Australian Government
Department of the Environment and Energy

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the **EPBC Act**) provides for the protection of the environment, especially matters of national environmental significance (**NES**). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Commonwealth Environment and Energy Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Commonwealth Environment and Energy Minister or the Minister's delegate.) To obtain approval from the Minister, a proposed action must be referred. The purpose of a referral is to enable the Minister to decide whether your proposed action will need assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made by the person proposing to take an action if the person thinks that the action for actions that has, will have, or is likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A);
- National Heritage places (sections 15B and 15C);
- wetlands of international importance (sections 16 and 17B);
- listed threatened species and communities (sections 18 and 18A);
- listed migratory species (sections 20 and 20A);
- protection of the environment from nuclear actions (sections 21 and 22A);
- Commonwealth marine environment (sections 23 and 24A);
- Great Barrier Reef Marine Park (sections 24B and 24C);
- a water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E);
- the environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions taken outside Commonwealth land that are likely to have a significant impact on the environment of Commonwealth land;
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- the environment, if the action is taken by the Commonwealth (section 28); and
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C).

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- Submitting a referral under the EPBC Act – A fact sheet for a person proposing to take an action http://www.environment.gov.au/epbc/publications/factsheet-environment-assessment-process
- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance Additional sectoral guidelines are also available.
- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-12-actions-or-impacting-upon-commonwealth-land-and-actions
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources http://www.environment.gov.au/resource/significant-impact-guidelines-13-coal-seam-gas-and-large-coal-mining-developments-impacts
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location) http://www.environment.gov.au/epbc/pmst/index.html

Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral contact the Referrals Gateway (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

Is your action in the Great Barrier Reef Marine Park?

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (**GBRMP Act**). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB of the GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (**the Authority**) for the Authority to commence its permit processes as required under the *Great Barrier Reef Marine Park Regulations 1983* (**GBRMP Regulations**). If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43 of the EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

What information do I need to provide?

Please complete all parts of this form to assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal, please enter N/A.

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in blue text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the proposed action and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below five megabytes (5mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than five megabytes (5mb) may delay processing of your referral.

Note: The Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence. If you believe that your referral contains information that is commercial-in-confidence, you must clearly identify such information and the reason for its confidentiality at the time of making the referral. The Minister cannot be satisfied that particular information included in a referral is commercial-in-confidence unless a person demonstrates to the Minister that:

- release of the information would cause competitive detriment to the person; and
- the information is not in the public domain; and
- the information is not required to be disclosed under another law of the Commonwealth, a State or a Territory; and
- the information is not readily discoverable.

How do I pay for my referral?

From 1 October 2014, the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website at: http://www.environment.gov.au/epbc/publications/cost-recovery-cris

If you are an individual or a small business, you may be exempt from paying the referral fee. See Part 9 of this form for further details.

You may apply for all or part of a fee to be waived. See Part 9 of this form for further details.

Payment of the referral fee can be made using one of the following methods:

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $6577
  Account Name: Department of the Environment and Energy.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment and Energy". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway

  Environment Assessment Branch
  Department of the Environment and Energy
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

Note: an invoice will be raised and forwarded to you upon submission of your referral which will include the EPBC reference number for your referral.

How do I submit a referral?

Referrals may be submitted by mail or email.

Mail to:

Referrals Gateway

Environment Assessment Branch
Department of Environment and Energy
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, please also provide electronic copies of documentation (on CD/DVD or by email).

Email to: epbc.referrals@environment.gov.au

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral in a suitable electronic document format (e.g. Microsoft Word and, if possible, PDF).
- If submitting via email, please also mail a hardcopy of the referral including copies of any attachments or supporting reports.

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment. Any person may give the Minister comments on the referral within 10 business days of publication on the Department's website.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

For more information

- call the Department of the Environment and Energy Community Information Unit on 1800 803 772, or
- visit the web site http://www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Proposed action title:

Jacana Wetlands Rectification

1 Summary of proposed action

1.1 **Short description**

The proposed action involves the rectification of the constructed Jacana Wetlands, located in Jacana, approximately 14 km north west of Melbourne to ensure their functionality for nutrient removal, as designed and to improve safety conditions for accessing and maintaining the wetlands. Project works include modification of existing infrastructure at the site, clearing out of established sediment ponds, construction of safe access to the sediment ponds and removal of some dense stands of Typha and Common Reed and replacement with less invasive aquatic flora species that will improve nutrient uptake and habitat availability for the Growling Grass Frog. The aim of the works is to improve the functioning of the wetlands in line with Melbourne Water's Constructed Wetlands Guidelines, noting the wetlands were developed specifically for nutrient removal.

1.2 **Latitude and longitude**

Location	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Point 1	37°	41′	0″	144°	54′	9″
Point 2	37°	41′	27″	144°	54′	12″
Point 3	37°	41′	36″	144°	54′	21″
Point 4	37°	41′	42″	144°	54′	22″
Point 5	37°	41′	48″	144°	54′	13″
Point 6	37°	41′	51″	144°	54′	16″
Point 7	37°	41′	47″	144°	54′	28″
Point 8	37°	41′	35″	144°	54′	31″
Point 9	37°	41′	16″	144°	54′	19″
Point 10	37°	41′	11″	144°	54′	19″

1.3 **Locality and property description**

The Jacana Retarding Basin Wetland System and immediate surrounds span an area within both the City of Hume (north of the Western Ring Road) and City of Moreland (south of the Western Ring Road). The wetlands were built around the Moonee Ponds Creek system, with specific offtakes from the creek and outflow devices returning 'treated' water back to the creek and include two separate wetland systems:

- The Northern Wetland system, which is located to the north of the Western Ring Road in Gladstone Park and Jacana; and
- Southern Wetland system, which is located to the south of the Western Ring Road in Gowanbrae and Glenroy.

The Jacana Wetlands are located within a linear reserve that follows the natural creek lines of the Moonee Ponds Creek system running north-south. The region in which the systems exist is residential with supporting recreational and commercial land use. Land abutting the wetlands is mostly used for recreational purposes as it forms part of a low-lying area of the natural drainage line and subject to inundation.

1.4 **Size of the development footprint or work area (hectares)** 27 hectares

1.5 **Street address of the site** See table in 1.6

1.6 **Lot description**

Allotment details	Site address	Ownership	Proposed Works
Lot 1 TP 518361R (note includes Lot 1 TP 868996P)	139-157 Johnstone Street, Jacana	Melbourne Water Corporation	Upgrades to the inlet chute (weir). Addition of a flow splitting device added to modify water flow.
Lot 1 TP 894320D	161-175 Johnstone Street, Gladstone Park,	Melbourne Water Corporation	Two sedimentation ponds to be combined to maximise capture efficiency. Upgrade of outlet pits of the Macrophyte area. Adjustments to the macrophyte zone bathymetry
Lot 2, TP 868996P	Karin Crescent, Glenroy	Melbourne Water Corporation	Adjustments to the macrophyte zone bathymetry. Incorporation of sediment pond into macrophyte zone
Lots 1 & 2, TP748665K	Karin Crescent, Glenroy	Melbourne Water Corporation	Southern bank of diversion pond to be reshaped adjacent to pits to allow for greater access. Replacement of existing outlet pit to wetland. Redesign of the outlet pit to diversion pipe and creek.

1.7 **Local Government Area and Council contact (if known)**

The Northern Wetland System is located in the City of Hume and the Southern Wetland System in the City of Moreland

1.8 **Time frame**

Construction is proposed to commence in February 2017 through to March 2018. This will be followed by a 24 month revegetation program.

1.9	**Alternatives to proposed action**	✓	No. Works are refurbishing existing infrastructure, thus there is no alternative to the location of the works.
			Yes, please also complete section 2.2
1.10	**Alternative time frames, locations or activities**	✓	No
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3 and 5 (where relevant).

1.11	**Commonwealth, State or Territory assessment**	✓	No. The works do not trigger the requirement for a state impact assessment.
			Yes, please also complete section 2.5
1.12	**Component of larger action**	✓	No
			Yes, please also complete section 2.7
1.13	**Related actions/proposals**	✓	No
			Yes, provide details:
1.14	**Australian Government funding**	✓	No
			Yes, please also complete section 2.8
1.15	**Great Barrier Reef Marine Park**	✓	No
			Yes, please also complete section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

2.1 Description of proposed action

The Jacana Retarding Basin Wetlands (Jacana Wetlands) were built by Melbourne Water as part of a program across Victoria to achieve State Environmental Protection Policy (SEPP) targets for removal of nitrogen from water sources within the Port Phillip Catchment.

The wetlands were built around the Moonee Ponds Creek system and include two separate wetland systems:

- The Northern Wetland system, which is located to the north of the Western Ring Road in Gladstone Park and Jacana; and
- Southern Wetland system, which is located to the south of the Western Ring Road in Gowanbrae and Glenroy.

Melbourne Water have identified that both wetland systems are in less than optimal condition for storm water treatment and are not meeting current SEPP guidelines. As a result, Melbourne Water has initiated a renewal program to improve the condition of and maintain performance of the wetlands at required levels.

It is expected that the Project will also provide the opportunity to improve safety for staff working at the wetlands as well as safety for the general public while improving the habitat for the Growling Grass Frog that has since established at the site.

A concept design of required works for the Jacana Wetlands has been completed for Melbourne Water and in summary includes the reconstruction of inlet weirs and outlet pits and pipes within the existing footprint of the wetland. This includes the following works;

Northern Wetland System

- Upgrades to the inlet chute (weir) where water comes off Moonee Ponds Creek.
- Addition of a flow splitting device added to modify water flow.
- Two sedimentation ponds to be combined to maximise capture efficiency.
- Upgrade of outlet pits of Macrophyte area.
- Adjustments to the Macrophyte zone bathymetry

The sedimentation ponds of the northern system will be combined to maximise capture efficiency without expanding its existing boundaries.

Southern Wetland System

- Southern bank of diversion pond to be reshaped adjacent to pits to allow for greater access.
- Replacement of existing outlet pit to wetland.
- Redesign of the outlet pit to diversion pipe and creek.
- Adjustments to the Macrophyte zone bathymetry.

Essentially the works at both wetland systems are expected to allow for greater control of water flow entering the wetland systems which will allow for:

- Better hydraulic efficiency;
- Improve ability to remove sediment;
- Reduction in velocity of water across the macrophyte zone (increasing nutrient uptake and improving habitat values for the Growling Grass Frog); and
- Reduction in detention depth and time of some areas of the wetland to enhance diversity of habitats and vegetation composition.

The sedimentation pond that forms part of the southern wetland system will be excavated and reshaped to improve on its efficiency. However the design of the new pond will not extend outside the existing footprint.

It is also proposed to improve access to the wetland areas for ongoing maintenance tasks as well as install appropriate signage for community education purposes. Works for access will include stabilisation of areas where regular maintenance is required.

2.2 Feasible alternatives to taking the proposed action

N/A. The wetlands were constructed for the purpose of treating stormwater and water from the Moonee Ponds Creek to reduce nutrient levels and improve water quality downstream of the wetlands. The wetlands are not currently functioning to the required standard and so rectification works are necessary. The works are to upgrade existing infrastructure and so alternative locations/activities are not an option.

2.3 Alternative locations, time frames or activities that form part of the referred action

N/A. The works are to upgrade existing infrastructure and so alternative locations/activities are not an option.

2.4 Context, including any relevant planning framework and state/local government requirements

The following policy and legislation has been considered during the preparation of this referral and ecological reporting associated with this project:

- Environment Protection and Biodiversity Conservation (EPBC) Act 1999 - The provisions of the EPBC Act have been considered and are reflected in this referral.
- Hume City Council Planning Scheme - The Northern Wetland system of the Jacana Wetlands is located within the City of Hume and is subject to the provisions of the Hume Planning Scheme. The wetland is defined as a 'utility installation' and the proposed works have been defined as works associated with works to maintain a 'Minor utility installation'. Confirmation is being sought from the Hume City Council as to whether a permit is required for the removal of native vegetation.
- Moreland City Council Planning Scheme - The Southern Wetland system is located within the City of Moreland and is subject to the provisions of the Moreland Planning Scheme. The wetland is defined as a 'utility installation' and the proposed works been defined as works associated with/works to maintain a 'Minor utility installation'. Confirmation is being sought from the Moreland City Council as to whether a permit is required for the removal of native vegetation.
- Flora and Fauna Guarantee Act 1988 - The FFG Act Act provides a framework for biodiversity conservation in Victoria. This includes establishing a permit system to undertake works on public land which might kill, injure or disturb protected native plants. If necessary a 'Permit to Take' will be obtained from the Department of Environment, Land, Water and Planning
- Permitted clearing of native vegetation – Biodiversity assessment guidelines (the Guidelines) – The Guidelines regulates the management of native vegetation in Victoria. The primary goal of the Guidelines is to achieve no net loss of biodiversity. Unavoidable losses are offset through the protection and ongoing management of an area proportional to their importance to Victoria's biodiversity. The Guidelines are incorporated into the Victorian Planning Provisions and all planning schemes in Victoria. Where a planning permit is required for the removal of native vegetation associated with the Project, a suitable offset will be sourced in accordance with the Guidelines.
- Catchment and Land Protection (CaLP) Act 1994 – The provisions of the CaLP Act have been considered and appropriate measures will be implemented to prevent the spread and establishment of noxious weeds, conserve soil and protect water resources.

2.5 Environmental impact assessments under Commonwealth, State or Territory legislation

No formal environmental impact statement has been required for this project.

2.6 Public consultation (including with Indigenous stakeholders)

Stakeholder	Comments
Hume City Council	Phone conversation with Amanda Dodd (Team leader Environmental Services) re classification of the vegetation as planted and not requiring planning approval. Letter to Amanda Dodd (31/10/2016) requesting formal response re interpretation of planted vegetation and approval requirements.
Moreland City Council	Phone conversation with Vince Andreya (Resource Assessment Officer) re classification of the vegetation as planted and not requiring planning approval. Letter to Vince Andreya (4/11/2016) requesting formal response re interpretation of planted vegetation and approval requirements.

DELWP	Telephone Conversation with Peter Menkhorst (chair of the Translocation Evaluation Panel (TEP)) to discuss whether salvage and translocation was appropriate for this project. Peter confirmed that the TEP would not support an application for salvage and translocation for this project, as a salvage and translocation exercise would be of little benefit to the species. Peter suggested a passive process where the Growling Grass Frogs were allowed to relocate following the draining of the wetland to adjoining, unaffected habitat.
DoEE	Pre-referral meeting held on the 2nd November, 2016.

2.7 A staged development or component of a larger action

The project is not a component of a larger action.

2.8 Related actions

There are no related actions to this proposal.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

3.1 (a) World Heritage Properties

Description

There are no World Heritage Properties in or near the project area.

Nature and extent of likely impact

Not applicable.

3.1 (b) National Heritage Places

Description

There are no National Heritage Places in or near the project area.

Nature and extent of likely impact

Not applicable.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

There are no Wetlands of International Importance in or near the project area.

Nature and extent of likely impact

Not applicable.

3.1 (d) Listed threatened species and ecological communities

Description

Threatened Ecological Communities

The Protected Matters Search Tool identified four threatened ecological communities as potectially occurring within the project area (Table 1). The site has been cleared of nearly all remnant vegetation, with only a small remnant stand of Acacias remaining. The area otherwise comprises revegetation along the riparian areas and cultivated lawn across the remainder of the project area. The project will not impact on any threatened ecological communities.

Table 1: Conservation status and likelihood of threatened ecological communities modelled using the PMST (DOEE, 2016).

Threatened Ecological Community	Conservation status	PMST modelled likelihood of occurrence	Determination – based on site character
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	Critically Endangered	Community known to occur within area	**Unlikely -** although once common in the wider area prior to European settlement, historical site development has removed this community from the flanks of the valley.
Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community may occur within area	**Unlikely -** to be present, indicative EVC not mapped in vicinity of site. Known from north of the great divide.
Natural Temperate Grassland of the Victorian Volcanic Plain	Critically Endangered	Community likely to occur within area	**Unlikely** – although once common in the wider area prior to European settlement, historical site development has removed this community from the flanks of the valley.
White box-Yellow box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	**Unlikely -** has not been recorded in Victorian Volcanic Plain Bioregion. Known from north of the great divide.

Threatened Species

Twenty-six EPBC listed threatened species are modelled as potentially occurring within the project area using the Protected Matters Search Tool (PMST) (DoEE, 2016). These species are presented in Appendix A.

A population of the Growling Grass Frog, listed as Vulnerable under the EPBC Act is known to be present within the Project area. It has been recorded within the area during multiple surveys, including as part of the Western Ring Road upgrade (Ecology and Heritage Partners 2011), annual Melbourne Water Frog Census (Ecology and Heritage Partners 2012) and in 2012/2013 by Sinclair Knight Merz (SKM, 2013) in preparation of this project.

Of the other species modelled as potentially occurring, there is one record of the Australasian Bittern from 2013 within the Birds Australia online database. There are no relevant records for the Australasian Bittern within the DELWP database of flora and fauna species records. It is considered unlikely that the species is resident within the Jacana wetlands. The Grey-headed Flying Fox is likely to overfly the site, but the lack of large canopy trees means the site cannot support a resident population. It is considered unlikely that the site supports any other species listed under the EPBC Act.

Nature and extent of likely impact

The project has the potential to have a number of direct impacts on the Growling Grass Frog:

- Loss of terrestrial habitat as a result of clearance of vegetation and soil excavation
- Death of, or injury to, Growling Grass Frogs
- Contraction or transmission of disease (e.g. Chytrid Fungus) during works

These impacts will be minimised through the implementation of mitigation measures as discussed in Section 5.

Specific significant impact guidelines have been prepared for the Growling Grass Frog. Significant impact thresholds for the Growling Grass Frog include:

- Habitat degradation in an area supporting an important population, and
- Isolation and fragmentation of populations

Due to the fragmentation of habitat for the Growling Grass Frog, any viable population is considered an important population for the persistence and recovery of the species (DEWHA, 2009). A viable population is considered one that is not isolated from other populations or water bodies, such that the opportunity to interact with other nearby populations and has the ability to establish new populations when water bodies fill and become available (DEWHA, 2009). It is known that a population of Growling Grass Frogs is present upstream of the Jacana Wetlands within the Yuroke Creek and also to the north of the site within the Moonee Ponds Creek. In accordance with this definition the population that is present at Jacana Wetlands is considered viable, and therefore an important population.

A response to the criteria for determining whether the project will result in a significant impact to the Growling Grass Frog as a result of habitat degradation is included in the Table below:

Impact Threshold	Project impact
Habitat degradation in an area supporting an important population	
Permanent removal or degradation of terrestrial habitat that results in the loss of dispersal or overwintering opportunities for an important population.	Vegetation will need to be removed to allow for the completion of the project. However, nearly all vegetation will be re-instated at the completion of the works. The only permanent loss of native vegetation will be to allow for the construction of a 4 m wide permanent access track to the northern sediment pond. This will result in the permanent removal of approximately 0.0025 ha of native vegetation. The access track will be constructed on the northern side of the wetlands. This is the opposite side to the Moonee Ponds Creek. Connectivity of habitat to allow for dispersal will be retained along the Moonee Ponds Creek and across the wetlands. Where rocks and logs are required to be cleared to allow for the works they will be placed outside of the construction works area along the embankment, so that the Growling Grass Frog may still make use of these habitat features for hunting and overwintering. At the completion of the works the rocks and logs will be reinstated. One of the aims of the project is to improve the composition of the vegetation to better suit the habitat requirements of the Growling Grass Frog. This will be achieved through: • Reducing the dense stands of Bulrush (*Typha orientalis*) and Common Reed (*Phragmites australis*) • Planting a range of emergent, submergent and floating vegetation appropriate to the local Ecological Vegetation Class • Installation of supplementary habitat including logs and rocks
Alteration of aquatic vegetation diversity or structure that leads to a decrease in habitat quality.	One of the aims of the project is to improve the vegetation diversity and structure to improve habitat quality. The project requires the removal of areas of native vegetation existing within the wetland. However, much of this is dense stands of Common Reed and Bulrush. These infestations of Common Reed and Bulrush are degrading the quality of habitat for the Growling Grass Frog within the wetlands and limiting the nutrient removal objective within the facility. The Growling Grass Frog prefers habitat with structural diversity, open water and open bank areas. Reinstatement of the wetlands following construction will focus on improving the provision of habitat for the Growling Grass Frog. A 24 month revegetation program

	is planned following the rectification works.
Alteration to wetland hydrology, diversity and structure that leads to a decrease in habitat quality.	The proposed works will result in some changes to the wetland hydrology; however these should improve or maintain habitat provision for the Growling Grass Frog. The manner in which the project will alter the hydrology in the context of the habitat requirements of the Growling Grass Frog are detailed below: • Permanent water levels – currently 80% of the wetland is less than 350 mm deep in accordance with Melbourne Water constructed wetlands guidelines. The rectification works will increase the depth of two small areas of the wetland from 600 mm to 900 mm deep. Currently the water level in the wetlands increases by 800 mm for approximately 6 weeks. This will change to 350 mm for 72 hours. The intention is to maintain a more constant water level within the wetland. • Low water turbidity – the rectification works include cleaning out the existing northern sediment pond and increasing the capacity of the southern sediment pond to improve the capture efficiency of suspended solids. This should result in decrease in turbidity within the wetlands. • Still or slow flowing water – the rectification works will result in a reduction in water velocity through the wetland to 0.35m/s for a 3 month flow event, approximately half the current estimated velocity. • Low nitrate, phosphate and salinity levels – the works are not expected to significantly alter nutrient levels within the wetland. The works may result in a slight improvement in nitrate, phosphate and salinity levels within the wetland. • Dense cover and diversity of emergent, submerged and floating vegetation – the proposed revegetation program aims to improve the cover and diversity of vegetation characteristics for the Growling Grass Frog and general biodiversity benefit.
Introduction of predatory fish and/or disease agents	The rectification works will require the draining of approximately 50% of the northern and southern wetlands. No filter will be applied to the pump so that predatory fish are also pumped out of the wetland, rather than increasing the concentration of predatory fish in the remaining standing water. The draining of the wetland may result in a temporary decrease in the number of predatory fish in the wetland. It has been suggested that greater survival of Growling Grass Frog tadpoles in the presence of predatory fish may be assisted by the presence of floating and submerged vegetation to provide shelter for tadpoles. It will be ensured that the areas of the wetland that are retained during the works have sufficient cover of floating and submerged vegetation to provide shelter. Reinstatement of the wetlands will also ensure that adequate shelter for tadpoles is provided for the commencement of the breeding season. Biosecurity protocols will be implemented to prevent the introduction and spread of disease agents to the wetland. This will include: • Wash down of all machinery, vehicle tyres and boots prior to entering the site • Vehicles not required for construction will remain offsite in a car park/hardstand area • Run-off from the disinfecting area will be contained so that it does not enter the wetland.
Isolation and fragmentation of populations	
Net reduction in the number and/or diversity if water bodies available to an important population	The proposed works will not result in any permanent change in the number and or diversity of water bodies available. The rectification works will require the draining of approximately 50% of the northern and southern wetland. Draining of the wetlands will be staged so that

	either the northern or the southern wetland is fully operational for the breeding season of the Growling Grass Frog. Draining where necessary will take place outside of the breeding season in August/September, to avoid the loss of Growling Grass Frog eggs and tadpoles.
Removal or alteration of available terrestrial or aquatic habitat corridors.	The only permanent removal of habitat will be to allow for the construction of a 4 m wide access track to the perimeter of the northern sediment pond. Connectivity of the habitat corridor will be retained along the Moonee Ponds Creek and across the wetland. The access track will only be used periodically by Melbourne Water personnel or contractors to maintain the wetland infrastructure. The construction of the access track will result in the permanent removal of 0.0025ha of vegetation.
Construction of physical barriers to movement between the water bodies such as roads or buildings.	The project will not result in the construction of any physical barriers to movement between water bodies.

3.1 (e) Listed migratory species

Description

Nine migratory species are modelled as potentially occurring within the project area using the Protected Matters Search Tool (PMST) (DoEE, 2016). These species are presented in Appendix A.

It is considered unlikely that any of these species make significant use of the site.

Nature and extent of likely impact

The project will not have a significant impact on any listed migratory species.

3.1 (f) Commonwealth marine area

(If the action is in the Commonwealth marine area, please complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

Description

The proposal is not located within a Commonwealth marine area.

Nature and extent of likely impact

There will not be any impact on any part of the environment in the commonwealth marine area.

3.1 (g) Commonwealth land

(If the action is on Commonwealth land, please complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land).

Description

The proposal is not located on Commonwealth Land

Nature and extent of likely impact

There will not be any impact on Commonwealth Land.

3.1 (h) The Great Barrier Reef Marine Park

Description

The proposal is not located near or within the Great Barrier Reef Marine Park.

Nature and extent of likely impact

There will not be any impact on the environment of the Great Barrier Reef Marine Park.

3.1 (i) A water resource, in relation to coal seam gas development or large coal mining development

Description

The project does not relate to a coal seam gas development or large coal mining development.

Nature and extent of likely impact

N/A

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

3.2 (a)	**Is the proposed action a nuclear action?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))

3.3 Description of the project area and affected area for the proposed action

3.3 (a) Flora and fauna

The wetlands were constructed in 2005/2006 and have been revegetated with a variety of native species both within and around the wetland. Planted canopy species included River Red Gums (*Eucalyptus camaldulensis*), Yellow Box (*Eucalyptus melliodora*) and Red Box (*Eucalyptus polyanthemos*). The perimeter of the wetland is vegetated with dense stands of emergent aquatic species including Common Reed (*Phragmites australis*), Bulrush (*Typha* spp.) and Rushes (*Juncus* spp.). Some floating and submerged vegetation is present, including Water Ribbons (*Triglochin* spp.) that provides preferred habitat for the Growling Grass Frog. The area surrounding the wetland supports introduced grasses that are regularly mown.

The Project area supports a wide range of bird species that utilise the wetland habitat.

3.3 (b) Hydrology, including water flows

The wetlands are set within a wide natural valley with the Moonee Ponds Creek forming the base. The creek and wetlands are subject to flooding.

The northern Jacana wetland system is located on the Moonee Ponds Creek within the Jacana retarding basin. Water is diverted from the Creek into the wetlands through a large Coarse Debris Trap. South of the Coarse Debris Trap is a large sedimentation basin with water than flowing across a submerged weir into a macrophyte zone. Flows not entering the wetlands continue along the Moonee Ponds Creek over a series of rock chutes, where outflow weirs and outlet pipes convey the wetland flow back into the creek.

The southern Jacana wetland system is located on the Whitford Street Drain within the Jacana retarding basin. A flow splitting device diverts flow from the main Whitford Street Drain alignment through a Gross Pollutant Trap into a sedimentation basin. Water flows from the basin to a macrophyte zone before it enters the main creek alignment via two grated outlet pits.

Melbourne Water is responsible for the maintenance of the wetlands.

3.3 (c) Soil and Vegetation characteristics

The project area is located within the Victorian Volcanic Plain Bioregion. The area supports yellow duplex soils and brown earths. The area supports very little remnant vegetation, with significant revegetation undertaken along the Moonee Pond Creek line. The surrounding area has been cleared of all remnant vegetation and supports mown grass.

3.3 (d) Outstanding natural features

There are no outstanding features on or near the subject land.

3.3 (e) Remnant native vegetation

There is very little remnant native vegetation retained within the Jacana wetland area. At the northern end of the northern wetlands there is a small area of remnant wattles, this area will not be impacted. The remainder of the vegetation is revegetation planted following the establishment of the wetlands in 2005/2006.

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The wetlands are set at the base of an incised natural valley. There is a gentle gradient along the Moonee Ponds Creek.

3.3 (g) Current state of the environment

The majority of the surrounding area is exotic lawn species that are regularly mown and utilised for recreation. Much of the wetlands have become densely colonised with Common Reed, Bulrushes and Rushes.

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

There are no Commonwealth Heritage Places located within the Project area.

3.3 (i) Indigenous heritage values

The works are restricted to within the existing footprint of the constructed wetlands. Due to the previous ground disturbance within the project area, additional cultural heritage investigations are not required for these works.

3.3 (j) Other important or unique values of the environment

No other key features of the environment are located within proximity to the project.

3.3 (k) Tenure of the action area (e.g. freehold, leasehold)

The land is owned by the Melbourne Water Corporation.

3.3 (l) Existing uses of area of proposed action

The land is currently used as the Jacana Wetlands. The surrounding land is used for recreation.

3.3 (m) Any proposed uses of area of proposed action

The existing land uses described in 3.3(l) will not change as a result of this project.

4 Environmental outcomes

The proposed rectification works will maintain and/or improve the availability of habitat features for the Growling Grass Frog. The proposed environmental outcome for the project in respect to the Growling Grass Frog is 'no net loss to the extent and quality of habitat for the Growling Grass Frog as a result of the Jacana Wetland rectification work'. The outcomes for the project on important habitat features for the Growling Grass Frog are detailed below:

- Permanent water levels – The rectification works will increase the depth of two small areas of the wetland from 600 mm to 900 mm deep. The intention of the proposed works is to maintain a more constant water level within the wetland.
- Low water turbidity – the rectification works include cleaning out the existing northern sediment pond and increasing the capacity of the southern sediment pond to improve the capture efficiency of suspended solids. This should result in decrease in turbidity within the wetlands.
- Still or slow flowing water – the rectification works will result in a reduction in water velocity through the wetland to 0.35m/s for a 3 month flow event, approximately half the current estimated velocity.
- Low nitrate, phosphate and salinity levels – the works are not expected to significantly alter nutrient levels within the wetland. The works may result in a slight improvement in nitrate, phosphate and salinity levels within the wetland.
- Dense cover and diversity of emergent, submerged and floating vegetation – currently the wetland supports dense stands of Common Reed and Bulrush. These stands prevent the colonisation of other plant species and reduce the overall plant diversity of the wetland system. The proposed works include the removal of dense areas of Common Reed and Bulrush and replacement with a range of indigenous emergent, submerged and floating vegetation, including species important to the Growling Grass Frog such as Water Ribbons and Floating Pondweed.
- Maintain connectivity of aquatic and terrestrial habitat for the Growling Grass Frog across the Jacana wetlands and north to known populations of Growling Grass Frog within the Moonee Ponds Creek and the Yuroke Creek – the rectification works will not alter the current habitat connectivity for the Growling Grass Frog.

The status of the Growling Grass Frog population and habitat availability and quality for the species will be monitored during and following the Wetland rectification works to ensure this environmental outcome is achieved.

5 Measures to avoid or reduce impacts

A Growling Grass Frog Management Plan has been prepared for the project and has been included with the referral documentation. In addition a Construction Environmental Management Plan will be prepared for the proposed works.

Timing of the works

One of the key mitigation strategies is the timing of the works to minimise the impact on the breeding success of the Growling Grass Frog. The works will be staged with works to the northern and southern wetland completed at different times to ensure adequate still water is available at the site to enable the Growling Grass Frog to breed (Table 2).

Table 2: Timing of construction activities to minimise impact on the breeding success of the Growling Grass Frog.

Month	Growling Grass Frog Life Stage	Activities within the northern wetland	Activities within the southern wetland
April 2017	Overwintering	No -activities	Drain Southern wetlands. Allow a minimum of two weeks for any remaining active Growling Grass Frogs to relocate.
May – Mid-August 2017	Overwintering	No activities	Rectification works to the southern wetland

Month	Growling Grass Frog Life Stage	Activities within the northern wetland	Activities within the southern wetland
Mid-August to beginning September	Overwintering	No activities	Reinstate southern wetland.
Beginning October	Growling Grass Frog becoming active	Drain 50% of northern wetland. Allow a minimum of two weeks for Growling Grass Frogs to relocate.	No activities
November 2017 – March 2018	Growling Grass Frog Active	Rectification works to northern wetland	No activities
April 2018	Overwintering	Reinstate northern wetlands	Additional vegetation Management works
June – October 2018	Overwintering	Additional vegetation management works	Additional vegetation Management works
November – March 2019	Growling Grass Frog Active	No activities	No activities
April – October 2019	Overwintering	Additional vegetation management works	Additional vegetation Management works

Works are also required to a small sediment pond at the southern end of the northern wetland, to the east and up slope from the main wetland system. The area is separated from the wetlands by a paved bicycle path and a 50 m expanse of lawn. The pond provides only low quality habitat for the Growling Grass Frog. The timing of rectification works is not considered critical for this area. Frog exclusion fencing will be erected at the perimeter of the works area for the duration of the works to prevent Growling Grass Frogs from entering the works area.

Mitigation measures

- All personnel working within the project area will undergo training and induction regarding Growling Grass Frog management procedures as a part of the general site induction prior to commencing work on site. All personnel will be informed during the induction of the appearance of the Growling Grass Frog, its habitat and protocols required to be followed to minimise any impact to the species
- Best practice pollution, sediment and erosion controls will be implemented to maintain habitat integrity for the Growling Grass Frog downstream of any works
- Habitat connectivity will be retained along the length of the Moonee Ponds Creek for the duration of construction
- Frog exclusion fencing will be erected around active works areas to prevent the frog from entering works sites
- Temporary fencing will be used to designate No Go areas to prevent personnel and construction equipment and vehicles from impacting habitat and vegetation outside of the construction area
- Best practice hygiene protocols will be implemented to prevent the spread of Chytrid Fungus
- Water quality monitoring will be conducted prior to, during and at the conclusion of the proposed works and any decrease in water quality investigated immediately
- Monitoring for the Growling Grass Frog will be conducted prior to, during and at the completion of construction activities at the wetlands, as well as at site known to support the Growling Grass Frog upstream of the wetlands to be used as a control site
- Construction stockpiles will be contained within bunded areas outside of a 30 m buffer of the Moonee Ponds Creek
- Minimise creation of potential habitat, or harbour sites for pest animal during construction including the Red Fox, European Rabbit and European Hare that may predate on or deteriorate habitat for the Growling Grass Frog

- All waste, particularly food, must be securely stored, preferably off-site, to inhibit any increase in the Red Fox that may predate threatened species in the area
- To minimise the loss of habitat, logs and rocks that require removal to allow for the proposed works to be completed should be retained within the habitat corridor outside of the active construction area
- Where a Growling Grass Frog is identified during the rectification works, the following process will be undertaken:
    - Works will be stopped in the vicinity of the individual. The individual will captured by hand (wearing disposable vinyl gloves).
    - The captured frog will be placed in a dry, clean plastic container, at least 20 x 20 cm in size that are sealable and have adequate ventilation (ie. Holes in the lid to provide air flow).
    - Captured frogs will be released immediately, in habitat outside of the works area. Frogs will be released in dense vegetation, under rocks or under woody debris. Care will be taken to minimise disturbance of habitat features to prevent impacting other Growling Grass Frogs within the area.
    - Several capture kits will be kept on site that include a container and set of disposable vinyl gloves
    - Any injured Growling Grass Frogs identified are to be captured and stored in appropriate temporary housing. Injured frogs should be assessed by a vet and where necessary humanely euthanised.
- Following rectification activities the wetlands will be re-instated and revegetated with a variety of floating, submerged and emergent vegetation that provides suitable habitat for the Growling Grass Frog.

6 Conclusion on the likelihood of significant impacts

6.1 Do you THINK your proposed action is a controlled action?

X	No, complete section 5.2
	Yes, complete section 5.3

6.2 Proposed action IS NOT a controlled action.

The Jacana Wetlands Rectification project should not be considered a controlled action, as it will not cause a significant impact on any matter of national environmental significance. Matters of national environmental significance relevant to this proposal are listed threatened species, specifically the Growling Grass Frog.

A Growling Grass Frog population is known to be present within the Jacana wetlands. There is the potential for the project to result in a number of impacts to the Growling Grass Frog through the temporary degradation of habitat. However it is considered through the implementation of a range of mitigation strategies, the proposed works will not result in a significant impact to the species. Mitigation measures will include the following:

- Staging of the works so that the project does not impact on the breeding success of the population
- Erection of frog protective fencing at the perimeter of the works area to protect frogs from entering hazardous construction areas
- Erection of temporary fencing to prevent construction equipment and machinery from impacting on habitat outside of the works area
- Implementation of best practise pollution, sediment and erosion controls to ensure habitat downstream of the works area is not degraded
- Implementation of best practise hygiene controls to prevent the spread of Chytrid fungus as a result of the Project
- Completion of a 24 month vegetation management program to improve vegetation composition across the wetlands, particularly the provision of habitat for the Growling Grass Frog.

- Undertake water quality and Growling Grass Frog monitoring to assess the performance of the mitigation measure against the specified environmental outcome for the project of 'no net loss to the extent and quality of habitat for the Growling Grass Frog as a result of the Jacana Wetland rectification work'

6.3 Proposed action IS a controlled action

	Matters likely to be significantly impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

7 Environmental record of the person proposing to take the action

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** Melbourne Water has established an Environmental Policy and reports its performance annually through a Sustainability Report published on its website.	✓	
7.2	**Provide 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:** **(a) the person proposing to take the action, or** **(b) if a permit has been applied for in relation to the action - the person making the application.** **If yes, provide details** In 2000/01 Melbourne Water received two Penalty Infringement Notices for litter and odour related to the discharge of effluent to Bass Strait from Eastern Treatment Plant. In 2005/06 Melbourne Water received two Penalty Infringement Notices for pollution and late notification related to a failure of a sludge supernatant pump at Eastern Treatment Plant. In 2005/06 aluminium sulphate (alum) from the Winneke water treatment plant lost to Sugarloaf Creek at Christmas Hills was identified and contained in November 2005. The cause was a leaking chemical pipeline that went undetected because it was within a wall cavity at the plant. The leak is likely to have occurred for many weeks before being realised and finally resulted in a blue colouration to the creek water and a small number of dead fish in Watsons Creek. EPA Issued a Clean Up Notice for this incident. In 2005/06 fluorosilicic acid (a liquid form of fluoride) from the Cardinia water treatment plant was lost to Cardinia Creek at Beaconsfield. The cause was a leaking chemical pipeline within a part of the plant that was out of service at the time of the incident. The leak occurred intermittently over a period of 3 weeks before it was identified and stopped. Inspection of the creek revealed no sign of fish deaths. These two offences were heard together in the Magistrates' Court on 29 August 2007 with both found proven without a conviction recorded against Melbourne Water. Melbourne Water was required to make contributions to an environmentally relevant community project totalling $150,000 and also had to pay for the EPA's technical reports and its legal costs.	✓	

In 2006/07 Melbourne Water was issued a Pollution Abatement Notice to manage the remediation of the Dandenong Wastewater Treatment Plant. Melbourne Water inherited this plant from a previous organisation. The remediation work has now been completed.

7.3 **If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework and if and how the framework applies to the action.** ✓

All works will be undertaken in accordance with Melbourne Water environmental policies. Construction works will also be in accordance with the project Environmental Management Plan

7.4 **Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** ✓

Provide name of proposal and EPBC reference number (if known)

Reference No.	Title of Referral
2016/7671	Melbourne Water Corporation/Transport - Water/Approximately 28km east of Melbourne, Vic/Victoria/Colchester Road Retarding Basin Upgrade, Kilsyth South, Vic
2015/7619	Melbourne Water Corporation/Waste Management (sewerage)/8km southwest of Werribee/Victoria/WTP Effluent Discharge Improvement Works (Multiple Outlets), Werribee, Vic
2015/7572	MELBOURNE WATER CORPORATION/Water Management and Use/100 Bulla Road, Essendon Fields/Victoria/M9 Water Main replacement project, Essendon Fields, Vic
2015/7515	Melbourne Water Corporation/Waste management (sewerage)/Werribee/VIC/Western Treatment Plant Stage 2 Augmentation Project, Werribee, Vic
2014/7313	MELBOURNE WATER CORPORATION/Waste Management (sewerage)/Lot 1, New Farm Road, Werribee/Victoria/Western Treatment Plant Stage 1 Augmentation, Werribee, Vic
2014/7156	Melbourne Water Corporation/Water management and use/218 Mt Derrimut Road, Derrimut/VIC/Kayes Drain drainage works, 218 Mt Derrimut Road, Derrimut, Vic
2013/6939	MELBOURNE WATER CORPORATION/Waste Management (sewerage)/within Melbourne Water Western Treatment Plant, southwest Werribee/Victoria/205W Sludge Drying Pan Refurbishment, Melbourne Water Western Treatment Plant, Vic

2013/6719	Melbourne Water Corporation/Waste management (sewerage)/Approximately 6km east of Melbourne CBD/VIC/Kew North Branch Sewer Upgrade
2012/6678	Melbourne Water Corporation/Water management and use/Seaford, approx 35km south east of Melbourne /VIC/Seaford Wetlands Hydrology Works
2011/5992	Melbourne Water (Waterways Alliance)/Water management and use/Eleven Mile Road, Cora Lynn to Thirteen Mile Road, Vervale/VIC/Bunyip Main Drain Bank Rehabilitation Works
2011/5926	Melbourne Water/Tourism and recreation/Edithvale Wetlands, 25km SE of Melbourne/VIC/Edithvale Wetlands Bird Hide Repairs, VIC
2011/5921	Melbourne Water (Pipelines Alliance)/Water management and use/Western Treatment Plant Werribee/VIC/Class C Recycled Water Supply Reliabilty Improvement at Western Treatment Plant
2010/5654	Melbourne Water Corporation/Natural resources management/1.2km stretch of land adjacent to Mordialloc Creek/VIC/Mordialloc Creek Wetland Lot 4 Governor Road Braeside
2010/5641	Melbourne Water Corporation/Water management and use/Yarra River, Melbourne /VIC/Replace the existing weir at Dights Falls with a new weir and vertical slot fishway, Yarra River
2010/5626	Melbourne Water Corporation/Water management and use/Eastern side of Turntable Way, Caroline Springs/VIC/Modification of an artificial dam into a constructed wetland and water retarding basin
2010/5376	Melbourne Water/Water management and use/Bangholme/VIC/Upgrade to Eastern Treatment Plant
2009/5249	Melbourne Water Corporation/Natural resources management/Laverton/VIC/Modifications to Laverton Wetland inflow & outflow structures
2009/5098	Melbourne Water/Transport - water/Cardinia Reservoir Park/VIC/Construction of Cardinia Reservoir integration works and associated infrastructure, Cardinia Reservoir Park, VIC
2009/5036	Melbourne Water/Waste management (sewerage)/Werribee/VIC/Upgrade of capacity and supporting infrastructure, Western Treatment Plant
2009/4831	Melbourne Water/Waste management (sewerage)/Werribee/VIC/Western Lagoon Saltmarsh Restoration, Western Treatment Plant, Werribee, VIC
2009/4704	Melbourne Water/Water management and use/Sugarloaf Reservoir, Watsons Creek Catchment/VIC/Mini-Hydro, comprised of a 4.275MW generator and 11kV underground power cable
2008/4614	Melbourne Water Corporation/Water management and use/south of Cooper St, Epping, Melbourne/VIC/Edgars Creek Drainage Enhancement
2008/4602	Melbourne Water Corporation/Natural resources management/Near Musteys Bridge Lancefield/VIC/Woody Weed Control and Revegetation of Deep Creek

2008/4221	Melbourne Water/Waste management (sewerage)/Werribee/VIC/Land Use Strategy and Outsourcing Arrangements for the Western Treatment Plant
2008/3960	Melbourne Water/Water management and use/Goulburn River, to Sugarloaf Reservoir to the N/E Melbourne/VIC/Sugarloaf Water Pipeline Project
2007/3622	Melbourne Water Corporation/Water management and use/Drouin West /VIC/Tarago Water Treatment Plant
2007/3229	Melbourne Water Corporation/Waste management (sewerage)/Bangholme/VIC/Additional Aeration tanks for Eastern Treatment Plant
2007/3218	Melbourne Water/Tourism and recreation/Edithvale/VIC/Edithvale-Seaford Wetlands Discovery Centre
2006/2875	Melbourne Water/Yarra Water/Waste management/Pascovale, Essendon, Coburg/VIC/Northern Sewerage Project stages 1 & 2
2006/2620	Melbourne Water Corporation/Waste management/Werribee/VIC/Sludge handling and biosolids management - Western Treatment Plant
2002/890	Melbourne Water Corporation/Waste management/Werribee/VIC/Removal of Sludge to Produce Dried Biosolids, Western Treatment Plant
2002/688	Melbourne Water Corporation/Waste management/Werribee/VIC/Western Treatment Plant Environment Improvement Project (post Effluent Reuse Stage 2)
2002/646	Melbourne Water/Waste management/Werribee Western Treatment Plant/VIC/Pipeline to transport recycled waste water
2001/273	Melbourne Water Corporation/Sewage Treatment Plants/Werribee/VIC/Effluent Reuse Stage 2
2001/185	Melbourne Water Corporation/Marine Infrastructure/Western Treatment Plant, Wyndham/VIC/Western Treatment Plant Groyne and Beach Works

8 Information sources and attachments

(For the information provided above)

8.1 References

DELWP, (2016a). *Biodiversity Interactive Map 3.2.* Retrieved 12 July 2016, from http://mapshare2.dse.vic.gov.au/MapShare2EXT/imf.jsp?site=bim [online]. Victorian State Government, Department Environment and Primary Industries, Melbourne.

DELWP, (2016b). *Victorian Biodiversity Atlas.* Biodiversity Info. Victorian State Government, Department of Environment and Primary Industries, East Melbourne.

DEWHA, (2009). Significant impact guidelines for the vulnerable growling grass frog (Significant impact guidelines for the vulnerable growling grass frog (*Litoria raniformis*). EPBC Act policy statement 3.14. DSEWPaC, (2012). Department of Sustainability, Environment, Water, Populations and Communities, Canberra.

DotE (2016). *Protected Matters Search Tool*. Commonwealth Department of the Environment, Canberra.

Ecology and Heritage Partners Pty Ltd (2011). G*rowling Gass Frog Salvage and Translocation for the M80 Ring Road Upgrade*. Report prepared for VicRoads, Melbourne.

Ecology and Heritage Partners Pty Ltd (2012). *Melbourne Water Frog Census Analysis: 2011 Annual Report*. Report prepared for Melbourne Water Corporation.

Ecology and Heritage Partners, (2014). *Growling Grass Frog Risk Mitigation Strategy for Jacana RB Wetland Rectification*. EHP Melbourne.

SKM (2013). *Jacana Valley Wetlands Growling Grass Frog Monitoring Project 2012-2013*. Report prepared for Melbourne Water Corporation.

8.2 Reliability and date of information

The information in this Referral was taken from the following.

- EPBC Protected Matters Search, dated July 2016
- Victorian Biodiversity Atlas (Victorian Department of Environment, Land, Water and Planning) accessed July 2016
- Multiple Growling Grass Frog Surveys including those completed by SKM in 2013, Ecology and Heritage Partners in 2011 and 2012 and Jacobs in 2016. A vegetation assessment of the area was completed in 2016 by Jacobs. Surveys were completed in accordance with State and Federal guidelines.

8.3 Attachments

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the locality of the proposed action (section 1)	✓	IS62400_FullExtentEcology.pdf IS162400_ProposedReferralArea_Zone55.zip
	GIS file delineating the boundary of the referral area (section 1)		
	figures, maps or aerial photographs showing the location of the proposed action in respect to any matters of national		

	environmental significance or important features of the environments (section 3)		
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)		
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)		
	copies of any flora and fauna investigations and surveys (section 3)	✓	Jacana Valley Wetlands Growling Grass Frog Monitoring Project 2012-2013 Jacana Wetlands Rectification Project Flora and Fauna Assessment
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3) conclusions in the referral (section 3 and 4)		
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

9 Contacts, signatures and declarations

Proposed action title: Jacana Wetlands Rectification

9.1 Person proposing to take action

Name and Title: Aaron Broadway
Senior Project Manager

Organisation: MELBOURNE WATER CORPORATION

Trust deed:

- ☐ attached; OR
- ☑ not applicable

ACN / ABN: 81 945 386 953

Postal address: PO Box 4342
MELBOURNE VIC 3001

Telephone: + 61 3 9679 7721

Email: aaron.broadway@melbournewater.com.au

COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

- ☐ an individual; OR
- ☐ a small business entity – aggregated turnover is less than $2million for the previous income year (as prescribed within section 328-110 (other than subsection 328-119 (4)) of the *Income Tax Assessment Act 1997*); OR
- ☐ a small business entity – aggregated turnover for the current financial year is likely to be less than $2million (note that aggregated turnover for one of the previous two income years must also be less than $2million) (as prescribed within section 328-110 (other than subsection 328-119 (4)) of the *Income Tax Assessment Act 1997*) (Cth)).

☑ not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

I would like to apply for a waiver of full or partial fees under regulation 5.21A of the EPBC Regulations. Under regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:

☑ not applicable.

Declaration:

I declare that to the best of my knowledge the information I have given on, or attached to this form 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 of or for the benefit of any other person or entity.

Signature: Tara Broadway **Date:** 16/11/2016

9.2 Designated proponent

Name of proposed proponent: Aaron Broadway
Senior Project Manager

ACN / ABN : As above

Postal address:

Telephone:

Email:

Declaration by the proposed proponent:

I Aaron Broadway, the proposed proponent, consent to the proposed designation of myself as the proponent for the purposes of the action described in this referral.

Date: 16/11/2016

Signature : Aaron Broadway

Declaration by the person proposing to take the action:

I ....., the person proposing to take the action, consent to the proposed designation of..... as proponent for the purposes of the action described in this referral.

Signature :

Date:

9.3 Person preparing the referral information (if different from section 9.1)

Name: Alicia Michael

Title: Senior Terrestrial Ecologist

Organisation: Jacobs Group (Australia) Pty Ltd

ACN / ABN 37 001 024 095

Postal address: 452 Flinders Street, Melbourne VIC, 3000

Telephone: 03 8668 6346

Email: Alicia.michael@jacobs.com

Declaration: I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.

Signature: 

Date: 16/11/2016

REFERRAL CHECKLIST

HAVE YOU:

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area for the proposed action?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than three megabytes (3mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)

Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipeline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

Appendix A :Threatened species modelled as potentially occurring within the project site (DoEE, 2016)

Scientific name	Common name	Conservation status	PMST modelled likelihood of occurrence	Jacobs determination – based on known or predicted habitat values	Likelihood of impact
Birds					
Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area.	**Low**. No records within 5km. Outside primary habitat range.	**Low.** Species is unlikely to utilise habitat available at the site.
Botaurus poiciloptilus	Australasian Bittern	Endangered	Species or species habitat known to occur within area	**Moderate**. No records within 5 km on the VBA but single record on Birds Australia database.	**Low.** Species is unlikely to make significant use of habitat available at the site.
Grantiella picta	Painted Honeyeater	Vulnerable	Species or species habitat likely to occur within area	**Low**. No records within 5km	**Low.** Species is unlikely to utilise habitat available at the site.
Lathamus discolor	Swift Parrot	Critically Endangered	Species or species habitat likely to occur within area	**Low**. No records within 5km. Outside primary habitat range. No flowering gums (principle food tree) likely impacted by proposal.	**Low.** Species is unlikely to utilise habitat available at the site.
Pedionomos tortquatus	Plains Wanderer	Critically Endangered	Species or species habitat likely to occur within area	**Low**. No records within 5km in the last 30 years. Presumed to be locally extinct.	**Low.** Species is unlikely to utilise habitat available at the site.
Rostratula australis	Australian Painted Snipe	Endangered	Species or species habitat may occur within area	**Low**. No records within 5km	**Low.** Species is unlikely to utilise habitat available at the site.
Fish					

Scientific name	Common name	Conservation status	PMST modelled likelihood of occurrence	Jacobs determination – based on known or predicted habitat values	Likelihood of impact
Galaxiella pusilla	Eastern Dwarf Galaxias	Vulnerable	Species or species habitat likely to occur within area	**Low:** Not known from Moonee Creek catchment. No records within 5 km in the VBA.	**Low.** Species is unlikely to utilise habitat available at the site.
Maccullochella peelii	Murray Cod	Vulnerable	Species or species habitat may occur within area	**Low:** Not known from Moonee Creek catchment. One record from the Merri Creek.	**Low.** Species is unlikely to utilise habitat available at the site.
Prototroctes maraena	Australian Grayling	Vulnerable	Species or species habitat may occur within area	**Low:** Not known from Moonee Creek catchment.	**Low.** Species is unlikely to utilise habitat available at the site.
Amphibians					
Litoria raniformis	Growling Grass Frog	Vulnerable	Species or species habitat known to occur within area	**High**. Known to occur in area.	**Potential for high impact** – impact to this species will be avoided through the implementation of a range of mitigation measures.
Insects					
Synemon plana	Golden Sun Moth	Critically Endangered	Species or species habitat known to occur within area	**Low**. Species has been located within 5km of the project area. However, project area does not comprise suitable habitat introduced grasses are regularly mown and area has undergone significant ground disturbance to allow construction of wetlands and adjacent bicycle path.	**Low.** Species is unlikely to utilise habitat available at the site.
Mammals					

Scientific name	Common name	Conservation status	PMST modelled likelihood of occurrence	Jacobs determination – based on known or predicted habitat values	Likelihood of impact
Perameles gunnii (Victorian subspecies)	Eastern Barred Bandicoot	Endangered	Translocated population known to occur within area	**Low**. Known populations are present in the Woodlands Historic Park 3km to the north west of the site. No suitable habitat for the species is present within the project area.	**Low.** Species is unlikely to utilise habitat available at the site.
Petauroides volans	Greater Glider	Vulnerable	Species or species habitat may occur within area	**Low**. No records within 5km. Presumed to be locally extinct.	**Low.** Species is unlikely to utilise habitat available at the site.
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Foraging, feeding or related behaviour likely to occur within area.	**Low:** Likely to fly over site no camps or significant food resources recorded in the area.	**Low.** Species may overfly site. Site does not support habitat features required for a resident population.
Plants					
Amphibromus fluitans	River Swamp Wallaby Grass	Vulnerable	Species or species habitat may occur within area	**Low**. No records within 5km. Unlikely to have established in constructed wetland.	**Low.** Species is unlikely to be present within the project area.
Dianella amoena	Matted Flax-lily	Endangered	Species or species habitat known to occur within area	**Low**. Species has been located within 5km of the project area. However project area supports very little remnant vegetation. Groundcover is cultivated lawn.	**Low.** Species is unlikely to be present within the project area.
Glycine latrobeana	Clover Glycine	Vulnerable	Species or species habitat likely to occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.

Scientific name	Common name	Conservation status	PMST modelled likelihood of occurrence	Jacobs determination – based on known or predicted habitat values	Likelihood of impact
Leucochrysum albicans var. tricolor	Hoary Sunray	Endangered	Species or species habitat likely to occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.
Pimelea spinescens subsp spinescens	Spiny Rice-Flower	Critically Endangered	Species or species habitat likely to occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.
Prasophyllum frenchii	Maroon Leek-orchid	Endangered	Species or species habitat likely to occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.
Pterostylis cucullata	Leafy Greenhood	Vulnerable	Species or species habitat may occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.
Rutidosis leptorrhynchoides	Button Wrinklewort	Endangered	Species or species habitat likely to occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.
Senecio macrocarpus	Large-fruit Fireweed	Vulnerable	Species or species habitat likely to occur within area	**Low**. No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.
Reptiles					
Aprasia parapulchella	Pink-tailed Worm-lizard	Vulnerable	Species or species habitat may occur within area	**Low.** No records within 5km. Habitat not present on site.	**Low.** Species is unlikely to be present within the project area.

Scientific name	Common name	Conservation status	PMST modelled likelihood of occurrence	Jacobs determination – based on known or predicted habitat values	Likelihood of impact
Delmar impar	Striped Legless Lizard	Vulnerable	Species or species habitat likely to occur within area	**Low**. Species has been located within 5km of the project area. However, project area does not comprise suitable habitat introduced grasses are regularly mown and area has undergone significant ground disturbance to allow construction of wetlands and adjacent bicycle path.	**Low.** Species is unlikely to be present within the project area.
Tympanocryptis pinguicolla	Grassland Earless Dragon	Endangered	Species or species habitat may occur within area	**Low**. No records within 5km. Presumed to be locally extinct, with last records known from Lollypop Creek south of Melbourne.	**Low.** Species is unlikely to be present within the project area.

Attachment B

Privacy and Confidentiality Notice

The Department is required under section 74(3) of the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) to publish the information (including personal information of the author and/or third parties) provided in this referral on the internet. The information published may include your personal information.

Information including your personal information included in this referral will be used for the purposes of administering the EPBC Act. The information may be provided to various Commonwealth, State and Territory agencies for the purposes of administering the Act or other Commonwealth, State or Territory legislation. For example, if the proposed action (or a component of it) is to be taken in the GBRMP, the Minister is required to provide a copy of your referral to GBRMPA (see section 73A, EPBC Act). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.

The Department will collect, use, store and disclose the personal information contained in this referral in a manner consistent with its obligations under the *Privacy Act 1988* and the Department's privacy policy.

The Department's privacy policy contains details about how respondents may access and make corrections to personal information that the Department holds about the respondent, how respondents may make a complaint about a breach of an Australian Privacy Principle, and how the Department will deal with that complaint.

A copy of the Department's privacy policy is available at: http://environment.gov.au/privacy-policy.

The Department is not obliged to publish information that the Minister is satisfied in commercial-in-confidence. If you believe that this referral contains information that is commercial-in-confidence, you must clearly identify such information and the reason for its confidentiality at the time of making the referral. The Minister cannot be satisfied that particular information included in a referral is commercial-in-confidence unless you demonstrate to the Minister (by providing reasons in writing) that:

- release of the information would cause competitive detriment to the person; and
- the information is not in the public domain; and
- the information is not required to be disclosed under another law of the Commonwealth, a State or a Territory; and
- the information is not readily discoverable.

The Department is subject to certain legislative and administrative accountability and transparency requirements of the Australian Government including disclosures to the Parliament and its Committees. While the Department will treat all referral information provided in this referral sensitively, any information contained in or relating to a referral, including information identified by a person as commercial-in-confidence, may be disclosed by the Department:

- to its employees and advisers in order to evaluate or assess a referral;
- to the Parliamentary Secretary;
- within the Department or other agencies where this serves the legitimate interest of the Australian Government;
- in response to a request by a House or Committee of the Parliament of the Commonwealth of Australia;
- where information is authorised or permitted by law to be disclosed; and
- where the information is in the public domain other than by the Department's disclosure of that information.