

RESIDENTIAL DEVELOPMENT

9-11 ADLER CIRCUIT, YARRABILBA

STORMWATER MANAGEMENT PLAN

FOR: SANDSKY DEVELOPMENTS

REPORT NUMBER: R001- G25081



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Document Control

Author:	Marcus Bleney	
Reviewer	Salvatore Cautela	
Approver RPEQ	Michael Bale 15543	
Report Title	R001 – G25081 - Stormwater Management Plan	
Revision	03	Date 04/12/2025

Revision History

Revision	Date	Author	Approver	Description
01	19/09/2025	MTB	MB	Original Issue
02	17/10/2025	MTB	MB	Updated Staging Plan
03	04/12/2025	MTB	MB	Amended as per EDQ RFI

Company Contact Details

- Address: Level 3, 18 Orchid Avenue, Surfers Paradise, 4217
- Mail Address: PO BOX 1715, Surfers Paradise, 4217
- Phone: (07) 5538 0431
- Email: reception@michaelbale.com.au

Client Contact Details

- Client: Sandsky Developments
c/o Urban Strategies

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1. Introduction

This report has been prepared to support the lodgement of a development application for the construction of a new two-staged development comprising twenty-one (21) townhouses. The development is proposed to occur on the following parcel of land:

Property Address: 9 -11 Adler Circuit, Yarrabilba
Property Description: Lot 11 SP296372
Council: Logan City Council
Site Area: 5,263m²

The site is located within a Priority Development Area (PDA) and, as such, falls under the planning assessment jurisdiction of Economic Development Queensland (EDQ). This development application is subject to the provisions of the Yarrabilba Development Scheme, rather than the Logan planning scheme.

The purpose of this report is to address the management of stormwater quantity and quality to ensure that the proposed development complies with all necessary state and local government policies.

This report intends to assess the likely impact of the proposed development in relation to stormwater quantity and quality, and the adequacy of the existing stormwater infrastructure to accommodate the proposed development.

1.1 Related Reporting

This report is intended to be read in conjunction with the associated development submission documents, current as of the date of this report.

An Engineer Services Report (Ref: R002-G25081) has been prepared for the proposed development and should be read in conjunction with this report.

1.2 Previous Approvals

The development site forms part of a previously approved master planned development application. The Yarrabilba Stormwater Management Plan for Precincts 1 and 2, was prepared as part of the prior development application which will be referenced in this report as the Master Stormwater Management Plan (MSMP) to maintain consistency with the established stormwater management strategy.

2. Property Description

The proposed development is situated on the existing lot located on 9 & 11 Adler Circuit, Yarrabilba, described as Lot 11 SP296372. The property is located within the Logan City Council area and is in close proximity to local commercial and retail centres.

The proposed development site is bounded by Yarrabilba Drive to the north, a commercial building and Adler Circuit to the south, a vacant lot to the east and open space with some vegetation to the west. The registered area of the existing allotment in this proposal is 5,263m².

A general locality plan is presented in Figure 2.1 below:



Figure 2.1 - Site Locality

2.1 Land Usage

The development site is currently a vacant lot consisting entirely of pervious land. The existing impervious area has been estimated from the survey to cover approximately 0% of the site area, as displayed in the Predevelopment Catchment Plan attached within Appendix B.

Currently there is no existing vehicle crossover to the development site.

2.2 Topography and Drainage

The detailed survey obtained for the development site indicates that the surface is a sloping site, grading to the northeast corner of the development site. Approximate levels on the site vary from 59.15m (AHD) in the southwestern corner of the site to 53.88m (AHD) in the northeastern corner of the site. The average grade of the site has been calculated to be approximately 4.00%.

The existing site is currently undeveloped. The majority of the site's surface water flows toward an existing field inlet pit located in the northeast corner of the development site, where it enters the council's drainage infrastructure via a kerb inlet pit within the Yarrabilba Drive road reserve. A small portion of the site drains into the neighbouring property to the east. A copy of the detailed survey by Axis Surveys is included in Appendix A of this report.

2.3 Upstream Catchment

The site survey indicates that the development site is not expected to be impacted by an upstream catchment and no allowance for upstream catchment flows have been considered in this report.

3. Proposed Development

The proposed development consists of:

- The construction of a two-stage development comprising twenty-one (21) townhouse-style residential dwellings; and
- The construction of associated driveways, carparking areas and other hardstand surfaces associated with the proposed development.

A copy of the proposed architectural site layout plan is included in Appendix A of this report.

Additional works on site shall include the construction of water reticulation, sewer reticulation, electrical and telecommunications services and stormwater management works.

External works for the development will consist of verge works with Adler Circuit to facilitate the construction of the vehicle crossover and service connections. No further external works are proposed as part of this development.

4. Lawful Point of Discharge

The site contains three stormwater catchments. The primary catchment, encompassing the majority of the development area, conveys runoff via overland sheet flow towards an existing stormwater drainage pit located in the northeastern corner of the site. A secondary, smaller catchment situated along the eastern boundary directs runoff towards the adjoining eastern property via overland sheet flow. The third catchment, located on the western portion of the site, is hydraulically separated from the development area by an existing bund, which prevents inflow from adjacent areas. This bunded catchment will remain unaltered, with flows continuing to be managed as per the current arrangement. All stormwater generated from the development will ultimately be captured and directed to the existing Council-owned bioretention basin, where it will be treated and detained.

In the developed scenario, stormwater runoff generated across the site will be collected via a private internal stormwater drainage network. The captured flows will be conveyed through a proposed $\varnothing 375\text{mm}$ diameter stormwater pipe, discharging into the existing stormwater pit located at the northeastern corner of the site. Ultimately, flows are discharging into the existing council owned bioretention basin as per the Master Stormwater Management plan. This proposed drainage arrangement is detailed in the Engineering Drawings provided in Appendix B.

The proposed discharge arrangement is considered to comply with the requirements of a lawful point of discharge and will be maintained following the development of the site. It is not anticipated that any stormwater will be directed towards any adjacent properties.

QUDM (2017) provides a three-part framework for the identification of a lawful point of discharge for a development site. The first assessment item is to consider if the proposed development will alter the site's stormwater discharge characteristics in a manner that may substantially damage a third-party property.

As the proposed development is not considered likely to worsen the flows received by the stormwater infrastructure within Yarrabilba Drive the proposed point of discharge is considered to satisfy the requirements set out in Section 3.9.1 – Lawful Point of Discharge Test.

This compliance is further demonstrated in the following pages where it is shown that the proposed development will result in no worsening of peak flows from the development site.

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5. Site Specific Hydrology

5.1 Introduction

The proposed development is located within Yarrabilba, a designated PDA that has an overarching stormwater management strategy. A Master Stormwater Management Plan (MSMP) for Precincts 1 and 2, prepared by Design Flow, established the key hydrological design parameters, including the assumed impervious surface percentages for the proposed development site. These parameters informed the design of the existing stormwater infrastructure, which was constructed to manage runoff in accordance with the MSMP. The system is considered sufficient to accommodate the stormwater flows generated by the proposed development.

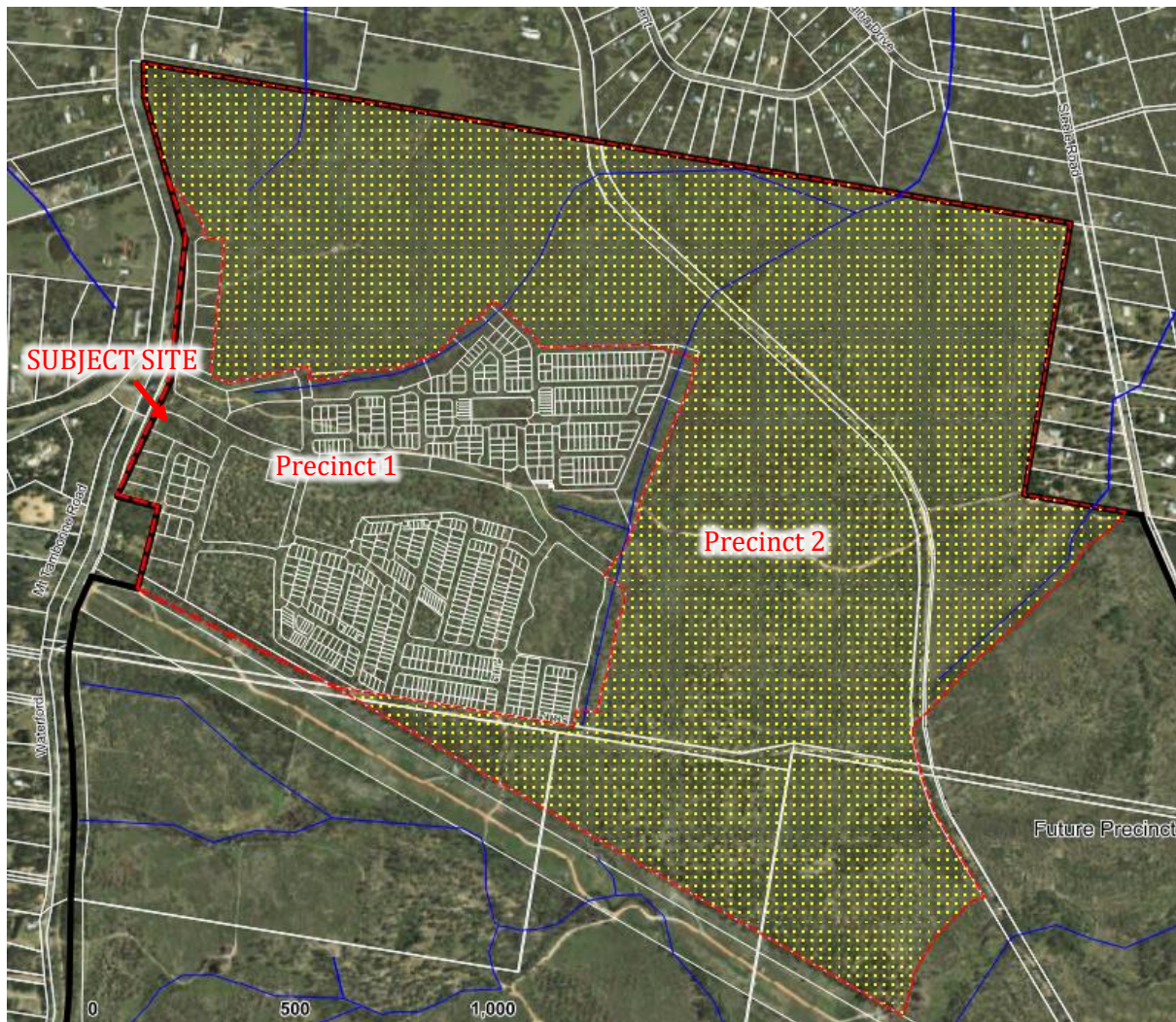


Figure 5.1 – Yarrabilba Development Precinct 1 and 2

5.2 Methodology

The methodology of the hydrologic analysis involves the use of both the Rational Method and DRAINS runoff-routing software. The Rational Method, as described by the Queensland Urban Drainage Manual (QUDM 2017), provides a simple means for the assessment of the peak discharge rate for design storms. The rational method does not provide a reliable basis for the determination of runoff volume or hydrograph shape.

DRAINS software (by Watercom) is a computer-based model that incorporates time-area routing processes to more accurately determine the volume and shape of the hydrograph during a storm event. DRAINS also includes storage-routing processes that can simulate the effect of stormwater detention systems.

The Rational Method is used in the hydrologic analysis to calibrate and verify the results of the DRAINS software modelling, in lieu of the availability of gauged information.

Once calibrated and verified, the DRAINS software modelling is used to calculate all the pre and post development hydrographs that are used in the assessment, and for the design of the proposed stormwater detention system.

5.3 Catchment Definition

In the pre-development scenario, the site has been modelled as a single catchment, with the fraction imperviousness adopted from the Yarrabilba Precinct 1 and Precinct 2 MSMP MUSIC Catchment Plan (refer to Appendix C), where an imperviousness of 81% is indicated in Table 16 of the MSMP. The proposed development has been represented by two (2) catchments: a moderately developed catchment and a bypass catchment, with the impervious fraction determined based on the current architectural plans. A summary of the catchment characteristics adopted for stormwater modelling is provided in Table 5.1 below.

Table 5.1: Catchment Definition

Catchment	Catchment Size	Fraction Impervious (f_i)
Pre-Developed Site	5,263m ²	0.81
Post-Developed Site	4,527m ²	0.64
Bypass - Post-Developed Site	736m ²	0.00

5.4 Hydrologic Parameters

Time of Concentration

The time of concentration for the pre- and post-development catchments have been calculated in accordance with QUDM. The Friends sheet flow equation has been used to determine the time of concentration (t_c) for the ground catchments. The time of concentration for the roof catchments have been estimated using standard inlet times in combination with expected length of piped flows. Refer to Table 5.2 for the calculated time of concentration for each catchment.

Table 5.2: Time of Concentration Summary

Catchment	Catchment Size	Time of Concentration
Pre-Developed Site	5,263m ²	13.0 minutes
Post-Developed Site	4,527m ²	13.0 minutes
Bypass - Post-Developed Site	736 m ²	13.0 minutes

C10 Value

The C10 values for the existing site conditions and the post-developed site conditions have been calculated in accordance with the Queensland Urban Drainage Manual (QUDM), Table 4.5.3: Table of C10 values. A summary of the C10 values adopted for the site are presented in Table 5.3 below.

Table 5.3: *C₁₀ Values*

Catchment	Area	Development Category	C ₁₀
Pre-development	5,263m ²	58.10mm /hr / 81%	0.833
Post-development	4,527m ²	58.10mm /hr / 64%	0.766
Bypass post-development	736 m ²	58.10mm /hr / 100%	0.900

Summary of Flow – Rational Method

The Rational Method was used to calculate runoff from the site in the pre-developed and post developed scenario. The anticipated peak discharge is detailed in Table 5.4 below.

Table 5.4: *Rational Method Calculation Summary*

AEP	39% (m ³ /s)	18% (m ³ /s)	10% (m ³ /s)	5% (m ³ /s)	2% (m ³ /s)	1% (m ³ /s)
Pre-Developed	0.089	0.137	0.170	0.203	0.259	0.299
Post-Developed	0.071	0.108	0.134	0.161	0.205	0.237
Bypass Post-Developed	0.013	0.019	0.024	0.029	0.035	0.039
Flow Increase	-0.005	-0.010	-0.012	-0.013	-0.019	-0.023

As the proposed development decreases the fraction imperviousness of the site, there will be a decrease in the peak discharge stormwater flow at the point of lawful discharge in all the stormwater events from AEP 39% to 1%. Therefore, it will be **not** necessary to provide the development with an on-site stormwater detention system or mitigation methods to reduce the peak discharge of local storm events.

6. Stormwater Quality

6.1 Introduction

The Yarrabilba Precinct 1 and 2 MSMP was approved as part of the original development application for Precincts 1 and 2. The MSMP incorporates bioretention systems designed to treat stormwater runoff from future developments within these precincts. The bioretention basin has been in operation for several years since its construction. Figure 6.1 is a screen shot of the MSMP which illustrates the subject development site is located within Catchment N1 of the broader Precinct 1 and 2 MSMP. Relevant excerpts from the approved MSMP are provided in Appendix C of this report.

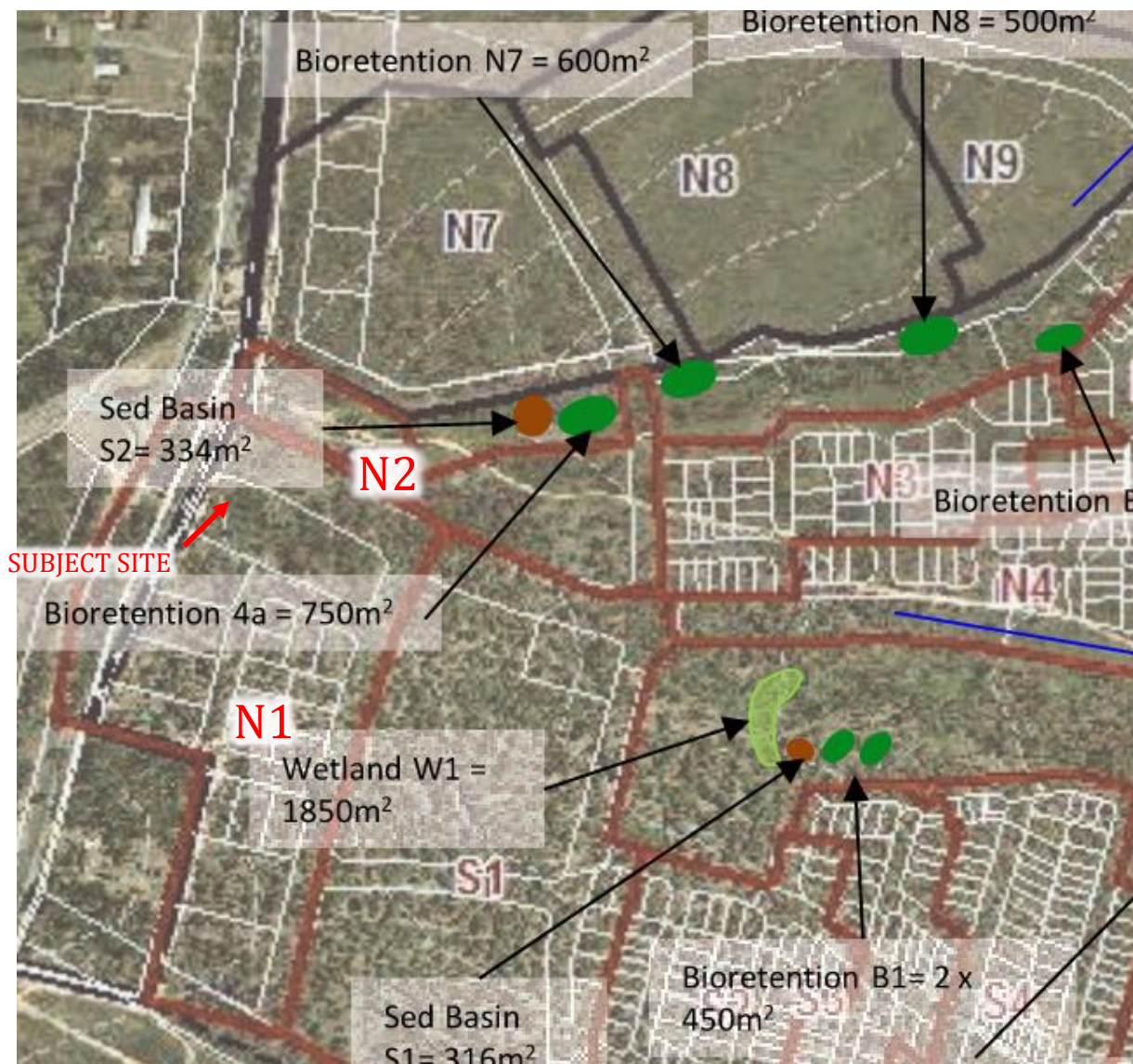


Figure 6.1 – Yarrabilba Master Stormwater Plan Precinct 1 and 2 MUSIC catchment Boundary Screen shot

Catchment N1 discharges to the N2 sediment basin and subsequently into the B4a bioretention basin. Bioretention Basin B4a, with a surface area of 750 m², has been designed to treat stormwater runoff from the proposed development. Therefore, no additional tertiary onsite stormwater quality treatment is required.

However, primary stormwater quality controls, such as Atlan storm sacks or equivalent devices, must be installed in every proposed stormwater pit to prevent large pollutants from leaving the future developed site.

7. Conceptual Erosion and Sediment Control Plan

7.1 Introduction

During construction, it shall be the responsibility of the Principal Contractor to ensure that the development complies with the relevant erosion and sediment control objectives, as outlined in the State Planning Policy, IECA BPESC Guideline (2008) and the Logan City Council Planning Scheme.

This section of the report provides suggested inclusions in an erosion and sediment control plan for the proposed development site. This plan includes recommendations for monitoring & reporting responsibilities and the construction of site-specific sedimentation and erosion control measures. Detailed drawings specifying the proposed erosion and sediment control measures are to be provided at the Operational Works stage of the development.

7.2 General Erosion and Sediment Control Measures

It shall be the responsibility of the Principal Contractor to ensure the following erosion and sediment control measures are implemented on site:

- Clean stormwater runoff from upstream allotments is to be directed away from the development site using earth bunds or cut-off drains, as deemed appropriate by a suitable supervisor;
- The prevention of sediment runoff towards other allotments via the effective implementation of silt fences, sediment basins or other mitigation devices as deemed appropriate by a suitable supervisor;
- Sediment runoff shall also be prevented from entering the council stormwater drainage system via the implementation of control measures such as gully pit sediment barriers;
- Erosion shakedown points shall be established at all vehicular access points, with shakedown areas regularly swept clean and sediment removed; and
- Erosion and sediment control measures are not to be removed from the development site until the site is completely rehabilitated and the surface is capable of resisting erosion.

7.3 Spoil and Stockpile Management Measures

It shall be the responsibility of the Principal Contractor to ensure the following spoil and stockpile management measures are implemented on site:

- Where the stockpiling of spoil and excess earthworks is necessary on the development site, stockpiles shall be established as far away as possible from stormwater inlets and pipelines to reduce the likelihood of sediment runoff; and
- Stockpiles are to be established within a designated zone of fill material and should be surrounded with appropriate erosion and sediment control measures.

7.4 Training Requirements

It shall be the responsibility of the Principal Contractor to ensure the following training protocols are implemented on the development site:

- Site induction courses shall include details of an environmental management reporting system, through which personnel will be able to report perceived erosion and sediment control issues on site.

8. Conclusion

This report has been prepared to support the lodgement of a development application for the construction of a new development comprising twenty-one (21) townhouses. The development is proposed to occur on the following parcel of land:

Property Address: 9 -11 Adler Circuit, Yarrabilba
Property Description: Lot 11 SP296372
Council: Logan City Council
Site Area: 5,263m²

This report has addressed the management of stormwater quantity and quality to ensure that the proposed development complies with all necessary state and local government policies.

This report describes the design process for specifications of the following key infrastructure elements that will ensure the management of stormwater to achieve necessary standards.

- Stormwater detention for the proposed development,
 - Onsite detention is **not** deemed necessary based on the Yarrabilba MSMP Precinct 1 and 2 (refer to Section 5 of this report for outlet arrangements).
- Stormwater quality treatment for the proposed development,
 - Onsite quality treatment is **not** deemed necessary based on the Yarrabilba MSMP Precinct 1 and 2 (refer to Section 6 of this report for outlet arrangements).

This report has addressed the management of stormwater quantity and has demonstrated that no additional works are required to ensure that the proposed development complies with all necessary state and local government policies.

It is the opinion of this report that the proposed stormwater quantity and quality management systems are suitable for a development of this scale and potential impacts.

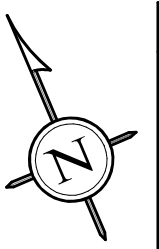


Appendix A

Site Survey & Architectural Layout

Waterford Tamborine Road

Yarrabilba Drive



Contour & Feature Survey



LOT 11 on SP296372

#9-11 Adler Circuit

Suburb Yarrabilba

Local Auth Logan City Council

Area 5263 m²

Sandsky
Constructions Pty
Ltd

Order No: SC646/1040

NOTES TO BE READ BEFORE USING THIS PLAN

This Plan has limitations regarding its use for some applications. Please contact this office if there is any doubt about the suitability of this plan for the intended use. These notes form part of this plan and they must remain with the plan or any copies. The limitations of this plan are detailed in the link below, with the main ones being:-

1. This plan has been prepared for our client & should not be used by others without approval.
2. The boundaries shown have been sourced from DoR documents or as noted, and have not been checked, unless a boundary identification survey has been completed by Axis Surveys.
3. Distances from features to the shown boundaries should not be used or relied upon.
4. If positional accuracy is critical a boundary identification survey may be required.
5. The certificate of title has not been searched and should be checked for any encumbrances.
6. The contours may not represent the local authority's definition of "Ground Level".
7. A flood search has not been carried out. Check with local council for min. and max. construction heights.
8. Non visible services (if shown), have been plotted from the relevant authority's records or from other sources and may not be accurate. Services should be exposed before design or construction commences.
9. The position of any subsurface structures have not been investigated.
10. The north point has been taken from the survey plan and may not be suitable for all uses.

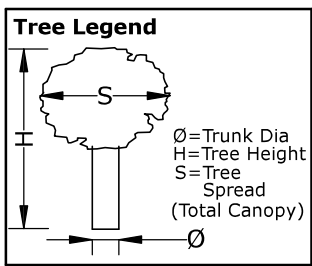
Refer to this link for more information: www.axisurveys.com.au/axisurveysdisclosures/

Issue	Date	Amendment	By
1	03/10/2025	Original Issue	CSJ
2	01/12/2025	Sewer Info Update	RL

Site No: 2501563 Order No: X558773
Height Datum: 400
Height Origin: GNSS
Surveyed: MB
Date: 01/04/2025
Scale: 1:200
Page 41
1 OF 2

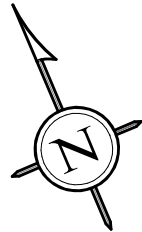
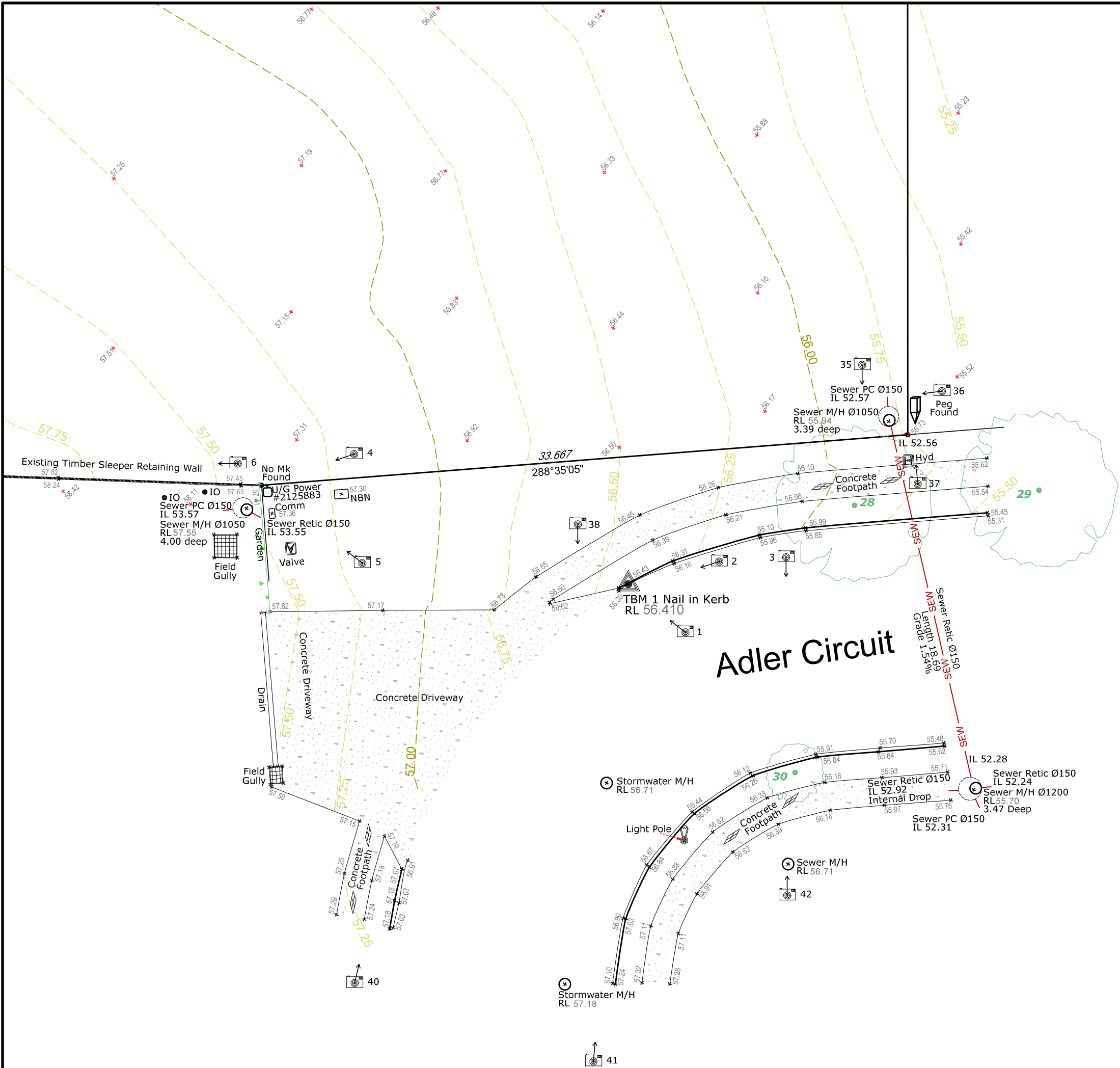
Detailed Sewer Info
(See Page 2)

TREE SCHEDULE				
No.	Name	T Ø	Spr Ø	H
1	TREE	0.30 m	6.0 m	6.0 m
2	TREE	0.30 m	6.0 m	6.0 m
3	TREE	0.30 m	3.0 m	8.0 m
4	TREE	0.30 m	3.0 m	8.0 m
5	TREE	0.30 m	3.0 m	8.0 m
6	TREE	0.30 m	3.0 m	8.0 m
7	TREE	0.30 m	3.0 m	8.0 m
8	TREE	0.30 m	3.0 m	8.0 m
9	TREE	0.30 m	3.0 m	8.0 m
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29	TREE	0.30 m	3.0 m	8.0 m
30	TREE	0.30 m	3.0 m	8.0 m



Existing
Building
Lot 101
SP326202

Adler Circuit



Contour & Feature Survey ©



Unit 5/23 Overlord Place, ACACIA RIDGE, Qld, 4110
Ph (07) 3363 8100 www.axisurveys.com.au

LOT 11 on SP296372

#9-11 Adler Circuit

Suburb Yarrabilba

Local Auth Logan City Council

Area 5263 m²

Sandsky
Constructions Pty
Ltd

Order No: SC646/1040

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Issue	Date	Amendment	By
A	03/04/2025	Original Issue	GEO2
B	01/12/2025	Sewer Info Update	RL

Site No: 2501563 Order No: X558773
Height Datum: AHD
Height Origin: GNSS
Surveyed: MB
Date: 01/04/2025

Scale:
1:200
PAGE A3
2 OF 2

Lot 11 ADLER CIRCUIT, YARRABILBA





DEVELOPMENT SUMMARY

REAL PROPERTY DESCRIPTION

9-11 Adler Circuit,
YARRABILBA, QLD 4207

LOT/PLAN LOT 11 SP 296372

TOTAL SITE AREA: 5,262.8m²
LEASE A: 736.4m²
TOTAL DEVELOPABLE AREA: 4,526.4m²

OPEN SPACE AREA: 1605m² (35.5% of site)
COMMUNAL OPEN SPACE: 211.9m² (4.7% of site)
PRIVATE OPEN SPACE: 686m² (15.2% of site)

DEEP PLANTING
TOTAL DEEP PLANTING: 1016m² (22.4% of site)

SITE COVER: 1,837m² (40.6% of site)

TOWNHOUSE MIX

TYPE A (3 bedroom): 16
TYPE B (3 bedroom): 5

TOTAL DU's: 21

CARPARKING PROVIDED

RESIDENT: 42
VISITOR: 5

TOTAL: 45

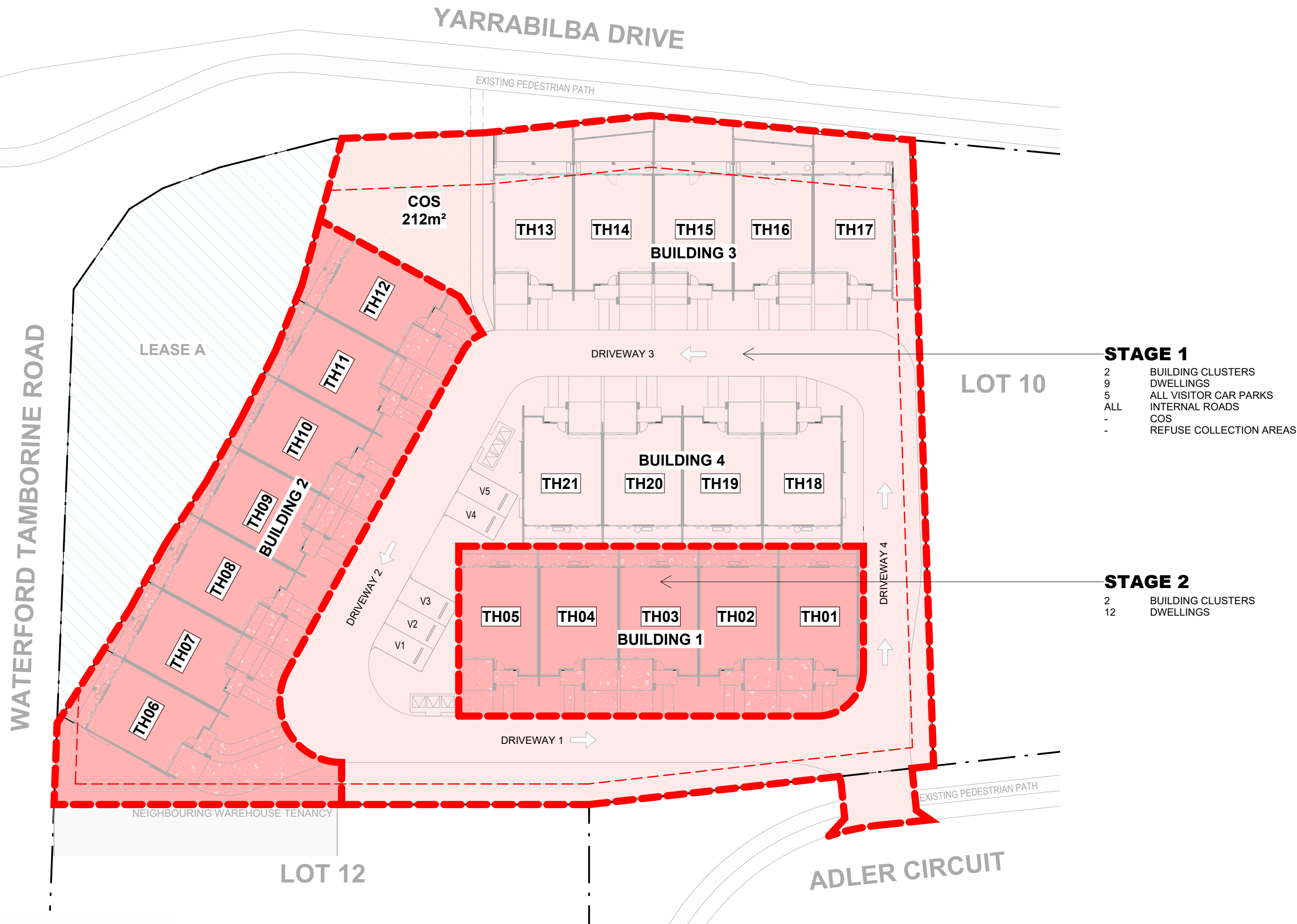
LEGEND

TOWNHOUSE (TYPE A) - 2 STOREY
3 BED + 2 BATH + 2 CARS
TOWNHOUSE (TYPE B) - 2 STOREY
3 BED + 2 BATH + 2 CARS

RETAINING WALL



REDDOOR
ARCHITECTURE



NEIGHBOURING
PROPERTY LOT 10



WATERFORD
TAMBORINE ROAD

7
-
EXTERNAL ELEVATION - YARRABILBA DRIVE
1 : 350@A3



PAINT COLOUR LEGEND

WALLS

DULUX LEXICON HALF
(OR SIMILAR)

NOTE: PROJECTIONS TO BE POWDERCOATED
TO MATCH PAINT COLOUR

DULUX TRANQUIL RETREAT
(OR SIMILAR)

NOTE: PROJECTIONS TO BE POWDERCOATED
TO MATCH PAINT COLOUR

DULUX COLORBOND
MONUMENT (OR SIMILAR)

NOTE: PROJECTIONS TO BE POWDERCOATED
TO MATCH PAINT COLOUR

ROOF & GUTTERS

DULUX COLORBOND
SURFMIST (OR SIMILAR)

DULUX LEXICON HALF
(OR SIMILAR)

DOOR & WINDOW FRAMES

POWDER COATED
WHITE

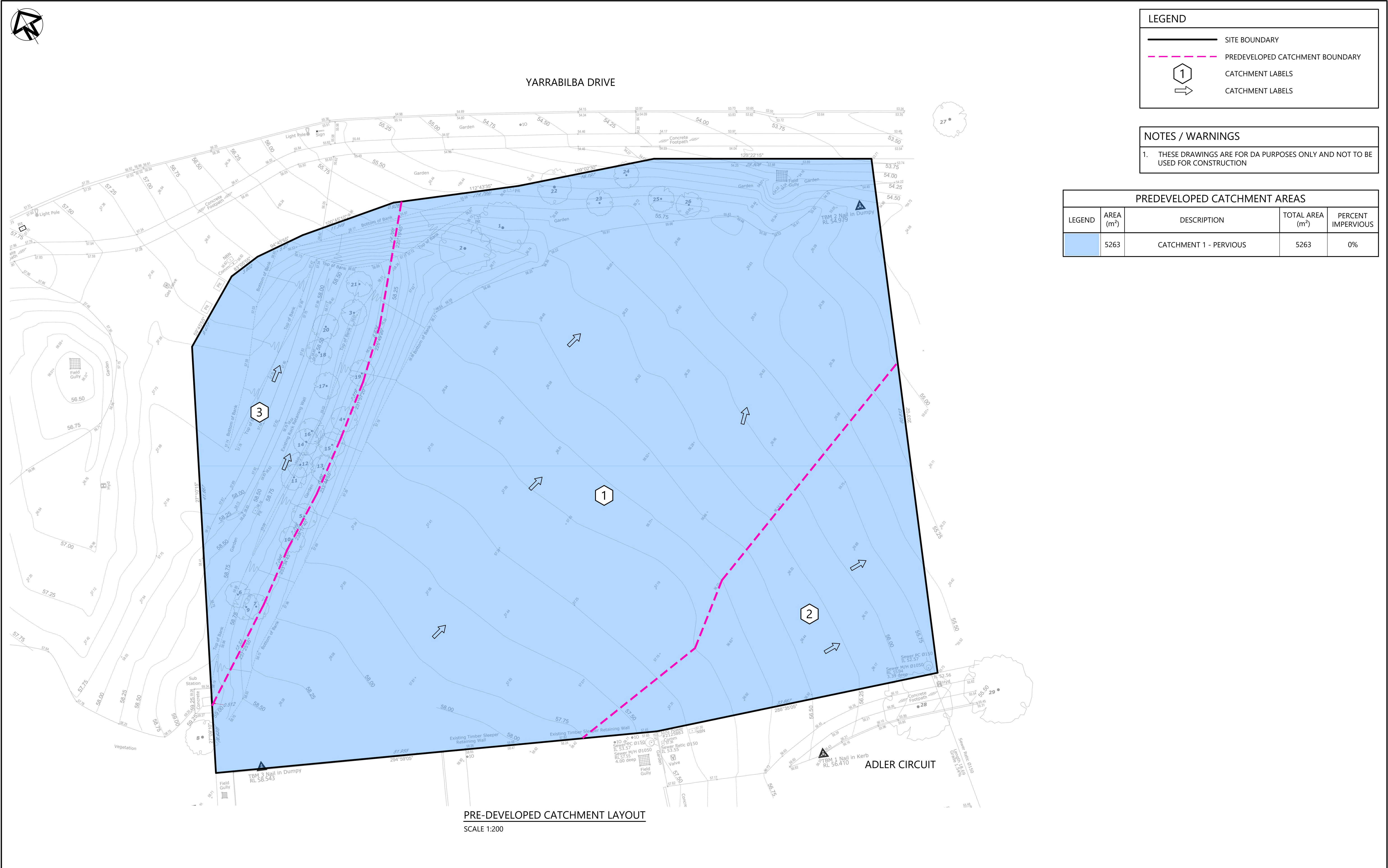
LEGEND

NATURAL GROUND LINE

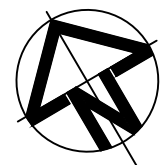


Appendix B

Engineering Drawings



02 01 ISSUE UPDATED SURVEY ORIGINAL ISSUE MTB MTB 04.12.25 15.09.25				STATUS				SURVEYOR		CLIENT		PROJECT TITLE:		NOTES	
				FOR DA APPROVAL NOT FOR CONSTRUCTION				 Unit 5 / 23 Overland Place Acacia Ridge, QLD 4110 07 3363 8100		SANDSKY DEVELOPMENTS		 MICHAEL BALE & ASSOCIATES Structural and Civil Engineering Consultancy			
				R.P.E.Q No : CERTIFIED											
				HEIGHT DATUM										SCALE	
AHD		DESIGNER		DB		 SCALE 1:200 2 1 0 2 4 6 8 10 1:200 (A1) - 1:400 (A3)		 RED DOOR ARCHITECTURE 1C/ 24 Macquarie Street Teneriffe, QLD, 4005 contact@rdarch.com.au		Level 3, 18 Orchid Avenue, Surfers Paradise PO BOX 1715, Surfers Paradise 4217 Ph: 07 5538 0431 mail@michaelbale.com.au		PRE-DEVELOPED CATCHMENT LAYOUT PLAN			
GRID		LOCAL		CHECKER										MB	
ORIGINAL SIZE		A1		APPROVER										MB	
DESCRIPTION		AUTHOR		DATE								DA01 - G25081 - 02			



YARRABILBA DRIVE

LEGEND

- SITE BOUNDARY
POST-DEVELOPED CATCHMENT BOUNDARY
CATCHMENT LABELS

NOTES / WARNINGS

1. THESE DRAWINGS ARE FOR DA PURPOSES ONLY AND NOT TO BE USED FOR CONSTRUCTION

POST-DEVELOPED CATCHMENT AREAS

LEGEND	NAME	AREA (m ²)	DESCRIPTION	TOTAL AREA (m ²)	PERCENT IMPERVIOUS
	1	1160	CATCHMENT 1 - LANDSCAPING	4527	74%
	2	372	CATCHMENT 1 - HARDSTAND		
	3	1647	CATCHMENT 1 - ROOF		
	4	1348	CATCHMENT 1 - DRIVEWAY	736	100%
	5	736	BYPASS - LANDSCAPING		
TOTAL				5263	64%



POST-DEVELOPED CATCHMENT LAYOUT
SCALE 1:200

STATUS
FOR DA APPROVAL
NOT FOR CONSTRUCTION

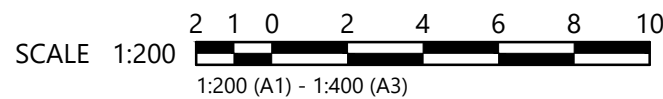
R.P.E.Q No:	CERTIFIED
HEIGHT DATUM	AHD
GRID	LOCAL
ORIGINAL SIZE	A1
DESIGNER	DB
CHECKER	MB
APPROVER	MB

SURVEYOR



Unit 5 / 23 Overlord Place
Acacia Ridge, QLD 4110
07 3363 8100

SCALE



CLIENT

SANDSKY
DEVELOPMENTS

ARCHITECT



1/ 24 Macquarie Street
Teneriffe, QLD, 4005
contact@rdarch.com.au



MICHAEL BALE
& ASSOCIATES

Structural and Civil Engineering Consultancy

Level 3, 18 Orchard Avenue,
Surfers Paradise
PO BOX 1715, Surfers Paradise 4217
Ph: 07 5538 0431
mail@michaelbale.com.au

PROJECT TITLE:

9 - 11 ADLER CIRCUIT
YARRABILBA
LOT 11 SP296372

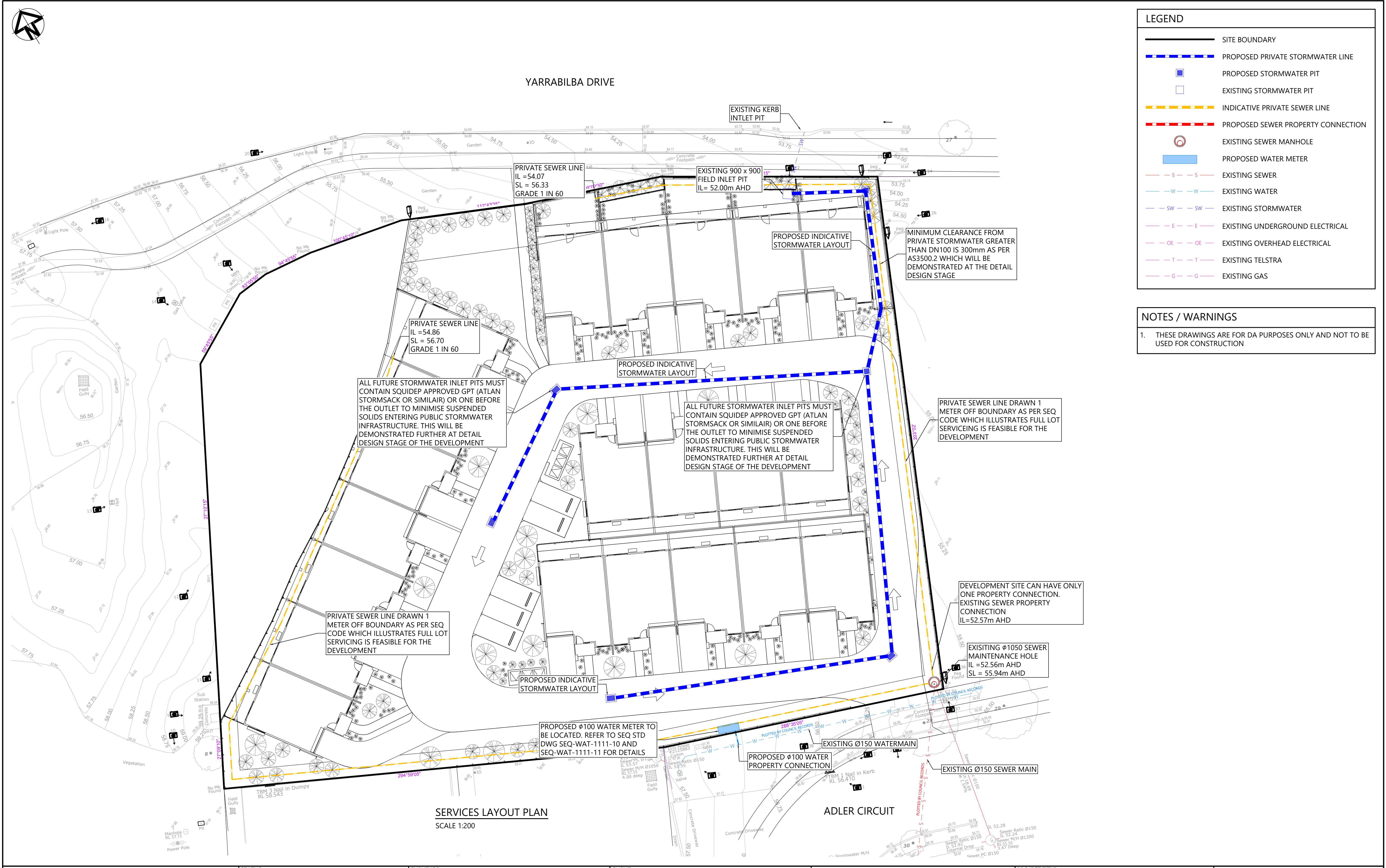
DRAWING TITLE:

POSTDEVELOPED
CATCHMENT
LAYOUT PLAN

NOTES:

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DA02	G25081	- 02



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<table><tr><td>02</td><td>UPDATED AS PER EDQ RFI</td><td>MTB</td><td>04.12.25</td></tr><tr><td>01</td><td>ORIGINAL ISSUE</td><td>MTB</td><td>10.09.25</td></tr><tr><td>ISSUE</td><td>DESCRIPTION</td><td>AUTHOR</td><td>DATE</td></tr></table>				02	UPDATED AS PER EDQ RFI	MTB	04.12.25	01	ORIGINAL ISSUE	MTB	10.09.25	ISSUE	DESCRIPTION	AUTHOR	DATE	<table><tr><td>GRID</td><td>LOCAL</td><td>CHECKER</td><td>MB</td></tr><tr><td>ORIGINAL SIZE</td><td>A1</td><td>APPROVER</td><td>MB</td></tr></table>				GRID	LOCAL	CHECKER	MB	ORIGINAL SIZE	A1	APPROVER	MB					<table><tr><td>DRAWING No.</td><td>PROJECT No.</td><td>REVISION</td></tr><tr><td>DA04 -</td><td>G25081</td><td>- 02</td></tr></table>				DRAWING No.	PROJECT No.	REVISION	DA04 -	G25081	- 02
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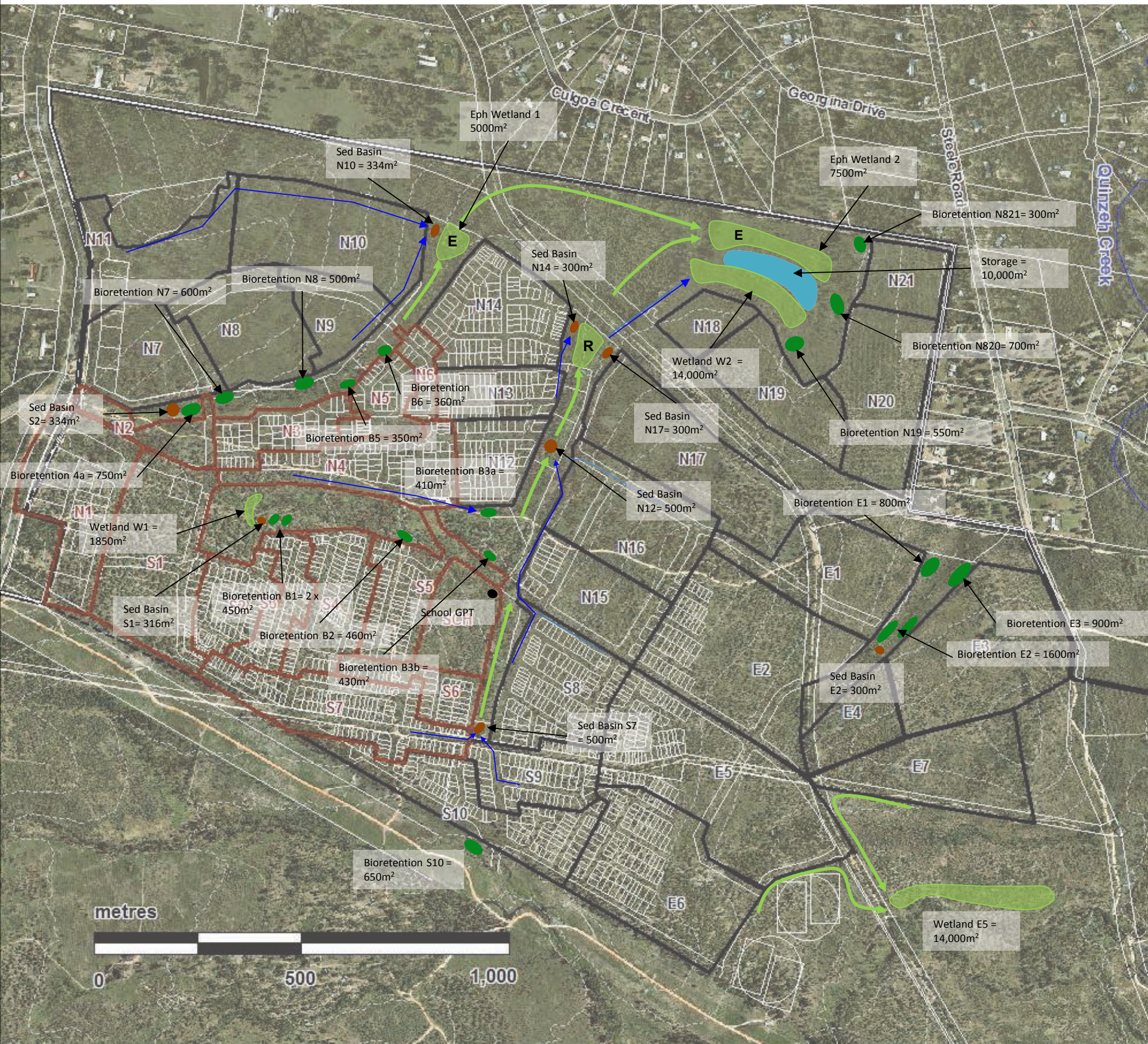


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				HEIGHT DATUM		AHD		DESIGNER		DB		2 1 0 2 4 6 8 10 1:200 (A1) - 1:400 (A3)		REDDOOR ARCHITECTURE		DA03 -		G25081		- 02			
02		UPDATED SURVEY		MTB		03.12.25		GRID		LOCAL		CHECKER		MB									
01		ORIGINAL ISSUE		DB		16.09.25		ORIGINAL SIZE		A1		APPROVER		MB									
		DESCRIPTION		AUTHOR		DATE																	



Appendix C

Relevant Yarrabilba Precinct 1 and 2 Stormwater Management Plan Information



LEGEND

- SW Diversions
- Remediated waterway
- Sediment Basin
- Bioretention
- Wetland
- Remediated Ponged Zone
- Ephemeral Water
- Stormwater harvesting storage
- Precinct 1 Catchment
- Precinct 2 Catchment

NOTE: Refer to Figure 22 for Flood Detention Locations

FIGURE 10
Precinct 1 and 2 Stormwater Management Strategy

Yarrabilba Precinct 1 and 2
Stormwater Management Plan



SCALE:
~1 : 1000

Date:
1 November 2013

Client:
Lend Lease

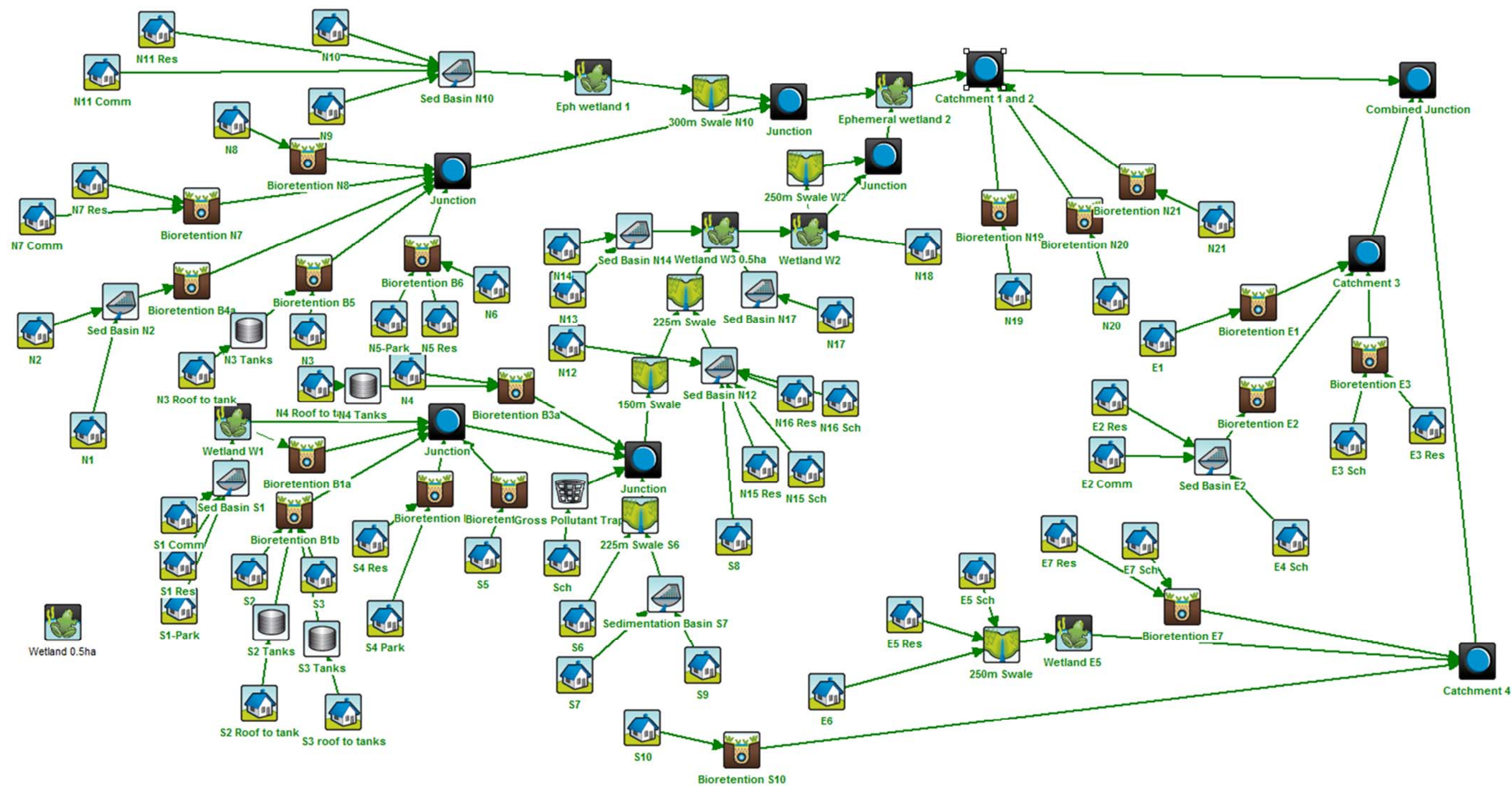
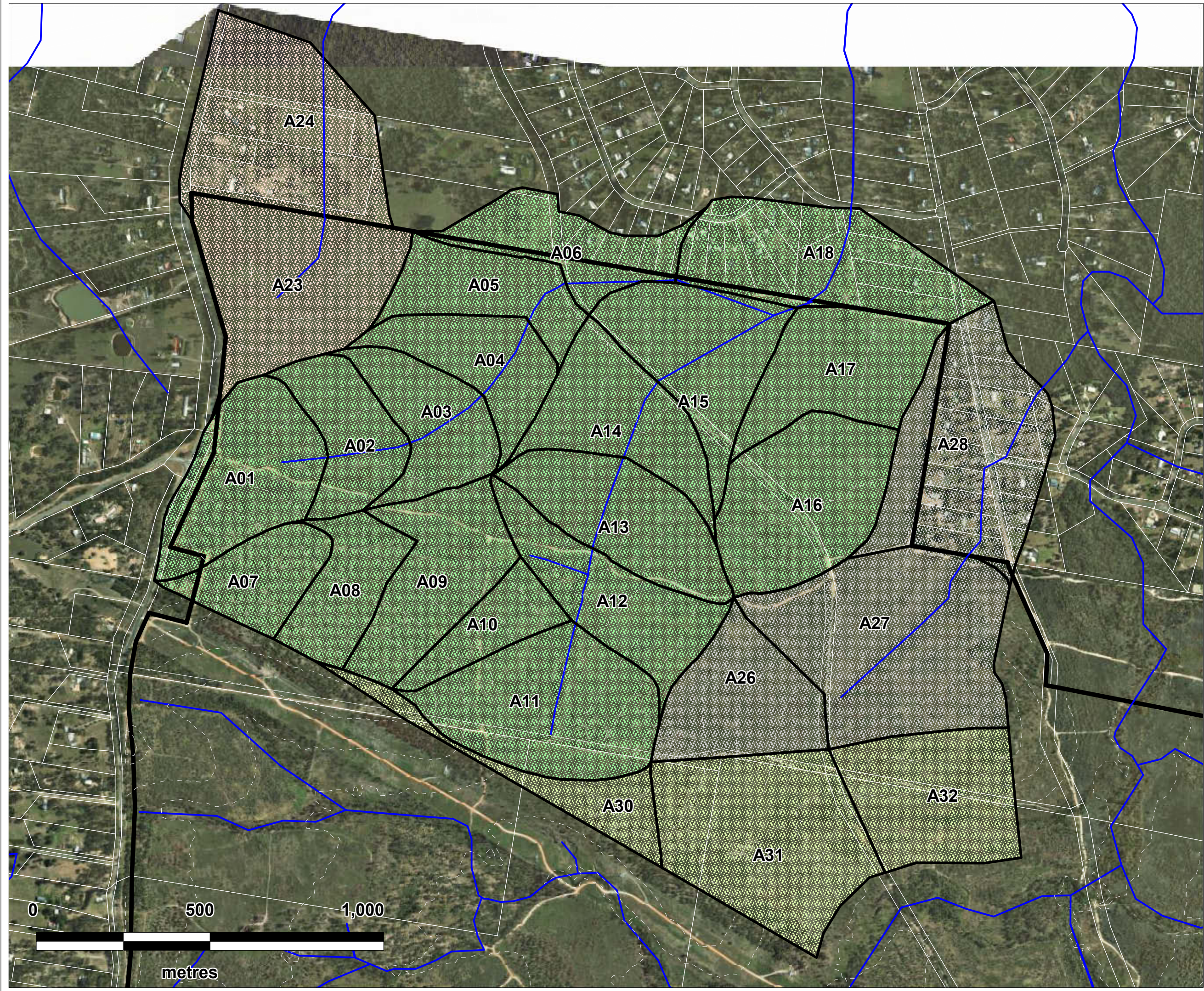


Figure 14: MUSIC catchment delineation and model layout



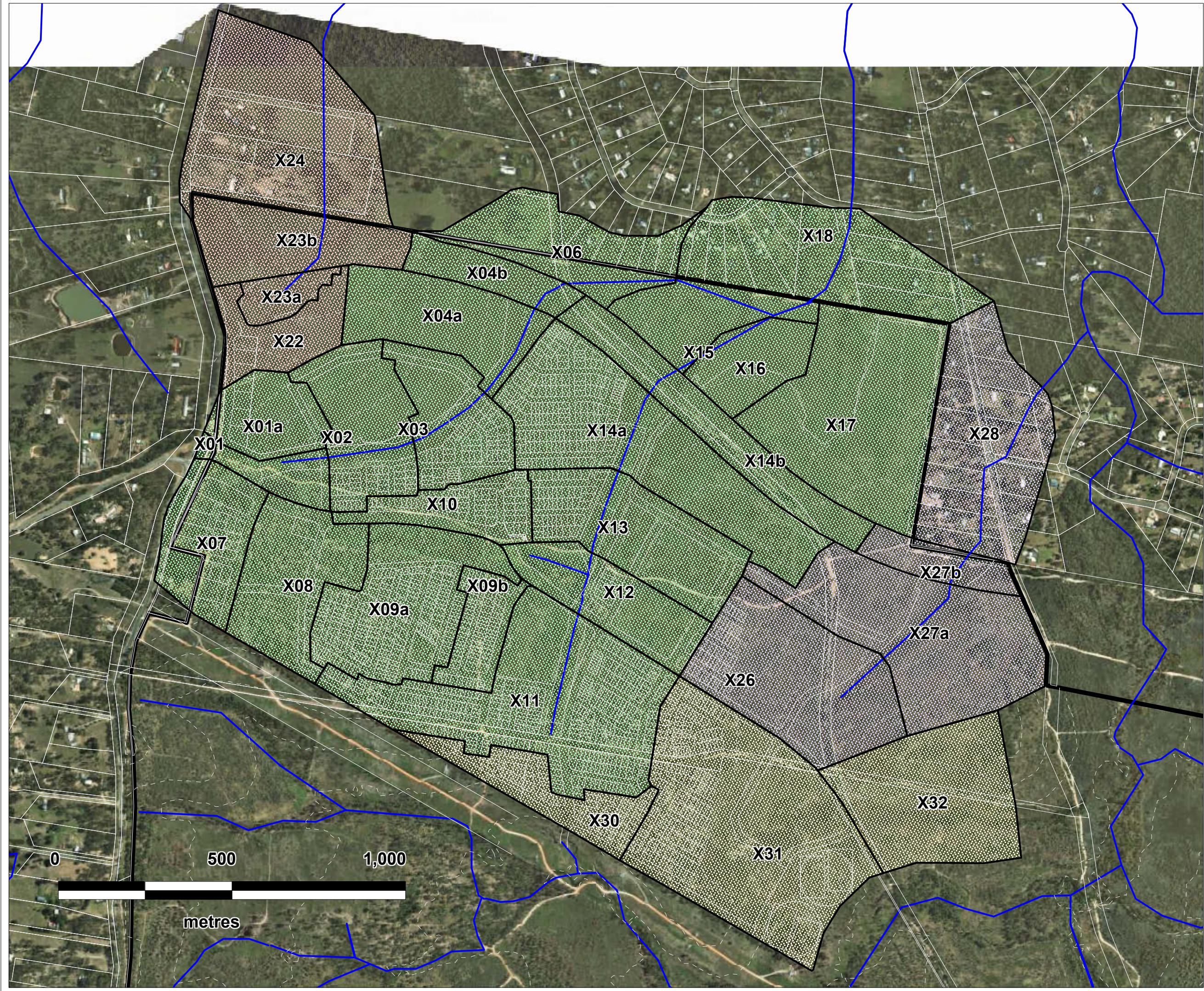
- LEGEND
-  Yarrabilba site boundary
 -  Existing case subcatchment
 -  5m contour
 -  Waterway drainage line

FIGURE 16
Existing case subcatchments

Yarrabilba Precinct 1 and 2
Stormwater Management Plan

	SCALE: 1 : 1000	Date: 1 November 2013
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LEGEND

-  Yarrabilba site boundary
-  Developed sub-catchment
-  5m contour
-  Waterway drainage line

FIGURE 17
Post development sub-catchments

Yarrabilba Precinct 1 and 2
Stormwater Management Plan



SCALE:
1 : 1000

Date:
1 November 2013

Client:
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Table 15: Pre-development sub-catchment summary

Catchment	Area (ha)	Slope (%)	Impervious (%)*	Land Use **
A01	17.03	4.2%	5%	ex- pine plantation/road
A02	10.2	3.3%	0%	ex- pine plantation
A03	11.16	2.7%	0%	ex- pine plantation
A04	10.8	3.0%	0%	ex- pine plantation
A05	10.8	2.8%	0%	ex- pine plantation
A06	11.48	1.7%	5%	rural residential
A07	8.59	5.0%	0%	ex- pine plantation
A08	9.35	3.4%	0%	ex- pine plantation
A09	15.4	3.8%	0%	ex- pine plantation
A10	6.66	5.2%	0%	ex- pine plantation
A11	22.17	3.9%	0%	ex- pine plantation
A12	14.33	3.4%	0%	ex- pine plantation
A13	15.6	3.1%	0%	ex- pine plantation
A14	14.32	2.5%	0%	ex- pine plantation
A15	16.54	1.4%	0%	ex- pine plantation
A16	19.82	3.5%	0%	ex- pine plantation
A17	15.18	1.6%	0%	ex- pine plantation
A18	20.73	2.1%	5%	rural residential
A23	22.76	4.0%	0%	ex- pine plantation
A24	25.42	3.2%	5%	rural residential
A26	14.3	3.9%	0%	ex- pine plantation
A27	31.23	2.3%	0%	ex- pine plantation
A28	26.3	2.3%	10%	rural residential
A30	7.54	3.7%	0%	ex- pine plantation
A31	26.34	2.1%	0%	ex- pine plantation
A32	17.41	1.6%	0%	ex- pine plantation
TOTAL	421.5			

* Rural-residential % impervious was approximated from aerial photography

** Some localised areas of remnant vegetation exist within parts of sub-catchments – these are mainly focused within the retained drainage lined in the post development layout.

Table 16: Post development sub-catchment summary

Notations: **For** = Forest, **Rur-res** = Rural residential, **Res** = residential, **Com** = Commercial/Retail/Industrial, **Sch** = School, **OS** = Open Space, **SIC** = Southern Infrastructure Corridor. Refer to **Table 17**.

Catchment	Area (ha)	Slope (%)	Total Impervious (%)	Predominant Land Use*
Xo1	3.9	2.0%	67%	Res/Com/OS
Xo1a	6.72	3.0%	60%	Res
Xo2	11.63	3.0%	50%	Res/OS
Xo3	10.03	3.0%	48%	Res/OS
Xo4a	12.19	3.0%	48%	Res/OS
Xo4b ¹	5.15	3.0%	90%	SIC ¹
Xo6	12.15	1.7%	7%	Rur-res/OS
Xo7	10.01	3.0%	81%	Res/Com
Xo8	12.75	3.0%	45%	Res/Com/OS
Xo9a	16.58	3.5%	44%	Res/OS
Xo9b	5.21	4.0%	60%	Res
X10	6.79	2.5%	57%	Res/OS
X11	28.05	3.0%	56%	Res/Sch/OS
X12	9.9	3.0%	46%	Res/Sch/OS
X13	14.87	3.0%	53%	Res/Sch/OS
X14a	24.72	3.0%	54%	Res/OS
X14b ¹	11.02	3.0%	90%	SIC ¹
X15	7.95	1.0%	2%	OS
X16	6.64	1.5%	67%	Res/OS
X17	24.7	1.5%	42%	Res/OS
X18	19.73	2.1%	10%	Rur-res
X22 ³	6.64	2.0%	60%	Res ³
X23a	2.84	2.0%	0%	For (existing)
X23b ²	10.78	2.0%	0%	For (existing) ²
X24	25.36	3.2%	10%	Rur-res
X26	19.81	3.5%	58%	Res/Com/Sch/OS
X27a	22.99	2.5%	55%	Res/Sch/OS
X27b ²	4.45	2.5%	0%	For (existing) ²
X28	20.26	2.3%	10%	Res
X30	7.71	1.5%	45%	Res/OS
X31	34.1	3.0%	48%	Res/Sch/OS
X32 ⁴	18.02	1.6%	0%	For (existing) ⁴
TOTAL	433.7			