

Tamar Lake Value Capture

Interim Working Paper



Tamar Lake Incorporated

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Quality Information

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Executive Summary

This report has been prepared for Tamar Lake Inc (TLI) as an Interim Working Paper for Phase One of the Tamar Lake Value Capture Study (Study). The objective of the Study is to estimate the potential for value capture funding methods to help fund the Tamar Lake Project. The Study provides TLI with the information needed to decide whether or not to proceed to Phase Two.

Key findings

Previous research by TLI has examined the feasibility of transforming 60 kilometres of the Tamar River into a freshwater lake from technical, economic and environmental perspectives. The preliminary indications from these studies are that the Project would have a net positive impact on the Region.

The Study finds that the local housing market is affordable and that the stimulus provided by the Project would attract new residents seeking housing, second homes or retirement living to the area. Land use planning studies show that locations along the River could be activated and upgraded to accommodate additional growth.

The recently initiated Launceston City Deal between the Commonwealth and Tasmanian governments will provide a series of projects and programs that can be leveraged to support the Tamar Lake Project. There is the potential for programs associated with the City Deal to contribute directly and indirectly to Project, such as;

- Federal and State government grants
- Complementary land use planning and zoning programs
- Economic development strategies
- Environmental and estuarine management programs

Case studies of similar projects in other parts of the world demonstrate that business-led or citizens' initiatives such as TLI evolve into publicly funded and managed projects with citizens' advisory boards. The citizens' advisory boards provide a means for project initiators like TMI to continue to positively influence their projects as management and funding responsibilities evolve over time. TMI should anticipate this evolution and position itself as the key influencer for the Project.

Local and state government agencies involved in land use planning, natural resource management, the environment and economic development should be brought into the Project as early as practical. Supportive land use and infrastructure investment plans, value capture funding mechanisms, and funding and financing options require strategic positioning and long lead times to be effective. Early action by TLI to align the Project with the Launceston City Deal should be pursued.

Given the current indicated construction cost of \$320 million, the benefits to property values alone from the Project greatly exceed its costs;

- The uplift in median residential property values in Launceston following construction of the Project and stabilisation of values is conservatively estimated to be \$1 billion.
- The uplift in median unimproved commercial land values in the Launceston CBD within 500m of the riverfront following construction of the Project and stabilisation of values is estimated to be \$434,000.

The key challenge to TLI and its supporters in designing an effective and acceptable value capture program will be to demonstrate that the benefits of the Project are fairly and equitably shared with property owners and the wider community.

Recommendations

It is recommended that TLI proceed with the Phase 2 Study to;

- More accurately estimate the amount and extent of property value uplift arising from the Project.
- Estimate tax revenue increases contributed by the Project to demonstrate its benefits to Tasmanian and local government agencies.
- Work with State and local government agencies to develop the most appropriate funding arrangements to create and capture value to help fund the Project.
- Work actively and promptly to align the Project with the recently negotiated Launceston City Deal.

1.0 Introduction

This report has been prepared for Tamar Lake Inc (TLI) as an Interim Working Paper for Phase One of the Tamar Lake Value Capture Study (Study). The objective of the Study is to estimate the potential for value capture funding methods to help fund the Tamar Lake Project.

1.1 Study Purpose

Tamar Lake Inc is investigating the feasibility of constructing a barrage on the Tamar River in the Rowella Area to transform 60 kilometres of the estuary into a freshwater lake (Project). The Project aims to improve water quality, agriculture, tourism, flood mitigation, urban development and the general amenity of Launceston. TLI wishes to investigate the role that value capture funding methods could play in helping to fund the Project.

Value capture has primarily been used to assess transport and urban development infrastructure investments overseas, but wider opportunities exist to apply value capture principles in other sectors, such as water resource projects. There are a number of international case studies that demonstrate similar benefits in this sector.

This report has been prepared for TLI as an Interim Working Paper for Phase One of the Tamar Lake Value Capture Study (Study). The objective of the Study is to validate the potential application of value capture models to help fund the Tamar Lake Project. This interim report provides TLI with the information needed to decide whether or not to proceed to the Phase Two study.

1.2 Study Area

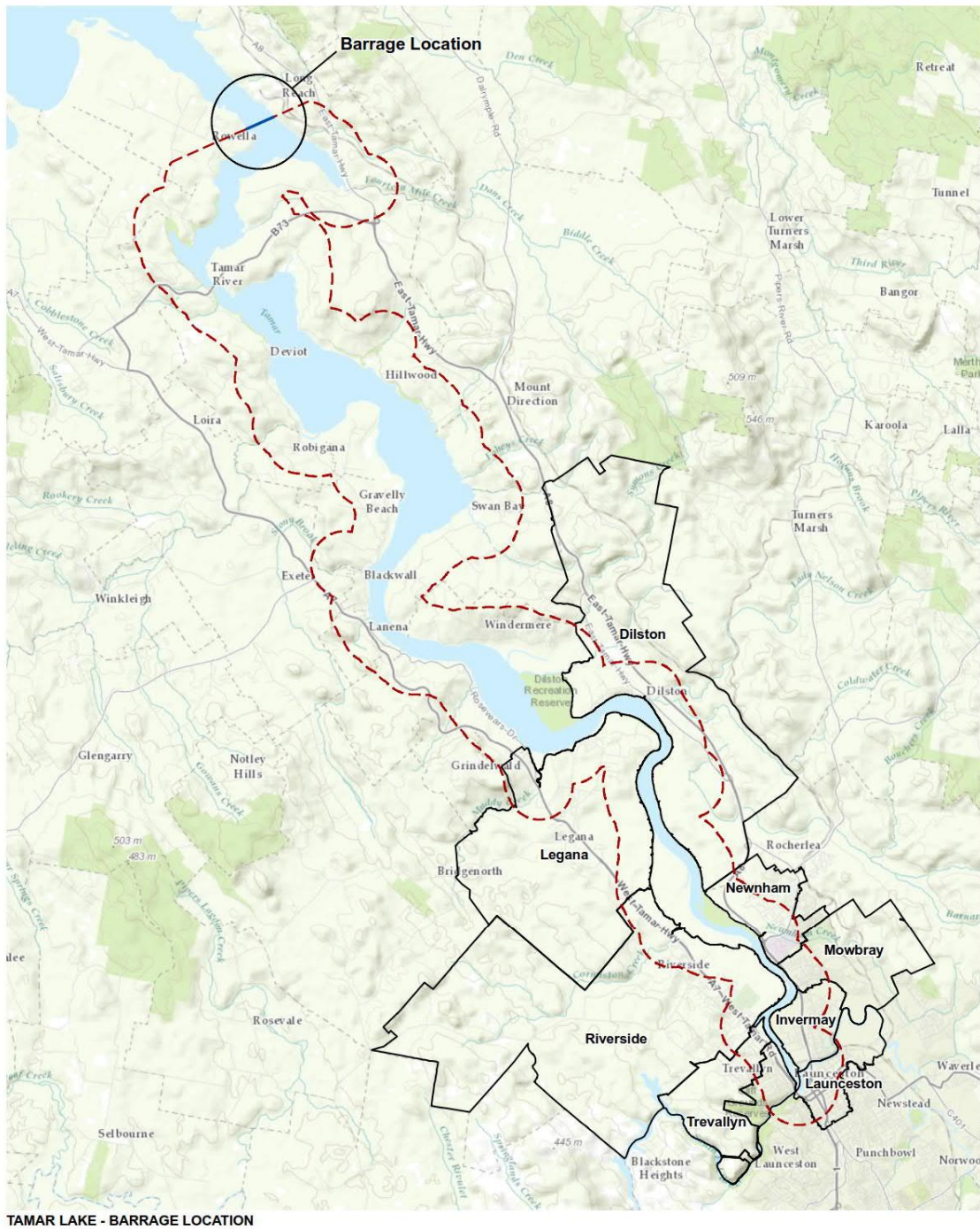
The Tamar River extends 70 kilometres from Launceston to Port Dalrymple in North Tasmania, east of Devonport. Land adjacent to the Tamar River is predominantly agricultural, rural residential and undeveloped land, interspersed with residential and tourism – oriented developments.

The river foreshore in and around Launceston supports more densely developed residential, commercial and industrial areas; tourism, open space and recreational facilities; and educational institutions, including the University of Tasmania and Australian Maritime College. The Study Area is illustrated in Figure 1.

1.3 Organisation of the report

The Study is comprised of five sections following this introduction;

- Section 2.0 Study Context reviews land use, demographic and economic conditions in the study area.
- Section 3.0 Case Studies examines examples of overseas programs used to support riparian corridor improvement.
- Section 4.0 Funding Opportunities estimates the potential land value uplift that could be created by the Project.
- Section 5.0 Grant Programs identifies government funding and grants that could potentially benefit the Project.
- Section 6 provides Conclusions and Recommendations.



KEY
 [Red dashed line] 1km buffer from Tamar River- Intersects approx. 16148 cadastral lots
 [Black outline] Locality



AECOM makes no representation or warranty of any kind about the accuracy, reliability, completeness, suitability or fitness for purpose in relation to the map content.

Figure 1 Study Area

2.0 Study Context

This section provides a summary of previous studies undertaken for the Project and describes the Study Area in terms of its demographic composition, economy, property values and local and regional planning controls. Its purpose is to provide local context for considering the capacity of value capture funding methods to generate revenue with the Project in place.

2.1 Previous Studies

Tamar Lake Final Report (2016) identifies Tamar Lake Project as the only realistic solution to the current high rate of sediment accumulation and muddy turbid waters in the Upper Reaches. The report focuses on the viability of achieving this goal with the installation of a barrage to separate the freshwater river environment from the saltwater estuarine environment. The economic justification for doing this comes not only from the boost to direct revenues and the employment generated for Northern Tasmania, but also from the indirect benefits to the Launceston area from the ability to manage the effects of sedimentation, sea level rise, flooding and water quality in the Upper Reaches of the Tamar Valley.

Tamar Lake Economic Pre-feasibility Study (2013) by NERA Economic Consulting in 2013 examines the economic benefits of the proposed Tamar Lake. It examines:

- Economic benefits derived from increased agricultural production as a result of irrigation;
- The sale and transfer of freshwater to Victoria;
- Increased availability of water for industrial purposes;
- The development of fisheries;
- The value appreciation of residential and commercial property;
- Increased tourism; and
- Positive benefits arising from flood and sediment management.

NERA estimates that the potential economic benefit of the Tamar Lake Project is approximately \$553 million. The estimated capital cost of the barrage is approximately \$320 million, indicating that the economic benefits of the Project would exceed its capital costs.

Tamar Lake Economic Impact (2014) prepared by KPMG in 2014 investigated the high level economic impact of the Tamar Lake Project. It builds on the pre-feasibility study by NERA by quantifying the net economic benefits of the project. KPMG's analysis found that during its first three years (2019-2021), direct expenditure on barrage construction and irrigation scheme construction, the Project would contribute approximately \$313.51 million in net additions to Gross State Product (GSP) and support 856 jobs. On an ongoing basis, net additions to GSP and jobs would result from capital works, combined operations of the barrage and irrigation scheme suppliers, and operations of the irrigation scheme users. The favourable impact on tourism would more than offset the adverse impact on existing fisheries, and in net terms, would contribute approximately \$112.48 million in net additions to GSP and support 716 jobs.

2.2 Existing Demographics

A preliminary review of existing demographics from Launceston City Council (the eastern bank of the Tamar River) and West Tamar Council (the western bank of the Tamar River) reveals the following characteristics relevant to the region¹:

- The median weekly household income of West Tamar Council (\$886) is significantly lower than the Australian median (\$1,230), while the Launceston City Council median (\$1,023) is comparable;
- Launceston City Council has significantly less medium and high density housing (6%) than West Tamar Council (18%) and Australia (25%);
- The median weekly rent of Launceston City Council (\$219) and West Tamar Council (\$203) is significantly less than the Australian median (\$289);
- The percentage of households renting in Launceston City Council (18%) is significantly less than West Tamar Council (32%);
- The percentage of non-English speaking backgrounds in all Tasmanian statistical areas is significantly less (4% to 5%) than the Australian average (16%);
- Educational attainment is typically lower in Tasmania than the Australian average;
- Unemployment in Launceston City Council (5.5%) and Australian (5.6%) is lower than West Tamar Council (6.9%).

2.3 Local Economy

Launceston's economy has been stagnant in recent years. The unemployment rate of Launceston is around nine per cent, higher than Tasmania's and Australia's average of around six per cent (Figure 2).

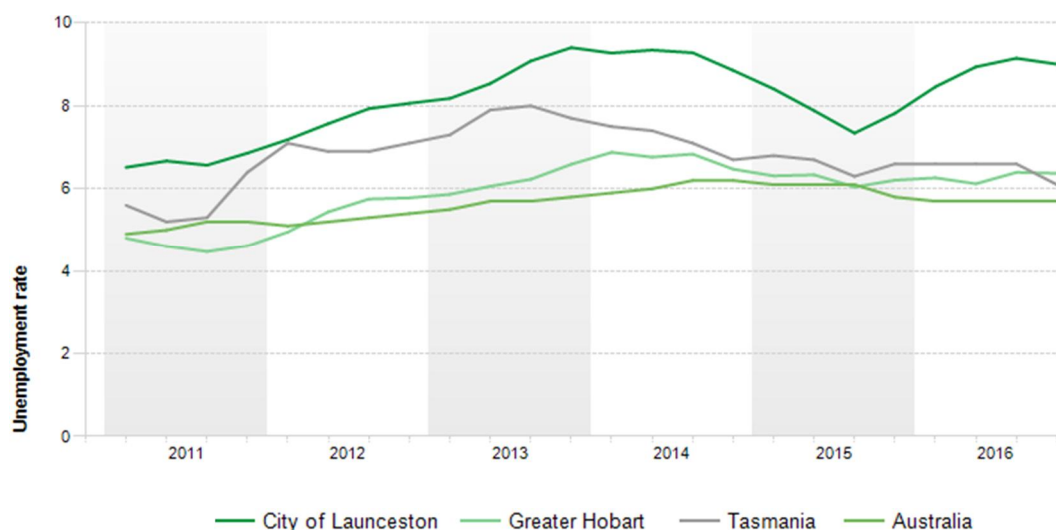


Figure 2 Launceston quarterly employment rate

Source: ID Economy

In terms of the economy, Table 1 highlights the performance of Launceston City Council compared to West Tamar Council. The GRP of Launceston is approximately seven times that of West Tamar, and there are approximately eight times as many jobs in Launceston.

¹ Information is summarised from id (<http://home.id.com.au/>)

Table 1 Economic Profile

	Launceston City Council	West Tamar Council
Gross regional product (GRP)	\$3.85 billion	\$0.54 billion
Population	67,078	23,202
Local jobs	39,436	4,925
Largest industry	Healthcare and social assistance	Education and training
Local businesses	5,049	1,509
Employed residents	31,056	10,992

Source: Profile ID (2017)

2.4 Property Value

The Tasmanian real estate market is diverse, with each region showing different levels of activity and value. According to ABS, property values outside of Greater Hobart have experienced a modest increase and wide fluctuations since 2012, and remained flat from 2009 to 2011 (Figure 3). The median house price for Greater Launceston was around \$280,000, lower than Greater Hobart at around \$386,000.

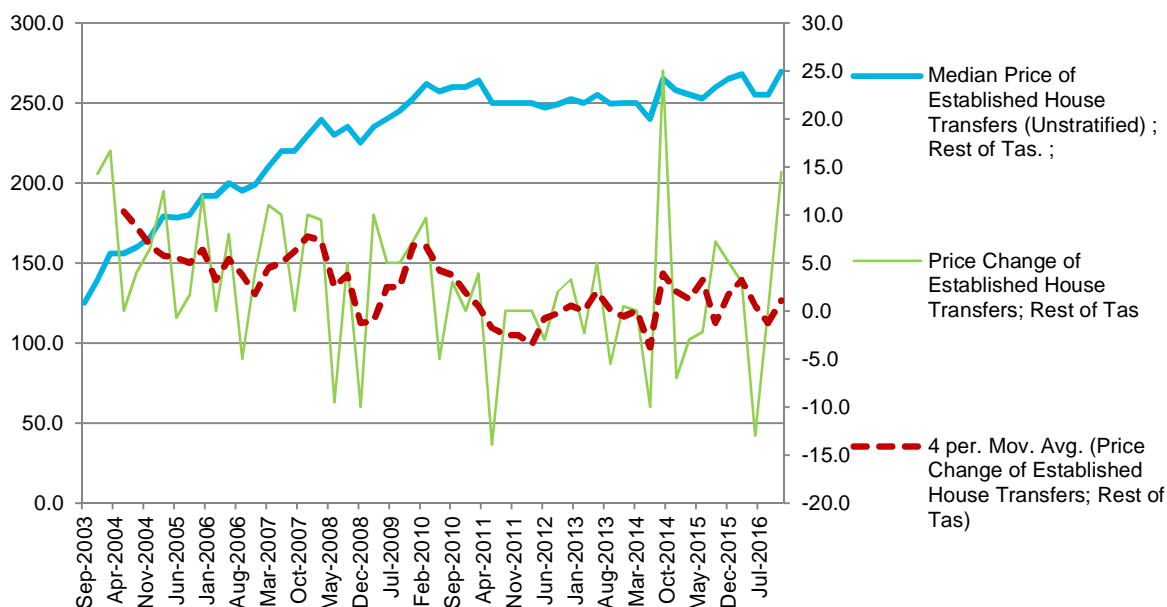


Figure 3 Tasmania House Price Trends (excluding Hobart)

Source: ABS 6416.0 Residential Property Price Indexes

Within Greater Launceston, house prices show significant divergence, with Launceston City having highest median house price (around \$400k), followed by West Tamar suburbs (around \$310-370k), leaving the suburbs to the east of Tamar River having lowest median house price (below \$250k) (Figure 4).

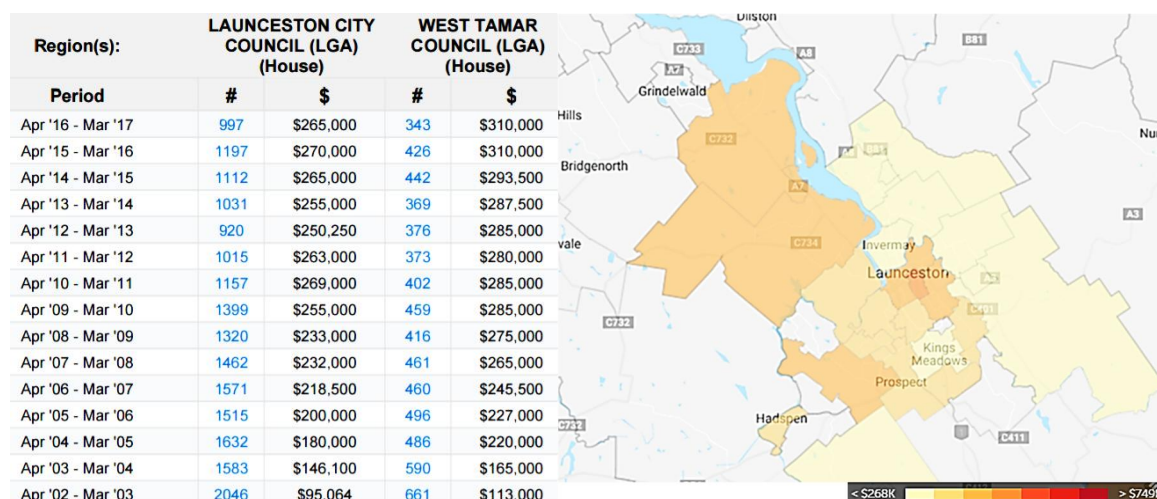


Figure 4 Median House Price (Greater Launceston), Source: REA

Source: REA March 2017

The Tasmanian housing market is the most affordable among all Australian states. The purchase of a median-priced dwelling in Tasmania absorbs 23.8 per cent of local average earnings, well below the 30 per cent threshold which is considered manageable from an affordability perspective.

2.5 Local & Regional Planning Context

Using Geographic Information System mapping software (GIS) and data provided by public and private organisations, key land use planning controls influencing future development in the Study Area are illustrated in Figures 10 to 17 (see Appendix) and briefly discussed below.

The *Regional Land Use Strategy for Northern Tasmania* (2016) (Regional Strategy) identifies the Greater Launceston Urban Area as the dominant population centre and major employment/economic driver for the region. Planning for this area includes:

- Consideration of major new infill housing opportunities;
- Appropriate redevelopment of 'brownfield' sites;
- Regional scale open space and recreation; and
- Major new infrastructure investments in water, sewer and drainage.

The Regional Strategy also identifies an Urban Growth Area Boundary for Greater Launceston which defines the extent of urban development to 2032 and focuses growth in locations connected to transport, existing communities, services, facilities and activity centres. The Urban Growth Boundary excludes rural living and environmental living areas. Some land within the Urban Growth Boundary falls within the Study Area, illustrated in Figure 9 in the Appendix. Further investigation and consultation with government planning agencies would be warranted to determine if the Urban Growth Boundary within the Study Area could be expanded with the Project in place as a result of lower flooding risk, improved development potential and other factors. If permitted, this would provide additional justification for the Project.

Interim Planning Schemes (2013) apply to three local councils in the Study Area; West Tamar, Launceston and George Town, as shown in Figure 6 in the Appendix. Each council is responsible for preparing an Interim Planning Scheme which regulates the way land can be used or developed. The zone map (Figure 7) highlights the broad range of uses across the Study Area. From north to south, there is General Industrial zoning at the barrage location; a mix of General Residential, Low Density Residential and Rural Living zoning between the barrage location and Launceston, and a full mix of zones at Launceston.

There is a significant amount of land in the Study Area which is not currently zoned for urban development, as illustrated in Figure 8. Constraints to urban development include;

- Cataract Gorge Management Unit;
- Coastal Inundation Hazard Area; Flood Risk Area;
- Heritage Places;
- Landslide Hazard Area;
- Priority Habitat; and
- Scenic Landscape / Management Area.

These constraints to future development should be considered as part of future, more detailed opportunities and constraints analysis in Phase 2 and beyond. It is very likely that the Project will reduce constraints to flooding and other impediments and allow some areas along the River foreshore to be reconsidered for urban development. These positive impacts would warrant local and state government planning agencies to rethink land use strategies to further leverage the benefits of the Project.

2.6 Launceston City Deal

In September of 2016, the Commonwealth Government and the State of Tasmania signed a Memorandum of Understanding to work together on the Launceston City Deals. Like the recently completed Townsville City Deal and another underway for Western Sydney, City Deals are jointly developed by Federal, state and local governments and community stakeholders to improve the lives of people through increased economic growth, increased job opportunities and better access to education and training.

The Launceston City Deal sets out number of commitments to make Launceston one of Australia's most liveable and innovative regional cities. The Commonwealth Government, the Tasmanian Government and the City of Launceston have made a series of commitments to investment with local partners to achieve this vision. The City Deal embodies a collaborative five-year plan and funding commitments to maximise Launceston's potential by focusing on the following objectives;

- Jobs and skills growth
- Business, industry and population growth
- A vibrant, liveable city
- Innovation and industry engagement
- A healthy Tamar Estuary.

For example, the centrepiece of the Launceston City Deal is the \$260 million relocation and redevelopment of the University of Tasmania's main campus to Inveresk. This project is projected to increase economic output in the local economy by \$362 million per annum over 10 years.

According to the Launceston Smart Cities Plan, the City Deal "will build on the region's natural advantages to increase Launceston's reputation as an attractive place to live and work. It will revitalise the city, improve access to education and employment opportunities, stimulate economic growth and provide local industries and businesses with the confidence to make future investments in Launceston and the region"².

The Launceston City Deal includes elements that can be leveraged by TLI and its supporters to support the Project. These elements include;

- **The City Deal Regional Economic Development Strategy.** This document is under development and will set out a vision for northern Tasmania and identify where future economic growth and jobs will come from.

² Commonwealth of Australia 2017, *Launceston City Deal*, Canberra

- **Survey of local business and economic development opportunities.** TMI should provide input to this survey based upon the work completed to date on relevant topics.
- **The updated plan for the central city.** The value capture study shows that land values in the CBD and Invermay will increase significantly once the barrage is in place. It is critically important to get started now on developing and implementing value capture funding methods within Council's development approval process to recognise and capture a portion of that increase. The longer this takes, the harder it will be to capture that value in the future and the more value will "leak" into the hands of unintended beneficiaries. This would erode ability to capture the direct benefits of the Project to contribute to its funding.
- **The Northern Suburbs revitalisation plan.** The City Deal commits to implementing a community-led revitalisation plan by 2018. It will address a number of issues that the project will directly support, such as public open space, land use, broad environmental improvement strategies, lifestyle outcomes, etc.
- **Tamar Estuary Management Taskforce.** The City Deal commits to establishing this taskforce to improve the health of the Tamar estuary. TMI should be intimately involved in this taskforce.
- **Regional Tourism Infrastructure Investment Attraction Strategy.** This Commonwealth Government funded program will adapt successful elements to Launceston, and could be a source of funding for TMI's program going forward.

2.7 Key conclusions

- Previous research by TLI has examined the feasibility of transforming 60 kilometres of the River into a freshwater lake from technical, economic and environmental perspectives. The preliminary indications from these studies are that the Project would have a net positive impact on the Region.
- The local housing market is affordable and would attract new residents seeking housing, second homes or retirement living. Land use planning studies show the potential for the key locations in the urban growth corridor along the river to be activated and upgraded.
- Should the Project proceed, conditions for economic growth from agriculture, tourism, recreation and housing would be favourable, such as a low cost of living, competitive wages and available workforce.
- The recently initiated Launceston City Deal between the Commonwealth and Tasmanian governments will provide a series of projects and programs that can be leveraged to support the Tamar Lake Project. There is the potential for programs associated with the City Deal to contribute directly and indirectly to Project, such as;
 - Federal and State government grants
 - Complementary land use planning and zoning programs
 - Economic development strategies
 - Environmental and estuarine management

3.0 Case Studies

Cities all over the world are discovering the economic, lifestyle and environmental benefits of cleaning up and redeveloping their riverfronts and maritime industrial areas for more productive uses. A high level review of riverfront urban regeneration and enhancement projects has been undertaken to identify key success factors for the Tamar Lake Project.

Four relevant projects were examined for this study;

- Cardiff Bay Barrage, Wales
- San Antonio River Walk, Texas
- Chattahoochee River Corridor, Atlanta
- South Platte River Corridor, Denver.

The Cardiff Bay barrage and the San Antonio River Walk projects provide the most relevant examples of lessons learned from riverfront regeneration projects, and are highlighted in this section.

3.1 Cardiff Bay Barrage

Cardiff experienced slow but steady population growth between 1951 and 1971, increasing from 267,356 to 290,227 residents, or around 0.4 per cent/pa. By the 1970's, however, Cardiff faced increasing global competition and declining market share as a coal and steel exports centre, resulting in declining industrial employment and the gradual degeneration of its maritime district. In 1978, the East Moors Steelworks closed its doors and 3,200 jobs were lost. As jobs left the City, unemployment, social issues and the once vibrant manufacturing and maritime industries supporting the export market fell into decline. From 1971 to 1991, the City's population shrank by from 290,227 to 272,557, or around 0.03 per cent/pa. This coincided with the near bankruptcy of the University College, Cardiff.

The Cardiff Bay Development Corporation (CBDC) was created in 1987 to undertake a series of economic development measures to revitalise the City. Its chief responsibility was the construction of the Cardiff Bay Barrage to create a freshwater lake across the mouth of the Bay. This £200m project was the catalyst for £2.4 billion of investment in regeneration of the old docklands areas of Cardiff and Penarth.

“During the CBDC's lifetime, 1,300,000 m² of non-housing development and 5,780 housing units were built. Around 31,000 new jobs were created and some £1.8 billion of private finance was invested. About 200 acres (81 ha) of derelict land was reclaimed”³.

Population growth returned to Cardiff following the redevelopment the docklands and the injection of public and private funding into the barrage, industrial areas and associated waterfront amenities. Following a series of mergers, the University College, Cardiff was recapitalised and renamed the University of Wales, Cardiff. The University is now a major contributor to the local economy, generating net income of £425 million and capital expenditure of £14.3 million in 2012⁴.

By 2015, Cardiff's population had grown to 357,200. The largest cohort is comprised of full-time university students, who make up over 10 per cent of the City's population. Residents aged between 18 and 29 make up nearly 24 per cent of Cardiff's population, compared with around 15 per cent for the rest of South East Wales⁵.

When the CBDC was wound up in on 31 March 2000, it had achieved many of its objectives. Work was progressing to complete a 13 kilometre walkway around the Bay and the Barrage has created a

³ https://en.wikipedia.org/wiki/Cardiff_Bay_Development_Corporation. Downloaded 25 August 2017.

⁴ https://en.wikipedia.org/wiki/Cardiff_University. Downloaded 29 August 2017.

⁵ Cardiff Research Centre, City of Cardiff, June 2016.

world-class environment. In addition the development has enabled land in the city centre to be redeveloped for higher-value uses.⁶

Key findings

As the largest waterfront development in Europe, the redevelopment plan was undertaken by a special purpose authority, the CBDC. The CBDC invested £500 million⁷ into urban regeneration projects alongside the £200 million cost of the barrage and attracted £1.8 billion in private investment.

- The Cardiff Bay barrage was opposed by some groups due to the elimination of mudflats as breed grounds for birds, poor water quality in the newly formed lake, increased groundwater levels in established areas and barrage-related maintenance costs, which are estimated to be £20 million annually.
- While acknowledging these shortcomings, a 2004 report by the Welsh government concluded that the project "contributed to a massive improvement in the quality of the built environment".



Figure 5 Modelling Cardiff Bay Development

Source: *Urban Strategies*

3.2 San Antonio Texas River Walk

The San Antonio River was a continuing source of flooding and destruction since San Antonio's establishment as a mission in the early 1800s. A disastrous flood along the San Antonio River took 50 lives in 1921 and prompted local officials to develop measures to control flooding and take advantage of the riverfront as an amenity. Plans to build an upstream dam (Olmos Dam) and to create water side pedestrian paths were developed in that year, which have been continually upgraded and improved as the City has grown.

In 1929, the initial plans for what has become the San Antonio River Walk were submitted by local architect Robert Hugman. Nearly ten years later, a bond issue financed the first San Antonio River Beautification project. The project was expanded and extended over the ensuing years to include a convention centre, a museum, restaurants, hotels, bridges and walkways, in addition to added flood control measures. Today, the River Walk extends for 25 km and attracts 11.5 million visitors annually,

⁶ <http://templatev2.rt-sb.net/agents/36224/cmp/pdf/Cardiff%20Bay%20wiki.pdf>

⁷ <https://www.theguardian.com/society/2005/jan/05/environment.welshassembly>

most from outside the City. A recent study⁸ estimates that the economic impact of visitor to River Walk is \$3 billion and directly influences 21,000 jobs.

Key findings

- River Walk is managed and maintained by the San Antonio River Authority (SARA). SARA is supported by the San Antonio River Oversight Committee (SAROC), a 22-member citizen committee, was appointed in 1998 to guide the planning and implementation of the project.
- The San Antonio River Improvements Project (SARIP) is a \$384.1 million investment by Bexar County, the City of San Antonio, the U.S. Army Corps of Engineers (USACE) and the San Antonio River Foundation in flood control, amenities, ecosystem restoration and recreational improvements to the San Antonio.
- Funding comes from a number of sources serving different objectives⁹;
 - Bexar County contributed approximately \$229.4 million from the county's flood tax, a voter approved proposition supporting the funding of SARIP.
 - The City of San Antonio will contribute approximately \$76.7 million over the life of the project from the city's capital improvements fund for amenities and recreation elements.
 - The USACE contributed approximately \$60.5 million to support the ecosystem restoration and recreation elements.
 - The San Antonio River Foundation, a non-profit organization, raises money through the private sector to bring artistic, recreational, environmental and educational

3.3 Key conclusions

- Each of the case studies began as either business-led or citizens' initiatives, and evolved into publicly funded and managed projects with citizens' advisory boards. The citizens' advisory boards have provided a means for project initiators to continue to positively influence their projects as management and funding responsibilities evolved over time. TMI should anticipate this evolution and position itself as the key influencer for the Project.
- Local and state government agencies involved in land use planning, natural resource management, the environment and economic development should be brought into the Project as early as practical. Supportive land use and infrastructure investment plans, value capture funding mechanisms, and funding and financing options require strategic positioning and long lead times to be effective, so early actions by TLI to align the Project with supportive public and private programs and initiatives is encouraged.
- Early identification and protection of key public sites and corridors is important to limit speculative activity that would make future programs supporting the Project more difficult and expensive. For example, an important early action should be to assess key corridors and strategic sites within the Study Areas needed in the future by the Project for access, amenities, supporting infrastructure and complementary activities.

⁸ <http://media.visitsanantonio.com/News/English/Study-Reveals-River-Walk%E2%80%99s-Importance-to-San-Antonio>. Downloaded 29 August 2017

⁹ http://www.sanantonioriver.org/proj_facts/facts.php. Downloaded 29 August 2017.

4.0 Funding opportunities

Section 2 of this Study examines Launceston's population, economy, property market and planning schemes. In Section 3, case studies of similar river-oriented projects are presented to understand key factors contributing to their success. The evidence from these sections provides context and a basis for understanding of how value capture methods could be employed to help fund the Project.

Successful value capture programs involve active measures by public and private organisations to first create, then capture the value generated by well-planned and delivered infrastructure investments. This value is realised in two primary ways;

- Increases in tax revenue resulting directly and indirectly from the investment
- Uplift in property values directly and indirectly related to the investment.

This Study only considers uplift in property value directly and indirectly related to the Project. Increases in tax revenue are also an important consideration for gaining government and community support for the Project. This analysis is part of Phase 2.

Wider Economic Benefits (WEBs), which includes benefits from increased job opportunities, economic activity, and social and community outcomes, are also important considerations and should be addressed as part of the Project's Business Case.

4.1 How is value created?

Potential value creating activities resulting from the Tamar Lake Project would result from;

- Improved environmental quality, neighbourhood amenity and property values resulting from the transition of the River from a tidally influenced estuary to a permanent flat water lake.
- An increase in the number and value of dwellings and commercial properties, drawn to the investigation area as a result of the above changes.
- Increased density of residential and commercial development in the Study Area, subject to planning approval and development regulations.
- Increased economic activity from property development, tourism, agriculture, retail and commercial business and employment resulting from the above factors.

4.2 Potential impact of the Project on property values

In order to estimate the Project's potential impact on property uplift, a comparative analysis of residential and commercial values is presented in this section. The analysis uses residential property values in the Launceston suburb of Legana and commercial land values in Hobart's CBD as benchmarks for future values in Launceston with the Project in place.

- Legana is selected because residential properties there enjoy many of the lakefront amenities and attributes that would be created by the Project. These amenities and attributes are presently missing in suburbs closer to the City of Launceston due to the tidal and related water quality influences of the River.
- Hobart CBD commercial values are used because it is expected that Launceston's CBD commercial values will increase as tidal and water quality influences are resolved with the Lake in place.

4.2.1 Residential values

In order to determine the potential impact of the Project on residential values, median house sales were examined for the period 2015 to July 2017 for Legana and selected Launceston suburbs. In consultation with TLI, Legana residential values were selected as the benchmark that Launceston residential values could achieve with the barrage in place and after house values have stabilised.

Legana was selected because it is less influenced by the Tamar's tidal and water quality issues than Launceston suburbs, providing an indication of its greater amenity value. The median residential sales value for Legana during this period of analysis was \$370,000 for houses and \$290,000 for strata units.

Median residential sales data was acquired from RPData based upon actual sales between 2015 to July 2017 and examined for nine Launceston suburbs; six suburbs were selected for further analysis and three were dropped due to lack of information, median values which exceeded the Launceston benchmarks or because they were not considered comparable suburbs for other reasons, as shown in Table 2. Value premiums are the differences between Legana's values and those listed in the table, and represent the estimated increase in median value that could be assigned to the suburb with the barrage in place and median values stabilised.

Table 2 Estimated Median Value and Project Value Premium (\$2017)

	Current Unit Value	Current House Value	Unit Value Premium with Barrage	House Value Premium with Barrage
Legana (benchmark)	\$290,000	\$370,000	\$0	\$0
Dilston	Data incompatible	Data incompatible	Not included	Not included
Invermay	\$181,838	\$232,000	\$108,162	\$138,000
Launceston	Data incompatible	\$419,000	Not included	Not included
Mowbray	\$205,000	\$218,000	\$85,000	\$152,000
Newnham	\$178,000	\$238,000	\$112,000	\$132,000
Ravenswood	\$120,703	\$154,000	\$169,297	\$216,000
Riverside	\$279,000	\$339,000	\$11,000	\$31,000
Trevallyn	\$197,000	\$318,000	\$93,000	\$52,000
West Launceston	Data incompatible	Data incompatible	Not included	Not included

Table 3 multiplies the unit and house value premiums from Table 2 by the number of units and houses in each compatible suburb to determine the value uplift for each suburb and the total value uplift for all compatible suburbs.

Table 3 Launceston Residential Value Uplift with Barrage (\$2017)

	Number of Units	Number of Houses	Units Value Uplift	Houses Value Uplift
Invermay	141	1,795	\$15,250,865	\$247,710,000
Mowbray	306	1,399	\$26,010,000	\$212,648,000
Newnham	501	2,131	\$56,112,000	\$281,292,000

Riverside	491	2,386	\$5,401,000	\$73,966,000
Trevallyn	<u>208</u>	<u>1,868</u>	<u>\$19,344,000</u>	<u>\$97,136,000</u>
Total	1,647	9,579	\$122,117,865	\$912,752,000

The results of this analysis indicate the combined uplift in unit and house median values (\$122,117,865 + \$912,752,000) would exceed \$1 billion, assuming the barrage was in place and median values had reached a stabilised value. This theoretical estimate must be tempered by the following assumptions;

- Residents would have the ability and willingness to pay the resulting increases in residential rents and purchase prices.
- Units and houses with median values which exceed Legana's benchmark values, such as Launceston's, are not included in the analysis.
- The value premiums for units and houses above Legana's benchmark values are not considered in this analysis.

4.3 Commercial values

Unimproved commercial land values within 500 metre of Launceston's riverfront were compared with similarly located commercial land in Hobart to estimate the value uplift of the barrage on commercial land in Launceston. Net median land values for the period 2015 to July 2017 were acquired from RPData for these locations. Drawing upon the cases studies and the advice from local property experts, it is assumed that commercial land values would increase once the tidal estuary is replaced by a lake due to the following;

- More apartment, commercial, retail and hotel development would be attracted to the river foreshore because of the improved levels of amenity and appearance of the lake.
- Maritime activities, including commercial and recreational boating, tourism and fisheries, would enjoy higher turnover, resulting in higher rents and land values.
- Water – based recreational activities would increase, creating demand for businesses and community activities.
- Flooding would be reduced.

The sales analysis found that the median unimproved value per net square metre of commercial land sold in Hobart during the period was \$2,274, based upon actual transactions. This compares with Launceston's median land values during the same period of \$378 for Invermay and \$1,697 for the Launceston CBD.

As Hobart has a larger market, a more constrained supply of easily developable commercial land, and unobstructed ocean access, it is assumed that land values in the capital would achieve higher levels than Launceston's even with the barrage is in place and value stabilised. To account for Hobart's greater appeal and to maintain conservative assumptions, Launceston's commercial land values were discounted from Hobart's, as indicated in Table 4.

Table 4 Launceston Commercial Value Uplift with Barrage (2017)

	Unimproved Median Net Land Value / m ²	Discount applied to Hobart Value (\$2,274 / m ²)	Adjusted Value (m ²)	Change in Value (m ²)	Total Area of Commercial Land (m ²)	Total value uplift
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Invermay	\$378	80% of Launceston's adjusted value	\$1,364	\$986	431,821	\$425,775,506
Launceston	\$1,697	75% of Hobart's value	\$1,705	\$8	975,157	\$7,801,256
Total						\$433,576,762

The analysis of commercial land in Launceston indicates that the barrage would increase median net land values by nearly \$434 million once values stabilised, assuming the same level of commercial development as exists today.

4.4 Value Capture Methods

In terms of value capture methods, the following mechanisms should be considered in Phase 2 of this Study;

- Selling development rights and / or density above existing zoning controls.
- Sale of government-owned land that is enhanced or made developable by the project.
- Captured through public taxation system such as land tax and stamp duty, possibly captured through sharing value uplift with surrounding landowners).

It will be necessary for TLI to work closely with State and local government authorities to develop and incorporate the right mix of value capture methods and supporting land use and development control strategies for the Project. The sooner these arrangements are made, the greater the value that can be captured and shared to help fund the Project.

The key challenge to TLI and its supporters in designing an effective and acceptable value capture program will be to demonstrate that the benefits of the Project are fairly and equitably shared with property owners and the wider community.

4.5 Key conclusions

- The uplift in median residential property values in Launceston following construction of the Project and stabilisation of values is conservatively estimated to be \$1 billion.
- The uplift in median unimproved commercial land values in the Launceston CBD within 500m of the riverfront following construction of the Project and stabilisation of values is estimated to be \$434,000.
- Given a current indicated construction cost of \$320 million, the benefits to property values from the construction greatly exceed the costs of the Project.
- The key challenge to TLI and its supporters in designing an effective and acceptable value capture program will be to demonstrate that the benefits of the Project are fairly and equitably shared with property owners and the wider community.

5.0 Grants Programs

Funding and grants from various sources can be contributors to river corridor infrastructure. Regarding the Tamar Lake project, funding sources that could potentially contribute to the Tamar Lake project are identified in Table 5.

Table 5 Possible Grants Programs for Tamar Lake

Program name	Description
Launceston City Deal	The Commonwealth Government and the Tasmanian Government have agreed to the Launceston City Deal. The City Deal commits to funding major projects and programs to unlock public and private investment in key infrastructure, support jobs and economic growth, and help improve the liveability of Launceston. The City Deal may provide opportunities for TLI to align with these projects and programs and possible submit funding applications for initiatives that would support the Project.
Building Better Regions Fund (BBRF)	<p>On 23 November 2016 the Australian Government announced the release of the program guidelines for the new Building Better Regions Fund (BBRF).</p> <p>The BBRF will invest \$297.7 million over four years in infrastructure projects and community investments to create jobs, drive economic growth and build stronger regional communities into the future.</p> <p>http://investment.infrastructure.gov.au/funding/bbrf/index.aspx</p>
Community Development Grants Program	<p>The Australian Government has established the Community Development Grants Program to support needed infrastructure that promotes stable, secure and viable local and regional economies.</p> <p>http://investment.infrastructure.gov.au/funding/communitydevelopment/index.aspx</p>
Stronger Communities Program	<p>In the 2015 Budget, the Australian Government announced the Stronger Communities Program (SCP) to fund small capital projects in local communities in each of the 150 Federal Electorates.</p> <p>The SCP provided \$45 million over two funding rounds from 2015-16.</p> <p>Each Member of Parliament had responsibility to undertake community consultation to identify potential applicants and projects for consideration.</p> <p>http://investment.infrastructure.gov.au/funding/scp/index.aspx</p>
National Water Infrastructure Development Fund	<p>The National Water Infrastructure Development Fund (the fund) implements the Australian Government's commitment to start the detailed planning necessary to build or augment existing water infrastructure, including dams, pipelines or managed aquifer recharge. This will help secure the nation's water supplies and deliver regional economic development benefits for Australia, while also protecting our environment.</p> <p>The fund has two parts: the capital component (\$440 million) and the feasibility component (\$59.5 million).</p> <p>http://www.agriculture.gov.au/water/national/national-water-infrastructure-development-fund</p>
National Water Infrastructure Loan Facility	<p>Access to loans is subject to eligibility criteria, including that state and territory governments and their project partners can demonstrate that: the proposed water infrastructure is economically viable over its proposed operational life</p> <p>Water resources are managed in accordance with the principles of the National Water Initiative. Eligibility for loans is restricted to state and territory governments.</p> <p>http://www.agriculture.gov.au/water/national/nwif</p>
Blue Sky Water	Fresh water for irrigation is critical to supplying growing export markets for Australia's highest

Fund	<p>quality, highest value food and fibre crops. The Blue Sky Water Fund provides an opportunity for wholesale investors to invest directly in the ownership of Australia's water resources and derive returns from the ongoing management of this increasingly vital resource.</p> <p>http://www.blueskyfunds.com.au/blue-sky-funds/real-assets/water-entitlements/</p>
The Nature Conservancy & its associated global water programs	<p>The Nature Conservancy has been designing and implementing strategies to protect Earth's fresh waters.</p> <p>https://www.nature.org/ourinitiatives/habitats/riverslakes/water-funds-investing-in-nature-and-clean-water-1.xml</p>
Australia Environmental grants	<p>Since this project also has environmental element it may also qualify for the Australia Environmental grants.</p> <p>http://www.environment.gov.au/about-us/grants-funding</p>
Drought and rural assistance	<p>To help farmers and primary producers face an increasingly variable climate. Prepare for and manage the effects of drought and other challenges.</p> <p>http://www.agriculture.gov.au/ag-farm-food/drought</p>
Tasmanian Jobs and Growth Package	<p>\$106.0 million Tasmanian Jobs and Growth Package is an initiative which complements the Australian Government's Economic Growth Plan for Tasmania- a package of measures aimed at stimulating Tasmania's economy by supporting growth and employment. Funding of \$89.0 million from 2013-14 to 2016-17, administered by the Department of Infrastructure and Regional Development, is being provided for over 30 projects which support the economic development of Tasmania. Additional projects of the Package are being delivered by other departments including the Department of Industry.</p> <p>The Tasmanian Jobs and Growth Package is not a competitive grants program. Only projects which have been identified by the Australian Government will be considered for funding under the Tasmanian Jobs and Growth Package.</p> <p>http://investment.infrastructure.gov.au/funding/tasmanianjobs/index.aspx</p>
Tasmania Community Fund	<p>The Tasmanian Community Fund was established in 1999 to provide grants to not-for-profit organisations.</p> <p>Provide grants to community organisations that make a difference by improving the social, environmental and economic wellbeing of the Tasmanian community.</p> <p>http://www.tascomfund.org/about_us/about_the_fund</p>

Source: various sources with links provided.

6.0 Conclusion & Recommendations

6.1 Conclusions

Study Context

- Previous research by TLI has examined the feasibility of transforming 60 kilometres of the River into a freshwater lake from technical, economic and environmental perspectives. The preliminary indications from these studies are that the Project would have a net positive impact on the Region.
- The local housing market is affordable and would attract new residents seeking housing, second homes or retirement living. Land use planning studies show the potential for the key locations in the urban growth corridor along the river to be activated and upgraded.
- Should the Project proceed, conditions for economic growth from agriculture, tourism, recreation and housing would be favourable, such as a low cost of living, competitive wages and available workforce.
- The recently initiated Launceston City Deal between the Commonwealth and Tasmanian governments will provide a series of projects and programs that can be leveraged to support the Tamar Lake Project. There is the potential for programs associated with the City Deal to contribute directly and indirectly to Project, such as;
 - Federal and State government grants
 - Complementary land use planning and zoning programs
 - Economic development strategies
 - Environmental and estuarine management

Case Studies

- Each of the case studies began as either business-led or citizens' initiatives, and evolved into publicly funded and managed projects with citizens' advisory boards. The citizens' advisory boards have provided a means for project initiators to continue to positively influence their projects as management and funding responsibilities evolved over time. TMI should anticipate this evolution and position itself as the key influencer for the Project.
- Local and state government agencies involved in land use planning, natural resource management, the environment and economic development should be brought into the Project as early as practical. Supportive land use and infrastructure investment plans, value capture funding mechanisms, and funding and financing options require strategic positioning and long lead times to be effective, so early actions by TLI to align the Project with supportive public and private programs and initiatives is encouraged.
- Early identification and protection of key public sites and corridors is important to limit speculative activity that would make future programs supporting the Project more difficult and expensive. For example, an important early action should be to assess key corridors and strategic sites within the Study Areas needed in the future by the Project for access, amenities, supporting infrastructure and complementary activities.

Funding opportunities

- The uplift in median residential property values in Launceston following construction of the Project and stabilisation of values is conservatively estimated to be \$1 billion.
- The uplift in median unimproved commercial land values in the Launceston CBD within 500m of the riverfront following construction of the Project and stabilisation of values is estimated to be \$434,000.
- Given a current indicated construction cost of \$320 million, the benefits to property values from the construction greatly exceed the costs of the Project.

- The key challenge to TLI and its supporters in designing an effective and acceptable value capture program will be to demonstrate that the benefits of the Project are fairly and equitably shared with property owners and the wider community.

6.2 Recommendations

It is recommended that TLI proceed with the Phase 2 Study to;

- More accurately estimate the amount and extent of property value uplift arising from the Project.
- Estimate tax revenue increases contributed by the Project to demonstrate its benefits to Tasmanian and local government agencies.
- Work with State and local government agencies to develop the most appropriate funding arrangements to create and capture value to help fund the Project.
- Work actively and promptly to align the Project with the recently negotiated Launceston City Deal.

A. Appendix A

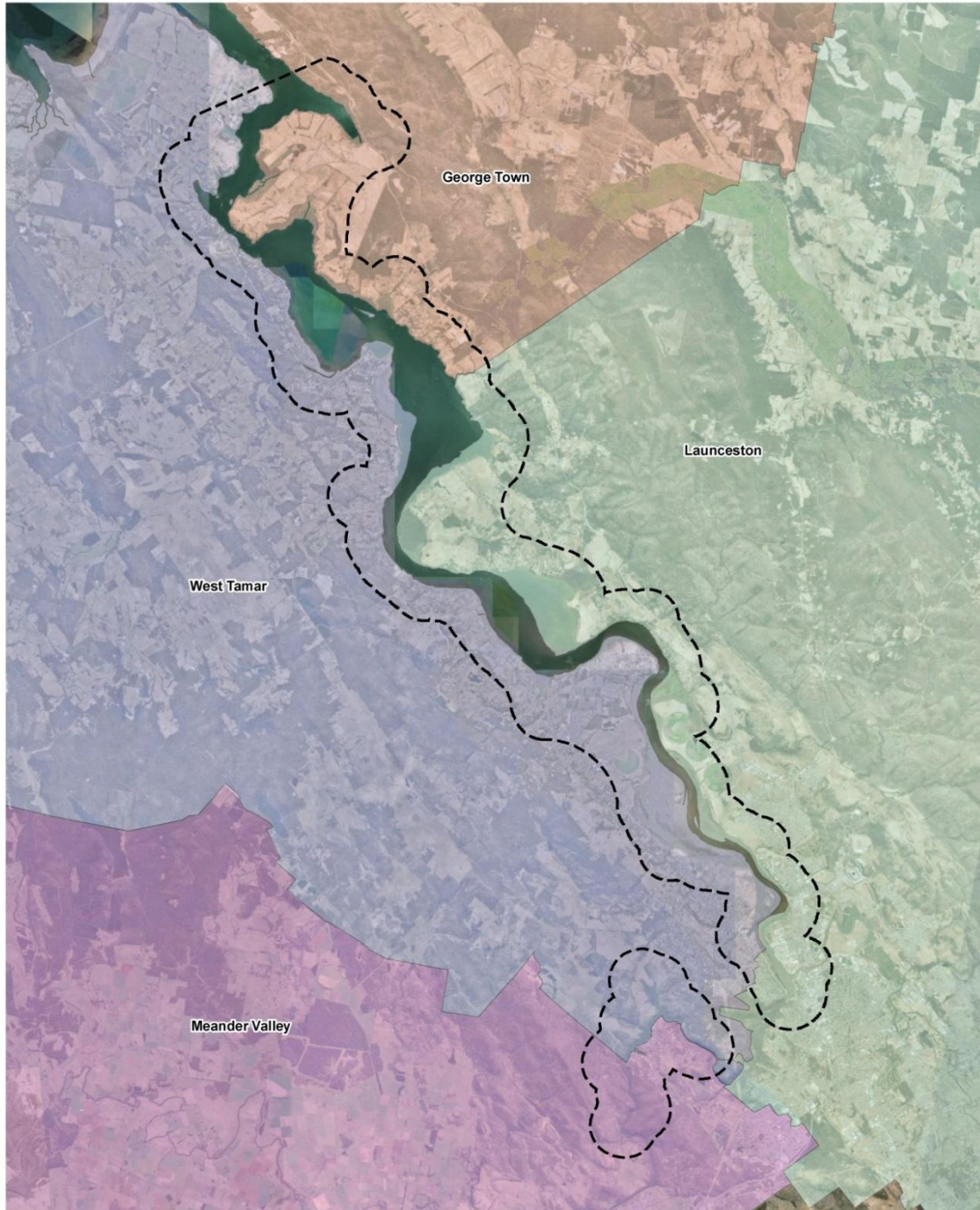
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TAMAR LAKE - COUNCIL BOUNDARIES

- KEY**
- George Town
 - Launceston
 - Meander Valley
 - West Tamar
 - Investigation Area

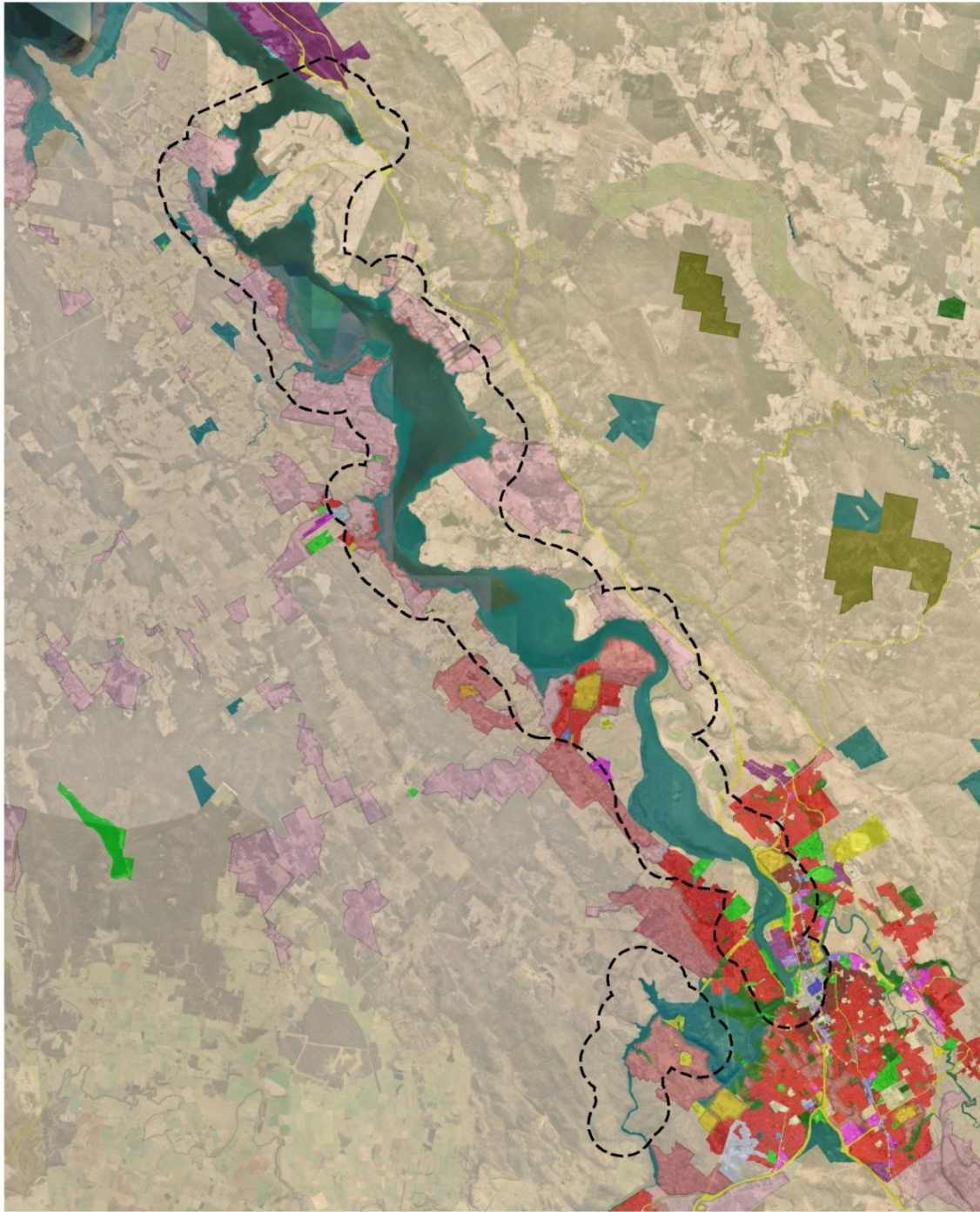
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Figure 6 Council Boundaries

Source: George Town, Launceston, Meander Valley and West Tamar Councils (2017)



TAMAR LAKE - EXISTING ZONING

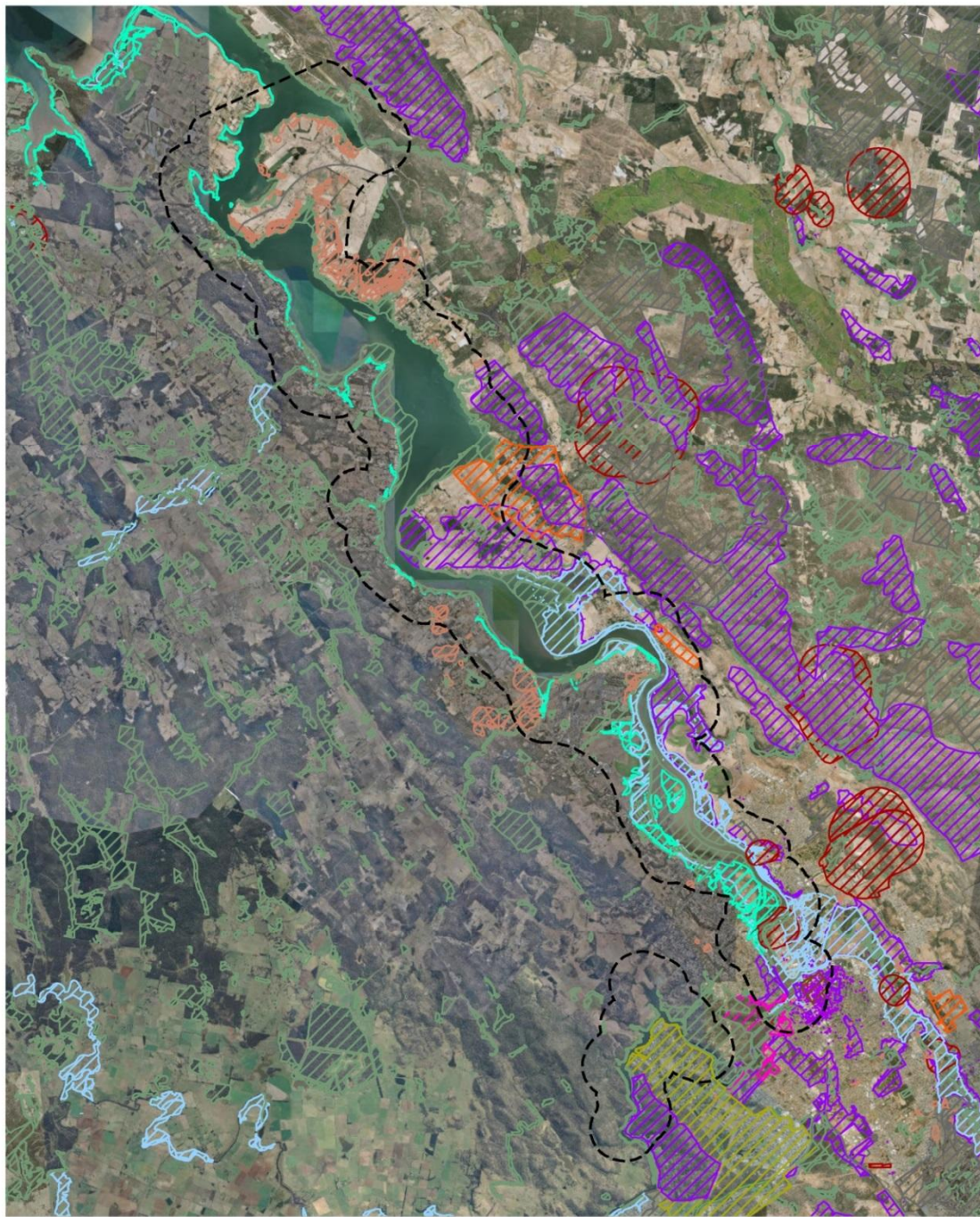
KEY

- | | | | |
|------------------------------|------------------------|-------------------------|--------------------------------|
| Investigation Area | 15.0 Urban Mixed Use | 21.0 General Business | 27.0 Significant Agricultural |
| 10.0 General Residential | 16.0 Village | 22.0 Central Business | 28.0 Utilities |
| 11.0 Inner Residential | 17.0 Community Purpose | 23.0 Commercial | 29.0 Environmental Mangement |
| 12.0 Low Density Residential | 18.0 Recreation | 24.0 Light Industrial | 30.0 Major Tourism |
| 13.0 Rural Living | 19.0 Open Space | 25.0 General Industrial | 31.0 Port and Marine |
| 14.0 Environmental Living | 20.0 Local Business | 26.0 Rural Resource | 32.0 - 39.0 Particular Purpose |



Figure 7 Zoning Map

Source: Interim Planning Schemes for West Tamar, Meander Valley, Launceston City and George Town Councils (2013)



TAMAR LAKE - EXISTING ZONING

KEY

- | | | |
|--------------------------------|--------------------------------|----------------------------------|
| Investigation Area | Coastal Inundation Hazard Area | Prime View Points |
| ANEF contours | Development Plan Code | Priority Habitat |
| Buffer area | Flood Risk Area | Salinity Risk |
| CBD Parking Exemption Area | Heritage Places | Scenic Landscape/Management Area |
| Cataract Gorge Management Unit | Landslide Hazard Area | Scenic Road/Corridor |
| | Specific Area Plan | |

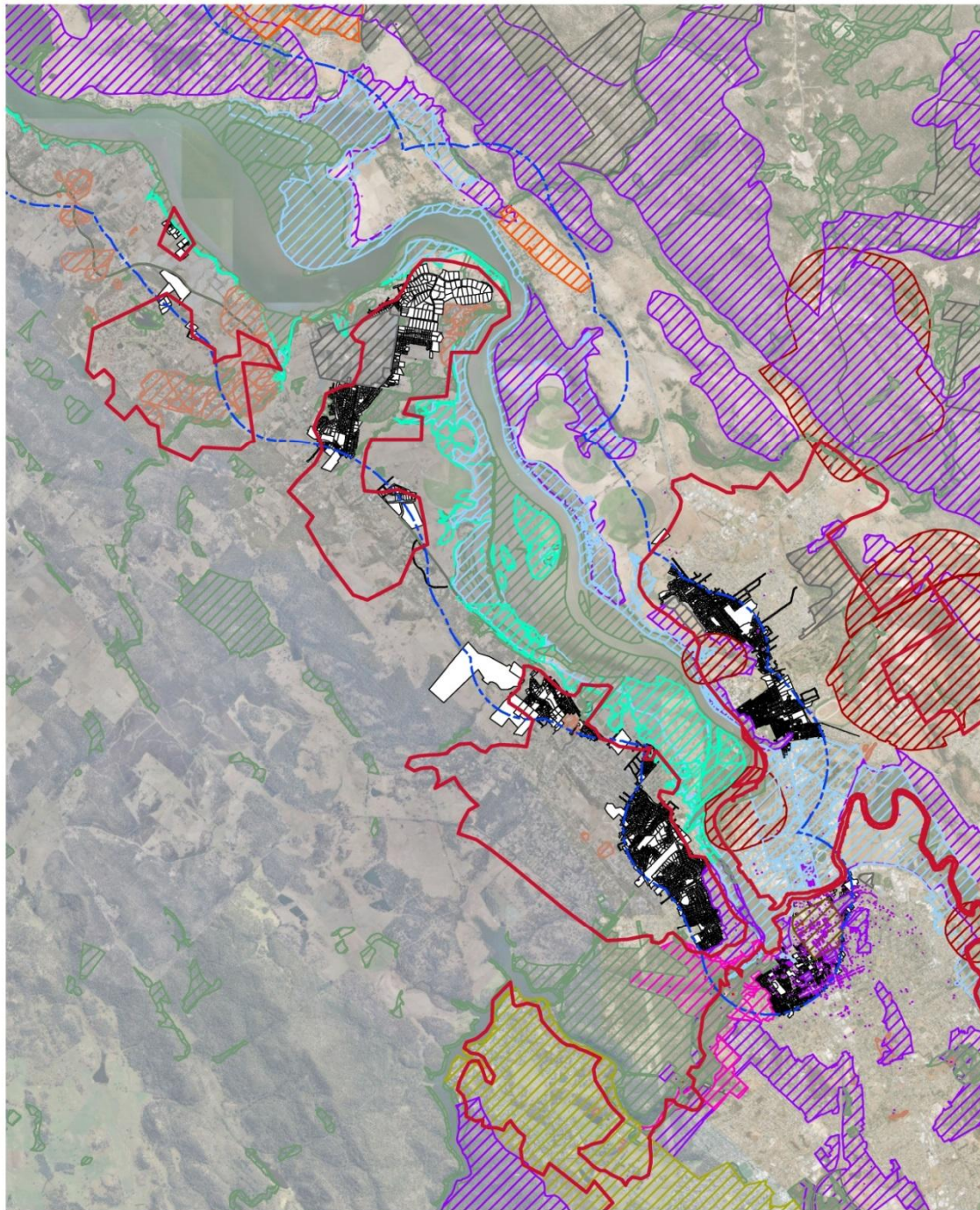
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Figure 8 Overlays Map

Source: Interim Planning Schemes for West Tamar, Meander Valley, Launceston City and George Town Councils (2013)



TAMAR LAKE - NON-CONSTRAINED LAND

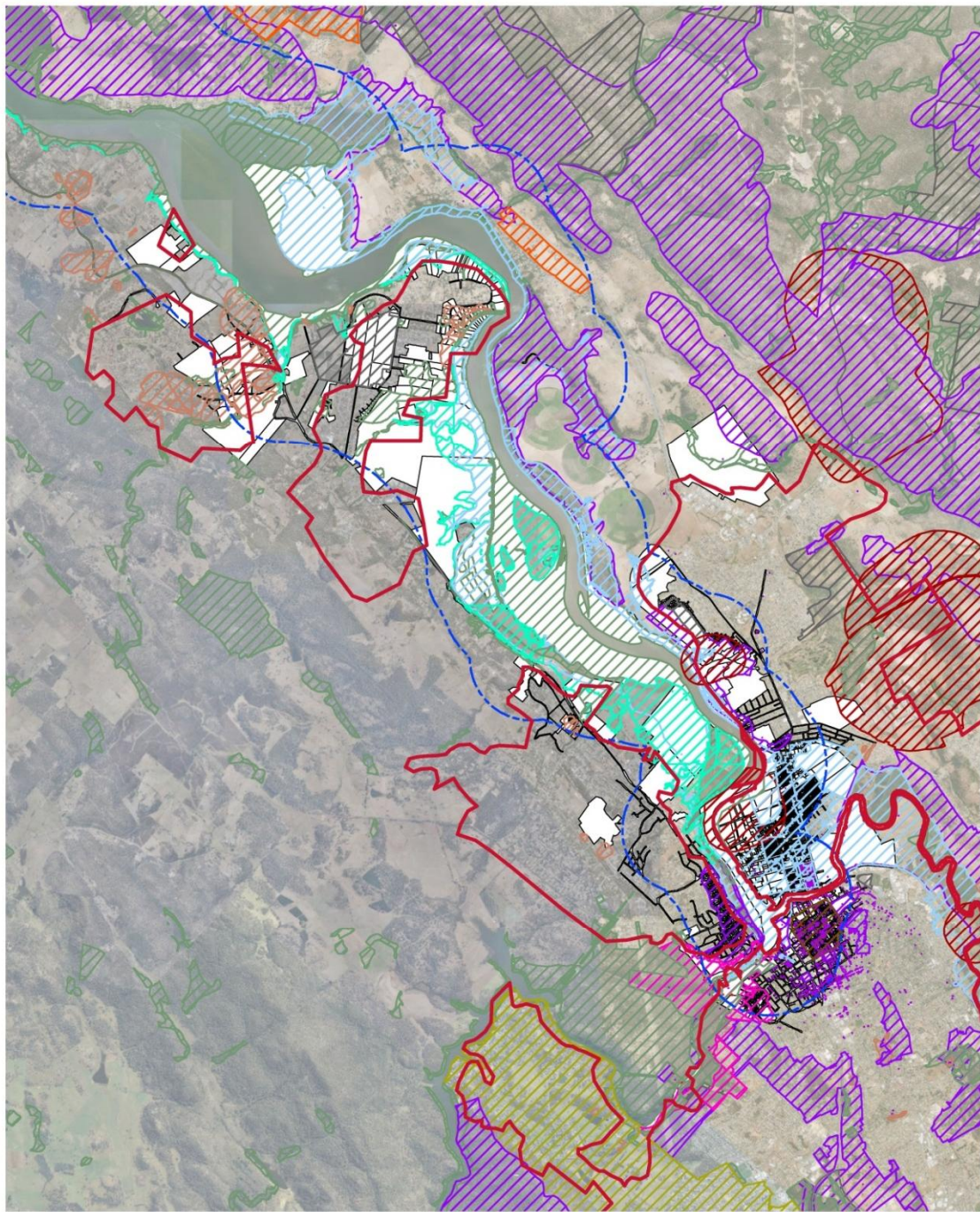
KEY		
Urban Growth Area Boundary	Coastal Inundation Hazard Area	Prime View Points
1km buffer from shoreline	Development Plan Code	Priority Habitat
Buffer area	Flood Risk Area	Salinity Risk
CBD Parking Exemption Area	Heritage Places	Scenic Landscape/Management Area
Cataract Gorge Management Unit	Landslide Hazard Area	Scenic Road/Corridor
		Specific Area Plan

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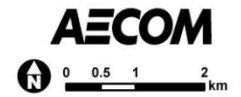
Figure 9 Unconstrained Land

Source: AECOM (2017)



TAMAR LAKE - CONSTRAINED LAND

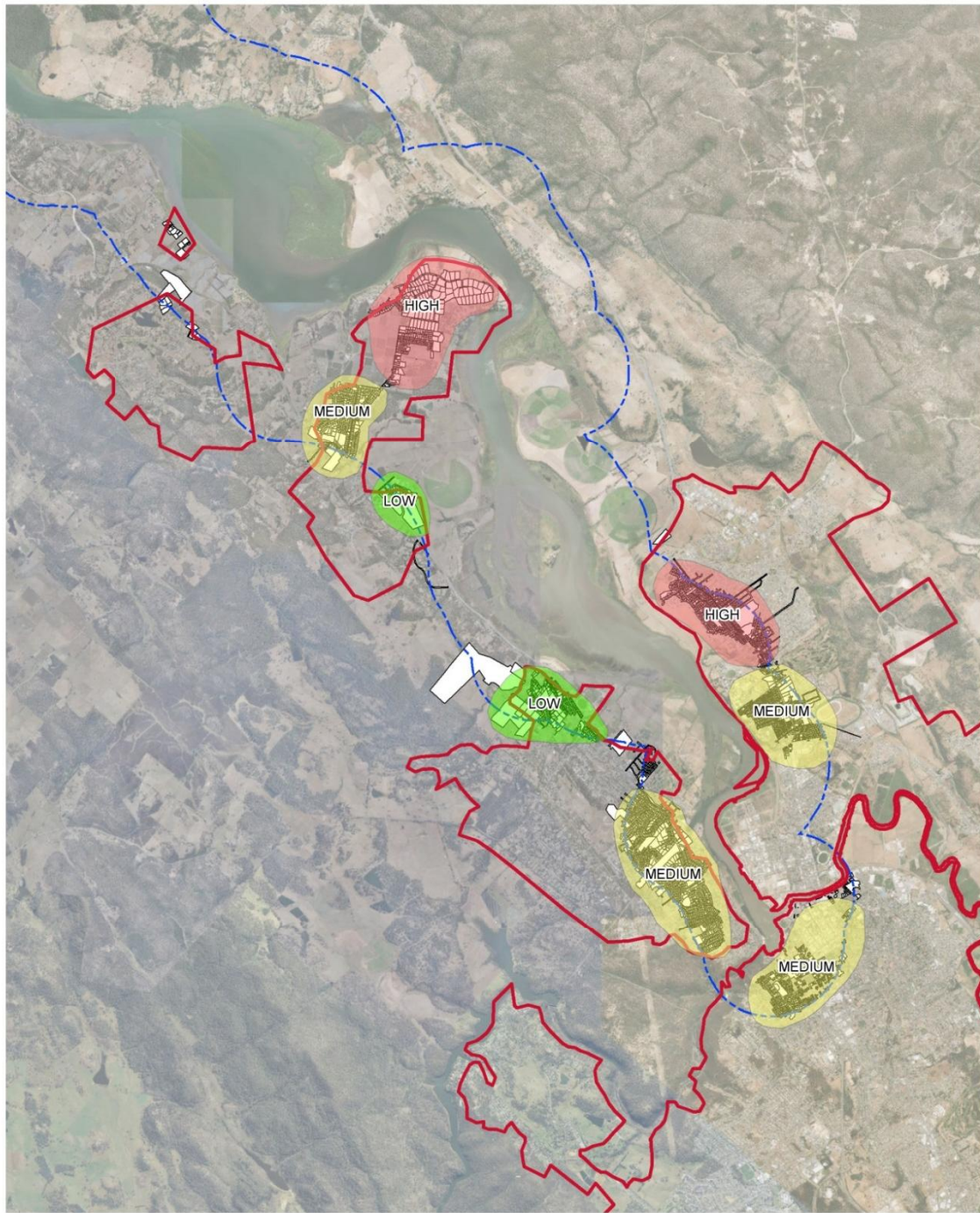
- KEY**
- | | | |
|--------------------------------|--------------------------------|----------------------------------|
| Urban Growth Area Boundary | Coastal Inundation Hazard Area | Prime View Points |
| 1km buffer from shoreline | Development Plan Code | Priority Habitat |
| Buffer area | Flood Risk Area | Salinity Risk |
| CBD Parking Exemption Area | Heritage Places | Scenic Landscape/Management Area |
| Cataract Gorge Management Unit | Landslide Hazard Area | Scenic Road/Corridor |
| | | Specific Area Plan |



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Figure 10 Constrained Land

Source: AECOM (2017)



TAMAR LAKE - OPPORTUNITY AREAS

- KEY**
- High
 - Medium
 - Low
 - Urban Growth Area Boundary
 - 1km buffer from shoreline

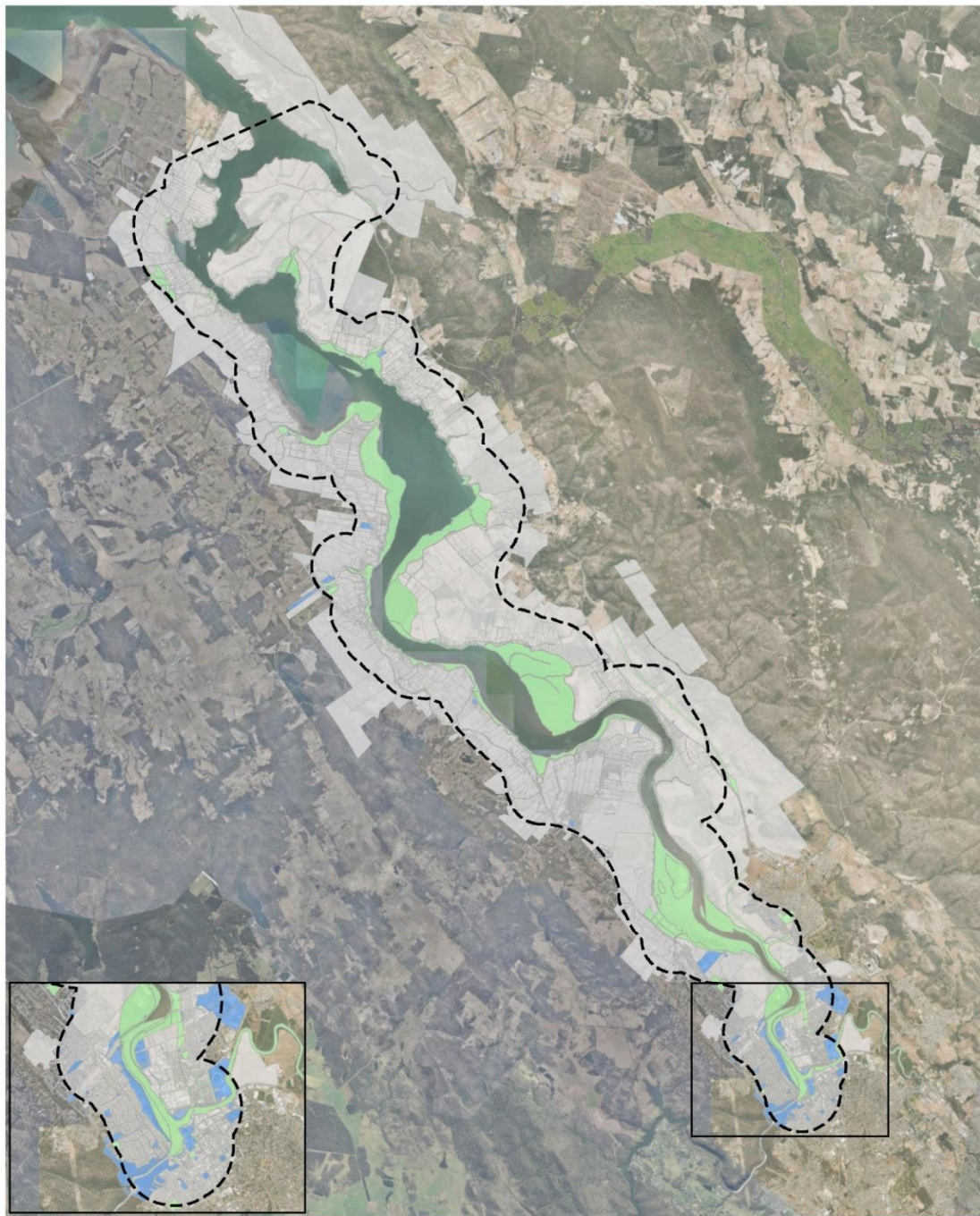
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Figure 11 Opportunity Sites

Source: AECOM (2017)



TAMAR LAKE - TENURE TYPES

- KEY**
- Council
 - Crown Land
 - Other tenure types
 - Investigation Area

AECOM

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Figure 12 Land Tenure Types

Source: Tas Cadastral System (2017)



Figure 13 Water Body and Salt Pan in the study area

Source: TAS map (2017). http://maps.thelist.tas.gov.au/listmap/app/list/map?layout-options=LAYER_LIST_OPEN&cpoint=148.20,-42.00,10000&srs=EPSG:4283&bmlayer=3&layers=851,852,853,854,332

Table 6 **Population Highlights**

	Launceston City Council	West Tamar Council	Regional Tasmania	Tasmania	Australia
Median age	43	38	41	40	37
Median weekly household income	\$1,023	\$886	\$831	\$930	\$1,230
Couples with children	30%	24%	26%	27%	31%
Older couples without children	12%	9%	11%	10%	9%
Medium and high density housing	6%	18%	10%	13%	25%
Households with a mortgage	36%	31%	32%	33%	33%
Median weekly rent	\$219	\$203	\$182	\$203	\$289
Households renting	18%	32%	25%	26%	29%
Non-English speaking backgrounds	5%	4%	4%	5%	16%
University attendance	3%	2%	2%	3%	4%
Bachelor or higher degree	15%	11%	11%	15%	19%
Vocational	22%	21%	21%	20%	18%
Unemployment	5.5%	6.9%	6.9%	6.4%	5.6%
SEIFA index of disadvantage 2011	1010	945	945	961	1002

Source: Profile ID (2017)

