

Fingal Irrigation Scheme Preferred Design Option

Questions & Answers: September 2020

Scheme overview

Q. How did the project evolve?

A. Fingal was first assessed for potential development by TI at a high level in 2015, with a dam site at Pig Creek investigated at a desktop level. Through the Future Irrigation Project (FIP) the region was highlighted as having a high potential for development with a concept volume of an additional 5,800ML being supplied along the South Esk and St. Pauls Rivers. A preliminary business case was developed by TI in March 2019 which proposed a 5,800ML scheme comprising two separate pump stations and storages servicing the South Esk River and Royal George valley. This design was based on demand established by an initial expression of interest (EOI) process which resulted in a 4,825ML of demand in 2018.

An EOI finalisation process in 2019 established new demand up the St Marys valley and out to the East Coast with overall demand swelling to 10,550ML across the four regions. Based on the EOIs received, Tasmanian Irrigation has completed a preferred design option for the scheme based on servicing as many EOIs as economically viable.

Q. How has the community been involved?

A. In early 2019, a community meeting was held to seek support to further develop the Fingal Irrigation Scheme. The meeting resolved that Tasmanian Irrigation should continue to investigate the development of a scheme in the district and elected an Irrigator Representative Committee, which would represent the region's irrigators and assist Tasmanian Irrigation to develop the scheme. Throughout 2019 and 2020, Tasmanian Irrigation has met with the Committee members, including Humberston McKenzie (Chair), Jamie Loane, Douglas Loane, Michael Legge, Robert O'Connor, Richard Gee (since stepped down) and Alistair Crisp (since stepped down). Members of the community now have an opportunity to provide comment on the Preferred Design Option. A feedback form is enclosed in this handout.

Q. Is the Preferred Design Option based on real local demand?

A. Yes. The design of the scheme is based on an Expression of Interest (EOI) survey for water demand conducted in 2018 and 2019. The survey resulted in 32 EOIs for 10,550 ML encompassing the regions of the South Esk, Royal George, St Marys and the East Coast. The scheme has been designed to service as much demand as possible whilst still being economically viable. Unfortunately, the piped sections of the scheme outside the South Esk River are uneconomic under all scenarios modelled to date meaning that at this stage the scope of the project is limited to the South Esk River.

Q. What is the minimum amount of water I can purchase in the scheme?

A. The minimum purchase is 10 megalitres (ML) with 5 ML increments for volumes above 10 ML. Tasmanian Irrigation encourages landowners to determine future use for the water and the area of land to be irrigated in their consideration of the volume to be purchased.

Q. If my property is not able to be serviced under the current concept design, can I still apply for water entitlements during water sales?

A. Yes. Tasmanian Irrigation would strongly encourage all landowners that wish to participate in the scheme to apply for water entitlements during the water sales process. Tasmanian Irrigation will assess all applications and accept as many as practical.

Q. What studies have been undertaken to develop the Preferred Design Option?

A. To ensure a proposed irrigation scheme is environmentally sustainable, economically viable and supported by the local community, the following pre-feasibility studies have been undertaken:

- Survey irrigation demand of all landholders with >10ha of land;
- Land capability and potential water demand surveys;
- Farm enterprise mix and financial margins analysis;
- Desktop flora and fauna studies of the area;
- Desktop Aboriginal and Historic heritage assessments; and
- Preliminary scheme design and costing assessments.

Q. Where will the scheme's water come from?

A. The South Esk River will provide the scheme water. A pump station is proposed on the South Esk River which will pump to a proposed 14,000 ML dam approximately 12km upstream of the Fingal township. The scheme will deliver the 12,600 ML via riparian delivery to participants along the South Esk River.

Q. Is there a requirement for a dam?

A. Yes. The scheme design includes a proposed 14,000 ML dam which will be pumped filled during the winter period via a pump station located on the South Esk River.

Q. How will water be distributed?

A. The Fingal Irrigation Scheme is currently proposed as a riparian only delivery scheme. Water will be released from the proposed dam under gravity into the South Esk River during the summer irrigation period and irrigators will be able to pump their entitlements directly from the river.

Q. Are there transmission losses associated with the scheme?

- A. Yes. Transmission losses will be applicable for delivery via the South Esk River and will be the responsibility of the irrigator – that is if you purchase 100ML TI will release 100ML from the dam into the river. However, should 10pc transmission losses apply, you will only be able to pump 90ML out for use on farm.

The South Esk River is managed under the South Esk Catchment Management Plan which divides the river into management zones and prescribes guidance transmission losses associated with using the river to transfer water within and between those zones. To more clearly define the expected transmission losses associated with the scheme TI has had temporary data loggers installed in the river since December 2019 to record river levels to assist in undertaking a transmission loss assessment. This assessment is now underway and is hoped that it will result in a dynamic transmission loss calculator which will consider the following factors:

- Distance from release point to off-take point;
- Time of year; and
- Flows in river (both with and without TI water).

Once the transmission losses are more clearly defined the scheme will progress to water sales.

Q. How will the supply pipelines be constructed?

- A. Pipes will be laid underground wherever possible and generally be constructed from durable, high density polyethylene (HDPE). A nominal 30m wide corridor will be required for installation, however this width may not always be required and can depend on pipe diameter and ground conditions. The actual corridor width required will also vary with different land topography and land use, in particular the ground conditions and the type and stage of cropping and vegetation encountered. The actual trenches will be deep enough to bury the pipe with a top cover of at least 700mm. The methods used in pipeline excavations ensure that topsoil is replaced on the surface of the disturbed soil and installation is followed by a vegetation rehabilitation program. Erosion and sediment controls are used to minimise any environmental harm from pipeline installation works. Where trenching is unviable (rarely used) and above ground pipe is required, DICL pipe may be used.

Q. When will water be delivered and what is the delivery capacity of the scheme?

- A. Water will be delivered to irrigators over a 150-day summer delivery period nominally from 1 November to 31 March. The commencement date for the irrigation season may vary depending on the season. To ensure increased flexibility for irrigators, the scheme will be able to deliver all entitlements over a 120-day period. The total delivery capacity of the Preferred Design Option is 12,600 ML per irrigation season.

Q. Will there be an opportunity to purchase winter water?

- A. As the scheme is currently riparian delivery only winter water will not be available as the dam will be in dam fill mode during this period.

Q. What if the South Esk River does not pass near my property?

- A. All landholders are encouraged to make an application to purchase water when the water sales period is opened. The final design will be highly dependent on the level and distribution of water sales across the district. Tasmanian Irrigation will endeavour to supply as many applicants who apply to purchase water entitlements as possible, subject to economic viability, the capital budget, operating costs and approval constraints. If you are interested in purchasing water, please ensure your intention to participate in the scheme is known by Tasmanian Irrigation as early as possible.

Q. What easements will be taken to construct the scheme?

- A. No easements are required or generally taken for the installation of the pipelines. Tasmanian Irrigation will, on a needs basis, acquire land or easements for major infrastructure such as pump stations, balance tanks and larger sized infrastructure such as dams. The preferred method for acquisitions will be through negotiation with affected landholders.

Q. What if I do not want infrastructure on my land?

- A. Wherever possible, the infrastructure will be located to service participating landholders. Notwithstanding, it may be necessary to cross land belonging to people not participating in the scheme. Tasmanian Irrigation will be undertaking works under the *Irrigation Clauses Act 1973* (ICA) once an Irrigation District is declared. The ICA provides for right of entry to construct and maintain the water supply and related infrastructure without the need to create an easement over the certificate of title and provides a mechanism for compensation where appropriate.

Q. What will my flow rate be like?

- A. The scheme will be designed to deliver water at a constant 24-hour rate. The summer irrigation season is 150 days however the delivery period is 120 days. Therefore, your flow rate will be your purchased volume divided by the delivery period.

$$\text{Entitlement volume} \div \text{delivery period} = \text{flow rate (ML/day)}$$

If you purchase 200ML in the scheme then the flow rate will be calculated:

$$200\text{ML} \div 120 \text{ days} = 1.6 \text{ ML/day}$$

Q. Can I receive my water at an increased flow rate?

- A. Yes, but you will need to do it through trading or by rostering arrangements with other irrigators should you wish to take your entitlement in a window shorter than 120-days. Once operating, the Tasmanian Irrigation Scheme Operator will be able to assist in regard to trading and rostering arrangements within the scheme.

Q. What will my water pressure be like?

- A. The scheme is currently proposed to be riparian delivery only, therefore no pressure will be provided. In the instance that piped sections are included in the scheme the minimum pressure

warranted under water entitlement contracts is 5 m head (50KPa or 7 psi). However, the actual pressure experienced may be higher depending on the proximity of outlets and the relative height of the property outlets in the landscape, and can also vary depending on where and how much water is being taken elsewhere on the piped alignment.

Q. What does 95 per cent average reliability mean?

- A. Reliability is modelled by calculating the total volume of water harvested divided by the total demand over the assessment period. Under this scenario, the dam and pump station are sized to supply 95% average annual reliability.

Q. What are water trading zones?

- A. In a piped scheme, water entitlements in the scheme are tradeable subject to the water delivery capacity limits of the infrastructure. Zones identify parts of the scheme where water can be traded and include all infrastructure located directly upstream of the zone which is required to deliver water to the zone. In general terms, what this means is that an irrigator close to the supply source for the scheme (ie. a pump station or balance tank) will typically be in a better position to purchase water through trading as the size of the pipeline is larger closer to the supply source. An irrigator located near the end of the scheme or at the end of a pipeline is typically in a better position to sell water through trading as water has had to pass through a number of zones to reach the end of the scheme or the end of a pipeline. However, their purchasing options will be more limited as the diameter of the pipeline reduces as it gets closer to the end of the pipe.

As the Fingal Irrigation Scheme is currently a riparian only scheme water could be traded anywhere along the river downstream of the dam but will be subject to varying rates of transmission losses depending on the outcomes of the transmission loss assessment and where the water is taken out.

Q. What is a Farm Water Access Plan (Farm WAP)?

- A. The environmental obligations on the scheme will extend beyond the initial development and construction to include any enduring effects once it is operating. Therefore, it is a requirement that water from schemes developed by Tasmanian Irrigation may only be applied in accordance with a Farm Water Access Plan (Farm WAP).

The purpose of a Farm WAP is to identify the area that water from the scheme will be applied (now and into the future), identify any direct and indirect risks to natural assets associated with the application of the water and outline actions to manage and monitor the identified risks in accordance with the endorsed Farm WAP modules. The area that scheme water will be applied includes the land, dams and irrigation infrastructure that will be directly affected by the use of the water.

Farm WAPs must be completed by a prequalified service provider in accordance with the endorsed Farm WAP soil, water and biodiversity modules and incorporate any species-specific management prescriptions required under planning approvals. Farm WAPs are approved by Tasmanian Irrigation through a quality assurance and verification process.

Q. What areas of a property does a Farm WAP need to cover?

A. A Farm WAP needs to cover only those areas of land and storage dams to which water supplied from the scheme will be applied. It should be noted that a Farm WAP for areas of proposed vegetation clearing would not be included in a Farm WAP, unless a certified Forest Practices Plan, if applicable, is in place. The Forest Practices Authority may be able to provide additional advice.

Q. When should I get a Farm WAP?

A. A Farm WAP will be needed in time for TI water to be delivered to your property.

Q. Can Tasmanian Irrigation assist with the preparation of a Farm WAP?

A. Tasmanian Irrigation is able to help facilitate the completion of Farm WAPs or alternatively a complying Farm WAP may be procured individually.

Scheme costs

Q. How much will the scheme cost to build?

A. The estimated capital cost of the project is \$49.37 million, with a proposed funding contribution from the Commonwealth and State Governments of \$31.86 million. The private contribution of \$17.51 million will be raised through the sale of water entitlements.

Q. What is the one-off upfront capital cost to buy water?

A. Water entitlements will be **\$1,390/ML** with a minimum purchase of 10 ML per property. Upon application during the water sales period, you will be required to pay a non-refundable deposit of 10 per cent (2 per cent on application and 8 per cent on Government funding approval), with the balance payable once the scheme has been commissioned.

Q. Will there be ongoing costs?

A. Yes. Water entitlement holders will be required to pay an annual water charge, which comprises a variety of fixed and variable charges that are levied on their water entitlement holdings and water use.

The fixed cost will be set to recover the fixed costs associated with employee entitlements, vehicles, plant and equipment, routine maintenance, administration, finance, insurance and compliance with regulatory requirements, such as environmental compliance. This cost is estimated to be **\$37/ML** (2019/20 dollars).

An Asset Renewal Levy (ARL) is charged to cover the refurbishment of the infrastructure which will enable the scheme to be operational for at least 100 years. The estimated ARL for the Scheme is **\$25/ML** (2019/20 dollars)

Both the fixed cost and ARL are charged based on water entitlements purchased and not on the actual water used in the season.

Fixed Cost and Asset Renewal Levy

| Item | Cost per ML |
|--|--------------|
| Fixed Cost per ML | \$37* |
| Asset Renewal Levy (ARL) per ML | \$25* |
| Total Fixed Cost and ARL per ML | \$62* |

* Based on all entitlements in the 12,600 ML scheme being sold. If water sales only achieve the minimum threshold of 50 per cent or 6,300 ML, the fixed cost and ARL component is estimated to be \$125/ML.

The **variable cost** is the power cost for pumping and the cost of water paid to Hydro Tasmania and is charged on the volume of water used in each season.

| Power Cost /ML (2019/20 \$'s) | Hydro Tas. Water Cost /ML (\$2019/20 \$'s) | Total Variable /ML (\$2019/20 \$'s) |
|----------------------------------|--|---|
| \$22.06 | \$22.25 | \$45.31 |

Q. Do I have to pay annual charges if I do not use water?

A. You will be required to pay the **fixed** costs and **ARL** on your entire water entitlement holdings each season regardless of whether you use water.

Q. In purchasing water entitlements would I be buying a share of the infrastructure?

A. No. The infrastructure constructed as part of the scheme will remain the property of Tasmanian Irrigation. Water entitlements are rights to a supply of water. They are rights to have an allocation of water made available during each irrigation season and rights to have that water delivered during the irrigation season within a nominated zone of the scheme at a constant daily flow rate.

Q. Do I have to pay for a water meter to be installed so I can take water from the scheme?

A. No. As part of the sale of water entitlements, Tasmanian Irrigation will supply one water meter for each parcel of contiguous (adjoining) land that is operated as the same business. This meter will need to be installed by the irrigator to the applicable Australia standards.

Q. Can I upsize the meter or purchase additional meters?

A. Yes. Additional meters and upgrades may be purchased from Tasmanian Irrigation if required. Applications are to be submitted as part of the water sales process and certainly prior to tendering for construction. Additional costs for the irrigator are likely to apply if finalised through tendering or construction.

Q. Who will manage the scheme once it has been constructed?

- A. Initially the scheme will be managed and operated by Tasmanian Irrigation. During this period the necessary operational resources will be acquired and policies and procedures to operate the scheme will be developed and established. If in the future there is a demonstrated desire and ability for a local group to manage the operation of the scheme, this will be considered.

Next step

Q. Can I provide comment on the Preferred Design Option?

- A. Yes. Your comments on the Preferred Design Option will be considered in the development of the Business Case for the project. A feedback form is included in your information pack. If you wish to provide comment on the Preferred Design Option, please complete the form and return it to Tegan Lovell, Fingal Irrigation Scheme Project Manager, by Monday 19 October 2020:

Or Mail: Tasmanian Irrigation
PO Box 84
Evandale TAS 7212

Email: Tegan.Lovell@tasirrigation.com.au

In person: Tasmanian Irrigation
Level 2, Terminal Building, Launceston Airport
Western Junction TAS

Q. What happens next?

- A. The next stage in the process is to undertake water sales to ensure private sector commitment and then complete the development of a Business Case for the project. Approval of the Business Case by the State Government is required to secure a conditional funding commitment for the project. Tasmanian Irrigation needs to complete on-ground surveys, which are required to support a Business Case. However, we still need to understand the community's opinion on the proposed scheme in order to complete our recommendations.

The State Government has committed \$85 million in funding to continue the development of irrigation in Tasmania and the Australian Government has committed \$100 million. The combined \$170 million, along with private contributions through the sale of water entitlements, will be used by Tasmanian Irrigation to develop the first five Tranche Three projects, of which the Fingal Irrigation Scheme is one.

Subject to Government approval being received for the Business Case and funding being secured, the project will proceed through the detailed design and approvals phase, ready for tendering out construction. The construction tendering process will ensure the project can be constructed on time and on budget. Following construction completion and commissioning, the scheme will then be able to deliver water to water entitlement holders.

Key milestones for the Fingal Irrigation Scheme are shown in Table Three.

Table 1

| Table Three - Key Milestones | |
|------------------------------|---|
| Milestone | Expected |
| Preferred Design Option | Completed – now commenced community feedback period |
| Water Sales* | November 2020* |
| Business Case | June 2021 |
| Commence Construction | 2022 (subject to funding and permit approvals) |
| Operations Commence | 2024 |

*Water sales will occur once transmission losses in the South Esk River are more clearly defined

Tasmanian Irrigation sincerely thanks Fingal landowners for their support of this exciting irrigation project and we look forward to working closely with you to ensure the Fingal Irrigation Scheme is one that all Tasmanians can be proud of.

Contact

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