

Statement of Reasons

DEPARTMENT OF INFRASTRUCTURE, PLANNING AND LOGISTICS – KATHERINE FLOOD MITIGATION WORKS

PROPOSAL

The Department of Infrastructure, Planning and Logistics (DIPL) (the Proponent) submitted a Notice of Intent (NOI) for the Katherine Flood Mitigation Works (the Proposal) to the Northern Territory Environment Protection Authority (NT EPA) on 9 December 2019 for consideration under the *Environmental Assessment Act 1982* (EA Act).

The Proposal is to construct structural flood mitigation measures including stormwater drainage, levees and associated roadworks, within the township of Katherine which is relatively flat and subject to significant flooding.

A digital flood model was used to identify the best alignment for a combination of levee embankments and drainage works to minimise flooding to approximately 300 homes, government infrastructure and local businesses in Katherine North and Katherine South. The concept levee design layout is shown in Figure 1.

The structural flood mitigation measures are intended to provide flood prone properties in Katherine North and South with immunity from riverine flooding for events up to and including the 5% Annual Exceedance Probability (AEP) event, while ensuring no worsening of riverine flooding for larger flood events.

The Proponent committed to develop and implement a Construction Environmental Management Plan (CEMP) for the duration of the proposed works to mitigate the potential environmental risks and impacts. Construction is proposed to commence at the end of the 2020 wet season (March/April) for six to seven months for completion during the 2020 dry season.

CONSULTATION

The NOI has been reviewed as a notification under the EA Act in consultation with Northern Territory Government (NTG) advisory bodies (see Attachment 1) and the responsible Minister, in accordance with clause 8(1) of the Environmental Assessment Administrative Procedures (EAAP).

JUSTIFICATION

The NOI was assessed against the NT EPA's environmental factors and objectives. The NT EPA identified four environmental factors (Table 1) that could potentially be significantly impacted by the Proposal. The NT EPA considered the importance of other environmental factors during the course of its assessment, however those factors were not identified as being potentially significantly impacted.

Table 1. Key environmental factors

Theme	Key Environmental Factor	Objective
Water	Hydrological processes	Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.

Theme	Key Environmental Factor	Objective
	Inland water environmental quality	Maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected.
Land	Terrestrial flora and fauna	Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.
People and Communities	Social, economic and cultural surroundings	Protect the rich social, economic, cultural and heritage values of the Northern Territory.

1. Hydrological processes

Objective: *Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.*

The Katherine River is located to the west of the township of Katherine. Tindal Creek flows towards Katherine from the east, meeting the Katherine River south of Katherine town. Flooding in Katherine is a result of interactions between the Katherine River and Tindal Creek.

The Proponent engaged a specialist consultant to prepare a structural flood mitigation concept design report (NOI Appendix A), to form the basis for the detailed design. The concept design was developed using hydraulic, hydrologic and flood level modelling from a flood study undertaken in 2017; topographic survey data, geographic information system (GIS) data and site observations and measurements. The report found that the proposed works would have no impact on:

- the shape and alignment of Katherine River or Tindal Creek channels
- flows into and within Katherine River or Tindal Creek channels
- the stability of the bed or banks of Katherine River or Tindal Creek.

The Department of Environment and Natural Resources (DENR) advised that the proposed works may require a “permit to construct or alter works” pursuant to section 41 of the *Water Act 1992*, if the works are considered to have any potential detrimental impacts to Katherine River or Tindal Creek. While the Proponent does not anticipate impacts to Katherine River and Tindal Creek, it has prepared and submitted a permit application to DENR Water Licensing and Regulation for review.

The Proponent’s modelling predicted that the Proposal would result in a minor increase to peak flood levels (between 50 mm to 100 mm) in the area adjacent to the southern levee for the 5% AEP event, and indicated that impacts on larger flood events (1% and 2% AEP) would be negligible and would have no material impact on in-channel flows.

The NT EPA supports the Proponent’s incorporation of the recommendations from the concept design report into the finalised concept design and is satisfied that the potential impacts and risks on hydrological processes can be mitigated through implementation of the management measures presented in the NOI. The NT EPA considers that its objective for hydrological processes is likely to be met.

2. Inland water environmental quality

Objective: *Maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected.*

The Proposal has the potential for localised impacts to surface water quality during construction through soil erosion and sedimentation; contamination with hydrocarbons or other chemicals; and mobilisation of any per-and poly-fluoroalkyl substances (PFAS) contaminated soil, which the NOI stated is likely to occur in the Proposal area.

The Proponent committed to implementing an Erosion and Sediment Control Plan (ESCP) in accordance with the CEMP prior to the commencement of works. The ESCP will be prepared by a suitably qualified professional with experience in erosion and sediment control planning and endorsed by DIPL. The NOI states that progressive rehabilitation will be undertaken during works to reduce the exposure of disturbed corridors.

To prevent the sedimentation of waterways, drainage line banks will be rehabilitated and stabilised in accordance with the ESCP. The NOI states that works will only be conducted in waterways or drainage lines when flows have ceased and drainage lines are dry.

The NOI states that all excavated material would remain on site and be used to construct the levee embankment. PFAS contaminated soil above PFAS National Environmental Management Plan (NEMP) acceptable levels would not be moved around as part of the Proposal and therefore contamination of Tindal Creek and Katherine River is considered unlikely.

Water used for construction activities including dust control and soil compaction is unlikely to impact groundwater given migration is predominantly through the Tindal Limestone Aquifer, which is approximately 150 m deep. Contamination of surface water or groundwater from hydrocarbons or other chemicals is not anticipated.

The NT EPA is satisfied that the potential impacts and risks on inland water environmental quality can be mitigated through implementation of the management measures presented in the NOI. The NT EPA considers that its objective for inland water environmental quality is likely to be met.

3. Terrestrial flora and fauna

Objective: *Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.*

The Proponent's desktop assessment identified 16 weed species declared under the *Weeds Management Act 2001*, as likely to occur within 5 km of the Proposal area. Four species are listed as Weeds of National Significance. There is potential for construction works to result in the introduction and spread of declared weeds through vehicle movements and ground disturbance. To mitigate this risk, the Proponent has committed to implementing weed management measures identified in the CEMP. Measures include vehicle/machinery wash down procedures and regular roadside service corridor maintenance such as slashing and mowing to reduce the production of weed seed within the proposed alignment.

Vegetation communities surrounding the Proposal include woodland, open woodland, pastoral/horticulture/roads, open forest and mid-closed forest. Vegetation on site has been highly modified with significant areas of cleared vegetation. No threatened flora species have been identified as having potential to occur within the vicinity of the Proposal area. Desktop assessment identified 17 threatened fauna species that have potential to occur within the vicinity of works. However, given the disturbed nature of the Proposal area the likelihood of those identified species occurring on site is considered low.

The NT EPA is satisfied that the potential impacts and risks to terrestrial flora and fauna can be mitigated through implementation of the management measures presented in the NOI. The NT EPA considers that its objective for terrestrial flora and fauna is likely to be met.

4. Social, economic and cultural surroundings

Objective: *Protect the rich social, economic, cultural and heritage values of the Northern Territory.*

There are a number of sacred sites and associated restricted work areas in and around the area on which works are proposed. The Proponent has obtained Authority Certificate C2019/042 from the Aboriginal Areas Protection Authority (AAPA) for the purpose of major road works north of the Stuart Highway. While there are no sacred sites within this work area, the Authority Certificate outlines the requirement for works to avoid a sacred site and Restricted Works Area (RWA), located approximately 600 m to the north-east of the Proposal.

Authority Certificates C1994/030, C2011/223 and C2017/009 are in place for part of the Proposal area south of the Stuart Highway. No RWA's were identified within this location.

There are no declared heritage places and/or known Aboriginal archaeological sites along the proposed alignment. The CEMP will outline necessary procedures required in the event that previously unknown archaeological and/or heritage artefacts or sites are uncovered during construction.

Construction works including noise, vibration and dust generation have the potential to affect residential properties, and business in the vicinity of the Proposal. Construction works are expected to result in localised delays to road users and reduced speed limits adjacent to the Proposal. There is also potential for the Proposal to impact on tourism, given works are proposed in the dry season.

To mitigate these impacts, dust will be suppressed through the use of water carts and stockpiles would be covered. Embankment construction will be undertaken progressively to reduce exposure time of stockpiles and embankments, and landscaping and irrigation will be established following construction. A Traffic Management Plan will be prepared by the construction contractor and approved by DIPL prior to implementation.

Extensive community consultation with respect to the Proposal was undertaken in 2018. Following construction, the proposed flood mitigation works are expected to add significant benefit to the community in reducing the impacts of flooding. The Proponent has committed to ongoing consultation with stakeholders. Prior to construction commencing, DIPL will issue a notice of works on social media and a letterbox drop for works notification to adjacent businesses and residents likely to be impacted by works.

The NT EPA is satisfied that the potential impacts and risks on social, economic and cultural surroundings can be mitigated through implementation of the management measures presented in the NOI. The NT EPA considers that its objective for social, economic and cultural surroundings is likely to be met.

Conclusion

The NT EPA considers that the potential environmental impacts and risks associated with the Proposal are not significant and that the Proposal does not require assessment under the EA Act.

Comments from NTG advisory bodies have been provided to the Proponent and the NT EPA has provided recommendations to the Proponent to ensure that potential impacts on the environment are minimised and responsibilities under legislation can be met.

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 at the level of a Public Environmental Report or Environmental Impact Statement, under provisions of the EA Act. Environmental management of the potential environmental impacts is the responsibility of DIPL through preparation and implementation of procedures and management plans specified in the NOI.

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

A handwritten signature in blue ink, appearing to read 'P. Vogel', with a horizontal line underneath it.

DR PAUL VOGEL AM MAICD

CHAIRPERSON

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

04 FEBRUARY 2020

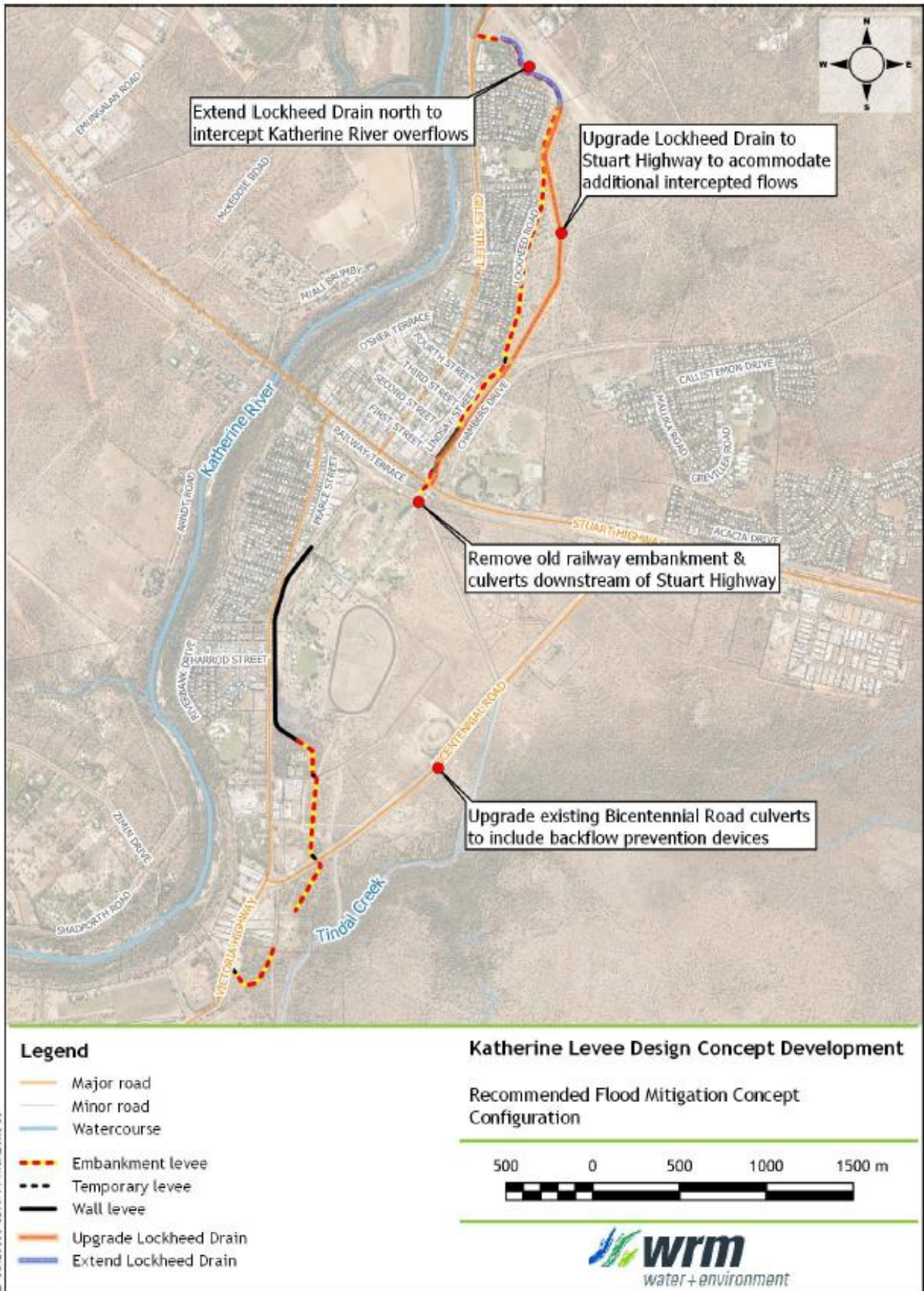


Figure 1: Katherine Flood Mitigation Works (Source: Appendix A WRM Water and Environment Report)

Attachment 1: Northern Territory Government Advisory bodies consulted on the Notice of Intent

Department	Division
Department of Environment and Natural Resources	Flora and Fauna Water Resources Weeds Environment Bushfires NT Rangelands
Department of Infrastructure, Planning and Logistics	Lands Planning Infrastructure Transport
Department of Primary Industry and Resources	Fisheries Mining Compliance Petroleum Primary Industry
Department of Tourism and Culture	Heritage Tourism NT Arts and Museums Parks and Wildlife
NT Police, Fire and Emergency Services	Business Improvement and Planning
Department of Health	Environmental Health Medical Entomology
Department of Trade, Business and Innovation	Economics and Policy Strategic Policy and Research
Department of Housing and Community Development	Maintenance Planning Housing supply
Power and Water Corporation	
Aboriginal Areas Protection Authority	Technical
Department of the Attorney-General and Justice	Commercial Division NT Worksafe
Land Development Corporation	
Department of the Chief Minister	Economic and Environmental Policy