development does not adversely impact the operating performance of the state-controlled road .	No acceptable outcome is prescribed.	Complies Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO33 Development does not undermine, damage or cause subsidence of a state-controlled road .	No acceptable outcome is prescribed.	Complies Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO34 Development does not cause ground water disturbance in a state-controlled road .	No acceptable outcome is prescribed.	Complies Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO35 Excavation, boring, piling, blasting and fill compaction do not adversely impact the physical condition or structural integrity of a state-controlled road or road transport infrastructure .	No acceptable outcome is prescribed.	Complies Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.
PO36 Filling and excavation associated with the construction of new or changed access do not compromise the operation or capacity of existing drainage infrastructure for a state-controlled road .	No acceptable outcome is prescribed.	Complies Refer to Civil Engineering Services and Site Based Stormwater Management Plan Report.

Table 1.5 Environmental emissions

Statutory note: Where a **state-controlled road** is co-located in the same transport corridor as a railway, the development should instead comply with Environmental emissions in State code 2: Development in a railway environment.

Performance outcomes	Acceptable outcomes	Response
Reconfiguring a lot		
Involving the creation of 5 or fewer new residential lots adjacent to a state-controlled road or type 1 multi-modal corridor		
PO37 Development minimises free field noise intrusion from a state-controlled road .	AO37.1 Development provides a noise barrier or earth mound which is designed, sited and constructed: - to achieve the maximum free field acoustic levels in reference table 2 (item 2.1); - in accordance with: - Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; - Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; - Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO37.2 Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound. OR	Not applicable The proposed application is for a Material Change of Use.

Performance outcomes	Acceptable outcomes	Response
	AO37.3 Development provides a solid gap-free fence or other solid gap-free structure along the full extent of the boundary closest to the state-controlled road .	
Involving the creation of 6 or more new residential lots adjacent to a state-controlled road or type 1 multi-modal corridor		
PO38 Reconfiguring a lot minimises free field noise intrusion from a state-controlled road .	AO38.1 Development provides noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1); 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO38.2 Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.	Not applicable • The proposed application is for a Material Change of Use.
Material change of use (accommodation activity)		
Ground floor level requirements adjacent to a state-controlled road or type 1 multi-modal corridor		
PO39 Development minimises noise intrusion from a state-controlled road in private open space .	AO39.1 Development provides a noise barrier or earth mound which is designed, sited and constructed:	Complies • Refer to Acoustic Report.

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Performance outcomes	Acceptable outcomes	Response
	- to achieve the maximum free field acoustic levels in reference table 2 (item 2.2) for private open space at the ground floor level; - in accordance with: - Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; - Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; - Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO39.2 Development achieves the maximum free field acoustic level in reference table 2 (item 2.2) for private open space by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.	
PO40 Development (excluding a relevant residential building or relocated building) minimises noise intrusion from a state-controlled road in habitable rooms at the facade.	AO40.1 Development (excluding a relevant residential building or relocated building) provides a noise barrier or earth mound which is designed, sited and constructed: - to achieve the maximum building façade acoustic level in reference table 1 (item 1.1) for habitable rooms; - in accordance with: - Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic	Complies Refer to Acoustic Report.

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Performance outcomes	Acceptable outcomes	Response
	Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR AO40.2 Development (excluding a relevant residential building or relocated building) achieves the maximum building façade acoustic level in reference table 1 (item 1.1) for habitable rooms by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.	
PO41 Habitable rooms (excluding a relevant residential building or relocated building) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.	Complies Refer to Acoustic Report.
Above ground floor level requirements (accommodation activity) adjacent to a state-controlled road or type 1 multi-modal corridor		
PO42 Balconies, podiums, and roof decks include: - a continuous solid gap-free structure or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia); - highly acoustically absorbent material treatment for the total area of the soffit above balconies, podiums, and roof decks.	No acceptable outcome is provided.	Complies Refer to Acoustic Report.

Performance outcomes	Acceptable outcomes	Response
PO43 Habitable rooms (excluding a relevant residential building or relocated building) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.	Complies Refer to Acoustic Report.
Material change of use (other uses)		
Ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a state-controlled road or type 1 multi-modal corridor		
PO44 Development: 1. provides a noise barrier or earth mound that is designed, sited and constructed: a. to achieve the maximum free field acoustic level in reference table 2 (item 2.3) for all outdoor education areas and outdoor play areas; b. in accordance with: i. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; ii. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; iii. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or 2. achieves the maximum free field acoustic level in reference table 2 (item 2.3) for all outdoor education areas and outdoor play areas by alternative noise attenuation measures where it is not	No acceptable outcome is provided.	Not Applicable

Performance outcomes	Acceptable outcomes	Response
practical to provide a noise barrier or earth mound.		
PO45 Development involving a childcare centre or educational establishment : - provides a noise barrier or earth mound that is designed, sited and constructed: - to achieve the maximum building facade acoustic level in reference table 1 (item 1.2); - in accordance with: - Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; - Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; - Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or - achieves the maximum building facade acoustic level in reference table 1 (item 1.2) by alternative noise attenuation measures where it is not practical to provide a noise barrier or earth mound.	No acceptable outcome is provided.	Not Applicable
PO46 Development involving: indoor education areas and indoor play areas; or - sleeping rooms in a childcare centre; or patient care areas in a hospital achieves the maximum internal acoustic level in reference table 3 (items 3.2-3.4).	No acceptable outcome is provided.	Not Applicable
Above ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a state-controlled road or type 1 multi-modal corridor		

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Performance outcomes	Acceptable outcomes	Response
PO47 Development involving a childcare centre or educational establishment which have balconies, podiums or elevated outdoor play areas predicted to exceed the maximum free field acoustic level in reference table 2 (item 2.3) due to noise from a state-controlled road are provided with: 1. a continuous solid gap-free structure or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia); 2. highly acoustically absorbent material treatment for the total area of the soffit above balconies or elevated outdoor play areas.	No acceptable outcome is provided.	Not Applicable
PO48 Development including: 1. indoor education areas and indoor play areas in a childcare centre or educational establishment; or 2. sleeping rooms in a childcare centre; or 3. patient care areas in a hospital located above ground level, is designed and constructed to achieve the maximum internal acoustic level in reference table 3 (items 3.2-3.4).	No acceptable outcome is provided.	Not Applicable
Air, light and vibration		

Performance outcomes	Acceptable outcomes	Response
PO49 Private open space, outdoor education areas and outdoor play areas are protected from air quality impacts from a state-controlled road .	AO49.1 Each dwelling or unit has access to a private open space which is shielded from a state-controlled road by a building, solid gap-free fence, or other solid gap-free structure. OR AO49.2 Each outdoor education area and outdoor play area is shielded from a state-controlled road by a building, solid gap-free fence, or other solid gap-free structure.	Not Applicable
PO50 Patient care areas within hospitals are protected from vibration impacts from a state-controlled road or type 1 multi-modal corridor .	AO50.1 Hospitals are designed and constructed to ensure vibration in the patient treatment area does not exceed a vibration dose value of $0.1\text{m/s}^{1.75}$. AND AO50.2 Hospitals are designed and constructed to ensure vibration in the ward of a patient care area does not exceed a vibration dose value of $0.4\text{m/s}^{1.75}$.	Not Applicable
PO51 Development is designed and sited to ensure light from infrastructure within, and from users of, a state-controlled road or type 1 multi-modal corridor, does not: 1. intrude into buildings during night hours (10pm to 6am); 2. create unreasonable disturbance during evening hours (6pm to 10pm).	No acceptable outcomes are prescribed.	Not Applicable

Table 1.6: Development in a future state-controlled road environment

Performance outcomes	Acceptable outcomes	Response
PO52 Development does not impede delivery of a future state-controlled road .	AO52.1 Development is not located in a future state-controlled road. OR ALL OF THE FOLLOWING APPLY: AO52.2 Development does not involve filling and excavation of, or material changes to, a future state-controlled road. AND AO52.3 The intensification of lots does not occur within a future state-controlled road. AND AO52.4 Development does not result in the landlocking of parcels once a future state-controlled road is delivered.	Not applicable
PO53 The location and design of new or changed access does not create a safety hazard for users of a future state-controlled road .	AO53.1 Development does not include new or changed access to a future state-controlled road .	Not applicable •
PO54 Filling, excavation, building foundations and retaining structures do not undermine, damage or cause subsidence of a future state-controlled road .	No acceptable outcome is prescribed.	Not applicable •
PO55 Development does not result in a material worsening of stormwater, flooding, overland flow or drainage impacts in a future state-controlled road or road transport infrastructure .	No acceptable outcome is prescribed.	Not applicable •

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Performance outcomes	Acceptable outcomes	Response
PO56 Development ensures that stormwater is lawfully discharged.	AO56.1 Development does not create any new points of discharge to a future state-controlled road. AND AO56.2 Development does not concentrate flows to a future state-controlled road. AND AO56.3 Stormwater run-off is discharged to a lawful point of discharge. AND AO56.4 Development does not worsen the condition of an existing lawful point of discharge to the future state-controlled road.	Not applicable •

APPENDIX M

ASSESSMENT BENCHMARKS

- Low density residential code
- Airport environs overlay code
- Coastal environmental overlay code
- Flood hazard overlay code
- Major infrastructure and hazardous facilities overlay code
- Healthy waters code
- Landscape code
- Traffic impact, access and parking code
- Works code

6.2.1 Low density residential zone code

6.2.1.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

6.2.1.2 Purpose

1. The purpose of the Low density residential zone code is to provide for predominately dwelling houses.
2. The particular purpose of the code is to:
 1. primarily accommodate dwelling houses and dual occupancy dwellings;
 2. provide for housing choice and affordability by allowing for a range of lot sizes;
 3. maintain the low-rise and lower density character of Townsville's suburbs;
 4. maintain a high level of residential amenity; and
 5. achieve accessible, well-serviced and well-designed communities.
1. The purpose of the zone will be achieved through the following overall outcomes:
 1. built form is of a house compatible scale and consistent with the local streetscape character;
 2. reconfiguration facilitates a range of lot sizes to accommodate dwelling houses and dual occupancy dwellings, typically on lots 400m² or greater (unless otherwise intended in a precinct);
 3. development maintains a high level of residential amenity on the site and in the neighbourhood;
 4. residential development is protected from the impacts of any nearby industrial activities, transport corridors, infrastructure, installations and major facilities such as the port, airport and Department of Defence landholdings;
 5. the design of development promotes accessibility by walking, cycling and public transport;
 6. the design of development is responsive to the city's climate and promotes sustainable practices including energy efficiency and water conservation;
 7. low-rise multiple dwellings, residential care or retirement facilities may be acceptable within this zone where provided in locations that are within a convenient walkable distance to centres, public transport and community activities, and where of a scale that is consistent with the local character;
 8. non-residential uses only occur within the zone where they primarily support the day-to-day needs of the immediate residential community, do not unreasonably detract from the residential amenity of the area and are not better located in nearby centre zones;
 9. development minimises impacts on remaining areas of ecological significance within the zone; and

10. the natural bushland setting and village character of the northern beaches and Magnetic Island townships are maintained. Tourism accommodation in these communities is of a house compatible scale.

1. The purpose of the zone will also be achieved through the following additional overall outcomes for particular precincts:

Ross River Road corridor precinct:

1. existing non-residential uses continue operation without significantly expanding;
2. no additional non-residential development is established within the precinct to avoid the continuation of strip commercial development; and
3. redevelopment of sites within this precinct may occur for the purposes of low-rise multiple dwellings, residential care or retirement facilities.

Stables precinct:

1. stables are established in a manner that minimises impacts on residential amenity; and
2. residential uses in the precinct do not intensify.

Marlow Street precinct:

1. residential development occurs primarily in the form of dwelling houses on large lots with a limited site cover;
2. lots are not smaller than 750m² and the minimum average lot size across the whole of the precinct is not less than 1,700m²;
3. development facilitates viable wildlife corridors through the precinct; and
4. built form and infrastructure is sub-ordinate to the vegetation and the natural landform.

6.2.1.3 Assessment benchmarks

For accepted development subject to requirements and assessable development

Table 6.2.1.3 Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Home based business		
PO1 The use does not adversely impact on the amenity of the surrounding residential land uses and local character.	AO1.1 The home based business: a) is carried out in an existing building or structure; b) does not use more than 60m² of the gross floor area of the building or structure; c) involves at least one or more residents of the dwelling house; d) involves not more than one non-resident employee; e) where bed and breakfast accommodation, does not exceed three bedrooms; f) does not generate more than 1 heavy vehicle trip per week; Editor's note —a heavy vehicle is a vehicle with more than 4.5 tonnes gross vehicle mass. g) does not generate more than 28 vehicle trips per day by other vehicles, where one trip includes arriving at the site and a second trip	N/A The development is for a Multiple dwelling and does not include a home based business.

	is departing the site. These trips are additional to normal domestic trips associated with the dwelling; h) contains visitor parking within the site; i) does not involve hiring out of materials, goods, appliances or vehicles; and j) does not involve the repair or maintenance of vehicles, other than minor maintenance of vehicles used in conjunction of the home based business on the site. Editor's note—home based business operators should also refer to signage requirements under Table 5.8.2 -Operational work being placing an advertising device on a premises and Section 9.3.1-Advertising devices code.	
	AO1.2 Functional aspects of the use such as service areas, material storage or use activities are not visible from the street.	N/A The development is for a Multiple dwelling and does not include a home based business.
	AO1.3 Other than where a bed and breakfast or home based childcare, the business use does not operate outside the hours of 8am to 5pm Monday to Friday, 8am to 2pm Saturday and does not operate on Sunday.	N/A The development is for a Multiple dwelling and does not include a home based business.
	AO1.4 Noise levels do not exceed acoustic	N/A

	quality objectives under the Environmental Protection (Noise) Policy 2008.	The development is for a Multiple dwelling and does not include a home based business.
PO2 Commercial vehicle parking: a) has a direct nexus with a home based business carried out on the site; and b) does not adversely affect the amenity of neighbouring properties.	AO2.1 Not more than one commercial vehicle is parked on the site.	N/A The development is for a Multiple dwelling and does not include a home based business.
	AO2.2 While on-site, vehicles: a) are not left idling for more than 5 minutes at any one time; and b) do not have a refrigeration unit running.	N/A The development is for a Multiple dwelling and does not include a home based business.
	AO2.3 Any commercial vehicle does not exceed 4.5 tonnes gross vehicle mass and is housed behind the building line.	N/A The development is for a Multiple dwelling and does not include a home based business.

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Sales office		
PO3 The use does not adversely impact on the amenity of the surrounding land uses and local character.	AO3 Development of the sales office is in place for no more than two years.	N/A The development is for a Multiple dwelling and does not include a sales office.

Low density residential zone code - Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Secondary dwelling		
PO4 Secondary dwellings are: a) are subordinate, small-scaled dwellings; b) contribute to a safe and pleasant living environment; and c) does not cause adverse impacts on adjoining properties.	AO4 The secondary dwelling: a) has a GFA, exclusive of a single carport or garage, of not more than 90m²; and b) is located not more than 20m from the primary house.	N/A The development is for a Multiple dwelling and does not include a secondary dwelling.

Additional benchmarks for accepted development subject to requirements in precincts

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Additional benchmarks for accepted development subject to requirements and assessable development in precincts		
Note —Townsville City Council has an animal keeping local law that also sets out requirements for stables. These must also be complied with.		
For accepted development subject to requirements and assessable development		
Stables precinct		
PO5 Only dwelling houses or caretaker's accommodation are established in the precinct.	AO5 The development does not involve a dual occupancy, rooming accommodation, multiple dwelling, retirement facility,	N/A The subject site is not within the Stables precinct.

	residential care facility, short-term accommodation or tourist park.	
P06 Reconfiguration does not result in additional lots being created.	A06 Lot size is no less than 1,000m ² .	N/A The subject site is not within the Stables precinct.
P07 The site is of a size to accommodate stables and associated service areas and allows for setback of stables from adjacent houses.	A07 Where stables are proposed, the site has a minimum area of 1,000m ² .	N/A The subject site is not within the Stables precinct.
P08 Stables are established where provision is made for a manager living on-site.	A08 Stables are established on the same site as a dwelling house or caretaker's accommodation.	N/A The subject site is not within the Stables precinct.
P09 Residential uses in the precinct do not intensify.	A09.1 Not more than one dwelling house or caretaker's accommodation unit is established on each lot.	N/A The subject site is not within the Stables precinct.
	A09.2 The caretaker's accommodation unit has a gross floor area of no more than 70m ² .	N/A The subject site is not within the Stables precinct.

For assessable development

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Amenity		

PO10 Development minimises impacts on surrounding land and provides for an appropriate level of amenity within the site, having regard to: a) noise; b) hours of operation; c) traffic; d) visual impact; e) odour and emissions; f) lighting; g) access to sunlight; h) privacy; and i) outlook.	No acceptable outcome is nominated.	Complies The proposed multiple dwelling development has been carefully designed to minimise impacts on the surrounding land and ensure a high level of residential amenity within the site. The building orientation and landscape buffers assist in reducing noise impacts to adjoining neighbours and future residents within the site. The on-site car parking and vehicle access are designed to manage expected traffic volumes safely and efficiently, with minimal disruption to the surrounding road network. The building layout maximises access to natural sunlight to future residents as well as adjoining neighbours, including screening and suitable setbacks to ensure privacy is maintained.
PO11 Landscaping is provided to enhance the appearance of the development, screen unsightly components, create an attractive on-site environment and provide shading.	No acceptable outcome is nominated.	Complies The development will provide appropriate landscaping throughout the subject site which has been demonstrated in the attached proposal plans.
PO12 Development for the purposes of a sensitive use within 500m of land included in the High impact industry zone or Special	No acceptable outcome is nominated.	N/A The development is for a sensitive use, however located outside of the distances listed in PO12.

purpose zone, or within 250m of land in the Medium impact industry zone: a) achieves indoor noise levels consistent with the objectives set out in the Environmental Protection (Noise) Policy 2008; b) achieves air quality levels consistent with the objectives set out in the Environmental Protection (Air) Policy 2008 and the relevant national standard; and c) does not experience offensive odours.		
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Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Crime prevention through environmental design		
PO13 Development facilitates the security of people and property having regard to: a) opportunities for casual surveillance and sight lines; b) exterior building design that promotes safety; c) adequate lighting; d) appropriate signage and wayfinding;	No acceptable outcome is nominated.	Complies The proposed development facilitates the safety and security of people and property through a design that promotes casual surveillance, with clear sight lines to communal areas, pathways, and entrances. The exterior of buildings incorporates features that enhance visibility and reduce concealment, while lighting is provided in all key areas to

e) minimisation of entrapment locations; and f) building entrances, loading and storage areas that are well lit and lockable after hours. Editor's note—Applicants should have regard to Crime Prevention through Environmental Design Guidelines for Queensland.		support safe movement and deter unlawful activity. The layout avoids entrapment locations, and clear signage and wayfinding support ease of navigation throughout the site, further contributing to a safe and secure environment.
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Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
General		
PO14 Development minimises impacts on remaining areas of ecological significance within the zone.	No acceptable outcome is nominated.	N/A There are no ecological significant values located on the subject site.
PO15 On elevated or steeply sloping sites: a) development is sympathetic to the natural landform through the use of terraced or split level building forms; b) the understoreys of buildings are screened to maintain the quality of views from public vantage points below; and c) buildings avoid highly reflective finishes.	No acceptable outcome is nominated.	N/A The subject site is not considered to be elevated or steeply sloping.

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Parking and servicing		
PO16 Parking facilities are located to be concealed from public view to ensure an attractive streetscape.	AO16 Vehicle parking structures are located: a) behind the building setback; or b) behind the building; or c) at basement level. Figure 6.4 – Concealment of parking structure illustrates.	Complies As demonstrated on the attached Proposal Plans, vehicle parking for the development are located internally to the site and are concealed from public view which contributes to facilitating an attractive streetscape along Francis Street.
PO17 Waste disposal and servicing areas are screened from public view and do not have adverse amenity impacts on adjoining properties.	No acceptable outcome is nominated.	Complies As demonstrated on the attached Proposal Plans, the refuse storage area is located centrally in the site which appropriate screened enclosures and landscaping. This assists in ensuring adverse amenity impacts on adjoining properties are minimised.

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development — where a non-residential or tourist accommodation use		
PO18 Non-residential uses are established only where: a) compatible with local character and amenity;	No acceptable outcome is nominated. Editor's note —Applicants should have regard to Economic impact assessment planning scheme policy no. SC6.5 for guidance on how to demonstrate compliance with this performance outcome.	N/A The development is for a Multiple dwelling which is a residential use.

b) limited in scale and supporting the day-to-day needs of the local community; and c) not impacting on the role and function of the city's network of centres or more appropriately located in another zone.		
PO19 Tourist accommodation occurs only within the townships of Paluma, Balgal Beach, Toomulla, Toolakea and Saunders Beach and the Magnetic Island townships, and is compatible with the village character of these communities.	No acceptable outcome is nominated.	N/A The development is for a Multiple dwelling which is a residential use.
PO20 Development is of a house compatible scale.	AO20.1 The use does not involve any building work or only minor building work. OR	N/A The development is for a Multiple dwelling which is a residential use.
	AO20.2 Where a new building is proposed: a) buildings and other structures do not exceed 8.5m or 2 storeys, whichever is the lesser; b) the building does not exceed 250m² in gross floor area; c) site cover does not exceed 60%; and d) the maximum length of any wall is 12m.	N/A The development is for a Multiple dwelling which is a residential use.

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development – where a multiple dwelling, residential care facility or retirement facility development		
Location		
PO21 Multiple dwelling, residential care facility or retirement facility development occur only in locations where: a) they can be designed to be compatible with local character and low density scale of development; b) having convenient walkable access to the city's network of centres; c) having convenient walkable access to public transport; and d) having convenient walkable access to recreational facilities.	AO21 The premises: a) is located within 400m of a centre zone or public transport stop on a major road; b) has a minimum site area of 1,000m² and 20m frontage where for a multiple dwelling; c) has a minimum site area of 3,000m² and 20m frontage where for a residential care facility or retirement facility; and d) is located within 400m of a park.	Complies • The subject site is located 388m from the nearest centre (Garbutt Central) located at the corner of Hugh Street and Ingham Road. • There are bus stops located along Percy Street, across the road from the subject site and 100m north of the subject site. • The subject site has a total site area of 4,436m² and a frontage of 90m to Francis Street and 50m to Percy Street. • The closest park to the subject site is across Percy Street, or 215m north (Cutheringa Park).
PO22 Buildings are low-rise and of a house compatible scale.	AO22 Building design achieves: a) a site cover that does not exceed 65% of site area; b) a building height that does not exceed 2 storeys and 8.5m if it is within 10m of a site boundary, and 3 storeys if it is 10m or more from a site boundary; and	Complies The development has a maximum building height of 1 storey. A site cover of 2,599.87m ² (59%) is provided which is compliant with AO22. Additionally, there are no walls which exceed 12m in length.

	c) the maximum length of any wall is 12m.	
PO23 Building setbacks and landscaping: a) create an attractive, consistent and cohesive streetscape; b) maintain appropriate levels of light and solar penetration, air circulation, privacy and amenity for existing and future buildings; and c) do not prejudice the development or amenity of adjoining sites.	AO23.1 Buildings are set back from street frontages: a) within 20% of the average front setback of adjoining buildings; or b) where there are no adjoining buildings, 3m. Figure 6.5 – Appropriate front setbacks illustrates.	Complies Francis Street has a varied streetscape with front setbacks ranging from 2m – 6m. The development has been designed with a front setback to Francis Street of 5.6m which is considered to be appropriate for the street context. Percy Street also has a varied streetscape, the development has a minimum 4.5m front setback to Percy Street which is consistent with the streetscape.
	AO23.2 A landscape area with a minimum dimension of 1m is provided along the full frontage of any road frontage (excluding crossover and pedestrian access only). Figure 6.6 – Appropriate front and rear setbacks illustrates.	Complies The subject site has dual road frontage to Percy Street and Francis Street. Both frontages will be provided with a landscaping strip exceeding 1m in width.
	AO23.3 The side boundary setback is a minimum of: a) 1.5m for a wall up to 4.5m high; b) 2m for a wall up to 7.5m high; and c) 2.5m for any part of a wall over 7.5m high. Editor's note—Development should also comply with the requirements of AO21 (b), such that any part of the building that is 3 storeys is 10m or more from a site boundary.	Complies The development provides a minimum 2m wide setback to side boundaries.

	AO23.4 The rear boundary setback is a minimum of 6m. Figure 6.6 - Appropriate front and rear setbacks illustrates.	N/A The subject site does not have a rear boundary.
PO24 Built to boundary walls do not impact on the amenity or privacy of adjoining premises.	AO24 Built to boundary walls: a) are for non-habitable rooms or spaces only; b) are not located within the front or rear setback; c) are not located within 1.5m of a habitable room or house on an adjoining lot; d) have a maximum height of 3m; and e) have a maximum length of 9m.	Complies The development has been designed to ensure impacts on amenity are reduced to the greatest amount possible.
PO25 Buildings are designed to achieve good solar access by: a) minimising the extent of shadows on usable private open space or public spaces; and b) providing adequate sunlight to habitable rooms.	No acceptable outcome is nominated.	Complies The development is designed to maximise solar access by minimising overshadowing of private and public open spaces and ensuring adequate sunlight reaches all habitable rooms as demonstrated on the attached Proposal Plans.
PO26 Design elements contribute to an interesting and attractive streetscape and building through:	No acceptable outcome is nominated.	Complies The development achieves an attractive and engaging streetscape through a well-articulated built form that incorporates projections, recesses, and modulation to

a) the provision of projections and recesses in the façade which reflect changes in internal functions of buildings, including circulation; b) variations in material and building form; c) modulation in the façade, horizontally or vertically; d) articulation of building entrances and openings; e) corner treatments to address both street frontages; f) elements which assist in wayfinding and legibility; and g) elements which relate to the context including surrounding buildings, parks, streets and open spaces. Figure 6.7 – Building design elements provides indicative guidance.		reflect internal functions and break up building mass. A variety of materials and finishes are used to create visual interest, while clearly defined entrances and openings enhance legibility and wayfinding. Overall, the design responds thoughtfully to its context, integrating with the surrounding streets, open spaces, and built environment.
PO27 Roof form assists in reducing the appearance of building bulk by: a) articulating individual dwellings; and b) incorporating variety in design through use of roof pitch, height, gables and skillions. Figure 6.7 – Building design elements provides indicative guidance.	No acceptable outcome is nominated.	Complies As demonstrated on the attached Proposal Plans, the development reduces the building bulk by providing variety in the roof for the dwellings as well as varied pitches.
PO28 Development promotes the safety of	AO28.1 Buildings are designed to have balconies,	Complies

residents and visitors, particularly through casual surveillance of the street and public spaces.	windows and building openings overlooking streets and other public spaces. Figure 6.8 – Design for casual surveillance illustrates.	As demonstrated on the attached Proposal Plans, the dwellings have outdoor areas and window openings towards Percy Street and Francis Street.
	AO28.2 Fences or walls along a street frontage have a maximum height of 1.2m where solid, or 1.8m where that portion of the fence above 1.2m high is at least 50% transparent.	Complies The development incorporates a timber fence achieving the heights detailed in AO28.2.
PO29 Development provides private open space that is: a) well-proportioned, appealing, functional and easily accessible, and promotes outdoor living as an extension of the dwelling; b) provides a high level of privacy for residents and neighbours; and c) has sufficient size and shape to meet the needs of a diversity of potential residents.	AO29.1 For a ground floor dwelling (where a multiple dwelling), ground floor private open space is provided with: a) a minimum area of 35m²; b) a minimum dimension of 3m; and c) clear of any utilities such as gas, water tanks or air-conditioning units.	Complies Each dwelling has been provided with an appropriate dimension of private open space ranging between 20m² and 40m², clear of utilities and services. The private open space areas are easily accessible, functional and promote outdoor living.
	AO29.2 For a dwelling above ground storey, private open space is provided as a balcony with: a) a minimum area of 9m² for a 1 bedroom unit or 16m² for a 2 or more bedroom unit; b) a minimum dimension of 3m; and c) clear of any utilities such as air conditioning units or drying space.	N/A Each dwelling is located on the ground floor.

	AO29.3 Where clothes drying areas are provided on private balconies they are screened from public view and do not take up more than 10% of the balcony area.	Complies Clothes drying areas will be located appropriately, and can be conditioned if necessary.
	AO29.4 Private open space is located or screened so it does not directly overlook main living areas or private open space of adjoining dwellings. Where screening is used, it is at least 50% translucent.	Complies The development will be appropriately fenced which will act as screening and ensure there is no direct overlooking to adjoining dwellings.
PO30 Sufficient communal open space is provided to create flexible spaces suitable for a range of activities.	No acceptable outcome is nominated.	Complies The development provides communal areas central to the site which will include bbq areas and facilities to allow for a range of activities and social interactions.
PO31 Communal open space provides facilities including seating, landscaping and shade. Treatments such as green roofs, green walls or community gardens contribute to the attractiveness of these spaces.	No acceptable outcome is nominated.	Complies The development provides communal areas central to the site which will landscaping and seated areas.
PO32 Air conditioning units are insulated so that adjoining properties are not affected by the noise source, and are not significantly visible from the street.	No acceptable outcome is nominated.	Complies Any plant or servicing will be screened from view and acoustically attenuated.

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Additional benchmarks for assessable development in precincts Note—Where acceptable outcomes in this section vary from those provided earlier in this code, the precinct-based acceptable outcomes take precedence.		
Ross River Road corridor precinct		
PO33 No new non-residential development is established within the precinct.	No acceptable outcome is nominated.	N/A The subject site is not located within the Ross River Road corridor precinct.
PO34 Expansion of existing non-residential development is minor in nature and does not significantly increase the intensity of non-residential activity.	AO34 New gross floor area is only added through internal building work to an existing building.	N/A The subject site is not located within the Ross River Road corridor precinct.

Table 6.2.1.3-Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Additional benchmarks for assessable development in precincts Note—Where acceptable outcomes in this section vary from those provided earlier in this code, the precinct-based acceptable outcomes take precedence.		
Marlow Street precinct		
PO35 Reconfiguration creates large residential lots which support the protection of environmental values.	AO35 Lots are not smaller than 750m ² and the minimum average lot size across the whole of the precinct is not less than 1,700m ² .	N/A The subject site is not located within the Marlow Street precinct.
PO36 Residential development occurs primarily in the form of dwelling houses on large lots with a limited site cover.	No acceptable outcome is nominated.	N/A The subject site is not located within the Marlow Street precinct.

PO37 Built form and infrastructure is subordinate to vegetation and the natural landform.	No acceptable outcome is nominated.	N/A The subject site is not located within the Marlow Street precinct.
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8.2.1 Airport environs overlay code

8.2.1.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment for the Airport environs overlay. When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

8.2.1.2 Purpose

1. The purpose of the Airport environs overlay code is to ensure the safe and efficient operations of the airport, RAAF base and aviation facilities are protected.
2. The purpose of the code will be achieved through the following overall outcomes:
 1. development avoids adversely affecting the safety and efficiency of an airport's operational airspace or the functioning of aviation facilities;
 2. large increases in the numbers of people adversely affected by significant aircraft noise are avoided; and
 3. development does not increase the risk to public safety near airport runways.

8.2.1.3 Assessment benchmarks

Table 8.2.1.3 - Accepted development subject to requirements and assessable development (Part)

Editor's note—This code will apply to accepted development subject to requirements as well as assessable development.

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Operational airspace (overlay map OM-01.1)		
PO1 Development does not involve permanent or temporary physical obstructions that will adversely affect the airport's operational airspace area identified on overlay map OM-01.1 . Editor's note —The Defence (Areas Control) Regulation (DACR) is a Commonwealth regulation under the Defence Act 1903 . Development in the area covered by this regulation which exceeds certain heights will require a separate assessment process under Regulation 8 of the DACR by the Department of Defence. The Department of Defence also requires that all tall structures (30m high within 30km of the airport and 45m high elsewhere) are registered by forwarding "as constructed" information to Airservices Australia at the following email address: vod@airservices.com.	AO1.1 Development involving a permanent or temporary building, structure or landscaping does not enter operational airspace areas identified on overlay map OM-01.1. Editor's note —Alternative heights which enter the operational airspace areas may be possible. In particular, building heights which meet the acceptable outcomes for a particular zone or precinct under this planning scheme. However, applicants should note the requirement for assessment under the Defence (Areas Control) Regulation (DACR) for development which exceed AO1 above.	Complies The development does not involve permanent structures that will adversely impact the airport's operational space.
	AO1.2 Development on land within the area identified on overlay map OM-01.1 as operational airspace areas does not involve transient intrusions within the operational airspace.	Complies The development does not involve transient intrusions within the operational airspace.
PO2 Emissions do not significantly affect air turbulence, visibility or aircraft engine operation in the airport's operational airspace area identified on overlay map OM-01.1 .	AO2 Development does not generate: a) a gaseous plume with a velocity exceeding 4.3m per second; or	Complies The development is for a residential use and does not generate the emissions detailing in AO2.

	b) smoke, dust, ash or steam that will penetrate operational airspace areas identified on overlay map OM-01.1.	
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Table 8.2.1.3 - Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Wildlife hazard buffer zones (overlay map OM-01.2)		
PO3 Development does not attract a significant number of flying vertebrates, such as birds and bats, into areas identified on overlay map OM-01.2 .	AO3.1 Within 13km of airport runways, development does not involve a putrescible waste disposal facility.	Complies The development does not involve a waste disposal facility.
	AO3.2 Within 8km of airport runways, development does not involve: a) aquaculture; or b) food handling or processing of an industrial nature; or c) stock handling or slaughtering; or d) pig production; or e) fruit production; or f) turf production; or g) the keeping or protection of wildlife outside enclosures.	Complies The development is for a multiple dwelling.
	AO3.3 Within 3km of airport runways, development does not involve:	Complies The development is for a multiple dwelling.

	1. the keeping, handling or racing of horses; or 2. outdoor dining, food handling or food consumption.	
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Table 8.2.1.3 - Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Public safety areas (overlay map OM-01.2)		
PO4 A significant increase in the numbers of people living, working or congregating in public safety areas identified on overlay map OM-01.2 is avoided.	AO4 Within a public safety area identified on overlay map OM-01.2, development does not involve the following: 1. residential uses; or 2. a new building or an increase in the gross floor area of an existing building accommodating a non-residential use, other than an industrial use; or 3. any activities involving the manufacture or bulk storage of hazardous or flammable materials.	N/A The subject site is not located on OM-01.2.

Table 8.2.1.3 - Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		

Aviation facilities (overlay map OM-01.3)		
PO5 Development within the area identified on overlay map OM-01.3 is located and designed to protect the function of aviation facilities from physical obstructions, electrical or electromagnetic interference and deflection of signals.	AO5.1 No building, structures or other works which exceed 7.9m in height are located between 150m and 500m of non-directional beacon (NDB) site (as depicted on overlay map OM-01.3).	N/A The subject site is not located on OM-01.3.
	AO5.2 Within the buffer area of the Townsville Airport distance measuring equipment (DME) site (as depicted on overlay map OM-01.3), no building, structure or other works involving a change to, or a physical projection above, the ground level are located: a) within 115m of the DME site; or b) between 115m and 230m of the DME site if exceeding 1m in height; or c) between 230m and 500m of the DME site if exceeding 2m in height; or d) between 500m and 1,000m of the DME site if exceeding 4m in height; or e) between 1,000m and 1,500m of the DME site if exceeding 8.5m in height.	N/A The subject site is not located on OM-01.3.
	AO5.3 Within the buffer area of the	N/A The subject site is not located on OM-01.3.

	Townsville Airport VHF omni-directional radio range (VOR) site (as depicted on overlay map OM-01.3): a) no building, structures or other works involving a change to, or a physical projection above, the ground level are located within 300m of the site; and b) the following are not located between 300m and 1,000m of the site: (i) fences exceeding 2.5m in height; or (ii) overhead lines exceeding 5m in height; or (iii) metallic structures exceeding 8m in height; or (iv) trees and open lattice towers exceeding 10m in height; or (v) wooden structures exceeding 13m in height.	
	AO5.4 Within the buffer area of the Townsville Airport Glidepath site (as depicted on overlay map OM-01.3), no building, structures or other works involving a change to, or a physical projection above, the ground level are located between:	N/A The subject site is not located on OM-01.3.

	a) 700m and 1,000m of the site if exceeding 6m in height; or b) 1,000m and 1,500m of the site if exceeding 8.7m in height.	
	AO5.5 Within the buffer area of the Townsville Airport middle marker site (as depicted on overlay map OM-01.3, no buildings, structures or other works involving a change to, or a physical projection above, the ground level occurs that exceed 20m in height.	N/A The subject site is not located on OM-01.3.
	AO5.6 No buildings, fences or landscaping are established within the buffer area of the Townsville Airport localiser (as depicted on overlay map OM-01.3).	N/A The subject site is not located on OM-01.3.

Table 8.2.1.3 - Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Australian noise exposure forecast contours (overlay map OM-01.4)		
PO6 Development within the area identified on overlay map OM-01.4 is compatible with forecast levels of aircraft noise unless there is an overriding need in the public interest and there is no reasonable	AO6.1 Above the 25 ANEF contour (as depicted on overlay map OM-01.4), development does not involve the following: a) child care centre; b) educational establishment; or	N/A The subject site is not located on OM-01.4.

alternative site available for the use. Editor's note—Where the acceptable outcomes cannot be met, an appropriately qualified acoustic practitioner may be required to be engaged in order to demonstrate compliance with this performance outcome.	c) hospital.	
	AO6.2 Above the 30 ANEF contour (as depicted on overlay map OM-01.4), development does not involve a community use or community care centre.	N/A The subject site is not located on OM-01.4.
	AO6.3 Above the 35 ANEF contour areas (as depicted on overlay map OM-01.4), development does not involve residential uses.	N/A The subject site is not located on OM-01.4.
	AO6.4 The siting and design of any building is in accordance with Australian Standard AS2021 and Australian Standard AS/NZS2107.	N/A The subject site is not located on OM-01.4.

Table 8.2.1.3 - Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
Lighting area buffer zones (overlay map OM-01.5)		
PO7 Development within the area identified on overlay map OM-01.5 does not involve external lighting or reflective surfaces that could distract or confuse pilots.	AO7.1 Development within the 6km radius shown on overlay map OM-01.5 does not involve: a) straight parallel lines of lighting 500m to 1000m long; or	N/A The subject site is not located on OM-01.5.

Editor's note —The standards specified in CASA Guidelines: Lighting in the vicinity of aerodromes: Advice to lighting designers, may be used to demonstrate compliance with this performance outcome.	b) lighting which extends more than 3 degrees above the horizon; or c) flare plumes; or d) buildings with reflective cladding; or e) upward-shining lights; or f) flashing lights; or g) sodium lights.	
	A07.2 In zone A shown on overlay map OM-01.5, lighting does not exceed 0 candela.	N/A The subject site is not located on OM-01.5.
	A07.3 In zone B shown on overlay map OM-01.5, lighting does not exceed 50 candela.	N/A The subject site is not located on OM-01.5.
	A07.4 In zone C shown on overlay map OM-01.5, lighting does not exceed 150 candela.	N/A The subject site is not located on OM-01.5.
	A07.5 In zone D shown on overlay map OM-01.5, lighting does not exceed 450 candela.	N/A The subject site is not located on OM-01.5.

8.2.3 Coastal environment overlay code

8.2.3.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment for the Coastal environment overlay. When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

8.2.3.2 Purpose

1. The purpose of the Coastal environment overlay code is to ensure development in the coastal zone is planned, designed, constructed and operated to:
 - a) avoid risk to people and property from coastal hazards, including storm tide inundation and coastal erosion, and taking into account the predicted effects of climate change; and
 - b) manage the coast to protect coastal resources and allow for the natural fluctuations of coastal processes as far as possible.
2. The purpose of the code will be achieved through the following overall outcomes:
 - a) the foreshore and foreshore ecosystems are protected and managed to maintain their protective functions and allow for natural fluctuations to continue as far as possible;
 - b) the exposure of communities and development to coastal hazards is minimised;
 - c) urban and rural residential development does not expand into coastal hazard areas beyond areas zoned for urban and rural residential purposes;

Editor's note—To remove any doubt areas zoned for urban purposes includes the Emerging community zone.

1. in areas zoned for urban and rural residential purposes and located in a coastal hazard area, the risks of storm tide inundation and erosion are avoided, or are mitigated and managed;
2. opportunities for sustainable coastal-dependent development are protected;
3. coastal-dependent development is undertaken in a manner that minimises impacts on coastal resources;
4. public access to the foreshore is maintained and enhanced for current and future generations; and
5. wherever practicable, facilities with a role in emergency management and vulnerable community services are located and designed to function effectively during and immediately after coastal hazard events.

8.2.3.3 Assessment benchmarks

Table 8.2.3.3(a) -Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements		
Development in coastal hazard areas		
PO1 Development is designed and located to minimise susceptibility to, and the potential impacts of, storm tide inundation and erosion. Editor's note —Applicants must be aware that in some areas flood hazard areas will also co-exist with storm tide hazard areas. In these instances, the floor levels and other design responses will need to be sufficient to comply with both this code and the Building Regulation 2021 .	AO1.1 Floor levels of all habitable rooms are above the defined storm tide event level. Editor's note —For Townsville the defined storm tide event level can be taken as RL 4.5m AHD, within 100m of the coastline or RL 3.9m AHD in other areas.	Complies Refer to attached Engineering Report.
	AO1.2 Underground parking is designed to prevent the intrusion of storm tide waters by the incorporation of a bund above the defined storm tide event level.	N/A The development does not involve underground parking.
	AO1.3 Buildings have open ground floors that allow for the flow through of storm tide water and buildings are not designed as slab on ground.	Complies Refer to attached Engineering Report.
	AO1.4 Buildings are located outside the erosion prone area or where this would be impractical, do not extend any further seaward than existing immediately adjacent buildings.	Complies Refer to attached Engineering Report.

Table 8.2.3.3(a) -Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Development in coastal hazard areas – erosion prone area		
PO2 Development locates outside erosion-prone areas identified on overlay map OM-03.3 , apart from: a) temporary or relocatable structures for safety and recreational purposes; or b) development that does not intensify the extent of existing development within the erosion prone area; or c) development that does not extend any further seaward than the existing adjacent buildings.	No acceptable outcome is nominated.	N/A The development is not within an erosion prone area.
PO3 Development mitigates any increase in risk to people and property from adverse coastal-erosion impacts, avoiding the need for coastal protection works as far as practicable, having regard to: a) minimising the footprint of the development of the part within the erosion prone area and locating the development as far landward as possible;	No acceptable outcome is nominated.	N/A The development is not within an erosion prone area.

b) the practical design life of the development in the context of future erosion threat; c) the ability for buildings or structures to be decommissioned, dis-assembled or relocated either on the site or to another site; and d) use of appropriate foundations for the building or structure.		
PO4 Where used, coastal protection works are: a) consistent with a shoreline erosion management plan that has been prepared for the area; or b) in response to a demonstrated need to protect existing permanent structures from an imminent threat of coastal erosion, if abandonment or relocation of the structures is not feasible, and a relevant shoreline erosion management plan has not been prepared	No acceptable outcome is nominated.	N/A The development is not within an erosion prone area.
PO5 Coastal erosion is mitigated by: a) beach nourishment undertaken in accordance with a program of nourishment works; or	No acceptable outcome is nominated.	N/A The development is not within an erosion prone area.

b) the construction of an erosion control structure where it is demonstrated that installing an erosion control structure is the only feasible option for protecting existing permanent structures from an imminent threat of coastal erosion at the location. Editor's note—Where a shoreline erosion management plan has not been prepared and coastal protection work is required to protect existing structures from coastal erosion threats, beach nourishment is favoured in preference to erosion control structures, such as seawalls and groynes. The location and materials for beach nourishment works are to ensure the natural characteristics and landform of the beach or foreshore is maintained. Applications involving erosion control structures must demonstrate the consideration of beach nourishment techniques and include a statement of why nourishment (in whole or part) has not been adopted as the preferred means of controlling the erosion risk.		
PO6 Any development using erosion control structures to protect private property from threat of coastal erosion ensures: a) erosion control structures are located wholly on private land; and b) physical coastal processes outside the area subject to the coastal protection work are maintained.	No acceptable outcome is nominated.	N/A The development is not within an erosion prone area.

Editor's note—Applications for coastal protection work must be supported by a report certified by a registered professional engineer with coastal engineering experience that demonstrates how the engineering solution sought by the work will be achieved.		
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Table 8.2.3.3(a) - Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Development in coastal hazard areas – storm tide inundation areas		
P07 Development is located outside high or medium storm tide inundation areas and erosion areas from sea level rise identified on overlay maps OM-03.1 and OM-03.2 unless it: a) does not result in an increase in the intensity of development on the site; or b) is located within the inner city area shown on Figure 8.1 — Coastal hazard areas: storm tide inundation areas and provides measures to ensure critical services remain operational up to the defined storm tide event; or c) avoids any increase in risk to people or property from coastal hazard impacts (including impacts on the development's ongoing operation).	No acceptable outcome is nominated.	Complies Refer to attached Engineering Report.

PO8 Development in storm tide inundation areas and erosion areas from sea level rise identified on overlay maps OM-03.1-OM-03.2 is located, designed, constructed and operated to: a) ensure structures can sustain flooding from a defined storm tide event; and b) maintain the safety of people living and working on the premises from a defined storm tide event.	AO8.1 Development within a high or medium storm tide inundation area identified on overlay maps OM-03.1-OM-03.2 ensures: a) habitable rooms of built structures are located above the defined storm tide event level; b) underground parking is designed to prevent the intrusion of flood waters by the incorporation of a bund above the defined storm tide event level; and c) where reconfiguring a lot, at least one evacuation route remains passable for emergency evacuations during a defined storm tide event. Editor's note—For Townsville the defined storm tide event level can be taken as RL 4.5m AHD, within 100m of the coastline or RL 3.9m AHD in other areas. AO8.2 Structures used for the manufacture or storage of hazardous materials in bulk are designed to prevent the intrusion of waters from a defined storm tide event.	Complies Refer to attached Engineering Report.
PO9 Facilities with a role in emergency management and vulnerable community services are located, designed	AO9.1 Development is either: a) located in an area that is above the storm tide event level specified	Complies Refer to attached Engineering Report.

and constructed to ensure it is able to function during and after a storm tide inundation event.	for that activity in table 8.2.3.3(b); or b) designed to ensure any components of the infrastructure that are likely to fail to function or may result in contamination when inundated by storm tide inundation are above the storm tide event level for that activity in table 8.2.3.3(b).	
	AO9.2 Emergency services and shelters, police facilities and hospitals, and associated facilities have an emergency rescue area above the storm tide event level specified for that infrastructure in table 8.2.3.3(b).	N/A The site is for multiple dwelling.

Table 8.2.3.3(a) -Accepted development subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Public access		
PO10 Development maintains or enhances safe and convenient public access to the foreshore.	No acceptable outcome is nominated.	N/A The site does not have any public access to foreshores.

Table 8.2.3.3(a) -Accepted subject to requirements and assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
Canals and artificial waterways		
PO11 Development that involves the construction of canals or artificial waterways connected to tidal water (either directly or indirectly) does not adversely affect coastal resources and their values.	No acceptable outcome is nominated.	N/A The development does not have include canals or artificial waterways.
PO12 The design, location, construction and operation of artificial tidal waterways are to maintain the tidal prism volume of the natural waterway to which it is connected.	No acceptable outcome is nominated.	N/A The development does not have include canals or artificial waterways.

8.2.6 Flood hazard overlay code

8.2.6.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment for the Flood hazard overlay. When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

8.2.6.2 Purpose

1. The purpose of the Flood hazard overlay code is to manage development outcomes in flood hazard areas so that risk to life, property, community, economic activity and the environment during future flood events is minimised, and to ensure that development does not increase the potential for flood damage on-site or to other property.
2. The purpose of the code will be achieved through the following overall outcomes:
 1. development is compatible with the nature of the flood hazard except where there is an overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposal;
 2. where development is not compatible with the nature of the flood hazard and there is an overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposal:
 1. development minimises as far as practicable the adverse impacts from the hazard; and
 2. does not result in unacceptable risk to people or property;
 3. wherever practicable, facilities with a role in emergency management and vulnerable community services are located and designed to function effectively during and immediately after flood hazard event;
 4. development maintains the safety of people and minimises the potential damage to property from flood events on the development site; and
 5. development does not result in adverse impacts on people's safety, the environment or the capacity to use land within the floodplain.

8.2.6.3 Assessment benchmarks

Note—To avoid any doubt, the term medium hazard area used in this code includes areas shown on the overlay maps as medium hazard – further investigation areas.

Editor's note—Areas shown on the overlay maps as medium hazard — further investigation areas are based on Queensland Reconstruction Authority mapping. Limited information is available on flood characteristics in these areas. Further investigation may be required as a result. [Flood hazard planning scheme policy no. SC6.7](#) will provide applicants with guidance in meeting the requirements of this code in these and other identified hazard areas.

Performance outcomes	Acceptable outcomes	Compliance
For accepted development subject to requirements and assessable development		
PO1 Development in medium and high hazard areas is designed and located to minimise susceptibility to and potential impacts of flooding. Editor's note—The Building Regulation 2006 may also establish requirements with which development will need to comply. The defined flood event is identified in this planning scheme as the 1% annual exceedance probability (AEP) flood and is mapped as the combined extent of the high and medium flood hazard areas identified on overlay map OM-06.1 and 06.2. Other than in the medium hazard — further investigation area, council will be able to make available the height of the flood level for any particular location upon request. Applicants must be aware that in some areas storm tide hazard areas will also co-exist with flood hazard areas. In these instances, the floor levels and other design responses will need to be sufficient to comply with this code, the Coastal environment overlay code and the <i>Building Regulation 2006</i>.	AO1.1 Where the development is located within an area shown on overlay map OM-06.1 or 06.2 as medium hazard — further investigation area, new buildings containing habitable rooms: a) are sited on a part of the site which is outside the medium hazard — further investigation area; or b) are sited on the highest part of the site. OR AO1.2 Where development is located within another hazard area shown on overlay map OM-06.1 or 06.2: a) floor levels of all habitable rooms are a minimum of 300mm above the defined flood level; b) floor levels of all non-habitable rooms (other than class 10 buildings) are above the defined flood event;	Complies There is a small portion of the frontages of the site which are impacted by low and medium hazard. The buildings have been located outside of the flood hazard area as demonstrated on the attached Proposal Plans.

	c) parking spaces associated with non-residential development are located outside the high hazard areas identified on overlay map OM-06.1 or 06.2; and Editor's note—Class 10 buildings are identified under the Building Code of Australia and includes carports and outbuildings. d) underground parking is designed to prevent the intrusion of flood waters by the incorporation of a bund or similar barrier with a minimum height of 300mm above the defined flood level.	
PO2 Development in high hazard areas does not significantly impede the flow of flood waters through the site or worsen flood flows external to the site.	AO2.1 Development in high hazard areas do not involve: a) filling with a height greater than 150mm; or b) block or solid walls or solid fences; or c) garden beds or other structures with a height more than 150mm; or d) the planting of dense shrub hedges.	N/A The subject site is not located within a high hazard area.

Table 8.2.6.3(a)-Self-assessable and assessable development (Part)

Performance outcomes	Acceptable outcomes	Complies
For assessable development		

PO3 Development does not intensify use in high hazard areas, in order to avoid risks to people and property. Editor's note—High hazard areas are those likely to experience deep and/or fast moving water in a defined flood event.	AO3.1 New buildings are located outside high hazard areas identified on overlay map OM-06.1 or 06.2.	N/A The subject site is not located within a high hazard area.
	AO3.2 New lots or roads are not created within high hazard areas identified on overlay map OM-06.1 or 06.2.	N/A The subject site is not located within a high hazard area.
	AO3.3 Sites for non-permanent accommodation such as tents, cabins or caravans (whether intended for short or long-term accommodation) are located outside the high hazard areas identified on overlay map OM-06.1 or 06.2.	N/A The subject site is not located within a high hazard area.
PO4 Siting and layout of development maintains the safety of people and property in medium hazard areas. Editor's note—The Building Regulation 2006 establishes requirements with which development will need to comply. The defined flood event is identified in this planning scheme as the 1% annual exceedance probability (AEP) flood and is mapped as the combined extent of the high and medium flood hazard areas identified on overlay map OM-06.1 and 06.2. Other than in the medium hazard — further investigation area, council will be able to make available the height of the flood level for any particular location upon request. Applicants must be aware that in some areas storm tide hazard areas will also co-exist with flood hazard areas. In these instances, the floor levels and other design responses will need to be sufficient to comply with this code, the Coastal environment overlay code and the Building Regulation 2006.	On existing lots AO4.1 Floor levels for residential buildings are 300mm above the defined flood level. Editor's note—In medium hazard — further investigation area, a flood assessment in accordance with the Flood hazard planning scheme policy no. SC6.7 may be needed to establish the defined flood level.	Complies The floor levels of the dwellings are located on the highest portion of the site which is not inundated with flood and will be above the defined flood level.
	AO4.2 Floor levels of non-residential buildings (other than class 10 buildings) are above the defined flood level. Editor's note—Class 10 buildings are identified under the Building Code of Australia and includes carports and outbuildings.	N/A The development is for residential dwellings.
	AO4.3 Underground parking is designed	N/A

	to prevent the intrusion of flood waters by the incorporation of a bund or similar barrier with a minimum height of 300mm above the defined flood level.	The development does not propose underground parking.
	AO4.4 Development for non-permanent accommodation such as tents, cabins or caravans (whether intended for short or long-term accommodation) are located outside the medium hazard areas identified on overlay map OM-06.1 or 06.2 .	N/A The development is for a multiple dwelling.
	Where reconfiguring a lot AO4.5 Where reconfiguring a lot, new lots contain designated building envelopes (whether or not for residential purposes) outside the medium hazard areas identified on overlay map OM-06.1 or 06.2 and those building envelopes are of a sufficient size to accommodate buildings associated with the development.	N/A The development is for a multiple dwelling.
	AO4.6 In new subdivisions, arterial, sub-arterial or major collector roads are located above the 2% AEP flood level.	N/A The development is for a multiple dwelling.
	AO4.7 Reconfiguration of lots does not involve cul-de-sacs or dead end streets within medium hazard areas identified on overlay map OM-06.1 or 06.2.	N/A The development is for a multiple dwelling.

PO5 Signage is provided within high and medium hazard areas to alert residents and visitors to the flood hazard.	AO5 Signage is provided on-site (regardless of whether land will be public or private ownership) to indicate depth at key hazard points, such as at floodway crossings, entrances to low-lying reserves or parking areas.	N/A There is a small portion of the frontages of the site which are impacted by low and medium hazard. The buildings have been located outside of the flood hazard area as demonstrated on the attached Proposal Plans and do not require signage.
PO6 Development within high and medium hazard areas ensures any changes to the depth, duration, velocity of flood waters are contained within the site. Editor's note—Impacts on a range of floods may need to be assessed and in most instances can be evaluated by analysing the minor drainage system capacity event and the defined flood event for the catchment wide critical duration, unless the site is located in an area noted in the Flood hazard planning scheme policy SC6.7.	No acceptable outcome is nominated.	Complies There is a small portion of the frontages of the site which are impacted by low and medium hazard. There will be no changes to the depth, duration and velocity of flood waters within the site.
PO7 Development within high and medium hazard areas does not directly, indirectly or cumulatively worsen flood characteristics outside the development site, having regard to: a) increased scour and erosion; or b) loss of flood storage; or c) loss of or changes to flow paths; or d) flow acceleration or retardation; or e) reduction in flood warning times. Editor's note—To adequately assess the impacts of development on flooding regimes, applicants may need to have a hydrological and hydraulic assessment carried out by a suitably qualified and experienced hydrologist or engineer.	No acceptable outcome is nominated.	Complies There is a small portion of the frontages of the site which are impacted by low and medium hazard and will not worsen flood characteristics outside of the development site.

PO8 Facilities with a role in emergency management and vulnerable community services are able to function effectively during and immediately after flood events. Editor's note—This provision applies to high, medium and low flood hazard areas.	AO8 The development is provided with the level of flood immunity set out in Table 8.2.6.3(b).	Complies The development achieves flood immunity set out in Table 8.2.6.3(B).
PO9 Public safety and the environment are not adversely affected by the detrimental impacts of flooding on hazardous materials manufactured or stored in bulk.	AO9.1 Development does not involve the manufacture or storage of hazardous materials within a high flood hazard area identified on overlay map OM-06.1 or 06.2.	N/A The development is for a multiple dwelling.
	AO9.2 Within the low or medium flood hazard area identified on overlay map OM-06.1 or 06.2, structures used for the manufacture or storage of hazardous materials in bulk are designed to prevent the intrusion of flood waters up to at least a 0.2% AEP flood event.	N/A The development is for a multiple dwelling.

8.2.10. Major infrastructure and hazardous facilities overlay code

8.2.10.1 Application

This code applies to development where the code is identified as applicable in the table of assessment for the Major infrastructure and hazardous facilities overlay code. When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

Editor's note—Explosive facilities are licenced under the Explosive Act 1999. Applicants are advised to contact Resources, Safety and Health Queensland – Explosives Inspectorate for information on obtaining a licence.

Editor's note—Development affected by the Major infrastructure and hazardous facilities overlay may be referred to Resources, Safety and Health Queensland – Explosives Inspectorate and / or the Department of Defence and / or the Office of Industrial Relations, Major Hazard Facilities Unit, as a third-party advice agency.

Editor's note—Australian Standard AS2187 Explosives – Storage, transport and use and / or the eDEOP 101 Department of Defence Explosive Regulation may assist in demonstrating compliance with the requirements of this code.

Editor's note—Uses other than residential uses within the Defence Explosive Ordnance Depots buffer area require approval from the Department of Defence.

Editor's note—Schedule 6 of the Planning Regulation 2017 prohibits a local categorising instrument from stating a Dwelling house is assessable development where it is located in a residential zone (other than a Medium density or High density residential zone) and no relevant overlay applies to the premises. The major infrastructure and hazardous facilities overlay code is not a relevant overlay as defined in the Planning Regulation 2017.

8.2.10.2 Purpose

1. The purpose of the Major infrastructure and hazardous facilities overlay code is to ensure that development is compatible with, and does not adversely affect the viability, integrity, operation and maintenance of, the following existing and planned major infrastructure and hazardous facilities within the Townsville region:
 - a) Explosive reserves
 - b) high-pressure gas pipeline;
 - c) hazardous chemical facility;
 - d) major electricity infrastructure;
 - e) shooting ranges.
 - f) water supply pipelines;
 - g) water treatment facilities;
 - h) wastewater treatment facilities;
 - i) waste management facilities; and
 - j) stock route network.

2. The purpose of the code is to manage the risk that the operation of a hazardous chemical facility or explosive reserve may pose to people and property to an acceptable level.
3. The purpose of the code will be achieved through the following overall outcomes:
 - a) existing and planned major infrastructure facilities, networks and corridors, and hazardous chemical facilities are protected from incompatible development;
 - b) development proximate to existing and planned major infrastructure facilities, networks and corridors, and hazardous chemical facilities are appropriately located, designed, constructed and operated to:
 - i) avoid compromising the integrity, operational efficiency and maintenance of infrastructure and facilities; and
 - ii) protect the amenity, health and safety of people and property.
 - c) existing and planned noise emission facilities are protected from incompatible development;
 - d) development proximate to existing and planned noise emission facilities, are appropriately located, designed, constructed and operated to:
 - i) avoid compromising the operational efficiency of noise emission infrastructure; and
 - ii) protect the amenity, health and safety of people and property.
 - e) development proximate to the stock route network does not conflict with the ongoing efficient and safe use of the stock route network by travelling stock while ensuring the principles of the Stock Route Management Act 2002 are upheld.
 - f) development does not increase the number of lots created, or people living or working in proximity to hazardous chemical facility or explosive reserve, other than for special industry uses directly related to explosives, their distribution, disposal, storage or manufacture.
 - g) development involving the use, storage and disposal of hazardous material and prescribed hazardous chemicals, dangerous goods, and flammable or combustible substances are located and managed to minimize the health and safety risks to communities and individuals.
 - h) Hazardous chemicals are appropriately stored to reduce the risk of contamination on the environment.
 - i) development is located to avoid any adverse impacts of environmental emissions, or health and safety risks, and where impacts cannot be practicably avoided, development is designed to mitigate impacts on the following existing and approved land uses or areas:

- i) Medium-impact, high-impact and special industries
- ii) Extractive industries
- iii) Hazardous chemical facilities
- iv) Explosives facilities and explosives reserves
- v) High pressure gas pipelines
- vi) Waste management facilities
- vii) Sewage treatment plants.
- viii) Industrial land in a state development area, or an enterprise opportunity area or employment opportunity area identified in a regional plan.
- ix) Major sport, recreation and entertainment facilities.
- x) Shooting facilities.
- xi) Motor sport facilities.

Table 8.2.10.3 Assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Protection of community health and safety		
PO1 Development for the purposes of a sensitive or vulnerable land use: a) achieves indoor noise levels consistent with the objectives set out in the Environmental Protection (Noise) Policy 2019; and b) achieves air quality levels consistent with the objectives set out in the Environmental Protection (Air) Policy 2019 and the relevant national standard. Editor's Note - A noise/odour/air impact assessment report will assist in demonstrating achievement of the performance outcome.	No acceptable outcome is nominated.	Complies The development is for a multiple dwelling that is suitably designed. The water supply pipeline is located in Francis Street.

Table 8.2.10.3 Assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Using design to protect Major infrastructure and hazardous chemical facilities from encroachment, and to mitigate adverse impacts		
PO2 Development is designed to minimise the impacts on the following existing and approved land uses or areas: a) Explosive reserves b) high-pressure gas pipeline;	No acceptable outcome is nominated.	Complies The development is for a multiple dwelling that is suitably designed. The water supply pipeline is located in Francis Street.

c) hazardous chemical facilities; d) major electricity infrastructure (including associated substations); e) shooting ranges. f) water supply pipelines; g) water treatment facilities; h) wastewater treatment facilities; and i) waste management facilities. Editor's Note: A noise/odour/air impact assessment report will assist in demonstrating the achievement of this performance outcome for the high-pressure gas pipeline, major electricity infrastructure, shooting ranges, water supply pipelines, water treatment facilities, wastewater management facilities, and waste management facilities. Editor's Note: Risk assessment tools within Australian Standard AS 2187 Part 1 - storage of explosives and Australian Standard AS 2187 Part 2 - use of explosives, will assist in demonstrating the achievement of this performance outcome for the Explosive reserves and hazardous chemical facilities. Editor's Note: Development within a Hazardous chemical facility buffer area will be referred to the Office of Industrial Relations, Major Hazard Facilities Unit for third-party advice.		
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Explosive reserve buffer area

Table 8.2.10.3 Assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Explosive reserve buffer area		

PO3 Development that is vulnerable to the effects of blast, radiant heat and projectiles is not established or intensified on land that is affected by the adverse impacts of an explosive facility. Editor's note – Written endorsement from Resource, Safety and Health Queensland – Explosives Inspectorate or the Department of Defence, stating they have no objection to the proposed development may assist in demonstrating compliance.	AO3 Development does not involve the establishment or intensification of a vulnerable land use. Editor's note – Vulnerable land use is defined in Table SC1.2.2 Administrative definitions.	N/A The subject site is not impacted by the explosive reserve buffer area.
PO4 Reconfiguring a lot does not result in a material increase in the number of lots created or the number of people living or working in the Explosive reserve buffer area. disposal, storage or manufacture.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the explosive reserve buffer area.
PO5 Buildings within the Explosive reserve buffer area are designed and constructed to be protected against potential hazards arising from proximity to explosives manufacture, storage, testing, disposal and distribution. Editor's note – Applicants are required to obtain written endorsement from Resource, Safety and Health Queensland – Explosives Inspectorate and the Department of Defence stating they have no objection to the proposed development.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the explosive reserve buffer area.

High-pressure gas pipeline and buffers

Performance outcomes	Acceptable outcomes	Compliance
High-pressure gas pipeline and buffers		
PO6 Development within the buffer area surrounding a high-pressure gas pipeline does not create a risk to life or property and does not compromise the safe operation of the high-pressure gas pipeline.	AO6.1 Development does not compromise the safe operation of the high-pressure gas pipeline in accordance with the written confirmation of the operator.	N/A The subject site is not impacted by high pressure gas pipeline and buffers.
	AO6.2 Development is for a boundary realignment only and does not increase the number of persons likely to reside or work on the site.	N/A The subject site is not impacted by high pressure gas pipeline and buffers.
PO7 Development, including uses and works constructed and operated, to avoid: a) compromising the viability of the high-pressure gas pipeline corridor; or b) damaging or adversely affecting the existing or future operation of the high-pressure gas pipeline and the supply of gas.	No acceptable outcome nominated. Editor's note- It is recommended that an applicant consult with the relevant gas pipeline manager prior to the lodgement of a development application in the vicinity of a high-pressure gas pipeline corridor.	N/A The subject site is not impacted by high pressure gas pipeline and buffers.

Performance outcomes	Acceptable outcomes	Compliance
Hazardous Chemical Facilities buffer area		

PO8 Development involving the use, storage and handling of prescribed hazardous chemicals is located, designed and constructed to minimise risks to human health and property, proportionate to the sensitivity of the surrounding land uses or zones. Editor's note - Development applications involving a 'hazardous chemical facility' require referral to the State Assessment Referral Agency (SARA) as a concurrence agency, with technical advice obtained from the Office of Industrial Relations, Major Hazard Facilities Unit. Editor's note- A hazard assessment report will assist in demonstrating achievement of the performance outcome.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the hazardous chemicals facilities buffer area.
PO9 Development involving prescribed hazardous chemicals stored in a flood hazard area (where exceeding the hazardous chemicals flood hazard threshold) is located and designed in a manner that minimises the likelihood of inundation of flood waters from creeks, rivers, lakes, or estuaries.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the hazardous chemicals facilities buffer area.
PO10 Development is designed and sited to mitigate the risks from hazard scenarios occurring at existing hazardous chemical facilities.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the hazardous chemicals facilities buffer area.

Editor's note- Applicants are required to obtain written endorsement from the Office of Industrial Relations, Major Hazards Facilities unit stating they have no objection to the proposed development within the Hazardous Chemical Facilities buffer area.		
PO11 Sensitive and vulnerable land uses are not established within the Hazardous Chemical Facilities buffer area.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the hazardous chemicals facilities buffer area.

Table 8.2.10.3 Assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Major electricity infrastructure and substations		
PO12 Development of a sensitive land use (other than a Class 10 building or structure) is set back from the major electricity infrastructure to: a) avoid safety risks to people and property; b) minimise noise and visual impacts to people and property; and c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure are not compromised.	AO12.1 Sensitive land uses (other than Class 10 buildings or structures) are not located within an easement for major electricity infrastructure.	N/A The subject site is not impacted by major electricity infrastructure and substations.
	AO12.2 Sensitive land uses (other than Class 10 buildings or structures) maintain a setback of at least: a) 10 metres from any distribution substation. b) 50 metres from a transmission substation. c) 30 metres from a transmission line easement.	N/A The subject site is not impacted by major electricity infrastructure and substations.

PO13 Development of a Class 10 building or structure is set back from the major electricity infrastructure to: a) avoid safety risks to people and property; and b) ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.	AO13.1 Class 10 buildings or structures: a) are not located within an easement for a distribution line, or b) are only located within an easement for a distribution line where: i) development is not a swimming pool; ii) development maintains a safe clearance from the powerlines in accordance with Electrical Safety Regulation 2013; or iii) development is not located in a vacant easement for a future powerline or in a vacant section of a double width easement. Editor's note-Applicants should contact the relevant transmission or distribution entity for further information on whether an easement is either a vacant easement for a future powerline or a double width easement with a vacant section.	N/A The subject site is not impacted by major electricity infrastructure and substations.
	AO13.2 Class 10a buildings or structures and Class 10b structures (excluding swimming pools) maintain a setback from the fencing of any substation of at least 4 metres.	N/A The subject site is not impacted by major electricity infrastructure and substations.

	AO13.3 Class 10b structures that are swimming pools maintain a setback from any substation of a distance of at least 30 metres.	N/A The subject site is not impacted by major electricity infrastructure and substations.
PO14 Development of hazardous chemical facilities, extractive industries, explosives storage facilities or development involving explosive blasting is setback from the major electricity infrastructure to: a) avoid safety risks to people and property; b) minimise noise and visual impacts to people and property; and c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure are not compromised.	No acceptable outcome is nominated.	N/A The subject site is not impacted by major electricity infrastructure and substations.
PO15 Development other than: a) a sensitive land use; b) a class 10 building or structure; c) major hazard facilities; d) extractive industries; e) development involving explosive blasting; or f) explosives storage facilities.	AO15.1 Development is not located within an easement for major electricity infrastructure.	N/A The subject site is not impacted by major electricity infrastructure and substations.

Is set back from the major electricity infrastructure to: a) avoid safety risks to people and property; b) minimise noise and visual impacts to people and property; and c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure are not compromised.	AO15.2 Development maintains a setback of at least 10 metres from any distribution substation and 50 metres from any transmission substation.	
PO16 Residential buildings, other than where they are separated from the infrastructure by a road, are oriented to avoid direct overlooking of major electricity infrastructure.	AO16.1 Windows and balconies of residential buildings do not face easements and infrastructure sites AO16.2 Views from residential buildings to infrastructure are screened by devices attached to the building. Editor's note- The figure below provides an illustration of buildings oriented away from infrastructure.	N/A The subject site is not impacted by major electricity infrastructure and substations.
PO17 Development maintains a safe clearance from all powerlines.	AO17 Development maintains the clearances required under Schedules 4 and 5 of the Electrical Safety Regulations 2013 or the current relevant standards.	N/A The subject site is not impacted by major electricity infrastructure and substations.

PO18 Development (other than reconfiguring a lot) includes landscaping which substantively assists in screening major electricity infrastructure to minimise its visual impact to other uses, particularly residential uses and sensitive land uses.	AO18.1 A minimum 3 metre wide densely planted landscaped buffer is provided along the boundary of a lot adjoining a lot or easement containing major electricity infrastructure (other than a substation), including provisions for advanced trees and shrubs that will grow to a minimum height of 10 metres.	N/A The subject site is not impacted by major electricity infrastructure and substations.
	AO18.2 A minimum 2 metre wide densely planted landscaping buffer is provided along the boundary of a lot adjoining a lot or easement containing a substation, including provision for advanced trees and shrubs that will grow to a height which blocks direct views from habitable rooms to a substation and won't encroach into statutory electrical clearance distances.	
	Editor's note-The figures below provide an example but are not drawn to scale. Applicants may find guidance in Powerlink's Screening your home from powerlines: A guide to planning trees and shrubs outside easements to screen powerlines. Applicants should also note that vegetation will need to maintain statutory clearances (for further guidance, refer to Ergon's Standard for Vegetation Management and Standard for Vegetation Clearance Profile).	

PO19 Development (other than reconfiguring a lot) that includes landscaping does not limit access to the major electricity infrastructure with the landscaping treatments.	No acceptable outcome is nominated.	N/A The subject site is not impacted by major electricity infrastructure and substations.
PO20 Development that involves reconfiguring a lot results in a lot of sufficient size to provide adequate landscaped buffers along the lot boundaries to screen and soften the visual impact of major electricity infrastructure.	AO20 The future development of a reconfigured site must be capable of providing a minimum 5 metre wide densely planted landscaped buffer, which is able to sustain advanced trees and shrubs capable of growing to a minimum height of 10 metres.	N/A The subject site is not impacted by major electricity infrastructure and substations.
PO21 Vegetation planted near major electricity infrastructure does not pose any risk to the physical integrity and operation of the infrastructure.	AO21.1 Where vegetation is planted within an easement of an overhead powerline or, where there is no easement, it should not be planted: a) within 5 metres either side of the area directly below the conductors; b) within 20 metres of a powerline structure, pole or stay; or c) if it has a mature height of more than 3.5 metres.	N/A The subject site is not impacted by major electricity infrastructure and substations.
	AO21.2 Vegetation planted within an underground powerline easement does not have a	

	mature root system greater than 150 mm in depth and is not located within 1 metre of the area directly above the powerline cable.	
	AO21.3 Vegetation adjoining easements complies with the clearance dimensions illustrated in the figures below.	
	AO21.4 Planting complies with (as relevant to the infrastructure concerned) either: a) Energex's Safe Tree Guidelines; b) Ergon's Plant Smart brochures; or c) Powerlink's Screening your home from powerlines information	
PO22 Where major electricity infrastructure is located within public open space, the dimensions and characteristics of the open space area are sufficient to accommodate the electricity easement on site, in combination with compatible recreational facilities and landscaping that ensure: a) it has an open and expansive character, with landscaping design that helps break up the linear and	No acceptable outcome is nominated. Editor's note —The figures below provide examples of a well-integrated transmission corridor.	N/A The subject site is not impacted by major electricity infrastructure and substations.

vertical dominance of the infrastructure; b) landscaping is located outside the easement area and screens and softens the appearance of poles, towers or other structures; c) recreational facilities and landscaping are compatible with the electricity infrastructure, having regard to safety, height, the conductivity of materials and access to the electricity infrastructure by the transmission or distribution entity; and d) the design is such that the function of the open space for recreation purposes is maintained.		
PO23 Any earthworks are undertaken in a way that: a) ensures stability of the land on or adjoining major electricity infrastructure; b) does not otherwise impact on the safety and reliability of the major electricity infrastructure; and	AO23.1 No earthworks are undertaken within: a) 20 metres of a transmission tower, pole or stay for overhead transmission infrastructure; b) 10 metres of a tower, pole or stay for overhead distribution infrastructure; c) 50 metres of a property boundary shared with a substation site for transmission substations; or	N/A The subject site is not impacted by major electricity infrastructure and substations.

c) does not restrict the placement or use of the electricity provider's equipment.	d) 10 metres of a property boundary shared with a substation site for distribution substations.	
	AO23.2 No earthworks are undertaken, or other loading or displacement of earth caused, within the easement of an underground powerline.	
	AO23.3 Earthworks that alter levels along boundaries of, or within, existing or proposed easements do not alter the levels by more than 100mm.	
PO24 Other services and infrastructure works (which may include stormwater, sewerage or water) do not impact on the safety and reliability of major electricity infrastructure.	AO24.1 Underground services are not located within: a) 20 metres of a tower, pole or stay for transmission infrastructure; b) 10 metres of a tower, pole or stay for distribution infrastructure; c) a vacant major electricity infrastructure easement; or d) 10 metres of a substation property boundary.	N/A The subject site is not impacted by major electricity infrastructure and substations.
	AO24.2 No valve pits occur within 60 metres of a	

	tower, pole or stay for transmission infrastructure, or 10 metres of a tower, pole or stay for distribution infrastructure.	
	AO24.3 Pipelines with cathodic protection systems comply with part 13 of Electrical Safety Regulation 2013 or the current relevant standard.	
	AO24.4 Underground services traversing an easement cross at angles between 60 and 90 degrees to the overhead or underground lines.	
	AO24.5 Trenches for services are backfilled to be compacted in 150 mm layers to at least 95% modified dry density compaction ratio.	
	AO24.6 Trenches under construction are not left open overnight.	

Performance outcomes	Acceptable outcomes	Compliance
Shooting range impact areas		
PO25 Development is compatible with the risks and noise impacts generated by the Hervey Range rifle ranges, Alligator Creek rifle range or the Townsville Pistol Club.	No acceptable outcome is nominated. Editor's note -To demonstrate compliance with PO25, it is recommended that specific attenuation elements be incorporated into building design and siting, such as ensuring openings are appropriately glazed and orienting development away from the pistol club/rifle range site.	N/A The subject site is not impacted by the shooting range impact areas.

	There may also be a requirement for proponents to undertake a noise impact assessment in accordance with Environmental Protection (Noise) Policy 2019.	
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Performance outcomes	Acceptable outcomes	Compliance
Water supply pipelines		
PO26 Development within a water supply pipeline and buffer are: a) located, designed and constructed to protect the integrity of the water supply pipeline; and b) maintain adequate access for any required maintenance or upgrading work to the water supply pipeline.	AO26 Buildings and structures are setback a minimum of 20 metres from a water supply pipeline as shown on overlay map OM-10.3. Editor's note- Should a lesser setback be proposed, it is recommended that an applicant consult with the relevant water entity, to determine how compliance with the performance outcome can be achieved.	Complies The proposed development has been designed to provide consistent setbacks with the streetscape. The water supply pipeline is located in Francis Street, and is linear to the development site. The proposed development will maintain access to the water supply pipeline during and after construction, as necessary.

Performance outcomes	Acceptable outcomes	Compliance
Water treatment facilities		
PO27 Development that is incompatible with existing and approved water treatment facilities avoids associated adverse impacts.	AO27.1 A sensitive land use involving a residential activity is not located or intensified within a water treatment facilities buffer as shown on overlay map OM-10.3.	N/A The subject site is not impacted by the water treatment facilities overlay.
	AO27.2 A sensitive land use (other than a	

	residential activity) located within a water treatment facilities buffer as shown on overlay map OM-10.3 demonstrates that occupants and users will not be adversely affected by odour and or noise emissions from activities associated with the water treatment facilities.	
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Performance outcomes	Acceptable outcomes	Compliance
Wastewater treatment facilities		
PO28 Development that is incompatible with the impacts associated with existing and approved waste management facilities is not supported.	AO28.1 A sensitive land use involving a residential activity is not located or intensified within a wastewater treatment facilities buffer as shown on overlay map OM-10.3.	N/A The subject site is not impacted by the wastewater treatment facilities overlay.
	AO28.2 A sensitive land use (other than a residential activity) located within a wastewater treatment facilities buffer as shown on overlay map OM-10.3 demonstrates that occupants and users will not be adversely affected by odour and or noise emissions from activities associated with the wastewater treatment facilities.	

Performance outcomes	Acceptable outcomes	Compliance
Waste management facilities		

PO29 Residential activities and other sensitive land uses are not adversely affected by noise and or odour emissions from existing or planned waste management facilities.	AO29.1 A sensitive land use involving a residential activity is not located or intensified within a waste management facility buffer as shown on overlay map OM-10.2.	N/A The subject site is not impacted by the waste management facilities overlay.
	AO29.2 A sensitive land use (other than a residential activity) and other incompatible development located within a waste management facility buffer as shown on overlay map OM-10.2 demonstrates that occupants and users will not be: a) adversely affected by emissions from activities associated with the waste management facility; and b) incorporates appropriate measures to minimize identified impacts.	

Performance outcomes	Acceptable outcomes	Compliance
Access to major electricity infrastructure and bulk water supply infrastructure		
PO30 Development does not create a barrier to existing access points to major infrastructure.	AO30 Development does not limit access with: a) fences constructed along the boundaries of, or traversing, existing or proposed infrastructure easements (other than as required	Complies The proposed development is located parallel to the water supply pipeline. The extension to Francis Street and associated access works will be constructed in accordance with TCC requirements and can be conditioned if necessary.

	to limit public access from the development to the infrastructure for public safety); b) storage of equipment or materials within or along the boundaries of existing or proposed infrastructure easements; and c) construction of buildings within or along the boundaries of existing or proposed infrastructure easements.	
PO31 Major electricity infrastructure or bulk water supply infrastructure that is linear infrastructure (e.g. powerlines or pipelines) within private land is protected by easements in favour of the responsible utility provider.	AO31 Existing easements are maintained and where none currently exist, new easements are created that are sufficient for the provider's requirements.	N/A The water supply pipeline is located with the Francis Street road reserve.
PO32 When reconfiguring a lot occupied by major electricity or bulk water supply infrastructure, the operational reliability and integrity of the infrastructure is protected by: a) maintaining the level of access via existing easements; or b) creating a new easement.	No acceptable outcome is nominated.	N/A The development is for a multiple dwelling.

PO33 When reconfiguring a lot occupied by major electricity infrastructure or bulk water supply infrastructure, the reconfiguration does not intensify development within an easement in a way that would impede access to the infrastructure by the responsible utility provider.	AO33 The number of lots within an easement associated with major electricity infrastructure or bulk water supply infrastructure is not increased.	N/A The development is for a multiple dwelling.
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Performance outcomes	Acceptable outcomes	Compliance
Design and landscaping		
PO34 Reconfiguration for a new development area integrates major electricity and bulk water supply infrastructure within the overall layout. In particular, the layout: a) ensures land of sufficient size and suitability to accommodate the existing and future infrastructure network; b) minimises the visual impact of infrastructure; and c) provides for an interface or relationship with surrounding land uses that minimises the potential for nuisance (including noise), health and safety concerns.	No acceptable outcome is nominated Editor's Note - Applicants should consult with the relevant transmission or distribution entity early in the master planning process to determine major electricity infrastructure requirements.	N/A The development is for a multiple dwelling.

PO35 Development within a major electricity or bulk water supply infrastructure corridor incorporates the corridor into a useable public open space network wherever possible.	No acceptable outcome is nominated.	Complies The proposed development has been designed to provide consistent setbacks with the streetscape. The water supply pipeline is located in Francis Street, and is parallel to the development site. The development allows for private open space within this buffer.
PO36 Development does not increase flooding, drainage or erosion conditions that would impact on the major electricity or bulk water supply infrastructure.	No acceptable outcome is nominated.	Complies The proposed development does not increase flooding or drainage that would impact the water pipeline.

Performance outcomes	Acceptable outcomes	Compliance
Stock route network		
PO37 Development does not conflict with the function and values associated with the stock route network.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the stock route network.
PO38 Development does not result in encroachment by sensitive land uses and other incompatible uses along the stock route network and uses are setback and	No acceptable outcome is nominated.	N/A The subject site is not impacted by the stock route network.

buffered from the stock route network to mitigate impacts.		
PO39 Development does not result in a loss of additional values associated with the stock route network including recreational, environmental and heritage values.	No acceptable outcome is nominated.	N/A The subject site is not impacted by the stock route network.

9.3.2 Healthy waters code

9.3.2.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment.

When using this code, reference should be made to [section 5.3.2](#) and where applicable, [section 5.3.3](#) located in Part 5.

9.3.2.2 Purpose

1. The purpose of the code is to ensure development manages stormwater and wastewater as part of the integrated total water cycle and in ways that help protect the environmental values specified in the [Environmental Protection \(Water\) Policy 2009](#).
2. The purpose of the code will be achieved through the following overall outcomes:
 1. environmental values of receiving water are protected from adverse development impacts arising from altered stormwater quality and altered stormwater flow;
 2. environmental values of receiving water are protected from waste water impacts;
 3. environmental values of receiving water are protected from development impacts arising from the creation or expansion of non-tidal artificial waterways such as urban lakes;
 4. potential adverse impacts on the natural and built environment, including infrastructure and human health as a result of acid sulfate soils are avoided;
 5. public health and safety are protected and damage or nuisance caused by stormwater is avoided;
 6. stormwater is designed to maintain or recreate natural hydrological processes and minimise run-off;
 7. whole of lifecycle costs of infrastructure are minimised; and
 8. well-designed developments are responsive to receiving water quality.

9.3.2.3 Assessment benchmarks

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
Stormwater management - protecting water quality		
PO1 Development contributes to the protection of environmental values and water quality objectives of receiving waters to the extent practicable. Editor's note - The environmental values and water quality objectives are established under the Environmental Protection (Water and Wetland Biodiversity) Policy (2019). Catchment-specific Environmental Values (EVs) and Water Quality Objectives (WQOs) have been prepared for some catchments (including the Ross River and Black River catchments). The Queensland Water Quality Guidelines 2009 provides EVs and WQOs for waters where no catchment-specific values have been established.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans; and SC6.4.10.2 Water Sensitive Urban Design.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
PO2 High environmental value waters and slightly disturbed waters (shown on Figure 9.1 — High environmental value waters and slightly disturbed waters) are protected from the impacts of development within their catchments. Existing water quality, habitat and biota values, flow regimes and riparian areas are maintained or enhanced.	No acceptable outcome is nominated. Editor's note—Refer to the <i>Queensland Water Quality Guidelines (QWQG)</i> for details on how to establish a minimum water quality data set for these areas.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
PO3 The entry of contaminants into, and transport of contaminants in, stormwater is avoided or minimised.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans ; and SC6.4.10.2 Water Sensitive Urban Design .	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
PO4 Within the areas identified as potential acid sulfate soils on Figure 9.2 — Acid sulfate soils, the generation or release of acid and metal contaminants into the environment from acid sulfate soils is avoided by: a) not disturbing acid sulfate soils when excavating or otherwise removing soil or sediment, draining or extracting groundwater, excluding tidal water or filling land; or b) where disturbance of acid sulfate soils cannot be avoided, development: (i) neutralises existing acidity and prevents the generation of acid and metal contaminants; and	AO4.1 Development does not: a) involve excavating or removing 100m³ or more of soil and sediment at or below 5m AHD; or b) permanently or temporarily drain or extract groundwater or exclude tidal water resulting in the aeration of previously saturated acid sulfate soils; or c) involve filling with 500m³ or more with an average depth of 0.5m or greater that results in: (i) actual acid sulfate soils being moved below the water table; or (ii) previously saturated acid sulfate soils being aerated. OR	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Stormwater Management Plan prepared by STP Consultants.

(ii) prevents the release of surface or groundwater flows containing acid and metal contaminants into the environment.	AO4.2 Development manages waters so that: a) all disturbed acid sulfate soils are adequately treated and/or managed so that they can no longer release acid or heavy metals; b) the pH of all site any water including discharges and seepage to groundwater, is maintained between 6.5 and 8.5 (or an agreed pH in line with natural background); c) waters on the site, including discharges and seepage to groundwater, do not contain elevated levels of soluble metals; d) there are no visible iron stains, flocs or sums in discharge water; e) all reasonable preparations and actions are undertaken to ensure that aquatic health is safeguarded; and f) infrastructure such as buried services, pipes, culverts and bridges are protected from acid attack. Editor's note—Where works are proposed within the areas identified as potential acid sulfate soils on Figure 9.2 - Acid sulfate soils, the applicant is required to undertake an on-site acid sulfate investigation. The reason for undertaking an acid sulfate soils investigation is to determine the presence of acid sulfate soil in order to avoid disturbance. Where acid sulfate soils cannot reasonably be avoided, investigation results assist in the planning of treatment and remedial activities and must be	
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	undertaken in accordance with the <i>Queensland Acid Sulfate Soil Technical Manual</i> and relevant State Planning Policy. Applicants should also refer to the <i>Guidelines for Sampling Analysis of Lowland Acid Sulfate Soils in Queensland</i> , Acid Sulfate Soils Laboratory Methods Guidelines or Australian Standard 4969. It is highly recommended that the applicant develop a practical Acid Sulfate Soil Management Plan for use in monitoring and treating acid sulfate soils.	
P05 Construction activities for the development avoid or minimise adverse impacts on stormwater quality or hydrological processes.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans , SC6.4.23.1 Construction Management ; and SC6.4.10.2 - Water Sensitive Urban Design .	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.

Performance outcomes	Acceptable outcomes	Compliance
Hydrological processes		
P06 The stormwater management system: a) retains natural waterway corridors and drainage paths; and b) maximises the use of natural channel design in constructed components.	AO6.1 All existing waterways and overland flow paths are retained.	Complies No changes to any waterways or overland flow paths.
	AO6.2 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design .	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
P07 The development is designed to minimise run-off and peak flows by: a) minimising large areas of impervious material; and	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans ; and SC6.4.10.2 Water Sensitive Urban Design .	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.

b) maximising opportunities for capture and reuse.		
P08 Stormwater management is designed to: a) protect in-stream ecosystems from the significant effects of increased run-off frequency by capturing the initial portion of run-off from impervious areas; and b) create conditions such that the frequency of hydraulic disturbance to in-stream ecosystems in developed catchments is similar to pre-development conditions. Editor's note—Frequent flow management is distinct from flood management purposes, which is concerned with the management of less frequent, more extreme stormwater flows. The latter is an important part of integrated stormwater management and should in no way be compromised in pursuit of the management of more frequent flows for waterway health enhancement.	AO8 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity and SC6.4.10 Stormwater Quality.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
P09 Stormwater management is designed to prevent exacerbated in-stream erosion downstream of a development site by controlling the magnitude and duration of sediment-transporting, erosion-causing flows.	AO9 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design and SC6.4.8.10 Stormwater Management Plans.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Stormwater drainage generally		
PO10 The proposed stormwater management system or site works does not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site.	AO10.1 The development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
	AO10.2 The stormwater management system is designed and constructed in accordance with the Development manual planning scheme policy SC6.4 – SC6.4.8 Stormwater Management , SC6.4.9 Stormwater Quantity ; and SC6.4.10 Stormwater Quality .	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
PO11 Development does not cause ponding, or changes in flows and velocities such that the safety, use and enjoyment of nearby properties are adversely affected.	AO11 The stormwater management system is designed and constructed in accordance with the Development manual planning scheme policy SC6.4 – SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.
PO12 The drainage network has sufficient capacity to safely convey stormwater run-off from the site.	AO12 Development is undertaken in accordance with the Development manual planning scheme policy SC6.4 – SC6.4.8	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the

	Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	attached Engineering Report prepared by STP Consultants.
PO13 The stormwater management system: a) provides for safe access and maintenance; and b) where relevant, provides for safe recreational use of stormwater management features.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	Complies The development has been designed with an appropriate stormwater management arrangement as demonstrated in the attached Engineering Report prepared by STP Consultants.

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Point source waste water management (other than contaminated stormwater and sewage)		
PO14 Waste water is managed in accordance with a waste management hierarchy that: a) avoids waste water discharge to waterways; or b) if waste water discharge to waterways cannot practicably be avoided, minimises waste water discharge to waterways by re-use, recycling, recovery and treatment for disposal to sewer, surface water and groundwater. Editor's note —To meet this outcome, a waste water management plan (WWMP) should be prepared by a suitably qualified person. The WWMP is to account for the	No acceptable outcome is nominated.	Refer to the Engineering Report prepared by STP Consultants.

waste water type, climatic conditions, Water Quality Objective (WQOs) and best practice environmental management.		
P015 Any treatment and disposal of waste water to a waterway: a) protects the applicable water quality objectives for the receiving waters; and b) avoids adverse impact on ecosystem health of receiving waters.	No acceptable outcome is nominated.	Refer to the Engineering Report prepared by STP Consultants.
P016 Development avoids or minimises and appropriately manages soil disturbance or altering natural hydrology in nutrient hazardous areas.	No acceptable outcome is nominated.	Refer to the Engineering Report prepared by STP Consultants.
P017 Waste water discharge to waterways is managed to avoid or minimise the release of nutrients of concern so as to minimise the occurrence, frequency and intensity of coastal algal blooms. Editor's note—Compliance with this outcome can be demonstrated by following the management advice in the Implementing Policies and Plans for Managing Nutrients of Concern for Coastal Algal Blooms in Queensland and associated technical guideline.	No acceptable outcome is nominated.	Refer to the Engineering Report prepared by STP Consultants.

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Constructed lakes and artificial waterways		
PO18 Where established, a constructed lake or artificial waterway is designed to maintain a reasonable standard of water quality, having regard to factors affecting lake health, including: a) nutrients and eutrophication; b) gross pollutants, including organic material; c) light and turbidity; d) organic carbon loads; e) lake stormwater detention time; f) salinity; g) temperature; h) water depth and seasonal variations; i) water column mixing temperature; and j) pesticides and other chemicals.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management , SC6.4.9 Stormwater Quantity ; and SC6.4.10 Stormwater Quality .	N/A The development does not include a constructed lake or artificial waterway.
PO19 Stormwater run-off entering and leaving a constructed lake or artificial waterway maintains receiving water quality.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no. SC 6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.

PO20 The location, design and operation of a constructed lake or artificial waterway: a) protects environmental values in downstream and upstream waterways; b) protects any groundwater recharge areas; c) incorporates low lying areas of a catchment connected to an existing waterway; d) does not disrupt natural wetlands and any associated buffer areas; e) avoids disturbing soils or sediments; and f) avoids altering the natural hydrologic regime in acid sulfate soil and nutrient hazardous areas. Editor's Note—Monitoring and maintenance programs will be required to adaptively manage water quality and to achieve relevant water quality objectives.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality..	N/A The development does not include a constructed lake or artificial waterway.
PO21 The constructed lake or artificial waterway is located in a way that is compatible with existing tidal waterways.	For constructed lakes — No acceptable solution is nominated. AO21 For an artificial waterway: Where an artificial waterway is located adjacent to, or connected to, a tidal waterway by means of a weir, lock, pumping system or similar:	N/A The development does not include a constructed lake or artificial waterway.

	a) there is sufficient flushing or tidal flushing with water level variation >0.3m; b) any tidal flow alteration does not adversely impact on the tidal waterway; and c) there is no introduction of salt water into freshwater environments. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	
PO22 The construction phase for the constructed lake or artificial waterway is compatible with protecting aquatic environmental values in existing natural waterways and wetlands.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.
PO23 A constructed lake or artificial waterway is designed to avoid terrestrial and aquatic weeds, vectors and concentrations of populations.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.
PO24 The lake design provides for suitable machinery access to enable maintenance of the lake, including the removal of terrestrial and aquatic weeds.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.
PO25 A constructed lake or artificial waterway has no adverse impact on flood	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.

capacity, including the capacity of upstream catchments and floodplain areas.		
PO26 A constructed lake or artificial waterway is designed to minimise hazards to ensure public safety is maintained.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.
PO27 A constructed lake or artificial waterway is designed to provide a high level of amenity for surrounding residents.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.
PO28 Opportunities for incorporation of accessible passive and active recreation facilities into the design of the constructed lake or artificial waterway are facilitated.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A The development does not include a constructed lake or artificial waterway.

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Efficiency and whole of life cycle cost		
PO29 Life cycle costs are minimised, taking into account acquisition, construction, establishment, operation, monitoring, maintenance, replacement and disposal costs.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Refer to the Engineering Report prepared by STP Consultants
PO30 The design of the development allows for sufficient site area to accommodate	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Refer to the Engineering Report prepared by STP Consultants

an effective stormwater management system.		
P031 The proposal provides for the orderly development of stormwater infrastructure within a catchment, having regard to: a) existing capacity of stormwater infrastructure and ultimate catchment conditions; b) discharge for existing and future upstream development; and c) protecting the integrity of adjacent and downstream development.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Refer to the Engineering Report prepared by STP Consultants
P032 Proposed stormwater infrastructure remains fit for purpose for the life of the development.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Refer to the Engineering Report prepared by STP Consultants
P033 Proposed stormwater infrastructure can be easily accessed and can be maintained in a safe and cost effective way.	AO33 The stormwater management system is designed in accordance with the Development manual planning SC6.4.8 Stormwater Management , SC6.4.9 Stormwater Quantity ; and SC6.4.10 Stormwater Quality .	Refer to the Engineering Report prepared by STP Consultants

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Water management in reconfiguring a lot		
PO34 Reconfiguration of lots includes water management measures in the design of any road reserve, streetscape or drainage networks to: a) minimise impacts on the water cycle; b) protect waterway health by improving stormwater quality and reducing site run-off; and c) avoid large areas of impervious surfaces.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	N/A The development is for a multiple dwelling.

Table 9.3.2.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Ship-sourced pollutants		
PO35 Common user facilities for the handling and disposal of ship-sourced pollutants including oil, garbage and sewage are provided at a suitable location in any development involving a marina or berthing facilities. Editor's note —Refer to: <i>Australian and New Zealand Environment and Conservation Council (ANZECC), 1997, Best</i>	No acceptable outcome is nominated.	N/A The development is for a multiple dwelling.

<i>Practice Guidelines for Waste Reception Facilities at Ports, Marinas and Boat Harbours in Australia and New Zealand.</i>		
PO36 Marinas or berthing facilities are designed and operated to ensure the risk of spillage from operations is minimised.	No acceptable outcome is nominated.	N/A The development is for a multiple dwelling.
PO37 Equipment to contain and remove spillages is stored in a convenient position near marina or berthing facilities and is available for immediate use.	No acceptable outcome is nominated.	N/A The development is for a multiple dwelling.
PO38 Where practical, the marina pollutant reception facility is connected to a sewerage or other waste reception infrastructure. Editor's note—Reception facilities require compliance assessment under the <i>Plumbing and Drainage Act 2002</i> . The plumbing compliance assessment process will ensure that the proposed facilities address 'peak load'.	No acceptable outcome is nominated.	N/A The development is for a multiple dwelling.

9.3.3 Landscape code

9.3.3.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

9.3.3.2 Purpose

1. The purpose of the Landscape code is to ensure landscaping in both the private and public domains is designed and constructed to a high standard, provides a strong contribution to the city image, is responsive to the local character, site and climatic conditions and remains fit for purpose over the long-term.
2. The purpose of the code will be achieved by the following overall outcomes:
 1. a high quality streetscape and on-site landscape enhances the character of the city;
 2. landscape design is used to integrate the natural and built form elements of the site and the locality;
 3. landscape elements create a legible and attractive street frontage, and enhance the continuity of the streetscape;
 4. screening is used to soften built form, mitigate adverse aesthetic impacts and provide privacy and character;
 5. plant species and landscaping materials are suited to the Dry Tropics' cyclone prone climate;
 6. plant species, landscape materials and surface treatments are suited to their intended function and user requirements;
 7. plant species, landscaping materials and surface treatments are designed to remain attractive, fit for purpose and be cost effective to maintain over the long-term;
 8. landscape design facilitates an accessible, safe and comfortable environment for all users; and
 9. significant on-site vegetation is retained, protected and integrated into the site design wherever practicable.

9.3.3.3 Assessment benchmarks

Table 9.3.3.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Landscape design and character		
PO1 The overall landscape design of both public and private spaces: a) creates a sense of place that is consistent with the intended character of the streetscape, city or locality; and b) is functional and designed to be visually appealing in the long-term as well as when first constructed.	AO1 When the development is in an identified locality in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space , landscape design is in accordance with the requirements for that area. Otherwise, no acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO2 Tree and plant selection ensures: a) climatically appropriate landscaping; b) creation of a diverse palette: in form, texture and seasonal colour; c) longevity of plants and the form and function of landscaped areas; and	AO2.1 Species are selected from those listed in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
	AO2.2 Plant species do not include undesirable species as listed in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

d) cost effective and convenient maintenance over the long-term.		
PO3 Where appropriate, provision is made for on-street planting that: a) complements the local streetscape; b) ensures visibility is maintained from entrances and exits to properties and at intersections; c) establishes healthy vegetation of suitable species; d) minimises the potential for vegetation to cause damage to persons, property or infrastructure; and e) does not limit or hinder pedestrian or vehicular flow and movement.	AO3 Street planting is provided that is consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space. Editor's note—Applicants may also have reference to the Development manual planning scheme policy no. SC6.4 - SC6.4.6.1 Geometric Road Design .	N/A The development has not included any street planting. Council can condition streetscape upgrades with street trees if required.
PO4 Streetscape treatments and paving form a functional and attractive component of the overall landscape scheme.	AO4.1 All general streetscape elements are provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
	AO4.2 Streetscape pavements are provided in accordance with the standards set out in the Development manual planning	N/A The development has not included any streetscape upgrades, this can be conditioned by Council is required.

	scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	
	AO4.3 Streetscape furniture is provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	N/A The development has not included any streetscape upgrades, this can be conditioned by Council is required.
PO5 Landscaping within on-site open space areas is well-designed, having regard to its purpose and the provision of shading, climatic response, and the proportion of soft and hard elements.	AO5.1 Selected tree species within communal recreation areas are to provide at least 30% shade coverage within 5 — 10 years of planting.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
	AO5.2 A minimum of 50% of landscaped areas are to be covered in soft landscaping (turf areas and planting beds), with at least 25% of that area being planting.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO6 Landscaping and embellishments in local recreational parks is fit for purpose and well-designed, having regard to shading, climatic response, and the proportion of soft and hard elements. Landscaping softens edges and creates an attractive interface with adjoining land.	AO6 Landscaping and embellishments are provided that are consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space. Editor's note—Applicants should also have regard to requirements for local recreational parks in the Reconfiguring of a lot code.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO7 The use of hard surface treatments within private and public spaces do not	AO7 Surface treatments are provided that are consistent with the standards set out	Complies

detract from a high standard of amenity, and large unbroken areas of hardstand material is avoided.	in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
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Table 9.3.3.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Edge treatments		
PO8 Where provided, landscape design along site frontages is used to mitigate adverse aesthetic elements, provide privacy and reduce illumination impacts, while maintaining a safe environment for users.	AO8 Landscaped areas along the frontage of a site consists of: a) shade or rounded canopy trees that will provide a minimum of 50% shade to the frontage of the site within 5 years of planting; b) shrubs that provide screening to blank walls and privacy as required; and c) low shrubs and ground covers that reach a maximum height of 750mm at maturity.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO9 Where appropriate, acoustic barriers and long fences along road frontages and within the development are screened or softened by landscaping or architectural embellishment to improve visual amenity of the development.	No acceptable outcome is nominated. Editor's note—Guidance on desirable treatments in particular circumstances is provided in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space .	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans. Landscaping has been included along front and side boundaries to soften to built form outcome and improve visual amenity of the development.

PO10 Where provided, landscaping along a side or rear boundary assists in maintaining privacy, screening unsightly or service elements and enhancing the appearance of the development from nearby premises.	AO10.1 Screen planting is provided along the side or rear boundary of a site, which consists of: a) either trees with a maximum spacing of 3m (measured from centres) and capable of providing a dense screen within 3 years of planting or screening shrubs capable of growing to a height of 3m within 2 years of planting; and b) low shrubs and ground covers, where appropriate, to allow for complete covering of planting area.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans. Screening planting has been provided along the side boundaries.
	AO10.2 A minimum of 25% of all trees are to grow above the height of the eaves of the equivalent second storey of the building.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO11 Landscaped areas along or near retaining walls, long unbroken walls, service areas and parking areas consist of an appropriate combination and species of trees, shrubs and groundcovers to minimise the visual impact of these elements.	No acceptable outcome is nominated. Editor's note—Guidance on desirable treatments in particular circumstances is provided in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

PO12 Screening trees, shrubs, low shrubs, ground covers and vertical accent plants are appropriate for the space available, orientation and functional requirements of the area.	No acceptable outcome is nominated. Editor's note—Guidance on desirable treatments in particular circumstances is provided in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
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Table 9.3.3.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Maintenance, drainage, utilities, services and construction		
PO13 Plant selection and location protects the integrity and function of overhead and underground services.	AO13 Plant selection and location complies with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space .	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO14 Landscape elements do not adversely affect stormwater quantity or quality by ensuring: a) the flow of water along overland flow paths is not restricted; b) opportunities for water infiltration are maximised; and c) areas of pavement, turf and mulched garden beds are appropriately located and adequately drained.	No acceptable outcome is nominated. Editor's note—Applicants should also refer to Section 9.3.6 Works code and Section 9.3.2 Healthy waters code and the Development manual planning scheme policy no. SC6.4 to assist in demonstrating the outcome.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans and will not impact on stormwater quantity and quality.
PO15 Landscaping works, design and	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development	Complies

materials used minimise maintenance costs and whole of life cycle costs. Editor's note—Council may request a lifecycle cost analysis and maintenance cost plan for developments that create new public landscape embellishment to determine the appropriateness of landscaping treatment lifecycle costs to the community.	manual planning scheme policy no. SC6.4 to assist in demonstrating the outcome, including SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO16 All turf areas on-site are accessible externally by standard lawn maintenance equipment and receive adequate sunlight for the turf species used.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4 including SC6.4.12 Landscaping and Open Space to assist in demonstrating the outcome.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO17 Drainage of podium planters allows for flush out in future and are adequately drained.	No acceptable outcome is nominated.	N/A The development does not include podium planters.
PO18 Irrigation is installed within private and public spaces to ensure the long-term viability and integrity of landscaped areas. Where provided, irrigation is designed to facilitate the efficient supply of water in accordance with micro-climatic conditions.	AO18 Irrigation is provided accordance with the Development manual planning scheme policy no. SC6.4 including - SC6.4.12 Landscaping and Open Space. Editor's note—Irrigation systems should be minimized where practical, such as in natural areas or areas where landscaping is likely to endure due to landform and microclimate, for example.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans. Irrigation can be provided where required.
PO19 Limited on-site maintenance is achieved for private and public landscaping, by selecting plant species having regard to long life expectancy and minimal leaf litter drop, pruning, watering and fertilising requirements.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy SC6.4.12 Landscaping and Open Space to assist in demonstrating the outcome.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

PO20 Container sizes and planting stock maturity is consistent with the intended role of the landscaping.	AO20 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO21 Planting stocks are of a quality to ensure vigorous growth.	AO21 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO22 Plants are protected and maintained to facilitate in-situ growth, vigour and quality form.	AO22 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO23 Site preparation works ensure a stable and enhanced landscape form.	AO23 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

Table 9.3.3.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Sustainability		
PO24 Wherever possible, landscape design facilitates the retention of significant existing vegetation, both within and external to the site.	AO24.1 Site design integrates and incorporates retained and significant trees and vegetation within and external to the site.	Complies The development retains vegetation where possible.
	AO24.2 Removed or damaged significant vegetation is replaced with mature vegetation of a comparable quantity and species.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO25 Appropriate site planning and construction management is undertaken to ensure the longevity and health of retained and significant trees and vegetation.	AO25.1 Retained trees are protected by a tree protection zone (TPZ) and fenced along the canopy/drip line to comply with AS4970- 2009 Protection of Trees on Development Sites.	Complies The retained vegetation will be protected accordingly.
	AO25.2 Any required pruning or trimming work is undertaken in accordance with AS4373 — Pruning of Amenity Trees and is carried out by a qualified arborist.	Complies The development will comply with AO25.2 where pruning or trimming is required.
	AO25.3 Retained and significant vegetation damaged during development or construction is treated to repair any	Complies The retained vegetation will be protected accordingly.

	damage to the extent practicable by a qualified arborist.	
	AO25.4 Protective measures and practices are employed for work adjacent to trees in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction management.	Complies The retained vegetation will be protected accordingly.
PO26 Landscape design optimises water and energy efficiency and responds appropriately to local conditions, by: a) maximising the exposure to the prevailing summer breezes and the north-east winter morning sun; b) minimising exposure to the prevailing winter winds and western summer sun; and c) optimising shade to create useable and comfortable areas; d) hydro-zoning planting.	No acceptable outcome is nominated. Editor's note—Applicants should refer to Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans which will optimise water and energy efficiency where possible.
PO27 Planting bed profiles and edging encourage plant viability, reduce erosion, control weed invasion, provide adequate water infiltration and ease of maintenance to support long-term plant viability and vigorous growth.	AO27 Planting beds are designed in accordance with the Development manual planning scheme policy no. 6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

PO28 Landscape buffering and species selection is consistent and compatible with any ecological values on or adjoining the site.	No acceptable outcome is nominated. Editor's note—Applicants should refer to Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO29 Landscaping elements are provided within parking areas, along driveways and internal roadways to provide adequate shading, and safe and legible parking areas.	AO29 Landscaping is provided in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

Table 9.3.3.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Safety		
PO30 Landscape design enhances community safety and reduces the potential for crime and antisocial behaviour. Editor's note —Applicants may find useful guidance in the Queensland Government's Crime Prevention through Environmental Design Guidelines for Queensland .	AO30.1 Access to a site, parking area, buildings or public open space is well lit, free from obstructions and clearly defined by landscape treatments.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
	AO30.2 Trees with a minimum 1.8m of clear trunk (at maturity) are located along pathways, at building entries, within parking areas, on street corners, adjacent to street lighting and along driveways. Garden beds within the aforementioned areas consist of low shrubs and groundcovers that do not exceed 750mm in height.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

	AO30.3 Any solid wall or semi permeable fence is protected from graffiti through means of vertical landscaping or vandal resistant paint or artwork.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
PO31 Where appropriate and practicable, all elements of the landscape design are safe and provide accessibility for all abilities.	AO31.1 Paving material, tactile indicators and construction complies with AS1428 - Design for Access and Mobility.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
	AO31.2 Pavement material or treatment clearly delineates between pedestrian and vehicular movement systems through contrasting materials, colours or level changes.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.
	AO31.3 Hard landscaping materials are not highly reflective, or likely to create glare, slipperiness or other hazardous conditions.	Complies The development provides an appropriate landscape design as demonstrated on the attached Proposal Plans.

9.3.5 Transport impact, access and parking code

9.3.5.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

9.3.5.2 Purpose

1. The purpose of the Transport impact, access and parking code is to ensure appropriate provision for transport and end of trip facilities, and to facilitate, as far as practicable, an environmentally sustainable transport network.
2. The purpose of the code will be achieved through the following overall outcomes:
 1. the function, safety and efficiency of the transport network are optimised;
 2. pedestrians (including people with a disability) and cyclists are provided with a high level of accessibility, safety, amenity and convenience within a development site and on-site facilities are integrated with external walking and cyclist networks and public transport nodes;
 3. the use of public transport is facilitated wherever appropriate;
 4. access, parking, servicing and associated manoeuvring areas are designed to be safe, functional and meet the reasonable demands generated by the development;
 5. access, parking, servicing and associated manoeuvring areas do not detract from streetscape character, and are designed to discourage crime and antisocial behaviour; and
 6. adverse impacts on the environment and the amenity of the locality are avoided.

9.3.5.3 Assessment benchmarks

Table 9.3.5.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Transport impact Editor's note—Applicants should note that the Department of Transport and Main Roads may have additional requirements. Editor's note—Applicants should also note that a transport impact assessment may be required to demonstrate compliance with this code.		
PO1 The development is located on roads that are appropriate for the nature of traffic generated, having regard to the safety and efficiency of the transport network, and the functions and characteristics identified of the road hierarchy. The road hierarchy is shown on Figure 9.5 — Road hierarchy existing and Figure 9.6 Road Hierarchy Future	No acceptable outcome is nominated. Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.1 Townsville Road Hierarchy , SC6.4.6.1 Geometric Road Design and SC6.4.5.2 Traffic Impact Assessment (TIA) .	Complies The development has been designed having regard to the local road network, refer to the attached Traffic Engineering Report.
PO2 Development does not compromise the orderly provision or upgrading of the transport network.	No acceptable outcome is nominated. Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.1 Townsville Road Hierarchy , SC6.4.6.1 Geometric Road Design and SC6.4.5.2 Traffic Impact Assessment (TIA) .	Complies The development does not compromise the orderly provision or upgrading of the transport network, refer to the attached Traffic Engineering Report.
PO3 On-site transport network infrastructure (including roads, parking, access and public transport, pedestrian and cyclist facilities) appropriately integrates and connects with surrounding	No acceptable outcome is nominated. Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities , SC6.4.5.4 Car Parking , SC6.4.5.2 Traffic Impact Assessments (TIA) , SC6.4.4 Active Transport Infrastructure , SC6.4.6.1 Geometric Road Designs , and SC6.4.5.1 Townsville Road Hierarchy .	Complies Refer to the attached Traffic Engineering Report.

networks. Editor's note—To demonstrate compliance with this performance outcome with regard to pedestrian and cyclist elements, applicants may be requested to provide a walk and cycle network plan to show connections to internal and external attractions, existing and proposed walk and cycle facilities and which respond to desire lines of all users.		
PO4 As far as practicable, development is designed to encourage travel by public transport, walking and cycling.	No acceptable outcome is nominated. Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities , SC6.4.5.4 Car Parking , SC6.4.5.2 Traffic Impact Assessments (TIA) , SC6.4.4 Active Transport Infrastructure , SC6.4.6.1 Geometric Road Design , and SC6.4.5.1 Townsville Road Hierarchy .	Complies Refer to the attached Traffic Engineering Report.

Table 9.3.5.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Site access Editor's note —Local government (or other service owner) approval must be obtained before interfering with any infrastructure or undertaking works in the road reserve. In addition, be aware that the location of a driveway may be influenced by an approved plan of development that applies to the site or by the location of existing infrastructure or existing vehicle crossovers.		
PO5 Access arrangements are appropriate for: a) the capacity of the parking area; b) the volume, frequency and type of vehicle usage; c) the function and characteristics of the access road and adjoining road network; and d) the safety and efficiency of the road network.	AO5 Access is provided in accordance with the standards identified in the Development manual planning scheme policy SC6.4 — SC6.4.5.5 Driveways , SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking . Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.1 Townsville Road Hierarchy and SC6.4.5.2 Traffic Impact Assessment (TIA) .	Complies Refer to the attached Traffic Engineering Report.
PO6 Where practical, access for cyclists	No acceptable outcome is nominated. Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking .	Complies Refer to the attached Traffic Engineering Report.

and pedestrians is clearly distinguished from vehicle access.		
PO7 Access is located and designed to provide safe and easy access to the site, having regard to its position, width and gradient.	A07 Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings Editor's note— Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessment (TIA) and SC6.4.5.1 Townsville Road Hierarchy.	Complies Refer to the attached Traffic Engineering Report.
PO8 All vehicles reasonably expected to use the site are able to travel the length of the driveway or driveway access without damage to vehicle or the driveway surface.	A08 Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	Complies Refer to the attached Traffic Engineering Report.
PO9 A driveway does not cause change in the level of a footpath that is unsafe or inaccessible for people with mobility difficulties.	A09 Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings.	Complies Refer to the attached Traffic Engineering Report.
PO10 Driveways are designed to withstand loadings from all vehicles reasonably expected to use the site.	A010 Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.	Complies Refer to the attached Traffic Engineering Report.

PO11 A driveway does not allow water to pond on adjacent properties or adjacent buildings and does not allow water to enter a building or property.	AO11 Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.	Complies Refer to the attached Traffic Engineering Report.
PO12 Construction of a driveway does not damage or interfere with the location, function of or access to any services and infrastructure.	AO12 Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings.	Complies Refer to the attached Traffic Engineering Report.
PO13 All vehicles reasonably expected to access the site can safely manoeuvre to allow vehicles to exit and enter in a forward motion.	AO13 Access is provided in accordance with the standards identified in Development manual planning scheme policy no. SC6.4 - SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings such that all vehicles reasonably expected to access the site, can exit and enter in a forward motion with no more than a three-point turn.	Complies Refer to the attached Traffic Engineering Report.

Table 9.3.5.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Pedestrian and cyclist facilities		

PO14 Provision is made for the safe and convenient movement of pedestrians on-site and connecting to the external network, having regard to desire lines, legibility, safety, topographical constraints, shading and other weather protection and equitable access arrangements.	No acceptable outcome is nominated. Editor's note— Applicants should refer to the Development manual planning scheme policy no.SC6.4 — SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.4 Active Transport Infrastructure, SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.	Complies Refer to the attached Traffic Engineering Report.
PO15 Provision is made for safe and convenient cycle movement to the site and within the site and connecting to the external network having regard to desire lines, users' needs, safety, topographical constraints and legibility. Editor's note—End of trip bicycle facilities will need to be provided for major development in accordance with the Queensland Development Code Mandatory Part 4.1 — Sustainable Buildings. "Major development" is defined in MP4.1.	No acceptable outcome is nominated. Editor's note— Applicants should refer to the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.4 Active Transport Infrastructure, SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.	Complies Refer to the attached Traffic Engineering Report.
PO16 Parking areas, pathways and other elements of transport network infrastructure are designed to enhance public safety by discouraging crime and antisocial behaviour, having regard to: a) provision of opportunities for casual surveillance;	No acceptable outcome is nominated. Editor's note— Applicants should refer to the Development manual planning scheme policy no. SC6.4 — SC6.4.4 Active Transport Infrastructure, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design, SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural), SC6.4.14.3 Utility Services and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.	Complies Refer to the attached Traffic Engineering Report.

b) provision of lighting; c) the use of fencing to define public and private spaces, whilst allowing for appropriate sight lines; d) minimising potential concealment points and assault locations; e) minimising opportunities for graffiti and other vandalism; and f) restricting unlawful access to buildings and between buildings. Editor's note—Crime Prevention through Environmental Design Guidelines for Queensland prepared by the State Government may provide applicants with guidance on these matters.		
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Table 9.3.5.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Parking		
PO17 Provision is made for on-site vehicle parking to: a) meet the demand likely to be generated by the development; and b) avoid on street parking that would adversely impact on the safety or capacity of the road network or unduly impact on local amenity.	AO17 Parking is provided in accordance with the standards identified in Parking rates planning scheme policy no. SC6.10 . Editor's note — Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities , SC6.4.5.4 Car Parking , SC6.4.5.2 Traffic Impact Assessments (TIA) , SC6.4.6.1 Geometric Road Design , and SC6.4.5.1 Townsville Road Hierarchy to assist in complying with this outcome.	Complies Refer to the attached Traffic Engineering Report.

PO18 Parking ensures access is provided for people with disabilities.	AO18 Parking areas are designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.4 Car Parking.	Complies Refer to the attached Traffic Engineering Report.
PO19 Where the nature of the proposed development creates a demand, provision is made for set-down and pick-up facilities by bus, taxis or private vehicle, which: a) are safe for pedestrians and vehicles; b) are conveniently connected to the main component of the development by pedestrian pathway; and c) provide for pedestrian priority and clear sight lines.	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.6.1 Geometric Road Design, SC6.4.5.1 Townsville Road Hierarchy and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.	Complies Refer to the attached Traffic Engineering Report.
PO20 Parking and servicing areas are designed to: a) be clearly defined, marked and signed; b) be convenient and accessible; c) minimise large unbroken areas of hardstand to the extent practicable;	No acceptable outcome is nominated. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.5 Driveways, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.6.1 Geometric Road Design, and SC6.4.12 Landscaping and Open Space.	Complies Refer to the attached Traffic Engineering Report.

d) be safe for vehicles, pedestrians and cyclists; e) provide shading; f) be located to encourage multi-purpose trip ends and minimise vehicle movements within the site; and g) minimise any adverse impacts on the amenity of surrounding land.		
PO21 Vehicle spaces have adequate dimensions to meet user requirements.	AO21 Parking areas are designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking .	Complies Refer to the attached Traffic Engineering Report.
PO22 Pavement is constructed to an appropriate standard.	No acceptable outcome is nominated.	Complies Refer to the attached Traffic Engineering Report.
PO23 Parking and servicing areas are kept accessible and available for use as a parking area at all times during the normal business hours of the activity.	No acceptable outcome is nominated.	Complies Refer to the attached Traffic Engineering Report.
PO24 Visitor parking for accommodation activities remains accessible and useable to visitors at all times.	No acceptable outcome is nominated.	Complies Refer to the attached Traffic Engineering Report.
PO25 Multi-level parking areas are	No acceptable outcome is nominated.	N/A

designed, articulated and finished to make a positive contribution to the local external streetscape character, as well as the internal user experience of the facility ensuring way finding technologies and aesthetic treatments are provided.		The development does not include multi-level parking areas.
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Table 9.3.5.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Servicing		
PO26 Provision is made for the on-site loading, unloading, manoeuvring and access by service vehicles that: a) are adequate to meet the demands generated by the development; b) are able to accommodate the design service vehicle requirements; and c) does not unduly impede vehicular, cyclist and pedestrian safety and convenience both within the site and external to the site.	AO26 Servicing areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 – SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking .	Complies Refer to the attached Traffic Engineering Report and the Operational Waste Management Report ensuring appropriate servicing is achieved.
PO27 Refuse collection vehicles are able to safely access on-site refuse collection facilities.	AO27 Refuse collection areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4	Complies Refer to the attached Traffic Engineering Report and the Operational Waste Management Report ensuring appropriate servicing is achieved.

	– SC6.4.22 Waste Management , SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	
PO28 Servicing arrangements minimise any adverse impact on the amenity of premises in the vicinity, having regard to operating hours, noise generation, proximity to sensitive uses, odour generation and dust.	No acceptable outcome is nominated.	Complies Refer to the attached Traffic Engineering Report and the Operational Waste Management Report ensuring appropriate servicing is achieved.

9.3.6 Works code

9.3.6.1 Application

This code applies to development where the code is identified as applicable in the categories of development and assessment.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

9.3.6.2 Purpose

1. The purpose of the Works code is to ensure development is provided with a level of infrastructure which maintains or enhances community health, safety and amenity and which avoids or minimises impacts on the natural environment.
2. The purpose of the code will be achieved through the following overall outcomes:
 1. premises are provided with a level of service which is appropriate to the intended character and function of the zone;
 2. risk to life and property is avoided;
 3. development does not detract from environmental values, including the quality of receiving waters;
 4. development does not detract from the desired character and amenity of the locality;
 5. the integrity and quality of existing infrastructure is maintained;
 6. access, parking, streets and pedestrian and cycle paths are provided to standards that ensure safe, convenient and efficient operation of movement networks;
 7. development facilitates an efficient provision of infrastructure and use of resources; and
 8. whole of life cycle costs for infrastructure are minimised.

9.3.6.3 Assessment benchmarks

Accepted development subject to requirements-Access and parking

Table 9.3.6.3—Accepted development subject to requirements (Part)

Performance outcomes	Acceptable outcomes	
Access and parking		
PO1 Access arrangements are appropriate for: a) the capacity of the parking area; b) the volume, frequency and type of vehicle usage; and c) the function and characteristics of the access road and adjoining road network.	AO1 Access is provided in accordance with Australian Standard AS2890.1.	Complies Refer to the attached Traffic Engineering Report.
PO2 Provision is made for on-site vehicle parking to meet the demand likely to be generated by the development and to avoid on street parking where that would adversely impact on the safety or capacity of the road network or unduly impact on local amenity.	AO2.1 Parking is provided at the rates set out in Parking rates planning scheme policy no. SC6.10. OR	Complies Refer to the attached Traffic Engineering Report.
	AO2.2 Where an existing lawful premises and involves not more than 5% or 50m ² (whichever is the greater) of additional gross floor area, the existing number of on-site parking is retained or increased.	N/A Complies with AO2.1.
PO3 Parking areas are designed to:	AO3.1 Parking areas are designed in accordance	Complies Refer to the attached Traffic Engineering Report.

a) be clearly defined, marked and signed; b) be convenient and accessible; c) be safe for vehicles, pedestrians and cyclists; and d) provide spaces which meet the needs of people with disabilities.	with Australian Standard AS2890.1. OR	
	AO3.2 Where an existing lawful premises and involves not more than 5% or 50m ² (whichever is the greater) of additional gross floor area, the existing standard of on-site parking is maintained or improved.	N/A Complies with AO3.1.
PO4 Landscaping is provided to soften the visual impact of parking areas and to provide shading.	AO4.1 Shade trees within parking areas are provided at the following rate: a) in single sided, angle or parallel bays - 1 tree per 3 parking spaces; and b) in double sided, angle or parallel bays - 1 tree per 6 parking spaces. Editor's note—The Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space sets out guidance on tree species and planting standards. OR	Complies As demonstrated on the attached Proposal Plans, trees can be provided throughout the parking areas of the development to soften the visual impact as well as provide shading to future residents and visitors.
	AO4.2 Where an existing lawful premises and involves not more than 5% or 50m ² (whichever is the greater) of additional gross floor area, the existing standard of landscaping is maintained or improved.	N/A Complies with AO4.1.

P05 Provision is made for the onsite loading, unloading, manoeuvring and access by service vehicles that: a) is adequate to meet the demands generated by the development; b) is able to accommodate the design service vehicle requirements; c) is wholly contained within the site; and d) does not unduly impede vehicular, cyclist and pedestrian safety and convenience within the site.	AO5.1 Servicing areas are provided and designed in accordance with Australian Standard AS2890.2. OR	Complies Refer to the attached Traffic Engineering Report and the Operational Waste Management Report ensuring appropriate servicing is achieved.
	AO5.2 Where an existing lawful premises and involves not more than 5% or 50m ² (whichever is the greater) of additional gross floor area, the existing provision for service vehicles is maintained or improved.	N/A Complies with AO5.1.

Table 9.3.6.3—Accepted development subject to requirements (Part)

Performance outcomes	Acceptable outcomes	
Services and utilities		
P06 A potable water supply is provided that is adequate for the needs of the intended use.	AO6.1 The development is connected to council's reticulated water supply system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings . Editor's note —If a main exists, then an application for a water meter will be required.	Complies The development will connect to Council's reticulated water system, refer to the Engineering Services Report.

	AO6.2 Water supply systems and connections are designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings.	Complies Refer to the Civil Engineering Services Report.
PO7 Wastewater treatment and disposal is provided that is appropriate for the level of demand generated, protects public health and avoids environmental harm.	AO7.1 The development is connected to council's reticulated sewerage system via an existing sewer connection to the site.	Complies Refer to the Civil Engineering Services Report.
	AO7.2 Waste water systems and connections are designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.4 Sewerage Planning and Design Guidelines and SC6.4.3 Standard Drawings.	Complies Refer to the Civil Engineering Services Report.
PO8 Provision is made for waste management that is appropriate to the use, protects the health and safety of people and the environment. Editor's note—Applicants should also be aware that any provision for disposal of any trade waste is to be made in accordance council's Trade Waste Policy supporting	AO8.1 The development provides a bin container storage area that has an imperviously sealed pad and is screened to the height of the bins.	Complies Refer to the Waste Management Letter and the attached Proposal Plans demonstrating the location for the bin storage area which is appropriately screened.
	AO8.2 On sites in an industrial zone that are greater than 2,000m ² in area, provision is	N/A The subject site is located in the Low Density Residential Zone.

the Water Act 2000, Plumbing and Drainage Act 2002 and the Standard Plumbing Regulation 2003	made for refuse collection vehicles to access the collection area, undertake the collection activity and to enter and leave the site in a forward direction without having to make more than a 3 point turn.	
PO9 The proposed stormwater management system or site works does not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site.	AO9.1 The development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.	Complies Refer to the Engineering Report which confirms the development will not result in an increase in flood level.
	AO9.2 Roof and surface water is conveyed to the kerb and channel or an inter-allotment drainage system in accordance with Australian Standard AS/NZS3500.3:2003.	Complies Refer to the attached Engineering Report.
PO10 The drainage network has sufficient capacity to safely convey stormwater run-off from the site and development does not cause a drainage nuisance to a downstream or adjoining property.	AO10 Post development discharge of stormwater from the subject land does not exceed predevelopment peak flows and no change to flows across a downstream or adjoining property is created.	Complies Refer to the attached Engineering Report.

Assessable development-Services and utilities

Table 9.3.6.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Services and utilities		

PO11 A potable water supply is provided that is adequate for the needs of the intended use.	AO11.1 Where within an area designated for urban or rural residential development, the development is connected to council's reticulated water supply system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines . OR	Complies The development is located within an urban area and will be connected to Council's reticulated water system.
	AO11.2 Otherwise, the development is provided with an on-site water supply in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.7 On-Site Water Supply .	N/A Complies with AO11.1.
	AO11.3 Water supply systems and connections are designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water Supply Construction and SC6.4.3 Standard Drawings .	Complies Refer to the attached Engineering Report.
PO12 Wastewater treatment and disposal is provided that is appropriate for the level of demand generated, protects public	AO12.1 Where within an area designated for urban development, the development is connected to the council's reticulated sewerage system in accordance with the	Complies The development is located within an urban area and will be connected to Council's reticulated sewerage system.

health and avoids adverse impacts on environmental values.	Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines. OR	
	AO12.2 Otherwise, on-site waste water treatment and disposal is provided which complies with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.8 On-Site Sewerage Facilities.	N/A Complies with AO12.1.
	AO12.3 Waste water systems and connections are designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4- SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water and Sewerage Infrastructure, SC6.4.11.5 Sewerage System Constructions and SC6.4.3 Standard Drawings.	Complies Refer to the attached Engineering Report.
PO13 The design and management of the development integrates water cycle elements having regard to: a) reducing potable water demand; b) minimising wastewater production; c) minimising stormwater peak discharges and run-off volumes;	AO13 Integrated water management practices and infrastructure are implemented in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.10 Stormwater Quality and SC6.4.10.2 Water Sensitive Urban Design.	Complies Refer to the attached Engineering Report.

d) maintaining natural drainage lines and hydrological regimes as far as possible; e) reusing stormwater and greywater is encouraged where public safety and amenity will not be compromised; and f) efficient use of water.		
PO14 The development is provided with an adequate energy supply which maintains acceptable standards of public health, safety, environmental quality and amenity.	AO14 For other than the Rural zone, premises are serviced by: a) an underground electricity supply approved by the relevant energy authority; or b) an overhead supply approved by the relevant energy authority where in the Rural residential zone, Special purpose zone or High impact industry zone or where on a lot of less than 2,500m² within an area where the existing supply is overhead. Editor's note—Applicants should also have regard to the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural) and SC6.4.14.3 Utility Services.	Complies The development will be connected to an appropriate electricity supply.
PO15 Premises are connected to a telecommunications service approved by the relevant authority.	AO15 The development is connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority. Editor's note—The Development manual planning scheme	Complies The development will be connected to telecommunications infrastructure.

	policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural) and SC6.4.14.3 Utility Services provides additional information regarding the supply of telecommunications.	
PO16 Provision is made for future telecommunications services (for example fibre optic cable).	No acceptable outcome is nominated.	Complies Provision will be made for future telecommunications services to be achieved when appropriate.
PO17 Where available, provision is made for reticulated gas.	AO17 Design and provision of reticulated gas is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural) and SC6.4.14.3 Utility Services. Editor's note—Applicants should also have regard to the metering requirements of other relevant authorities.	Complies If required, the development can be connected to reticulated gas.
PO18 Adequate access is provided to public services and utilities for future maintenance.	No acceptable outcome is nominated. Editor's note—The Development manual planning scheme policy no. SC6.4 provides additional information and requirements for applicants, including when council will require easements over public services and utilities.	Complies Appropriate access is provided for the maintenance of services and utilities when required.

Table 9.3.6.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
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Earthworks

Editor's note—Applicants should be aware that some retaining walls constitute building works that are assessable under the Building Regulation 2006. No approval is required under the Building Regulation 2006 for retaining walls if:

- a) there is no surcharge loading; and
- b) the height of wall or height of fill or excavation is not more than 1m; and
- c) the wall is no closer than 1.5m to a building, structure (e.g. a swimming pool) or other retaining wall. In these cases, the “applicable code” for the purposes of the Act is the Building Code of Australia (refer to BCA Volume 2, Part 3.1.1). Retaining walls not more than 1m in height may be constructed in accordance with an accepted industry standard publication (e.g. timber, concrete masonry or similar).

Editor's note—Applicants should note that council may request the submission of an engineering report undertaken by suitably qualified engineer to demonstrate compliance with the performance outcomes, particularly where alternative solutions are proposed

PO19 Filling and excavation does not result in contamination of land or pose a health and safety risk.	AO19 Filling and excavation does not: a) use contaminated materials as fill; b) excavate contaminated material; and c) use waste material as fill. Editor's note—Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.7.4 Earthworks Construction and SC6.4.23.1 Construction Management.	Complies Refer to the Engineering Report.
PO20 Earthworks result in stable landforms and structures.	AO20 Earthworks and the construction of retaining walls and batters are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	Complies Refer to the Engineering Report.
PO21 Earthworks are undertaken in a manner that: a) maintains natural landforms as far as possible; and b) minimises height of retaining walls and batter faces.	AO21.1 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	Complies Refer to the Engineering Report.

	AO21.2 Retaining walls are designed and constructed: a) certified as stable by a Registered Professional Engineer of Queensland; and b) have a combined height of retaining wall and fence of not more than 2 metres.	Complies Refer to the Engineering Report
PO22 Earthworks do not unduly impact on amenity or privacy for occupants of the site or on adjoining land.	No acceptable outcome is nominated.	Complies Refer to the Engineering Report
PO23 Earthworks do not cause environmental harm.	No acceptable outcome is nominated.	Complies Refer to the Engineering Report
PO24 Filling or excavation does not worsen any flooding or drainage problems on the site or on neighbouring properties.	AO24 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	Complies Refer to the Engineering Report
PO25 Any structure used to restrain fill or excavation does not worsen drainage problems or cause surface water to be a nuisance to neighbouring properties.	AO25 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	Complies Refer to the Engineering Report

PO26 Filling or excavation does not adversely affect sewer, stormwater or water utility infrastructure or access to them for maintenance purposes.	AO26 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	Complies Refer to the Engineering Report
PO27 Filling or excavation does not prevent or create difficult access to any property.	AO27 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	Complies Refer to the Engineering Report
PO28 Earthworks do not cause significant impacts through truck movements, dust or noise on the amenity of the locality in which the works are undertaken or along routes taken to transport the material and the transportation of materials minimises adverse impacts on the road network.	AO28 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.4 Earthworks Construction and SC6.4.23.1 Construction Management.	Complies Refer to the Engineering Report

Table 9.3.6.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Movement networks		

PO29 The following are provided along the full extent of the road frontage and to a standard that is appropriate to the function of the road or street and the character of the locality: a) paved roadway; b) appropriate pavement edging (including kerb and channel); c) pedestrian paths and cycleways; d) streetscaping and street tree planting; e) stormwater drainage; f) street lighting systems; and g) conduits to facilitate the provision of and other utility services.	AO29 Design and construction of external road works are undertaken in accordance with the Development manual planning scheme policy no. SC6.4. Editor's note—Applicants should have regard to the following sub-sections of the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural); SC6.4.14.3 Utility Services; SC6.4.8 Stormwater Management; SC6.4.9 Stormwater Quantity; SC6.4.10 Stormwater Quality; SC6.4.6.2 Pavement Design & Seal Design; SC6.4.4 Active Transport Infrastructure; SC6.4.12 Landscaping and Open Space; SC6.4.6.1 Geometric Road Design; SC6.4.20.1 Footpath Treatment Policy; and SC6.4.23 Construction Management, Quality Management, Inspection and Testing.	Complies The development will undertake appropriate works to ensure the design and construction of external road works are in accordance with the Development manual planning scheme policy.
PO30 Provision is made in the road reserve for streetscaping, pedestrians and cyclists in a manner consistent with: a) the current and projected level of usage; b) the desired streetscape character; and c) activities which are anticipated to occur within the verge.	AO30 Streetscaping works, footpaths and cycle paths are provided in accordance with Development manual planning scheme policy no. SC6.4. Editor's note—Applicants should have regard to the following sub-sections of the Development manual planning scheme policy no. SC6.4 - SC6.4.20.1 Footpath Treatment Policy; SC6.4.6.1 Geometric Road Design; SC6.4.5.1 Townsville Road Hierarchy; SC6.4.4 Active Transport Infrastructure; SC6.4.12 Landscaping and Open Space; SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural); and SC6.4.14.3 Utility Services in demonstrating compliance.	Complies The development will undertake appropriate works for streetscape, footpaths and cycle paths that are in accordance with the Development manual planning scheme policy.
PO31 Parking areas are designed and constructed in a manner that is sufficiently	AO31 Parking area design and construction is undertaken in accordance with	Complies

durable for the intended function, maintains all weather access and ensures the safe passage of vehicles, pedestrians and cyclists.	the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	The parking areas within the development are in accordance with the Development manual planning scheme policy.
PO32 Movement networks can be easily and efficiently maintained.	AO32 Infrastructure is provided in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.6.1 Geometric Road Design, SC6.4.5.1 Townsville Road Hierarchy and SC6.4.5.2 Traffic Impact Assessment (TIA).	Complies Infrastructure for the development has been designed in accordance with the Development manual planning scheme policy.

Table 9.3.6.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Waste management		
PO33 Development provides adequate waste management facilities on site for the storage of waste and recyclable material in a manner which: a) is of adequate size to accommodate the expected amount of refuse to be generated by the use; b) is in a position that is conveniently accessible for collection at all times; c) is able to be kept in a clean, safe and hygienic state at all times; and	AO33 Waste management facilities are provided in accordance with the Development manual planning scheme policy no. SC6.4 – SC6.4.22 Waste Management. Editor's note—Applicants may be requested to prepare a Waste management plan in accordance with the Development manual planning scheme policy no.SC6.4-SC6.4.22 Waste Management.	Complies Waste management for the development has been designed in accordance with the Development manual planning scheme policy, refer to attached Operational Waste Management Report.

d) minimises the potential for environmental harm, environmental nuisance and adverse amenity impacts.		
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Table 9.3.6.3—Assessable development (Part)

Performance outcomes	Acceptable outcomes	
Construction management		
PO34 Work is undertaken in a manner which does not cause unacceptable impacts on surrounding areas as a result of dust, odour, noise or lighting.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome.	Complies The construction of the development will ensure it does not cause unacceptable impacts to the surrounding locality. Appropriate conditions can be added to the development approval.
PO35 While undertaking development works, the site and adjoining road are maintained in a tidy, safe and hygienic manner.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome.	Complies The construction of the development will ensure that the site and adjoining road are maintained in a tidy, safe and hygienic manner. Appropriate conditions can be added to the development approval.
PO36 Traffic and parking generated during construction are managed to minimise impact on the amenity of the surrounding area.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome.	Complies The construction of the development will ensure any traffic and parking generated will minimise the impact on amenity to the surrounding locality. Appropriate conditions can be added to the development approval.

PO37 Council's infrastructure is not damaged by construction activities.	No acceptable outcome is nominated. Editor's note —Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome	Complies The construction of the development will ensure Council's infrastructure is not damaged.
PO38 The integrity of new infrastructure is maintained.	No acceptable outcome is nominated. Editor's note —Applicants should have regard to the following sections of the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction Management ; and SC6.4.24 Acceptance of Completed Works in demonstrating compliance.	Complies The construction of the development will ensure any new infrastructure is maintained.
PO39 Construction activities and works are carried out in a manner which avoids damage to the environment, retained vegetation and impacts on fauna.	AO39 Construction activities and works are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction Management .	Complies Construction will be undertaken in accordance with the Development manual planning scheme policy. Appropriate conditions can be added to the development approval.
PO40 Vegetation cleared from a site is disposed of in a manner that maximises reuse and recycling and minimises impacts on public health and safety.	AO40 Construction activities and works are carried out in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.7.1 Clearing and Grubbing . Editor's note —Applicants shall also refer to Development manual planning scheme policy no. SC6.4 for assistance in complying with this outcome.	Complies Construction will be undertaken in accordance with the Development manual planning scheme policy. Appropriate conditions can be added to the development approval.

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