



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: Spiky Bridge
Status: Permanently Registered
Tier: State
State
State
State

THR ID Number: 1567
Municipality: Glamorgan-Spring Bay Council

Location Addresses

	<u>Title References</u>	<u>Property Id</u>
Tasman Highway road reserve, SWANSEA 7190 TAS		
Tasman HWY, Swansea 7190 TAS	151794/1	
Tasman HWY, Swansea 7190 TAS	172807/1	3495862



Dolerite spikes, Spiky Bridge
DPIPWE 2017



Culvert, drainage channel, dry stone wall, Spiky Bridge
DPIPWE 2017



Entrance to culvert, Spiky Bridge
DPIPWE 2017



Dry stone wall and culvert, Spiky Bridge
DPIPWE 2017



Shell lime mortar, Spiky Bridge
DPIPWE 2017



Dolerite spikes, Spiky Bridge
DPIPWE 2017



Roadway and walls, Spiky Bridge
DPIPWE 2017

Setting: Spiky Bridge crosses Lafarelles Gully, 6.5 km south of Swansea on Tasmania's East Coast. It was formerly part of the Tasman Highway, which has now bypassed it, the new road being only about 30 metres away on the seaward side. Spiky Bridge has an easterly outlook across the highway to Great Oyster Bay, and distant Schouten Island and the Freycinet Peninsula. On the upstream (westerly) side of the bridge is dry pasture with scattered brush, land which was added to the Kelvedon pastoral estate during the nineteenth century.

Description: Spiky Bridge is a distinctive, dolerite random rubble road bridge or causeway across Lafarelles Gully. The side walls of the bridge are topped with hundreds of vertically mounted large dolerite spalls up to 30 centimetres long, the appearance of which gives it the popular name the Spiky Bridge. The gully's intermittent stream flow is directed by two mortared stone wings on the bridge's upstream (westerly) side through a narrow arched opening or culvert in its base. Jagged dolerite stones have been used at the highest point of the segmental arched opening, giving it a spiky appearance in sympathy with the palisade above. The six-metre-wide carriageway has a central drainage opening on each side. Below the carriageway on the downstream (eastern) side is a steeply sloping drystone buttress comprised of flat dolerite stones packed

horizontally. This buttress, which was added in 1923 to strengthen the bridge, has two stone drainage features constructed with cement mortar: the archway (culvert), and a vertical channel draining the carriageway above. The bridge is constructed with shell lime mortar.

History:

Like the Three Arch Bridge (THR#1522), the Spiky Bridge was built by convict labourers based at the nearby Rocky Hills Probation Station (THR#1570), as part of construction of the coastal road which eventually became the Tasman Highway. Rocky Hills Probation Station was part of a network of stations and road gangs set up across Van Diemen's Land from 1839 to 1853 as part of the Probation System. The system replaced the Assignment System in which convicts had been assigned to labour for private individuals for the length of their sentence, a situation which many felt was open to abuses and did not encourage the moral reform of convicts. In contrast, in the Probation System convicts laboured during the first years of their sentences in probation stations on government projects where they could be (supposedly) subject to consistent discipline, reformatory training and moral and religious instruction. By good behaviour a convict could obtain a ticket-of-leave, and then perhaps a conditional or absolute pardon, ostensibly being reformed (Brand 1990, pp.17–20, 229–39).

The Rocky Hills Probation Station existed 1841–48, replacing an earlier station which housed the first convict road gang working in the area. The main purpose of the station was building the road to the north and south of the Rocky Hills (Syme 1848, p.201). An initial work party of 100 men left Hobart for the Rocky Hills in April 1841 ('Road parties' 1841; editorial 1841). The publication of a long list of working tools (everything from a brick-maker's moulds to blasting powder) required by the station in October 1841 suggests that it was still being established late in the year ('The Gazette' 1841).

Spiky Bridge is likely to have been built in 1843, after Major William de Gillern was appointed superintendent, with construction supervised by assistant superintendent Thomas Lafarelle. Government surveyor JE Calder's map confirms that the bridge existed by January 1844 (Glamorgan 2 map, AF398-1-536). Originally the road ran steeply down Lafarelles Gully and up the other side. Supposedly the impetus for the bridge came in 1843 when Edward Carr Shaw of the nearby property Red Banks (THR#1564) urged de Gillern to build a bridge across the gully, despite the absence of a permanent watercourse flowing through it. Shaw reputedly illustrated his case while driving the superintendent from Waterloo Point to Rocky Hills in a gig. He attacked the gully at a violent pace which he claimed was necessary in order to climb up the other side. De Gillern was so startled by almost being thrown out of the gig that he is said to have assented to the building project immediately (Smith 1969, p.67).

The construction of Spiky Bridge is a good example of making use of easily available resources. Dolerite was not a fashionable material in colonial Van Diemen's Land, but a utilitarian one, used when it was the material most readily to hand, and with tools of the time it could only be cut roughly, not into 'an elegant ashlar surface' suitable 'for the Regency taste' (Ratcliff 2015, vol.1, pp.216–17). Dolerite bluffs and outcrops are commonplace in the immediate vicinity. A likely quarry site for the large stones used at Spiky Bridge is a sheer-sided part of Lafarelles Gully downstream of the present road bridge, where large boulders are strewn about beneath blackberries. Likewise, in the absence of a conveniently located limestone deposit, the shell lime mortar used in the bridge was probably obtained from the beaches nearby. The shells would have been burnt in a lime kiln, one of which was built as part of the Rocky Hills Probation Station. The nearby surviving dolerite Three Arch Bridge (THR#1522) at Mayfield Bay and the dolerite foundations remaining from the old Stony Creek Bridge near Swansea confirm that East Coast convict road parties made good use of local materials.

The identities of the bridge builders are unknown. The prisoners at that time included 104 first class convicts, 82 second class, 91 third class, plus eight 'Canadian' political prisoners (mostly American citizens convicted of staging an uprising against British colonial administration in Quebec), a total of 285 convicts. Unfortunately, while the conduct records of these men confirm the dates of their service at the Rocky Hills, they do not mention specific tasks performed by the men.

The bridge was originally known as de Gillern's Bridge (Smith 1969, p.67). Edward C Shaw, a descendant of Edward Carr Shaw, claimed that at different times it bore the names Prisoners Bridge, Spiky Bridge, Stony Bridge and de Gillern's Bridge (Shaw 2000, p.109). However, during the 1850s, JB Cotton of the adjoining Kelvedon property (THR#1562) referred to it as Lafarelles Bridge (Cotton 30 August, 1 September and 16 October 1855, 9 and 13 May 1856), and the name Lafarelles Gully remains on the map today.

Under de Gillern's command, the Rocky Hills Probation Station came to be seen as one of the worst conducted of its kind. After spending months working at the station, James Syme called it a 'hot-bed of idleness and laxity of disposition' which left nearby settlers in dread fear of being murdered by escapees (Syme 1848, pp.191–93). Louisa Anne Meredith, of Cambria near Swansea, was unimpressed by the efforts of the Rocky Hills road gang, recalling that

'at one part of the road we found a gang of men employed in its improvement; forming, in the mean time, greater obstacles than they removed; and so they have continued to be employed ... and still, after nearly nine years, the comparatively trifling task remains unfinished. The mismanagement of the gang was evident

to the most casual observer; so notorious was their idleness, that it was a common thing to see them not even pretending to be employed, unless in making arbours of bowers to sit under in the sun! A more sleek-looking, stout, lazy fraternity, I cannot conceive possible. This herding together of so many idle men under the pretence of "doing probation", as they call it, must be injurious to the well-disposed among them, and is no punishment to the worthless' (Meredith 1852, pp.83–84).

When he inspected the Rocky Hills Probation Station in December 1846, acting Lieutenant-Governor Charles La Trobe sacked all officers on the spot except for medical officer George Story, reporting that 'the effects of bad management, inattention and inefficiency in the Officers of this establishment was evident in every detail ... The prisoners were noisy in the extreme, and exhibited a most disorderly appearance, they were badly clothed, their hair long, and about one half of them barefooted ... dirt and disorder, and want of method were met with in every quarter ...' (La Trobe to Early Grey; in Brand 1990, p.182).

The probation station's alleged laxity was perhaps even evident in the design of Spiky Bridge. A close inspection reveals two stages of construction. The main vertical walls of random rubble with the spiky palisade are of the original construction, although many of the stones had to be replaced in 1923 after flood waters caused the central, 27-metre-long section of vertical bridge wall on the eastern side to collapse. The sloping dry-stone buttress on the eastern side was also added in 1923 on the recommendation of Public Works Department (PWD) Inspector of Roads Lionel J Hobden to strengthen the bridge. This addition to the original structure used cement mortar rather than shell lime mortar around both the arch and the drainage channel at the centre of the dry-stone wall. At the time, Hobden described the original main wall as 'faulty being quite perpendicular with very small stone', and expressed surprise that 'such a wall has stood so long' (Hobden to Public Works Inspector, 11 December 1922, AD266/1/898).

Hobden's 1922 sketch of the damaged bridge included a 'culvert built of basalt rubble 6 feet high, 2 feet 8 inches wide (opening)' (Hobden to Public Works Inspector, 11 December 1922, AD266/1/898). This indicates that the original culvert had an arch like the present one, although Hobden did not indicate whether it then had the segmental stone section around it. In contrast to the original main wall, Hobden believed that his suggested dry-stone wall 'should be practically everlasting if well put together'. He reported that the required 400 cubic yards of 'basalt spalls' could be obtained close by (Hobden to Public Works Inspector, 11 December 1922, AD266/1/898).

As Hobden predicted, Spiky Bridge has lasted in its modified form for almost a century. However, widespread appreciation of the bridge developed gradually. It seems to have received little comment from mid-nineteenth-century East Coast settlers, perhaps because the Probation System was widely disparaged, convict infrastructure projects were taken for granted up until transportation of convicts ceased in 1853, and because the stigma of convictism lingered in Tasmania. The 'Through Tasmania' travel writers of the late 1870s and mid-1880s did not mention Spiky Bridge, Theophilus Jones preferring to shudder at the ruins of the Rocky Hills Probation Station than celebrate a convict-built bridge (Richardson 1877, Jones 1884). Indeed, despite the advent of illustrated newspapers in about 1895, it is hard to find a photo of the bridge in its original state: neither the *Tasmanian Mail* nor the *Weekly Courier* published an image of it during the first two decades of the twentieth century, when East Coast scenery was often featured.

Yet pride in the bridge was well established by the twentieth century, with both the Glamorgan Council and local residents voicing concern for its restoration and protection. PWD repairs to the bridge in the 1920s, 1950s and 1960s were sympathetic to its original style and historic significance. Edward C Shaw (2000, p.109) claimed that the dry-stone buttress added in 1923 was built by local stonemasons after the Glamorgan Council objected to a PWD plan to repair the damage to the bridge with concrete—although this contention is not supported by PWD correspondence on file. Aside from the addition of the dry-stone wall, the original stonework, capping and stone spikes were restored on several occasions (AD266/1/898)—using shell lime mortar in the capping, the part of the bridge most visible to the public. Spiky Bridge's unusual appearance was noted in popular publications while it was still an active road bridge (e.g. Sharland 1952, p.15), but perhaps only when the highway was diverted around the bridge in the 1960s, making its eastern side visible to passing motorists, did this become fully apparent to the public. A rest area added at the northern end of the bridge allowed people to stop their car and inspect the bridge on foot. By the 1960s, when appreciation of Tasmania's built heritage was increasing, it had become an historic landmark and curiosity with various speculations about the purpose of the probably ornamental spikes including prevention of stock and people from falling over the sides (Smith 1964, p.50; 1969, pp.66–67; Sharland 1966, p.50; Webb and Harding 1995, p.44; Tatlow, Woolley and Mercer 2008, p.78). Recent interest in convictism and the proliferation of travel blogs has given Spiky Bridge a strong web presence and helped to make it something of a tourist attraction.

Comparative analysis

Spiky Bridge differs markedly from most other convict-built Tasmanian bridges, such as the ashlar sandstone Richmond (THR#1101), Ross (THR#5289), Tacky Creek, Lovely Banks and Risdon Bridges, and the red brick Campbell Town (Red) Bridge (THR#4941). Architectural historian Eric Ratcliff called it 'the most

remarkable culvert in Tasmania' (2015, vol.4, p. 1957). It has structural similarities to the Strathroy (Kerry Lodge) Bridge (THR#4387) south of Launceston, which is another random rubble dolerite structure with a spiky palisade of vertical spalls. Mortared dolerite walls with a serrated profile, such as the ones bordering Kings Bridge, can be found around Launceston. There are very few other known similar examples of the dolerite spiky palisade although stones laid on edge are a common coping on dry stone rubble walls in the United Kingdom (Ratcliff 2015, vol.4, p. 1958).

Architectural historian Eric Ratcliff called the buttress added under Hobden's supervision 'the most impressive dry stone structure from the Van Diemen's Land era', noting its 'neat ends made like a wall-head' and the channel which drains water from the scupper in the parapet. He suggested this was the work of a skilled waller (Ratcliff 2015, vol.3, pp. 1509–10). While the 1923 buttress was a labour- and time-intensive solution to the problem of stabilisation of the bridge, it was sympathetic to the original design, original construction materials and construction technique. It is an early example of a sympathetic conservation approach used for a utilitarian, vernacular heritage structure. A similar, large, sloping drystone wall can be seen supporting the Gatekeeper's Lodge at the Cataract Gorge Reserve (THR#3955), albeit without the drainage devices.

Bibliography

Brand, Ian 1990, *The Convict Probation System: Van Diemen's Land 1839–1854*, Blubber Head Press.

Cotton, JB Kelvedon farm journals 1853–56 and 1856–59, University of Tasmania Library website, https://eprints.utas.edu.au/7876/1/dx19_23_J_B_Cotton_Journal_of_farming_operation_at_Kelvedon.pdf and https://eprints.utas.edu.au/7984/1/dx_19_24_Farm_Journal_1856-59.pdf, accessed 13 November 2017.

Glamorgan 2 map, drawn by JE Calder, January 1844, AF398-1-536 (TAHO), https://lincas.ent.sirsidynix.net.au/client/en_AU/all/search/results?qu=rocky&qu=hills&rw=48, accessed 30 November 2017.

Jones, Theophilus 'Through Tasmania: no.57', *Mercury*, 8 October 1884, p.1.

Meredith, Louisa Anne 1852, *My home in Tasmania: during a residence of nine years*, John Murray, London.

'Plan of land available for cultivation at Rocky Hills Probation Station', map by Thomas Lafarelle, 1845, CA84/33, Dixson Collection (State Library of New South Wales), http://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE3762479, accessed 30 November 2017.

Ratcliff, Eric 2015, *A far microcosm: building and architecture in Van Diemen's Land and Tasmania 1803–1914*, Fullers Bookshop & Foot and Playsted, Launceston.

Richardson, E Richall, 'A tour through Tasmania', *Tribune*, 4 October 1877, p.3.

Sharland, Michael 1952, *Stones of a century*, Oldham, Beddome & Meredith, Hobart.

Sharland, Michael 1966, *Oddity and elegance*, Fullers Bookshop, Hobart.

Shaw, Edward C 2000, *My memoirs laced with East Coast tales of Van Diemen's Land (Tasmania)*, no publication details.

Smith Roy S 1964, in Clifford Craig, Brian Lewis, Robyn Boyd, & Roy S Smith, *Priceless heritage*, Platypus, Hobart.

Smith, Roy S 1969, *Early Tasmanian bridges*, the author, Launceston.

'Spiky Bridge on Tasman Highway', Public Works Department file AD266/1/898 (TAHO).

Story, George Fordyce, 'Muster list for the Rocky Hills Penal Station, c1845–46 [sic]', C7-30b-Part I, George Story papers, University of Tasmania Archives, <https://eprints.utas.edu.au/18139/>, accessed 6 December 2017.

Syme, J, 1848, *Nine years in Van Diemen's Land: comprising an account of the discovery, possession, progress, population, value of land, herds, flocks etc*, the author, Dundee, Scotland.

Tatlow, Michael, Woolley, Charles & Mercer, Peter 2008, *A tour of old Tasmania*, Walk Guides Australia, Hobart.

Statement of Significance:
(non-statutory summary)

Spiky Bridge demonstrates the significance of convict labour in building public infrastructure in Van Diemen's Land, particularly, the work done by road gangs of the convict Probation period. With its later addition, the sloping dry-stone buttress wall on the seaward side, it demonstrates the continued development of Tasmania's road infrastructure in the twentieth century. This is a rare example of a Tasmanian dolerite road bridge, demonstrating the skilful utilisation of locally available materials and the work of a highly skilled stonemason. Spiky Bridge has a strong association with the Rocky Hills Probation Station road gang, which developed the East Coast road in the years 1841–48. It is a Tasmanian landmark, with both its convict origins and strikingly unusual design exciting the curiosity of travellers.

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.

Spiky Bridge demonstrates the significance of convict labour in building public infrastructure in Van Diemen's Land, particularly, the work done by road gangs of the Convict Probation period. With its later addition, the sloping dry-stone buttress wall on the seaward side, it demonstrates the utilisation of locally available materials and the development of Tasmania's road infrastructure over more than 170 years.

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

This is a rare example of a surviving convict-built Tasmanian dolerite road bridge. Only a few dolerite road bridges are known to have been constructed in Tasmania, and all were convict built. Of them only Spiky Bridge, Three Arch Bridge and Strathroy (Kerry Lodge) Bridge are known to survive today. The rough stone coping which gives the bridge its name is not unique, but seems to represent a style reserved in Tasmania for dolerite structures such as the Strathroy Bridge and the serrated profiles of Launceston walls (Ratcliff 2015, vol.4, p. 1982).

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

No Data Recorded

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

No Data Recorded

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

The dry-stone buttress used to strengthen the bridge on the eastern side demonstrates a high degree of technical achievement. Architectural historian Eric Ratcliff called it 'the most impressive dry stone structure from the Van Diemen's Land era' (2015, vol.3, p. 1509), and although it is actually from a later era, the use of 'platy jointed' dolerite which 'fractures into readily handled slabs' (Ratcliff 2015, vol. 1, p. 218) to form a strong wall with a drainage channel is very skilful. The dry-stone wall was built around a mortared stone-arch culvert and a mortared stone drainage channel from the carriageway above.

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

No Data Recorded

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.

Spiky Bridge has a special association with the Rocky Hills Probation Station road gang, which developed the East Coast road in the years 1841–48. Spiky Bridge and the Three Arch Bridge are the two principal surviving features of their work.

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

Spiky Bridge's highly unusual design, with its spiky parapet, random rubble dolerite walls and dry-stone buttress, have made it a well-known convict-era bridge and a Tasmanian landmark. It is almost the antithesis of the two best-known Tasmanian convict-built bridges, the classically-proportioned, sandstone Richmond and Ross Bridges, its jagged appearance exciting curiosity and admiration.

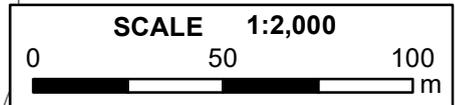
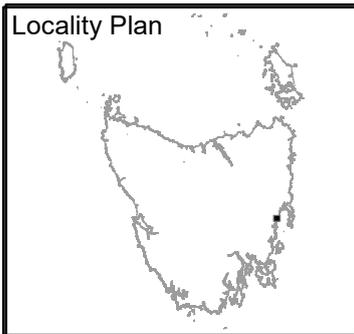
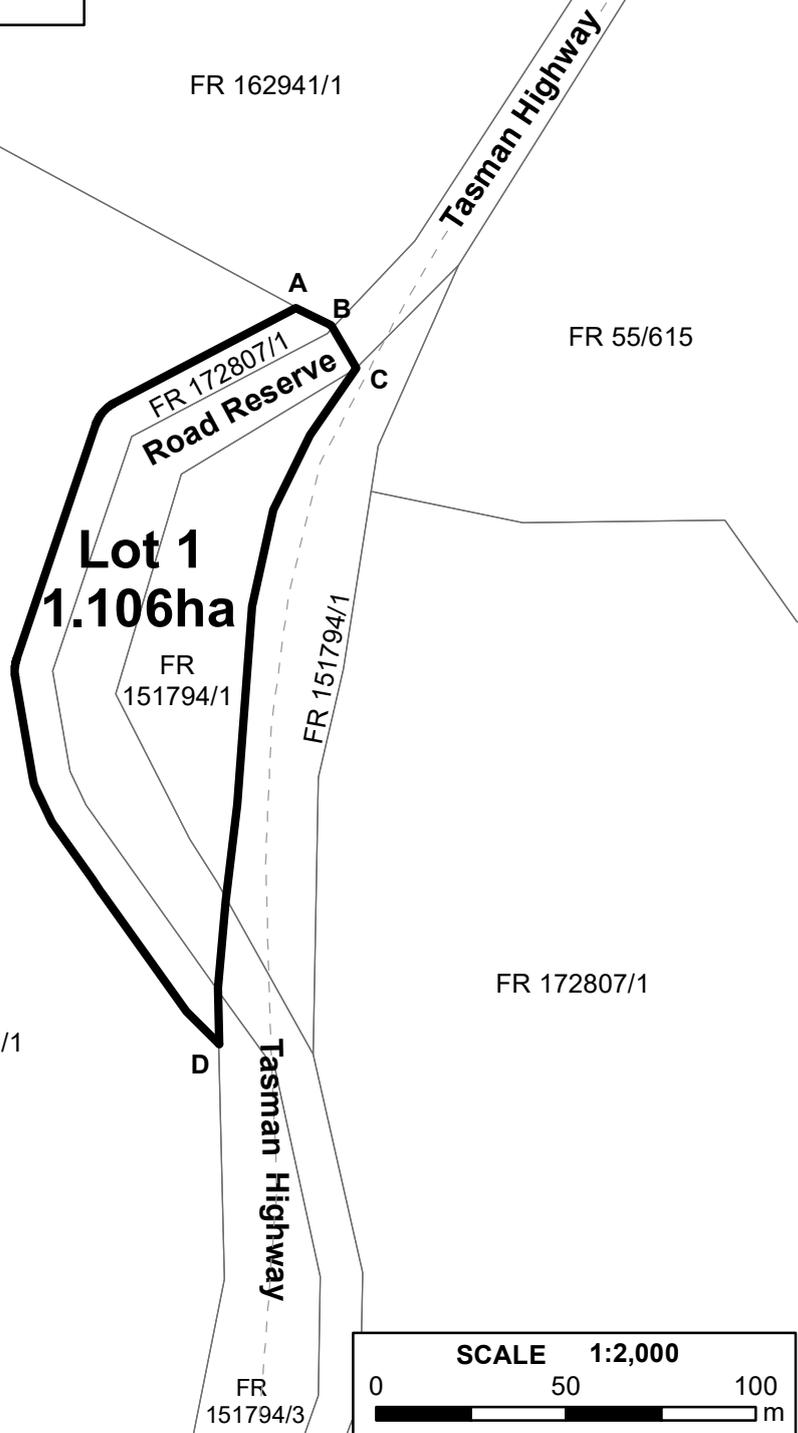
PLEASE NOTE This data sheet is intended to provide sufficient information and justification for listing the place on the Heritage Register. Under the legislation, only one of the criteria needs to be met. The data sheet is not intended to be a comprehensive inventory of the heritage values of the place,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

Note

1. Lot 1 represents the registered boundary for 'Spiky Bridge', #1567 on the Tasmanian Heritage Register.
2. Lot 1 is the whole of FR 151794/1 & Tasman Highway Road Reserve and the partial parcel of FR 172807/1, the boundaries of which are marked by a heavy black line.
3. All boundaries are parcel boundaries, details of individual land parcel boundaries may be accessed through the Land Information System Tasmania (LIST).

Point & Boundary Description

- A. Intersection between 10m buffer and parcel boundary.
- A-B. Straight line
- B. Intersect of parcel boundary & Tasman Highway parcel.
- B-C. Straight line
- C. Intesect of straight line & road parcel at 5329013N.
- C-D Western shoulder of Tasman Hwy
- D. Intersect of parcel boundaries at 5328834N.
- D-A Represents a buffer extending 10m from the Western edge of the road reserve parcel boundary.



TASMAP: MAYFIELD - 5831 **GRID:** MGA94 / ZONE 55 **DATUM:** AHD **CONTOUR INTERVAL:** N/A

No.	PRODUCTION / AMENDMENT	AUTHORITY	REFERENCE	DRAWN	APPROVED	DATE
1	Production	THC	1567	AW	DRAFT	DRAFT



Spiky Bridge

Tasman Highway, Swansea

PREPARED BY
HERITAGE TASMANIA



CENTRAL PLAN REGISTER



p.p. Surveyor General: _____

Date Registered: _____ XX-XXX-17

CPR
TBC