

103 Macquarie Street (GPO Box 618)
Hobart Tasmania 7001
Phone: 1300 850 332 (local call cost)
Email: enquiries@heritage.tas.gov.au
Web: www.heritage.tas.gov.au

Name: Duck Reach Power Scheme
Status: Provisionally Registered
Tier: State

THR ID Number: 11976
Municipality: Launceston City Council

<u>Location Addresses</u>	<u>Title References</u>	<u>Property Id</u>
1-5 CORIN ST, TREVALLYN 7250 TAS	149077/1	6637475
1-5 CORIN ST, TREVALLYN 7250 TAS	149078/1	6637475
, TREVALLYN 7250 TAS	N/A	N/A
CORIN ST, WEST LAUNCESTON 7250 TAS	60647/8	6637387
2 CORIN ST, WEST LAUNCESTON 7250 TAS	60647/6	2673831
4 CORIN ST, WEST LAUNCESTON 7250 TAS	60647/5	7525950
6 CORIN ST, WEST LAUNCESTON 7250 TAS	60647/4	7525969
8 CORIN ST, WEST LAUNCESTON 7250 TAS	60647/3	6637432
10-16 CORIN ST, WEST LAUNCESTON 7250 TAS	60647/2	2673866
10-16 CORIN ST, WEST LAUNCESTON 7250 TAS	60647/1	2673866
, WEST LAUNCESTON 7250 TAS	N/A	
, WEST LAUNCESTON 7250 TAS	N/A	N/A
REATA RD, TREVALLYN 7250 TAS	142349/1	2081342



Duck Reach Power Station
©DPIPWE 2011



Weir and eastern channel
© DPIPWE 2013



Suspension bridge, northern pier
© DPIPWE 2013



Machine House
© DPIPWE 2013



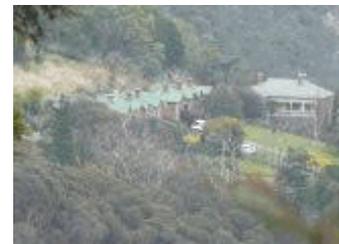
Power Station interior
© DPIPWE 2013



Penstock
© DPIPWE 2013



Intake structure
© DPIPWE 2013



Cottages including Chief Engineers' Residence
© DPIPWE 2010

Setting:

The Duck Reach Power Scheme is situated on the South Esk River between Second and Third Basins, 3km west of the Launceston CBD. Historically, this section of the South Esk was subject to regular flooding although since construction of the Trevallyn Dam upstream this occurs less frequently.

The Scheme infrastructure is set amongst steep hillsides of dry sclerophyll forest overlooking the rough

boulder strewn bed of the South Esk, which conveys an aesthetic of industrial heritage within a largely undeveloped natural setting.

To the east is the Cataract Gorge Reserve, one of Tasmania's most popular recreational areas set around a dramatic natural amphitheatre of the First Basin. To the west is the modern Trevallyn Dam. Along the ridge top to the south is the suburb of Summerhill.

Description: The Duck Reach Power Scheme incorporates the following elements of heritage significance, the locations of which are shown on the attached Central Plan Register (CPR) map.

Duck Reach Power Station (c.1896 & c.1929)

The former Duck Reach Power Station is a substantial Inter-War Functionalist reinforced concrete building on bluestone and concrete foundations. The extant building replaced an earlier version destroyed in the 1929 floods. The exterior of the building uses neo-classical elements, via the dummy window niches, castellated pediment and engaged columns and string courses (Kozakiewicz, 1982 p.72). The building also has a clerestory roof, in corrugated iron. The interior contains an overhead gantry, timber trusses and industrial elements pertaining to the former use of the building. A Gilbert Gilkes & Co. turbine inside and provenanced to the building is illustrative of the former use of the site.

Adjacent to the main Power Station building is the vernacular corrugated iron Machine House, which houses a winch and cable system for the flying fox, a basket for which sits in front of the building. All original interior industrial elements in this building are considered of high heritage significance.

Cottages, Corin Street (c.1896)

Conjoined cottages – Two pairs of dolerite conjoined residences in late Victorian form. The buildings feature double gables, connecting detached verandahs, sash windows with large panes, quoins and moulded chimneys. Federation style influences are evident in the circular vents, timber detailing on the verandah and the bracketed door hoods. Bluestone outbuildings, likely contemporary to the construction of the houses, can be found at the rear of each residence. The doors, skirting boards, fireplace surrounds and wooden windows contribute to the representative character of the buildings.

Chief Engineers' residence

Substantial stand-alone dolerite residence with brick quoins, double-hung windows, a verandah and an addition to the upper hillside elevation. An earlier outbuilding appears to have been demolished. In 2011 the main residence building was gutted by fire. At the time of registration this building is a ruin, although the walls remain structurally sound.

Significantly, all these residences are constructed of dolerite procured locally, traditionally a difficult material to manipulate for construction. It is rare in Launceston as a building material, likely with the exception of the Church of the Apostles on Margaret Street (THR #4206) and on a smaller scale in the Cataract Gorge Reserve.

Weir & Intake structure (c.1895 with c.1987 repairs)

Situated west of the Trevallyn Recreation Reserve and 2km upstream of the Power Station, a diversion weir around 200m long and 2-3m high impounds the South Esk River, where it was used to collect the water that was used to drive the turbines in the power station.

The weir comprises a series of concrete walls that interlink natural rock outcrops, an arrangement that was designed to minimise damage during flooding. The weir funnels water diagonally across the river into a concrete channel that runs along the eastern shore for 30m before feeding an arched tunnel intake through a steel trash rack. The remnants of several gates suggest the flow in the channel was controlled by devices such as timber slabs or steel panels that moved vertically.

Although partially breached by blasting in 1987 (*Examiner* 2 January 1987 p.3), the form and function of the infrastructure retains a high degree of integrity.

Pressure Tunnel (1895)

At 840m long and 1.6m diameter, this underground tunnel through dolerite supplied water from the weir to the top of the penstocks, descending in a gentle gradient as it passed through the hill. At the time of construction, the roof of the tunnel was very solid and only 61m was lined entirely on the invert with concrete (Kozakiewicz, 1982 p.49). This tunnel is believed to still be largely intact.

Tank and Valve house (c.1895 & 1903-1906)

The tunnel discharges water into a short open channel, now overgrown, which feeds a pentagonal concrete structure built against the cliff face and measuring ~10m high. It is believed to comprise a number of small holding or surge-control tanks and steel valves that can be opened or closed to control the flow of water into the two penstocks. The valves are controlled from a platform on top of the structure. (GHD, 2008 Appendix J, DR7, F6).

Penstocks (c.1895 with later additions)

Two riveted steel pipes ~1200mm in diameter form the penstocks down which the water accelerates due to gravity before arriving at the power station. Both are supported on concrete piers with iron saddles. At the bottom of each penstock is a steel manifold that feeds the water into smaller pipes ~450mm in diameter which pass through the rear wall of the power station to supply each turbine. The eastern manifold appears to have a large expansion chamber built in. The penstocks are believed to be original (1895), and are intact aside from altered and missing sections of the manifolds.

Fluming (c.1920s)

By the early 1920s, a wooden and masonry flume had been constructed from the South Esk weir to the Tank and Valve house, contouring around the northeast side of the river for 2km. The reason for the flume was unclear; possibly it was a temporary measure whilst works were being undertaken on the tunnel, or perhaps more water was needed than could be piped through the tunnel. There are remains which have archaeological potential (GHD, 2008 Appendix J, DR7 item F7).

Suspension Bridge (c.1896, replaced 1929, 1969, 1995)

East of the power station a suspension bridge spans the South Esk River between two imposing piers. The southern pier is original - constructed of dolerite, with tuck-pointed brickwork. The northern pier is a concrete facsimile of the original, which was destroyed by flooding. Although the supporting cables, handrails and deck of the bridge have been replaced a number of times, a number of original elements remain and the overall design and appearance of the bridge is substantially unchanged from the original.

Transmission Poles (c.1930?)

Two examples of early transmission poles remain on the northern and southern banks of the South Esk River. Constructed of steel sections in an 'H' frame with a beam across the top, they still suspend four cables on ceramic insulators.

Research Potential

The Duck Reach Power Scheme and associated infrastructure is a highly intact example of 19th century industrial archaeology. As the first publically owned hydro scheme in Australia, the power station, suspension bridge, cottages and associated infrastructure have the potential to yield archaeological information on power generation, working and domestic living arrangements, and engineering achievement. Although situated in fluvial terrain, the surviving elements have survived relatively intact due to the elevation and isolation, suggesting the potential for archaeological remains.

Features Excluded from this Registration

The Duck Reach Power Scheme incorporates the following elements of negligible or no heritage significance, which are excluded from this registration:

- Various foot tracks including one between the cottages and suspension bridge, one from this track down to the Alexandra Suspension Bridge at First Basin, and one from the Power Station up to the Valve house. All of these probably follow an early pathway alignment but have been subject to extensive maintenance works and upgrading over time. As long as reasonable pedestrian access is maintained to and around the place, the exact alignment and construction of these tracks is of no interest.
- Visitor control and interpretation signs within the registered area.
- Visitor infrastructure within the registered area associated with the Hoo Hoo Hut day use area including picnic huts and related toilet amenities.
- A number of *Pinus radiata* pine trees, some of which may have been planted with a purpose but are reaching the end of their life and some which may have self-seeded, however this species is regarded as a weed that conflicts with the natural values of the area whilst contributing little to the historical setting of the place.
- Garden plantings around the Chief Engineers' Residence, include a small number of early exotics that are of some historical interest but contribute little to the historical setting of the place.

History:

Background

In 1893, after the necessary water rights to make use of the South Esk River had been secured by Parliament in the midst of considerable community debate; including a plebiscite, a hydro electric scheme was commissioned by the local council for Launceston.

The Duck Reach Power Scheme was one of a number of local initiatives by which Launceston established itself as probably the most progressive municipal council in Australia by 1900 (Petrow, 1995 p.52). One newspaper noted in municipal affairs it had equals in the cities of Birmingham and Glasgow in Britain (*Daily Telegraph* 28 November 1899). City Surveyor Charles (St John) David (1855-1924) was to supervise the project, having adapted one of the three options for the scheme that had been developed by his predecessor.

The Duck Reach Power Station & Associated Infrastructure

The Duck Reach Power Station was built in 1895 and was the largest hydro-electric scheme of its time. Although its primary objective was to furnish Launceston with street lighting, it proved a popular source of lighting for home and business owners. The scheme posed its challenges. To save money and possible damage to a pipeline by flooding, an 850 metre tunnel designed by David channelled water through a hill from upstream Deadmans Hollow to Duck Reach. It was then fed into a large iron penstock that plunged down the hillside directly into the Power Station to feed eight lines which generated electricity. The tunnel, a feat of engineering, took 16 months to complete, and is still extant adjacent to the power station building. Around 50 men camped on the site, and supplies were sent to the site via a temporary wooden chute from above (*Launceston Examiner* 18 March 1893 p.5).

Early manager of the scheme, city surveyor David, has proven somewhat of an enigma. His qualifications remain a mystery, having taken on a pseudonym when emigrating from Britain in 1879. In Queensland he worked for the railways, and was responsible for the development of tramways in Brisbane. In 1892 he moved to Launceston, and was appointed engineer and surveyor to the city of Launceston. David's legacy includes not just buildings and infrastructure at Duck Reach, but the Distributing Station in West Launceston, Carr Villa Cemetery buildings, and structures associated with the Launceston tramway system. David was an esteemed council employee, remaining there until his death in 1924, and was afforded a rare public funeral (Neale in Goad & Willis, 2012 p.193).

David's council counterpart was electrical engineer, William Corin (1867-1929), who came to Tasmania because of the Duck Reach scheme. Corin was at the forefront of experimentation with electricity, and eventually commissioned a house in West Launceston for its proximity to his work at Duck Reach (THR #4386). Corin, a leader in his field of expertise, was an early proponent of the Snowy Mountains Hydro Scheme. His safety standards in the installation of wiring were said to have been exemplary and in 1904-1907 his conversion of that wiring to the three phase four-wire system was amongst the first in the British Empire (Corbett, 1981 pp.115-116).

Perched above the often raging waters, the dolerite Duck Reach Power Station was and remains an often photographed setting, promoting the enterprise of the council and the scheme's proximity to Cataract Gorge. That water source however, sometimes proved a force to be reckoned with. Famously, the powerful floods of 1929 swept away the main powerhouse, which had stood for over two decades. After 11pm on 5 April 1929, staff were forced to evacuate the building after it became flooded, and power was lost in the city for nearly 49 hours. Thousands of residents were displaced by the floods in Launceston and regional districts. By the end of May 1929 a temporary power station had been erected, albeit with limited power supply (*Examiner* 4 March 1930 p.3).

The inconvenience to customers who lost power was not lost on the council. Its annual report for 1928-1929 recorded: 'thanks are due to the many customers affected, whose tolerance during a very trying time is appreciated' (*Mayor's Valedictory Address 1928-1929* p.4). A pressing concern for authorities was the replacement of the power station, which had been swept away in the floods. A new building was erected in 1930 by J & T Gunn (*Examiner* 17 April 1930 p.6), with false windows and heavy flood doors (Kozakiewicz, 1982 p.62). Although it re-opened, Duck Reach was only a supplementary power source from this time. By now Launceston had attracted a large number of industries to the city, with a substation erected on the Cataract Hill, to boost supply. It has been argued that the Duck Reach Power Station gave the power to attract business, including woollen mills, a tyre manufacturer, the growing railway workshops and small businesses such as the Alexander Patent Tennis Racket Company (Lee, 2005 p.6).

In 1944 the Hydro Electric Commission purchased the Duck Reach Power Scheme to become part of the state grid. Half a century earlier it is unlikely Corin and David could have projected the enormous industrial developments in Launceston, or the uptake of electricity by residents. In 1955, when the new state-of-the-art Trevallyn Power Station opened, the Duck Reach Power Station was decommissioned. It is unclear when the Machine Shop, adjacent to the main building, was erected, but was certainly extant in 1922. A building in between the station and the Machine Shop has since been demolished (*Weekly Courier Annual* 9 November 1922 p.10).

Although closed to public access for decades, the Duck Reach buildings were re-opened in 1995 with exhibits and signage across the site. The dramatic setting, increased interest in industrial heritage and proximity to the Cataract Gorge has made Duck Reach a popular attraction for visitors.

The Duck Reach Cottages

Given the isolation of the Power Station, and the need for 24-hour maintenance, the Launceston Municipal Council proposed cottages for staff; including a sole residence for the Chief Engineer, adjacent to their workplace. The buildings were erected from locally acquired dolerite and designed by City Surveyor, Charles St John David, as he did with the Electric Distributing Station in Bourke Street (THR #3871), constructed around the same time.

The Duck Reach residences comprise the former Chief Engineers' residence at the western end of the site, with four conjoined worker's cottages adjacent. The smaller workers' cottages contained two bedrooms and an outbuilding across a small yard with laundry and wood store (QVMAG, LCC: 1992: AD: 0003). The Chief Engineer in contrast was given a much larger two-storey residence, with fine views over the South Esk River. In 1903 the small 'village' included three engineers, two engine drivers, and six adult women, whose occupations were all given as 'domestic duties' (Co of A electoral roll, 1903).

By 1899 the staff cottages across the river from the power station were fenced off with little vegetation (*Launceston Examiner* Supplement 15 December 1899). Living adjacent to the bush had its challenges.

One local newspaper recorded:

'... In the case of Mr Pennefather's house a commencement has been made with the formation of a garden, a suitable area having been reclaimed from the wilderness and planted with trees and shrubs, under the direction of the Superintendent of Reserves (Mr W. McGowan). For the present the workmen's cottages surround an unsightly site of debris, but in a very short while each will have its garden patch, surrounded as is Mr Pennefather's with a neat picket fence. Unfortunately, "bunny" is much in evidence in the locality, and so far his depredations have somewhat heavily discounted the success of the horticultural operations of the little community...' (*Launceston Examiner* 27 September 1897 p.6).

The cottages proved a long-term home for some of the workers and their families. Scottish Engineer JW Macaulay retired after 36 years service in 1947, lamenting that when he started there were 12 men working at the plant but by the time of his retirement with technological advances it had dwindled to four (*Examiner* 28 May 1947 p.2). At the time of its closure, two of the Duck Reach workers had been long term residents. The engineer-in-charge, George Scott, had worked there for over two decades, and one of the operators, Robert Ramage, over 15 years. When the plant closed in 1954 the *Mercury* newspaper noted that: 'All will be sorry to leave one of the most pleasant and picturesque spots near Launceston' (*Mercury* 15 September 1954 p.23).

After the decommissioning of the station, the cottages and superintendent's residence passed into private hands. The latter was partially destroyed by fire in 2011, destroying a number of antiques and collectables

(*Examiner* 30 May 2011 p.5). In 2013 all the former workers' residences are used as private homes.

Suspension Bridge

Although access to the power station was initially via a flying fox, capable of holding up to three people, a suspension bridge was erected in 1896. The designer was City Surveyor St John David, who had also designed the power station, cottages and the Alexandra suspension bridge in Cataract Gorge (1904). There is a contradiction in the company responsible for the project. One source suggests the Salisbury Foundry undertook the work (Kozakiewicz, 1982 p.51) while a 1930s obituary in the *Examiner* recorded that the bridge had been erected by the shipwright and engineering firm Gurr: 'one of its biggest jobs was the erection of the suspension bridge at the Duck Reach Power Station' (*Examiner* 21 March 1932 p.6). In the 1929 floods, the northern pier of the bridge was washed away (*Examiner* 13 July 1929 p.11) replaced with a concrete pier in 1930 (*Examiner* 9 May 1930 p.4). The bridge was again destroyed in floods of 1969 (Kozakiewicz, 1982 p.96) and was not re-instated until the 1990s.

Bibliography

Commonwealth of Australia electoral rolls, 1903

Corbett, A. 1981, 'Corin, William (1867 - 1929)', *Australian Dictionary of Biography*, Volume 8, MUP
Daily Telegraph newspaper

de Gryse, J. Pty Ltd, 1996 *Launceston City Council: Cataract Gorge Reserve Management Plan*
Examiner newspaper

GHD, 2008, *Cataract Gorge Conservation Management Plan*, Launceston City Council

Godden McKay 1994, *Duck Reach Power Station Precinct Conservation Plan*. Report for Launceston City Council Steering Committee

Gojak, Denis, 1988, 'Gara River: an Early Hydro-Electric Scheme in Northern New South Wales', *Australian Historical Archaeology*, no.6, pp.3–11, http://www.ashadocs.org/aha/06/06_04_Gojak.pdf

International Conference on Large High Voltage Electrical Systems and the Association for the History of Electricity in France, 1996, *A Dictionary on Electricity: Contribution on Australia*

Kerrison, Janet, 1962, *Beaconsfield and its Mine*, Bachelor of Arts (honours) thesis, University of Tasmania, Hobart

http://www.ewh.ieee.org/r10/nsw/subpages/history/electricity_in_australia.pdf

Kozakiewicz, Mark, 1982, 'Duck Reach and the Electric Light Launceston' submission for Bachelor of Arts, TCAE

Launceston City Council, 1929, *City of Launceston: Tasmania, Mayor's Valedictory Address & Annual Department Reports 1928-1929*

Launceston City Council, 1930, *City of Launceston: Tasmania, Mayor's Valedictory Address & Annual Department Reports 1929-1930*

Launceston Examiner newspaper

Lee, Anthony, 2005, 'Nomination of Duck Reach Power Station as a Historic Engineering Marker', Engineers Australia, Canberra

McFie, HH, 1992, 'Duck Reach—The First Significant Hydro-Electric Development in Australasia', paper presented to the Sixth National Conference on Engineering Heritage, Hobart, 5–7 October 1992, Engineering Heritage Tasmania, Hobart

Marlborough Express newspaper

Mercury newspaper

Neale in Goad & Willis 2012, *The Encyclopedia of Australian Architecture* Cambridge University Press

Petrow, Stefan, 1995, 'The best governed city in Australia: Launceston 1885-1914' in *Occasional Papers of the Launceston Historical Society*

Johnson, Murray 'Cataract Gorge and Hydro-Electric Power' Chapter 19 in Richards, Paul & Johnson, Murray, (eds) 2003, *Health, Wealth & Tribulation: Launceston's Cataract Gorge* Myola House of Publishing Queen Victoria Museum and Art Gallery, LCC:1992:AD:003, architectural drawings for Duck Reach staff residences

Shoalhaven Telegraph newspaper

Tamar Regional Master Planning Authority & Launceston City Council, 1983 *Duck Reach Restoration and Development Proposal report*

Taranaki Herald (New Zealand) newspaper

Tasmanian Archives and Heritage Office, Minutes of the Directors' Meetings of the Mount Bischoff Tin Mining Company, NS 911/5

Tucker, DG, 1977, 'Hydro-Electricity for Public Supply in Britain 1881–1894', *Industrial Archaeology Review*, no.1, pp.126–63; cited by Gojak, Denis, 1988, 'Gara River: an Early Hydro-Electric Scheme in Northern New South Wales', *Australian Historical Archaeology*, no.6, pp.3–11

http://www.ashadocs.org/aha/06/06_04_Gojak.pdf

Warwick Examiner and Times newspaper

Weekly Courier newspaper

Statement of Significance:
(non-statutory summary)

The Duck Reach Power Scheme is of historical significance at a national level as one of the earliest power-stations developed in Australia to supply the public with electricity for general domestic use. It has special significance as the first government (municipal) developed and operated hydro-electric power scheme in Australia, the precursor to the development of major state government owned hydro-electric schemes across Australia and still ranks as the most ambitious scheme ever developed by a municipal government.

The Duck Reach Power Scheme was the largest hydro-electric scheme established anywhere in Australia prior to 1900, and demonstrates early hydro-electric infrastructure in Australia through its intact buildings and engineering structures including the weir and intake, pressure tunnel, tank and valve house, penstock and power station building, and through the remnants of plant and equipment that can be found at the site.

The Duck Reach Power Scheme is of particular historical significance in the evolution of power-generation in Tasmania which, more than any other state in Australia has centred on the application of hydro-electric technology. The scheme is associated with the transition phase between hydro power being brought into Tasmania by the private sector, for application in industrial enterprises such as at Mt Bischoff, Moorina and Mt Lyell (Lake Margaret) before being championed by the public sector for domestic and industrial use with the creation of the Hydro Electric Department in 1914. The scheme also demonstrates the provision of onsite staff housing, reflecting the higher operational and servicing demands of early hydro technology compared to the automated and remote control systems used today.

The Duck Reach Power Scheme incorporates fine representative examples of 19th century hydro electric engineering infrastructure, a Late Victorian suspension bridge and a cluster of Late Victorian bluestone staff cottages.

The Duck Reach Power Scheme has strong associations with a number of prominent engineers including engineer and surveyor Charles St John David and electrical engineer William Corin - who subsequently proposed the Snowy Mountains Hydro Electric Scheme.

The Duck Reach Power Scheme possesses aesthetic values for the visual composition of industrial buildings and structures in a natural 'wilderness' that has been the subject of popular photography and art for a century, and which is exemplified in the remarkable photographic imagery of the power station during the 1929 and 1969 floods.

Significance:

The Heritage Council may enter a place in the Heritage Register if it meets one or more of the following criteria from the Historic Cultural Heritage Act 1995:

a) The place is important to the course or pattern of Tasmania's history.

The Duck Reach Power Scheme is of historical significance at a national level as one of the earliest power-stations developed in Australia to supply the public with electricity for general domestic use. It has special significance as the first government (municipal) developed and operated hydro-electric power scheme in Australia, which would be the precursor to the development of major state-owned hydro-electric schemes across Australia, and which still ranks as the most ambitious scheme ever developed by a municipal government.

The scheme was the largest hydro-electric scheme established anywhere in Australia prior to 1900, and demonstrates early hydro-electric infrastructure in Australia through its intact buildings and engineering structures including the weir and intake, pressure tunnel, tank and valve house, penstock and power station building, and through the remnants of plant and equipment that can be found at the site.

The scheme is of particular historical significance in the evolution of power-generation in Tasmania which, more than any other state in Australia has centred on the application of hydro-electric technology. The scheme is associated with the transition phase between hydro power being brought into Tasmania by the private sector for application in industrial enterprises such as at Mt Bischoff, Moorina and Mt Lyell (Lake Margaret) before being championed by the public sector for domestic and industrial use with the creation of the Hydro Electric Department in 1914.

The ultimate product of the scheme – household electricity – changed the lives of Launceston residents, in some cases up to five decades earlier than other parts of Tasmania and opened the door for significant industrial development in the region, particularly after WW1.

b) The place possesses uncommon or rare aspects of Tasmania's history.

The Duck Reach Power Scheme is, on a national level, a very rare and intact example of a 19th century hydro-electric power station, associated civil engineering infrastructure and staff accommodation. Early power stations in Tasmania are endangered by disuse and abandonment (such as Waratah/Mt Bischoff and Moorina) or redevelopment pressures.

c) The place has the potential to yield information that will contribute to an understanding of Tasmania's history.

The Duck Reach Power Station and associated engineering infrastructure has the potential to yield information about early hydro-electric power technology and engineering in Australia, through examination of the remnant buildings and structures, surface and subsurface evidence of previous structures and equipment.

d) The place is important in demonstrating the principal characteristics of a class of place in Tasmania's history.

The Duck Reach power station and associated engineering structures are a fine and relatively intact example of an early hydro scheme in Australia, including the weir and intake, pressure tunnel, tank and valve house, penstock and power station building.

The suspension bridge is a fine example of the early application of this engineering technology in Tasmania, and demonstrates a finely-detailed southern tower of original bluestone.

The cottages are fine and predominantly intact examples of late Victorian bluestone cottages, their significance being enhanced by their grouping and their isolation from any modern development.

e) The place is important in demonstrating a high degree of creative or technical achievement.

The Duck Reach Power Scheme demonstrates a high degree of technical achievement for its ability to demonstrate late 19th and early 20th century hydro, hydraulic and civil engineering technology, including weir and tunnel, tanks, valve house, penstocks and manifolds, power station building and suspension bridge. In particular, the weir is remarkable for its innovation in integrating natural rock outcrops and low concrete walls whilst avoiding flood damage; the tunnel carved from the dolerite over 16 months is an interesting precursor to the tunnels of the Snowy Mountains Scheme that would follow 60 years later.

f) The place has a strong or special association with a particular community or cultural group for social or spiritual reasons.

The Duck Reach Power Scheme has a special meaning for the Launceston community, being an integral component of the Cataract Gorge public open space that runs through the heart of the city, and for pride in the leadership the city showed in developing hydro-electric power and the contribution the scheme made to the advancement of the community.

g) The place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history.

The Duck Reach Power Scheme has a special association with Launceston city surveyor Charles St John David, who was largely responsible for the design and construction of the scheme.

Electrical engineer William Corin also has a special association with the scheme. Corin was a pioneer in the experimentation of electricity and a proponent of the Snowy Mountains Scheme in NSW, his life achievement being acknowledged when a major reservoir in the ACT was named after him in 1968.

h) The place is important in exhibiting particular aesthetic characteristics.

The Duck Reach power station and associated engineering structures possess aesthetic value for the visual composition of industrial structures in a natural 'wilderness' that has been the subject of popular photography and art for a century. The contrast between man-made elements and the forces of nature is exemplified in the remarkable and widely reproduced photographic imagery of the power station during the 1929 and 1969 floods (Godden, McKay, 1994 p.18).

The cottages also form an attractive cluster of bluestone buildings in a bushland setting overlooking the river.

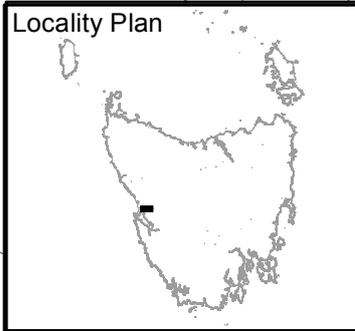
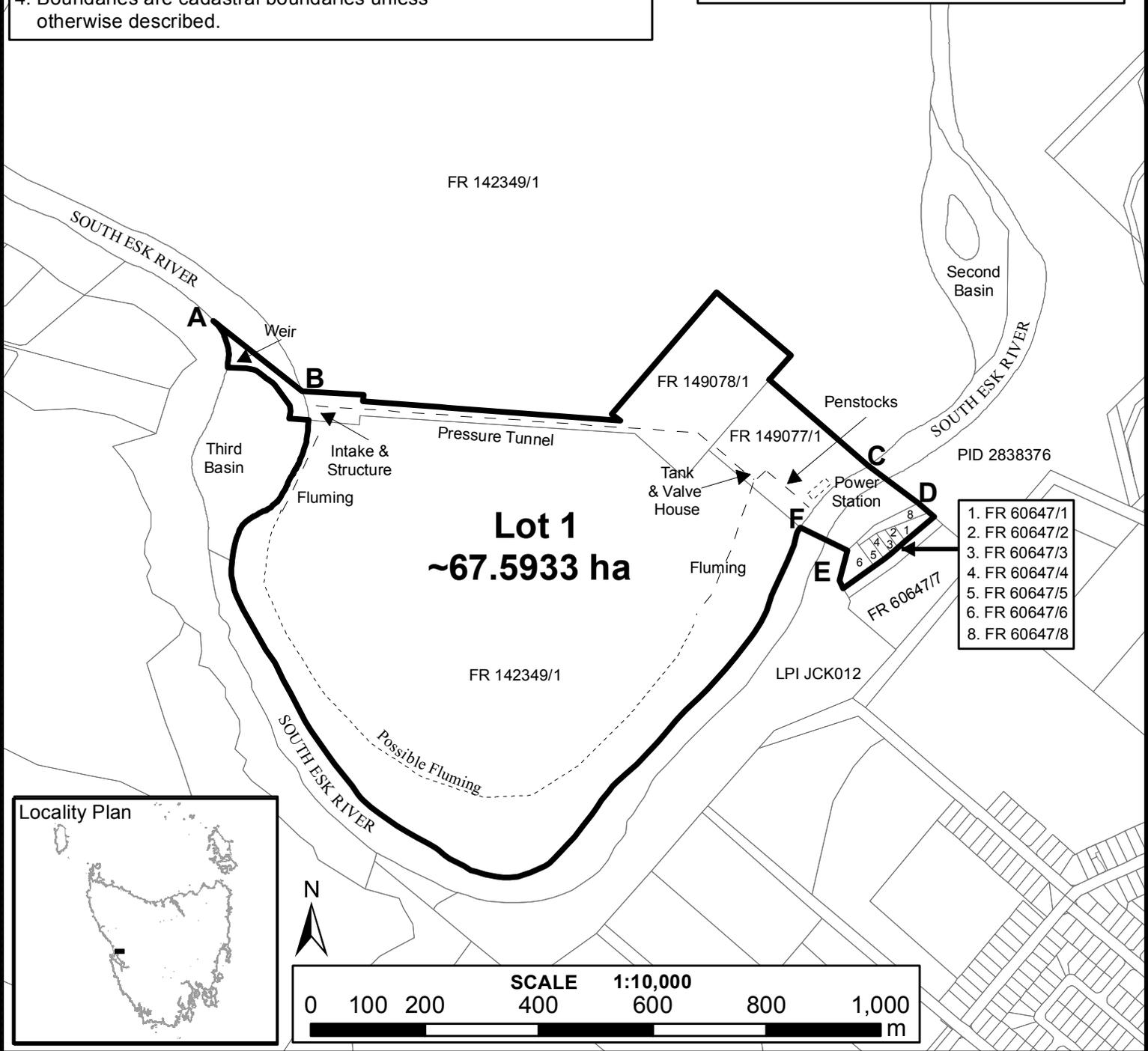
PLEASE NOTE This data sheet is intended to provide sufficient information and justification for listing the place on the Heritage Register. Under the legislation, only one of the criteria needs to be met. The data sheet is not intended to be a comprehensive inventory of the heritage values of the place, there may be other heritage values of interest to the Heritage Council not currently acknowledged.

Note

1. Lot 1 represent the registered boundary for 'Duck Reach Power Scheme', #11976 on the Tasmanian Heritage Register.
2. Lot 1 is the whole of FRs 149078/1, 149077/1, 60647/1-7, 60647/8, and part of FR 142349/1, the South Esk River and PWS parcel LPI JKC012, Potential PID 2229378, the boundary of which is marked by a thick black line and described below.
3. Details of individual land parcel boundaries may be accessed through the Land Information System Tasmania (LIST).
4. Boundaries are cadastral boundaries unless otherwise described.

Point and Boundary Descriptions

- A. Point 508240E, 5410550N.
 - B. North-west corner of FR 149078/1.
 - C. South-east corner of FR 149077/1.
 - D. North-east corner of FR 60647/8.
 - E. Corner node of FR 60647/6.
 - F. South-west corner of FR 149077/1.
- A-B, C-D, E-F are straight lines.
All other boundaries are cadastral boundaries.



TASMAP: LAUNCESTON - 5041 PROSPECT - 5040		GRID: MGA94 / ZONE 55	DATUM: AHD	CONTOUR INTERVAL: N/A		
No.	PRODUCTION / AMENDMENT	AUTHORITY	REFERENCE	DRAWN	APPROVED	DATE
1	Production	THC	11976	JS	DRAFT	DRAFT



Duck Reach Power Scheme
South Esk River, West Launceston & Trevallyn

PREPARED BY
HERITAGE TASMANIA

CENTRAL PLAN REGISTER

p.p. Surveyor General: _____

Date Registered: _____

CPR DRAFT