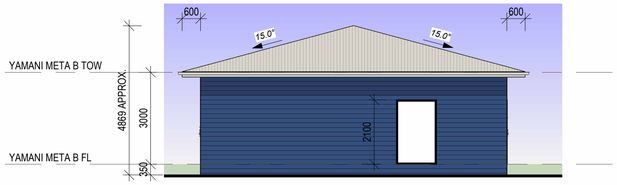
PRELIMINARY
NOT FOR CONSTRUCTION
PLANS ARE SUBJECT TO CHANGE TO COMPLY WITH RELEVANT COVENANT & BUILDING CERTIFICATION APPROVALS

09 ELEVATION 09 - YAMANI META B
1 : 100

10 ELEVATION 10 - YAMANI META B
1 : 100



11 ELEVATION 11 - YAMANI META B
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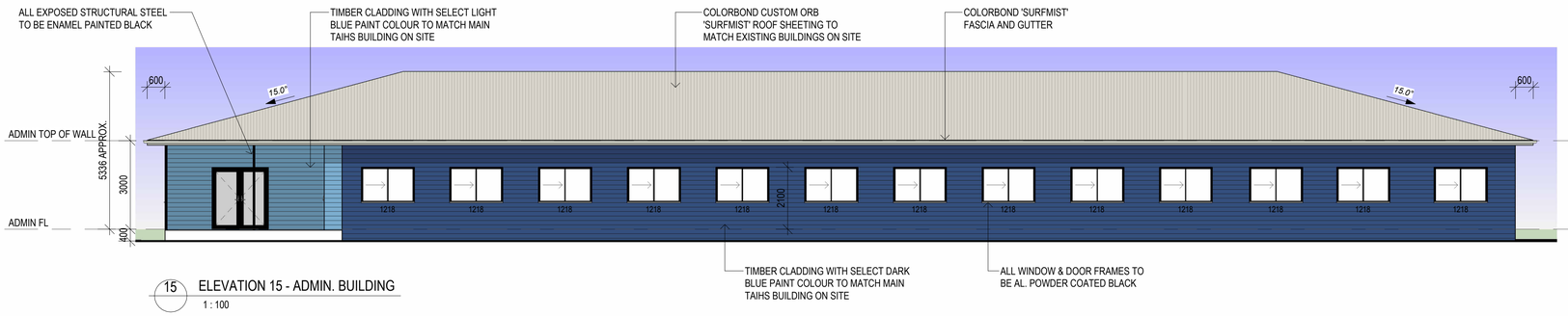
12 ELEVATION 12 - YAMANI META B
1 : 100

13 ELEVATION 13 - ADMIN. BUILDING
1 : 100

14 ELEVATION 14 - ADMIN. BUILDING
1 : 100



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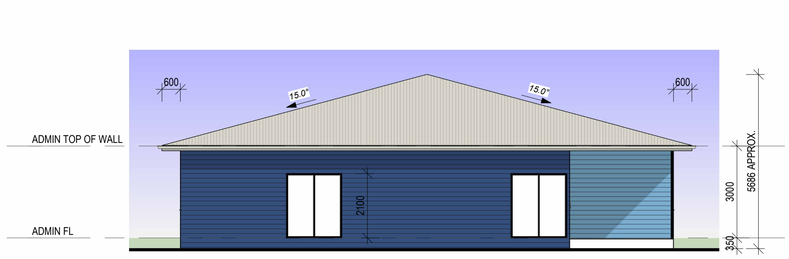

16 ELEVATION 16 - ADMIN. BUILDING
1 : 100

NOTES:

1. VERIFY ALL LEVELS & DIMENSIONS BEFORE COMMENCING ANY FABRICATION
2. FIGURED DIMENSIONS TO TAKE PRECEDENCE OVER SCALED
3. COMPLY WITH LOCAL AUTHORITY, STANDARD BUILDING LAW AND ALL RELEVANT AUSTRALIAN STANDARDS & LEGISLATION
4. THIS DRAWING IS ONLY INTENDED TO OBTAIN A LOCAL AUTHORITY BUILDING PERMIT
5. THIS DRAWING IS COPYRIGHT TO THE DESIGN HOUSE NQ pty ltd & IS NOT TO BE COPIED OR DUPLICATED IN PART OR FULL WITH OUT THE PERMISSION OF THE DESIGN HOUSE NQ pty ltd

REV ISSUE	DATE	DESCRIPTION
6	06.03.26	TCC RFI RESPONSE
4	13.01.26	REFUSE AREA ADDED
3	08.12.25	INDICATIVE LANDSCAPING ADDED
2	11.11.25	PRELIMINARY

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The Design House NQ

Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING
Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: ELEVATIONS
Date: 06.11.25 Drawn: D.A.
Scale: 1 : 100 Designed: N.H.
Job No.: 2025-329-C Drawing No.: WD 301 Rev.: 6

APPENDIX B
Flood Impact Assessment Report

NORTHERN CONSULTING engineers

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Email: engineers@nceng.com.au
Web: www.nceng.com.au
50 Punari Street Currajong Qld 4812

Our Ref: **MJ2529/03:JS**
Your Ref: **ROSE004-TAIHS Flood Modelling**

15 May 2024

Rosel Sherwood
C/- LCJ Engineers
601 Flinders Street
TOWNSVILLE QLD 4810

Attention: Danny Johnstone
Email: dJohnstone@lcjengineers.com.au

Dear Danny,

RE: GARBUTT HOLISTIC HEALTH CENTRE – TOWNSVILLE ABORIGINAL AND ISLANDERS HEALTH SERVICE (TAIHS) AT 57-67 GORDEN STREET, GARBUTT – MINOR 2D FLOOD IMPACT ASSESSMENT (FIA) – REVISED

In accordance with our engagement please find herein the 2D flood impact assessment (FIA) for the above-mentioned development. The purpose of this FIA is to demonstrate a non-worsening outcome associated with the upgrade of current TAIHS site which is proposed to include construction of a new building and car park area. It is noted that this is a revised report to the original (ref: MJ2529/02) that was issued to Council.

NCE have developed a new site-specific 1D/2D TUFLOW model within the existing Louisa Creek flood model catchment for the assessment of a new holistic health centre for TAIHS at 57-67 Gorden Street, Garbutt. The flood model extents have been determined to ensure any upstream and downstream boundaries do not directly impact the flooding characteristics at the development site. The local catchment is generally bounded by Ingham Road in the south, Crowder Street to the west, Dearness Street to the north and Dougles Street to the east, resulting in an area of ~58 ha which forms the model extent. The model has adopted a staged-discharge (rating curve) boundary at suitable locations downstream of the site (over 500m) to ensure there is no influence on flooding characteristics at the site.

The model was originally developed using readily available LiDAR (TCC 2019), however following flood level concerns raised by Council, the model was revised using the readily available TCC 2016 LiDAR. Both sets of LiDAR have a 1m grid resolution which was transposed onto a 5m grid and supplemented by TUFLOW's sub-grid sampling (SGS) feature. The floor level of the church building to the west and toilet block amenities were also stamped into the baseline model. Underground drainage infrastructure has been included as a 1D network (data sourced from TCC's open data portal) and as the 1D network extends beyond the model extents, a 1D boundary has been included to so that flows in drainage networks are simulated and transferred outside the 2D domain. The two (2) LiDAR data sets were compared where it was observed that the TCC 2016 LiDAR was generally 60mm higher than the TCC 2019.

Intensity Frequency Durations (IFD's) in accordance with Australian Rainfall Runoff 1987 (ARR87) for the critical duration of 1-hour, which is defined in the Louisa Creek Flood Model report for the development site,

were used to derive the total rainfall timeseries for the rain-on-grid (ROG) hydrology. The temporal pattern for 1% AEP and 0.5EY events as per ARR87 has been utilised for the critical duration. Ingham Road forms the upstream catchment boundary, therefore no additional inflow hydrographs were required for the assessment.

Rainfall losses are applied via infiltration which is dependent on the land use / impervious percentage areas as the model adjusts losses in line with the specified fraction impervious to determine the rainfall run-off excess at each time step. The initial and continuing losses are adopted in the model for the pervious and impervious areas are 25mm and 2.5mm/hr and 1mm and 0mm/hr respectively, and in accordance with the Louisa Creek flood study. NCE considered that depth-varying Manning's values are appropriate for the modelling which have been adopted in this model. The 'y1' values are the depth below which 'n1' value is applied whereas the 'y2' values are the depth above which the value 'n2' are applied, with 'n' values in between the two (2) depths being linearly interpolated. Depth values 'y1' and 'y2' are given in metres within **Table 1**. The roughness values (Manning's 'n') adopted for the baseline and development scenarios are shown in **Map A01**, which correlate with those of Council's model.

Table 1- TUFLOW materials depth-varying Manning's 'n'

Material ID	Material Description	y1 (m)	n1	y2 (m)	n2
1	Impervious Area/Proposed Buildings and Driveway	-	0.025	-	-
2	Low Density Residential	0.03	0.1	0.1	0.07
3	Urban Roads	-	0.03	-	-
4	Commercial/Industrial (Local Centre)	0.03	0.02	0.1	0.15
5	Recreational and Open space Zoning - Sporting	0.03	0.15	0.1	0.047
9	High Density Residential / Neighbourhood Centre	0.03	0.1	0.1	0.09
10	Vegetation (light) / Open Space / Vegetated Channel	0.03	0.1	0.1	0.06
11	Community Facilities (Schools)	0.03	0.15	0.1	0.06
13	Buildings on Stilts	-	0.15	-	-

NCE have carried out an overarching verification by assessing the baseline model against the Townsville City Council (TCC) TownsvilleMAPS Flood Mapping Service and found that the flood depths within the model extents are generally in agreement with the TCC depths. **Table 2** indicates the flood level comparison and **Map A00** illustrates the verification reference points. Also, the flood extents show good correlation between the baseline model and TCC's flood mapping for 1% AEP storm event. Any differences in the baseline model have been attributed to a more up-to-date DEM dataset, finer grid resolution and sub-grid-sampling (SGS) model parameters which in some cases shows flows diverted due to kerbs and other fine hydraulic features.

Upon review of the original report, Council raised concern with the flood level results that were being predicted when using the TCC 2019 LiDAR, which were ~80mm lower than the results of their model (Ross River 2021). Once the model was modified using the TCC 2016 LiDAR (same data set as Council's model that results were being compared to), flood levels within this site-specific model generally increased by 50mm within the immediate surrounds of the development site. The difference in depth (which was used to verify the original model as being fit for purpose) between the results of the TCC 2016 and TCC 2019 LiDAR is negligible and as such the same afflux observed in the original report is still observed in this assessment.

It is noted that differences in flood levels are still expected between these results and Council's due to the following:

- Hydrology in this model is based on ARR87 as this is what is currently approved and adopted in Council's planning scheme models (i.e. the old MIKE model), whereas it is understood that the new Ross River 2021 TUFLOW model adopts ARR2016.
- The critical duration is potentially different.
- Variations in Mannings n values, i.e. the Ross River 2021 model potentially has higher values for mapping across a larger area, whereas having a mini model allows more attention to detail such that mapping the variation in Mannings value can occur.
- Difference in initial and continuing losses.

Table 2 - Flood Depth Comparison

Location #	Description	Flood Depth (m AHD)		Difference (m)
		TUFLOW 5m grid	TCC Mapping	
1	North of Development on Lonerganne St	0.185	0.180	0.005
2	South of Development on Gorden St	0.173	0.170	0.003
	Average			**0.004**

It is noted that the online flood mapping shows the inundation to the south of the proposed building, however the site-specific model shows this area as being flood free. This is a result of the online model mapping being developed using LiDAR from 2009 and since then, site levels have potentially been altered, which are reflected in the 2019 and 2016 LiDAR adopted in this assessment.

Following verification, the baseline model was modified to simulate the developed case which included the following:

- Developed scenario was assessed for the inclusion of the development extent to match the proposed layout which accounts for proposed building(s), and the car park area.
    - The entire development extent was modelled above the 1% AEP flood level in order to represent immunity to the dwellings and car park.
    - In adopting this approach, freedom is given to the future design of the car park area, such that it can be filled, or following natural surface levels without impacting the flooding conditions around the site.
- The perviousness of the entire development extent was modified to represent 100% imperviousness which represents a conservative approach (this ensures increase in run-off due to the change in impervious area is accounted for in the assessment).

The results from each developed scenario were adopted in the flood impact assessment. A flood impact assessment is best analysed by assessing the afflux. Afflux is defined as the relative change in a flooding characteristic, namely water surface level (WSL) or velocity, between the baseline and developed scenario. This is determined by subtracting the baseline peak results from the developed peak results, where a positive value represents an increase in the flood characteristic and a negative value is a decrease.

The WSL afflux has been assessed for the major 1% AEP and minor 0.5EY flood events. TCC parameters for acceptable development is +/- 10 mm change in WSL (shown as white in the result mapping). Depending

on the circumstances, we are of the opinion that up to + 20 mm (aqua) is also acceptable in some environments where the impacted areas are not sensitive and the increase is immaterial. With this in mind, the following commentary is provided.

The results of the assessment indicated the following:

- 1 % AEP (major) flood event (refer **Map B01**):
    - Map B01 shows a minor increase up to 12mm on Lonerganne Street to the northwest of the development site. 15mm is also observed immediately at the boundary, tapering off to no impact towards the west.
    - Map C01 indicates the existing depth of flood water within the impacted area is generally greater than 240mm.
    - The baseline flood hazard classification/risk profile within the impacted area is H1 (Map D01) which remains unchanged in the developed (Map D02) scenario.
    - The impacts observed are a direct result of the existing flow path (**Figure 1**) through the site being impeded by the development extent.

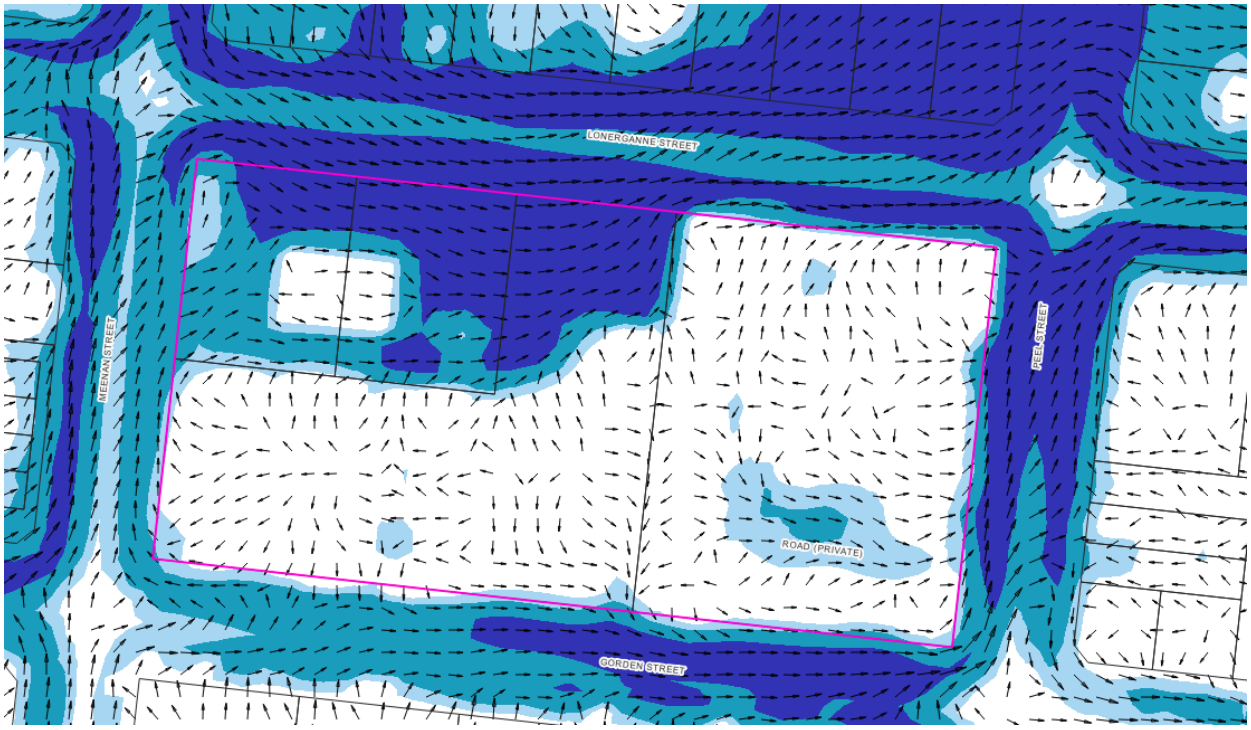


Figure 1 - Baseline flow paths

- 0.5 EY (minor) flood event (refer **Appendix B, Map B02**):
    - There are no adverse or material offsite impacts in 0.5 EY minor flood event.

From the above, the impacts observed in the 1% AEP are considered immaterial for the following reasons:

- A 15mm impact in a defined flood event would be unnoticeable over the isolated area shown on the result mapping.

- An increase of 12mm over an area in which there is flooding of over 240mm in depth does not increase the risk to property or people. For example, flooding through or under a dwelling of 240mm results in the same remediation works as a depth of 255mm hence there is no change to the flood risk of the property.

- Whilst there is a 13mm increase around the church dwelling, it is clear that the floor level is inundated during the 1% AEP event prior to the proposed development and therefore an increase of 13mm does not alter the risk profile for the building for this event. See **Figure 2** below.

- There is no change to the flood hazard classification/risk profile within the impacted area.

Figure 2 – Church floor level versus flood level (baseline WSL in blue, developed WSL in red)

Finished floor levels (FFL) of dwellings are generally defined as being at or having a set freeboard value above the 1% AEP flood level. Therefore, it is recommended that the 1% AEP flood level of 4.76m AHD be adopted for the development site.

As part of Council's review of the original report, it was raised that the Ross River 2021 model shows that the church is only immune to the 5% AEP event and therefore concerned that the immunity is not lowered below the 10% AEP event. Subsequently, the 5% and 10% AEP events were simulated for both the baseline and developed scenarios where it was observed that there is ~14mm increase in flood levels in both events on the eastern side of the church. **Figure 3** and **Figure 4** below are plots for both events. It is evident that in both scenarios the immunity risk profile for the church is not impacted. Our baseline model returns a 5% AEP flood level of 4.67m AHD which is considered to be a reasonably good correlation when there are a number of different parameters that can influence the final results, refer above.

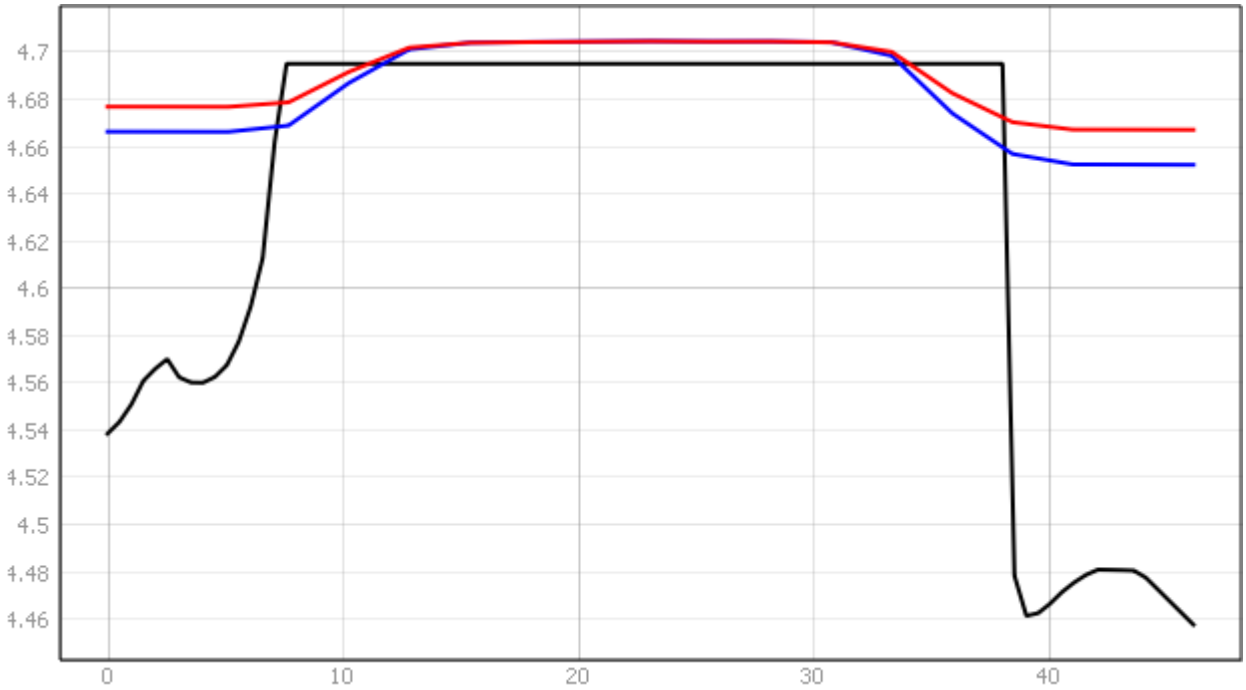


Figure 3 – Church floor level versus flood level (baseline WSL in blue, developed WSL in red) – 5% AEP event using 2016 LiDAR

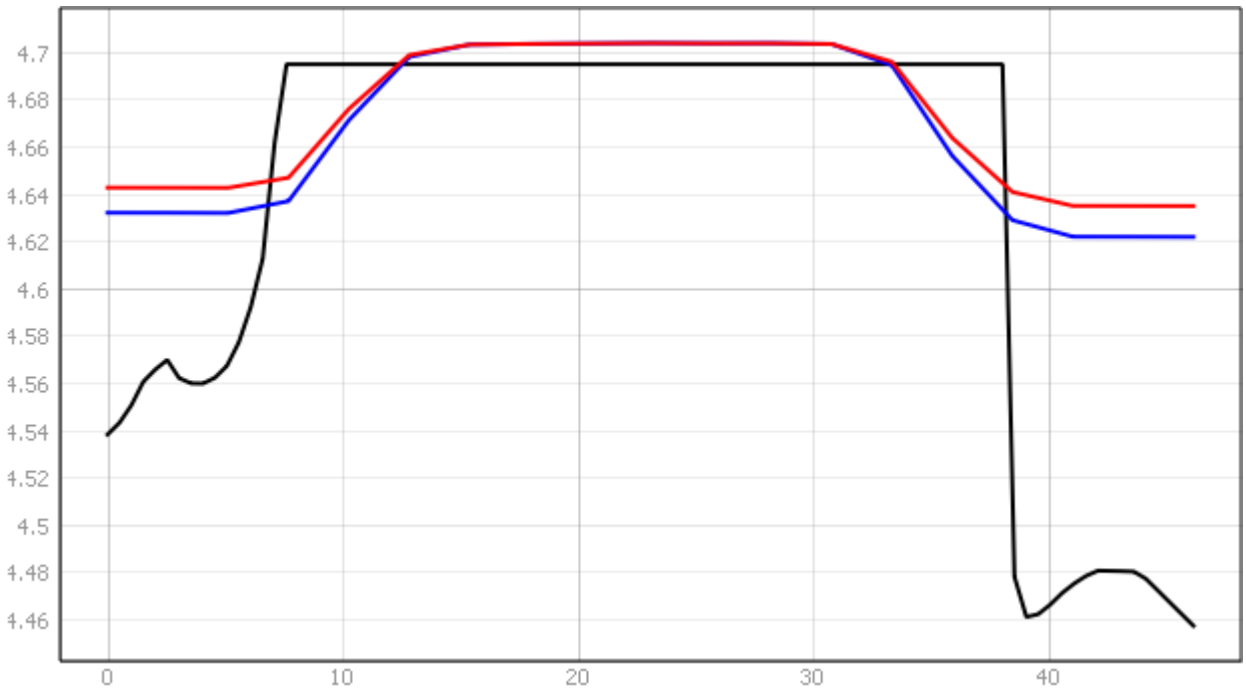


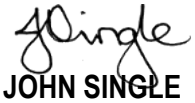
Figure 4 – Church floor level versus flood level (baseline WSL in blue, developed WSL in red) – 10% AEP event using 2016 LiDAR

Further to the request for the 5% and 10% AEP events to be assessed, Council were concerned with updated calculations for storage on-site. As noted above in the modifications for the developed scenario, the entire development extent was modelled as being 100% imperviousness which ensures any increase in run-off due to the change in impervious area is accounted for in the assessment. Subsequently as there is no impacts downstream of the development, on-site storage is not required.

Given the above, it is our opinion that the very minor impacts generated by the development are non-worsening to the flooding characteristics of the area, nor do they alter the flood hazard vulnerability profile. The flood modelling demonstrates the proposed development can achieve an acceptable outcome that is aligned with the intent of the flood hazard overlay code.

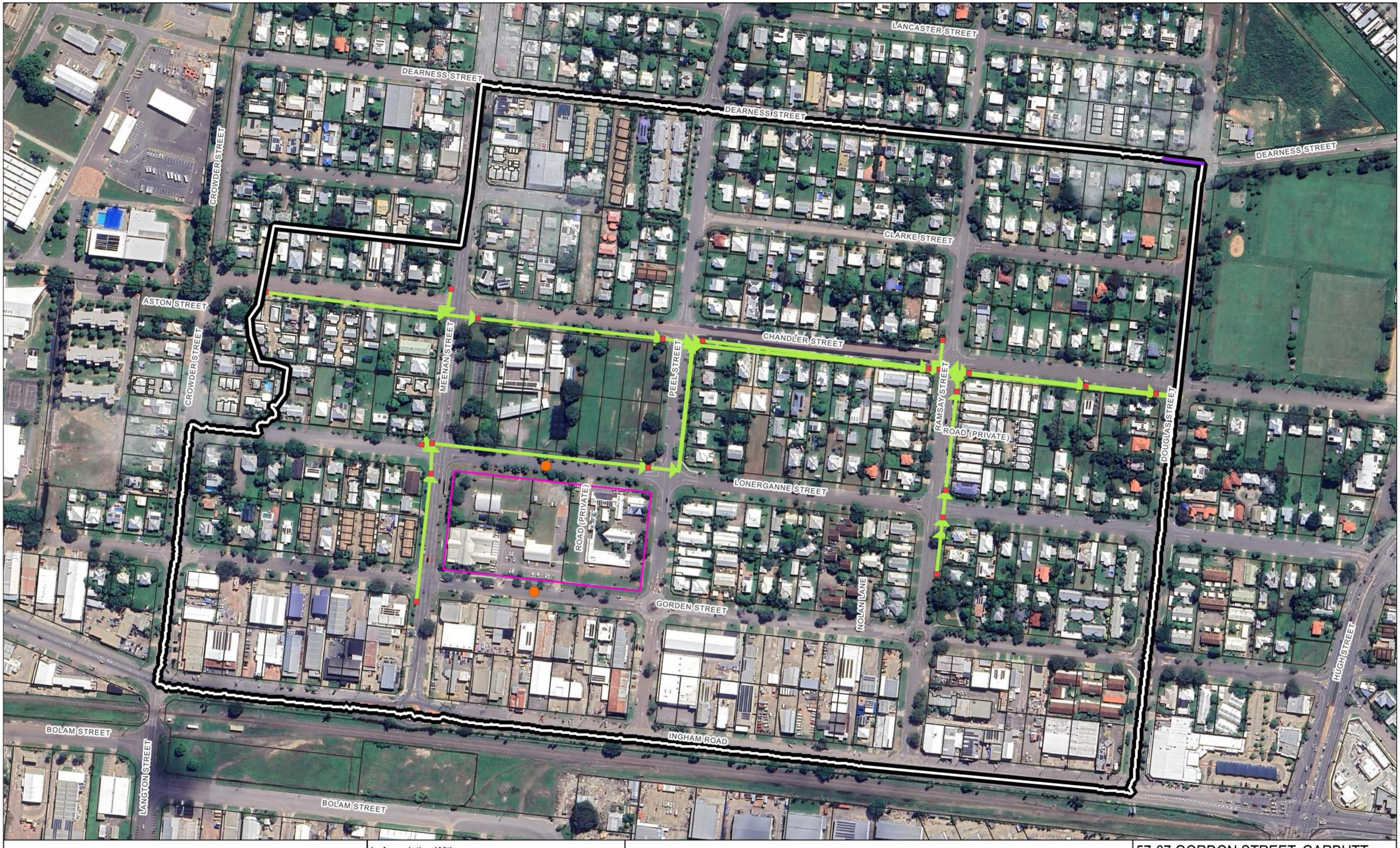
Please do not hesitate to contact the undersigned on 07 4725 5550 if you have any questions regarding this response.

Yours sincerely,



JOHN SINGLE
Senior Civil Engineer (RPEQ 24378)

Encl. Appendix A: TUFLOW Model Setup, Appendix B: Afflux Mapping, Appendix C: Flood Depth Mapping, Appendix D: Flood Hazard Mapping



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0 25 50 75 100 125 150 m

1:3,500

Legend

- Hydraulic Model Extent
- Development Site
- Head vs Flow Boundary
- TCC Land Parcels
- TCC SW Network - RCP
- TCC SW Network - Pits
- Validation_Points

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

TUFLOW MODEL EXTENT

Prepared By: IG Reviewed by: JS	Date: **20/03/2024** Revision: **A** NCE Ref: **MJ2529**	Size **A3**	Map **A00**

Landuse - Imperviousness

- Impervious Area/Proposed Buildings/Carparks/Driveway - 100%
- Low Density Residential - 65%
- Urban Roads - 60%
- Commercial/Industrial (Local Centre) - 90%
- Recreational and Open Space Zoning / Sporting - 10%
- High Density Residential / Neighbourhood Centre - 90%
- Community Facilities (Schools) - 50%
- Building on Stilts - 100%

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0 50 100 150 200 250 m

1:5,500

Legend

- TCC Land Parcels
- Development Site
- Hydraulic Model Extent

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

MODEL MATERIALS - BASELINE AND DEVELOPED SCENARIOS

Prepared By: IG	Date: **26/03/2024**	Size	Map
Reviewed by: JS	Revision: **B**	**A3**	**A01**
	NCE Ref: **MJ2529**		

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Legend
- TCC Land Parcels
- Development Extent
- Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

1% AEP WSL AFFLUX

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **B01**

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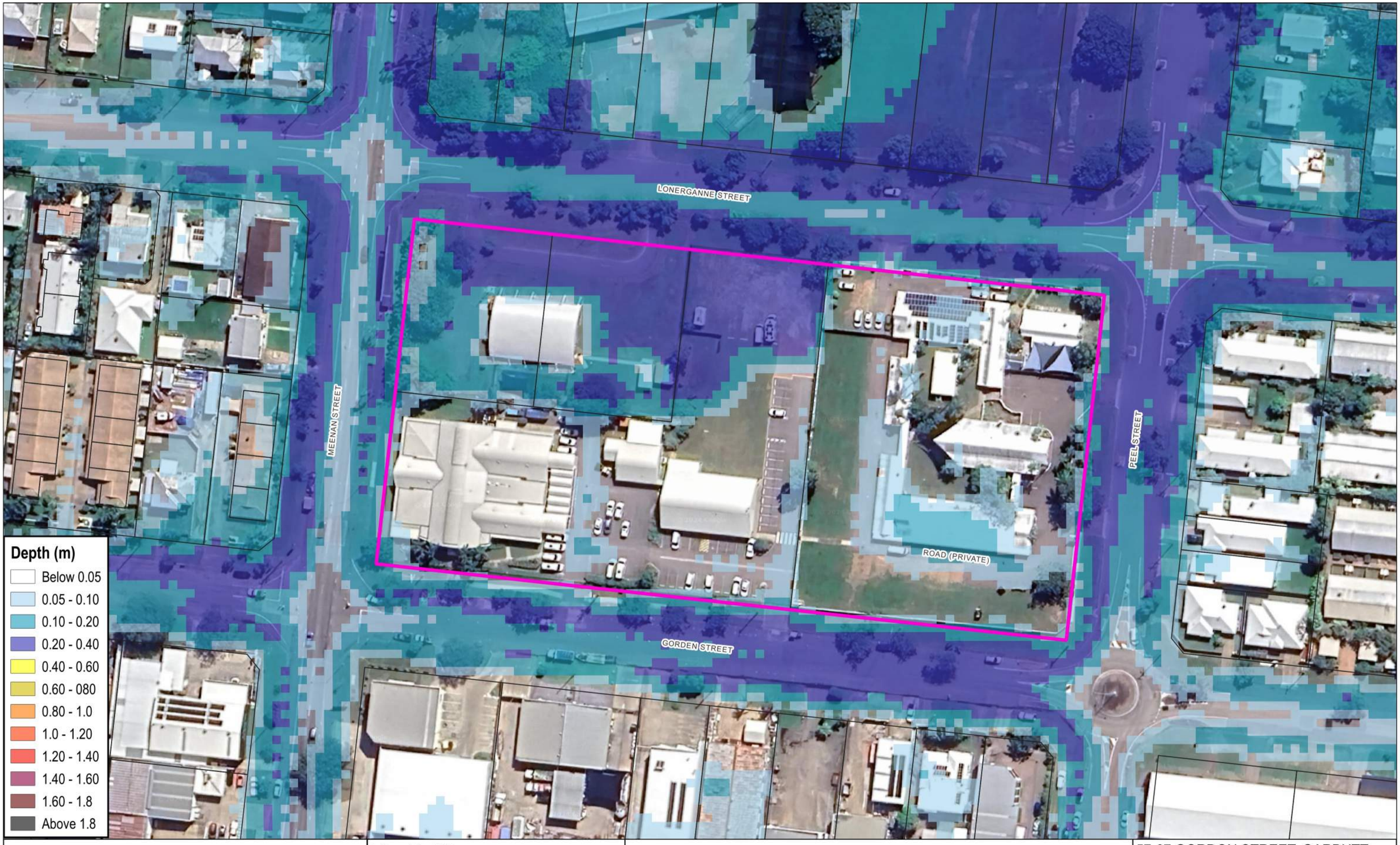
Legend

- TCC Land Parcels
- Development Extent
- Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

0.5 EY WSL AFFLUX

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **B02**



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Legend

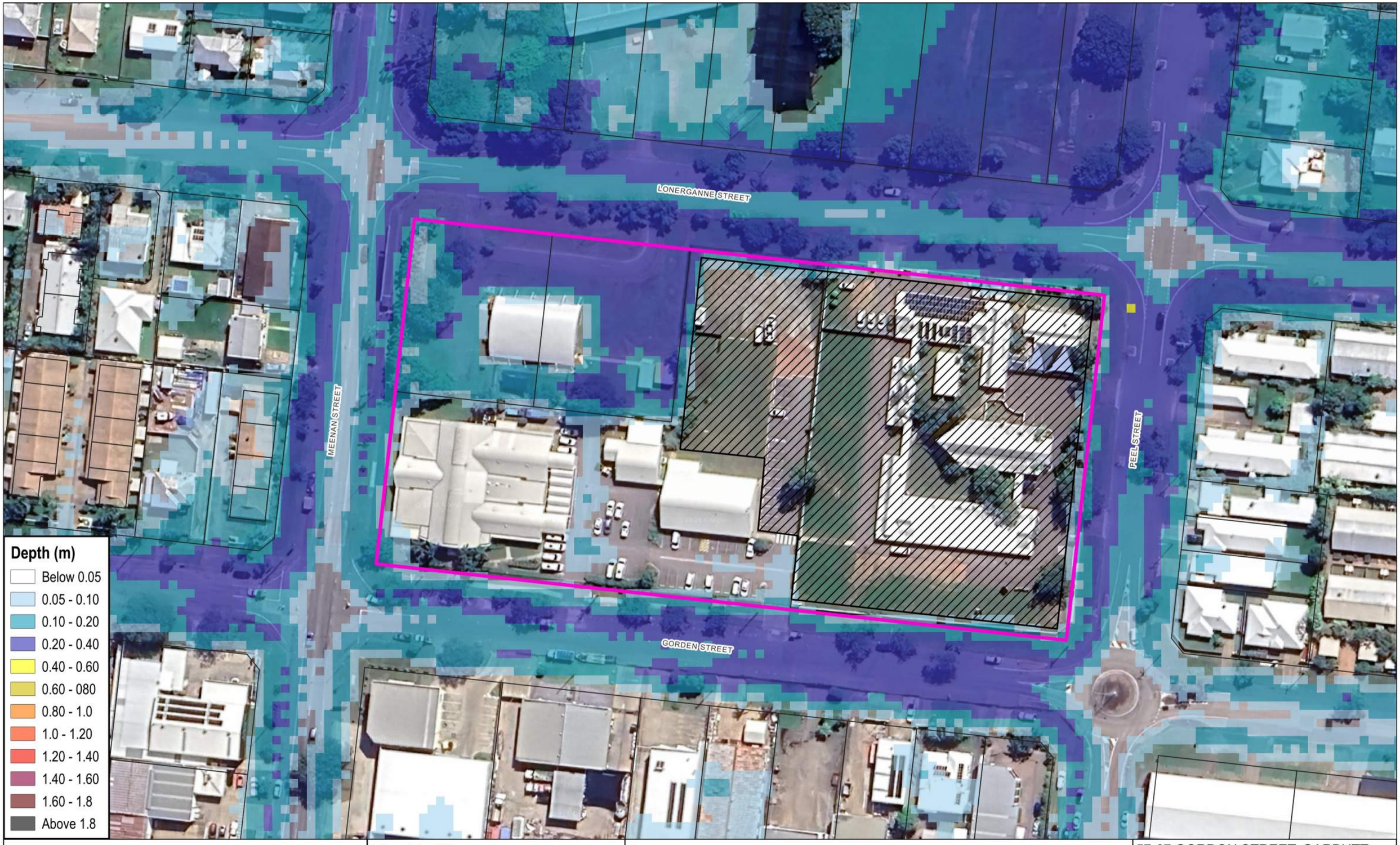
TCC Land Parcels

Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

1% AEP BASELINE FLOOD DEPTH

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **C01**



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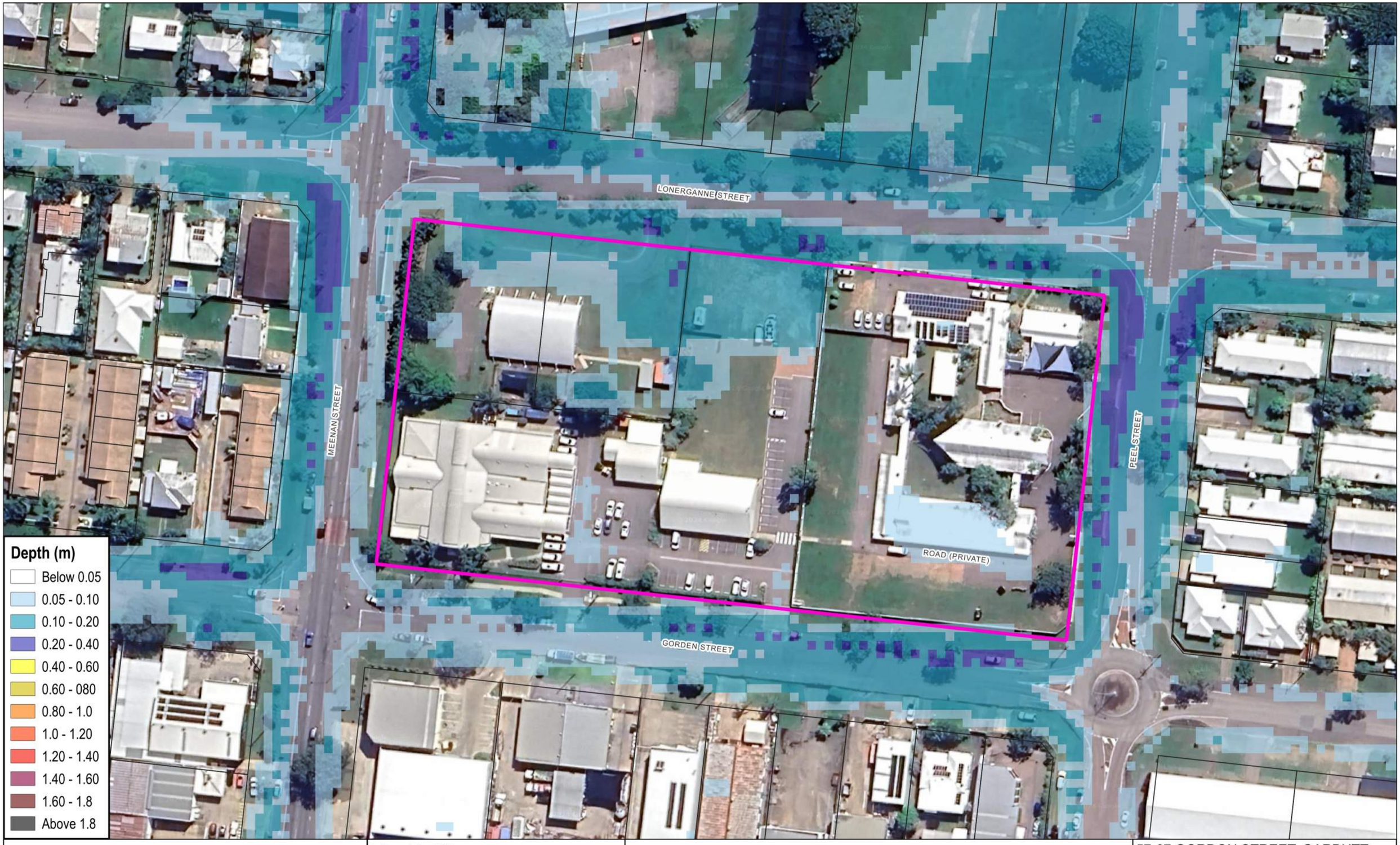
Legend

- TCC Land Parcels
- Development Extent
- Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

1% AEP DEVELOPED FLOOD DEPTH

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **C02**



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0 15 30 45 m

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Legend

TCC Land Parcels

Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

0.5 EY BASELINE FLOOD DEPTH

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **C03**

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0 15 30 45 m

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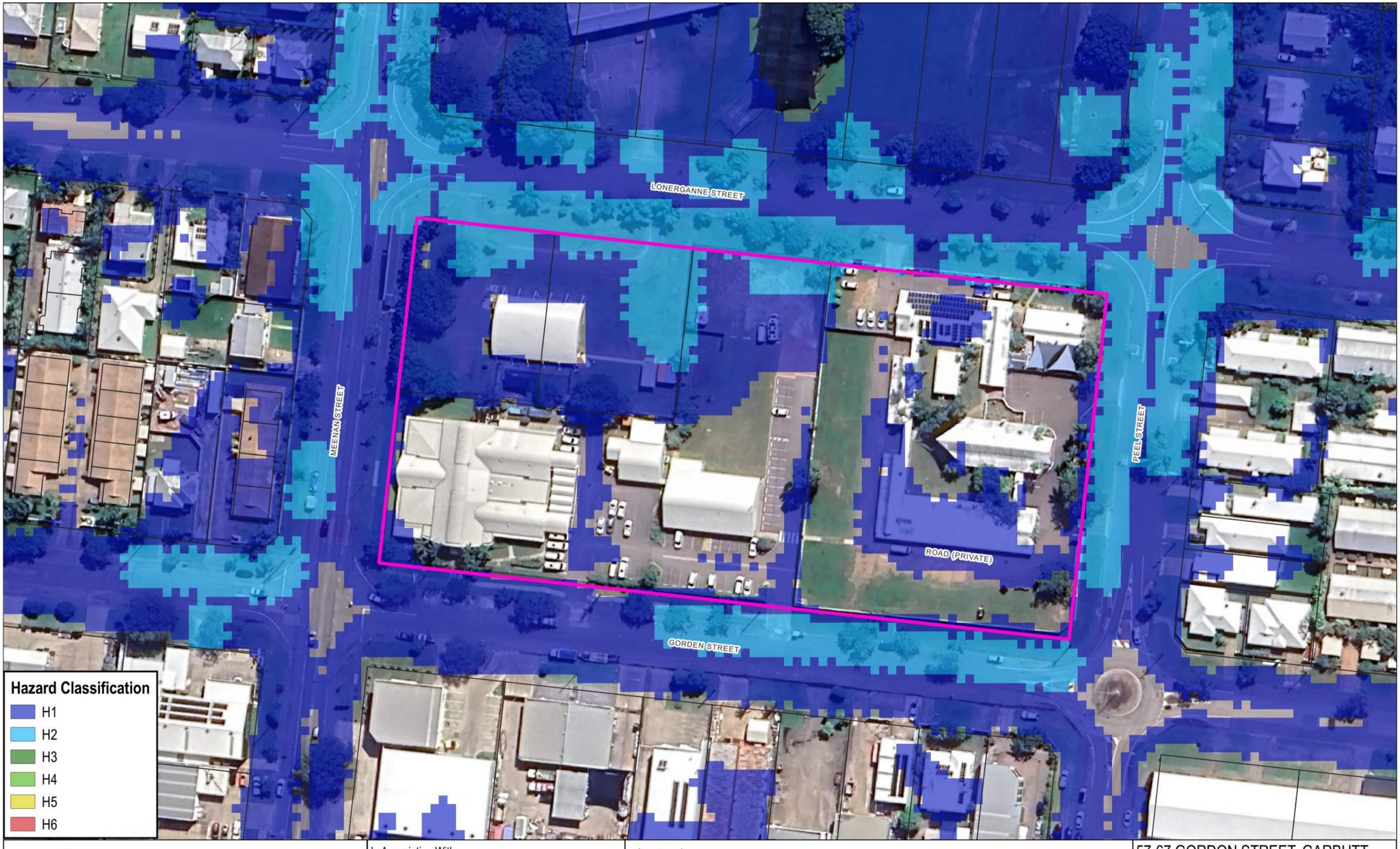
Legend

- TCC Land Parcels
- Development Extent
- Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE (TAIHS)

0.5 EY DEVELOPED FLOOD DEPTH

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **C04**



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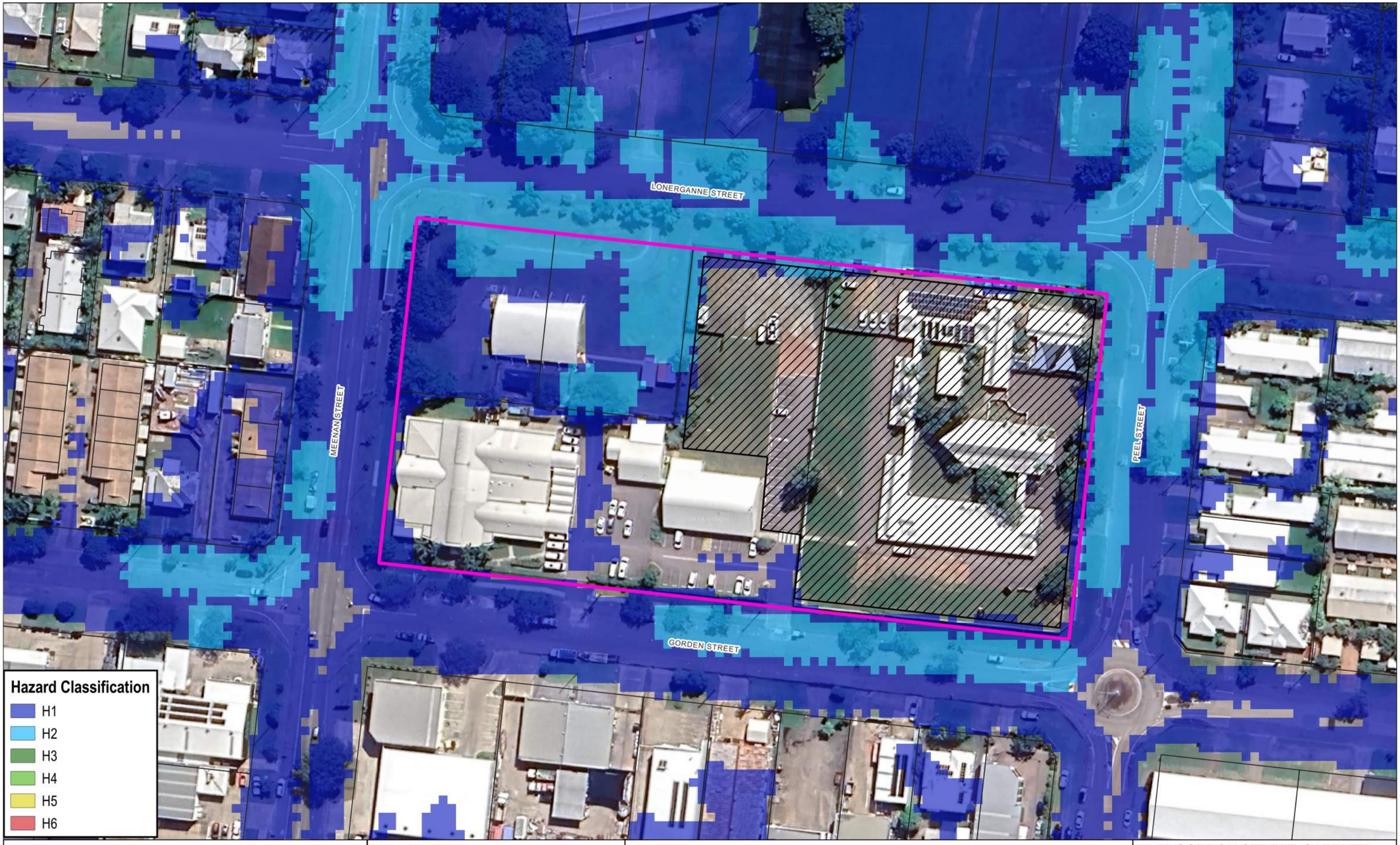
Legend
TCC Land Parcels
Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDERS HEALT SERVICE (TAIHS)
1% AEP BASELINE FLOOD HAZARD CLASSIFICATION

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **D01**



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In Association With:

LCJ Engineers Pty Ltd

0 15 30 45 m

1:1,000

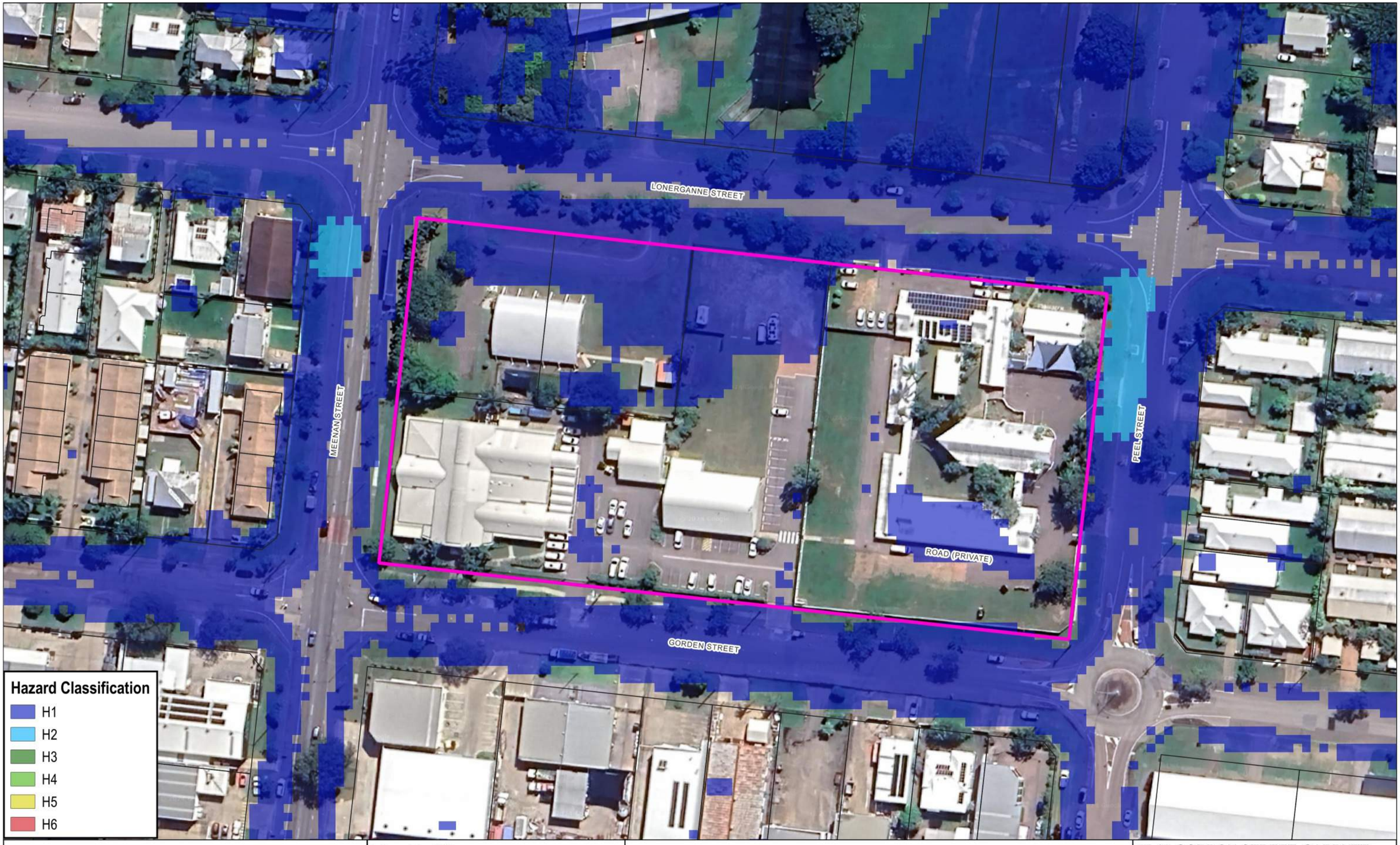
Legend

- TCC Land Parcels
- Development Extent
- Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDERS HEALT SERVICE (TAIHS)

1% AEP DEVELOPED FLOOD HAZARD CLASSIFICATION

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **D02**



NORTHERN CONSULTING engineers
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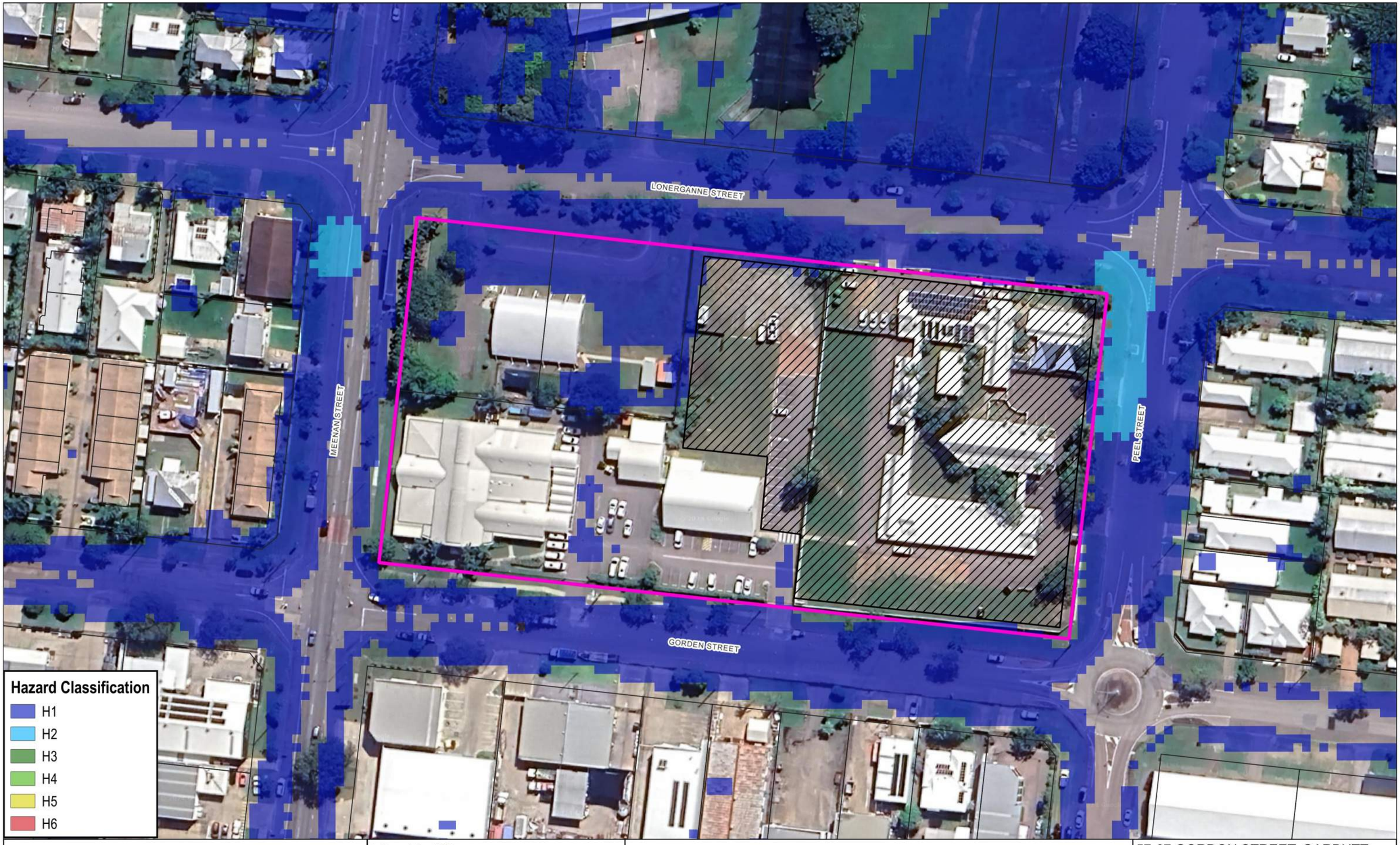
Legend
TCC Land Parcels
Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDERS HEALT SERVICE (TAIHS)
0.5 EY BASELINE FLOOD HAZARD CLASSIFICATION

Prepared By: IG	Date: 26/03/2024	Size	Map
Reviewed by: JS	Revision: B	A3	D03
	NCE Ref: MJ2529		



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1:1,000

Legend
- TCC Land Parcels
- Development Extent
- Development Site

57-67 GORDON STREET, GARBUTT TOWNSVILLE ABORIGINAL AND ISLANDERS HEALT SERVICE (TAIHS) 0.5 EY DEVELOPED FLOOD HAZARD CLASSIFICATION

Prepared By: IG Reviewed by: JS	Date: **26/03/2024** Revision: **B** NCE Ref: **MJ2529**	Size **A3**	Map **D04**

APPENDIX C
Hydraulic Assessment and Stormwater Management Plan

LCJ Engineers Pty Ltd
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ROSE015/AC/DN

13 November 2025

Rosel Sherwood
118 Wellington Street
AITKENVALE QLD 4814

ATTENTION: Mr John Rosel

Dear John

TAIHS GORDEN STREET PRECINCT MASTERPLANNING
TOWNSVILLE ABORIGINAL AND ISLANDER HEALTH SERVICE
57-67 GORDEN STREET, GARBUTT
STORMWATER MANAGEMENT PLAN

LCJ Engineers (LCJ) has been commissioned to provide a Stormwater Management Plan (SWMP) for the abovementioned development.

The proposed development site is located at 57-67 Gorden Street (Lot 158/SP139546) and 10-16 Peel Street (Lot 159/SP2232219), with a total area of 1.62ha. The proposed development consists of the demolition of existing buildings at 10-16 Peel Street, and construction of a new building, carpark area and landscaping. Drawings are attached to this report.

The site is located on generally flat ground surrounded by existing roads with kerb and channel in a grid arrangement, typical of built-up areas of Garbutt.

STORMWATER FLOWS

Lot 158/SP139546 (57-67 Gorden Street) is already zoned as “Community Facilities”. It is also to be noted that from the architectural plans, the estimated total landscaping areas (existing and new) are more than 5% of the total site. Therefore, this lot is not expected to have an increase in flows.

Lot 159/SP2232219 (10-16 Peel Street) is currently zoned as “Low Density Residential” which has allowable fraction of impervious of 0.65. This lot is proposed to be changed under zoning of “Community Facilities”, which will increase the fraction of impervious to 0.95 in accordance with TCC City Plan Table SC6.4.9.2 – *Design AEPs and Fraction Impervious for Land Use Zones*.

For simplicity, the pre and post-development flows have been calculated using the Rational Method only for Lot 159/SP2232219 (10-16 Peel Street). The pre and post-development flow parameters are shown in Table 1 and Table 2 for the following various events:

- 39.3% AEP (2 year ARI) event
- 18.1% AEP (5 year ARI) event
- 9.5% AEP (10 year ARI) event
- 4.9% AEP (20 year ARI) event
- 2% AEP (50 year ARI) event
- 1% AEP (100 year ARI) event

The catchment area for the stormwater flows calculation is 8,085m^2 (Lot 159/SP2232219).

Table 1 – Pre-development flows (f_i = 0.65)

Hydrology Event	Catchment Area A (ha)	Time of Concentration tc (minutes)	Coefficient of Discharge C_y	Rainfall Intensity I (mm/hr)	Peak Discharge Q (m^3/s)
39.3% AEP (2 year ARI)	0.809	5	0.71	127	0.20
18.1% AEP (5 year ARI)	0.809	5	0.79	175	0.31
9.5% AEP (10 year ARI)	0.809	5	0.83	206	0.38
4.9% AEP (20 year ARI)	0.809	5	0.87	236	0.46
2% AEP (50 year ARI)	0.809	5	0.95	273	0.59
1% AEP (100 year ARI)	0.809	5	1.00	301	0.67

Table 2 – Post-development flows (f_i = 0.95)

Hydrology Event	Catchment Area A (ha)	Time of Concentration tc (minutes)	Coefficient of Discharge C_y	Rainfall Intensity I (mm/hr)	Peak Discharge Q (m^3/s)
39.3% AEP (2 year ARI)	0.809	5	0.79	127	0.22
18.1% AEP (5 year ARI)	0.809	5	0.85	175	0.33
9.5% AEP (10 year ARI)	0.809	5	0.89	206	0.41
4.9% AEP (20 year ARI)	0.809	5	0.93	236	0.49
2% AEP (50 year ARI)	0.809	5	1.00	273	0.61
1% AEP (100 year ARI)	0.809	5	1.00	301	0.68

Table 3 shows the flow increases from pre to post-development.

Table 3 – Post-development flow increases

Hydrology Event	Pre Discharge Q (m^3/s)	Post Discharge Q (m^3/s)	Post-development Increase (m^3/s)
39.3% AEP (2 year ARI)	0.20	0.22	0.02
18.1% AEP (5 year ARI)	0.31	0.33	0.02
9.5% AEP (10 year ARI)	0.38	0.41	0.03
4.9% AEP (20 year ARI)	0.46	0.49	0.03
2% AEP (50 year ARI)	0.59	0.61	0.02
1% AEP (100 year ARI)	0.67	0.68	0.01

Increases in the stormwater flows have been estimated by comparing the pre and post-development flows. The stormwater detention storage volume has been estimated using the Boyd-Method equation (1994). Table 4 summarises the required storage volume.

Table 4 – Detention storage

Hydrology Event	In Flow Storage 5 min Storm Vi (m^3)	Reduction Ratio (r)	Post-development Storage Volume Vs (m^3)
39.3% AEP (2 year ARI)	86.56	0.07	5.8
18.1% AEP (5 year ARI)	133.01	0.07	9.0
9.5% AEP (10 year ARI)	164.84	0.07	11.1
4.9% AEP (20 year ARI)	197.74	0.07	13.3
2% AEP (50 year ARI)	245.31	0.05	11.2
1% AEP (100 year ARI)	270.15	0.00	1.1

The total storage volume required to capture a 1% AEP (100 year ARI) event of 5 minutes duration is 1.1m^3. However, as shown in Table 4, the maximum post-development total storage volume required occurred for a 20-year ARI event of 13.3m^3. This volume can be stored in rainwater tanks with total volumes of no less than 15kL. This can be arranged such that a 5kL rainwater tank is to be installed for each of the larger new buildings. The captured runoff may be reused for irrigation.

STORMWATER MANAGEMENT PLAN

As previously mentioned, the proposed development includes the amalgamation of existing lots and changing the zone to “Community Facilities”. In accordance with TCC City Plan SC6.4.8.6 - *Permanent Water Quality Management*, the proposed development is classified as “high risk” due to the site area being larger than 2,500m^2 and will result in an impervious area greater than 25% of the net developable area.

The proposed development has been assessed using criteria in Development Code Part 9.4.2 ‘Healthy Waters Code’ from the TCC City Plan in Table 5.

Table 5 – Healthy waters assessment criteria

Performance outcome	Assessment response
PO1 Development contributes to the protection of environmental values and water quality objectives of receiving waters to the extent practicable.	The proposed development will not cause any worsening of existing condition.
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.	N/A There are no high environmental value waters or slightly disturbed waters in close proximity to the subject site or in the downstream stormwater catchment as per Figure 9.1 of the Healthy Waters Code.
PO3 The entry of contaminants into, and transport of contaminants in, stormwater is avoided or minimised.	The likelihood of contaminants in the site’s stormwater outflows is considered low due to the nature of the developed area, i.e. runoff is from roof areas and carpark areas consistent with common built-up areas.

Table 5 - Healthy waters assessment criteria (contd)

Performance outcome	Assessment response
PO4 Within the areas identified as potential acid sulphate soils on Figure 9.2 – Acid sulphate soils, the generation or release of acid and metal contaminants into the environment from acid sulphate soils is avoided by: a) Not disturbing acid sulphate 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 sulphate soils cannot be avoided, development: i. Neutralises existing acidity and prevents the generation of acid and metal contaminants; and ii. Prevents the release of surface or groundwater flows containing acid and metal contaminants into the environment.	The site has been identified as per Figure 9.2 of the Healthy Waters Code as being in the 0-5m AHD range for acid sulphate soils. No excessive excavation is planned for the site. Filling will not cause acid sulphate soils (if any exist below the site at all) to be moved lower in the water table or previously saturated acid sulphate soils being aerated.
PO5 Construction activities for the development avoid or minimise adverse impacts on stormwater quality or hydrological processes.	The Builder will be responsible for ensuring construction activities mitigate potential erosion, sediment runoff or other contaminates entering downstream catchments (i.e. stormwater quality) by adhering to a site-based management plan that is to be developed by the Builder.
PO6 The stormwater management system: *a)* Retains natural waterway corridors and drainage paths; and *b)* Maximises the use of natural channel design in constructed components.	The proposed overland flow path for the development is similar to existing condition and will be discharged onto adjacent road reserves.
PO7 The development is designed to minimise run-off and peak flows by: a) Minimising large areas of impervious material; and b) Maximising opportunities for capture and reuse.	Installation of rainwater tanks is recommended to ensure post-development flows do not exceed the pre-development flows.
PO8 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.	N/A - There are no in-stream ecosystems in close proximity to the subject site.
PO9 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.	Post development flows are not expected to be high such that erosion can occur.
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.	The proposed development is not expected to have adverse impact on flooding with the implementation of the proposed development's earthworks and stormwater management plan outlined above.
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.	The proposed development is not expected to have adverse impact on stormwater flows and velocities with the implementation of the proposed development's earthworks and stormwater management plan outlined above.

Table 5 - Healthy waters assessment criteria (contd)

Performance outcome	Assessment response
PO12 The drainage network has sufficient capacity to safely convey stormwater run-off from the site.	The proposed development is not expected to increase the allowable site run-off.
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.	Grass swales will be provided within the landscaping area adjacent to the proposed building at minimal grade and flat batters for ease of maintenance.

STORMWATER QUALITY MANAGEMENT PLAN

Water quality modelling has been undertaken of the post-development (mitigated) scenario using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) software (Version 6.4.0) to calculate the target reduction criteria as specified in the TCC City Plan, Section SC6.4.8.6 - *Permanent Water Quality Management*. A stormwater Treatment Train has been developed and modelled for the site to determine the effectiveness of the proposed system in achieving the relevant water quality objectives.

It is to be noted that only the new work area has been included in the water quality assessment. No alteration to the existing portion of the site on the southwestern side of the property (i.e. existing TAIHS facility) as this will remain and continue to operate, separate to the proposed development.

TCC City Plan, Section SC6.4.8.6 – *Permanent Water Quality Management*, states the minimum reductions in mean annual pollutant loads from unmitigated developments prescribed by the State Planning Policy 2017 (to be achieved by new developments) are:

- 80% total suspended solids (TSS)
- 65% total phosphorus (TP)
- 40% total nitrogen
- 90% gross pollutants > 5mm

The stormwater quality management plan uses split catchment land use pollutant export parameters based on the “MUSIC Modelling Guidelines, Version 3.0 - 2018” for the current proposed development.

The MUSIC guidelines are included with the MUSIC modelling software and were prepared by Water by Design MUSIC Modelling. Where these guidelines have recommended using locally derived catchment parameters, the following guides listed in order of precedence, have been used:

- Townsville City Council document, Townsville City Plan (Version 2024/01)
- Water by Design, “MUSIC Modelling Guidelines – Version 3.0 – 2018”
- Mackay Regional Council publication, “Mackay Regional Council Music Guidelines – Version 1.1 (September 2008)”
- Brisbane City Council publication, “Guidelines for Pollutant Export Modelling in Brisbane Version 7”

The rainfall parameters used in the design of the SQMP have been sourced from the Bureau of Meteorology (BOM) and are summarised in Table 6.

Table 6 – Rainfall parameters

Input parameter	Data used in modelling
Rainfall station	032040 TOWNSVILLE AERO
Time step	6 minutes
Modelling period	1970-1983
Mean annual rainfall (mm)	1031mm
Evapotranspiration	1143mm
Rainfall runoff parameters	As per Table A2.2 of MUSIC Modelling Guidelines Version 3.0
Pollutant export parameters	Commercial

The runoff parameters are detailed within Table 7.

Table 7 – Runoff parameters

Input parameter	Data used in modelling
Rainfall threshold (mm)	1
Soil storage capacity (mm)	100
Initial storage (% capacity)	30
Field capacity (mm)	100
Infiltration capacity coefficient (a)	200
Infiltration capacity coefficient (b)	1
Initial depth (mm)	10
Daily recharge rate (%)	4
Daily baseflow rate (%)	2
Daily deep seepage rate (%)	0.4

Reference Water by Design MUSIC Modelling Guidelines Version 3.0 – Table A2.2

The pollutant export parameters are detailed within Table 8.

Table 8 – Pollutant export parameters for split catchment

Surface type	Flow type	Total suspended solids (log mg/L)		Total phosphorous (log mg/L)		Total nitrogen (log mg/L)	
		Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
Commercial							
Roof	Base flow concentration	N/A	N/A	N/A	N/A	N/A	N/A
	Storm flow concentration	1.30	0.38	-0.89	0.34	0.37	0.34
Ground level	Base flow concentration	0.78	0.39	-0.60	0.50	0.32	0.30
	Storm flow concentration	2.16	0.38	-0.39	0.34	0.37	0.34

Reference Water by Design MUSIC Modelling Guidelines Version 3.0 – Table 3.9

The proposed land uses used in the MUSIC Modelling for the development are set out in Table 9.

Table 9 – Proposed land uses

Catchment description	Zoning/Surface type	Total Area *(ha)*	Percent impervious
New buildings roof	Roof (commercial)	0.225	100%
New landscaping	Ground level (commercial)	0.263	0%
New path and carpark	Ground level (commercial)	0.614	90% *(10% allowance for pervious area for small garden beds/landscaping)*

Pre-developed condition

A schematic of the pre-developed site is as per Figure 1. The area notated as “Landscaped 2” is located in the northern section of the lot and is assumed to be discharging onto Lonerganne Street and towards the existing culvert on Peel Street noted as “Outlet 2”.

The results of the MUSIC modelling for the proposed development area (i.e. Outlet 2) are shown in Figure 2.

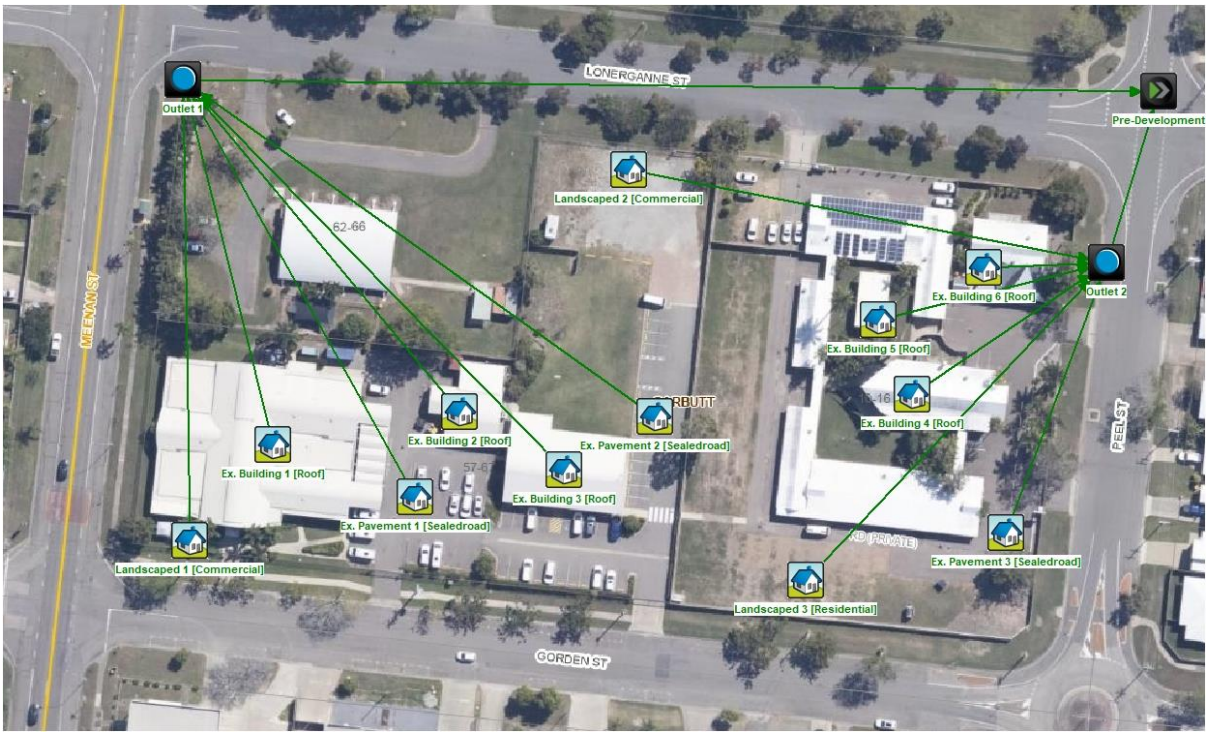

Figure 1 – MUSIC treatment train model of pre-developed site

	Sources	Residual Load	% Reduction
Flow (ML/yr)	6.3	6.3	0
Total Suspended Solids (kg/yr)	1380	1380	0
Total Phosphorus (kg/yr)	2.77	2.77	0
Total Nitrogen (kg/yr)	14.1	14.1	0
Gross Pollutants (kg/yr)	74.5	74.5	0

Figure 2 – Outlet 2 MUSIC modelling results of pre-developed site

Developed site without any stormwater treatment measures

A schematic of the post-developed site is as per Figure 3.

It is to be noted that the section of the new work within the Gordon Street lot will discharge into “Outlet 2”, and as such, the stormwater quality analysis results are obtained from “Outlet 2” node. Figure 4 shows the result of the MUSIC modelling with no stormwater treatment measures.

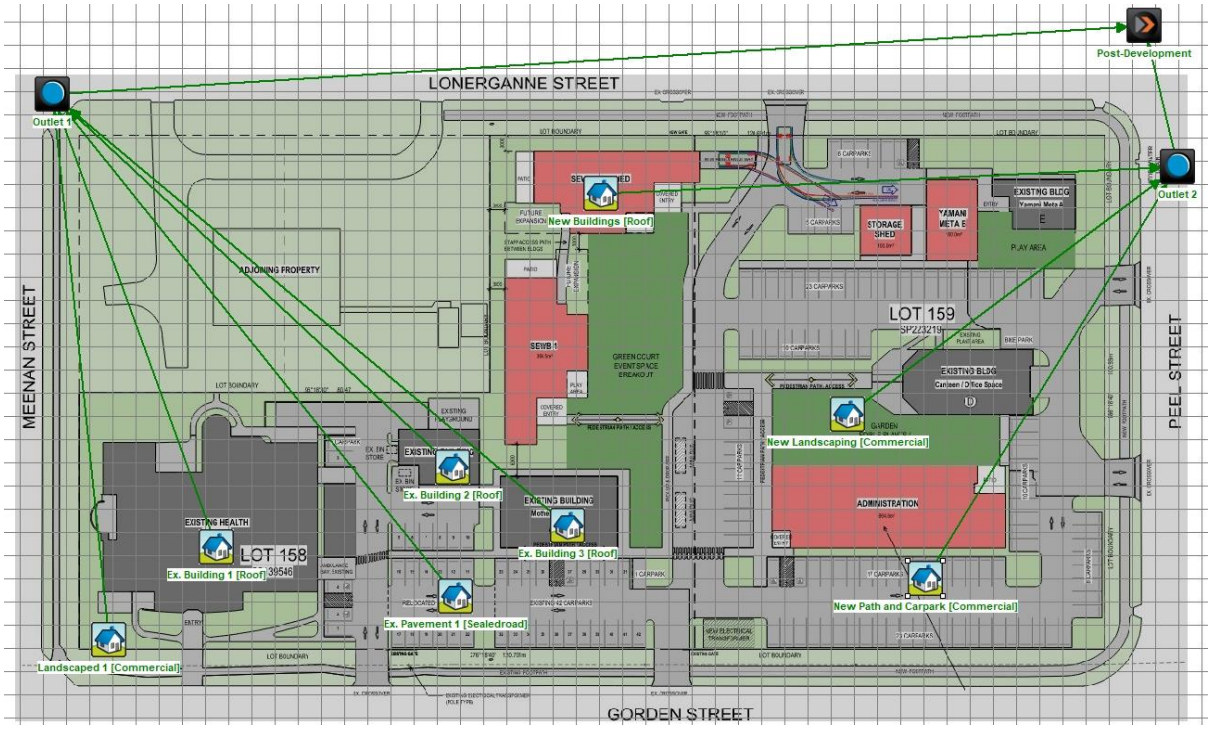

Figure 3 – MUSIC treatment train model of post-developed site with no treatment measures installed

	Sources	Residual Load	% Reduction
Flow (ML/yr)	8.73	8.73	0
Total Suspended Solids (kg/yr)	1450	1450	0
Total Phosphorus (kg/yr)	4.01	4.01	0
Total Nitrogen (kg/yr)	27.6	27.6	0
Gross Pollutants (kg/yr)	150	150	0

Figure 4 – Outlet 2 MUSIC modelling results of post-developed site with no treatment measures installed

Developed site with stormwater treatment measures

A schematic of the post-developed site with treatment measures is as per Figure 5. The schematic details the concept configuration of the proposed treatment train of water quality improvement measures that will be implemented. Generally, the proposed development will utilise stormwater quality measures including Atlan Stormsack (or approved equivalent) pit litter basket and Atlan FlowFilter (or approved equivalent).

Details of stormwater treatment devices and underground stormwater network will be provided in the detailed design phase of the development.

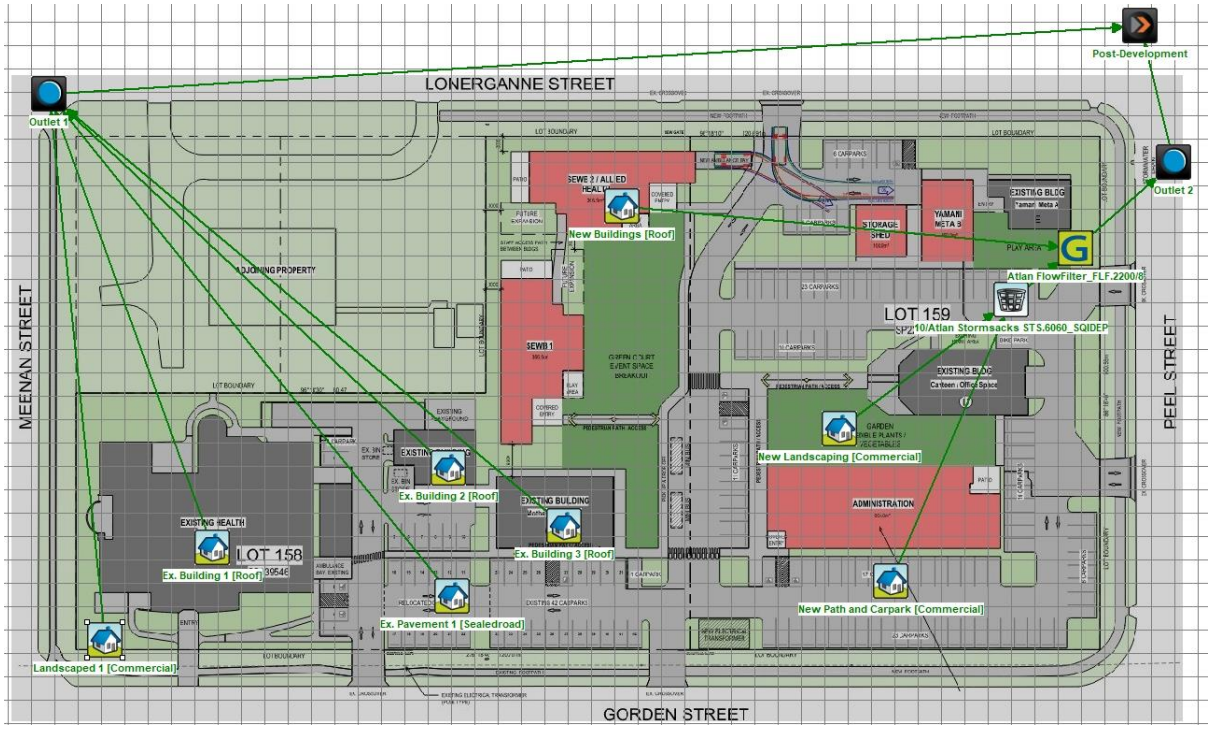

Figure 5 - MUSIC treatment train model of post-developed site with treatment measures installed

The results of the MUSIC modelling for the proposed development with our proposed treatment train at “Outlet 2” node are shown in Figure 6.

	Sources	Residual Load	% Reduction
Flow (ML/yr)	8.73	8.73	0
Total Suspended Solids (kg/yr)	1460	294	79.8
Total Phosphorus (kg/yr)	4.01	0.834	79.2
Total Nitrogen (kg/yr)	28	15.6	44.1
Gross Pollutants (kg/yr)	150	5.07	96.6

Figure 6 – Outlet 2 MUSIC modelling results of post-developed site with treatment measures installed – Using treatment devices as outlined in Table ES2

As shown in Figure 6, the proposed stormwater treatment measures generally comply with TCC City Plan, Section SC6.4.8.6. Therefore, the proposed development is not expected to have an adverse impact on the existing stormwater runoff quality.

Table 10 summarises our recommendation for stormwater treatment train solutions:

Table 10– Proposed treatment train solutions

Catchment	Device 1	Device 2	Outlet
Existing buildings, carpark, footpath and landscaped area	-	-	Outlet 1 node
New buildings roof	-	Atlan FlowFilter FLF 2200/8	Outlet 2 node
New footpath and carpark	Atlan Stormsack 600x600 (minimum 10 off)		
New landscaped			

In summary, if the proposed measures are implemented, the development site is not expected to cause any increase in flows and velocities to adjacent properties. It is not expected to have an adverse impact on the stormwater quality.

If we can be of further assistance, please advise Arry Charrismanagara of this office at your earliest convenience.

Yours faithfully

DE JOHNSTONE
MANAGER
BE (Hons), MIE Aust, CP Eng

TAIHS GORDON STREET PRECINCT MASTERPLANNING
TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
CORNER OF GORDEN & PEEL STREET, GARBUTT

SHEET LIST

SHEET No.	SHEET NAME	Project Issue DATE	Poject Revision	Current Revision	Revision Date	Current Revision Description
000	COVER PAGE	06.11.25	2	2	11.11.25	PRELIMINARY
100	SITE PLAN - EXISTING	06.11.25	2	2	11.11.25	PRELIMINARY
101	SITE PLAN - DEMOLITION	06.11.25	2	2	11.11.25	PRELIMINARY
102	SITE PLAN - PROPOSED	06.11.25	2	2	11.11.25	PRELIMINARY
200	FLOOR PLANS	06.11.25	2	2	11.11.25	PRELIMINARY
201	FLOOR PLANS	06.11.25	2	2	11.11.25	PRELIMINARY
300	ELEVATIONS	06.11.25	2	2	11.11.25	PRELIMINARY
301	ELEVATIONS	06.11.25	2	2	11.11.25	PRELIMINARY

GENERAL:

1. IF IN DOUBT, JUST ASK.
2. USE FIGURED DIMENSIONS, DO NOT SCALE FROM DRAWINGS.
3. CONFIRM ALL RELEVANT DIMENSIONS, LEVELS AND DETAILS ON SITE PRIOR TO COMMENCEMENT OF ALL WORK. CONFIRM SETBACKS TO ALL ALIGNMENTS.
4. THESE ARCHITECTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ENGINEERING AND OTHER CONSULTANT"S DRAWINGS AND SPECIFICATIONS. ANY DISCREPANCIES SHALL BE REFERRED TO THE BUILDING DESIGNERFOR DISCUSSION BEFORE PROCEEDING WITH THE WORK.
5. DESIGN AND CONSTRUCTION TO COMPLY WITH CURRENT STANDARD BUILDING BY-LAWS, BUILDING ACT, BUILDING AMENDMENT ACT, BUILDING AND OTHER LEGISLATION AMENDMENT ACT, QUUENSLAND DDEVELOPMENT CODE, BUILDING CONDE OF AUSTRALIA, CURRENT AUSTRALIAN STANDARDS, STATUTORY REQUIREMENTS, ORDINACES, LOCAL GOVERNMENT REQUIREMENTS, RELEVANT BUILDING AUTHORITIES AND ALL CONTRACT DOCUMENTATION.
6. CARRY OUT ALL WORK IN A SAFE MANNER IN ACCORDANCE WITH APPLICABLE STATUTORY REGULATIONS, BY-LAWS OR RULES. COMPLY WITH RELEVANT STATE OCCUPATIONAL HEALTH AND SAFETY ACTS INCLUDING ASSOCIATED REGULATIONS AND CODES OF PRACTISE. CONTRACTOR IS RESPONSIBLE FOR OCCUPATIONAL HEALTH AND SAFETY OF SITE PERSONNEL AND GENERAL PUBLIC IN ACCRODANCE WITH LEGISLATIVE REQUIREMENTS, INDUSTRIAL AGREEMENTS AND ACCEPTED INDUSTRY PRACTISE.
7. TIMBER CONSTRUCTION TO COMPLY WITH AS1720. DOMESTIC TIMBER CONSTRUCTION IN NON-CYCLONIC LOCATIONS SHALL BE IN ACCORDANCE WITH AS1684.
8. ALL BRICKWORK AND BLOCKWORK SHALL BE IN ACCORDANCE WITH AS3700.
9. ALL PROPRIETARY PRODUCTS AND SYSTEMS TO BE INSTALLED TO MANUFACTURER'S SPECIFICATION AND INSTRUCTIONS.
10. GARAGE DOORS TO COMPLY WITH THE ABCB HOUSING PROVISION PART 2.2. - GARAGE DOORS AND OTHER LARGE ACCESS DOORS IN OPENINGS NOT MORE THAN 3M IN HEIGHT IN EXTERNAL WALLS OF BUILDINGS DETERMINED AS BEING LOCATED IN WIND REGION C OR D IN ACCORDANCE WITH FIGURE 2.2.3 : AS/NZS 4505.
11. WHEN BUILDING IN A CORROSIVE ENVIROMENT, CORROSION PROTECTION IS TO COMPLY WITH SECTION 6.3.9 OF THE ABCB HOUSING PROVIONS
12. THESE DRAWINGS ARE THE COPYRIGHT OF THE DESIGN HOUSE NQ AND MAY NOT BE USED, RETAINED OR REPRODUCED WITHOUT WRITTEN AUTHORITY.
13. THESE DRAWINGS ARE FOR THE PURPOSE OF GAINING A BUILDING APPROVAL ONLY.

CLASS 1 & 2 BUILDINGS OR ASSESSABLE AND SELF-ASSESSABLE RENOVATIONS

LIGHTING - ENERGY EFFICIENT LIGHTING - WHICH IS A GLOBE WITH A MINIMUM OUTPUT OF 30 LUMENS/WATT INSTALLED TO A MINIMUM OF 80% OF THE TOTAL FIXED INTERNAL LIGHTING. EXCLUDING LAMPS RADIATING HEAT IN BATHROOMS.

NEW AND REPLACEMENT AIR-CONDITIONING TO HAVE ENERGY EFFICIENCY RATING TO MINIMUM 2.9

IN AREAS SERVICED BY A WATER SERVICE PROVIDER:-

* ***SHOWER ROSES IN A AREA WITH A RETICULATED WATER SERVICE MUST BE MIN 3 STAR WELS RATED.***
* ***ALL TOILET CISTERNS MUST HAVE A DUAL FLUSH FUNCTION AND HAVE A MIN. OF 4 STAR WELS RATING WHICH MUST BE COMPATABLE WITH THE SIZE OF THE TOILET BOWL.***
* ***ALL TAPS SERVING LAUNDRY TUBS, KITCHEN SINKS AND BATHROOM BASINS MUST HAVE A 3 STARWELS RATING.***

(WELS - 'WATER EFFICIENCY LABELLING AND STANDARDS')
(QDC - QUEENSLAND DEVEOPEMENT CODE)
(MP - MANDATORY PART)

SUSTAINABLE BUILDING REQUIREMENTS @ 1 MARCH 2009 - CLASS 1 BUILDINGS

NEW WORK - HOT WATER SYSTEMS MUST BE SUPPLIED BY A:-
- SOLAR HOT WATER SYSTEM, OR HEAT PUMP HOT WATER SYSTEM OR GAS HOT WATER SYSTEM.

TANKS IF REQUIRED BY LOCAL AUTHORITY:
- 5000LTR FOR DETACHED CLASS 1, 3000LTR FOR OTHER THAN CLASS 1 DETACHED AS PER QDC MP 4.2 WATER SAVINGS TARGETS:-
- TO RECIEVE A MINIMUM ROOF AREA AT LEAST 100SQM OR ONE HALF OF THE TOTAL ROOF AREA WHICHEVER IS THE LESSER.
- BE CONNECTED TO TOILET CISTERNS, WASHING MACHINE COLD WATER TAPS (OTHER THAN GREY WATER CONNS.) AND EXTERNAL USE TAPS, REFER QDC MP 4.2 FOR VARIATIONS. PLUMBER TO REFER TO QDC MP 4.2 FOR COMPLETE TANKREQUIREMENTS

NOTES:
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2	11.11.25	PRELIMINARY
1	07.11.25	PRELIMINARY

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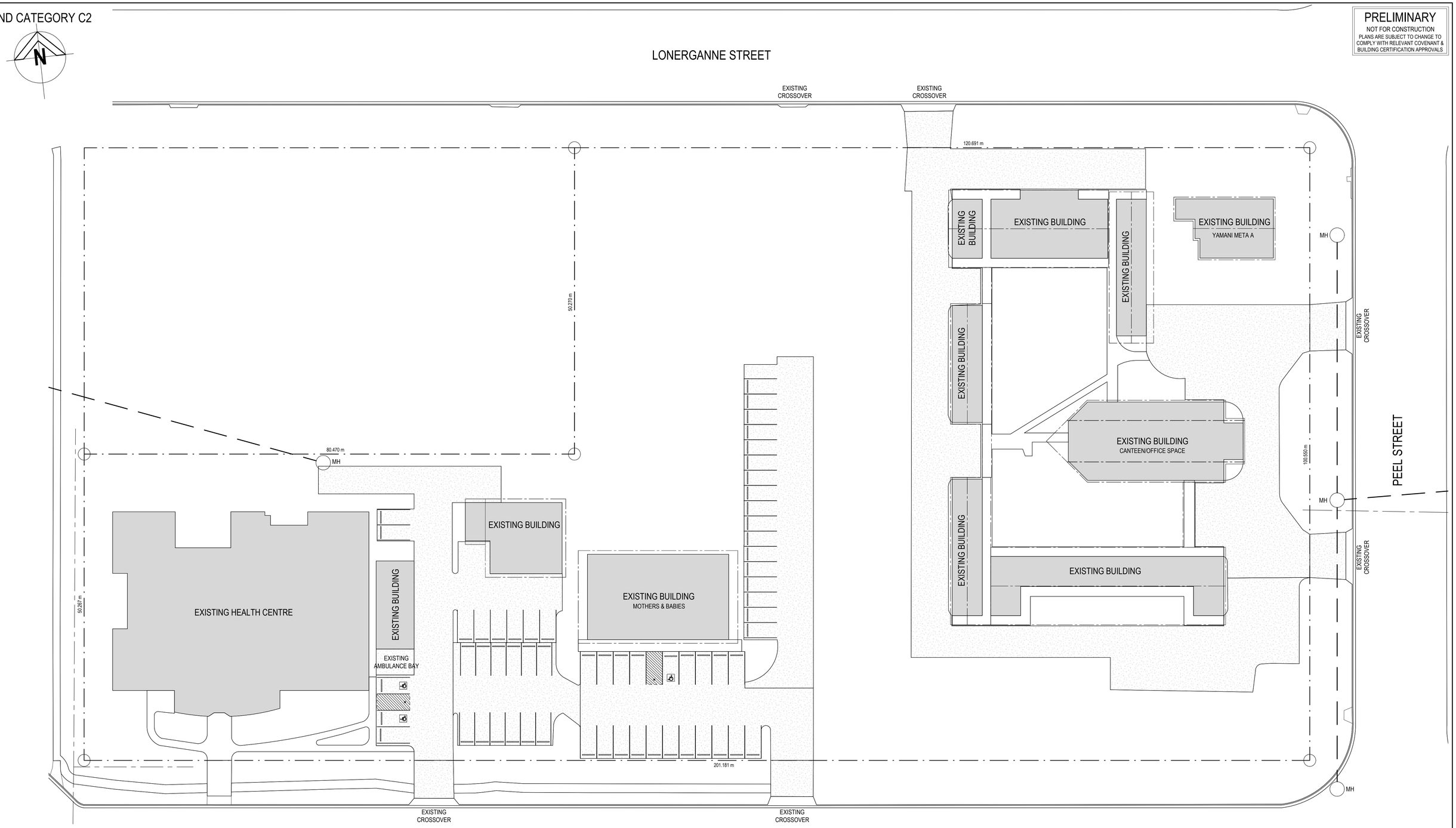
The Design House NQ

Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING
Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: COVER PAGE
Date: 06.11.25 Drawn:
Scale: 1 : 1 Designed: N.H
Job No.: 2025-329-C
Drawing No.: DD 000
Rev.: 2

WIND CATEGORY C2

PRELIMINARY
NOT FOR CONSTRUCTION
PLANS ARE SUBJECT TO CHANGE TO COMPLY WITH RELEVANT COVENANT & BUILDING CERTIFICATION APPROVALS



1 SITE PLAN - EXISTING
1 : 300

REAL PROPERTY DESCRIPTION
LOT 158 ON SP 139546 & LOT 159 ON SP223219
TOTAL AREA OF LAND: 16180m²
LOCAL GOVERNMENT: TOWNSVILLE CITY COUNCIL

NOTES:
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Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: SITE PLAN - EXISTING
Date: 06.11.25 Drawn: D.A.
Scale: As indicated Designed: N.H.
Job No.: 2025-329-C Drawing No.: WD 100 Rev.: 2

WIND CATEGORY C2

PRELIMINARY
NOT FOR CONSTRUCTION
PLANS ARE SUBJECT TO CHANGE TO COMPLY WITH RELEVANT COVENANT & BUILDING CERTIFICATION APPROVALS

LONERGANNE STREET

EXISTING CROSSOVER

EXISTING CROSSOVER

120.691 m

50.270 m

80.470 m

MH

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING
YAMANI META A

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING
CANTEEN/OFFICE SPACE

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING
MOTHERS & BABIES

EXISTING HEALTH CENTRE

EXISTING BUILDING

EXISTING AMBULANCE BAY

50.267 m

201.181 m

MH

MH

EXISTING CROSSOVER

EXISTING CROSSOVER

EXISTING CROSSOVER

EXISTING CROSSOVER

100.550 m

PEEL STREET

GORDEN STREET

1 SITE PLAN - DEMOLITION
1 : 300

REAL PROPERTY DESCRIPTION
LOT 158 ON SP 139546 & LOT 159 ON SP223219
TOTAL AREA OF LAND: 16180m²
LOCAL GOVERNMENT: TOWNSVILLE CITY COUNCIL

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Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING
Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: SITE PLAN - DEMOLITION
Date: 06.11.25 Drawn: D.A.
Scale: As indicated Designed: N.H.
Job No.: 2025-329-C Drawing No.: WD 101 Rev.: 2

WIND CATEGORY C2

CAR PARK SCHEDULE	REQUIRED	PROVIDED
EXISTING CLINICAL BUILDINGS (from previous approval)	**61**	**61**
EX. STAFF CANTEEN / OFFICE BUILDING (1 per 30 of GFA, GFA = 311.5m²)	**11**	**11**
NEW ADMINISTRATION BUILDING (1 per 30 of GFA, GFA = 655.4m²)	**22**	**24**
NEW SEWB HEALTH CARE SERVICES BUILDING 01 (1 per 20 of GFA, GFA = 331.8m², or 4 per medical practitioner, whichever is the greater + 1 AMBULANCE BAY **TBC**)	**17** (current) **22** (future extension)	**22**
NEW SEWB HEALTH CARE SERVICES BUILDING 02 (1 per 20 of GFA. GFA = 331.8m² or 4 per medical practitioner, whichever is the greater + 1 AMBULANCE BAY **TBC**)	**17** (current) **22** (future extension)	**22**
EXISTING AMBULANCE BAYS (existing bay to existing clinical building to remain, existing building contains MD's & Triage)	**1**	**1**
NEW AMBULANCE BAYS (confirm requirement dependant on type of practitioners servicing new SEWB buildings)	**1**	**1**
COMMUNITY CARE CENTRE (YOUTH BUILDINGS) EXISTING BUILDING YAMANI META A (1 per 20 of GFA, GFA = 134.3m²)	**7**	**7**
NEW BUILDING YAMANI META B (1 per 20 of GFA, GFA = 155.3m²)	**8**	**9**
TOTAL = (excluding ambulance bays)	**143** (current) **153** (future extension)	**156**

NOTE: NEW SEWB BUILDINGS REQUIREMENT OF 4 CARPARKS PER MEDICAL PRACTITIONER WOULD EQUAL 40 CARPARKS (FOR EACH BUILDING) REQUIRED. TRAFFIC ENGINEERING REPORT RECOMMENDED TO JUSTIFY. TAIHS SERVICES PROVIDE TRANSPORT FOR PATIENTS (VIA PICK UP & DROP OFF ZONE) RESULTING IN LESS ONSITE CARPARKS REQUIRED.

AREA SCHEDULE	
TOTAL AREA	16180m2
EXISTING DRIVEWAY	2036.9m2
NEW DRIVEWAY	3756.4m2
EXISTING PATHWAYS	180.2m2
NEW PATHWAYS	738.0m2
EXISTING BUILDINGS	2257.8m2
NEW BUILDINGS	1695.9m2
COMMUNITY AREAS	1500.5m2
SERVICES	76.6m2
LANDSCAPING	3937.7m2

PRELIMINARY
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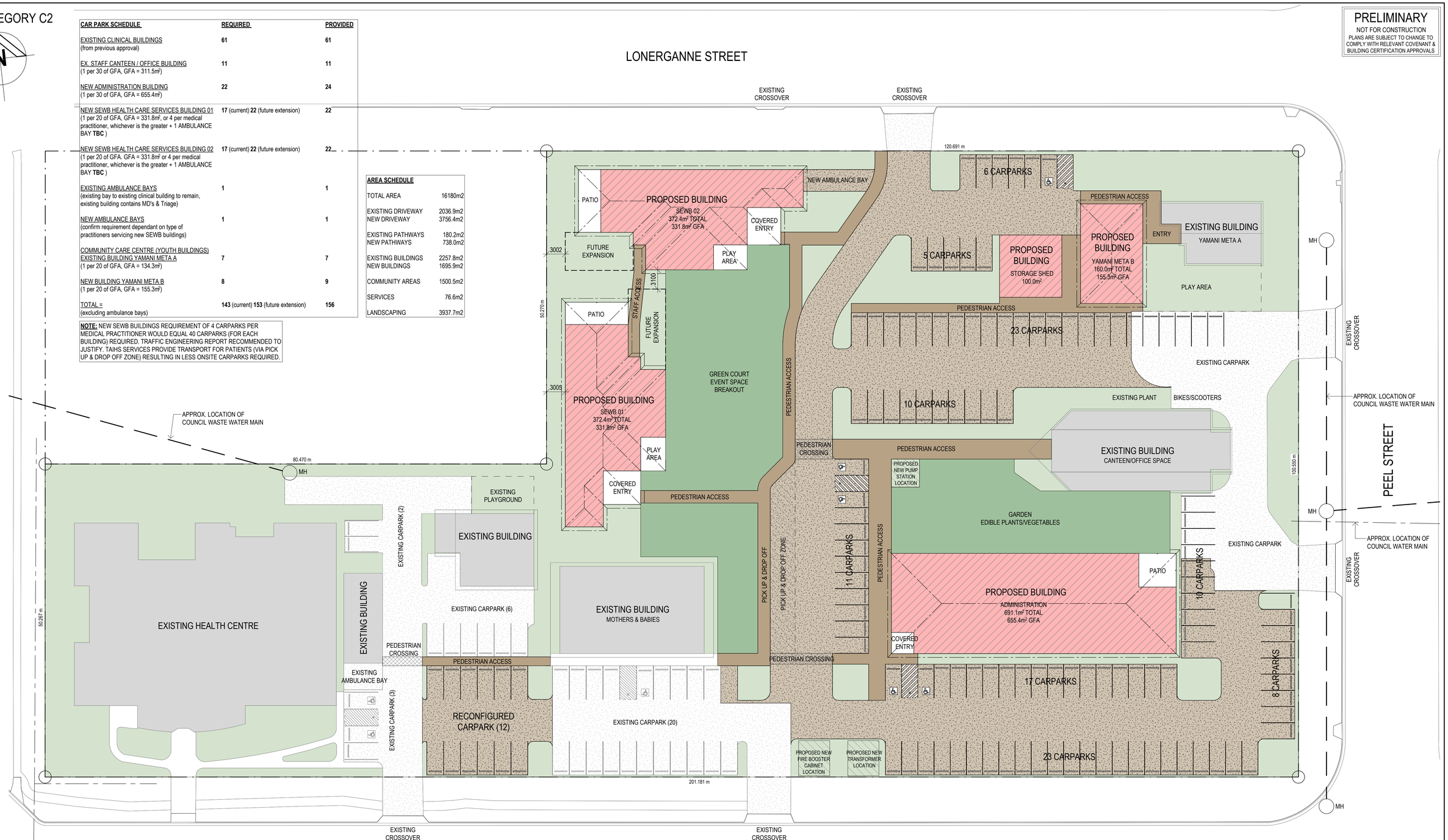

1 SITE PLAN - PROPOSED
1 : 300

REAL PROPERTY DESCRIPTION
LOT 158 ON SP 139546 & LOT 159 ON SP223219
TOTAL AREA OF LAND: 16180m²
LOCAL GOVERNMENT: TOWNSVILLE CITY COUNCIL

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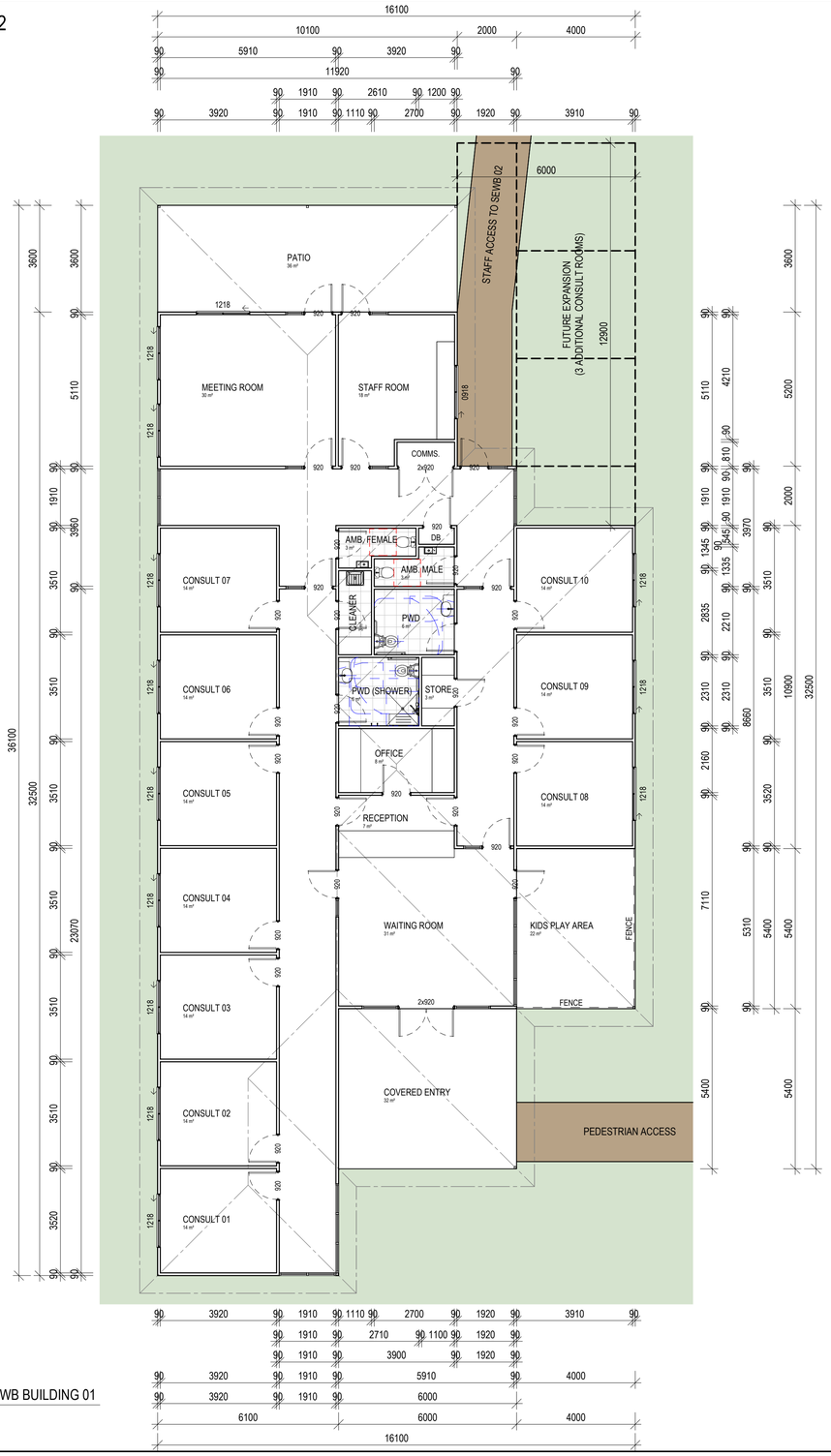
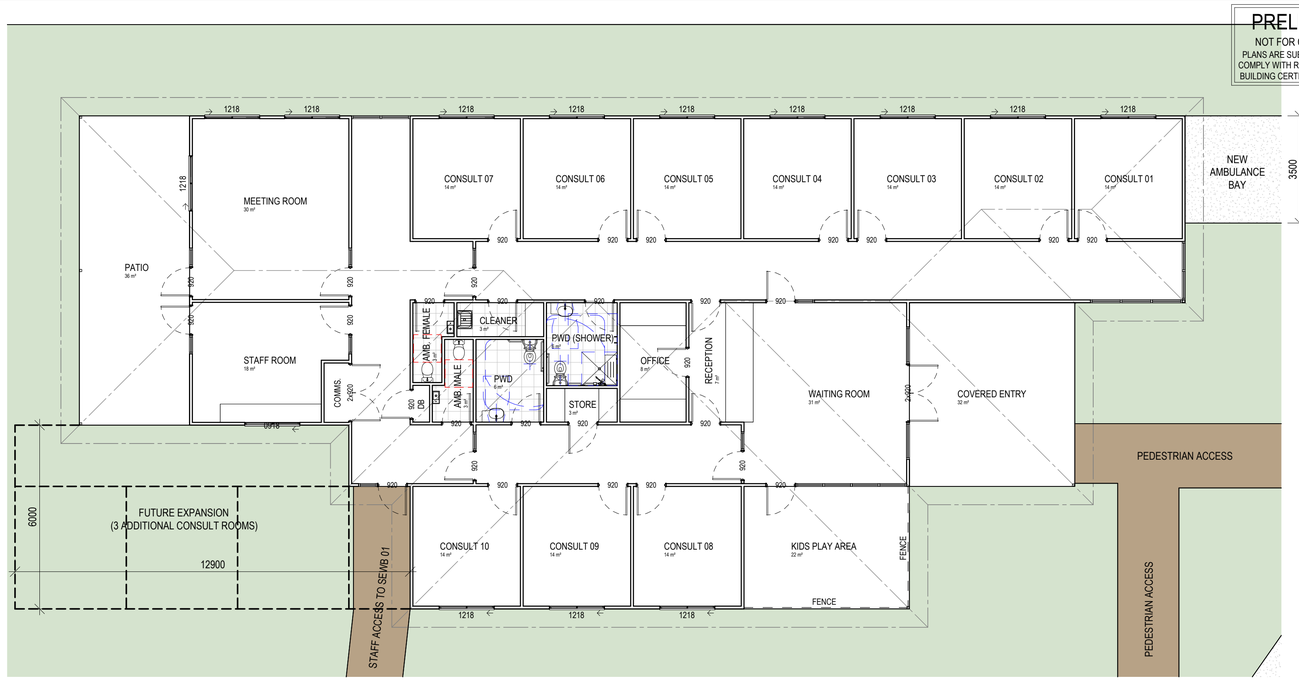
Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING
Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: SITE PLAN - PROPOSED
Date: 06.11.25 Drawn: D.A.
Scale: As indicated Designed: N.H.
Job No.: 2025-329-C Drawing No.: WD 102 Rev.: 2

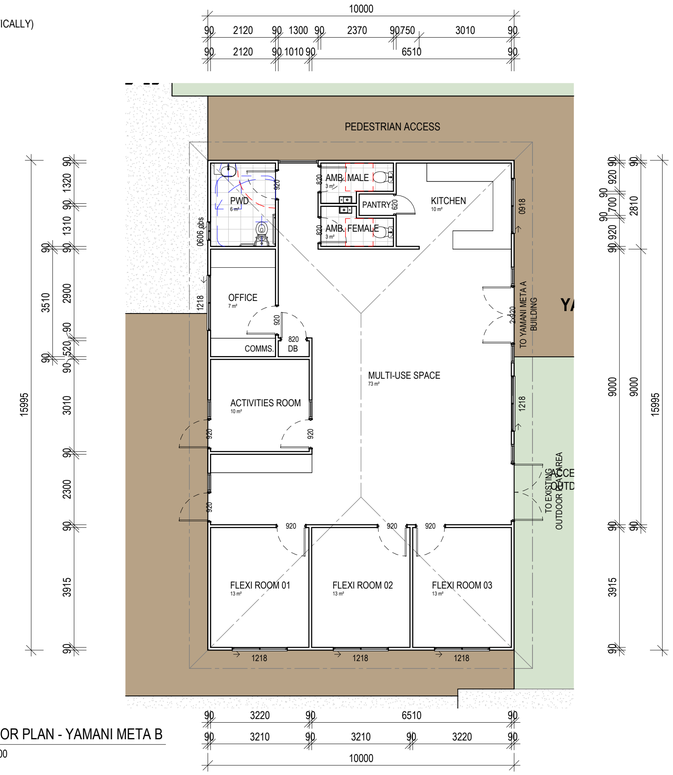
WIND CATEGORY C2



1 FLOOR PLAN - SEWB BUILDING 01
1 : 100



2 FLOOR PLAN - SEWB BUILDING 02
1 : 100
(SIMILAR TO SEWB BUILDING 01, ROTATED & MIRRORED VERTICALLY)



3 FLOOR PLAN - YAMANI META B
1 : 100

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Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING

Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)

Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: FLOOR PLANS

Date: 06.11.25 Drawn: D.A.

Scale: 1 : 100 Designed: N.H.

Job No.:	Drawing No.:		Rev.
2025-329-C	WD	200	2

WIND CATEGORY C2

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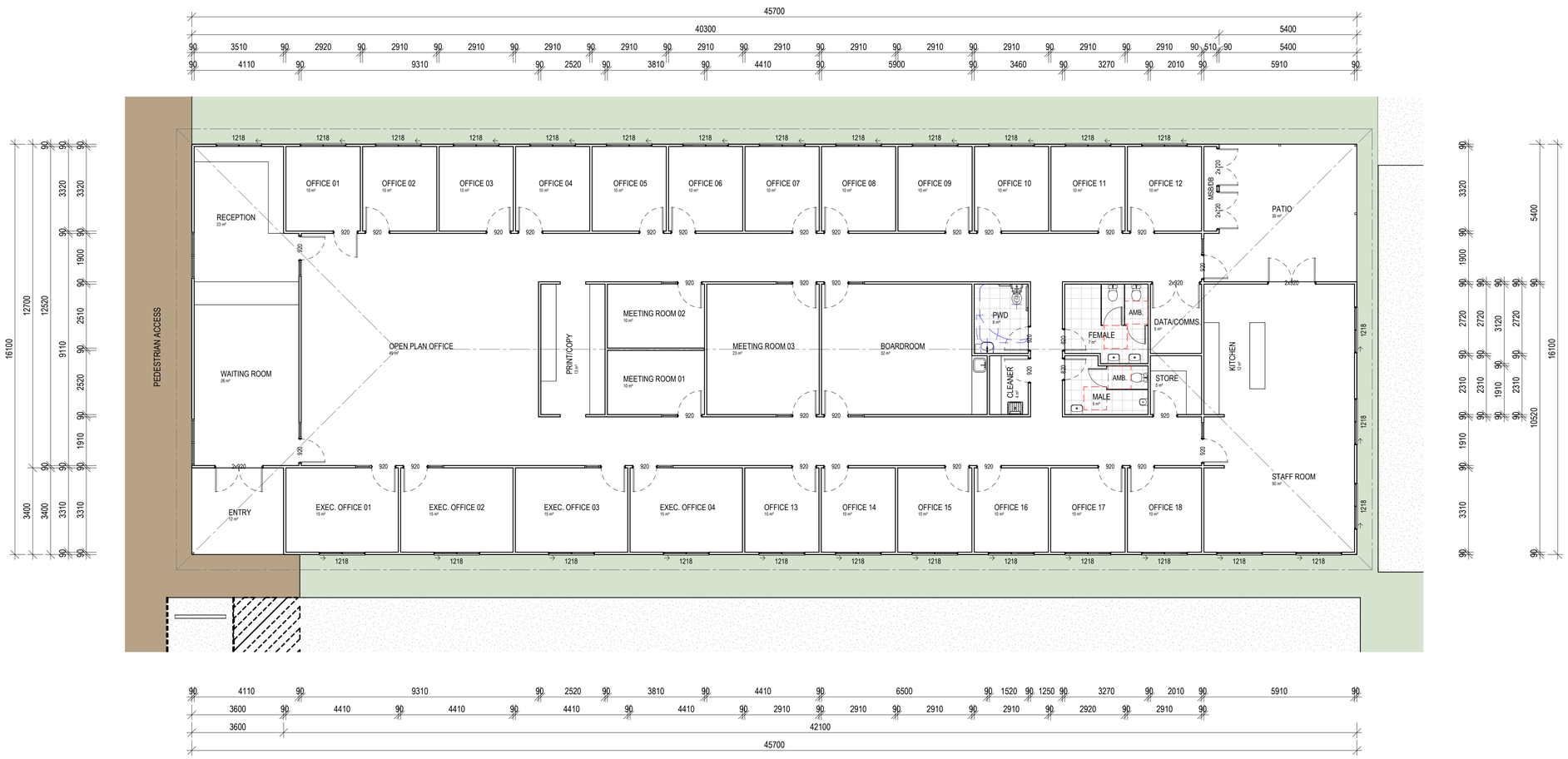

1 FLOOR PLAN - ADMINISTRATION BUILDING
1 : 100

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Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING
Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: FLOOR PLANS
Date: 06.11.25 Drawn: D.A.
Scale: 1 : 100 Designed: N.H.
Job No.: 2025-329-C Drawing No.: WD 201 Rev.: 2

PRELIMINARY
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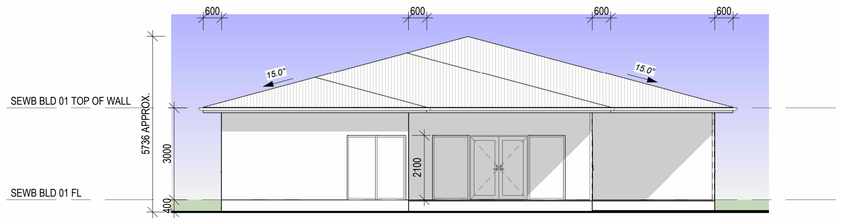
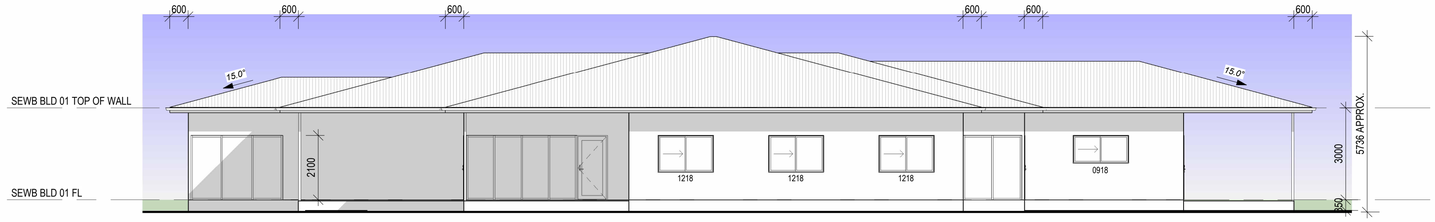
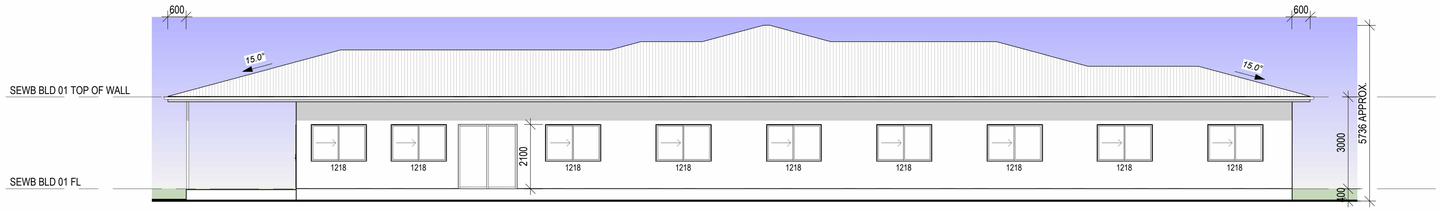


01 ELEVATION 01 - SEWB BUILDING 01
1 : 100



02 ELEVATION 02 - SEWB BUILDING 01
1 : 100

03 ELEVATION 03 - SEWB BUILDING 01
1 : 100



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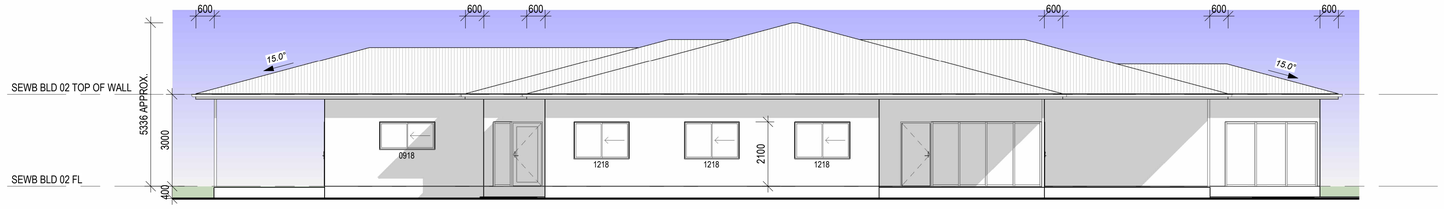

05 ELEVATION 05 - SEWB BUILDING 02
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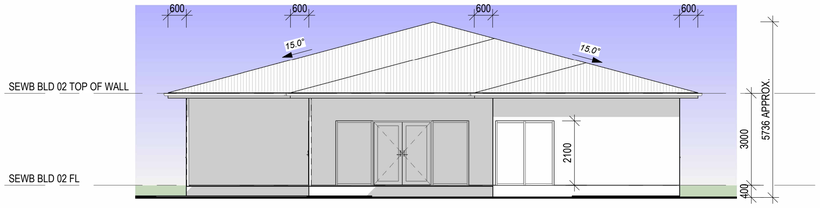

06 ELEVATION 06 - SEWB BUILDING 02
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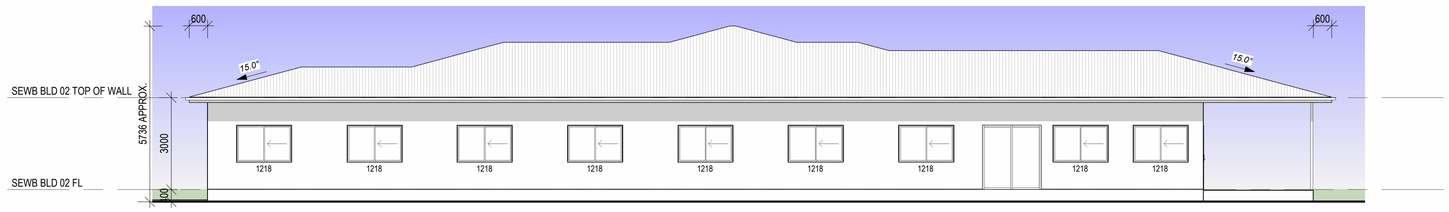

07 ELEVATION 07 - SEWB BUILDING 02
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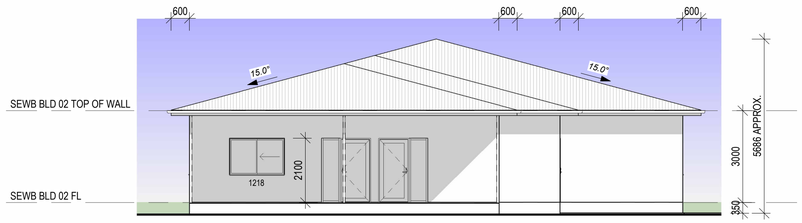

08 ELEVATION 08 - SEWB BUILDING 02
1 : 100

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Project: TAIHS GORDON STREET PRECINCT MASTERPLANNING
Client: TAIHS (ABORIGINAL & ISLANDER HEALTH SERVICE)
Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: ELEVATIONS
Date: 06.11.25 Drawn: D.A.
Scale: 1 : 100 Designed: N.H.
Job No.: 2025-329-C Drawing No.: WD 300 Rev.: 2

PRELIMINARY
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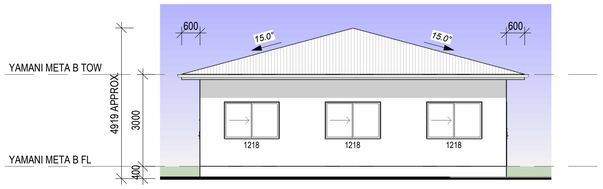
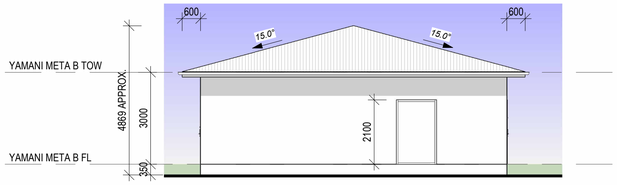


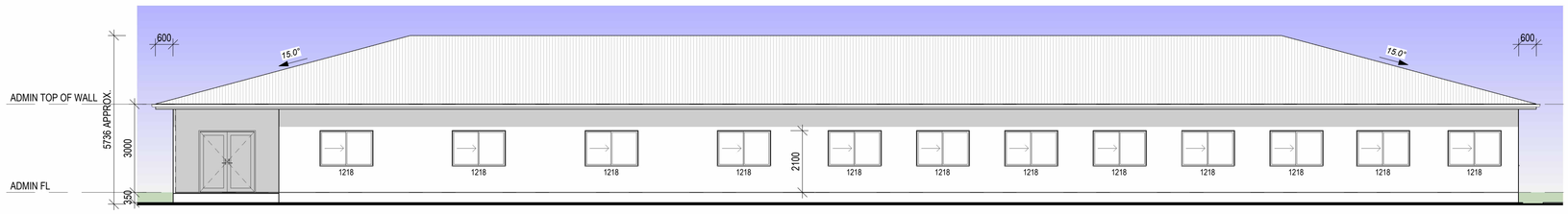
09 ELEVATION 09 - YAMANI META B
1 : 100

10 ELEVATION 10 - YAMANI META B
1 : 100



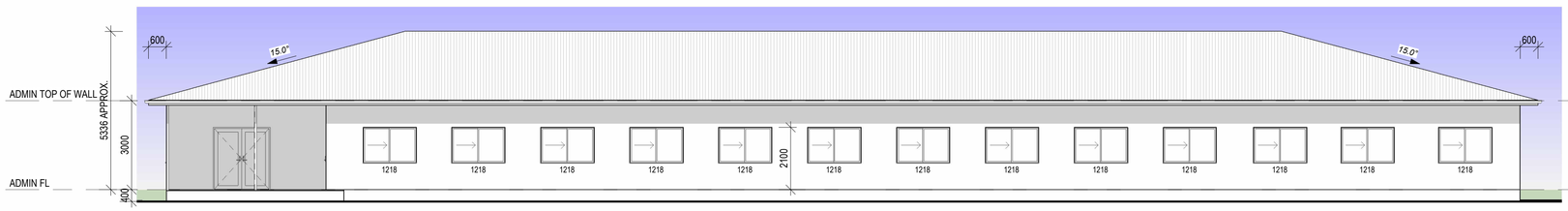
11 ELEVATION 11 - YAMANI META B
1 : 100

12 ELEVATION 12 - YAMANI META B
1 : 100

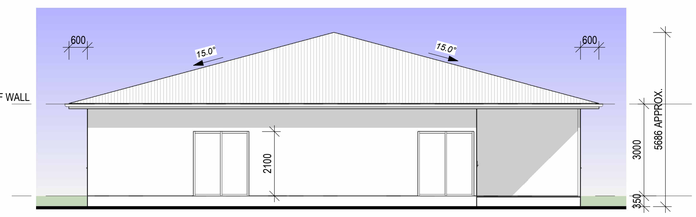


13 ELEVATION 13 - ADMIN. BUILDING
1 : 100

14 ELEVATION 14 - ADMIN. BUILDING
1 : 100



15 ELEVATION 15 - ADMIN. BUILDING
1 : 100



16 ELEVATION 16 - ADMIN. BUILDING
1 : 100

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Location: CORNER OF GORDEN & PEEL STREET, GARBUTT

TITLE: ELEVATIONS
Date: 06.11.25 Drawn: D.A.
Scale: 1 : 100 Designed: N.H.

Job No.:	Drawing No.:		Rev.
2025-329-C	WD	301	2

APPENDIX D
Conceptual Soil Erosion and Sediment Plan