



PEET LIMITED

Flagstone City

Stormwater IMP

COMPLIANCE ENDORSEMENT
referred to in the PDA
DEVELOPMENT APPROVAL



Approval no: DEV2012/209/6/16

Condition no: 21

Date: 23 December 2025

QC4012_002-REP-007-2

7 NOVEMBER 2025

The flood levels in the Flagstone Masterplan Flood Management Strategy (Engeny, 7 Nov 2025) shall not be used for flood planning levels until this study is either properly calibrated against the recorded data or comparisons of flood levels throughout the study area against the Council's calibrated modelling results demonstrating reasonable agreement.

Waterway stability management must be undertaken in accordance with the State Planning Policy (SPP, 2017).

AMENDED IN RED

By: Andrew Edwards

Date: 23 December 2025



DISCLAIMER

This Report has been prepared on behalf of and for the exclusive use of Peet Limited and is subject to and issued in accordance with Peet Limited instruction to Engeny Australia Pty Ltd (Engeny). The content of this Report was based on previous information and studies supplied by Peet Limited.

Engeny accepts no liability or responsibility whatsoever for it in respect of any use of or reliance upon this Report by any third party. Copying this Report without the permission of Peet Limited or Engeny is not permitted.

Rev	Date	Description	Author	Reviewer	Project Mgr.	Approver
0	5/12/2024	Draft Issue for Review	Jesse Hunter	Mark Page	Jesse Hunter	Mark Page
1	13/12/2024	Compliance Submission	Jesse Hunter	Mark Page	Jesse Hunter	Mark Page
2	07/11/2025	Peer Review Response	Jesse Hunter	Mark Page	Jesse Hunter	Jesse Hunter
Signatures:						

CONTENTS

1. Introduction	1
1.1 Purpose	1
1.2 The Site	1
2. Standards and Guidelines	3
2.1 National Standards and Guidelines	3
2.2 State Standards and Guidelines	3
2.3 PDA Guidelines	3
2.4 Local Guidelines	3
2.5 Superseded Guidelines	3
3. Management Objectives	4
4. Stormwater Quantity Management	5
4.1 Lawful Points of Discharge	5
4.2 Proposed Mitigation Strategy	5
5. Stormwater Quality Management	10
5.1 Proposed Treatment Strategy	10
6. Waterway Stability Management	12
6.1 Proposed Stabilisation Strategy	12
7. Flood Management	13
7.1 Proposed Mitigation Strategy	13
8. UDA Approval Compliance	14
9. Logan TLPI 2024 Compliance	17
10. Supporting Documents	32
10.1 Whole of Site Supporting Documents	32
10.2 Context Area Supporting Documents	32
10.3 Stage Supporting Documents	32
11. QUALIFICATIONS	33

Tables

Table 3.1: Stormwater Management Objectives and Performance Targets.....	4
Table 4.1: Detention Basin Details.....	7
Table 4.2: Masterplan Mitigation Device Details.....	8
Table 8.1: DEV2012/209 Condition Compliance.....	15
Table 9.1: LCC TLPI 2024 Code Compliance.....	18

Figures

Figure 1.1: Site Locality.....	1
Figure 1.2: Site Catchment Drainage Plan.....	2
Figure 4.1: Stormwater Quantity Management Strategy.....	6
Figure 5.1: Stormwater Quality Management Strategy.....	11

1. INTRODUCTION

1.1 Purpose

This Stormwater Infrastructure Master Plan (Stormwater IMP) addresses conditions 3 and 21 of the Whole of Site (WOS) Material Change of Use (MCU) Approval (Ref. DEV2012/209) and was also prepared to address condition 3 of the Town Centre Preliminary MCU Approval (Ref. DEV2022/1312).

The previously endorsed Stormwater IMP (Peet, July 2018) (Ref. DEV2012/209/6/8 – endorsed 2 July 2019) is proposed to be updated through this document to align with advancements in stormwater and flood management and assessment methods.

It is anticipated that this Stormwater IMP will be updated in the future as necessary to capture changes to the proposed plan of development, management strategies and advancements and innovation in proposed management techniques and technologies.

1.2 The Site

The proposed development is located at New Beith Road, Mountain Ridge Road and Homestead Drive, Undullah within the Greater Flagstone PDA. The proposed development is subdivided into four distinct Context Areas (CA's) covering a total approximate area of 1,037 ha and is estimated to yield approximately 11,000 dwellings. The location of the development is shown below in Figure 1.1.

The proposed Flagstone City development is located along Flagstone Creek, Sandy Creek and Sandy Gully, as well as other smaller tributaries of Sandy Creek, and is currently being developed by Peet. The Site generally drains in an easterly direction along three creek systems and ultimately discharges to the Logan River. An overall catchment drainage plan for the Site is shown below in Figure 1.2.

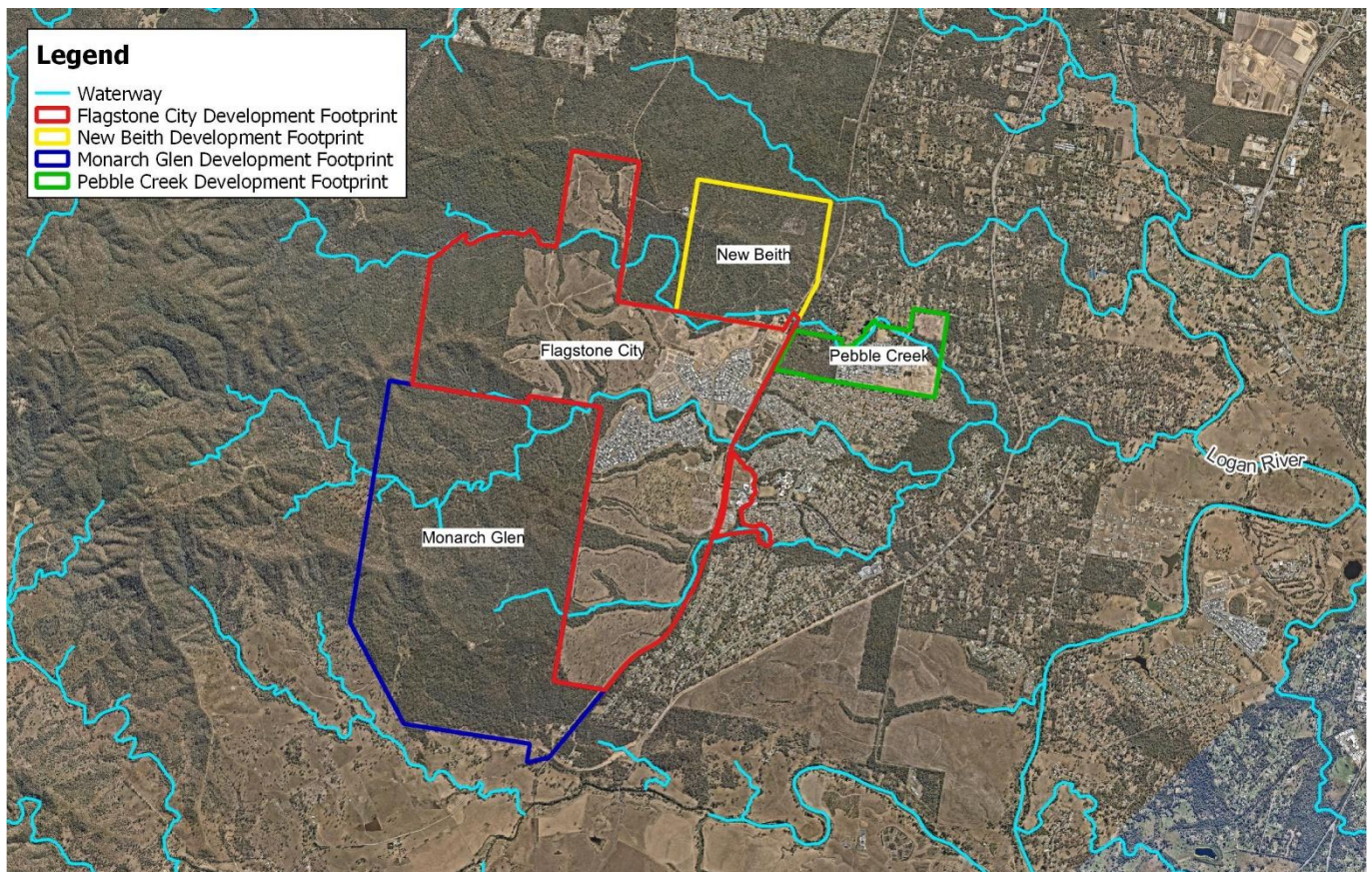


Figure 1.1: Site Locality

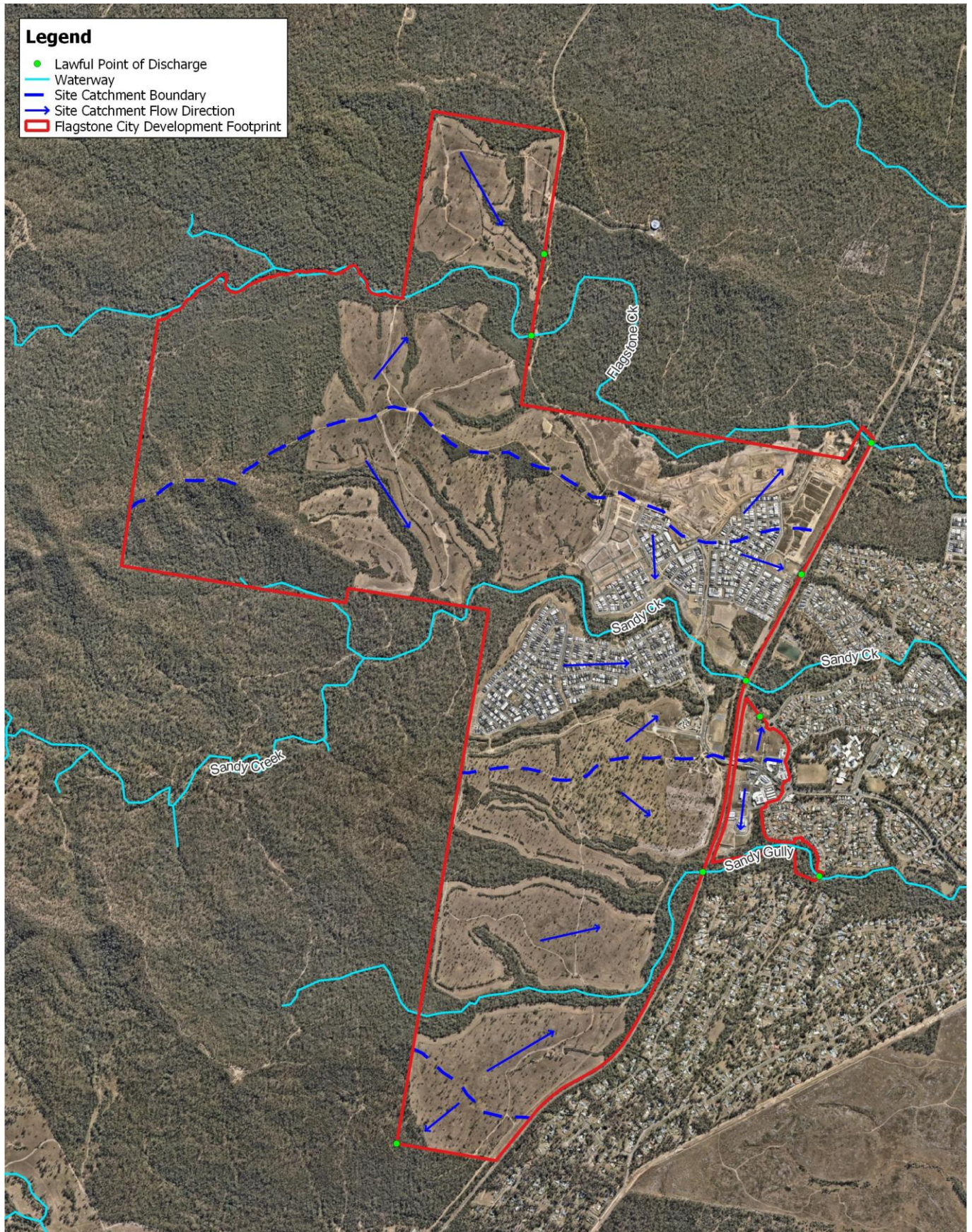


Figure 1.2: Site Catchment Drainage Plan

2. STANDARDS AND GUIDELINES

The standards and guidelines applicable to the Flagstone City development are outlined below.

2.1 National Standards and Guidelines

- Australian Rainfall and Runoff v4.2 (Ball et al., 2019) (hereby referred to as ARR v4.2).

2.2 State Standards and Guidelines

- State Planning Policy (DILGP, 2017) (hereby referred to as the SPP).
- Environmental Protection Act (Water and Wetland Biodiversity) Policy 2019 (hereby referred to as the EP Act).
- Queensland Urban Drainage Manual (IPWEA, 2017) (hereby referred to as QUDM).
- PDA Guideline No. 13 Engineering Standards (EDQ, 2015).
- PDA Guideline No. 15 Protection from Flood and Storm Tide Inundation (EDQ, 2015).

2.3 PDA Guidelines

- MUSIC Modelling Guidelines (Water by Design, 2018).
- Bioretention Technical Design Guidelines (Water by Design, 2014).
- Wetland Technical Design Guidelines (Water by Design, 2017).
- Construction and Establishment Guidelines: Swales, Bioretention Systems and Wetlands (Water by Design, 2010).

2.4 Local Guidelines

- Logan Planning Scheme 2015 TLPI No. 1-2023 (Logan City Council, 2023).

2.5 Superseded Guidelines

A summary of the standards and guidelines that are superseded and no longer relevant to the Flagstone City development are listed below:

- Australian Rainfall and Runoff (Ball et al., 1987/1999).
- Queensland Environmental Protection (Water) Policy 2009.
- State Planning Policy (2013).
- Concept Guidelines for WSUD (Water by Design, 2009).
- WSUD Technical Design Guidelines in SEQ (Water by Design, 2006).
- Bioretention Technical Design Guidelines (Water by Design, 2012).
- MUSIC Modelling Guidelines (Water by Design, 2011).
- PDA Guideline No. 15 Protection from Flood and Storm Tide Inundation (EDQ, 2011).

3. MANAGEMENT OBJECTIVES

The management objectives and performance targets of this Stormwater IMP were developed based on the standards and guidelines outlined in Section 2 of this plan and are summarised in Table 3.1.

It is proposed that for each stage of development a Stormwater Management Plan will be developed which addresses the stormwater management objectives and performance targets of the Flagstone City development.

TABLE 3.1: STORMWATER MANAGEMENT OBJECTIVES AND PERFORMANCE TARGETS

Element	Management Objectives	Performance Targets
Stormwater Quantity	Mitigation of increased peak flow runoff from the Site.	- No increases to peak flows downstream of the Flagstone City development, or adequate justification that shows no material impacts. - No development within the 1% AEP flood extent unless peak flows are appropriately mitigated to ensure no increases across the range of design events up to the 1% AEP.
Stormwater Quality	Treatment of stormwater runoff from new impervious surfaces.	- The following load-based reduction targets are met: 80% reduction in Total Suspended Solids. 60% reduction in Total Phosphorus. 45% reduction in Total Nitrogen. 90% reduction in Gross Pollutants. 70% reduction in sediment.
Waterway Stability	Conservation and management of waterways and environmental values.	- Existing watercourses to be maintained for conveyance of stormwater runoff. - Consideration of existing waterway conditions and minimisation of disturbance - Provision of adequate buffers between development and waterways.
Flooding	- No worsening of flood conditions downstream. - Plan and design development to manage flood risk in accordance with latest industry standard practice.	- No increase to peak flood levels downstream of the Flagstone City development, or adequate justification that shows no material impacts. - Flood risks managed in accordance with QUDM, ARR v4.2 and LCC TLPI 2024.

4. STORMWATER QUANTITY MANAGEMENT

4.1 Lawful Points of Discharge

The lawful points of discharge from the Flagstone City development are defined at the following locations:

- Queensland Rail (QR) corridor running north-south immediately east of Flagstone City.
- Sandy Creek and Sandy Gully waterways for the portion of Flagstone City east of the railway.
- Downstream development located on Flagstone Creek upstream of the New Beith development.
- South-Western development boundary discharging to the Teviot Brook catchment.

There are nine lawful points of discharge in total applicable to the Flagstone City development as shown in Figure 1.2.

4.2 Proposed Mitigation Strategy

The proposed Flagstone City development will increase catchment hardstand area and intensify peak flow runoff within receiving waterways. It is proposed that a combination of offline detention basins and online culvert crossings are utilised to mitigate the increase to peak flow runoff from the Site in the post-development scenario to pre-development peak flows for all events up to the 1% AEP.

The proposed locations of the peak flow mitigation infrastructure (referred to as Masterplan Mitigation Structures) are shown in Figure 4.1 and details provided in Table 4.1 and Table 4.2. The proposed infrastructure outlined below is in accordance with the proposed *Masterplan Flood Management Strategy* (Engeny, November 2025) (Ref. QC4012_002-REP-001-6) prepared in response to the EDQ peer review response of the IMP package. It is anticipated that the number, location and configuration of the proposed devices will be updated in the future as the engineering design of the development progresses.

The proposed Masterplan Mitigation Structures also include Structure 16 and Basin 6 located within the New Beith development (previously Context Area 2 of Flagstone City). These structures were included in the original overarching flood and stormwater quantity strategy in the *Flagstone City Masterplan Flooding Assessment* (Cardno, 5 September 2014) (Ref. 721743/032/R1V6) and are therefore included in the *Masterplan Flood Management Strategy* (Engeny, November 2025) (Ref. QC4012_002-REP-001-6) for consistency. These structures will be delivered by Frasers as part of the New Beith development, consideration of these structures is included in the flood management strategy to ensure a wholistic solution for the entire catchment can be achieved.

The proposed stormwater quantity management strategy is in accordance with the current best-practise and industry-standard measures. The development will be delivered in stages over several years and it is proposed that alternative management strategies and new innovated techniques are considered for implementation in the development as they are made available to the industry. Provided that the objectives can still be achieved, the use of improved management techniques is encouraged.

It is proposed that stormwater quantity measures are designed and constructed as necessary to support staged delivery of the Flagstone City development. The proposed measures will be located within the open spaces and dedicated to Council as drainage reserve with access from future road networks.

Engeny has liaised with Logan City Council stormwater engineers and understand that Council has not committed to any stormwater quantity infrastructure upgrades within the Flagstone Creek and Sandy Creek catchments upstream or downstream of the development.

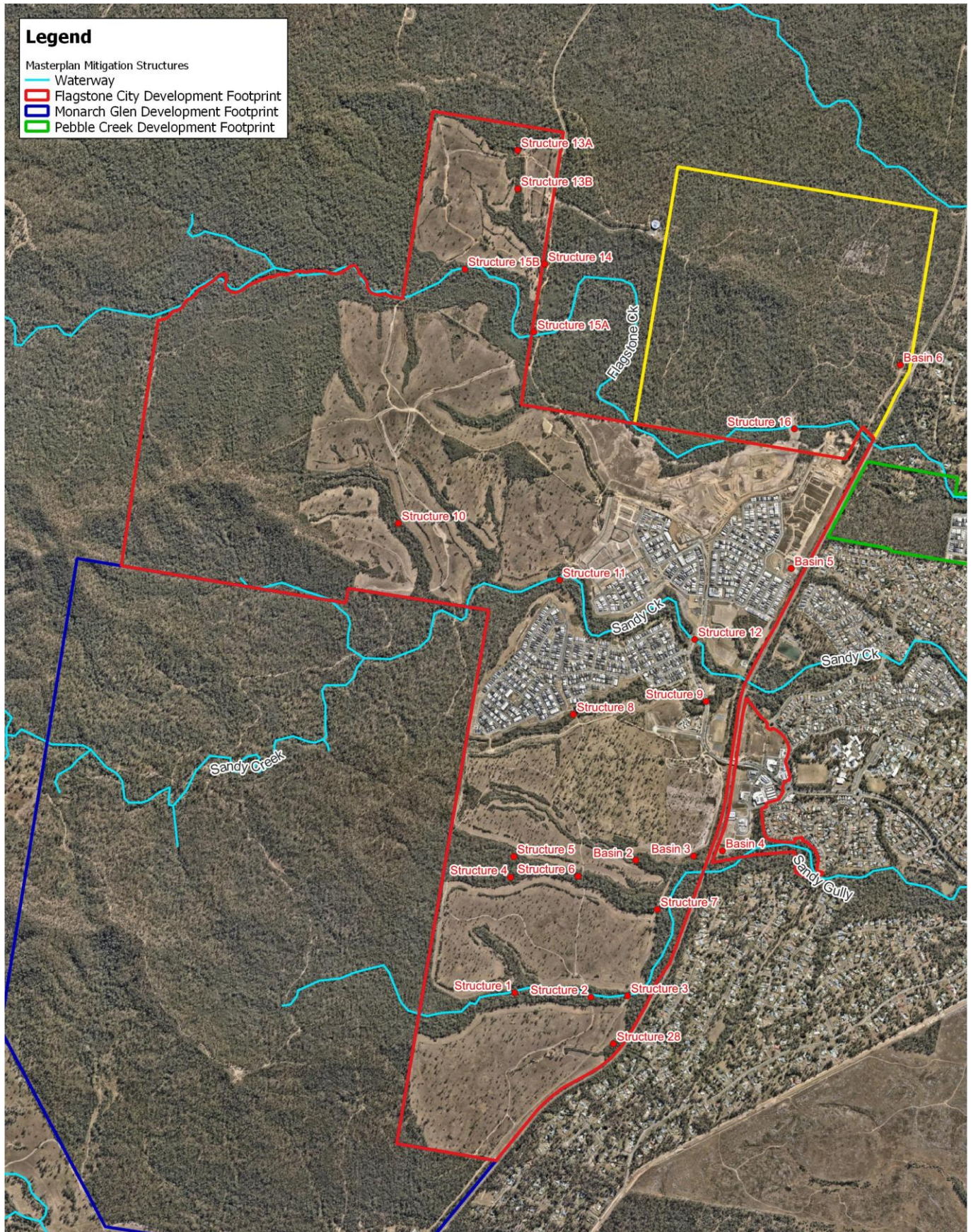


Figure 4.1: Stormwater Quantity Management Strategy

TABLE 4.1: DETENTION BASIN DETAILS

Structure Name	Outlet Details	Structure Invert Level (mAHD)	Basin Embankment Level (mAHD)	1% AEP Basin Storage Volume (m ³)
Basin 2	1500 mm dia RCP	42.32 to 42.09	44.7	28198
Basin 3	Low flow: 525 mm dia RCP High flow: 50 m weir	Low flow: 42.5 to 42.45 High flow: 44.3	44.9	14084
Basin 4	Low flow: 525 mm dia RCP High flow: 2/450 mm dia RCP	Low flow: 41.45 to 41.0 High flow: 41.7 to 41.0	42.8	1568
Basin 5	Low flow 1: 675 mm dia orifice plate Low flow 2: 600 mm dia orifice plate High flow: 6 m weir Emergency overflow: 50 m weir	Low flow 1: 45.55 Low flow 2: 45.85 High flow 1: 47.20 Emergency overflow: 47.50	47.65	9150
Basin 6	Low flow: 300 mm dia RCP High flow: 1200 mm dia RCP	Low flow: 52 to 47 High flow: 53 to 47	54.5	4564

TABLE 4.2: MASTERPLAN MITIGATION DEVICE DETAILS

Structure Name	Culvert Details	Structure Invert Levels (mAHD)	Road Embankment Level (mAHD)
Structure 1	Low flow: 4/600 mm dia RCP (50% bottom-up blockage) High flow: 2/1200 mm dia RCP	Low flow: 48.2 to 48.0 High flow: 50.4 to 49.5	54.4
Structure 2	Low flow: 4/600 mm dia RCP (50% bottom-up blockage) High flow: 2/1200 mm dia RCP	Low flow: 46.4 to 45.3 High flow: 47.4 to 47.3	50.8
Structure 3	Low flow: 4/600 mm dia RCP (50% bottom-up blockage) High flow: 3/1200x1200 mm RCBC	Low flow: 44.4 to 44.3 High flow: 45.4 to 44.9	47.2
Structure 4	Low flow: 2/600 mm dia RCP (50% bottom-up blockage) High flow: 1200 mm dia RCP	Low flow: 51.4 to 51.2 High flow: 52.8 to 52.7	55.5
Structure 5	Low flow: 2/600 mm dia RCP (50% bottom-up blockage) High flow: 1200x1200 mm RCBC	Low flow: 54.2 to 53.9 High flow: 55 to 54.9	56.5
Structure 6	Low flow: 4/600 mm dia RCP (50% bottom-up blockage) High flow: 1350 mm dia RCP	Low flow: 46.6 to 46.5 High flow: 48 to 47.7	50.7
Structure 7	Low flow: 4/600 mm dia RCP (50% bottom-up blockage) High flow: 1350 mm dia RCP	Low flow: 40.95 to 40.7 High flow: 41.7 to 41.6	44.7
Structure 8	2/1200 mm dia RCP (50% bottom-up blockage)	50.9 to 50.8	53.6
Structure 9	2100 mm dia RCP	37.4 to 37.2	41.1
Structure 10	4/600 mm dia RCP (50% bottom-up blockage)	55.8 to 55.3	64.5
Structure 11	7/2400x3000 mm RCBC (Outer cells with 150 mm baffles)	39.4 to 38.7	44.7
Structure 12	Low flow: 3/3000x3000 mm RCBC (outer cells with 150 mm baffles) High flow: 3/3000x2700 mm RCBC (outer cells with 150 mm baffles)	Low flow: 35.5 to 35.2 High flow: 35.9 to 35.8	40.9
Structure 13A	2/900 mm dia RCP (50% bottom-up blockage)	63.26 to 63.06	68.36
Structure 13B	2/900 mm dia RCP (50% bottom-up blockage)	59.54 to 59.15	65.8
Structure 14	4/900 mm dia RCP (50% bottom-up blockage)	54.6 to 52.9	58.2
Structure 15A	7/2400x3000 mm RCBC (outer cells with 150mm baffles)	52.4 to 51.4	56.8
Structure 15B	7/2400x3000 mm RCBC (outer cells with 150mm baffles)	54.85 to 54.75	64.4
Structure 16	Low flow: 2/2400x3000 mm RCBC (outer cells with 150mm baffles) High flow: 2/2400x3000 mm RCBC	Low flow: 34.3 to 34.2 High flow: 37.2 to 37.1	42.2

Structure Name	Culvert Details	Structure Invert Levels (mAHD)	Road Embankment Level (mAHD)
Structure 28	Low flow: 2/600 mm dia RCP (50% bottom-up blockage) High flow: 4/900x900 mm RCBC	Low flow: 46.22 to 46.2 High flow: 48.0 to 47.8	59.2

5. STORMWATER QUALITY MANAGEMENT

5.1 Proposed Treatment Strategy

The stormwater quality performance targets of the development are proposed to be met through local bioretention basins at the outlet into the receiving waterways. Whilst there are several treatment methods available, a review of the Site constraints and opportunities indicated that a treatment train is likely to consist of bioretention basins at local outlets to the receiving waterway. Bioretention basins are an industry-standard, cost-effective and low-maintenance solution to stormwater quality treatment and are therefore suitable for adoption across the Flagstone City development. It is proposed that site-specific analyses will be undertaken to identify opportunities where treatment measures such as buffers, grass swales, sediment basins and permeable pavement can be adopted to support the proposed bioretention systems.

It is noted that the Site is constrained by steep grades, shallow and hard rock, and dispersive soils which represent significant challenges to the implementation of standard treatment measures. The initial modelling indicates, however, that the proposed treatment train will achieve all desired performance targets to ensure the environmental values of the downstream receiving waterways are protected.

The locations of proposed bioretention basins are shown below in Figure 5.1, it is noted that these locations are subject to change as design of the development progresses.

The proposed stormwater quality management strategy is in accordance with the current best-practise and industry-standard measures. The development will be delivered in stages over several years and it is proposed that alternative management strategies and future innovations are considered for implementation in the development as they are made available to the industry. Provided that the objectives can still be achieved, the use of improved management techniques is encouraged.

It is proposed that stormwater quality measures are designed and constructed as necessary to support staged development of Flagstone City. The proposed treatment trains will be located within the open spaces and dedicated to Council as drainage reserve with access from future road networks.

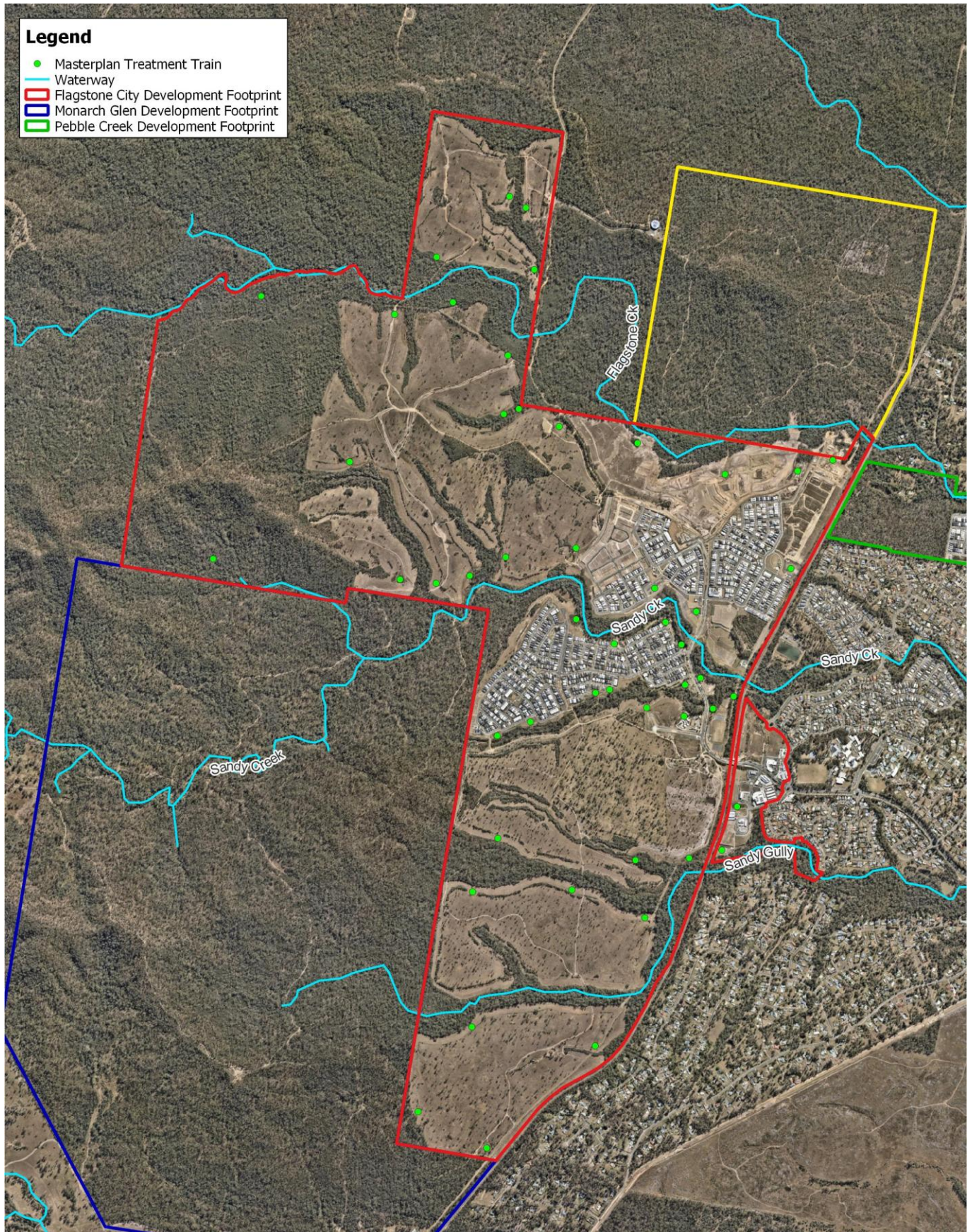


Figure 5.1: Stormwater Quality Management Strategy

6. WATERWAY STABILITY MANAGEMENT

6.1 Proposed Stabilisation Strategy

The waterway stability performance targets are proposed to be achieved through preparation of Waterway Stability Strategy Reports in accordance with Condition 30 of the overarching WOS approval. The stability strategy reports will assess at a minimum, the necessary controls to maintain existing watercourse conditions and values. The *Flagstone Waterway Stability Strategy Report – Sandy Creek Tributary and Sandy Creek (Saunders Havill, December 2015)* was prepared and endorsed for Stage 1 and Stages 2-5 in Context Area 1, and a similar report is being prepared to assess Flagstone Creek for Stages 2-5. It is considered that the waterway stability reports, and recommended controls are sufficient to maintain the existing conditions of the waterways within the Site and satisfy the performance targets of the development.

Historically the Flagstone City development has provided 63.2% AEP detention basins at all development outlets to the waterways to meet the management objectives and performance targets of the previous endorsed IMP. The 63.2% AEP detention basins were required to mitigate the 63.2% AEP post-development peak flows to the pre-development peak flows and was based on legacy superseded guidelines intended to minimise disturbance to the waterway. This requirement is no longer upheld by industry as there is insufficient study evidence to prove that these basins provide any kind of stabilisation benefit and are not included in any industry-standard guidelines. As such, these requirements have been removed from the relevant guidelines outlined in Section 2. It is proposed that the requirement for 63.2% AEP detention basins is removed, and waterway stability requirements are achieved through the waterway stability strategy reports.

7. FLOOD MANAGEMENT

7.1 Proposed Mitigation Strategy

As outlined in Section 4, the management of stormwater quantity and flooding is proposed to be addressed through a whole of site masterplan solution made of up a combination of offline detention basins and online culvert crossings. The masterplan solution presents an integrated approach to flooding to provide the most cost-effective solution both in terms of construction and on-going maintenance.

Hydrologic and hydraulic modelling was undertaken and documented in *Masterplan Flood Management Strategy (Engeny, November 2025)* (Ref. QC4012_002-REP-001-6) in accordance with ARR v4.2. The hydraulic modelling confirmed no adverse material impacts or actionable nuisance is predicted to be caused by the proposed development. The proposed Masterplan Mitigation devices outlined in Figure 4.1 are necessary to achieve no worsening.

LCC has implemented their Temporary Local Planning Instrument 2024 which outlines additional flood protection requirements in addition to the current Planning Scheme. The proposed flood management strategy for the development was prepared to generally comply with the requirements of the TLPI, this is addressed in greater detail in Section 9.

The Defined Flood Event (DFE) for the development is identified as the greater of the following:

- 1% AEP design storm event (DFE) + 500 mm freeboard.
- 1% AEP climate change storm event at 2100.
- 1% AEP design storm event with full culvert blockage.

The adopted DFE is an improvement over the previous endorsed Stormwater IMP and Cardno Flood Study documents and is in accordance with current guidelines.

There are no applicable storm tide inundation overlays to the Flagstone City development.

8. UDA APPROVAL COMPLIANCE

This IMP addresses the requirements of the conditions of the WOS approval (DEV2012/209) as set out below in Table 8.1.

TABLE 8.1: DEV2012/209 CONDITION COMPLIANCE

No.	Condition	Compliance
3	Infrastructure Master Plans (a) A UDA condition of this Approval may require an infrastructure master plan to be submitted for compliance assessment for endorsement. (b) Each infrastructure master plan must: i. Be for the whole of the site ii. Demonstrate innovation by providing opportunities to incorporate changes in technology anticipated to occur during the long-term development of the site iii. Detail applicable infrastructure networks both within and external to the site and identify where works are required to connect existing or future network on the site into existing or future sub-regional networks iv. Respond to the requirements and standards outlined in the: a) Development scheme in force at the date of this Approval b) Applicable ULDA guidelines(s) in effect at the date of this Approval c) Address any non-compliance with the applicable guideline(s) d) If no standards are outlined, articulate the standards to be applied v. Articulate the overall planning and delivery principles for the infrastructure works required to support the ultimate development of the site vi. Identify the internal and external infrastructure required for the ultimate development of the site vii. Indicate how and when that component of infrastructure will be provided (including the dedication / transfer), or if not known, how and when provision of that infrastructure master plan. (c) A number of infrastructure master plans may be combined into one infrastructure master plan. (d) Each infrastructure master plan will be assessed against: i. The provisions of the development scheme in force at the date of this Approval ii. The applicable ULDA guideline(s) in effect at the date of this Approval and iii. Any further requirements set out in a condition of this Approval. iv. An endorsed infrastructure master plan may be replaced by submitting for compliance assessment a new infrastructure master plan for endorsement. v. Where a context plan area strategy is inconsistent with an endorsed infrastructure master plan the amendment to the infrastructure master plan may be limited to address the inconsistency.	(a) This IMP is to be submitted to EDQ for compliance endorsement. (b) i. This IMP is for the whole of the site (Flagstone City). ii. Allowance for different technologies in stormwater quantity and quality is addressed in Sections 4 and 5. iii. Not applicable to this IMP. iv. This IMP addresses: a) The PDA development scheme b) PDA Guideline No. 13 and No. 15. c) There are no non-compliances with the applicable guidelines. d) All relevant supporting standards are outlined in Section 2. v. Addressed in Sections 4, 5 and 7. vi. Addressed in Sections 4, 5 and 7. vii. Addressed in Sections 4 and 5. (c) Not relevant. No comment required. (d) Not relevant. No comment required This outcome is considered compliant and therefore development condition satisfied.

No.	Condition	Compliance
21	Stormwater (a) Submit for compliance assessment an infrastructure master plan for stormwater infrastructure. (b) In addition to the requirements set out in UDA condition 3 of this Approval, this infrastructure master plan must: i. Include a Flooding Report which includes an appropriate flood model to determine a flood assessment of the pre and post development scenario. Consideration must be given to the Logan City Council's Temporary Local Planning Instrument No. 1 (Logan Interim Flood Response 2011) ii. Include a Stormwater Management Report detailing measures to be implemented to ensure the integrity and values of waterways is maintained and enhanced by providing appropriate management of water quality and water quantity iii. Demonstrate how creek stability is to be achieved and sustained iv. Include an assessment of the inter-relationship between existing groundwater conditions and proposed development design and v. Demonstrate how the proposed infrastructure and other actions will contribute towards the achievement of an overarching site strategy for TWCM.	(a) This IMP is to be submitted to EDQ for compliance endorsement. (b) i. Contained in the Supporting Documents section of this IMP. ii. Contained in the Supporting Documents section of this IMP. iii. Addressed in Section 6. iv. Geotechnical investigations confirm that there are no interface issues between groundwater and the proposed bulk earthworks excavations. Further geotechnical investigations will be undertaken as the development progresses. Engineering assessment will be undertaken prior to the completion of the Pre-Construction Certification. v. Addressed in the Flagstone Total Water Cycle Management Plan as outlined in the supporting documents. This outcome is considered compliant and therefore development condition satisfied.

9. LOGAN TLPI 2024 COMPLIANCE

This IMP addresses the requirements of the LCC TLPI 2024 as set out below in Table 9.1.

TABLE 9.1: LCC TLPI 2024 CODE COMPLIANCE

Performance outcomes		Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development			
Part A - Risk compatibility (other than a Home-based business)			
Material change of use			
PO1 A development envelope area is located outside of a High flood risk area identified on Flood hazard overlay map OM-05.04 unless complying with the requirements identified in Table 8.2.5.3.2 - Land use compatibility in a high flood risk area. Note - Planning scheme policy 10 - Flood includes guidance on demonstrating the qualifying criteria in Table 8.2.5.3.2 - Land use compatibility in a high flood risk area.	AO1 Development is contained in a development envelope area located outside of a High flood risk area identified on Flood hazard overlay map OM-05.04.	Development is managed through this Masterplan FMS and ensures all development is protected from flooding. All proposed lots are located above the DFE and therefore sufficiently protect future residents from the effects of flooding. This item is considered satisfied.	
PO2 Vulnerable use activities: a. are not located in a High flood island identified on Flood hazard overlay map OM-05.01; b. are located outside of the floodplain unless located in: i. a Low flood risk area identified on Flood hazard overlay map OM-05.04; or ii. the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03 and involving a Hospital.	AO2 No acceptable outcome provided.	There are no proposed vulnerable uses as part of the overall Context Plan for Flagstone City. Should any vulnerable uses be proposed, these will be assessed at DA stage to ensure compliance with this TLPI. All proposed lots and uses are located above the DFE. This item is considered satisfied.	

Performance outcomes	Acceptable outcomes	Comments
PO3 Essential community infrastructure activities are not located in the floodplain unless: a. there is an overriding planning need for the use; b. there is no alternative site located outside of the floodplain that would address the identified need; c. development maintains functionality during and after all flood events, including the probable maximum flood; d. where for Emergency services, the development remains accessible during and after all flood events, including the probable maximum flood. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	AO3 No acceptable outcome provided.	All proposed lots and uses are located above the DFE. This item is considered satisfied.
PO4 Development is located outside of a Flood investigation area identified on Flood hazard overlay map OM-05.04, unless it: a. is demonstrated to be compatible with the level of flood risk; b. delivers the relevant outcomes for the flood risk area, including a: i. High flood risk area; ii. Moderate flood risk area; iii. Low flood risk area and High flood island where involving Essential community infrastructure activities or Vulnerable use activities.	AO4 No acceptable outcome provided.	All proposed lots and uses are located above the DFE. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
Note - Planning scheme policy 10 - Flood provides guidelines on how to prepare a detailed localised flood risk assessment to assist with achieving this performance outcome. It also includes guidance on how to demonstrate compliance with this performance outcome.		
Reconfiguring a lot		
PO5 Development provides a development envelope area that is: a. above the flood level during the defined flood event; b. of an area and dimensions to accommodate the activities associated with the intended use.	AO5 Development provides a development envelope area above the flood level during the defined flood event with a minimum size and dimension specified in Table 8.2.5.3.4 - Development envelope area.	All proposed lots and uses are located above the DFE. This item is considered satisfied.
PO6 Each lot has a development envelope area located outside a High flood risk area identified on Flood hazard overlay map OM-05.04, except where limited to: a. the rearrangement of boundaries and flood risk is not materially increased on new lots; or b. creating an additional lot for the purpose of a drainage or environmental reserve.	AO6 No acceptable outcome provided.	All proposed lots and uses are located above the DFE. This item is considered satisfied.
PO7 Reconfiguring a lot involving a development envelope area located in a Flood investigation area identified on Flood hazard overlay map OM-05.04 is limited to:	AO7 Each lot has a development envelope area located outside of a Flood investigation area identified on Flood hazard overlay map OM-05.04.	All proposed lots and uses are located above the DFE. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
a. the realignment of boundaries where the development envelope area is located outside a High flow area identified on Flood hazard overlay map OM-05.02; or b. the development is demonstrated to be compatible with the level of flood risk, including delivering the relevant outcomes for a: a. High flood risk area; b. Moderate flood risk area; c. Low flood risk area and High flood island where involving Essential community infrastructure activities or Vulnerable use activities. Note - Planning scheme policy 10 - Flood provides guidelines on how to prepare a detailed localised flood risk assessment to assist with achieving Performance Outcome 7(b).		
Part B - Resilient building location, design and operations (other than a Home-based business)		
PO8 Buildings and structures are located outside of a High flow area. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome where located in a Flood investigation area and it is proposed to undertake a detailed localised flood risk assessment.	AO8.1 New buildings and structures, other than fences, are located outside of a High flow area identified on Flood hazard overlay map OM-05.02. AO8.2 Enclosure of existing structures or areas underneath an existing building, such as an undercroft, does not occur in a High flow area identified on Flood hazard overlay map OM-05.02.	All proposed lots and uses are located above the DFE. This item is considered satisfied.
PO9 A Hospital in the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-	AO9 No acceptable outcome provided.	Not applicable. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
05.03 ensures that the location, design and operation of development: a. mitigates the risk of flooding to buildings and structures; b. minimises risk of injury to life and damage to property and infrastructure; c. maintains functionality during and after all flood events, including the probable maximum flood. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.		
PO10 Buildings are designed to account for the potential risk of inundation during flood events by complying with the Minimum flood planning levels identified in Table 8.2.5.3.3 - Minimum flood planning levels. Editor's note - Planning scheme policy 10 - Flood provides guidance on obtaining available flood level information for a property from Council, and resilient design.	AO10 No acceptable outcome prescribed.	All proposed lots and uses are located above the DFE. Any uses that require specific immunity or protection requirements greater than the DFE will be assessed at the Development Application stage to confirm it is in accordance with this TLPI. This item is considered satisfied.
PO11 Vehicle manoeuvring areas and car parking (other than a Parking station) are only located below the defined flood event where there is no increase in risk to: a. pedestrian and vehicular safety; b. a building or other structure. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO11 Vehicle manoeuvring areas and car parking (other than a Parking station) are located above the defined flood event.	All proposed lots and uses are located above the DFE. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
PO12 Basement access and openings are designed and located to: a. ensure safety during a flood event; b. improve resilience to flood events; c. reduce recovery time after flooding; d. minimise economic loss to individual and public assets stored in the basement. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO12 All entry points and openings to a basement are located at or above the Minimum flood planning levels identified in Table 8.2.5.3.3 - Minimum flood planning levels.	No basement access areas are proposed as part of the overall Context Plan for Flagstone City. Basement areas will be assessed in detailed at Development Application stage if applicable. All proposed lots and uses are located above the DFE. This item is considered satisfied.
PO13 Essential building services and infrastructure is located or designed to ensure their continued function during and immediately after flood events that are up to and including the: a. defined flood event for uses other than Essential community infrastructure activities or Vulnerable use activities; or b. probable maximum flood for Essential community infrastructure activities or Vulnerable use activities. Note - Essential building services and infrastructure may include air conditioning ducts, communication equipment, charging units, pumps, motors, sensitive electrical equipment such as transformers, low voltage switch gear, high voltage switch gear, battery charges, and communal assets and materials (such as waste bins or chemicals). Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO13 The function of essential building services and infrastructure is maintained during a flood event by: a. locating the services and infrastructure outside of a High flood risk area identified on Flood hazard overlay map OM-05.04; b. locating the services and infrastructure above the flood planning level in accordance with Table 8.2.5.3.3 - Minimum flood planning levels; or c. designing and constructing essential services and infrastructure to exclude water infiltration for flood events up to and including: a. the defined flood event where not involving Essential community infrastructure activities or Vulnerable use activities; b. the probable maximum flood where for Essential community infrastructure activities or Vulnerable use activities.	All proposed lots and uses are located above the DFE. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
PO14 Screening the understorey of a building: a. does not impede the passage of floodwater or overland flow in a High flood risk area identified on Flood hazard overlay map OM-05.04; b. maintains an attractive streetscape interaction and interface as intended by the zone, precinct or local plan. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO14 No acceptable outcome provided.	All proposed lots and uses are located above the DFE. This item is considered satisfied.
Storage, manufacturing or handling of hazardous materials		
PO15 Development protects public safety and the environment from release of hazardous materials into floodwaters by: a. locating hazardous materials and chemicals outside of a High flood risk area or High flow area identified on Flood hazard overlay map OM-05.04 and OM-05.02; b. ensuring hazardous materials are stored to prevent the release or hazardous reaction of hazardous materials during flood events, including events rarer than the defined flood event.	AO15.1 Development involving the manufacturing or storage of hazardous materials, or involving hazardous chemicals at a hazardous chemical facility is located outside of a: a. High flood risk area identified on Flood hazard overlay map OM-05.04; b. High flow area identified on Flood hazard overlay map OM-05.02. AO15.2 Development in a Moderate flood risk area identified on Flood hazard overlay map OM-05.04: a. does not involve the manufacturing or storage of hazard materials or hazardous chemicals at a hazardous chemical facility; or b. ensures the storage of hazardous materials is located above the 0.2% AEP at 2100 flood event.	No specific uses involving the manufacture or storage of hazardous materials are proposed. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
Part C - Access and evacuation (other than a Home-based business)		
PO16 Development involving Vulnerable use activities, other than a Hospital in the Meadowbrook flood assessment area identified on Flood hazard overlay map OM-05.03, has a low flood hazard vehicle evacuation route that leads outside the floodplain to a suitable area that supports the needs of evacuees. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO16 No acceptable outcome provided.	No specific vulnerable uses are proposed, however all proposed creek crossings (other than Structure 10 which is not required for evacuation) are located above the 1% AEP SSP2-4.5 at 2100 climate change event. The remainder of all lots are located above the DFE. Therefore, it is considered that suitable emergency access is provided for the development. This item is considered satisfied.
PO17 Development involving an accommodation land use has a low flood hazard vehicle route to a suitable flood-free area that contains essential goods to serve the needs of people. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO17 During the defined flood event, development for an accommodation land use has a: a. flood-free vehicle access to a road above the flood level; b. flood-free vehicle route that leads to a suitable flood-free area that contains essential goods.	No accommodation land uses are proposed. This item is considered satisfied.
PO18 Development has a low flood hazard vehicle route from dwellings to a flood-free or low flood hazard road.	AO18 During the defined flood event, development involving a new dwelling or an increase in bedrooms, has a flood-free vehicle route from dwellings to the flood-free road. Editor's note - Figure 8.2.5.3.1 - Compliant dwelling with flood-free vehicle route illustrates an example of a development complying with this acceptable outcome. Figure	All internal roads are located above the DFE. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
	8.2.5.3.2 - Non-compliant dwelling with no flood-free vehicle route illustrates an example of a development that does not comply with this acceptable outcome.	
PO19 Reconfiguring of a lot intended for a future dual occupancy (auxiliary unit), dwelling house or accommodation land use ensures each lot has internal low flood hazard vehicle access to a road and a low flood hazard vehicle route to a suitable flood-free area that contains essential goods to serve the needs of people. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO19 Reconfiguring of a lot in a residential zone category or Emerging community zone, or intended for a future dual occupancy (auxiliary unit), dwelling house or accommodation land use, ensures each lot during the defined flood event has a: a. flood-free vehicle access to a road above the flood level; b. flood-free vehicle route that leads to a suitable flood-free area that contains essential goods.	All internal roads are located above the DFE. This item is considered satisfied.
PO20 Development, other than where PO16-PO19 is applicable: a. ensures safe self-evacuation by having, for a period of at least 10 hours, low flood hazard vehicle access to a low flood hazard road; or b. is only isolated for a period of less than 4 hours from a low flood hazard road and there is a suitable area on site that is: a. above the defined flood event; b. not a Low flood island identified on Flood hazard overlay map OM-05.01 or an area impacted by flash	AO20 Where AO16-AO19 is not applicable, development has flood-free vehicle access to a road that is above the flood level during the defined flood event.	All proposed creek crossings (other than Structure 10 which is not required for evacuation) are located above the 1% AEP SSP2-4.5 at 2100 climate change event. The remainder of all lots are located above the DFE. Therefore, it is considered that suitable emergency access is provided for the development. This item is considered satisfied.

Performance outcomes	Acceptable outcomes	Comments
flooding during the defined flood event. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.		
PO21 Development identified in Table 8.2.5.3.5 - Development requiring a flood emergency management plan appropriately plans for its safe operation and evacuation during a flood event to ensure there is no burden on emergency services, including during a probable maximum flood where involving Vulnerable use activities. Note - Planning scheme policy 10 - Flood provides guidance preparing a flood emergency management plan to achieve this performance outcome. Note - Flood emergency management plans do not alter the land use tolerability to a flood risk area, nor act as an alternative to achieving other specified mitigation measures required to ensure risk is mitigated to a tolerable or acceptable level. Flood emergency management plans should be utilised to assist in managing residual risk of development and should be implemented as a tool to plan for safe evacuation where an active management entity exists for the development.	AO21 No acceptable outcome provided.	A development requiring a flood emergency management plan will be determined in detail at the Development Application stage and included if necessary. This item is considered satisfied.
Part D - Preservation of floodplain function and overland flow paths (other than a Home-based business)		
PO22 Filling and excavation ensures the conveyance function of a High flood risk area and Flood investigation area identified on Flood hazard overlay map OM-05.04 is maintained. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO22 Where located in a High flood risk area or Flood investigation area identified on Flood hazard overlay map OM-05.04, filling and excavation, other than for stormwater quantity and quality infrastructure, does not exceed: a. a total volume of 20m³;	Filling and excavation is managed such that the downstream environment is not predicted to be impacted by altered flooding conditions. All development within the Flagstone City development is proposed to be located above the DFE.

Performance outcomes	Acceptable outcomes	Comments
	b. a total area of 2,000m ² .	This item is considered satisfied.
PO23 Development does not involve earthworks that would either directly, indirectly or cumulatively cause a loss of floodplain storage below the defined flood event. Note - Planning scheme policy 10 - Flood provides guidance on achieving this performance outcome.	AO23 The total volume of fill is equal to or less than the total volume of cut where earthworks are below the level of the defined flood event in a Moderate flood risk area identified on Flood hazard overlay map OM-05.04.	Filling and excavation is managed such that the downstream environment is not predicted to be impacted by altered flooding conditions. All development within the Flagstone City development is proposed to be located above the DFE. This item is considered satisfied.
PO24 Development does not involve works that would either directly, indirectly or cumulatively: a. concentrate, intensify or divert floodwater or overland flow paths onto upstream, downstream or adjacent properties; b. result in an increase in flood levels or flood hazard on upstream, downstream or adjacent properties; c. result in a loss of floodplain storage up to and including the defined flood event; d. adversely impact the role and function of waterways and areas of ecological significance; e. adversely affect adjoining premises, infrastructure and the environment. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	AO24 No acceptable outcome provided.	Flooding and its potential impacts are managed within this Masterplan FMS to ensure no flood impacts external to the development arise from the proposed urbanisation. All proposed lots are located above the DFE and no downstream flood impacts are predicted for all events up to and include the 1% AEP design event. This item is considered satisfied.
PO25	AO25 No acceptable outcome provided.	Flooding and its potential impacts are managed within this Masterplan FMS to ensure no flood impacts external to the development arise from

Performance outcomes	Acceptable outcomes	Comments
Development does not adversely change the following flood characteristics for all flood events up to and including the defined flood event: a. peak flow; b. flow of any part of the flood before the peak; c. flood flow velocity; d. level of flooding; e. flood time to peak. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.		the proposed urbanisation. All proposed lots are located above the DFE and no downstream flood impacts are predicted for all events up to and include the 1% AEP design event. This item is considered satisfied.
PO26 Development does not cause a rapid or unexpected increase in safety risks or flood damage during a flood event larger than the defined flood event, including flood events up to and including the probable maximum flood. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	AO26 No acceptable outcome provided.	Flooding and its potential impacts are managed within this Masterplan FMS to ensure no flood impacts external to the development arise from the proposed urbanisation. All proposed lots are located above the DFE and no downstream flood impacts are predicted for all events up to and include the 1% AEP design event. This item is considered satisfied.
PO27 A stormwater quality improvement device is located to retain existing floodplain storage capacity and ensure functionality of the stormwater quality improvement device. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	AO27 A stormwater quality improvement high flow outlet device is located: a. above the 5% AEP flood event caused by local flooding; b. above the 5% AEP flood event caused by regional flooding.	Earthworks required to construct stormwater quality improvement devices are included in the flood modelling to ensure these effects are included and any impacts are mitigated prior to entering downstream environments. This item is considered satisfied.
PO28 A stormwater quantity management device is	AO28	Earthworks required to construct stormwater quantity management devices are included in the

Performance outcomes	Acceptable outcomes	Comments
located to retain existing floodplain storage capacity and ensure functionality of the stormwater quantity management device. Note - Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	A stormwater quantity management outlet device is located above the 2% AEP flood event.	flood modelling to ensure these effects are included and any impacts are mitigated prior to entering downstream environments. This item is considered satisfied.
PO29 Stormwater infrastructure does not result in a loss of floodplain storage below the defined flood event.	AO29 Filling and excavation associated with stormwater quantity and quality infrastructure has a total volume of fill equal to or less than the total volume of cut where below the defined flood event. Note - Planning scheme policy 10 - Flood provides guidance on stormwater management detention basins.	Flooding and its potential impacts are managed within this Masterplan FMS to ensure no flood impacts external to the development arise from the proposed urbanisation. All proposed lots are located above the DFE and no downstream flood impacts are predicted for all events up to and include the 1% AEP design event. This item is considered satisfied.
Part E - A Home-based business		
PO30 A Home-based business does not put additional people at risk of flooding during the defined flood event. Note - Where detailed flood information does not exist to determine the defined flood event, a Registered Professional Engineer of Queensland with expertise in flood studies may be required to determine the relevant defined flood event and demonstrate compliance with this outcome. Planning scheme policy 10 - Flood provides guidance on how to demonstrate compliance with this performance outcome.	AO30.1 In a High flood risk area or Flood investigation area identified on Flood hazard overlay map OM-05.04, a Home-based business does not involve: a. non-resident staff or visitors to the premises; b. new buildings or structures associated with the home-based business. AO30.2 Buildings, structures and storage of items associated with a Home-based business are located outside of a High flow area identified on Flood hazard overlay map OM-05.02.	Not applicable. This item is considered satisfied.
PO31	AO31	Not applicable.

Performance outcomes	Acceptable outcomes	Comments
A Home-based business being a bed and breakfast or farm stay has: a. low flood hazard vehicle manoeuvring areas; b. low flood hazard vehicle access to a low flood hazard road.	A Home-based business being Short-term accommodation where a bed and breakfast or farm stay has: a. flood-free vehicle manoeuvring areas during a defined flood event; b. flood-free vehicle access to a road above the flood level during a defined flood event.	This item is considered satisfied.

10. SUPPORTING DOCUMENTS

Available supporting documentation relevant to this IMP is summarised below. It is anticipated that additional supporting documentation will be made available as the development progresses to demonstrate compliance with the necessary performance objectives outlined in this IMP.

10.1 Whole of Site Supporting Documents

Flagstone City Masterplan Flood Management Strategy (Engeny, November 2025) (Ref. QC4012_002-REP-001-6)

Flagstone City Total Water Cycle Management Plan (Engeny, September 2024) (Ref. QC4012_002-REP-006-1)

Flagstone City Stormwater Management Strategy Report (Cardno, September 2014) (Ref. 721743/032/R1V6)

10.2 Context Area Supporting Documents

Flagstone City CA3 South Site-Based Stormwater Management Plan (Engeny, August 2025) (Ref. QC4012_002-REP-004-3)

Flagstone City CA3 North Site-Based Stormwater Management Plan (Engeny, March 2025) (Ref. QC4012_002-REP-005-2)

Flagstone City Town Centre Site-Based Stormwater Management Plan (Engeny, May 2024) (Ref. QC4012_002-REP-003-5)

Flagstone City Context Area 1 Stormwater Management Strategy Report (Cardno, August 2012) (Ref. 7217/43/R9)

10.3 Stage Supporting Documents

Flagstone City Stage 1 Stormwater Management Report (Cardno, November 2014) (Ref. 7217/43/R2V5)

Revised Biobasin Locations for Stage 1 (West) Flagstone DEV2012/402 (Bradlees, July 2017)

Flagstone City Stage 2-5 Stormwater Management Report (Cardno, August 2012) (Ref. 7217/43/R8V2)

Flagstone City Stage 6 Stormwater Management Report (Cardno, September 2012) (Ref. 7217/43/R7V3)

Flagstone City Stage 7 Stormwater Management Report (Cardno, January 2015) (Ref. 7217/43/R11V1)

Flagstone Stage 7 North Stormwater Management Report (Bradlees, March 2017) (Ref. 15-891 Rev A)

Flagstone Stage 7 South Stormwater Management Plan (Engeny, March 2020) (Ref. M45000_012-REP-001-0)

Flagstone Stage 7H Stormwater Management Plan (Engeny, February 2020) (Ref. M45000_010-REP-001-2)

Flagstone Stages 7A & 7I Stormwater Management Plan (Engeny, July 2023) (Ref. QC4012_002-REP-002-0)

Flagstone City Park Run Crossings Flood Impact Assessment (Engeny, January 2023) (Ref. QC4012_001-REP-001-2)

11. QUALIFICATIONS

- (a) In preparing this document, including all relevant calculation and modelling, Engeny Australia Pty Ltd (Engeny) has exercised the degree of skill, care and diligence normally exercised by members of the engineering profession and has acted in accordance with accepted practices of engineering principles.
- (b) Engeny has used reasonable endeavours to inform itself of the parameters and requirements of the project and has taken reasonable steps to ensure that the works and document is as accurate and comprehensive as possible given the information upon which it has been based including information that may have been provided or obtained by any third party or external sources which has not been independently verified.
- (c) Engeny reserves the right to review and amend any aspect of the works performed including any opinions and recommendations from the works included or referred to in the works if:
 - (i) Additional sources of information not presently available (for whatever reason) are provided or become known to Engeny; or
 - (ii) Engeny considers it prudent to revise any aspect of the works in light of any information which becomes known to it after the date of submission.
- (d) Engeny does not give any warranty nor accept any liability in relation to the completeness or accuracy of the works, which may be inherently reliant upon the completeness and accuracy of the input data and the agreed scope of works. All limitations of liability shall apply for the benefit of the employees, agents and representatives of Engeny to the same extent that they apply for the benefit of Engeny.
- (e) This document is for the use of the party to whom it is addressed and for no other persons. No responsibility is accepted to any third party for the whole or part of the contents of this Report.
- (f) If any claim or demand is made by any person against Engeny on the basis of detriment sustained or alleged to have been sustained as a result of reliance upon the Report or information therein, Engeny will rely upon this provision as a defence to any such claim or demand.
- (g) This Report does not provide legal advice.