

# Lakeland Irrigation Scheme - Update January 2022



**An Australian Government Initiative**



# Objectives

❑ Feb 2019 – Strategic Business Case (SBC) and Feasibility of the Palmer Option released by RDA

❑ Mid to late 2019 – application by RDA to Commonwealth Government for a Grant to undertake a Detailed Business Case (DBC) for the Palmer River Option

❑ May 2020 – Commonwealth Grant for \$10M to progress the DBC to RDA

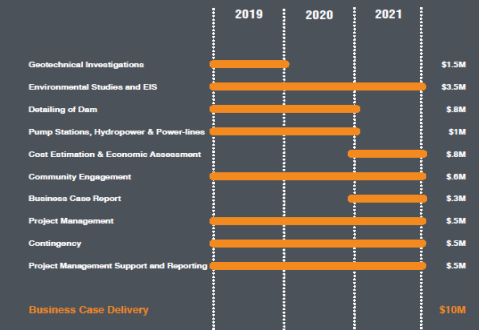
❑ Objectives:

- Provide an acceptable Price per ML for growers
- Prepare a Reference Design for a Dam, transfer system and reticulation to meet Objective A
- Investigate all technical as well as cultural, social, environment and economic aspects.
- Investigate Funding, Ownership and Operating models



## Lakeland Irrigation Scheme

The Lakeland Irrigation Scheme Business Case could be delivered by 2021 allowing for dam construction to start as early as 2023. The project is scalable so that costs can be managed over the project to optimise funding resources.



### For Further Information:

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Queensland  
Government

### Grant Deed National Water Infrastructure Development Fund (Lakeland Irrigation Area)

made at Brisbane on the 5 day of May 2020

Between  
State of Queensland acting through the Department of Natural Resources, Mines and Energy ABN 59 020 547 551  
(Department)  
Regional Development Australia Tropical North Inc IA37699 ABN 30 438 376 695  
(Recipient)

#### Background

- The National Water Infrastructure Development Fund – Feasibility component (NWIDF) is an initiative of the Australian Government (the Commonwealth). It is designed to support the delivery of Feasibility studies with a focus on the evaluation of the financial and economic viability of potential new or augmented water infrastructure and inform investment decisions.
- The Commonwealth and the State of Queensland (acting through the Department) have entered into an agreement called the 'Project Agreement for the NWIDF' (the NPA).
- Under the NPA, the Department has certain roles and responsibilities, which include reporting to the Commonwealth on the delivery of Feasibility studies and on-forwarding Commonwealth Funding to recipients.
- The Recipient has been offered funding under the NWIDF to undertake the Activity. The Commonwealth will pay the Funding, which will be administered by the Department on behalf of the Commonwealth.
- The Department will provide the Grant to the Recipient to carry out the Activity on the terms of this deed.
- The NPA Schedule will provide for the Funding to be paid to the State by the Commonwealth annually in arrears once milestones under the NPA Schedule are met. In the event that the Commonwealth does not pay the Funding to the State, the State will not pay the Grant to the Recipient.
- The parties wish to record the terms and conditions of their agreement in this deed, which consists of:
  - this cover page and the signing page;
  - Schedule 1 – Deed details;
  - Schedule 2 – Terms and conditions;
  - Annexure A – Lakeland Irrigation Area Project Activities;
  - Annexure B – Standards and Requirements.
- Capitalised words and phrases have the meanings specified in clause 24 of Schedule 2.

Ref: Lakeland Irrigation Area

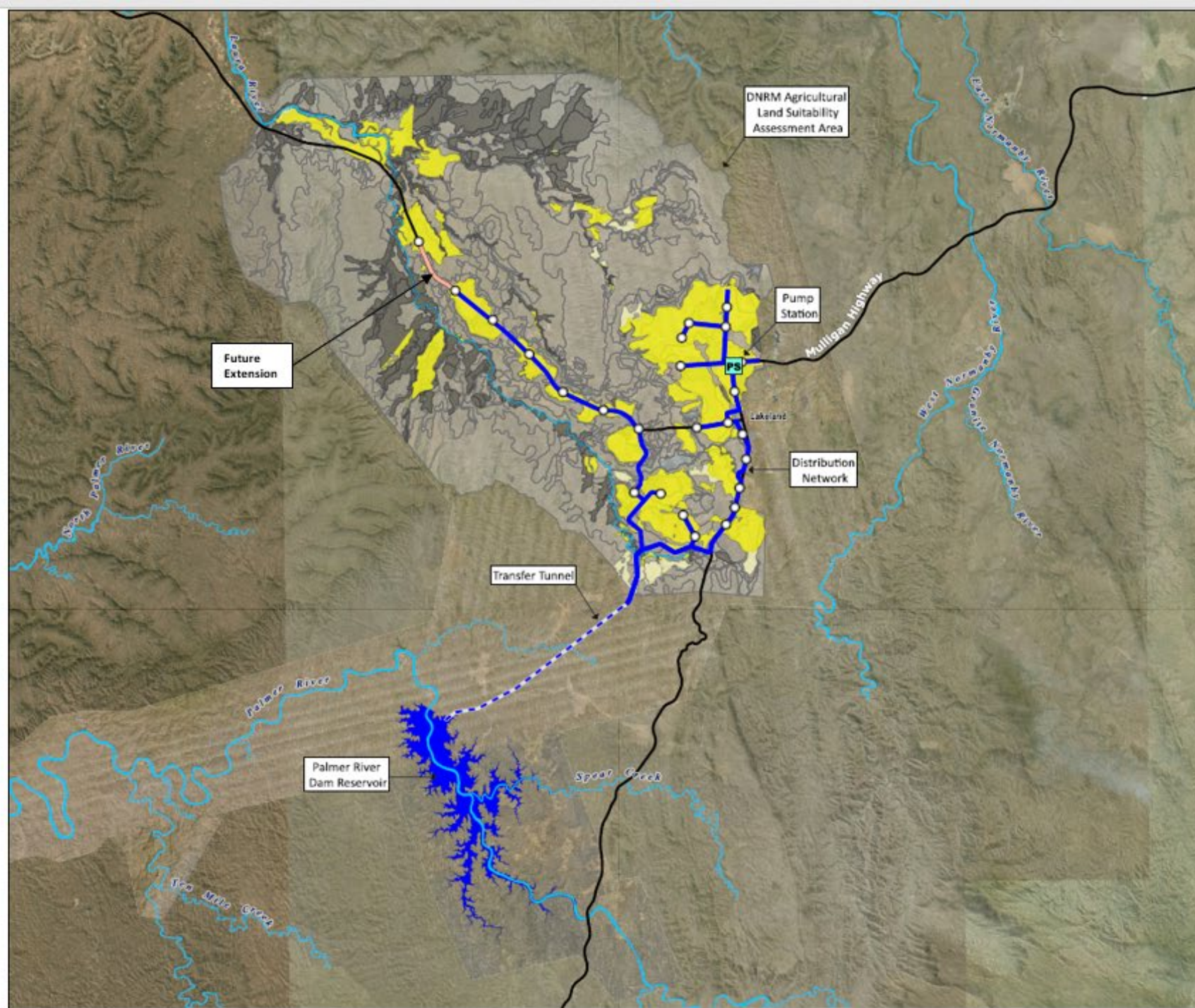


# Lakeland Irrigation Scheme

## Extent and Configuration (January 2022)

### 3 Components:

1. Dam
2. Transfer from dam to Lakeland
3. Reticulation to farms





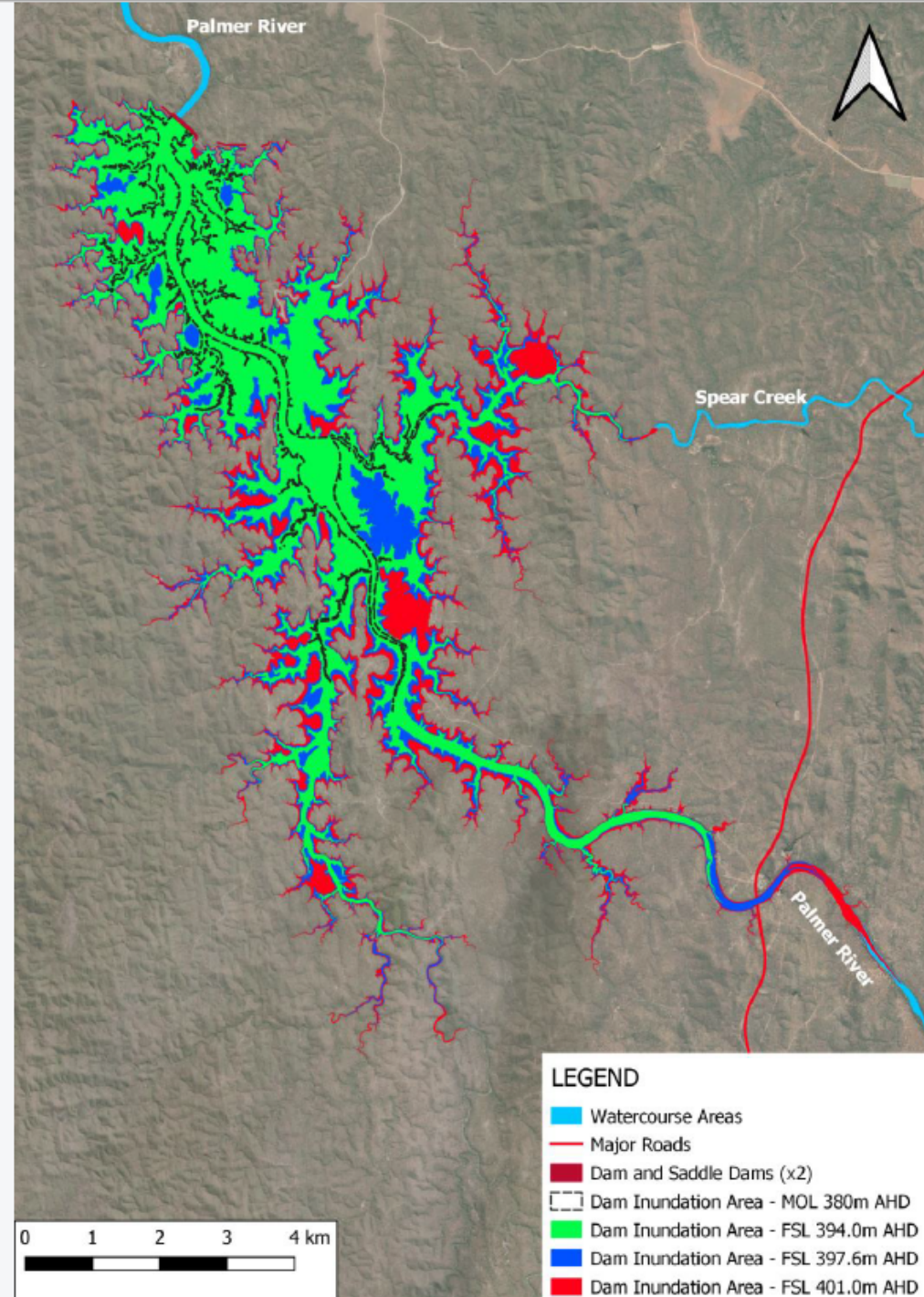
# Dam Size and Inundation Area

## Preferred Dam Size

Design Feature	Value
Lowest River Channel Level	360 mAHD
Full Supply Level	397.6 mAHD
Dam Crest Level	410 mAHD
Dam Height	50 m
Storage Capacity at FSL	205,000 ML
Inundation Area at FSL	2,328 Ha

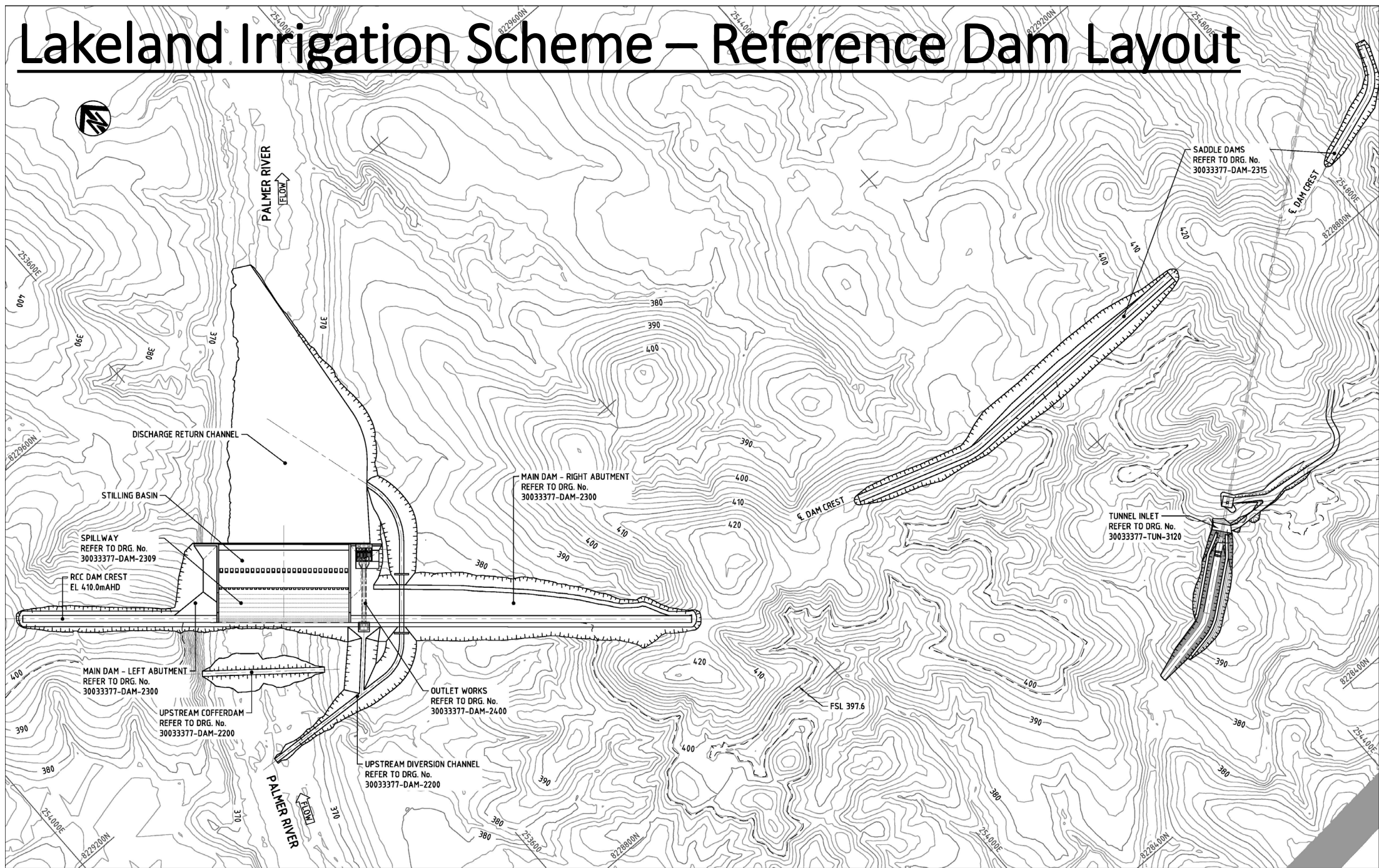
## Other Dam Sizes Considered

FSL (mAHD)	Storage Capacity (ML)	Inundation Area (Ha)
394	133,000	1,686
397	191,000	2,211
397.6	205,000	2,328
398.6	229,000	2,529
399.3	247,000	2,676
401	296,000	3,048





# Lakeland Irrigation Scheme – Reference Dam Layout



# Lakeland Irrigation Scheme – Progress Since September 2021

- Draft Reference Design drawings for all components
- Design Report including assessments for:
  - Seismic hazard
  - Dam Stability
  - Spillway Hydraulics
  - Outlet design for environmental flow releases
  - Diversion of flow during construction
  - Preliminary fishway requirements
  - Power and communications
  - Access roads
- Environmental baseline studies complete
- Staging options and financial arrangements investigated and documented
- Key assumptions for financial and economic assessment.

# Lakeland Irrigation Scheme – Progress Since September 2021

## Dam Failure Impact

- A key consideration has been the impact of a dam on downstream flows and the potential consequences of dam failure.
- There are potential impacts both on downstream in-river uses as well as the hazard to resident or visiting populations.
- Consequences of dam failure have been analysed including the downstream extent of any flooding resulting from dam failure. This analysis takes into account what is considered the most extreme rainfall event as well as the most severe failure mechanism.
- The Palmer River Dam has been assessed as “referable”. Detailed analysis will be required during later stages of design. An Emergency Action Plan (EAP) will be mandated.



# Lakeland Irrigation Scheme – Progress on Palmer Option

- On-going work includes:
  - Preparing for additional geotechnical investigation to clarify:
    - Geotechnical conditions for the transfer tunnel
    - Exploration for potential construction materials
  - Specialist input to tunnelling methodology and costing
  - Analysis of impacts on sediment transport and water quality
    - Palmer River due to the presence of the dam and the specific flow release and flooding regimes.
    - Laura River due to increased farming and water release from Lakeland
  - Finalisation of anticipated costs of water acceptable to growers
  - Assessment from growers to likely water usage
  - Commitment from growers to an acceptable pricing
  - Further exploration of funding and ownership models



# Lakeland Irrigation Scheme – Issues still to be addressed

- Water allocation including cross catchment from Mitchell to Normanby and any impacts on downstream users in the Palmer or Mitchell areas
- Potential benefits by supplementing flows in the Laura River from currently reduced Farm runoff (currently stored in on-farm dams)
- Improvements in agricultural irrigation practices as a positive impact on the Great Barrier Reef
- Social benefits of increasing agriculture at Lakeland including:
  - Population increase
  - Additional community, social and health services
  - Opportunities for service centre for Lower Cape York Peninsula
  - Indigenous engagement and opportunities e.g. near the dam, and Crocodile
- Scheme funding and sponsorship (Fed, State, local)
- RDATN will seek a Coordinated Project under the Coordinator General

# Lakeland Irrigation Scheme – Milestone update Jan 2022

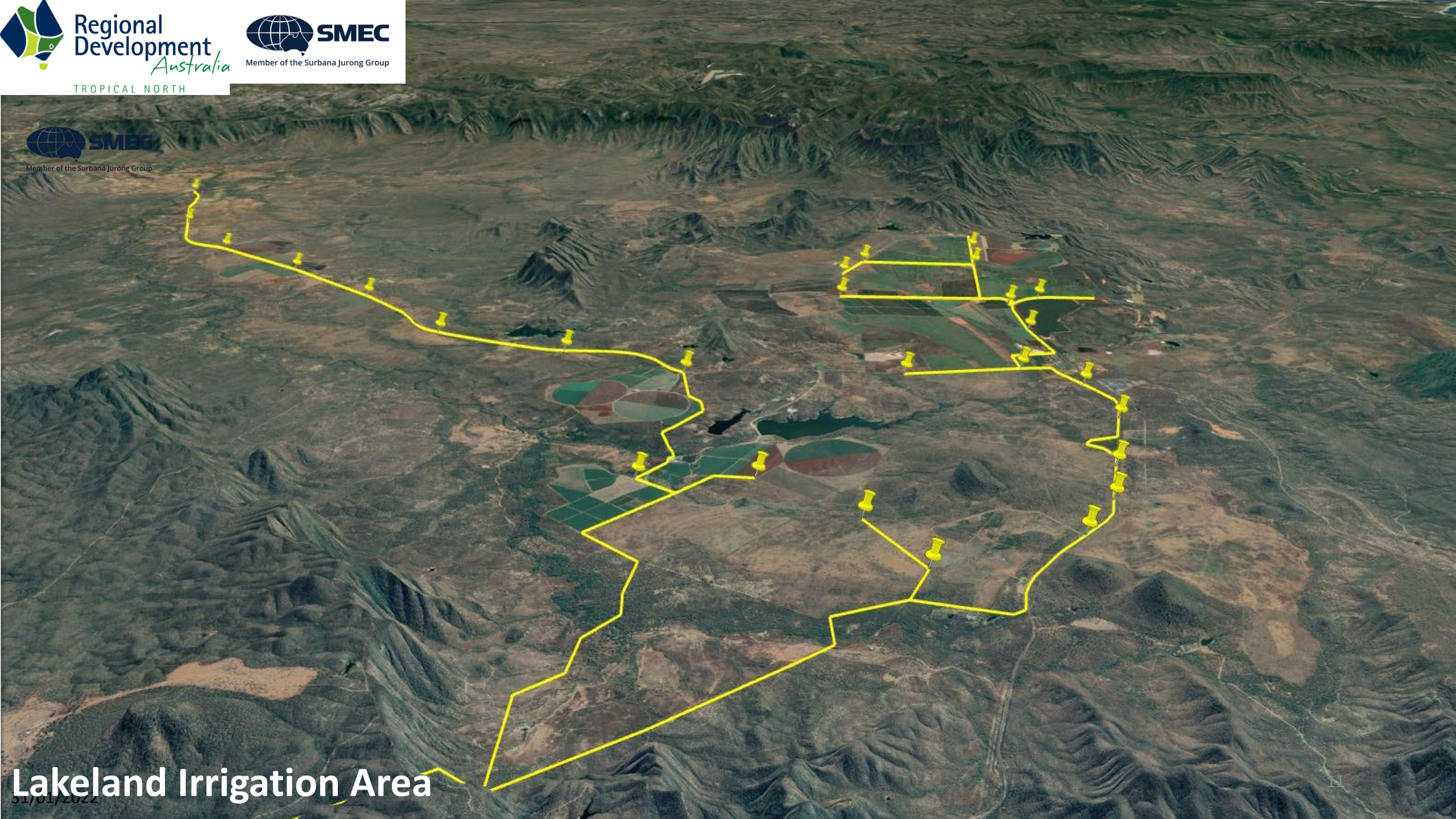
Completed

30 April 2020	30 June 2020	31 Oct 2020	30 April 2021	30 Sept 2021
Project and Stakeholder Management Plans	Review of strategic Business Case	Local access agreements	Cultural Heritage surveys for field work	Geotechnical reporting
Engage Project partner and Project Manager	Confirmation of needs and opportunities	Temporary access works	Geotechnical drilling program	Reference Design at 50%
		Commence field activities and stakeholder engagement	Topographical survey	
			Agronomy work	
			Water resource assessment	

30 September 2022	31 May 2022	31 March 2022	30 November 2021
Final Detailed Business Case	Draft Detailed Business Case	Reference design complete	Draft Reference Design
Final Environmental Assessment report	Draft Environmental Assessment report	Cost estimation complete	Environmental baseline studies complete
	Draft project investment prospectus	Irrigator commitments achieved	Staging Options and Financial arrangements investigated and documented

Ongoing





Lakeland Irrigation Area

31/01/2022