pitt&sherry

UTAS Inveresk Pedestrian Bridge

Report to support a development application

Prepared for

University of Tasmania

Client representative

Sam Tucker

Date

20 August 2019

Rev 01

Table of Contents

List of figures

Appendices

Appendix A: Plans of the proposed development

Appendix B: Title documents

Appendix C: Ecological Assessment Report

Appendix D: Phase 1 Environmental Site Assessment

Appendix E: Construction Environmental Management Plan

Appendix F: Hydraulic Report

Prepared by: Leigh Knight		**Date: 27 June 2019**
Reviewed by: Ian Abernethy		**Date: 27 June 2019**
Authorised by: Ben Hart		**Date: 27 June 2019**

Revision History

Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
A	Draft for client	L Knight	I Abernethy	B Hart	21/06/2019
00	Final for lodgement	L Knight	I Abernethy	B Hart	27/06/2019
01	Revised for RFI	L Knight	I Abernethy	B Hart	20/08/2019

1. Introduction

As part of the University of Tasmania (UTAS) Northern Transformation Program, university functions from the Newnham campus will be relocated to Inveresk and land on the corner of Boland and Willis St, Launceston. As part of the development of these sites, a pedestrian and cyclist bridge over the North Esk River is proposed to connect the new facilities. This bridge will extend from the existing viewing platform on the levee near the Inveresk student accommodation building, south across the river to a point on the levee opposite the Boland St frontage of the Willis St UTAS site. The bridge will be constructed by UTAS and will become a City of Launceston asset.

This report supports a development application for the proposed bridge. A Phase 1 Environmental Site Assessment (ESA), for potentially contaminated lands, and an ecological assessment have been prepared to accompany the application. A Reserve Activity Assessment (RAA) has been prepared for those elements of the bridge within the North Esk River and managed by Tasmanian Parks and Wildlife. The consent of the Crown Lands Service has been obtained for works within areas managed by the Department of Primary Industries, Parks, Water and Environment (DPIPWE). The accesses to the bridge involve the levees on either side of the river and these have been designed in consultation with Council to ensure no detrimental impacts on the levee will occur.

2. Proposal

Plans of the proposed works are included at Appendix A. An aerial image showing the location of the proposed works is provided at Figure 2.

At the northern end of the bridge, a short link span, approximately 3 m in length, will be extended between the new bridge and the existing viewing platform on the northern bank. This viewing platform has existing graded access parallel to the levee to the university grounds to the north. A set of stairs, approximately 3.5 m in height (plus hand rail), will be constructed on the northern side of the levee from the existing viewing platform to provide alternative access to the existing pathways. No additional load will be placed upon the existing viewing platform from the new structure. The northern abutment will include piers set into the top of the river bank.

The bridge will extend approximately 106 m across the river at a grade of 1:33 and will not incorporate any landings. It will rise approximately 3.24 m in height from north to south and has been designed to tie in with a future bridge span across Boland St and a second floor level access to the future building on the Willis St site. The bridge deck will be 4 m wide between handrails and will have 1.4 m high bicycle safety rails. This increased barrier height is consistent with standard requirements for cyclist safety. A 900 mm high pedestrian hand rail will be provided as shown in Figure 1.

Figure 1 Artists impression of the deck of the bridge showing hand rail and bicycle guard rail

Two piers will be required to support the bridge. These will be located 25-34 m from each of the abutments. The northern most pier (Pier 1) will be located well within the river channel while the southern pier (Pier 2) will be located near the river edge. The bridge will have a typical height of 11.9 m from the river bed to the top of the rail at Pier 1 and a height of approximately 8.3m m at Pier 2.

The southern abutment will be located on the southern edge of the levee, on the southern bank of the river. No works are permitted on the northern face of the levee wall as scouring during flood events could undermine the stability of the levee and the bridge. The bridge will extend over the existing path that sits on top of the levee and will terminate at a landing constructed adjacent the southern base of the levee. The bridge will have a height from top of rail of 7.6 m above the Boland St pavement and will provide a clearance of 2.7 m between the path and the bridge superstructure below the bridge deck. A 1:14 grade ramp, 3.0 m in width, will be constructed at the southern end of the bridge to provide graded access to the levee path. This will extend above the riverbank and levee wall to a point where the levels are equal. The ramp will be supported by a series of piers located on the wide gently sloped riverbank area. The ramp will be curved toward the river bank and will cover a distance of approximately 70 m. It will include 1.2 m long landings every 9 m due to the grade. A set of stairs, tapering from 9 m on the landing down to 6 m at ground level, will be constructed on the eastern side of the bridge to provide an alternative access to the pathway on the levee. These will tie in to existing pathway on top of the levee.

To ensure no impacts on the integrity or functioning of the levee, the following design criteria have been applied:

- Prohibition of the construction of any supports within the levee on the northern side. The future ramp will be constructed outside the levee footprint.
- Only one support is allowed on the southern side of the levee, and this shall intrude no more than 1.0m from the base of the levee
- Only two support locations are permitted on top of the levee, and these will be limited to smaller loads from the staircase supports and the final span of the ramp supports
- No load is allowed on the levee at any location during construction, including vehicle movements or storage of materials.
- No damage to existing vegetation on the levee is allowed
- All areas of the levee footprint with a spanning structure above and inadequate clearance to mow shall be made from low maintenance alternative surfacing.

3. Title details

The site of the proposed works includes the bed and banks of the North Esk River with the bridge ends located on the levee on either side. Figure 2 shows the location of the proposed works.

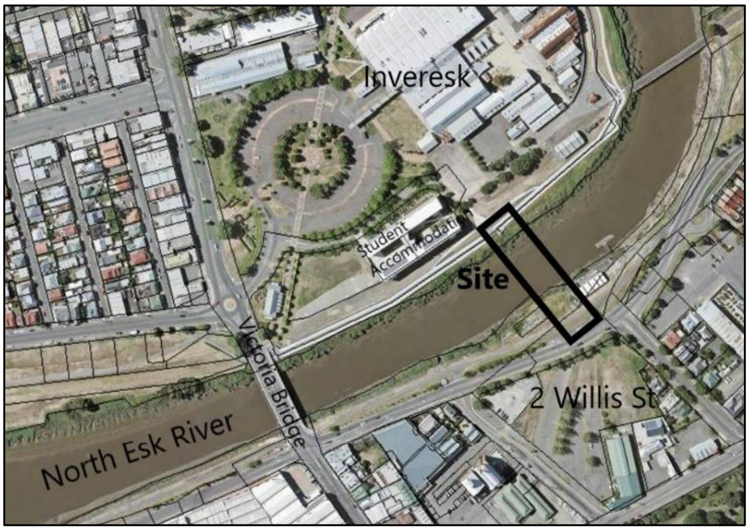

Figure 2: Aerial image showing site of the proposed bridge (Source: ListMap).

Copies of the available titles are provided at Appendix B. The proposed bridge also involves works on the bed and banks of the river. All affected land parcels are identified in the table below. Figure 3 identifies the authority responsible for each land parcel within the project area.

Component	Address	Property ID	Title Reference	Authority
Access for works and laydown area (includes existing viewing platform)	2 Invermay Rd Invermay	3389971	174633/2	Launceston City Council
Northern abutment	Northern bank of the North Esk River	CID 1306571	Public Reserve under the Crown Lands Act 1976	DPIPWE
Pier 1	Bed of the North Esk River	CID1118112	Tamar Conservation Area – Conservation Area under the Nature Conservation Act 2002	Parks and Wildlife Service
Pier 2	Southern bank of the North Esk River	CID 1306571	Public Reserve under the Crown Lands Act 1976	DPIPWE
Southern abutment	Levee adjacent Boland St	Subdivision road	144355/1	Launceston City Council

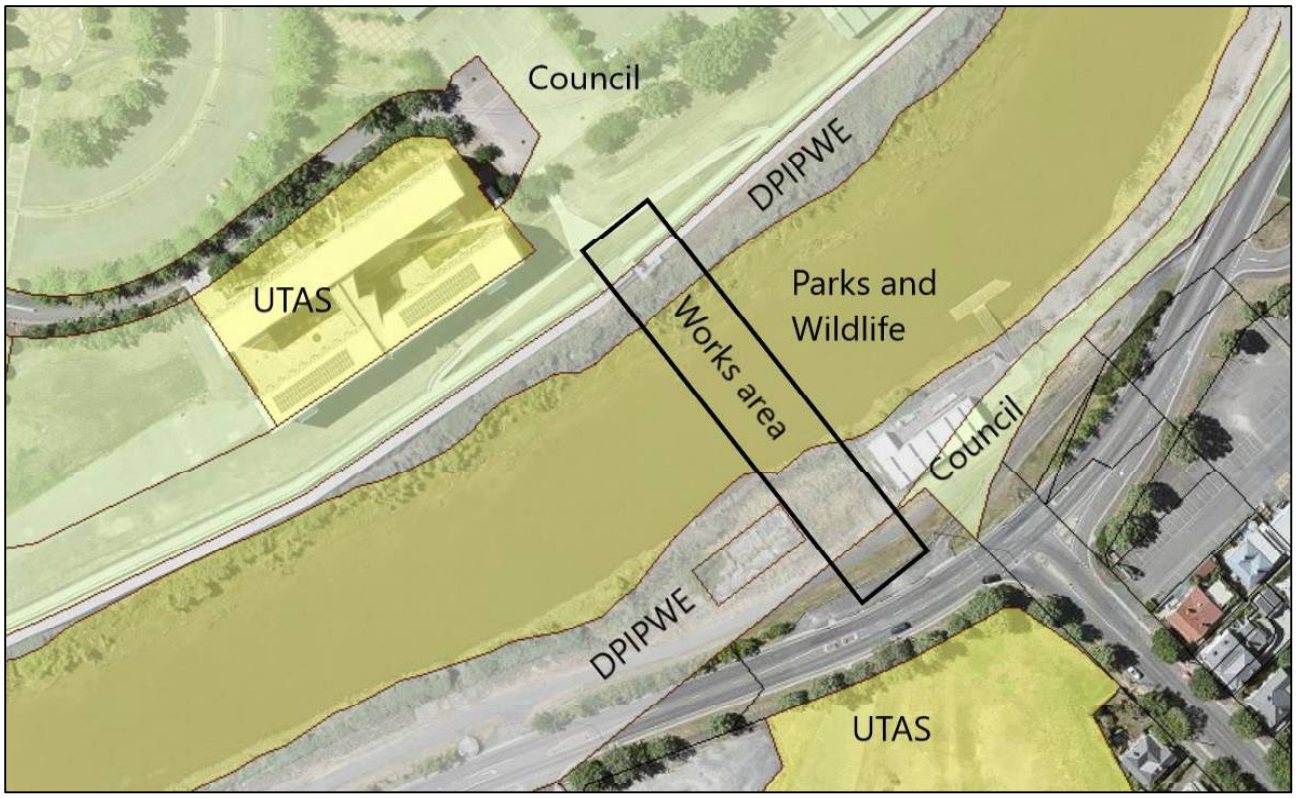

Figure 3: Relevant authorities for the subject land

4. Site Context

4.1 Land Use

The northern approach will extend from the area just north of the viewing platform on the levee. The adjoining Inveresk site is currently used for community and university purposes and was previously used as a railway workshop. No uses currently occur within the river bank areas. A concrete slab is located on the southern shore close to the proposed bridge. It is understood that the slab relates to a demolished building, which was used by Scotch Oakburn College Rowing Club before they relocated to another building approximately 20 m to the east. The southern abutment will be located between Boland St and the levee in an area currently occupied by the side road access to the rowing shed.

4.2 Ecological values

The bridge location spans the North Esk River and includes the bed and banks of the river. An ecological assessment was undertaken covering the land component of the site and an area 100 m either side. A copy of this report is provided at Appendix C. The banks of the river have been highly modified and are dominated by introduced species, with 24 of the 29 species of flora recorded being introduced. The vegetation on wither bank are shown in Figure 4.

The vegetation within the site of the proposed works and area either side includes:

- Trees: Community dominated by the presence of the introduced scattered occurrences of Crack Willow (*Salix alba X fragilis*) occurring as a low tree to 3 m in height.
- Shrubs: Shrub species dominated by introduced New Zealand flax (*Phormium tenax*), wild radish (*Raphanus raphanistrum*), and a dense lower cover of the native common reed (*Phragmities australis*) to a height of 1.5 m.

Groundcovers: Various ground covers and twining plants were identified throughout the Study Area. This layer is dominated by introduced species including morning glory (*Calystegia silvatica*), bindweed (*Convolvulus arvensis*), and blackberry (*Rubus fruticosus*) and occasional grass species including rough poa tussock (*Poa labillardierei*) and slender oat (*Avena barbata*) and herbs such as dandelion (*Taraxacum officinale*) to a height of 0.5 m.

This is consistent with the TASVEG mapping. No threatened vegetation communities are present and no threatened flora species were identified during the survey. The disturbed nature of the site offers little in terms of habitat for fauna species with eight species observed, seven of these being birds. None are listed as threatened under state or federal legislation. One is listed as marine under the Federal *Environment Protection and Biodiversity Conservation Act 1999* however this has no implications outside a Commonwealth marine area.

Paterson's Curse (*Echium plantagineum*), Blackberry (*Rubus fruticosus*) and Crack Willow (Sa*lix alba X fragilis*) are identified as Declared Weeds under the Weed Management Act and are also identified as Weeds of National Significance. Declared weeds are required to be managed by the landowner however in this instance that is not the proponent.

Figure 4 Vegetation at the northern take off point (left) and Pier 2 location (right)

4.3 Soils

Mapping produced by Mineral Resources Tasmania indicates the following geological units at the sites of the works:

- The northern shore and to the east of the site on the southern shore is defined as Quaternary estuarine deposits of clayey silty, sand and subordinate gravel, supra-estuarine swamps and laterally derived alluvial deposits, unmapped man-made deposits including silt dredgings; in environments inferred to lie above frequent tidal influence (Qhiv); and
- The southern shore is defined as undifferentiated Quaternary sediments (Q).

The majority of the land impacted by the proposed works is mapped as having a high probability of occurrence of acid sulfate soils (>70% chance of occurrence). The location of the southern abutment is located within an area identified as having a low risk.

A Phase 1 ESA (Appendix D) was completed for the sites of the proposed works. The assessment consisted of a site history review, site inspection and limited soil sampling and chemical analysis to identify potentially contaminated areas and specific contaminants of concern. The site historical review indicated no contaminating activities directly associated with the site, however contaminated soil may have been transported onto the site during the construction of the flood levees. There are no records documenting the demolition of the small building on the southern side of the river, therefore hazardous materials which may have been in the building may have been distributed in surface soils onsite . The review of historical records indicated the presence of contamination in nearby sites and activities commonly associated with contamination. The potential for disturbance of potentially contaminated soils is outlined in Section 5.6.1 of this planning report.

4.4 Heritage

2 Invermay Rd incorporates the Launceston Railway Station Complex and is permanently registered on the Tasmanian Heritage Register. The site is also identified as a Heritage Place under the Launceston Interim Planning Scheme 2015. A set of stairs adjacent the levee is proposed within the heritage site and a temporary fence will be installed to secure a lay down and storage area.

5. Planning Matters

5.1 Planning Scheme and zoning

The relevant land use document is the Launceston Interim Planning Scheme 2015 (the Planning Scheme). The stairs, viewing platform, and location of the northern abutment is zoned Particular Purpose PPZ 4 - Inveresk site. The river, where Pier 1 is located, is zoned Environmental Management. The southern abutment on the southern levee, and the location of Pier 2, is zoned Open Space. The site zoning is shown on Figure 5. The proposed bridge falls within the Utilities use class. Utilities are a Discretionary Use in each of these zones.

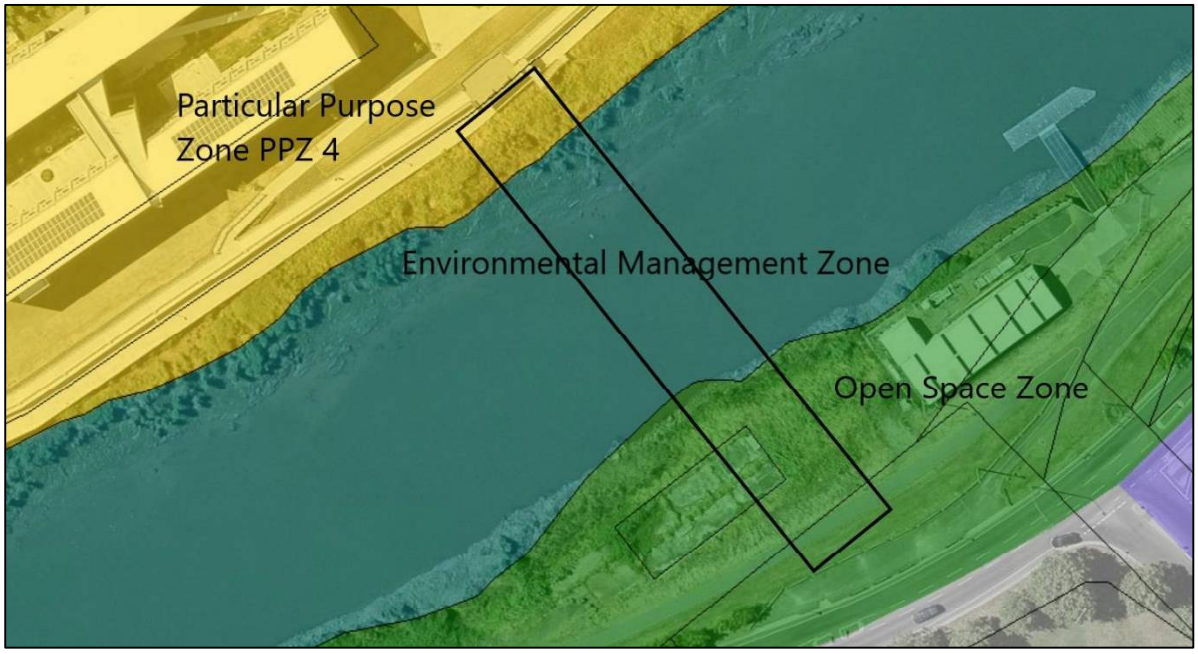

Figure 5: Zoning of the subject land (Source – ListMap)

5.2 Particular Purpose Zone PPZ 4 - Inveresk site

This zone applies to the northern access tie in, stairs and the secure area for equipment storage and materials lay down.

5.2.1 Zone Purpose

The relevant zone purpose statements are:

- 35.1.1.1 To provide for re-use and redevelopment of the zone for a range of cultural, educational, recreational and public purpose uses.
- 35.1.1.2 To provide for residential uses and developments associated with and supporting educational uses within the zone.
- 35.1.1.3 To locate use and development appropriately within the precincts of the zone.

The proposed bridge will connect the future education facilities on the southern side of the river with the Inveresk site. It will offer a safer, more appropriately located link between campuses than the current Victoria Bridge crossing and will provide a wider community benefit when events are held at the UTAS stadium. The proposal is consistent with the purpose of the zone.

5.2.2 Local Area Objectives

Figure 35.1.2 to this zone identifies the four local area precincts and is reproduced in Figure 6. The boundary of the PPZ corresponds with the levee surrounding Inveresk along this the southern boundary. The link span connects to the viewing platform which itself is located on the outside the levee, however, the other elements are within the boundary. The adjacent local area precinct in the location of the bridge is the *Residential and commercial precinct*.

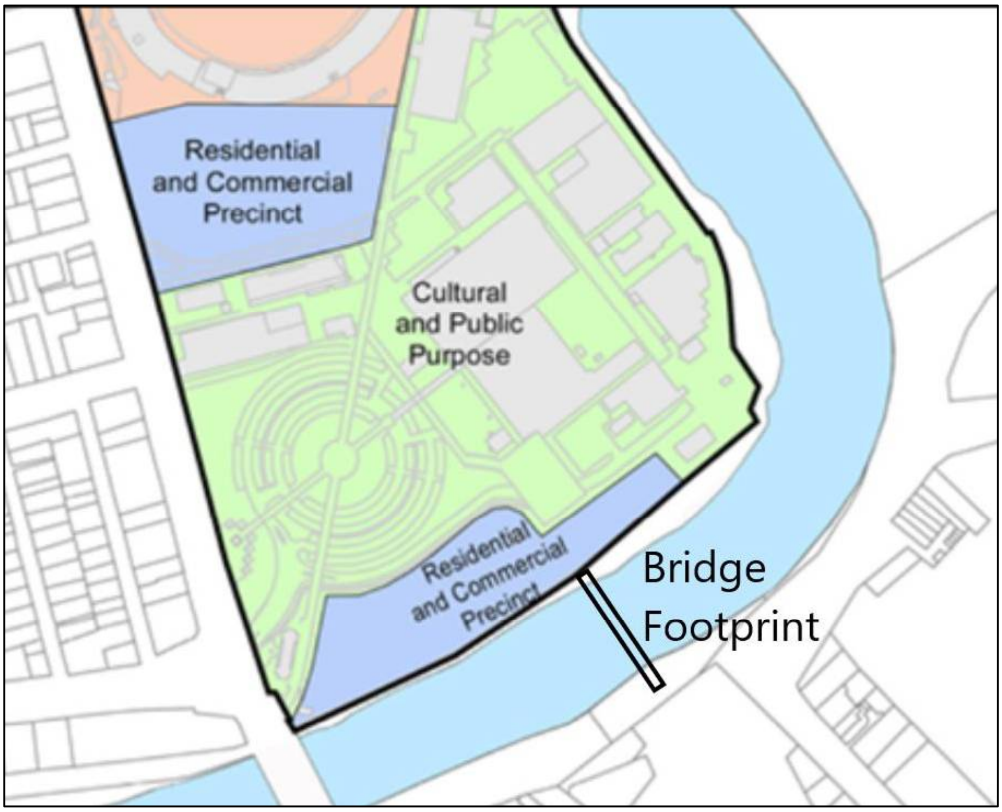

Figure 6 Figure 35.1.2 from the PPZ 4 Zone Purpose

The objectives of the Residential and commercial precinct are:

- To provide opportunities for commercial developments on the southern and central portion of the site to complement the redevelopment within the other precincts.
- To provide for the development of residential uses associated with and supporting the educational activities within the zone.

The proposed bridge is located on the periphery of this precinct and proposes no commercial or residential uses. It will however provide a crucial link for the movement of students between student accommodation and educational facilities within Inveresk and those proposed in Willis St and services within Launceston in general. The stairs will provide access to the bridge. The proposal is considered to satisfy these objectives.

There are no Desired Future Character Statements applicable to this zone.

5.2.3 Use Standards

There are no use standard applicable to the proposed use.

5.2.4 Development Standards

Clauses 35.4.2 (carparking) and 35.4.3 (active ground floors) are not relevant to the proposal. The following development standard applies to the proposed works.

35.4.1 Building height

Objective:

To ensure that development on the site is compatible with the character of the local area precinct.

Acceptable Solution or Performance Criteria	Discussion
A1 No acceptable solutions. All development relies on Performance Criteria **P1** The height of buildings must be compatible with surrounding development, having regard to: (a) consistency with the local area objectives; (b) the topography of the site; (c) the height of buildings on the site, adjoining lots and adjacent lots; (d) the bulk and form of existing and proposed buildings; (e) the apparent height when viewed from roads and public places; and (f) any overshadowing of adjoining lots or public places.	Satisfies Performance Criteria The proposed northern access tie in will be at the same level as the existing viewing platform and satisfies the objective of the standard. The temporary work area will be at ground level and will not contain any buildings as it will be used for the temporary storage of material and equipment only. The stairs will be approximately 3.5 m in height but will fall below the level of the levee and platform. The completed development will be consistent with the nature of the levee development and will be significantly lower in relief than the balance of the Inveresk precinct.

5.3 Environmental Management Zone

The bed of the North Esk River is zoned Environmental Management and the only disturbance works proposed within this zone is the driving of Pier 1 and Pier 2 which is located on the edge of the river in interface between the Environmental Management and Open Space zones. The bridge itself will occupy air space above the zone.

5.3.1 Zone Purpose

The relevant zone purpose statements are:

- 29.1.1.1 To provide for the protection, conservation and management of areas with significant ecological, scientific, cultural or aesthetic value, or with a significant likelihood of risk from a natural hazard.
- 29.1.1.2 To only allow for complementary use or development where consistent with any strategies for protection and management.
- 29.1.1.3 To provide for complementary use and development on non-reserved land.

The site of the bridge piers is within the Tamar Conservation Area. There is no conservation advice or management plan publicly available for this area. The driving of two piers is unlikely to have any impact on any species, community or other natural values of conservation significance. The river is prone to flooding however the bridge pier will not worsen the extent or impact of flooding. A bridge is considered to be a complementary use and is considered consistent with the zone purpose.

There are no Local Area Objectives or Desired Future Character Statements included in this zone.

5.3.2 Use Standards

The land is within the Tamar Conservation Area and the following use standard applies to the proposed use.

29.3.1 Reserved land

Objective:

To ensure that use recognises and reflects relevant values of reserved land.

Acceptable Solution or Performance Criteria	Discussion
A1 Use is in accordance with: (a) a Reserve Activities Assessment approved under the National Parks and Reserves Management Act 2002, or Nature Conservation Act 2002; or (b) the approval of the Director General of Lands under the Crown Lands Act 1976.	Complies with A1 A Reserve Activity Assessment has been completed for the proposed bridge and approved by Tasmanian Parks and Wildlife Service.

5.3.3 Development Standards

Development standards 29.4.1 to 29.4.4 apply to the proposed works.

29.4.1 Development area

Objective:

To ensure the development area:

(a) responds to the values of the site; and

(b) minimises disturbance of the site.

Acceptable Solution or Performance Criteria	Discussion
A1 Development area must not; (a) be greater than 20%; or (b) be in accordance with a Reserve Activity Assessment approval granted under the National Parks and Reserves Management Act 2002 or Nature Conservation Act 2002; or (c) be in accordance with an approval of the Director General of Lands under the Crown Lands Act 1976.	Complies The footprint occupied by the piers is less than 20% of the area of the Conservation Area and a Reserve Activity Assessment has been completed for the proposed bridge and approved by Tasmanian Parks and Wildlife Service.

29.4.2 Building height, setback and siting

To ensure that the design and siting of buildings responds appropriately to the values of the site.

Acceptable Solution or Performance Criteria	Discussion
A1 Building height must: (a) be no greater than 6m; or	Complies The bridge is 11.942 m in height at the location of Pier 1. This is measured from the river bed as confirmed by

29.4.2 Building height, setback and siting

(b) be in accordance with a Reserve Activity Assessment approval granted under the National Parks and Reserves Management Act 2002 or Nature Conservation Act 2002; or (c) be in accordance with an approval of the Director General of Lands under the Crown Lands Act 1976.	bathymetric survey. The height of the visible portion of the bridge, measured from the highest astronomical tide level to the tallest point on the bridge in this zone (just north of Pier 2) is 4.4 m. The height of the bridge is in accordance with the approved in the Reserve Activity Assessment and the proposal therefor complies with A1.

29.4.3 Exterior finish

Objective:

To facilitate unobtrusive development.

Acceptable Solution or Performance Criteria	**Discussion**
A1 The exterior finish is: (a) a non-reflective material coloured in dark natural tones of grey, green, brown or black; or (b) in accordance with a Reserve Activity Assessment approval granted under the National Parks and Reserves Management Act 2002 or Nature Conservation Act 2002; or (c) in accordance with an approval of the Director General of Lands under the Crown Lands Act 1976.	Complies The finish of the bridge is in accordance with the approved in the Reserve Activity Assessment and the proposal therefor complies with A1.

29.4.4 Landscaping and vegetation management

Objective:

To ensure that the site contributes to the ecological, scientific, cultural or aesthetic values of the surrounding area.

Acceptable Solution or Performance Criteria	**Discussion**
A1 Development is; (a) for a permitted or no permit required use; or (b) is in accordance with a Reserve Activity Assessment approved under the National Parks and Reserves Management Act 2002 or Nature Conservation Act 2002; or (c) in accordance with an approval of the Director General of Lands under the Crown Lands Act 1976.	Complies The proposed bridge is in accordance with the approved Reserve Activity Assessment and the proposal therefor complies with A1.

5.4 Open Space Zone

The southern abutment, stairs and ramp and part of the bridge deck are located within this zone.

5.4.1 Zone Purpose

The relevant zone purpose statements are:

- 19.1.1.1 To provide land for open space purposes including for passive recreation and natural or landscape amenity.

- 19.1.1.2 To provide for use and development that supports the use of the land for open space purposes or for other compatible uses.

The bridge will offer a safe, more appropriately located link between future UTAS facilities than the current Victoria Bridge crossing and will provide a wider community benefit when events are held at the UTAS stadium. The bridge will accommodate the many pedestrians and cyclist who currently use the path on top of the levee and provide an easier route for crossing the river. The proposal is consistent with the purpose of the zone.

There are no Local Area Objectives or Desired Future Character Statements included in this zone.

5.4.2 Use Standards

Clause 19.3.2 relates to mechanical plant and equipment and is not applicable. Clause 19.3.4 relates to external storage of goods and is not applicable. Clause 19.3.5 relates to commercial vehicles and is not applicable. The following use standard applies to the proposed use.

19.3.1 Hours of operation

To ensure that uses do not cause unreasonable loss of amenity to nearby sensitive uses.

Acceptable Solution or Performance Criteria	Discussion
A1 Operating hours, except for office and administrative tasks, must be between: (a) 8.00am and 10.00pm adjacent to the boundary of the General Residential, Inner Residential, Low Density Residential Urban Mixed Use and Village zones; or (b) 6.00am to midnight otherwise.	Complies Operation of the bridge will involve pedestrians and cyclist crossing the bridge. There are no adjoining residential zones and it is unlikely the bridge will be used later at night other than occasionally by individuals. Use of the bridge will generate no more noise than the current pathway and local footpaths.

19.3.3 Light spill and illumination

To ensure that light spill and levels of illumination from external lighting does not cause unreasonable loss of amenity to sensitive uses.

Acceptable Solution or Performance Criteria	Discussion
A1 The use must: (a) not include permanent, fixed floodlighting where the zone adjoins the boundary of the General Residential, Inner Residential, Low Density Residential, Urban Mixed Use and Village zones; and (b) contain direct light from external light sources within the boundaries of the site.	Complies The site does not adjoin any land within the General Residential, Inner Residential, Low Density Residential, Urban Mixed Use and Village zones. There will be illumination on the bridge for pedestrian safety and for landscaping effect at night which will be contained within the boundaries of the site.

19.3.6 Open space character

To ensure that uses are of an appropriate scale for the zone.

Acceptable Solution or Performance Criteria	Discussion
A1	Complies

If for: (a) no permit required uses; or (b) a combined gross floor area not exceeding 250m^2 over the site.	The southern abutment, stairs and ramp will occupy less than 250 m^2 of site area.

5.4.3 Development Standards

The following development standards apply to Utilities.

19.4.1 Building height, setback and siting

Objective:

To ensure that building bulk and form, and siting:

(a) is compatible with the character of the surrounding area;

(b) protects the amenity of adjoining lots and surrounding uses; and

(c) respects the natural and landscape values of the site.

Acceptable Solution or Performance Criteria	Discussion
A1 Building height must be no greater than 5m. Building height is measured from the natural ground level. The height of the bridge ranges from 4.5 m near Pier 2 to 7.53 m adjacent Boland St. The proposal relies on Performance Criteria: **P1** Building height must be compatible with the character of the surrounding area, and protect the amenity of adjoining lots and surrounding uses, having regard to: (a) the topography of the site; (b) height of buildings on the site, adjoining lots and adjacent lots; (c) the natural and landscape values of the site; (d) the bulk and form of existing and proposed buildings; (e) the allowable building heights; (f) the apparent height when viewed from roads and public places; (g) sunlight to private open space and windows of habitable rooms on adjoining lots; (h) the privacy to private open space and windows of habitable rooms on adjoining lots; (i) the existing screening or the ability to implement screening; and (j) any overshadowing of adjacent lots or public places.	Satisfies Performance Criteria The bridge has been designed to align with future development at 2 Willis St which will include a second storey access to the bridge to be constructed across Boland St to connect to the proposed bridge. The location and height of the abutment is constrained by the need to achieve a tie in with the future building. The height of the bridge deck and landing has been determined by the need to provide clearance over the existing cycle path on top of the levee and the clearance of 5.5 m required for the next stage which will cross Boland St. The side safety rails, at 1400 mm, are higher than normal to ensure cyclist safety. The levee surrounds Launceston and there is no crossing point in this locality that would not require clearance for cyclists or trucks on Boland St. The bridge will tie in with a taller university building in the future and there are other tall buildings and structures in the locality such as the gasometer, the former gas works building and the buildings opposite within Inveresk. Buildings along Boland St, including Boags, the Centrelink building and commercial developments to the east all contribute to a streetscape with a dominance of larger buildings and structures. The works will be lightweight in appearance and will not result in overshadowing of public spaces. There are no adjoining residential zones and there will be no loss of privacy. The proposed bridge offers a more desirable crossing of the North Esk River than the Victoria bridge and is considered appropriate in this location.
A2 Setback from all boundaries must be no less than 10m.	Satisfies Performance Criteria The lot boundaries do not align with the river edge, Boland St, the levee or any other feature. The location of

The southern abutment, stairs and ramp are located within 10 m of the boundary of the lots they sit within. The proposal relies on performance Criteria: **P2** Buildings must be sited so that there is no unreasonable loss of amenity to the occupiers of adjacent lots, having regard to: (a) the topography of the site; (b) the size, shape, and orientation of the site; (c) the natural and landscape values of the site; (d) the setbacks of surrounding buildings; (e) the height, bulk and form of existing and proposed buildings; (f) the privacy to private open space and windows of habitable rooms on adjoining lots; (g) sunlight to private open space and windows of habitable rooms on adjoining lots; (h) any existing screening or the ability to implement screening; and (i) the character of the surrounding area.	the proposed works is constrained by the need to not be located on the river side of the levee or the levee and by the limited amount of space between the top of the levee and Boland St. Siting is also critical in meeting the height requirements outlined above. To the north is the levee and the river and to the south is the access lane to the rowing club and Boland St. There is nothing within the setback area that will be impacted by the reduced setback. There will be no loss of amenity or impacts on privacy as a consequence of the reduced setback. The abutment and associated works will be located on the southern side of the levee leaving the river 'corridor' undisturbed at this point.

19.4.2 Landscaping

Objective:

To ensure that development is landscaped to retain the natural values of the site and contributes to the broader landscape of the area

Acceptable Solution or Performance Criteria	Discussion
A1 If for no permit required uses. The proposal is discretionary and relies on Performance Criteria: **P1** Development must be landscaped to respect the natural values of the site and the broader landscape of the area, having regard to: (a) location and height of retaining walls; (b) the existing vegetation and its retention where it is feasible to do so; (c) the location of any proposed buildings, driveways, car parking, storage areas, signage and utility services; (d) proposed height and type of fencing; (e) proposed vegetation plantings; (f) the location of pedestrian movement routes; (g) maintenance of plantings, weed management and soil and water management; and (h) the character of the surrounding area; as shown in a detailed landscaping plan.	Satisfies Performance Criteria The bridge will be constructed within an urban environment where the only natural areas, the river banks, are largely impacted by introduced vegetation. The grassed areas of the southern levee will not be landscaped and any areas that cannot be accessed for maintenance will be replaced with a suitable artificial surface. No landscaping is proposed as part of the proposal and the bridge has been designed to present as an architectural element. The material used are concrete and steel and are consistent with the urban design elements on either side of the river, particularly the northern levee and pathway. The bridge will connect pedestrian pathways on either side of the river and provide a link between university facilities in the future.

5.5 Overlays

The site is subject to a number of Planning Scheme overlays as identified in Figure 7. The northern abutment is within the Invermay/Inveresk Flood Inundation Area. It is also within the North Esk Flood Plain Scenic Management Area. Pier 1, and the bridge proper, are also within the North Esk Flood Plain Scenic Management Area. The river is also within the Flood Risk Area Overlay and the Priority Habitat Overlay area. Pier 2 is within the Flood Risk Area while the southern abutment is not affected by any overlays.

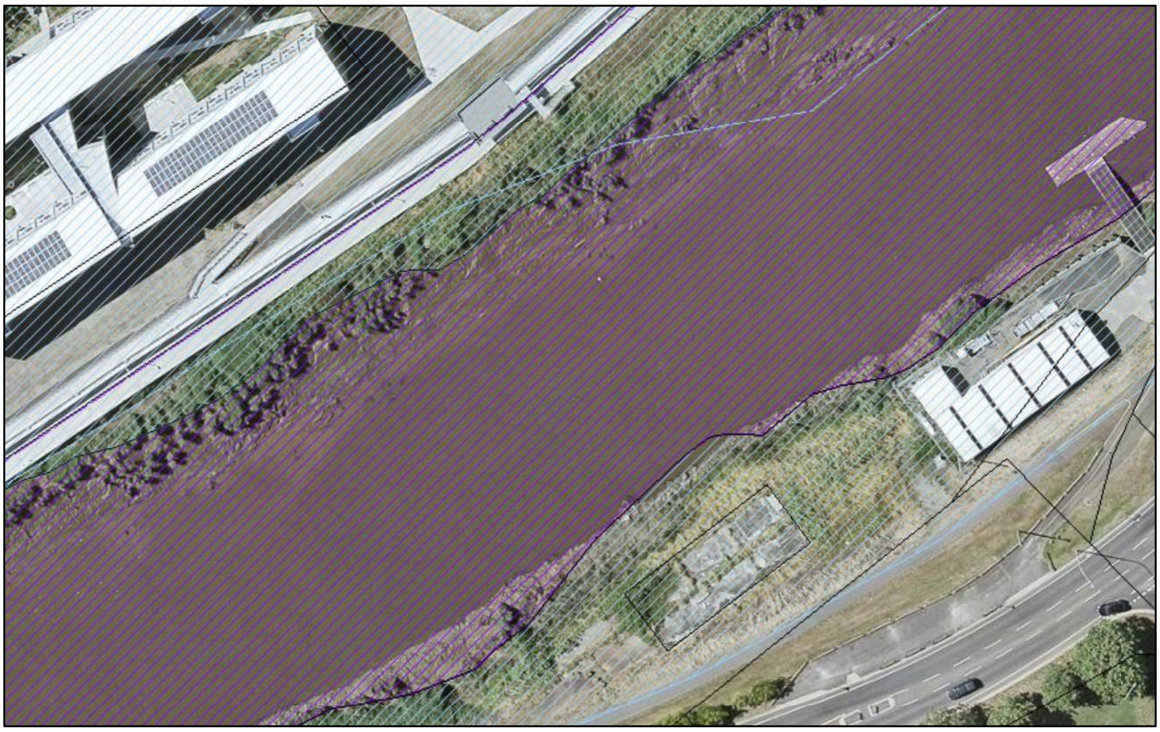

Figure 7 Planning Scheme overlays impacting the site

5.6 Codes

The following codes within the Planning Scheme are considered applicable to this application. Each of the applicable codes are addressed in greater detail below.

Code	Application
Bushfire-Prone Areas Code	Not applicable
Potentially Contaminated Land Code	**Applicable – see below**.
Landslide Code	Not applicable
Road and Railway Assets Code	Not applicable
Flood Prone Areas Code	**Applicable – see below**
Parking and Sustainable Transport Code	Not applicable
Scenic Management Code	**Applicable – see below**
Biodiversity Code	**Applicable – see below**
Water Quality Code	**Applicable – see below**
Open Space Code	Not applicable

Code	Application
Environmental Impacts and Attenuation Code	Not applicable
Airports Impact Management Code	Not applicable
Local Historic Cultural Heritage Code	**Applicable - See below**
Coastal Code	Not applicable
Telecommunications Code	Not applicable
Invermay/Inveresk Flood Inundation Area Code	**Applicable – see below**
Cataract Gorge Management Area Code	Not applicable
Signs Code	Not applicable
Development Plan Code	Not applicable

5.6.1 Potentially Contaminated Land Code

This code applies to proposals for sensitive use on potentially contaminated land, and to development on potentially contaminated land. No sensitive use is proposed, however, as works are proposed, the development standards require consideration.

Development Standards	
E2.6.1 Subdivision – not applicable	
E2.6.2 Excavation	
Objective To ensure that works involving excavation of potentially contaminated land does not adversely impact on human health or the environment.	
Acceptable Solution or Performance Criteria	**Discussion**
A1 No acceptable solution. Relies on performance criteria. **P1** Excavation does not adversely impact on health and the environment, having regard to: (a) an environmental site assessment that demonstrates there is no evidence the land is contaminated; or (b) an environmental site assessment that demonstrates that the level of contamination does not present a risk to human health or the environment; or (c) a plan to manage contamination and associated risk to human health and the environment that includes: (i) an environmental site assessment; (ii) any specific remediation and protection measures required to be implemented before excavation commences; and (iii) a statement that the excavation does not	Satisfies performance criteria. The Phase 1 Environmental Site Assessment at Appendix D concluded that there is evidence of contaminated material on land adjacent the proposed northern work area (from the railway yards). There is also potential for contamination by imported fill or as a result of demolition of the building on the southern bank. These sources of potential contamination pose some risk to workers and ecological aquatic receptors, however, the level of risk is considered acceptable because: • There is no indication of significant lateral movement of contaminants found on the northern bank (so they are less likely to have moved into the work area) • No potentially contaminated activities have been recorded on the sites No unacceptable risk to human health or the environment is expected if the following is implemented: • A CEMP is prepared prior to any soil disturbance

adversely impact on human health or the environment.	(prepared and attached at Appendix E) to ensure disturbed soil is inspected and treated appropriately • Monitoring of soils in disturbance areas for signs of acid sulfate soil will allow for appropriate treatment • A Surface Water and Sediment Management Plan should be implemented • Excavated soils should be temporarily stockpiled to facilitate a visual inspection of the material and sampling for waste classification purposes in accordance with EPA Guidelines.

5.6.2 Flood Prone Areas Code

Both piers and the southern access ramp and supports are within the Flood Prone Area overlay which triggers this code. No sensitive use is proposed and therefore only development standards are applicable.

E5.6.1 Development subject to flooding

Objective:

To minimise the risk of injury to, or loss of human life, or damage to property or the environment, by avoiding areas subject to flooding where practicable, or mitigating the adverse impacts of inundation to an acceptable level

Acceptable Solution or Performance Criteria	Discussion
A1 No acceptable solution – all proposals rely on Performance Criteria: **P1** It must be demonstrated that the risk of injury to or loss of human life or damage to property or the environment is minimised, having regard to: (a) the need for the location; (b) the nature and characteristics of the development; (c) the scale and intensity of the development; (d) the characteristics of the inundation of the land that is subject to the risk; (e) the nature and frequency of the inundation; (f) the need for and the availability of infrastructure, including access and reticulated services; (g) accessibility to the development during flooding; (h) the capacity of the development to withstand flooding; (i) the capacity of the owner or occupants to respond to or manage the flood risk; (j) the location of effluent disposal or sewerage	Satisfies Performance Criteria A Hydraulic Report is attached to this report (Appendix F) which demonstrates compliance with the requirements of this code. The location for the bridge is the most logical to meet the future needs of the city and the university. The works are located on or near the existing flood levees but will not impact on the structural integrity or functioning of the levees in any way. The bridge itself will not be impacted by flooding and will be designed to withstand flows.

E5.6.1 Development subject to flooding	
reticulation or storage of materials; (k) the nature of any works required to mitigate the risk; (l) any mitigation works proposed to be carried out outside the boundaries of the site; (m) any works interfering with natural watercourse processes or restrictions or changes to flow; (n) any works resulting in an increase in risk to other buildings, including buildings outside the boundaries of the land; and (o) any recommendations or advice contained in a report by a suitably qualified person.	

5.6.3 Scenic Management Code

The northern abutment, pier 1 and the bridge deck are all within the North Esk Flood Plain Precinct scenic management area. Management Objectives for this Precinct are:

a) Development within the Precinct must either complement existing historic development located nearby, or be designed to minimise the visual impact within the landscape, particularly when viewed from major public thoroughfares and viewpoints. Where possible, visually prominent development should be avoided, particularly in the vicinity of the North Esk River.

b) Subdivision must only take place where it does not adversely affect the existing character of the Precinct.

c) Landscaping should be consistent with the character of its immediate setting. Along the agricultural sections of the flood plain, the retention of open pasture lands, with a mix of evergreen and deciduous trees, is encouraged.

d) Weed removal should be encouraged where infestations exist within the precinct, and more suitable replacement vegetation encouraged that is consistent with the prevailing character of its immediate setting.

e) Native vegetation maintenance and enhancement is encouraged in areas of the Precinct where tracts of native vegetation exist. Removal of native vegetation should only occur when it is unavoidable, and replacement species should include a mix of species that can support native wildlife.

There are no use standards in the code, however, the following development standards apply.

E7.6.2 Scenic management areas	
Objective: The siting and design of development is to be unobtrusive in the landscape and complement the character of the scenic management areas	
Acceptable Solution or Performance Criteria	**Discussion**
A1 No acceptable solution – all proposals rely on Performance Criteria **P1** Development (not including development that involves only the clearance or removal of vegetation, or subdivision) must have regard to:	Satisfies Performance Criteria The proposed development is a pedestrian bridge and architectural impressions are provided in Appendix A. The bridge is required to extend from one levee to another and as such is elevated above the river. It will be visually prominent and has been designed to complement the industrial themes which are prominent on the Inveresk site and the old Launceston gas works. It will

E7.6.2 Scenic management areas	
(a) the scenic management precinct existing character statement and management objectives in clause E7.6.3; (b) the impact on skylines, ridgelines and prominent locations; (c) the nature and extent of existing development on the site; (d) the retention or establishment of vegetation to provide screening; (e) the need to clear existing vegetation; (f) the requirements for any hazard management; (g) the need for infrastructure services; (h) the specific requirements of the development; (i) the location of development to facilitate the retention of trees; and (j) design treatment of development, including: (i) the bulk and form of buildings including materials and finishes; (ii) any earthworks for cut or fill; (iii) the physical (built or natural) characteristics of the site or area; (iv) the nature and character of the existing development; and (v) the retention of trees.	also tie in with the future university building on the corner of Willis St and Boland St. The management objectives suggest that visually prominent development should be avoided in the vicinity of the North Esk River, however, it is not possible to construct a bridge that meets flood avoidance requirements without being elevated. The design incorporates a flat, sloped deck and low key side barriers. The bridge could have included a curved deck or cable stay designs but a less obtrusive design has been chosen to minimise scenic impacts. When viewed against the backdrop of the Inveresk site or Launceston to the south the bridge presents as a low key element. Bridges are a necessary development across rivers and the construction of this pedestrian bridge in this location is considered appropriate.
A2 No vegetation is to be removed – minor vegetation disturbance is required and the proposal relies on Performance Criteria. **P2** Development that involves only the clearance or removal of vegetation must have regard to: (a) the scenic management precinct existing character statement and management objectives in clause E7.6.3; (b) the physical characteristics of the site; (c) the location of existing buildings; (d) the type and condition of the existing vegetation; (e) any proposed revegetation; and (f) the options for management of the vegetation.	Complies. The development does not only involve the removal of vegetation. Ground disturbance will be required for the installation of supports for the abutments, Pier 2 and the southern ramp/supports. The area impacted supports weeds and grasses and will be limited to a relatively small footprint. As structures are proposed to be installed in disturbed areas, this P2 requirements are not applicable.
A3 - Subdivision	Not applicable

5.6.4 Biodiversity Code

This code applies to the North Esk River. The only works occurring within the river itself is Pier 1. Clause E8.4.1 of the code provides that the following development is exempt from the code:

(b) use or development that does not clear or disturb vegetation within the areas identified as priority habitat; and

The pier is to be installed in the river channel and will not involve any vegetation disturbance. No further consideration against this code is required.

5.6.5 Water Quality Code

This Code applies to use or development of land:

(a) within a wetland or watercourse; or

(b) located within 30m of a wetland or watercourse.

All aspects of the proposed bridge and abutments are subject to this code. There are no use standards applicable and the following development standards are relevant.

E9.6.1 Development in the vicinity of a watercourses and wetlands

Objective:

To protect watercourses and wetlands from the effects of development and minimise the potential for water quality degradation.

Acceptable Solution or Performance Criteria	Discussion
A1 No acceptable solutions.	Satisfies Performance Criteria
P1 Development must not unreasonably impact the water quality of watercourses or wetlands, having regard to: (a) the topography of the site; (b) the potential for erosion; (c) the potential for siltation and sedimentation; (d) the risk of flood; (e) the impact of the removal of vegetation on hydrology; (f) the natural values of the vegetation and the land; (g) the scale of the development; (h) the method of works, including vegetation removal, and the machinery used; (i) any measures to mitigate impacts; (j) any remediation measures proposed; (k) any soil and water management plan; and (l) the requirements of the Department of Primary Industries, Parks, Water and Environment Wetlands and Waterways Works Manual.	Only very minor vegetation disturbance and stream bank works will be required for construction of the bridge. Most vegetation on the riverbanks is introduced species. The proposed works are not considered likely to impact on water quality or the ecological or hydraulic functions of the river. Works will be undertaken in accordance with the 'Wetlands and Waterways Works Manual' to minimise the potential for downstream impacts during construction. Appropriate erosion and sediment control measures will be outlined in relevant construction environmental management plan and implemented during the works.

E9.6.2 Development of watercourses and wetlands

Objective:

To protect watercourses and wetlands from the effects of development and minimise water quality degradation.

Acceptable Solution or Performance Criteria	Discussion
A1 A wetland must not be altered, modified, filled, drained, piped or channelled.	Not applicable - no wetlands are impacted

E9.6.2 Development of watercourses and wetlands	
A2 A pipe or culvert crossing of a watercourse for access purposes	Not applicable – no pipe or culvert is proposed

5.6.6 Local Historic Cultural Heritage Code

2 Invermay Rd is listed as a Local Heritage Place under Table E13.2 of the Planning Scheme. The listing reference 4,400 corresponds to the Launceston Railway Station Complex on the Tasmanian Heritage Register. An application for an exemption from the requirement for a Discretionary approval was approved by the Tasmanian Heritage Council as the proposal is considered to involve works to non-significant structures on the site. The levee is not an original part of the fabric and the stairs will be located near the levee and the recently constructed accommodation building.

There are no use standards for this code. The following development standards are considered applicable.

E13.6.4 Site coverage	
Objective: To ensure that site coverage is compatible with the historic cultural heritage significance of local heritage places.	
Acceptable Solution or Performance Criteria	**Discussion**
A1 No acceptable solution. All proposals rely on performance criteria: P1 The site coverage is compatible with the historic cultural heritage significance of local heritage places or their settings, having regard to: (a) the topography of the site; (b) the cultural heritage values of the local heritage place and setting; (c) the site coverage of buildings on sites in the surrounding area; and (d) the pattern of development in the surrounding area.	Satisfies performance criteria The height and footprint of the stairs has been determined by the finished height of the levee platform and the ground level. The finished height will be approximately 3.5 m plus handrail which will not exceed the finished level of the levee. The footprint occupied by the stairs is not considered significant in the context of the existing scale of development at Inveresk. There are many large and conjoined buildings which dominate the site. The stairs will be located close to the student accommodation building which is a bulky, recently constructed building with a large footprint. The levee is not an original component of the site either and is constructed of concrete and steel with a modern finish. Both of these are located on the southern extent of the site away from main buildings. The proposed stairs in this location will not impact on the heritage values of the Inveresk Railway Station Complex

E13.6.6 Site of buildings and structure	
Objective: To ensure that the siting of buildings are compatible with the historic cultural heritage significance of local heritage places and their settings.	
Acceptable Solution or Performance Criteria	**Discussion**
A1 No acceptable solution. All proposals rely on performance criteria:	Satisfies performance criteria The stairs are proposed to extend from the levee that forms the southern boundary of the site. They will be set well back from Invermay Rd and will only be visible from

E13.6.6 Site of buildings and structure	
P1 The front, side and rear setbacks must be compatible with the historic cultural heritage significance of a local heritage place and its setting, having regard to: (a) the cultural heritage values of the local heritage place and setting; (b) the topography of the site; (c) the size, shape, and orientation of the lot; (d) the setbacks of other buildings in the surrounding area; (e) the historic cultural heritage significance of adjacent places; and (f) the streetscape.	the levee pathways or areas internal to the site such as the nearby student accommodation. There will be no impacts on streetscape or the setting of any culturally significant buildings on site. The stairs will be 80 -90 m form the nearest buildings which form part of the heritage values on site and are not considered to intrude on the heritage features of the site. There is no other practical location for the stairs as they take advantage of the existing platform, potentially lessening the extent of development required.

E13.6.10 Outbuildings and structures	
Objective: To ensure that the siting of outbuildings and structures are compatible with the historic heritage significance of local heritage places and their settings.	
Acceptable Solution or Performance Criteria	**Discussion**
A1 Outbuildings and structures must: (a) not be located in the front setback; (b) not visible from any road, or public park or reserve; (c) have no side longer than 3m; (d) have a gross floor area less than 9m² and a combined total area not exceeding 20m²; (e) have a maximum height less than 2.4m above natural ground level; (f) not have a maximum change of level as a result of cut or fill of greater than 1m; and (g) not encroach on any service easement or be located within 1m of any underground service. P1 Outbuildings and structures must be compatible with the historic cultural heritage significance of a place and its setting, having regard to: (a) the cultural heritage values of the local heritage place and setting; (b) the location of existing infrastructure services; (c) the bulk, form and size of buildings on the site; (d) the bulk, form and size of the outbuilding or structure; (e) the external materials, finishes and decoration of the outbuilding or structure; and (f) the visibility of the outbuilding or structure from any road, public park or reserve.	Satisfies performance criteria The proposed stairs generally comply with the acceptable solutions however exceed the height and side length requirements. The length of the stairs and the footprint are determined by National Construction Code requirements for stair height, width, etc which determine the minimum length. The size of the stair structure is insignificant when considered in terms of the overall development on site where large industrial scale buildings prevail. The stairs are positioned on the extremity of the site and will not generally be visible within the site or when viewing from the street. The materials, concrete and steel, are consistent with those used in the levee and which are prominent throughout the site. The proposal is considered to be consistent with the materials and structures present and compatible with the overall nature of development on site. Satisfies performance criteria

5.6.7 Invermay/Inveresk Flood Inundation Area Code

This code applies to use and development, however, non-habitable buildings are exempt from consideration against the code.

6. State Policies

The following State Policies are currently in force:

- Tasmanian State Coastal Policy 1986
- State Policy on Water Quality and Management 1997
- State Policy on the Protection of Agricultural Land 2009

These are discussed below.

6.1 State Coastal Policy 1986

The State Coastal Policy applies to land within 1 km of the coast and is not applicable to this proposal.

6.2 State Policy on Water Quality and Management 1997

The purpose of the State Policy on Water Quality Management is to achieve the sustainable management of Tasmania's surface water and groundwater resources by protecting or enhancing their qualities while allowing for sustainable development in accordance with the objectives of Tasmania's Resource Management and Planning System. No use of groundwater or point source water discharges are proposed. Water sensitive urban design principles will be implemented to prevent sedimentation or release of silt laden water. Works will be undertaken in accordance with the 'Wetlands and Waterways Works Manual' and a Surface Water and Sediment Management Plan will be implemented during construction. The proposed works have limited potential for any impacts on surface or ground waters.

6.3 State Policy on the Protection of Agricultural Land 2009

Prime agricultural land is that land identified as Class 1, 2 or 3 land on agricultural capability mapping. No prime agricultural land is present on site and this policy does not apply.

7. Conclusion

The proposed bridge will provide a pedestrian link between Inveresk and Launceston. This will be a purpose built, all access bridge designed for pedestrians and cyclists. It will tie in the existing pathways on either side of the North Esk River and provide a safer alternative to the Victoria Bridge pedestrian access.

The bridge will facilitate the movement of students between UTAS facilities at Inveresk and those to be built on the future on land in Willis St as well as providing an alternative pathway to facilities such as the aquatic centre, city park and sport and recreational areas off Racecourse Crescent. The proposed bridge complies with the acceptable solutions or performance criteria within the planning scheme and is considered to be an appropriate development in the locality. The bridge will become an asset of the City of Launceston and will provide a significant community benefit.

Plans of the proposed bridge

Appendix A

pitt&sherry

Title details

Appendix B

Ecological Assessment

Appendix C

Environmental Site Assessment

Appendix D

Construction Environmental Management Plan

Appendix E

Hydraulic Report

Appendix F

pitt&sherry

pitt&sherry

Inveresk Pedestrian Bridge

North Esk River

Contact

Leigh Knight
+61 3 6323 1973
lknight@pittsh.com.au

Pitt & Sherry (Operations) Pty Ltd
ABN 67 140 184 309

Phone 1300 748 874
info@pittsh.com.au
pittsh.com.au

Located nationally
Melbourne
Sydney
Brisbane
Hobart
Launceston
Newcastle
Devonport
Wagga Wagga