

SUMMARY OF

# PIPELINE TO PROSPERITY

GROWING TASMANIA'S FUTURE THROUGH IRRIGATION

May 2019

Tasmanian  
**Irrigation**

  
Tasmanian  
Government



# THE PROPOSAL

**\$496 million joint investment in the Tasmanian *Pipeline to Prosperity* program to deliver a staged approach for a further 10 irrigation schemes in Tasmania.**

## **A partnership between:**

Australian Government, Tasmanian Government and Tasmanian farmers.

## **To realise:**

- \$114 million per annum net present value at the farm gate
- A total of \$783 million in economic benefit over the life of the project
- A farm gate benefit to cost ratio of 2.4
- 2,600 full-time jobs
- \$150 million on-farm private investment

# PIPELINE TO PROSPERITY SUMMARY

The *Pipeline to Prosperity* program is looking to deliver a further 10 irrigation projects in the agricultural areas of Tasmania, delivering up to 78,000 megalitres (ML) of irrigation water at an estimated capital cost of \$496 million.

Irrigated agriculture contributes more than 50 per cent of the value of the state's agricultural production from eight per cent of the land. The increased agricultural production from the *Pipeline to Prosperity* program will add significantly to Tasmania's and the nation's bottom line.

This proposal is in direct alignment with the Tasmanian Government's Agrivision 2050 policy to grow the farm gate value of the agricultural sector to \$10 billion by 2050. The *Pipeline to Prosperity* program will be the third tranche of irrigation schemes for Tasmania and is based on the successful public/private partnership model developed between the Australian and Tasmanian Governments and Tasmanian farmers for previous irrigation schemes.

This submission for funding has been developed based on the successful public/private partnership model developed in partnership between the Australian and Tasmanian Governments and Tasmanian farmers for previous irrigation schemes.

The Tasmanian Government is seeking approximately \$250 million from the Australian Government, with contributions from the Tasmanian Government and the private sector as a long-term development program.

It is proposed that the private sector will contribute a minimum of 25 per cent of the total capital cost via the purchase of permanent water entitlements.

The *Pipeline to Prosperity* program is a key component of the Tasmanian Government's vision to expand the coverage of irrigation schemes across Tasmania. It is envisaged that the roll-out of the proposed 10 schemes will be staged over a period of five to eight years.

Benefits of the program at a local, state and national level are significant. The total economic benefit from investment, on the basis of an annual economic net present value the farm gate of \$114 million per annum when fully utilised, has been estimated by economic consultants to have a flow-on economic effect of up to an additional \$783 million over the 30-year assessment period. The benefit cost ratio (BCR) has been calculated to be 2.4, excluding the wider economic and regional benefits.

Tasmanian Irrigation schemes are built to have a life of 100 years. The program is expected to provide ongoing

employment stimulus of up to 2,600 full-time positions (1,700 direct and 900 indirect), in addition to the jobs provided during the construction period.

Water for the schemes will be sourced sustainably, under an independently determined extraction rate and flow regime designed to have minimal impact on source or receiving waterways.

Each of the 10 potential schemes will undergo a process of careful consultation and due diligence from the early feasibility stages through to construction and operation.



# PIPELINE TO PROSPERITY PROJECT

The *Pipeline to Prosperity* irrigation program has the potential to:

- Deliver in excess of 78,000 ML.
- Create in excess of 2,600 ongoing jobs.
- Deliver Economic Benefit of \$114 million per annum.

The *Pipeline to Prosperity* irrigation program will, when completed:

- Include new irrigation schemes where provision of water will change land use and the productive ability of existing farming areas.
- Provide interconnectivity between existing irrigation schemes, allowing greater water trading and more efficient use of scheme capacity; and
- Enhance existing scheme performance by better integrating existing infrastructure, deliver additional capacity, and increase scheme reliability.

Collectively, the 10 potential schemes of the *Pipeline to Prosperity* program comprise:

- 78,000 ML
- 479 km pipelines
- 7 dams
- 23 pump stations
- 4 power stations

## Pipeline to Prosperity schemes

PROJECTS—Tranche Three	Size (ML)	Capital Cost (\$M)
Detention	3,000	\$23.9
Don	3,000	\$12.5
Fingal	5,800	\$30.9
Flowerdale	3,000	\$27.2
Harcus	8,000	\$28.6
Northern Midlands	8,195	\$39.1
Sassafras - Wesley Vale	1,300	\$6.3
South East	3,600	\$17
Southern Midlands	34,000	\$236.4
Tamar	8,040	\$74.3
<b>Total</b>	<b>77,9355</b>	<b>\$ 496.2</b>

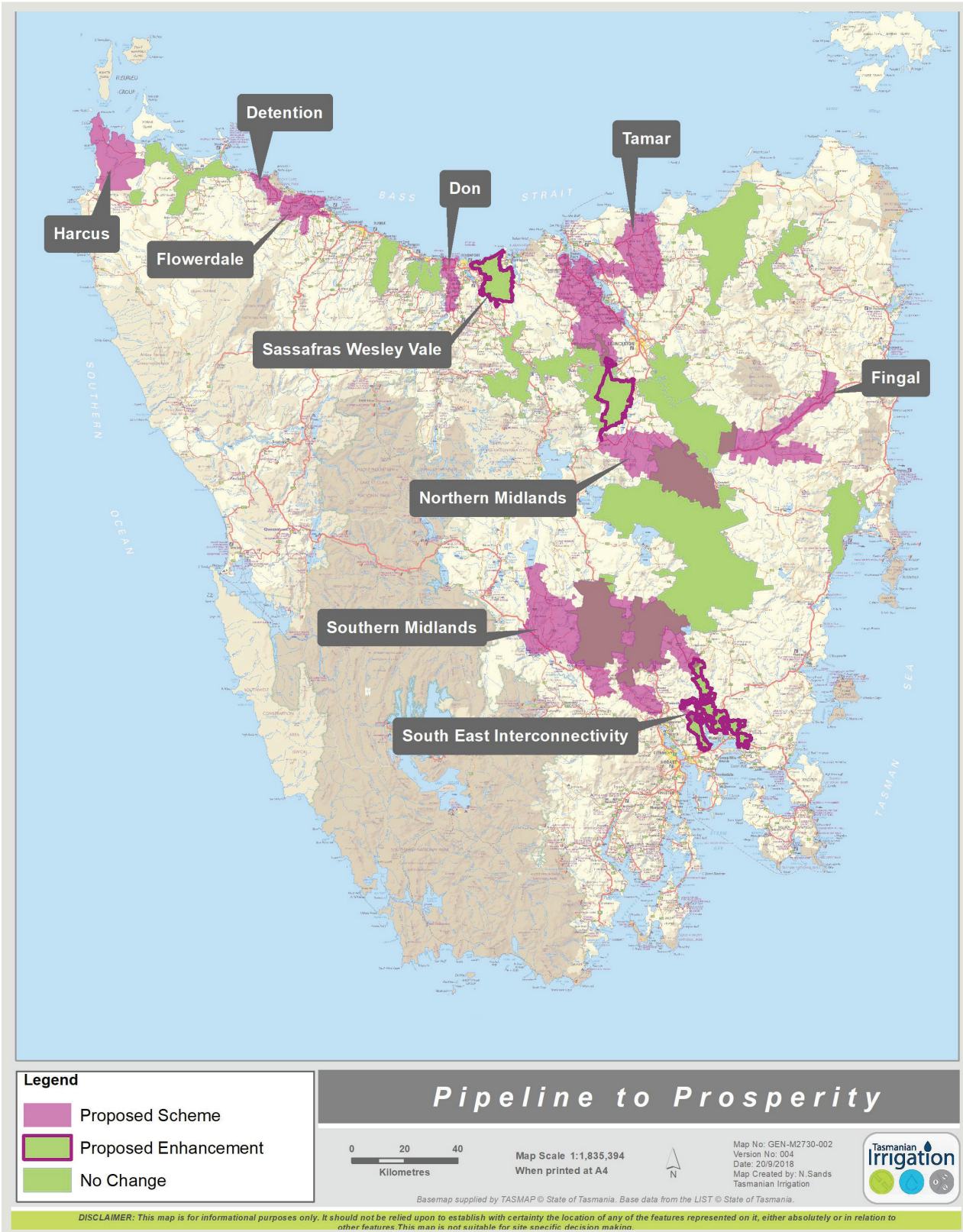
**Table 1:** Individual irrigation scheme volumes and indicative capital costs.

**Note:** These schemes will be delivered in stages based on criteria such as private sector buy in, timing of approvals and scheme complexity.





## Pipeline to Prosperity — Proposed Projects Map



The *Pipeline to Prosperity* schemes are in the north, north west, central, and south east regions of Tasmania. All regions under investigation have the potential to be significant and high value horticultural production areas. The *Pipeline to Prosperity* program will add high reliability water boosting production of dairy, intensive livestock, broadacre crops such as poppies, seeds and cereals, vegetables, as well as high value fruit and wine grapes.



# ABOUT TASMANIAN IRRIGATION

Tasmanian Irrigation Pty Ltd was established on 1 July 2011 as a single, state-owned company responsible for the development and operation of irrigation schemes developed through a public / private partnership funding model. It was formed when the Rivers and Water Supply Commission, the Tasmanian Irrigation Development Board Pty Ltd and Tasmanian Irrigation Schemes Pty Ltd merged. At this time Tasmanian Irrigation inherited three operational schemes.

Tasmanian Irrigation has two shareholders - the State's Minister for Primary Industries and Water, and the Treasurer. Tasmanian Irrigation is an established organisation with a proven record of delivery, also as a driver of innovation and facilitator of change in the Tasmanian agricultural landscape. Tasmanian Irrigation has developed a reputation of leadership and achievement in the development, delivery and operation of irrigation schemes across Tasmania.

Tasmanian Irrigation scheme-specific Business Cases, including construction cost estimates, permit and approvals process and economic modelling are fundamentally sound.

Tasmanian Irrigation's record to date is:

- The development and delivery of 14 new fully operational Irrigation schemes, in 2 tranches across the prime agricultural lands of Tasmania
- A 15th scheme currently under construction with delivery scheduled for the summer 2019/20
- 87% of water entitlements sold
- Design life of 100 years for all schemes
- Manage three inherited schemes and two under self management
- Providing 135,622 ML of high security water at 95%reliability
- Servicing 1,028 businesses

# BENEFITS OF EXISTING TASMANIAN IRRIGATION SCHEMES

An independent review by Aither Consultancy of the on-ground economic and employment outcomes of three Tranche One schemes was commissioned by Tasmanian Irrigation in 2016. The review found significant benefits to local communities (Sassafras Welsey Vale, Whitemore and Midlands irrigations schemes) at all stages of the schemes - exceeding those forecast in the respective Business Cases.

The schemes have directly led to a significant increase in the number of FTE jobs, with employment (on and off farm) more than double what was forecast. The review found the three schemes in their entirety provided a total of 183 direct jobs, compared to the predictions in the Business Cases of 73 direct jobs. Additionally, indirect jobs observed for the respondents alone were 43 FTE, compared with the predicted 36 FTE for the schemes in their entirety.

Average additional on-farm expenditure on machinery, irrigation infrastructure and land development costs were estimated to be \$110,000 per farm. This level of expenditure would mean that the total on-farm spend in the three schemes was in the order of \$30 million.

The application of irrigation water to the areas serviced by Tranches One and Two has shown conversion of dry land pastures or cereal crops into high-value annual and perennial agricultural enterprises. Volatility in farm profitability has been dramatically reduced.

According to Rabobank's inaugural Australian Land Price Outlook report (No Summit in Sight – Ag Land Prices to Climb Higher), Tasmania's agricultural land prices are out performing the rest of the country. Most of this growth has come on the back of Tasmania's expanding dairy industry and strong increases in prices for grazing land over the last five years. Much of the demand for Tasmanian land is being underpinned by irrigation expansion.



*Irrigated agriculture contributes 52 per cent of Tasmania's gross annual value of agricultural production, from 8% of agricultural land.*

## WHY IRRIGATE?

Growth of agriculture in Tasmania is limited without large-scale integrated irrigation schemes. The main impediment to expansion of the irrigation sector is the availability of a reliable supply of water at a time required for application by agricultural enterprises.

The abundant water resource in Tasmania is not distributed seasonally or geographically when and where it is required for productive agricultural purposes. Productivity and growth of agriculture that is constrained to dryland enterprises has plateaued in Tasmania, with few opportunities to expand and diversify. The current lack of capacity to irrigate, or the unreliable nature of on-farm water capture severely impedes farmers' ability to plan long term or modify farming practices to include higher value enterprises. To establish a large-scale integrated irrigation system is generally beyond the capacity of an individual or a collective of farmers. Designing and building an irrigation scheme requires technical and engineering expertise, with the initial set-up cost prohibitive and the ongoing compliance requiring a full-time commitment.

The ability to irrigate provides farmers with many more options for production of high-value agricultural commodities and allows them to track markets and adapt to changing business circumstances.

The experience of farmers in Tranches One and Two has shown that while requiring initial capital to purchase irrigation equipment when transitioning from a dryland operation, this investment is recovered quickly with the returns per hectare up to more than 20 times those from dryland enterprises.

Irrigation via large-scale, multi-user irrigation schemes is more efficient with less environmental impact than a series of small private systems with individual dams, as evidenced in previous Business Cases. Not only do large integrated systems provide an efficient water capture mechanism, they provide a distribution system that matches supply with demand and allows water to move between enterprises, thereby facilitating trading and allowing the market to set a price. The buffer from the variability of seasonal rainfall offered by a reliable supply of water has allowed entitlement holders of Tasmanian Irrigation schemes to focus their farm management on other key inputs and plan with confidence that they will have a reliable water source to maximise their yields.

In areas serviced by existing Tasmanian Irrigation schemes, this certainty of supply has driven the sustainable growth of key export and domestic commodities in the regions undergoing a transition from traditional activities such as forestry. The ability to irrigate in the most productive, arable regions of Tasmania maximises the potential of land that has traditionally been unable to be converted to high-value primary production.

Private irrigators participating in the various TI schemes have purchased water rights that are perpetual and tradeable for the life of the scheme. This assigns a significant intrinsic value to the Water Entitlement as they are an asset that can be traded, disassociated from land.



# WHY TASMANIA

The ability to reliably supply irrigation water provides Tasmania with a strong competitive edge over other food-producing regions in Australia, many of which have fully allocated irrigation schemes.

The water available in Tasmania for consumptive purposes is plentiful, particularly when compared to the land available for irrigation. Tasmania has only one per cent of the nation's land mass but has 13 per cent of Australia's total rainfall runoff. Around one third of Tasmania's land area is occupied by agricultural activities.

The contemporary water management framework in Tasmania ensures long term sustainability of consumptive use of water and provides certainty for both investors and the environment.

Tasmanian Irrigation undertakes to provide 95 per cent reliability of water supply to farmers, a level of security unachievable anywhere else in Australia. This high reliability of supply over the long term is attractive to investors domestically and internationally. There is still significant unmet demand and supply capacity for irrigation opportunities in Tasmania.

Agriculture has long been recognised as one of the key opportunities for growth in Tasmania and without large-scale integrated irrigation schemes, this growth is limited. Tasmania's brand for fine food and wine is internationally regarded. With increasing interstate and international export commitments, Tasmanian produce has a reputation for being high quality in almost every aspect.

Irrigated land can produce more than 20 times the value per hectare compared with dryland (unirrigated) improved agricultural land. Despite only around eight percent of Tasmania's agricultural land being irrigated, it produces 52 percent of the state's gross annual value of agricultural production - \$770 million of \$1,470 million, according to the Tasmanian Agrifood Scorecard 2016-17 (DPIPWE, 2018).

Additional irrigation schemes, interconnection of irrigation schemes and augmentation/enhancement of existing schemes will enable expansion of the irrigable area of Tasmania, plus allow the distribution of water to the highest economic use.



*The Pipeline to Prosperity program will deliver 78,000 megalitres of water,, a 57% increase in Tasmanian Irrigation's current capacity.*



**Tasmanian Irrigation has three development criteria that each scheme must meet:**

1. It must be economically viable. Based on the region's existing agricultural activities, each scheme must show that it will generate more wealth at the farm gate than the combined costs of construction and operation.
2. It must be environmentally sustainable. Tasmanian Irrigation's demands for minimal environmental impact of schemes at all stages of construction through operation exceed the requirements of local, state and national regulations.
3. There must be a social licence. This means the local community supports it. Tasmanian Irrigation sits on the same side of the table as the community it partners.





# BENEFITS TO THE STATE

Irrigation is a major driver in attaining the Tasmanian Government's Agrivision 2050 policy target to grow the value of the agricultural sector in Tasmania tenfold to \$10 billion per year by 2050. Access to irrigation, diversity of production, farm gate, the State's disease-free status and strong brand supports growth in this sector. With the gross value of Tasmanian agriculture of \$1.47 billion in 2016-17, the industry is on track to achieve this target.

The Tasmanian Government's *Building your Future* Plan has a target of doubling the amount of water available through Tasmanian Irrigation schemes by 2025. Under this Plan, the Tasmanian government has already committed an additional \$70 million towards a third tranche of Tasmanian irrigation schemes.

Water infrastructure is recognised by Infrastructure Australia as one of the four nationally-significant matters that have the capacity to materially improve national productivity.

Government has a critical role in promoting nation-building infrastructure where the cost is too great for the private sector but the returns to the community and wellbeing in general are significant. Public funding for the *Pipeline to Prosperity* program is required to bridge the gap between the revenue received from the sale of water entitlements and the capital expenditure required for the irrigation scheme's construction.

It is acknowledged that the schemes provide direct benefits to irrigators. However, important and significant public benefits are achieved through increased job opportunities and expenditure – locally, regionally and within the state.

The flow-on effect is long-term confidence in the future in communities and regions serviced by irrigation schemes, derived from the improvements to the local economic base. This investment in Tasmania by government is not short-term.

The schemes contribute to the State's agricultural productivity for over 100 years – the lifetime of the schemes. The alternative of not building the schemes will not only deny the opportunity for many businesses to expand but limit the associated opportunity for growth in flow-on benefits such as employment and regional growth and resilience.

