Flood Assessment Report

101 Yarraman Road, South Nanango

26 February 2026

J12661 v1.0

STORM WATER CONSULTING

Job No: J12661 v1.0

Job Name: 101 Yarraman Road, South Nanango

Report Name	Date	Report No.
Flood Assessment Report	26 February 2026	J12661 v1.0

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1.0 INTRODUCTION

Storm Water Consulting Pty Ltd was commissioned by Anthony Saad to prepare a Flood Assessment Report for the proposed subdivision of 101 Yarraman Road, South Nanango.

This report has been prepared to identify the 1% AEP flood extent affecting the property and to assess potential hydraulic impacts resulting from the proposed subdivision. Responses to the Flood Hazard Overlay section of the Rural Zone Code and the Reconfiguring a Lot Code (South Burnett Regional Council Planning Scheme 2017) are also presented in this report.

2.0 SITE CONDITIONS

2.1 Existing Site

The subject site is located approximate 3.5km south-east of the Nanango town centre. The majority of the subject site is covered with dense vegetation and trees. The subject site is bound by Old Yarraman Road to the west, Old Esk North Road to the east and by private properties to the north and south. An existing site plan is presented in Figure 1, Appendix A. A locality plan is presented in Figure 2.1 below.

Figure 2.1 – Locality Plan (Source: Google Earth)

The subject site is located within Council's Flood Hazard Overlay (Overlay Map 03), as depicted in the extract presented in Figure 2.2 on the following page.

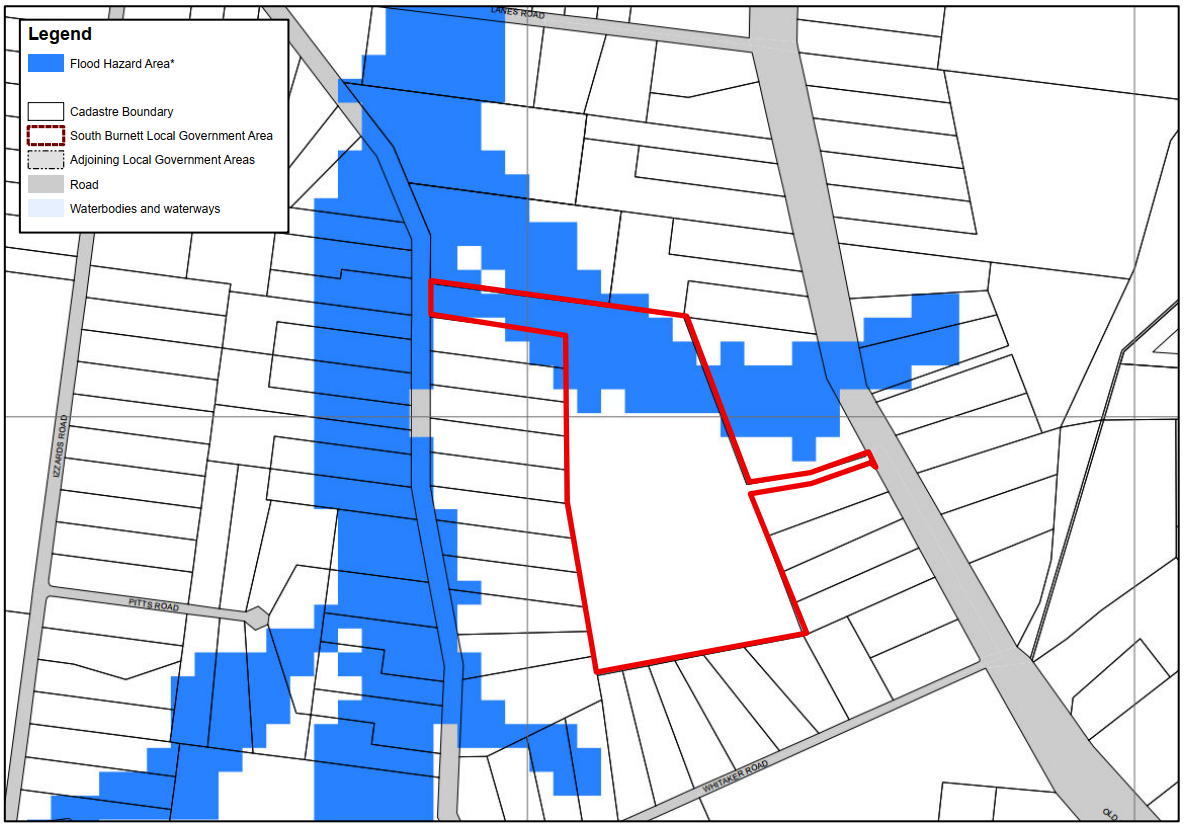


Figure 2.2 – Extract of Overlay Map 03

2.2 Developed Site

It is proposed to undertake a 1 into 2 lot subdivision by subdividing off the north-western portion of the subject site (new lot would be approximately 2 hectares in area). The new lot would have access via Old Yarraman Road. A concept subdivision plan is presented in Figure 2, Appendix A.

3.0 HYDROLOGIC ANALYSIS

The northern portion of the subject site is affected by overland flow flooding from a 130-hectare catchment to the east (Catchment B). Old Yarraman Road is impacted by overland flow flooding from a 608-hectare catchment to the south (Catchment A). The overland flow paths converge downstream of the subject site.

URBS hydrologic modelling was undertaken to produce inflow hydrographs for input into the TUFLOW hydrodynamic model. A schematic representation of the URBS model is presented in Figure 4, Appendix A. URBS data files are presented in Appendix D. IFD data was based on BOM 2016 rainfall. A summary of the adopted URBS parameters is presented in Table 3.1 below.

Table 3.1 – URBS Model Parameters

AEP	Storage Coefficient	Non-Linearity Index	Initial Rainfall Loss	Continuing Rainfall Loss
%	α	m	mm	mm/hr
63	1.2	0.8	15	2.5
50	1.2	0.8	15	2.5
20	1.2	0.8	15	2.5
10	1.2	0.8	15	2.5
5	1.2	0.8	15	2.5
2	1.2	0.8	15	2.5
1	1.2	0.8	0	2.5

The critical storm duration for the 1% AEP event on the subject site is the 60-minute storm (temporal pattern J). The inflow hydrographs adopted in TUFLOW are presented in Figure 3.1 below. The 1% AEP peak discharge from Catchment A (boundary condition Inflow-1) is 63.0 m³/s. The 1% AEP peak discharge from Catchment B (boundary condition Inflow-2) is 26.4 m³/s.

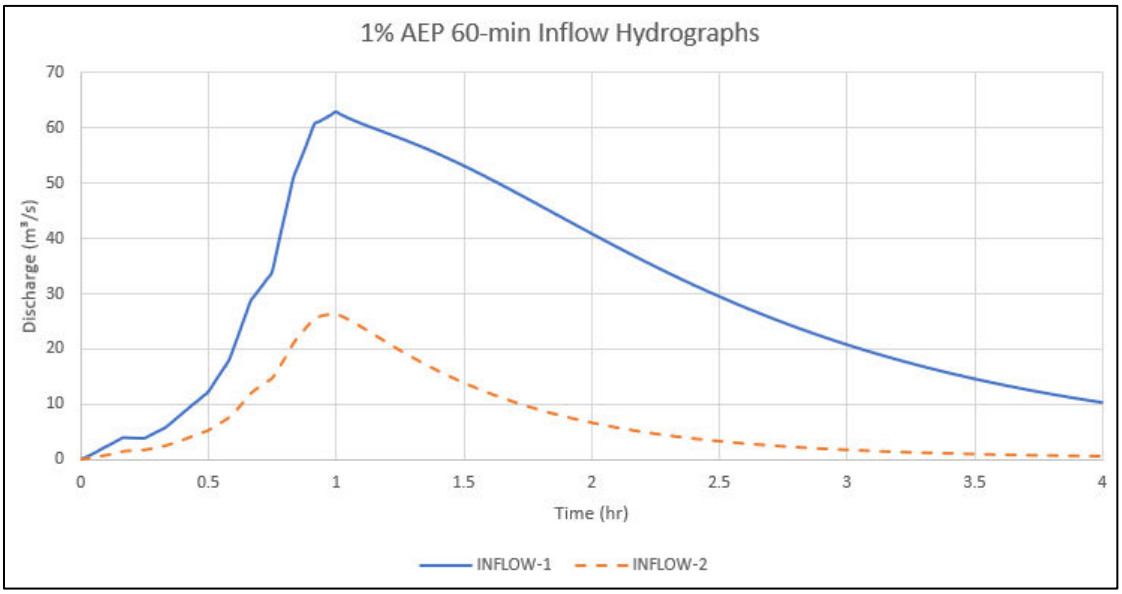


Figure 3.1 – Inflow Hydrographs for TUFLOW

4.0 HYDRODYNAMIC MODELLING

TUFLOW 2D hydrodynamic modelling was undertaken to determine the extent of inundation and to assess the potential hydraulic impacts of the proposed subdivision.

A schematic of the TUFLOW model is presented in Figure 5, Appendix A. The TUFLOW model was based on a 2m grid size with elevation data assigned from the ALS survey data sourced from the Queensland State Government. The inflow hydrographs presented in Figure 3.1 were input into the model as discharge-time (QT) boundary conditions. The downstream boundary condition was set as a height-discharge (HQ) relationship based on the natural ground slope. Manning's roughness coefficient values of n=0.10 and n=0.02 were used in the model to represent private properties and roads respectively.

The 1% AEP flood contours, depths, velocities and velocity-depths are presented in Figures 6a to 6d, Appendix A respectively. The model results show that the eastern portion of the subdivided lot would be inundated during a 1% AEP event. Inundation is generally contained within the flow path, reaching up to 1.7 m in depth. Flow velocities are generally less than 1.2 m/s along the flow path. Velocity-depth products reach up to 2 m^2/s along the flow path.

The model results show that a new dwelling would be able to be constructed on the new subdivided lot, located outside of the 1% AEP flood extent. The proposed subdivision would not create any adverse impacts on neighbouring properties. The entire road frontage of the new subdivided lot would be flood-free during the 1% AEP flood event. The new subdivided lot would satisfy flood-free trafficable access requirements. A developed TUFLOW model to further assess hydraulic impacts would not be required.

5.0 CONCLUSIONS

This report has been prepared to assess the flood extent and to assess the potential hydraulic impacts of the proposed subdivision of 101 Yarraman Road, South Nanango.

TUFLOW model results show that the eastern portion of the new subdivided lot would be inundated during a 1% AEP event. Inundation is generally contained within the flow path, reaching up to 1.7 m in depth. Flow velocities are generally less than 1.2 m/s along the flow path. Velocity-depth products reach up to 2 m^2/s along the flow path.

TUFLOW model results also show that a new dwelling would be able to be constructed on the new subdivided lot, located outside of the 1% AEP flood extent. The proposed subdivision would not create any adverse impacts on neighbouring properties. The entire road frontage of the new subdivided lot would be flood-free during the 1% AEP flood event. The new subdivided lot would satisfy flood-free trafficable access requirements.

Responses to the Flood Hazard Overlay section of the Rural Zone Code and the Reconfiguring a Lot Code (South Burnett Regional Council Planning Scheme 2017) are presented in Appendix C.

Steve Hughes
BE Civil, MIE Aust, CPEng, RPEQ 16468

LIST OF APPENDICIES

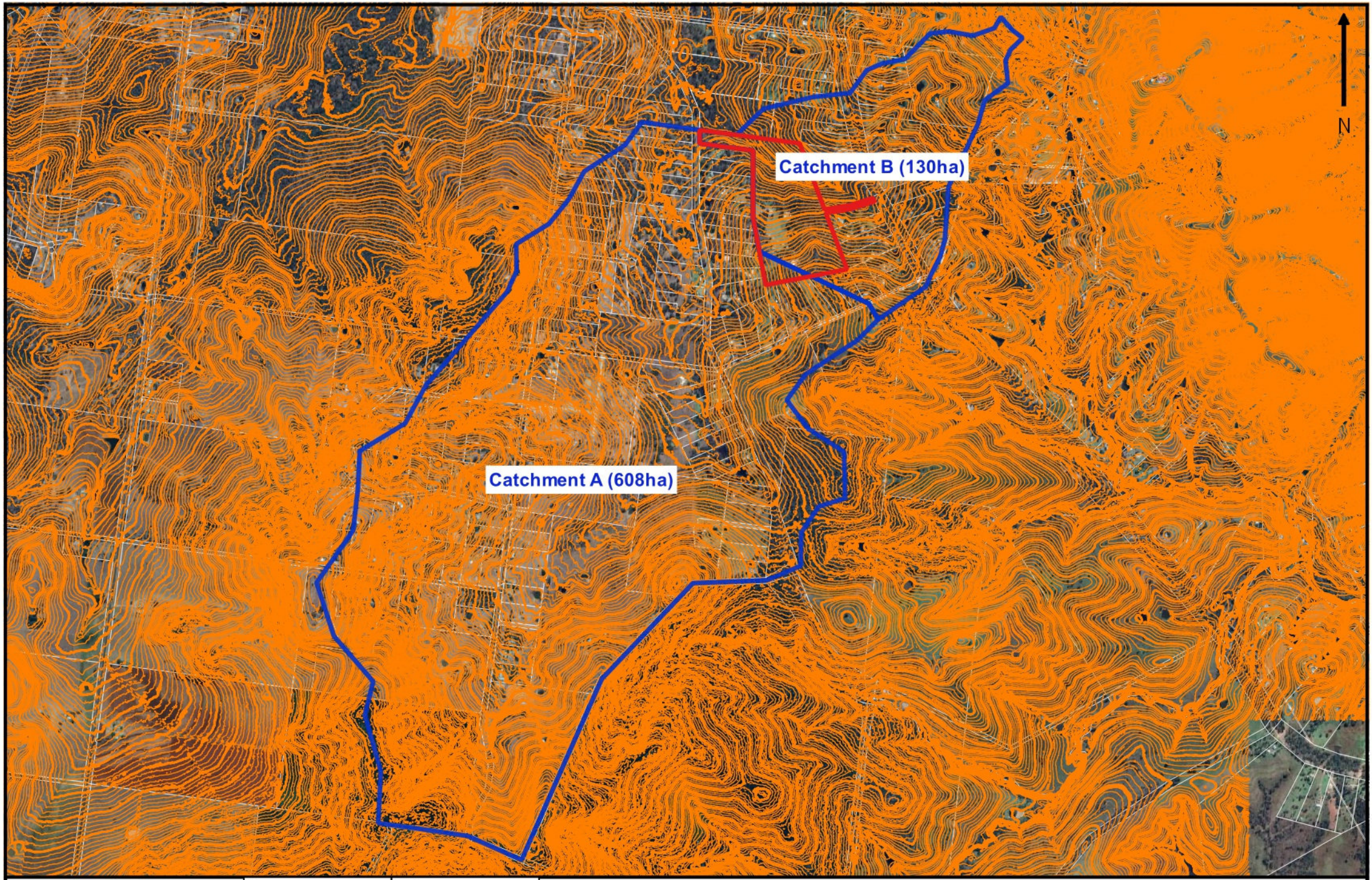
APPENDIX A

Figures

STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Phone: 0449445992	Drawn	JH	101 Old Yarraman Road, South Nanango	Figure 1
	Checked	SNH		
	Date	25/02/26		Existing Site Plan
	Scale	1:5,000 (A4)	Job No.	J12661

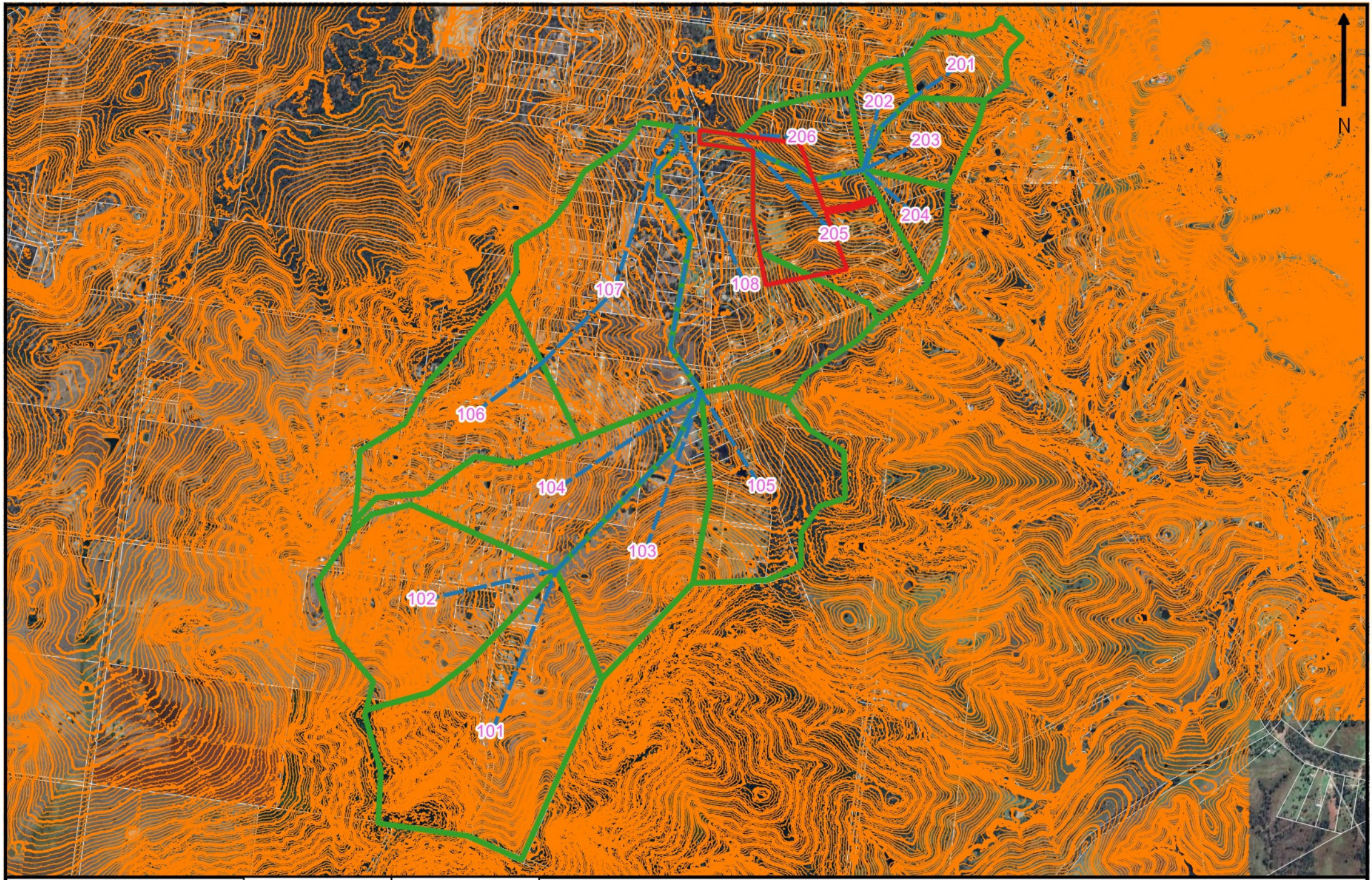
STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Phone: 0449445992	Drawn	JH	101 Old Yarraman Road, South Nanango
	Checked	SNH	
	Date	25/02/26	
	Scale	1:5,000 (A4)	Job No. J12661

Figure 2
Concept Subdivision Plan



STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Phone: 0449445992	Drawn	JH	101 Old Yarraman Road, South Nanango
	Checked	SNH	
	Date	25/02/26	
	Scale	1:25,000 (A4)	Job No. J12661

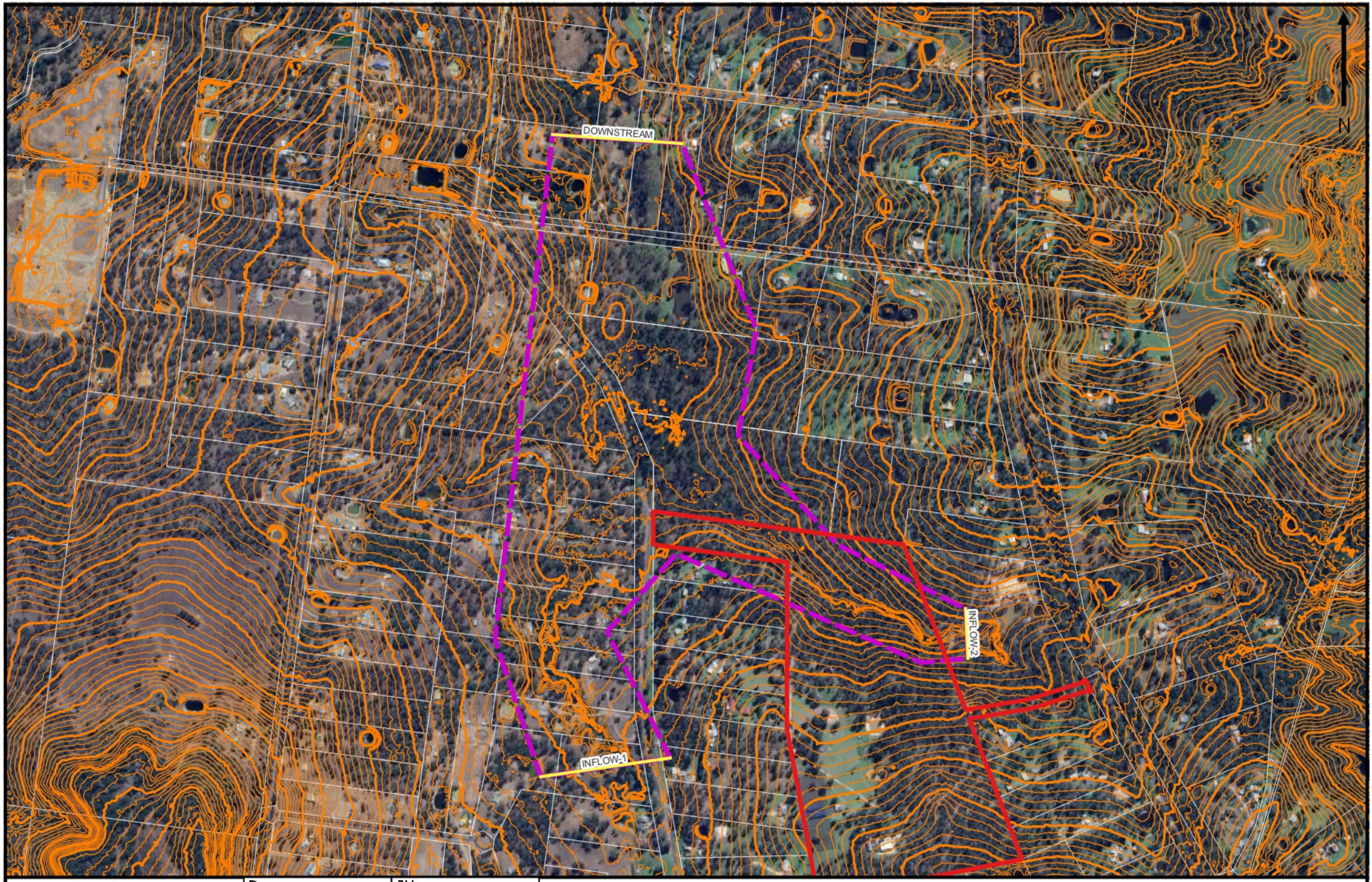
Figure 3
Catchment Plan



STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Phone: 0749445992	Drawn	JH	101 Old Yarraman Road, South Nanango
	Checked	SNH	
	Date	25/02/26	
	Scale	1:25,000 (A4)	Job No. J12661

Figure 4

URBS Model Schematic



STORM WATER CONSULTING
1/820 Old Cleveland Rd, Carina QLD 4152
Phone: 0449445992

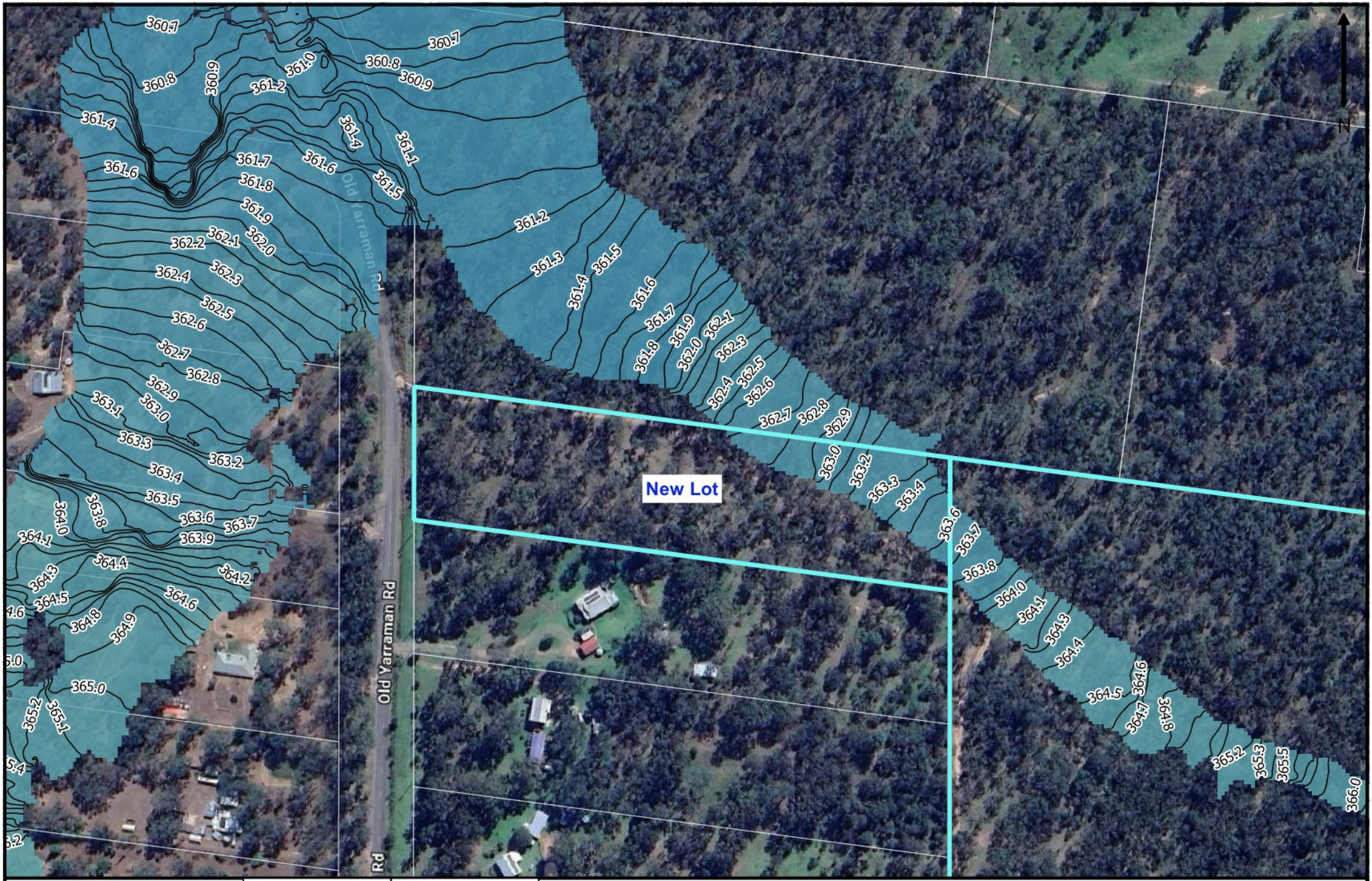
Drawn	JH
Checked	SNH
Date	25/02/26
Scale	1:10,000 (A4)

101 Old Yarraman Road, South Nanango

Job No. J12661

Figure 5

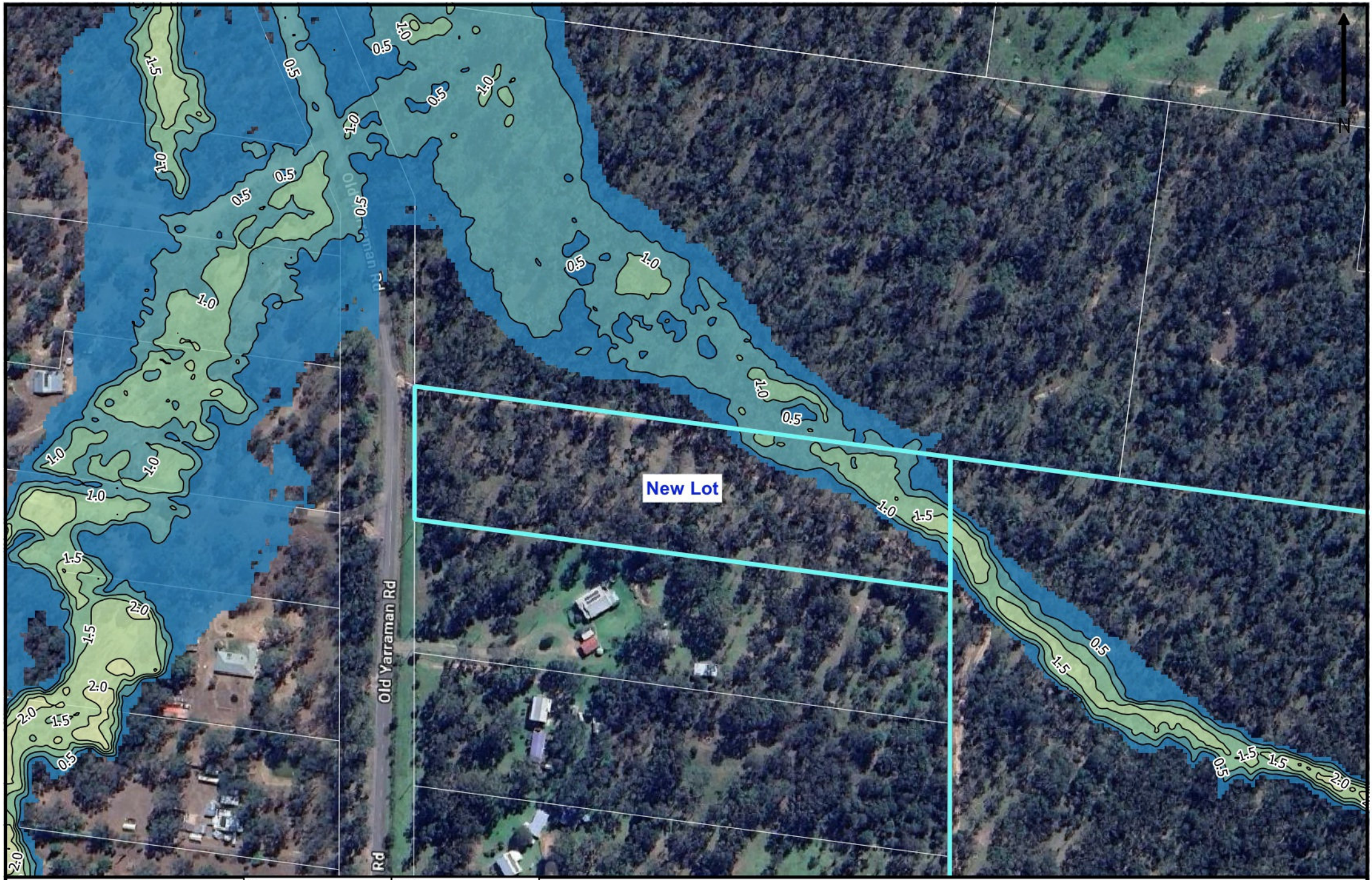
TUFLOW Model Schematic



STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Ph: 0449445992	Drawn	JH	101 Old Yarraman Road, South Nanango
	Checked	SNH	
	Date	25/02/26	
	Scale	1:2,500 (A4)	Job No. J12661

Figure 6a

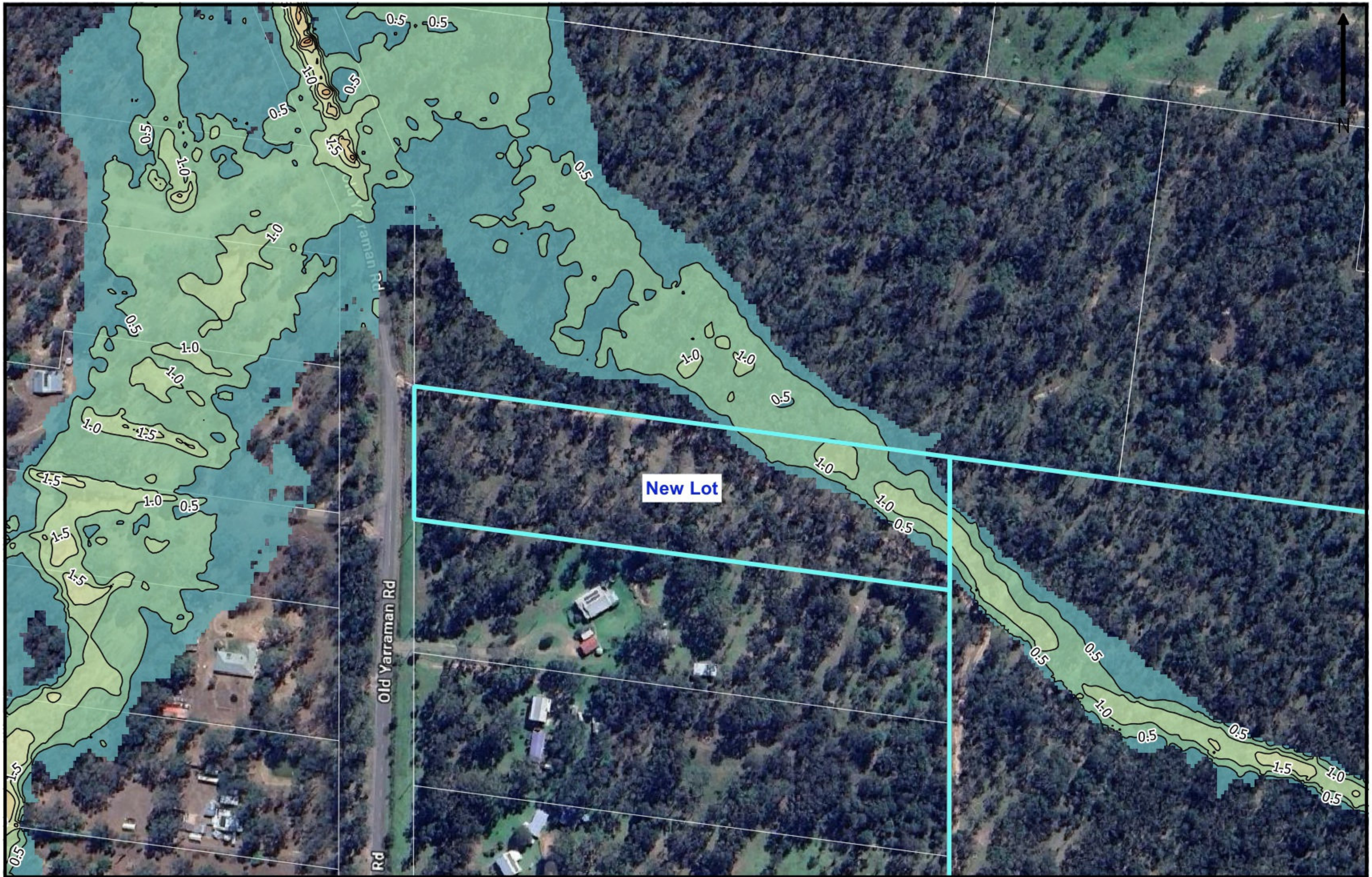
1% AEP Flood Level (m AHD)



STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Ph: 0449445992	Drawn	JH	101 Old Yarraman Road, South Nanango
	Checked	SNH	
	Date	25/02/26	
	Scale	1:2,500 (A4)	Job No. J12661

Figure 6b

1% AEP Flood Depth (metres)



STORM WATER CONSULTING
1/820 Old Cleveland Rd, Carina QLD 4152

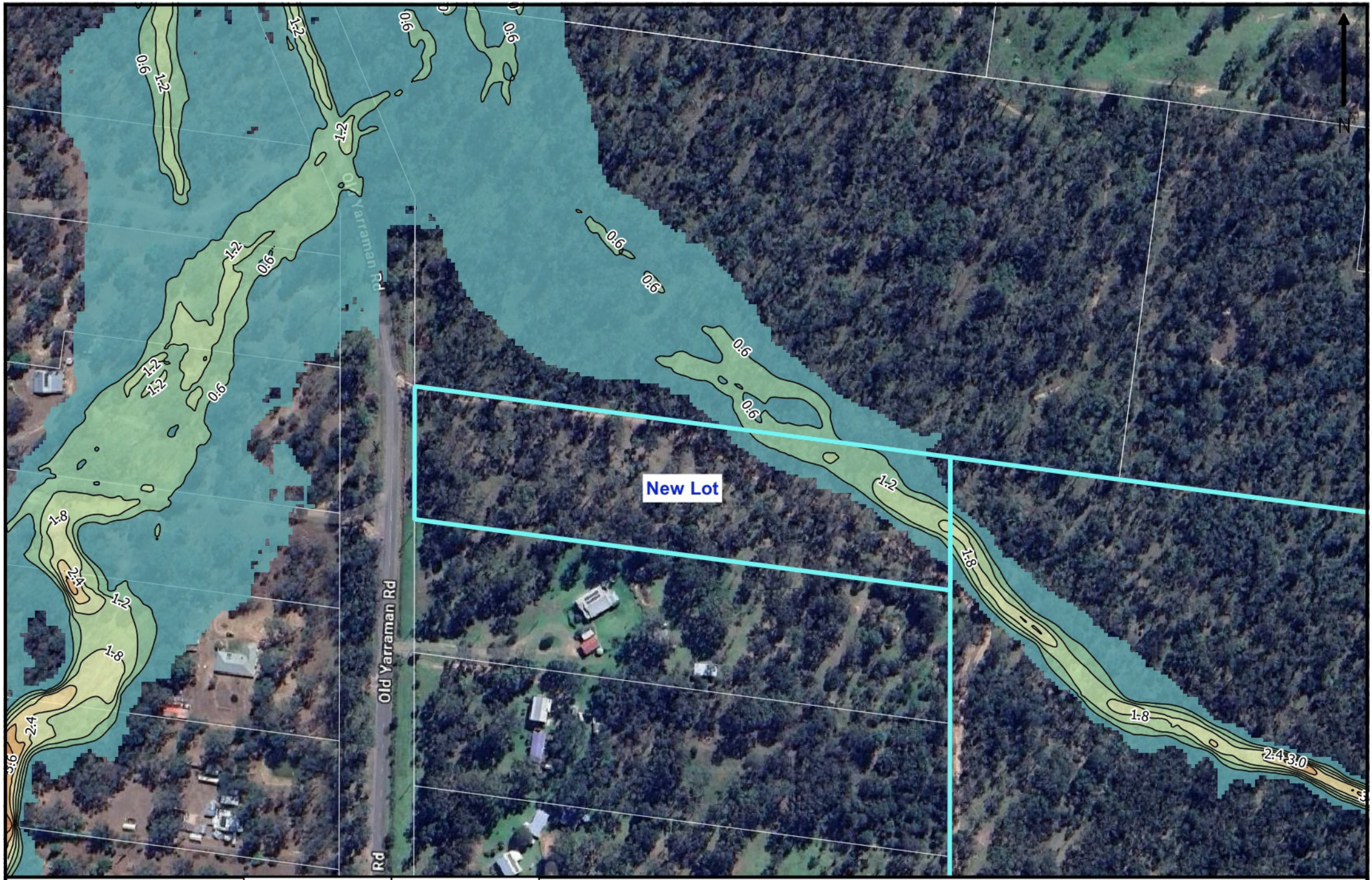
Drawn	JH
Checked	SNH
Date	25/02/26
Scale	1:2,500 (A4)

101 Old Yarraman Road, South Nanango

Job No. J12661

Figure 6c

1% AEP Flood Velocity (m/s)



STORM WATER CONSULTING 1/820 Old Cleveland Rd, Carina QLD 4152 Phone: 0449445992	Drawn	JH	101 Old Yarraman Road, South Nanango	Figure 6d
	Checked	SNH		
	Date	25/02/26		1% AEP Flood Velocity-Depth (m^2/s)
	Scale	1:2,500 (A4)	Job No. J12661	

APPENDIX B

URBS Data

12661_Dev.DAT

```
"Index","Area","UR","UF","I"
#101,1.03954,1.00,0.00,0.20
#102,0.79806,1.00,0.00,0.20
#103,0.55946,1.00,0.00,0.20
#104,0.59642,1.00,0.00,0.20
#105,0.58919,1.00,0.00,0.20
#106,0.60961,1.00,0.00,0.20
#107,1.04701,1.00,0.00,0.20
#108,0.84255,1.00,0.00,0.20
#201,0.18143,1.00,0.00,0.20
#202,0.09928,1.00,0.00,0.20
#203,0.20178,1.00,0.00,0.20
#204,0.12932,1.00,0.00,0.20
#205,0.46443,1.00,0.00,0.20
#206,0.22504,1.00,0.00,0.20
```

12661_Dev.U

```
Yarraman - Existing
MODEL: Basic
USES: L, U
Default Parameters: alpha=1.20 m=0.8
Catchment File=12661_Ex.dat

Rain    #101    L=0.932
Store.
Rain    #102    L=0.733
Get.
Route thru      #103    L=1.224
Store.
Rain    #103    L=0.890
Store.
Rain    #104    L=0.921
Store.
Rain    #105    L=0.583
Get.
Get.
Get.
Route thru      #107    L=1.575
Store.
Rain    #106    L=0.457
Route thru      #107    L=0.535
Add Rain        #107    L=0.943
Store.
Rain    #108    L=0.910
Get.
Get.
Print. INFLOW-1
Store.
Rain    #201    L=0.310
Route thru      #202    L=0.472
Store.
Rain    #202    L=0.365
Store.
Rain    #203    L=0.374
Store.
Rain    #204    L=0.374
Get.
Get.
Get.
Route thru      #205    L=0.638
Store.
Rain    #205    L=0.605
Get.
Route thru      #206    L=0.121
Store.
Rain    #206    L=0.351
Get.
Print. INFLOW-2
Route thru      #206    L=0.318
Get.
Print. TOTAL
end of catchment details.
```

APPENDIX C

Code Responses

Rural Zone Code

Table 6.2.13 – Accepted development subject to requirements and assessable development

Flood Hazard Overlay		
Performance Outcomes	**Requirements for accepted development and assessment benchmarks**	**SWC Responses**
PO35 Development is not exposed to risk from flood events by responding to flood potential and maintains personal safety at all times.	**AO35.1** (a) All new allotments include an area of sufficient size to accommodate the intended land use outside the area identified on Overlay Map 03. and (b) New buildings are not located within the area identified on Overlay Map 03. or	**PO35 addressed:** **The proposed subdivision would not be exposed to risk from flood events by responding to flood potential and maintains personal safety at all times.**
	AO35.2 (a) Development is sited above the 1%AEP flood event where known, or the highest known flood event, as follows: (i) Habitable floor levels - 500mm; (ii) Non-habitable floor levels - 300mm; (iii) On-site sewage treatment and storage areas for potential contaminants - 300mm; (iv) All other development - 0mm. and (b) Signage is provided on site indicating the position and path of all safe evacuation routes off the site.	
PO36 Development directly, indirectly and cumulatively avoids any significant increase in water flow, velocity or flood level, and does not increase the	**AO36** Works associated with the proposed development do not: (a) involve a net increase in filling greater than 50m3; or (b) result in any reductions of on-site flood	**AO36 addressed:** **The proposed subdivision would not involve a net increase in filling greater than 50m³.**

potential for flood damage either on site or other properties.	storage capacity and contain within the site any changes to depth / duration/velocity of flood waters; or (c) change flood characteristics outside the site in ways that result in: (i) loss of flood storage; (ii) loss of/changes to flow paths; (iii) acceleration or retardation of flows; or (iv) any reduction in flood warning times.	
PO37 Development avoids the release of hazardous materials into floodwaters.	**AO37.1** Materials manufactured or stored on site are not hazardous in nature. or	**Not applicable.**
	AO37.2 Hazardous materials and any associated manufacturing equipment are located above the nominated flood level.	**Not applicable.**
PO38 Community infrastructure in any area mapped as Flood Hazard is able to function effectively during and immediately after flood.	No outcome specified.	**Not applicable.**

Reconfiguring a Lot Code

Table 8.4.1 – Assessable Development

Section 4 – All reconfiguring a lot subject to an overlay – Flood Hazard Overlay		
Performance Outcomes	**Acceptable Outcomes**	**SWC Responses**
PO19 Development is not exposed to risk from flood events by responding to flood potential and maintains personal safety at all times	**AO19** All new allotments include an area of sufficient size to accommodate the intended land use outside the area identified on Overlay Map 03.	**PO20 addressed:** **The proposed subdivision would not be exposed to risk from flood events by responding to flood potential and maintains personal safety at all times.**
PO20 Development directly, indirectly and cumulatively avoids any significant increase in water flow, velocity or flood level, and does not increase the potential for flood damage either on site or other properties.	**AO20** Works associated with the proposed development do not: (a) involve a net increase in filling greater than 50m3; or (b) result in any reductions of on-site flood storage capacity and contain within the site any changes to depth / duration/velocity of flood waters; or (c) change flood characteristics outside the site in ways that result in: (i) loss of flood storage; (ii) loss of/changes to flow paths; (iii) acceleration or retardation of flows; or (iv) any reduction in flood warning times.	**AO20 addressed:** **The proposed subdivision would not involve a net increase in filling greater than 50m³.**