



Our Ref: 25544-191-01
Your Ref: MCU26/0008

10 April 2026

Chief Executive Officer
Townsville City Council
PO Box 1268
Townsville QLD 4810

Attention: Development Assessment – Ms. Jayne Carter

Dear Jayne,

**RESPONSE TO INFORMATION REQUEST
DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE (MCU26/0008)
74 MAIN STREET, BURDELL (LOT 857 ON SP359106)**

Brazier Motti act on behalf of the applicant, Ingenia Communities, with respect to the abovementioned development proposal, and refer to the Information Request (IR) issued by Townsville City Council ('the Council') on the 9th March 2026. The information and supporting documentation herein represent the applicant's full response to the IR.

Supporting information

This information request response has addressed the two (2) request items and is supported by the following additional information:

- **Appendix A:** Updated HIA prepared by Engeny.
- **Appendix B:** Amended concept plans prepared by OEG Group; and
- **Appendix C:** Swept paths prepare Premise.

Request item 1 – Flood Impact Assessment

The applicant is requested to provide an amended Flood Impact Assessment report to address the following:

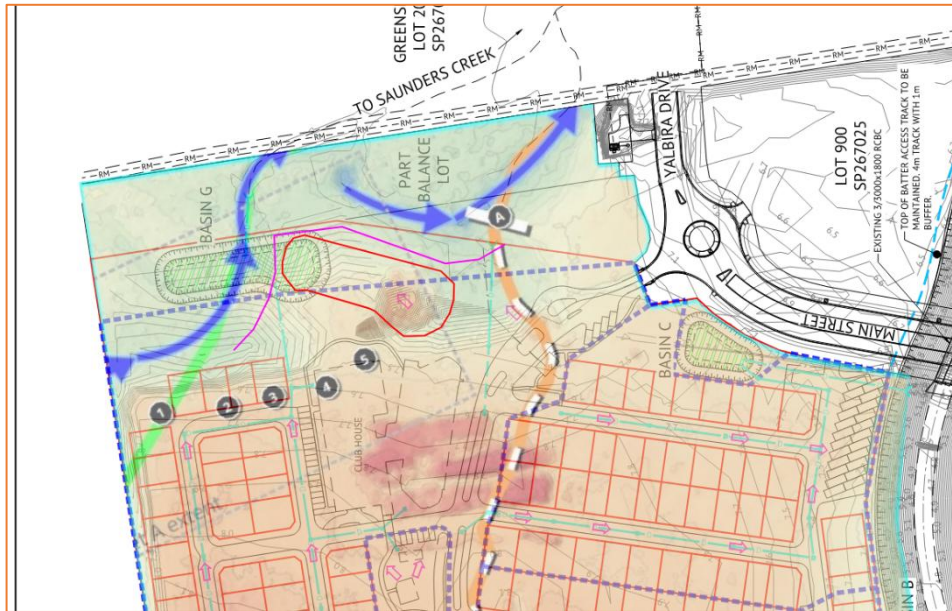
- *A 1% AEP climate change scenario is requested to be provided for the post-development scenario. The report to discuss any significant changes when compared with the 1% AEP post-development present-day scenario.*
- *Confirmation that bio-retention Basin G will be provided with suitable regional flood immunity and will not be subject to excessive inundation.*

Response to RFI Item 1

The first dot point has been addressed by way of an updated Hydraulic Impact Assessment (HIA). Please refer to **Appendix A** which contains the updated HIA prepared by Engeny.



With respect to the second dot point, it is noted that Bioretention Basin G will be relocated further east through the detailed design phase and is considered to have suitable separation clearance from regional flood flow paths. Additional details will be provided during the detailed design stage and submitted as part of the Operation Works Application for approval by Townsville City Council. See sketch below.



Request item 2 – Roads and Paths

The applicant is requested to provide amended and/or additional documentation to address the following:

- Confirmation that the entry road lane widths are sufficient. The road appears to narrow significantly at the site access.
- Vehicle swept paths to demonstrate how all vehicles anticipated to visit the development (passenger vehicles, towed caravans, refuse collection vehicles, delivery vehicles etc.) can safely access and manoeuvre within the site.
- Internal pedestrian pathway for residents to navigate the site. Pedestrians should not be directed to walk on the internal roads and mix with vehicle traffic.
- Confirmation that sufficient PWD parking spaces are provided for the clubhouse.
- Bicycle storage requested at the clubhouse.

Response to RFI Item 2

- The attached entrance swept path plan (**Appendix C**) demonstrates that the entry road lane widths are sufficient to accommodate the anticipated vehicle movements. At the site access, the road has been designed to tie into the existing road that forms the western leg of the Main Street / Yalbira Drive roundabout. At this connection point, the existing asphalt carriageway



width is approximately 5.6 m, and the proposed design matches this width to ensure a consistent tie-in with the existing infrastructure.

- The attached vehicle swept path plans demonstrate that the largest anticipated vehicles, including a passenger vehicle towing a caravan and a refuse collection vehicle, can safely manoeuvre within the site. The swept path assessment indicates that the current conceptual geometry at the four-way intersection is not sufficient to accommodate these vehicles without minor encroachment. Accordingly, during the detailed design phase the kerb return radii will be increased and the median noses reduced as required to ensure adequate turning movements for these vehicles.
- LLC communities are designed for limited, low-speed traffic and shared pedestrian/vehicular roads. As per other approved LLC sites, designated pedestrian pathways are not proposed.
- The concept plans have been updated to show PWD parking adjacent to the clubhouse- please refer to **Appendix B**.
- The concept plans have been updated to include bicycle storage, refer to **Appendix B**.

It is further noted that the concept plans in **Appendix B** have been updated to suit the Premise turning templates in **Appendix C**.

Proceeding

We trust the above response provides Council sufficient information to satisfactorily proceed with the assessment of the application. We welcome the opportunity to work through any queries Council may have in order to expedite the assessment. In the meantime, we will commence public notification.

Yours faithfully

ANNE ZAREH
Associate/Senior Planner
Brazier Motti Pty Ltd

APPENDIX A

Updated HIA prepared by Engeny

brazier motti





PREMISE AUSTRALIA PTY LTD

Ingenia Lifestyle Community

Hydraulic Impact Assessment





BNE04866_0005-REP-001-1

2 APRIL 2026

DISCLAIMER

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Rev	Date	Description	Author	Reviewer	Project Mgr.	Approver
0	23/01/2026	Client Issue	Simon Tang	Daniel Niven	Simon Tang	Daniel Niven
1	2/04/2026	Client Issue	Simon Tang	Daniel Niven	Simon Tang	Daniel Niven
Signatures:						

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1. INTRODUCTION

Engeny Australia Pty Ltd (Engeny) has been commissioned by Premise Australia Pty Ltd (Premise) to undertake a Hydraulic Impact Assessment (HIA) to support the proposed development of the Ingénia Lifestyle Community at North Shore, Townsville (herein referred to as the Site). The Site is located within the Townsville City Council (TCC) Local Government Area (LGA) and is situated within the Bohle River floodplain. Based on cadastral boundary mapping, the Site is formally described as Lot 2506 on SP333142, refer Figure 1.1. This report outlines the current flooding conditions at the Site and assesses the potential impacts associated with the proposed development.

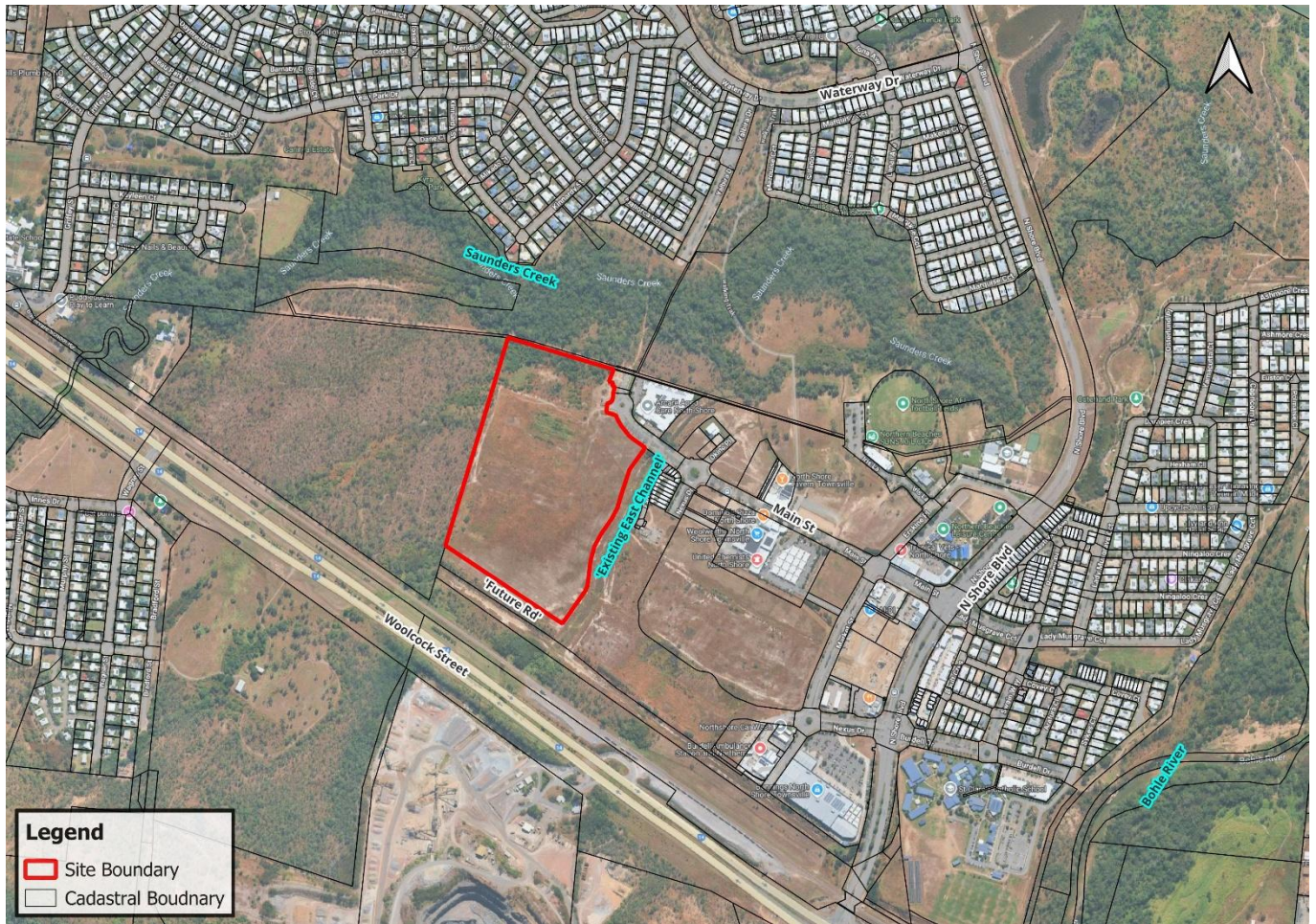


Figure 1.1: Site Locality

1.1 Project Scope

This HIA aims to quantify changes in flooding conditions resulting from the proposed development at Lot 2506 on SP333142 and to identify any mitigation measures required to ensure compliance with Townsville City Council (TCC) flood planning requirements. The scope of works for this assessment includes the following:

- Review the 2023 Bohle River Flood Study hydrologic and hydraulic models (Water Technology, 2023).
- Simulate the existing flooding conditions for the 50%, 10%, 1% AEP and 1% AEP Climate Change 2090 RCP 8.5 design storm events.
- Update the hydraulic model to represent the proposed developed conditions and simulate for the above design events.
- Assess potential Impacts created by the proposed development.
- Prepare a HIA report outlining methodology, results, and recommendations.

1.2 Data Sources and Inputs

In the preparation of this report, information was gathered from the following sources:

- Hydrologic and hydraulic models from the 2023 Bohle River Flood Study (Water Technology, 2023), obtained from TCC.
- Proposed site layout, supplied by the client.
- Aerial Imagery obtained from Nearmap (accessed October 2026).

1.3 Applicable Guidelines and References

The guidelines, standards and codes considered during the assessment were as follows:

- Townsville City Plan, including the Floodplain Management Overlay Code.
- Australian Rainfall and Runoff 2019 (ARR).

Reference documents relevant to this assessment are:

- Bohle River Flood Study Report (Water Technology, 2023).

1.4 Report Update

This report supersedes our previous revision dated 23/01/2026 (ref BNE04866_0005-REP-001) and provides additional sensitivity assessments for the 1% AEP with climate change to address Council's information request dated on 9th of March (ref MCU26/0008). These additional assessments are detailed in Section 3.2 and 3.3.4.

2. HYDRAULIC MODELLING METHODOLOGY

The 2023 Bohle River Flood Study TUFLOW hydraulic model was reviewed and adapted for use in this assessment. Hydraulic modelling was undertaken using this existing model as the baseline, with simulations prepared for both existing and developed case scenarios. Updates were applied to reflect the proposed Site conditions, and all scenarios were assessed for the 50% AEP, 10% AEP, 1% AEP and 1% AEP Climate Change design storm events.

2.1 Existing Case Scenario Model

The existing case scenario represents current catchment and floodplain conditions based on the unmodified 2023 Bohle River Flood Study TUFLOW model. No changes were made to the hydrologic inflows, topography, land use, or hydraulic structures for this scenario.

Model simulations were undertaken for the 50%, 10%, 1% AEP and 1% AEP Climate Change design storm events using the durations and temporal patterns adopted in the Bohle River Flood Study. A summary of the modelled durations and associated temporal patterns are provided in Table 2.1.

TABLE 2.1: CRITICAL STORMS MODELLED PER DESIGN EVENT (BOHLE RIVER FLOOD STUDY, 2023)

AEP	Durations	Temporal Pattern Bin
50%	30min TP6, 45min TP7, 60min TP6, 90min TP6, 120min TP7, 180min TP2, 360min TP8, 540min TP6, 1440min TP10	Intermediate (Point)
10%	30min TP6, 45min TP7, 60min TP6, 90min TP6, 120min TP7, 180min TP2, 360min TP8, 540min TP6, 1440min TP10	Intermediate (Point)
1%	30min TP6, 45min TP7, 90min TP1, 120min TP4, 180min TP7, 270min TP10, 360min TP4, 1080min TP1	Rare (Point)
1% CC (2090 RCP8.5%)	30min TP6, 45min TP7, 90min TP1, 120min TP4, 180min TP7, 270min TP10, 360min TP4, 1080min TP1	Rare (Point)

Following simulation in TUFLOW, flood results were post processed to determine the critical duration for each design event by identifying the maximum flood level observed at each location across all simulated storm durations. These critical durations were then adopted for the developed case scenario to reduce simulation time while maintaining a conservative assessment of flood impacts.

The adopted critical durations at the Site are summarised in Table 2.2, with corresponding critical duration maps for all tested events shown in Figure 2.1 to Figure 2.4.

TABLE 2.2: CRITICAL STORMS ADOPTED AT THE SITE

AEP	Durations	Temporal Pattern Bin
50%	30min TP6, 60min TP6, 90min TP6, 180min TP2, 540min TP6	Intermediate (Point)
10%	30min TP6, 45min TP7, 60min TP6, 90min TP6, 120min TP7, 360min TP8, 540min TP6	Intermediate (Point)
1%	90min TP1, 360min TP4	Rare (Point)
1% CC (2090 RCP8.5%)	90min TP1, 360min TP4	Rare (Point)

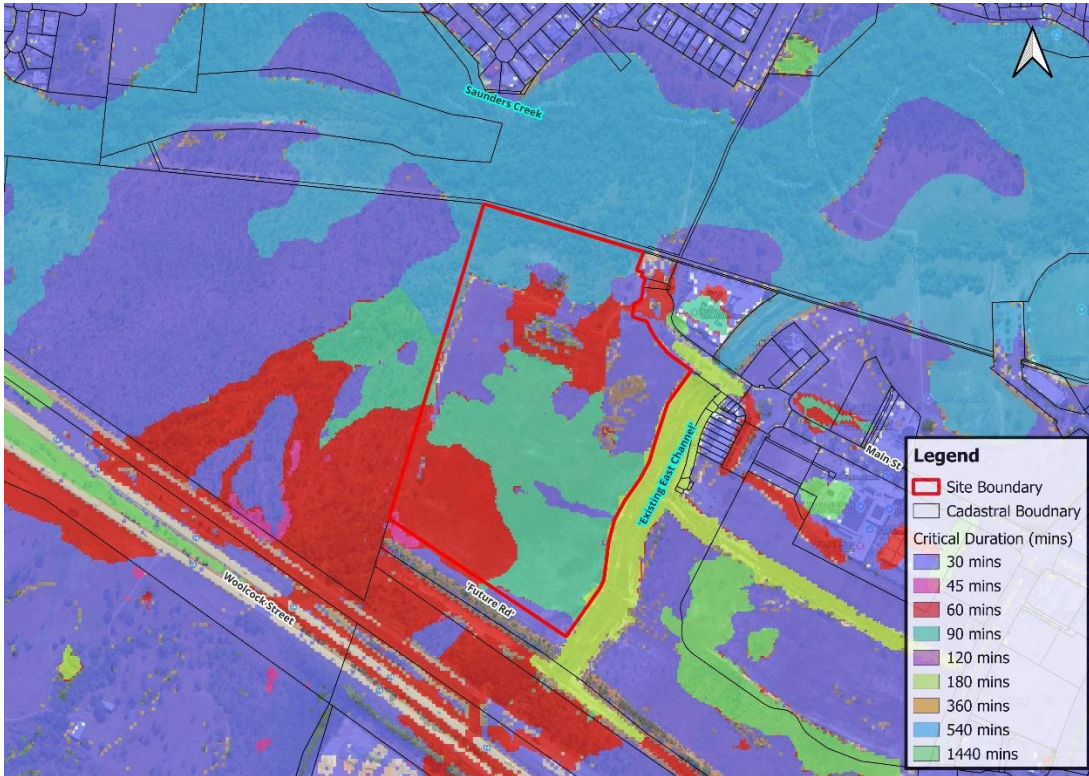


Figure 2.1: 50% AEP – Critical Duration at Site

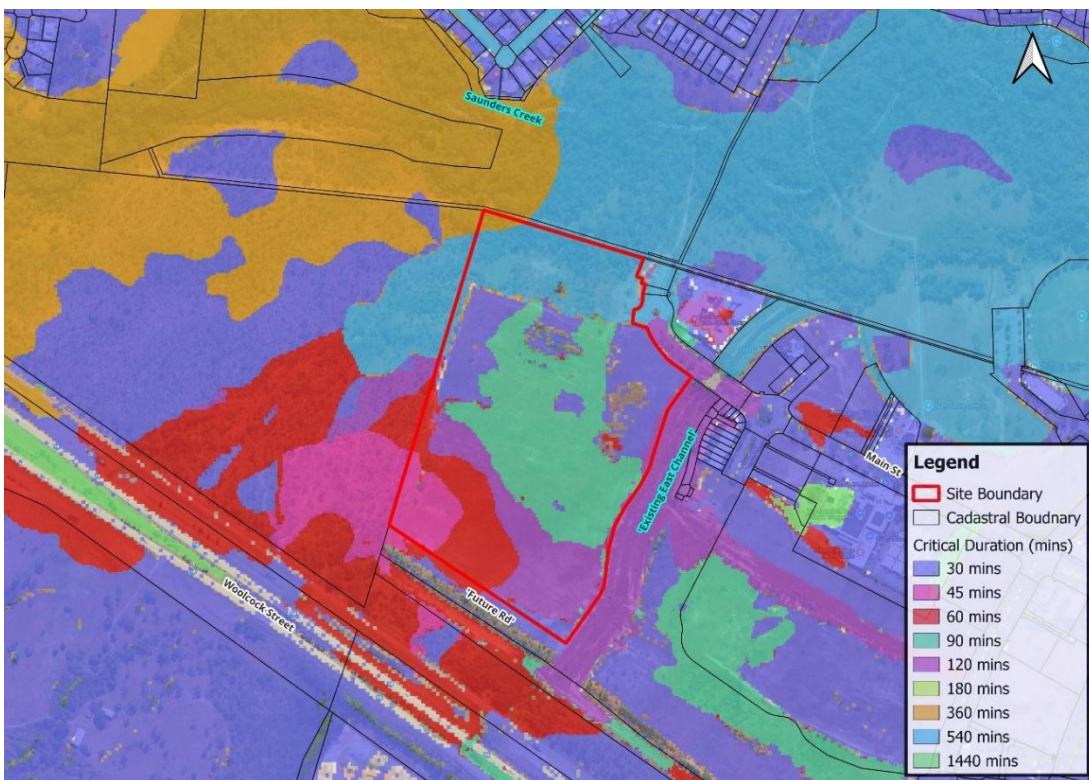


Figure 2.2: 10% AEP – Critical Duration at Site

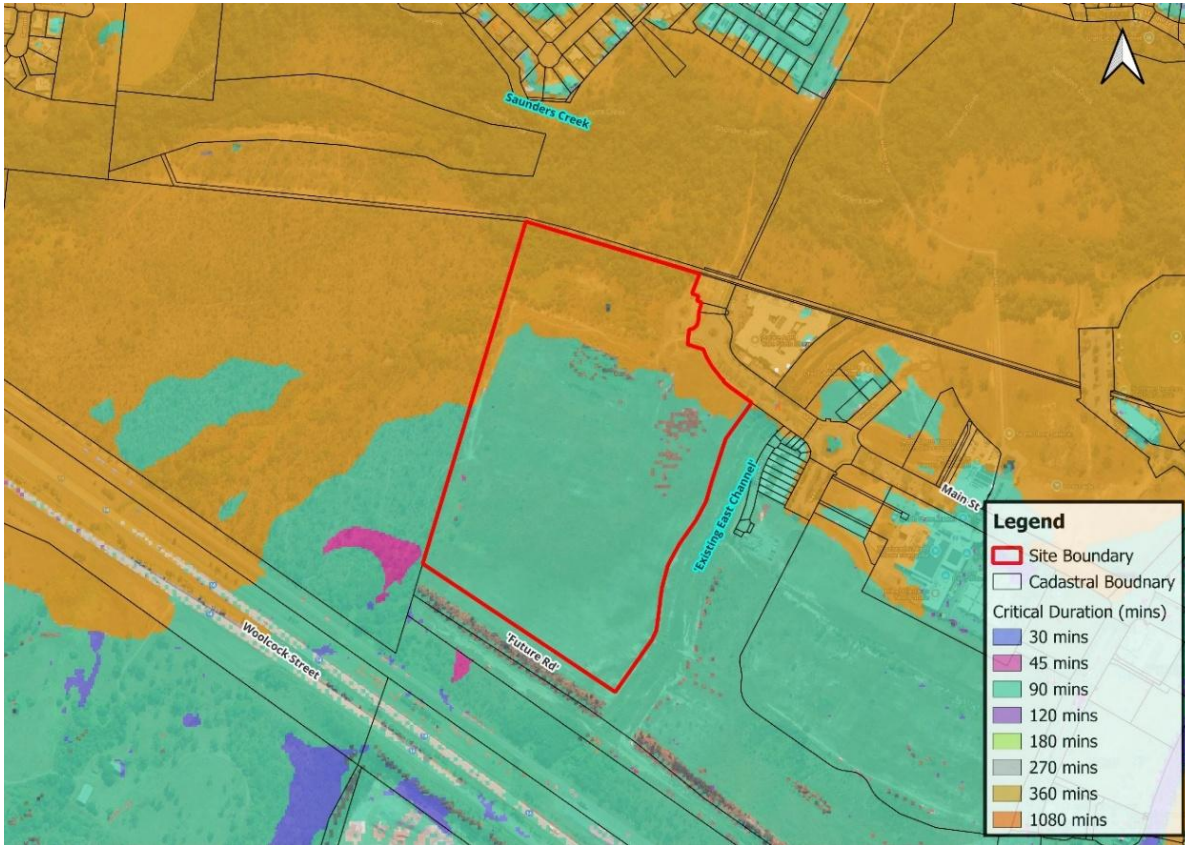


Figure 2.3: 1% AEP – Critical Duration at Site

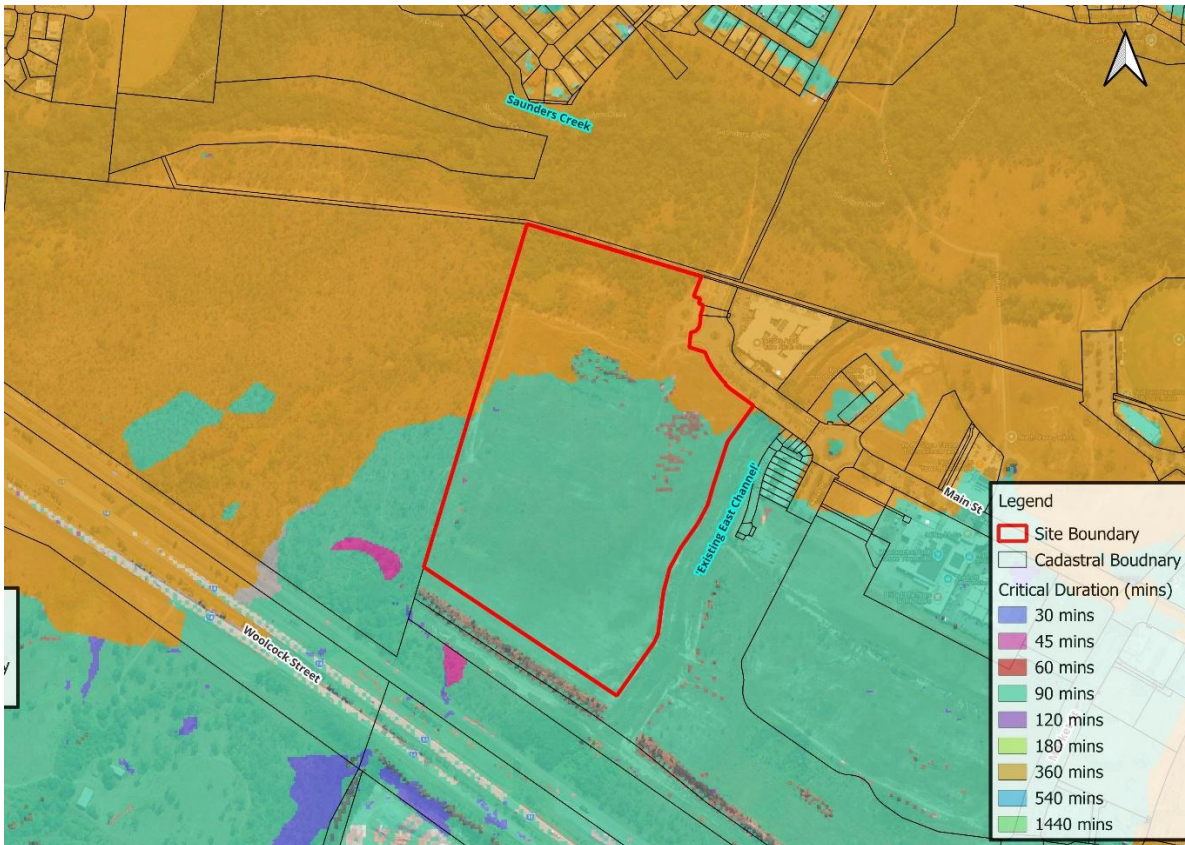


Figure 2.4: 1% AEP Climate Change – Critical Duration at Site

2.2 Developed Case Scenario Model

The developed case scenario was created by modifying the existing model to reflect the proposed development footprint and associated drainage features. The key updates implemented in the model are summarised below:

2.2.1 Site Filling

In the absence of a detailed design surface, the proposed fill was incorporated using TUFLOW's 2D z-shape (2d_zsh) layers to modify the existing topography. The developable area was raised to ensure all finished surface levels are located above the 1% AEP flood level from the existing case scenario, with an additional 300 mm freeboard allowance applied to meet flood immunity requirements. The extent of the raised area was defined based on the proposed lot plan supplied by the client. It is noted that the filled extent implemented in the model is slightly different from the plan layout at north west corner of the development shown in Appendix A. This discrepancy is addressed in the conclusion section.

The fill surface was graded to generally follow the existing topographic slope from south to northeast but was slightly adjusted to align with the indicative sub-catchment boundaries provided by the client. Figure 2.4 shows the proposed catchment boundaries for the Site and Figure 2.8 presents the modelled topography, with Figure 2.9 identifying the areas of fill.

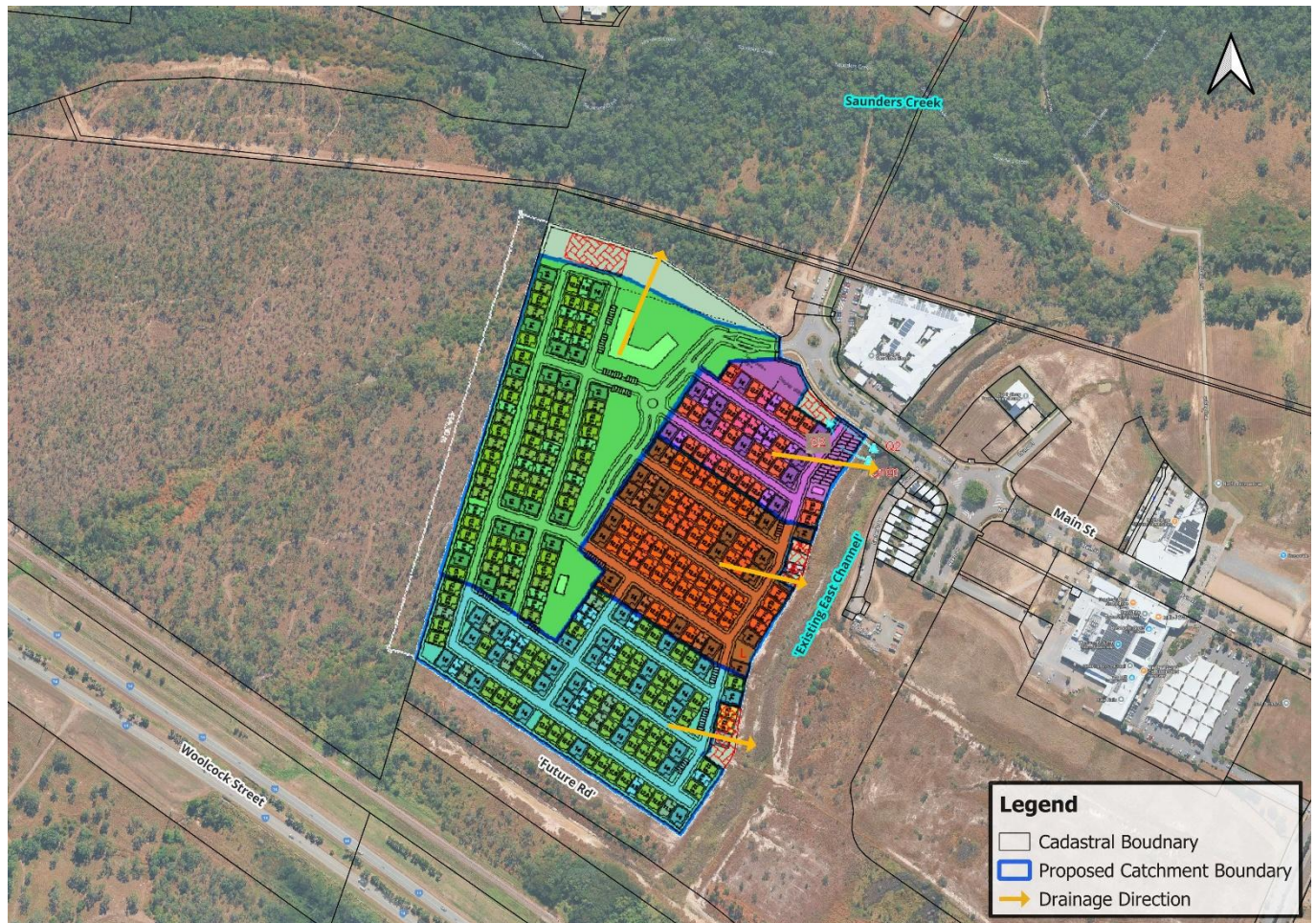


Figure 2.5: Proposed Catchment Boundaries

The entry road was modelled to tie into the existing road network at north of the development and to ramp upward into the filled development area, maintaining connectivity with the existing road.

2.2.2 Site Excavation

To facilitate the conveyance of external flows primarily from Saunders Creek to the north of Site and its tributary to the west of Site, an excavation area was proposed at the northwestern corner of the Site.

This excavated area provides a flow path that helps to offset the blockage effect of the proposed site filling, allowing flows to continue around the Site with minimal disruption. The excavation is intended to preserve existing flow behaviour in the area and reduce the potential for upstream flood level increase. In consideration of fish passage requirements, the base of the existing waterway was not modified, ensuring that the natural bed level remains unchanged. Figure 2.8 presents the modelled topography, with Figure 2.9 identifying the areas of fill and cut.

2.2.3 Surface Roughness (Manning’s ‘n’ Values)

Land use within the development footprint was updated in accordance with the proposed lot layout supplied by the client. Surface roughness was applied using Manning’s ‘n’ values consistent with the categories and values adopted in the 2023 Bohle River Flood Study. Adopted Manning’s values for the Site were tabulated in Table 2.2 and shown in Figure 2.6.

It is noted that the proposed lot layout differs slightly from the land use layer used in the developed case model, particularly near the northwestern corner of the Site. This minor inconsistency is not expected to materially affect results and is further discussed in the report conclusion section.

TABLE 2.3: MANNING’S ‘N’ VALUES

Surface Type	Manning’s ‘n’ values
Low Density Vegetation	0.055
High Density Vegetation	0.08
Roads/ Open Channels	0.03
Urban Residential	0.1



Figure 2.6: Developed Case Surface Roughness

2.2.4 Proposed Drains

To manage external overland flow entering the Site under existing conditions, and to avoid adverse impacts outside the Site resulting from the proposed fill, two open channel drains and a shallow depression zone were incorporated into the developed case model. Locations of these channels are shown in Appendix A and Figure 2.9. These features are intended to collect, convey, and redirect upstream flows entering the Site boundary while maintaining floodplain connectivity and minimising off site impacts. The proposed drainage elements are summarised below:

2.2.4.1 Southwest Depression Zone

A shallow depression was included at the southwest corner of the Site to intercept overland flow entering from adjacent upstream catchments. This low point functions as a collection zone to slow and split incoming flows, directing them toward the southern and western drains.

- Approximate invert level: 7.8 m AHD, sloping down to 7.7 m AHD toward the southern channel.
- Not intended for water storage, proposed purely for surface flow redistribution.

2.2.4.2 Southern Drain

This drain is located along the southern boundary of the Site north of the future road, this open channel conveys flow from the depression zone and southern portion of the Site toward the existing eastern drain.

- Conceptual base width: 3.0 m
- Invert levels: 7.7 m AHD (upstream), 6.9 m AHD (downstream)
- Approximate length: 270 m
- Estimated peak flow: Approximately 1.0 m³/s in the 1% AEP design event

2.2.4.3 Western Drain

This drain runs along the western boundary of the Site, collecting flow from the southwest depression zone as well as overland flows from upstream catchments that naturally drain toward the Site in the existing condition. The channel conveys this flow northward and discharges into Saunders Creek.

- Conceptual base width: 4.0 m
- Invert levels: 7.8 m AHD (upstream), 6.1 m AHD (downstream)
- Approximate length: 360 m
- Estimated peak flow: 2.5 m³/s in the 1% AEP design event

To support the developed case model setup, Figure 2.7 and Figure 2.8 show the topography conditions applied in the model. Figure 2.9 illustrates the extent of proposed site filling, excavation and drainage elements.

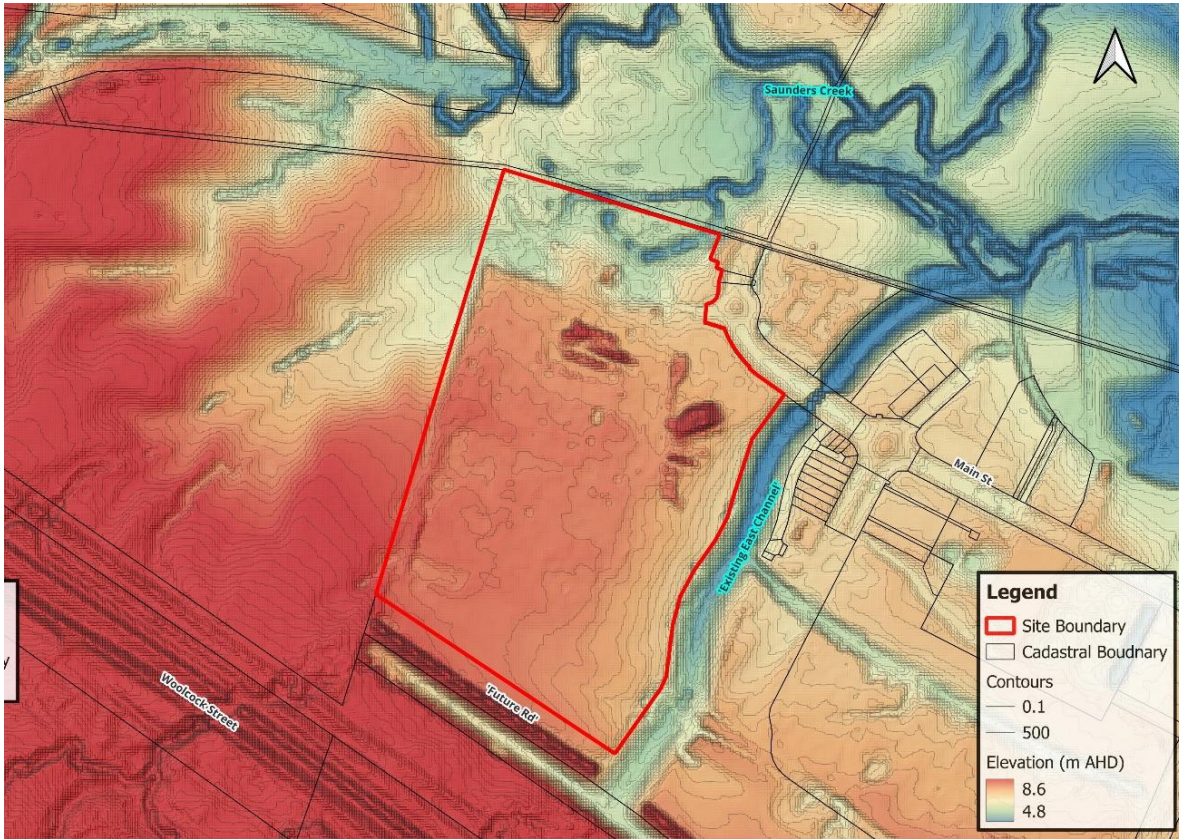


Figure 2.7: Existing Case Topography Condition

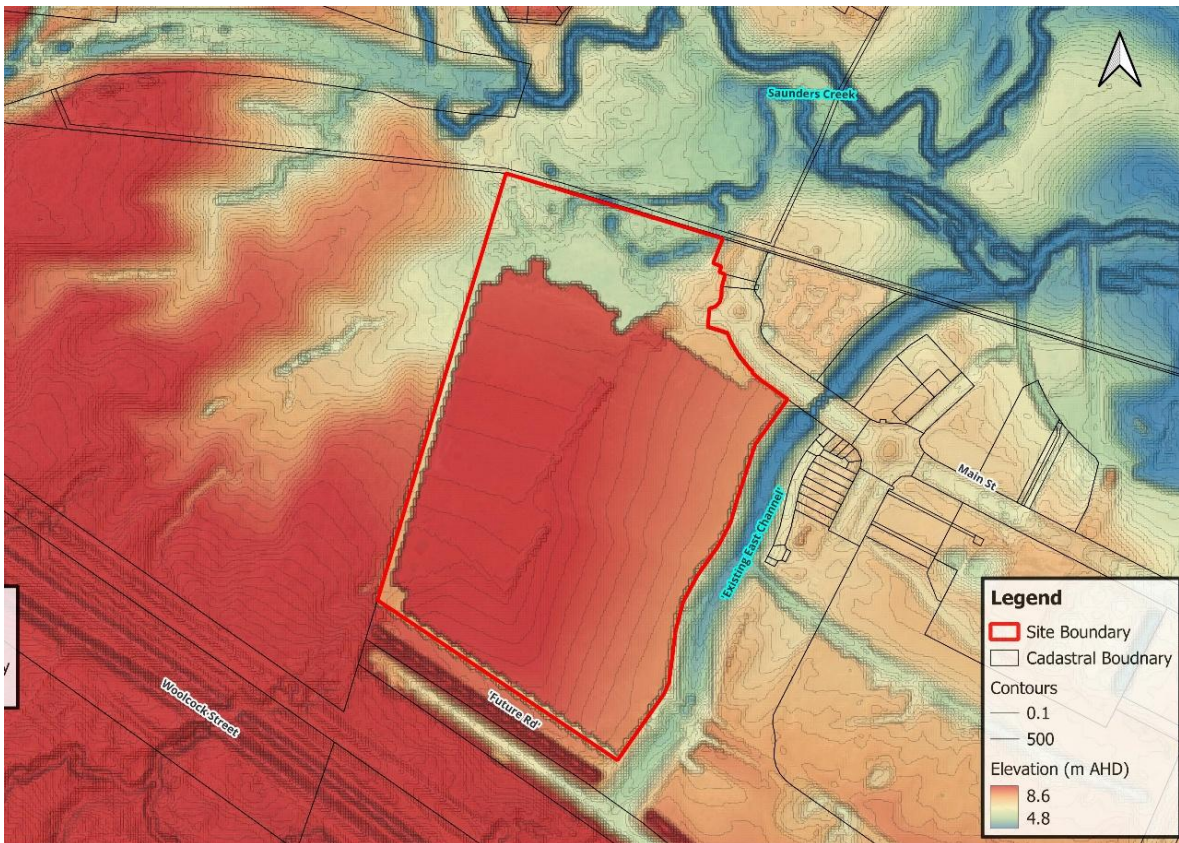


Figure 2.8: Developed Case Topography Condition

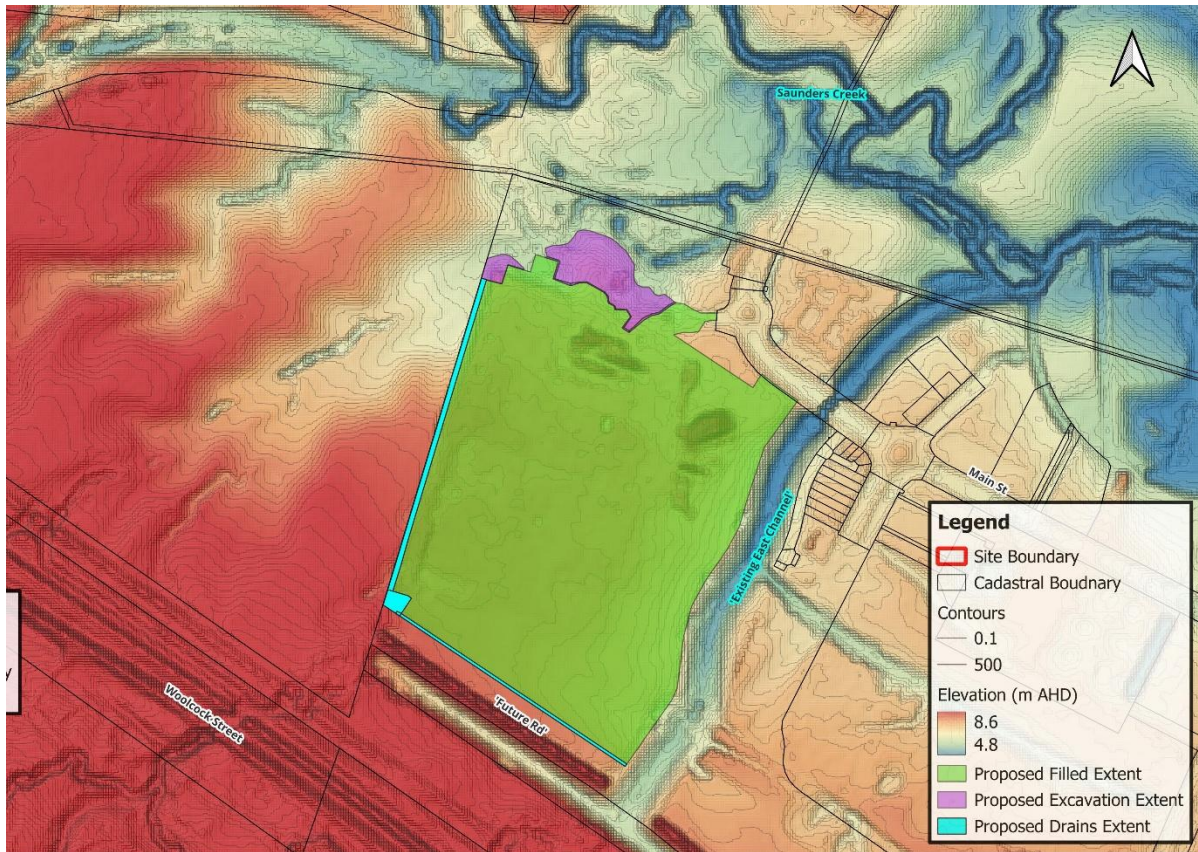


Figure 2.9: Extent of Proposed Filling, Excavation, and Drainage Elements

3. HYDRAULIC MODEL RESULTS

Hydraulic modelling results for the existing and developed scenarios are summarised in this section. Both scenarios were simulated using the same set of critical durations and temporal patterns identified in Section 2.1, to allow for a consistent comparison of flood behaviour. Flood mapping outputs include peak flood levels, depths and velocities for the 50%, 10%, and 1% AEP events. Results have been processed using the Max-of-Max method to capture the peak values across all durations.

3.1 Existing Case Scenario Results

Flood mappings for the existing case scenario are provided in Appendix B, including flood depth, velocity, and hazard mapping for the relevant AEP events. Figure 3.1 presents the flood depth at the Site for the 1% AEP event under existing conditions.

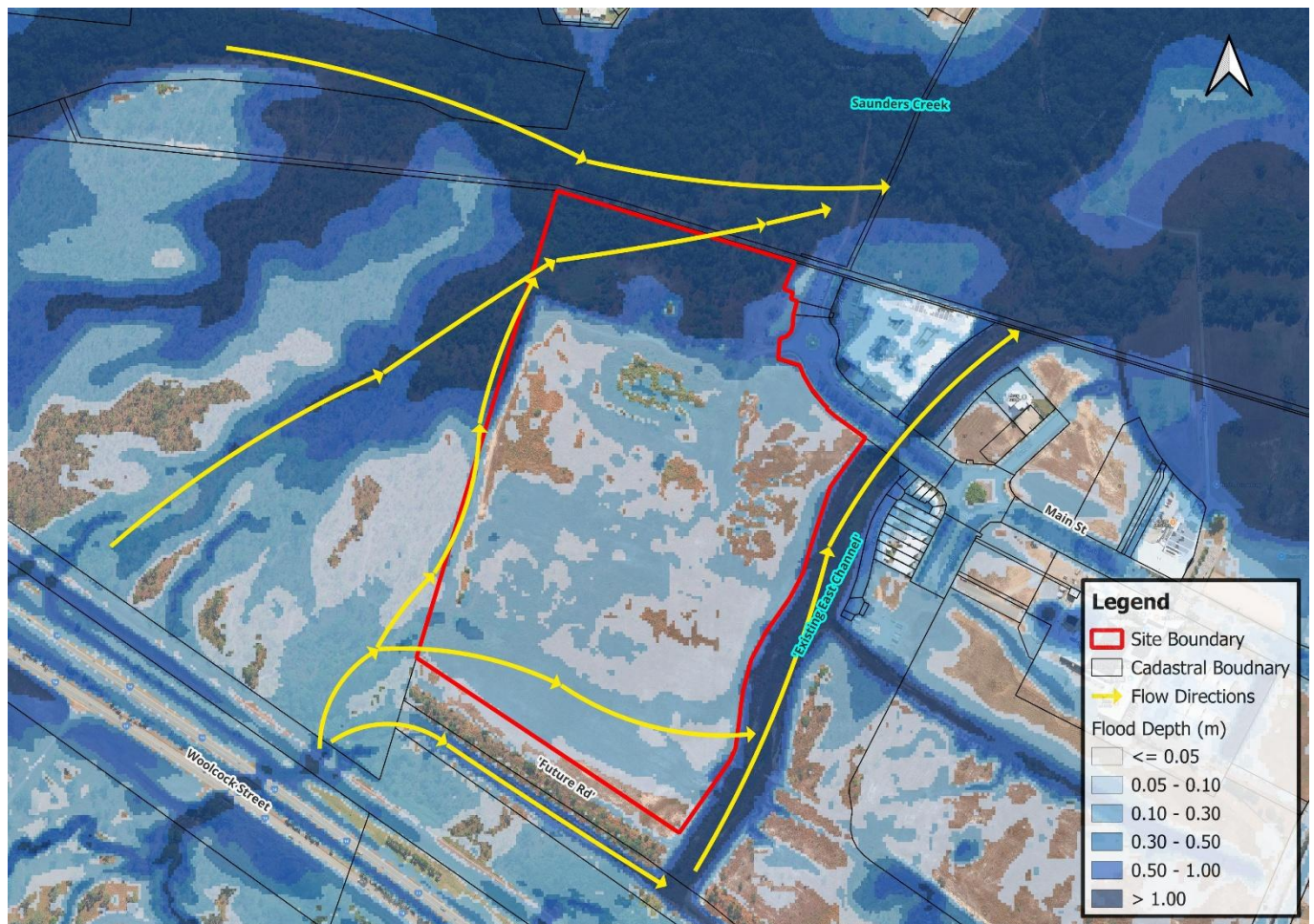


Figure 3.1: Existing Case 1% AEP Flood Depth

Based on this figure, the Site is subject to both regional flooding from Saunders Creek and local overland flow mainly from an upstream catchment located to the southwest of the Site. One flow path travel east across the Site and along the southern boundary, discharging into the existing drain along the eastern edge of the Site, the other flow path travels north along the western boundary, eventually discharging to Saunders Creek.

3.2 Developed Case Scenario Results

Flood mapping outputs for the developed case scenario are provided in Appendix C, including flood depth, velocity, and hazard mapping for the relevant AEP events. Figure 3.2 represents the flood depth at the Site for the 1% AEP event and Figure 3.3 represents the flood depth at the Site for the 1% AEP climate change event for developed conditions.

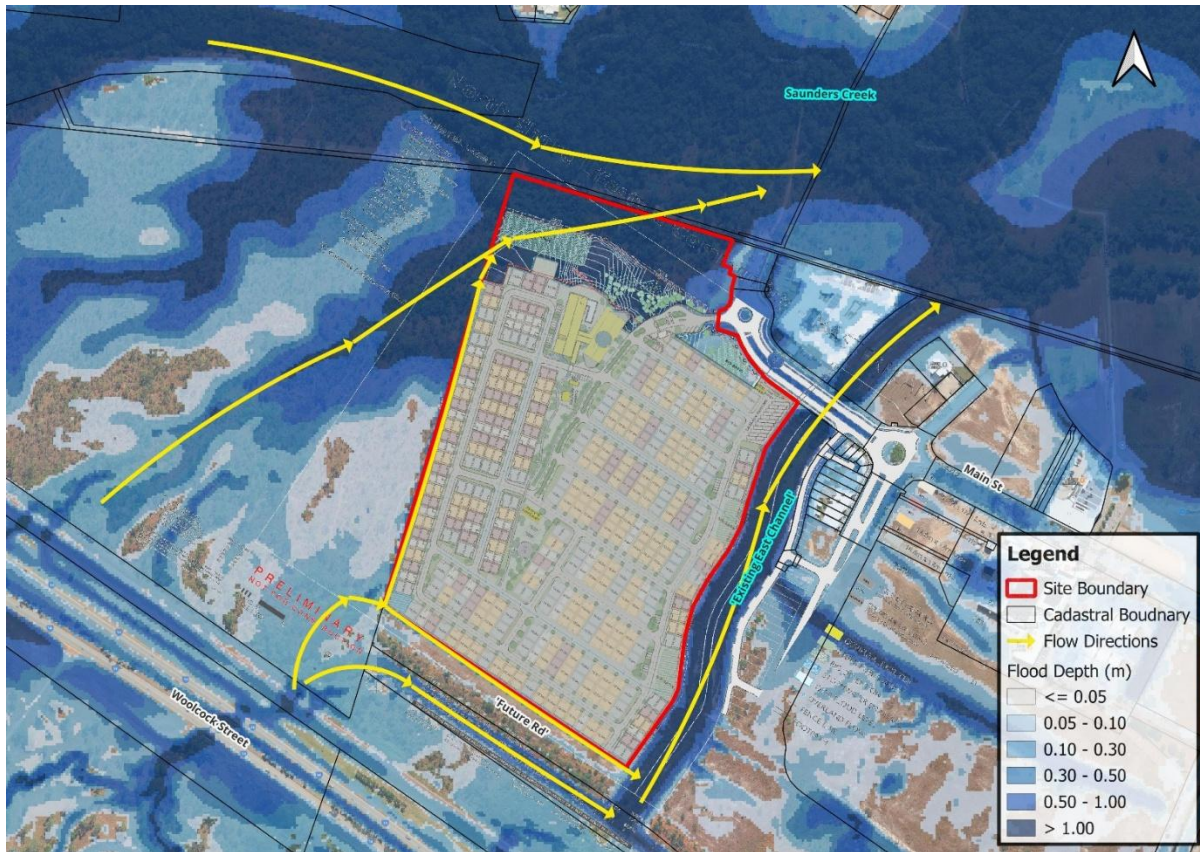


Figure 3.2: Developed Case 1% AEP Flood Depth

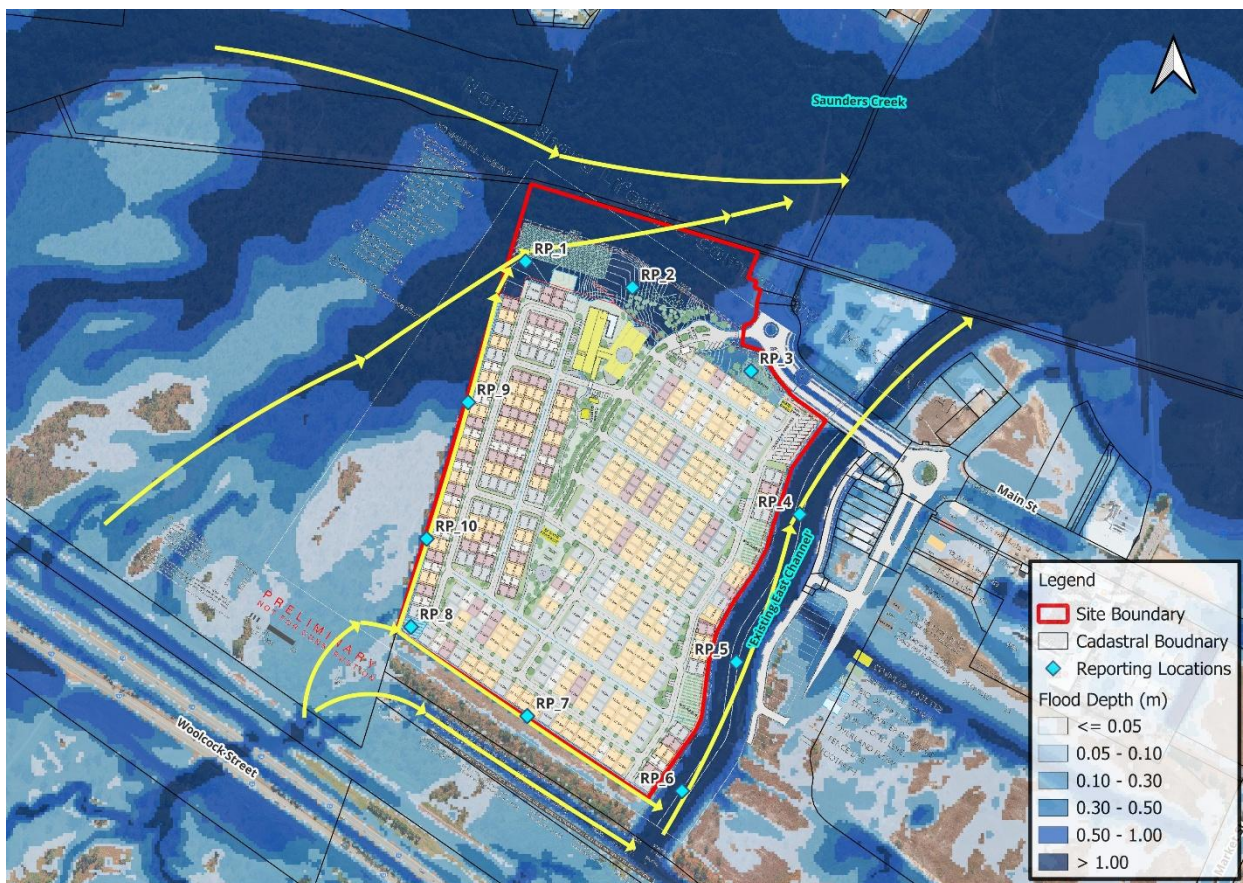


Figure 3.3: Developed Case 1% AEP Climate Change Flood Depth

Based on the modelling results, the developable areas within the Site achieve flood immunity under both the 1% AEP and 1% AEP climate change events. The proposed drains and depression zones are functioning as intended to convey upstream flows through the Site.

The proposed filled areas are modelled above the corresponding flood levels for both events. The modelled flood levels across the Site are summarised in Table 3.1 and define the minimum finished surface levels required during detailed design (excluding the adopted 300 mm freeboard) to maintain flood immunity.

TABLE 3.1: FLOOD LEVEL AT REPORTING LOCATIONS

ID	1% AEP Flood Level (m AHD)	1% AEP Climate Change Flood Level (m AHD)
RP_1	7.97	8.11
RP_2	7.81	7.92
RP_3	7.66	7.76
RP_4	7.36	7.4
RP_5	7.38	7.43
RP_6	7.41	7.46
RP_7	7.96	8.01
RP_8	8.24	8.27
RP_9	8.02	8.19

3.3 Flood Impact Assessment

Flood impact mapping has been prepared to identify any changes in flood levels resulting from the proposed development. Flood level afflux maps for the 50%, 10%, and 1% AEP events are included in Appendix D.

3.3.1 1% AEP Flood Level Afflux

The 1% AEP flood impact mapping (refer to Figure 3.4) shows that:

- Minor flood level increases occur immediately north of the Site, with a maximum rise of less than 20 mm, and are fully contained within the Site boundary. This increase is considered acceptable, as it is localised and occurs due to the excavation at the northern extent, which allows additional flows from Saunders Creek to pass through this area more effectively.
- Flood level reductions are observed along both the western and southern drains, confirming that the proposed drainage infrastructure is effectively conveying upstream flow around the Site.
- A notable flood level reduction of approximately 15 mm is observed east of the Site, within the adjacent shopping centre area. This is considered a positive outcome, primarily resulting from the proposed filling and the two open drains, which redirect upstream overland flow away from the eastern area.
- Reduction of approximately 10 – 20mm is seen at the northwest corner of the Site, primarily due to the excavation zone, which improves flow conveyance around the Site and helps offset the impact of site filling.

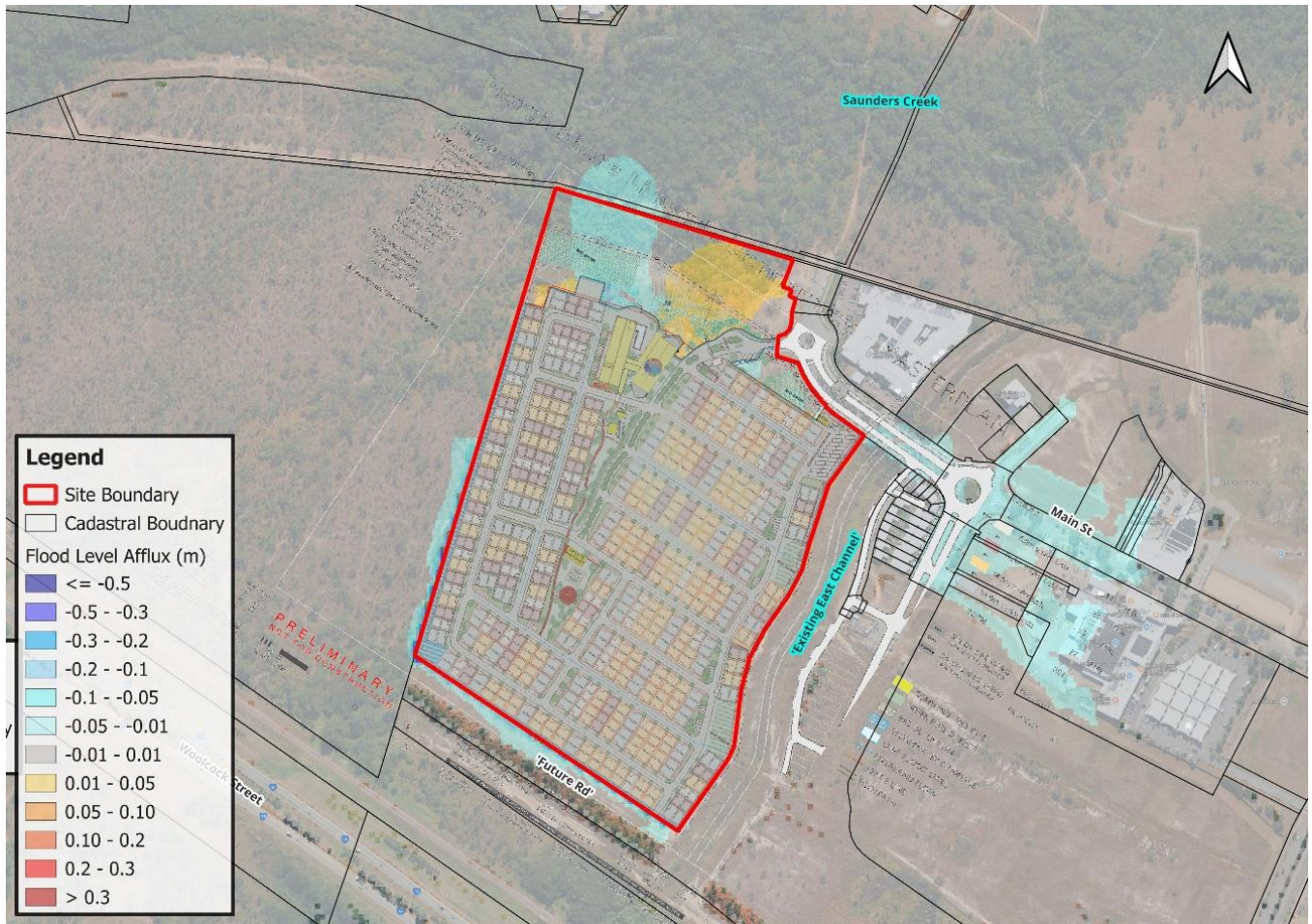


Figure 3.4: 1% AEP Flood Level Afflux

3.3.2 10% AEP Flood Level Afflux

The 10% AEP flood impact mapping (refer to Figure 3.5) indicates similar trends to the 1% AEP event, with minor flood level increases constrained within the Site boundary, particularly to the north of the Site. These increases remain under 20 mm and are considered acceptable. A broader extent of flood level reduction is observed compared to the 1% AEP event, both within and outside the Site, especially at the northwestern corner, and within the existing eastern channel. No adverse flood level increases are observed external to the Site.

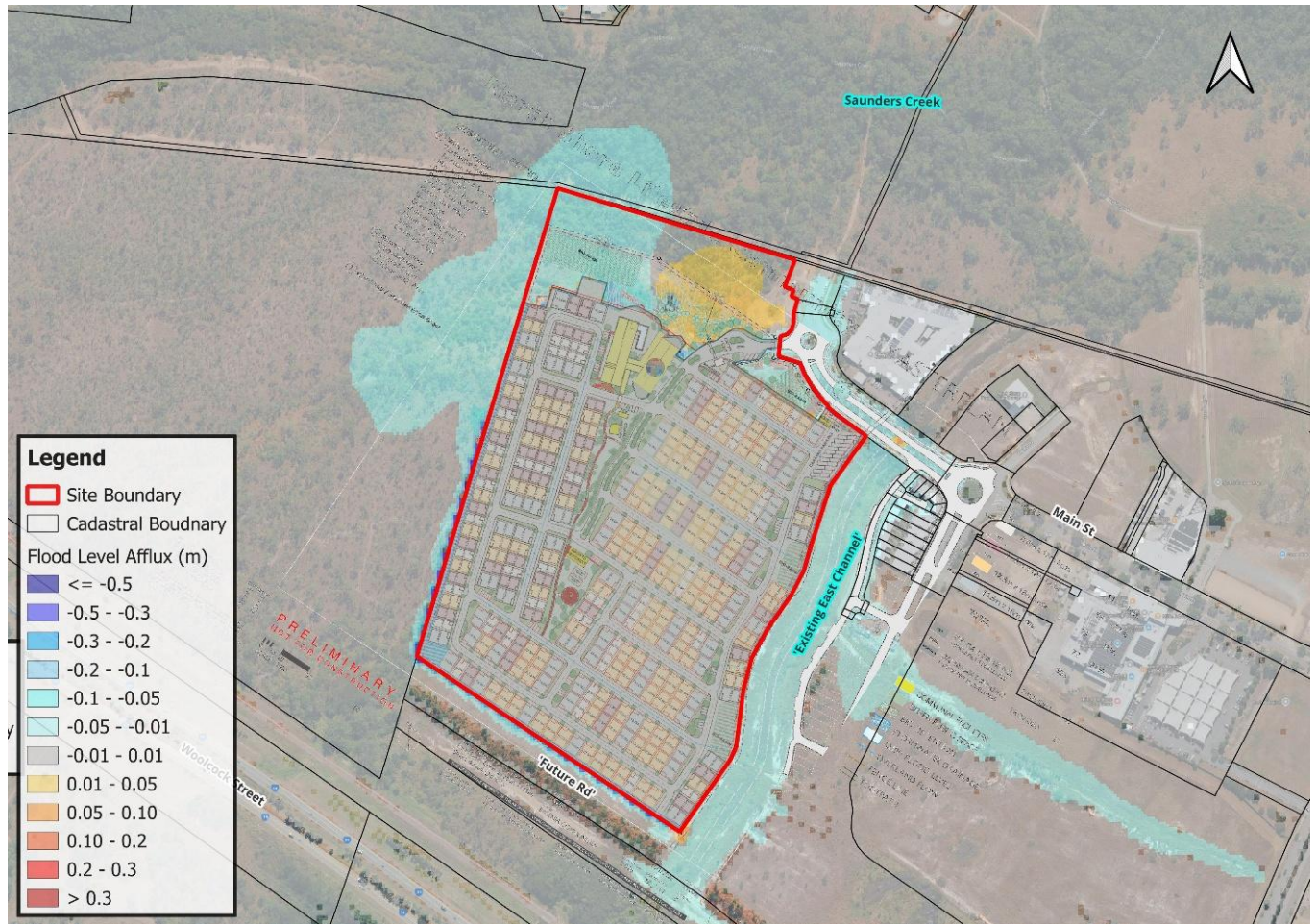


Figure 3.5: 10% AEP Flood Level Afflux

3.3.3 50% AEP Flood Level Afflux

The 50% AEP flood impact mapping (refer to Figure 3.6) shows similar trends to the 10% AEP event, with flood level increases generally minor and contained. However, one small area of flood level increase is observed just outside the Site boundary, located at the roundabout between the Site and the adjacent aged care facility. The increase is approximately 10 mm and is limited to the road reserve and a small portion of the aged care carpark.

Importantly, no flood level increases are observed over any aged care buildings or critical infrastructure, and the change remains well within typical modelling tolerances. Given its minor magnitude, location within non-critical external areas, and the fact that it does not result in any material impact, the change is considered acceptable from flooding perspective.

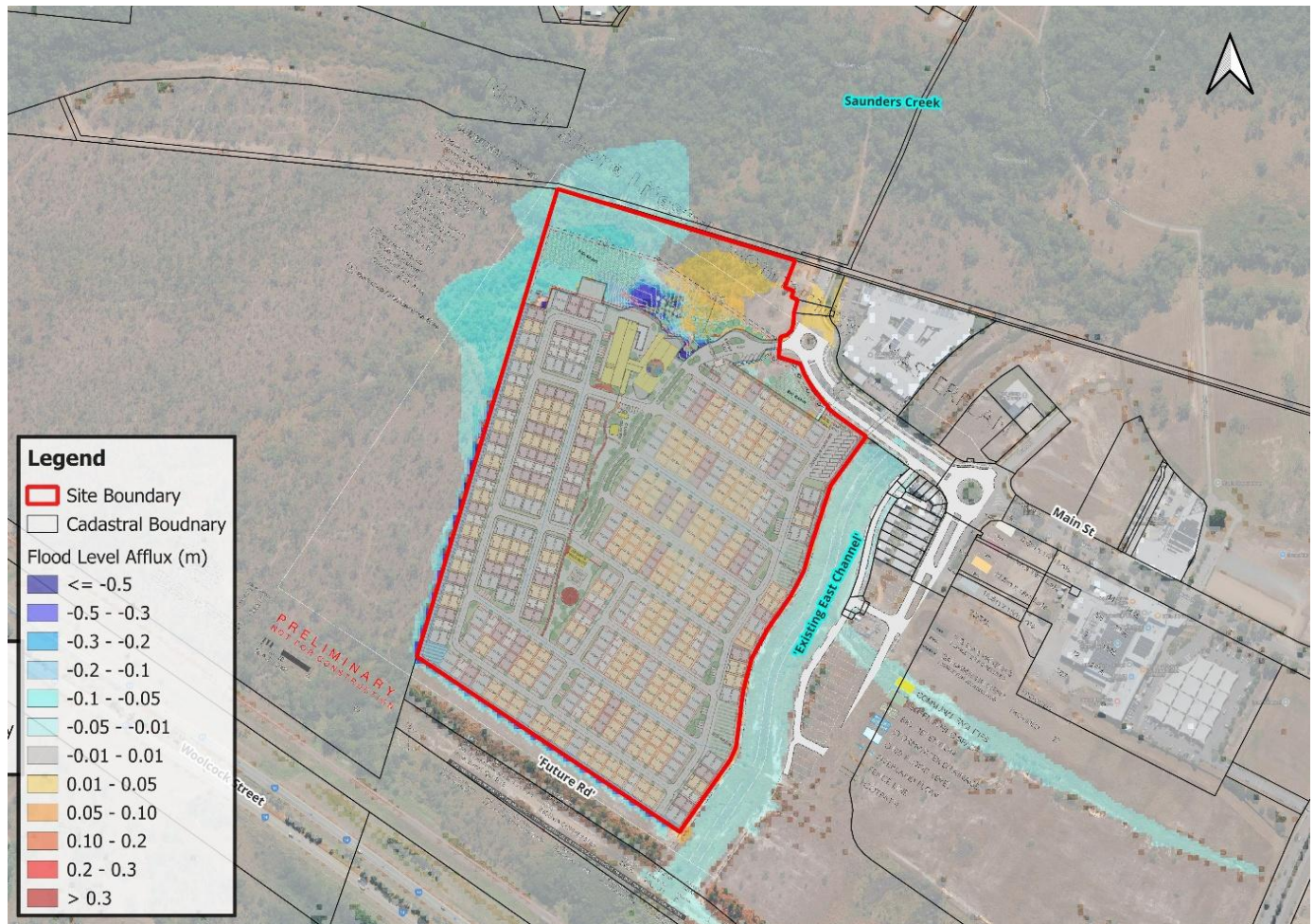


Figure 3.6: 50% AEP Flood Level Afflux

3.3.4 1% AEP Climate Change Flood Level Sensitivity

A 1% AEP climate change sensitivity assessment has been undertaken for the developed case to meet relevant planning scheme requirements and to assess potential changes in flood behaviour under future climate conditions. The results indicate that the proposed development remains above the modelled flood levels under the 1% AEP climate change event and therefore maintains flood immunity across the Site.

When compared to the 1% AEP developed present day scenario, increases in flood levels are observed; however, these increases are predominantly confined to areas outside of the proposed developable footprint, as shown in Figure 3.7. Localised changes in flood levels within the Site are less than 10 mm and are considered negligible, with no impact on the overall flood behaviour.

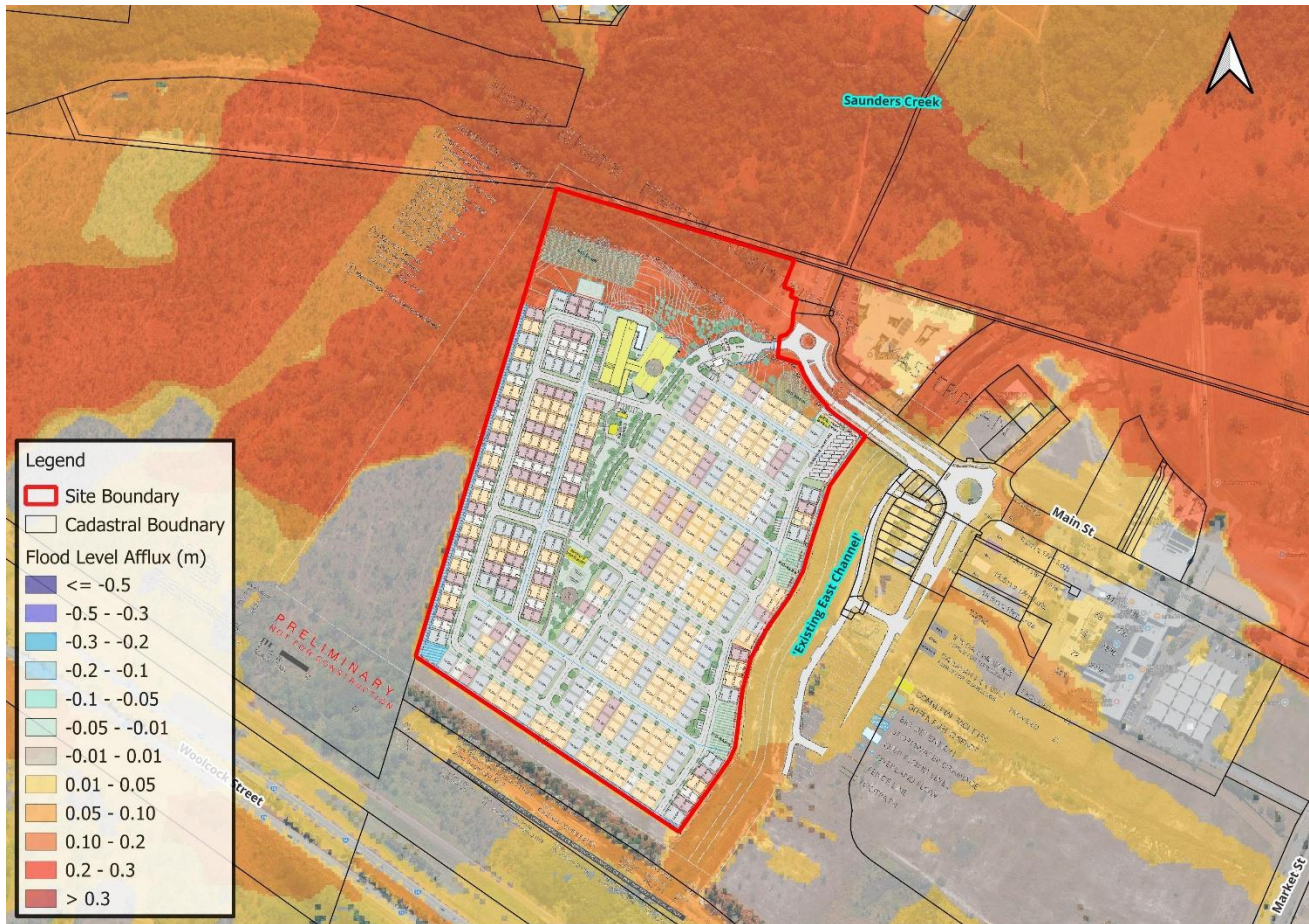


Figure 3.7: 1% AEP Climate Change Flood Level Afflux

4. CONCLUSION

A hydraulic impact assessment has been undertaken to evaluate the potential flood impacts associated with the proposed development of the Ingenia Lifestyle Community at North Shore, Townsville, using the 2023 Bohle River Flood Study hydraulic model as the base to represent existing flood conditions. The model was then updated to incorporate the proposed development layout and drainage features for assessment of the developed case.

Both existing and developed case scenarios were simulated across a range of design events (50%, 10%, 1% AEP and 1% AEP climate change 2090 RCP 8.5 events), with same critical durations and boundary conditions to enable direct comparison.

Key outcomes of the assessment are summarised as follows:

- The developable area of the Site remains flood free in the 1% AEP event, satisfying relevant flood immunity requirements.
- Two open channel drains and a shallow depression zone were incorporated to convey upstream external overland flows through the Site while maintaining floodplain connectivity.
- In the 1% AEP flood event, flood level reductions were observed along key flow paths, including within the Site, adjacent road reserves, and the neighbouring shopping centre to the east.
- In all simulated design events, minor flood level increases generally less than 20mm were contained within the Site boundary. For the 50% AEP event, some small flood level increases were observed just outside the Site boundary, primarily within road reserves and carpark areas. These changes are considered acceptable and do not result in adverse impacts to surrounding properties or critical infrastructure.
- Under the 1% AEP climate change (2090 RCP 8.5) sensitivity assessment, increases to flood levels in future climate condition are not expected to compromise the immunity of the development, thereby satisfying the Townsville City Plan requirements.

It is noted that the proposed site plan provided by the client differs slightly from the lot layout represented in the hydraulic model. Specifically, some lots along the northern boundary have been pulled back, and the internal road layout has been slightly realigned. While the modelled scenario reflects a slightly larger filled footprint, the results indicate that flood impacts are already contained within the Site boundary. Therefore, the minor reduction and realignment of the development extent as shown in the proposed site plan attached in Appendix A is not expected to worsen the modelled flood outcomes. Based on the current modelling results, no adverse flood impacts are anticipated.

5. QUALIFICATIONS

- (a) In preparing this document, including all relevant calculation and modelling, Engeny Australia Pty Ltd (Engeny) has exercised the degree of skill, care and diligence normally exercised by members of the engineering profession and has acted in accordance with accepted practices of engineering principles.
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APPENDIX A: PROPOSE SITE PLAN

North Shore Lifestyle Community - MASTERPLAN

COMMUNAL LEGEND

- ① **Main Clubhouse**
 "Northshore Clubhouse"
 - Function Hall
 - Main Kitchen & Servery
 - Bar / Lounge
 - Recreation / Pool Tables
 - Arts & Craft Area
 - Resort Style Pool
 - Gym / Yoga
 - Quiet Game / Library
 - Outdoor BBQ Area
 - Outdoor Seating
 - Salon / Consult
 - Community Bus
- ② **Sports Precinct**
 "Club Northshore"
 - Pickleball Court
 - Outdoor BBQ Area
- ③ **Workshop / Maintenance Shed**

LEGEND

9.6m	18m	9.6m x 18m Lots	44	14%
11.3m	18m	11.3m x 18m Lots	56	17%
12.5m	18m	12.5m x 18m Lots	131	45%
14.5m	18m	14.5m x 18m Lots	72	24%

TOTAL 303

CAR	VIS CAR PARKING 1 SPACE PER 5 DWELLINGS	PROVIDED	65
CARAVAN	CARAVAN PARKING 1 SPACE PER 10 DWELLINGS	PROVIDED	23

- COMMUNAL FACILITIES
- GREEN PUBLIC SPACE
- BIO DETENTION
- STORMWATER DRAINAGE
- Q 100 FLOOD LEVEL
- OVERLAND FLOW
- FENCE LINE
- FOOTPATH



REV	DATE	DESCRIPTION	DRAWN	CHECKED
A	31/10/2025	DRAFT DA ISSUE	JRY	LH
B	28/11/2025	COORDINATION ISSUE	DH	LH
C	28/11/2025	PRODUCT MIX UPDATE	DH	OGE
D	18/12/2025	COORDINATION ISSUE	DH	OGE
E	18/12/2025	DRAFT DA ISSUE	DH	OGE
F	16/1/2026	COORDINATION ISSUE	DH	DH

NOTE: Figured dimensions to be taken in preference to scaled. Verify all dimensions on site before commencing work or making shop drawings. When printing from electronic files it is the responsibility of the operator to ensure the required scale is achieved.

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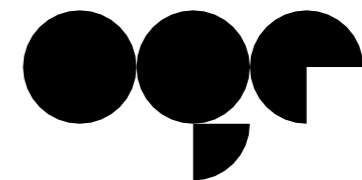
PROJECT
North Shore Lifestyle Community
Part Majors Creek Junction, 74 Main Street, Burdell, Qld 4818

DRAWING TITLE
MASTERPLAN
CLIENT
INGENIA COMMUNITIES

DATE
16/1/2026
SCALE @ A3
1:2000
PROJECT No.
25026
DRAWING No.
DA_I.11
ISSUE No.
F

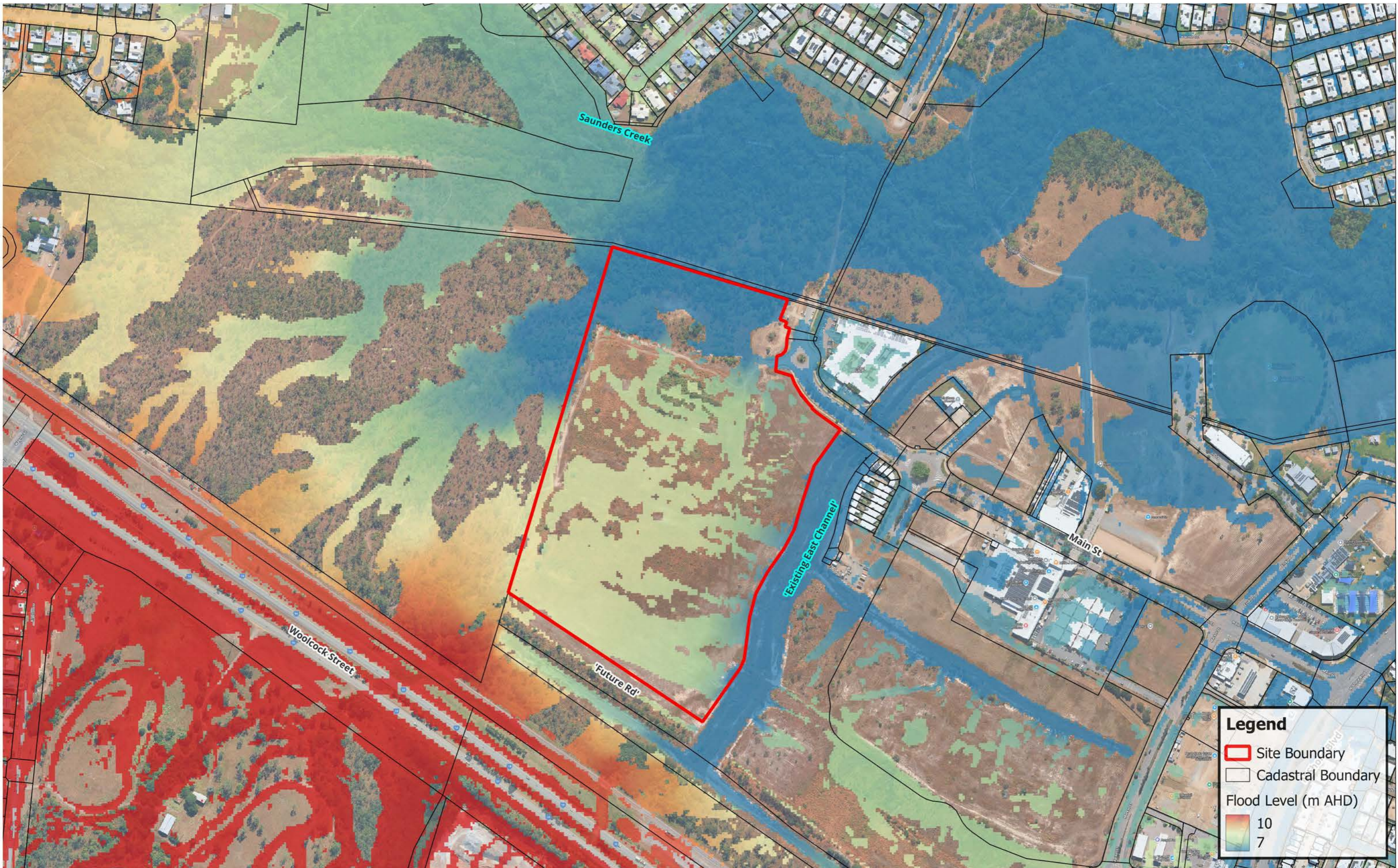
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 www.ogegroup.com.au NSW Reg. No. 11843



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APPENDIX B: EXISTING CASE FLOOD MAPPING



Legend

- Site Boundary
- Cadastral Boundary
- Flood Level (m AHD)
- 10
- 7

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NOTES:

N

0 100 200 m

SCALE @ A3 - 1:4,200
GDA94 / MGA zone 55

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Appendix B.1

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
50% AEP Flood Height

Dwg Ref:



Legend

- Site Boundary
- Cadastral Boundary
- Flood Level (m AHD)
- 10
- 7


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NOTES:



0 100 200 m

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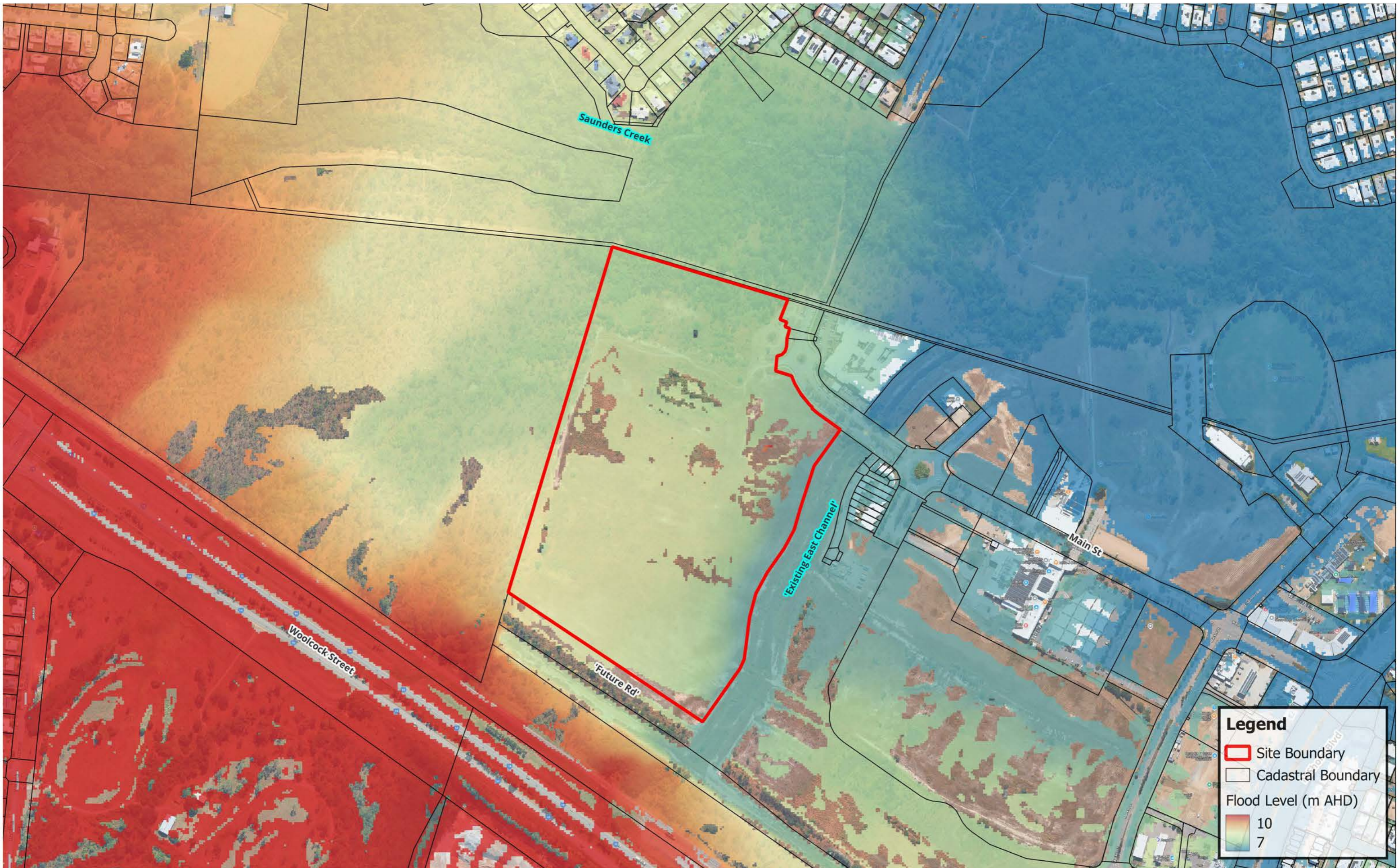
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Appendix B.2

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
10% AEP Flood Height



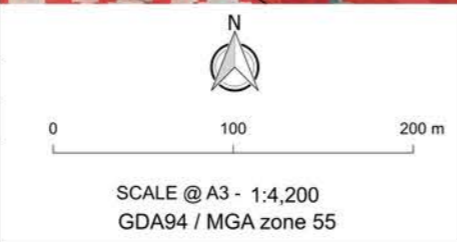
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Appendix B.3
Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
1% AEP Flood Height



Legend

- Site Boundary
- Cadastral Boundary
- Flood Depth (m)
- <= 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- > 1.00

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0 100 200 m

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Appendix B.4

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
50% AEP Flood Depth

Dwg Ref:



Legend

- Site Boundary
- Cadastral Boundary

Flood Depth (m)

- <= 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- > 1.00

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NOTES:

N

0 100 200 m

SCALE @ A3 - 1:4,200
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Appendix B.5

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
10% AEP Flood Depth



Legend

- Site Boundary
- Cadastral Boundary
- Flood Depth (m)
- <= 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- > 1.00

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NOTES:

N

0 100 200 m

SCALE @ A3 - 1:4,200
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Appendix B.6

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
1% AEP Flood Depth



Legend

- Site Boundary
- Cadastral Boundary

Flood Velocity (m/s)

- <= 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5

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NOTES:

N

0 100 200 m

SCALE @ A3 - 1:4,200
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Appendix B.7

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
50% AEP Flood Velocity



Legend

- Site Boundary
- Cadastral Boundary

Flood Velocity (m/s)

- <= 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5

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N

0 100 200 m

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Appendix B.8

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
10% AEP Flood Velocity



Legend

- Site Boundary
- Cadastral Boundary

Flood Velocity (m/s)

- <= 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5

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N

0 100 200 m

SCALE @ A3 - 1:4,200
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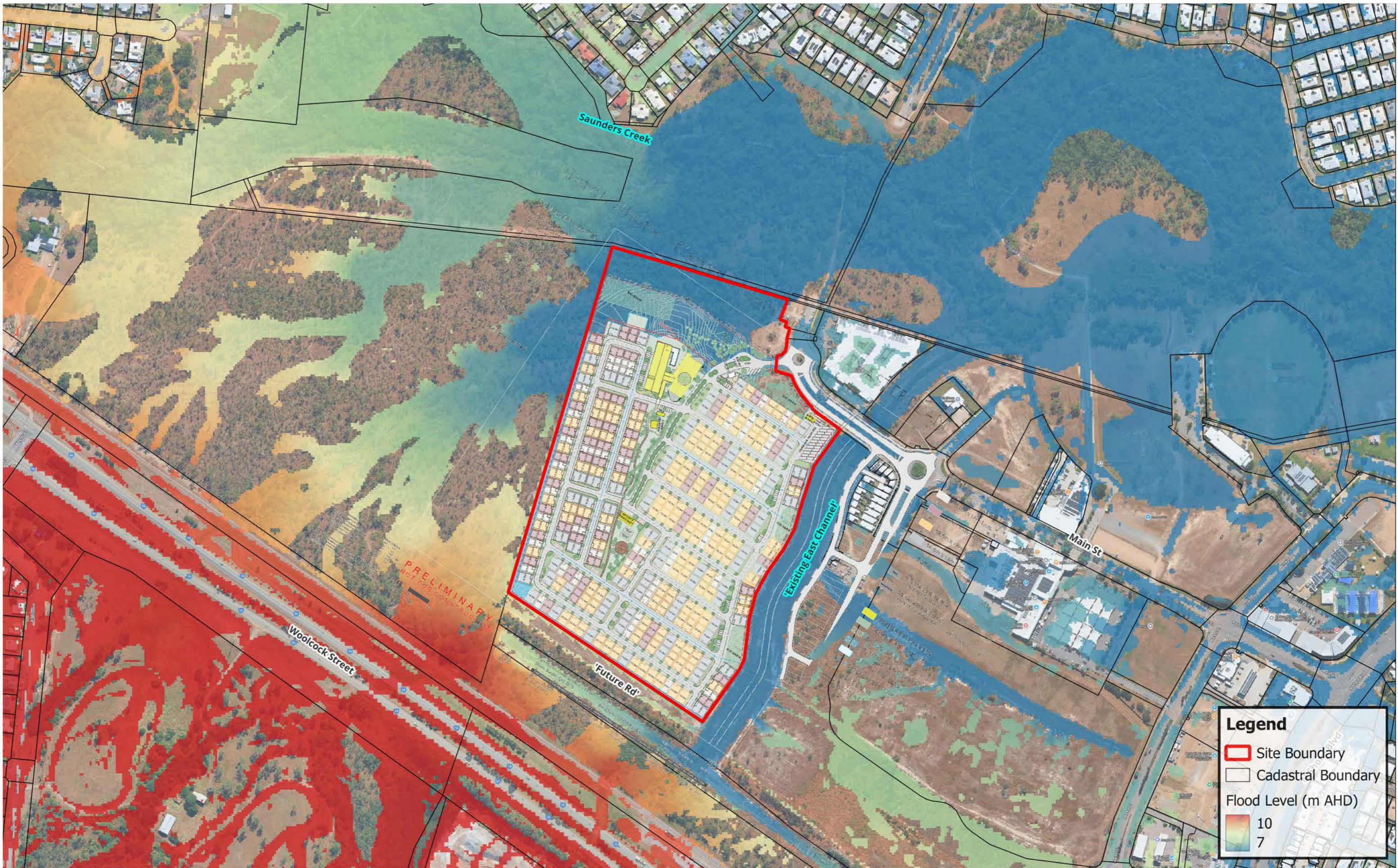


Appendix B.9

Premise
Ingenia Lifestyle Community HIA
Existing Scenario Flood Mapping
1% AEP Flood Velocity

Dwg Ref:

APPENDIX C: DEVELOPED CASE FLOOD MAPPING



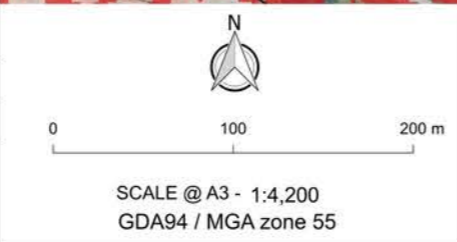
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Appendix C.1
Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
50% AEP Flood Height



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0 100 200 m

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Appendix C.2

Premise
Ingénia Lifestyle Community HIA
Developed Scenario Flood Mapping
10% AEP Flood Height

Dir Ref:



Legend

- Site Boundary
- Cadastral Boundary
- Flood Level (m AHD)
- 10
- 7


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NOTES:



0 100 200 m

SCALE @ A3 - 1:4,200
GDA94 / MGA zone 55

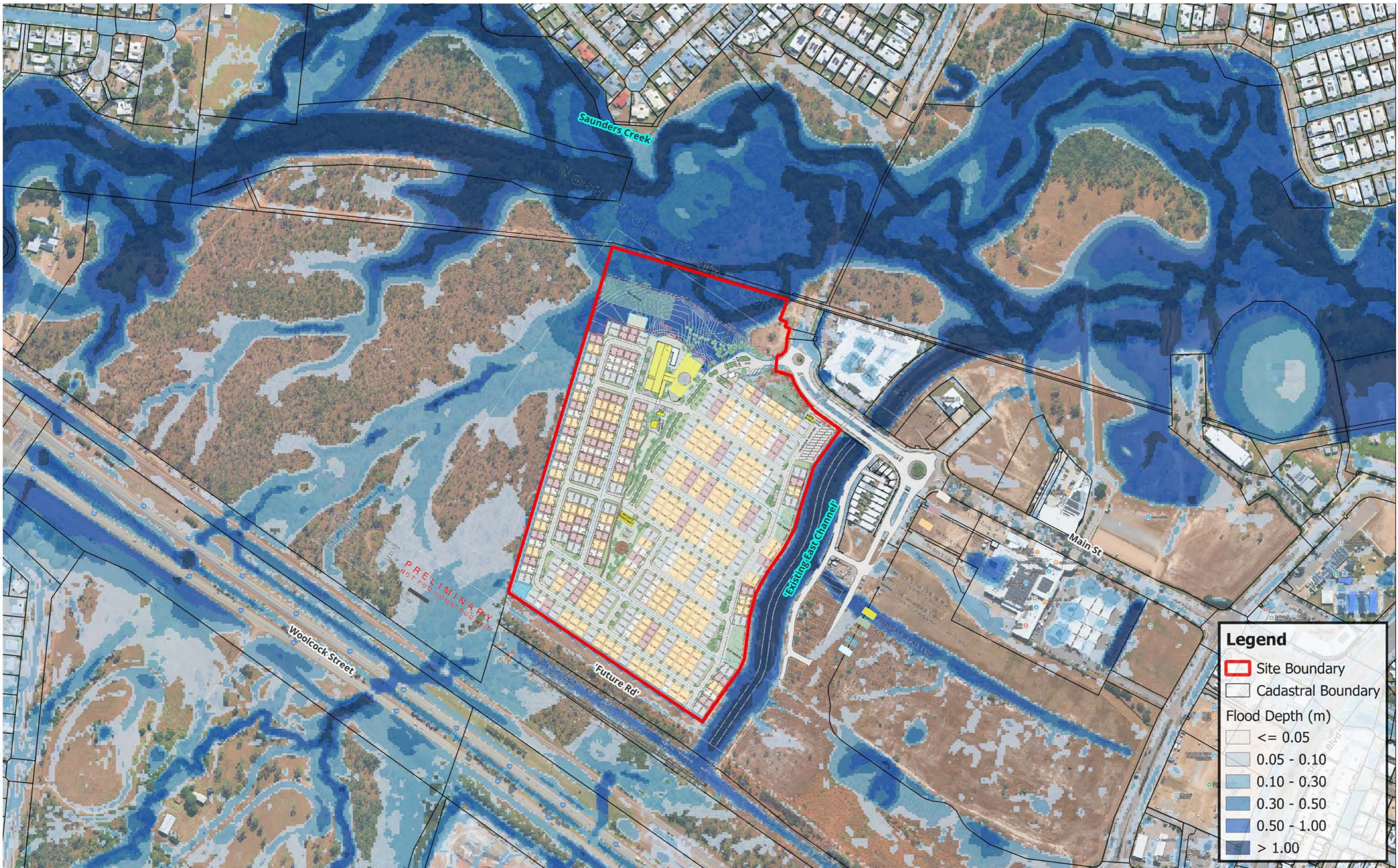
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Appendix C.3

Premise
Ingénia Lifestyle Community HIA
Developed Scenario Flood Mapping
1% AEP Flood Height



Legend

- Site Boundary
- Cadastral Boundary
- Flood Depth (m)
- <= 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- > 1.00

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0 100 200 m

SCALE @ A3 - 1:4,200
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Appendix C.4

Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
50% AEP Flood Depth

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0 100 200 m

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Appendix C.5

Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
10% AEP Flood Depth

Doc Ref:



Legend

- Site Boundary
- Cadastral Boundary
- Flood Depth (m)
- <= 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- > 1.00

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N

0 100 200 m

SCALE @ A3 - 1:4,200
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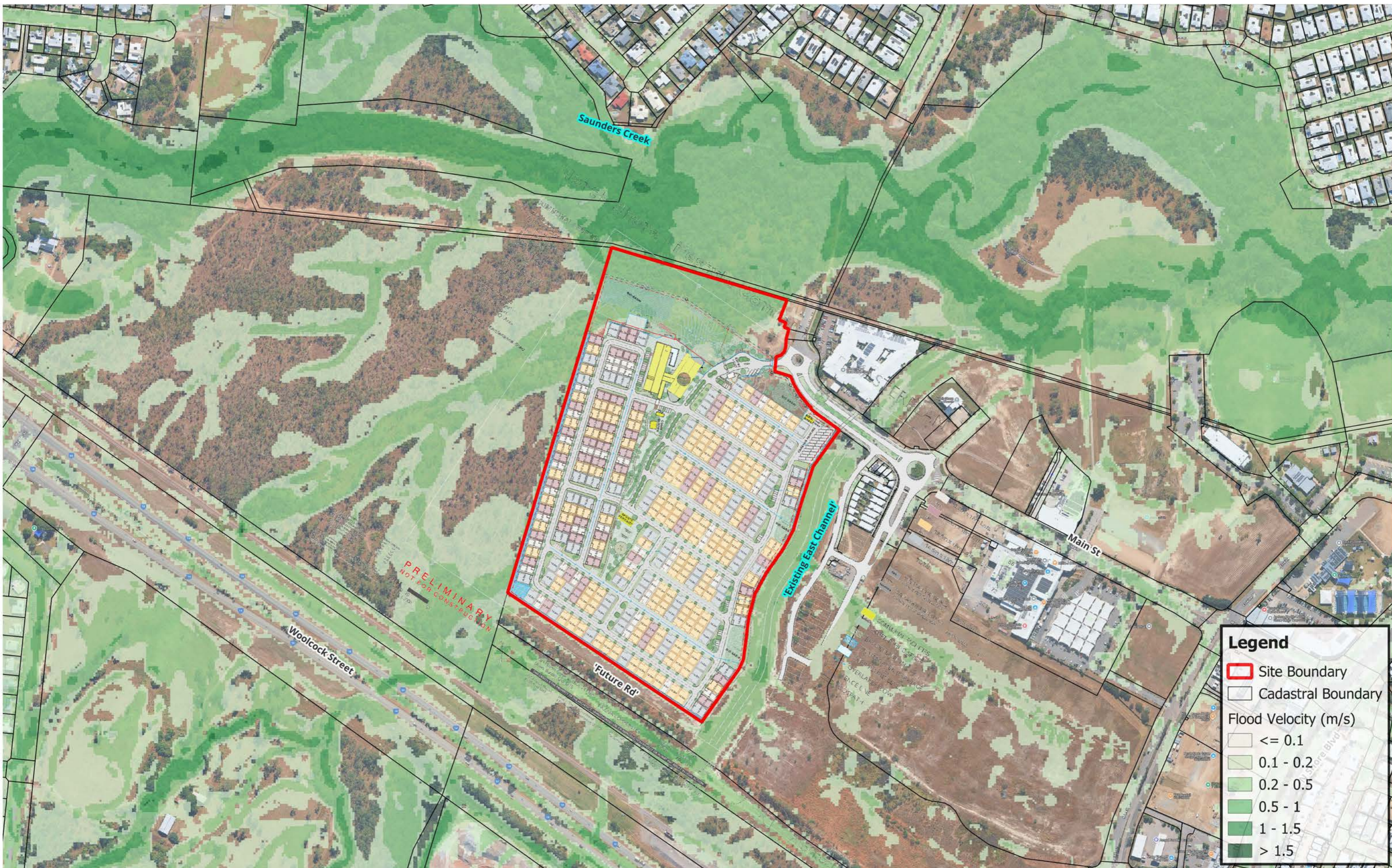
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Appendix C.6

Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
1% AEP Flood Depth



Legend

- Site Boundary
- Cadastral Boundary

Flood Velocity (m/s)

- <= 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5


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NOTES:



0 100 200 m

SCALE @ A3 - 1:4,200
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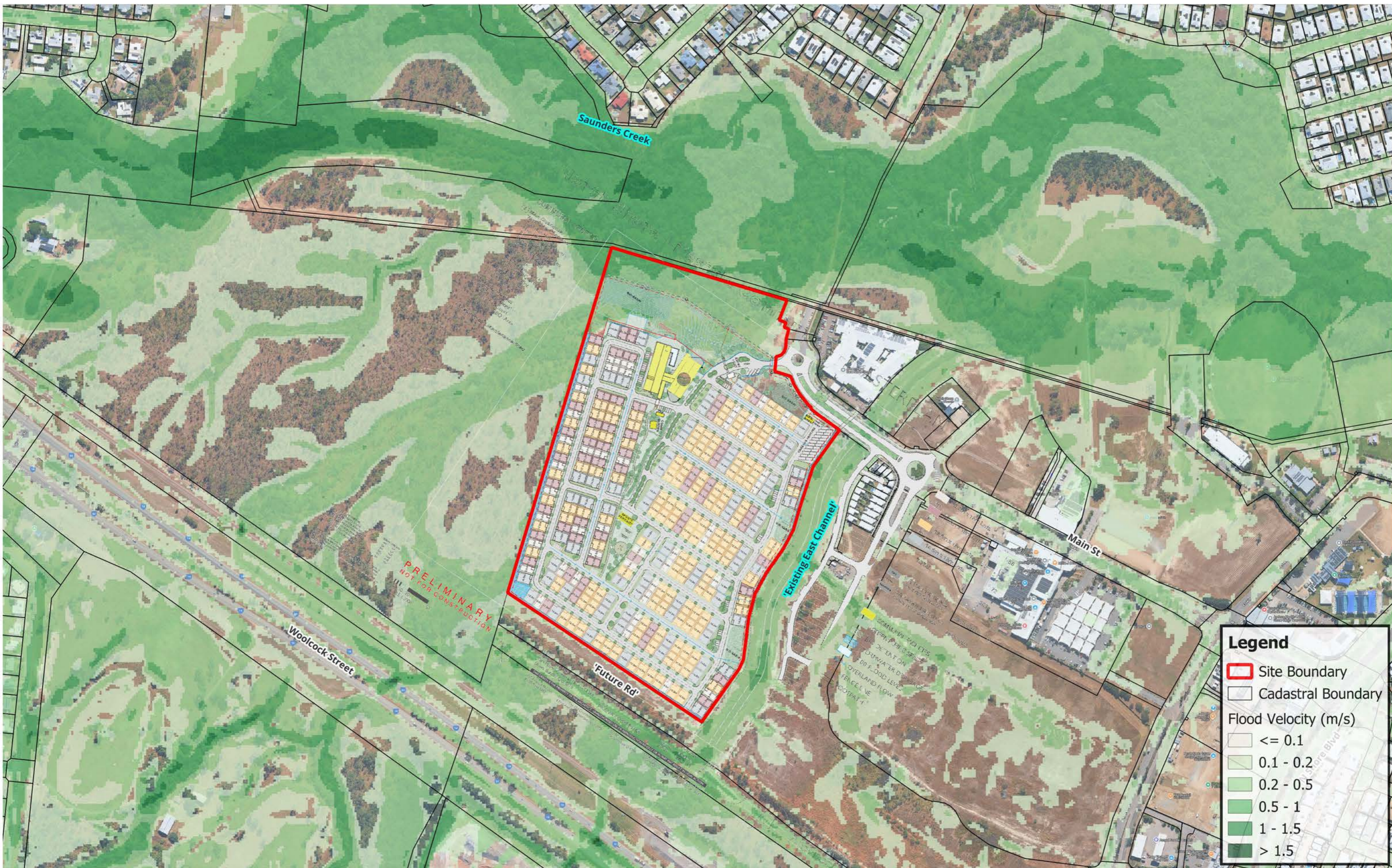
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Appendix C.7

Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
50% AEP Flood Velocity



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0 100 200 m

SCALE @ A3 - 1:4,200
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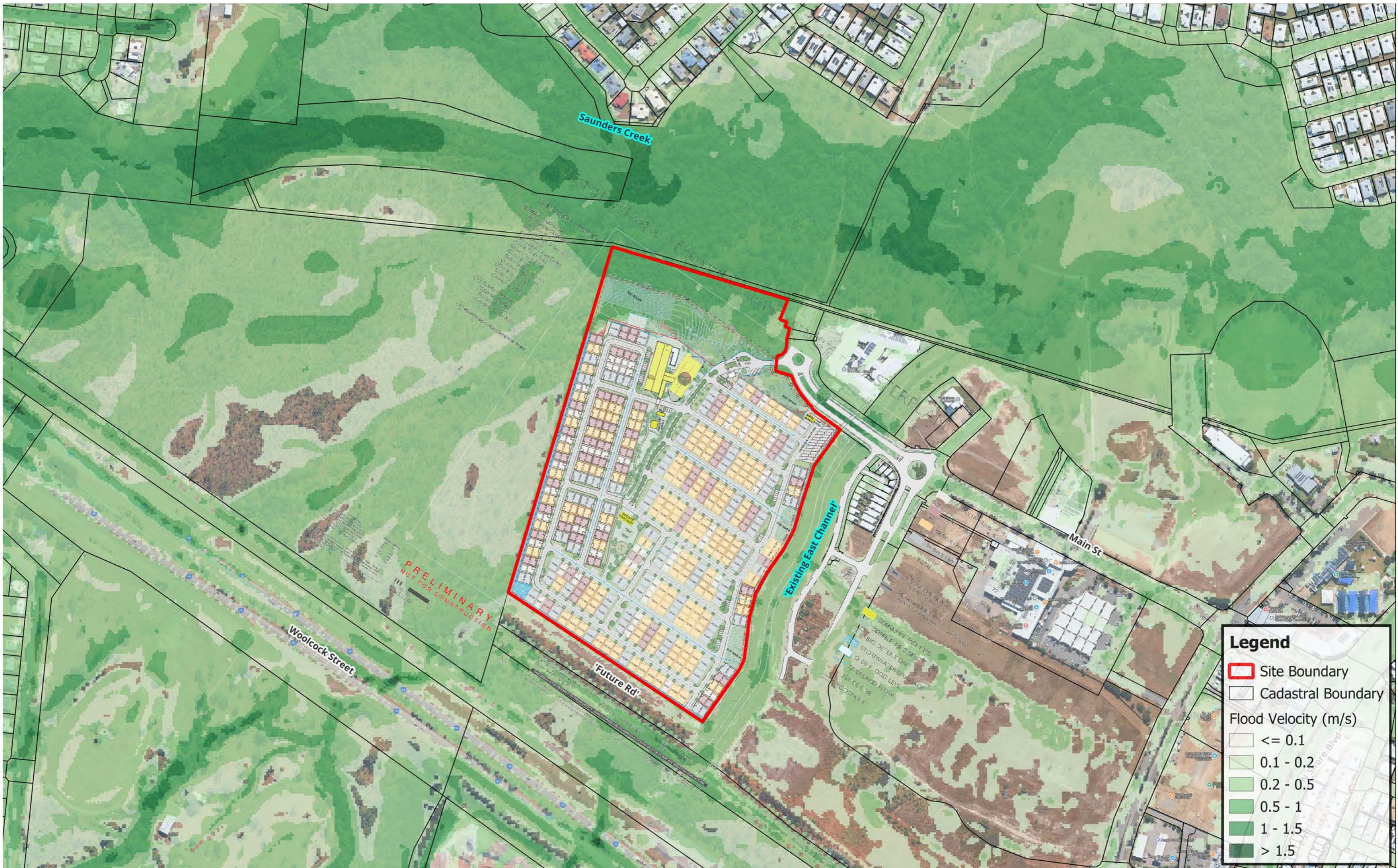
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Appendix C.8

Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
10% AEP Flood Velocity



PRELIMINARY
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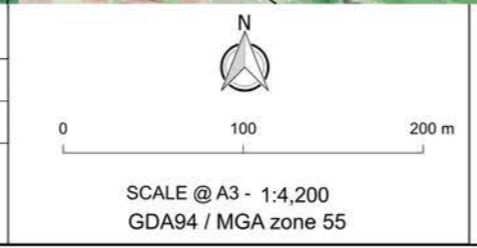
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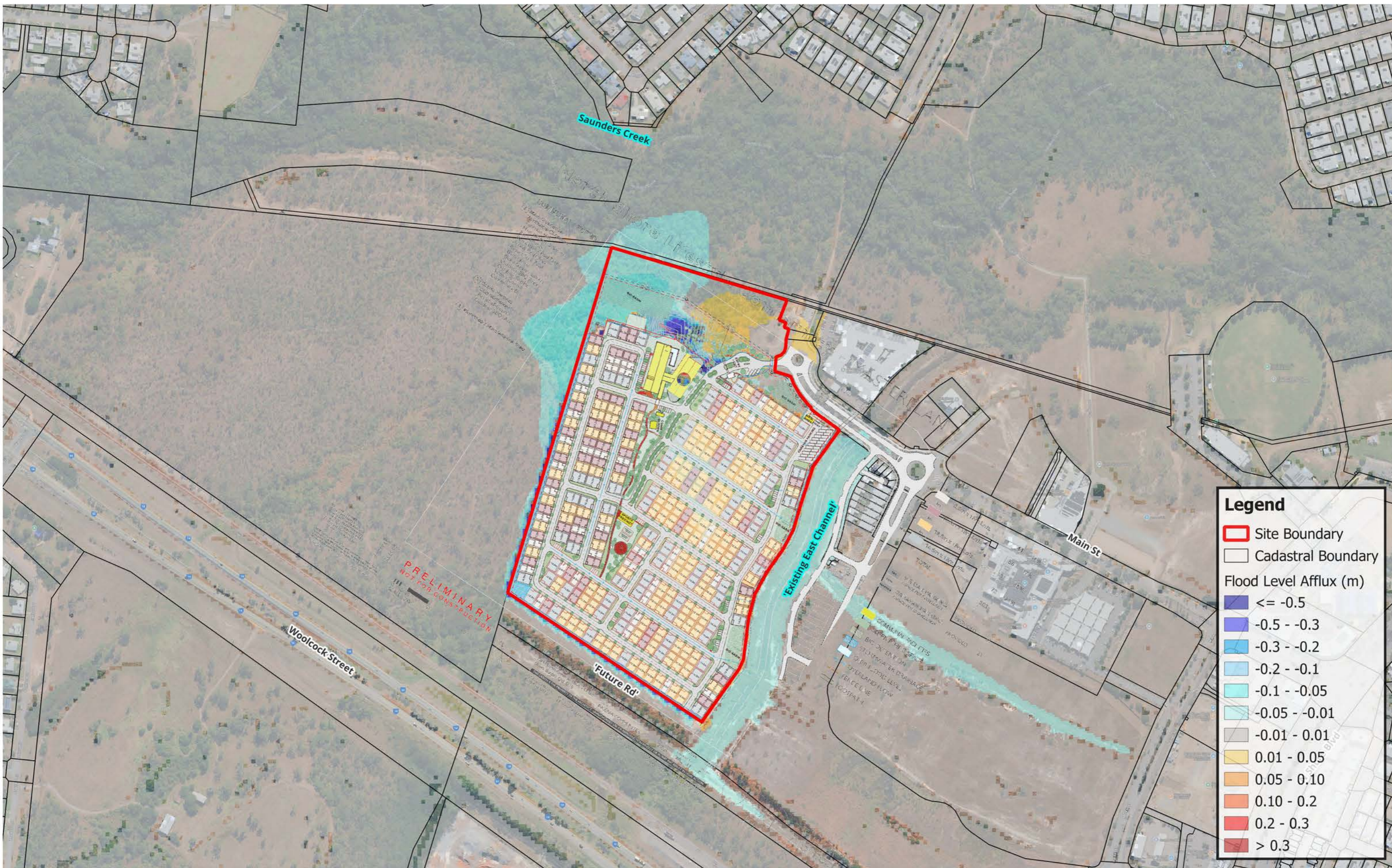
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Appendix C.9
Premise
Ingenia Lifestyle Community HIA
Developed Scenario Flood Mapping
1% AEP Flood Velocity

APPENDIX D: FLOOD IMPACT MAPPING



Legend

- Site Boundary
- Cadastral Boundary

Flood Level Afflux (m)

- ≤ -0.5
- 0.5 - -0.3
- 0.3 - -0.2
- 0.2 - -0.1
- 0.1 - -0.05
- 0.05 - -0.01
- 0.01 - 0.01
- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.2
- 0.2 - 0.3
- > 0.3


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NOTES:



0 100 200 m

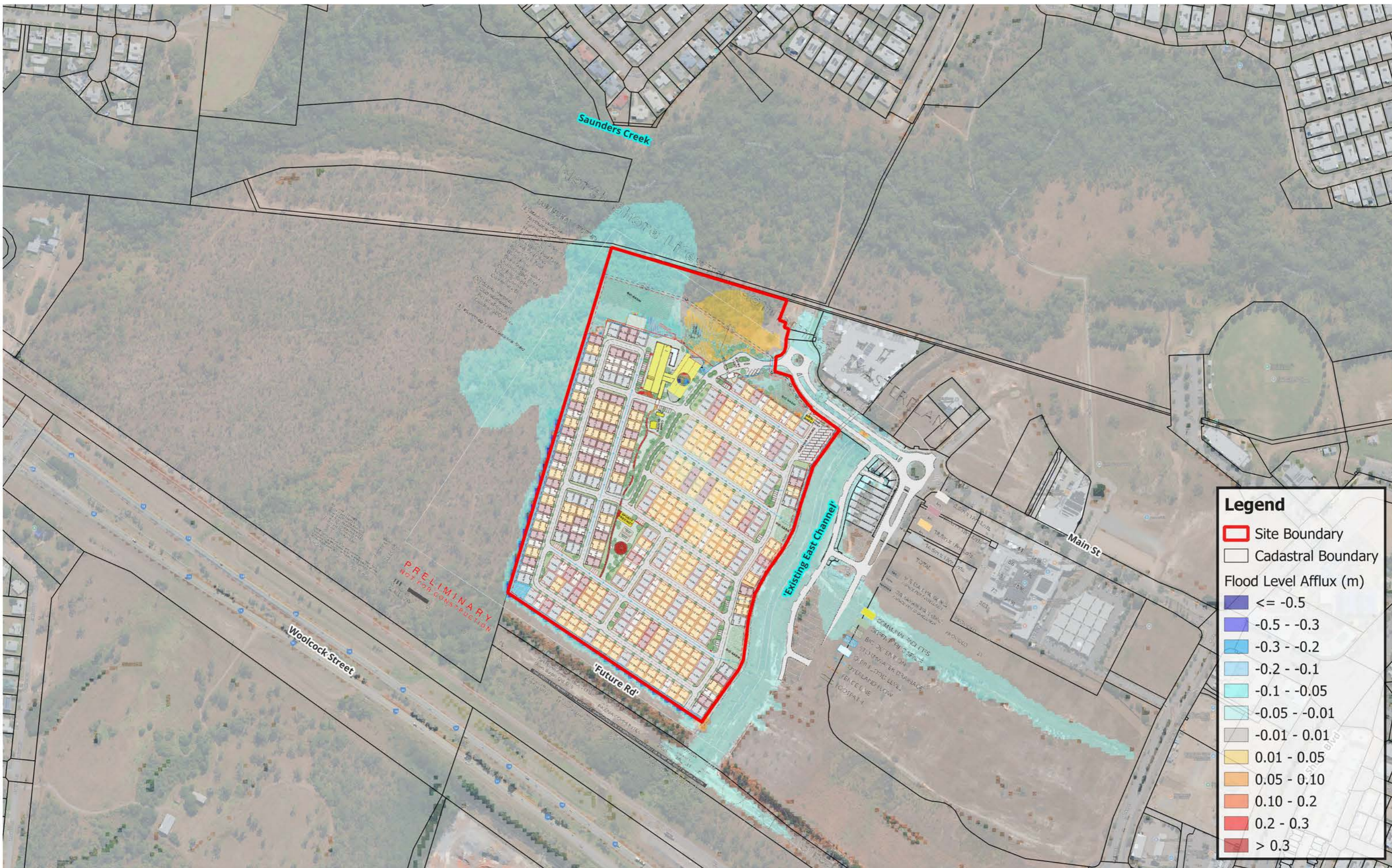
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Appendix D.1
Premise
Ingenia Lifestyle Community HIA
Flood Impact Mapping
50% AEP Flood Level Difference



Legend

- Site Boundary
- Cadastral Boundary

Flood Level Afflux (m)

- ≤ -0.5
- 0.5 - -0.3
- 0.3 - -0.2
- 0.2 - -0.1
- 0.1 - -0.05
- 0.05 - -0.01
- 0.01 - 0.01
- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.2
- 0.2 - 0.3
- > 0.3


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NOTES:



0 100 200 m

SCALE @ A3 - 1:4,200
GDA94 / MGA zone 55

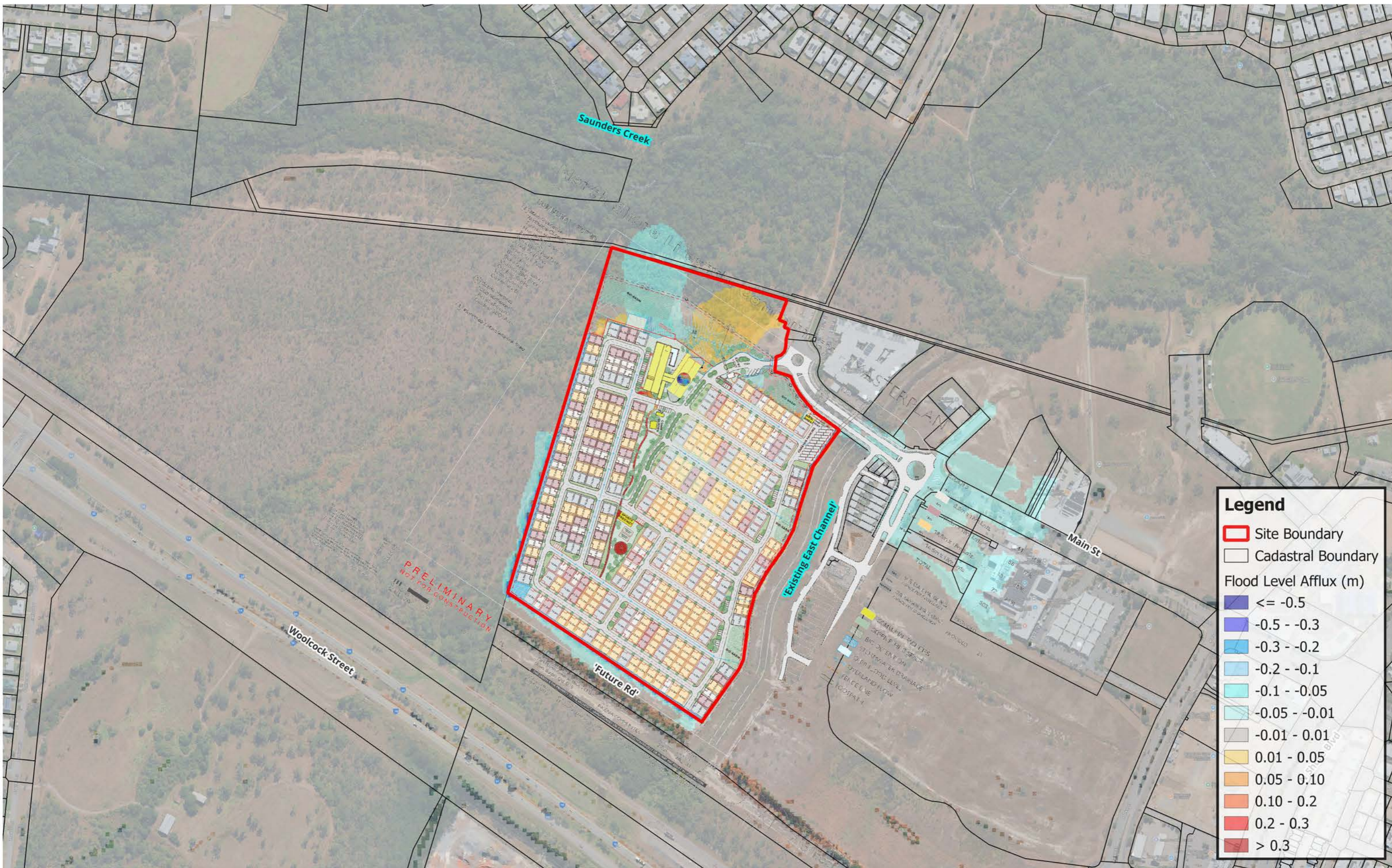
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Appendix D.2

Premise
Ingenia Lifestyle Community HIA
Flood Impact Mapping
10% AEP Flood Level Difference



Legend

- Site Boundary
- Cadastral Boundary

Flood Level Afflux (m)

- <= -0.5
- 0.5 - -0.3
- 0.3 - -0.2
- 0.2 - -0.1
- 0.1 - -0.05
- 0.05 - -0.01
- 0.01 - 0.01
- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.2
- 0.2 - 0.3
- > 0.3

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APPROVED: DN DATE: 23-01-2026

NOTES:

N

0 100 200 m

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Appendix D.3

Premise
Ingenia Lifestyle Community HIA
Flood Impact Mapping
1% AEP Flood Level Difference

Dwg Ref:

APPENDIX B

Amended Concept Plans prepared by OEG Group

brazier motti



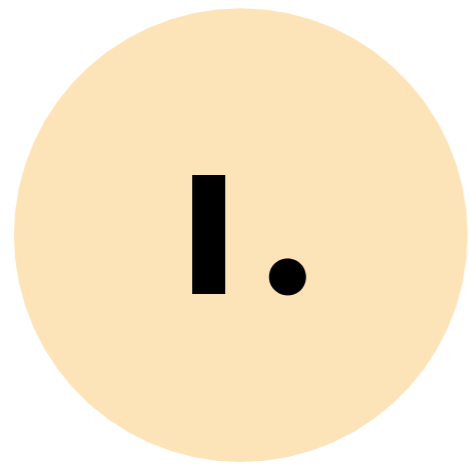
NORTH SHORE INGENIA COMMUNITIES

JOB 25026 - DEVELOPMENT APPROVAL PACKAGE

ISSUE D 26/3/2026

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HOUSING



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LANDSCAPE INTENT

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North Shore Lifestyle Community - LOCALITY PLAN

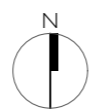
LEGEND

- SITE
- 1. LOCAL FACILITIES & AMENITIES
- 2. TOWNSVILLE AIRPORT
- 3. TOWNSVILLE CBD
- 4. PORT OF TOWNSVILLE



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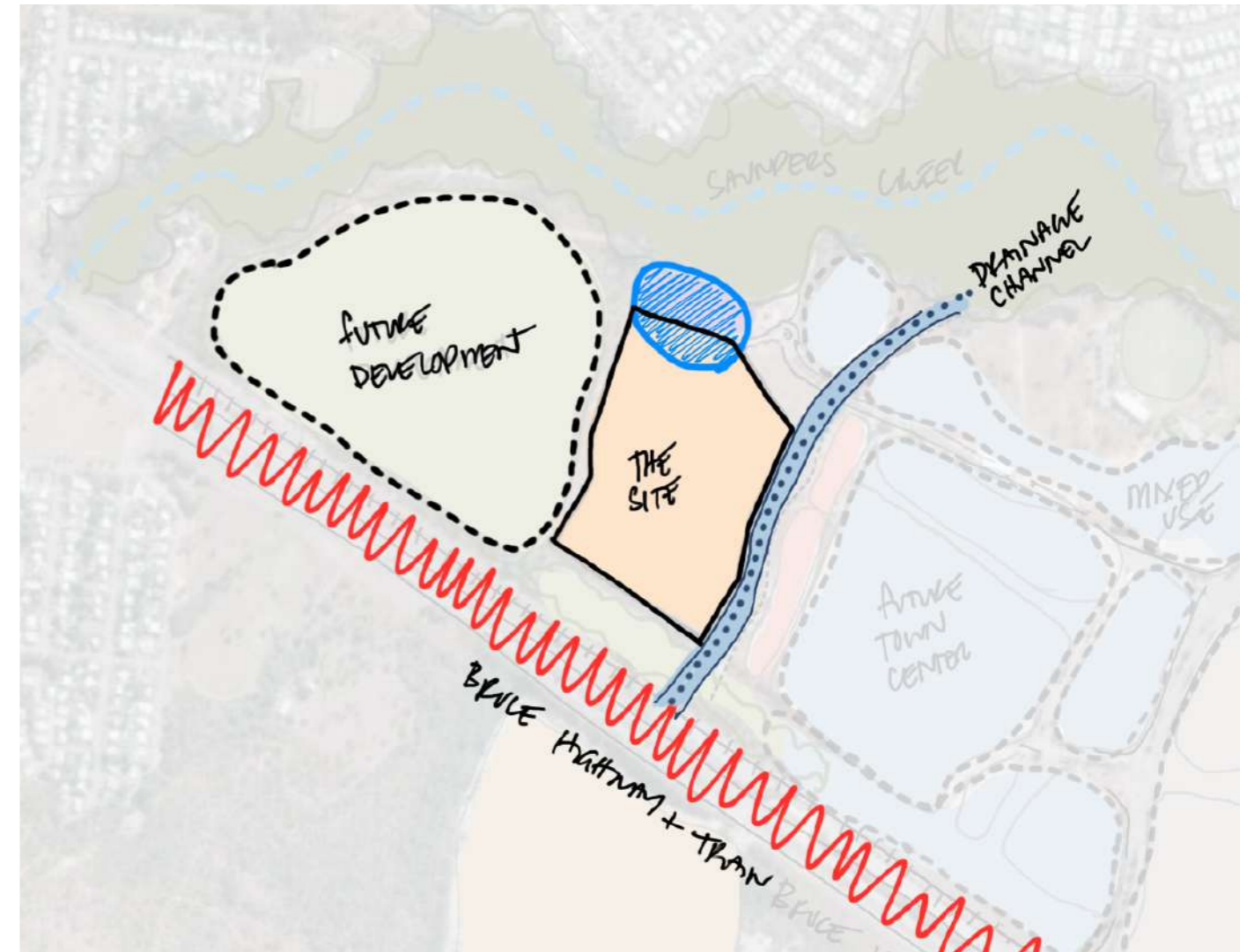
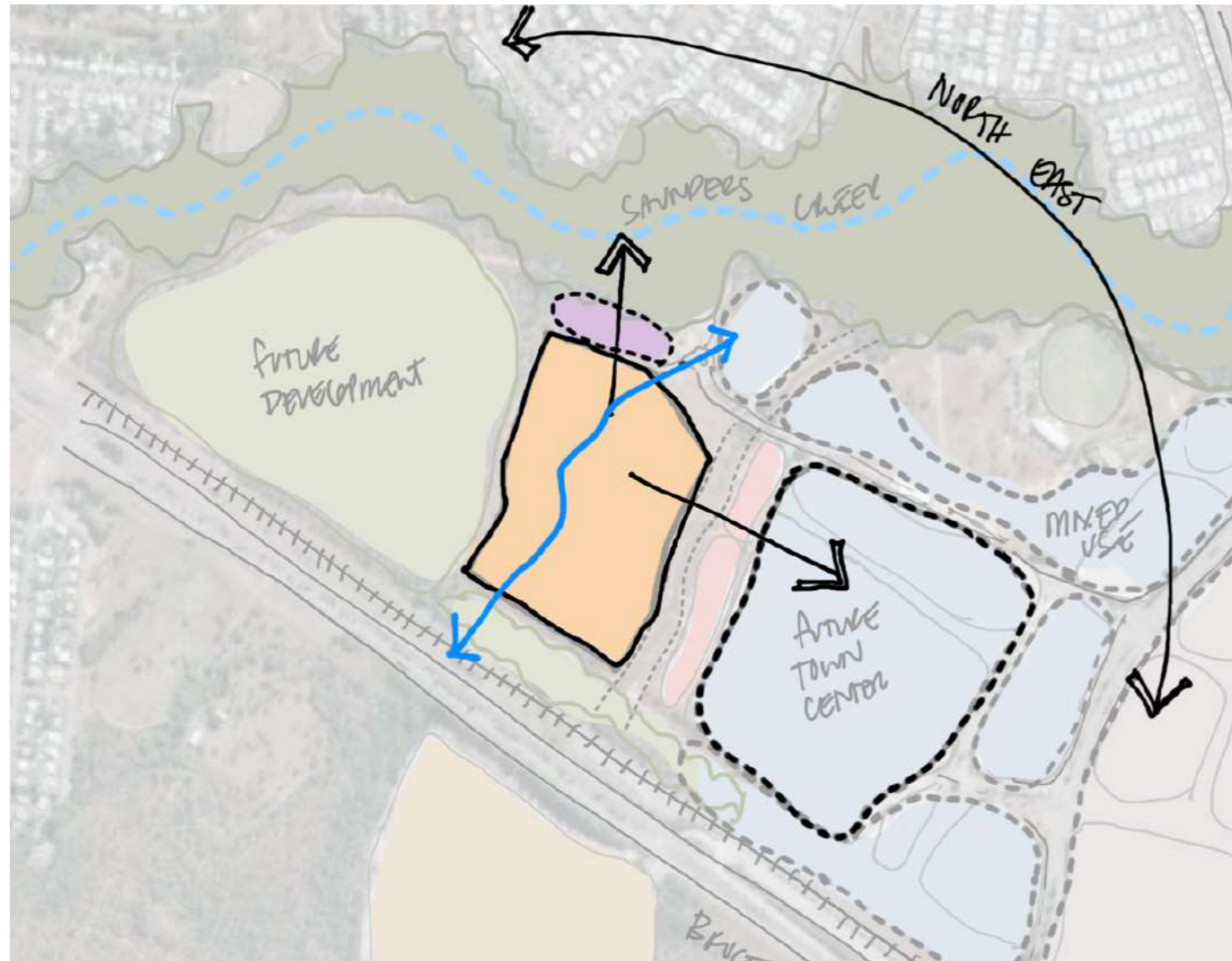
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North Shore Lifestyle Community - OPPS & CONS



OPPORTUNITIES

- SAUNDERS CREEK + EXISTING VEGETATION
- THE SITE
- CONNECTION TO SAUNDERS CREEK + TOWN CENTRE
- EXISTING WATER COURSE
- POTENTIAL BIO USE? TBC BY CIVIL

CONSTRAINTS

- THE SITE
- BRUCE HIGHWAY + TRAIN
- LOW LYING / FLOODING
- EXISTING DRAINAGE CHANNEL
- FUTURE DEVELOPMENT TO WEST

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North Shore Lifestyle Community - DESIGN STATEMENT



The vision is to create a community-oriented development that is sensitively integrated into its site context and designed to respond to the local climate. The proposal enhances the site's surrounding natural attributes and reflects Northshore's contemporary urban identity, fostering a distinct sense of place with a strong connection to its environment, creating a harmonious and community-focused outcome for the area.

SENSITIVE TO LOCAL CHARACTER

The masterplan draws inspiration from Saunders Creek, weaving its natural qualities through the site as a unifying landscape element. A central landscape spine connects the community, offering spaces for recreation, pedestrian movement, and shade, while providing a natural wayfinding route throughout the development.

SENSE OF COMMUNITY

The masterplan fosters community connection and social interaction through a network of communal open spaces, that support a variety of activities, from active play and exercise to moments of quiet reflection. These spaces are designed to be inclusive and accessible, promoting the health and wellbeing of all residents.

CLIMATE RESPONSIVE

The design responds to Northshore's tropical climate by maximising north-eastern aspects for sunlight and natural ventilation. Built form and landscaping provide shade and protection from the western sun, creating comfortable outdoor environments.

CONNECTIVITY & WALKABILITY

Designed with community in mind, the village fosters a welcoming, walkable environment. A network of pathways accommodates the sloping terrain, ensuring residents enjoy a safe, accessible, and connected lifestyle reminiscent of a vibrant village atmosphere.

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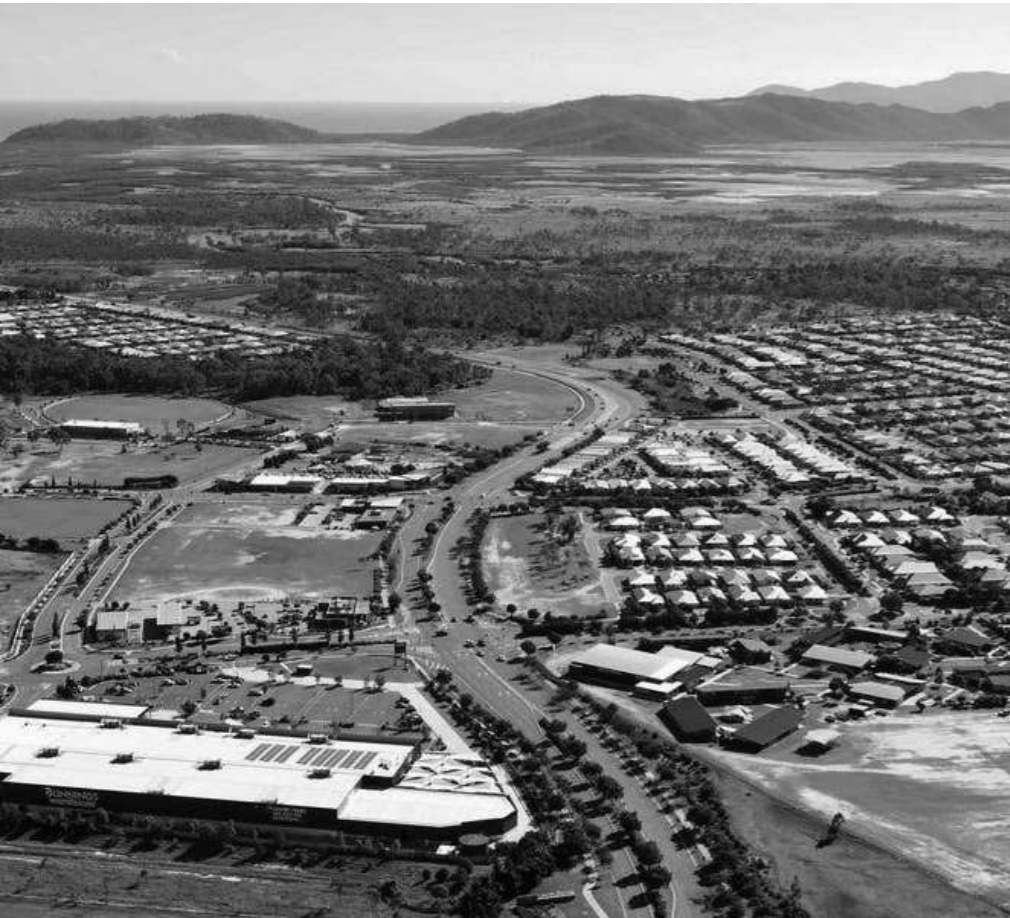
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North Shore Lifestyle Community - DESIGN PRINCIPLES



SENSITIVE TO LOCAL CHARACTER

Connect with natural features (Saunders Creek)
Enhance views to distant mountains
Emerging community

UTILISE EXISTING SITE FEATURES

Existing watercourse as a unique site feature
Create a strong landscape and pedestrian spine
Way finding device through the site
Connecting communal precincts

CONNECT WITH SAUNDERS CREEK

Respond to natural surrounding features
Existing water course & vegetation
Wildlife habitat and protect corridors

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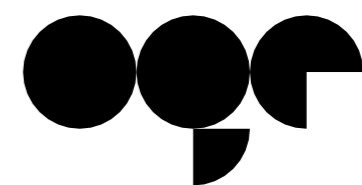
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North Shore Lifestyle Community - DESIGN PRINCIPLES



STRONG SENSE OF COMMUNITY

Encourage community interaction
 Provide spaces to gather
 Provide social active spaces
 Provide quiet, contemplation spaces



CLIMATE RESPONSIVE & SUSTAINABILITY

Prioritise North / North East aspect
 Shelter from the West
 Prioritise health and wellbeing
 Spaces for all seasons



CONNECTION & WAY FINDING

Prioritise Pedestrian connectivity & walkability
 Vehicular connectivity
 Morning & afternoon walking track
 Landscape & way finding markers

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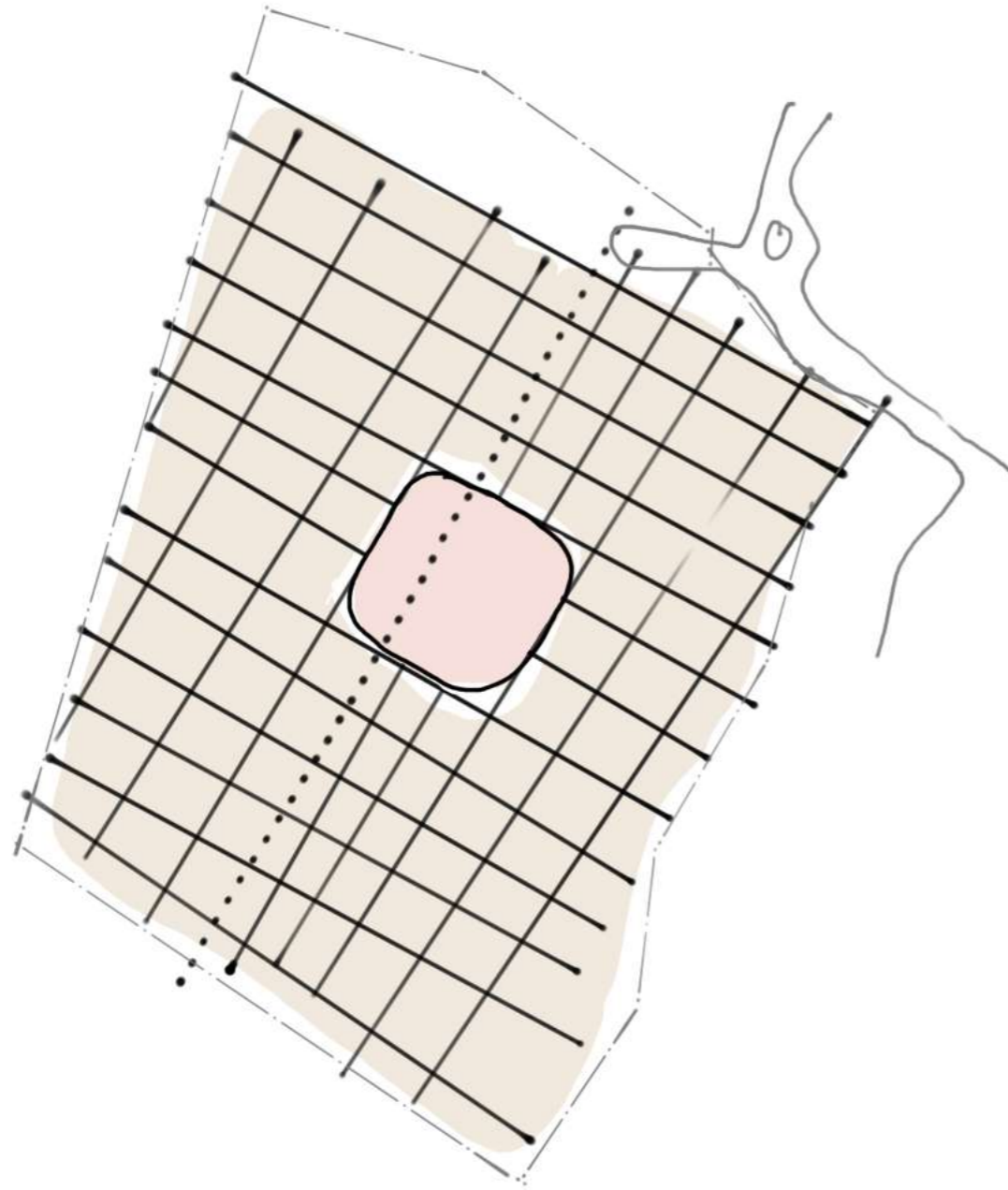
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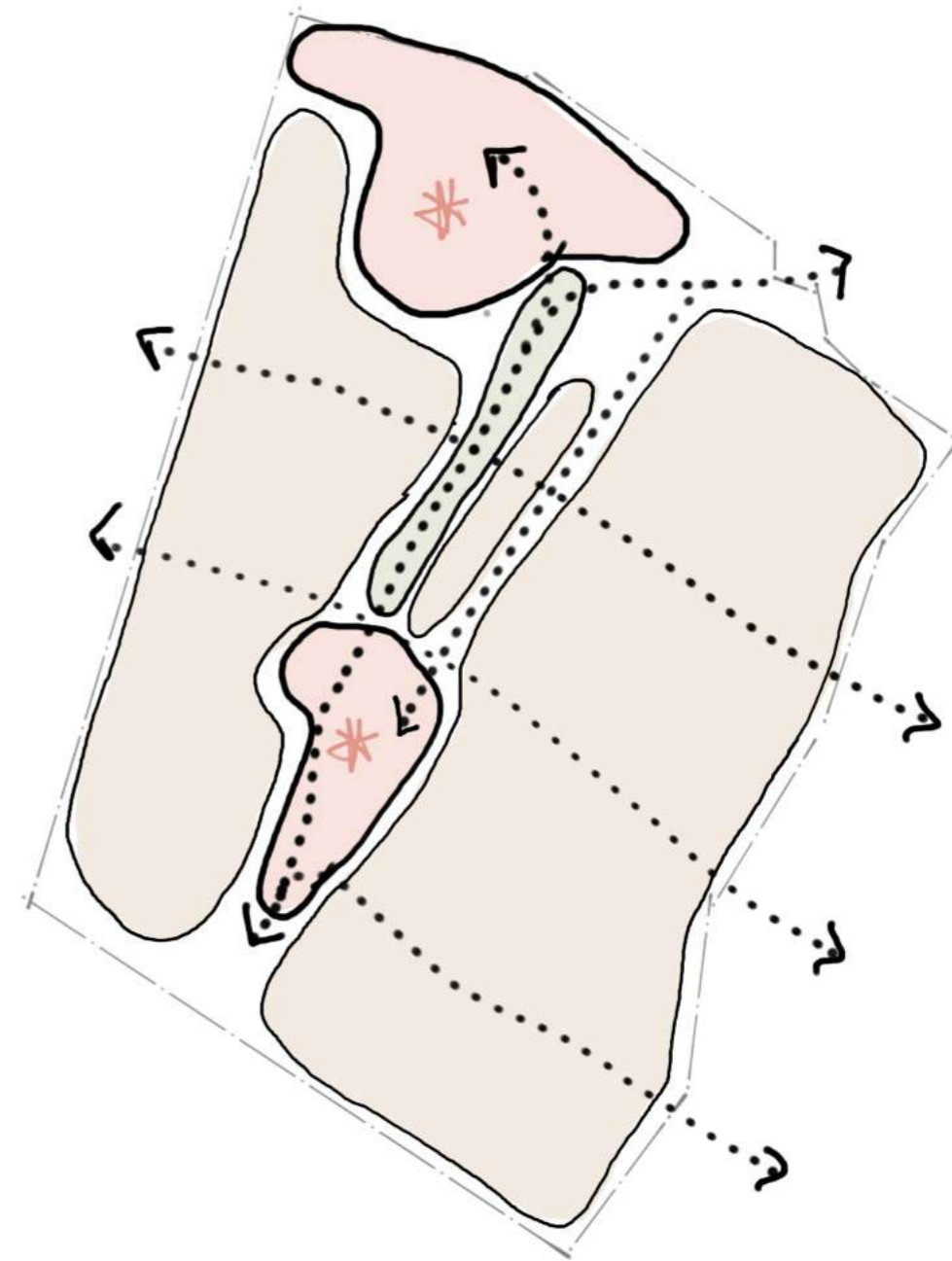


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North Shore Lifestyle Community - DESIGN APPROACH



"RACK & STACK" MASTERPLANNING



CONNECTED PRECINCTS + LINKED BY LANDSCAPE SPINE

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