

# Statement of Reasons

## DEPARTMENT OF INFRASTRUCTURE, PLANNING AND LOGISTICS – WADHAM LAGOON FLOOD MITIGATION WORKS

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### PROJECT

The Notice of Intent (NOI) for the Wadham Lagoon Flood Mitigation Works was submitted by the Department of Infrastructure, Planning and Logistics (DIPL) (the Proponent) to the Northern Territory Environment Protection Authority (NT EPA) on 24 February 2017, for consideration under the *Environmental Assessment Act* (EA Act). Further information was requested on 16 March 2017, to which the Proponent responded on 17 March 2017.

The proposed works aim to provide flood immunity to vulnerable residential properties surrounding Wadham Lagoon, Howard Springs. Flood waters from Wadham Lagoon discharge northward, flowing along drainage easements between private lots for approximately 2.2 km, through culverts underneath four Howard Springs roads (Whitewood, Madsen, Fitzgerald, and Langton Roads) and into vacant Crown land within Section 2821 (Hundred of Bagot, zoned Rural Living). Flows then continue around the Howard Springs Nature Park into the Howard River, to eventually discharge into Shoal Bay. Areas of restricted flow have been identified downstream of the lagoon that cause backing up of flood waters, and increased risk of minor flooding of surrounding residential properties. Culvert upgrades and trunk drain modifications are proposed along the overflow route as far as Section 2821. Proposed works include:

- upgrade and additional culverts beneath Whitewood, Madsen, Fitzgerald and Langton Roads
- increasing the grade and width of the existing trunk drains between the outfall to the ornamental lake; and downstream of Lot 5971 (85 Langton Road)
- reshaping the channel downstream of Langton Road to direct flow into the existing drain through Lot 5971 (85 Langton Road), and increasing the grade and width of the drain.

Proposed culvert and drain modifications could achieve a 300 mm freeboard between the Q100 flood level and the finished floor levels of residences within the Wadham Lagoon catchment, without worsening flooding impacts downstream of Whitewood Road. Works were proposed to commence in April 2017 and be finalised by December 2017. Temporary road closures and traffic detours would apply for each road culvert upgrade.

### CONSULTATION

The Notice of Intent and further information have been reviewed as a notification under the EA Act in consultation with Northern Territory Government (NTG) advisory bodies and the responsible Minister, in accordance with clause 8(1) of the Environmental Assessment Administrative Procedures.

### JUSTIFICATION

Review of the Notice of Intent and further information identified the following potential environmental impacts and risks associated with the proposed action:

- potential impacts to neighbouring properties as a result of dust and noise
- potential impacts to local traffic flows and access to the town shopping centre
- potential impacts to downstream vegetation and water quality as a result of inappropriate erosion and sediment control

- clearing of 3000 m<sup>2</sup> of sensitive/significant closed-forest vegetation
- potential impacts to threatened species
- potential impacts relating to the introduction and spread of weeds.

### **Dust and noise**

Impacts from earthwork-generated dust are expected to be negligible due to few sensitive receptors along the alignment of the works area. At times when soil moisture is low, dust will be suppressed through the use of water carts. Works are expected to be completed by December 2017.

As per DIPL Standard Specifications for Environmental Management, works within residential properties will be restricted to standard hours as listed in the NTEPA - *Noise Guidelines for development sites in the Northern Territory* (2014). Construction noise will be required to not exceed ambient noise plus 5 dB(A). Existing communication plans will be maintained to ensure residents and affected stakeholders are aware of progress of works in their vicinity and to provide open communication channels.

### **Reduced traffic access**

Temporary impacts will occur to local traffic flows, including pedestrian access to the town shopping centre from the Howard Springs Big4 tourist park. DIPL has undertaken stakeholder consultation meetings, including with business owners. DIPL will erect targeted detour signage around roadworks, including information directing caravan park guests. DIPL has committed to investigate options for a shuttle bus to ferry caravan park clients to the Howard Springs shops and Howard Springs Tavern.

### **Erosion, sedimentation, reduced water quality**

Vegetation clearing, excavation and filling is proposed to occur within and beside drainage lines. According to the NT NRM Snapshot (NOI Appendix F) soils in the area are predominately Hydrosols and Kandosols, both prone to erosion when disturbed. Works are planned to commence in April 2017 and be predominantly conducted during the Dry season, with final works potentially extending into the Wet season to December 2017. Undertaking works in and beside drainage lines during rainfall and stream flow events increases potential for erosion of exposed soils, sediment entering aquatic environments, and impacts on downstream aquatic ecosystems.

Management of erosion and sediment risks are proposed through the DIPL *Standard Specifications for Environmental Management*, required as part of the Contractor's Environmental Management Plan (CEMP). The CEMP is required to include an Erosion and Sediment Control Plan (ESCP), to be approved by DIPL, and implemented prior to any works commencing.

DIPL has advised that the mitigation measures to be included in the ESCP are likely to include construction of a dam in the existing drain and pumping stream flows around the area of works. The works area would be required to dry out, to allow machinery to be able to access the site. Use of temporary geotextile wrapped rock check dams within the drains would be recommended by DIPL.

DIPL advised that Wet season works would be limited to when creek constant flows have reduced to a low and manageable level. The remaining low or sporadic flow events would then be of a scale that could be diverted around the works or into stabilised vegetation, such as into the cleared but well-established grassed paddocks.

The NT EPA is satisfied that the proposed works have a low potential to cause significant environmental impacts due to erosion and sedimentation.

### **Clearing of native vegetation and impacts on species of conservation significance**

The proponent has identified a number of threatened species that may occur within 5 km of the area, including a triggerplant *Stylidium ensatum* (Endangered, *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and *Territory Parks and Wildlife Conservation Act* (TPWC Act), a Bladderwort *Utricularia dunstaniae* (Vulnerable, TPWC Act), a herb *Typhonium praetermissum* (Vulnerable, TPWC Act), the Cycad *Cycas armstrongii* (Vulnerable, TPWC Act), and the Black-footed Tree-rat *Mesembriomys gouldii* (Endangered, EPBC Act, Vulnerable, TPWC Act).

Advice from the Department of Environment and Natural Resources (DENR) has clarified that the three records of *Stylidium ensatum* in the Department's flora database that are shown as occurring within the project area were geographically coded incorrectly and this species is not known to occur at the site.

DENR advises that the project area does not appear to have highly suitable habitat for *Utricularia dunstaniae* and it is unlikely that the species is present within the project area.

The Department's mapping of the distribution of *T. praetermissum* in the greater Darwin region indicates that highly suitable habitat for the species may be present in the vicinity of the proposed outlet on Section 2821. Field surveys in February 2017 specifically targeted these areas and were sufficiently intense to reliably detect *T. praetermissum* if present. The non-detection of the species during the survey is likely to reflect true absence from the site and risks to the species are therefore considered to be negligible.

The NOI has recorded cycads in Section 2821, approximately 35 m adjacent to the location of the proposed outlet drain. The NOI concludes that these will not be impacted by project works as they are located on the higher elevated land within the transition zone into woodland.

The majority of proposed clearing is in Portion 2821 and includes a small number of large Melaleuca trees, small Acacia and Melaleuca saplings and a 3000 m<sup>2</sup> strip of closed forest. This part of Portion 2821 is also within a Litchfield Priority Environmental Management (PEM) Area. Clearing these sensitive/significant riparian habitats and PEM areas usually contradicts the NT *Land Clearing Guidelines* (2010). However, in accordance with Part 1 Clause 1.3 subsection 2(b) ii of the *NT Planning Scheme*, clearing within storm water drainage areas is exempt from requirements to comply with the Guidelines. In recognition of the sensitive nature of the habitats in Portion 2821, the proponent has minimised the area required to be cleared to assist in the mitigation of flooding to adjacent properties.

The 15 m x 200 m strip of (sensitive) closed-forest area proposed for clearing represents approximately 2.5% of mapped closed forest communities present within a 5 km radius sample area (*NT NRM Report – Wadham Lagoon Flood Mitigation - 17 January 2017*). The relatively low percentage to be cleared of the local extent of closed forest communities is considered to pose a low risk to the overall biodiversity values of the area.

Risks to native fauna associated with habitat clearing, including to the Black-footed Tree-rat, are considered to be low due to the small extent of clearing, relative to the area of suitable habitat in the vicinity. Although some trees which could provide habitat for threatened species would be removed, it is expected that individual animals would migrate into the adjacent vegetation. On completion of the drainage works, it is anticipated that fauna would migrate back into the area as new plant growth is experienced.

The trunk drain between Wadham Lagoon and Portion 2821 has previously been cleared. Clearing of regrowth vegetation in these areas is not expected to significantly impact on any listed threatened species.

## Weeds

A number of Class A and Class B weeds species have been identified as occurring, or potentially occurring within the areas of works. Gamba grass (*Andropogon gayanus*), mimosa (*Mimosa pigra*) and neem (*Azadirachta indica*) are subject to Statutory Weed Management Plans. All landholders must adhere to management obligations outlined in these plans.

A commitment is made in the NOI for development of a Weed Management Plan as part of a CEMP. Endorsement of the CEMP by the DIPL is a contractual requirement for works. The CEMP will be required to design and implement weed controls in accordance with the DIPL *Standard Specifications for Environmental Management* including:

- where works are to be undertaken in weed infested areas, machinery is to be cleaned prior to moving into weed-free areas
- when clearing, weed infested areas are to be separated from weed free areas, to prevent contamination of material to be used in erosion and sediment control and/or landscaping
- weed infested material is to be disposed to a licensed waste disposal facility
- use of native grass/sedge species in drain base and batter stabilisation works within Section 2821 Hundred of Bagot.

The NT EPA is satisfied that potential impacts and risks associated with the proposed Wadham Lagoon Flood Mitigation Works are not significant and can be adequately managed through the implementation of measures proposed in the NOI and further information, including required preparation and implementation by the Contractor of a CEMP addressing NOI commitments, DIPL *Standard Specifications for Environmental Management* (Dol 2014), and Advisory Agency comments.

## DECISION

The proposed action, which was referred to the NT EPA by DIPL, has been examined by the NT EPA and preliminary investigations and inquiries conducted. The NT EPA has decided that the potential environmental impacts and risks of the proposed action are not so significant as to warrant environmental impact assessment by the NT EPA under provisions of the *Environment Assessment Act*, and can be managed through the CEMP for this project.

This decision is made in accordance with clause 8(2) of Environmental Assessment Administrative Procedures, and subject to clause 14A the administrative procedures are at an end with respect to the proposed action.



DR PAUL VOGEL  
CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

10 MAY 2017