Member of the Surbana Jurong Group

# Caloundra South

## 2017/2018 Annual Compliance Report - EPBC 2011/5987

5 April 2018

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# 1. INTRODUCTION

This Annual Compliance Report (ACR) has been prepared in accordance with the requirements of the Caloundra South Master Planned Community EPBC Act approval 2011/5987. Condition 14 requires Stockland to prepare and publish an ACR:

*'Within three (3) months of every twelve (12) month anniversary of commencement of the action (and until 12 months after the cessation of the action), the person undertaking the action must public a report on their website, for the duration of the project, addressing compliance with the conditions of this approval over the previous twelve (12) months, including implementation of any management plans, reports, strategies and methods as specified in the conditions.'*

The Caloundra South Master Planned Community was re-branded as "Aura – City of Colour" (Aura) for marketing purposes in October 2015. Reference is made throughout this ACR to Aura, being the Caloundra South project.

## 1.1. Reporting Period

This ACR addresses the status and compliance of the project against the conditions referred to in EPBC 2011/5987 for works carried out during the reporting period from 15 January 2017 to 14 January 2018.

## 1.2. EPBC Approval

Stockland Development Pty Ltd (ACN 000 064 835) (Stockland), as the Proponent for the Caloundra South Master Planned Community, was issued with EPBC 2011/5987 on 6 June 2013. EPBC 2011/5987 was subsequently amended by variations to Conditions 3, 8, 10 and 12 made pursuant to section 143 of the EPBC Act, and will be referred to collectively as EPBC 2011/5987.

## 1.3. Location of the Project

Caloundra South is an approved master planned community on Queensland's Sunshine Coast. The approximately 2,400ha site is located 3km from the Caloundra Major Activity Centre, 16km south of Maroochydore, the Sunshine Coast's Principal Activity Centre, and approximately 100km north of Brisbane. Most of the site sits between Pelican Waters and the Bruce Highway, with a small portion of the site lying to the west of the highway.

The site and its regional context are shown in Figure 1, and the illustrated Master Plan is included as Figure 2.

## 1.4. Overview of Key Activities and Achievements

Numerous development and environmental management activities have been achieved on the project to date, including:

- Creation of 28.60 ha of compensatory habitat for Wallum Sedge Frog including creation of new frog ponds within the Bells Creek North conservation corridor.
- Monitoring of Wallum Sedge Frog populations on and off the site.
- Creation of a dedicated frog underpass and separate fauna underpass at the Bellvista Boulevard Bridge over Lamerough Creek.
- Ongoing water quality monitoring on and off site.
- Commencement of implementation of Environmental Rehabilitation Plans for Precincts 1 and 2.

- Environmental management initiatives under the Community Stewardship Program, including: installation of fencing to exclude cattle from the entire Bells Creek North riparian zone; tree planting and community flora and fauna monitoring in the Environmental Protection Zone.
- Instigation of training of Aboriginal youth and local rural fire brigades in traditional bushfire management techniques to promote ecological rehabilitation of conservation land.
- Successful running of local events celebrating World Wetlands Day and World Habitat Day, educating local school children on local environmental values including tree planting.
- Implementation of approved Construction Environmental Management Plans (CEMPs) for Precinct 1, 2 and 3-5.
- Construction and monitoring of sediment basins for works in Precinct 1, 2 and 3-5.
- Completion of Precinct 1 bulk earthworks and civil construction.
- Completion of bulk earthworks in Precinct 2.
- Commencement of bulk earthworks in Precinct 3-5.
- Completion of the East West Link Bridge over Lamerough Creek.
- Completion of construction of the Bells Creek Arterial entrance to the Caloundra South site.
- Certification of the project as achieving a 6 Star Green Star Communities Rating from the Green Building Council of Australia and implementation of requirements.
- Recipient of 'Project Innovation Award' at the 2017 Property Council of Australia/Rider Levett Bucknall Innovation & Excellence Awards for Aura's unique approach to community consultation and industry -leading sustainability initiatives.
- Receipt of Urban Development Institute award for Environmental Excellence.
- Recipient of Healthy Land and Waterways 2017 'Erosion and Sediment Control (ESC) Leadership Award' for Aura's innovative ESC Program.
- Presentation of the 2016/17 Annual Compliance Report.

Stockland, its contractors and consultants have worked with the commonwealth, state and local governments to implement procedures to take this project forward over the longer term. With a development timeline of up to 30 years, Stockland is committed to maintaining the project's excellent environmental record for the duration of the development process, whilst actively encouraging a sense of environmental stewardship and pride within the emerging community.

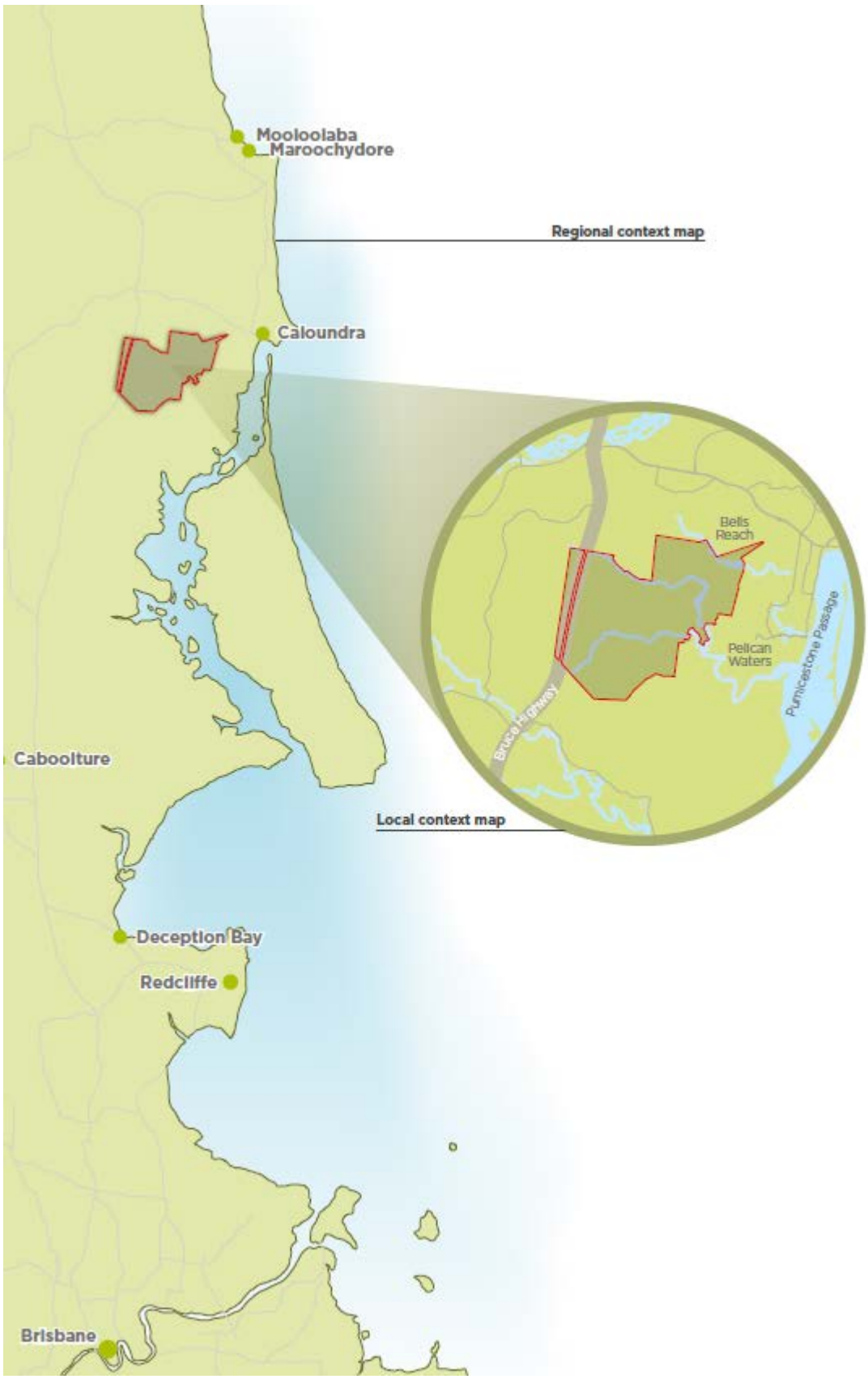


*Figure 1: Regional context of Caloundra South (EPBC Act referral area)*

(not to scale)


Figure 2: Illustrated Master Plan

AURA

## DISPLAY VILLAGE

Aura Sales & Vision Centre – Opening mid-2017

Aura Display Village – Opening mid-2017

## SHOPPING & SERVICES

90 hectare City Centre with cinemas, retail, dining and entertainment centres

3 district retail centres with supermarkets and specialty shops

6 neighbourhood retail centres with convenience shops

Bellvista Marketplace – 2km

Stockland Caloundra Shopping Centre – 7km

Caloundra CBD – 8km

## EDUCATION

20 learning centres including:

5 public primary schools, including a state primary school in Baringa – Opening 2018

2 public high schools, including a state high school in Baringa

4 early learning centres, including a childcare centre in Baringa

Up to 8 private schools

Urban university

## COMMUNITY CENTRES

Civic plazas in Baringa and the City Centre

Community centres located throughout the city

Sporting clubhouses at regional and neighbourhood sports fields

## ENTERTAINMENT

90 hectare City Centre with cinemas, retail, dining and entertainment centres

3 district retail centres with cafes and specialty shops

6 neighbourhood retail centres with cafes and convenience shops

2 cultural precincts with performing arts facilities and a library

People's Place – an 11 hectare Southbank-style parkland

Central Park – sports stadium and recreation areas

Izba Expresso Café at the Aura Sales & Vision Centre

Bellvista Tavern – 2km

Caloundra CBD – 8km

## PARKS AND OPEN SPACES

5 local parks within Baringa and many more located throughout the city

4 hectare neighbourhood sports park within Baringa and a number of village and district sports parks located throughout the city

10 hectare regional recreation park within Baringa

Central Park – park, playground and recreation areas

Lakes District recreation areas

Golf course

Adventure Playground at the Aura Sales & Vision Centre

Kings Beach and Golden Beach – 9km

## ENVIRONMENTAL

400 hectare Conservation Zone

Environmental Education Centre

Lamerough Creek Reserve

Blackbutt Forest

Bells Creek North and South

Pumicestone Passage – 7km

## BUSINESS

Business & Enterprise Park North

Business & Enterprise Park West

City Central with commercial and business centres

Caloundra CBD – 8km

## VELOWAY & WALKING PATHS

200km of future dedicated bike roadways, bike paths and pedestrian pathways

## PUBLIC TRANSPORT & ACCESS

Bells Creek Arterial from Caloundra Road to Baringa

Future Bells Creek Arterial from Baringa to Bruce Highway

Transit Centre in the City Centre

Future Sunbus bus services to Aura and surrounding regional areas

Future CAMCOS rail line

Sunshine Coast Airport – 38km

Brisbane CBD – 90km

Brisbane Airport – 90km

## MEDICAL

Bellvista Family Medical Practice – 2km

Caloundra Hospital – 6km

Sunshine Coast University Hospital – 12km

Sunshine Coast University Private Hospital – 12km

# 2. STATUS OF THE PROJECT

## 2.1. State Approvals

A site-wide Master Plan was approved by the then Urban Land Development Authority (now Economic Development Queensland) in June 2012. Given the size and duration of the project, the project was divided into 19 Precincts.

**Precinct 1** was granted approval for a Reconfiguration of a Lot from 1 into 344 Residential Lots, park, roads and drainage in July 2014.

**Precinct 2** was granted approval for a Reconfiguration of a Lot from 2 Lots into 1652 Lots, 1 Mixed Use Lot, 2 District Centre Lots, Educational Establishment Lots, Community Centre Lots, Tourist Attraction, Parks and new roads.

**Precincts 3-5** were granted approval for a Reconfiguration of a Lot from 1 Lot into 184 Business and Industry Lots, 3 Showroom Lots, Open Space, Roads and Drainage in May 2015.

**Town Centre (Precincts 7-10)** was granted approval for a Reconfiguration of a Lot with a Plan of Development in November 2016. The Plan of Development permits 5000 dwellings provided through a combination of standard and multiple residential lots, retail, commercial, community, education, parks and drainage.

**Precincts 11 and 12 (part)** – application was lodged on 3rd January 2018 for a Reconfiguration of Lot from 2 lots into 1,189 dwellings, a private school, neighbourhood retail centre, and community centre lots.

The locations of Precincts are illustrated in Figure 3.

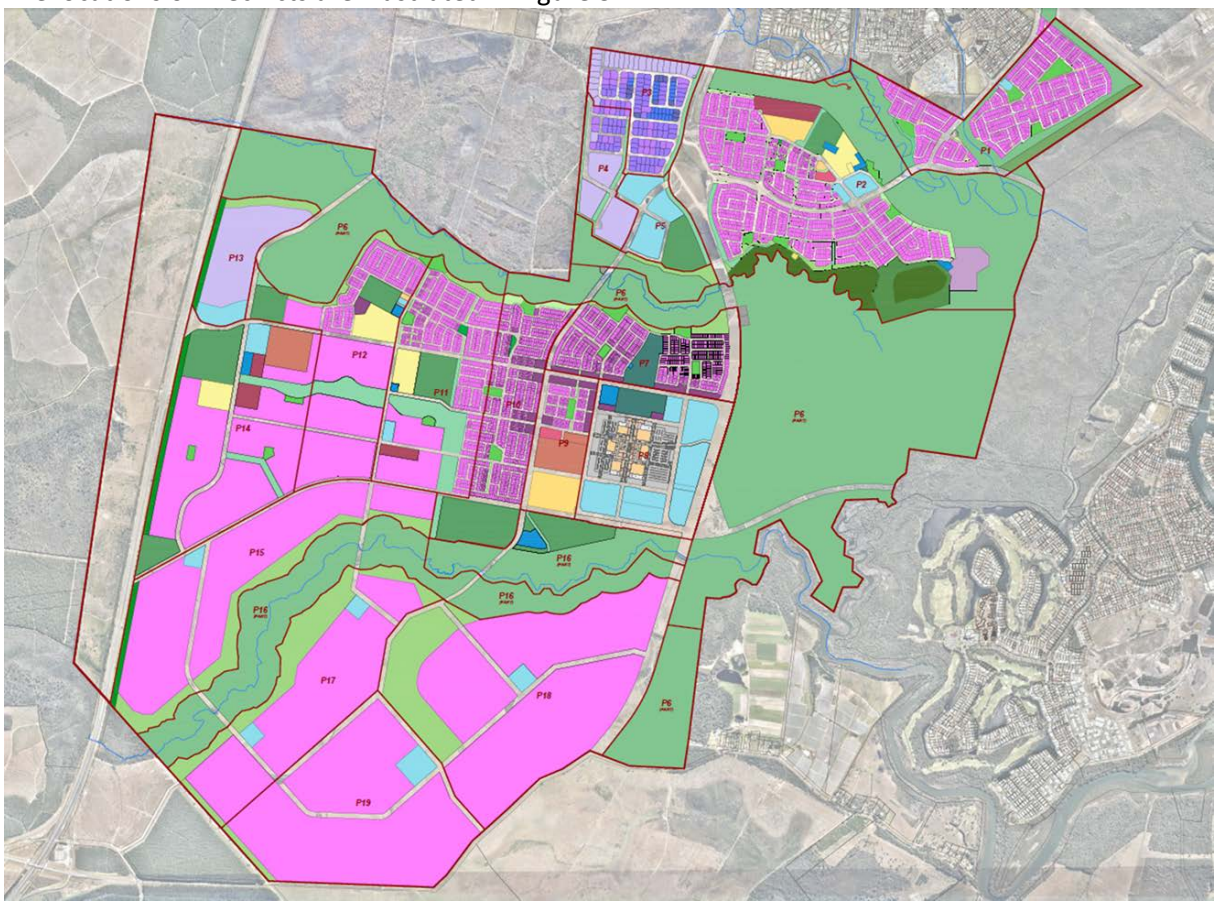


*Figure 3: Current Precincts with development approvals*

## 2.2. Bulk Earthworks and Civil Construction

During the reporting period (15 January 2017 – 14 January 2018), the following construction activities were undertaken:

- **Precinct 1** – Civil construction reached Practical Completion in April 2016.
- **Precinct 2** – Bulk earthworks were completed in October 2017. Civil construction is ongoing.
- **Precinct 3-5 –** Bulk earthworks commenced in January 2018 and is ongoing.
- **Bellvista Boulevard Bridge over Lamerough Creek**– Practical Completion achieved in November 2016.
- **Bells Creek Arterial Entrance to Caloundra South** – Open for traffic in January 2017.

The Bells Creek Arterial Project was the subject of EPBC 2013/7067, which was determined as "not a controlled action".

The Construction Contractor has prepared a Construction Environmental Management Plan (CEMP) for each work package which includes the relevant requirements of the EPBC conditions of approval and approved plans, as well the Construction Contractor's proposed approach to manage other environmental aspects on site during construction.

The Construction Contractor completes daily and weekly environmental checklists to assist in implementation of the CEMPs and the results are reported in the Monthly Environment Report.

## 2.3. Green Star Communities

The Caloundra South project was awarded a 6 Star Green Star Communities Rating from the Green Building Council of Australia in March 2015.

*"Stockland's 6 Star Green Star rating for Caloundra South (Aura) demonstrates that it is possible to undertake a development of unprecedented scale and achieve world class environmental and social outcomes." Romilly Madew, Chief Executive Officer, Green Building Council of Australia.*

The highly coveted 6 Star Green Star – Communities rating signifies world leadership in the design of the masterplan, which sets the highest possible sustainability standards for the community both during construction and after it is completed. Aura is the highest-scoring Green Star – Communities rated development in Queensland (second-highest nationally).

Aura was recognised for its:

- Heat island effect reduction through provision of open space and cool roofs, both of which reduce heat stress and contribute to energy savings in cooling homes.
- Cool Roof policy, which establishes guidelines for the roofs of homes to reduce the heat island effect.
- Veloways that provide leading cycling infrastructure, separating cyclists from motorists and improving cycling connections.
- Dark Sky Alliance-compliant LED street lights, which improve night sky amenity and reduce impact on nocturnal fauna.
- Aura's community stewardship program, which empowers the community to engage and contribute to the successful operation and longevity of the environment and society.

## 2.4. Frog Pond Creation

During the reporting period, construction of fifty-six additional Wallum Sedge Frog ponds commenced in November 2017, on the southern Bank of Bells Creek North adjacent to Precincts 7-14 (Figure 4). Development in these Precincts has not yet commenced, as practical completion of these frog ponds has not been finalised.

The fifty-six ponds are being constructed within the Frog Zone and Frog Buffer along the 'central corridor' providing habitat connectivity for the Wallum Sedge Frog along Bells Creek North. Site selection was based on extensive field work and analysis to determine the most suitable pond locations. Frog ponds were constructed in accordance with the Wallum Sedge Frog Management Plan, however the design has been updated based on monitoring data collected from created ponds within the northern movement corridor (Precincts 2-5). All fifty-six ponds along the southern bank of Bells Creek North utilised a new construction technique:

- bulk earthworks of ponds
- 'slabbing' of sedges and soil into the base of each pond
- spreading of high organic matter topsoil across the remainder of the pond floor.

Further information about the implementation of this plan is provided in Section 3 and Appendix A.

Frog ponds within the northern movement corridor (Precinct 2, Lamerough Creek), and northern bank of Bells Creek North (Precincts 2-5) were created during the 2015/2016 and 2016/17 reporting periods respectively. These ponds were subject to biannual monitoring, with some ponds supporting both the Wallum Froglet (breeding confirmed) and Wallum Rocket Frog– two of the three key Acid Frog Species across the site (Figure 5). Several Precinct 2 ponds required corrective actions in 2016, in response to high pH and low tannin staining water quality results. In addition to this, corrective action on stormwater drainage around Precinct 1 was undertaken to reduce the likelihood of stormwater discharge entering retained WSF habitat. Area B pond corrective actions have shown some signs of success (lower pH in water), however no WSF's have been reported and thus continued monitoring is required. In the case of Precinct 1 drainage corrective actions, these works appear to be successful, with pH in the habitat recorded as <6, with the Oct –Dec 2017 survey recording the acid frog *Crinnia tinnula* and the absence of acid frog competitor species.

Pre-habitat slab and topsoiling, pH 6.06

Post-habitat slab and top soil placement, pH 4.62

*Figure 4: Construction of Wallum Sedge Frog ponds in Precinct 4 and 5*

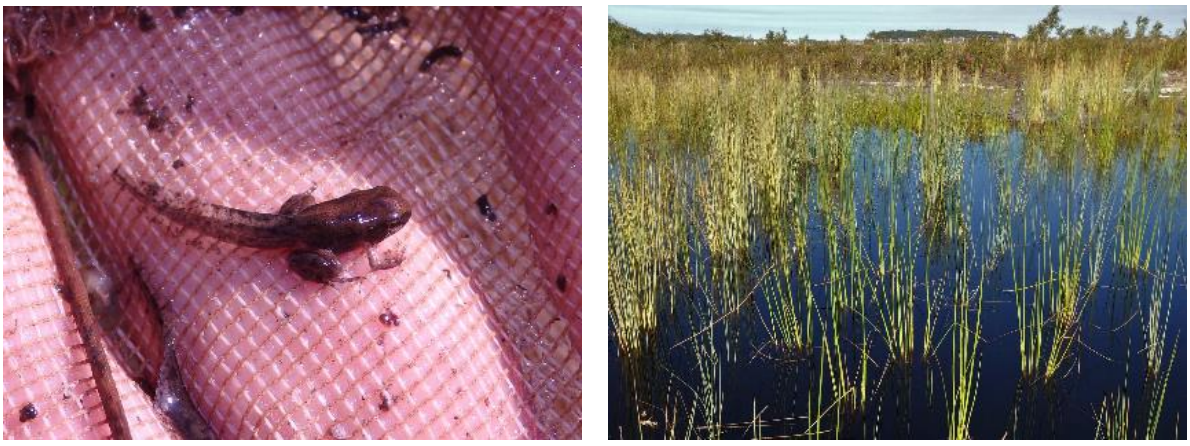

*Figure 5: Wallum Froglet and created Wallum Sedge Frog ponds in Precinct 2*

## 2.5. Wallum Sedge Frog Research

During the reporting period, Stockland provided $50,000 funding to the University of Queensland (UQ) to continue with research in support of actions identified in the 'National Recovery Plan for the Wallum Sedge Frog and other wallum-dependent frog species', including:

**Action 1**: Identify and assess essential wallum frog habitat (through species distribution modelling and mapping);

**Action 3**: Acquire information on threats relevant to wallum frogs to inform management (including competition from invading species);

**Action 4**: Engage stakeholders and the broader community in recovery of wallum frog species;

**Action 6**: Monitor wallum frog numbers and distribution (including multi-species population processes such as species co-occurrence and how these processes drive patterns in species composition and population sizes).

Research tasks completed during the reporting period include the following:

- species distribution modelling using rigorously vetted species occurrence data (focusing on SEQ) was used to identify areas of potential high value wallum frog habitat that may be important for the conservation of these species (Actions 1 & 6)
- continued deployment of long-term acoustic recorders to monitor presence/absence of frog populations in restored and newly created ponds (Actions 1, 3 & 6)
- demonstrated proof of concept for the use of an acoustic recorder array technique (known as "Acoustic Spatial Capture-Recapture") to assess how different frog species may co-occur in the same pond, and how such spatial co-occurrence might influence patterns in species composition and population sizes at the pond level (Action 6).

Key findings to-date have confirmed the co-occurrence of acid frog and competitor sibling species in restored and newly created ponds. The Acoustic Spatial Capture-Recapture technique suggests fine scale (within-pond) competition between acid frogs and competitor sibling species occurs.

## 2.6. Community Stewardship Program

Stockland established the Community Stewardship Program in 2014, which is coordinated by Healthy Land and Water. Members meet on a quarterly basis to review research, land care and rehabilitation opportunities within the conservation areas of Aura and plan key community events. Approximately 16 community interest groups are represented, including representation from government, industry

and research. Interest remains high with 90% attendance rate at quarterly meetings. With residents now moving into Aura, a new engagement plan has been developed and is being implemented.

As part of the Community Stewardship Program, two annual events were held: World Wetlands Day 2017 (3 February 2017) and World Habitat Day 2017 (5 October 2017).

World Wetland Day 2017 was celebrated with talks by frog expert Dr Ed Meyer at Unity College, followed by a field trip to the new frog underpass where a mural had been professionally painted, with sponsorship from Sea Life - Underwater World. Students and community group members planted trees and shrubs and painted frog statues to be cemented into the entrance to the underpass.

*Figure 6: World Wetlands Day 2017*

World Habitat Day 2017 explored the pertinent topic of appropriate fire management to maximise biodiversity and human safety in urban environments with adjacent natural areas, with an emphasis on traditional cultural burning practices. A range of speakers addressed 250 Unity College students from years 7 to 12 and community group members about the need for prescribed burns, including representatives from SEQ Fire and Biodiversity Consortium, Queensland Fire and Emergency Services and Kabi Kabi First Nation. Michelle McKemey from University of New England visited to speak about her fire and seasons calendar. This was followed by a field trip to a natural area adjacent to Aura that was impacted by a recent accidental wildfire, to discuss lessons learnt from not undertaking timely prescribed burns. This reinforced the controlled burning practices in place at Aura, partly supported by Community Stewardship Program grant to engage Traditional Owners in fire management.

*Figure 7: World Habitat Day 2017*

The Community Stewardship Program will support the development of a Landcare group once there is a sufficient resident population at Aura (Caloundra South), whilst still maintaining the Aura Community Advisory Group of broader group representation.

Rehabilitation and conservation projects described in Table 1 have continued onsite under the Aura Community Stewardship Program and with the support of Stockland. Faunawatch, the citizen science fauna monitoring program, continues to be funded through the Stewardship Program. Monitoring results are reported at each quarterly meeting, with findings indicating an increase in species count as the natural areas are regenerated after being a pine plantation and following fire management.

*Table 1: Community stewardship program activities*

| Activity | Outcome |
|---|---|
| World Wetland Day 2017 | Engagement and education of Unity College students and community group members on aquatic environments with talks from frog expert Dr Ed Meyer and Dr Mark Bayley (AWC), followed by a field visit to plant the area beside the new frog underpass and paint frog statues to be placed near the colourful 'frog superhighway' mural. |
| World Habitat Day 2017 | Reinforce the understanding of the students and community groups of the need for carefully planned controlled burns to minimise the risk to human safety and maximise the enhancement of biodiversity in the coastal ecosystem by learning from the recent wildfire nearby; introduce the concept of the fire seasons calendar to appreciate the traditional seasonal definition and indicators particularly to help plan fire management. |
| Wurubambi (Little Italy) | Members of the Community Stewardship Program engage with community groups to trial different rehabilitation techniques, including fire management. Community based fauna monitoring has also been established with the assistance of Faunawatch. An advanced Wallum Sedge Frog Offsets site has also been established at Little Italy |
| Training rural fire brigade on traditional bush fire methods | For the first time since traditional times, Kabi Kabi people backed by the local Rural Fire Brigades, burnt part of the future conservation land at Aura (Caloundra South) according to cultural principles and practices. This was conducted on degraded former pine plantation and cattle grazing land as part of rehabilitation activities. A video was produced as part of the training.<br>https://vimeo.com/183412469?ref=em-share |
| Stock Exclusion Fencing | In 2015 cattle exclusion fencing was installed around the Environmental Protection Zone, and in 2016 this was expanded to exclude cattle from the Bells Creek North riparian zone. Exclusion of cattle from future conservation areas will enable early natural regeneration to commence. |
| World Wetland Day 2017 | Engagement and education of Unity College students and community group members on aquatic environments with talks from frog expert Dr Ed Meyer and Dr Mark Bayley (AWC), followed by a field visit to plant the area beside the new frog underpass and paint frog statues to be placed near the colourful 'frog superhighway' mural. |

## 2.7. Sediment Basins and Construction Management

During construction water quality has been managed through a combination of traditional sediment basins and high efficiency sediment basins, with all captured runoff treated to meet the nominated water quality performance criteria outlined in the Water Quality Management Plan.

A total of eight, both high efficiency and traditional, sediment basins were installed and operating during the reporting period.

The design and operation of high efficiency sediment basins is continually being improved to adapt to local soil conditions and construction activities. A hybrid design of high efficiency sediment basin has been developed and implemented on site, which is capable of treating runoff continuously during a rainfall event, as well as capturing and storing runoff for treatment following cessation of the rainfall event, as per the design of a traditional sediment basin.

This hybrid design has been implemented to address site specific conditions, particularly the presence of low pH surface runoff, which typically requires additional treatment and retention time to ensure downstream discharge requirements are achieved. During these early phases of the project the hybrid design offers an increased level of protection to sensitive receiving environments and provides the flexibility to refine the operation of the high efficiency sediment basins. High efficiency sediment basins have also been designed to have a kidney shape to accommodate a wetland function following completion of construction.

*Figure 8: High efficiency sediment basin installed as part of Precinct 2 works – construction runoff treated as it moves through the basin*

*Figure 9: Discharge water quality from high efficiency sediment basin in Precinct 2*


TOPO.

| REVISION | DESCRIPTION | APPROVED BY | DATE |
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| | | | |
| | | | |
| | | | |
| A | ORIGINAL ISSUE | KR | 21.02.18 |

NOT TO SCALE

NORTH

A3

ISSUED FOR USE



CLIENT: STOCKLAND

| DRAWN | DESIGNED | DATE |
|---|---|---|
| KR | KR | 21.02.18 |

RPEQ / SIGNATURE (IF REQUIRED)

PROJECT: AURA

DRAWING TITLE: SEDIMENT BASIN LOCATIONS

| PROJECT No | DRAWING No | REVISION |
|---|---|---|
| 17.0012 | D400 | A |

# 3. APPROVED DOCUMENTS

The Conditions of the EPBC Approval required the submission and approval of several Management Plans and Strategies. Documents listed in Table 2 have been submitted to and/or approved by the Minister administering the EPBC Act, in accordance with EPBC 2011/5987 and were in effect during the reporting period. Compliance with the approved documents is reported on within the ACR. Current approved EPBC documents are available from https://www.stockland.com.au/residential/qld/aura/resources

*Table 2: Approved documents in effect during the reporting period*

| Condition | Document Name | Revision | Applicable Reporting Period | Compliance Assessment |
|---|---|---|---|---|
| 1 | Environmental Management Plan | Revision 6 (November 2013) - Approved by DotEE on 19 November 2013 | 15 Jan 2017 – 29 Aug 2017 | The Environmental Management Plan comprises three documents:<br>• Environmental Management Plan – See Appendix A (Precinct Construction Environmental Management plans)<br>• Environmental Engagement Plan – See Appendix A<br>• Vegetation Management and Rehabilitation Plan – See Appendix A |
| | | Revision 7 (August 2017) - issued to DotEE on 25 August 2017 under 'revised management plan, condition 12 of the EPBC approval and endorsed on 30 August 2017. | 30 Aug 2017 – 14 Jan 2018 | |
| 7 | Wallum Sedge Frog Management Plan | Revision E (August 2016) – Issued to DotEE on 12 August 2016 under 'revised management plan condition' 12 of the EPBC approval and approved 18th August 2016 | 15 Jan 2017 -29 Aug 2017 | See Appendix A |
| | | Revision F (July 2017) – issued to DotEE on 25 August 2017 under 'revised management plan, condition 12 of the EPBC approval and endorsed on 30 August 2017. | 30 Aug 2017 – 14 Jan 2018 | |
| 4 | Water Quality Management Plan | Revision 5, June 2016 – Issued to DotEE on 10 August 2016 under 'revised management plan condition' 12 of the EPBC approval and approved 18 August 2016 | Entire reporting period: 15 Jan 2017 – 14 Jan 2018 | See Appendix A |

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| 2 | Environmental Protection Plan 14 July 2015 | Revision 2 (July 2015) - Approved by DotEE on 21 August 2015 | Entire reporting period:15 Jan 2017 – 14 Jan 2018 | Refer to Section 4 |
| 3 | Precinct 2/ Part Precinct 3/4 and Associated Works Construction Environmental Management Plan May 2015 | Revision D (August 2016) – Issued to DotEE on 10 August 2016 under 'revised management plan condition' 12 of the EPBC approval and approved 18 August 2016 | Entire reporting period: 15 Jan 2017 – 14 Jan 2018 | See Appendix A |
| 3 | Precinct 3, 4, 5 and Part Precinct 6 Construction Environmental Management Plan April 2017 | Revision A (April 2017) –approved by DotEE on 21 April 2017 | 8 Jan 2017 – 14 Jan 2018 | See Appendix A |
| 9 | Wallum Sedge Frog Contingency and Offset Strategy | Revision 5 – Submitted to DotEE 15 December 2015 and was accepted on 8 June 2016. | Entire reporting period: 15 Jan 2017 – 14 Jan 2018 | See Appendix A |

# 4. EPBC ACT CONDITIONS AND THE COMPLIANCE TABLE

Table 3 documents the compliance with the conditions of EPBC 2011/5987 for the reporting period from 15 January 2017 to 14 January 2018. Evidence of compliance with the requirements of Approved Plans prepared under the EPBC conditions of approval is provided in Appendix A.

*Table 3: Compliance Audit of EPBC 2011/5987 Conditions*

| Condition Reference Number | Condition | Is the Project Compliant with this Condition | Evidence/Comments |
|---|---|---|---|
| 1 | Prior to the commencement of the action, the person undertaking the action must submit to the Minister for approval a detailed Environmental Management Plan for the proposed action. The Environmental Management Plan must be submitted to Minister at least three (3) months prior to the commencement of the action. The Environmental Management Plan must be a standalone document that incorporates specific management actions required to protect matters of national environmental significance. The Environmental Management Plan must include:<br>potential impacts to matters of national environmental significance<br>management and mitigation measures to manage:<br>• acid sulphate soils;<br>• sediment and erosion controls; and<br>• pests and weeds.<br>• detail of the objectives, methods, parameters and monitoring strategies to be used;<br>• performance criteria for each set of parameters at which point Corrective actions are required to be implemented; | Compliant | Stockland submitted the Environmental Management Plan to DotEE on 6 November 2013, prior to commencement of the action on 15 January 2015. DotEE provided a letter to Stockland on the 26 November 2013 approving the plan, stating that it meets the requirements of Condition 1. The requirements of the Environmental Management Plan have been incorporated into each Precinct Construction Environmental Management Plan (CEMP) prepared to date (refer to EPBC Condition 3).<br><br>Appendix A, Table A1 lists all the requirements of the Environmental Engagement Plan and states how the requirements have been met. Appendix A, Table A2 lists all of the requirements of the Environmental Rehabilitation Plan and states how the requirements have been met.<br><br>The first audit required under Condition 13 is due to be submitted to DotEE in July 2018. The Environmental Management Plan will be reviewed following this audit. |

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| | • corrective actions, and/or mechanisms for developing Corrective actions, and the parties responsible for implementing Corrective actions.<br>• a vegetation management and rehabilitation plan/strategy<br>• an environmental engagement strategy/plan for identifying communication and engagement mechanisms for ensuring community engagement with management practices required to protect matters of national environmental significance;<br>The commencement of the action must not occur until the Environmental Management Plan has been approved by the Minister. The approved Environmental Management Plan must be reviewed by the person undertaking the action within six (6) months of an audit undertaken in accordance with Condition 13. If the Environmental Management Plan is amended following the review, the amended plan must be submitted to the Minister for approval. The approved Environmental Management Plan must be implemented. | | |
| 2 | Within six (6) months of the commencement of the action, the person undertaking the action must submit to the Minister for approval a detailed Environmental Protection Plan which outlines the actions that will be taken to implement legally binding mechanisms to ensure the protection of the Environmental Protection Zone and Buffer Zones. | Compliant | Stockland submitted the Environmental Protection Plan to DotEE on 14 June 2015, within six months of commencement of the action on 15 January 2015. DotEE reviewed the Environmental Protection Plan, as updated following discussion and consultation, and issued a letter to Stockland on 21 August 2015 approving the July 2015 version of the plan. |
| 3 | Prior to the Commencement of the action within each Precinct, the person undertaking the Action must submit to the Minister for approval a detailed Precinct Construction Environmental Management Plan (PCEMP). Each PCEMP must be submitted to the Minister at least three (3) months prior to the Commencement of the action within each Precinct. Each PCEMP must be a standalone document that | Compliant | **Precinct 1**<br>Stockland submitted the Precinct 1 Part Precinct 3/4 and Associated Works CEMP to DotEE on 12 March 2014. DotEE reviewed the CEMP, as updated following discussion and consultation, and provided a letter to Stockland on 21 August 2014 approving the version of the plan dated 23 June 2014. |

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| | incorporates specific management actions required for that Precinct, and any Incidental or Associated Works, unless those works are addressed in another PCEMP. Each PCEMP must include:<br>• Details of the timing of construction works including (consistent with the requirements under Condition 7) any compensatory habitat works;<br>• Current and detailed maps of the locations of:<br>• Environmental Protection Zones, no go areas/protected areas where only habitat creation, weed management or rehabilitation will occur;<br>• Sediment and erosion treatment and prevention devices;<br>• Prescribed Buffer Zones;<br>• Development and construction zones;<br>• Essential services and easements;<br>• Roads; and<br>• Fauna protection devices and road crossings/underpasses.<br>• Potential impacts to Matters of National Environmental Significance;<br>• Management and mitigation actions required for acid sulphate soils, surface and ground water quality, sediment and erosion controls, vegetation management, and pest and weed management to protect Matters of National Environmental significance;<br>• The objectives, methods, parameters and monitoring strategies to be used;<br>• Performance criteria for each set of parameters at which point Corrective actions are required to be implemented; | | **Precinct 2**<br>Stockland submitted the Precinct 2 Part Precinct 3/4 and Associated Works CEMP to DotEE on 26 March 2015, prior to commencement of the action within Precinct 2 in December 2016. DotEE provided a letter to Stockland on 25 August 2015 approving Revision B of the plan dated May 2015. The current version of the Precinct 2 Part Precinct 3/4 and Associated Works CEMP is Revision D dated August 2016, which was issued to DotEE on 10 August 2016 under 'revised management plan condition' 12 of the EPBC approval and approved 18 August 2016.<br><br>Appendix A, Table A3 lists all the requirements of the Precinct 2 Part 3/4 and Associated Works CEMP and states how the requirements have been met.<br><br>**Precinct 3-5**<br>Stockland submitted the Precinct 3-5 and Part Precinct 6 CEMP to DotEE on 9 December 2016, prior to commencement of the action within Precinct 3-5 on 8 January 2018. DotEE provided a letter to Stockland on 21 April 2017 approving Revision A of the plan dated April 2017.<br><br>Appendix A, Table A4 lists all the requirements of the requirements of the Precinct 3 – 5 and Part Precinct 6 CEMP and states how the requirements have been met. |

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| | • Corrective actions, and/or mechanisms for developing Corrective actions, and the parties responsible for implementing Corrective actions.<br><br>The Commencement of the action in a Precinct must not occur until the PCEMP for the relevant Precinct has been approved by the Minister, or another PCEMP approved by the Minister includes the proposed works. Approved PCEMPs must be implemented.<br>For incidental or Associated Works, measures necessary to protect Matters of National Environmental Significance must be employed, such as erosion and sediment control and the re-establishment of vegetation, in accordance with the approved PCEMP.<br>Note: For clarification Preliminary Works may occur prior to the approval of each PCEMP. | | |
| 4 | Prior to the commencement of the action, the person undertaking the action must submit to the Minister for approval a Water Quality Management Plan. The Water Quality Management Plan must address the management and monitoring of both groundwater and surface water and must:<br>• Outline the baseline water quality data;<br>• Set out water quality performance objectives and parameters;<br>• Set monitoring and reporting periods;<br>• Set out scientifically robust methods for sampling and data collection;<br>• Include a risk assessment of any modelling, assumptions and predications used;<br>• Identify readily measurable performance indicators and goals and identify performance indicators at which point corrective actions will be taken; | Compliant | Stockland submitted the Water Quality Management Plan to DotEE on 12 March 2014, prior to commencement of the action on 15 January 2015. DotEE provided a letter to Stockland on 25 March 2014 approving Revision 3 (February 2014) of the plan, stating that it meets the requirements of Condition 4. The current version of the Water Quality Management Plan is Revision 5 dated June 2016, which was approved by DotEE on 18 August 2016.<br><br>Appendix A, Table A5 lists all the requirements of the Water Quality Management Plan and states how the requirements have been met. |

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| | • Corrective actions, and/or mechanisms for developing corrective actions, and the parties responsible for implementing corrective actions;<br>• Include scientifically robust methods for detecting a 10% change in water quality parameters in Bell's Creek and 5% change in water quality in Pumicestone Passage unless an alternate is approved by the Minister; and<br>• Demonstrate adaptive management mechanisms reflecting contemporary industry best practice are being implemented throughout the period of this approval.<br>The action must not commence until the Water Quality Management Plan is approved by the Minister.<br>The approved Water Quality Management Plan must be reviewed by the person undertaking the action within six months of an audit undertaken in accordance with Condition 13. If the Water Quality Management Plan is amended following the review, the amended plan must be submitted to the Minister for approval.<br>The person undertaking the action must demonstrate that the water quality performance objectives of the Water Quality Management Plan would result in an equivalent or improved environmental outcome over the life of this approval.<br><br>The approved Water Quality Management Plan must be implemented.<br><br>Note: For clarification Preliminary Works may occur prior to approval of the Water Quality Management Plan. | | |
| 5 | Prior to commencement of the action, the person undertaking the action must provide a detailed map to the Department that identifies areas of Wallum Sedge | Compliant | Stockland submitted the Wallum Sedge Frog Management Plan to DotEE on 6 December 2013, prior to commencement of the action on 15 January 2015. Figure 2.2d of the Wallum Sedge Frog Management |

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| | Frog (*Litoria olongburensis)* habitat that will be destroyed or removed on the subject site. | | Plan includes a map showing the area of Wallum Sedge Frog habitat to be destroyed or removed from the subject site. DotEE issued a letter to Stockland on 10 December 2013 confirming that Condition 5 of the approval has been satisfied. The latest version of Figure 2.2d (1 June 2017) is provided in Appendix B. |
| 6 | The Person undertaking the action must not destroy or remove more than 152 ha of Wallum Sedge Frog habitat on the subject site as set out in the map provided in Condition 5 of this approval. | Compliant | At the end of the ACR reporting period, 18.86 ha of Wallum Sedge Frog habitat has been removed. A summary of Wallum Sedge Frog habitat created, retained and removed is provided in Appendix C. |
| 7 | To minimise and compensate for the loss of a maximum 152ha Wallum Sedge Frog (*Litoria olongburensis)* habitat at the subject site, the person undertaking the action must establish created compensatory habitat for the Wallum Sedge Frog within the subject site in accordance with the Wallum Sedge Frog Management Plan. The created compensatory habitat must be established in stages, commensurate with the area of habitat destroyed or removed through the construction of precincts and must reach a minimum of 152 ha, prior to completion of construction of the Development. | Compliant | A pre-construction Wallum Sedge Frog habitat survey has been undertaken, in accordance with the methods outlined in the Wallum Sedge Frog Management Plan, Box 1, Page 52, to confirm the extent of Wallum Sedge Frog habitat within Precincts 1, 2, 3, 4 and 5. A summary of Wallum Sedge Frog habitat removed, retained and created in each precinct is provided in Appendix C.<br><br>Wallum Sedge Frog ponds have been created in the Frog Zone and Frog Buffer adjacent to Precincts 1,2, 4, and 5 in advance of commencement of construction of the development in the relevant Precincts. Photos of the completed frog ponds in Precincts 3 and 4 are provided in Figure 4 and Figure 5. |
| 8 | Prior to the commencement of the action the person undertaking the action must develop and submit to the Minister for approval a Wallum Sedge Frog Management Plan to monitor and manage the Wallum Sedge Frog (*Litoria olongburensis)* population at the Subject Site including its use of the Created Compensatory Habitat within the Subject Site. The Wallum Sedge Frog Management Plan must be developed by an Appropriately Qualified Ecologist. The Wallum Sedge Frog Management Plan must include:<br>• a review of the existing baseline *L.olongburensis* population and distribution within the Subject Site;<br>• a scientifically robust methodology for monitoring *L.olongburensis* population and Created | Compliant | Stockland submitted the Wallum Sedge Frog Management Plan to DotEE on 6 December 2013, prior to commencement of the action on 15 January 2015. DotEE issued Stockland a letter on 10 December 2013 approving Revision B of the plan, stating that it meets the requirements of Condition 8. The current version of the Wallum Sedge Frog Management Plan is Revision F (July 2017) – issued to DotEE on 25 August 2017 under 'revised management plan, condition 12 of the EPBC approval and endorsed by DotEE on 30 August 2017.<br><br>The first audit required under Condition 13 is due in July 2018. The Wallum Sedge Frog Management Plan will be reviewed within six months of completion of the audit if corrective actions are identified. Appendix A, Table A6 lists the requirements of the Wallum Sedge Frog Management Plan and states how the requirements have been met. |

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| | Compensatory Habitat success within the Subject Site;<br>• commitment to the construction of habitat ponds for the *L.olongburensis* concurrent with the commencement of works within each precinct;<br>• a *L.olongburensis* population and Created Compensatory Habitat monitoring program with readily measurable objectives, performance indicators and scientifically robust Success Criteria;<br>• timeframes for reporting and implementation;<br>• Corrective Actions, and/or mechanisms for developing Corrective Actions, and the parties responsible for implementing Corrective Actions;<br>• a requirement for pre-construction surveying of the Subject Site by an Appropriately Qualified Ecologist immediately prior to the removal of any identified area/s of *L.olongburensis* habitat to record the size of the area to be destroyed/removed by the proposed action. This information must be included as a reporting requirement of the Wallum Sedge Frog Plan;<br>• an outline of the measures that will be undertaken to ensure that the Created Compensatory Habitat will be protected in perpetuity;<br>• funding to at least $0.5 million (2013 dollars, indexed to the Consumer Price Index and excluding GST) over 10 years from the Commencement of the Action, for priority actions identified in the Wallum Sedge Frog Management Plan.<br>The action must not commence until the Wallum Sedge Frog Management Plan is approved by the Minister. The approved Wallum Sedge Frog Management Plan must be reviewed by the person undertaking the action within six (6) months of an audit undertaken in accordance with Condition 13. If | | |

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| | the Wallum Sedge Frog Management Plan is amended following the review, the amended plan must be submitted to the Minister for approval. The approved Wallum Sedge Frog Management Plan must be implemented.<br><br>Note: For clarification Preliminary Works may occur prior to approval of the Wallum Sedge Frog Management Plan. | | |
| 9 | Within one (1) year of the commencement of the action, the person undertaking the action must prepare and submit a detailed *L.olongburensis* Contingency and Offset Strategy (including offsets in accordance with the department's Environmental Offset Policy) that will be implemented if the created compensatory habitat does not meet the defined success criteria. | Compliant | Stockland submitted the *L.olongburensis* Contingency and Offset Strategy to DotEE on 15 December 2015, within one year of commencement of the action on 15 January 2015. DotEE issued a letter to Stockland on 8 June 2016 stating that it meets the requirements of condition 9.<br><br>Appendix A, Table A7 lists the requirements of the 'Wallum Sedge Frog (*L. olongburensis)* Contingency and Offset Strategy' and states how the requirements have been met. |
| 10 | The person undertaking the action must implement the following buffer zones at the subject site:<br>• the Riparian Corridor;<br>• the Frog Zone;<br>• the Frog Buffer; and<br>• the Lifestyle Buffer.<br>Activities in accordance with table 2.4 of the approved Wallum Sedge Frog Management Plan, required under condition 8, are permitted in the Buffer Zones. | Compliant | The buffer zones listed have been implemented as shown on the drawings provided in Appendix B of the Precinct 1, Part Precinct 3/4 CEMP, Precinct 2 Part Precinct 2/4 CEMP and Precinct 3 - 5 and Part Precinct 6 CEMP. |
| 11 | The person undertaking the action must not provide creek access within the Riparian Corridor. | Compliant | No creek access has been provided for under the master plan layout. Several measures have been undertaken as part of the landscape design in Precinct 1 and 2 to deter inappropriate activities or access to the Environmental Protection Zone, which includes the Riparian Corridor. These include:<br>• Dense planting with endemic species at the verge of the Environmental Protection Zone and the adjacent development to restrict access. |

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| | | | • Signage in specific locations to educate the public on the importance of the conservation areas and to restrict access.<br>• Fencing in specific locations to restrict access. |
| 12a | The person taking the action may choose to revise a management plan or program approved by the Minister under conditions 1, 3, 4 and 8 without submitting it for approval (including approval under section 143A of the Environment Protection and Biodiversity Conservation Act, 1999 (cth)), if the taking of the action in accordance with the revised plan or program would not reduce the ability to identify or measure any impact of the action and would not be likely to have a new or increased impact. If the person taking the action makes this choice they must:<br>Notify the Department in writing that the approved plan or program has been revised and provide the Department with:<br>• An electronic copy of the revised pan or program;<br>• an explanation of the differences between the revised plan or program and the approved plan or program; and<br>• the reasons the person taking the action considers that taking the action in accordance with the revised plan or program would not be likely to have a new or increased impact.<br>Declare in writing a date on which the revised plan or program will first be implementation must be at least 28 days after sub-condition 12 a I. is satisfied unless a lesser period is approved by the Minister. | Compliant | The following approved plans were revised under the superseded condition 12 requirements, which required that all amendments to approved plans are submitted to DotEE for review and approval:<br>• Precinct 2 Part Precinct 3/4 and Associated Works CEMP (Revision C, May 2016) – Approved by DotEE on 8 June 2016.<br><br>Condition 12 of the approval was amended and approved by DotEE on 5 August 2016. The following plans have been updated under the 'revised management plan condition':<br>• Wallum Sedge Frog Management Plan (Revision E, August 2016) – issued to DotEE on 12 August 2016<br>• Precinct 2 Part Precinct 3/4 and Associated Works CEMP (Revision D, August 2016) – issued to DotEE on 10 August 2016<br>• Water Quality Management Plan (Revision 5, 15 June 2016) – issued to DotEE on 10 August 2016.<br>• Environmental Management Plan (Revision 7, dated August 2017) – issued to DotEE on 25 August 2017<br>• Wallum Sedge Frog Management Plan (Revision F, dated July 2017) – issued to DotEE on 25 August 2017 |
| 12b | The person taking the action may revoke their choice under condition 12 a at any time by giving such notice, the person taking the action must implement the plan or program previously submitted for approval and approved by the Minister. | Not applicable | No request has been made to revoke an approved plan. |

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| 12c | If the Minister gives a notice to the person taking the action that the Minister is satisfied that the taking of the action in accordance with the revised plan or program would be likely to have a new or increased impact, then:<br>• Condition 12 a does not apply, or ceases to apply, in relation to the revised plan or program; and<br>• The person taking the action must implement the plan or program previously submitted for approval and approved by the Minister.<br>To avoid doubt, this condition does not affect any operation of sub-conditions 12 a and 12 b in the period before the day the notice is given.<br>At the time of giving the notice the Minster may also notify that, for a specified period of time, sub-condition 12 a does not apply for one or more specified plans or programs required under the approval. | Not applicable | No request has been made by the Minister under Condition 12c. |
| 13 | Unless otherwise agreed to in writing by the Minister, within three (3) months of every three (3) year anniversary of the commencement of the action, for the first nine (9) years from the commencement of the action and then within three (3) months of every five (5) year anniversary thereafter until the cessation of the action, the person undertaking the action must ensure that an independent audit of compliance with the conditions of approval and all management plans, reports, strategies and methods is conducted. For each independent audit, the independent auditor must be approved by the Minister and the audit criteria must be agreed to by the Minister prior to the commencement of the audit. The person undertaking the action must submit an audit report to the Minister for approval within three (3) months of the date of completion of the audit, identifying any remedial actions that have been taken in response to | Not applicable | The action commenced on 15 January 2015. The first three (3) year anniversary of the commencement of the action is 15 January 2018, with an independent audit to be submitted by 15 July 2018. |

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| | recommendations identified by the independent auditor, with any proposed changes to any management plan, report, strategy or method to be included. | | |
| 14 | Within three (3) months of every twelve (12) month anniversary of the commencement of the action (and until 12 months after the cessation of the action), the person undertaking the action must publish a report on their website, for the duration of the project, addressing compliance with the conditions of this approval over the previous twelve (12) months, including implementation of any management plans, reports, strategies and methods as specified in the conditions. Within five (5) days after publication, the person undertaking the action must provide the Minister with a copy of the report. Non-compliance with any of the condition of this approval must be reported to the Minister within two (2) business days of becoming aware of the non-compliance. | Compliant | The 2016/2017 ACR was published on Stockland's Aura website on 11 April 2017, DotEE was notified on this date. The 2017/2018 ACR is the subject of this report. |
| 15 | If, at any time after five (5) years from the date of this approval, the person undertaking the action has not commenced the action, then the person undertaking the action must not commence the action without the written agreement of the Minster. | Not applicable | The action commenced on 15 January 2015, therefore this condition is not applicable. |
| 16 | Within ten (10) days of the commencement of the action, the person undertaking the action must advise the Department in writing of the actual date of commencement. | Compliant | Stockland issued a letter to DotEE on 18 December 2014 advising that the commencement of the action occurred on 15 December 2014. Stockland issued subsequent advice to DotEE on 16 November 2015 notifying that after a review of the December/January construction program and reporting, it was found that rain and the Christmas shut down period delayed the actual commencement of construction until 15th January 2015. DotEE have acknowledged and confirmed the revised commencement date in email correspondence dated 17 November 2015, and have consequently adjusted the due date of subsequent approved reports/plans. |
| 17 | Unless otherwise agreed in writing by the Minister, the person undertaking the action must publish all | Compliant | All approved plans and documents have been published on Stockland's website within 1 month of being approved. |

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| | management plans, reports, strategies and methods referred to in these conditions of approval on their website. Each management plan, report, strategy and method must be published on the website within one (1) month of being approved. | | https://www.stockland.com.au/residential/qld/aura/resources |
| 18 | The person undertaking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans, reports, and strategy required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media | Compliant | The Caloundra South project maintains a robust document management system that provides a controlled and secure repository for all project documentation. No requests were made by DotEE during the compliance reporting period for records substantiating activities associated with, or relevant to, the conditions of approval. |
| 19 | If the Minister believes that it is necessary or convenient for the better protection of wetlands of international importance, threatened species and communities and migratory species to do so, the Minister may request that the person undertaking the action make revisions to the management plans, reports, strategies and methods specified in the conditions and submit the revised management plans, reports, strategies and methods for the Minister's written approval. The person undertaking the action must comply with any such request. The revised approved management plans, reports, strategies and methods must be implemented. Unless the Minister has approved the revised management plan, reports, strategies and methods then the person undertaking the action must continue to implement the management plans, reports, strategies and methods originally approved, as specified in the conditions. | Not applicable | No revisions were requested by DotEE during the reporting period. |

# APPENDIX A REQUIREMENTS OF APPROVED PLANS

## Environmental Engagement Plan

The Environmental Engagement Plan outlines measures to communicate and engage with the community on management practices to protect matters of national environmental significance. The Environmental Engagement Plan seeks to achieve on-going participation in and ownership of the project's environmental objectives and obligations through two primary methods:

- establishment of an independent community group such as a Landcare Group
- provision of an Environmental Education Centre and Programs.

The Environmental Engagement Plan recognises that the capacity of stakeholders to engage, invest and contribute to the project will increase over the expected 30-year timeframe until the development is complete. As such the plan will be delivered in five key stages which span the life of the project. This ACR will report on works undertaken during the Acceleration Phase (2-4 years). The official launch of the Caloundra South project as "Aura – City of Colour", in October 2015, marked the commencement of the Acceleration Phase. The Environmental Engagement Plan contains an Environmental Engagement Action Plan for the Acceleration Phase, and the focus of reporting for this ACR is to provide an update on the progress of the action plan.

*Table A1: Compliance Assessment of the environmental Engagement Plan (Revision 7, July 2017)*

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
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| Table B1.7 | EEP-1 | Establish the Caloundra South Landcare Group or similar community organisation, within 12 months of approval of the action. | Compliant | The Caloundra South Community Advisory Stewardship Group was established in 2014, and involves numerous community organisations that work together to identify and optimise community land care opportunities within Caloundra South.<br>The Caloundra South Community Advisory Group has quarterly meetings and has undertaken numerous initiatives throughout the reporting period:<br>• Two community awareness-raising events have been held, involving students from Unity College and members from groups in the Community Advisory Stewardship Group. The events were scheduled around World Wetland Day (February 2017) and World Habitat Day (October 2017) and involved educational talks, field trips and planting. |

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| | | | | • The group has identified and implemented numerous measures on site to facilitate environmental restoration including expanding stock exclusion fencing to now include the entire length of the Environmental Protection Zone and the Bells Creek north riparian zone.<br>• A formal local Landcare group (Baringa Community Group) will be established once Aura is 30% populated, however the early establishment of such a group will be supported so it can grow with the development.<br>• A plan for optimising community stewardship 2017-2020 has been developed. |
| Table B1.7 | EEP-2 | Develop a public annual report that monitors performance against all key environmental indicators required to protect MNES as conditioned in the Caloundra South EPBC approval | Compliant | The ACR (this report) satisfies this requirement. |
| Table B1.7 | EEP-3 | Provide the environment report to DOE and publish online | Compliant | The ACR (this report) satisfies this requirement. |
| Table B1.7 | EEP-4 | Once the development commences, hold a public forum annually outlining intended activities and mitigation measures for protecting environmental values and community safety and amenity. | Compliant | Stockland and its key consultants presented the findings of the 2016 ACR at a public forum in March 2017. The 2016 ACR was uploaded to Stockland's website and made available to the public on 11 April 2017. Development updates are provided quarterly at the Community Advisory Stewardship Group meetings. |
| Table B1.7 | EEP-5 | Engage key collaborators, funding partners and government agencies to seek input to planning, sustainable design, governance and funding of the Environmental Education Centre | Compliant | Stockland has continued engagement with the Community Stewardship Advisory Group relating to proposed uses for the Environmental Education Centre. Stockland has also worked with students from the University of the Sunshine Coast researching all aspects of the proposed facility including opportunities and constraints, commercial viability and master planning design. Stockland has also engaged an independent sustainability consultant to commence the preparation of a business plan for the centre. |
| Table B1.7 | EEP-6 | Host a public forum and community feedback process to seek input to planning and design of the Environmental Education Centre | Compliant | Stockland conducted a workshop through the Community Stewardship Program relating to proposed suitable uses. A community group survey was also conducted to obtain anonymous |

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| | | | | feedback into proposed uses that is being included within business planning for the centre. |
| Table B1.7 | EEP-7 | Delivery of the programs under the Environmental Education Centre including:<br>(i) living sustainably at Caloundra South<br>(ii) enriching school based education<br>(iii) community development programs<br>(iv) skilling and employment opportunities for school leavers, long term unemployed and persons returning to the workforce<br>(v) higher education learning, teaching and research opportunities | Not applicable | This requirement will be implemented once the Environmental Education Centre is established. |
| Table B1.7 | EEP-8 | Establish a resident education and awareness raising program which can also assist in promoting sustainable lifestyles and community wellbeing. | Compliant | The Aura website includes a range of resources for new residents on the environmental values of the Aura site, and how to live sustainably at Aura. Stockland has prepared a "Welcome Pack" for new residents which is available on Stockland's website. The Aura Welcome Pack includes information about the history of the Aura site, fact sheets on being water, energy and waste smart, the Community Resilience Plan and an emergency checklist.<br>https://www.stockland.com.au/residential/qld/aura/resources<br>A video is also available on the Stockland website providing an overview of the environmental features of the area. The Living Sustainably Program will be further developed once there is a sufficient resident population. |
| Table B1.7 | EEP-9 | In consultation with SEWPaC and relevant research institutions, develop research priorities for MNES with a focus on Wallum Sedge Frog | Compliant | In consultation with Queensland University of Technology, University of Queensland, Healthy Waterways and Australian Wetlands Consulting, Stockland has prepared a research proposal for the Wallum Sedge Frog which was endorsed by DotEE on 30/10/2015. An update on research actions and findings is provided in section 2.5 |
| Table B1.7 | EEP-10 | Seek research proposals from SEQ based universities which includes provision for regular updates of research progress to the local community. | Compliant | Stockland are currently working with the following universities and research organisations:<br>• University of the Sunshine Coast on trialling fire management techniques for rehabilitation. |

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| | | | | • Queensland University of Technology, University of Queensland, Healthy Land and Water and Australian Wetlands on Wallum Sedge Frog research (refer to Appendix A, Table A6 for further information on the Wallum Sedge Frog research proposal)<br>• University of Sunshine Coast research into opportunities for the Environmental Education Centre through student participation |
| Table B1.7 | EEP-11 | Maintain the commitment to Healthy Waterways working with Health Waterways including funding of two additional monitoring sites in Bells Creek for the duration of the project. | Compliant | Stockland has continued to provide funding to Healthy Waterways and Catchments to undertake water quality monitoring at two locations within Bells Creek downstream of the development. |
| Table B1.7 | EEP-12 | Continue involvement in Pumicestone Passage Forum Groups managed by Council assisting with strategies to improve catchment management practices internal to the site and beyond | Compliant | Stockland maintains a membership position within the Pumicestone Passage Forum Group, and has assisted with strategies on community education, Water Sensitive Urban Design and best practice erosion and sediment management. |
| Table B1.7 | EEP-13 | Develop a monitoring and evaluation program for the EEP to monitor actions from this plan against the objectives of the EEP to be reported annually in the Annual Environment Report. | Compliant | Progress on achieving the actions of the Environmental Engagement Plan is reported in this ACR and associated community forum presentation.<br>An on-line survey was conducted in June and July 2016 with members of the Aura Community Stewardship Advisory Group seeking anonymous feedback on the program including key activities, events and priorities for the group. Key insights are being used for the adaptation and development of next stages of the program.<br>Insights included:<br>• unanimous support for the Aura Community Stewardship Program as a valuable forum for community engagement<br>• unanimous satisfaction that quarterly meetings provide an open forum and that SEQ catchments was doing a good job as facilitators<br>• some identified that more time at the quarterly meetings would be beneficial to enable items to be discussed in more detail<br>• most agree that the focus should be on the two events currently being provided, however some people would like to see more |

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| | | | | • most are supportive of the environmental education centre, with particular attention to cultural heritage. |

## Vegetation Management and Rehabilitation Plan

The Vegetation Management and Rehabilitation Plan outlines the overarching rehabilitation and enhancement strategy for the Environmental Protection Zone and riparian zones across the site. The Vegetation Management and Rehabilitation Plan identifies Habitat Management Units (HMUs) across the site and prescribes broad treatments types, within a strategic and site wide context, intended to achieve the overall objectives of the plan. Further detail of the treatment types is provided in precinct level Environment Rehabilitation Plans, which are prepared prior to the commencement of subdivision works in each precinct. This ACR documents how the Vegetation Management and Rehabilitation Plan have been implemented during the reporting period.

*Table A2: Compliance Assessment of the Vegetation Management and Rehabilitation Plan (Revision 7, August 2017)*

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
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| All | VM-1 | Environmental Rehabilitation Plans will be prepared to further detail rehabilitation requirements in each Precinct, and will be developed in accordance with, and to achieve the objectives and performance indicators outlined in the Vegetation Management and Rehabilitation Plan.<br><br>Environmental Rehabilitation Plans will be prepared prior to commencement of subdivision works in each precinct. | Compliant | The requirement to prepare and implement an Environmental Rehabilitation Plan for each Precinct is secured in the State Reconfiguration of a Lot approval. Environmental Rehabilitation Plans are required to be prepared in accordance with, and to achieve the objectives and performance indicators outlined in, the Vegetation Management and Rehabilitation Plan. In accordance with the requirements of the Approved Environmental Protection Plan and Conservation Infrastructure Agreement, implementation of the Precinct 2 Environmental Rehabilitation Plan must commence within 12 months of registration of the first plan of subdivision. It is to reach On Maintenance within 2 years after the registration of the final Plan of Subdivision for the last Precinct identified in the HMU Precinct Stage.<br><br>**Precinct 1**<br>The Precinct 1 Environmental Rehabilitation Plan was approved under Compliance Assessment by the Minister for Economic Development Queensland on 2 June 2015. Civil subdivision works commenced in Precinct 1 on 1 September |

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| | | | | 2015 and the first plan subdivision was registered on 10 November 2015.<br><br>The Vegetation Management and Rehabilitation Plan identified three (3) HMU's in Precinct 1, namely HMU 1, 3 and 5 (as shown in Figure 1 of the plan), and the Precinct 1 Environmental Rehabilitation Plan outlines HMU specific management details for these areas. The Precinct 1 Environmental Rehabilitation Plan provides for the management and monitoring of 6.201ha. Baseline studies undertaken during preparation of the Environmental Rehabilitation Plan found that all HMU's in Precinct 1 have been assessed to be in remnant condition, and therefore the relevant treatment applied is remnant enhancement. Efforts will largely focus on maintaining the remnant condition, primarily through weed management, and monitoring the quality of the acid frog habitat.<br><br>As there is no assisted regeneration or habitat creation activities required in Precinct 1, the On-maintenance period will commence at a time appropriate to the overall rehabilitation program of the 'northern corridor' along Lamerough Creek, and in line with the requirements of the Conservation Infrastructure Agreement entered into between Stockland, Sunshine Coast Council and Queensland State Government. Monitoring and reporting requirements will commence during the On-maintenance period, as per the requirements of the Conservation Infrastructure Agreement.<br><br>**Precinct 2**<br>The Precinct 2 Environmental Rehabilitation Plan was submitted to the Economic Development Queensland on 26th March 2016 and was approved under Compliance Assessment on 27 May 2016. Civil subdivision works commenced in Precinct 2 on 18 May 2016, and the first plan of subdivision was registered on 12 October 2016. In accordance with the requirements of the Approved |

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| | | | | Environmental Protection Plan and Conservation Infrastructure Agreement, implementation of the Precinct 2 Environmental Rehabilitation Plan must commence within 12 months of registration of the first plan of subdivision.<br><br>The Precinct 2 Environmental Rehabilitation Plan outlines management and monitoring requirements for 14 HMU's encompassing 97.4 ha. Environmental rehabilitation treatments to be applied include remnant enhancement, assisted regeneration and reconstruction as well as the creation and augmentation of Wallum Sedge Frog habitat.<br><br>As per the requirements of EPBC 2011/5987 Condition 7, Wallum Sedge Frog ponds were created in the frog zone of Precinct 2 in advance of commencement of construction of the development within this Precinct. At the end of the reporting period, a total of 16.10 ha of Wallum Sedge Frog habitat has been created within the Frog Zone, Frog Buffer and Riparian Zone of Precinct 2. Revegetation and rehabilitation of the first two phases of Precinct 2 conservation lands have been completed and Stockland is progressing with seeking Practical Completion certificates for the works. Once these have been received, the 'On Maintenance' period may commence.<br><br>**Precinct 3 – 5**<br>The Precinct 3-5 Environmental Rehabilitation Plan was approved by Economic Development Queensland on 6 September 2017. Bulk earthworks in Precinct 3-5 commenced in January 2018 and are continuing. The first plan of subdivision in Precinct 3-5 has not yet been registered.<br><br>The precinct 3-5 Environmental Rehabilitation Plan outlines management and monitoring requirements for 13 Habitat Management Units encompassing 50.1ha.<br>Environmental rehabilitation treatments to be applied include remnant enhancement and assisted regeneration as |

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| | | | | well as the creation and augmentation of Wallum Sedge Frog habitat.<br><br>Implementation of the Precinct 3-5 Environmental Rehabilitation Plan will commence within 12 months of registration of the first plan of subdivision. In accordance with the EPBC Act conditions of approval, a total of 12.50 ha of Wallum Sedge Frog habitat has been created in the Frog Zone and Frog Buffer of Precinct 4 and 5 in advance of commencement of construction in these precincts. |

### Precinct 2 and Part Precinct 3/4 CEMP

The Precinct 2 and Part Precinct 3/4 CEMP is a standalone document that details precinct specific actions to manage environmental aspects and risks associated with the construction of Precinct 2 and associated fill material sourced from Precinct 3 and 4. This ACR will report on how the performance criteria, management measures, monitoring, corrective action and reporting requirements of the CEMP have been complied with during the reporting period. Construction under the Precinct 2 and Part Precinct 3/4 CEMP commenced in December 2015.

This ACR reports on compliance with Revision D of the CEMP dated August 2016.

*Table A3: Compliance Assessment of the Precinct 2 and Part Precinct ¾ CEMP (Revision D, August 2016)*

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
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| Erosion and Sediment Control | P2-ESC 1 | The following water quality performance criteria will be achieved prior to the dewatering or surcharging of sediment basins:<br>• pH 6.5 to 8.5, if groundwater is passed through the sediment basins, then the pH of the discharged water can be less than 6.5, providing it is within the range from that reported within the Wallum Sedge Frog Management Plan (2015) – a pH range of between 4 and 5<br>• Dissolved Oxygen (DO) > 80% saturation;<br>• Total Suspended Solids (TSS) less than 50 mg/L, or the equivalent turbidity;<br>• Nutrients (nitrogen and phosphorus) to be managed through normal erosion and sediment control practices;<br>• Capture first 15mm/day of runoff; and<br>• Discharge turbidity offsite to be less than 10% above background values of water quality entering the site via Bells Creek | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria up to and including the design rainfall event. Sediment basin water quality monitoring results are provided in the Construction Contractor's Monthly Environment Report.<br><br>Turbidity at the downstream Bells Creek North site remained within permitted limits of no more than 10% above the upstream site at most times during the reporting period, with the following exceptions:<br>• 19 March (Sensor fouling – not related to construction activities)<br>• 19 May (brief spike related to runoff from gravel road adjacent to downstream sampling point – not related to construction activities)<br>• 14 and 15 June (brief spike related to runoff from gravel road adjacent to downstream sampling point – not related to construction activities) |

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| | | North and South at the Bruce Highway culverts for any events up to and including the design rainfall event. | | Based on these results the sensor was moved upstream of the gravel road to prevent future false readings. The land above the gravel road is also under active rehabilitation to assist stabilisation.<br>• 26 December (brief spike due to rainfall event and upstream sensor did not record the first flush in turbidity).<br>It is noted that none of the above turbidity exceedances at the downstream site within the Bells Creek North catchment have been attributed to construction activities. Result of turbidity monitoring in Bells Creek are reported monthly and compiled within the Annual Water Quality Monitoring Report. |
| | P2-ESC 3 | If during a rain event, the above discharge criteria have been exceeded, and downstream water quality are within the required criteria, then no further corrective action is required. If performance criteria have been exceeded, then corrective actions are to be implemented refer section 5.1.5. | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria for all rain events up to and including the design rainfall event. Sediment basin water quality monitoring results are provided in the Construction Contractor's Monthly Environment Report. |
| | P2-ESC 4 | All testing is to be in accordance with the Water Quality Management Plan approved on the 25 March 2015, or latest approved version. | Compliant | All water quality testing has been undertaken in accordance with the Water Quality Management Plan. |
| | P2-ESC 5 | Design erosion and sediment controls in accordance the Best Practice Erosion and Sediment Control Guidelines (IECA, 2008) with guidance from the Manual for Erosion and Sediment Control Version 1.2 (Sunshine Coast Regional Council 2008). | Compliant | Erosion and Sediment Control Plans have been prepared in accordance with the IECA manual and the Sunshine Coast Regional Council Manual for Erosion and Sediment Control. Erosion and Sediment Control Plans are included in the Construction Contractor's Monthly Environment Report |
| | P2-ESC 6 | Construction areas and conservation areas are clearly identified. | Compliant | As reported in the Superintendent Monthly Progress Reports and Construction Contractor’s Monthly Environment Reports, the clearing area was surveyed and all protected vegetation and conservation areas were demarcated with flagging tape and “no go” signage prior to commencement of |

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| | | | | clearing. There are no known instances of unplanned clearing in conservation areas. |
| | P2-ESC 7 | Minimise areas of disturbance. | Compliant | This requirement is noted in the Construction Contractor's CEMP. Where possible, construction sequencing has been planned to minimise the area of disturbance. |
| | P2-ESC 8 | Progressively stabilise works areas. | Compliant | Stabilisation works and monitoring of groundcover are reported in the Construction Contractors Monthly Environment Reports. Disturbed areas have been stabilised with the required treatment within 5 days of completion of work in an area. |
| | P2-ESC 9 | Temporary erosion and sediment control measures will remain in place until greater than 70% groundcover has been achieved. | Compliant | This requirement is included in Construction Contractor's Erosion and Sediment Control Plans and CEMPs. Groundcover is monitored through the construction contractors weekly Environment Checklist and reported in the Construction Contractor's Monthly Environment Reports. Erosion and sediment controls have continued to remain in place until 70% groundcover has been achieved. |
| | P2-ESC 10 | Divert clean flows around works areas and divert dirty flows for treatment prior to discharge. | Compliant | As per approved ESC plans, clean water flows are diverted away from the works zone via clean water drains and extremities bunds. Within the construction site, dirty water drains direct flows to sediment basins for treatment. All releases from sediment basins have met the nominated water quality criteria prior to discharge up to and including the design rainfall event. |
| | P2-ESC 11 | Stockpiles are located within the area of disturbance, and away from any waterways or drainage channels with appropriate erosion and sediment control measures installed and maintained. Stockpile batter will be maintained at a slope of no greater than 1:1 and the height should be no greater than 2m. | Compliant | Stockpiles observed on site were in accordance with these requirements. |
| | P2-ESC 12 | Sediment fences will be installed to provide further protection and retention of runoff from | Compliant | Sediment fences have been installed in accordance with Erosion and Sediment Control Plans. |

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| | | disturbed areas. These will be strategically placed along contours and will include overflow weirs to prevent both scour and failure of the devices. | | |
| | P2-ESC 13 | High efficiency and traditional sediment basins will be installed on site to capture all runoff from disturbed areas throughout construction.<br><br>Traditional sediment basins will be designed in accordance with the Manual for Erosion and Sediment Control (SCRC 2008), and will have a design rainfall depth of 77mm over a 5 day period.<br><br>High efficiency basins will be designed to treat storm events 0.5 times the peak 1 year ARI discharge.<br><br>All captured runoff shall be treated. | Compliant | High efficiency and traditional sediment basins have been installed as per the Erosion and Sediment Control Plans. All high efficiency and traditional sediment basins have been designed and operated in accordance with the nominated requirements of the Approved Precinct CEMP in effect at the time the activity was undertaken. |
| | P2-ESC 14 | Regular monitoring of all erosion and sediment control measures will be undertaken by the Principal Contractor and Superintendent including:<br>• Daily inspections of all ESC measures;<br>• Daily inspection of the road network for evidence of sediment being deposited external to the site;<br>• Inspection of all ESC control measures after major rain events (greater than 25mm in 24 hours);<br>• Daily measurement of sediment basin turbidity, pH, Electrical Conductivity (EC) and Dissolved Oxygen (DO) within sediment basins; | Compliant | Construction Contractors complete environment checklists to record the effectiveness of erosion and sediment controls on a daily and weekly basis and after major rain events. Monitoring results are recorded in the Construction Contractor's Monthly Environment Report. All water released from sediment basins has met the nominated water quality criteria prior to discharge up to and including the design rainfall event. |

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| | | • Weekly measurements of TSS and nutrients at the primary discharge points;<br>• Rainfall will be recorded at 9am each working day; and<br>• Real time turbidity monitoring at basin outlet.<br>• At the cessation of use of temporary sediment control measures, natural runoff from the stabilised catchment is to be within the discharge limits specified in section 5.1.2 or, will not adversely impact the water quality in the receiving environment as confirmed by the relevant parties. | | |
| | P2-ESC 15 | If the performance Criteria are exceeded, the following corrective actions are required:<br>The Principal Contractor shall inspect all temporary erosion and sedimentation control works prior to, during and after each rain period and during periods of prolonged rainfall. Any defects revealed by such inspections shall be rectified immediately and these works shall be cleaned, repaired and augmented as required, to ensure effective erosion and sedimentation control thereafter.<br>The Principle Contactor shall review the erosion and sediment control strategy, identify opportunities for improvement and develop a strategy for ongoing development of the strategy. | Compliant | Construction Contractors inspect erosion and sediment controls daily, weekly, prior to rainfall and following rainfall of >25mm/24 hrs. Inspection checklists are included in the Construction Contractor's Monthly Environment Report. |
| | P2-ESC 16 | Onsite documentation must be held whereby a record of daily inspection documentation is kept, including but not limited to:<br>• Monthly environmental compliance reports (ECR) to address erosion and sediment | Compliant | All environmental reporting requirements are included in the Construction Contractor's Monthly Environment Report. |

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| | | control measures and events resulting from significant rainfall (see above).<br>• A log of the effectiveness of the erosion and sediment control measures will be maintained. Daily inspections of all erosion and sediment control measures;<br>• Rectification of defect items;<br>• Onsite water quality testing results; and<br>• Real time turbidity monitoring documentation. | | |
| Groundwater | P2-GW 1 | Discharges of surface water from the site (that could be groundwater affected) are managed and released in accordance with surface water quality discharge standards | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria for all rainfall events up to the design rainfall event. |
| | P2-GW 2 | Sediment basins to be dewatered within 3 days | Compliant | Groundwater in sediment basins has been used for dust suppression or treated to meet the nominated water quality criteria. Where practicable sediment basins were dewatered within 3 days of cessation of the rain event. |
| | P2-GW 3 | Acidity and/or dissolved metals are not to be conveyed off of the site through groundwater as a result of the development above what is considered to be natural variability | Compliant | Groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan. Groundwater results have not indicated that construction related impacts on groundwater have occurred. |
| | P2-GW 4 | Spills or other contaminant releases that could affect groundwater quality are avoided or otherwise treated immediately. | Compliant | The Construction Contractor's CEMP outlines spill response procedures and provides control measures, monitoring and reporting requirements for the use of hazardous chemical on site. Large spills (greater than 20L) are reported through the incident report form and included in the Construction Contractors Monthly Environment Report. During the reporting period, there were no large spills recoded. |
| | P2-GW 4 | No drainage of retained or created Wallum Sedge Frog breeding habitat | Compliant | There has been no drainage of any created or retained Wallum Sedge Frog breeding habitat. Monitoring of retained Wallum Sedge Frog habitat in Precinct 2 shows a variable water depth and |

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| | | | | hydroperiod indicative of Wallum Sedge Frog habitat as defined in the Draft referral guidelines for the vulnerable Wallum Sedge Frog *Litoria olongburensis* (2011, SEWPAC). |
| | P2-GW 5 | To minimise potential negative impacts to groundwater quality, the following management structure will apply in order of preference:<br>• Avoid<br>• Reduce<br>• Re-use<br>• Treat<br>• Dispose | Compliant | Where possible, groundwater has been avoided by keeping excavations above the groundwater table. All groundwater encountered during construction works was managed in accordance with the groundwater management hierarchy and was re-used onsite for dust suppression or treated to meet the nominated water quality criteria and discharge from site. |
| | P2-GW 6 | All bores within catchments with active construction works will be sampled on a biannual basis, up to and for 12 months after active development works are completed in respective catchments. | Compliant | Biannual groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan and results are reported on an annual basis. |
| | P2-GW 7 | All Sentinel and Control bores within catchments where there are active construction activities occurring will be sampled on a monthly basis. | Compliant | Monthly groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan and results are reported monthly and compiled within the Annual Water Quality Monitoring Report. |
| | P2-GW 8 | Construction bores within catchments where construction activities are occurring and which are in close proximity (i.e. within 500m) to areas of active development works will be sampled on a monthly basis. | Compliant | Monthly groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan and results are reported monthly and compiled within the Annual Water Quality Monitoring Report. |
| | P2-GW 9 | Following the detection of an exceedance of a trigger level, corrective actions to be implemented may include:<br>Review of site construction management practices;<br>Localised filling or excavation works to adjust land elevations; | Compliant | Groundwater results have not indicated that construction related impacts on groundwater have occurred requiring implementation of corrective actions. |

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| | | Changes to proposed re-vegetation and ecological enhancement strategies;<br>Detection and remediation of spills or other contaminant releases (if groundwater quality is detected as being affected); or<br>Review and amendment of acid sulphate soil management practices in the context of unusually low groundwater pH or the presence of dissolved metals at downstream monitoring locations. | | |
| Acid Sulfate Soils | P2-ASS 1 | Management and testing of ASS are to be in accordance with the State Planning Policy Guidance on Acid Sulphate Soils December 2013 or the most recent version. | Compliant | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). Results of ASS testing conducted during construction is included in the Construction Contractor's Monthly Environment Report. There have been no reports of ASS being encountered during construction to date. |
| | P2-ASS 2 | Minimise areas of excavation under RL 5.0 m (AHD) where greater concentrations of acid sulfate soils could be present. | Compliant | The extent of excavation below the 5m AHD contour has been minimised, as evidenced in the Precinct 2/Part Precinct 3/4 and Associated Works CEMP (Calibre Consulting, 2015). Areas of cut will occur from approximately RL 12m to RL 10m in Precinct 2 and RL 18 m to RL 10 m in Precinct 3. Exportation of this material will be used to form filling for Precinct 2. |
| | P2-ASS 3 | During construction, where acid sulfate soils are expected to be encountered, progressive testing of soils to determine if presents of acid sulfates are present in the soils. Testing to be completed by an appropriately qualified geotechnical engineer. Remediation of acid sulfate soils to be determined by a qualified geotechnical engineer and in accordance with the State Planning Policy Guidance on Acid Sulphate Soils December 2013 or the most recent version. | Compliant | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). Results of ASS testing conducted during construction is included in the Construction Contractor's Monthly Environment Report. There have been no reports of ASS being encountered during construction to date. |

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| | P2-ASS 4 | When hot spots of acid sulfate soils are encountered, ensure suitable buffer zones are allowed for between frog habitats and overland flow areas for lime dosing or other treatment measures, including on site storage. In accordance with State Planning Policy Guidance on Acid Sulphate Soils December 2013 or the most recent version. | Not applicable | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). Results of ASS testing conducted during construction are included in the Construction Contractor's Monthly Environment Report. There have been no reports of ASS being encountered during construction to date. |
| | P2-ASS 5 | Corrective actions following the detection of an acid sulphate soils may include:<br>• Isolation and separation of effected stockpile material. Ensuring that protection against overland flows and containment of stockpile runoff is achieved; and<br>• Treatment of fill or trench material to be determined by and appropriately qualified geotechnical engineer. | Not applicable | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). The Construction Contractor's CEMPs includes the requirement for ASS to be monitored daily and in conjunction with any excavation works. There have been no reports of ASS being encountered during construction to date. |
| | P2-ASS 6 | Regular reports will be provided to the relevant authority and community as required by the Development Approval. These reports will outline:<br>• Completion of an ASS management plan to be produced in compliance with the approved PER EMP; and<br>• Documentation of onsite testing and any corrective actions that have been required as a result of the monitoring. | Not applicable | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). The Construction Contractor's CEMPs includes the requirement for ASS to be monitored daily and in conjunction with any excavation works. There have been no reports of ASS being encountered during construction to date. |
| Wallum Sedge Frog | P2-WSF 1 | Avoid impacts of construction (both direct and indirect) on retained Wallum Sedge Frog habitat located in Precincts 2, 3 and 4 (if utilised for borrow material). | Compliant | As shown in Figure B1 of the Precinct 2/Part Precinct 3/4 and Associated Works CEMP (Calibre, 2015), polygon 44, 45 and 49 have been partially retained. Refer to Appendix C for areas of habitat retained, removed and created. Monitoring of retained habitat has been conducted in accordance with the WSFMP and the findings are reported in Table A7. |

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| | P2-WSF 2 | Provision of a buffer between retained frog habitat within the EPZ and the development, to provide suitable separation (in Precinct 2). | Compliant | As shown in Figure B1 of the Precinct 2/Part Precinct 3/4 and Associated Works CEMP (Calibre, 2015), the 'northern corridor' is being established along Lamerough Creek and incorporates created and retained wallum sedge frog breeding, foraging and movement habitat. |
| | P2-WSF 3 | No direct construction related stormwater runoff if permitted to enter created or retained frog ponds | Compliant | Construction related stormwater is managed in accordance with the approved ESC plans which have been designed to direct stormwater away from created and retained wallum sedge frog ponds.<br>Prior to commencement of works, a senior ecologist reviews the ESC plans and conducts a site inspection to check the suitability of the proposed design with respect to the location of Wallum Sedge Frog habitat, to ensure that impacts are avoided or minimised and the required set back or physical separation is achieved. There have been no reported instances of construction related stormwater entering created or retained Wallum Sedge Frog breeding habitat. Construction related runoff events where assessed for two stormwater events in 2017, and results from both surveys indicated no construction water entering Wallum Sedge Frog breeding habitat in Precinct 2. |
| | P2-WSF 4 | Indirect discharge of construction related stormwater runoff is able to enter retained or created habitat (foraging habitat – not ponds) provided that prescribed water quality parameters (pH range 4-5, salinity range 8-77µS/cm, refer to section 4.3 of the WSFMP) are met, | Compliant | Construction related stormwater is managed in accordance with the approved ESC plans.<br>Stormwater runoff is directed away from created or retained habitat.<br>Monitoring of water quality in retained and created habitat has been conducted in accordance with the WSFMP. Construction related runoff events where assessed for two stormwater events in 2017, which both indicated no construction water entering Wallum Sedge Frog breeding habitat in Precinct 2. |

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| | P2-WSF 5 | Ensure that stormwater conveyance is not directed into retained Wallum Sedge Frog breeding habitat. | Compliant | Construction related stormwater is managed in accordance with the approved ESC plans. Stormwater runoff is directed away from created and retained Wallum Sedge Frog ponds. Permanent drainage has been designed to ensure that the development is separated from Wallum Sedge Frog breeding habitat via a 50m setback or physical separation using bunds and/or swales. Prior to commencement of works, a senior ecologist reviews the ESC plans/ permanent drainage design and conducts a site inspection to check the suitability of the proposed design, with respect to the location of wallum sedge fog habitat, to ensure that impacts are minimised or avoided and the required set back or physical separation is achieved. There have been no reported instances of stormwater entering created or retained frog breeding habitat. Construction related runoff events where assessed for two stormwater events in 2017, and results from both surveys indicated no construction water entering Wallum Sedge Frog breeding habitat in Precinct 2. |
| | P2-WSF 6 | Provision of a Wallum Sedge Frog movement corridor along the southern Lamerough Creek, incorporating recreation of Wallum Sedge Frog breeding, foraging and movement habitat. | Compliant | As shown in Figure B1 of the Precinct 2/Part Precinct 3/4 and Associated Works CEMP (Calibre, 2016), the 'northern corridor' will be established along Lamerough Creek and will incorporate recreation of Wallum Sedge Frog breeding, foraging and movement habitat. |
| | P2-WSF 7 | Either full or partial retention of existing Wallum Sedge Frog habitat (polygon 44, 45 and 49 Figure B.2) located within the EPZ; | Compliant | As shown in Figure B2 of the Precinct 2/Part Precinct 3/4 and Associated Works CEMP (Calibre, 2016), polygon 49 will be fully retained and polygons 44 and 45 will be partially retained. |
| | P2-WSF 8 | Provision of a buffer between recreated and retained Wallum Sedge Frog breeding habitats (within polygons 44, 45 and 49), earthworks and other development-related threats, located within the stormwater conveyance | Compliant | Construction ESC plans and the permanent drainage design have been developed to avoid impacts to Wallum Sedge Frog breeding habitat from stormwater by adopting a 50m setback or physical separation using bunds and/or swales. |

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| | | zone for up to 50m around retained breeding habitat;<br><br>Where this buffer cannot be achieved, then physical separation from development associated stormwater discharge and Wallum Sedge Frog Breeding habitat must be demonstrated. This can be achieved via the creation of swale drains and bunds to ensure no interaction with discharge waters and Wallum Sedge Frog breeding habitat. Additionally, when this buffer cannot be achieved, the pH of waters within the swale drains must be less than 6, preferably within a range between 4-5. | | A senior ecologist reviews the ESC plans and permanent drainage design and conducts a site inspection to check the suitability of the proposed design, with respect to the location of Wallum Sedge Frog habitat, to ensure that impacts are minimised and the required set back or physical separation is achieved. During construction, all water released from sediment basins has met the nominated water quality criteria prior to discharge. Monitoring results are provided in the Construction Contractors Monthly Environment Report.<br><br>Monitoring conducted in accordance with the WSFMP has indicated no impact of construction on retained or re-created Wallum Sedge Frog compensatory habitat.<br><br>Two wet weather assessments were undertaken in March and April 2017 in both retained and created habitats. The results showed that stormwater runoff from construction and developed areas was not entering Wallum Sedge Frog breeding habitat during the assessment periods.<br><br>Water quality monitoring of created and retained Wallum Sedge Frog Habitat was completed in March and April of 2017 and results found that water quality complied with the WSFMP Key Performance Indicators with pH range generally between 3-5. |
| | P2-WSF 9 | The buffer is to be planted with semi-erect semi-aquatic emergent vegetation consistent with species common in existing habitats on site. | Compliant | Rehabilitation works in the Frog Zone and Frog Buffer will be undertaken as per the Precinct 2 Environmental Rehabilitation Plan and landscape design. A senior ecologist reviews the permanent drainage design and landscape design and conducts a site inspection to check the suitability of the design for the Wallum Sedge Frog. |

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| | P2-WSF 10 | All stormwater runoff from the road and adjacent development within the conveyance zone must not be allowed to enter any portion of the retained Wallum Sedge Frog breeding habitat within the EPZ. | Compliant | Permanent drainage has been designed to ensure that the development is separated from Wallum Sedge Frog breeding habitat via a 50m setback or physical separation using bunds and/or swales.<br><br>A senior ecologist reviews the permanent drainage design and conducts a site inspection to check the suitability of the proposed design, with respect to the location of Wallum Sedge Frog habitat, to ensure that impacts are avoided or minimised and the required set back or physical separation is achieved. |
| | P2-WSF 11 | Culverts, open drains and overland flow pathways for all sized ARI events need to be directed around the retained Wallum Sedge Frog breeding habitat (to maintain pH, ensure habitat stability and limit introduction of competitor/predatory species); | Compliant | Flows from culverts, open drains and overland flow pathways from works areas are not directed towards retained Wallum Sedge Frog breeding habitat. Permanent drainage infrastructure has been designed to prevent development runoff up to and including the Q5 storm event, from entering areas of mapped (retained or constructed) frog habitat. For open drainage channels directly adjacent to mapped frog habitat, a 150mm freeboard has been provided above the Q5 flood level. The adopted design criteria are considered to provide a high level of protection to retained Wallum Sedge Frog habitat. |
| l | P2-WSF 12 | Construction and maintenance of silt fencing, bunding and detention basins for containing and treating silt laden run-off, must be directed away from frog habitat to be retained in the EPZ (polygon 9 and 44, Figure B.2); | Compliant | As shown on the Erosion and Sediment Control Plans, silt laden runoff is directed to sediment basins and treated to meet the required water quality objectives before it is pumped to an area away from the retained wallum frog habitat in the Environmental Protection Zone. |
| | P2-WSF 13 | Maintaining natural groundwater hydroperiod and other water chemistry aspects (particularly pH and tannin levels) of retained habitat areas; | Compliant | Monitoring of water quality and depth of retained habitat areas has been conducted in accordance with the requirements of the Wallum Sedge Frog Management Plan (July 2017). For both (April and October) monitoring periods, retained habitat areas associated with Precinct 2 shows a low pH and tannin stained waters and a variable water depth |

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| | | | | and hydroperiod – all indicative of WSF habitat as defined in the Draft referral guidelines for the vulnerable Wallum Sedgefrog, *Litoria olongburensis* (2011, SEWPAC). |
| | P2-WSF14 | Maintaining vegetation communities within retained habitat areas through weed management; | Compliant | Retained habitat areas are maintained in accordance with the Environmental Rehabilitation Plan, which includes weed management requirements. |
| | P2-WSF 15 | Deter inappropriate recreational activities in retained frog habitat through signage, vegetation planting and physical barriers; and | Compliant | The landscape design incorporates several measures to deter inappropriate activities or access. These include:<br>• Dense planting along edges of linear parks to restrict movement into the frog habitat<br>• Dense planting along pathway edges that pass through the frog buffer zones with limited turf areas<br>• Signage in specific locations to educate the public on the importance of the areas and to restrict access to it.<br>• Fencing in specific locations to restrict access. |
| | P2-WSF 16 | Taking practical measures to reduce lighting in proximity to areas of retained Wallum Sedge Frog habitat where possible | Compliant | During construction, light exposure close to retained Wallum Sedge Frog habitat is minimal. There is no construction works on site after 6pm and site compounds are not located close to retained habitat.<br><br>During the reporting period, no lighting has been installed in close proximity to Wallum Sedge Frog habitat in public open space areas. Lighting design for nearby public areas uses LED lights that ensure light spill and light pollution is minimised.<br><br>Street lighting has been installed to meet required standards. LED streetlights have been used throughout the community, reducing light spill to areas outside of the road corridor. |

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| | P2-WSF 17 | Until the off-maintenance period, monitoring will be undertaken in accordance with the Wallum Sedge Frog Management Plan. | Compliant | On-maintenance monitoring of existing and created Wallum Sedge Frog habitat has been undertaken in accordance with the requirements of the Wallum Sedge Frog Management Plan. Refer to Table A9, Item WSF-26 for monitoring results. |
| | P2-WSF 18 | If clearing occurs outside the delineated, approved areas, cease all work in the area affected and advise the Superintendent (and regulatory agencies if protected communities/ species).<br>Instigate rehabilitation efforts immediately at any area accidentally cleared in accordance with directions from the Superintendent.<br>Specific corrective actions associated with the retained Wallum Sedge Frog habitat in Precinct 1 are to be implemented in accordance the requirements of the Wallum Sedge Frog Management Plan. | Compliant | As reported in the Superintendent's Monthly Progress Reports and Construction Contractor's Monthly Environment Reports, the clearing area was surveyed and all protected vegetation and conservation areas were demarcated with flagging tape and "no go" signage prior to commencement of clearing. There are no known instances of unplanned clearing in conservation areas. |
| | P2-WSF 19 | Six monthly reporting will be undertaken of all monitoring activities for Wallum Sedge Frog. | Compliant | Six Monthly reporting has been undertaken as set out in the Wallum Sedge Frog Management Plan. Refer to Table A9, Item WSF-26 for a summary of monitoring undertaken and key findings. |
| Vegetation Management | P2-VM 1 | Within Precinct 2, the area of EPZ to be conserved and rehabilitated must not be adversely affected by the works as identified on construction plans, marked and protected through the use of barrier fencing protection. | Compliant | As reported in the Superintendent's Monthly Progress Reports and Construction Contractor's Monthly Environment Reports, all protected vegetation and conservation areas (including the Environmental Protection Zone) are demarcated with flagging tape and "no go" signage. There are no known instances of clearing outside the delineated approved areas. |
| | P2-VM 2 | Activities such as storage of materials, parking, liquid disposal, refuelling activities, construction site office or shed, combustion, stockpiling of soil, any filling or excavation activity (unless approved by the Construction Superintendent or Proponent) and use of | Compliant | As reported in the Superintendent's Monthly Progress Reports and Construction Contractor's Monthly Environment Reports, all protected vegetation and conservation areas (including the Environmental Protection Zone) are demarcated with flagging tape and "no go" signage. No |

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| | | unauthorised chemicals will be prohibited within the EPZ. | | prohibited activities have occurred within the Environmental Protection Zone. |
| | P2-VM 3 | Retained trees shall not have their crown removed. The contractor is to take all reasonable care to ensure that no branches and trunks are damaged during the construction. | Compliant | There have been no instances recorded of vegetation removal contrary to these requirements. |
| | P2-VM 4 | All staff involved in construction are made aware of the defined significant and protected vegetation areas including all personnel engaged in preconstruction works. | Compliant | All persons working on site are required to attend the Construction Contractor's Project Induction, which includes information on the location and importance of conservation areas on site. The Construction Contractor's Monthly Environment Report notes that regular toolbox meetings are also held on environment matters, including the extent and significance of protected vegetation areas on site. |
| | P2-VM 5 | All tree roots that are damaged during excavations and related activities are to be saw cut to a clean surface and are to be treated with a fungicidal solution prior to backfilling or within 24 hours of the damage to the root occurring. | Compliant | The Construction Contractor's CEMP adopts this requirement and there are no instances reported that are contrary to these requirements. |
| | P2-VM 6 | All construction traffic will be confined to designated access roadways to prevent soil compaction. No heavy machinery is to be driven under canopies of significant vegetation nominated for retention. | Compliant | The Construction Contractor's CEMP adopts the specified haul road locations, and this has been implemented on site. |
| | P2-VM 7 | Livestock and the general public will be excluded from HMUs undergoing ecological enhancement, unless temporary crash grazing is being used to control exotic pasture grasses. | Compliant | Fencing has been installed to exclude public access and cattle from entering the construction area. |
| | P2-VM 8 | Rehabilitation within HMU's in the EPZ in Precinct 2 will be implemented in accordance with an Environmental Rehabilitation Plan. | Compliant | The Precinct 2 Environmental Rehabilitation Plan was approved under Compliance Assessment by the Minister for Economic Development Queensland on 27 May 2016. Implementation of the Precinct 2 Environmental Rehabilitation Plan has commenced. |

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| | | | | At the end of the reporting period, a total of 16.10 ha of Wallum Sedge Frog habitat has been created within the Frog Zone, Frog Buffer and Riparian Zone of Precinct 2. Revegetation and rehabilitation of the first two stages of Precinct 2 conservation lands have been completed and Stockland is progressing with seeking Practical Completion certificates for the works. Once these have been received, the 'On Maintenance' period may commence. |
| | P2-VM 9 | Visual and photographic monitoring will be conducted to evaluate the effectiveness of the enhancement strategies within HMU's in the EPZ. | Not Applicable | Monitoring will be undertaken during the three year On-maintenance period as per the requirements of the Precinct 2 Environmental Rehabilitation Plan. During the reporting period, no areas of conservation land are On-maintenance. |
| | P2-VM 10 | Implement corrective actions if vegetation clearing occurs outside the delineated, approved areas:<br>Cease all work in the area affected and advise Superintendent (and regulatory agencies if protected vegetation).<br>Instigate rehabilitation efforts immediately at any area accidentally cleared in accordance with directions from the Superintendent.<br>In relation to the success of rehabilitation works, an adaptive management approach will be taken and outlined in the Precinct 1 Environmental Rehabilitation Plan.<br>Whilst not expected on the basis of previous surveys (as discussed in Table 3-1), if any Listed Threatened MNES vegetation species are identified during construction, the contractor will adopt the following corrective actions:<br>Confirm the identity of the species found with the assistance of a qualified ecologist; and<br>If confirmed as a Listed Threatened Species, undertake transplanting of the plant(s) into an | Not applicable | There are no known instances of clearing outside the delineated approved areas, therefore corrective actions have not been triggered. |

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| | | appropriate location in the Environmental Protection Zone where it will be protected. | | |
| | P2-VM 11 | Any vegetation compliance issues must be incorporated into the regular environmental reporting required by the contractor to the Superintendent.<br>A report will be produced annually for the duration of the ecological enhancement program (which may extend beyond the construction program for the rest of the development in Precinct 1). | Compliant | This requirement is noted in the Construction Contractor's CEMP. There have been no instances recorded of vegetation removal contrary to these requirements.<br><br>Monitoring and reporting requirements for the ecological enhancement program are outlined in the Wallum Sedge Frog Management Plan and Precinct Environmental Rehabilitation Plans. Reporting requirements under these plans have been implemented. |
| Pest Management | P2-P 1 | Permanent and semi-permanent structures established during construction should be designed to minimise harbourage and roosting opportunities for pest species including mosquitos and biting midges. | Compliant | The Construction Contractor's site compound contains commercial grade buildings and storage areas. There has been no evidence of pest species using these facilities for harbourage or roosting. |
| | P2-P 2 | Identification of measures using a combination of fencing, natural vegetative barriers and signage will be implemented to deter the bringing in or movement of domestic animals into the EPZ and other conservation areas. | Compliant | A number of measures have been undertaken as part of the landscape design to deter inappropriate activities or access to the Environmental Protection Zone. These include:<br>• dense planting with native and endemic species at the verge of the Environmental Protection Zone and the adjacent development to restrict access<br>• signage in specific locations to educate the public on the importance of the conservation areas and to restrict access<br>• a fact sheet for residents relating to responsible pet ownership has also been prepared and is in the process of being published in association with updates to the residents Welcome Pack. |
| | P2-P 3 | The construction crew and visitors to site will not be permitted to bring domestic animals to | Compliant | This commitment has been included in the Construction Contractor's CEMP. The Construction Contractors Monthly Environment Reports confirms |

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| | | the construction works site or in conservation areas of the project site. | | that there have been no incidents of domestic animals brought to site. |
| | P2-P 4 | Putrescible waste are managed and transported off the site for disposal. | Compliant | This commitment has been included in the Construction Contractor's CEMP. Putrescible wastes are contained and disposed of in a lawful manner. The Construction Contractor maintains appropriate waste records. |
| | P2-P 5 | Regular checking of the performance criteria will be undertaken by the contractor and the Superintendent. | Compliant | The Construction Contractor assesses achievement of the Pest Management Performance Criteria monthly and reports this to the Superintendent in the Monthly Environment Report. |
| | P1-P 6 | Regular checking is required to identify if fish predators (in particular mosquito fish *Gambusia holbrooki*) are located within retained Wallum Sedge Frog breeding habitat. | Compliant | Monitoring of fish predators is conducted as part of presence/absence surveys for Wallum Sedge Frog, as set out in the Wallum Sedge Frog Management Plan. |
| | P2-P 7 | Corrective action is to be undertaken where non-compliance of the performance criteria is observed. | Not applicable | There are no known instances of clearing outside the delineated approved areas; therefore no corrective action rehabilitation works have been triggered. Refer to the Wallum Sedge Frog Management Plan, Table A6, Item WSF-27, for specific corrective actions associated with Wallum Sedge Frog habitat. |
| | P2-P 8 | Any pest control measures implemented must be incorporated into the regular weekly/monthly environmental report required by the contractor to the Superintendent. | Compliant | The Construction Contractor records details of pest control measures undertaken as part of the Monthly Environment Report. |
| Weed Management | P2-W 1 | Implement the following weed management measures:<br>• Treatment of existing weeds within the construction site.<br>• Limiting machinery access near retained vegetation, Wallum Sedge Frog retained habitat and the EPZ.<br>• Wash-down facilities are provided on site. | Compliant | The following weed management measures have been implemented:<br>• The Construction Contractor undertakes regular inspections and removal of weeds from within the construction site.<br>• Machinery is not permitted to enter conservation areas, unless instructed by the Superintendent and in accordance with the EPBC Conditions of Approval. |

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| | | • Certification of the origin of construction material is required to manage the importation of weed species onto site.<br>• Mechanical removal (by hand or machine) will be required for the removal of larger plants such as pine and lantana. In the area of Wallum Sedge Frog habitat within the EPZ (polygon 80, see Section 4), chemical spot spraying will be unsuitable, and mechanical or hand removal of pasture grasses will be required. | | • All fill material has been sourced from within the site. |
| | P2-W 2 | Edge planting is to be undertaken to prevent weed species from penetrating high conservation areas which in Precinct 2 is the EPZ and retained Wallum Sedge Frog habitat contained within. These areas of edge planting are to be at least 5 metres in width. | Compliant | Edge plantings to the EPZ and Wallum Sedge Frog habitat are greater than 5m in width and are contained in both the linear parklands and the EPZ itself.<br>Species selected for edge planting are consistent with existing species present and/or the designated Regional Ecosystem as per the Precinct 2 Environmental Rehabilitation Plan. |
| | P2-W 3 | Green waste handling, stockpiling and disposal procedures will be developed and implemented on the site. | Compliant | No Green Waste has been generated. All topsoil and mulched material has been re-used onsite. |
| | P2-W 4 | Plant material will be removed from site in a manner which reduces disturbance and is to be disposed of at an approved green waste disposal facility or mulched on-site for landscaping purposes. | Compliant | No Green Waste has been generated. All topsoil and mulched material has been re-used onsite. |
| | P2-W 5 | Machinery used for earth-moving and vegetation-clearing will be cleaned and inspected prior to the commencement of work to identify any attached material that needs to be removed to avoid the spread of weeds. | Compliant | The Construction Contractor requires a Vehicle Inspection Checklist Form to be provided for all machinery that enters the site. |
| | P2-W 6 | Retained and buffer Wallum Sedge Frog habitat is 100% free of *Baccharis halimifolia* and *Pinus elliottii* and all Class 1 and 2 declared plants of Queensland. | Compliant | Weed management is undertaken in accordance with the Environmental Management and Rehabilitation Plan and Approved Environmental Rehabilitation Plan |

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| | P2-W 7 | During rehabilitation within each HMU in the EPZ, measures will be required in place to prevent the spread of weed seeds and diseases such as Phytophthora, Myrtle Rust and Chytrid fungus. | Compliant | The Precinct 2 Environmental Rehabilitation Plan was approved under Compliance Assessment by the Minister for Economic Development Queensland on 27 May 2016. All rehabilitation works will be carried out in accordance with the Environmental Rehabilitation Plan which is reflected in the contractor's construction and maintenance specifications. |
| | P2-W 8 | Any requirements for fire management within HMU's 1, 3 and 5 will be outlined in detail in the Environmental Rehabilitation Plan for this area. | Compliant | The Approved Precinct 2 Environmental Rehabilitation Plan outlines fire management regimes for vegetation communities across the site. This requirement is to be discussed and agreed with council. |
| | P2-W 9 | Regular monitoring of weeds at all disturbed areas and adjacent vehicle access points will be undertaken by the contractor, reporting to the Superintendent. | Compliant | Regular weed monitoring and removal is undertaken throughout the construction area and is reported in the Construction Contractor's Monthly Environmental Report. |
| | P2-W 10 | Corrective action is to be undertaken where non-compliance of the performance criteria is observed. | Compliant | As reported in the Construction Contractor's Monthly Environment Report, weed management performance criteria have been achieved throughout the reporting period. |
| | P2-W 11 | Any weed control measures implemented and non-compliance must be incorporated into the regular environmental reporting required by the contractor to the Superintendent. | Compliant | Weed management measures and compliance with the performance criteria are reported in the Construction Contractor's Monthly Environment Report. |
| Auditing, Reporting and Revisions | P2-A 1 | Biannual systems audit of CEMP and OEMP to review environmental issues onsite and the effectiveness of these systems in managing these. The audit will consist of a document review or desktop audit conducted in conjunction with a technical or operational audit. | Compliant | An audit of onsite environmental management practices, including implementation of the CEMP and audit of environmental management documentation, was carried out by the Construction Contractor in May and November 2017 and found no non-conformances. |
| | P2-A 2 | Annual external independent audit- Systems audit of CEMP and OEMP to assess the current compliance status of the site against | Compliant | An audit of the CEMP has been undertaken by SMEC and the findings documented in this table of the ACR. |

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| | | Environmental Authority requirements and other pertinent legislation. | | |
| | P2-A 3 | Audits will to be entered into an audit schedule. The minimum content of the schedule is to be;<br>• Type of audit i.e.: Sediment Control Audit.<br>• Date of audit, start and completion times.<br>• The personnel involved in the audit.<br>• Audit Scope – predetermined prior to audit date.<br>• Audit findings.<br>• Audit Recommendations.<br>• Corrective and Preventative Action.<br>• Audit Review. | Compliant | An audit of the CEMP has been undertaken by SMEC and the findings documented in this ACR. The Construction Contractor is scheduled to complete the next audit of the CEMP in May 2018. The audit schedule is recorded in the Construction Contractor's Monthly Environment Report. |
| | P2-A 4 | This CEMP will be reviewed on an annual basis, or as the need for review is identified.<br>The review will be scheduled by the Proponent, and be inclusive of the Principal Contractor, Construction Superintendent and other interested parties and stakeholders.<br>All personnel involved with the Environmental Management of the Project are required to attend the review.<br>The Proponent will assess the results of this review and make amendments to this CEMP as required. | Compliant | The CEMP has been reviewed as part of preparation of this ACR. |

### Precinct 3, 4, 5 and Part Precinct 6 CEMP

The Precinct 3, 4, 5 and Part Precinct 6 CEMP is a standalone document that details precinct specific actions to manage environmental aspects and risks associated with the construction of Precinct 3, 4, 5 and associated fill material sourced from Precinct 6. This ACR will report on how the performance criteria, management measures, monitoring, corrective action and reporting requirements of the CEMP have been complied with during the reporting period. Construction under the Precinct 3, 4, 5 and Part Precinct 6 CEMP commenced in January 2018.

This ACR reports on compliance with Revision A of the CEMP dated April 2017.

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
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| Erosion and Sediment Control | P3-5-ESC 1 | The following water quality performance criteria will be achieved prior to the dewatering or surcharging of sediment basins:<br>• pH 6.5 to 8.5, if groundwater is passed through the sediment basins, then the pH of the discharged water can be less than 6.5, providing it is within the range from that reported within the Wallum Sedge Frog Management Plan (2015) – a pH range of between 4 and 5<br>• Dissolved Oxygen (DO) > 80% saturation;<br>• Total Suspended Solids (TSS) less than 50 mg/L, or the equivalent turbidity;<br>• Nutrients (nitrogen and phosphorus) to be managed through normal erosion and sediment control practices;<br>• Capture first 15mm/day of runoff; and<br>• Discharge turbidity offsite to be less than 10% above background values of water quality entering the site via Bells Creek North and South at the Bruce Highway | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria up to and including the design rainfall event. Sediment basin water quality monitoring results are provided in the Construction Contractor's Monthly Environment Report.<br><br>Turbidity at the downstream Bells Creek North site remained within permitted limits of no more than 10% above the upstream site at most times during the reporting period, with the following exceptions:<br>• 19 March (Sensor fouling – not related to construction activities)<br>• 19 May (brief spike related to runoff from gravel road adjacent to downstream sampling point – not related to construction activities)<br>• 14 and 15 June (brief spike related to runoff from gravel road adjacent to downstream sampling point – not related to construction activities) |

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| | | culverts for any events up to and including the design rainfall event. | | Based on these results the sensor was moved upstream of the gravel road to prevent future false readings. The land above the gravel road is also under active rehabilitation to assist stabilisation.<br>• 26 December (brief spike due to rainfall event and upstream sensor did not record the first flush in turbidity).<br>It is noted that none of the above turbidity exceedances at the downstream site within the Bells Creek North catchment have been attributed to construction activities. Result of turbidity monitoring in Bells Creek are reported monthly and compiled within the Annual Water Quality Monitoring Report. |
| | P3,4,5-ESC 2 | If during a rain event, the above discharge criteria have been exceeded, and downstream water quality are within the required criteria, then no further corrective action is required. If performance criteria have been exceeded, then corrective actions are to be implemented refer section 5.1.5. | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria. Sediment basin water quality monitoring results are provided in the Construction Contractor's Monthly Environment Report. |
| | P3-5-ESC 3 | All testing is to be in accordance with the Water Quality Management Plan approved on January 2016, or latest approved version. | Compliant | All water quality testing has been undertaken in accordance with the Water Quality Management Plan. |
| | P3-5-ESC 4 | Design erosion and sediment controls in accordance the Best Practice Erosion and Sediment Control Guidelines (IECA, 2008) with guidance from the Manual for Erosion and Sediment Control Version 1.2 (Sunshine Coast Regional Council 2008). | Compliant | Erosion and Sediment Control Plans have been prepared in accordance with the IECA manual and the Sunshine Coast Regional Council Manual for Erosion and Sediment Control. |
| | P3-5-ESC 6 | Construction areas and conservation areas are clearly identified. | Compliant | As reported in the Superintendent Monthly Progress Reports and Construction Contractor's Monthly Environment Reports, the clearing area was surveyed and all protected areas were demarcated with flagging tape and "no go" signage prior to commencement of works. There are no known |

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| | | | | instances of unplanned clearing in conservation areas. |
| | P3-5-ESC 7 | Minimise areas of disturbance. | Compliant | This requirement is noted in the Construction Contractor's CEMPs. Where possible, construction sequencing has been planned to minimise the area of disturbance. |
| | P3-5-ESC 8 | Progressively stabilise works areas. | Compliant | Stabilisation works and monitoring of groundcover are reported in the Construction Contractors Monthly Environment Reports. Disturbed areas have been stabilised with the required treatment within 5 days of completion of work in an area. |
| | P3,4,5-ESC 9 | Temporary erosion and sediment control measures will remain in place until greater than 70% groundcover has been achieved. | Compliant | This requirement is included in Construction Contractor's Erosion and Sediment Control Plans and CEMPs. Bulk earthworks are continuing and therefore erosion and sediment controls remain in place as per the ESC plan. |
| | P3-5-ESC 10 | Divert clean flows around works areas and divert dirty flows for treatment prior to discharge. | Compliant | As per approved ESC plans, clean water flows are diverted away from the works zone via clean water drains and extremities bunds. Within the construction site, dirty water drains direct flows to sediment basins for treatment. All releases from sediment basins have met the nominated water quality criteria prior to discharge for all rainfall events up to and including the design rainfall event. |
| | P3-5-ESC 11 | Stockpiles are located within the area of disturbance, and away from any waterways or drainage channels with appropriate erosion and sediment control measures installed and maintained. Stockpile batter will be maintained at a slope of no greater than 1:1 and the height should be no greater than 2m. | Compliant | This requirement is noted in the Construction Contractor's CEMPs. Stockpiles observed on site were in accordance with these requirements. |
| | P3-5-ESC 12 | Sediment fences will be installed to provide further protection and retention of runoff from disturbed areas. These will be strategically placed along contours and will include | Compliant | Sediment fences have been installed in accordance with Erosion and Sediment Control Plans. |

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| | | overflow weirs to prevent both scour and failure of the devices. | | |
| | P3-5-ESC 13 | High efficiency and traditional sediment basins will be installed on site to capture all runoff from disturbed areas throughout construction.<br><br>Traditional sediment basins will be designed in accordance with the Manual for Erosion and Sediment Control (SCRC 2008), and will have a design rainfall depth of 77mm over a 5 day period.<br><br>High efficiency basins will be designed to treat storm events 0.5 times the peak 1 year ARI discharge.<br><br>All captured runoff shall be treated (flocculated) and discharged within 5 days of the cessation of the rain event. | Compliant | High efficiency and traditional sediment basins have been installed as per the Erosion and Sediment Control Plans.<br>All high efficiency and traditional sediment basins have been designed and operated in accordance with the nominated requirements of the Approved CEMP in effect at the time the activity was undertaken. |
| | P3-5-ESC 14 | Regular monitoring of all erosion and sediment control measures will be undertaken by the Principal Contractor and Superintendent including:<br>• Daily inspections of all ESC measures;<br>• Daily inspection of the road network for evidence of sediment being deposited external to the site;<br>• Inspection of all ESC control measures after major rain events (greater than 25mm in 24 hours);<br>• Daily measurement of sediment basin turbidity, pH, Electrical Conductivity (EC) and Dissolved Oxygen (DO) within sediment basins; | Compliant | Construction Contractors complete environment checklists to record the effectiveness of erosion and sediment controls on a daily and weekly basis and after major rain events. Monitoring results are recorded in the Construction Contractor's Monthly Environment Report. All water released from sediment basins has met the nominated water quality criteria prior to discharge. |

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| | | • Weekly measurements of TSS and nutrients at the primary discharge points;<br>• Rainfall will be recorded at 9am each working day; and<br>• Real time turbidity monitoring at basin outlet.<br>• At the cessation of use of temporary sediment control measures, natural runoff from the stabilised catchment is to be within the discharge limits specified in section 5.1.2 or, will not adversely impact the water quality in the receiving environment as confirmed by the relevant parties. | | |
| | P3-5-ESC 15 | If the performance Criteria are exceeded, the following corrective actions are required:<br>• The Principal Contractor shall inspect all temporary erosion and sedimentation control works prior to, during and after each rain period and during periods of prolonged rainfall. Any defects revealed by such inspections shall be rectified immediately and these works shall be cleaned, repaired and augmented as required, to ensure effective erosion and sedimentation control thereafter.<br>• The Principle Contactor shall review the erosion and sediment control strategy, identify opportunities for improvement and develop a strategy for ongoing development of the strategy. | Compliant | Construction Contractors inspect erosion and sediment controls daily, weekly, prior to rainfall and following rainfall of >25mm/24 hrs. Inspection checklists are included in the Construction Contractor's Monthly Environment Report. |
| | P3-5-ESC 16 | Onsite documentation must be held whereby a record of daily inspection documentation is kept, including but not limited to: | Compliant | All environmental reporting requirements are included in the Construction Contractor's Monthly Environment Report. |

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| | | • Monthly environmental compliance reports (ECR) to address erosion and sediment control measures and events resulting from significant rainfall (see above).<br>• A log of the effectiveness of the erosion and sediment control measures will be maintained.<br>• Daily inspections of all erosion and sediment control measures;<br>• Rectification of defect items;<br>• Onsite water quality testing results; and<br>• Real time turbidity monitoring documentation. | | |
| Groundwater | P3-5- -GW 1 | Discharges of surface water from the site (that could be groundwater affected) are managed and released in accordance with surface water quality discharge standards | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria for all rain events up to and including the design rainfall event. |
| | P3-5-GW 2 | Sediment basins to be dewatered within 5 days | Compliant | Groundwater in sediment basins has been used for dust suppression or treated to meet the nominated water quality criteria. Where practicable sediment basins were dewatered within 3 days of cessation of the rain event. |
| | P3-5-GW 3 | Acidity and/or dissolved metals are not to be conveyed off of the site through groundwater as a result of the development above what is considered to be natural variability | Compliant | Groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan. Groundwater results have not indicated that construction related impacts on groundwater have occurred. |
| | P3-5-GW 4 | Spills or other contaminant releases that could affect groundwater quality are avoided or otherwise treated immediately. | Compliant | The Construction Contractor's CEMP outlines spill response procedures and provides control measures, monitoring and reporting requirements for the use of hazardous chemical on site. Large spills (greater than 20L) are reported through the incident report form and included in the Construction Contractors Monthly Environment Report. During the reporting period, there were no large spills recoded. |

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| | P3-5-GW 4 | No drainage of retained or created Wallum Sedge Frog breeding habitat | Compliant | There has been no drainage of any created or retained Wallum Sedge Frog breeding habitat. Monitoring of created Wallum Sedge Frog habitat in Precinct 4/5 shows a variable water depth and hydroperiod indicative of Wallum Sedge Frog habitat as defined in the Draft referral guidelines for the vulnerable Wallum Sedge Frog *Litoria olongburensis* (2011, SEWPAC). Following commencement of construction in Precinct 3-5, monitoring of retained Wallum Sedge Frog habitat in Precinct 4-5 will be carried out in accordance with the WSFMP. |
| | P3-5-GW 5 | To minimise potential negative impacts to groundwater quality, the following management structure will apply in order of preference:<br>• Avoid<br>• Reduce<br>• Re-use<br>• Treat<br>• Dispose | Compliant | Where possible, groundwater has been avoided by keeping excavations above the groundwater table. All groundwater encountered during construction works was managed in accordance with the groundwater management hierarchy and was re-used onsite for dust suppression or treated to meet the nominated water quality criteria and discharge from site. |
| | P3-5-GW 6 | All bores within catchments with active construction works will be sampled on a biannual basis, up to and for 12 months after active development works are completed in respective catchments. | Compliant | Biannual groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan and results are reported on an annual basis. |
| | P3-5-GW 7 | All Sentinel and Control bores within catchments where there are active construction activities occurring will be sampled on a monthly basis. | Compliant | Monthly groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan and results are reported monthly and compiled within the Annual Water Quality Monitoring Report. |
| | P3-5-GW 8 | Construction bores within catchments where construction activities are occurring and which are in close proximity (i.e. within 500m) to areas of active development works will be sampled on a monthly basis. | Compliant | Monthly groundwater monitoring is conducted in accordance with the requirements of the Water Quality Management Plan and results are reported monthly and compiled within the Annual Water Quality Monitoring Report. |

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| | P3-5-GW 9 | Following the detection of an exceedance of a trigger level, corrective actions to be implemented may include:<br>Review of site construction management practices;<br>Localised filling or excavation works to adjust land elevations;<br>Review of current and planned filling and excavation works;<br>Changes to proposed re-vegetation and ecological enhancement strategies;<br>Review of site surface water management devices (WSUD) and stormwater harvesting practices;<br>Detection and remediation of spills or other contaminant releases (if groundwater quality is detected as being affected); or<br>Review and amendment of acid sulphate soil management practices in the context of unusually low groundwater pH or the presence of dissolved metals at downstream monitoring locations. | Compliant | Groundwater results have not indicated that construction related impacts on groundwater have occurred requiring implementation of corrective actions. |
| Acid Sulfate Soils | P3-5-ASS 1 | Minimise areas of excavation under RL 5.0 m (AHD) where greater concentrations of acid sulfate soils could be present. | Compliant | Earthworks drawings show that excavation below 5m AHD has been avoided, except in areas of sewer installation. |
| | P3-5-ASS 2 | During construction, where acid sulfate soils are expected to be encountered, progressive testing of soils to determine if presents of acid sulfates are present in the soils. Testing to be completed by an appropriately qualified geotechnical engineer or environmental scientist/engineer. Remediation of acid sulfate soils to be determined by a qualified geotechnical engineer or environmental scientist/engineer and in accordance with the Guidelines for sampling and Analysis of Lowland Acid Sulfate | Compliant | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). The Construction Contractor's CEMPs includes the requirement for ASS to be monitored daily and in conjunction with any excavation works below 5m AHD. There have been no reports of ASS being encountered during construction to date. |

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| | | Soils in Queensland (C.R. Ahern et. Al. 1998) or the most recent version. | | |
| | P3-5-ASS 3 | Where acid sulfate soils are encountered, ensure suitable buffer zones are allowed for between frog habitats and overland flow areas for lime dosing or other treatment measures, including on site storage. In accordance with the Guidelines for sampling and Analysis of Lowland Acid Sulfate Soils in Queensland (C.R. Ahern et. Al. 1998) or the most recent version. | Compliant | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). The Construction Contractor's CEMPs includes the requirement for ASS to be monitored daily and in conjunction with any excavation works below 5 m AHD. There have been no reports of ASS being encountered during construction to date. |
| | P3-5-ASS 4 | Monitoring requirements for ASS are as follows:<br>• ASS testing will be completed on areas below 5m AHD and other areas expected to contain ASS;<br>• Management and testing of ASS will be undertaken in accordance with the Guidelines for Sampling and Analysis of<br>• Lowland Acid Sulfate Soils in Queensland (C.R. Ahern et. Al. 1998) (or most recent version), or an alternative methodology approved in writing by the Construction Superintendent; and<br>• Daily measurement of water pH within construction sediment ponds. | Compliant | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). The Construction Contractors CEMPs includes the requirement for ASS to be monitored daily and in conjunction with any excavation works below 5 m AHD. The results of ASS testing are provided in the contractors Monthly Environment Report There have been no reports of ASS being encountered during construction to date. |
| | P3-5-ASS 5 | Corrective actions following the detection of an acid sulphate soils may include:<br>• Review of ASS testing procedures;<br>• Isolation and separation of effected stockpile material. Ensuring that protection against overland flows and containment of stockpile runoff is achieved; and | Not applicable | There have been no reports of ASS being encountered during construction to date, therefore corrective actions have not been required. |

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| | | • Treatment of fill or trench material to be determined by and appropriately qualified geotechnical engineer. | | |
| | P3-5-ASS 6 | The following reporting requirements apply:<br>• ASS sampling and results;<br>• Notify the Construction Superintendent of non-compliances as soon as possible in order to comply with reporting obligations of the Proponent, consistent with condition 14 of the EPBC Approval and Section 4.1.4 of this document; and<br>• An Annual Compliance Report (ACR) will be prepared in accordance with condition 14 of the EPBC Approval and will report compliance with this CEMP. | Compliant | ASS sampling undertaken prior to commencement of bulk earthworks indicated a low ASS risk in the areas being worked (Douglas Partners, 2014). The Construction Contractor's CEMPs includes the requirement for ASS to be monitored daily and in conjunction with any excavation works below 5m AHD. There have been no reports of ASS being encountered during construction to date. The results of ASS testing are provided in the contractors Monthly Environment Report |
| Wallum Sedge Frog | P3-5-WSF 1 | Avoid impacts of construction (both direct and indirect) on retained Wallum Sedge Frog habitat located in Precincts 3, 4, 5 and part 6 (if utilised for borrow material). | Compliant | Existing retained habitat is protected within the Frog Zone and Frog Buffer adjacent to Precinct 4 and 5. Construction related stormwater is managed in accordance with the approved ESC plans which have been designed to direct stormwater away from Wallum Sedge Frog breeding habitat. All protected vegetation and conservation areas are demarcated with flagging tape and "no go" signage. No prohibited activities have occurred within conservation areas. |
| | P3-5-WSF 2 | Provision of a buffer between retained frog habitat within the EPZ and the development, to provide suitable separation. | Compliant | As shown in Map 2.2d (1 June 2017) is provided in Appendix B, the 'central corridor' is being established along Bells Creek North and incorporates created and retained wallum sedge frog breeding, foraging and movement habitat. |
| | P3-5-WSF 3 | No direct construction related stormwater runoff is permitted to enter created or retained frog ponds | Compliant | Construction related stormwater is managed in accordance with the approved ESC plans which have been designed to direct stormwater away from created and retained wallum sedge frog ponds. Prior to commencement of works, a senior ecologist reviews the ESC plans and conducts a site inspection |

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| | | | | to check the suitability of the proposed design with respect to the location of Wallum Sedge Frog habitat, to ensure that impacts are avoided or minimised and the required set back or physical separation is achieved.<br>Wet weather assessments of stormwater runoff from construction areas will be carried out in accordance with the WSFMP. |
| | P3-5-WSF 4 | Indirect discharge of construction related stormwater runoff is able to enter retained or created habitat (foraging habitat – not ponds) provided that prescribed water quality parameters (pH range 4-5, salinity range 8-77µS/cm, refer to section 4.3 of the WSFMP) are met. | Compliant | Construction related stormwater is managed in accordance with the approved ESC plans. Stormwater runoff is directed away from created or retained habitat. Wet weather assessments of stormwater runoff from construction areas will be carried out in accordance with the WSFMP. |
| | P3-5-WSF 5 | Ensure that stormwater conveyance is not directed into retained Wallum Sedge Frog breeding habitat. | Compliant | Construction related stormwater is managed in accordance with the approved ESC plans. Stormwater runoff is directed away from created and retained Wallum Sedge Frog ponds. Prior to commencement of works, a senior ecologist has reviewed the ESC plans and conducted a site inspection to check the suitability of the proposed design, with respect to the location of wallum sedge fog habitat, to ensure that impacts are minimised or avoided and the required set back or physical separation is achieved.<br><br>Wet weather assessments of stormwater runoff from construction areas will be carried out in accordance with the WSFMP.<br><br>Permanent drainage design has not been completed, however will be designed to ensure that the development is separated from Wallum Sedge Frog breeding habitat via a 50m setback or physical separation using bunds and/or swales. |

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| | P3-5-WSF 6 | Provision of a Wallum Sedge Frog movement corridor along the northern bank of Bells Creek, incorporating recreation of Wallum Sedge Frog breeding, foraging and movement habitat. | Compliant | As shown in Map 2.2d provided in Appendix B, the 'central corridor' will be established along Bells Creek North and will incorporate recreation of Wallum Sedge Frog breeding, foraging and movement habitat. |
| | P3-5-WSF 7 | Provision of a buffer between recreated and retained Wallum Sedge Frog breeding habitats (within polygon 124), earthworks and other development-related threats, located within the stormwater conveyance zone for up to 50m around retained breeding habitat;<br><br>Where this buffer cannot be achieved, then physical separation from development associated stormwater discharge and Wallum Sedge Frog Breeding habitat must be demonstrated. This can be achieved via the creation of swale drains and bunds to ensure no interaction with discharge waters and Wallum Sedge Frog breeding habitat. Additionally, when this buffer cannot be achieved, the pH of waters within the swale drains must be less than 6, preferably within a range between 4-5. | Compliant | Construction ESC plans have been prepared to ensure that Wallum Sedge Frog breeding habitat is not adversely impacted by stormwater by adopting a 50m setback or physical separation using bunds and/or swales. A senior ecologist has reviewed ESC plans and conducted a site inspection to check the suitability of the proposed design, with respect to the location of Wallum Sedge Frog habitat, to ensure that impacts are minimised and the required set back or physical separation is achieved. During construction, all water released from sediment basins has met the nominated water quality criteria prior to discharge up to and including the design rainfall event. Monitoring results are provided in the Construction Contractors Monthly Environment Report.<br><br>Permanent drainage design has not been completed, however will be designed to ensure that the development is separated from Wallum Sedge Frog breeding habitat via a 50m setback or physical separation using bunds and/or swales. |
| | P3-5-WSF 8 | The buffer is to be planted with semi-erect semi-aquatic emergent vegetation consistent with species common in existing habitats on site. | Not Applicable | Rehabilitation works in the Frog Zone and Frog Buffer will be undertaken as part of implementation of the Precinct 3-5 Environmental Rehabilitation Plan. |
| | P3-5-WSF 9 | All stormwater runoff from the road and adjacent development within the conveyance zone must not be allowed to enter any portion of the retained Wallum Sedge Frog breeding habitat within the EPZ. | Compliant | Permanent drainage design has not been completed, however will be designed to ensure that the development is separated from Wallum Sedge Frog breeding habitat via a 50m setback or physical separation using bunds and/or swales. |

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| | | | | A senior ecologist reviews the permanent drainage design and conduct a site inspection to check the suitability of the proposed design, with respect to the location of Wallum Sedge Frog habitat, to ensure that impacts are avoided or minimised and the required set back or physical separation is achieved. |
| | P3-5-WSF 10 | Culverts, open drains and overland flow pathways for all sized ARI events need to be directed around the retained Wallum Sedge Frog breeding habitat (to maintain pH, ensure habitat stability and limit introduction of competitor/predatory species); | Compliant | Flows from culverts, open drains and overland flow pathways from works areas are not directed towards retained Wallum Sedge Frog breeding habitat. Design of permanent drainage infrastructure has not been completed however the adopted design criteria will prevent development runoff up to and including the Q5 storm event, from entering areas of mapped (retained or constructed) frog habitat. For open drainage channels directly adjacent to mapped frog habitat, a 150mm freeboard will be provided above the Q5 flood level. The adopted design criteria are considered to provide a high level of protection to retained Wallum Sedge Frog habitat. |
| | P3-5-WSF 11 | Maintaining natural groundwater hydroperiod and other water chemistry aspects (particularly pH and tannin levels) of retained habitat areas; | Compliant | Following commencement of construction in January 2018, monitoring of water quality and depth of retained habitat areas in Precinct 4/5 will be conducted in accordance with the requirements of the Wallum Sedge Frog Management Plan (2017). |
| | P3-5-WSF12 | Maintaining vegetation communities within retained habitat areas through weed management; | Compliant | Retained habitat areas are maintained in accordance with the Environmental Rehabilitation Plan, which includes weed management requirements. |
| | P3-5-WSF 13 | Deter inappropriate recreational activities in retained frog habitat through signage, vegetation planting and physical barriers; and | Compliant | The landscape design incorporates a number of measures to deter inappropriate activities or access. These include<br>• Dense planting along edges of linear parks to restrict movement into the frog habitat<br>• Dense planting along pathway edges that pass through the frog buffer zones with limited turf areas |

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| | | | | • Signage in specific locations to educate the public on the importance of the areas and to restrict access to it.<br>• Fencing in specific locations to restrict access. |
| | P3-5-WSF 14 | Taking practical measures to reduce lighting in proximity to areas of retained Wallum Sedge Frog habitat where possible | Compliant | During construction, light exposure near retained Wallum Sedge Frog habitat is minimal. There is no construction works on site after 6pm and site compounds are not located near retained habitat.<br><br>During the reporting period, no lighting has been installed near Wallum Sedge Frog habitat in public open space areas. |
| | P3-5-WSF 15 | Until the off-maintenance period, monitoring will be undertaken in accordance with the Wallum Sedge Frog Management Plan. | Compliant | On-maintenance monitoring of existing and created Wallum Sedge Frog habitat has been undertaken in accordance with the requirements of the Wallum Sedge Frog Management Plan. Refer to Table A9, Item WSF-26 for monitoring results. |
| | P3-5-WSF 16 | If clearing occurs outside the delineated, approved areas, cease all work in the area affected and advise the Superintendent (and regulatory agencies if protected communities/ species).<br>Instigate rehabilitation efforts immediately at any area accidentally cleared in accordance with directions from the Superintendent.<br>Specific corrective actions associated with the retained Wallum Sedge Frog habitat in Precinct 3, 4, 5 and Part Precinct 6 are to be implemented in accordance the requirements of the Wallum Sedge Frog Management Plan. | Compliant | As reported in the Superintendent's Monthly Progress Reports and Construction Contractor's Monthly Environment Reports, the clearing area was surveyed and protected areas were demarcated with flagging tape and "no go" signage prior to commencement of works. There are no known instances of unplanned clearing in conservation areas. |
| | P3-5-WSF 17 | Six monthly reporting will be undertaken of all monitoring activities for Wallum Sedge Frog. | Compliant | Six Monthly reporting has been undertaken as set out in the Wallum Sedge Frog Management Plan. Refer to Table A9, Item WSF-26 for a summary of monitoring undertaken and key findings. |
| Vegetation Management | P3-5-VM 1 | Within Precincts 3, 4, 5 and Part Precinct 6, the area of EPZ to be conserved and rehabilitated | Compliant | As reported in the Superintendent's Monthly Progress Reports and Construction Contractor's |

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| | | must not be adversely affected by the works as identified on construction plans, marked and protected through the use of barrier fencing protection. | | Monthly Environment Reports, the clearing area was surveyed and protected areas were demarcated with flagging tape and “no go” signage prior to commencement of works. There are no known instances of unplanned clearing in conservation areas. |
| | P3-5-VM 2 | Activities such as storage of materials, parking, liquid disposal, refuelling activities, construction site office or shed, combustion, stockpiling of soil, any filling or excavation activity (unless approved by the Construction Superintendent or Proponent) and use of unauthorised chemicals will be prohibited within the EPZ. | Compliant | As reported in the Superintendent’s Monthly Progress Reports and Construction Contractor’s Monthly Environment Reports, the clearing area was surveyed and protected areas were demarcated with flagging tape and “no go” signage prior to commencement of works. There are no known instances prohibited activities occurring within the Environmental Protection Zone. |
| | P3-5-VM 3 | Retained trees shall not have their crown removed. The contractor is to take all reasonable care to ensure that no branches and trunks are damaged during the construction. | Compliant | There have been no instances recorded of vegetation removal contrary to these requirements. |
| | P3-5-VM 4 | All staff involved in construction are made aware of the defined significant and protected vegetation areas including all personnel engaged in preconstruction works. | Compliant | All persons working on site are required to attend the Construction Contractor’s Project Induction, which includes information on the location and importance of conservation areas on site. The Construction Contractor’s Monthly Environment Report notes that regular toolbox meetings are also held on environment matters, including the extent and significance of protected vegetation areas on site. |
| | P3-5-VM 5 | All tree roots that are damaged during excavations and related activities are to be saw cut to a clean surface and are to be treated with a fungicidal solution prior to backfilling or within 24 hours of the damage to the root occurring. | Compliant | There were no instances reported that are contrary to these requirements. |
| | P3-5-VM 6 | All construction traffic will be confined to designated access roadways to prevent soil | Compliant | Dedicated haul road locations have been identified in construction planning and implemented on site. |

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| | | compaction. No heavy machinery is to be driven under canopies of significant vegetation nominated for retention. | | Within the active construction area, vegetation to be retained has been demarcated with flagging tape and no-go signage installed. |
| | P3-5-VM 7 | Livestock and the general public will be excluded from HMUs undergoing ecological enhancement, unless temporary crash grazing is being used to control exotic pasture grasses. | Compliant | Fencing has been installed to exclude public access and cattle from entering the construction area. |
| | P3-5-VM 8 | Rehabilitation within HMU's in the EPZ in Precinct will be implemented in accordance with an Environmental Rehabilitation Plan. | Compliant | The Precinct 3-5 Environmental Rehabilitation Plan was approved under Compliance Assessment by the Minister for Economic Development Queensland on 6 September 2017. Implementation will commence within twelve months of registration of the first plan of subdivision. |
| | P3-5-VM 9 | Visual and photographic monitoring will be conducted to evaluate the effectiveness of the enhancement strategies within HMU's in the EPZ. | Not Applicable | Implementation of the Precinct 3-5 Environmental Rehabilitation Plan has not yet commenced. Monitoring will be undertaken during the three year On-maintenance period. |
| | P3-5-VM 10 | Implement corrective actions if vegetation clearing occurs outside the delineated, approved areas:<br>Cease all work in the area affected and advise Superintendent (and regulatory agencies if protected vegetation).<br>Instigate rehabilitation efforts immediately at any area accidentally cleared in accordance with directions from the Superintendent.<br>In relation to the success of rehabilitation works, an adaptive management approach will be taken and outlined in the Precincts 3, 4, 5 and Part Precinct 6 Environmental Rehabilitation Plan.<br>Whilst not expected on the basis of previous surveys (as discussed in Table 3-1), if any Listed Threatened MNES vegetation species are identified during construction, the contractor will adopt the following corrective actions: | Not applicable | There are no known instances of clearing outside the delineated approved areas, therefore corrective actions have not been triggered. |

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| | | Confirm the identity of the species found with the assistance of a qualified ecologist; and<br>If confirmed as a Listed Threatened Species, undertake transplanting of the plant(s) into an appropriate location in the Environmental Protection Zone where it will be protected. | | |
| | P3-5-VM 11 | Any vegetation compliance issues must be incorporated into the regular environmental reporting required by the contractor to the Superintendent.<br>A report will be produced annually for the duration of the ecological enhancement program (which may extend beyond the construction program for the rest of the development in Precincts 3, 4, 5 and Part Precinct 6). | Compliant | This requirement is noted in the Construction Contractor's CEMP. There have been no instances recorded of vegetation removal contrary to these requirements.<br><br>Monitoring and reporting requirements for the ecological enhancement program are outlined in the Wallum Sedge Frog Management Plan and Precinct Environmental Rehabilitation Plans. Reporting requirements under these plans have been implemented. |
| | P3-5-P 1 | Permanent and semi-permanent structures established during construction should be designed to minimise harbourage and roosting opportunities for pest species including mosquitos and biting midges. | Compliant | The Construction Contractor's site compound contains commercial grade buildings and storage areas. There has been no evidence of pest species using these facilities for harbourage or roosting. |
| | P3-5-P 2 | Identification of measures using a combination of fencing, natural vegetative barriers and signage will be implemented to deter the bringing in or movement of domestic animals into the EPZ and other conservation areas. | Not applicable | The landscape design for Precinct 3-5 has not yet been completed. Measures to be considered as part of the design include:<br>• Dense planting with native and endemic species at the verge of the Environmental Protection Zone and the adjacent development to restrict access<br>• Signage in specific locations to educate the public on the importance of the conservation areas and to restrict access. |
| | P3-5-P 3 | The construction crew and visitors to site will not be permitted to bring domestic animals to the construction works site or in conservation areas of the project site. | Compliant | This commitment has been included in the Construction Contractor's CEMP. The Construction Contractors Monthly Environment Reports confirms |

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| | | | | that there have been no incidents of domestic animals brought to site. |
| | P3-5-P 4 | Putrescible wastes are managed and transported off the site for disposal. | Compliant | This commitment has been included in the Construction Contractor's CEMP. Putrescible wastes are contained and disposed of in a lawful manner. The Construction Contractor maintains appropriate waste records. |
| | P3-5-P 5 | Regular checking of the performance criteria will be undertaken by the contractor and the Superintendent. | Compliant | The Construction Contractor assesses achievement of the Pest Management Performance Criteria monthly and reports this to the Superintendent in the Monthly Environment Report. |
| | P3-5-P 6 | Regular checking is required to identify if fish predators (in particular mosquito fish *Gambusia holbrooki*) are located within retained Wallum Sedge Frog breeding habitat. | Compliant | Monitoring of fish predators is conducted as part of presence/absence surveys for Wallum Sedge Frog, as set out in the Wallum Sedge Frog Management Plan. |
| | P3-5-P 7 | Corrective action is to be undertaken where non-compliance of the performance criteria is observed. | Not applicable | There are no known instances of clearing outside the delineated approved areas, therefore no corrective action rehabilitation works have been triggered. Refer to the Wallum Sedge Frog Management Plan, Table A6, Item WSF-27, for specific corrective actions associated with Wallum Sedge Frog habitat. |
| | P3-5-P 8 | Any pest control measures implemented must be incorporated into the regular weekly/monthly environmental report required by the contractor to the Superintendent. | Compliant | The Construction Contractor records details of pest control measures undertaken as part of the Monthly Environment Report. |
| Weed Management | P3-5-W 1 | Implement the following weed management measures:<br>Treatment of existing weeds within the construction site.<br>Limiting machinery access near retained vegetation, Wallum Sedge Frog retained habitat and the EPZ.<br>Wash-down facilities are provided on site. | Compliant | The following weed management measures have been implemented:<br>• The Construction Contractor undertakes regular inspections and removal of weeds from within the construction site.<br>• Machinery is not permitted to enter conservation areas, unless instructed by the Superintendent and in accordance with the EPBC Conditions of Approval. |

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| | | Certification of the origin of construction material is required to manage the importation of weed species onto site.<br>Mechanical removal (by hand or machine) will be required for the removal of larger plants such as pine and lantana. In the area of Wallum Sedge Frog habitat within the EPZ (polygon 125, see Section 5.4), chemical spot spraying will be unsuitable, and mechanical or hand removal of pasture grasses will be required. | | • All fill material has been sourced from within the site. |
| | P3-5-W 2 | Edge planting is to be undertaken to prevent weed species from penetrating high conservation areas which in Precincts 3, 4, 5 and Part Precinct 6 is the EPZ and retained Wallum Sedge Frog habitat contained within. These areas of edge planting are to be at least 5 metres in width. | Not applicable | The landscape design for Precinct 3-5 has not yet been completed. |
| | P3-5-W 3 | Green waste handling, stockpiling and disposal procedures will be developed and implemented on the site. | Compliant | No Green Waste has been generated. All topsoil and mulched material has been re-used onsite. |
| | P3-5-W 4 | Plant material will be removed from site in a manner which reduces disturbance and is to be disposed of at an approved green waste disposal facility or mulched on-site for landscaping purposes. | Compliant | No Green Waste has been generated. All topsoil and mulched material has been re-used onsite. |
| | P3-5-W 5 | Machinery used for earth-moving and vegetation-clearing will be cleaned and inspected prior to the commencement of work to identify any attached material that needs to be removed to avoid the spread of weeds. | Compliant | The Construction Contractor requires a Vehicle Inspection Checklist Form to be provided for all machinery that enters the site. |
| | P3-5-W 6 | Retained and buffer Wallum Sedge Frog habitat is 100% free of *Baccharis halimifolia* and *Pinus elliottii* and all Class 1 and 2 declared plants of Queensland. | Compliant | Weed management is undertaken in accordance with the Environmental Management and Rehabilitation Plan and Approved Environmental Rehabilitation Plan |
| | P3-5-W 7 | During rehabilitation within each HMU in the EPZ, measures will be required in place to | Not Applicable | The Precinct 3-5 Environmental Rehabilitation Plan was approved by Economic Development |

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| | | prevent the spread of weed seeds and diseases such as Phytophthora, Myrtle Rust and Chytrid fungus. | | Queensland on 6 September 2017. Implementation of the Precinct 3-5 Environmental Rehabilitation Plan will commence within 12 months of registration of the first plan of subdivision. |
| | P3-5-W 8 | Any requirements for fire management within HMU's listed in section 5.5 will be outlined in detail in the Environmental Rehabilitation Plan for this area. | Compliant | The Approved Precinct 3-5 Environmental Rehabilitation Plan outlines fire management regimes for vegetation communities across the site. This requirement is to be discussed and agreed with council. |
| | P3-5-W 9 | Regular monitoring of weeds at all disturbed areas and adjacent vehicle access points will be undertaken by the contractor, reporting to the Superintendent. | Compliant | Regular weed monitoring and removal is undertaken throughout the construction area and is reported in the Construction Contractor's Monthly Environmental Report. |
| | P3-5-W 10 | Corrective action is to be undertaken where non-compliance of the performance criteria is observed. | Compliant | As reported in the Construction Contractor's Monthly Environment Report, weed management performance criteria have been achieved throughout the reporting period. |
| | P3-5-W 11 | Any weed control measures implemented and non-compliance must be incorporated into the regular environmental reporting required by the contractor to the Superintendent. | Compliant | Weed management measures and compliance with the performance criteria are reported in the Construction Contractor's Monthly Environment Report. |
| Auditing, Reporting and Revisions | P3-5-A 1 | Biannual systems audit of CEMP and OEMP to review environmental issues onsite and the effectiveness of these systems in managing these. The audit will consist of a document review or desktop audit conducted in conjunction with a technical or operational audit. | Compliant | Construction activities conducted under the Precinct 3-5 and Part Precinct 6 CEMP commenced in January 2018. The first audit of onsite environmental management practices, including implementation of the CEMP and audit of environmental management documentation will be carried out in May 2018. |
| | P3-5-A 2 | Annual external independent audit- Systems audit of CEMP and OEMP to assess the current compliance status of the site against Environmental Authority requirements and other pertinent legislation. | Compliant | An audit of the CEMP has been undertaken by SMEC and the findings documented in this table of the ACR. |
| | P3-5-A 3 | Audits will to be entered into an audit schedule. The minimum content of the schedule is to be; | Compliant | An audit of the CEMP has been undertaken by SMEC and the findings documented in this ACR. The Construction Contractor is scheduled to complete |

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| | | Type of audit i.e.: Sediment Control Audit.<br>Date of audit, start and completion times.<br>The personnel involved in the audit.<br>Audit Scope – predetermined prior to audit date.<br>Audit findings.<br>Audit Recommendations.<br>Corrective and Preventative Action.<br>Audit Review. | | the next audit of the CEMP in May 2018. The audit schedule is recorded in the Construction Contractor's Monthly Environment Report. |
| | P3-5-A 4 | This CEMP will be reviewed on an annual basis, or as the need for review is identified.<br>The review will be scheduled by the Proponent, and be inclusive of the Principal Contractor, Construction Superintendent and other interested parties and stakeholders.<br>All personnel involved with the Environmental Management of the Project are required to attend the review.<br>The Proponent will assess the results of this review and make amendments to this CEMP as required. | Compliant | The CEMP has been reviewed as part of preparation of this ACR. |

## Water Quality Management Plan

The Water Quality Management Plan outlines the management and monitoring requirements for surface water and groundwater on and adjacent to the Aura site. The Water Quality Management Plan identifies measurable performance indicators and goals. It sets monitoring and reporting periods and methods for sampling and data collection. It includes methods for detecting relevant changes in surface water and groundwater and identifies corrective actions to be implemented.

This ACR reports on compliance with Revision 5 of the Water Quality Management Plan dated June 2016. Compliance with Revision 4 (November 2015) is reported on by exception where relevant.

*Table A6: Compliance Assessment of the Water Quality Management Plan (Revision 5, June 2016)*

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
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| Section 5.1.2 | WQMP-1 | Monthly monitoring of ambient water quality is to occur at eight locations within the site, three each respectively on Bells Creek North and Bells Creek South and two on Lamerough Creek.<br><br>Commence monitoring in the respective waterways a minimum of six months ahead of any development works occurring within local catchments and must encompass wet and dry conditions. Monitoring will continue for a minimum of 12 months after all development work has been completed within the respective catchments, or sooner if deemed appropriate by the relevant nominated assessing authority.<br><br>Analyse samples for water the parameters listed in Section 5.1.2. | Compliant | Monthly ambient surface water monitoring commenced at two locations on Lamerough Creek and at three locations in Bells Creek North in February 2014. Construction in the Lamerough Creek catchment commenced in January 2015 and construction in the Bells Creek North catchment commenced in March 2016. Monitoring commenced at three locations at Bells Creek South in July 2017. Construction has not yet commenced in the Bells Creek South catchment.<br><br>The duration of pre-construction monitoring undertaken exceeds the required minimum six-month requirement. All parameters outlined in Section 5.1.2 were sampled monthly. |
| Section 5.1.3 | WQMP-2 | Event based water quality samplers to be installed on Bells Creek North and South at the upper and lower boundaries of the Caloundra South site a | Compliant | Event based water quality monitoring stations were installed at the upstream and downstream site boundaries of Bells Creek North in February 2014. |

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| | | minimum of six months prior to any development works occurring within the catchments. This six-months period will encompass a suitable range of wet and dry weather conditions, with special emphasis on wet conditions when any potential impacts from the site will be most noticeable.<br>All of the above samples will be analysed for the following parameters:<br>• Flow<br>• Total Suspended Solids;<br>• Total Nitrogen; and<br>• Total Phosphorus. | | Construction in Bells Creek North commenced in March 2016 Therefore the duration of pre-construction monitoring undertaken exceeds the minimum six- months requirement.<br><br>Event based water quality monitoring stations were installed at the upstream and downstream site boundaries of Bells Creek South in July 2017. Construction has not commenced in the Bells Creek South catchment area.<br><br>During the 2017/2018 compliance reporting period, a total of eleven events have been recorded. Event based monitoring samples were analysed for the parameters listed in Section 5.1.3. |
| Section 5.1.3 | WQMP-3 | At each of the monitoring sites listed above (WQMP-2), additional event based water quality samplers are to be deployed midway along Bells Creek North and South before substantial urban land development works are to commence in the areas upstream of these locations.<br><br>These samplers will be triggered by flows in either of the creeks, and will collect composited, flow proportional samples from significant runoff events. Analyse samples for the following parameters:<br>• Flow<br>• Total Suspended Solids<br>• Total Nitrogen<br>• Total Phosphorus | Compliant | An additional event based water quality sampler was deployed midway along Bells Creek North in August 2015. Construction in Bells Creek North commenced in March 2016.<br><br>An event based water quality sampler has not been deployed midway in Bells Creek South. No construction commenced within the Bells Creek South catchment during the reporting period. All samples have been analysed for the parameters listed in Section 5.1.3 of the WQMP. |
| Section 5.1.4 | WQMP-4 | Establishment and continuation of Ecosystem Health Monitoring Program (EHMP) for two sites within Bells Creek downstream of the development | Compliant | Since October 2013, Healthy Land and Water have monitored ambient water quality at two locations within Bells Creek downstream of the development. This monitoring is undertaken as part of the Ecosystem Health Monitoring Program (EHMP), |

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| | | | | which is a multi-agency funded (led by the Queensland Government) regional environmental monitoring program. Data collected from monitoring is provided to Stockland for assessment purposes and is reported by Healthy Land and Water through the Healthy Waterways Report Card. |
| Section 5.1.5 | WQMP-5 | Establish real time turbidity monitoring stations to be established at the following locations a minimum of 6 months before development starts in a catchment:<br>• Bells Creek North and South at the lower boundary of the Caloundra South site<br>• Bells Creek North and South at the upper boundary of the Caloundra South site; and<br>• The downstream extent of the development footprint within the Lamerough Creek Catchment. | Compliant | Three real time turbidity monitoring stations were installed in February 2014, two on Bells Creek North (upstream and downstream) and one on Lamerough Creek (downstream). Construction in the Lamerough Creek catchment commenced in January 2015 and construction in Bells Creek North commenced in March 2016. The duration of pre-construction monitoring undertaken exceeds the minimum six months duration outlined in Section 5.1.5 of the WQMP.<br><br>Two real time turbidity monitoring stations were installed in Bells Creek South in July 2017. Construction has not commenced in the Bells Creek South catchment area. |
| Section 5.1.6 | WQMP-6 | Two load based monitoring sites will be established within the ultimate development footprint. Data will be collected for a two year period to quantify the quality of run-off from the site, commencing within one year of construction starting elsewhere on the site. | Compliant | Two load based monitoring sites have been established in the Bells Creek Catchment in January 2016 and will collect data for a two-year period. |
| Section 5.1.6 | WQMP-7 | At each of the two load based monitoring sites listed above (WQMP-6), an event-based stormwater sampler is to be installed and stormwater flow and quality data collected from at least 20 representative storms over a two year period. Samples collected will be composited and event mean concentrations for each storm event derived. | Compliant | In January 2016 event-based stormwater samplers were installed at two load based monitoring sites in the Bells Creek Catchment. During the 2017/2018 compliance reporting period, a total of eleven events have been recorded. |

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| Section 5.1.7 | WQMP-8 | Monitoring is to occur for one representative established bioretention system and one representative established wetland system. | Not applicable | To get representative results for the operational phase, monitoring of bioretention and wetland systems will commence once the associated catchments have been established. It is expected that monitoring of bioretention and wetland systems will commence during 2018. |
| Section 5.1.7 | WQMP-9 | At each of the representative systems listed above (WQ-8) event-based stormwater samplers are to be installed upstream and downstream of these devices and stormwater flow and quality data collected from 10 representative storms. Samples collected will be composited and the event mean concentration for each upstream and downstream sampling site derived such that load reductions can be calculated. | Not applicable | It is expected that monitoring of bioretention and wetland systems will commence during 2018, once the associated catchments have been established. |
| Section 5.1.8 | WQMP-10 | Construction stage water quality - the following surface water monitoring regime is to be integrated into each Precinct-based WQMP:<br>• Regular (daily and after major rain events) site inspections of all erosion and sediment control measures.<br>• Regular (daily and after major rain events) inspections of areas surrounding construction site to detect and manage any occurrence of sediment deposition off-site.<br>• Rainfall will be recorded at 9am each working day from an installed rain gauge.<br>• All construction activities will be monitored daily for compliance with erosion and sediment control measures.<br>• Within sediment basins, turbidity and pH will be measured daily within each precinct. | Compliant | Surface water monitoring requirements have been incorporated into Section 5.1.4 of each Precinct CEMP. |
| Section 7.1 | WQMP-11 | Construction stage water quality - All discharge from site sedimentation basins is to meet:<br>• pH 6.5 to 8.5. | Compliant | Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria for all rain events |

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| | | • Discharge turbidity offsite (as measured by the downstream automated turbidity monitor) to be less than 10% above background with background being the quality of water entering the site via the culverts where Bells Creek North and South pass under the Bruce Highway for any events up to and including the design rainfall event as specified below.<br>• Nutrients (nitrogen and phosphorus) to be managed through normal erosion and sediment control practices. | | up to and including the design rainfall event. Sediment basin water quality monitoring results are provided in the Construction Contractor's Monthly Environment Report.<br><br>Turbidity at the downstream Bells Creek North site remained within permitted limits of no more than 10% above the upstream site at most times during the reporting period, with the following exceptions:<br>• 19 March (Sensor fouling – not related to construction activities)<br>• 19 May (brief spike related to runoff from gravel road adjacent to downstream sampling point – not related to construction activities)<br>• 14 and 15 June (brief spike related to runoff from gravel road adjacent to downstream sampling point – not related to construction activities)<br>Based on these results the sensor was moved upstream of the gravel road to prevent future false readings. The land above the gravel road is also under active rehabilitation to assist stabilisation.<br>• 26 December (brief spike due to rainfall event and upstream sensor did not record the first flush in turbidity).<br>It is noted that none of the above turbidity exceedances at the downstream site within the Bells Creek North catchment have been attributed to construction activities. |
| Section 7.1 | WQMP-12 | Construction stage water quality - Implement corrective actions each time there is either a significant (i.e. greater than 25%) exceedance of the performance standards (refer to WQMP 7.1 Water Quality - Construction Stage) for discharges from site sediment basins or if there are similar triggers of the automatic | Compliant | Investigations/surveillance assessments were triggered for exceedances listed in WQMP-11 and found that none of the above turbidity exceedances at the downstream site within the Bells Creek North catchment have been attributed to construction activities. Prior to the dewatering of sediment basins, all captured runoff was treated to meet the |

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| | | turbidity monitoring infrastructure. If lesser exceedances are observed (e.g. between 15 and 25%) then initial surveillance assessments will be triggered that may identify areas that could be better managed, thereby reducing off site export of sediments. | | nominated water quality performance criteria up to and including the design rainfall event. |
| Section 8.1 | WQMP-13 | Construction stage water quality - Implement the following corrective actions (as part of the Precinct-based CEMPs) where performance criteria are not being met:<br>• Contractor to amend erosion and sediment control measures as required in consultation with the Superintendent to address deficiencies through regular monitoring and inspections and in consultation with relevant regulatory agencies.<br>• Erosion and sediment control devices to be cleaned, repaired or replaced whenever inspections show signs of noncompliance or ineffective capability/capacity.<br>• Works to cease and/or other corrective actions taken (e.g. not allowing release of water from sedimentation basins) where erosion and sediment control devices are found not to be in accordance with the management and mitigation actions outlined in the WQMP or otherwise the performance requirements outlined above.<br>• Areas of exposed soils and extensive scour or erosion to be rehabilitated as soon as practicable after detection. | Not Applicable | Corrective actions have not been triggered. Prior to the dewatering of sediment basins, all captured runoff was treated to meet the nominated water quality performance criteria up to and including the design rainfall event. |
| Section 7.2 | WQMP-14 | Operational stage water quality – Assess receiving water quality in Pumicestone Passage (PP) and Bells Creek (BC) using the methods described in Section 7.2. | Compliant | Downstream Pumicestone Passage and Bells Creek ambient water quality monitoring was reported on for 2017/2018. Water quality at the downstream sites remained within the range of natural variability at most times during the reporting period. Where |

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| | | | | exceedances were recorded, investigations were undertaken, and in all instances the exceedances were as a result of runoff from adjacent land uses and deemed not a result of construction activities.<br><br>Downstream water quality monitoring found that there was no construction related water quality impacts in Pumicestone Passage and Bells Creek during the reporting period. Water quality monitoring results are reported in the Annual Water Quality Monitoring Report. |
| Section 8.2 | WQMP-15 | Operational stage water quality – Implement the following corrective actions where trigger values are exceeded:<br>• Review of existing data sets to examine trends and spatial context of any failures of WQOs;<br>• Identification of the source of the outliers (chronic or acute failure);<br>• Where sources are identified, investigate implementation of water quality management measures in these locations to ensure that they are established appropriately and functioning as designed. Specific rectification measures will be identified as part of the design process for each treatment measure;<br>• Investigation into potential spills/contamination event; and<br>• Examination of the load based monitoring and automated turbidity monitoring to determine if any trends are consistent with the changes in ambient water quality occurring in the operational phase. | Compliant | Investigations/surveillance assessments were triggered for exceedances listed in WQMP-14 and results found external sources as the cause of the exceedances resulting in no further management measures. |
| Section 5.2.3 | WQMP-16 | Groundwater Pre-construction Baseline Monitoring: | Compliant | Baseline groundwater monitoring has been completed in accordance with the requirements of the approved revision of the Water Quality |

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| | | • Pre-construction baseline groundwater monitoring will be carried out for at least ten (10) rounds over at least a 12-month period at all bores within the catchment where practicable for both groundwater level and chemistry. Analyse samples for the parameters listed in Section 5.2.3. | | Management Plan in effect at the time of sampling. All sampled were tested for the field and analytical parameters listed in Section 5.2.2 of the WQMP.<br><br>Surveillance baseline monitoring of bores in the Lamerough Creek catchment was conducted in September 2014, and active construction commenced in January 2015. Surveillance baseline monitoring of bores in the Bells Creek north catchment commenced in October 2015, and continued until active construction commenced in March 2016. Surveillance baseline monitoring of bores in the Bells Creek south catchment commenced in March 2016, and was completed in April 2017. Construction has not commenced in the Bells Creek South catchment area. |
| Section 5.2.4 | WQMP-17 | Groundwater Construction Phase Bi-annual Monitoring:<br>All bores within the site will be sampled on a biannual basis, up to and for 12 months after active development works are completed in respective catchments. Analyse samples for the parameters listed in Section 5.2.4. | Compliant | Biannual groundwater monitoring of all bores within the site (Figure 3-1) was undertaken in March and October 2017 (this excluded where bores were dry). All samples were analysed for the parameters listed in Section 5.2.4 of the WQMP. |
| Section 5.2.5 | WQMP-18 | Groundwater Construction Phase Monthly Monitoring:<br>• Those bores within catchments where there are construction activities occurring and which are in close proximity (i.e. within 500m) to areas of active construction works will be sampled on a monthly basis.<br>• Analyse samples for the parameters listed in Section 5.2.5. | Compliant | Monthly monitoring was undertaken for all Control bores and Sentinel Bores and Construction bores within 500m of construction works in the Lamerough Creek and Bells Creek North Catchment. All samples have been analysed for the parametres listed in Section 5.2.5 of the WQMP. |
| Section 8.2.3 | WQMP-20 | Corrective actions following detection of an exceedance of groundwater trigger levels may include the following: | Not Applicable | During the reporting period, there have been no exceedances of groundwater performance criteria that have resulted in the requirement for corrective actions to be implemented. |

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| | | • The review of site construction management practices;<br>• Localised filling or excavation works to adjust land elevations;<br>• Changes to proposed re-vegetation and ecological enhancement strategies;<br>• Review of site surface water management devices (WSUD) and stormwater harvesting practices;<br>• Detection and remediation of spills or other contaminant releases (if groundwater quality is detected as being affected); or<br>• Review and amendment of acid sulphate soil management practices in the context of unusually low groundwater pH or the presence of dissolved metals at downstream monitoring locations. | | |

### Wallum Sedge Frog Management Plan

The Wallum Sedge Frog Management Plan (WSFMP) provides the overarching strategy to mitigate impacts of the development on the Wallum Sedge Frog, and protect and create Wallum Sedge Frog habitat and movement opportunities throughout Aura. The overarching strategy of the WSFMP is built upon through development of a detailed mitigation strategy that documents how Wallum Sedge Frog habitat will be conserved and re-created. This ACR will report on progress made in implementing the commitments made in the Wallum Sedge Frog Management Plan, including an update on the results of monitoring of existing and re-created habitat across the site. The ACR will report on Revision F of the plan, dated July 2017. Compliance with revision E (August 2016) is reported on by exception where relevant.

*Table A7: Compliance Assessment of the Wallum Sedge Frog Management Plan (Revision F, July 2017)*

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
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| Section 3.2 | WSF-1 | Establish frog habitat conservation areas and land use zones. Activities (i.e. pedestrian paths, boardwalk etc.) must be compatible with conservation and other zones as outlined in Table 2.4 of the WSFMP. | Compliant | Frog habitat conservation areas are shown on the Caloundra South Master Plan, as approved by Economic Development Queensland, the State Government agency charged with planning responsibility for the site. They are also shown on Map 2.2D of the Wallum Sedge Frog Management Plan. Prior to any works within the Frog Zone or Frog Buffer, a senior ecologist reviews the design drawings and conducts a site inspection to confirm that the design meets the requirements of the WSFMP and impacts to Wallum Sedge Frog are avoided or minimised. |
| Section 3.5 | WSF-2 | Implement the following location specific management and mitigation commitments for Wallum Sedge Frog into the development, as detailed in Table 3.5b of the WSFMP.<br><br>Northern development zone commitments include:<br>Partial retention and protection of habitat patch45<br>existing sedge habitats associated with habitat patch 44 | Compliant | **Northern Development Zone**<br>To facilitate connectivity requirements, the Bellvista Boulevard bridge over Lamerough Creek includes a dedicated frog crossing on the southern approach as well as a movement corridor underneath the bridge.<br>The dedicated frog crossing has been designed in accordance with the specifications outlined in Table 3.5a of the WSFMP. The crossing consists of a 3000 X 1500 mm reinforced concrete box culvert, which exceeds the minimum height requirements (i.e. 900mm) outlined in the Wallum Sedge Frog Management Plan, and Queensland Government fauna sensitive road guidelines (TMR, 2010). |

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| | | Wallum Sedge Frog fauna friendly crossings and frog movement barriers at Bellvista Boulevard.<br><br>Central development zone commitments include:<br>Partial retention of habitat patches 36 and 39 where not impacted by the developable footprint, and complete retention of patch 71.<br>Retention of possible drought refugia in habitat patch 36.<br>Frog friendly creek structures and frog movement barriers, and an additional frog dedicated underpass at each of the three road crossing the realigned Bells Creek north movement corridor.<br><br>Southern development zone commitments include:<br>Retention of habitat patches 75, 76 and 78 in their entirety.<br>Partial retention of habitat patches 79, 72, 3 and 1.<br>Retention of likely drought refugia within habitat patches 91, 76, 75, 72 and 3.<br>Frog friendly creek crossing structures and movement barriers, and an additional frog dedicated underpass at the four road crossings over the Bells Creek South corridor.<br><br>Site wide and location specific specifications for road, creek crossing and barrier design are outlined in Table 3.5a. In addition the QLD Fauna Sensitive Road Design Guidelines can be referred to. | | The culvert design includes a natural floor and grasses and sedge planted at the mouth of the culvert. The area of the frog movement corridor underneath the bridge has been maximised by setting the bridge abutments high on the bank and is protected from all rainfall events up to and including the five-year ARI event. The area has been revegetated using sedges and grasses and two Wallum Sedge Frog breeding ponds have been constructed at both sides of the culvert to encourage movement.<br><br>Construction of the Bellvisa Boulevard Bridge over Lamerough Creek commenced in November 2015, with practical completion reached in November 2016.<br><br>**Central and Southern Development Zones**<br>No works have occurred within this reporting period within the central or southern development zones. Detailed site investigations for the placement of recreated Wallum Sedge Frog habitat was undertaken in during this reporting period, with designs completed, and works commencing. Practical completion of these ponds is due in late March – mid April 2018. |

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| Section 3.6 | WSF-3 | During construction exclusion fencing will be established around the frog buffer and habitat areas. | Compliant | The Precinct 2 and Part Precincts 3 and 4 CEMP and Precinct 3-5 and Part Precinct 6 CEMP include the requirement for exclusion fencing to be installed around the frog buffer and frog zone. Flagging tape, physical barriers and "No Go" signage was installed around the frog zone and frog buffer prior to commencement of works in each Precinct. The daily construction checklist includes a requirement to check that all works are occurring within the designated works area. |
| Section 3.6 | WSF-4 | Temporary stormwater treatment devices will be designed so as to avoid directing run off into or across areas of identified (breeding) habitat. | Compliant | ESC plans have been prepared to avoid directing run-off into identified Wallum Sedge Frog breeding habitat. Prior to commencement of works, a senior ecologist reviews the ESC plans and conducts a site inspection to check the suitability of proposed discharge locations and confirm that that there will be no direct or in-direct discharge of sediment laden construction run-off into Wallum Sedge Frog breeding habitat (retained or re-created). |
| Section 3.6 | WSF-5 | Construction of some ponds particularly along Bells Creek North should proceed ahead of the development front to maintain continuity of habitat connectivity | Compliant | Wallum Sedge Frog breeding ponds have been created in advance of construction of the development. In Precinct 2, twenty-two Wallum Sedge Frog breeding ponds were created in June 2015 in the Frog Zone along the 'northern corridor', providing Wallum Sedge Frog movement along Lamerough Creek. In Precinct 4 and 5, nine Wallum Sedge Frog breeding ponds were created along the northern bank of Bells Creek North in November 2016. Photos of the completed frog ponds are provided in Figure 4. During the current reporting period, construction of an additional fifty-six Wallum Sedge Frog ponds has commenced on the southern bank of Bells Creek North, adjacent to Precincts 7-14. |
| Section 3.6 | WSF-6 | During construction, only appropriately trained personnel should undertake the removal of native fauna. A licensed spotter and catcher must be on-call for the duration of bulk earthworks and clearing activities and will conduct a visual inspection of the | Compliant | This commitment has been included in Precinct CEMPs and was implemented. The appropriately licensed fauna spotter-catcher/s supervised all clearing activities and was available on-call for the duration of bulk earthworks.<br>During clearing activities, the licensed fauna spotter-catcher/s: |

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| | | site for animals immediately prior to and during vegetation clearance works. | | • identified the presence of any fauna or associated habitat / breeding places<br>• managed the relocation of any displaced fauna to appropriate retained habitat or appropriately licensed wildlife facilities as necessary<br>• managed the relocation of habitat features when appropriate<br>• documented all incidences of disturbance / destruction of animal breeding places and interference with wildlife. |
| Section 3.6 | WSF-7 | During construction, in stream works should be completed as quickly as possible to minimise disturbance to aquatic species | Compliant | This commitment has been included in Precinct CEMPs. Construction activities have been programmed to minimise the duration of in-stream works. To minimise the duration of works in Lamerough Creek, pre-fabricated deck units were used during construction. |
| Section 3.6 | WSF-8 | During construction, fauna fencing and wildlife structures installed during construction and maintained during the operational stage should be designed to minimise harbourage and roosting opportunities for pest species. | Compliant | All fauna fencing and structures have been designed to minimise harbourage and roosting opportunities for pest species. |
| Section 3.6 | WSF-9 | Induction training for wildlife management for contractor staff and other personnel that enter the construction site. | Compliant | All contractor staff and other personnel that enter the construction site attend induction training for wildlife management. |
| Section 3.6 | WSF-10 | Construction crew will not be permitted to bring domestic animals to the project area. | Compliant | This requirement has been included in Precinct CEMPs. As documented in the Construction Contractors Monthly Reports, there has been no evidence of domestic animals being brought to site. |
| Section 3.6 | WSF-11 | Putrescible waste generated during construction will be stored in containers on site to restrict access by scavenger animals and will be transported off site for disposal. | Compliant | This commitment has been included in Precinct CEMPs. Putrescible wastes are contained and regularly removed and disposed of at a registered waste facility. |
| Section 3.6 | WSF-12 | Fill material used in close proximity to retained habitats should have low clay content, and be free of monomeric aluminium. | Compliant | On ground investigations were undertaken (refer Section 5.4 of the WSFMP) in regard to soil conditions within the Frog Zone of Precinct 2, 4 and 5 for the creation of Wallum Sedge Frog breeding ponds. Where results indicated poor soil texture (clay loam instead of sandy loam), fill material was |

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| | | | | used for the creation of frog habitat ponds. This fill material was assessed for texture and organic matter content prior to use to confirm compliance with soil taken from existing Wallum Sedge Frog habitat areas. In addition to this, topsoil from impacted Wallum Sedge Frog habitat has been harvested and re-used to line drains, banks and areas within much of the Frog Zone, particularly when areas are in close proximity to retained or created breeding habitat. |
| Section 3.6 | WSF-13 | Construction and maintenance of temporary drains and or bunding diverting sediment-laden runoff away from areas of frog (breeding) habitat and construction and maintenance of silt traps/fencing upslope of creek lines and areas of frog habitat. | Compliant | ESC plans have been prepared for Precincts where construction is occurring, and have been certified by a Chartered Professional in Erosion and Sediment Control. Sediment and erosion controls have been designed to capture and treat sediment laden runoff from disturbed areas, and to divert clean water around the construction area. A range of sediment control measures have been used to capture and treat sediment laden runoff and prevent it from entering waterways and frog habitats, including: sediment fences, mulch berms, sediment traps, sediment trenches, sediment weirs, rock filter dam, filter tube dams and sediment basins. |
| Section 3.6 | WSF-14 | The temporary use of sterile sorghum to stabilise loose fill in proximity to areas of Wallum Sedge Frog habitat. Sorghum should be used as a temporary stabilising agent. Slower native vegetation should replace, or be used in preference to sorghum where ongoing soil disturbance would not occur. | Compliant | Where possible, areas close to Wallum Sedge Frog habitat have been stabilised by re-spreading top soil that was stripped from the area of disturbance and allowing natural regeneration of the seed bank present. Where this has not been possible, areas have been stabilised using a sterile grass seed appropriate to the growing season. |
| Section 3.7 | WSF-15 | Retention, or partial retention, of existing Wallum Sedge Frog habitats within and adjacent to movement corridors along Lamerough Creek, Bells Creek North and Bells Creek South in perpetuity. | Compliant | The Environmental Protection Plan outlines the legal mechanisms which will protect created and retained Wallum Sedge Frog habitat in perpetuity. The latest version of Map 2.2d (1 June 2017) showing areas of Wallum Sedge Frog habitat retained and created is provided in Appendix B. |
| Section 3.7 | WSF-16 | Creation of artificial Wallum Sedge Frog habitat in areas above Q5 (where possible) in the Frog Zone (and not existing Wallum Sedge Frog habitat) with a maximum | Compliant | Wallum sedge frog ponds have been created in areas above Q5 where possible. Created frog ponds have been designed to be a maximum distance of 300 m from the nearest retained or constructed Wallum Sedge Frog pond, in accordance with the |

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| | | distance between breeding opportunities being less than 400m. | | Habitat Connectivity success criteria contained in Table 6.2a of the Wallum Sedge Frog Management Plan. |
| Section 3.7 | WSF-17 | Provision of frog buffers between retained and re-created Wallum Sedge Frog habitat and earthworks and other development-related threats (refer Figure 3.1). | Compliant | During construction 'no go' fencing or flagging and signage has been installed around the frog zone and frog buffer zone. |
| Section 3.7 | WSF-18 | Revegetation and rehabilitation of waterway movement corridors using flora species that will extend the extent of existing ecosystems and enhance habitat for Wallum Sedge Frog. | Compliant | Environmental Rehabilitation Plans have been prepared to further detail rehabilitation requirements in each Precinct.<br><br>**Precinct 1**<br>The Precinct 1 Environmental Rehabilitation Plan was approved by Economic Development Queensland on 2 June 2015. All retained vegetation within this precinct met the performance criteria, and no regeneration or habitat creation works were required.<br><br>**Precinct 2**<br>The Precinct 2 Environmental Rehabilitation Plan was approved by Economic Development Queensland on 27 May 2016. At the end of the reporting period, a total of 16.10 ha of Wallum Sedge Frog habitat has been created within the Frog Zone and Frog Buffer of Precinct 2 and revegetation and rehabilitation of the first two stages of Precinct 2 conservation lands have been completed.<br><br>**Precinct 3 – 5**<br>The Precinct 3-5 Environmental Rehabilitation Plan was approved by Economic Development Queensland on 6 September 2017. A total of 12.50 ha of Wallum Sedge Frog habitat has been created in the Frog Zone and Frog Buffer of Precinct 4 and 5. Revegetation and rehabilitation of the Frog Zone, Frog Buffer and Riparian Zone of Precinct 3-5 will commence in accordance with the requirements of the Environmental Protection Plan. |
| Section 3.7 | WSF-19 | Installation of movement barriers (i.e. frog proof fencing to 'funnel' frog movement | Compliant | At the Bellvista Boulevard bridge over Lamerough Creek, the high batters of the bridge embankments form an effective |

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| | | under bridge crossings and culvert underpasses. | | barrier to funnel frog movement under the bridge or through the dedicated frog culvert. No other bridge crossings and culvert underpasses have been constructed to date. |
| Section 3.7 | WSF-20 | Ongoing land management to support existing habitats in undeveloped portions of the site | Compliant | Regular weed inspection occurs across the site and weed removal occurs in accordance with the Queensland Government *Land Protection (Pest and Stock Route) Act 2002*. The Queensland *Biosecurity Act 2014* commenced in July 2016, part way through the reporting period, with generally consistent weed management obligations for landowners. Chopper rolling activities occur where required to maintain pine tree regrowth and support existing habitats in undeveloped portions of the site. |
| Section 3.7 | WSF-21 | Periodic slashing and/or pruning of vegetation adjacent to frog barriers. | Compliant | Permanent frog barriers will be installed as the civil construction program progresses. Temporary frog barriers have been installed around retained frog habitat where construction is occurring in adjacent areas. Construction contractors conduct daily inspections of temporary frog barriers and undertake maintenance works as required. |
| Section 3.7 | WSF-22 | Construction and maintenance of silt fencing, bunding and detention basins for containing and treating silt laden runoff, away from areas of sensitive frog habitat. | Compliant | ESC plans have been prepared to avoid directing run-off into identified wallum frog breeding habitat. Prior to commencement of works, a senior ecologist reviews the Erosion and Sediment Control Plans and conducts a site inspection to check the suitability of proposed discharge locations and confirms that there will be no direct discharge of sediment laden construction run-off into wallum frog breeding habitat. |
| Section 3.8 | WSF-23 | Stockland has committed (EPBC Act condition 8) to funding of $0.5M over ten years for priority actions identified in the WSFMP. The priority actions are outlined in section 3.8 and include (i) studies identified in the national recovery plan for WSF and other studies (ii) impact of noise and light on Wallum Sedge Frog behaviour and breeding (iii) monitoring frog populations adjacent to the development. | Compliant | During the reporting period, Stockland Development Pty Ltd has provided $50,000 funding to The University of Queensland (UQ) to support research on the Wallum Sedge Frog and other wallum-dependent frog species. This funding is being used to develop and trial acoustic monitoring techniques for assessing the presence/absence and relative abundance of Wallum Sedge Frog and other frog species (including other threatened wallum frog species and potential competitor species such as the Common Sedge Frog (*Litoria fallax*) and Striped Rocket Frog (*Litoria nasuta*). These |

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| | | | | techniques will provide a cost-effective method for long-term monitoring of Wallum Sedge Frog populations in areas of intact, disturbed and rehabilitated/improved habitat across the species' range (including remote and difficult-to-access sites where the status of Wallum Sedge Frog and other wallum frogs is poorly known). The techniques being developed will also be used to monitor presence/absence and relative abundance of potential competitor species at disturbed and undisturbed sites helping clarify the threat posed by invasive competitor species to Wallum Sedge Frog and other wallum frog species. The research proposal approach was endorsed by DotEE during the 2015/2016 reporting period. |
| Section 3.9 | WSF-24 | Rehabilitation of Habitat Management Units (HMUs) including creating compensatory Wallum Sedge Frog habitat must commence within 5 years of commencement of civil (subdivision) works within a development stage or precinct that adjoins an HMU as outlined in Figure 3.9b. A minimum handover of 5ha is required for each stage of rehabilitation. It must also be completed five years prior to finalisation of the development (refer also to the EPP). | Compliant | An Environmental Protection Plan (RPS, 2015) has been prepared to satisfy the requirements of EPBC Condition 2, and outlines how conservation areas will be rehabilitated and protected in perpetuity. The Environmental Protection Plan commits to commencing rehabilitation within twelve months of registration of the first Plan of Subdivision for the first Precinct in a Habitat Management Unit Precinct Stage. It also states that the Habitat Management Unit will reach On Maintenance within two years after the final Plan of Subdivision for the last Precinct identified in the Habitat Management Unit Precinct Stage.<br>The commitments made in the Environmental Protection Plan have expedited the timeframe for commencement of rehabilitation of a Habitat Management Unit from that stated in the Wallum Sedge Frog Management Plan.<br><br>**Precinct 1**<br>Civil (subdivision) works in Precinct 1 commenced on 1 September 2015. An Environmental Rehabilitation Plan has been prepared to guide rehabilitation works in Precinct 1. As there is no assisted regeneration or habitat creation activities required in Precinct 1, the On-maintenance period will commence at a time appropriate to the overall rehabilitation program of the 'northern corridor' along Lamerough Creek, |

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| | | | | and in line with the requirements of the Environmental Protection Plan.<br><br>**Precinct 2**<br>Civil subdivision works commenced in Precinct 2 on 18 May 2016, and the first plan of subdivision was registered on 12 October 2016. In accordance with the requirements of the Approved Environmental Protection Plan and Conservation Infrastructure Agreement, implementation of the Precinct 2 Environmental Rehabilitation Plan must formally commence within 12 months of registration of the first plan of subdivision, on 12 October 2017. A total of 16.10 ha of Wallum Sedge Frog habitat has been created within the Frog Zone and Frog Buffer of Precinct 2. Revegetation and rehabilitation of the first two stages of Precinct 2 conservation lands have been completed and Stockland is progressing with seeking Practical Completion certificates for the works. Once these have been received, the 'On Maintenance' period may commence.<br><br>**Precinct 3-5**<br>Civil subdivision works have not commenced in Precinct 3-5. |
| Section 5.5 | WSF-25 | Specific construction techniques and methods to be used within the Frog Zone and Buffer Zone will be reported within the Construction Environmental Management Plan (CEMP) for the release area, and will also include a detailed Construction Technical Specification. | Compliant | Detailed Technical Specifications have been developed to guide construction of frog ponds in the Frog Zone and Frog Buffer. General measures to minimise impacts to Wallum Sedge Frog habitat are contained within Precinct CEMPs. |
| Section 6 and 7 | WSF-26 | Section 6 outlines the success criteria to be applied to all conservation and open space areas containing Wallum Sedge Frog habitat being claimed for compensation. Monitoring tasks will be applied to measure success criteria.<br><br>The Wallum Sedge Frog population and | Compliant | Monitoring has been conducted by Australian Wetlands Consulting (AWC) and Ecosmart Ecology in accordance with the requirements of the Wallum Sedge Frog Management Plan.<br><br>**Pre-construction Monitoring**<br>The following pre-construction surveys of Wallum Sedge Frog habitat have been carried out: |

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| | | created compensatory habitat monitoring program is detailed in Section 7 (and summarised in Section 8) and includes monitoring during Pre-construction (confirm habitat to be removed / retained), On Maintenance (Confirm successful establishment and colonisation) and Off Maintenance (Confirm habitat use and corridor function).<br><br>Table 6.2a outlines the success criteria that aim to ensure that created and retained habitat is maintained in such a way as to safeguard Wallum Sedge Frog habitat and connectivity corridors. | | • Precincts 7-15 and 18 was surveyed on 23 September 2017<br>• Precinct 1, 2 and Part 3/4 was undertaken on 4 January, 6 February and 2 December 2014<br>• Precinct 3, 4 and 5 was surveyed on 23 September 2016.<br>Results of pre-construction surveys are reported in the respective CEMPs.<br><br>**On-maintenance Monitoring**<br>During the establishment of the Frog Zone and Frog Buffers, monitoring of Wallum Sedge Frog presence and habitat has been undertaken in both retained and created Wallum Sedge Frog habitat. During the reporting period, monitoring efforts were focused on Precincts 1, 2, 4 and 5 as this is where habitat has been retained or created.<br><br>Monitoring results are documented bi-annually. The following survey effort has been undertaken during the reporting period:<br>• Vegetation Monitoring - 19 April 2017 and 19 December 2017<br>• Presence/Abundance Wallum Sedge Frog – March/April 2017 and October 2017<br>• Pond Water Quality and Hydroperiod – April 2017 and October 2017<br>• Wet Weather Runoff Assessments – 16 March and 6 April 2017.<br><br>**Vegetation Monitoring**<br>For the April monitoring period, except for one pond, none of the constructed WSF habitats ponds contained standing water. This contrasts with the previous monitoring period in which all but one pond contained standing water. Drier conditions are likely to have affected plant growth and condition. General observations included: |

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| | | | | • Created frog ponds in the eastern portion of the Frog Zone have had hard compacted soil ripped and mulch added in (early 2016) to encourage plant growth. Plant growth surrounding ponds is good.<br>• Plantings within frog ponds are in good condition, with slight decline in condition expected to be a result of the dry conditions. Very few weed species were observed in the western section, however weed species were more abundant in the frog zone to the east, where corrective actions were undertaken (June 2016).<br>• The majority of transects within the frog zone to the east were dominated by bare soil with the regeneration of a mixture of native and exotic plants.<br>For the October monitoring period, except for one pond, all the constructed WSF habitat ponds contained standing water. This contrasts with the previous monitoring period in which all but one pond contained standing water. General observations included:<br>• Created frog ponds in the eastern portion of the Frog Zone have had hard compacted soil ripped and mulch added in (early 2016) to encourage plant growth. Plant growth surrounding ponds is good.<br>• Plantings within frog ponds are in good condition, with slight decline in condition expected to be a result of the dry conditions. Very few weed species were observed in the western section, however weed species were more abundant in the frog zone to the east, where corrective actions were undertaken (June 2016).<br>• Pond plant densities in the western Area A ponds were less dense when compared to the eastern Area B ponds.<br><br>**Presence/Abundance Wallum Sedge Frog**<br>Retained Habitats -<br>For the April monitoring period, Wallum Froglet was present at all five monitoring transects during surveys. The Wallum |

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| | | | | Sedge Frog was recorded at all monitoring transects except for MON01. Where present, counts of Wallum Sedge Frogs were low, with no more than four or five individuals heard and/or seen at site. Wallum Rocketfrogs were only recorded at transect MON04. Numbers of Wallum Froglet are significantly higher compared to last reporting period.<br><br>For the October monitoring period, Wallum Sedgefrogs were recorded from MON03 and MON04, with larger numbers observed at MON04. Wallum Sedgefrog numbers were generally very low during the survey. No Wallum Rocketfrogs were heard or seen at retained habitat sites. Wallum Froglets were recorded during aural censuses in low abundances at sites MON01, MON03, MON04 and MON05. Whilst Wallum Sedgefrogs were observed during monitoring, they are still considerably outnumbered by their competitor, the Common Sedgefrog, in retained habitat areas.<br><br>Re-created habitats -<br>For the April monitoring period, acid frog species were only recorded at the excavated ponds near Precinct 2. Both Wallum Froglet and Wallum Rocketfrog were recorded calling in low numbers at these ponds, when most ponds contained surface waters. The Wallum Sedge Frog was not recorded in excavated ponds or any other created habitat. Low numbers of Striped Rocketfrog (competitor species) were also recorded at a subset of excavated ponds during this time.<br><br>For the October monitoring period, all thirty-one excavated ponds contained water at the time of survey except B6. Wallum Rocketfrogs and Wallum Froglets were recorded at most of the excavated ponds. All sites retained a substantial amount of water and attempted breeding in both these species is likely. In contrast to the excavated ponds, results from the ten turkey-nest ponds recorded no acid frog species and a broad range of competitor frog species. While water chemistry was not recorded during the survey, previous |

| | | | | |
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| | | | | readings show these ponds favour competitor species over acid frogs. The Bells Creek North ponds contained acid frog species at sites F1 and F3 only, where Wallum Rocketfrogs were recorded from F1 and Wallum Froglets from both F1 and F3. No Wallum Sedge Frogs were heard or seen in the Bells Creek North survey area. Many of the Bells Creek North sites contained competitor species.<br><br>**Pond Water Quality and Hydroperiod**<br>Water quality monitoring of created and retained Wallum Sedge Frog Habitat was completed in April and October of 2017.<br><br>Re-created Habitats -<br>For both (April and October) monitoring periods, the water quality of all created ponds within Precinct 2 and 4/5 complied with the WSFMP Key Performance Indicators for created compensatory habitat. Corrective actions implemented in Area B ponds have been successful in improving water quality in these ponds.<br><br>Retained Habitat -<br>For both (April and October) monitoring periods, retained habitat areas associated with Precinct 2 was found to have a low pH and tannin stained waters and a variable water depth and hydroperiod – all indicative of WSF habitat as defined in the Draft referral guidelines for the vulnerable Wallum Sedgefrog. Precinct 1 retained habitat shows elevated pH and low tannin staining. Continued monitoring is required. Following commencement of construction in Precinct 3-5 in January 2018, monitoring of retained habitat will be conducted in accordance with the WSFMP monitoring program.<br><br>**Wet Weather Assessments**<br>Two wet weather assessments were undertaken in March and April 2017 in retained habitat in Precinct 1 and 2 and created |

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| | | | | habitat in Precinct 2 and 4/5. The results showed that stormwater runoff from construction and developed areas was not entering Wallum Sedge Frog breeding habitat during the assessment periods.<br><br>Following commencement of construction in Precinct 3-5 in January 2018, monitoring of retained habitat in Precinct 4/5 will be conducted in accordance with the WSFMP.<br><br>**Off Maintenance**<br>No areas have reached Off Maintenance. |
| Section 7 | WSF-27 | Corrective actions (as outlined in Table 7.2) will be implemented to address risks to the successful establishment of Wallum Sedge Frog habitat ponds, preservation of the northern Wallum Sedge Frog habitat corridor and the successful achievement of meeting all proposed success criteria. | Compliant | To improve water quality in Area B ponds (located in the western portion of the northern Frog Zone), the following corrective actions were undertaken in June 2016:<br>• The entire surface was top dressed with topsoil sourced from areas of Wallum Sedge Frog habitat within the development footprint; and/or<br>• The entire surface was top dressed with forest mulch.<br><br>Results from the October 2017 monitoring showed a lower pH and high Tannin staining across most of Area B ponds. Corrective actions implemented may be having a positive effect on the preservation of the retained habitat. The need for further corrective actions will be reviewed once more data is obtained through future monitoring events in accordance with the WSFMP. |

### Wallum Sedge Frog Offset and Contingency Strategy

The Wallum Sedge Frog Offset and Contingency Strategy outlines the approach to deliver compensatory habitat in the Environmental Protection Zone that can be used if patches of the 152ha of created compensatory habitat in the Frog Zone and Frog Buffer do not meet the key performance indicators as defined in the WSFMP. The plan outlines the triggers for offset implementation and timing and the mechanism for delivery.

*Table A8: Compliance Assessment of the Wallum Sedge Frog Offset and Contingency Strategy (Revision 5, May 2016)*

| Section | Id. | Commitment | Is the project compliant with this commitment? | Evidence/Comments |
|---|---|---|---|---|
| 3.1 | WSF OCS-1 | Biannual monitoring of the key performance criteria in table 3 of the Wallum Sedge Frog Offset and Contingency Strategy (including success criteria in the WSFMP) for areas of created compensatory habitat within a development precinct for the 3 year 'on-maintenance period'. | Compliant | Habitat created in Precincts 2, 4 and 5 is monitored bi-annually and assessed against the success criteria in the Wallum Sedge Frog Management Plan. See Table A7, Id. WSF-26 for monitoring results. |
| 3.1 | WSF OCS-2 | Key performance criteria are met for an area of created compensatory habitat after the 3 year 'on-maintenance period', meaning the applicable area of created compensatory habitat can be handed over in accordance with the Conservation Infrastructure Agreement. | Not applicable | Habitat creation in Precinct 2 was completed in June 2015 and Precincts 4 and 5 were completed in November 2016. Areas of created compensatory habitat are currently within the initial three-year maintenance period. Key performance criteria have not yet been achieved, therefore the created compensatory habitat remains On-maintenance. Monitoring of created compensatory habitat will continue in accordance with the WSFMP. |
| 3.1 | WSF OCS-3 | If the key performance criteria have not been met by the end of the 3 year 'on-maintenance period' triggering an additional nine years monitoring and application of corrective actions. | Not applicable | Habitat creation in Precinct 2 was completed in June 2015 and Precincts 4 and 5 were completed in November 2016. Areas of created compensatory habitat are currently within the initial three-year maintenance period. |
| | WSF OCS-4 | Bi-annual monitoring reports specify whether a particular parcel of compensatory habitat is successful and thus when a particular parcel of compensatory habitat can be taken 'off maintenance'. | Not applicable | Habitat creation in Precinct 2 was completed in June 2015 and Precincts 4 and 5 were completed in November 2016. Areas of created compensatory habitat are currently on the initial three-year maintenance period. Key performance criteria have not yet been achieved, therefore the created compensatory |

| | | | | |
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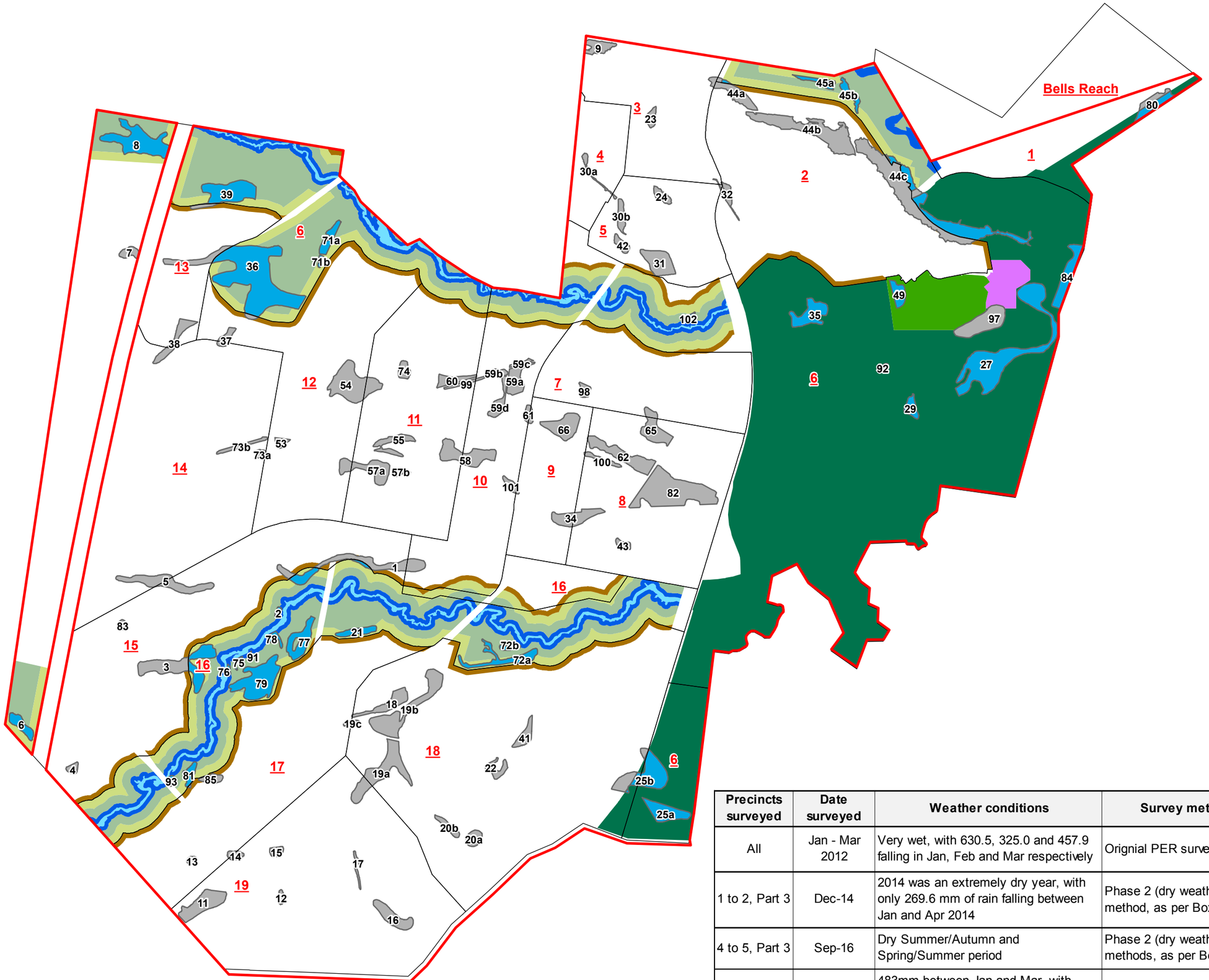
| | | | | habitat remains On-maintenance. Monitoring of created compensatory habitat will continue in accordance with the WSFMP. |
| 3.1 | WSF OCS-5 | The preconstruction habitat survey area (including habitat quality rating) has been applied to determine area of failed created compensatory habitat to be offset, where the key performance criteria have not been met by the end of the 12 year 'on-maintenance period' (including the additional nine years monitoring and application of corrective actions). | Not applicable | Habitat creation in Precinct 2 was completed in June 2015 and Precincts 4 and 5 were completed in November 2016. Areas of created compensatory habitat are currently on the initial three-year maintenance period. This requirement is therefore not applicable. |
| 5.2 (and 3.3) | WSF OCS-6 | Status of compensatory habitat creation and offset delivery including:<br>• Results of any pre-clearing Wallum Sedge Frog habitat surveys (including habitat score in accordance with table 5 of the WSF OCS)<br>• Results of any Wallum Sedge Frog habitat condition surveys in the Environmental Protection Zone<br>• A quantification of Wallum Sedge Frog habitat protected and Wallum Sedge Frog habitat removed or destroyed to tally to the allowed maximum of 152 ha impacted<br>• Calculation of areas of created compensatory habitat and results of any maintenance monitoring<br>• Calculation of areas of Wallum Sedge Frog Habitat created in the EPZ as offsets and results of any maintenance monitoring<br>• Calculation of areas of created or restored Wallum Sedge Frog habitat that has met the key performance indicators in both | Compliant | **Pre-clearing Wallum Sedge Frog Surveys**<br>The following pre-construction surveys of Wallum Sedge Frog habitat have been carried out:<br>• Precincts 7-15 and 18 was surveyed on 23 September 2017<br>• Precinct 1, 2 and Part 3/4 was undertaken on 4 January, 6 February and 2 December 2014<br>• Precinct 3, 4 and 5 was surveyed on 23 September 2016.<br>Existing habitat in the Environmental Protection Zone has been surveyed during pre-construction surveys of the adjacent Precinct area.<br><br>**Wallum Sedge Frog Habitat Condition Surveys**<br>Habitat quality scores have been calculated for all Wallum Sedge Frog breeding habitat across Precincts 1-5 for future use in the delivery of the OSC Strategy. The results are documented in the pre-construction survey reporting.<br><br>**Calculation of Wallum Sedge Frog Habitat Protected, Removed or Destroyed**<br>The ledger of areas of created compensatory habitat is provided in Appendix C and monitoring results are reported under the WSFMP in Table A7. |

| | | | | |
|---|---|---|---|---|
| | | the compensatory habitat and offset areas. | | Wallum Sedge Frog habitat to be created in the EPZ as offsets will commence in accordance with the relevant Precinct Environmental Rehabilitation Plan, Environmental Protection Plan and Conservation Infrastructure Agreement. |
| 3.3 | WSF OCS-7 | The Wallum Sedge Frog Habitat map (Map 2.2d) is updated after each pre-construction survey to track the areas of Wallum Sedge Frog Habitat protected, created and removed. | Compliant | The latest version of Map 2.2d (1 June 2017) showing areas of Wallum Sedge Frog habitat retained and created is provided in Appendix B. |
| 4.2 | WSF OCS-8 | Opportunities for improving existing Wallum Sedge Frog Habitat or creating new Wallum Sedge Frog Habitat are identified during the preparation of each Precinct's Environmental Rehabilitation Plan, including consideration of areas for delivery of offsets within the Environmental Protection Zone.<br>The habitat quality of areas proposed as potential offsets (either enhancement of existing low-quality Wallum Sedge Frog Habitat or for newly created habitat) will be assessed in accordance with the habitat score approach in table 5 of the WSF OCS and the results of the EPBC Act Offset Assessment Guide calculator.) | Compliant | The Precinct 2 Environmental Rehabilitation Plan identifies 8.4 ha for habitat enhancement works and 0.3 ha of habitat for reconstruction for Wallum Sedge Frog within the Environmental Protection Zone and the Precinct 3-5 Environmental Rehabilitation Plan identifies 8.3 ha for habitat enhancement works.<br><br>Habitat enhancement and re-construction works will commence in accordance with the requirements of the relevant Precinct Environmental Rehabilitation Plan, Environmental Protection Plan and Conservation Infrastructure Agreement. |
| 4.2 | WSF OCS-9 | An area of created compensatory habitat that fails to meet the key performance indicators after the maximum total maintenance period of 12 years, is offset by the offset established in the Environmental Protection Zone. The actual area required to be covered by the offset contribution has been calculated based on the habitat quality scores and the results of the EPBC Act Offset Assessment Guide calculator. | Not applicable. | Habitat creation in Precinct 2 was completed in June 2015 and Precincts 4 and 5 were completed in November 2016. Areas of created compensatory habitat are currently within the initial three-year maintenance period. |

# APPENDIX B MAP OF WALLUM SEDGE FROG HABITAT CREATED, RETAINED AND REMOVED




EPBC Referral Boundary

Master Plan Precincts (09/09/2015)

WSF Habitat Impacted

WSF Habitat Protected

**Conservation Areas:**

- Creek Corridor
- Riparian Zone
- Frog Zone
- Frog Buffer
- Lifestyle
- Environmental Protection Zone
- Major Recreation Park
- Environmental Education Facility

~280 ha Frog Conservation (ex EPZ)
- Includes Riparian, Frog zone, Frog buffer.
- Excludes areas of mapped WSF habitat.

Combined pre-construction mapped WSF habitat
~64ha protected
~95ha impacted

EPZ (including major recreational park and frog buffers) ~ 435ha

| Precincts surveyed | Date surveyed | Weather conditions | Survey methodology |
|---|---|---|---|
| All | Jan - Mar 2012 | Very wet, with 630.5, 325.0 and 457.9 falling in Jan, Feb and Mar respectively | Orignial PER survey |
| 1 to 2, Part 3 | Dec-14 | 2014 was an extremely dry year, with only 269.6 mm of rain falling between Jan and Apr 2014 | Phase 2 (dry weather) survey method, as per Box 1 (pg 52) |
| 4 to 5, Part 3 | Sep-16 | Dry Summer/Autumn and Spring/Summer period | Phase 2 (dry weather) survey methods, as per Box 1 (pg 52) |
| 6 to 16 18 | Mar-17 | 483mm between Jan and Mar, with majority of rain (385mm) falling within Mar. | Phase 1 (wet weather) survey methods, as per Box 1 (pg 52) |

| Issue | Date | By | Chkd | Appd |
|---|---|---|---|---|
| 27 | 1/06/2017 | MD | MD | MD |

0 0.5 1 km


ARUP

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Fortitude Valley, QLD 4006
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www.arup.com


Client
**Stockland**

Job Title
**Aura**

Drawing Title
**Wallum Sedgefrog (and Acid Frog) habitat to be removed**

Scale at A3
**1:23,276**

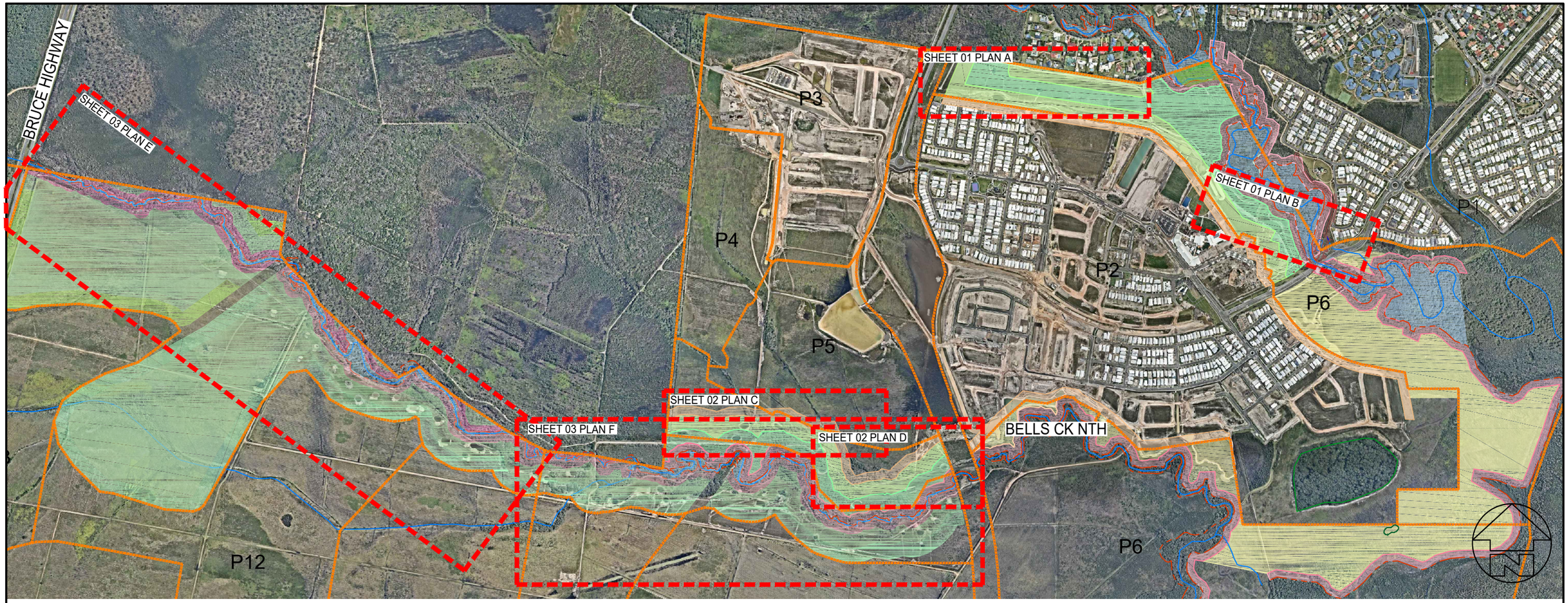
Drawing Status
**For Information**

Coordinate System
**GDA 1994 MGA Zone 56**

Job No
**222431-00**

Drawing No
**2.2d**

J:\238000\236678-00 Caloundra South conservation\Work\Internal\GIS\Workspace\MAP\2.2D\MAP2.2D_v27.mxd




# LOCATION OF WALLUM SEDGE FROG RECREATED HABITAT

PROJECT NO: AWC_1_18947

REV: A FOR DISCUSSION

DATE: 22/03/2018

CONTENTS:

AWC 1_18947_00_LOCALITY PLAN + DRAWING INDEX

AWC 1_18947_01_CREATED WSF POND PRECINCT 2

AWC 1_18947_01_CREATED WSF POND PRECINCT 4,5

AWC 1_18947_01_CREATED WSF POND PRECINCT 7,13

PREPARED FOR:

Stockland

PREPARED BY:

AWC
Australian Wetlands Consulting Pty Ltd
8 George st
Bangalow NSW 2479
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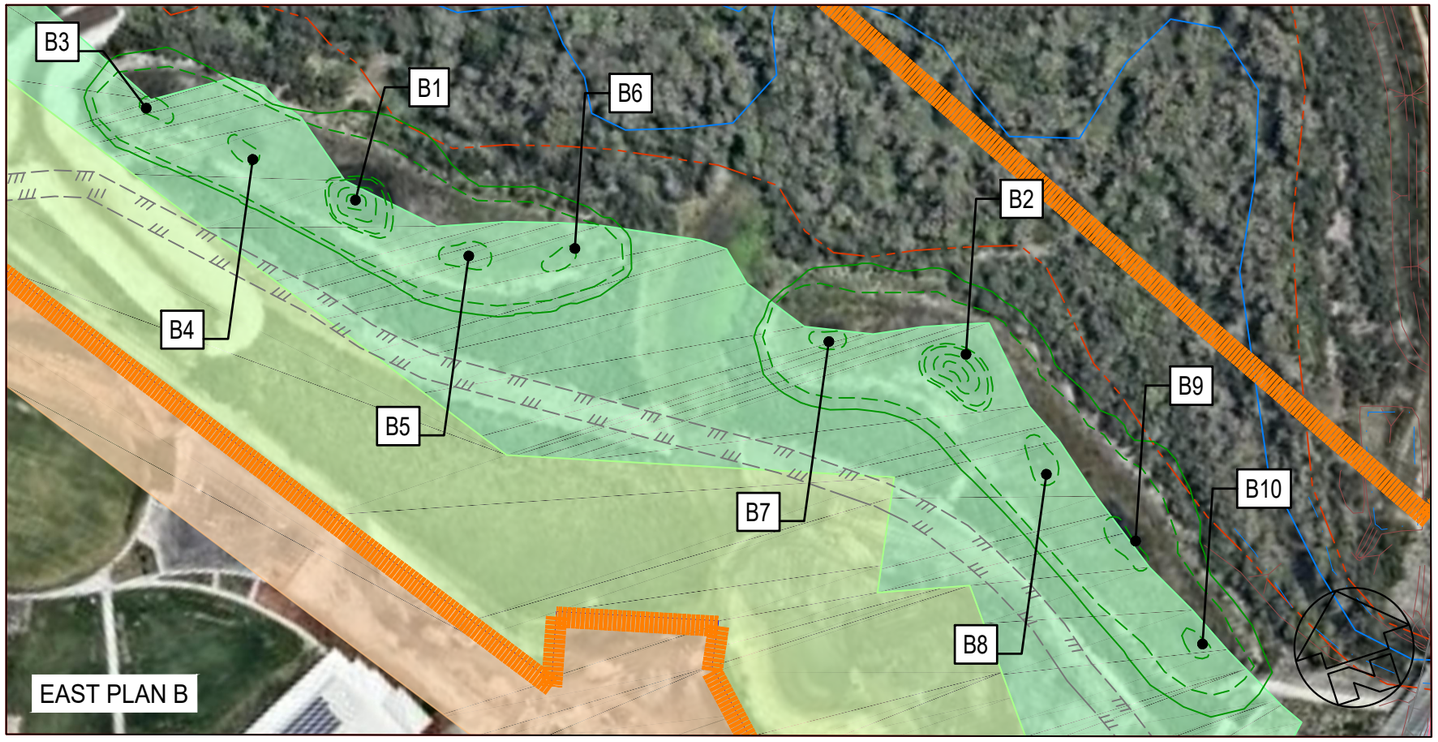


LEGEND

- BELLS CREEK NORTH
- RIPARIAN CORRIDOR
- FROG ZONE
- FROG BUFFER

CLIENT
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| REV. | ISSUE / AMENDMENTS | DATE |
|---|---|---|
| A | FOR DISCUSSION | 22-03-18 |

| | |
|---|---|
| DESIGNED | MB/SS |
| DRAWN | SS |
| CHECKED | MB |

PROJECT
**LOCATION OF WALLUM SEDGE FROG RECREATED HABITAT**

DRAWING
**PRECINCT 2 CREATED WSF PONDS**

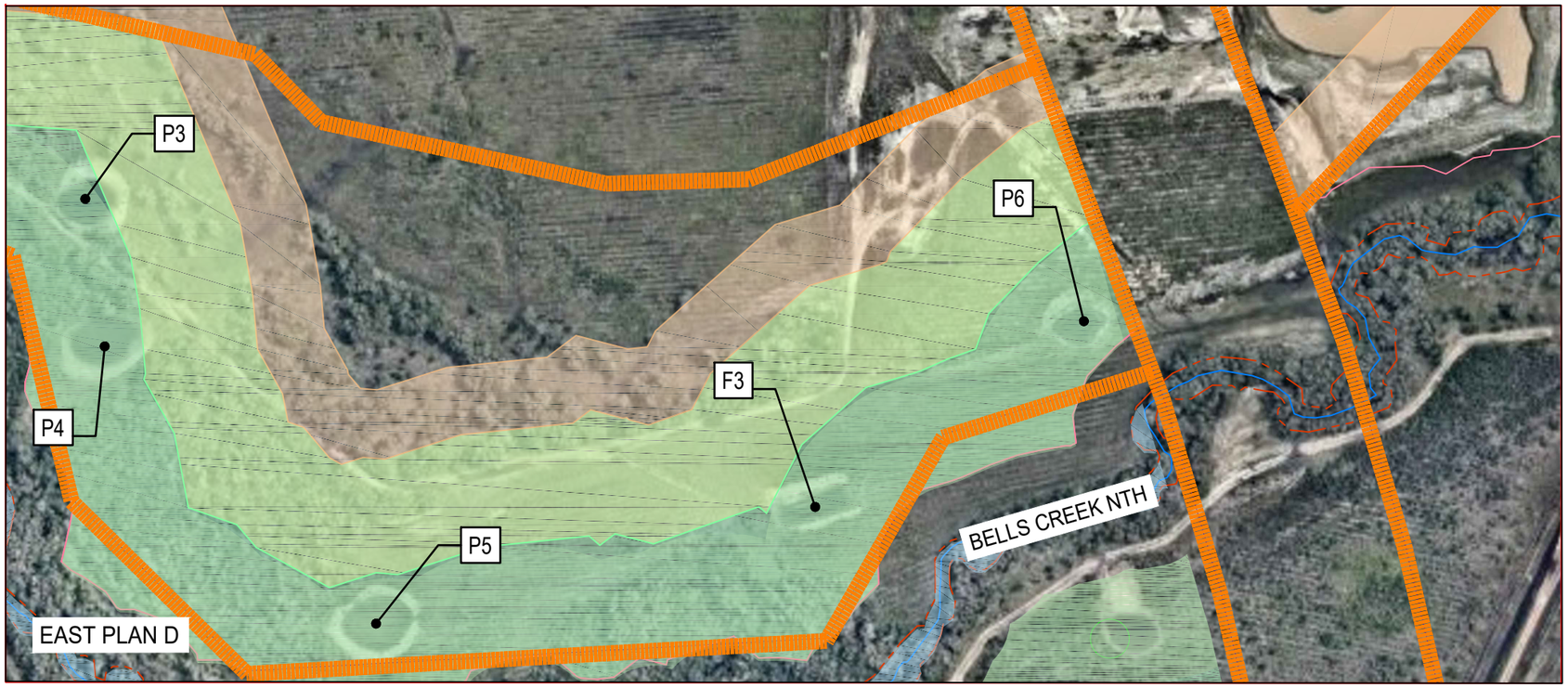
DWG No.

CAD FILE No.

REV.

SCALE 0 100m

DRAWING CREATED


## LEGEND

- BELLS CREEK NORTH
- RIPARIAN CORRIDOR
- FROG ZONE
- FROG BUFFER

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| REV. | ISSUE / AMENDMENTS | DATE |
|---|---|---|
| A | FOR DISCUSSION | 22-03-18 |
| | | |
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| | | |
| | | |
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| | |
|---|---|
| DESIGNED | MB/SS |
| DRAWN | SS |
| CHECKED | MB |

PROJECT

**LOCATION OF WALLUM SEDGE FROG RECREATED HABITAT**

DRAWING

**PRECINCT 4,5 CREATED WSF PONDS**

DWG No.

CAD FILE No.

REV.

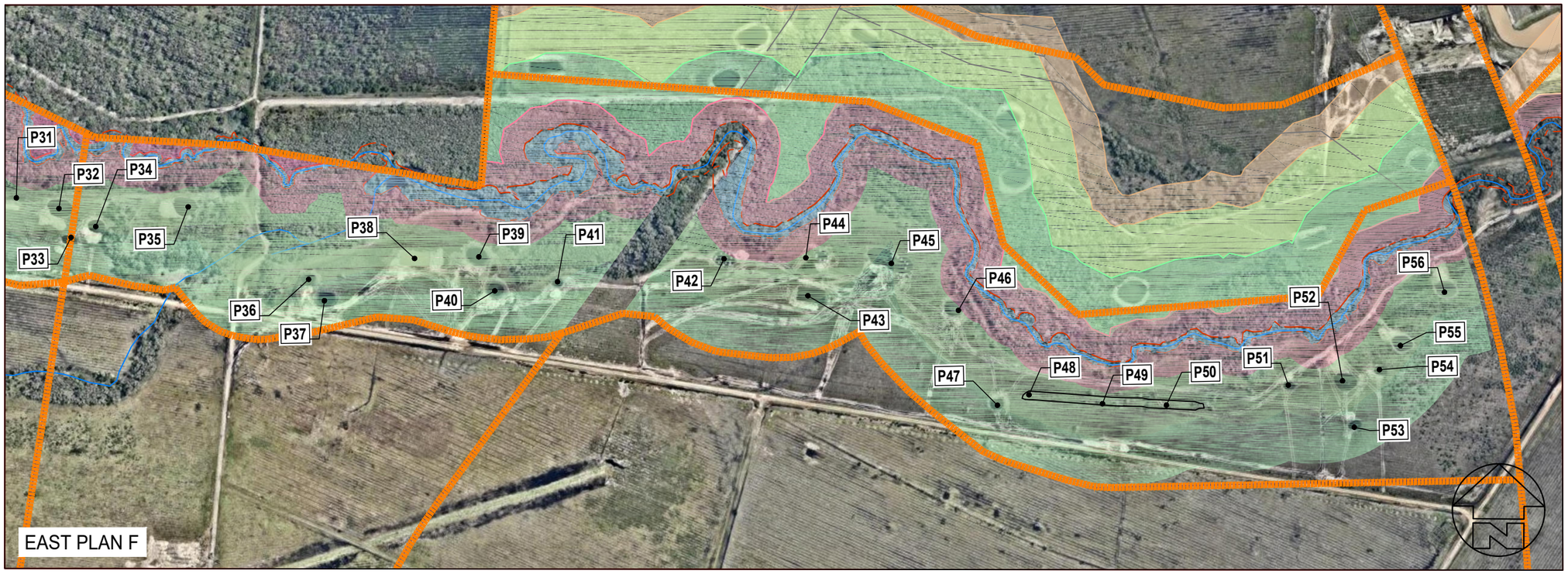
SCALE 0 100m

DRAWING CREATED

NOTE;
AT TIME OF AERIAL PONDS 1-10
HAD NOT BEEN COMPLETED

BELLS CREEK NORTH

WEST PLAN E




EAST PLAN F

## LEGEND

- BELLS CREEK NORTH
- RIPARIAN CORRIDOR
- FROG ZONE
- FROG BUFFER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| REV. | ISSUE / AMENDMENTS | DATE |
|---|---|---|
| A | FOR DISCUSSION | 22-03-18 |

| | |
|---|---|
| DESIGNED | MB/SS |
| DRAWN | SS |
| CHECKED | MB |

PROJECT
**LOCATION OF WALLUM SEDGE FROG RECREATED HABITAT**

DRAWING
**PRECINCT 7,13 CREATED WSF PONDS**

DWG No.

CAD FILE No.

REV.

SCALE 0 200m

DRAWING CREATED

# APPENDIX C LEDGER OF WALLUM SEDGE FROG HABITAT CREATED, RETAINED AND REMOVED SINCE COMMENCEMENT OF THE ACTION

| Master Plan Precinct | Existing WSF Habitat Impacted (ha) | WSF Habitat in the Frog Zone, Frog Buffer and Riparian Zone (ha) | | |
|---|---|---|---|---|
| | | Existing Habitat Protected | Created Compensatory Habitat On-maintenance* | Created Compensatory Habitat Off-maintenance* |
| 1 | 0.60 | 1.10 | NA | NA |
| 2 | 13.10 | 9.30 | 16.10 | 0.00 |
| 3 | 0.62 | 0.00 | NA | NA |
| 4 and 5 | 4.54 | 0.17 | 12.50 | 0.00 |
| **TOTAL** | **18.86** | **10.57** | **28.60** | **0.00** |

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| **Project Name:** | Caloundra South Environmental Services |
| **Project Number:** | 30031518 |
| **Revision Number:** | 0 |

Revision History

| Revision # | Date | Prepared by | Reviewed by | Approved for Issue by |
|---|---|---|---|---|
| 0 | 5/4/2018 | M. Zulpo | R. Brazier | R. Brazier |
| | | | | |
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