Aura South self-contained master-planned community

Application Number: **01759** Commencement Date: **05/04/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Aura South self-contained master-planned community

1.1.2 Project industry type *

Residential Development

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

01/03/2032

1.1.4 Estimated end date *

31/01/2052

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The action consists of a proposed self-contained master-planned community including urban living, industry and business, district and neighbourhood centres, schools, sport and recreation parks, waterway and wetland rehabilitation areas, green network, green infrastructure corridors, inter-urban break buffer, lifestyle buffers and transport infrastructure, generally in accordance with the proposed Aura South Structure Plan (refer to Appendix A of the Attached *Att 1 Technical Matters of National Environmental Significance Report*, Section 7 and page 123). Within the proposed structure plan consisting of 1,231 ha, 445 ha is nominated for protection, rehabilitation and buffering of ecological values, features and adjacent uses, bringing the total building footprint to 786 ha (refer to Figure 1 and 2 of the Attached *Att 1 Technical Matters of National Environmental Significance Report*, page 3 and Section 1). The retention areas include:

- protection of approximately 172 ha of existing ecological values and features;
- rehabilitation of approximately 220 ha of degraded farm land into biodiversity areas; and
- management of approximately 53 ha of buffer areas associated with the inter-urban break, lifestyle buffers and northern green infrastructure corridor.

Apart from providing much-needed affordable housing supply, the development of Aura South will also deliver other important community benefits, including significant areas for rehabilitation, environmental protection and conservation, infrastructure investment, social housing, employment, water quality improvements, public transit and road network improvements.

The proposed Aura South Structure Plan has been informed by significant technical investigations. The site has been extensively cleared and maintained for over 50 years; and was previously a pine plantation. It is currently leased for grazing purposes. Site investigations have identified vegetation communities of importance, including the centrally located Coastal Swamp Sclerophyll Forest and regenerating

populations of *Allocasuarina emuina* (Mt Emu She-oak). The proposed structure plan has been designed to ensure the proposed development avoids and protects these vegetation communities of importance. Approximately one-third (over 440 ha) of the project area will be dedicated to land uses designed to protect and enhance these vegetation communities, including a Waterway Wetland / MNES Rehabilitation Area and a regionally significant Green Network Precinct. The proposed urban land uses have been configured to incorporate setbacks to achieve the protection of on-site and off-site ecological values.

As is common throughout the local area, the active farming/agricultural activities combine with acute weather events to provide disconnected patches of suboptimal *Litoria olongburensis* (Wallum Sedge Frog, or WSF) habitat. A small number of specimens were intermittently observed as part of detailed investigations, however this was limited to areas periodically disturbed by the ongoing rural land use management regime (grazing and chopper rolling). If the current rural management activities were to cease, the WSF habitat characteristics were not considered likely to self-sustain and subsequently the species recorded were not considered an 'important population' under the various Commonwealth Government guidance materials. Up to 34.484 ha of this type of WSF habitat will be removed from the core disturbed portions of the site by the proposed action. Approximately 50 ha of connected and more permanently available habitat is incorporated within the approximately 393 ha environmental protection and rehabilitation area.

ShapingSEQ (the SEQ Regional Plan), identifies an Inter-Urban Break located over 1 km south of the proposed action. Stockland has identified an Inter-Urban Break buffer area as part of the proposed Aura South Structure Plan which provides the opportunity to significantly increase the size of this break. The purpose of this buffer is to strengthen the existing Inter-Urban Break boundary alongside the proposed self-contained master-planned community.

Management of water quality, both through construction and operation of the site in perpetuity, is an important consideration with detailed investigations concluding the Pumicestone Passage and receiving tributaries will not be subject to adverse water quality impacts as a result of the proposed action. The site is extensively cleared with historically constructed farm drains and eroded gullies. The proposed development of the site will result in the creation of significant areas of Water Sensitive Urban Design and include the rehabilitation of degraded areas. This will ensure flows to the Pumicestone Passage and associated Moreton Bay Ramsar site are protected through water quality parameter trigger values and benchmarks.

The majority of the proposed urban land uses as shown on the structure plan are located on elevated, cleared land thereby ensuring the project is resistant to coastal storm surges and not impacted by climate change projections.

The proposed development of Aura South will result in extensive rehabilitation of degraded areas throughout the site. Implementation of the proposed Aura South Structure Plan will deliver a net gain across a range of important ecological features and biodiversity values via the Waterway Wetland / MNES Rehabilitation Area and a regionally significant Green Network Precinct. Upon completion, the project will provide both tenure security and ecological creation and improvement in support of a mapped regional scale biodiversity corridor that is currently unachievable with the ongoing agricultural land uses on-site and in the local area.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Commonwealth

Legislation: *Environment Protection and Biodiversity Conservation Act 1999*

The proposed action is referred to the department administering the *Environment Protection and Biodiversity Conservation Act 1999* as it is considered a controlled action requiring approval from the Minister. This viewpoint is based on the Matters of National Environmental Significance that occur on-site and adjacent to site, however many are suitably managed and avoided as part of the proposed action.

Potential impacts to Matters of National Environmental Significance require assessment against the *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* (Commonwealth of Australia 2013). This assessment is provided in the *Technical Matters of National Environmental Significance Report* (refer to the Attached *Att 1 Technical Matters of National Environmental Significance Report*, Section 5 and page 92)

State

Potential impacts to Matters of State Environmental Significance will be regulated under the State planning framework, and affiliated environmental legislation and instruments. This will include:

• the Planning Act 2016 (Qld) (Planning Act) – The Planning Act is Queensland's overarching planning legislation, and establishes the planning approval framework under which development approval for the proposed action is intended to be sought;

• the State Planning Policy 2017 (SPP) – The SPP is a statutory instrument made by the State under the Planning Act. It sets out overarching policies regarding a broad range of matters of interest to the State, including ecological matters. The SPP will be relevant in the assessment of the development application, to be made under the Planning Act, for the proposed action;

• the South East Queensland Regional Plan, known as "ShapingSEQ" – ShapingSEQ is a further statutory instrument made by the State under the Planning Act, setting out more targeted policies for the South-east Queensland region. Like the SPP, ShapingSEQ will be relevant in the assessment of the development application, to be made under the Planning Act, for the proposed action;

• the Vegetation Management Act 1999 (Qld) (VMA) – The VMA operates in tandem with the Planning Act, by establishing a system for identifying and classifying protected categories of vegetation. The VMA is primarily given effect through the Planning Act, which identifies circumstances in which clearing of vegetation protected by the VMA is prohibited, requires approval, or may occur "as of right". Therefore, to the extent that the proposed action involves clearing of native vegetation, that clearing will be regulated by the VMA, through the Planning Act;

• the Nature Conservation Act 1992 (Qld) (NCA) – The NCA establishes a specific framework, including standalone approval processes, for the protection of particular areas, flora and fauna. To the extent that the proposed action may involve any matters protected under the NCA, all necessary approvals will be obtained in accordance with the NCA;

• the Fisheries Act 1994 (Qld) (Fisheries Act) – The Planning Act includes particular approval requirements for certain works in fish habitat areas, subject to exemptions set out under the Fisheries Act. To the extent that the proposed action may involve such regulated works, the exemptions in the Fisheries Act may be relevant; and

• the Environmental Offsets Act 2015 (Qld) (Offsets Act) – The Offsets Act establishes a uniform Statewide framework for the imposition of conditions requiring environmental offsets. To the extent that the development approval for the proposed action requires such offsets in relation to Matters of State Environmental Significance, or Matters of Local Environmental Significance, those offsets will be given effect through conditions imposed in accordance with the Offsets Act.

Local

Design and delivery of the proposed self-contained master-planned community will be subject to Council input and assessment, however the exact parameters are not confirmed at this point in time due to the preliminary phase of the project.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

As part of confirming relevant Matters of National Environmental Significance and ensuring survey methodologies, techniques and experts were in accordance with Commonwealth Government requirements intermittent consultation has been undertaken with Department Assessment and Technical Staff. This consultation has included meetings via Teams, in Canberra and a full day site validation inspection attended by seven Department representatives. During the site inspection the Department traversed the site with a number of the technical experts completing survey and reporting for MNES matters.

Representatives from the Queensland Government Department of State Development, Infrastructure, Local Government and Planning visited the proposed action area in June 2022 as part of a discussion around the biodiversity values on the ground in comparison to those identified in State environmental overlays.

A programme of general public consultation will commence in the second half of 2023 as part of the proponent's broader commitment to inform the community of the project particulars and anticipated pathway towards delivering the proposed Aura South Structure Plan (refer to Appendix A of the Attached *Att 1 Technical Matters of National Environmental Significance Report*, Section 7 and page 122).

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the

department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint. Alternatively, email us at privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	24144972949
Organisation name	Saunders Havill Group Pty Ltd
Organisation address	9 Thompson Street, Bowen Hills QLD 4006

Referring party details

Name	Kathryn Tibbles
Job title	Senior Environmental Scientist
Phone	07 3251 9471
Email	kathryntibbles@saundershavill.com
Address	

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	133 Castlereagh Street SYDNEY NEW SOUTH WALES 2200

Person proposing to take the action details

Name	Mark Stephens
Job title	Senior Environment and Community Development Manager
Phone	0730135845
Email	mark.stephens@stockland.com.au
Address	Level 1, 1 Edwards Terrace, Baringa QLD 4551

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

N/A – Stockland Development Pty Ltd does not have any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

Stockland Development Pty Ltd has a satisfactory record of responsible environment management, with the company undertaking a commitment to take immediate action to reduce emissions, signing up to the UN-backed Race to Zero Business Ambition for 1.5°C, which requires a commitment to set science-based emissions reductions targets for Scope 1, 2 and 3 emissions verified by the Science-based Targets Initiative (SBTi). This extends Stockland's long-standing commitment to climate change action and delivering positive environmental, social and economic outcomes for the community. As Stockland continues to seek innovative and scalable solutions to reduce carbon emissions, the company is focused on increasing renewable energy integration and trialling new ways of advancing circularity by closing material loops and recognising that waste has value. Stockland continues to build for a future that protects and restores existing natural environments, with goals to create natural assets with their spaces and by enabling on- and off-site habitat restoration.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Stockland Development Pty Ltd environmental policy and framework is provided in the Attached *Att 2 Environmental Policy* (Stockland, 2022).

Stockland are committed to positively contributing to the environment and the communities in which they operate by mitigating the environmental risks and impacts associated with their activities. They will meet these targets by establishing environmental targets in order to continually improve their environmental performance such as reducing waste, using sustainable building materials and improving water management. They also aim to protect and restore enhancing natural environmental systems and associated biodiversity within their sites where possible. Lastly, they encourage environmentally responsible actions and behaviours among our company and customers, regularly promoting their knowledge of leading practice environmental management.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details	
ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	133 Castlereagh Street SYDNEY NEW SOUTH WALES 2200

Proposed designated proponent details	
Name	Mark Stephens
Job title	Senior Environment and Community Development Manager
Phone	0730135845
Email	mark.stephens@stockland.com.au
Address	Level 1, 1 Edwards Terrace, Baringa QLD 4551

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	24144972949
Organisation name	Saunders Havill Group Pty Ltd
Organisation address	9 Thompson Street, Bowen Hills QLD 4006
Representative's name	Kathryn Tibbles
Representative's job title	Senior Environmental Scientist
Phone	07 3251 9471
Email	kathryntibbles@saundershavill.com
Address	

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	133 Castlereagh Street SYDNEY NEW SOUTH WALES 2200
Representative's name	Mark Stephens
Representative's job title	Senior Environment and Community Development Manager
Phone	0730135845
Email	mark.stephens@stockland.com.au
Address	Level 1, 1 Edwards Terrace, Baringa QLD 4551

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

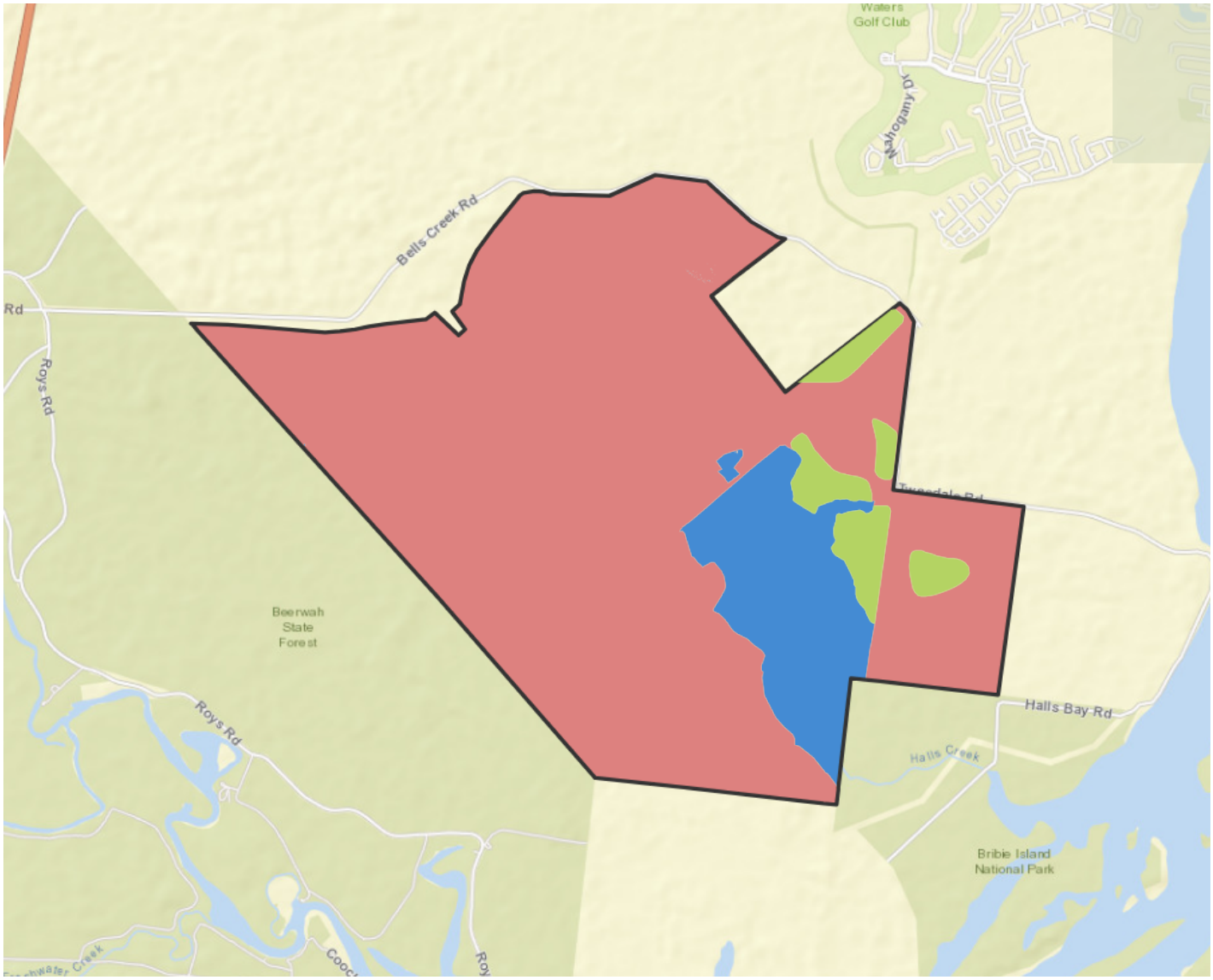
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Bells Creek Road, Coochin Creek QLD 4519

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

All lots within the site of the proposed action are held under freehold tenure.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The project area lies within the Sunshine Coast region and the closest major centre is Caloundra which is 22 km by road or 8 km in a straight line distance. The site forms part of the State's designated Regional Landscape and Rural Production Area and urban designations occur to the north.

Several types of existing and approved uses occur on the boundaries shared with the project area, including:

- urban;
- State forest (pine plantation);
- cropping land;
- roads; and
- natural areas.

Access to the project area is currently provided via the existing Bells Creek Road and this will remain unchanged.

The majority of the proposed action area that will be subject to residential development is elevated, characterised by regularly managed and maintained exotic pastural grasses and is flood-free. Where the referral area is low-lying, these areas contain greater environmental values and are typically associated with the existing native vegetation. Isolated low-lying areas in association with eroded drainage lines and pine furrows were identified as containing patches of suitable acid frog habitat.

Waterway values within the referral area are predominantly constructed drainage lines supporting cattle and camel grazing across the land. The constructed drainage lines were established circa 1981. The construction of the drainage lines resulted in altered flow paths and catchment drainage regimes which were focused on benefitting the exotic pine plantation practices, unlikely without due consideration for the downstream environments potentially impacted.

Halls Creek was observed in the south-eastern aspect of the referral area. Tributaries of Halls Creek were historically modified as part of land use practices, with the systems varying in quality and condition throughout. It is considered that the culvert structures installed at the property boundary in 1981 as part of broad-scale land clearing in preparation for exotic pine plantation practices had significantly altered the functionality of the Halls Creek system.

Considering the current use of the referral area and configuration of paddocks and water points, it is evident the historical uses avoided the low-lying areas. Ecotonal effects were observed along the interface of retained native vegetation communities recognised as being reflective of the Coastal Swamp Sclerophyll Forest threatened ecological community and those paddocks receiving ongoing modification. Ecotonal effects mostly include varying levels of weed presence, which is common in these instances, and the effects of cattle grazing with tracks permeating the perimeter. Existing low-lying areas of high ecological value will be retained as part of the proposed action and they have been accounted for in the proposed Aura South Structure Plan (refer to Appendix A of the Attached *Att 1 Technical Matters of National Environmental Significance Report*, Section 7 and page 123). Buffer widths along the perimeters of high value areas will be established to mitigate impacts from the proposed action. Through management of these buffer areas, the high value low-lying areas will be protected *in situ* and into perpetuity.

The current condition of the vegetation onsite is mostly of the historically cleared, managed and maintained exotic pastural grasses which support the ongoing agricultural practices. The site is located amongst a mixed-use landscape characterised by cleared agricultural land, environmental areas (including conservation areas and reserves), exotic pine plantations, and road infrastructure. Towards the eastern aspect of the site, existing native vegetation is mapped as Category B (remnant) and Category C (high-value regrowth) vegetation, however the majority of the site is characterised by regularly managed and maintained exotic pastural grasses (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 3.2 and page 44).

3.1.2 Describe any existing or proposed uses for the project area.

The substantially cleared agricultural land is 1,231 ha on part of Lots 1 & 2 on RP910848. The land was extensively cleared from former forestry operations over many decades. The site is located within the northern portion of the Halls Creek Potential Future Growth Area and immediately south of the Caloundra South Priority Development Area (known as Aura). The existing agricultural use is consistent with the current rural zoning under the planning scheme.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

Moreton Bay Ramsar Site

The referral area boundary is situated proximal to the Bells Creek section of the Ramsar site designated boundary, where at its most narrow there is approximately 40 m of separation. The proposed self-contained master-planned community urban uses are situated an average of 1,200 m from the Ramsar wetland boundary and a minimum 1 km from the Pumicestone passage. Current land uses situated between the referral area and the Ramsar wetland boundary are dominated by agricultural farming practices, Pine plantations and other cultivated species, and low-lying vegetation areas (captured as National Parks and State Forests). The proposed self-contained master-planned community intends to dedicate the land between the proposed urban uses and Ramsar site as Green Network, which will be subject to MNES habitat recreation, restoration and expansion.

The referral area is 1 km upstream from the Pumicestone Passage which is part of the Moreton Bay Ramsar site. Stormwater run-off is inevitable and will occur largely via the wetland which runs through the wetland in the south-east of the site, with stormwater then traversing approximately 3 km from the site boundary via Halls Creek before entering Halls bay which drains into the Pumicestone Passage, one of the widest sections of the Passage with high tidal movement. Detailed hydrology and water quality modelling has been completed for various scenarios by specialist, Water Technology. The detailed reporting is provided in Appendix H of the *Technical Matters of National Environmental Significance Report* (Refer to the attached *Att 1 Technical Matters of National Environmental Significance Report*, Section 7 and page 391). Overall, the hydrology and water quality modelling found that through the incorporation of management measures relevant to hydrology and water quality, no net increase in pollutant run-off was predicted to be likely as a result of the development.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The referral area is characterised by low-lying land in the east, elevated land (approximately 10 m above sea level) in the south, west and north and the highest point being the western area which reaches approximately 20 m above sea level. Overall, the gradient is minor and conducive to the existing grazing purpose. Surface water flows are generally eastwards.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Across the majority of the referral area, the land is currently dominated by historically cleared, managed and maintained exotic pastural grasses which support the ongoing agricultural practices. The majority of the site is regularly maintained through slashing primarily to manage exotic pine wilding regrowth as part of property management and to facilitate current grazing activities. Historically, the referral area was cleared and used for forestry purposes as an exotic pine plantation. Towards the eastern aspect of the site, existing native vegetation is mapped as Category B (remnant) and Category C (high-value regrowth) vegetation.

Aura South is located amongst a mixed-use landscape characterised by cleared agricultural land, environmental areas (including conservation areas and reserves), exotic pine plantations, and road infrastructure.

The majority of the referral area is elevated, characterised by regularly managed and maintained exotic pastural grasses and is flood-free. Where the referral area is low-lying, these areas contain greater environmental values and are typically associated with the existing native vegetation. Isolated low-lying areas in association with eroded drainage lines and pine furrows were identified as containing patches of suitable acid frog habitat.

Ecotonal effects were observed along the interface of retained native vegetation communities recognised as being reflective of the Coastal Swamp Sclerophyll Forest threatened ecological community and those paddocks receiving ongoing modification. Ecotonal effects mostly include varying levels of weed presence, which is common in these instances, and the effects of cattle grazing with tracks permeating the perimeter.

Coastal Swamp Sclerophyll Forest threatened ecological community

The structure of the Coastal Swamp Sclerophyll Forest threatened ecological community varies from open woodland to closed forest with a crown cover of at least 10% and typically no more than 70% (Tozer et al. in prep.). In an intact forest, the canopy can be layered, with a sub-canopy of *Melaleuca* grading into a taller mixed melaleuca and/or eucalypt canopy. Canopy density, light availability, water regime, salinity level and soil fertility influence the development and composition of the understorey flora.

The wetland area dominated by *Melaleuca quinquenervia* (Broad-leaved Paperbark) in the south-east of the referral area was assessed in detail over the field survey effort. The patch was identified to meet key diagnostic criteria as listed in the conservation advice. The patch meets the Class A classification in the condition threshold assessment. Although it is noted the edges of the wetland on-site were observed to contain levels of weed infestation and degradation as a result of cattle access, the inner habitat was observed to be in good condition with minimal weed species present. Resultantly, the patch on-site is considered a higher priority for protection and management in accordance with the listed conservation advice.

Habitat critical to the survival of the Coastal Swamp Sclerophyll Forest threatened ecological community is identified to be those areas where natural hydrological regime remains reasonably intact such that the vegetative diagnostic features are maintained. This is because hydrology governs the vegetation in wetland systems, being a key component of this community's existence. Class A, B1, B2 and C1 identified in the conditions threshold of the conservation advice are considered to represent those parts of the ecological community closest to its benchmark state, with more intact hydrology, other ecological function, and other critical habitat features. It is noted that Patch 1 of the Coastal Swamp Sclerophyll Forest threatened ecological community located on-site is considered one of these areas and therefore will be treated as such throughout the following significant impact assessment. Patch 2 of the Coastal Swamp Sclerophyll Forest threatened ecological community is considered to be Class B2 due to its exposure to historical land use practices which have occurred at varying intensities over the past 60 years.

***Litoria olongburensis* (Wallum Sedge Frog, or WSF)**

WSF individuals were located within the referral area at five locations that are identified on Plan 4 (refer to the Attachment 1 *Att 1-Technical Matters of National Environmental Significance Report*, Section 3.2.2.1 and page 65). These locations met current research criteria where WSF are found to prefer habitats with acidic (less than a pH of 6) and tannin-stained water qualities, within heathland environs.

It is important to note that the WSF individuals were located outside of the mapped remnant vegetation polygons within the referral area. The ground-truthed WSF habitat accurately mapped within the referral area occurs within historically cleared exotic pine plantation harvesting and production areas, currently being actively used as agricultural grazing pasture land. The surveyed WSF habitat varied in quality, however, the majority of the mapped habitat demonstrated evidence of past and current land use impacts.

The proposed self-contained master-planned community will result in the removal of 34.484 ha of WSF habitat. However the proposed self-contained master-planned community will recreate approximately 50 ha of more consistently available WSF habitat strategically connected within the Green Network Precinct (refer to Plan 8 in Attachment 1 *Att 1- Technical Matters of National Environmental Significance Report*, Section 4.1 and page 79). The recreation of approximately 50 ha of purpose-built WSF habitat within the Green Network Precinct will result in greater area of more superior habitat being consistently availability for the WSF given the intention to connect habitat into the adjoining Coastal Swamp Sclerophyll Forest threatened ecological community and other conservation outcomes within the Green Network Precinct.

Allocasuarina emuina **(Mt Emu She-oak)**

Targeted surveys undertaken in 2017 and 2019 identified several *Allocasuarina emuina* (Mt Emu She-oak) specimens in the northern extent of the referral area. These have been confirmed in subsequent surveys – refer to Plan 3 of the *Technical Matters of National Environmental Significance Report* (Refer to refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 3.2.2 and page 49). The location of the Mt Emu She-oak has been avoided by development as part of the continued planning and alterations to the ultimate master-planned community. Importantly, a buffer ranging from 50 m to over 100 m has been adapted from the GPS-recorded population to permanent infrastructure, including school buildings and residential areas. Further, 'soft' uses such as district sports park and recreational park are planned to be incorporated into areas along the interface edge to provide an additional buffer.

Despite extensive targeted searches being completed across the balance of the referral area, no other individuals of the Mt Emu She-oak have been recorded. Given the proposed self-contained master-planned community has been strategically designed to impact cleared open paddocks which have been historically utilised for exotic pine plantations and agricultural practices, it is unlikely Mt Emu She-oak is present in any other areas.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Towards the eastern aspect of the site, existing native vegetation is mapped as Category B (remnant) and Category C (high-value regrowth) vegetation under the Queensland *Vegetation Management Act 1999*. The large majority of vegetation on-site is mapped as Category X under the Queensland *Vegetation Management Act 1999.*

The referral area was broadly defined into six main vegetation communities:

1. Exotic pastural grass paddock (approximately 1,045.60 ha)
2. Coastal Swamp Sclerophyll Forest (approximately 143.31 ha)
3. Closed / wetland heathland (approximately 15.14 ha)
4. Constructed drainage lines with open heath regrowth (approximately 7.52 ha)
5. *Melaleuca* regrowth (approximately 11.89 ha)
6. Regrowth regional ecosystem 12.3.4 with *Melaleuca sp.* regrowth and *Eucalyptus robusta* (Swamp Mahogany) (approximately 6.52 ha)

Refer to the attached *Att 1 Technical Matters of National Environmental Significance Report,* Section 3.2.2 and page 49.

Soil and Geology

A desktop analysis of the site was conducted to identify the soils and geology with Australian Soil Resource Information System (ASRIS) and pre-clear Regional Ecosystem mapping that includes land zone definitions. Historical ASRIS mapping indicates that the referral area consists of Kurosols (KU) to the northern portion of the subject site, with Podosols mapped within the south-eastern section of the site. Kurosols are considered highly acidic with a strong texture contrast, often occurring on poorly drained soils with poor agricultural potential. Kurosols are mostly found in coastal regions, with the subject site considered a coastal site being located approximately 6.2km from the shoreline. Podosols are defined as soils which are generally highly sandy and acidic. These soils are also often found in coastal regions and on islands dominated by quartz sand. Pre-clear Regional Ecosystem mapping has the referral site mapped as containing Land zone 9-10 within the higher landscape of the site, with Land zone 3 occurring within the low-lying creek and wetland region of the area and Land zone 2 existing withing the eastern coastal portion of the subject site (refer to *Att 1 Technical Matters of National Environmental Significance Report*, Section 3.1.4 and page 39)

Exotic pastural grass paddock

The dominant vegetation community within the referral area was the exotic pastural grass paddock. The exotic pastural grass paddock comprises approximately 1,045.60 ha or 84.9% of the referral area. The dominant grass species are preferential for agricultural grazing. Due to historical and ongoing land use practices, this vegetation community is a highly modified environment.

Coastal Swamp Sclerophyll Forest

The dominant native vegetation community within the referral area is the Coastal Swamp Sclerophyll Forest threatened ecological community. The community comprises approximately 143.31 ha or 13.7% of the referral area. The outer edges of the community were dominated by *Acacia sp.* and *Pinus elliottii* (Slash Pine) regrowth. It is evident the historical and ongoing maintenance using farm machinery has created an ecotonal effect, where weed species and modified environs were dominant on the outer edges of the vegetation community. This ecotone zone encroaches approximately 15 m from the boundary, varying in width naturally. Within the core area, *Melaleuca quinquenervia* (Broad-leaved Paperbark) becomes dominant within the subcanopy and canopy. The understorey consists of flora species tolerant of receiving varying levels of inundation, such as *Calochlaena dubia* (Soft Bracken).

Water was present in association with the mapped drainage line (part of the Halls creek system) which meanders through the vegetation community in a general north-south direction. Pooled water was also present outside of these areas with aquatic flora present. Slightly elevated areas were observed to contain scattered mature eucalypt species, including *Eucalyptus tereticornis* (Forest Red Gum) and *Eucalyptus robusta* (Swamp Mahogany). Other species including *Allocasuarina littoralis* (Black Sheoak) were also observed scattered along the boundary.

Closed/wetland heathland

There were two isolated areas with characteristics indicative of a closed/wetland heathland vegetation community. The closed/wetland heathland vegetation community comprises approximately 15.14 ha or 1.2% of the referral area. The centrally located area reflective of closed heathland consisted of native sedges and shrubs. It is evident this location was subject to historical farm maintenance such as rolling and ongoing slashing. These uses have facilitated the creation of drainage lines and areas where water pooling can occur following rainfall. The existence of native sedges and shrubs has occurred as a result of this. Observed vegetation in this area included *Calochlaena dubia* (Soft Bracken), *Gahnia clarkei* (Tall Sawsedge), *Philydrum lanuginosum* (Woolly Frogmouth), *Isolepis nodosa* (Knobbly Club-rush) and *Fimbristylis ferruginea* (A Fringe Rush).

In the northern part of the referral area, a low-lying swamp area reflective of closed heathland was observed. Slashing and evidence of historical and ongoing cattle grazing throughout this area controls vegetation growth during drier periods and conversely the area is largely inaccessible and left to naturally regenerate during wetter periods. Native sedges, shrubs and regrowth tree saplings are among those that have naturally regenerated. Species within this area included *Hakea actites* (Wallum Hakea), *Melaleuca pachyphylla* (Wallum Bottlebrush), *Banksia robur* (Swamp Banksia), *Leptospermum liversidgei* (Swamp May), *Lomandra multiflora* (Many-flowered Mat Rush), and *Blechnum indicum* (Bungwall).

Visual observations identified that modification of channels and changing of flow paths had subsequently modified vegetation compositions of typical heath areas, where flora species outside of heath areas have encroached in locations. Due to the historical, significant levels of modification across the referral area (demonstrated visually in Plan 3**;** refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 3.2.2 and page 49), vegetation communities regenerating outside of the larger Coastal Swamp Sclerophyll Forest area in the south-east of the site were not reflective of natural, pristine environs.

In addition, a population of *Allocasuarina emuina* (Mt Emu She-oak) specimens were present. This area was ground-truthed in 2017 and again in 2019. The presence of the population was reconfirmed in March 2022.

Melaleuca regrowth

The *Melaleuca* regrowth in association with the constructed drainage channels and adjacent low-lying areas comprises approximately 11.89 ha or 1.0% of the referral area. This vegetation community occurs in scattered and isolated pockets of the referral area where drainage lines or lower depressions exist. Given the presence of significant weed infestations and edge effects, this regrowth did not meet the definition of the Coastal Swamp Sclerophyll Forest threatened ecological community.

Constructed drainage lines with open heath regrowth

The constructed drainage lines with open heath regrowth occur scattered throughout the referral area. The constructed drainage lines with open heath regrowth community comprises approximately 7.52 ha or 0.6% of the referral area. The regrowth associated with the drainage channels was dominated by native sedges and native shrubs. The areas were largely restricted to the drainage channels. These channels were modified and created over time as a result of the historical use for exotic pine plantation and farm maintenance such as rolling and ongoing slashing. This has resulted in the creation of channels retaining pooled water and habitat providing potential for aquatic fauna to persist. Species observed within these areas included but were not limited to *Gahnia clarkei* (Tall Sawsedge), *Calochlaena dubia* (Soft Bracken), and *Fimbristylis ferruginea* (A Fringe Rush). It is important to note that exotic pine wilding regrowth was consistently observed within this vegetation community.

Regrowth regional ecosystem 12.3.4 with *Melaleuca sp.* regrowth and *Eucalyptus robusta* (Swamp Mahogany)

The regrowth regional ecosystem 12.3.4 with *Melaleuca sp.* regrowth and *Eucalyptus robusta* (Swamp Mahogany) vegetation community occurs as an isolated patch on the northern boundary adjoining Lot 1 and Lot 2 on RP129373. The regrowth regional ecosystem 12.3.4 vegetation community comprises approximately 6.52 ha or 0.52% of the referral area. The vegetation community was observed to be dominated by regrowth *Melaleuca sp.* and *Eucalyptus robusta* (Swamp Mahogany). This area was subject to historical clearing along the interfaces as part of the wider property maintenance effort, where encroachment of *Pinus elliottii* (Slash Pine) is observable at this location.

The structure and composition of species within this vegetation community was consistent with regional ecosystem 12.3.4. Subsequently, this community was observed as an indicator of the Coastal Swamp Sclerophyll Forest threatened ecological community, and was utilised as such in the assessment.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

There are nil Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The native title party is the Kabi Kabi First Nations People. A Cultural Heritage Management Plan was approved in 2015 and remains in place for the referral area and proposed action. The proponent recognises the First Nations heritage values and is committed to continually working with the First Nations people (refer to the Attachment *Att 3-Cultural Heritage Management Plan*).

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The hydrology of the referral area has been thoroughly investigated to inform the Aura South Structure Plan and flood mitigation requirements. The Preliminary Hydrology and Water Quality Assessments report completed by Water Technology and provided as Appendix G of the *Technical Matters of National Environmental Significance Report* documents the review of water quantity management, water quality management, site integrated water cycle management considerations, groundwater considerations and flooding considerations (refer to Appendix G of the Attached *Att 1 Technical Matters of National Environmental Significance Report*, Section 7 and page 465)

Most of the referral area drains to Halls Creek, with the remainder draining to Bells and Coochin Creeks, all of which discharge to Pumicestone Passage.

The key water quantity matter requiring management at Aura South to ensure there are no impacts upon the existing vegetation, native fauna and/or other aspects of the wetland will be the overall water balance of the site and how such changes in water balance may affect the frequency and duration of inundation of the wetland.

The water quality management analysis focused on the proportion of the site which drain to Halls Creek and in particular the wetland reaches of the site. The analyses demonstrated that Aura South can be developed with no adverse impact on the water quality of Halls Creek and Pumicestone Passage.

Aura South will utilise a wide range of integrated water cycle management techniques that will assist with ensuring there are no unacceptable off-site, water related, impacts associated with site development, and which will also enhance the site's overall environmental credentials. These techniques have all been applied or are in the process of being applied at the adjacent Aura master-planned community, and hence are well understood and proven in their performance. The range of techniques that will be applied broadly include:

- rainwater tanks
- lakes
- stormwater capture and reuse
- water sensitive urban design
- site revegetation.

To monitor, manage and avoid significant adverse impacts on groundwater, a program of baseline investigations, modelling and impact assessments will be undertaken. These works will encompass the following activities:

- Review of historical data collection on the site, noting that there are already a number of groundwater monitoring bores on the site, from which data will be used to define the long-term baseline for impact assessment.
- Installation of additional bores to ensure that there is an appropriate network of monitoring infrastructure to enable control and impact assessments to take place as the project proceeds. That is, there will need to be sufficient bores that are outside the area of major earthworks and site disturbance to enable ongoing impact assessments to be conducted.
- Use of data from historical and new bores to inform site-specific groundwater assessments (including modelling, if deemed necessary).
- Determination of what, if any, specific works are required to ensure no adverse groundwater impacts.
- The implementation of a Before-After-Control-Impact (BACI) groundwater level and quality monitoring program.

Flooding has been considered from the outset due to the expanse of the low-lying areas on the eastern portion of the site. Completed modelling of the existing catchment and proposed development flood behaviour indicated that, with the exception of smaller events, there are minimal/negligible impacts on the extent of inundation in the wetland associated with site development. This result is due to the large area of the wetland and the wide downstream 'boundary', which will result in larger flood flows easily leaving the site. The modelling showed detectable (albeit insignificant) impacts in the degree of inundation for smaller/more regular events. For these smaller/more regular events, the key issue is that the proportional increase in flows from the existing to the developed case is far greater than for the larger flood events. Also, given the lower absolute level of flood waters, much of the flow is constrained to the narrower waterway channels within and exiting the site which then increases upstream water levels within the wetland. With catchment development, there will also be more of these smaller run-off events.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	Yes	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes

EPBC Act section	Controlling provision	Impacted	Reviewed
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

This Matter of National Environmental Significance does not occur on-site or close proximity to the proposed action.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

This Matter of National Environmental Significance does not occur on-site or close proximity to the proposed action.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	Yes	Moreton Bay

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.3.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The referral area boundary is situated proximal to the Bells Creek section of the Ramsar site designated boundary, where at its most narrow there is approximately 40 m of separation. The proposed self-contained master-planned community urban uses are situated an average of 1,200 m from the Ramsar wetland boundary and a minimum 1 km from the Pumicestone passage. Current land uses situated between the referral area and the Ramsar wetland boundary are dominated by agricultural farming practices, Pine plantations and other cultivated species, and low-lying vegetation areas (captured as National Parks and State Forests). The proposed self-contained master-planned community intends to dedicate the land between the proposed urban uses and Ramsar site as Green Network, which will be subject to MNES habitat recreation, restoration and expansion.

The referral area is 1 km upstream from the Pumicestone Passage which is part of the Moreton Bay Ramsar site. Stormwater run-off is inevitable and will occur largely via the wetland which runs through the wetland in the south-east of the site, with stormwater then traversing approximately 3 km from the site boundary via Halls Creek before entering Halls bay which drains into the Pumicestone Passage, one of the widest sections of the Passage with high tidal movement. Detailed hydrology and water quality modelling has been completed for various scenarios by specialist, Water Technology. The detailed reporting is provided in Appendix G of the *Technical Matters of National Environmental Significance Report* (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 465). Overall, the modelling found that through the incorporation of management measures relevant to hydrology and water quality, no net increase in pollutant run-off was predicted to be likely as a result of the development.

4.1.3.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.3.6 Describe why you do not consider this to be a Significant Impact. *

Areas of the wetland being destroyed or substantially modified

The proposed action will not directly impact the Moreton Bay Ramsar site situated outside of the referral area. The Ramsar site is located at a minimum 40 m from the referral area boundary where Bells Creek meanders toward the referral boundary for approximately 100 m before meandering away to the north. To minimise potential impacts of runoff into the Ramsar site from the proposed self-contained master-planned community urban uses, several site integrated water cycle management measures, rainwater tanks, stormwater capture and reuse, water sensitive urban design and site revegetation, no unacceptable off-site, water related impacts will occur. As such, the proposed self-contained master-planned community is not considered to result in areas of wetland being destroyed or substantially modified.

A substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland

The referral area in its undeveloped state naturally drains into the Pumicestone Passage, which is part of the Moreton Bay Ramsar site. Subsequently, the Ramsar site will continue to receive water discharged from the referral area post-construction when the master-planned community is complete. This has been recognised at the preliminary stages of the master-planned community design and has played a key role in the structure plan design rationale and identification of management measures to be considered and incorporated into the future.

Detailed hydrological analysis has been undertaken by Water Technology (Appendix G; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 465) on the potential changes to flows. Modelling involves using the MUSIC model, a commonly accepted modelling system although it is known to be conservative in the outputs (i.e., implemented measures often provide better outcomes on-ground than the modelling suggests).

To reduce the potential for any substantial and measurable changes in the hydrological regime of the wetland such as substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland, the master-planned community proposes to implement water sensitive urban design adjacent to the north-western interface of the existing Coastal Swamp Sclerophyll Forest threatened ecological community. The purpose of water sensitive urban design is to treat water prior to exiting the referral area and allow a means of managing exiting flows.

Water Technology's analysis (Appendix G; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 465) states no constraints are proposed in regard to the volumes of water to be discharged from the referral area as the combined effect of the proposed water sensitive urban design and the existing wetland in the south-east will buffer or attenuate any changes in flows such that any effects of extra run-off volumes from the referral area on Halls Creek and the Pumicestone Passage are expected to be indetectable or inconsequential.

Therefore, the proposed self-contained master-planned community is unlikely to substantially or measurably increase the hydrological regime of the Moreton Bay Ramsar site.

The habitat or lifecycle of native species, including invertebrate fauna and fish species, dependant upon the wetland being seriously affected.

The proposed action will not have a direct impact on the habitat or lifecycle of native species dependent upon the Ramsar site. As illustrated in the development layout and identified through detailed ecological survey efforts (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 2.4 and page 18), the impact footprint does not interfere with habitat suitable for native species dependent upon the wetland. Notably, no roosting habitat was recorded on-site for native species identified as MNES, and therefore the action will not directly impact habitat or lifecycle of native species.

The proposed self-contained master-planned community urban uses are situated an average of 1,200 m from the Ramsar site boundary. Current land uses situated between the referral area and the Ramsar wetland boundary are dominated by agricultural farming practices, pine plantations and other cultivated species, and low-lying vegetation areas (captured as National Parks and State Forests). The proposed self-contained master-planned community intends to dedicate the land between the proposed urban uses and Ramsar site as a Green Network, which will be subject to MNES habitat recreation, restoration and expansion. As identified in *EPBC Act Policy Statement 3.21 – Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species*, buffer zones around important areas for migratory shorebirds as a form of mitigating impacts from disturbance should range from 165 m to 255 m according to specialist studies. Hence, the action provides for more than the minimum buffer range, and will implement a larger buffer than recommended in relevant studies.

Resultantly, the proposed action will not significantly impact habitat or the lifecycle requirements of native species dependent upon the Ramsar site.

A substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health.

The referral area has been historically cleared for exotic pine plantation practices and in more recent times, managed, maintained and improved for agricultural purposes. Baseline surveys conducted by Water Technology (Appendix G; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 465) provides the necessary background information to understand the current water quality run off into the Ramsar site associated with existing land uses. Water Technology utilised the MUSIC model to determine the implications of water quality run-off associated with ultimate master-planned community scenario. The study found that *"the ultimate receiving environment of Pumicestone Passage will be protected"*, with no increase in annual total suspended solids, total nitrogen, or total phosphorus loads in the Pumicestone Passage.

Therefore, through the implementation of the site integrated water cycle management measures, the managed scenario of the proposed self-contained master-planned community will not result in a substantial or measurable change in the water quality of the Ramsar site.

An invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland.

Following review of the Moreton Bay Ramsar Site – Ramsar Information Sheet (Department of the Environment and Energy 2018, available at https://www.dcceew.gov.au/water/wetlands/publications/ris-moreton-bay), it is noted a detailed list of animals and plants identified as invasive to the Marine Park exist. This list is interpreted as invasive species with the potential to harm the ecological character of the wetland. It is noted that one invasive species on the abovementioned list was identified during field survey effort as present across the referral area: the Cane Toad (*Rhinella marina*). It is unlikely that the action will result in the introduction of any of the listed invasive species having potential to harm the ecological character of the Marine Park. Further, the proposed self-contained master-planned community is not likely to promote an increase in Cane Toad population on-site due to implementation of best practice measures during construction, as previously identified.

Therefore, it is highly unlikely that the proposed action will result in the introduction or spread of an invasive species that is harmful to the ecological character of the Moreton Bay Ramsar site.

4.1.3.7 Do you think your proposed action is a controlled action? *

Yes

4.1.3.8 Please elaborate why you think your proposed action is a controlled action. *

Based on consultation completed thus far with stakeholders including the department administering the Environment Protection and Biodiversity Conservation Act 1999, the proximity of off-site Matters of National Environmental Significance and confirmed on-site presence of Matters of National Environmental Significance, the possibility that the proposed action will result in a significant and adverse residual impact on the matters cannot be eliminated. Furthermore, whilst the proposed action includes beneficial impacts, these cannot be considered by the Minister when making a referral decision. Therefore, it is expected that the Minister will make a controlled action decision and the proposed action will require approval from the Minister.

4.1.3.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The referral area occurs near the Ramsar site however there is not overlap between the two. Therefore, a direct impact on an area that is part of the Ramsar site will not occur.

Indirect impacts may occur due to the change in hydrological regime at the referral area. The referral area in its undeveloped state naturally drains into the Pumicestone Passage, which is part of the Moreton Bay Ramsar site. Subsequently, the Ramsar site will continue to receive water discharged from the referral area post-construction when the master-planned community is complete. This has been recognised at the preliminary stages of the master-planned community design and has played a key role in the structure plan design rationale and identification of management measures to be considered and incorporated into the future.

Detailed hydrological analysis has been undertaken by Water Technology (Appendix G; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 465) on the potential changes to flows. Modelling involves using the MUSIC model, a commonly accepted modelling system although it is known to be conservative in the outputs (i.e., implemented measures often provide better outcomes on-ground than the modelling suggests).

To reduce the potential for any substantial and measurable changes in the hydrological regime of the wetland such as substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland, the master-planned community proposes to implement water sensitive urban design adjacent to the north-western interface of the existing Coastal Swamp Sclerophyll Forest threatened ecological community. The purpose of water sensitive urban design is to treat water prior to exiting the referral area and allow a means of managing exiting flows.

Water Technology's analysis (Appendix G; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 465) states no constraints are proposed in regard to the volumes of water to be discharged from the referral area as the combined effect of the proposed water sensitive urban design and the existing wetland in the south-east will buffer or attenuate any changes in flows such that any effects of extra run-off volumes from the referral area on Halls Creek and the Pumicestone Passage are expected to be indetectable or inconsequential.

Therefore, the proposed self-contained master-planned community is unlikely to substantially or measurably increase the hydrological regime of the Moreton Bay Ramsar site.

4.1.3.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

A significant impact on the Moreton Bay Ramsar site is not predicted, and there are nil offsets proposed as part of the proposed action.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
No	No	Acacia attenuata
No	No	Acronychia littoralis
No	Yes	Allocasuarina emuina
No	No	Allocasuarina thalassoscopica
No	No	Anthochaera phrygia
No	No	Argynnis hyperbius inconstans
No	No	Arthraxon hispidus
No	No	Bosistoa transversa
No	No	Botaurus poiciloptilus
No	No	Calidris canutus
No	No	Calidris ferruginea
No	No	Calidris tenuirostris
No	No	Calyptorhynchus lathami lathami
No	No	Caretta caretta
No	No	Chalinolobus dwyeri
No	No	Charadrius leschenaultii
No	No	Charadrius mongolus
No	No	Chelonia mydas
No	No	Climacteris picumnus victoriae
No	No	Coeranoscincus reticulatus
No	No	Cryptocarya foetida
No	No	Cryptostylis hunteriana
No	No	Cupaniopsis shirleyana
No	No	Cyclopsitta diophthalma coxeni

Direct impact	Indirect impact	Species
No	No	Dasyurus hallucatus
No	No	Dasyurus maculatus maculatus (SE mainland population)
No	No	Delma torquata
No	No	Dermochelys coriacea
No	No	Diomedea antipodensis
No	No	Diomedea antipodensis gibsoni
No	No	Diomedea exulans
No	No	Epinephelus daemelii
No	No	Eretmochelys imbricata
No	No	Erythrotriorchis radiatus
No	No	Eucalyptus conglomerata
No	No	Falco hypoleucos
No	No	Hemiaspis damelii
No	No	Hirundapus caudacutus
No	No	Lathamus discolor
No	No	Lepidochelys olivacea
No	No	Limosa lapponica baueri
Yes	No	Litoria olongburensis
No	No	Macadamia integrifolia
No	No	Macadamia ternifolia
No	No	Macadamia tetraphylla
No	No	Macroderma gigas
No	No	Macronectes giganteus
No	No	Macronectes halli
No	No	Mixophyes fleayi
No	No	Mordacia praecox
No	No	Nannoperca oxleyana
No	No	Natator depressus
No	No	Numenius madagascariensis
No	No	Pachyptila turtur subantarctica
No	No	Petauroides volans
No	No	Petaurus australis australis
No	No	Phaius australis
No	No	Phaius bernaysii
No	No	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)

Direct impact	Indirect impact	Species
No	No	Planchonella eerwah
No	No	Potorous tridactylus tridactylus
No	No	Pristis zijsron
No	No	Pseudomugil mellis
No	No	Pteropus poliocephalus
No	No	Rhodamnia rubescens
No	No	Rhodomyrtus psidioides
No	No	Rostratula australis
No	No	Samadera bidwillii
No	No	Sphyrna lewini
No	No	Stagonopleura guttata
No	No	Sternula nereis nereis
No	No	Thalassarche cauta
No	No	Thalassarche impavida
No	No	Thalassarche melanophris
No	No	Thalassarche salvini
No	No	Thalassarche steadi
No	No	Thesium australe
No	No	Thunnus maccoyii
No	No	Turnix melanogaster
No	No	Xeromys myoides
No	No	Zieria exsul

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community
No	Yes	Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
No	No	Lowland Rainforest of Subtropical Australia
No	No	Subtropical and Temperate Coastal Saltmarsh
No	No	Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Indirect impact on the Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland

The wetland area dominated by *Melaleuca quinquenervia* (Broad-leaved Paperbark) in the south-east of the referral area was assessed in detail as part of the field survey effort. The detailed results are provided in Section 3.2.2.2 of the *Technical Matters of National Environmental Significance Report*, and summarised as follows (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 3.2.2.2 and page 54). The patch was identified to meet key diagnostic criteria as listed in the conservation advice. The patch meets the Class A classification in the condition threshold assessment. Although it is noted the edges of the wetland on-site were observed to contain levels of weed infestation and degradation as a result of cattle access, the inner habitat was observed to be in good condition with minimal weed species present. Resultantly, the patch on-site is considered a higher priority for protection and management in accordance with the listed conservation advice.

Habitat critical to the survival of this ecological community is identified to be those areas where natural hydrological regime remains reasonably intact such that the vegetative diagnostic features are maintained. This is because hydrology governs the vegetation in wetland systems, being a key component of this ecological community's existence. Class A, B1, B2 and C1 identified in the conditions threshold of the conservation advice are considered to represent those parts of the ecological community closest to its benchmark state, with more intact hydrology, other ecological function, and other critical habitat features. It is noted that Patch 1 of the ecological community located on-site is considered one of these areas. Patch 2 of the ecological community is considered to be Class B2 due to its exposure to historical land use practices which have occurred at varying intensities over the past 60 years.

Importantly, a key component of the proposed self-contained master-planned community design rationale was to:

1. Ensure avoidance of impacts on the ecological community identified on-site.
2. Expand the extent of ecological community on-site through active restoration, recreation and rehabilitation within the Green Network Precinct.

The proposed action will not result in the direct impact to any patch of the ecological community. Furthermore, the proposed action will achieve a net gain in area of the ecological community on-site. The potential indirect impact arises from the modification of the existing hydrological regime. Water Technology completed detailed modelling to understand the potential indirect impacts. To mitigate against the potential to modify or destroy abiotic factors to the hydrological regime such as substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland, the master-planned community proposes utilise water sensitive urban design adjacent to the north-western interface of the existing ecological community. The purpose of water sensitive urban design is to treat water prior to exiting the referral area and allow a means of managing exiting flows. It is anticipated through the incorporation of the lake, the hydrology regime will not significantly change to that which it could impact the ecological community. Importantly, the water sensitive urban design will be expertly designed so as to reduce the risk of impacting groundwater flows. To ensure this remains true throughout the construction and post-construction phases of the proposed action, a groundwater and surface water monitoring program will be developed and implemented by a specialist consultant.

Further, to ensure nutrient load remains within a reasonable level, erosion and sediment control measures will be implemented as standard during the construction phase. A water quality monitoring program will also be implemented during and post-construction – where monitoring identifies any outliers in water quality levels, rectification measures will be implemented.

Direct impact on the *Litoria olongburensis* (Wallum Sedge Frog)

Approximately 34.484 ha of fragmented patches of sub-optimal *Litoria olongburensis* (Wallum Sedge Frog) habitat will be removed from the core development area and replaced with 50 ha of reinstated habitat strategically linked through the purposefully-designed Green Network. This habitat will be designed, managed and monitored with the objective of delivering a habitat area that is of a higher quality and robustness compared to the current on-site configuration.

Indirect impact on *Allocasuarina emuina* (Mt Emu She-oak)

For each occurrence of *Allocasuarina emuina* (Mt Emu She-oak) in the referral area, a direct impact is avoided. Specifically, the proposed action disturbance area does not overlap with these *Allocasuarina emuina* (Mt Emu She-oak) specimens. However the proximity of urban uses ranges from 50 m to over 100 m and even with managed setbacks applied, the potential for an indirect impact on an individual plant cannot be eliminated. In support of achieving nil indirect impacts as part of the proposed action, the *Allocasuarina emuina* (Mt Emu She-oak) specimens will be managed via an Impact Management Plan that will be subject to State approval under the *Nature Conservation Act 1992*. The Impact Management Plan will be implemented in accordance with the State's flora survey guidelines under the *Nature Conservation (Plants) Regulation 2020* to provide a detailed document illustrating limitations of construction works within these areas. In addition, stormwater devices such as water sensitive urban design will be implemented to regulate stormwater run-off and ongoing monitoring of hydrological flows (including groundwater) will occur. Further, a rehabilitation plan will be developed and implemented for areas to receive rehabilitation works (including weed removal, revegetation, and ongoing monitoring and management responsibilities). It is considered that through the provision of a buffer ranging from 50 m to over 100 m, a range of management plans, best practice management systems detailed within the management plans and rehabilitation efforts, the proposed action will not lead to an indirect impact on or long-term decrease in the size of a population of *Allocasuarina emuina* (Mt Emu She-oak).

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland ecological community

Section 5.2 of the *Technical Matters of National Environmental Significance Report* details why a significant impact is not likely, and the below is provided as a summary (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 5.2 and page 101).

Reduce the extent of an ecological community

The proposed self-contained master-planned community will implement measures to avoid directly and indirectly impacting the ecological community within the referral area. Further, the proposed self-contained master-planned community intends to restore, recreate and enhance the availability of the ecological community on-site so that there is a net gain in the ecological community coverage achieved within the proposed self-contained master-planned community.

Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines

The ecological community was identified during the proposed master-planned design criteria as an area of importance that requires protection as a whole, and this will be achieved. Therefore, the action will not result in significant impacts to the community through fragmentation.

Adversely affect habitat critical to the survival of an ecological community

The proposed self-contained master-planned community will implement measures to avoid directly and indirectly impacting the ecological community within the referral area. Further, the proposed self-contained master-planned community intends to restore, recreate and enhance the availability of the ecological community on-site so that there is a net gain achieved within the proposed self-contained master-planned community.

Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns

Hydrology (including flow velocity, volume and ongoing inundation levels) plays an integral role in the occurrence of the ecological community. This has been recognised and incorporated into development design and ongoing management and monitoring programs.

Water Technology have completed detailed modelling as part of the proposed action (Appendix G; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 307). To mitigate against the potential to modify or destroy abiotic factors to the hydrological regime such as substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland, the master-planned community proposes utilise water sensitive urban design adjacent to the north-western interface of the existing ecological community. The purpose of the water sensitive urban design is to treat water prior to exiting the referral area and allow a means of managing exiting flows. It is anticipated through the incorporation of the lake, the hydrology regime will not significantly change to that which it could impact the ecological community. Importantly, the water sensitive urban design will be expertly designed so as to reduce the risk of impacting groundwater flows. To ensure this remains true throughout the construction and post-construction phases of the proposed action, a groundwater and surface water monitoring program will be developed and implemented by a specialist consultant.

Further, to ensure nutrient load remains within a reasonable level, erosion and sediment control measures will be implemented as standard during the construction phase. A water quality monitoring program will also be implemented during and post-construction – where monitoring identifies any outliers in water quality levels, rectification measures will be implemented.

Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting

The hydrology regime is integral in determining the presence of the ecological community. The proposed action is not anticipated to significantly impact the hydrology relevant to the ecological community on-site nor in the adjacent land.

Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community

Invasive species are unlikely to be assisted in occurring within or proximal to the ecological community. A buffer of a minimum 50 m will be implemented between development and the retained ecological community interface, where rehabilitation efforts are to occur on land adjacent within the Green Network Precinct. Within the ecological community patch, weed removal will occur where infestations are high. Ongoing rehabilitation efforts will minimise the potential for invasive species to establish post-construction. In addition, the removal of grazing animals across the referral area will occur as a result of the proposed action, removing degradation as a result of cattle access.

Further, construction management documentation will delineate each clearing area across the referral area and nominate the management measures. The document will include clearing extents and locations where no clearing or entry is to occur. Fencing will be established to prevent any impacts to the ecological community where clearing is to occur adjacent to the patch. It is unlikely to result in increased weed incursion.

In addition, no increase in phosphorus, total suspended solids and nitrogen discharge has been modelled by Water Technology. Through the incorporation of water sensitive urban design strategically located within the rehabilitation buffer areas, no increases to pollutants are expected to occur within the ecological community. Therefore, a significant impact in relation to substantial reduction in the quality or integrity of the ecological community is not anticipated as a result of the action.

Interfere with the recovery of an ecological community

Given the avoidance and net gain the proposed self-contained master-planned community will achieve, it is therefore not considered to interfere with the recovery of the ecological community.

***Litoria olongburensis* (Wallum Sedge Frog)**

Section 5.3 of the *Technical Matters of National Environmental Significance Report* details why a significant impact on an important population is not likely, and the below is provided as a summary (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 5.3 and page 106).

A significant impact on an important population is not likely to occur, however the proposed action does entail an impact to 34.484 ha of habitat and the species is confirmed as present. With reference to the Draft referral guideline decision making for Wallum Sedge Frog, as the proposed action does not impact an important population or the species as a whole, there is a low risk of resulting in significant impact.

***Allocasuarina emuina* (Mt Emu She-oak)**

Section 5.4 of the *Technical Matters of National Environmental Significance Report* details why a significant impact is not likely, and the below is provided as a summary (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 5.4 and page 114).

It is not the intent of this proposed action to remove or otherwise lead to the removal of the species. A buffer from the populations to the edge of hardstand infrastructure has been incorporated into the proposed self-contained master-planned community design rationale. The purpose of the buffer is to minimise the potential impact to the Mt Emu She-oak populations that could occur as a result of urban uses. Increased exotic plant presence, altered fire regimes and increased stormwater run-off are listed as key threats to Mt Emu She-oak populations as these can result in the alteration or loss of suitable habitat.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

Based on consultation completed thus far with stakeholders including the department administering the *Environment Protection and Biodiversity Conservation Act 1999*, the proximity of off-site Matters of National Environmental Significance and confirmed on-site presence of Matters of National Environmental Significance, the possibility that the proposed action will result in a significant and adverse residual impact on the matters cannot be eliminated. Furthermore, whilst the proposed action includes beneficial impacts, these cannot be considered by the Minister when making a referral decision. Therefore, it is expected that the Minister will make a controlled action decision and the proposed action will require approval from the Minister.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland ecological community

The proposed self-contained master-planned community will implement measures to avoid directly and indirectly impacting the ecological community within the referral area. Further, the proposed self-contained master-planned community intends to restore, recreate and enhance the availability of the ecological community on-site so that there is a net gain in the ecological community coverage achieved within the proposed self-contained master-planned community.

A buffer of a minimum 50 m will be implemented between development and the retained ecological community interface, where rehabilitation efforts are to occur on land adjacent within the Green Network Precinct. Within the ecological community patch, weed removal will occur where infestations are high. Ongoing rehabilitation efforts will minimise the potential for invasive species to establish post-construction. In addition, the removal of grazing animals across the referral area will occur as a result of the proposed action, removing degradation as a result of cattle access.

Further, construction management documentation will delineate each clearing area across the referral area and nominate the management measures. The document will include clearing extents and locations where no clearing or entry is to occur. Fencing will be established to prevent any impacts to the ecological community where clearing is to occur adjacent to the patch. It is unlikely to result in increased weed

incursion.

In addition, no increase in phosphorus, total suspended solids and nitrogen discharge has been modelled by Water Technology. Through the incorporation of water sensitive urban design strategically located within the rehabilitation buffer areas, no increases to pollutants are expected to occur within the ecological community (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 5.2 and page 101).

***Litoria olongburensis* (Wallum Sedge Frog)**

The proposed self-contained master-planned community will recreate approximately 50 ha of more consistently available *Litoria olongburensis* (Wallum Sedge Frog) habitat strategically connected within the Green Network Precinct. The recreation of approximately 50 ha of purpose-built *Litoria olongburensis* (Wallum Sedge Frog) habitat within the Green Network Precinct will result in greater area of more superior habitat being consistently availability for the *Litoria olongburensis* (Wallum Sedge Frog) given the intention to connect habitat into the adjoining ecological community and other conservation outcomes within the Green Network Precinct.

A specific Wallum Sedge Frog Management Plan will coordinate both the sequential creation of the new habitat and the seasonal removal of fragmented habitat areas periodically occurring within the construction zone. This approach has been successfully deployed over a long period at the adjacent Aura project with a number of leading practice techniques now documented as standard for this species (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 5.3 and page 106).

***Allocasuarina emuina* (Mt Emu She-oak)**

Through the implementation of a buffer between the populations and urban uses ranging from 50 m to over 100 m, the potential impacts to the population will be minimised. Within the buffer, a mix of rehabilitation (including planting and revegetated stormwater infrastructure) and low impact recreation (including pathways and park areas) will occur. This will further limit the potential for adjacent land uses to impact the *in situ* population (refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 5.4 and page 114).

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Based on the avoidance and mitigation achieved by the proposed action and nil significant impacts, an offset is not proposed.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
No	No	Actitis hypoleucos
No	No	Anous stolidus
No	No	Apus pacificus
No	No	Ardenna grisea
No	No	Arenaria interpres

Direct impact	Indirect impact	Species
No	No	Calidris acuminata
No	No	Calidris alba
No	No	Calidris canutus
No	No	Calidris ferruginea
No	No	Calidris melanotos
No	No	Calidris ruficollis
No	No	Calidris tenuirostris
No	No	Calonectris leucomelas
No	No	Caretta caretta
No	No	Charadrius bicinctus
No	No	Charadrius leschenaultii
No	No	Charadrius mongolus
No	No	Charadrius veredus
No	No	Chelonia mydas
No	No	Cuculus optatus
No	No	Dermochelys coriacea
No	No	Diomedea antipodensis
No	No	Diomedea exulans
No	No	Eretmochelys imbricata
No	No	Fregata ariel
No	No	Fregata minor
No	No	Gallinago hardwickii
No	No	Hirundapus caudacutus
No	No	Lamna nasus
No	No	Lepidochelys olivacea
No	No	Limicola falcinellus
No	No	Limnodromus semipalmatus
No	No	Limosa lapponica
No	No	Limosa limosa
No	No	Macronectes giganteus
No	No	Macronectes halli
No	No	Mobula alfredi
No	No	Mobula birostris
No	No	Monarcha melanopsis
No	No	Myiagra cyanoleuca

Direct impact	Indirect impact	Species
No	No	Natator depressus
No	No	Numenius madagascariensis
No	No	Numenius minutus
No	No	Numenius phaeopus
No	No	Pandion haliaetus
No	No	Phaethon lepturus
No	No	Philomachus pugnax
No	No	Pluvialis fulva
No	No	Pluvialis squatarola
No	No	Pristis zijsron
No	No	Rhipidura rufifrons
No	No	Symposiachrus trivirgatus
No	No	Thalassarche cauta
No	No	Thalassarche impavida
No	No	Thalassarche melanophris
No	No	Thalassarche salvini
No	No	Thalassarche steadi
No	No	Tringa brevipes
No	No	Tringa glareola
No	No	Tringa incana
No	No	Tringa nebularia
No	No	Tringa stagnatilis
No	No	Xenus cinereus

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No migratory birds, including shorebirds, were recorded during field survey effort. Due to the historical use of a proportionally large area of the referral area as a pine plantation, limited habitat values are present, and therefore unlikely the referral area would be suitable for migratory birds with the potential to occur within the wider region. It is noted although no threatened or migratory bird species were recorded using the referral area, if present in the region, it is expected they may be a fly-over species due to the proximity of suitable habitat associated with intertidal mudflats located off-site along Pumicestone Passage in the east.

Consultant BAAM conducted surveys to determine the presence / absence of Latham’s Snipe specifically. Possible suitable habitat, although restricted and considered marginal, prompted targeted surveys to be completed. Historically, Latham’s Snipe had not been recorded on-site, however past ecological surveys identified marginal possible habitat. BAAM’s surveys were completed in accordance with EPBC Act guidelines and policies over two days: 6 October 2021 and 25 November 2021. Surveys were completed during suggested optimal seasons when the species would likely be migrating, and were aligned with suggested survey methods. Refer Appendix E of the *Technical Matters of National Environmental Significance Report* for the detailed methodology and findings of BAAM's surveys (Appendix E; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 427)

Based on the completed contemporary and historical field survey results and the ongoing use of the site, it is considered unlikely that migratory species utilise this site as part of a significant habitat network.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There is no nuclear component to the proposed action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

This Matter of National Environmental Significance does not occur on-site or close proximity to the proposed action.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

This Matter of National Environmental Significance does not occur on-site or close proximity to the proposed action.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There is no large coal mining development or coal seam gas component to the proposed action.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There is no Commonwealth Land component to the proposed action.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

This Matter of National Environmental Significance does not occur on-site or close proximity to the proposed action.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)

- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The availability of elevated freehold land of this size that is flood free and in close proximity to existing infrastructure and services is a rarity in South East Queensland. The proposed action efficiently leverages the significant infrastructure committed in the locality as part of the adjacent Aura master-planned community and will ensure a continuity of affordable land supply and housing in the region benefiting Sunshine Coast families and businesses in the long term.

On this 1,231 ha referral area, approximately 440 ha is nominated for protection, rehabilitation and buffering of ecological values, features and adjacent uses. This can be achieved because of the decades-long land management regime that has resulted in extensive grass paddock areas across approximately 1,045 ha. These circumstances, and in particular the readiness to avoid significant impacts on Matters of National Environmental Significance via the proposed Aura South Structure Plan (Appendix A; refer to the Attachment *Att 1-Technical Matters of National Environmental Significance Report*, Section 7 and page 123), can achieve an outcome that utilises the referral area for residential development whilst incorporating a significant contribution to the on-site environmental values. Importantly, the protected and rehabilitated on-site environmental values will remain into perpetuity if the proposed action is implemented. Transferring the proposed action to a new site cannot be readily done due to the multitude of above-listed factors, and therefore the proposed action is considered to represent a balanced and measured site outcome that does not result in significant impacts on Matters of National Environmental Significance.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document				

Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023	High	

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2-Environmental Policy-2022.pdf Proponent's environmental policy	23/09/2022	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	29/06/2023		High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 3-Cultural Heritage Management Plan.pdf Cultural Heritage Management Plan between Stockland Developments and the Kabi Kabi First Nation People	01/11/2015	No	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.3.2 (Ramsar Wetland) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.3.6 (Ramsar Wetland) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.3.10 (Ramsar Wetland) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.1.5.3 (Migratory Species) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2.	Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

4.3.8 Why alternatives for your proposed action were not possible

Type	Name	Date	Sensitivity	Confidence
#1. Document	Att 1-Technical MNES Report-Part 1 of 2.pdf Technical MNES Report- Part 1 of 2	30/06/2023		High
#2. Document	Att 1-Technical MNES Report-Part 2 of 2.pdf Technical MNES Report- Part 2 of 2	28/06/2023		High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	24144972949
Organisation name	Saunders Havill Group Pty Ltd
Organisation address	9 Thompson Street, Bowen Hills QLD 4006
Representative's name	Kathryn Tibbles
Representative's job title	Senior Environmental Scientist
Phone	07 3251 9471
Email	kathryntibbles@saundershavill.com
Address	

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Kathryn Tibbles of Saunders Havill Group Pty Ltd**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	133 Castlereagh Street SYDNEY NEW SOUTH WALES 2200
Representative's name	Mark Stephens
Representative's job title	Senior Environment and Community Development Manager
Phone	0730135845
Email	mark.stephens@stockland.com.au
Address	Level 1, 1 Edwards Terrace, Baringa QLD 4551

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Mark Stephens of STOCKLAND DEVELOPMENT PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✓ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Mark Stephens of STOCKLAND DEVELOPMENT PTY LIMITED**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *