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JFP URBAN CONSULTANTS

SITE BASED STORMWATER MANAGEMENT PLAN

Proposed Developments at
62 KRAFT RD, 69 & 73 KRAFT RD AND 136 & 152 LAXTON RD PALLARA
for
ADC GROUP NO 12 PTY LTD & ADC GROUP NO 15 PTY LTD



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Proposed Development at
 62 KRAFT RD, 69 & 73 KRAFT RD AND 136 & 152 LAXTON RD PALLARA
 for
 ADC GROUP NO 12 PTY LTD & ADC GROUP NO 15 PTY LTD

B3602EA7_DA19_SBSMP – Revision C
 May 2026

JFP Urban Consultants Pty Ltd

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Revision	Date	Details	Prepared By	Approved By
A	29/08/2022	For Client Review & Authority Submission	CB (RPEQ 19190)	TMcK (RPEQ 5087)
B	28/07/2025	Revised development strategy	CB (RPEQ 19190)	TMcK (RPEQ 5087)
C	08/05/2026	Council Information Request Responses	 CB (RPEQ 19190)	 SM (RPEQ 8068)

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	BACKGROUND	2
2.1	62 KRAFT ROAD	2
2.1.1	INFORMATION REQUEST – NOVEMBER 2022	2
2.1.2	FURTHER ADVICE – JANUARY 2026	2
2.2	69 & 73 KRAFT RD AND 136 & 152 LAXTON ROAD	4
2.2.1	PREVIOUS APPLICATIONS & APPEAL	4
2.2.2	INFORMATION REQUEST – MARCH 2026.....	4
3.	SITE CHARACTERISTICS	6
3.1	LOCATION.....	6
3.2	TOPOGRAPHY & DRAINAGE	6
3.3	OXLEY CREEK FLOOD LEVELS	7
4.	STORMWATER QUANTITY & OVERLAND FLOW FLOODING	8
4.1	LAWFUL POINT OF DISCHARGE	8
4.2	XP-STORM MODELLING APPROACH.....	8
4.3	PRE-DEVELOPMENT SCENARIO	9
4.3.1	HYDROLOGY SET UP	9
4.3.2	HYDRAULIC SET UP	11
4.3.3	PRE-DEVELOPMENT RESULTS.....	12
4.4	POST-DEVELOPMENT SCENARIO.....	13
4.4.1	HYDROLOGY SET UP	13
4.4.2	HYDRAULIC SET UP	14
4.4.3	POST-DEVELOPMENT RESULTS	15
4.4.4	LAXTON ROAD FLOODING	17
4.4.5	POST-DEVELOPMENT FLOOD IMPACTS.....	19
4.5	ULTIMATE SCENARIO	20
4.5.1	HYDRAULIC SET UP	21
4.5.2	ULTIMATE SCENARIO RESULTS.....	22
4.6	SENSITIVITY SCENARIOS	23
4.6.1	HYDROLOGY SET UP	23
4.6.2	HYDRAULIC SET UP	23
4.6.3	SENSITIVITY SCENARIO RESULTS	23
5.	FLOOD IMMUNITY LEVELS	25
6.	STORMWATER QUALITY	27
6.1	CONSTRUCTION PHASE	27
6.2	OPERATIONAL PHASE	27
7.	CONCLUSION & RECOMMENDATIONS	28

8. DISCLAIMER 29

9. APPENDICES 29

LIST OF APPANDICES

- Appendix A – ROL Layouts
- Appendix B – Catchment Plans
- Appendix C – Rational Method Calculation
- Appendix D – Erosion Hazard Assessments
- Appendix E – Pre-Development Flood Plans
- Appendix F – Post-Development Flood Plans
- Appendix G – Flood Impact Plans
- Appendix H – BCC Trunk Drainage Design Plans (extract)
- Appendix I – Field Inlet Capture Details
- Appendix J – Trunk Drainage Preliminary Cost Estimate

1. INTRODUCTION

JFP Urban Consultants Pty Ltd has been commissioned by ADC GROUP NO 12 Pty Ltd & ADC GROUP NO 15 Pty Ltd to compile this Site Based Stormwater Management Plan for the proposed subdivisions at the following locations. Refer to **Appendix A** for the layouts.

- **62 Kraft Road, Pallara (ADC GROUP NO 12 Pty Ltd)** – a single staged subdivision, Council Application Ref: **A006135426**.
- **69 & 73 Kraft Road and 136 & 152 Laxton Road, Pallara (ADC GROUP NO 15 Pty Ltd)** – a two staged subdivision under a new application. Stage 1 covers 69 & 73 Kraft Road. Stage 2 covers 136 & 152 Laxton Road, Council Application Ref: **A006935362**.

The analyses in this report present strategies for stormwater discharge and flood management through both sites noted above. It also discusses stormwater quality management for the proposals.

Both subdivisions rely on Local Government Infrastructure Plan (“LGIP”) trunk stormwater drainage PAL-PN-001, 002, 008, 009, 003, 005, 006 & 007. The report acknowledges that the subdivisions cannot proceed until relevant trunk drainage infrastructure is in place.



Figure 1 – LGIP Stormwater Drainage

2. BACKGROUND

2.1 62 KRAFT ROAD

2.1.1 INFORMATION REQUEST – NOVEMBER 2022

The current application reference is **A006135426**. The following responses are provided for items 3-5 of the *Information Request* dated 28 November 2022.

- **RESPONSE TO ITEM 3:** Landowner consent is being coordinated for the new drainage through 70 & 78 Kraft Road to connect to the trunk network.
- **RESPONSE TO ITEM 4:** It is proposed to provide new drainage in Kraft Road to connect existing culvert to the trunk drainage system. The new drainage has been modelled as 1500 (w) x 600 (h) RCBC pipes.
- **RESPONSE TO ITEM 5:** The revised strategy with the upslope development (69,73 Kraft Rd and 136, 152 Laxton Rd) and trunk drainage included demonstrates no flood impacts to 46 Kraft Road. Refer to flood impact plans in **Appendix G**.

2.1.2 FURTHER ADVICE – JANUARY 2026

Below are the summary responses to Council's *Further Advice Email* dated 16 January 2026.

1. *Connection to the trunk drainage requires permission from downslope owners for construction as well as it will require easement in favour of Council for underground drainage purposes. It should be confirmed that the adjacent owners are provided with the easement plans and that they understand both the obligations.*
 - a) *Provide amended plans in accordance with PO3 of the Stormwater code that show confirmation from adjacent landowners about their obligations towards provision of easement for underground SW.*

RESPONSE TO ITEM 1: Please refer to Further Advice response letter prepared by *JFP Urban Consultants*.

2. *Concept LGIP stormwater details (plans and long-section) for the proposed trunk drainage needs to be provided as these will be conditioned if this application is approved. It should be noted that Council has obtained culverts for Sweet Road drainage. Costings should also be submitted.*
 - a) *Provide amended plans in accordance with PO1 of the Stormwater code that show concept design for SW trunk works and its costing.*

RESPONSE TO ITEM 2: Refer to the revised engineering plans prepared by *JFP Urban Consultants* for the conceptual design of the trunk stormwater from Kraft Road to the Sweets Road outlet. Refer to **Appendix J** for preliminary costings.

3. *A stormwater easement for major flows through a freehold lot does not comply with the Stormwater code and are not suitable on residential lots as garden sheds/gardens are typically build over such easements. Additionally, the lot will require freeboard to the flows in this swale. Also, swale through verge cannot be constructed as proposed.*
- a) *Provide amended plans in accordance with PO1 of the Stormwater code that addresses the issue raised above.*

RESPONSE TO ITEM 3: The easement has been changed to a dedicated drainage reserve. The 2% AEP water levels in the swale range from 18.2m AHD to 17.4m AHD. The adjacent lots 13 and 14 pad RLs 18.60 achieve the minimum 0.3m freeboard.

4. *The Kraft Road frontage piped stormwater drainage (at existing headwall) is proposed in the verge. Stormwater chamber should be within the road pavement.*
- a) *Provide amended plans in accordance with PO1 & PO3 of the Stormwater code that show Kraft Road underground drainage to run within the proposed pavement.*

RESPONSE TO ITEM 4: This underground drainage has been realigned to run under the pavement. Refer to the revised preliminary engineering plans prepared by *JFP Urban Consultants* (not attached to this report).

5. *An overland flow easement is required in favour of Council over towards the rear of proposed Lot 12. This should be shown on ROL plan.*
- a) *Provide amended plans in accordance with PO1 of the Stormwater code & PO18 of the Flood overlay code that show an easement for overland flow towards rear of Lot 12.*

RESPONSE TO ITEM 5: The easement has been changed to a dedicated drainage reserve.

6. *Flood model must be amended to include:*
- *The trunk pipe on Laxton Road must connect to the existing concrete channel via a new large inlet to capture as much of the 10% AEP flow as possible. Provide model inlet capture details on that inlet.*
 - *The impact on Laxton Road as a result of this development needs to be reduced as the access to the site is through this road connection. This road should provide a suitable standard of service. A new inlet may help reduce the impacts.*
 - *Figure 9 in Flood Study shows inactive polygons over Council owned 38 Kraft Road. This area should not be assumed to be filled in the modelling as this is park/ environmental area. Additionally, polygons on the 121 and 97 Sweets Road developments should be consistent with that proposed in development proposals.*
 - *The sensitivity scenario shall include AR&R climate change provisions, especially as it is downslope of a dam. This could be a simple factoring up of 1987 IFD used in the hydrology*
 - a) *Provide amended flood model in accordance with PO7 & PO17 of the Flood overlay code that incorporate issues raised above.*

RESPONSES TO ITEM 6:

- A field inlet with a minimum 2.4m x 1.2m opening is proposed at the end of the existing concrete channel. Refer to **Appendix I** for inlet capture modelled and **Figure 2** for the schematic.
- The results showed improvements on Laxton Road in a 10% AEP however it did not notably reduce the flood level impacts in a 2% AEP storm event. Still, the 2% AEP flooding on Laxton Road complies

with the QUDM (2016) as the flood depths do not exceed 300mm and DV products do not exceed $0.4\text{m}^2/\text{s}$. Refer to **Section 4.4.4** for further details.

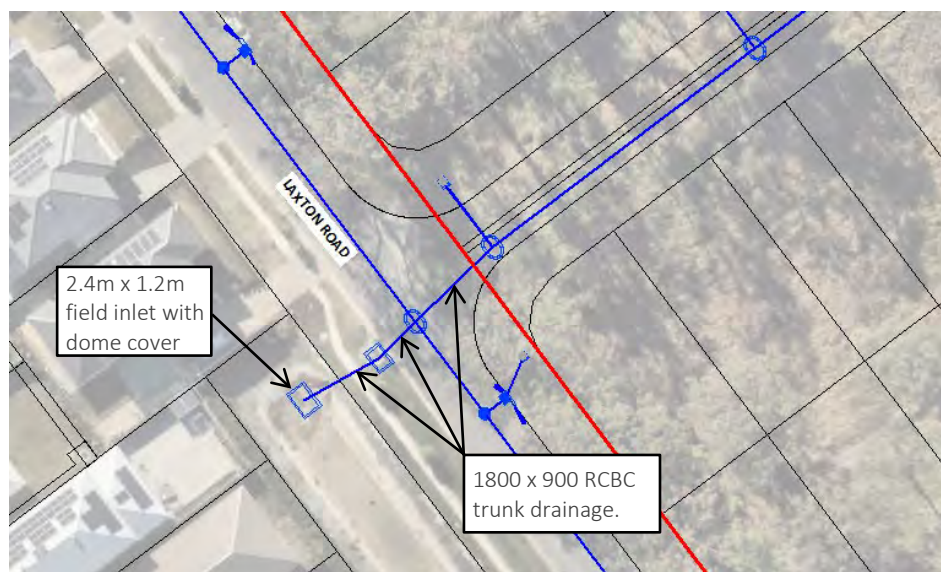


Figure 2 – Proposed Field Inlet (Schematic Only)

- The inactive polygons over Council owned 38 Kraft Road has been removed and the polygons on 97 & 121 Sweets Road amended to align with their development proposals. Refer to **Section 4.5**.
- Additional sensitivity scenarios have been included, as presented in **Section 4.6**, including allowance for climate change provisions by adopting a 20% increase in 2% AEP rainfall intensities. The results confirm that the new lots remain flood free.

2.2 69 & 73 KRAFT RD AND 136 & 152 LAXTON ROAD

2.2.1 PREVIOUS APPLICATIONS & APPEAL

There were a previous application and an appeal over 136 & 152 Laxton Road Pallara (Council Ref: A005828927). The appeal has been discontinued, however the technical feedback and additional modelling undertaken by Mr. Martin Giles from *Water Engineering Partners* in the appeal process have been taken into consideration in the revised XP-STORM modelling presented in this report.

The current application reference for the properties 69 & 73 Kraft Road and 136 & 152 Laxton Road is A006935362.

2.2.2 INFORMATION REQUEST – MARCH 2026

Below are the summary responses to Council's *Information Request* dated 9 March 2026.

1. *The flood analysis sensitivity scenario is required to include AR&R climate change provisions, especially as it is downslope of a basin. This could be a simple factoring up of the 1987 IFD used in the hydrology in accordance with SSP2-4.5. It must be ensured that new lots do not flood as a result of this sensitivity scenario. In addition, sensitivity analysis should include the risk to adjacent lots on Laxton Road and lots along the new neighbourhood road in the case of a dam failure.*

a) *Provide an amended Flood Report in accordance with PO17 and PO18 of the Flood overlay code to include a sensitivity analysis as detailed above.*

RESPONSES TO ITEM 1: Refer to **Section 4.6** for the 2% AEP sensitivity scenarios. The results confirm that the new lots remain flood free with climate change provisions. The results further confirm that the new lots on Laxton Road remain flood free in the case of a dam failure.

2. The Laxton Road frontage requires a standard Type D kerb and channel with verge that includes the provision of gullies prior to entrance into the site through the proposed neighbourhood road. Furthermore, a stormwater upslope connection along the Laxton Road frontage to the boundary of 120 and 168 Laxton Road must be provided for connection to the trunk stormwater system.

a) Provide amended plans in accordance with PO3 and PO11 of the Stormwater code and PO4 of the Infrastructure design code that addresses issue raised above.

RESPONSES TO ITEM 2: Standard Type D kerb and channel is proposed on Laxton Road as well as the gully pit. The verge profile has been determined with Arborist input to minimise risk to the existing trees on the verge.

Stormwater upslope connections can be provided along Laxton Road for the adjacent properties 120 and 168 Laxton Road. Refer to revised preliminary engineering plans prepared by *JFP Urban Consultants* (not attached to this report).

3. Downstream owner's permission is required to construct trunk stormwater drainage along with an easement in favour of Council for underground drainage purposes, alternately a notice of intent to resume land for provision of such infrastructure by the Queensland Government should be provided.

a) Provide amended plans and downstream owners consent in accordance with PO19 of the Stormwater code to assure that downstream trunk infrastructure will be constructed prior to the completion of this development.

RESPONSES TO ITEM 3: Please refer to Information Request response letter prepared by *JFP Urban Consultants*.

4. Council may consider a performance outcome with no provision for stormwater quality basins; however, this would require street tree Water Sensitive Urban Design (WSUD) treatments in local streets (i.e. 1 WSUD for every 3 lot frontages). In addition, the Stormwater Report should provide qualitative statements about why a non-basin option is an acceptable outcome for this large site and commentary on how the neighbourhood road swale, drainage reserve rehabilitation/dedication areas and end of line wetland treatments may all contribute to improve quality of the waterway health.

a) Provide amended plans in accordance with PO15 of the Stormwater code that show stormwater quality targets are met with or without the provision of a bio-basin.

RESPONSES TO ITEM 4: Please refer to **Section 6.2**.

3. SITE CHARACTERISTICS

3.1 LOCATION

The site is in Brisbane City Council (“BCC”) local government area. The real property descriptions are listed in **Table 1** and Nearmap imagery is presented on **Figure 3**, as well as nearby applications.

Table 1 – Property Details

Address	Lot & RP	Plan Area (ha)
62 Kraft Road	106 RP87803	1.615
69 Kraft Road	2 SP339110	0.731
73 Kraft Road	92 RP87803	1.619
136 Laxton Road	75 RP87803	1.619
152 Laxton Road	74 RP87803	1.619



Figure 3 – Nearmap Imagery (May 2025)

3.2 TOPOGRAPHY & DRAINAGE

Under existing conditions, the sites generally slope in a north-eastern direction at very flat grades ranging from 0.2% to 0.5%. There is no formal drainage on any of the sites. Runoff sheet flows following the natural topography. The ground levels range from approximately RL 19m AHD on Laxton Road to approximately RL 18m AHD on Kraft Road.

There is an existing detention basin upslope of Laxton Road ('existing Basin 1') that discharges runoff into 136 & 152 Laxton Road via a 1200 (w) x 300 (h) RCBC. There is also an existing detention basin upslope of Kraft Road that discharges runoff toward 62 Kraft Road via 1500 (w) x 600 (h) RCBC. This is

temporary and is expected to be removed once trunk drainage pipes are in place. Both detention basins have been included in the hydraulic analyses presented in this report.

3.3 OXLEY CREEK FLOOD LEVELS

The *Floodwise Property Reports* for 136 Laxton Road and 152 Laxton Road both state 19.8m AHD as the 1% AEP flood level. Based on previous discussions Mr. James Langston from BCC, it is understood that this value is based on existing floodplain condition scenario and will be irrelevant once the site is developed.

Instead, the 1% AEP flood levels for the ultimate floodplain condition scenario have been downloaded from BCC's Open Data portal (<https://data.brisbane.qld.gov.au/pages/home/>) and utilised for the creek flood assessment. Refer to **Table 2** and **Figure 4** for varying flood levels.

Table 2 – Oxley Creek Flood Levels

Point Location (see Figure 3)	1% AEP Flood Level (m AHD)
Point 1	19.35
Point 2	19.30
Point 3	19.20
Point 4	19.10
Point 5	18.90
Point 6	18.55
Point 7	18.30

The above flood levels have been utilised for nominating minimum flood immunity levels in **Section 5**.

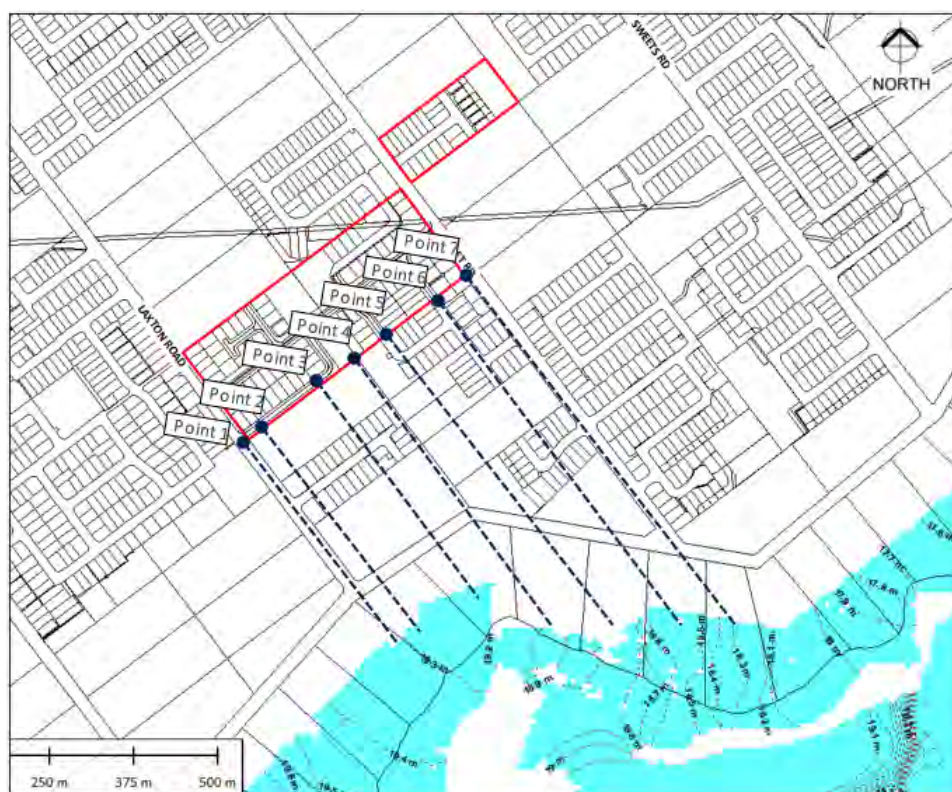


Figure 4 – Oxley Creek 1% AEP Flood Heights (Ultimate Floodplain Condition Scenario)

4. STORMWATER QUANTITY & OVERLAND FLOW FLOODING

4.1 LAWFUL POINT OF DISCHARGE

The lawful point of discharge for each subdivision is the trunk stormwater drainage pipes. In particular:

- **62 Kraft Road:** it is proposed to connect the underground drainage network (sized for the minor design storm 39% AEP) to the trunk drainage PAL-PN-009 that runs through the adjoining land at 70 & 78 Kraft Road. The applicant is coordinating consent from the landowner to facilitate this connection. A 5m drainage path is proposed between proposed Lot 13 and Lot 14 for the 2% AEP major storm overland flow.
- **69, 73 Kraft Road & 136, 152 Laxton Road:** It is proposed to connect the underground drainage networks (sized for the minor design storm 39% AEP) to the trunk drainage PAL-PN-001 and 002 which run through the land. The 2% AEP overland flow will be conveyed through the new road networks, including the 20m wide Neighbourhood Road corridor with one-way crossfall road and drainage swale.

4.2 XP-STORM MODELLING APPROACH

The modelling of the overland flow flooding has been undertaken in 1D-2D XP-STORM (version 2021.3) (MGA56/GDA2020 projection). The model extends from the existing detention basin upslope of Laxton Road to the headwall outlet at Sweets Road Park. The following scenarios have been modelled:

- **Pre-Development Scenario:** Catchment in its existing conditions, based on 2023 Lidar topography. The 39%, 10% and 2% AEP storm events have been modelled.
- **Post-Development Scenario:** Includes the proposed subdivisions at 62 Kraft Road (A006135426) and at 69, 73 Kraft Road and 136, 152 Laxton Road. Also includes the trunk drainage network from Laxton Road to Sweets Road outlet (including through private properties 70 & 78 Kraft Road and 97 & 121 Sweets Road). The 39%, 10% and 2% AEP storm events have been modelled.
- **Ultimate Scenario:** Fully developed catchment, assuming high fraction impervious and filling on surrounding undeveloped land. Only the 2% AEP storm event modelled for flood immunity purposes.
- **Sensitivity Scenarios:**
 - **Sensitivity Scenario 1:** Ultimate Scenario + Climate Change + 100% blockage of proposed cross drainage and high Manning's n (0.1) for the Neighbourhood Road swale.
 - **Sensitivity Scenario 1:** Ultimate Scenario + dam failure at existing basin upslope of Laxton Road.

4.3 PRE-DEVELOPMENT SCENARIO

4.3.1 HYDROLOGY SET UP

4.3.1.1 CATCHMENT DATA

Table 3 presents the pre-development catchments modelled. Refer to **B3602EA7_DA19_SK01** in **Appendix B** for the catchment plan. A 70% fraction imperviousness was adopted for urban areas and 0-20% for undeveloped areas to determine the overall imperviousness.

Table 3 – Catchment Data (Pre-Development Scenario)

Catchment Name	Area (ha)	Fraction Impervious	Slope (m/m)
A1	12.59	58%	0.015
A2	0.62	70%	0.01
A3	0.68	70%	0.01
B	16.33	41%	0.015
C	4.32	70%	0.013
D1	7.80	60%	0.022
D2	1.06	70%	0.022
E	4.39	70%	0.02
F	6.81	10%	0.014
G	1.61	20%	0.02
H1	1.57	70%	0.005
H2	2.20	70%	0.005
I1	1.20	10%	0.05
I2	2.55	5%	0.005
I3	1.62	5%	0.01
I4	0.66	0%	0.005
I5	0.55	0%	0.035
J	1.62	70%	0.005
K	4.35	10%	0.005
L	3.57	10%	0.005
M	4.94	10%	0.005
N	2.82	34%	0.005
O	8.29	10%	0.022
P1	3.52	45%	0.025
P2	3.44	10%	0.021
Q	1.34	70%	0.01
R	2.63	70%	0.01
S	6.93	22%	0.005
T	4.13	70%	0.005
U	1.42	70%	0.01

4.3.1.2 RAINFALL DATA

The Intensity-Frequency-Duration (“IFD”) data was sourced from *City Plan 2014 Table 7.2.2.2.A, Chapter 7 – Stormwater Drainage*. They have been coupled with the *Australian Rainfall & Runoff (“ARR”) 1987* temporal patterns (zone 3) to generate the flow hydrographs. The standard storm durations 20, 25, 60, 90, 120 and 180 minutes were modelled for 39%, 10% and 2% AEP storm events.

4.3.1.3 HYDROLOGICAL LOSSES

The following loss values have been adopted for the hydrological modelling.

Table 4 – XP-STORM Hydrological Losses

Surface Type	Loss Parameter	39% AEP	10% AEP	2% AEP
Impervious	Initial Loss (mm)	1	1	1
	Continuing Loss (mm/hr)	0	0	0
	Manning’s n	0.014	0.014	0.014
Pervious	Initial Loss (mm)	25	25	10
	Continuing Loss (mm/hr)	2.5	2.5	2.5
	Manning’s n	0.045	0.045	0.045

4.3.1.4 BX FACTOR

A storage (Bx) factor of 1.8 has been adopted across all models.

4.3.1.5 PEAK FLOW VERIFICATION

The XP-STORM peak flow rates for *Catchment B*, being one of the bigger catchments without a detention basin, has been compared against peak flow rates calculated using the Rational Method (**Appendix C**). The peak flow comparison is outlined in **Table 5**.

Table 5 – Peak Flow Verification (Catchment B)

	39% AEP	10% AEP	2% AEP
Rational Method Peak Flow (m ³ /s)	2.06	3.59	5.73
XP-STORM Peak Flow (m ³ /s)	2.78	4.21	5.50
Difference (m ³ /s)	0.72	0.62	-0.23
Difference (%)	35%	17%	-4%

The results indicate similar peak flows are achieved by XP-STORM and the Rational Method for the major storm but not the smaller storm events. Given the similarities between the major storm peak flow rates the XP-STORM hydrology set up is considered acceptable for the current analysis. Moreover, the XP-STORM produces greater peak flows in the smaller storm events, effectively leading to more conservative flooding analysis for those storm events.

4.3.2 HYDRAULIC SET UP

4.3.2.1 TOPOGRAPHY & 2D GRID

A (2m x 2m) 2D grid was created using the following Digital Terrain Models (“DTM”):

- 2023 lidar obtained from BCC; and
- 12d design tins for the developments at 53-61 Kraft Road, 69 Kraft Road and 56 Sweets Road.

The 2D modelling time step was 1 second.

4.3.2.2 SURFACE ROUGHNESS

Land use mapping defined different Manning’s n roughness values in the 2D model. “Grass” was set as the default value and hence no polygons drawn to identify this land use. Refer to **Figure 5** for 2D Manning’s n polygons.

4.3.2.3 UNDERGROUND DRAINAGE

1D links and nodes have been used to model the underground drainage infrastructure with the following parameters:

- Manning’s n = 0.013.
- Pressure Change Coefficients Ku = 1.5, and B = 1.0.
- Culvert Entry Loss = 0.5 and Exit Loss = 1.0.

Refer to **Figure 5** for an overview of the 1D elements. Details such as length, size, and invert levels were obtained from a combination of field survey, as-constructed plans and Council mapping.

4.3.2.4 EXISTING DETENTION BASINS

Four existing detention basins have been identified and modelled (refer to **Figure 5**). Detention Basin 4 adjacent to Kraft Road is temporary. The detention component will be removed in the post-development scenario when trunk drainage is in place. The detention volumes for all four basins have been modelled in 2D using the DTM. The outlet structures have been set up using 1D links and nodes.

4.3.2.5 DOWNSTREAM BOUNDARY CONDITION

A H-T (water leave vs time) boundary line has been adopted at Sweets Road Park to simulate ‘free draining’ outlet conditions.

4.3.2.6 MODEL LAYOUT

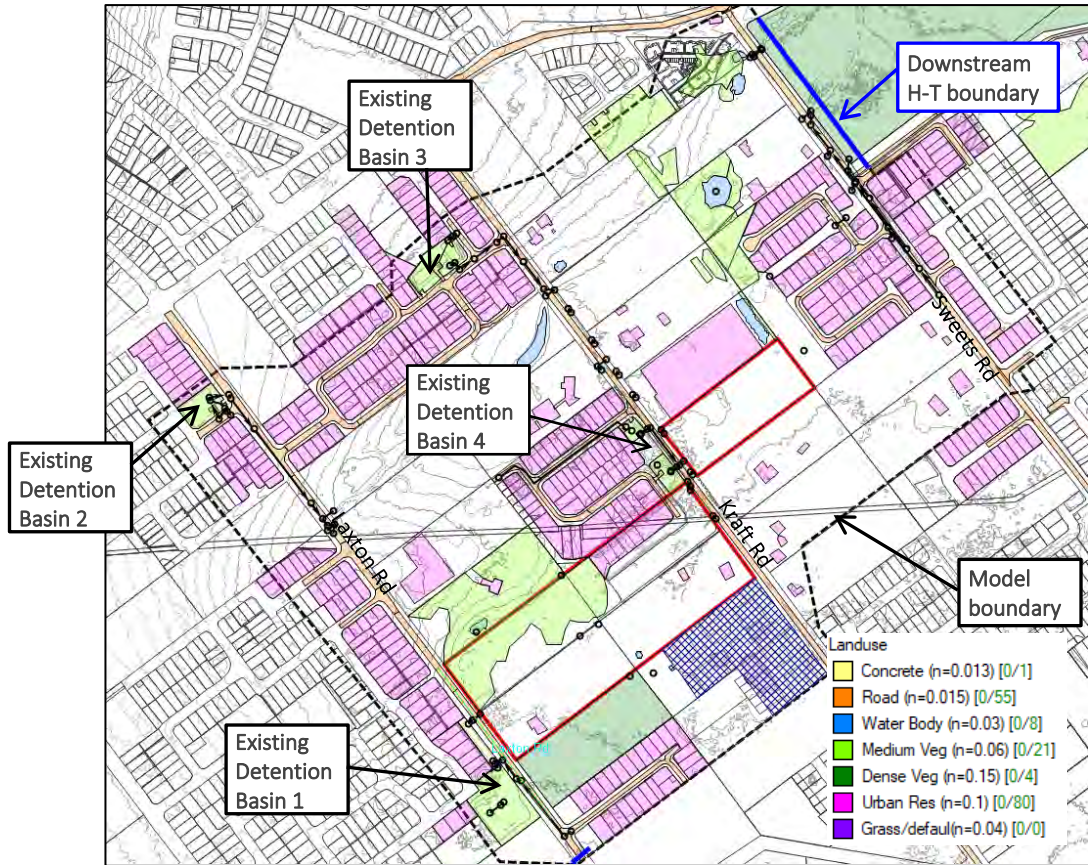


Figure 5 – XP-STORM Layout (Pre-Development Scenario)

4.3.3 PRE-DEVELOPMENT RESULTS

Figure 6 presents the 2% AEP overland flow flooding over the sites. The Flood plans for a larger extent and for the minor storm events are provided in Appendix E.

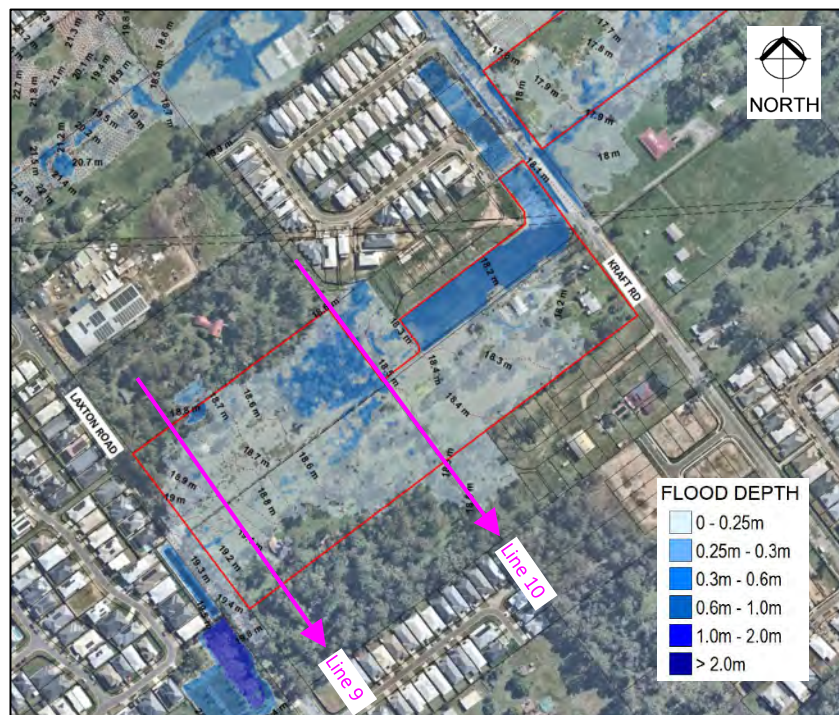


Figure 6 – Pre-Development 2% AEP Overland Flow

Table 6 provides the peak flow rates at above depicted flow lines.

Table 6 – Pre-Development Peak Overland Flow Rates

AEP	Line 9		Line 10	
	Peak Flow (m ³ /s)	Critical Duration Storm (mins)	Peak Flow (m ³ /s)	Critical Duration Storm (mins)
39%	0.78	90	0.82	120
10%	2.36	90	2.02	90
2%	4.02	90	4.16	90

4.4 POST-DEVELOPMENT SCENARIO

4.4.1 HYDROLOGY SET UP

Table 7 presents the post-development scenario catchments modelled. Refer to B3602EA7_DA19_SK02 in Appendix B for the catchment plan. The revised catchments are highlighted in grey. On-site detention is not proposed with either subdivision.

Table 7 – Catchment Data (Post-Development Scenario)

Catchment	Area (ha)	Fi (%)	Slope (m/m)
A1	12.59	58%	0.015
A2	0.62	70%	0.01
A3	1.14	70%	0.01
B	16.33	41%	0.015
C	4.32	70%	0.013
D1	7.80	60%	0.022
D2	1.06	70%	0.022
E	4.39	70%	0.02
F	6.81	10%	0.014
G	1.61	20%	0.02
H	4.87	70%	0.005
I1	1.20	10%	0.05
I2a	1.30	70%	0.005
I2b	0.85	70%	0.005
I3	1.62	5%	0.01
I4	1.57	26%	0.005
I5	0.55	0%	0.035
J	1.62	70%	0.005
K	4.35	10%	0.005
L	1.71	70%	0.005
M1	0.99	70%	0.005
M2	3.56	10%	0.005
M3	1.41	0%	0.005

Catchment	Area (ha)	Fi (%)	Slope (m/m)
M4	1.47	10%	0.005
N	2.82	34%	0.005
O	8.29	10%	0.022
P1	3.52	45%	0.025
P2	3.44	10%	0.021
Q	1.34	70%	0.01
R	2.63	70%	0.01
S1	1.19	10%	0.005
S2	3.06	37%	0.005
T	4.13	70%	0.005
U	1.42	70%	0.01

All other hydrological parameters (i.e. rainfall data, losses, Bx factor) retained as per the pre-development scenario.

4.4.2 HYDRAULIC SET UP

4.4.2.1 TOPOGRAPHY & 2D GRID

The 12d design tins have been used to represent post-development site topography which includes the 20m Neighbourhood Road corridor from Laxton Road to Kraft Road.

All other topographical data, 2D grid size (2m x 2m) and 2D modelling time step (1 sec) were retained as per the pre-development scenario.

4.4.2.2 SURFACE ROUGHNESS

Land use polygons changed over the site and the Neighbourhood Road. All other areas remained unchanged from the pre-development model.

4.4.2.3 UNDERGROUND DRAINAGE

The following new underground drainage has been added via 1D links and nodes. Refer to preliminary engineering plans associated with the development applications for concept drainage layouts.

- Trunk drainage pipes, generally in accordance with BCC design (extract in **Appendix H**). Intermittent field inlets along the Neighbourhood Road swale connecting to trunk drainage generally via 375Ø RCPs at 1% grade. The final sizing is subject to detailed design.
- 2.4 x 1.2m field inlet with a dome cover at the downslope end of the Laxton Road concrete channel (refer to **Appendix I**) for the inlet capture.
- New 1500 (w) x 600 (h) RCBC at 0.2% grade connecting the existing Kraft Road culvert to trunk stormwater drainage.
- A temporary inlet / headwall capturing the dam overflow from 120 Laxton Road.
- 2 x 1200 (w) x 450 (h) RCBCs at 0.2% grade across the road intersection at 136 & 152 Laxton Road. It has been modelled with a 25% “bottom-up” sediment blockage in accordance with *Table 10.4.1* of the *QUDM* (2016).

4.4.2.4 EXISTING DETENTION BASINS

The temporary detention basin upslope of Kraft Road ('Existing Basin 4') has been filled to create two new lots. The other detention basins were retained as per the pre-development scenario.

4.4.2.5 DOWNSTREAM BOUNDARY CONDITION

As per the pre-development scenario.

4.4.2.6 MODEL LAYOUT

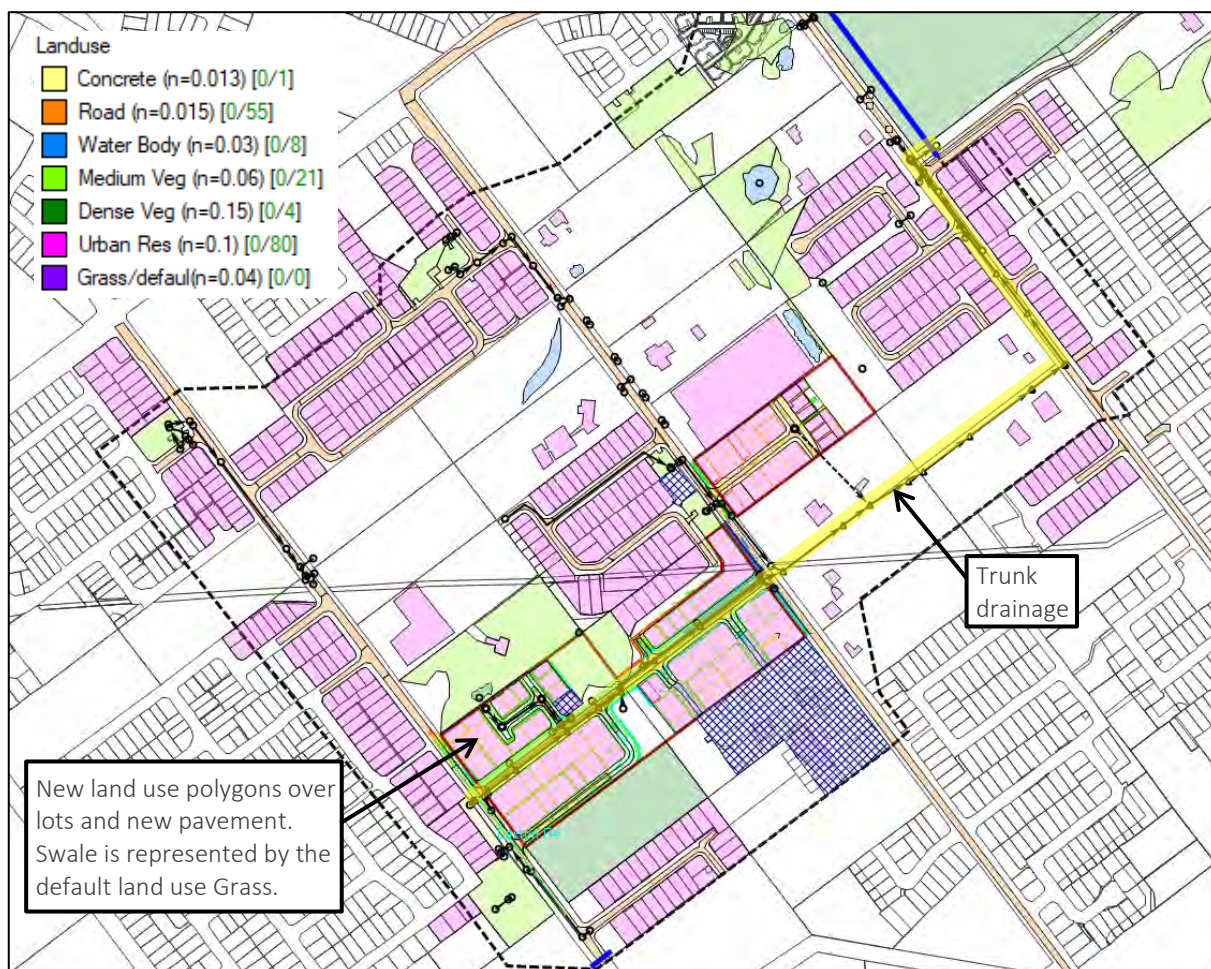


Figure 7 – XP-STORM Layout (Post-Development Scenario)

4.4.3 POST-DEVELOPMENT RESULTS

Figure 8 presents the 2% AEP overland flow flooding through the sites in the post-development scenario. Flood plans for a larger extent and for the minor storm events are provided in **Appendix F**.



Figure 8 – Post-Development 2% AEP Overland Flow

Table 8 provides the peak flow rates at above depicted flow lines.

Table 8 – Post-Development Peak Overland Flow Rates

AEP	Line 9		Line 10	
	Peak Flow (m ³ /s) ^A	Critical Duration Storm (mins)	Peak Flow (m ³ /s) ^A	Critical Duration Storm (mins)
39%	0	N/a	0.02	60
10%	0.19	90	0.21	90
2%	2.28	90	1.52	90

^Aexcludes pipe flow

Table 9 – Overland Flow Rate Comparison

AEP	Line 9			Line 10		
	Pre-Dev Peak Flow (m ³ /s)	Post-Dev Peak Flow ^A (m ³ /s)	Difference (m ³ /s)	Pre-Dev Peak Flow (m ³ /s)	Post-Dev Peak Flow ^A (m ³ /s)	Difference (m ³ /s)
39%	0.78	0	-0.78	0.82	0.02	-0.80
10%	2.36	0.19	-2.18	2.02	0.21	-1.81
2%	4.02	2.28	-1.74	4.16	1.52	-2.63

^Aexcludes pipe flow

The results show notable reductions in the magnitude of the overland flow with 39% AEP being virtually zero at Line 10. This is supported by the post-development scenario 39% AEP flood depth plan in Appendix F.

4.4.4 LAXTON ROAD FLOODING

Post-development scenario overland flow rates and flood depth on Laxton Road are presented below.



Figure 9 – Laxton Road Flood Result Locations

Table 10 – Laxton Road Flooding (Post-Development)

	Overland Flow (m ³ /s)	Flood Depth (m)	DV Product (m ² /s)
39%	0	0	0
10%	0.09	0.044	0.011
2%	2.19	0.212	0.030

Note: overland flow measured across 'Line 8' depicted on **Figure 9**.
Flood depth and DV product measured at 'Point 4' depicted on **Figure 9**.

The above results show that Laxton Road is flood free in a 39% AEP. The flood depths on Laxton Road pavement in a 10% are very shallow, at generally less than 50mm, and the duration of flooding is only 23 minutes. This is a significant improvement to the pre-development scenario where Laxton Road is overtopped even in a small 39% AEP storm events (refer to pre-development flood plans in **Appendix E**).

The flood depths in a 2% AEP are below 0.3m which is the *QUDM* (2016) limit for transverse flow in a major design storm event. The DV products are very low and well below the *QUDM* (2016) limit of 0.4m²/s for pedestrian safety.

Refer to **Figure 10** and **11** for 10% and 2% AEP flood depths with smaller incremental colour mapping.

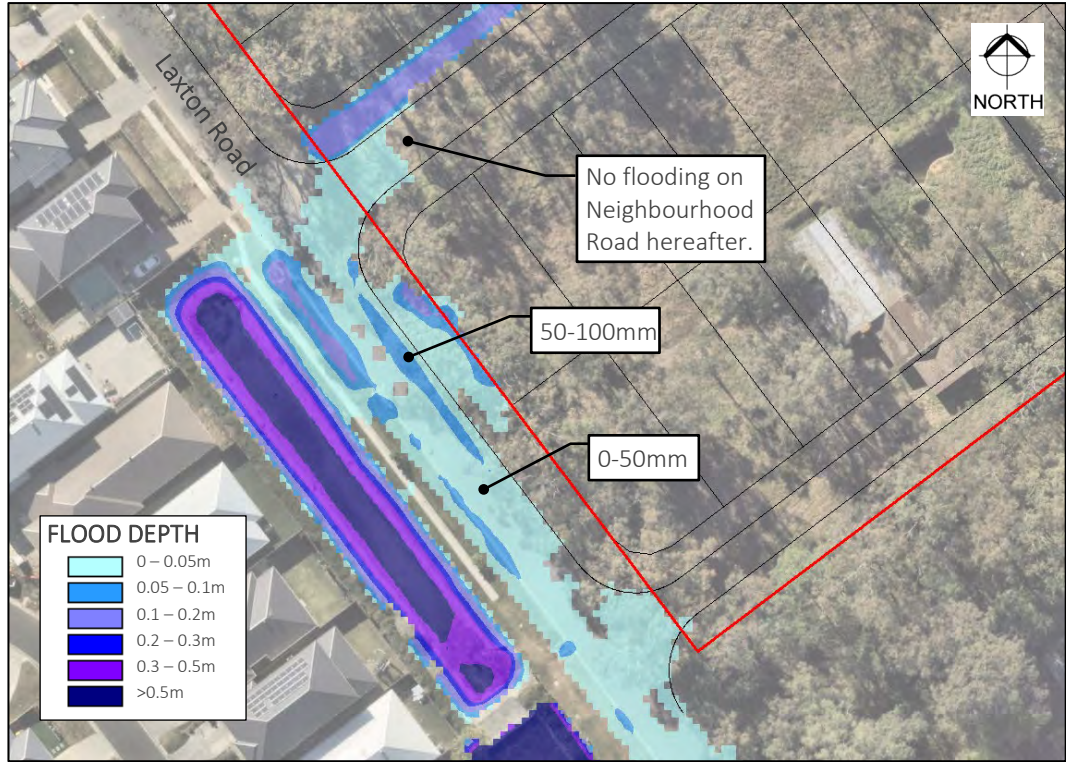


Figure 10 – Laxton Road Flood Depths (10% AEP, Post-Development)

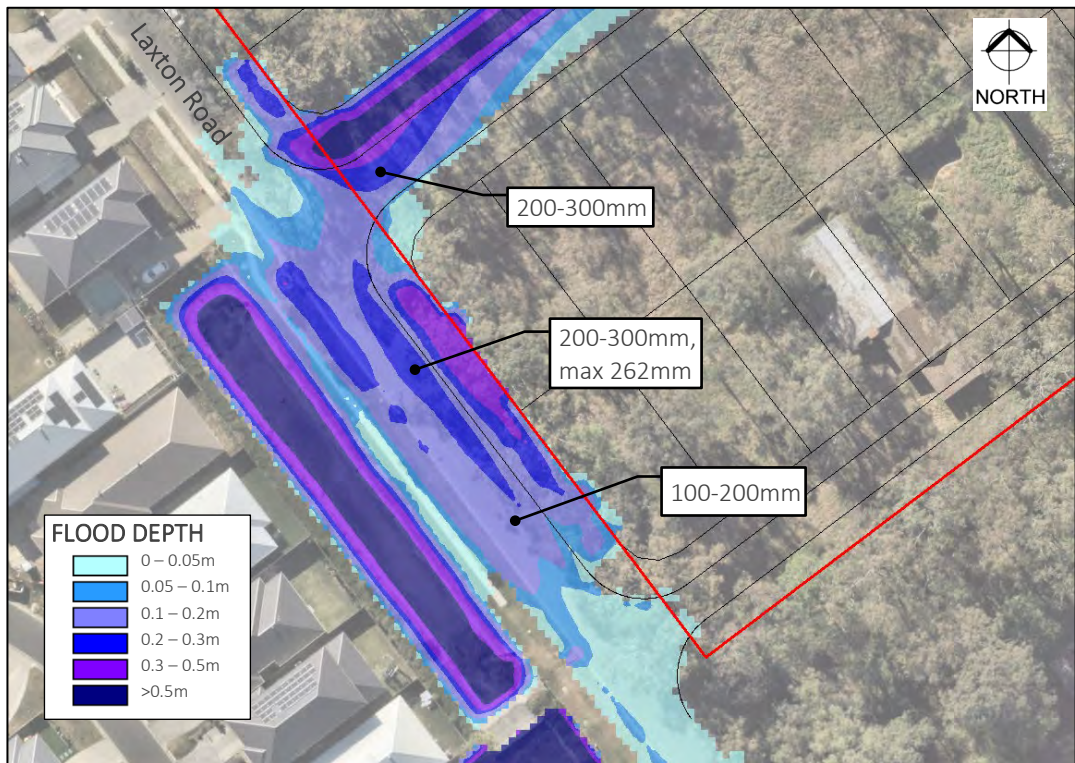


Figure 11 – Laxton Road Flood Depths (2% AEP, Post-Development)

4.4.5 POST-DEVELOPMENT FLOOD IMPACTS

The hydraulic results determined the following flood impacts.

- Significant reductions in overland flow flooding in a 39% AEP and 10% AEP design storm events (**Appendix G**).
- 2% AEP flood depths on new pavements do not exceed the *QUDM* (2016) limits of 250mm for longitudinal flow and 300mm for transverse flow (**Appendix F**).
- 2% AEP floods depth on Laxton Road are generally below 250mm and depth-velocity (“DV”) products do not exceed 0.4m²/s.
- Flood level increases are noted in a 2% AEP storm event at following locations (**Figure 12**):
 - **Location 1:** Laxton Road. This due to roadworks and proposed development fill. Although the 2% AEP water levels increase at this location, the road flow depths are generally below 250mm. Refer to **Appendix F**.
 - **Location 2:** Existing dam at 120 Laxton Road. This increase is not considered to cause material adverse impacts because:
 - It only occurs in major storm events.
 - It is limited to the existing dam and its immediate surrounding.
 - The time exceeding the pre-development water level is very short at approximately 1 hour (i.e. not multiple hours or days).
 - The existing dwelling is located well away from the area.
 - The increase is temporary and will be irrelevant when that land is developed (there was a previous application A004813377 over this land, demonstrating the landowner’s interest to develop).
 - New internal drainage through 136 Laxton Road will allow for future development flows from the entire 120 Laxton Road property.
 - **Location 3:** Ecological area between 69 & 73 Kraft Road and 136 & 152 Laxton Road. Although increases are noted in this area due to proposed filling, we do not believe it creates material adverse impacts as the post-development 2% AEP flood levels are in the order of 18.80m AHD. The new allotments are at ≥ RL 19.25m AHD, which provide 450mm freeboard.
 - **Location 4:** 70 Kraft Road. This impact is due to proposed filling on 62 Kraft Road. The increase is not considered to cause material adverse impacts because:
 - It only occurs in a major storm event.
 - The increase is temporary and will be irrelevant when that land is developed.
 - It does not affect the development potential of 70 Kraft Road which currently has a pending application (A006952466).

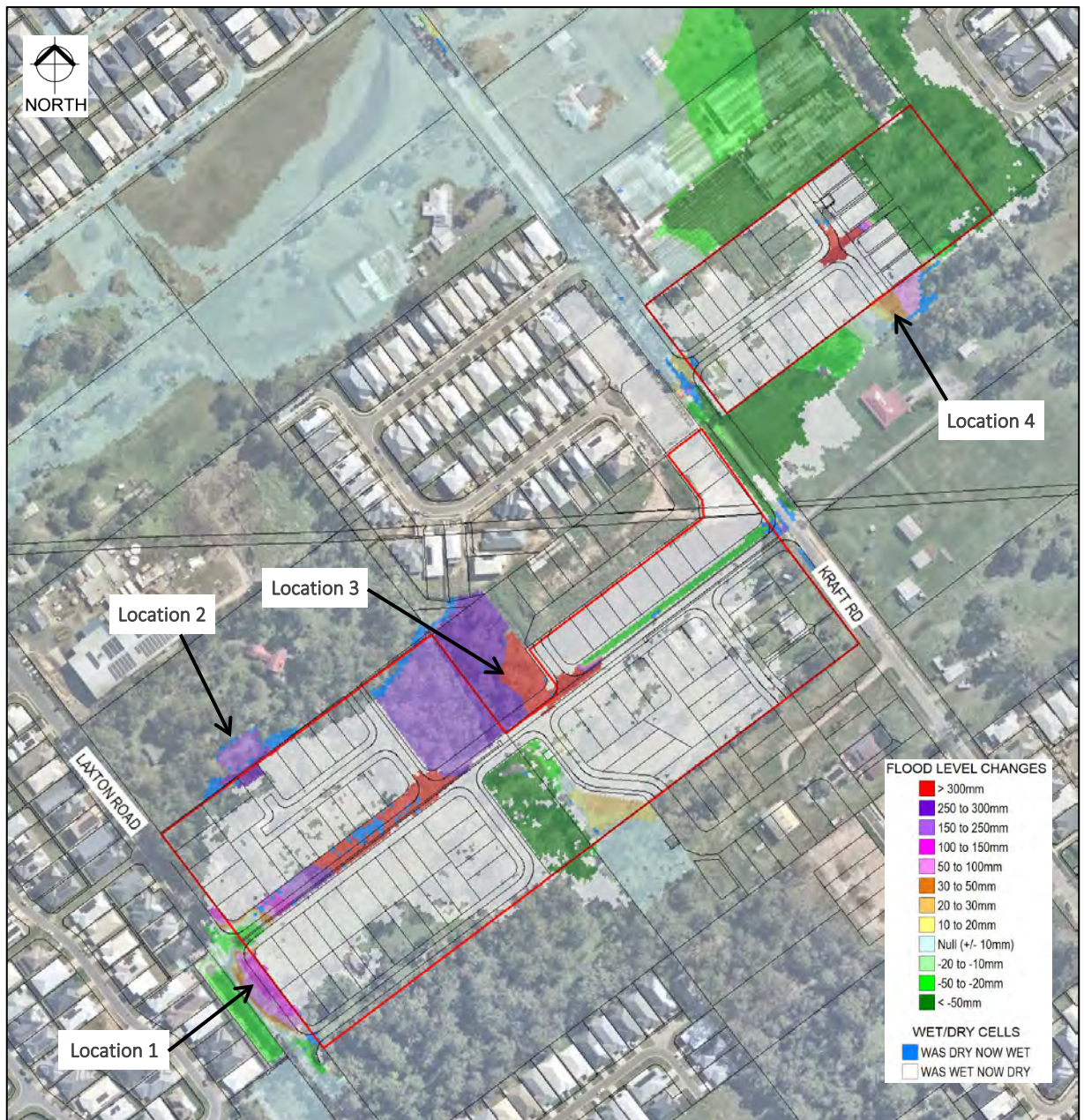


Figure 12 – 2% AEP Flood Level Changes

4.5 ULTIMATE SCENARIO

Table 11 presents the ultimate scenario catchments modelled. Catchment delineation is shown on B3602EA7_DA19_SK03 in Appendix B. Surrounding undeveloped land have been updated to a fraction imperviousness of 70%. The revised catchments (compared to pre-development scenario) are identified by the highlighted rows.

Table 11 – Catchment Data (Ultimate Scenario)

Catchment	Area (ha)	Fi (%)	Slope (m/m)
A1	12.59	58%	0.015
A2	0.62	70%	0.01
A3	1.37	70%	0.01
B	16.33	41%	0.015

Catchment	Area (ha)	Fi (%)	Slope (m/m)
C	4.32	70%	0.013
D1	7.80	60%	0.022
D2	1.06	70%	0.022
E	4.39	70%	0.02
F	6.81	70%	0.014
G	1.61	70%	0.02
H	4.87	70%	0.005
I1	2.71	70%	0.005
I2	1.41	70%	0.005
I3	1.05	5%	0.01
I4	1.68	25%	0.005
J	1.62	70%	0.005
K	4.35	50%	0.005
L	1.71	70%	0.005
M1	0.99	70%	0.005
M2	1.83	70%	0.005
M3	1.33	0%	0.005
M4	3.45	57%	0.005
N	2.82	70%	0.005
O	8.29	70%	0.022
P1	3.52	70%	0.025
P2	3.44	70%	0.021
Q	1.34	70%	0.01
R	2.63	70%	0.01
S1	1.78	70%	0.005
S2	2.29	70%	0.005
T	4.13	70%	0.005
U	1.42	70%	0.01

All other hydrological parameters (i.e. rainfall data, losses, Bx factor) retained as per the pre and post-development scenarios.

4.5.1 HYDRAULIC SET UP

As per the post-development scenario, except for the following changes:

- A high-level 12d earthwork design tin adopted through 70 & 78 Kraft Road and 97 & 121 Sweets Road to represent the extension of the one-way crossfall Neighbourhood Road and swale.
- New land use polygons for the Neighbourhood Road and swale; and
- “Inactive” polygons to represent ultimate filling of the surrounding land. Refer to **Figure 13**.

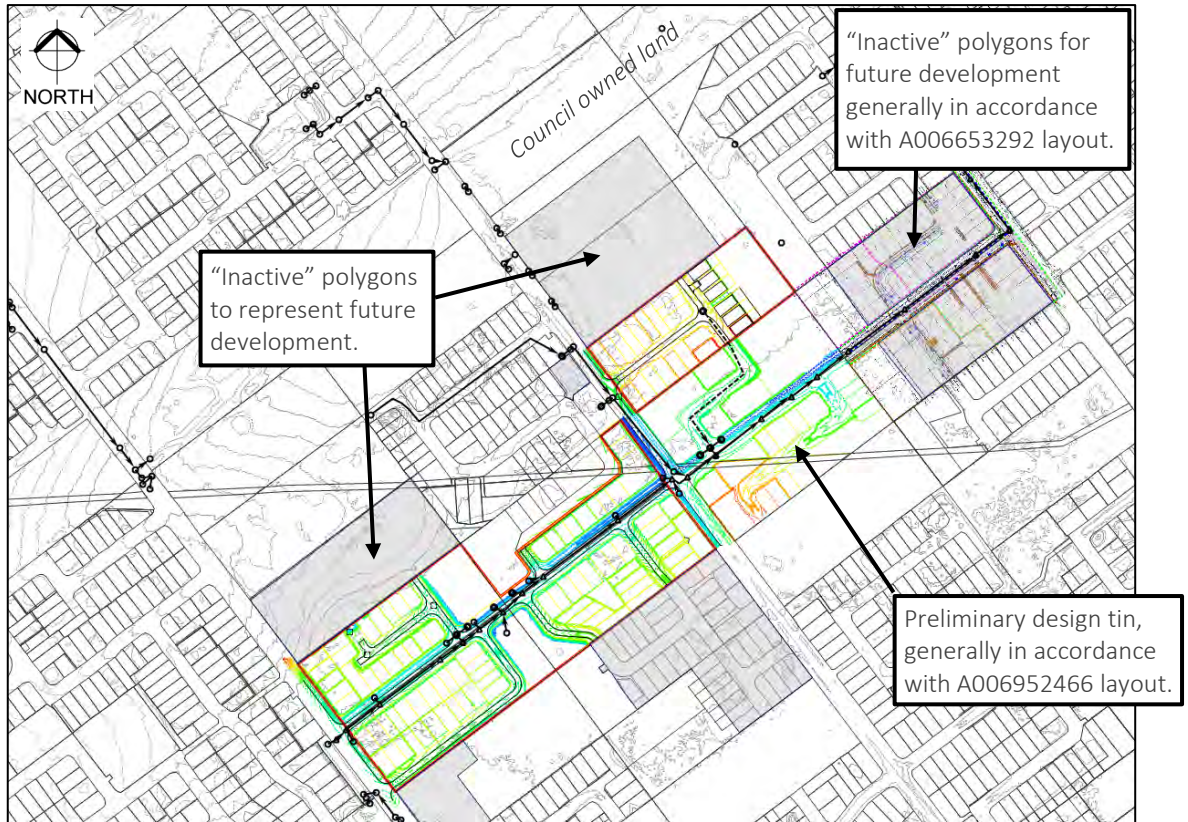


Figure 13 – XP-STORM Layout (Ultimate Scenario)

4.5.2 ULTIMATE SCENARIO RESULTS

Refer to **Figure 14** for the 2% AEP flood levels through the sites and surround, which have been used for nominating flood immunity levels in **Section 5**.

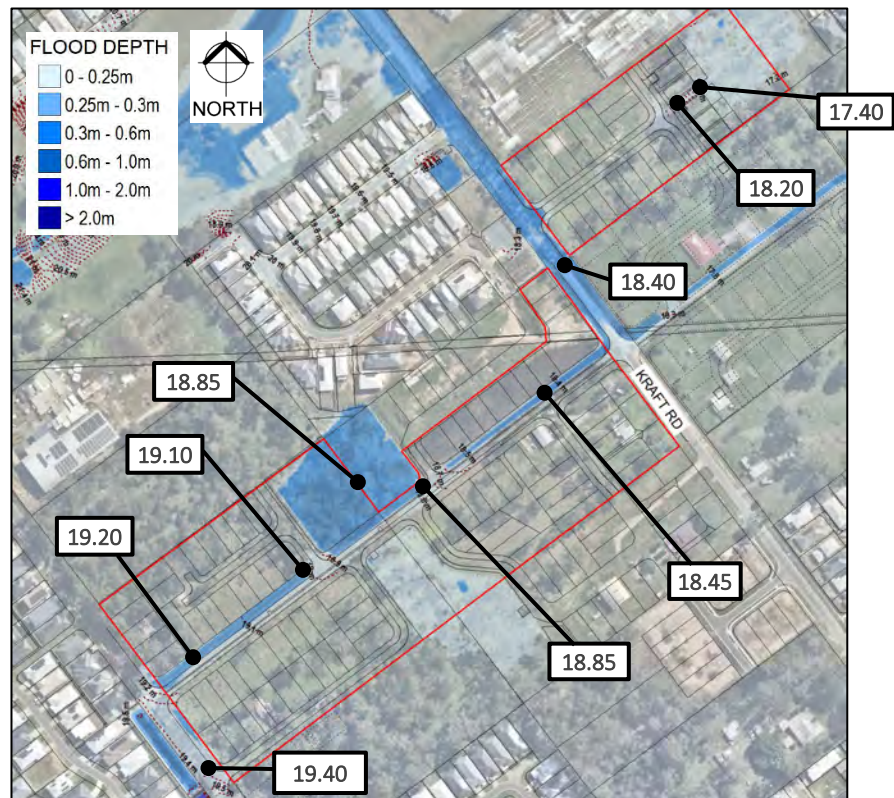


Figure 14 – Ultimate Scenario 2% AEP Overland Flow

4.6 SENSITIVITY SCENARIOS

4.6.1 HYDROLOGY SET UP

- **Sensitivity Scenario 1:** Catchments as per the ultimate scenario and a 20% increase in 2% AEP rainfall intensities.
- **Sensitivity Scenario 2:** Catchments and rainfall intensities as per the ultimate scenario.

4.6.2 HYDRAULIC SET UP

As per the ultimate scenario, except for the following changes:

- **Sensitivity Scenario 1:** 100% blockage of the new road crossings in Neighbourhood Road swale. Manning's n 0.1 for the swale. All other parameters as per the ultimate scenario.
- **Sensitivity Scenario 2:** Failure of the basin wall against Laxton Road (basin upslope of Laxton Road). Refer to **Figure 15**. All other parameters as per the ultimate scenario.

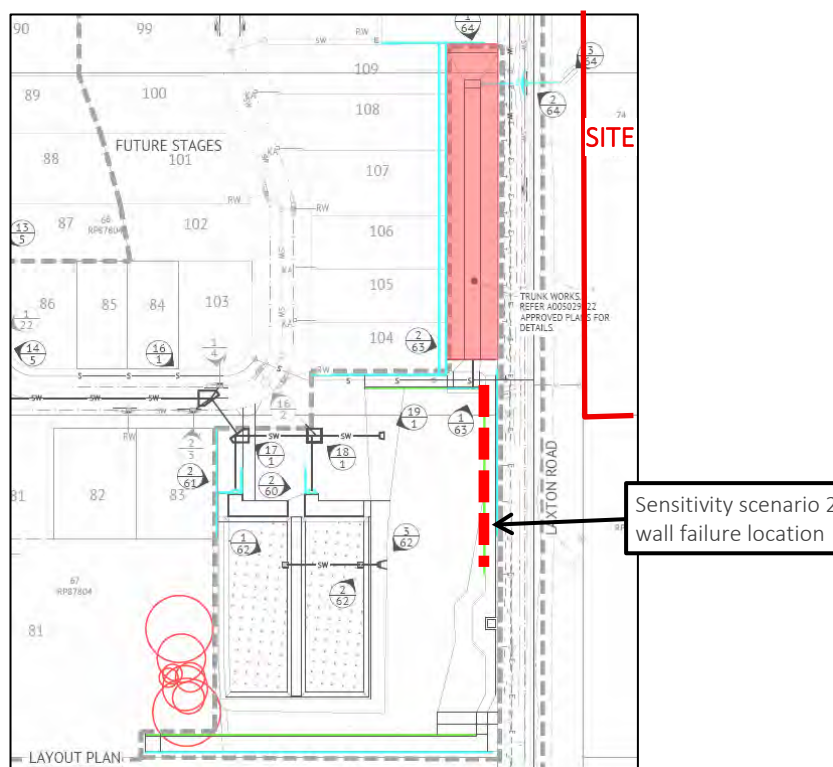


Figure 15 – Sensitivity Scenario 2 Laxton Rd Basin

4.6.3 SENSITIVITY SCENARIO RESULTS

The 2% AEP flooding is shown on **Figure 16** and **Figure 17**. As can be seen all new lots remain flood free. It is further noted that the applicant's typical slab height for lots is 450mm. The dwellings will therefore have well above the minimum freeboard required.

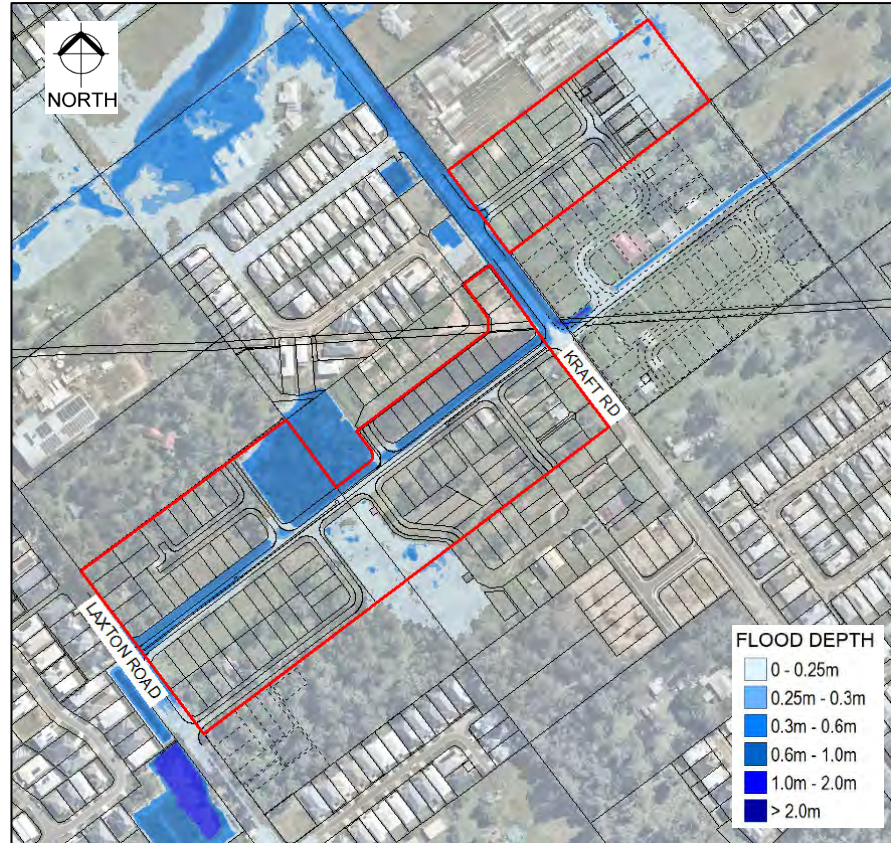


Figure 16 – Sensitivity Scenario 1, 2% AEP Overland Flow

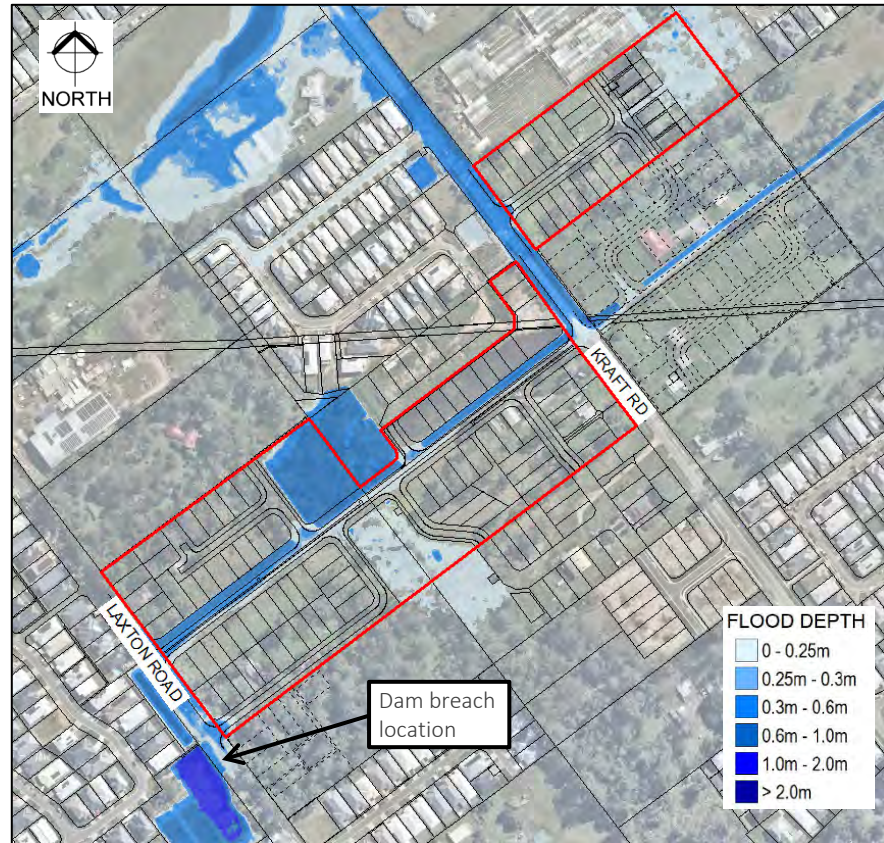


Figure 17 – Sensitivity Scenario 2, 2% AEP Overland Flow

5. FLOOD IMMUNITY LEVELS

The minimum allotment levels for the development are based on 0.3m freeboard to the critical flood level in accordance with *Table 8.2.11.3.J* of the *Flood Overlay Code* (2014). The critical flood level is the greater of the 1% AEP creek flood level and the 2% AEP overland flow flood level (ultimate scenario).

To nominate varying flood immunity levels, the two sites have been divided into multiple areas as shown on **Figure 21**. The nominated minimum flood immunity levels are presented in **Table 13**.

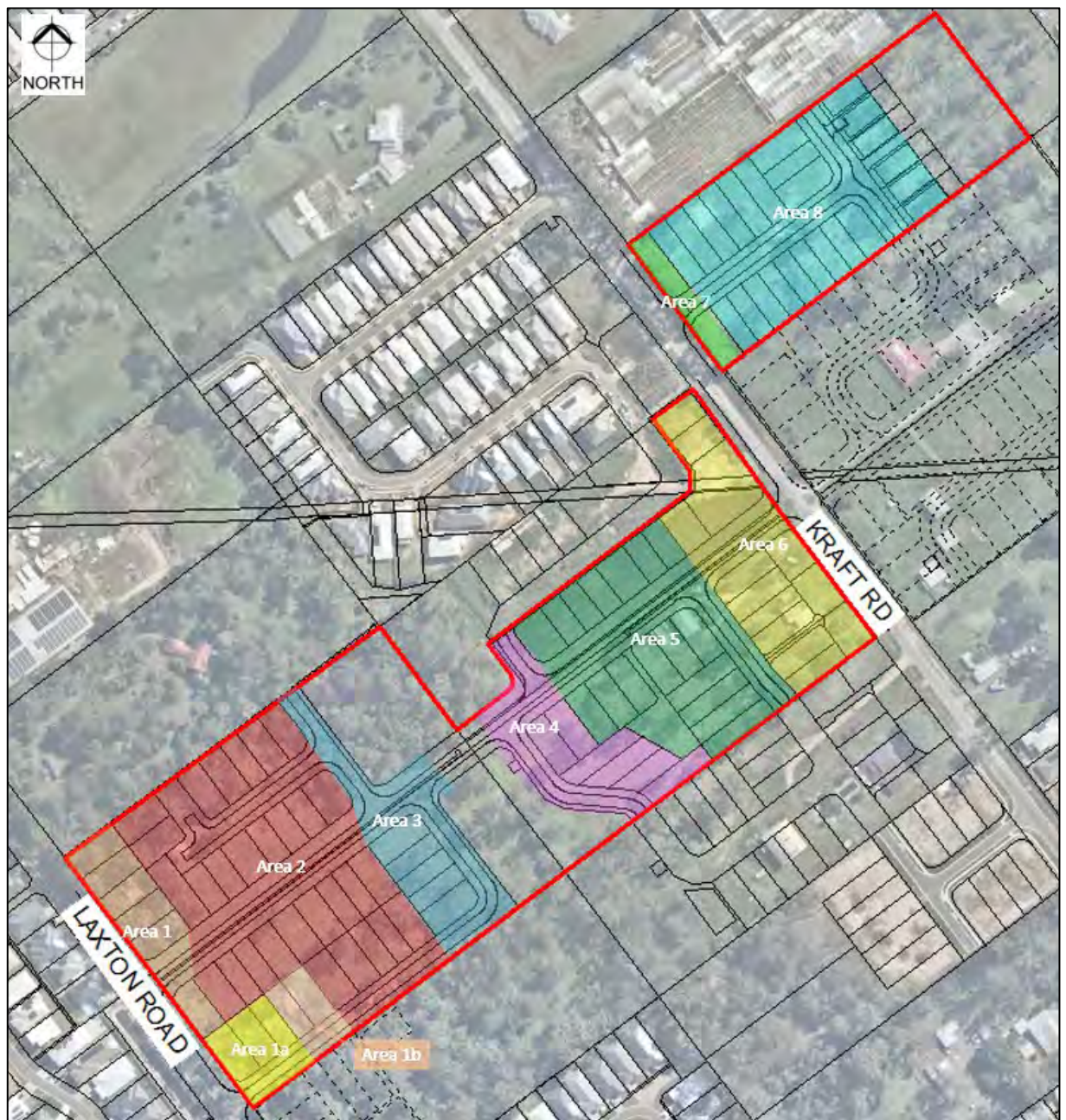


Figure 18 – Flood Immunity Areas

Table 12 – Critical Flood Level

Location	Oxley Creek 1% AEP (m AHD)	Overland Flow Ultimate Scenario 2% AEP (m AHD)	Critical Flood Level (m AHD)	Critical Source
Area 1, 1a & 1b	19.35	19.40	19.40	Overland flow
Area 2	19.30	19.20	19.30	Creek
Area 3	19.20	19.10	19.20	Creek
Area 4	19.10	18.85	19.10	Creek
Area 5	18.90	18.85	18.90	Creek
Area 6	18.55	18.45	18.55	Creek
Area 7	18.30	18.40	18.40	Overland flow
Area 8	18.30	18.20	18.30	Creek

Table 13 – Minimum Flood Immunity Levels

Location	Min. Road RL (m AHD) ^A	Min. Pad RL (0.3m freeboard) (m AHD)	Habitable Floor (0.5m freeboard) (m AHD)
Area 1	19.40	19.70	19.90
Area 1a		20.00 ^B	20.20 ^C
Area 1b		19.90 ^B	20.10 ^C
Area 2	19.30	19.60	19.80
Area 3	19.20	19.50	19.70
Area 4	19.10	19.40	19.60
Area 5	18.90	19.20	19.40
Area 6	18.55	18.85	19.05
Area 7	18.40	18.70	18.90
Area 8	18.30	18.60	18.80

^A excludes Neighbourhood Road and intersections tying into existing roads.

^B higher levels to minimise impact of upslope basin failure.

^C habitable floor levels nominated at 0.2m above the pad levels.

The Pad Mount Transformer (“PMT”) which falls within Area 4 shall be at or above RL 19.10m AHD.

Also, the above flood planning levels are not applicable for the central Neighbourhood Road which is required to act as an overland flow path; however, the other internal roads shall achieve the minimum levels nominated above, except at the intersections where they tie into the Neighbourhood Road.

6. STORMWATER QUALITY

6.1 CONSTRUCTION PHASE

Erosion Hazard Assessment (“EHA”) forms have been completed for both application sites. Both sites are determined to be “high” risk with respect to ESC because of the upstream catchments. EHA forms in **Appendix D**.

ESC plans that are endorsed by a CPESC and RPEQ will be prepared during detailed design and implemented during construction phase. ESC control measures may include, but not limited to, devices such as:

- Sediment basins,
- diversion drains,
- silt fences, and
- construction entry/exit pads.

6.2 OPERATIONAL PHASE

The following measures are proposed as alternative performance-based outcomes for operational phase water quality treatment:

- Water Sensitive Urban Design (“WSUD”) tree pits are proposed in local streets through 69 & 73 Kraft Road and 136 & 152 Laxton Road. The tree pits are located at an interval of approximately 1 for every 3 lot frontages. Refer to revised engineering plans (not attached to this report) for the concept locations.
- Dedicated ecological / drainage reserve corridors in both application areas where existing trees & vegetation will be retained, protected and rehabilitated if required; and
- The grassed swale along the neighbourhood road.

The above treatment measures have not been modelled in MUSIC. While they are not expected to meet the tertiary water quality objectives set out in the *State Planning Policy (2017)*, they will contribute to improve the quality of the waterway health. For instance, the WSUD tree pits will treat primary, secondary and tertiary pollutants from the local street runoff. The grassed swale and existing vegetation will capture majority of the gross pollutants and coarse sediments from the runoff it receives (be it site runoff or upslope runoff). They also add to the visual amenity of the developments and provide overall environmental benefits for the area.

Moreover, we note that the development runoff connects to trunk drainage which discharges into another open channel and then into an end of line wetland treatment (downslope of Vied Road). It is assumed that this regional wetland system will effectively treat receiving runoff.

On that basis, Council acceptance is sought for the above proposed operational phase water quality management strategies for the two developments.

7. CONCLUSION & RECOMMENDATIONS

JFP Urban Consultants Pty Ltd has prepared this *Site Based Stormwater Management Plan* for the proposed residential subdivisions at:

- 62 Kraft Road, Pallara (A006135426); and
- 69 & 73 Kraft Road and 136 & 152 Laxton Road, Pallara (A006935362).

The outcomes of this analysis are provided as follows:

Stormwater Quantity & Flooding

- The LPD for both subdivisions noted above are the trunk drainage network. Adjoining landowner consent is being coordinated to facilitate the connection for 62 Kraft Road.
- On-site detention is not proposed for either subdivision given the connection to the trunk drainage.
- Filling is required for both subdivisions to achieve flood immunity. The 20m wide Neighbourhood Road corridor will convey overland flow from Laxton Road to Kraft Road. This road corridor will continue to Sweets Road with downslope developments (by others).
- 1D-2D hydraulic modelling show significant reductions in overland flow in smaller storm events 39% and 10% AEP. Some flood level increases are noted in a larger 2% AEP storm event, but the increases are either temporary (until the affected land is developed) or limited to road/ecological corridor areas.
- Minimum flood immunity levels have been nominated in **Section 5** of this report with consideration to both the overland and Oxley Creek flood levels.

Stormwater Quality

- Council's EHA forms determined both sites to be "high risk" due to external catchments. Relevant erosion & sediment control measures will be confirmed in detailed design and implemented during the construction phase.
- Performance based outcomes are proposed for the water quality management. This includes WSUD tree pits in local streets through 69 & 73 Kraft Road and 136 & 152 Laxton Road development at an interval of approximately 1 for every 3 lot frontages, grass swale in neighbourhood road and dedicated ecological / drainage reserve areas. While these measures are not expected to meet the water quality objectives set out in the *State Planning Policy (2017)*, they will still contribute to improve the quality of the waterway health. Moreover, the development runoff will discharge into the end of line wetland treatments located downslope of Vied Road. Therefore, Council acceptance is sought for the proposed performance based operational phase water quality management strategies.

8. DISCLAIMER

This report has been prepared for the purpose and exclusive use of *ADC GROUP NO 12 Pty Ltd & ADC GROUP NO 15 Pty Ltd* as an investigation into the stormwater management issues related for the proposed development of the land described in the report. The information presented in this report is not to be used for any other purpose or by any other person or corporation.

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The investigations, calculations, analysis and recommendations presented in this report rely on information sourced from third-parties. *JFP Urban Consultants Pty Ltd* accepts no responsibility for the accuracy of the information sourced from third-parties.

9. APPENDICES

- Appendix A – ROL Layouts
- Appendix B – Catchment Plans
- Appendix C – Rational Method Calculation
- Appendix D – Erosion Hazard Assessments
- Appendix E – Pre-Development Flood Plans
- Appendix F – Post-Development Flood Plans
- Appendix G – Flood Impact Plans
- Appendix H – BCC Trunk Drainage Design Plans (extract)
- Appendix I – Field Inlet Capture Details
- Appendix J – Trunk Drainage Preliminary Cost Estimate

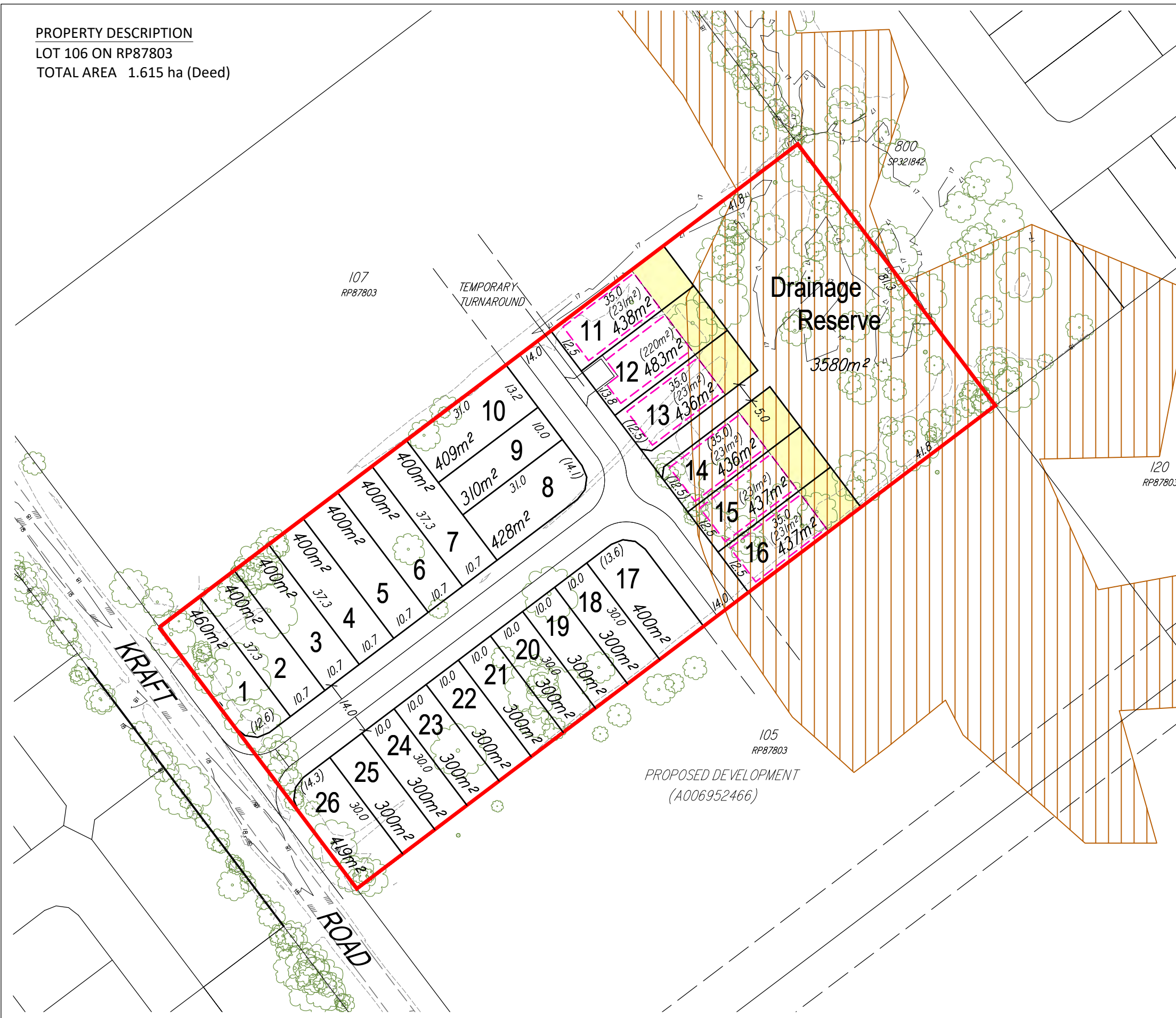
APPENDIX A

ROL LAYOUTS

PROPERTY DESCRIPTION
LOT 106 ON RP87803
TOTAL AREA 1.615 ha (Deed)

NOTES

- (1) This plan was prepared for the purpose and exclusive use of AUSBUILD PTY LTD to accompany an application to BRISBANE CITY COUNCIL for a Development Permit to Reconfigure the land described in the plan and is not to be used for any other purpose or by any other person or corporation. JFP URBAN CONSULTANTS PTY LTD accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this plan in contravention to the terms of this clause or clauses 2, 3, 4, 5, 6 or 7 hereof.
- (2) The contours on this plan are from field survey - see JFP detail plan (B3602SA7-DA19-207A) dated 27/06/2022.
- (3) The dimensions, areas, size and location of improvements, flood information (if shown) and number of lots shown on this plan are approximate only and may vary.
- (4) The trees shown on this plan have been surveyed on JFP detail plan (B3602SA7-DA19-207A) dated 27/06/2022.
- (5) Safety in Design
 The Urban Design for the layout proposal has been developed to meet the stated project brief, as expressed in JFP Urban Consultants Offer for the works, and the Design Standards stipulated by the Local Authority named on this plan.
 Non-standard design solutions adopted in the preparation of the layout are listed as follows;
 - None
- (6) The State Government proposes changes to the Queensland Development Code to reflect the provisions of the National Construction Code 2022. These changes once implemented will have an impact on the design of the future dwellings on the proposed allotments identified on this plan. The amendments to the QDC may also be subject to transitional provisions and we would strongly recommend that you discuss these matters further with your preferred Building Certifier.
- (7) This plan may not be reproduced unless these notes are included.



LEGEND

- SUBJECT SITE
- EXISTING TREE (SURVEYED)
- BIODIVERSITY AREA - STRATEGIC HIGH ECOLOGICAL SIGNIFICANCE
- 10m BUSHFIRE BUFFER
- DEVELOPMENT FOOTPRINT (max. 50% site cover). Please note that building works associated with any new dwelling can be accommodated between the front & side boundaries & the edge of the DFP.

STATISTICS	
NO. OF LOTS	
300m ² - 399m ²	9 (34%)
400m ² - 449m ²	15 (58%)
450m ² - 900m ²	2 (8%)
TOTAL	26 (100%)
LENGTH OF NEW 14m ROAD (m)	190
TOTAL AREA (ha)	1.615
DENSITY (lots/ha)	16.1
DRAINAGE RESERVE AREA (m²)	3580
AVERAGE LOT SIZE (m²)	381

BRISBANE - SUNSHINE COAST - CENTRAL QLD BRISBANE - JFP House 76 Ernest Street, South Brisbane Qld 4101 P 07 3012 0100 W www.jfp.com.au <small>JFP URBAN CONSULTANTS PTY LTD A.C.N. 050 434 045</small>	PLANNERS URBAN DESIGNERS SURVEYORS ENGINEERS LANDSCAPE ARCHITECTS	NORTH: 	SCALE: SCALE: @ A3 1:1000 THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE - (A3 SIZE) <small>DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE</small>	ISSUES: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>ISSUE</th> <th>DATE</th> <th>INITIALS</th> </tr> <tr> <td>D</td> <td>20-04-26</td> <td>TJM</td> </tr> <tr> <td>C</td> <td>05-03-26</td> <td>TJM</td> </tr> <tr> <td>B</td> <td>25-06-25</td> <td>TJM</td> </tr> <tr> <td>A</td> <td>14-07-22</td> <td>TJM</td> </tr> </table>	ISSUE	DATE	INITIALS	D	20-04-26	TJM	C	05-03-26	TJM	B	25-06-25	TJM	A	14-07-22	TJM	TITLE: RECONFIGURATION PLAN AUSBUILD PTY LTD 62 KRAFT ROAD, PALLARA	DETAILS: JOB NUMBER: B3602PA7_DA19 R1 D SHEET: 1 OF 1 DATE: 20th April 2026
ISSUE	DATE	INITIALS																			
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C	05-03-26	TJM																			
B	25-06-25	TJM																			
A	14-07-22	TJM																			
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NOTES

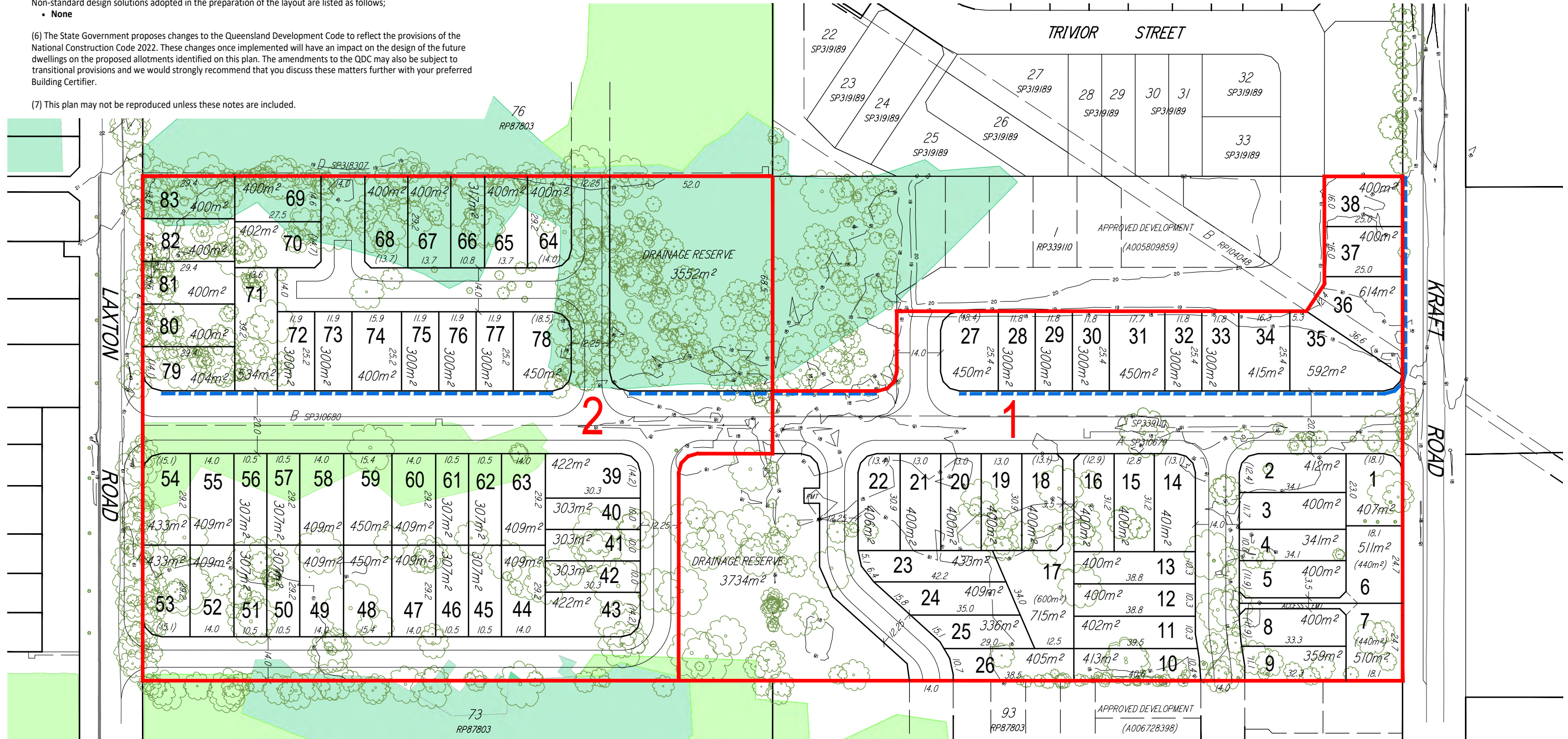
- (1) This plan was prepared for the purpose and exclusive use of ADC GROUP NO 15 PTY LTD to accompany an application to BRISBANE CITY COUNCIL for a Development Permit to Reconfigure the land described in the plan and is not to be used for any other purpose or by any other person or corporation.
JFP URBAN CONSULTANTS PTY LTD accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this plan in contravention to the terms of this clause or clauses 2, 3, 4, 5, 6 or 7 hereof.
- (2) The contours on this plan are from field survey - see JFP detail plan (B3602SA8-DA26-258A) dated 13/05/2025.
- (3) The dimensions, areas, size and location of improvements, flood information (if shown) and number of lots shown on this plan are approximate only and may vary.
- (4) The trees shown on this plan have been surveyed on JFP detail plan (B3602SA8-DA26-258A) dated 13/05/2025.
- (5) Safety in Design
The Urban Design for the layout proposal has been developed to meet the stated project brief, as expressed in JFP Urban Consultants Offer for the works, and the Design Standards stipulated by the Local Authority named on this plan.
Non-standard design solutions adopted in the preparation of the layout are listed as follows:
• None
- (6) The State Government proposes changes to the Queensland Development Code to reflect the provisions of the National Construction Code 2022. These changes once implemented will have an impact on the design of the future dwellings on the proposed allotments identified on this plan. The amendments to the QDC may also be subject to transitional provisions and we would strongly recommend that you discuss these matters further with your preferred Building Certifier.
- (7) This plan may not be reproduced unless these notes are included.

PROPERTY DESCRIPTION
 LOTS 74, 75 & 92 ON RP87803,
 LOT 2 & PART OF LOT 1 ON SP339110
 TOTAL AREA 5.616 ha

LEGEND

- STAGING
- HIGH ECOLOGICAL SIGNIFICANCE
- HIGH ECOLOGICAL SIGNIFICANCE STRATEGIC
- EXISTING TREE (Surveyed)
- NO DIRECT LOT ACCESS

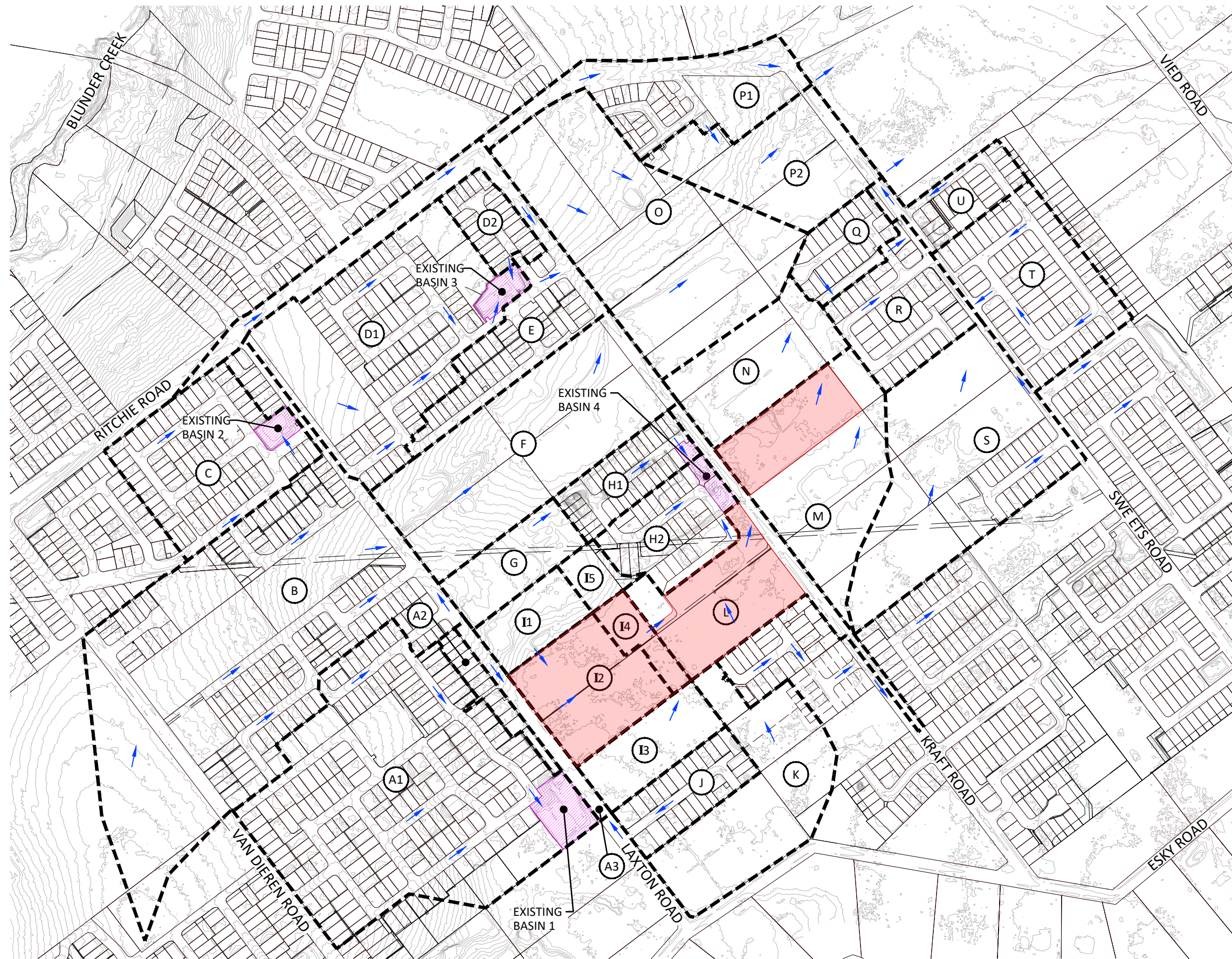
STATISTICS	STAGE 1	STAGE 2	TOTAL
NO. OF LOTS			
300m ² -399m ²	8	17	25 (30%)
400m ² -449m ²	23	24	47 (57%)
450m ² min.	7	4	11 (13%)
TOTAL	38	45	83 (100%)
LENGTH OF NEW			
12.5m-14m ROAD (m)	179	383	562
20m ROAD (m)	201	201	402
STAGE AREA (ha)	2.596	3.02	5.616
DENSITY (lots/ha)	14.6	14.9	14.8
AVERAGE LOT SIZE (m²)	413	374	392



BRISBANE - SUNSHINE COAST - CENTRAL QLD BRISBANE - JFP House 76 Ernest Street, South Brisbane Qld 4101 P 07 3012 0100 W www.jfp.com.au JFP URBAN CONSULTANTS PTY LTD A.C.N. 050 434 045	PLANNERS URBAN DESIGNERS SURVEYORS ENGINEERS LANDSCAPE ARCHITECTS	NORTH: SCALE: @ A3 1:1250 THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE - (A3 SIZE) DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE	ISSUES: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>E</td><td>PMT ADDED & STAGING AMENDED</td><td>06-05-26</td><td>TJM</td></tr> <tr><td>D</td><td>PMT ADDED & STAGING AMENDED</td><td>28-04-26</td><td>TJM</td></tr> <tr><td>C</td><td>LAYOUT AMENDED</td><td>28-11-25</td><td>TJM</td></tr> <tr><td>B</td><td>LAYOUT AMENDED</td><td>20-10-25</td><td>TJM</td></tr> <tr><td>A</td><td>ORIGINAL</td><td>06-06-25</td><td>TJM</td></tr> </table> TITLE: RECONFIGURATION PLAN ADC GROUP NO 15 PTY LTD 136, 152 LAXTON ROAD & 69, 73 KRAFT ROAD, PALLARA	E	PMT ADDED & STAGING AMENDED	06-05-26	TJM	D	PMT ADDED & STAGING AMENDED	28-04-26	TJM	C	LAYOUT AMENDED	28-11-25	TJM	B	LAYOUT AMENDED	20-10-25	TJM	A	ORIGINAL	06-06-25	TJM
E	PMT ADDED & STAGING AMENDED	06-05-26	TJM																				
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C	LAYOUT AMENDED	28-11-25	TJM																				
B	LAYOUT AMENDED	20-10-25	TJM																				
A	ORIGINAL	06-06-25	TJM																				
DESIGNED: TJM CHECKED: JC COUNCIL REF: DRAWN: TJM APPROVED: ST L.A. BRISBANE CITY COUNCIL			DETAILS: JOB NUMBER: B3602PA8_DA26 R1 E SHEET: 1 OF 1 DATE: 6th May 2026																				

APPENDIX B

CATCHMENT PLANS



LEGEND

- DEVELOPMENT SITES
- CATCHMENT BOUNDARIES
- FLOW DIRECTION
- A CATCHMENT LABEL



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 BRISBANE
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 South Brisbane Qld 4101
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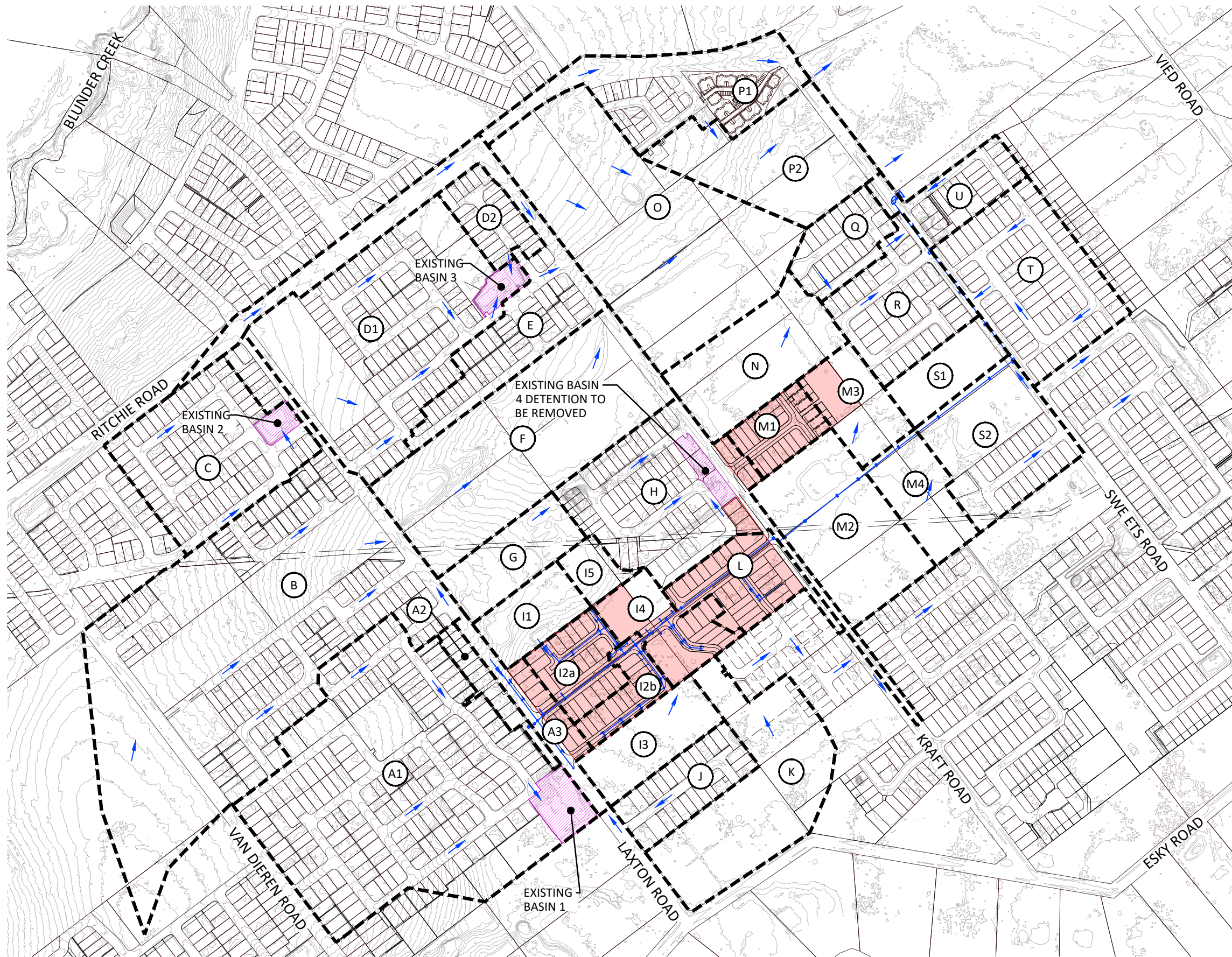
PRE-DEVELOPMENT CATCHMENT PLAN

**PROPOSED SUBDIVISION AT
 62, 69 & 73 KRAFT RD AND 136 & 152 LAXTON RD, PALLARA**

JOB NO:	PLAN:	ISSUE:
B3602EA7_DA19_SK01	SK01	B
SCALE:	DATE:	
	01/07/2025	
DRAFTED BY:	FILE NAME:	
CB	B3602EA7_DA19_SK01.DWG	



1:07/2025 N:\168204\DA19\STORMWATER MANAGEMENT\REV



LEGEND

- DEVELOPMENT SITES
- CATCHMENT BOUNDARIES
- FLOW DIRECTION
- A CATCHMENT LABEL
- TRUNK DRAINAGE PIPES (ALIGNMENT INDICATIVE ONLY)

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PLANNERS

URBAN DESIGNERS

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ENGINEERS

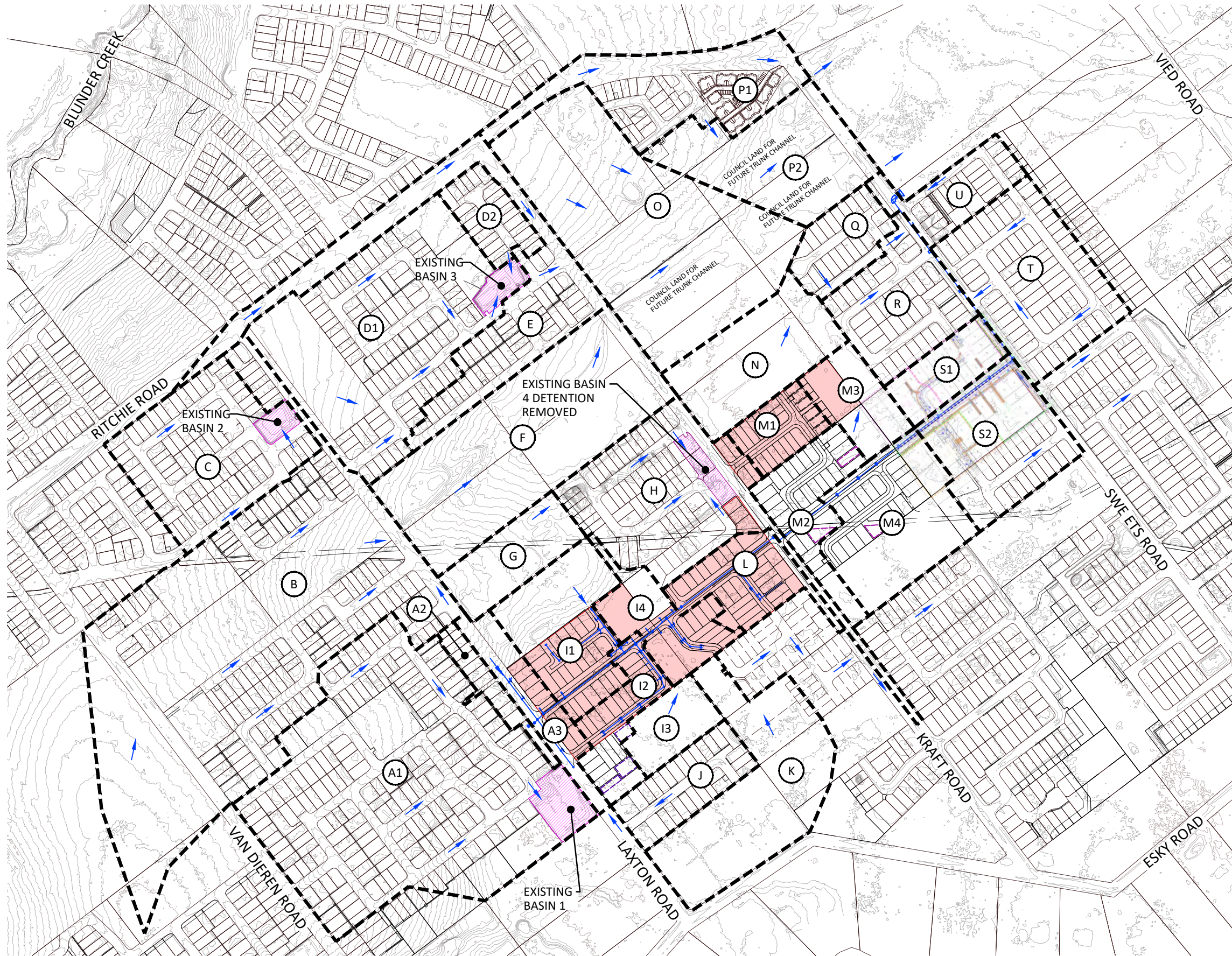
LANDSCAPE ARCHITECTS

POST-DEVELOPMENT CATCHMENT PLAN

PROPOSED SUBDIVISIONS AT
62, 69 & 73 KRAFT RD AND 136 & 152 LAXTON RD, PALLARA

JOB NO:	PLAN:	ISSUE:
B3602EA7_DA19	SK02	C
SCALE:		
DATE:	24/04/2026	
DRAFTED BY:	CB	
FILE NAME:	B3602EA7_DA19_SK02.DWG	

24/04/2026 11:18:02 AM B3602EA7.DWG STORMWATER MANAGEMENT



LEGEND

- DEVELOPMENT SITES
- CATCHMENT BOUNDARIES
- FLOW DIRECTION
- A CATCHMENT LABEL
- TRUNK DRAINAGE PIPES (ALIGNMENT INDICATIVE ONLY)

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ULTIMATE SCENARIO CATCHMENT PLAN

PROPOSED SUBDIVISIONS AT 62, 69 & 73 KRAFT RD AND 136 & 152 LAXTON RD, PALLARA

JOB NO:	PLAN:	ISSUE:
B3602EA7_DA19 SK03	C	
SCALE:		
DATE:	24/04/2026	
DRAFTED BY:	CB	
FILE NAME:	B3602EA7_DA19_SK03.DWG	

24/04/2026 11:18:02 AM B3602EA7.DWG STORMWATER MANAGEMENT

APPENDIX C

RATIONAL METHOD CALCULATION

RATIONAL METHOD CALCULATION PRE-DEVELOPMENT SCENARIO

62 KRAFT RD, 69 & 73 KRAFT RD, 136 & 152 LAXTON RD, PALLARA

B3602EA7_DA19

CATCHMENT AREA & COEFFICIENT OF RUNOFF

Catchment B	Area (ha)	C1	C2	C5	C10	C20	C50	C100
Urban Area	8.49	0.70	0.74	0.83	0.87	0.91	1.00	1.00
Rural Area	7.84	0.59	0.63	0.70	0.74	0.78	0.85	0.89
Total	16.33	0.65	0.69	0.77	0.81	0.85	0.93	0.97

TIME OF CONCENTRATION

Catchment	Overland Sheet Flow				Stream Flow			Total Tc (mins)
	Length (m)	Slope (%)	Horton's n	Sheet Flow Time (mins)	Length (m)	Assumed Velocity (m/s)	Stream Flow Time (mins)	
B	200	1.0%	0.035	22	535	0.8	11	33

RAINFALL INTENSITIES

Catchment	3-month ARI (mm/hr)	63% AEP (mm/hr)	39% AEP (mm/hr)	20% AEP (mm/hr)	10% AEP (mm/hr)	5% AEP (mm/hr)	2% AEP (mm/hr)	1% AEP (mm/hr)
B	25.5	51	66	86	98	114	136	152

STORMWATER QUANTITIES

Catchment	3-month ARI (m ³ /s)	63% AEP (m ³ /s)	39% AEP (m ³ /s)	20% AEP (m ³ /s)	10% AEP (m ³ /s)	5% AEP (m ³ /s)	2% AEP (m ³ /s)	1% AEP (m ³ /s)
B	0.75	1.50	2.06	3.00	3.59	4.38	5.73	6.53

APPENDIX D

EROSION HAZARD ASSESSMENTS



Erosion Hazard Assessment - June 2014

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?

Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?

An *Erosion Hazard Assessment* form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

Failure to submit this form during lodgement of an application may result in assessment delays or refusal of the application.

Privacy Statement

The personal information collected on this form will be used by Brisbane City Council for the purposes of fulfilling your request and undertaking associated Council functions and services. Your personal information will not be disclosed to any third party without your consent, unless this is required or permitted by law.

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the site:

A 'low' risk site

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at <http://www.waterbydesign.com.au/factsheets>

A 'medium' risk site

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

A 'high' risk site

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

Site address

62 Kraft Road

Pallara, QLD

Postcode 4110

I certify that:

- I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.
- I am a person with suitable qualifications and/or experience in erosion and sediment control.
- The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.
- The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.
- I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *Print name*

Chamindri Blair

Certifier's signature

Date

27 / 07 / 2022

Table 1: Low Risk Test

		Yes	No
1.1	is the area of land disturbance > 1000 m ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.2	does any land disturbance occur in a BCC mapped waterway corridor	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.4	does any land disturbance occur below 5 m AHD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.5	does development involve endorsement of a staging plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.6	is there an upstream catchment passing through the site > 1 hectare	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Have you answered 'yes' to any of the questions in Table 1?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

If 'No' then site is **low risk** with respect to erosion and sediment control

If 'Yes' then proceed to Table 2

Table 2: Medium Risk Test

		Yes	No
2.1	is the area of land disturbance > 1 hectare	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If 'No' then site is **medium risk** with respect to erosion and sediment control

If 'Yes' then proceed to Table 3

Table 3: High Risk Test

3.1	is there an upstream catchment passing through the site > 1 hectare	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2	does any land disturbance occurs in a BCC mapped waterway corridor	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Have you answered 'yes' to any of the questions in Table 3?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

If 'No' then site is **medium risk** with respect to erosion and sediment control

If 'Yes' then site is **high risk** with respect to erosion and sediment control



Erosion Hazard Assessment

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?

Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?

An Erosion Hazard Assessment form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

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Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the site:

A 'low' risk site

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at <https://waterbydesign.com.au/download/erosion-sediment-control-for-small-construction-sites>

A 'medium' risk site

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

A 'high' risk site

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

Site address

**136, 152 LAXTON ROAD & 69, 73 KRAFT ROAD,
PALLARA**

Postcode **4110**

I certify that:

- I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.
- I am a person with suitable qualifications and/or experience in erosion and sediment control.
- The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.
- The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.
- I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by (*Print name*)

Chamindri Blair

Certifier's signature

Date

2 / 7 / 2025

Assessment Table

Table 1: Low Risk Test

		Yes	No
1.1	is the area of land disturbance > 1000 m ² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.2	does any land disturbance occur in a BCC mapped waterway corridor?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.4	does any land disturbance occur below 5 m AHD?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.5	does development involve endorsement of a staging plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.6	is there an upstream catchment passing through the site > 1 hectare?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If you answered '**No**' to **ALL** of these questions, then the site is **low risk** with respect to erosion and sediment control.
(Do not continue to Table 2)

If you answered '**Yes**' to **ANY** of these questions, then proceed to **Table 2**

Table 2: Medium Risk Test

		Yes	No
2.1	is the area of land disturbance > 1 hectare?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If '**No**' then the site is **medium risk** with respect to erosion and sediment control.
(Do not continue to Table 3)

If '**Yes**' then proceed to **Table 3**

Table 3: High Risk Test

		Yes	No
3.1	is there an upstream catchment passing through the site > 1 hectare?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2	does any land disturbance occurs in a BCC mapped waterway corridor?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If you answered '**No**' to **ALL** of these questions, then the site is also **medium risk** with respect to erosion and sediment control.

If you answered '**Yes**' to **ANY** of these questions, then the site is **high risk** with respect to erosion and sediment control.