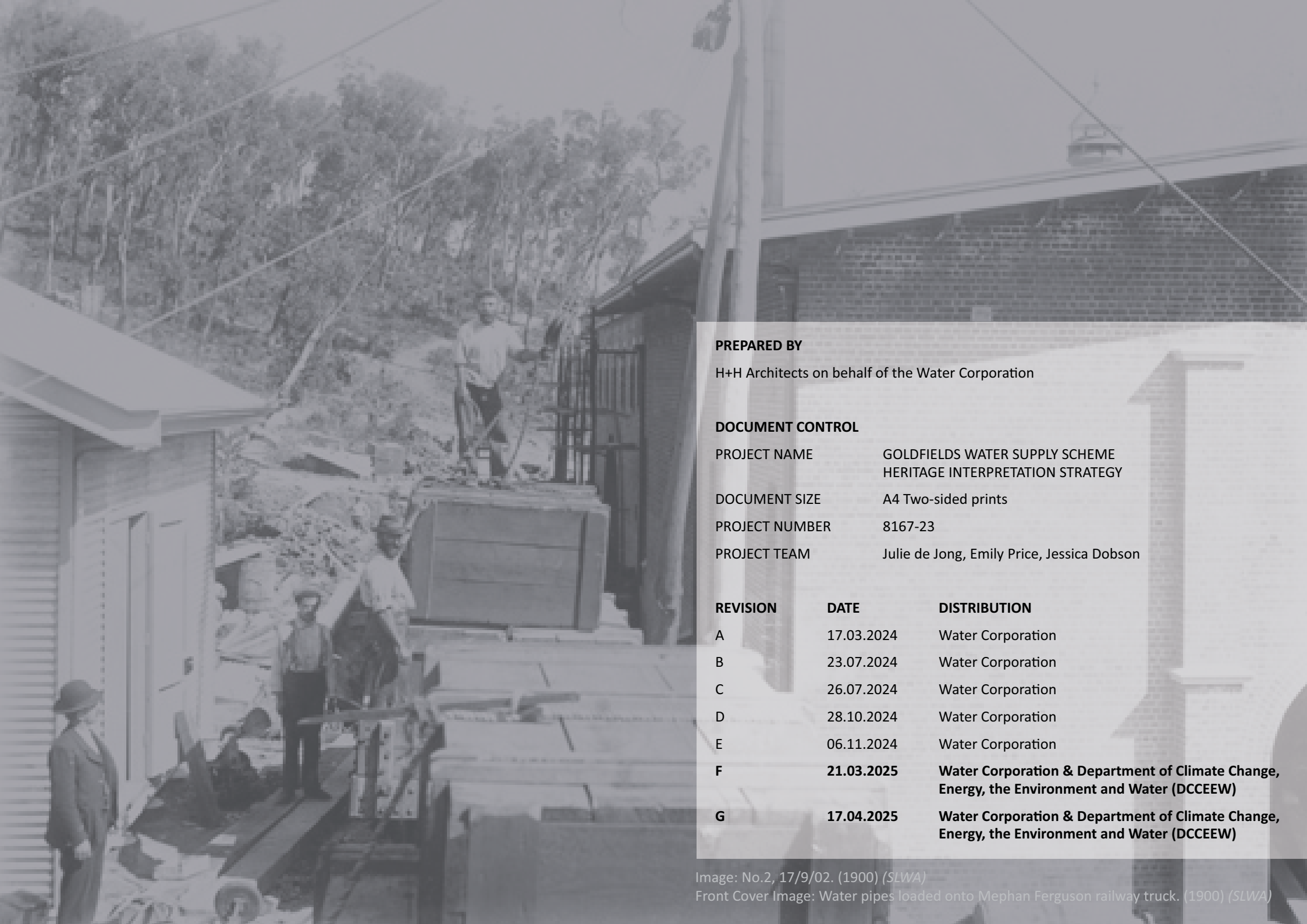


# GOLDFIELDS WATER SUPPLY SCHEME

## HERITAGE INTERPRETATION STRATEGY

Prepared on behalf of Water Corporation  
APRIL 2025



#### PREPARED BY

H+H Architects on behalf of the Water Corporation

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Image: No.2, 17/9/02. (1900) (SLWA)

Front Cover Image: Water pipes loaded onto Mephan Ferguson railway truck. (1900) (SLWA)

## Acknowledgement of Country

We acknowledge the First Nations People of the land on which we live, work and create. We pay our respects to Elders past, present and emerging.

We celebrate and embrace their continuing connection to land, water and community.

Aboriginal and Torres Strait Islander People are warned that this document may contain photographs and images of people who have died.

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## Introduction

### Introduction

#### Purpose of this report



H+H Architects have been engaged by the Water Corporation to undertake the tasks in preparing an Interpretation Strategy for the National Heritage Listed Goldfields Water Supply Scheme (GWSS), extending from Mundaring Weir to Kalgoorlie, with particular focus on the extant elements of the above-ground Pipeline which are proposed to be removed and replaced with underground pipe over the next 70 years.

This report is the final draft of the Heritage Interpretation Strategy, being an overview of the background information and proposed approach and implementation strategies for Interpretation. It has been informed by the 'Stories in the Pipeline' Public Research Project conducted by H+H Architects and Jouerdine Consultancy in 2023 on behalf of Water Corporation, as well as the Heritage Management Plan concurrently being prepared by Stephen Carrick Architects for the Goldfields Water Supply Scheme.

Image: No. 10 C.W.S. 30" pipes crossing a gully. (1900) (SLWA)

## Introduction

## Background information on the site Statement of significance

*The Goldfields Water Supply Scheme, first completed in 1903, spans across 560km of Western Australia's outback. Beginning at the Mundaring Weir approximately 41.5km East of Perth and terminating at the Mount Charlotte Reservoir in Kalgoorlie's East, the Scheme continues to provide the Goldfields with its primary source of water. The Goldfields Water Supply Scheme is recognised on the National Heritage List, due to its outstanding value to the nation both economically, and as a representative example of early 20th century engineering in Australia. The National Heritage List Summary Statement of Significance states; The Goldfields Water Supply Scheme incorporates the remaining elements of the Coolgardie Goldfields Water Supply Scheme, as designed by engineer Charles Yelverton O'Connor (CY O'Connor) and completed in 1903. These elements include the former steam powered pump stations (and associated receiving tanks), reservoirs, regulating tanks and over 560km of pipeline, commonly referred to as the 'main conduit'. It is significant for the economic benefits it brought to Western Australia and to the nation as a whole, for its demonstration of outstanding technological achievement for its time, and for its association with the engineer, CY O'Connor.*

*The Goldfields Water Supply Scheme was the impetus for agricultural expansion that was of lasting benefit to Western Australia and to Australia as a whole. Water from the pipeline became available just as the production of gold on the eastern goldfields was starting to decline, but its true value resulted from the effect that regular water supplies had in opening up the south-western agricultural area to production. As the value of gold recovered on the goldfields declined between 1905 and the 1960s, the quantity and value of wheat produced increased steadily over the same period. Today the Western Australian wheatfields are the most productive in Australia, accounting for 42% of the nation's wheat crop. Most of the WA wheat crop is produced in the areas serviced by the goldfields pipeline and its extensions, which continues to operate as a water supply scheme.*

*Both in the size of the project and in the use of new technology the Goldfields Water Supply Scheme was an outstanding technological achievement in the early 20th century. CY O'Connor's original scheme, known as the Coolgardie Goldfields Water Supply Scheme and consisting of the pipeline itself, the reservoirs, and the pumping stations, was regarded internationally as being the largest such engineering undertaking for its time. The amount of steel used in construction was greater than for previous large steel structures elsewhere in the world. The contracts for the supply of steel were the largest pipe contracts, and the most expensive Australian construction contracts, let to that time.*

*The Goldfields Water Supply Scheme (including the individual components) is of outstanding value to the nation as a representative example of early 20th century engineering in Australia. Principal characteristics of the Goldfields Water Supply Scheme include: Mundaring Weir (Dam) including the dam wall, spillway and two valve houses; Mount Charlotte Reservoir, the former pump station buildings (and receiving tanks); regulating tanks and the pipeline itself. The scheme is recognised by the American Society of Civil Engineers as an International Historic Civil Engineering Landmark.*

*The pipeline also made use of innovative Australian design in the locking bar pipe invented by Mephan Ferguson.*

*The refurbishment of the pipeline in 1933 was also a major technical development. Lifting the pipeline out of the ground and re-laying it above ground placed the Goldfields Water Supply Scheme among the world leaders in pipeline technology for the second time in less than 40 years. During this process, the forces in the continuously welded pipeline resulting from expansion and contraction were directed into reinforced concrete anchor blocks built over the pipe to prevent movement and to transfer these forces into the ground. This was the first time anywhere in the world that pipe anchorages of this type had been used to permit such a large diameter pipeline to be laid above ground.*

*The Goldfields Water Supply Scheme is significant for its association with the work of CY O'Connor, Engineer-in Chief of the Western Australian Public Works Department from 1891 to his death in March 1902. O'Connor was the driving force behind the construction of the Scheme, which provided great economic benefit to Australia. At the completion of the work, the Premier Sir John Forrest praised him as "the great builder of this work ... to bring happiness and comfort to the people of the goldfields for all time".*

## Introduction

## Background information on the site

### The natural context

*The pipeline component of the Goldfields Water Supply Scheme stretches 560km from Mundaring to Kalgoorlie. The terrain which the pipeline occupies is not included in the place, rather the extant fabric of the pipeline (including the remaining original steel pipes, the 1930s refurbished continuously welded pipe, 1950s replacements and concrete anchor blocks) constitute the boundary of this element of the Goldfields Water Supply Scheme. The following section describes the natural context which the pipeline traverses and the natural corridors which it occupies.*

*The Goldfields Water Supply Scheme is found within the south-west Australian biodiversity hotspot, which is the only Australian biodiversity hotspot amongst 34 described globally. This biodiversity hotspot rating is a reflection of the number of species restricted to the region also known as endemic species and the degree of historical land clearing for agriculture (Myers et al 2000; Conservation International: 2007).*

*The flora of south-west Australia is notable for its diversity with around 8000 species, and high endemism with 75-80% of species restricted to the southwest region. This floristic diversity occurs at the species rather than at the genera level, which is in contrast to other regions of Australia such as the rainforests of Queensland, where there is a great diversity of plant families and genera but relatively few species within each genus. The south-west Australian flora is dominated by speciose genera from the following botanical families: Myrtaceae (eucalypts and allies), Proteaceae (banksias and allies), Fabaceae (native peas) and Epacridaceae (southern heaths) (Hopper 1992).*

*Within the south-west, the Goldfields Water Supply Scheme pipeline corridor runs through three broad biogeographic regions that have been identified under the Interim Biogeographic Regionalisation of Australia (IBRA) classification scheme (Thackway et al 1995). These IBRA are the Jarrah Forest, Avon Wheatbelt and Coolgardie IBRA regions.*

*Along the Goldfields Water Supply Scheme corridor the vegetation grades from wetter eucalypt forests in the Jarrah Forest region through to sparse open eucalypt woodland, which is a reflection of the change in rainfall of 1300mm in the west at Mundaring to around 200-300mm around Coolgardie.*

*The Jarrah Forest Bioregion vegetation is dominated by jarrah - marri (*Eucalyptus marginata* - *Corymbia calophylla*) forest on the Darling scarp (300m high) grading to wandoo (*Eucalyptus wandoo*) and marri woodlands in the east, with extensive *Banksia* low woodlands on localised sandsheets (Mackenzie et al 2002).*

*The Avon Wheatbelt Bioregion has proteaceous heaths, rich in endemics on the higher weathered (lateric) and residual uplands, with mixed eucalypt and Jam-York (*Acacia acuminata* - *Eucalyptus loxophleba*) woodlands on lower areas of the region. The Avon Wheatbelt Bioregion is characterised by low relief, and is especially notable biologically as it straddles a transitional rainfall zone of 700mm in the west to 400mm in the east, which contains the south-west's most species-rich areas. This rainfall transition zone is thought to have been periodically drier in the past, for example during the last glacial maximum 18,000 years ago, and plant population expansion and retraction is theorised to have driven the south-west flora's higher speciation rates (Hopper 1992 & Mackenzie et al 2002).*

*The Coolgardie Bioregion vegetation has mallee (multi-stemmed) eucalypts, *Acacia* thickets and shrub-heaths on sandplains. The area is rich in endemic *Acacias* and highly diverse *Eucalypt* woodlands, rich in endemics, occur around salt lakes, on ranges and in valleys. The salt lakes have dwarf shrublands of samphire (Mackenzie et al 2002).*

*Goldfields Water Supply Scheme is a very narrow corridor, as it is a 30-inch (76.2cm) diameter pipeline, which intersects the bioregions described above. Much of the corridor has been cleared for agriculture, especially in the Avon Wheatbelt Bioregion. Reserves along the corridor include the Boorabin and Goldfields Woodlands National Parks in the Coolgardie Bioregion, however the values of the listing only encompass the pipeline itself.*

*Historically eight steam pump stations along the pipeline used timber for fuel, which were located at Mundaring Weir, O'Connor (2.5 km from Mundaring Weir), Cunderdin, Merredin, Ghooli, Gilgai, Yerbillion and Dedari. Further information on the impact of the Goldfields Water Supply Scheme on the environment is provided in subsequent sections.*

## Introduction

## Background information on the site Aboriginal heritage

*Sites of significance in Aboriginal culture are often associated with water. Approximately eighty Aboriginal sites are identified along the Goldfields Water Supply Scheme pipeline (DIA 2009). The highest densities of sites occur in three places: at the beginning of the pipeline, at Mundaring Dam and Helena River; about 80 kilometres from Mundaring at Northam, and at Coolgardie and Kalgoorlie, at the end of the pipeline (DIA Sites Register, 2009). As a result of environmental disturbances associated with the building of the pipeline and earlier infrastructure, many Aboriginal sites have been disturbed. The greatest environmental impact occurred at the beginning of the pipeline, at the Mundaring Dam.*

*Webb (2004) notes that few of the water sources on Hunts Track have been recorded as Aboriginal sites, and that there are issues with the accuracy of site locations and the lack of a systematic archaeological survey of Noongar Aboriginal sites and complexes, including rock art sites.*

*The most important totem in the south of Western Australia is the snake Woggal, also known as Waugyl/Waugal (Bates 1985). The Mundaring area, a highly significant and sensitive mythological area, has ongoing associations with the Waugyl spirit. The Mundaring (Mundjalline) myth links the Helena River east via Mundaring to the Swan River and west to York (Villiers 2007). Aboriginal people moved via the Helena River and Canning River valleys through the Darling Escarpment (Villiers 2007). "It is noted that a number of Aboriginal see the construction of the Mundaring Weir as a desecration of a highly significant site which should not have occurred" (Villiers 2007, 15).*

*The Mundaring Dam and weir has eleven registered DIA sites and the Helena River has four, including a total of three ceremonial/mythological sites and one quarry. The remainder are artefacts/scatters. A local history of the area identifies a ceremonial one-metre high rock site that depicts two intersecting snakes below the weir (Quicke 1979). The Mundaring Corroboree Grounds (Booralyn) below the weir wall is listed as interim on the DIA register due to lack of information (Villiers 2007). Maamba Reserve is registered as Welshpool Reserve.*

*Many Aboriginal sites along the pipeline are of ongoing significance to Aboriginal people who visit them regularly today. Sites identified on the pipeline include corroboree grounds and soaks associated with trade routes, wells, granite outcrops, birthing rocks on the Avon River at Northam, cave and rock paintings near Kellerberrin and a number of secret/sacred sites (The National Trust 2001). Bates (1985) recorded the presence of cave paintings as the identifier of Karatjibbin initiation grounds and cites Kellerberrin as an example.*

*The Goldfields Pipeline traverses the traditional lands of Aboriginal people who identify themselves as Noongar, Ballaruks peoples and Ballardong, all represented by the South West Aboriginal Land and Sea Council, the Gubrun and Kalamaia Kubun, represented by the Central West Goldfields People and the Widji represented by the Goldfields Land and Sea Council Aboriginal Corporation Central Desert Native Title Services (National Native Title Tribunal).*

*Justice Wilcox noted the ongoing relationship contemporary Noongar Aboriginal people have to their country.*

*"I have concluded that the contemporary Noongar community acknowledges and observes laws and customs relating to land which are a recognisable adaptation to their situation of the laws and customs existing at the date of settlement. In particular, contemporary Noongars continue to observe a system under which individuals obtain special rights over particular country – their boodjas – through their father or mother, or occasionally a grandparent. Those rights are generally recognised by other Noongars, who must obtain permission to access another person's boodja for any traditional purpose. Present day Noongars also maintain the traditional rules as to who may 'speak for' particular country" (Indigenous Law Bulletin 2007).*

## Introduction

## Background information on the site The GWSS (Goldfields Water Supply Scheme)

**GWSS:** *The Goldfields Water Supply Scheme is a late 19th century/early 20th century inter-basin transfer water system which extends from Mundaring Weir (Dam) in the west (approximately 41.5 km east of Perth), to Mount Charlotte Reservoir at Kalgoorlie in the east. The Scheme stretches from the Darling Ranges across the arid interior of Western Australia, a total distance of some 560 kilometres. Included are:*

- *the main reservoirs: Mundaring Weir (Dam) and Mount Charlotte Reservoir;*
- *the main conduit of the pipeline (including all locking bar pipe, wood stave pipe and continuously welded pipe) which stretches 560km from Mundaring in the west to Kalgoorlie in the east;*
- *the remaining six of the eight original pump stations (Nos 1, 3, 5, 6, 7 and 8) including remaining equipment;*
- *the remaining four associated holding tanks (located at Steam Pump Stations Nos, 2, 4, 7 and 8); and*
- *the four regulating tanks located at Bakers Hill, West Northam; Bullabulling and Toorak Hill.*

**HOW THE PUMP OPERATED:** *Pump Station No1 pumped water directly from the Mundaring Weir. The water was pumped the short but steep distance (over a lift of 128.3 meters) to the receiving tank at No 2 Pump Station known as O'Connor. Pump Station No 2 pumped the water to the highest tank on the pipeline: Bakers Hill. The water was gravity fed to the regulating tank at West Northam. Continuing under force of gravity, the water arrived at the former railway tank (also referred to as a reservoir) at Cunderdin. The adjacent Pump Station No 3 pumped the water to the receiving tank at Cunderdin. From Cunderdin the remaining pump stations and associated receiving tanks are generally located an even distance apart. The water continues to be pumped the round tank at Merredin (Pump Station No 4), onto the tank and Pump Station at Yerbillion (Pump Station No 5) followed by Ghooli (tank and Pump Station No 6); to Gilgai (tank and Steam Pump Station No 7) to the final tank and Steam Pump Station No.8 located at Dedari. From Dedari the water was pumped to the Bullabulling Reservoir and on to the Toorak Hill Reservoir which was gravity fed and delivered the water to its final destination the Mount Charlotte Reservoir in Kalgoorlie (Ghassemi and White (2007).*

## Introduction

## Background information on the site The Pipeline & Pump Stations

**THE PIPELINE:** *CY O'Connor's 1903 pipeline is commonly referred to as the 'main conduit' of the Goldfields Water Supply Scheme and is approximately 560km in length (National Trust of Australia (WA) 2002). It commences at Mundaring Weir and terminates at Mount Charlotte Reservoir. Much of the pipeline is aligned with the current Great Eastern Highway. The pipes were made of 30-inch diameter steel. Originally (1903) the pipeline was buried underground, however, refurbishment in the 1930s raised the pipeline and it now rests on reinforced concrete anchor blocks (RICHCU 1999a). It is estimated that 60% of the pipeline is original. Still in use today (2009), the pipeline is in operating condition and continues to service the community.*

*The pipeline is a visible icon stretching across Western Australia's arid interior. The pipeline consists of:*

- *the length of the main conduit of the pipeline from Mundaring Weir (Dam) to Mount Charlotte Reservoir at Kalgoorlie;*
- *the reinforced concrete anchor blocks;*
- *caulked joints;*
- *stop and reflux-valves; and*
- *locking bar pipes.*
- *Reservoirs*

**PUMP STATIONS:** *Eight steam powered pumping stations were required to transport the water the 560km from Mundaring to Kalgoorlie. The pump station buildings are aesthetically pleasing, architecturally designed, purpose built industrial structures. It is believed that the Pump Stations were designed by George Temple Poole (RICHCU 1999x, during his time as a consulting architect with the Public Works Department of the Coolgardie Water Supply Branch. They were constructed by the Western Australian Department of Public Works (RICHCU 1999m p.52). Architecturally the Pump Stations are not indicative of a single style or type. However, a number of stylistic elements contribute to the symmetry and form of these industrial buildings. Of notable importance are the large Romanesque arch, Baroque style canopy, bulls-eye windows, long Georgian windows with deep sills reported by RICHCU 1999m p. 83) as reflecting generally Baroque characteristics. The pump stations themselves were substantial buildings of wire cut red brick constructed in an English bond, with cut and struck lime mortar joints. Roof fabric was generally corrugated iron roofs supported on steel trusses with timber fascias. Each pump station had a similar layout consisting of a boiler and pump room separated by a passage way (Foxley 2008 and RICHCU 1999m). The pump (also known as engine rooms) contained the engines, pumps and working benches for maintenance works. The lower levels of the pump rooms were constructed of concrete with a cement mortar. Steel joist provided the formwork for the upper work levels, which were finished with Jarrah floors. Boiler rooms contained the boilers, an economiser, boiler feed pumps and a large arched doorway where coal was delivered for the boilers. Each pump station also featured a circular chimney constructed from steel. Some were later replaced with brick chimneys due to corrosion damage. Those with brick chimneys' retained the circular profile and featured an English brick bond a with lime mortar. The chimneys height was generally approximately 135 feet (41 metres) high and gently tapered. Chimneys were connected to the boilers and economisers by a brick tunnel flue. The Steam pump stations were initially powered by coal, but later changed to run on wood (RICHCU 1999m).*

*At six of the pumping stations, concrete lined holding (also referred to as suction and regulating tanks) were constructed adjacent to the pump stations. Water was pumped into the holding tank through the previous stage of the pipeline and was drawn from these tanks by the pump for transmission through the next stage of pipeline to the holding tank at the next pumping station. The exceptions were at Station No 1, which drew water directly from Mundaring Weir (Dam) and Station No 3, where a nearby 10 million gallon (37.8 million litres) capacity reservoir had been previously constructed for the railway (National Trust 2000, Vol 208).*

# KEY OBJECTIVES

Why are we doing this?  
What will we interpret?  
How will we do it?

Image: View from wall site, looking east showing temporary weir, part of the Goldfields water supply scheme. (1898) (SLWA)

## Key Objectives

### Heritage Interpretation Strategy

#### Why are we doing this? What will we interpret?

The intention of this Interpretation project is to achieve the following objectives:

- Address the loss of significant heritage fabric of the *Goldfields Water Supply Scheme*, specifically with the burial of the above-ground pipeline which is intended to be removed progressively over the next 70 years and replaced with underground pipe
- To increase public understanding of the heritage values of the *Goldfields Water Supply Scheme*, particularly those stories and perspectives which are lesser known or have been forgotten over time.
- To encourage a better public understanding of how the *Goldfields Water Supply Scheme* is a part of a broader cultural story of water scarcity in the interior of Western Australia, so that the important legacy of the Scheme, and other water farming innovations that came before it, continues to be valued by current and future generations, despite there being less tangible physical evidence of the Scheme to remind people of its existence.
- To improve the visitor experience for people who directly interact with the elements of the *Goldfields Water Supply Scheme*, stimulating their further learning and to encourage the high level public awareness and support necessary for the long-term survival of cultural heritage values.

Recognizing that there is already a wealth of interpretative material and content available for the *Goldfields Water Supply Scheme* covering stories told all the time, we intend to interpret **the forgotten or untold stories**, using the remaining built fabric, salvaged elements and explanatory material in a variety of media to allow the sharing of different perspectives so that the unique associations and meanings are retained and enhanced. The Key Themes and Stories to be interpreted are outlined later in this report.

According to the Burra Charter, *Interpretation* means all the ways of presenting cultural significance of a place and may be a combination of treatment of the fabric; the use of and activities of the place; and the use of introduced explanatory material. It is proposed to utilize all these methods to interpret the cultural heritage significance of the *Goldfields Water Supply Scheme*, maximizing the opportunities to engage with the public and providing a range of different modes for engagement:

### Heritage Interpretation Strategy

#### Proposed methods for interpretation

##### STATIC INTERPRETATION

- Ongoing preservation and maintenance of the heritage fabric, particularly the remaining sections of Pipeline, as well as the Pump Stations and supporting infrastructure, allowing the fabric of the place to speak for itself wherever possible, and acknowledging that the values and meanings of a place are inherent in the fabric.
- Print and electronic publications, particularly where these enable us to share stories that rely on longer narratives, mainly comprising an information-distribution platform
- On-site and directly related off-site installations that are placed at strategic locations, or enable the public to engage with content when visiting a particular location such as signage panels or static displays

##### INTERACTIVE INTERPRETATION

- Digital interpretation to allow a more diversified, experiential and interactive approach and enabling new connections between heritage elements and the public (augmented reality, audio-visual presentations, podcasts, etc.)
- Interactive displays that stimulate further learning and exploration, and which encourage connection with objects, displays and settings

##### ACTIVITY-BASED INTERPRETATION

- Community art activities that **creatively integrate heritage objects**/materials salvaged from the place into new design elements, installations and features. These are created by local people and contribute to their sense of place and reinforce their local connection with the heritage fabric by incorporating it into their place-making practices
- Research and engagement projects that include the **capture of information and stories** as part of their outputs, allowing the process to be as much an interpretation “deliverable” as the end product. These projects aim to reveal the nature and extent of individual and community connections with a heritage place, often by collectively gathering special knowledge and memories held by particular people and sharing these with the broader public (where appropriate). These research projects are particularly targeted around understanding and celebrating social values and meanings, sometimes in less tangible mediums than other kinds of interpretation.

# CURRENT INTERPRETATION CONTEXT

What interpretation elements are already in place?

Image: Along the track joining the pipes together for Mundaring Weir. (1900) *James, Jack Harry (SLWA)*

## Current Interpretation Context

## Goldfields Water Supply Scheme - General Interpretation Description



**THE GOLDEN PIPELINE PROJECT:** The *Goldfields Water Supply Scheme*, extending 560km from Mundaring Weir to Mt Charlotte Reservoir, has a large number of sites hosting interpretive elements along its route. The Golden Pipeline Project, developed by the National Trust in conjunction with Western Australia's Water Corporation and local government authorities, was initiated with the aim of ensuring the outstanding engineering feat was recognised for its impact on the community of Western Australia. The Project led to the development of the Golden Pipeline Website and Golden Pipeline Heritage Drive Trail, which locate sites of state and national heritage significance along the *Goldfields Water Supply Scheme* and allow travelers to create a self-drive trail to discover the history of the Pipeline. The Golden Pipeline website includes an interactive map which allows users to virtually travel to each site, providing photos and information on areas of significance. Also included is information about the key people behind the *Goldfields Water Supply Scheme's* development and the engineering feats that led to its success. The National Trust have also created a series of educational resources in the form of information sheets, which provide information on the *Goldfields Water Supply Scheme*, the Politics behind it, the construction of the Scheme as well as information on CY O'Connor, the man behind one of Australia's greatest engineering feats of the nineteenth century.

The website continues to be funded by the Federal Government as part of its commitment to conserve and interpret sites of national heritage significance and the Drive Trail is managed in conjunction with the local government authorities it passes through. Originally funded by grants from the Western Australian Water Corporation, the Western Australian and Australian Governments, as well as subsequent funding from many other bodies, the Golden Pipeline Project has various other objectives additional to the website and Drive Trail such as conservation works at the pump stations, the redevelopment of No 1. Pump Station, and the development and maintenance of a series of walking trails in the vicinity of Mundaring Weir as well as a multi-use trail between Mundaring Weir and Northam. For more information please see: <https://www.goldenpipeline.com.au/>



**THE EXPLORERS' WELLS AND TRACKS' PROJECT:** The Explorers' Wells and Tracks' Project was initiated in association with the Eastern Goldfields Historical Society with the aim of restoring and protecting the wells and tracks built by Charles Cooke Hunt. *Goldfields Road* (13534), established by Hunt from 1866, also known as the York to Goldfields Road, was the primary route for travellers to the Goldfields in the late 1800s and early 1900s. The Explorers' Wells and Tracks' Project as led the conservation and repair of many of Hunt's tracks and wells along this route. A website developed provides information and photos of each well site and travel information for 4WD groups travelling along Hunt's tracks. Now listed on the State Heritage Register, *Goldfields Road* (13534) is a significant piece of infrastructure that influenced the stages and locations of development in the Goldfields, including the *Goldfields Water Supply Scheme*.

Charles Hunt, sent to find arable pastoral land east of York between 1864 and 1866, led four expeditions into the eastern interior of Western Australia. The third and most significant expedition lasted from January to October 1865. With a party of six pensioner guards, George Mundial (an Aboriginal man who accompanied Hunt on all his expeditions) and 10 convicts, Hunt cleared a track some 500 km to the east, sinking wells at convenient intervals. The wells were generally located at the base of granite outcrops, sites well known to Aboriginal people as sources of water. Whilst at the time Hunt's efforts were not considered a success, his track and wells influenced the route for the *Goldfields Water Supply Scheme*, as they provided a reliable water source for workers and travellers to use whilst they established more significant water storage infrastructure as they constructed the Pipeline. For more information please see: <https://wellsandtracks.com.au/about>

## Current Interpretation Context

### Mundaring Weir Description

*Mundaring Weir (Dam) is located at Weir Road, Mundaring, Western Australia. The site is in the valley of the Helena River on the western slopes of the Darling Range, 30 kilometres east of Perth City Centre and approximately 560 kilometres west of Kalgoorlie. The weir (dam) is located at the narrowest part of the steep-sided valley with the impounded lake stretching in a south-easterly direction for 16 kilometres (RNE Entry Mundaring Dam and Helena River Reservoir). The two main arms of the lake to the east and south-east are fed by the Helena River and the Darkin River respectively. Mundaring Weir is recognised as a large dam (Cole 1999 p.4-27). The spillway occupied such a large proportion of the crest that it lead to people referring to it as a weir (Doherty 1999 p. 4-16).*

#### **INCLUDES:**

THE WEIR (DAM) WALL;  
SPILLWAY;  
THE FOOTWALK ACROSS THE CREST OF THE WEIR (DAM) WHICH IS A RECONSTRUCTION OF THE ORIGINAL; AND  
THE INNER AND OUTER VALVE HOUSES.

*Mundaring Weir (Dam) represents the start of the Goldfields Water Supply Scheme. The Mundaring Weir (Dam) was completed by 1902 and damed the Helena River. Mundaring Weir (Dam) was the highest gravity dam constructed in Australia between 1871 and 1910 (Doherty 2000: p.21). It is a curved concrete face dam and when completed measured 61 meters in height above the lowest foundation level (Doherty 2000: p. 26). This type of dam was selected as its design could assist in managing the predicted flooding from the 1,450m<sup>2</sup> catchment area (Cole 1999: p.1-6). The height of the wall was raised to 71 meters in 1951 which increased the dam's capacity to 60,000m<sup>3</sup> (Doherty 2000: p. 39). While the weir (dam) wall has been raised it retains its original 1902 appearance and profile. The Mundaring Weir (Dam) spillway has been identified as a nationally significant example of an early twentieth century ogee spillway (Kinstler 2000 p.191). It is located on the left hand side of the dam and allows the discharge to flow over the dam face onto the granite rock foundations. The capacity of the spillway is 1,000m<sup>3</sup> (Kinstler 2000: p.191). - Australian Heritage Database*



MUNDARING WEIR

## Current Interpretation Context

### MUNDARING WEIR HERITAGE INTERPRETATION

**TRAIL:** Also known as the Weir Walk. A signposted walk around the Mundaring Weir reveals the history of the place, where visitors can walk at their own leisure and take in the enormous infrastructure of the Weir as well as the local flora and fauna that surrounds it. When the gates are open, visitors can cross the dam wall and look out over the weir and the spillway opposite.



## Mundaring Weir

### Existing Heritage Interpretation

**THE KEP TRACK:** The Kep Track follows the original railway line built to service the Goldfields Water Supply Scheme, starting at Mundaring Weir and terminating at Poole Street Bridge in Northam. The trail runs passes through Mundaring, Sawyers Valley, Mount Helena, Chidlow, Wooroloo, Wundowie, Bakers Hill, and Clackline. There is various interpretive signage in each townsite, and at areas of significance along the trail, providing historical information on the trainline and the Goldfields Water Supply Scheme. With multiple access roads to the trail, visitors can choose to walk or ride sections at their leisure.



### No. 1 Pump Station - Mundaring Description

*No 1 pump station is located at the base of Mundaring Weir and is currently operated by the National Trust of Australia (Western Australia). It is operated as a visitors centre and has been known as the CY O'Connor Museum since it opened in 1963 (RICHCU 199b) . Pump station No 1 was operational by December 1902. Sir John and Lady Forrest opened the pump station on 22nd January 1903 (National Trust of Australia (Western Australia 1999). Unlike the other pump stations, water was delivered directly from the Mundaring Weir (Dam) via a pipe which ran under the pump station (Foxley 2008). Pump station No 1 ceased operating in 1955. It consists of (RICHCU 1999b and 1999m):*

- *the pump station building;*
- *all three of the original Babcock and Wilcox water tube boilers with superheaters, as installed at this station;*
- *air compressors;*
- *the chains from the scrapers which removed the soot from the tubes and the governor that controlled their movement;*
- *the brick chimney stack which was installed in 1910 measuring approximately 41 metres high (this replaced the original steel chimney which had been damaged by corrosion);*
- *the one remaining Worthington duplex engine (there were originally three installed at this station);*
- *the remaining fabric of the standpipe (which was supplied by Mephan Ferguson and designed by James Simpson and Co); and*
- *the lime-setting tank.*

*(Australian Heritage Database)*



NO.1 PUMP STATION

## Current Interpretation Context

### No. 1 Pump Station - Mundaring Existing Heritage Interpretation

**C. Y. O'CONNOR MUSEUM, MUNDARING:** No.1 Pump Station has been converted to a museum, showcasing the history and technology behind the Goldfields Water Supply Scheme. A combination of static interpretive signage, as well as a collection of artefacts and interactive elements that engage guests of all ages. An interactive pump simulator encourages visitors to learn how the Goldfields Water Supply Scheme pumps water from Mundaring Weir to Mt Charlotte Reservoir, using multiple pump stations. Starting at station one, people can pump the water to station two. They then must move to station two to pump the water to station three, and so forth, until it reaches the final station. It is a good example of how information can be interpreted through actions and play rather than static signage. National Trust volunteers are available to provide additional knowledge about the scheme and school tours, tailored to the Western Australian curriculum, can be booked in advance, with schools having the option to utilise the No.1 Pump Learning Centre on site. Toilet facilities on site make it easy to bring children out to the museum for a day trip. No. 1 Pump Station is still intact with original equipment still on display for visitors. The building is in good condition and original features have been maintained. The museum is currently closed due to concerns for the structural integrity of the original brick chimney stack adjacent.



CY O'CONNOR MUSEUM

### No. 2 Pump Station - O'Connor Description

*The site of the No 2 pump station is located 2.5 km from No1 (Mundaring Weir/Dam). The positioning of the pumping station was thoroughly investigated (consideration was given to the geology and topography) and the final position selected was a flattened area on the eastern slope of the hill. From pump station No 2 (O'Connor) water was pumped to the tank at Bakers Hill. Pump station No 2 ceased operating in 1956 and was demolished in March 1968. Interpretive signage has been installed, indicating the presence and function of the former pump station. The site is important for its relationship with the original Coolgardie Water Supply Scheme as designed by CY O'Connor (RICHCU 1999c). The site is managed by the Water Corporation (WA) and was not in use at the time of the site visit (2008). Extant fabric includes (RICHCU 1999c):*

- *remains of the concrete suction tank (also referred to as a receiving tank) supported by dry rubble backing and earth filling, including drainage, pipe work and access stairs.*

*(Australian Heritage Database)*



PIPELINE

## Current Interpretation Context

## No. 2 Pump Station - O'Connor

### Existing Heritage Interpretation & Connected Secondary Sites

**NO. 2 PUMP STATION HERITAGE TRAIL:** Starting at No. 1 Pump Station, visitors can walk 2.5km along a heritage trail to the site of No. 2 Pump Station. Whilst No. 2 Pump Station is no longer extant, visitors can learn about the history of the station through interpretive signs placed along the trail. The remains of No. 2 Pump Station's concrete receiving tank, as well as sections of original pipeline, remain at the site with illustrated signage explaining their purpose and the technology used to lift water over the Darling Range.



**CONNECTED SECONDARY SITES - WOOROLOO RESERVE:** Artists Peter Dailey, Stuart Elliot and Michelle Elliot collaborated with the children at Wooroloo Primary School to create a public artwork, located at Wooroloo reserve, that expresses the impact water from the Pipeline has had on people living on the fringes of the urban landscape. A reliable water source meant people could develop and diversify industry outside of the limits of Perth City. Once the Goldfields Water Supply Scheme was established, reliable work could be found outside the City and growing populations of people brought their families up in rural Western Australia. The artwork reflects on this, drawing on relatable visual references to communicate the impact the Pipeline has had over time. The work is a good example of interpretation involving community engagement, and how heritage themes and lived experience can be conveyed through public art.



## Current Interpretation Context

### Bakers Hill Regulating Tank & West Northam Regulating Tank Description & Existing Heritage Interpretation

**BAKERS HILL:** Located at Bakers Hill the regulating tank was built to control the water flow at the highest point between pumping stations 2 and 3. It consists of:

- the concrete lined tank; and
- timber framed railway platform.

**WEST NORTHAM:** Located at West Northam the regulating tank was built to maintain water pressure at the standard required for working order. Just after Station No 2 the pipeline crossed a high ridge, and the Station pumped the water for 37 km with a net lift of 104 metres to Bakers Hill. It appears that there is no extant fabric relating to this individual element.

*(Australian Heritage Database)*



## Current Interpretation Context

## West Northam Regulating Tank

### Existing Heritage Interpretation & Connected Secondary Sites

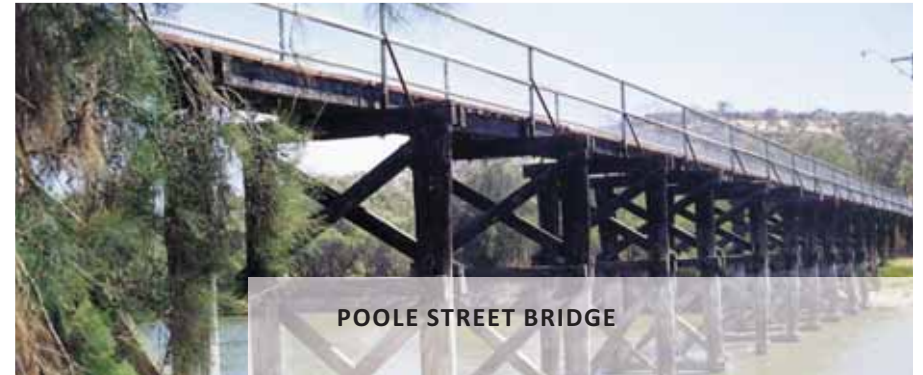


OLD RAILWAY STATION MUSEUM

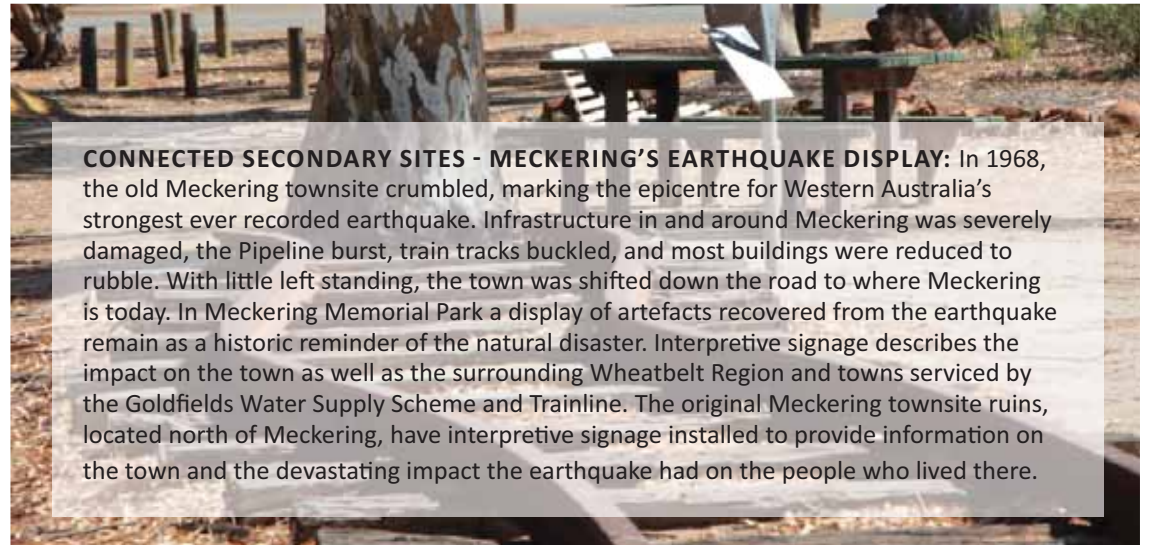
**OLD RAILWAY STATION MUSEUM, NORTHAM:** The Historic Railway Station in Northam was a stopping point for passengers travelling along the original trainline that ran alongside the Goldfields Pipeline. Now converted to a railway museum, the refurbished building houses exhibits including a locomotive, coaches, guards van, freight wagons, all with plaques providing information on their historical use. The Goldfields Water Supply Scheme was intrinsically linked to the railway system. Various machines and equipment were transported along the railway to build and service the Pipeline. The museum provides a family friendly environment for adults and children to view and interact with the historic equipment and machines and learn about the technology used at the time of the Pipeline's construction.

**GOVERNMENT WELL, NORTHAM:** Old Government Well, Northam (ACH#3368) - located in proximity to the Avon River and a known corroboree site and water source.

**POOLE STREET BRIDGE, NORTHAM:** Originally built to carry the pipeline over the river, the Poole Street bridge was converted to a pedestrian crossing after the 1930's when the pipe was re-laid. The Bridge is now closed off from public use for safety reasons. The Kep Track, a walk trail following the line of the historic railway that was built to service the Goldfields Water Supply Scheme, terminates at the Bridge and interpretive signage on the Scheme is located adjacent for visitors to read.



POOLE STREET BRIDGE



**CONNECTED SECONDARY SITES - MECKERING'S EARTHQUAKE DISPLAY:** In 1968, the old Meckering townsite crumbled, marking the epicentre for Western Australia's strongest ever recorded earthquake. Infrastructure in and around Meckering was severely damaged, the Pipeline burst, train tracks buckled, and most buildings were reduced to rubble. With little left standing, the town was shifted down the road to where Meckering is today. In Meckering Memorial Park a display of artefacts recovered from the earthquake remain as a historic reminder of the natural disaster. Interpretive signage describes the impact on the town as well as the surrounding Wheatbelt Region and towns serviced by the Goldfields Water Supply Scheme and Trainline. The original Meckering townsite ruins, located north of Meckering, have interpretive signage installed to provide information on the town and the devastating impact the earthquake had on the people who lived there.

## Current Interpretation Context

### No. 3 Pump Station - Cunderdin Description & Existing Heritage Interpretation

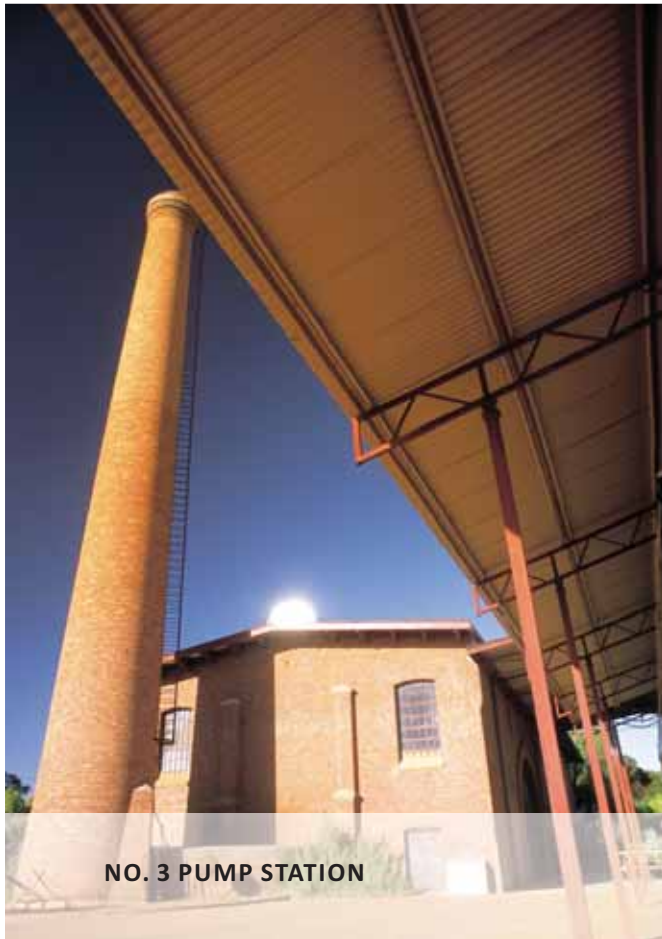
No 3 pump station is located at 100 Forrest Street, Cunderdin. Pump station No 3 ceased operating in 1956 (National Trust of Australia (WA) 2002). It is open to the public and serves as a local district museum. Pump Station No 3 was completed in 1902. A receiving tank was never constructed for this steam pump station. Rather, No 3 utilised an existing reservoir previously constructed for the railway. It consists of (RICHCU 1999(d)).:

- the pump station building;
- the 1919 brick chimney (the only other steam pump station to have a brick chimney was Pump Station No 1);
- the one remaining Worthington duplex engine (originally three were installed at this station); and
- the only Venturi water meter which survives at any of the stations.

(Australian Heritage Database)

#### CUNDERDIN MUSEUM

Located in the No. 3 Pump Station, the Cunderdin Museum is home to a wide array of heritage artefacts and interpretive displays depicting the design and construction process of the Goldfields Water Supply Scheme, highlighting the cutting-edge technological advances used at the time of construction that were integral to the Pipeline's success. Externally the museum displays a mixture of artefacts, including salvaged Pipeline infrastructure and a collection of local artefacts that help to showcase the town's history.



NO. 3 PUMP STATION



CUNDERDIN MUSEUM

## Current Interpretation Context

### No. 3 Pump Station - Cunderdin Connected Secondary Sites



**CUNDERDIN HILL LOOKOUT:** The Cunderdin Hill Lookout provides a view over the town, where visitors can see the Cunderdin Water Supply Reservoir as well as the original Cunderdin Reservoir's Caretakers Cottage. The decommissioned building is now used by the local golf club as a storage facility. A sign at the lookout shows the various distances of surrounding towns however no interpretive heritage elements directly linking to the Goldfields Water Supply Scheme exists currently at the site.



**C.Y. O'CONNOR COMMUNITY PARK, CUNDERDIN:** The C.Y. O'Connor Community Park, located adjacent to the Bicentennial Park and Cunderdin Museum in Cunderdin's town centre, features interpretive signage with information about the Baladong people, their connections with plants and animals, the seasons, and the importance of water and fire. Text has been provided in both Noongar and English translations. At the entrance to the park a section of gold pipeline has been installed on a plinth with a plaque about C.Y. O'Connor and the Goldfields Water Supply Scheme. The interpretation at the Park is aimed at children, with bright colours, graphic illustrations and minimal text appealing to a young demographic. Large silhouettes of local wildlife species have been installed amongst the landscaped sections of the park and a welcome sign in both Noongar and English welcome visitors to the place.



CUNDERDIN MUSEUM



## Current Interpretation Context

### No. 3 Pump Station - Cunderdin Connected Secondary Sites



RAILWAY WATER TOWER



TAMMIN



KELLERBERRIN



**RAILWAY WATER TOWER, CUNDERDIN:** The Railway Water Tank was erected in 1906 to serve No. 3 Pump Station. The large square iron tank is supported by a timber frame. No longer in use, the tank was listed on the State Heritage Register in 2001. Whilst the site has no existing interpretation, it serves as a major landmark in the town.

**HUNT'S WELL, TAMMIN:** Located on the former Railway Reserve, South of Tammin, one of explorer Charles Hunt's Wells is located at the base of a granite outcrop that was utilised historically for water harvesting. Hunt's Well (ACH#17300) is the site of a significant Aboriginal campsite and water source. Charles Hunt surveyed and cleared a track that ran from York to Kalgoorlie, establishing a series of wells along the way for pastoralists and travellers to utilise during their journey. Hunt relied on Aboriginal trackers to locate Gnamma Holes and natural springs along the route. Convicts then built stone lined wells that tapped into the water source. Hunt's work meant that travel between York and the Goldfields became possible, as before the trainline was established, travellers, pastoralists, and livestock alike would perish from dehydration before reaching their destination due to the lack of reliable water sources over the long distance. Hunt's route was the only established route to the Goldfields at the time it was established. In later years, Hunt's route influenced the alignment of the telegraph, railway and Goldfields Water Supply Scheme. At the site, a small picnic area has been established as well as a plaque that provides insight into the history behind the Well.

**HUNT'S WELL, YOUNDEGIN:** During his expeditions, Charles Hunt marked a notable spring that appealed as a site to establish a stopping point along the route to Kalgoorlie and a stone well was constructed. Shortly after in 1865 the Youndegin Police Outpost was constructed adjacent to the Well, and Youndegin became an established rest point. The abandoned station has since been state heritage listed and a plaque at the site has been erected with some of the history of the place. Visitors can walk a few hundred meters to visit Hunt's Well, which is one of the few wells that are not fenced around the perimeter. A memorial commemorating the first European settlement in the district has also been erected at the site.

**KOKERBIN ROCK PIONEER WELL:** Kockerbin Rock, 30km South of Kellerberrin, is a large granite rock formation, believed to be Australia's third-largest monolith. At the entrance to the site a picnic area has been established adjacent to a stone Pioneer Well that remains at the site. Existing signage includes maps for various walk trails that have been established, as well as information on the site, including its cultural and heritage significance.

**KELLERBERRIN ROCK CATCHMENT AND DAM:** Kellerberrin Rock is a large granite outcrop that was adapted to harvest water to supply the railway. The Rock's water resources have been used by Aboriginal people for millennia, with multiple gnamma holes located across the granite outcrop. Stone walling was built along the rockface to direct water runoff to a dam catchment below. The dam now supplements the local water supply. No notable interpretation on the Goldfields Water Supply Scheme or the history of water farming is currently present. A lookout northeast of the site gives visitors an outlook over the town of Kellerberrin and the surrounding landscape, and in itself has inherent social value.

## Current Interpretation Context

### No. 3 Pump Station - Cunderdin Connected Secondary Sites



BAANDEE LAKES



JUREEN MISSION



**JUREEN ROCK, BAANDEE LAKES & MISSION SITE:** A cluster of registered Aboriginal sites located between Kellerberrin and Doodlakine, on the intersection of Mission Road and old Goldfields road, with the transcontinental rail line running just to the south. The Jureen Mission (also known as Old Jiriny Mission) was built on a traditional Aboriginal campsite in 1933 to accommodate Aboriginal people displaced by expanded agricultural activities in the region. The Mission operated until the 1960s and is a registered Aboriginal site (ACH# 5070) and is located near a series of ceremonial and ritual sites including Jureen Rock (ACH#15140) and Sharks Mouth Rock (ACH#5071) which are dominant features in the landscape. Aboriginal men from Jureen Mission were known to harvest salt from nearby Baandee Lakes and sell it back to farmers for their livestock. In the 1930s it was found that the lakes were rich in gypsum and mining of the material continued until the 1960s when constant flooding of the salt lakes hampered extraction.

**HUNT'S WELL, MOORANOPPIN:** Mooranoppin Well is stone lined on three sides and is more of a large soak than a well. It's located to the south of Goldfields Road, west of Jureen Rocks and is along a lane between paddocks. On his 1864 Exploration Eastward of York C.C. Hunt recorded the name for this rock in his Fieldbook and on various Exploration Plans as Maranobbing. He also recorded Maranabbing, Marenabing, Maranobbine, Marranobbing Rock and Spring. At the time Hunt camped at Mooranoppin it was Robert Hardey's sheep station. In 1871 Alex Forrest recorded Morannupping as the Homestead of Mr Leake and then in 1872 rendered it as Moranupping Spring and Well and Mooranupping Spring. Their attempts at rendering the Aboriginal pronunciation of the word into English eventually resolved to Mooranoppin. There is no specific evidence in any of Hunt's diaries that his team developed the native well at Mooranoppin although the amount of time spent there and the number of times it was used as a stopping place when Hunt or the party had to fall back would suggest that it was. The site is fenced and there is a plaque dating from 1988 commemorating the site.

**OLD DOODLAKINE TOWNSHIP:** The original Doodlakine Township was established next to one of Charles Hunt's Wells, now known as the Doodlakine Well. Hunt's Track that became the main road between York and Kalgoorlie ran through the centre of town. The new railway established in 1893 became a much faster travel alternative to Hunt's Track. Whilst it followed the general alignment of Hunt's Track, the railway was built 5km south of the town. In a short period of time the original townsite had been abandoned. Buildings were disassembled and rebuilt around the new railway station. All that remains at the original townsite is Hunt's Well. A heritage walk trail has been established at the old townsite and interpretive signage with information on the Old Doodlakine, the establishment of the railway, and the impact the Goldfields Water Supply Scheme and associated infrastructure had on small regional settlements.



KOKERBIN ROCK WELL



MOORANOPPIN



HUNT'S WELL DOODLAKINE

### No. 4 Pump Station - Merredin Description

*No 4 pump station is located at Merredin approximately 3 kilometres west of the Merredin township along the Great Eastern Highway. It is approximately 219 kilometres from the Mundaring Weir and was completed around April 1902. It is one of three generations of pump stations at this location (RICHCU 1999g and 1999m. Operations ceased at pump station No 3 in 1956, when replaced by an electronic control system. The pump station has been fenced in with chain mesh to protect it from vandalism and can be viewed from the outside. It consists of:*

- *the pump station building;*
- *coal bin;*
- *remnant rail trestle;*
- *weighbridge;*
- *the remains of the chimney flue;*
- *three control valve pits;*
- *blow off pits;*
- *water gauge;*
- *overhead travelling crane;*
- *concrete pits forming former lines of pipeline; and*
- *a round receiving tank (also referred to as a suction tank). The original capacity of the tank was one million gallons (4.5 million litres).*

*(Australian Heritage Database)*



NO. 4 PUMP STATION

## Current Interpretation Context

### No. 4 Pump Station - Merredin

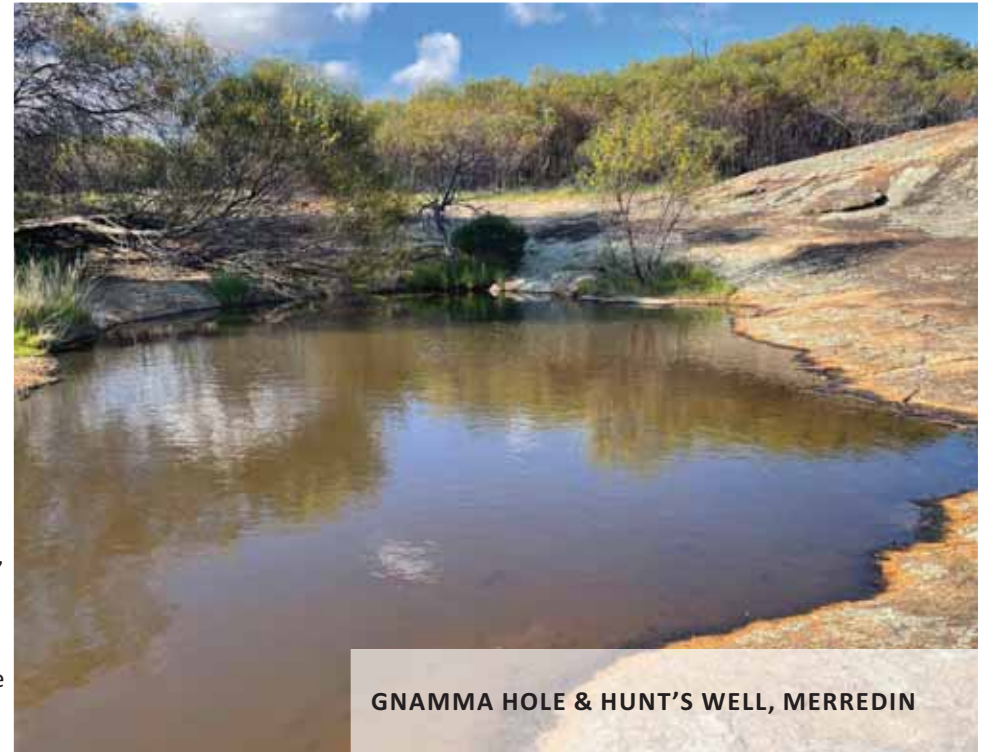
#### Existing Heritage Interpretation & Connected Secondary Sites

**NO. 4 PUMP STATION, MERREDIN:** No. 4 Pump Station is a unique site to view the advances in innovation and technology over the life span of the Goldfields Water Supply Scheme. The original steam powered pump station is still extant and can be viewed at a distance however is closed to the public due to asbestos contamination on the site. Adjacent to it is the electric pump station built to replace the steam powered station that was closed in 1960 and further away is the latest electric pump station that is still in use today. An Engineer's house (c1920s) still remains to the east of the pump station.

**CONNECTED SECONDARY SITE - TOTADGIN ROCK & HUNT'S WELL MERREDIN:** Totadgin Rock is a large granite outcrop with striking formations, including a 'wave' formation. There are numerous Gnamma Holes across the rock that have been a source of Aboriginal water farming for millenia. At the base of Totadgin Rock is one of Hunt's Wells. An interpretive walk trail at the site guides visitors on a walk around the Rock and past the Well. Interpretive signage provides information about Hunt's Well, the Goldfields Water Supply Scheme, the geology of the site and other relevant information such as the site's flora and fauna. Most signage is positioned along the walk trail, however there is general information about Totadgin Conservation Park at the entry near the carpark which is adjacent to a small public picnic and barbecue area.



**CONNECTED SECONDARY SITE - GOLDFIELDS ROAD, MERREDIN:** Goldfields Road is significant in representing the original track between Perth and the Yilgarn Goldfields in the early 1890s, where the water sources had been identified and established by the surveyor Charles Hunt. In 1865, Surveyor Charles C. Hunt passed through what became the Merredin region exploring and mapping inland areas. He sank a well at Merredin Peak at the site of a natural spring and recommended that a 20 acre reserve be created around the well. With the discovery of gold in the Yilgarn, prospectors beat a track (Goldfields Road) from York to the north side of Merredin Peak, which was a watering and camping spot for travellers. The first Merredin townsite was established near the well. The area was declared Merredin Peak Reserve 2914 on 19 March 1891, but when the Goldfields railway line was built to Southern Cross in 1894 it passed south of the Peak, so a new townsite was established at the railway siding that became an important railway centre and a junction for lines branching out into the newly developing Wheatbelt.



**GNAMMA HOLE & HUNT'S WELL, MERREDIN**

### No. 4 Pump Station - Merredin Connected Secondary Sites

**MERREDIN PEAK RAILWAY DAM:** Merredin Peak, like other similar granite outcrops, was a resource used and maintained by Aboriginal people for Aboriginal water farming for millenia. In the 1800s the site was identified by European settlers as a water farming site. A strategically placed rock wall was constructed to direct rainfall run-off from the rock into a dam, historically used to supply the railway. At the site, visitors can walk along a 2.25km interpretive trail, which has signage about the history of the place. Also still extant are the quarry sites rock was mined from to build the walls around the granite peak. A system of water catchment and storage comprising a well (1865) and a rock catchment (1895) with channel walls constructed of stone that feed a former railway dam. The retaining wall and water channels direct run-off from the granite outcrop into the holding dam. The rock was quarried from various parts of Merredin Peak. There is a sluice gate that controls the water into the dam.

Railway Dam is significant for the design and construction that represents innovative responses to water collection and storage in a harsh environment, including the systems associated with steam trains and the railways that are no longer practiced. It was important for its key role in the development and expansion of the Eastern Goldfields by providing a water source for travellers on the Goldfields Road, including European explorers, sandalwood cutters and settlers, and after the construction of the dam also for the steam locomotives of the Eastern Goldfield Railway line from 1895 to 1969. Its historical significance includes associations with the explorer and surveyor Charles Hunt, who developed a series of wells and catchments in the district, and with Public Works Department engineers C.Y. O'Connor, who oversaw the provision of water to the Goldfields regions through the 1890s, and William Herbert Shields, who designed the dam and other similar railway water supply facilities between the towns of Northam and Coolgardie. The artificially-constructed features of the place complement and contrast with the natural environment, with low scale meandering stone catchment walls, imposing slab rock channels, a picturesque, water filled dam and raised dam embankments, providing a built aesthetic in the otherwise harsh natural goldfields landscape.

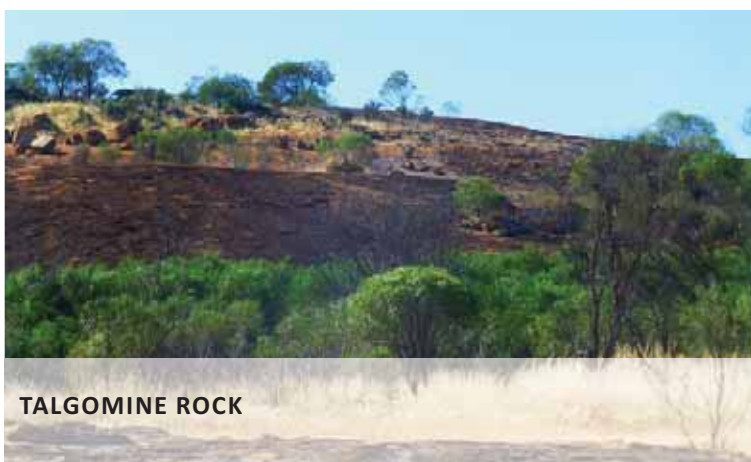
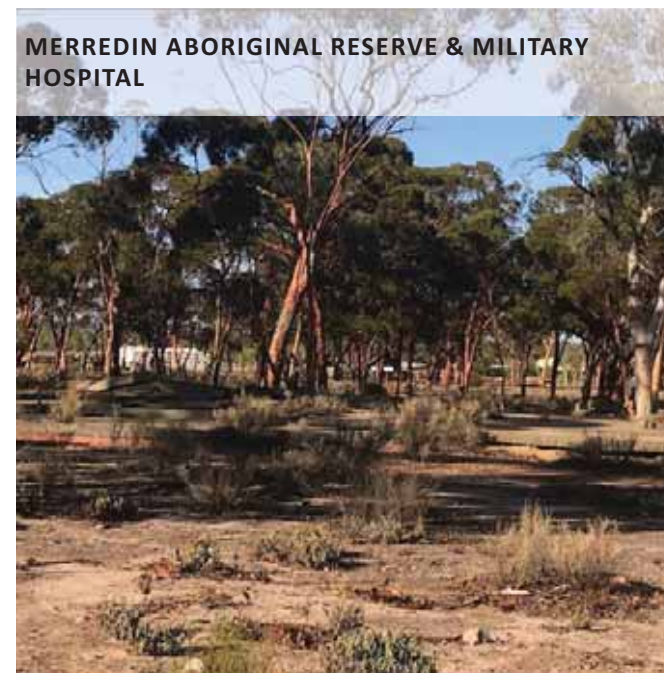
The water from Railway Dam was pumped to the water tower in the Merredin railway yard. The water tower comprised a square tank with a capacity of 40,000 gallons (182,000 litres) on a 45ft (12m) high stand. The water was gravity fed from the water tower to the railway engines. At some time, a caretaker's house was provided east of the Dam and a 'plumbers residence' was west of the Dam. In the second half of the 1930s the dam was empty for periods up to six months a year. Roofing was too expensive, so the dam's holding capacity was increased by 1.25 million gallons as a better and less expensive option. It was during the Depression and sustenance workers were employed; 26 men over 20 weeks in mid 1939, although works continued until June 1940. Railway Dam was a popular swimming spot for local children, and the servicemen and women stationed at Merredin despite the 'No Swimming' signs. During the 1949-50 drought, the railways hauled up to 455 million litres of water each week to keep the steam locomotives running. The process of replacing the steam locomotives with diesel locos was begun in the early 1950s although the dam continued for the railways until 1969, when the last steam locomotive was taken out of commission. In 1972, Railway Dam was transferred to the management of the PWD Country Water Supply and in 1999 the Reserve was vested in the Shire of Merredin. In 2002, the National Trust installed interpretation panels at Railway Dam, Merredin as part of the Golden Pipeline Heritage Trail.



**MERREDIN PEAK RAILWAY DAM**

### No. 4 Pump Station - Merredin Connected Secondary Sites

**MERREDIN ABORIGINAL RESERVE AND MERREDIN PEAK MILITARY HOSPITAL:** Located off Benson road, adjoining the Railway Dam site, on the site of the former 2/1 Australian General Hospital Ruins is the Merredin Aboriginal reserve and Merredin Peak Military Hospital. During World War 2, a number of military support installations were located inland along railway routes. At Merredin, the RAAF No. 10 Stores Depot, a HD/HF communication facility and the 2/1 Australian General Hospital were established and hundreds of service personnel were stationed in the town. The unit had been stationed at Gaza in the Middle East for two years before returning to Australia in mid-1942. In June that year, personnel and equipment were despatched by train from Adelaide to Merredin. The decision to locate an experienced unit in rural WA was decided after the bombing of Broome and Darwin by the Japanese earlier in 1942 heralded the possibility of an invasion in the northwest with resulting casualties. Merredin was far enough from the coast that enemy planes could not reach it without refuelling, and as a central railway junction, the injured could be transported in from various directions. The hospital was established and outfitted for 1,200 patients and 400 staff. The site chosen was the unused aerial landing ground Reserve 20811 close to the railway line on Merredin Peak and adjacent to the Railway Dam. A camp was set up on the site and hospital equipment was stored in a disused flourmill. In the absence of any Perth firm being able to 'expeditiously' provide prefabricated buildings, the Perth office of the Commonwealth Works Department let a tender in August 1942 to J. B. Hawkins & Sons for construction of: an operating theatre and x-ray block; four kitchens; six shower and ablution blocks and ten latrines for males; one shower, ablution and latrine block for females; and a meat house, laundry and boiler house. Ward accommodation was to be provided in the form of transportable army huts. The ablution and latrine buildings had concrete floors, while the other buildings constructed were designed to be relocatable. The buildings were all timber-framed and either clad with weatherboards, fibrolite sheeting or corrugated iron for the ablution blocks and roofs were corrugated asbestos. In 1948, 11 acres in the southwest corner of Reserve 20811 was excised for an Aboriginal Camping Reserve. In 2006-07, a brick ablution facility and a steel-framed pergola style shelter were erected on the Reserve, with an associated carpark and a new gravel track that leads past the National Trust interpretation panels for the 2/1 AGH site.



**TALGOMINE ROCK:** Talgomine reserve is much more than a rock and reserve, the location served as a stopping place for travellers and stock in 1889 passing through the area. The reserve became an important watering place for early settlers which is evident through the dam at the foot of the rock as well as two stone wells. The granite rock itself was originally named 'Mount Moore' in honour of George Moore who accompanied Surveyor John Septimus Roe (the first referenced information). Talgomine tank, referred to on early maps, probably refers to the dam on the northern edge of the granite rock. This dam has been formed by the removal of earth from the area at the foot of the flat sheeting rock at the base of the hill. The reserve also has two stone lined wells, one quite close to Mt Moore, between the dam and the rock, and the other several hundred yards to the west. Community sheep dips were issued in 1938 to treat infestations of scab (a skin disease caused by mites). There are dips located in the Nungarin shire at Talgomine, Danberrin, Knungajin and Mangowine. The place currently has basic picnic facilities and there is no interpretative material onsite.

## Current Interpretation Context

### No. 4 Pump Station - Merredin Connected Secondary Sites



#### HUNT'S WELL, BURRACOPPIN

Hunt's Well in Burracoppin is another well established during Hunt's expeditions to find reliable water sources between York and Kalgoorlie. The original stonework is still intact and a small plaque about the York to Goldfields Heritage Trail is displayed at the site with historic information about the site.

#### BURRACOPPIN RAILWAY DAM

Historically known as Burancooping Rock or Lansdowne Hill, the granite outcrop adjacent to Burracoppin Railway Dam served as a water farm. Rainwater runoff was channelled down the rock by stone walls, still extant, and collected in the Dam. The Rock's water resources have been used by Aboriginal people for millennia, with multiple gnamma holes located across the granite outcrop. To the right of the Railway Dam, the former hotel overlooks the former railway reserve where travellers disembarked when the original train line ran through the site. Numerous tracks now exist around the Railway Dam and ruins of the State Heritage listed Caretakers Cottage can be seen adjacent.

**NO.1 RABBIT PROOF FENCE:** Rabbits were first introduced into Australia in Victoria in 1859, as game for hunting. Due to rapid breeding and lack of physical geographical barriers, rabbit populations soon spread throughout Victoria and across state lines, causing catastrophic damage to farming land throughout the Eastern states. The Rabbit Proof Fence was constructed in an attempt to form a physical barrier so rabbit populations couldn't cross into Western Australia's farming land. Built in two stages, the first section was started in 1901 and ran from Burracoppin to WA's South Coast. The second section began construction three years later and ran to the Northwest coast of WA. Two other fences were also constructed to the East of No.1 Fence, and when all were completed by 1907 the total fence length stretched a massive 3255 km. Once constructed, the Fence required maintenance and fence runners were employed to inspect the fence and keep the tracks built adjacent to the Fence clear. Starting at Burracoppin, bores and wells were built roughly every 30km to provide a source of water along the fence line for workers and travellers moving along it. Whilst not completely stopping the invasion, the Rabbit Proof Fence significantly reduced the initial population numbers of rabbits in WA and prevented Western Australian farming land across the wheatbelt from being decimated by the pest. Today, the fence still acts as a vermin barrier for West Australian farmers, providing protection against pests such as foxes, emus and goats.



## Current Interpretation Context

### No. 4 Pump Station - Merredin Connected Secondary Sites

**WESTONIA:** Westonia, first established as a settlement after the discovery of Gold in the area in 1910, quickly grew to be a large regional town with over 2000 residents. The town relied on the Goldfields Water Supply Scheme for its water supply for both private and industry use. The population fluctuated when the Edna May Mine was forced to close in 1922, with employees from the mine leaving town in search of work elsewhere. The town was in economic downturn and the low population reduced available goods and services in the area. In the 1930s surrounding land was gazetted for farming in an effort to diversify local industry. Ever since, farming has sustained the town through economic turmoil caused by local mining operations opening and closing and the periodic up and downturns in the local population. Today, existing heritage infrastructure in the town centre has been restored and new building façades in the town centre have been reconstructed to late gold rush, inter-war style shopfronts, to interpret the towns original vernacular. With natural water supply still limited today, the Shire has established standpipes, with non-potable water for cropping and livestock that can be trucked to farming land within the Shire to support the local farming industry.



**HOOD-PENN MUSEUM, WESTONIA:** The Hood-Penn Museum houses a large array of life size displays showing visitors what 1920's Westonia would have been like. Wax model people sell produce from a realistic replica of a local grocer store, a woman brushes her hair in her 1920's-era bedroom, and a blacksmith works in his shop producing goods for local residents. Also inside the museum is a simulation room where people can feel the earth shake as ammunition is used to open-up walls in a local mine site. Aside from the interactive exhibits, static signage, historic maps and displays of local relics tell the history of the place, with emphasis on local industry.

## Current Interpretation Context

### No. 4 Pump Station - Merredin Connected Secondary Sites



**EDNA MAY MINE:** First leased for mining in 1911, the Edna May Mine produced 171 000 ounces of gold in just 8 years of operation. The mine was forced to close in 1922 after the supply of high-quality ore was exhausted and large amounts of groundwater flooding the underground mine shafts made operations too difficult to continue. Mining began again in 1935 and over a twelve-year period 171 000 ounces of gold was extracted before the mine had to be closed again for the same reasons as in 1922, compounded by shortages in labour due to the war. By 1985, technology for mining had advanced and the site was reopened as an open cut mine for 6 years before closing once again due to excessive ground water seepage and lack of quality ore. In 2010 the mine was reopened again and underground works are underway. The Edna May Mine has been a significance cause of industry growth and falls within Westonia, with large workforces moving to the town during years of operations and leaving in search of work after the mine closures. The excessive ground water supply from the mine previously had been underutilised due to its salt and mineral content and the risk of contamination. However, upgrades to the wastewater treatment plants now means that the wastewater can be used to irrigate local parks and playing fields in the shire of Westonia.

**SANDFORD ROCKS:** Located 10km away from Westonia, Sandford Rocks is a nature reserve that features large outcrops of granite rocks that naturally harvest rainwater, sustaining the local flora and fauna. Located along the line of Hunt's Wells, Sandford Rocks provided a water source for many of the prospectors travelling east during the early gold rush. Sandford Rock's water resources have been used and maintained by Aboriginal people for millennia, with multiple gnamma holes located across the granite outcrop. A walk trail takes visitors around the rock, past the naturally formed granite amphitheatre, and through native woodlands and shrubs. A picnic area has been built adjacent to the carpark and 100m away, a bird hide overlooking a waterhole features interpretive signage of the local birdlife that can be seen in the area.



**SANDFORD ROCKS**

## Current Interpretation Context

### No. 5 Pump Station - Yerbillon Description & gap in interpretation

*No 5 pump station is located at Yerbillon, approximately 45 kilometres westward of Southern Cross along the Great Eastern Highway. Pump station No 5 is located 270 kilometres from Mundaring Weir (Dam). This Pump Station ceased operating in 1968, with the introduction of the electronic pump station. The site has been fenced in with chain mesh fencing to protect it from vandalism and can only be viewed from the outside. All associated machinery and fittings have been removed. It consists of (RICHCU 1999g and 1999m):*

- *the pump station building;*
- *the economiser;*
- *remnant coal bin;*
- *boilers;*
- *overhead travelling crane;*
- *weighbridge remains;*
- *remains of the venturi metre house*
- *remains of the pipe trench; and*
- *the original suction tank.*

*(Australian Heritage Database)*

**GAP IN INTERPRETATION - NO. 5 PUMP STATION, YERBILLON:** Within the vicinity of No. 5 Pump Station, evidence of the pump station community still remains. Vegetation planted as part of the pump station workers gardens such as citrus trees, palm trees, vines, fig trees and shade trees are still extant. Remnants of building materials from the houses and an old hills hoist washing line can also be seen. The location of the old school can be identified by a row of trees planted by children over the years on Arbor Day. Next to the school site, the rammed anthill tennis courts are still visible beneath encroaching vegetation. Not far from the settlement, a bakers oven still remains.



**NO. 5 PUMP STATION**

## Current Interpretation Context

### No. 5 Pump Station - Yerbillon Connected Secondary Sites

**MOORINE (MOORaine) ROCK AND NULLA NULLA:** Nulla Nulla is a registered Aboriginal site (ACH#4674) and has significance as a mythological Dreamtime site located in close proximity to the townsite of Moorine Rock, situated 22kms west of Southern Cross, which is named for another nearby rock formation, also known as Mooraine Rock (ACH#5902). Mooraine Rock is a site of great significance comprising artefacts, campsite, ritual and ceremonial grounds, engravings as well as the Aboriginal water farm which utilised the large rock watershed and natural soak to provide fresh water. Surveyor Charles Hunt modified the soak and built Well No. 11 on this site, which became a vital stop for prospectors and teamsters on their way to the Goldfields. In 1892 a telegraph line was constructed between York and Southern Cross. Where this line crossed over the Parkers Range Road a camping ground developed and became known as “13-mile”. Today this area is at the western end of the township of Moorine Rock and the telegraph track is the Great Eastern Highway. To cater for travellers, the government sunk a number of wells, bores and dams at 13-mile during 1892 and by September of that year James George Thomas erected a hotel/store. 1894 saw the coming of the railway creating further activity at 13-mile when a railway siding was established. To service the steam engines a large dam was constructed which still stands at the eastern end of town.



**YILGARN HISTORY MUSEUM:** Located in Southern Cross, the Yilgarn History Museum is situated in the old courthouse, constructed in 1893. Within the museum are exhibits that showcase the history of Yilgarn including agricultural, transport & water supply items, prospecting equipment, a cameleer wagon, a length runner's bicycle and section of wood stave pipe from the Goldfields Water Supply Scheme. Also on display are photos and information about the Yilgarn men who served in the war.

**BODALLIN RAILWAY DAM:** Bodallin Railway Dam is another example of water farming that utilised granite outcrops to harvest rainwater runoff to power the steam trains that used to run along the adjacent railway line. The stone walls along the granite outcrops are still visible and a large man-made stone lined channel still directs runoff into the Dam today. Ruins of a bakers oven dating back to the 1890's is still extend adjacent to the Dam, evidence that a plentiful water supply was a key factor in dictating where people settled and established industry in the Wheatbelt and Goldfields.



BODALLIN



**HUNT'S WELL, KOORKOORDINE:** Hunt's Well in Koorkoordine is located adjacent to Koorkoordine Lake. Said to be capable of supplying 10 bullocks, 10 horses, and 15 men for a month, the Well supplied a generous amount of water for groups of travellers and pastoralists passing through the area. The well is fenced off and a small interpretive sign, part of the Goldfields Heritage Trail, provides historic information on the Well.



### No. 6 Pump Station - Ghooli Description & gap in interpretation

*No 6 pump station is located on the Great Eastern Highway, Ghooli and is approximately 10km east of Southern Cross. Pump station No 6 was completed in 1902 and is located 342 kilometres from Mundaring Weir (Dam). Operations ceased at this site in 1969. The site has been fenced in with chain mesh fencing to protect it from vandalism and can be viewed from the outside. It consists of (RICHCU 1999g and 1999m):*

- *the pump station building;*
- *economiser;*
- *boilers;*
- *steam pumps;*
- *weighbridge and scale balance;*
- *overhead travelling crane;*
- *coal bin;*
- *railhead;*
- *weighbridge; and*
- *reservoir (suction tank) which has since been covered over to prevent evaporation*

*(Australian Heritage Database)*

**GAP IN INTERPRETATION - NO.6 PUMP STATION, GHOOOLI:** No. 6 Pump Station in Ghooli, which is still intact however not accessible to the public, is able to be viewed from a short interpretive walk trail. Recently site remediation to address asbestos contamination has been completed, however much of the remnant historic fabric of the original Pump Station community has been removed as part of these works, including two abandoned workers cottages, the remains of an original stone fireplace and a playground built for workers children, pictured below. Several interpretive signs about the Pump Station's history and the surrounding abandoned townsite, no longer extant, are located along an interpretive trail walk and a lookout enables visitors to view the extent of the Pump Station.



GHOOOLI



**KARALEE ROCKS:** In the 1860's, Charles Hunt surveyed Karalee Rocks and marked it as a location for water supply. Karalee Rocks water resources have been used and maintained by Aboriginal people for millennia, with multiple gnamma holes located across the granite outcrop. Two wells and a dam were constructed however by 1895, due to the influx of prospectors seeking their fortune during the gold rush, some 600 teams and 4,000 horses were regularly passing by the reserve whilst they travelled between Southern Cross and Coolgardie. At the same time, the railway was under construction and it was evident that there was not a large enough water catchment at the site to meet the increasing demands. Karalee Rocks, stretching 71 hectares, offered an ideal natural catchment zone to farm water. Granite was mined at the site to construct a series of retaining walls at the base of the rock, as well as an inlet channel that directed rainwater runoff into a large steel flume. Water would travel down the flume and into the Karalee Dam, a natural soak that was adapted to hold approximately 48 million litres of water. Once the railway was built, steam trains would regularly stop at Karalee Siding to top up on water whilst passengers visited the Karalee Hotel, no longer extant, adjacent to the railway line. Visitors can walk along an interpretive trail, featuring signage about the construction of the Goldfields Water Supply Scheme, the railway and the construction of the water farm.



**KARALEE ROCKS**



**DULADGIN ROCK:** Hunt never actually mentioned constructing a well at this location although he did state that it was his intention to do so.

*8 April 1865. ... there is a large hole in the surface of granite rock at Duladgin which I will try to enlarge by blasting it will I trust make a good reservoir easily filled by the first rain fall.*

During his 1866 Eastern Interior Expedition he used Duladgin as a depot. If Hunt's team built a well rather than blasting out a hole in the rock it has been buried. On his first expedition to the East, Hunt recorded:

*30 March 1864 Wednesday ... at 4.45pm halt at Duladgin rocks – quartz no water but fair feed for the horses ...*

On 2 August 1864, on a subsequent expedition, Hunt recorded that, 'This camp is not to be trusted to for water'. East of the rock is a rectangular timbered well built by the Mines Department c1900. At the turn off to Weowanie Rock is the lonely grave of a woodcutter, Thomas Davidson, a Scot, who died here on 28 May 1895. Duladgin is an Aboriginal name of unknown meaning. The rock is within Reserve 3112 near Yellowdine.

## Current Interpretation Context

### No. 7 Pump Station - Gilgai

#### Description, gap in interpretation & connected secondary sites

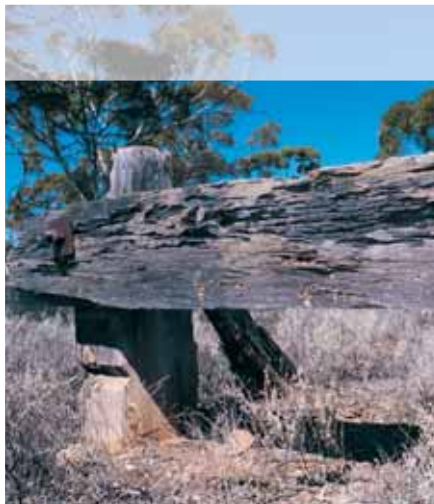
*Steam Pump No 7 was located at Gilgai, approximately 40 kilometres east from Yellowdine along the Great Eastern Highway. One of the engines from this site was relocated to Pump Station No. 3 at Cunderdin. All buildings have been demolished and no extant fabric remains. The site consists of (RICHCU 1999h and 1999m):*

- *the rectangular receiving tank.*  
(Australian Heritage Database)

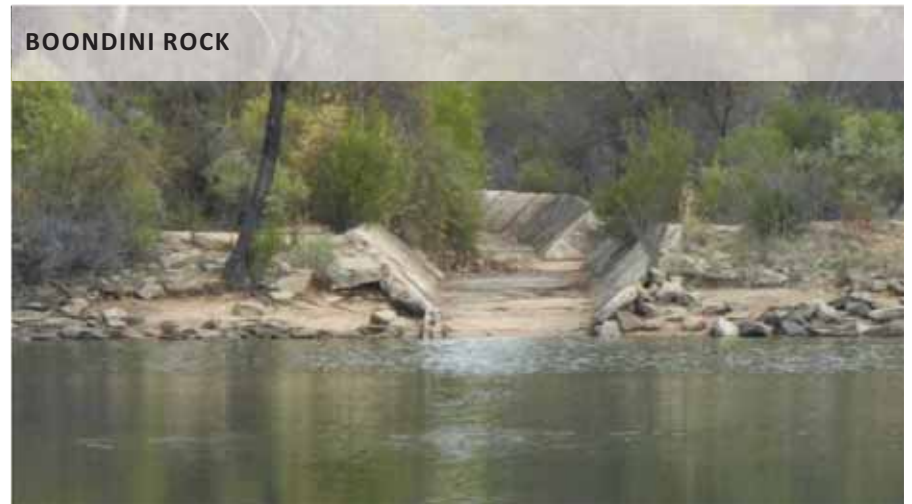
**GAP IN INTERPRETATION - NO.7 PUMP STATION, GILGAI:** Very little infrastructure remains at the site of No. 7 Pump Station. Still extant is the concrete receiving tank and the remains of an end stop locates where the original railway terminated at the site. The most isolated of all the Pump Stations, residents living at the site relied on supplies thrown off trains as they drove past, not stopping at the site. No roads existed at the site. Instead a narrow bike track ran along the front of the small rows of asbestos workers houses, no longer extant. A more established, shady track ran along the back of the houses servicing a row of toilets. When the Station was closed, all the infrastructure was demolished, the equipment sold for parts, leaving only small remnants of building materials and scrap metal left scattered at the site today.

**CONNECTED SECONDARY SITES - BOONDINI ROCK (BOONDI ROCK):** Boondi Rock is located in the Goldfields Woodlands National Park and comprises a large granite outcrop surrounded by eucalypt woodlands and sand plains, with a salt lake and freshwater swamp at its centre. Boondi Rock was traditionally an Aboriginal water farm and was later co-opted by the Government to provide water catchment to supply steam trains. Slabs of granite were moved from a nearby quarry and used to funnel the rainwater to the dam, and this rock-lined spillway is still in evidence.

GILGAI



BOONDINI ROCK



### No. 7 Pump Station - Gilgai Connected secondary sites

**BOORABBIN:** The water resources at Boorabbin Rock have been used and maintained by Aboriginal people for millennia, with several gnamma holes located across the granite outcrop. Boorabbin Rock was surveyed and flagged as a site for rainwater water catchment in the late 1800's. As part of the railway works, a series of stone walls were constructed along the granite rock outcrop, channelled rainwater runoff into two dams that stored water for the new railway line. The town of Boorabbin was established adjacent to the dams, and for a short time was the head of the railway line, leading to an influx in the local population. Due to increased demand for water, the Boorabbin Dams supply rapidly dwindled. In December of 1895, the railway line between Boorabbin and Woolgangie was opened and within 24 hours the entire town of Boorabbin was deserted. Residences and shops were dismantled and rebuilt at the new railhead. All that is left of Boorabbin today is the old railway platform and the water catchment infrastructure on Boorabbin Rock. A campground has since been established at the base of the rocks. To the west of the original Boorabbin townsite is Boorabbin National Park, boasting the largest remaining area of intact Mediterranean climate woodland left on Earth. Large salt lakes to the south are surrounded by a diverse range of flora and fauna. In 2007 a large bushfire spread through the area, tragically killing three truck drivers who were caught in the blaze. To commemorate the three men a memorial walk trail has been built adjacent to the Pipeline, with a granite headstone and granite bench creating a place of reflection and a pergola that is fitted with signage about each of the men's lives and legacy.



BOORABBIN

## Current Interpretation Context

### No. 7 Pump Station - Gilgai Connected secondary sites



**WOOLGANGIE:** Woolgangie was an established water stop along the route to Coolgardie, later becoming a railhead, and was once a thriving townsite. A well, believed to have been one of Hunt's Wells, was sunk near the base of the granite outcrop adjacent and a series of rock walls were built to channel rainwater runoff into the Woolgangie Dam that was constructed below. An abundance of salt lakes in the area were also utilised, with large water condensers and a series of tanks constructed to process and store the additional water. Large groups of travellers and hundreds of livestock utilised the water supply and the Woolgangie Travellers Rest was a popular rest stop for those on their way to and from Coolgardie.



However, when the new railway station opened on the 18<sup>th</sup> December 1895, water supplies were pressed to their limit, with large water reserves being consumed by the steam trains and its passengers. By the 29<sup>th</sup> of December a crisis point had been reached, with thousands of horses and people facing imminent danger from dehydration and a telegram was sent to the Premier urging for immediate water supplies to be trucked to the site. Coolgardie was also feeling the pinch, with supplies destined for the town being consumed in Woolgangie instead, with people fearing that if they left what little water was left in Woolgangie, they would not get to another water source before rations ran out. The number of people and animals at Woolgangie increased while the transport of food and other supplies to Coolgardie dwindled. By January, the situation was desperate. Another telegram to the Premier said loaded teams were stranded due to the lack of water and many livestock and people were at risk of starvation. In a panic, the government railed contaminated water from Burlong Pool, near Northam, however it was unfit for human consumption. On the 8<sup>th</sup> of January 23 000 gallons of water arrived, carted by 17 trucks, and a further 20 000 gallons arrived the following day. A large thunderstorm on the 9<sup>th</sup> of January brought much needed relief and helped to restore the Dam's reserves. By the middle of the year, a second dam off the Woolgangie Rock catchment had been constructed in an effort to prevent a catastrophic shortage from occurring again.

At the same time as the water shortage, a typhoid outbreak occurred. Hugh Climie, treasurer of the Mission Hospital in Southern Cross heard of the news and sent supplies so a temporary hospital could be erected to help prevent the spread of the outbreak. Many patients were transported down the railway line to Northam and Southern Cross when there were too many people to care for on the wards.

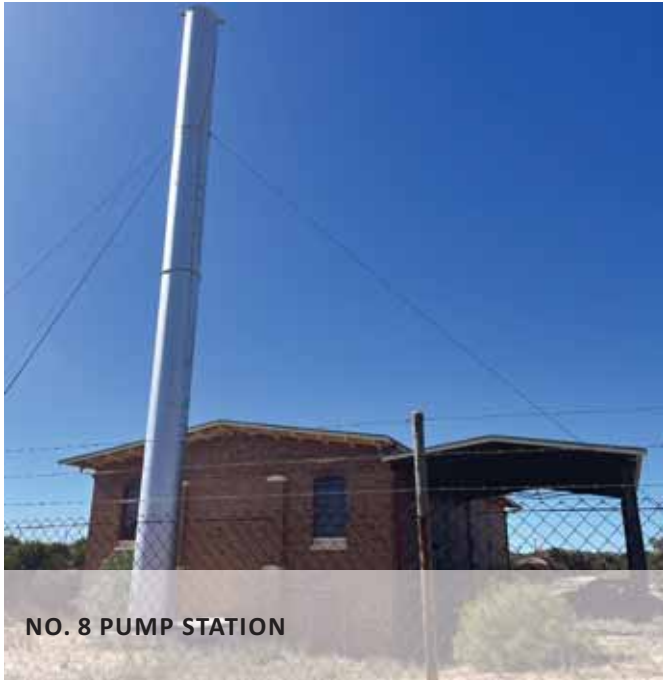
When the Bullabulling railway station was opened in July 1896, many businesses shifted towards the new railway head and the Woolgangie townsite reduced in size until only a small community of people remained. Two line runners cottages were constructed as part of the smaller settlement, as well as a telephone repeater station.



WOOLGANGIE

## Current Interpretation Context

### No. 8 Pump Station - Dedari Description



*Pump station No 8 is located on the Great Eastern Highway at Dedari (Benari) and is approximately 45km west of Coolgardie. The site has been vested to the National Trust of Australia (Western Australia) and is currently used as a visitors and interpretation centre. Pump station No 8 was the last of CY O'Connor's original pump stations to cease operation in 1970.*

*The building is intact and contains all its original Worthington pumping engines and all three of the Babcock and Wilcox boilers, air compressors and the economiser. It is the only steam pump station to retain its original overhead gantry. The receiving tank survives alongside the pump station. It retains both the inlet and outlet pipes which remain connected to the pumps. Outlet pipes from the pumps are also still connected to a stretch of the original 1903 pipeline. Remnants of the original railway siding remain, including the best preserved of the wooden trestles which are located at this site. This siding is still covered by the corrugated iron framed lean-to, attached to the side of the main pump station. No 8 pump station at Dedari is the most complete and representative of the stations of all the pumping stations. This station was the last of the original Pumping Stations to cease operating in the 1970s. The site has been enclosed and has a caretaker. The site consists of (RICHCU 1999i and 1999m):*

- the pump station building;
- the pumps;
- all three Babcock and Wilcox boilers;
- air compressors;
- economiser;
- the overhead gantry;
- tools;
- equipment;
- the original steel chimney;
- coal bin;
- store;
- blacksmith's shop;
- suction tank including the inlet and outlet pipes which remain connected to the pumps;
- the section of outlet pipe from the pumps which is still connected to a stretch of the original 1903 pipeline;
- the remaining extant fabric of the original railway siding including the best preserved of the wooden trestles;
- the extant fabric of the siding which includes the corrugated iron framed lean-to structure, attached to the side of the main pump house;
- some of the associated ancillary corrugated iron buildings, including:
- the weigh station incorporating the operational weighbridge and scales;
- the station office; and
- the blacksmith's forge incorporating its original charcoal furnace; and
- the Venturi meter house (the only example remaining at any of the sites).

*(Australian Heritage Database)*

## Current Interpretation Context

### No. 8 Pump Station - Dedari Description

#### **NO.8 PUMP STATION, DEDARI:**

New infrastructure servicing the pipeline has been constructed amongst the original structures, which are still intact and preserved from when they were shut down and locked in the 1970s. Although large portions of the site have been fenced off due to asbestos contamination, visitors can drive around a loop where they can view No. 8 Pump Station, one of the abandoned 1950s worker houses, remains of the original tennis court and the other demolished worker housing allotments. To the North, the timber framed, ironclad store and blacksmith shop remain extent, as well as the suction tank, weighbridge and the weatherboard engineer's office. On the Eastern side of the Station, a small brick venturi meter house, built to record the evenness of the pumps and test water quality, still stands surrounded by overgrowth, one of the few original meter houses left extent along the entire Goldfields Water Supply Scheme. Interpretive signage adjacent to the Pump Station describes how water was pumped using steam power, and at the turn off from Great Eastern Highway interpretive signage displays pictures of people who either worked at No. 8 Pump Station, on the pipeline, or along the wood lines in the area.



NO. 8 PUMP STATION



DEDARI

## Current Interpretation Context

### Bullabulling Reservoir

#### Description, heritage interpretation, connection secondary sites

*The Bullabulling Reservoir is located at Bullabulling between Pump Station No 8 at Dedari and Coolgardie. It is located approximately 30km west from Coolgardie along the Great Eastern Highway and then north along a gravel track for approximately 3km. It is situated approximately 0.7 km from the current electric pump station.*

*Completed in 1902, Bullabulling Reservoir is a rectangular holding tank. Plans from 1901 indicate that the tank was used to receive water from pump station No 8 at Dedari which was then gravity fed to Toorak Hill. Features of the tank include an overflow pipe which is located in the centre of the north wall. Excess water is discharged via the channel and ditch. The constituent material is reinforced concrete. Barbed wire was used to reinforce the concrete to assist in overcoming concrete cracking induced by temperature extremes. The walls of the tank are more than two feet (0.61 metres) thick (RICHCU 1999j). The capacity of the tank is 45.4 million litres. The site is currently enclosed by a mesh security fence. The reservoir is still in use. (Australian Heritage Database)*

**EXISTING HERITAGE INTERPRETATION - BULLABULLING RESERVOIR:** Bullabulling was the site of a water stop and was also the railway head for a short period whilst the railway line was being built between Bullabulling and Coolgardie. The site is now a ghost town. Only a large, elevated iron water tank next to the original Rock Hotel, operating for more than 100 years until finally closing in 2010, still extant at the site today. Bullabulling was primarily established to house workers building the enormous Bullabulling Reservoir, a water reservoir designed to hold twelve million gallons of water, built to service the railway line as well as travellers and their livestock. Also in the locality was a reliable soak that was used for drinking water after a man suffering from typhoid fever drowned in the local reservoir. Still in use today, the Reservoir served as a regulating tank for the Goldfields Water Supply Scheme.

**CONNECTED SECONDARY SITES - WALLAROO ROCK, VICTORIA ROCK AND BURRA ROCK:** Wallaroo Rock, Victoria Rock, Burra Rock all comprise natural rock formations and water sheds that have soaks to store large quantities of fresh water, likely used for water farming by Aboriginal people. None of the sites have heritage listing.



## Current Interpretation Context

### Toorak Hill Regulating Tank Description & Connected Secondary Sites

*Toorak Hill Goldfields Water Supply Reservoir is located on Moran Street (Lefroy Street), 1.5km north of Coolgardie. It consists of:*

- *the concrete walls of the reservoir, which have been enclosed and covered to reduce evaporation and for security reasons.*

*(Australian Heritage Database)*



GNARLBINE SOAKS

**GOLDFIELDS EXHIBITION MUSEUM, COOLGARDIE:** The Goldfields Exhibition Museum has a vast display of interpretive panels, photographs, a large model of the shire of Coolgardie, gold rush artifacts as well as a full pharmaceutical display including an intact original pharmacy shopfront and original medicines and supplies. The *Goldfields Water Supply Scheme* is a consistent theme throughout the displays, with an interpretive artwork on the wall of the stairwell mapping the locations of the original pump stations along the Pipeline.

**TOMMY TALBOT PARK, COOLGARDIE:** A section of pipeline is displayed in the gardens at Tommy Talbot Park, with a plaque describing the innovation behind the invention of the locking bar pipe. The display is adjacent to, and an extension of the Goldfields Exhibition Museum.

**BEN PRIOR'S PARK, COOLGARDIE:** Containing mining artifacts dating back to 1894, the open-air museum is a family friendly interpretive experience that showcases the history of the Goldfields and the town of Coolgardie. Included in the display is a sculpture of a cameleer, various railway artifacts demonstrating the advances in transport technology over time, horse drawn carts as well as interpretive signage describing the artifacts on display and a nature play playground for children visiting the site.

**GNARLBINE SOAK:** Located 23km south of Coolgardie on Victoria Rock Road, Gnarlbine Soak was originally an Aboriginal waterhole. Explorer HM Lefroy made the discovery of this important water source for pioneers and prospectors in 1863, it was given its name in 1865 by surveyor Charles Hunt. Gnarlbine became an important stopping place for explorers and prospectors, including R.J. Holland when he put through what today is known as the Holland Track. In the early days of Coolgardie, before the pipeline was built, it was a vital supply of water.

**GIBRALTAR ROCK HOLES:** Gibraltar Rock Holes is a registered Aboriginal site (ACH#1419) which has significance as both a mythological/ Dreamtime site, as well as a traditional water resource. Adjoining is the Gibraltar Stone Arrangement (ACH#1420).

**KURRKURTI:** Kurrkurti (ACH#1475) is a registered Aboriginal site which has significance as a ritual/ceremonial site as well as a water source.

**LAKE DOUGLAS:** Lake Douglas Gnamma Hole (ACH#17025) is a recognised significant landscape site and water source for Aboriginal people and is part of a broader camp site for meeting and gathering located just south of Binduli.



TOORAK HILL REGULATING TANK

### Toorak Hill Regulating Tank Connected Secondary Sites

**568 MILE PEG:** 568 Mile Peg (ACH#1745) is a significant Dreamtime site and coincides with the location where the pipeline main conduit diverges from its alignment with the Great Eastern Highway at the entrance to the City of Kalgoorlie-Boulder.

**KURRAWANG WOODLINE:** The Kurrawang woodline ran into the forests towards the Kurrawang Mission, as part of an extensive operation to harvest timber for fuel for the steam trains, steam powered Pump Stations as well as local mining operations. The Kurrawang woodline was one of a network of railway lines which ran off into the forests, servicing the timber cutters who cut thousands of trees for fuel. A townsite was established at Kurrawang for the workers and their families, however all that remains of the original townsite is the electric power station as well as some sections of the original tramline.

## Current Interpretation Context

### Mount Charlotte Reservoir Description & Connected Secondary Sites

*Mount Charlotte Reservoir is located on Hannan Street, some 560km from Mundaring Weir (Dam). It is a round reinforced concrete tank which is dug into the crest of the hill (National Trust of Australia (WA) 2002 p.112). It is the final receptacle and the terminus for the Goldfields Water Supply Scheme, Western Australia. The capacity of the reservoir when it was completed in 1902 was two million gallons (4,540,000 litres). Sir John Forrest officially turned the valve at Mount Charlotte Reservoir on 24 January 1903 as part of the opening celebrations. Mount Charlotte Reservoir is currently used to service the Kalgoorlie community as a reserve tank by the Water Corporation (WA) (National Trust of Australia (WA) 2002 p.112). A metal roof was added in the 1970s to prevent evaporation and for security reasons (RICHCU 1999k). Mount Charlotte Reservoir includes (RICHCU 1999k) :*

- the reservoir including the walls;
- the valve pit; and
- the valve pit to the pipe trench.

*(Australian Heritage Database)*

**EXISTING HERITAGE INTERPRETATION - MT CHARLOTTE RESERVOIR, KALGOORLIE:** Mt Charlotte (ACH#3010) is the terminus of the Pipeline and the location of the Mt Charlotte Reservoir which is the final transfer basin for the GWSS. It is also a registered Aboriginal site with Creation/Dreamtime narrative significance.

**CONNECTED SECONDARY SITES - MUSEUM OF THE GOLDFIELDS, KALGOORLIE:** The Museum of the Goldfields hosts a vast array of artefacts, photos and interpretive panels that showcase the history of the Eastern Goldfields and Kalgoorlie's mining heritage. Displays on C.Y. O'Connor, engineering innovations of the Goldfields Water Supply, as well as photos, artifacts and information on related industries such as the railway and woodlines provide historical interpretations of key sites, industries and people who were instrumental in bringing water to the Goldfields.

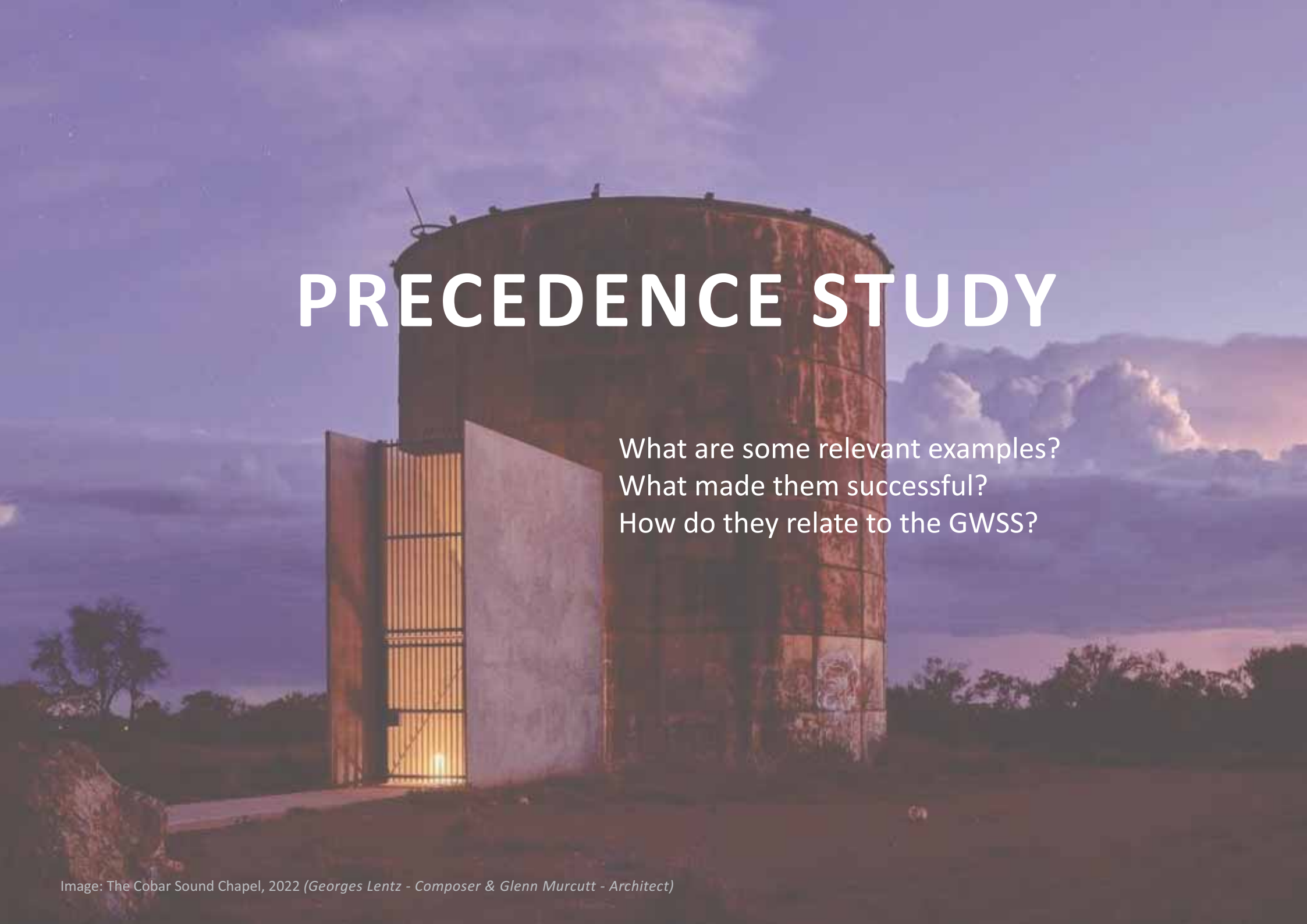


MT CHARLOTTE RESERVOIR



KALGOORLIE

# PRECEDENCE STUDY



What are some relevant examples?  
What made them successful?  
How do they relate to the GWSS?

### Cobar Sound Chapel The Project



**GEORGES LENTZ (COMPOSER) & GLENN MURCUTT (ARCHITECT)**

**COBAR, AUSTRALIA**

Winner of 2023 NSW National Trust Heritage Award for Adaptive Reuse

First established in the 1870's, the town of Cobar lacked a reliable water supply. In the late 1800's to early 1900's, tank sinkers were contracted by the Government to erect large storage tanks across the surrounding landscape, capturing rainwater for household and industry use. One of these tanks, constructed in 1901, still remains extant west of Cobar's townsite. The 10m tall water tank is a significant landmark in the area, being located on top of a hill, but was abandoned and showing the signs of weathering and damage from the past 100 years since its construction. Through adaptive reuse, the tank has been adapted to create a permanent sound installation artwork that enables locals and visitors to form a meaningful connection with the site once again.



*The Cobar Sound Chapel, opened in 2022, is a permanent sound installation artwork located west of Cobar, central western New South Wales, Australia. The Cobar Sound Chapel is a creation by renowned composer and sound artist Georges Lentz in collaboration with Pritzker-Prize-winning architect Glenn Murcutt, the outstanding musicians of The Noise String Quartet, as well as Cobar Indigenous visual artist Sharron Ohlsen. The Chapel functions as the permanent home of Lentz's digital surround-sound composition String Quartet(s) (2000-2022), a vast piece of sound art inspired by the outback landscape and its night skies. Glenn Murcutt's architecture is in direct dialogue with structural and rhythmic patterns found in String Quartet(s), such as the number 4, squares, multiples of 4, the relationship between the numbers 1, 4 and 16 (or in musical terms, between semiquavers, crotchets and semibreves - patterns found throughout the music heard in the Chapel). To give a simple architectural equivalent, the four walls of the Chapel cube are 5 metres tall, of which the corner windows occupy only the last metre.*



*The Cobar Sound Chapel is a cross-disciplinary artwork, combining sound, architecture, art, poetry and the natural environment in a unique and site-specific context. It functions as a digital 4-channel string quartet lasting 24 hours, played on a loop, day and night, whether someone is listening or not. The Cobar Sound Chapel is an immersive experience, celebrating the rugged beauty of the outback landscape and its starry night skies. Other major influences include Australian Indigenous art, the art and poetry of William Blake (1757-1827), and the gritty rawness of the tank wall's graffiti art.*

*The Cobar Sound Chapel*

## Precedence Study

**SECURITY:** Due to the remote location, the door to the Chapel is permanently locked, however by using sound as an interpretive element, people can still connect with the site without entering inside. Visitors wanting to enter must pick up a key at the local visitors' centre. Each of the four walls of the cube has an in-built loudspeaker, powered by an off-grid solar battery system. A single low-level LED light automatically turns on each night, functioning as a design feature as well as added security. Due to the minimal solar energy use, the building is expected to produce almost no carbon emissions during its lifespan.

**MATERIALITY:** The original fabric of the tank has been conserved, with a self-supporting concrete structure inserted within the tank. Concrete was selected as the primary material due to its strength, longevity, weather resistant and fire-resistant qualities. Its thermal performance was also ideal for the remote location, remaining 10-15 degrees cooler inside the structure throughout the day, no mechanical cooling or ventilation was required, even in hot Summer months where temperatures reach above 40 degrees.

**ADAPTIVE REUSE:** Cobar Sound Chapel demonstrates the impact a minimal intervention, guided by art and the user's sensory experience, can have on a broad audience of various backgrounds. Many sites along the Goldfields Water Supply Scheme have original infrastructure extant that has since been abandoned, including the pump stations, tanks and original sections of pipeline infrastructure. Due to a changing social context and an expanding generational gap, many of the sites' history and original social value is being lost. Adaptive reuse could be an effective method of repurposing the infrastructure, encouraging a new purpose, renewed social value, as well as creating the opportunity to include historical interpretation to continue the legacy of each site.

## Cobar Sound Chapel What made it successful?

**CELEBRATING HISTORY AND CULTURE:** The Soundbar Chapel includes various art disciplines, including music, local indigenous art, poetry and architectural form. It also celebrates the original water tank structure and preserves the natural weathering, damage and graffiti that have occurred throughout its lifespan. The inclusion of so many disciplines in one space attracts a wide target audience. Whilst being named a Chapel, the building is not associated to any particular religion yet still is a spiritual space where various people and artists from different backgrounds and ideologies have collaborated to create a space that shares each of their identities individually as well as a collective.

**FUNDING:** The Cobar Sound Chapel cost approximately \$300 000.00. Cobar Shire donated the site, and the NSW government provided a \$200 000.00 grant to help fund the works. Local mining companies, Manuka Resources and Cobar Basin Gold provided additional sponsorship for the project.

### Link to the Goldfields Water Supply Scheme:

- Example of a successful adaptive re-use of existing abandoned water supply infrastructure
- Example of an architectural art installation installed in a remote location with minimal passive surveillance. Security measures implemented and design considerations result in minimal upkeep, utilising existing local resources for staffing and facility management.
- Grant funding, local government support and sponsorship from local stakeholders minimised the requirement for private funding. A considered design ensures the building is self sufficient with no running costs associated with services connections.
- By locking the facility it increases security. Holding the key at the local museum means staffing costs associated with managing access are absorbed by existing local facilities. The museum is mutually benefitted as visitors to Cobar Sound Chapel will also visit the museum.

### Further Reading:

*The Cobar Sound Chapel*, Cobar Shire Council. See: <https://www.cobarsoundchapel.com/>

## Precedence Study

**JASMINE JAN, BARBARA WILLIAMS & 90 COMMUNITY VOLUNTEERS**

### **ADELAIDE RIVER, NORTHERN TERRITORY**

2022 Interpretation Australia National Awards for Excellence – Medal Winner of Special Achievement Award  
Interpretation Australia Medal, Excellence Awards Category  
Winner of Interpretation Project – Outdoors

*Territory Wildlife Park creates innovative interpretive displays using recycled, repurposed materials and mustering the collective skills and time of the community to help tell the stories about the landscape, flora and fauna of our region through artistic installations. This transformative process of engaging the community to contribute to the development of interpretive displays such as the Adelaide River Slow Stitch community quilt results in our volunteers becoming ambassadors who will go on to talk about the project, what they have learnt and their experience in being part of the creative process. The quilt project is the most recently completed example of many community arts projects that the Park has developed to engage the community with the Park in a meaningful way that keeps participants connected to the Park for many years to come.*

*This artistic installation involved 90 community members slow stitching images of plants, animals and stories of the Adelaide River catchment onto small quilt blocks. It also involved 50 recycled calico mealworm bags retrieved from Territory Wildlife Park's Live Food Centre that underwent a process of Shibori stitching and Indigo dyeing. This community art project also involved assistance from fisheries scientists, plant specialists, Artists-in-the-Park, textile artists and sculptors. The result was the creation of an impressive 120 slow stitched blocks that were combined to tell a visual story of the Adelaide River and its' catchment in a 3 metre long quilt which is now displayed in the Aquarium at the Territory Wildlife Park. A 58 page full coloured publication*

## **Adelaide River Community Quilt** The Project

*was produced on the making of the Adelaide River Slow Stitch project with this book almost selling out on the day that the quilt installation was unveiled. This project has become a template for future community art/conservation education projects that are done on a very restricted budget and involve members of the community with all ranges of experience in art making. Artistic interpretive displays engage visitors more readily than just signs, community engagement in the creation of these displays also ensures that we create something that is a lot more personal, unique and specific to our region.*

*Jasmine Jan and Barbara Williams*



## Precedence Study

**LOW BUDGET:** The quilt was constructed out of recycled materials, with recycled mealworm bags from Territory Wildlife Park's Live Food Centre hand dyed with indigo to represent the water of the Adelaide River. Each quilter was sent a starting pack, costing \$5.00, with pieces of the dyed calico and a list of plant, animal and fish species. Volunteer quilters could then add found items, such as shells, seeds and old fishing net to create an individual patch for the quilt. This resulted in a low-cost project that could be folded up and posted back once complete, to be integrated into the quilt itself. Volunteers then coordinated the curation of the quilt and the money collected from the starter kits covered the cost of the hanging rail and special gallery lighting to illuminate the quilt once it was displayed.

**COMMUNITY INVOLVEMENT:** Slow stitching requires little background knowledge and is a relatively easy skill, making it the perfect technique for a widespread volunteer community project. Kits, and the finished quilt patches, could be posted to the 90 community volunteers, many of whom live remotely and may not have otherwise been able to get involved. As the Adelaide River spans over such a vast distance, it also enabled the network of volunteers to include people who lived the entire length of the catchment rather than a singular community. By involving the community in a project focused on conserving waterways, not only do volunteers gain more knowledge and awareness about the river system, but the project itself also draws the attention of the general public. Community art is a positive way of sharing knowledge and awareness to a wide target audience.

## Adelaide River Community Quilt What made it successful?

**EXPERT INVOLVEMENT & COORDINATION:** The project was coordinated from start to finish, ensuring a cohesive piece was produced whilst also allowing individual expression for each of the slow stitch volunteers. Jasmine Jan and Barbara Williams created a map of each quilt patch and curated the finished squares to ensure that the artwork was cohesive and visually impactful. A Plant, animal and fish species list, curated by local environmental specialists, as well as a set of approved colours and general themes ensured the subject remained focussed on the local flora and fauna found along the Adelaide River and each quilted piece shared the same graphic language so that the final quilt appeared cohesive.

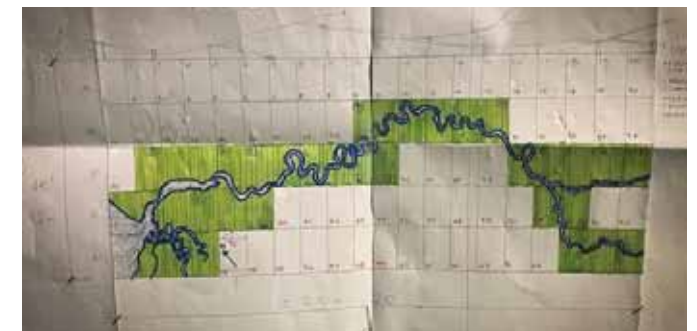
### Link to the Goldfields Water Supply Scheme:

- Example of a low budget community project that was successfully coordinated across a vast geographical distance.
- Example of a community artwork that is collaborative, and inclusive enabling people of all ages and skill levels to participate.
- Demonstration of how professional advice and expert involvement to coordinate and plan community projects results in a high-quality product that has greater social impact.

### Further reading:

*The Adelaide River Slow Stitch Community Quilt*, Jasmine Jan and Barbara Williams, Zoo Aquarium Association Australia. Published August 2022. See: [https://zooaquarium.org.au/common/Uploaded%20files/Conference/Conference%20abstracts/TWP\\_JAN,%20Jasmine\\_ADELAID%20RIVER%20QUILT.pdf](https://zooaquarium.org.au/common/Uploaded%20files/Conference/Conference%20abstracts/TWP_JAN,%20Jasmine_ADELAID%20RIVER%20QUILT.pdf)

*'Labour of love': Quilt stitched by 89 volunteers celebrates mighty NT river*. Shirley Glaister, SBS News. Published 21 April 2022. See: <https://www.sbs.com.au/language/chinese/en/article/labour-of-love-quilt-stitched-by-89-volunteers-celebrates-mighty-nt-river/dc9qk2tbl>



## Precedence Study

### WESTERN AUSTRALIAN MUSEUM & THE WATER CORPORATION

#### WA MUSEUM BOOLA BARDIP, WESTERN AUSTRALIA

*At the Shaping the Future display in the Changes Gallery, you can gain a better understanding of how human-related activity such as waste management, water and energy use have changed over time and are impacting our environment.*

*This display will evoke reflection on how water and climate are intrinsically linked and educate everyone of all ages about environmental issues and the preciousness of water in WA.*

*Water Corporation*

#### ENHANCING DISPLAYS THROUGH THE USE OF

**TECHNOLOGY:** A black line, static illustration depicting various scenes of private and commercial infrastructure, is enhanced by the use of projectors, with brightly coloured animations lighting up and moving across different parts of the static illustration to tell a story. The graphic format, with minimal text appeals to a wide target audience and the bright colours and movement draws the attention of passers-by, where static signage likely would not. Using illustrations to show water use provides an easy to interpret format that enables the viewer to follow the flow of water and the path it takes through the city, including where it comes from, how it is used and where it goes after.

## Shaping the Future

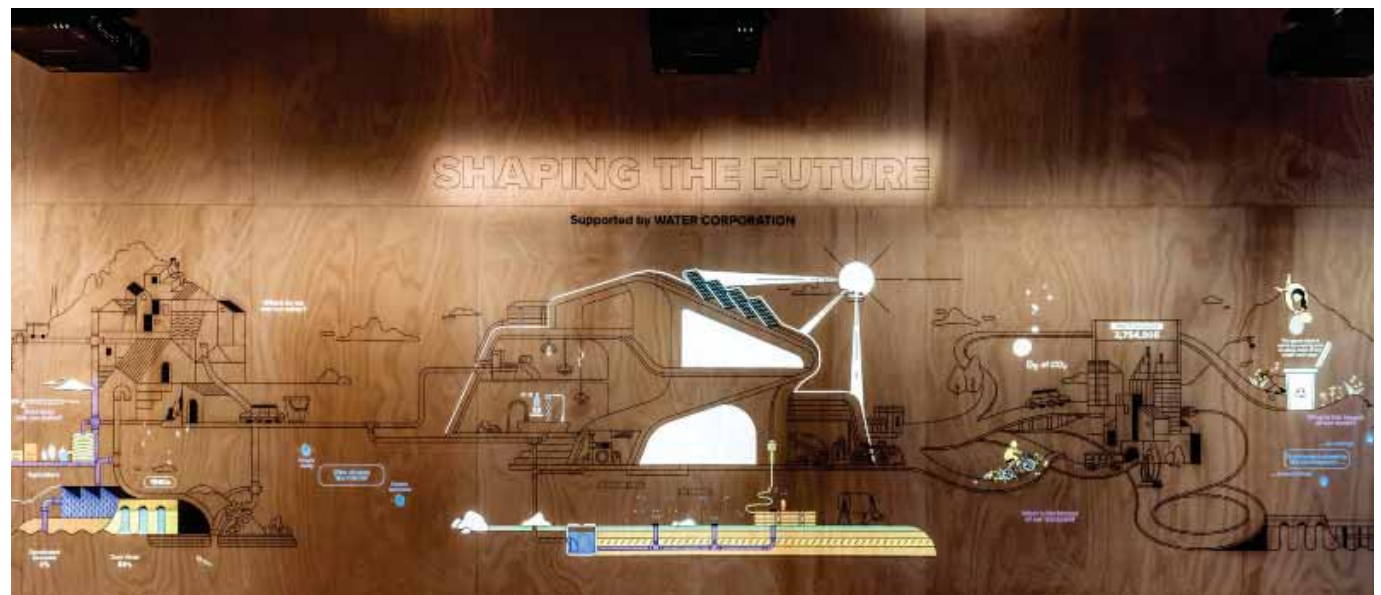
### The project & what made it successful?

Link to the Goldfields Water Supply Scheme:

- Engaging graphic display that demonstrates how technology can be used to enhance static signage to tell a story that appeals to a wide target audience.
- Example of affordable technology that can be used to create an impactful interpretive display. Projectors are readily available and require minimal servicing and maintenance and can be used as a graphic device to display information or images without needing fixtures or signage. Provides an opportunity in heritage listed buildings to present displays and graphics without any disturbance to the original fabric.

Further reading:

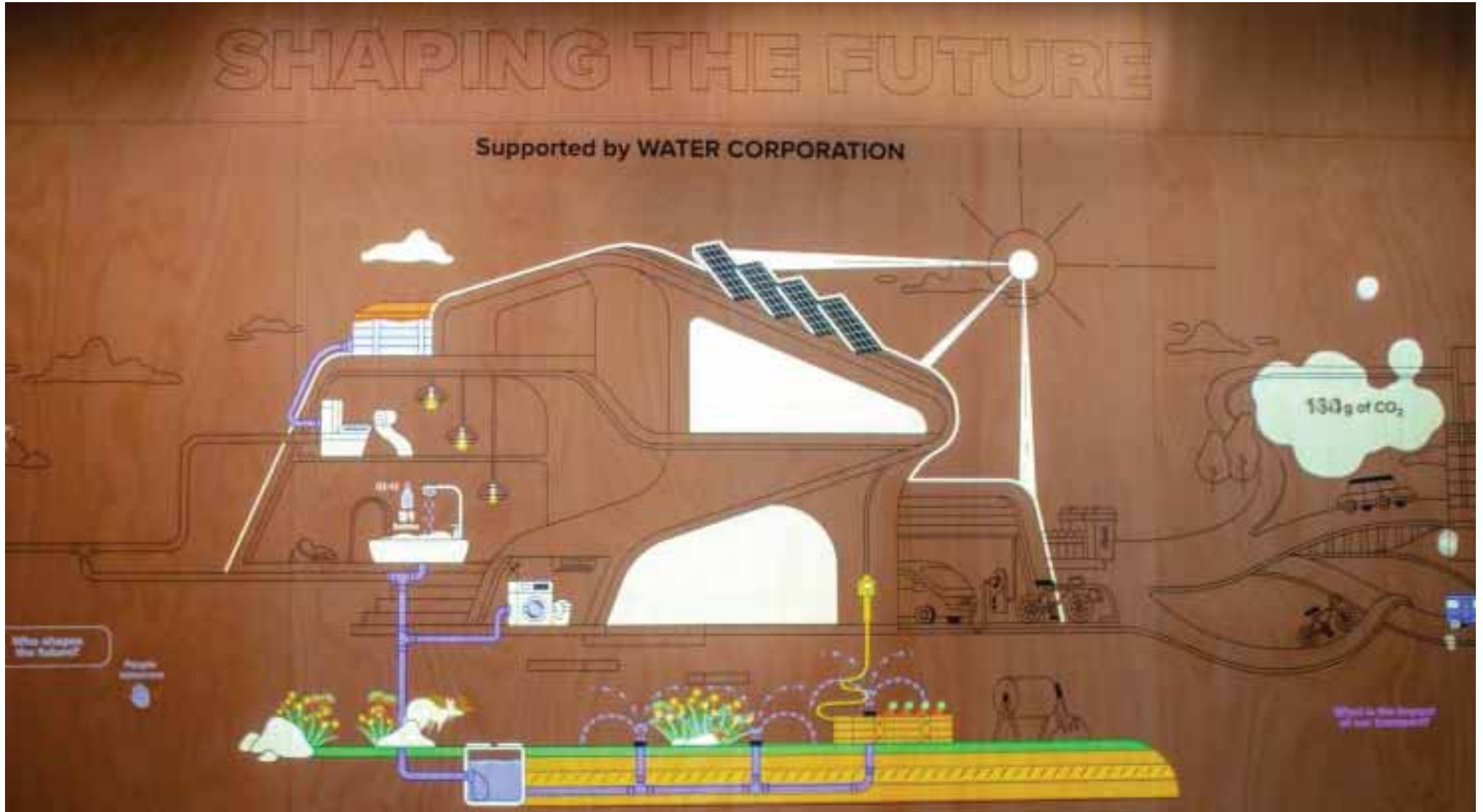
*Explore Western Australia's water past, present and future at the WA Museum Boola Bardip.* Water Corporation. 18 June 2021. See: <https://www.watercorporation.com.au/About-us/Latest-updates/June-2021/WA-Museum-Boola-Bardip>



## Precedence Study

## Shaping the Future

The project & what made it successful?



## Precedence Study

### MUSEUMS OF HISTORY NSW & GRUMPY SAILOR

#### MUSEUM OF SYDNEY, NEW SOUTH WALES

*Over the course of six months in 1916, hundreds of Sydney's favourite animals left behind their dismal and outdated cages at the old Moore Park Zoo and were shepherded through the city streets before being ferried across the harbour to their new, purpose-built home – Taronga Zoological Park. From a 4-ton elephant named Jessie, to kangaroos, lions and cockatoos, animals big and small made this extraordinary journey to a new life in one of the world's most beautiful zoos.*

*Amid the traumatic days of the Great War, the creation of the new zoo and the remarkable feat of moving hundreds of animals captured the hearts and imaginations of Sydneysiders. How to Move a Zoo invites visitors of all ages to re-imagine this unique Sydney story and meet the animals that delighted generations.*

*Enter a space of immersive projections that re-create the sights and sounds of the animals' journey through the streets of Sydney. Choose your animal and see it walk, run, hop or fly across the cityscape to its new home at Taronga. Discover how the planning of Taronga incorporated the latest zoo-keeping practices to give the animals spacious, bar-less enclosures set into the natural landscape.*

*Specially commissioned illustrations, coupled with rarely seen historical photographs from the NSW State Archives Collection, re-create this incredible story in a playful, thought-provoking interactive exhibition. The exhibition was inspired by a series of around 100 glass-plate negatives held in the NSW State Archives' Government Printing Office collection, documenting the animals in their old home at Moore Park and in their new enclosures at Taronga. Government records also held in the archives provide insights into the complex process of conceptualising, planning and ultimately building the new*

## How to move a Zoo

### The project

*zoo. Correspondence, minute books and sketch plans of the animal enclosures all help to build a picture of this unique moment in time. Newspaper stories evocatively describing the event provided a compelling starting point for an imaginative re-creation of the journey.*

*A team from Sydney based creative experience design studio Grumpy Sailor, led by Tom Siddall and Jake Mu, worked with us to distil the incredible story to key compelling moments, told through interactive digital experiences. Illustrations by Ollie Davis, a children's illustrator and mixed-media digital collage artist, and clever animations by Sydney-based motion graphics designer Jonty de Klerk bring the animals individual personalities to life. To further bring the dynamic scene to life, We Love Jam Studios developed a rich soundscape that reproduced the sounds of the zoo in delightful and surprising ways. In the museum's entry cube was a whimsical kinetic bird sculpture by paper artists Samantha Gazal and Hester Clark. The fluttering silhouettes represented the 552 birds that were relocated to Taronga and are accompanied by the sounds of the aviary (but minus the smell and the mess!).*

*Museums of History NSW*



## Precedence Study

**UNDERSTANDING THE AUDIENCE:** The interpretive display is designed to tell the story to Children visiting the museum. Every aspect of the exhibit is informed by the target audience, including the height of interactive screens, the style of graphics, the use of bright bold colours to encourage continued engagement, and minimal text enabling young children with a low literacy level to understand the story through pictures and sounds. Interactions with the graphic displays are simple, allowing children to change the size and colour of an animal without need for assistance or instructions. By showing the physical journey of the zoo animals through a graphic display that wraps around the extents of the room, children can send their animal on its way and walk with it as it travels to the new zoo. Incorporating sounds creates an immersive experience. Rather than create delicate displays that can't be touched, large life-size animals designed to be climbed on, slide down or crawled under, all in different colours, have been installed to enable children to learn through interactive play.

**INTERPRETATION USING TECHNOLOGY:** Children are engaged by colour, interaction and movement. A projected graphic that runs the length of the room helps to tell the story of the journey. By illustrating this rather than showing it through photos, it adds playfulness to the story, engaging the target audience. Animating each picture adds movement to the image, drawing children's attention across the space and engaging them as they follow the map between the two zoos. Providing an iPad where children can create their own animal to move across the map encourages personal interaction and connection.

## How to move a Zoo What made it successful

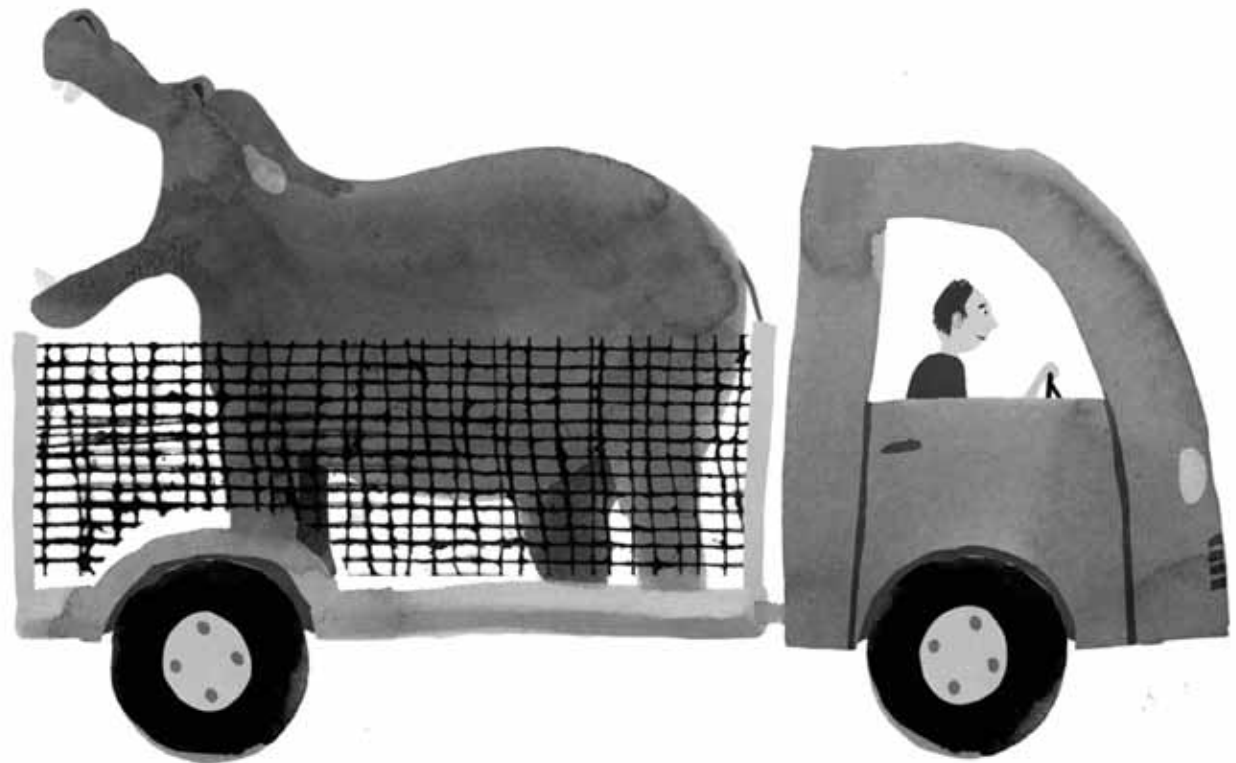
Link to the Goldfields Water Supply Scheme:

- Example of large numbers of archived photos and information being interpreted to tell a story of a historic event. The original format, not suited to children, was developed into an engaging story encouraging learning through interactive play.
- Example of interactive technology used as an interpretive device to share stories about Australian history.

### Further reading:

*About How to Move a Zoo.* Museums of History NSW. 17 December 2021. See: <https://mhnsw.au/stories/general/about-how-move-zoo/>

*The story of how to move a zoo.* Curated by Anna Cossu, Museums of History NSW. 5 December 2022. See: <https://mhnsw.au/stories/general/story-how-move-zoo/>



## Precedence Study

### CURTIN UNIVERSITY MISSIONS CONNECT

#### MOORE RIVER, WESTERN AUSTRALIA

*A four-year-long project is being directed by the views of the Stolen Generations Survivors and their families with a goal to transform the mission sites of MogumberMoore River Native Settlement, Wandering and Carrolup-Marribank in WA into healing spaces for Stolen Generations Survivors.*

*In October 2016 a memorandum of understanding was signed between the Southern Aboriginal Corporation (SAC), the Bringing Them Home Committee (BTHC WA) and Curtin University to provide opportunities for Curtin School of Built Environment students to undertake practice-based learning for credit toward their degrees at the former mission sites of Carrolup-Marribank and Wandering. Since then the Mogumber mission environment of the 1960's has been recreated virtually by Curtin researchers in partnership with Bringing Them Home WA.*

*From the early Moore River Native Settlement days to the Mogumber Methodist Mission era, this site had a built history spanning over one hundred years. This necessitated the Mogumber project scope to focus in on the decade of the 1960's based on the available Survivor stories and photographic documentation that was sourced.*

*Drone technology was used to create an orthographic map of the Mogumber site in its current form. which was cross referenced against archival records from the State Records office and Battye library Collection to create a map of the site in the 1960s time period. Survivors added their recollections further refining the site map and enabling the generation of floor plans of buildings that no longer exist on site. Details of these buildings were gleaned from photographs from the 1950s and 60s alongside the memories of those who were there at these times.*

## Mogumber Mission

### The project

*A virtual reality (VR) model was constructed from these drawings and photographic images to replicate the site as accurately as possible in the 1960's time period. The model allows viewers to 'walk' through the site and enter key buildings to view the internal layout and furniture that were present in this era.*

*Survivors recollections of this place and their experiences were recorded and inserted into the model to allow viewers to enter the 'columns' and 'spheres' within the VR experience and hear the stories of this place. in the voices of those who were there, or for whom this place has had a subsequent impact (children of survivors).*

*The Mogumber model is a record of the physical fabric of this place that in many cases no longer exists. and powerfully bears witness to the experiences and memories of the survivors in their own voices.*



## Precedence Study

**INCORPORATING LIVED EXPERIENCES:** The inclusion of stories from Aboriginal people whose lives were impacted by the Mogumber Mission, whether they were taken there as a child or knew friends or family who were taken there, with verbal recounts of their lived experience included throughout the VR model, enables people with no understanding or personal context of the place to understand why Mogumber Mission was so significant and the impact the Stolen Generation had on Aboriginal people. As most buildings at Mogumber Mission are no longer extant, the remaining structures mostly in ruins, the history no longer exists through the physical fabric. Interpretation of the social impact the Mission continues to have on generations creates a tangible connection for visitors to understand and learn from.

**VIRTUAL REALITY:** As most of the site is no longer extant and some areas are unsafe to allow visitors to walk through, a virtual reality model was created. Using a drone and mapping technology, as well as archival plans and physical descriptions from people who remembered the site when it was in use, a realistic recreation of the Mogumber Mission has been created, allowing visitors to walk between buildings and learn about the history of the place. Incorporation of stories of personal experiences associated with the mission as well as archival information and photos enhances the VR experience.

**COLLABORATION:** Curtin University has access to a large breadth of resources and specialist knowledge. By collaborating with the University, the opportunity to recreate the Mission through a virtual map was realised. Access to technology such as drone mapping and computer modelling, which is typically expensive and requires specialist knowledge to operate, was made available and students and researchers provided time and expertise to finish the project. This made the project economically viable and enabled a large team of people to work collaboratively with Aboriginal groups to create a place for reconciliation and healing.

## Mogumber Mission

### What made it successful

#### Link to the Goldfields Water Supply Scheme:

- Example of a project that recreates historic infrastructure that is no longer extant, through the use of technology, so that visitors can experience the built fabric as it originally existed.
- Example of a project that works with Aboriginal people to authentically share their lived experiences and stories from their own perspective and with a personal voice.
- Example of the use of technology to create an interpretive experience to enable visitors to understand the historical and social significance of a place that is no longer extant through the use of visual and audio devices.

#### Further reading:

Mogumber Mission. Missions Connect, Curtin University. See: <https://missionsconnect.net/missions/mogumber-mission/#>



## Precedence Study

## Virtual Visits

### The project & what made it successful

#### THE NATIONAL TRUST

#### THE UNITED KINGDOM

#### WALKING PODCAST PLAYLIST

*The National Trust Podcast brings to light the stories and people that make the gardens, landscapes and collections we care for so special. Join ranger Kate Martin as she rambles along routes through some of the Trust's most beautiful landscapes, uncovering myths, legends and history along the way.*

Each episode of the Walking Podcast Playlist is different, with the host Kate Martin walking along different tracks within the UK, discussing information about the landscape, significant sites that are passed along the track, the history of the place as well as information on the local bird and plant life you could experience whilst walking. Whilst designed to be listened to as you walk the same trail, the podcast format allows people to experience the place even if they are unable to physically visit the site. It also enables people to learn about the significance of the place which is particularly beneficial where interpretive signs and information are not available at the site.

*The National Trust*

**THE PODCAST FORMAT:** Podcasts are the perfect format for a wide range of information to be shared in an easy to digest format. Typically historical information is available as written content. A podcast enables listeners to easily engage as they enjoy the walking track, or as they go about their everyday routine. Podcasts are easy to access, so enable information to reach a wide audience. In regions where there is minimal phone signal, podcasts can be pre-downloaded before visitors reach the site, making them perfect for geographically isolated locations. The creation of a walking series also encourages visitors to travel to the other sites featured. The series covers a number of sites over vast geographical distances. By making podcasts, the distance between sites is no longer a barrier, with knowledge of each stored and available from any location. Where original heritage fabric is no longer extant, audio becomes a device to describe what used to be there and the significance of the place.

**THE THEME:** Walking is a common activity for exercise and wellbeing. Having a podcast focused on walks encourages people to physically visit sites and immerse themselves in their surroundings, experiencing the site for themselves whilst deepening their understanding of the social and historical context of the place. A series based around walks enables a wide variety of sub-topics to be discussed, allowing flexibility of content included in each episode.

#### Link to the Goldfields Water Supply Scheme:

- Example of an interpretive format that can cover multiple sites that are geographically distant from each other.
- Encourages people to visit sites and immerse themselves in the surrounding environment, whilst providing additional historical and social context so visitors can understand the significance of the site.
- Opportunity to include lived experiences and recounts of stories from local people, sharing the social significance of the site.
- Information is available to a wide target audience and is in an easy to digest format.

#### Further reading:

<https://www.nationaltrust.org.uk/discover/virtual-visit/podcasts/walking-podcasts-playlist>



# TARGET AUDIENCE

Who is this for?

How will they interact with the site?

What will they be interested in?



Image: Goldfields Water Scheme, demonstrating caulking the pipeline. (1900) *Finlayson, J (SLWA)*.

## Target Audience

## Audience Profiles

### Visitors, workers & locals



**Considering the impressive scale and scope of the Pipeline, covering a distance of more than 560kms in length, the potential audience for interpretation of the Goldfields Water Supply Scheme is very broad.**

The audience can be separated into two key categories:

- People with a previous connection to the Goldfields Water Supply Scheme
- People who have just discovered the Goldfields Water Supply Scheme

Within these two categories, several audience profiles can be determined:

### VISITORS

- People on holidays including families, individuals and people travelling in groups including couples and families.
- People traveling through the region, or on self-guided drives with key stops that travel past and/or interact with the Pipeline. Including the Golden Pipeline Tour, The Outback Way, The Nullarbor, The Great Western Woodlands, Goldfields Wildflower Trail, Golden Outback Trail & Golden Quest Discovery Trail.
- People on chartered or organized tours with key stops that travel past and/or interact with the Pipeline. Including those travelling by train, The Prospector & The Indian Pacific; those on private bus and coach charters, TransWA bus, and school tours/camps.
- Long term, seasoned travelers such as grey nomads, backpackers, nomadic families.
- School children learning about the Pipeline remotely.
- Cultural & heritage tourists focussing travel on key cultural and heritage sites.

### WORKERS

- Miners working on sites serviced by or alongside/adjacent to the Pipeline.
- Water Corporation employees and subcontractors servicing/maintaining the Pipeline.
- Truck drivers travelling along Great Eastern Highway.
- Key workers travelling to/from Perth along Great Eastern Highway to service communities along the pipeline.
- Industry workers travelling to/from Perth along Great Eastern Highway for work in the Goldfields & Wheatbelt Regions.
- Farmers living and working in the Goldfields and Wheatbelt Regions with the Pipeline running through or near to their properties, through a local townsite and adjacent to the Great Eastern Highway.
- Researchers completing studies and fieldwork along the Pipeline.

### LOCALS

- People who live in a town serviced by the main conduit of the Pipeline.
- People who live in properties adjacent to the Pipeline or who have properties that the Pipeline runs across.
- School kids attending schools in towns serviced by the main conduit of the Pipeline.
- Local custodians with a personal connection to, or a depth of knowledge, understanding and respect for the *Goldfields Water Supply Scheme*, including history enthusiasts.

## Target Audience

## How will they interact with the Place?

People will interact with the *Goldfields Water Supply Scheme* in a variety of ways, depending on their interest level and the time they have available to explore the site. Unlike many heritage places that are more confined in scale and physical footprint, the nature and extent of the heritage fabric that comprises the *Goldfields Water Supply Scheme* means that it is difficult and time consuming to see it in its entirety, or to engage with it for its full extent. The current interpretation context comprises a large variety of sites which are connected either physically (albeit with considerable distances between elements) or using devices such as heritage trails (such as the Golden Pipeline Heritage Trail) and information portals (such as that shared by the National Trust (WA) and Western Australian Museum) allowing for people to travel from site to site as they journey through the regions.

Whilst some people will be actively seeking to engage with elements of the *Scheme*, the majority of people will simply be interacting with the place *in passing* – that is, driving by on their way to somewhere else, potentially with the Pipeline appearing and disappearing in the background as their constant travel companion. For those that are travelling, they might have incidental interactions with the elements of the Scheme, if it appears in close proximity to rest stops, campsites, townscapes or their destinations, or they might be inspired to turn-off the main road and visit the sites if they see something that peaks their interest. The typical travel time between Perth and Kalgoorlie-Boulder via road is over 6.5hrs (approx. 600kms) and so many people will attempt to travel this as a single trip, reducing the likelihood of extended stop-overs. Those who are travelling for pleasure, such as tourists, backpackers and grey nomads, may be more likely to break up this trip with extended stops and overnight stays along the way, noting that the mid-way point on the journey between Perth and Kalgoorlie-Boulder is between Merredin and Southern Cross, a zone with very little in the way of tourist amenities to support this activity. The travel time in the vehicle is therefore an important time to consider accessing interpretation material, perhaps through seeing (from afar) or listening (to a narrative).

For those that stop and engage with the place, it is anticipated that they will want to explore the fabric and to understand how it worked and why it is important. This is particularly relevant because the majority of the heritage fabric has been de-commissioned and many historic and physical cues that demonstrated the whole *Scheme* are no longer necessarily apparent. This will be even more challenging when the Pipeline which physically connects all the elements is placed underground.

Those people that are already familiar with the *Scheme*, either because they live in communities along the Pipeline that are serviced by the main conduit or secondary lines, or because it is a part of their everyday life or their work, will likely interact differently and probably less consciously than those discovering the *Scheme* for the first time. These people will accept the elements of the *Goldfields Water Supply Scheme* as a permanent part of their lifestyle (ie. Water supply) and visual landscape (setting), and perhaps a feature that they pass by or cross over routinely. These people will notice changes in their everyday setting, such as the sudden removal of elements or realignments, but the features of the *Scheme* are likely to be in the background of their minds and experiences. Over time, if the nature and extent of the fabric of the *Goldfields Water Supply Scheme* lessens, it will become less of a feature in their everyday life and risks being forgotten altogether.

## Target Audience

## What will they be interested in?

For those that stop and engage with the place, it is anticipated that they will want to explore the fabric and to understand how it worked and why it is important. This is particularly relevant because the majority of the heritage fabric has been de-commissioned and many historic and physical cues that demonstrated the whole *Scheme* are no longer necessarily apparent. This will be even more challenging when the Pipeline which physically connects all the elements is placed underground and is no longer a major landmark in the landscape between Mundaring and Kalgoorlie-Boulder. The remaining fabric will gain new importance for the community, and they will need more help to understand its heritage values and meanings as its context continues to change.

For people who are already familiar with the *Goldfields Water Supply Scheme*, we anticipate that they will be interested in new perspectives and interpretation that allows them to connect on a more personal level, and which reinforces their own personal links and memories and sense of place. These people likely already know the stories (and myths) of CY O'Connor and Premier John Forrest, but might be interested to find out about lesser known individuals/groups associated with the Scheme, or to have their own personal connections validated by stories that they can relate to, such as those about everyday people whose lives developed around the Pump Stations and the Scheme. The 'Stories in the Pipeline' Public Research Project certainly confirmed that there is a vast community of Western Australians who feel a special sense of connection to the *Goldfields Water Supply Scheme*, and who collectively value this heritage place for the meanings it holds for them and their families.

We anticipate that there is also considerable public interest in better understanding the context of the Pipeline in relation to the broader cultural landscape, including infrastructure that they use everyday (roads, rail, water) and natural/man-made features that comprise the environment in which they live, work and recreate. People feel more care and connection with the natural landscape and are more keenly aware of the scarcity of resources than ever before and will likely be interested in understanding how their local places have evolved over time, and how the community is connected by their collective reliance on these resources. Understanding change and development over time allows people to feel a sense of place, and to have deeper connections with their community and their landscape setting at both a macro and micro scale.

People engaging in cultural heritage tourism are also ultimately interested in authentic experiences that allow them to learn something new. This is particularly true for people who want to engage with First Nations stories and knowledge to better understand the broader cultural landscape and setting of a place, and we recognise that there are opportunities to provide new cultural perspectives.



# KEY THEMES & STORIES

Approach

State and National Thematic Framework

### Interpretation Approach

It is proposed to focus the interpretation on a selection of key themes and stories which acknowledge and recognize the meanings and associations held by the place, but which also consider the following:

- The breadth of interpretative material already in place for the Goldfields Water Supply Scheme, so as not to duplicate existing content
- Focus on the above-ground Pipeline element, which is intended to be removed progressively over the next 70 years and replaced with underground pipe.

To understand the nature and extent of the existing interpretative material available for the GWSS, H+H Architects have undertaken a Precedence Study. The scope of this Study has been to consider all the existing interpretation elements located within the curtilage of the Heritage Place as well as looking further afield, identifying where other noted heritage sites might exist in close proximity to the GWSS and that might have a shared history with the place. The overlap of stories and meanings can add complexity to the Interpretation Strategy, but can also be a moment for celebration, offering opportunities for additional layers of social and historic value to be explored and lesser-known stories to be told.

The Interpretation Strategy will also focus on the Pipeline element itself, as this is the key heritage element that will be lost as part of the approved replacement works and therefore its heritage values will not be conserved in the heritage fabric itself and can only be expressed through interpretation. The Public Research Project 'Stories in the Pipeline' had a specific focus on collecting Pipeline stories from the community of Western Australia, to better understand the specific values inherent in this element, and this has guided the overall approach for the Interpretation Strategy.

### Selection of Key Themes

The selected themes will consider the National and State heritage values of the place, recognizing that the Goldfields Water Supply Scheme is of outstanding heritage value to the nation, but also has an important and defining role in the history and development of Western Australia, and continues to be important in the lives of West Australians and is a place that has shaped their identity and way-of-life. As outlined in the Approach section above, the selection of themes will consider a hierarchy of stories, with greater importance placed on those that are lesser known (compared to those that are already well known or told all the time) and those that relate specifically to the Pipeline.

# THEMATIC FRAMEWORK

## NATIONAL THEMES



Image: Station no.1, ground over which machinery has to be transported - 287 feet deep. (1900) (SLWA)

The Australian Heritage Council has developed a National Thematic Framework to identify links between significant national stories and places that are on the National Heritage list. The Framework was updated in 2022 and therefore this report utilizes the current Themes and makes specific reference to those that are linked to the Goldfields Water Supply Scheme, with further elaboration on how the Pipeline element itself relates to each Theme and the official heritage values.

## Thematic Framework

### National Themes

#### Theme 4.5 - Land, water and resource use

*Places associated with significant post-European arrival resource use that has had a role in Australia's economic, social and political development. Sub-themes relate to mining and mineral discovery; pastoralism; agriculture; and, Technology and engineering.*

The Goldfields Water Supply Scheme (GWSS) is a significant and innovative engineering scheme that established a reliable water supply for the Wheatbelt and Goldfields regions of Western Australia, allowing the growth and expansion of agriculture and pastoralism into the interior, as well as supporting the highly productive mining industry in the Eastern Goldfields region, industries which have had lasting economic and social benefits to Western Australia and to the nation as a whole.

The Pipeline element of the GWSS is directly associated with the expansion of agriculture in the Western Australian wheatbelt, with the ongoing productivity coming mainly from the areas serviced by the pipeline. The main conduit as well as the secondary conduits installed as part of the ongoing expansion of the Scheme allowed for a permanent and reliable water supply to rural communities and farms, who became less vulnerable to seasonal water shortages.

The Pipeline element of the GWSS is a significant component of the Scheme and is noted specifically in the official values of the place for its scale, being the largest steel structure anywhere in the world at that time, and its construction being the largest pipe contract let to that time.

The Pipeline element of the GWSS itself also represents innovative Australian design and adaptability, both in its original 'locking bar' design by Mephan Ferguson, as well as its refurbishment in 1933, which included lifting the pipeline out of the ground and re-laying it above ground using reinforced concrete anchor blocks to prevent movement and to transfer these forces into the ground.

*The Pipeline element of the GWSS is an important representative of the sub-theme '4.5.4 Technology and engineering'.*

## Thematic Framework

### National Themes

#### Theme 5.6 - Transport, communication and infrastructure

*Places related to advances in transport, trade links or the provision of infrastructure, including radio, television, railway, and transport systems that have contributed to Australia's social and/or economic development. Sub-themes relate to Linking a Nation; Civil Aviation and Advances in communication technology.*

The Goldfields Water Supply Scheme comprises the remains of a substantial inter-basin water transfer system including dams, extensive pipeline, tanks, reservoirs and pump stations, which was designed by CY O'Connor and completed in 1903. The Scheme is a significant infrastructure element that linked the Eastern Goldfields and Wheatbelt regions with the Perth Hills and continues to serve the communities between Mundaring and Kalgoorlie.

Measuring over 560kms in length, the Pipeline element is a major component of the significant infrastructure of the GWSS and is a tangible linking element between communities, all of whom rely on water supplied by the Pipe and have a shared history of life along the Pipeline.

The Pipeline element is a well-known and recognisable landmark that is highly visible along its route and expresses the characteristics of the Goldfields Water Supply Scheme in its form and materiality and its design. The alignment of the Pipeline is a direct design response to the topography of the diverse landscape it traverses, and despite having pipe sections installed both underground and overland, is recognised as a continuous infrastructure element that features prominently in the landscape of Western Australia's Wheatbelt and Goldfields regions.

*The Pipeline element of the GWSS is an important representative of sub-theme '5.6.1 Linking a Nation'.*

### National Themes

#### Theme 5.7 - Knowledge and social systems

*Places associated with Pre and post Federation governance and social systems such as public administration, education, science, philosophy, law and justice, health, and social welfare development.*

The Goldfields Water Supply Scheme is recognized as a creative and technical achievement, both in the scale of the project and in the use of new and innovative technology in its design and construction. The Goldfields Water Supply Scheme is also significant for its association with the work of CY O'Connor, Engineer-in Chief at the Western Australian Public Works Department from 1891 until his death in 1902, one year before the Scheme was completed. O'Connor is recognized as an innovator and the driving force behind the construction of the Scheme.

The Pipeline element of the GWSS was designed by the Western Australian Public Works Department under the leadership of CY O'Connor and demonstrates major technological achievements in the scale and design of a +560km long main conduit that transfers water between the basins at Mundaring and Kalgoorlie, and supports a substantial network of secondary supply lines across the Wheatbelt and Goldfields regions.

The Pipeline element of the GWSS made use of innovative Australian design in the locking bar pipe invented by Mephan Ferguson.

The refurbishment of the Pipeline element in 1933 was also a major technical development. Lifting the pipeline out of the ground and re-laying it above ground placed the Scheme among the world leaders in pipeline technology for the second time in less than 40 years. This was the first time anywhere in the world that pipe anchorages of this type had been used to permit such a large diameter pipeline to be laid above ground.

*The Pipeline element of the GWSS is an important representative of sub-theme '5.7.3 Scientific Endeavour and Invention'.*

## Thematic Framework

### National Themes

#### Theme 5.9 - Developing a national economy

*Places associated industries and trade that formed the bedrock of the Australian economy.*

The Goldfields Water Supply Scheme is significant as the impetus for agricultural expansion that was of lasting benefit to Western Australia and to the nation as a whole, particularly as the regular water supplies opened up the south-western agricultural area to production. Today the Western Australian wheatfields are the most productive in Australia, accounting for 42% of the nation's wheat crop, coming mainly from the areas serviced by the goldfields pipeline. The supply of a permanent and reliable water source to Kalgoorlie has also arguably contributed to the long-term sustainability of the mining industry in the Eastern Goldfields of Western Australia, a region which is resource-rich and remains one of the most important gold and nickel mining locations in Australia.

The Pipeline element of the GWSS is directly associated with the expansion of agriculture in the Western Australian wheatbelt, with the ongoing productivity coming mainly from the areas serviced by the pipeline, which has had a lasting impact on the national economy. The Pipeline, its extensions and associated infrastructure represent the initiative that opened up the south-western agricultural area to development.

*The Pipeline element of the GWSS is an important representative of sub-theme '5.9.1 Industry'.*

## Thematic Framework

### Other National Themes Theme 6.2 - Australians working

*Places associated with employment and work in Australia.*

*The Public Research Project, 'Stories in the Pipeline', conducted in 2023 to document the public's historic and contemporary interactions with the heritage elements of the Goldfields Water Supply Scheme have identified additional themes which may be considered for inclusion.*

The Public Research Project demonstrated that the Goldfields Water Supply Scheme is a place associated with the employment of a large workforce, firstly during its design and construction phase from 1896 until 1903, and then continuously during all the years of its operational phase, which continues to this day. The construction of the GWSS was itself a significant feat of resourcefulness, skill and perseverance and there is still considerable community pride in the efforts of workers employed in the construction and raising of the reservoirs and weir, the laying of the original Mundaring to Kalgoorlie conduit, the 1933 raising of the conduit and the construction of the pump stations and associated townsites. Once the Scheme was completed an entire workforce was established to operate the series of eight pump stations and to maintain the conduit. Small towns were established at each pump station, with worker housing built for engineers and their families, as well as barracks for single men. Others were employed in maintenance teams for the Pipeline itself, including the 'length runner' who was responsible to find leaks in the pipe and identify potential defects and anomalies. During the major re-laying of the pipe in the 1930s, and in subsequent decades, many teams were employed to undertake major refurbishment, including many tasks that were labour intensive such as lining the steel pipe with cement.

Whilst working maintenance on the pipeline was an important source of employment for many men over decades, particularly during the Great Depression and Post-War years, the remote and isolated nature of this work has left many lasting memories of these times of hardship and adversity.

Many of the workers on the post-war Comprehensive Water Supply Scheme were 'displaced persons'- men who had found themselves homeless in the chaos of Europe at the end of the war and who were assisted to emigrate to Australia. As part of the emigration process, these 'New Australians' were required to work where directed for two years, and those working on the pipeline extensions became a regular fixture along the pipeline, and many stayed in these regions longer term.

As well as sustenance workers and post-war migrants, in more contemporary times the Goldfields Water Supply Scheme has been an important employer of Aboriginal people, and many of the maintenance workers in the 1970s and 1980s were local Aboriginal men.

For the families and descendants of these workers, their participation in the Scheme has often become part of the family folklore and pride, allowing the pipeline to have special meanings to people across multiple generations. Despite advances in technology that have resulted in the replacement of steam pumps with diesel and later electric pumps, the ongoing maintenance requirements of the Pipeline continues to represent important employment opportunities for regional people in the Western Australian Wheatbelt and Goldfields regions.

The Pipeline element of the GWSS is directly associated with the history of one of Western Australia's largest employment projects and during its design, construction and operational phases has employed a varied workforce that included sustenance workers, post-war migrants and Aboriginal people at key periods in the Nation's history.

*The Pipeline element of the GWSS is an important representative of Theme '6.2 Australians working'.*

## Thematic Framework

*The Public Research Project, 'Stories in the Pipeline', conducted in 2023 to document the public's historic and contemporary interactions with the heritage elements of the Goldfields Water Supply Scheme has identified additional themes which may be considered for inclusion.*

*The Pipeline element of the GWSS is a potential representative of Theme '4.1 First Nations management and modification of the landscape'.*

## Other National Themes

### Theme 4.1 - First Nations management and modification of the landscape

*Places demonstrating the diversity of results of First Nations land management and its link to First Nations' law.*

The Public Research Project demonstrated that well before the Goldfields Water Supply Scheme was introduced to provide fresh water to Coolgardie (and eventually Kalgoorlie), water farming was undertaken by Aboriginal people to supply the needs of their communities. These methods of water farming included gnamma holes, water trees and rock catchment systems, and represent a network of managed fresh water supplies that traverse the same landscape as the GWSS and in many cases, intercept with infrastructure of the Scheme and the original route of the Goldfields Road between Cunderdin and Kalgoorlie. The value of the Aboriginal water farms was first recognized and exploited by surveyor and explorer, Charles Cooke Hunt, who built a series of 25 wells, dams and tanks in these locations between 1864-1866. The mapping of Hunt's Wells encouraged prospectors to travel east along Hunt's Track into the inland regions in search of gold which led to the 1880s and 1890s gold rushes in Yilgarn and Coolgardie. As a collective group, these wells, gnamma holes, rock catchments and dams physically demonstrate the water sources used by Aboriginal people, the construction methods used by Hunt, and the development of subsequent water sources along the route to the Goldfields after 1890 as the population in this region quickly expanded and demand for water resources increased.

The traditional Aboriginal water farms and Hunt's wells were used (and modified) by the Government during the construction of the Railway line and the Goldfields Water Supply Scheme, but many are still extant and form a cultural landscape that demonstrates water farming and management practices by First Nations People, and later by Europeans.

Aboriginal Dreamtime stories pass over the Pipeline including stories which contain information about finding water sources in the Kalgoorlie region and many of the locations mentioned in each Dreaming are gnamma holes, soaks and springs that exist today. The *jila* or *pimira* (water snake) in each water source represents an important aspect of Aboriginal people's ceremonial and physical obligations to care for these water sources. Stories abound of the water sources drying up when the water snake was disturbed by destructive activities that affected these natural water sources when colonial settlers and surveyors began to penetrate the inland from the 1840s onwards, including the blasting of gnamma holes and bricking up of springs to form wells. The mythological significance of the water snake, and its links to the network of water sources across the physical landscape, further demonstrate the transference of traditional knowledge that allowed First Nations people to live in the environment well before the introduction of more substantial engineering solutions designed to address the lack of water.

The Pipeline element of the GWSS is associated with the First Nations land management practices as it traverses the traditional Aboriginal water farming sites and in some cases intersects with these elements physically.

The Pipeline followed the route of previously installed infrastructure including road, rail and telegraph which roughly followed Hunt's Track.



Image: Construction Camp, Goldfields Water Supply Scheme. (1900) *Flegeltaub, A. (Amos) (SLWA)*.

## Thematic Framework

### **Environment**

### **Peopling WA**

*Colonisation; Demographic Development*

### **Economy**

*Rural Occupations; Natural Resources; Mining and Mineral Resources; Manufacturing and Secondary Industry; Commerce; Workers and Working*

### **Infrastructure**

*Development of Settlement and Services; Transport and Communications*

### **Social Services**

*General Social Services;*

*Education; Health*

### **Governing**

*Governement and Politics; Law, Order and*

*Defence*

### **Cultural Life**

*Religion; Recreation - Arts, Culture and*

*Entertainment; Recreation - Sport, Domestic Life*

### **International Links**

## Western Australian Historic Themes

The National Historic Themes are very broad and do not always apply readily to Western Australia, and therefore Clare Menck's 'A Thematic History of Western Australia' (2022) has also been considered in developing a thematic framework to inform the interpretation of the Goldfields Water Supply Scheme, again with a particular focus on the above-ground Pipeline element.

According to the research undertaken by Historian Lucy Hair for the Heritage Management Plan (Stephen Carrick Architects, 2023), the following Western Australian Historic Themes apply to the Goldfields Water Supply Scheme.

## Thematic Framework

## Western Australian Historic Themes Environment

The area on which the GWSS is situated was cared for by First Nations peoples for thousands of years prior to British colonisation (refer to 'Aboriginal Heritage' in section 1.10 of this report). Aboriginal cultures centre around the primary importance of being connected to and caring for the land.

'The main conduit of the Goldfields Water Supply Scheme travels eastward across the Noongar Nation, through the clan group lands of the Wadjak, Baladong and Ngaki-Ngadjji peoples. It then crosses the border to the Kaprun Nation for the final third of its length, before reaching Karkurla, the traditional name of Kalgoorlie.' [H+H, 2023, p. 10]

The Waugal (Rainbow Serpent) made the rivers, lakes, swamps and waterholes in the *Nyitting* (Dreaming or Ancestral times) to nourish the various Noongar nations close to the coast. These areas relate to the first part of the GWSS around Mundaring and the Avon Valley. The Waugal was unable to make waterholes further east as the water was too salty.

'A number of Dreamtime stories pass over the Pipeline including the *Wati Kutjarra Tjukurrpa* (Two Men's Dreaming) and the *Karkurla Tjukurrpa* (Silky Pear Dreaming). These stories contain information about finding water sources in the Kalgoorlie region and many of the locations mentioned in each Dreaming at gnamma holes, soaks and springs. The *Mingiwa Tjukurrpa* (Echidna Dreaming) passes through the Coolgardie region and this water story centres around local landmark Mt Burgess and a number of gnamma holes and water sources. The *jila* or *pimira* (water snake) in each water source represents an important aspect of Aboriginal people's ceremonial and physical obligations to care for these water resources.' [H+H, 2023, p. 10]

Since colonisation, 'European and later arrivals initially responded to the land as an opponent and attempted to shape it, but gradually learned to respect and care for the earth – attitudes long integrated by Aboriginal culture.'

[Menck, 2022, p. 5] For the most part, Aboriginal people were 'mistreated to reveal these valuable natural water resources...Typically, Europeans did not understand the Aboriginal water management systems and therefore incidences of the destruction of waterholes continued to occur'. [H+H, 2023, p. 16] The damage to water sources had a lasting and permanent impact.

'In the 1860s Charles Hunt, a government surveyor, modified traditional water sources to receive and store rainwater to supply seasonably reliable water to expand European settlement. In 1863, the Gnarlbine Soaks at Coolgardie were disclosed by Kowitch, an Aboriginal assistant to M H Lefroy's expedition, and were later incorporated into Hunt's Track (Heritage Council of West Australia 2009). The Goldfields Pipeline followed the route of previously installed infrastructure including road, rail and telegraph which roughly followed Hunt's Track.' [NHL]

'The absence of artesian water sources and unacceptable salt levels in ground water meant traditional sources of Aboriginal water were co-opted to supply not only huge numbers of European settlers but horses, camels and industry. As populations grew, Aboriginal water sources and bore water condensers were insufficient to meet demand.' [NHL]

'Large increases in the population of the Coolgardie region with the discovery of gold had a dramatic impact on the arid environs. Water shortages and outbreaks of typhoid provided the impetus for a water supply scheme to be built. [NHL] The Government made a commitment to construct the Goldfields Water Supply Scheme.

'The preparation work for the six-mile long, 4.6 billion gallon Mundaring Dam began in June 1898... Eight hundred acres of land was completely cleared with two hundred acres of the lower catchments ringbarked and the riverbed cleared and burnt.' [NHL]

'Fifty miles along the pipeline, the town of Northam became the manufacturing centre and food producer for the goldfields. Burlong Pool, a DIA registered mythological site and important Aboriginal water source, was turned into a camping ground for railway contractors, including their horses and camels (Garden, 1979).' [NHL]

'To construct the scheme it was necessary to clear large areas to accommodate the pipeline and provide ongoing access for maintenance...The Pump Stations were originally designed to be powered by coal. However, in less than a year the pump stations were burning timber. The preferred source was locally available Jarrah or red gum (Marri) at Pump Stations 1, 2 and 3. From Stations No 3 and onwards species such as Salmon gum and gimlets were sourced locally (Hartley 2007). This ongoing need for fuel resulted in a local lucrative fire wood trade being established in the areas surrounding the pump stations. Land clearing around Mundaring Weir ceased in 1918 and the area allowed to revegetate naturally (Hartley 2007, p.207).' [NHL]

### Western Australian Historic Themes Peopling WA - Colonisation; Demographic Development

**COLONISATION:** First Nations peoples moved across the state for thousands of years and frequented the area now known as the Eastern Goldfields. As ‘the oldest continuing cultures in the world’ they remained ‘deeply connected to place’. [Menck, 2022, p. 9] They developed a deep and continuing knowledge of the land and water sources and passed this knowledge on from generation to generation.

With the arrival of British colonists in Western Australia from 1826 onwards, development centred initially around the Albany area. From 1829, settlement focused on Perth, Fremantle and Guildford. Areas south of Perth were considered for agricultural expansion soon after. The development of railways from the early 1880s resulted in increased populations in areas immediately east of Perth, particularly the Avon Valley. For most of the nineteenth century, population of the area between the Avon Valley and what is now the Eastern Goldfields was sporadic. From the early 1890s, discoveries of gold in the Eastern Goldfields led to a substantial increase in population in the various towns.

**DEMOGRAPHIC DEVELOPMENT:** It is difficult to overemphasise the substantial changes that occurred in the Eastern Goldfields during the 1890s. With the population increasing exponentially, new buildings and services were required on an increasingly urgent basis. Water was scarce and therefore expensive. Solutions to provide clean water in the region needed to be considered. ‘By the mid 1890s over 40 percent of Western Australia’s population lived on the eastern goldfields under appalling conditions and paying exorbitant prices for domestic water.’ [NHL]

‘As the Western Australian gold rush gathered momentum in the 1890s, one of the biggest problems facing gold seekers on the eastern goldfields was the lack of adequate water. The Coolgardie region had an unreliable rainfall, with annual falls during the early 1890s varying from 90 mm to 260 mm (Hartley 2000: p.727). The region lacked any surface supplies of fresh water, and geologists reported that there was little prospect of finding useful artesian supplies. A variety of short-term water supply works were installed by the WA Public Works Department (PWD), including earth dams, catchments on rock outcrops, condensing plants, wells and bores. However, it became increasingly difficult and costly to provide the rapidly expanding population with uncontaminated water supplies using these means...A source outside the goldfields was needed.’ [NHL]

The pipeline project was completed in 1903, the result of great technical achievement. Many people who worked on the Comprehensive Water Supply Scheme after World War II were displaced persons from Europe who emigrated to Australia for a new beginning after the war. [H+H, 2023, p. 48].

### Western Australian Historic Themes Economy - Rural Occupations; Natural Resources

**RURAL OCCUPATIONS:** ‘The most significant boost to colonial agriculture was the population influx of the gold boom. Local producers could not initially meet demand for either food or fodder.’ [Menck, 2022, p. 19]

‘Many migrants moved off the goldfields into agricultural pursuits in the 1900s. Former prospectors expanded the Wheatbelt...A recession in 1905 saw the redoubling of government efforts towards agricultural development, especially expansion of the rural rail network, and the Goldfields Water Supply Scheme was extended to agricultural areas.’ [Menck, 2022, p. 19] Over time, the GWSS supplied not only the goldfields but serviced towns and agricultural areas along its path.

The Depression and long period of drought in the 1930s had an adverse effect on farmers with many losing their farms during these years. The agricultural areas along the Wheatbelt became a focus during World War II. The Australian Wheat Board was formed to purchase all wheat and Britain purchased the entire state’s wool clip. With many men serving overseas women became farm labourers [based on Menck, 2022, p. 20].

**NATURAL RESOURCES:** ‘Prior to colonisation, harvesting natural resources was central to Aboriginal survival, and through much of the 19<sup>th</sup> century it also underpinned the colonial economy and enabled early colonists to subsist... For at least 50,000 years, Aboriginal people have utilised the living resources of Western Australia as skilled hunters, fishers and gatherers.’ [Menck, 2022, p. 21]

Various attempts to harvest sandalwood and jarrah (Swan River Mahogany) were made during the 1800s but a lack of milling technology made it difficult to export timbers. Timbers tended to be used locally and were an important resource for creating fire for heating, cooking and to power machinery such as that required for the railways [based on Menck, 2022, p. 23]. Timber was an essential resource for the GWSS. Timber fuelled the cooking fires for those working on the pipeline and, originally planned to be coal-powered but changed to steam powered, the Pumping Stations required large amounts of timber as well as water to operate [H+H, 2023, p. 24].

### Western Australian Historic Themes Economy - Mining and Mineral Resources; Manufacturing and Secondary Industry

**MINING AND MINERAL RESOURCES:** 'Mining has been key to significant Western Australian growth periods, especially the 1890s gold boom.' [Menck, 2022, p. 25]

'In 1892, the find that changed Western Australia was made at Coolgardie. A decade-long gold rush to the Eastern Goldfields began, and the colony boomed. By 1893, when gold was found at Kalgoorlie, gold was the colony's largest export. Auriferous (gold-containing) country was found stretching more than 400 kilometres north-south, fields so rich that they continue to sustain gold mining 125 years later.' [Menck, 2022, p. 26] Initially the droughts of the early 1890s and the lack of water severely hampered development of the goldfields. [H+H, 2023, p. 19]

'These rich goldfields drew prospectors from all over the world, particularly from the eastern Australian colonies (IEA 1986: p.1). By October 1895 Coolgardie was the undisputed capital of the goldfields and centre of the colony's gold mining industry. The town itself had a population of about 8,000, while within a radius of some 65 kilometres, there was a floating population of another twenty to thirty thousand. At the time Kalgoorlie was a village of tents and dust, and Boulder did not exist. (Hartley 2000: p.727).' [NHL]

'Migrants underpinned the gold boom, but World War I saw many goldfields workers interned for cultural links to 'enemy' countries. Others, without such links, enlisted in large numbers, and a lack of labour reduced mining productivity during the war. Decline spurred a Royal Commission, which in 1925 accused the industry of neglecting development work and failing to address multiple problems. From 1928, Kalgoorlie mining companies began modernising operations. However, employment in mining continued to slump to the end of the decade.' [Menck, 2022, p. 26]

'Gold prices increased in response to the Depression, increasing 131 per cent through the decade. Gold was the only major industry to profit in this period, pulling Western

Australia out of the Depressions earlier than the Eastern States. A mining tax from 1934 to 1942 funded government Depression responses.' [Menck, 2022, p. 26]

'World War II cut gold-mining back as a 'non-essential industry'. Post-war government assistance attempted to boost the struggling sector, but it was decades before it boomed again.' [Menck, 2022, p. 27]

'Gold regained ground from the mid-1970s, as global recession raised international prices. New technologies maintained production through the 1980s.' [Menck, 2022, p. 28]

#### **MANUFACTURING AND SECONDARY INDUSTRY:**

'Construction of the Goldfields Water Supply Scheme (1898-1903) underpinned the establishment of two steel fabrication plants, which supplied pipes for nearly 600 kilometres of pipeline. From 1911, a concrete pipe factory also operated.' [Menck, 2022, p. 31]

The Locking Bar pipe developed by Mephan Ferguson was a major innovation that contributed to the success of the GWSS. 'Under the new process, a pipe consisted of two plates, each of the full length of the pipe and each bent to a semicircle. Steel was delivered to one end of the works and passed from one machine to another, until a pipe came off the production line at the other end of the works, was tested under water pressure, and then dipped in the molten asphalt protective mixture (Ferguson 1992: p.20).' [NHL]

### Western Australian Historic Themes Economy - Commerce; Workers and Working

**COMMERCE:** 'Aboriginal people traded goods with each other. From the 1700s, they also traded with Macassan fishermen. However, in European terms, Western Australia was a British-dependent economic backwater from the 1820s to the 1880s.' [Menck, 2022, p. 33] For example, the area around Coolgardie was a known songline and trading route between two Aboriginal nations, the Kaprun nation and the Ngadju nation. [Information provided by H+H, Coolgardie Post Office CMP]

'Existing traders were well-placed to take advantage of the 1890s goldrushes, using their established base to supply the booming population. Many colonial businesses expanded. Imports increased, especially agricultural and mining tools, equipment and machinery...Goldfields hotels boomed, as both alcohol and accommodation were in high demand.' [Menck, 2022, p. 34]

**WORKERS AND WORKING:** 'Work in Aboriginal communities before colonisation was communal, without employment relationships. Roles and responsibilities were organised according to gender, age and kinship. Following colonisation, Aboriginal people worked as guides, trackers, shepherds, whalers, labourers and mail carriers.' [Menck, 2022, p. 37] 'It is unknown how many Aboriginal people worked on the pipeline or with associated contractors.' [NHL]

Large numbers of people worked on the GWSS and a multitude of skills and experience were required to enable such an ambitious scheme. In addition to those involved in the planning and construction of the pipeline, there were numerous side industries that benefitted enormously from provision of fresh water. Market gardeners and farmers were greatly assisted by access to water through the GWSS. [H+H, 2023, p. 42]

'Unemployment rose in 1928, sparking demonstrations mid-year when it reached nine per cent. The Great Depression hit in force in 1930.' [Menck, 2022, p. 39] 'From 1931, the government implemented a 'work for the dole' scheme for unemployed men. Sustenance labourers received higher payments while engaged on public works, but were often assigned to manual work without any experience.' [Menck, 2022, p. 39] Sustenance workers were employed on the GWSS to raise the conduit.

'Severe labour shortages were experienced during World War II. Essential industries were protected and their employees prevented from enlisting, and women took up jobs formerly considered male domains.' [Menck, 2022, p. 39]

The GWSS was constructed through the Public Works Department and maintained by the Goldfields Water Supply Office and subsequently by the Water Corporation. A large number of employees have worked on the pipeline and maintained it for over 120 years.

## Thematic Framework

### DEVELOPMENT OF SETTLEMENT AND SERVICES:

‘Aboriginal groups used seasonal settlements. They understood land as the sovereign possession and responsibility of the whole community, unable to be traded. For colonists, distribution of land was a major social and political issue, without reference to its traditional owners.’ [Menck, 2022, p. 42]

‘All colonists sourced their own water until Fremantle Prison’s reservoirs began supplying water to the port in 1874, later expanding to provide the town. A reticulated supply commenced in 1888. Victoria Reservoir opened in 1891, providing low-quality water to Perth, with little improvement until the 1900s. Lack of water supply hampered the Eastern Goldfields, ultimately resulting in the construction of the Goldfields Water Supply Scheme (opened 1903).’ [Menck, 2022, p. 42]

‘Expanding population and finances through the gold boom transformed the colony from sleepy villages to thriving towns, especially Perth, Fremantle and Albany...For a decade, the facilities at Kalgoorlie and Coolgardie rivalled coastal centres. The government rapidly provided infrastructure to support the goldfields.’ [Menck, 2022, p. 42]

‘The first trial designs for a pumped water supply were completed in November 1895 and were based on three different supply rates: one million gallons per day, five million gallons per day and ten million gallons per day. In 1896, the processing requirements of the whole of Western Australia’s gold mining industry could have been met with water supplies totalling one million gallons per day - assuming a usage of 2,000 gallons per ton of ore (Hartley 2000: p.730). O’Connor argued that a one million gallons per day capacity pipeline would only be adequate for short term requirements...He estimated that a supply of one million gallons would entail a capital cost of about £1 million, while a five million gallons supply would cost £2.5 million: five times the capacity for 2½ times the cost (Hartley 2000: p.731).’

[NHL]  
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## Western Australian Historic Themes Infrastructure - Development of Settlement and Services

‘On 16 July 1896, Premier John Forrest introduced into the WA Parliament a Bill to authorise the raising of a loan of £2.5 million to construct the pipeline scheme.’ [NHL]

The GWSS relied on eight Pump Stations to carry the water from Mundaring to Mt Charlotte Reservoir. ‘The pump stations themselves were substantial buildings of red brick with corrugated iron roofs supported on steel trusses (Foxley 2008). The eight buildings were substantially the same design, with two rooms connected by a passageway. One room contained the steam boilers which provided the motive power to the pumps, which were contained in the other room...Nearby to each pumphouse it was necessary to house the operational staff and their families, and small settlements of houses, schools and sporting facilities gradually grew up (Trust 2000. Vol 208).’ [NHL]

‘By 1910 it was obvious that the capacity of the Scheme was greater than was required on the goldfields and the *Goldfields Water Supply Act* was amended to allow farming properties to be rated for the purpose of supplying water for stock and domestic purposes (Trust News 2001: Vol 210 p.9). By 1928 the total area of farmland being serviced had increased to approximately 1 million acres (404,685 hectares). The pipeline was now operating to full capacity and the area of rated farmland had to be held at this size until after World War II (Trust News 2001: Vol 210 p.9).’ [NHL]

In 1933, the conduit was raised. This was done partially using sustenance workers, a government relief scheme for those affected by the Depression. [H+H, 2023, p. 33,34,38] ‘The reconditioning of the buried pipeline commenced in 1933 with priority being given to the sections where external corrosion was most severe...The refurbishing of the pipeline in 1933 included a new method of lifting the pipeline out of the ground and relaying it above ground. The method involved lifting the pipes out of the ground, trimming-off the corroded end sections of the pipes, and replacing the flexible lead joints with rigid welded joints forming what was known as a ‘continuously welded pipeline.’’ [NHL]

‘The 1930s refurbishment of the pipeline also involved another innovation, the large scale use of wood stave pipes. During the depression of the 1930s, steel was in short supply and sections of the pipeline were in need of repair. It was decided that timber stave pipes would provide a viable alternative given the lack of steel.’ [NHL]

‘In 1948 the Commonwealth Government agreed to provide financial support to Western Australia for construction of a Comprehensive Agricultural Areas Water Supply Scheme. The northern section of this scheme was based on the existing Goldfields Water Supply system and provided for a reticulated water supply to towns and farmlands over an area of 4 million acres (1,618,742.5 hectares) as far north as Koorda and Bencubbin (Trust News 2001: Vol 210 p.11).’ [NHL, see also H+H, 2023, p. 45]

In 1951 increased storage was provided by raising the wall of Mundaring Weir by 32 feet (10 m) which trebled the Weir’s holding capacity. The enlargement of the dam wall involved the placing of 80,000 cubic yards (61,164 cu metres) of concrete and cost £720,000...A ceremony to mark the completion of the Comprehensive Water Supply Scheme was held on 24th November 1961. However, these mains were subsequently extended to the townships of Dalwallinu, Pithara, Ballidu and Corrigin. Later again, four small areas of northern farmlands were included at Kalannie. North Koorda, north Bencubbin and Wilgayne. All work on the Comprehensive Water Supply Scheme was finally completed in 1974 (Trust News 2001: Vol 210 p.11).’ [NHL]

‘Water schemes expanded settlement in the post-war years. The Comprehensive Agricultural Areas Water Supply Scheme, completed over nearly 30 years and covering most of the Wheatbelt by 1974, particularly facilitating expansion to the north and east.’ [Menck, 2022, p. 11, 20]

### Western Australian Historic Themes Infrastructure - Transport and Communications

**TRANSPORT AND COMMUNICATIONS:** ‘Until the 20<sup>th</sup> century, transport and communications were entwined, as information had to be physically conveyed. By the 21<sup>st</sup> century, internet interconnectivity so dominated culture that the ongoing dependence on physical infrastructure and transport links was invisible to most people.’ [Menck, 2022, p. 46]

The Perth-Coolgardie railway line was completed in March 1896 and the extension to Kalgoorlie opened in September 1896. To enable railway construction, modifications to several natural water sources, such as at Karalee Rocks, were made. [H+H, 2023, p. 14] The GWSS pipeline largely followed the line of the railway as the existing infrastructure was used to transport the pipes and other items required for its construction. Some deviations from the railway line were made where it would reduce pressure on the pipe. [NHL]

‘The telephone was new technology and Perth only opened its first exchange in 1887, but a special telephone line was laid between the PWD Head Office in Perth and Kalgoorlie via each of the pumping stations. This was found to be extremely useful during construction and was retained as an on-going operational facility (Trust News 2000: Vol 208).’ [NHL]

‘In the 1900s, government funding prioritised rail. Government railways more than double, mostly in the Wheatbelt. The transcontinental railway was completed in 1917.’ [Menck, 2022, p. 47]

‘Motor vehicles were expensive, unreliable and unsuited to available roads when they arrived in 1898.’ [Menck, 2022, p. 48] Like the railway (subsequently Transcontinental Railway) and the pipeline, the main road to Kalgoorlie followed much of the original line of Hunt’s mapping of water sources during the nineteenth century. [H+H, 2023, p. 13]

‘Government rail expansion ceased through the Depression. Maintenance fell behind and income from passengers and freight dropped. Roads fared better, as sustenance labour was used for construction.’ [Menck, 2022, p. 48] From the 1930s onwards, people’s connection to the pipeline along the route between Mundaring and Kalgoorlie was experienced more by road than by rail. With much of the pipeline visible, it increasingly became a landmark along the route between Mundaring and Kalgoorlie.

### Western Australian Historic Themes Social Services - General Social Services; Education & Health

**GENERAL SOCIAL SERVICES:** 'Major infrastructure projects are closely aligned with the patriotic sentiment which contributed to nation building, particularly during the federation period of 1890-1915. Completion of public works such as the Goldfields Water Supply Scheme represent a stage of national maturity. The development of the Goldfields Water Supply Scheme is an important part of the history of how Western Australia entered into federation.' [NHL]

'These large scale infrastructure projects were important in furthering the relationships between the eastern and western states. Forrest used the opening of the original Coolgardie Goldfields Water Supply to further other nation building endeavours with the newly formed Commonwealth Government (Lowe 2001: p. 96).' [NHL]

**Education:** With the increased population arising from the gold boom and particularly the influx of migrants from eastern colonies, expectations about the provision of education rose. With such a demand for access to education, heavily populated areas were serviced first. Schools were established in the Eastern Goldfields as mining towns developed. Access to education for families who lived along the pipeline and its more minor centres were usually small one-teacher schools. [based on Menck, 2022, pp. 53-55] Isolation continued to be a problem for decades of GWSS employees, such as Pump Station operators, to ensure that their children had access to schools. [H+H, 2023, p. 25]

**HEALTH:** 'Aboriginal people and their water supply were impacted by several events prior to the building of the pipeline. These included diseases, explorers and the building of infrastructure prior to and during the gold rushes. Typhoid fever associated with poor sanitation, cramped conditions and lack of water was rife in Western Australia in the late 1800s (Whittington 1988).' [NHL]

'Gold in the 1890s lured people to remote areas with few services, inadequate sanitation and scant, often polluted water supplies. The largest typhoid epidemic in Australian history resulted. Typhoid was the colony's biggest killer for over a decade, until construction of water supply systems curtailed it by 1910. Charitable nursing was also established, especially religious-based services.' [Menck, 2022, p. 58, see H+H, 2023, p. 18]

### Western Australian Historic Themes Governing - Government and Politics; Law, Order and Defence

**GOVERNMENT AND POLITICS:** The GWSS was constructed during a time of great change in Western Australian political systems. 'Responsible Government was granted in 1890. A bicameral parliament met from 1891, with factions rather than political parties. Electoral boundaries favoured northern and country districts, with goldfields electorates added from 1893.' [Menck, 2022, p. 64]

'A Federal constitution was drafted in 1898, with Western Australia successfully arguing for a strong Senate to counterbalance its smaller population. Influenced by migrants from the eastern colonies, the colony voted 'yes' to Federation. Western Australia became a founding state of Australia in 1901.' [Menck, 2022, p. 64]

**LAW, ORDER AND DEFENCE:** The introduction of the *Aborigines Act* in 1905 had a significantly adverse impact on the quality of lives of Aboriginal people along the pipeline. 'In 1905, townsites were declared 'prohibited areas', restricting Aboriginal access and accelerating removal to reserves. Government services such as schools and medical facilities rejected Aboriginal people, especially in rural areas.' [Menck, 2022, p. 93]

### Western Australian Historic Themes

Cultural Life - Religion; Recreation - Arts, Culture and Entertainment; Recreation - Sport; Domestic Life & International Links

**RELIGION:** People from many different countries worked on the construction and maintenance of the GWSS. As such, a different range of faiths and cultures were represented.

**RECREATION – ARTS, CULTURE AND ENTERTAINMENT:** The pipeline has been the inspiration for many stories, poems, songs and other creative works. [H+H, 2023, pp. 52-53]

**RECREATION – SPORT:** The GWSS provided new recreational facilities for Eastern Goldfields residents. The first swimming pool in Kalgoorlie had opened in 1897, serviced by salt water from a nearby mine. In 1938, the Lord Forrest Swimming Pool was opened using water from the GWSS. In 2023, many of the public swimming facilities along the pipeline are serviced by water from the GWSS. [H+H, 2023, p. 26]

The pipeline has provided the inspiration and been used as a navigational aid for many hikes/camping trails. The 'Goldfields Pipeline Marathon' has been held every July since 2013. [H+H, 2023, p. 59] The Pipeline Challenge mountain bike ride is another sporting event that follows the pipeline trail.

**DOMESTIC LIFE:** The arrival of water, firstly to the Eastern Goldfields and then to other towns along the pipeline was a day that people never forgot. The life-changing occurrence of water coming directly from a tap was a memory that permeated the minds of numerous early residents. [H+H, 2023, p. 21]

For those who constructed the pipeline and for those who maintained it over the following decades, there was little separation between work and home life. Many of the Pump Stations were located far from regional centres so workers and their families lived in relative isolation. [H+H, 2023, p. 30, 34] Small communities developed around the pipeline, particularly the Pumping Stations and the workers' camps along the route responsible for maintaining the infrastructure.

As a visible, above-ground feature for the majority of its length and its proximity to Great Eastern Highway in many sections, the pipeline looms as a significant landmark for tourists and local residents. 'The fondness the community feels for the Pipeline, as both the provider of water and as a landmark that has been in the backdrop of their lives and family folklore cannot be understated.' [H+H, 2023, p. 50]

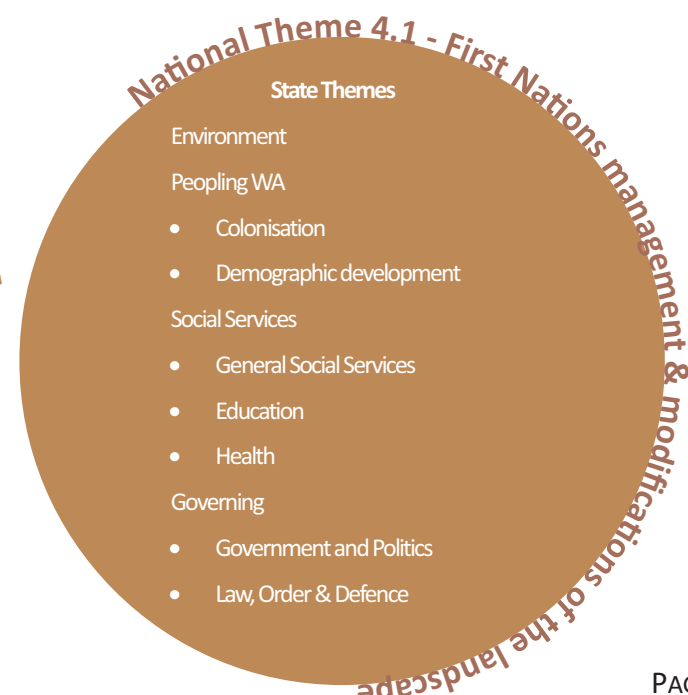
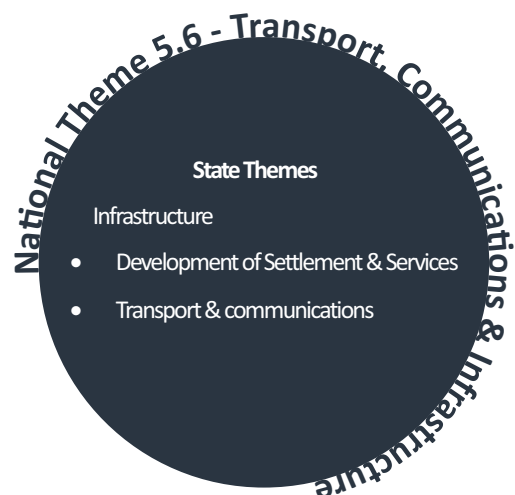
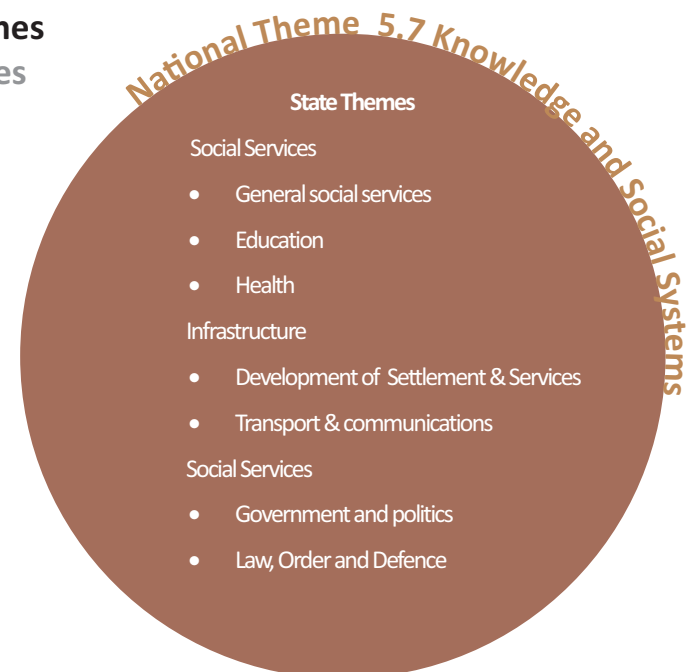
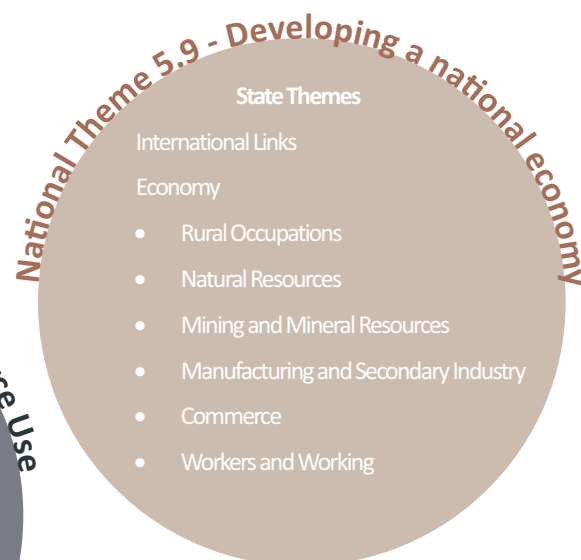
**INTERNATIONAL LINKS:** During World War II, the GWSS was regarded as a key asset and measures taken to protect it. Additional men were assigned to guard the GWSS. [H+H, 2023, p. 43]

In 2009, the scheme was recognised internationally by the American Society of Civil Engineers as an international Historic Civil Engineering Landmark.

## Thematic Framework

The overlays between National and State themes can be understood as follows:

### Western Australian Historic Themes Linking National and State Themes



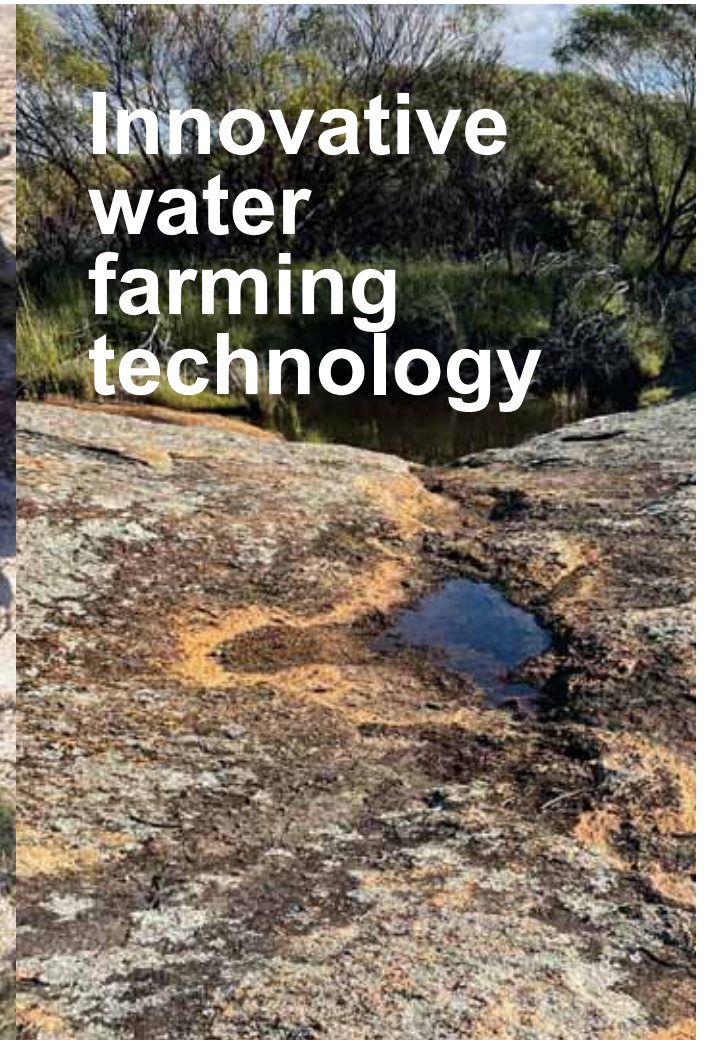
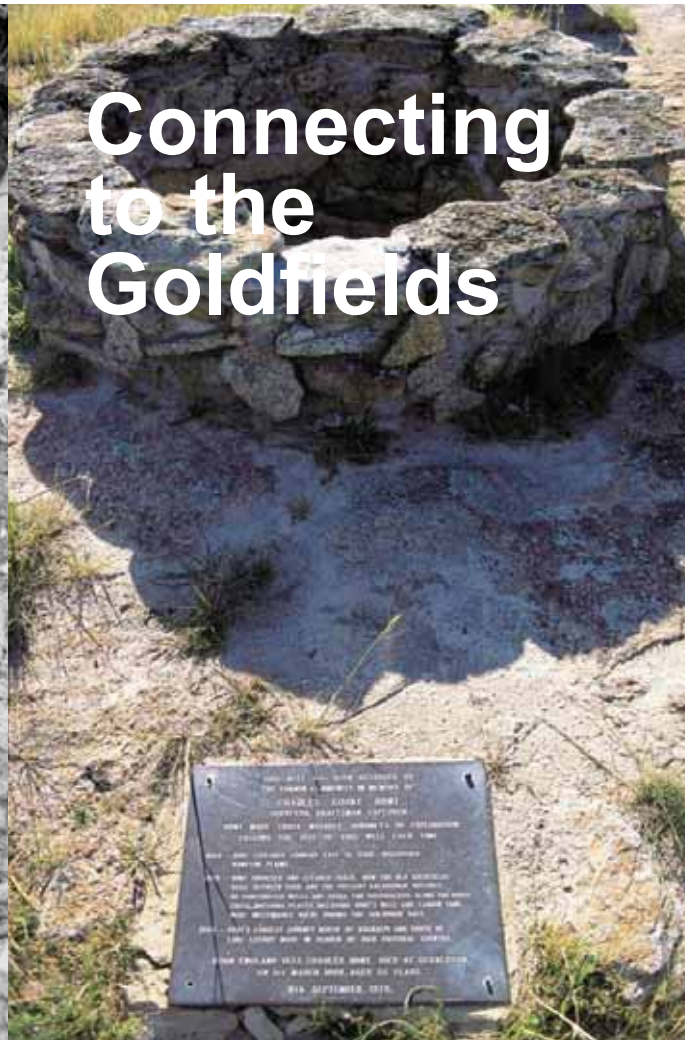
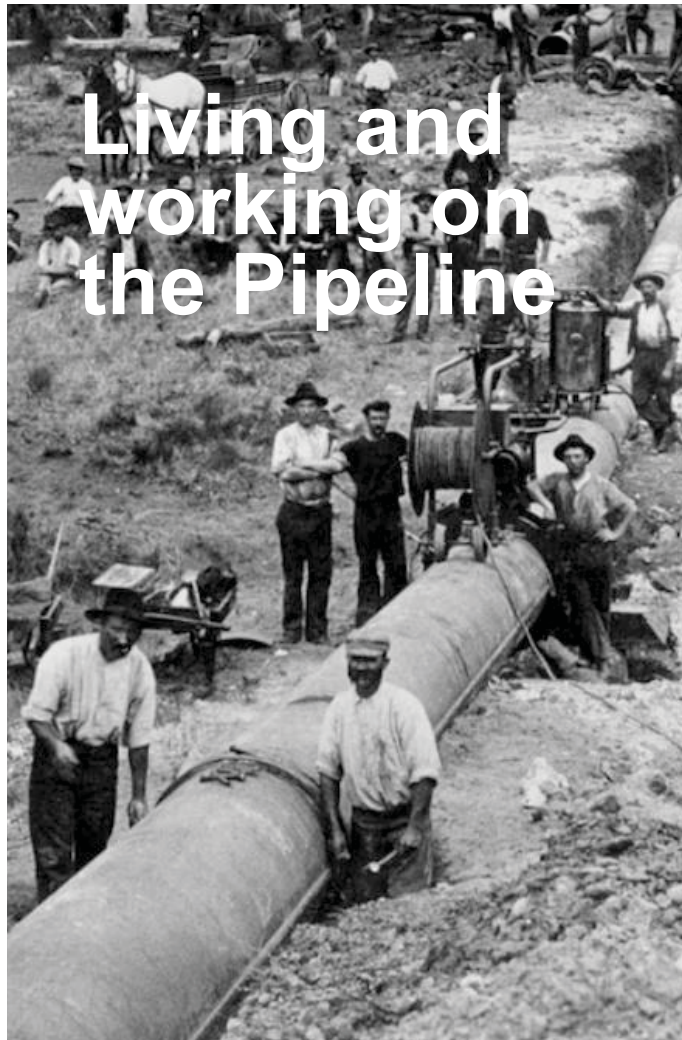


# THEMES & STORIES FOR INTERPRETATION

Image: Adele as a young woman, enjoying a leak in the Pipeline. (n.d.) *Wilson, Adele*

## Themes and Stories

**Three key themes have been identified for this Interpretation Strategy. Each theme aligns with the National and State thematic framework (as above), and is made up of a mixture of stories and narratives.**



# Living and working on the Pipeline

**LIVING AND WORKING ON THE PIPELINE:** Many people from many backgrounds have lived and worked on the Pipeline. This includes the visionaries and innovators who developed the Goldfields Water Supply Scheme, the engineers and inventors who designed its main features, to those who were involved in fabricating these components like the steel workers, fitters and welders, to those who were involved in the construction of the Scheme, undertaking their labour in a vast work site that spanned over 560kms in length. During its +120 year operational phase, the Scheme has also been supported by a vast workforce of engineers, stokers and greasers, length runners and maintenance teams, many of these coming from successive generations of family members who have worked on the Scheme or were employed by the Water Authority/Water Corporation for many years.

Workers came from diverse backgrounds and means, including the large number of sustenance workers who were involved in the replacement of the underground pipe in the 1930s, to the post-war migrants who worked on the Comprehensive Water Supply Scheme and the Aboriginal men who were employed in large numbers from the 1970s onwards. The remote nature of the work meant that the vast majority of workers lived along the Pipeline for the duration of their employment, either in short term work camps, permanent worker barracks or in the Pump Station residences and surrounding townships. Families were often living along the Pipeline and near Pump Stations, and thus many communities were formed, each connected to the other by their shared experiences and the Pipeline, whilst so far removed from so many other more populated areas in Western Australia.

## Themes and Stories

## Key Interpretation Themes Connecting the Goldfields

**CONNECTING TO THE GOLDFIELDS:** Well before the construction of the Pipeline there was a driving desire for people to explore eastward from the more populated area of the Swan River Colony, later Perth. Expeditions eastward began in the 1860s, first with Dempster, Clarkson and Harpers expedition, then the government survey party led by Charles Hunt which identified a vast network of existing managed water resources including springs, soaks and gnamma holes that had been cared for by Aboriginal people for millenia which he converted into wells, tanks and dams using convict labour.

# Connecting to the Goldfields

Hunt's Track quickly became a popular route for prospectors heading east in search of gold in the inland regions of Yilgarn and then Coolgardie. Eventually the Goldfields Road, the transcontinental railway and the Goldfields Water Supply Scheme pipeline would follow this Track and its mapped network of water all the way eastward to Kalgoorlie, creating a vast infrastructure of railway tracks, railway dams, railheads, roads and pipeline across the landscape.

#### **INNOVATIVE WATER FARMING TECHNOLOGY:**

Innovative solutions to manage water resources in the semi-arid interior of the Western Australian wheatbelt and eastern goldfields regions have existed well before the internationally-recognised Goldfields Water Supply Scheme was constructed in 1903. Aboriginal people practised water farming throughout the region for thousands of years, managing a vast network of natural water resources including springs, soaks and gnamma holes, along with innovations to maximise catchment of available rainfall through the active modification and care of natural rock watersheds, diversion channels and creation of water trees to facilitate storage of rainwater.

When these water sources were drained or damaged by increasing population demands and activities of prospectors, cameleers and eventually the Government building campaigns associated with railway construction, new solutions were implemented including substantial water condenser plants that converted saline water from nearby salt lakes into potable water. The Goldfields Water Supply Scheme represents the final solution for provision of reliable fresh water to the wheatbelt and eastern goldfields regions, comprising a substantial inter-basin transfer system with over 560kms of main conduit, distributed via a system of steam-operated pump houses (later converted to diesel and then electricity) that was recognised internationally for its technological innovation, both when first constructed in 1903, and then again 30 years later when the underground pipe was replaced with an above-ground pipe supported on reinforced concrete anchor blocks. Nearly 100 years later, the pipe is again proposed to go underground.

## Innovative water farming technology

A black and white photograph of a large industrial pumping station. The scene is filled with complex machinery, including large horizontal cylinders, vertical pipes, valves, and a network of connecting pipes. Two men are standing in the middle ground, providing a sense of scale to the massive equipment. The man on the left is wearing a dark suit and a hat, while the man on the right is wearing a light-colored, possibly white, uniform. The background shows the interior of a large building with high ceilings and some structural elements. The overall atmosphere is one of early 20th-century industrial engineering.

# THEMES & STORIES

## STORYTELLING PRINCIPLES

Image: No.2 Pumping Station, Mundaring, ca.1902 (1902) (012656D) (SLWA)

is one of its unique features, and while all the stories across the place The breadth and depth of stories at the Goldfields Water Supply Scheme is one of its unique features, and while all the stories across the place are important to someone, presenting all of these at one time will be overwhelming for visitors. Instead, three main themes are proposed, and within these themes, a selection of 'spotlight' stories should be told across the extent of the place, with some stories being specific to particular locations. Fortunately, with over 560kms of length between Mundaring and Kalgoorlie, there is ample choice of locations to tell a range of stories, and many can have both a broad and a local focus, further demonstrating how the Goldfields Water Supply Scheme was important to everyday people in remote and regional Western Australia, as well as being of national and international importance.

As a long-standing and well-known landmark, the Goldfields Water Supply Scheme has become a part of the social fabric, character and narrative of many communities and many people who have lived and worked along the Pipeline, or whose lives and practices have been impacted by its construction. Telling these stories now is important so that this sense of pride, personal connection and meaning carry on well after the Pipeline disappears from view.

Determining which stories are important to share will be based on a ranking system that prioritises sharing stories that explore important themes but are lesser known compared to those that are well expressed in existing interpretation material for the place.

### Storytelling Principles

#### Key Stories

Stories form the basis of heritage interpretation, allowing important details and meanings that resonate with people to become part of the remembered history of a place and continue to layer it with meanings and values as time goes by. Really great stories contribute to the collective memory of the community, and are passed along to future generations, allowing these social values and narratives to persist long after the people who experienced them firsthand. Other stories allow for important knowledge to be remembered and shared, ensuring that cultural practices and learnings are not lost to time.

The consultant team has identified Key Stories relating to the Goldfields Water Supply Scheme based on the review of existing interpretation material (as outlined in the Precedence Study), the State and National Values, and the findings of the 'Stories in the Pipeline' Public Research Project.

In accordance with the Approach, these stories have been considered in light of their relevance to the Pipeline, and with regard to whether or not they are already well-known, or forgotten/untold stories that deserve to be explored. The Key Stories can be divided into three main categories, based on how often they are told; namely

- Stories that are told all the time
- Stories that are told some of the time
- Stories that are untold or forgotten

Typically, stories that are told all the time are highly valued as common knowledge, and are usually already well expressed through interpretative material. For example, the life, death and achievements of the GWSS Engineer-in-Chief C Y O'Connor is a well-known story, to the extent that his is a household name in Western Australia, his legacy is taught to school children and his life's work and death has inspired many books, poems, sculptures, artwork and interpretative elements. On the other hand, engineers like Thomas Cowley Hodgson are lesser known except in some local contexts like Cunderdin, where his local legacy is better known in part because he lived there after his involvement in the Scheme. Then there are stories that are untold or seem forgotten by time altogether, such as the everyday lives of the families who lived and worked at the steam-powered Pump Stations for the first 50-60 years of their operation. The Key Stories identified for the Pipeline are as follows:



Themes and Stories

Storytelling Principles  
Stories told all of the time

# Stories told all of the time

- CY O'CONNOR *his life, death and achievements*
- PREMIER SIR JOHN FORREST *his vision and legacy*
- *Life and work at PUMP STATION NO. 1 MUNDARING; AND PUMP STATION NO. 3 CUNDERDIN*
- ENGINEERS AND INNOVATORS *including Ferguson, Reynoldson, O'Brien and Fernie*
- ENGINEERING INNOVATIONS *including the whole inter-basin transfer scheme, the weir and pump stations, the Locking Bar pipe*
- PROSPECTORS *Gold rush and mining*
- TURNING ON THE WATER AT MT CHARLOTTE
- 1933 ABOVE-GROUND PIPE REPLACEMENT

Image: Water rushes into the Mt Charlotte reservoir at Kalgoorlie on January 24, 1903. (SLWA)

Themes and Stories

Storytelling Principles  
Stories told some of the time

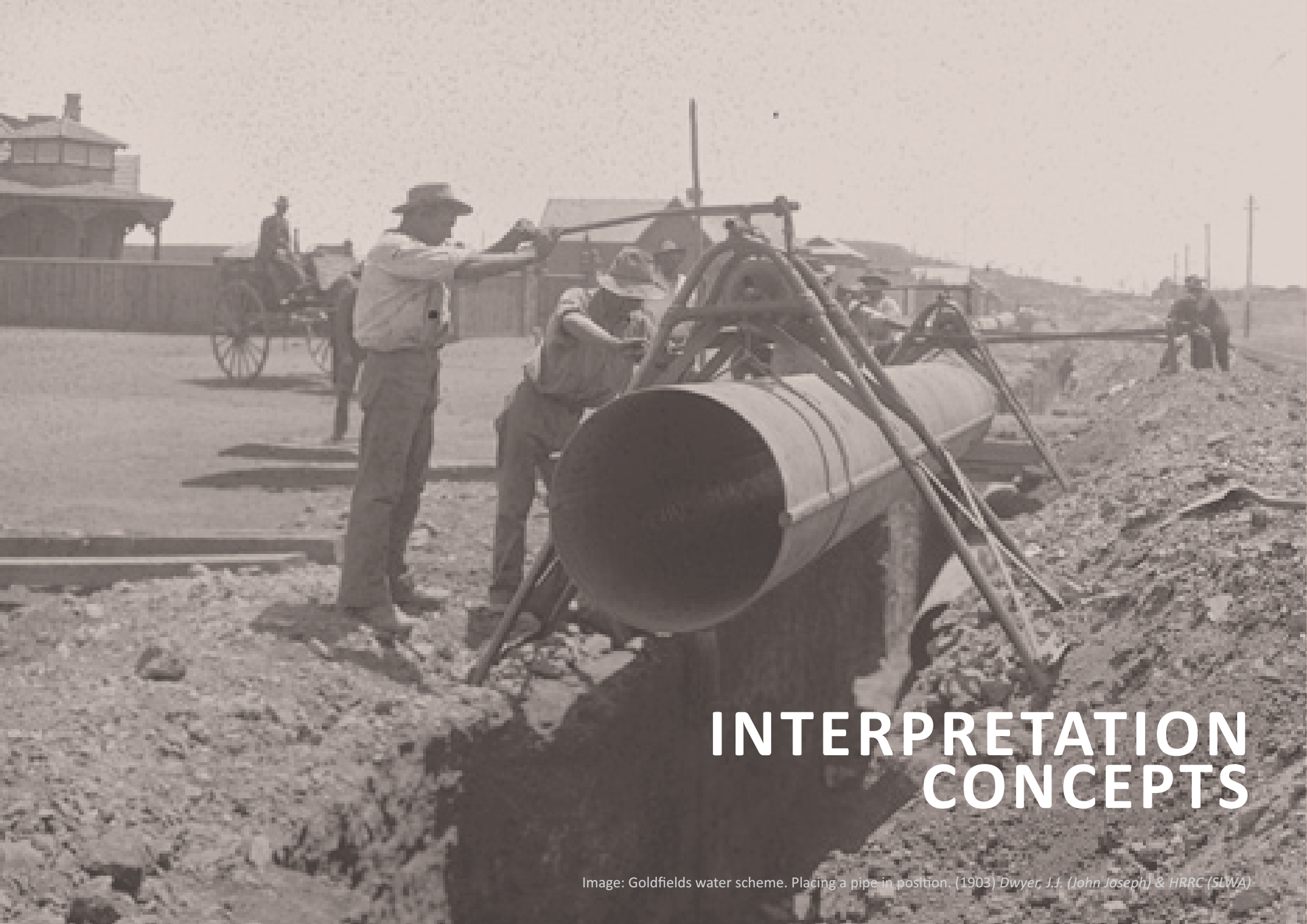
# Stories told some of the time

- WORKERS DURING THE CONSTRUCTION PHASE OF THE GWSS *including sustenance workers and post-war migrants*
- THOMAS HODGSON *and his legacy at Cunderdin*
- LIFE AND WORK AT PUMP STATION NO. 4 MERREDIN
- LENGTH RUNNERS
- KARALEE ROCKS AQUADUCT *and rock catchment*
- CAMELS & CAMELEERS
- POOLE STREET BRIDGE *pipe crossing, Northam*
- WATER SHORTAGES, DROUGHT, RISK OF FIRE, THEFT OF WATER
- WOODEN PIPELINE

Image: Supervising the laying of the goldfields pipeline near Merredin. (1900) (SLWA)

# Forgotten or untold stories

- TRADITIONAL ABORIGINAL WATER FARMING
- WATER SHORTAGES AND TYPHOID FEVER OUTBREAK 1895-1900
- WATER CONDENSERS (*especially at Coolgardie*)
- WORKERS AT WATER SUPPLY WORKSHOP IN CUNDERDIN
- ABORIGINAL PEOPLE WORKING ON THE PIPELINE
- LIFE AT FORMER PUMP STATION TOWNS AT: No. 5 Yerbillon; No. 6 Ghooli; No. 7 Gilgai and No. 8 Dedari
- INNOVATION OF CONCRETE ANCHOR POINTS
- ENVIRONMENTAL IMPACTS OF WOODLINES, CONSTRUCTION OF RAILWAY AND GWSS
- EASTWARD ALIGNMENT OF GWSS *and the legacy of Dempsters Route (1861); Hunt's Wells and Track eastward; Railway dams, railway heads, railway station; Goldfields Road*
- IMPACTS OF WATER SUPPLY ON THEIR DOMESTIC LIFE *gardens, swimming pools, market gardens, water for livestock*
- GHOST TOWNS of Woolgangie, Doodlakine, Burracoppin and Bullabulling

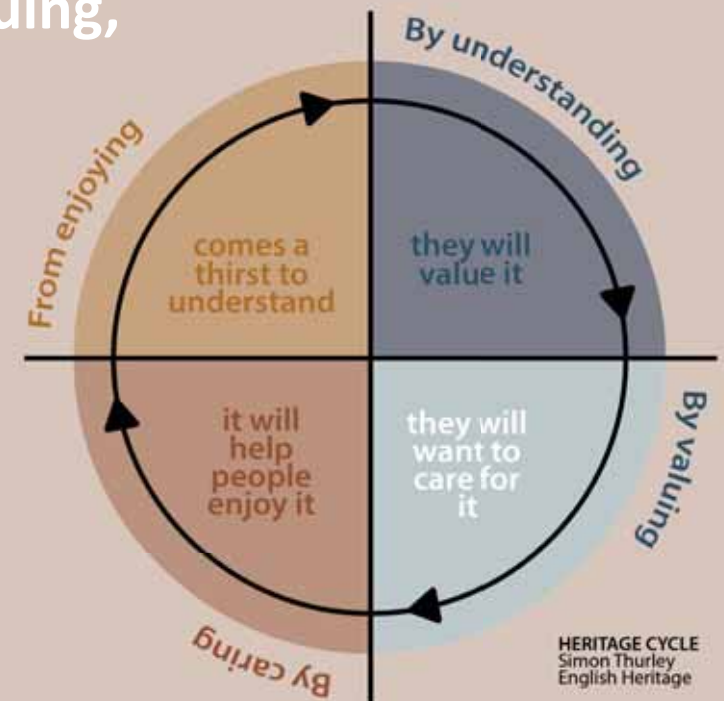


# INTERPRETATION CONCEPTS

Image: Goldfields water scheme. Placing a pipe in position. (1903) *Dwyer, J.J. (John Joseph) & HRRC (SLWA)*

The interpretation concepts have been developed on the basis of the following criteria:

- Apply the story-telling principles of sharing forgotten or untold stories
- Focus on the key themes
- Consider how the interpretation concepts can drive a process of understanding, valuing, caring and enjoying cultural heritage



## Interpretation Concepts

### Project 1 'Conserve the Pipe' Conservation and Presentation



## Interpretation Concepts

### Project 1 'Conserve the Pipe' Conservation and Presentation

| Interpretation Concept                                                                                                                                                                                                                                                                                                                                                                                                                                | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Key Themes                                                                                                                                    | Method for Interpretation                                                                                                                         | Potential Locations                                                                                                                                                                                                                                                                                              | Heritage sites included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <p><b>Project One</b></p> <p>'Conserve the Pipe' involves retaining pipe in situ and salvaging pipe to present at key locations. The Water Corporation has identified 27 sites along the main conduit to conserve and present selected short sections of pipe.*</p> <p>* Project 1 links directly with Project 8, which creatively re-purposes salvaged pipe that has been removed from its original location as part of a Community Art project.</p> | <p>Retain landmark sections of Pipeline in publicly accessible zones and provide interpretive signage with information on the history of the <i>Goldfields Water Supply Scheme</i>. Sections of pipe to be retained in-situ and some sections to be relocated to more publicly accessible locations. Refer to Chapter 7 of the <i>Goldfields Water Supply Scheme</i> Heritage Management Plan (Stephen Carrick Architects, 2024) which includes detailed mapping of proposed locations for Pipeline to be retained.</p> <p>This project aims acknowledge that the heritage fabric is the best representation of heritage values, and ensures that the community can continue to see the Pipeline in the landscape, even once the majority of the main conduit is buried underground.</p> | <p><i>Connecting to the Goldfields</i></p> <p><i>Living and working on the Pipeline</i></p> <p><i>Innovative Water farming technology</i></p> | <p>Retain insitu or present salvaged sections of original heritage fabric with supporting interpretative material.</p> <p>Static information.</p> | <p>Mundaring; Sawers Valley; Bakers Hill; Clackline; Northam; Cunderdin; East Tammin; Kellerberrin; Doodlakine; Merredin; Burracoppin; Walgoolan; Carrabin; Yerbillion; Bodallin; Moorine Rock; Ghooli; Yellowdine; Karalee Rocks; Gilgai; Boorabbin; Dedari; Toorak Hill; Kurrawang; Binduli; Mt Charlotte.</p> | <p>Pump Station No. 1 site and CY O'Connor Museum, Mundaring; original Sawers Valley School Quarters; Bakers Hill Regulating Tank; No. 3 Pump Station, Cunderdin; No. 4 Pump Station and Reservoir, Merredin; No. 5 Pump Station, remains of workers houses, and Yerbillion Pump Station school site and anthill tennis court, Yerbillion; Bodallin Railway Houses; No. 6 Pump Station, Reservoir and sites of former Workers' Cottages, playground, gardens Ghooli; Fmr Railway Workers House, Yellowdine; Karalee Rocks, Karalee Flume and Railway Dam; No. 7 Pump Station and concrete receiving tank, Gilgai; Boondi/Boondini Rock and Railway Dam, Boorabbin; No. 8 Pump Station and Bullabulling Reservoir/Regulating Tank, Dedari; Toorak Hill regulating tank/reservoir, Toorak Hill; Mt Charlotte reservoir, Kalgoorlie-Boulder.</p> |

**Associated Heritage Values - National Heritage List:** Criterion A - Events, Processes; Criterion D - Principal Characteristics of a Class of Places; Criterion F - Creative or Technical Achievement; Criterion H - Significant People.

## Interpretation Concepts

### Project 2

#### 'Stories in the Pipeline'

Public history research project



STORIES IN  
THE PIPELINE

## Interpretation Concepts

### Project 2 'Stories in the Pipeline' Public history research project

| Interpretation Concept                                                     | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                | Key Themes                                                                                                                             | Method for Interpretation                        | Potential Locations                                                                                                                                                        | Heritage sites included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Project Two</b><br><br>'Stories in the Pipeline' public history project | Printed publication of the 'Stories in the Pipeline' document, recording the outcomes of the Public History Project completed in 2023, which can be distributed to individuals, organisations and communities who contributed to the project, so that they can be safe-keepers of this material and make it available to the broader community by holding copies in the local libraries, community resource centres, schools, etc | <i>Innovative water farming technology</i><br><br><i>Connecting to the Goldfields</i><br><br><i>Living and working on the Pipeline</i> | Static information<br><br>Activity-based process | Mundaring, Northam, Meckering, Cunderdin, Tammin, Doodlakine, Kellerberrin, Merredin, Moorine Rock, Southern Cross, Westonia, Bruce Rock, Coolgardie, Kambalda, Kalgoorlie | Copies supplied to: Pump Station No. 1 CY O'Connor Museum; Mundaring Historical Society; West Northam DHS; Northam Visitor Centre; Bilya Koort Boodja; Pump Station No. 3 Cunderdin; Cunderding DHS; Southern Cross DHS; Eastern Goldfields Historical Society; Goldfields Aboriginal Language Centre; Judumul Aboriginal Corporation; Coolgardie Visitor Centre & Museum; Water Corporation offices along pipeline; Westonia Shire offices & Hood Penn Museum; Moorine Rock General Store & Post Office; Yilgarn History Museum |

**Associated Heritage Values - National Heritage List:** Criterion A - Events, Processes; Criterion H - Significant People

## Interpretation Concepts

### Project 3

#### 'Eastward Bound'

#### Connecting to the Goldfields discovery podcast



## Interpretation Concepts

### Project 3

#### 'Eastward Bound'

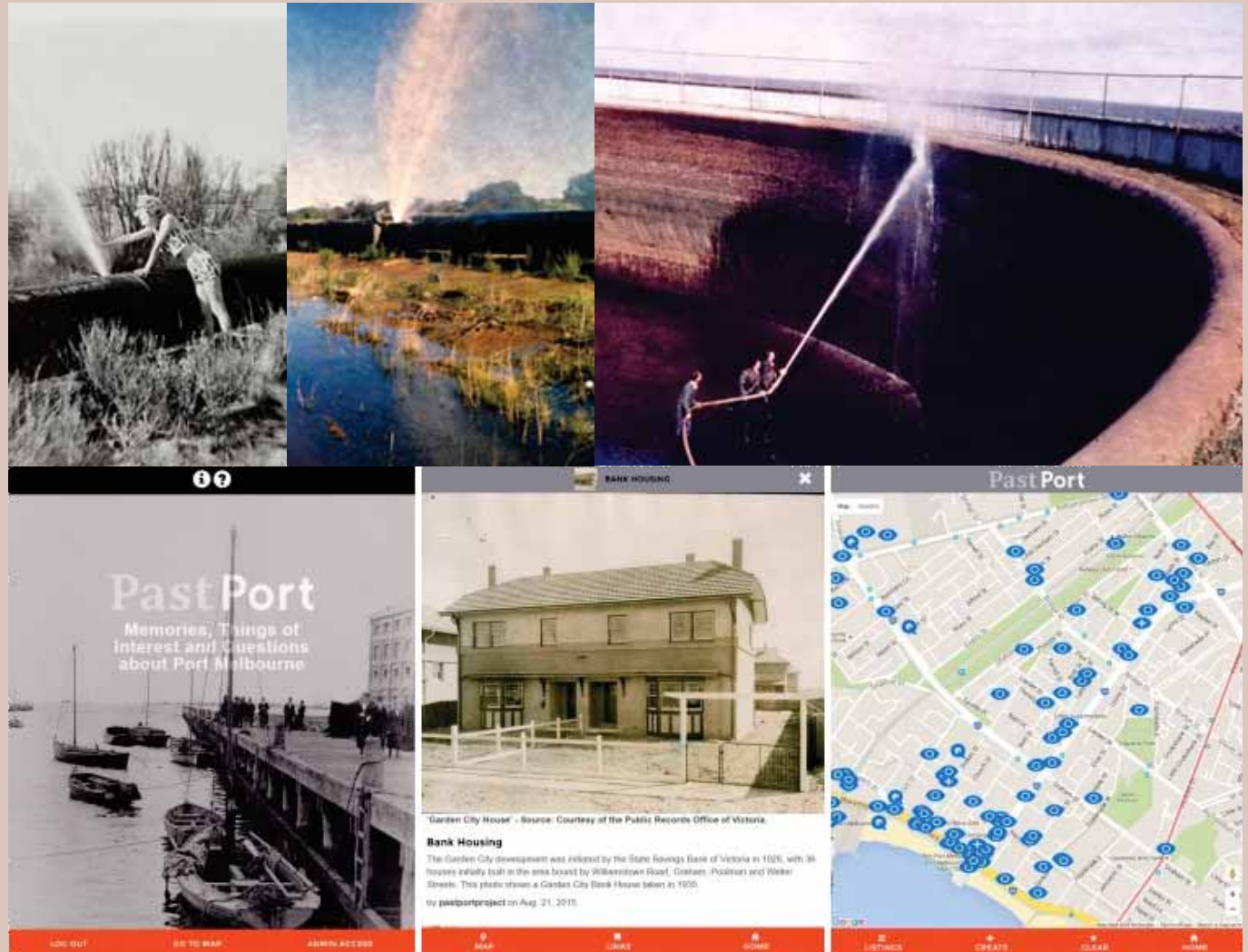
#### Connecting to the Goldfields discovery podcast

| Interpretation Concept                                                                                                                                                                           | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Key Themes                          | Method for Interpretation                      | Potential Locations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Examples of Potential Podcasts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <b>Project Three</b><br><br>'Eastward Bound' Connecting to the Goldfields, discovery podcast for travellers moving east-west between Mundaring and the eastern Goldfields along the main highway | Audio Podcast (say, 6 episodes) that people can download in advance, or onsite (where adequate mobile coverage is available) that provides narrative on the history of the road/rail/track they are travelling, which began with Dempster et. al, then Hunt, and later the Eastern Goldfields government railway line, the Perth-Goldfields Road and the Pipeline. The podcast could be narrated by a single person and have contributions from local subject-matter experts with professional audio quality. | <i>Connecting to the Goldfields</i> | Interactive features<br><br>Static information | <p>Podcast is to be promoted with physical (ie. interpretive signage and tourism signs) and non-physical measures (ie. digital and audio advertising), providing simplified information about the story and instructions encouraging people to download the podcast in its entirety or place-specific episodes that can be listened to in the vicinity of where the story takes place.</p> <p>Noting that 5G mobile coverage is only currently available in Mundaring (eastward extends approx. 20kms to Chidlow), Northam (over the Avon River area only) and Merredin (approx. 10km radius around the townsite). 4G Coverage is available at Cunderdin, Southern Cross, Moorine Rock, Carrabin, Bodallin, Burracoppin, Baandee, Doodlakine, Kellerberin, Tammin, Meckering, Victoria Rock, Bullabulling, Coolgardie and Kalgoorlie-Boulder. There is no mobile coverage in Yellowdine and Walgoolan and in many areas north and south of the Great Eastern Highway.</p> | <p><i>Episode 1</i> - Starting at Bakers Hill and Clackline (west end) where the Pipeline as a landmark is quite evident alongside the roadway of Great Eastern Highway and the traveller has left the metro area, this episode reflects on the journey eastward and provides an historic overview for listeners;</p> <p><i>Episode 2</i> – Starting at Northam, this episode reflects on the route taken by Dempster's 1861 expedition which extended from Buckland Homestead (near Northam) eastward through Cunderdin, Tammin, Doodlakine, Merredin, Westonia before heading more northward towards Bullfinch.</p> <p><i>Episode 3</i> – Focuses on Hunt's Track and his route eastward from York to Kalgoorlie in 1865. As much of Hunt's Track is mapped and includes sections of drive and walk trails (like the York to Goldfields Heritage Trail) this podcast can reflect on Hunt's process of mapping traditional Aboriginal farming water sites and expanding them to support eastward expansion, which directly impacted on the movement of prospectors into the Yilgarn and Coolgardie districts due to availability of water.</p> <p><i>Episode 4</i> – Reflects on Aboriginal water farming sites and how First Nations people survived in the arid interior, caring for and managing water resources including rock catchments, gnamma holes, water trees, springs and wells, etc.</p> <p><i>Episode 5</i> – Reflects on the establishment of the Government Railway and the development of railway dams and use of Aboriginal water farms to support this venture. The rail connection between Perth and Kalgoorlie continues to be one of the longest running freight and passenger rail systems in WA, with both the Eastern Goldfields Railway and the Goldfields Water Supply Scheme designed by CY O'Connor.</p> <p><i>Episode 6</i> – Describes the establishment of the Goldfields Road and highlights how the alignment was informed by Hunt's Track, the railway and the water pipeline, and how sections of the original road alignment are still evident, some of it being the Great Eastern Highway.</p> |

**Associated Heritage Values - National Heritage List:** Criterion A - Events, Processes; Criterion D - Principal Characteristics of a Class of Places; Criterion F - Creative or Technical Achievement; Criterion H - Significant People.

## Interpretation Concepts

### Project 4 'Past Pipe' Citizen Heritage Project



## Interpretation Concepts

### Project 4 'Past Pipe' Citizen Heritage Project

| Interpretation Concept                                          | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Key Themes                                | Method for Interpretation                                                 | Potential Locations                                                                                                                                                                                       | Heritage sites included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Project Four</b><br><br>Citizen Heritage 'Past Pipe' project | Taking its inspiration from the Citizen Heritage's 'Past Port Melbourne' project, this is a digital engagement webapp for citizens to share their memories and upload their photos to a collective portal that becomes a repository for social history and a citizen-led tour guide of the place. The success of social media and internet platforms like <i>Outback Family History</i> and <i>Coolgardie, Remember back when</i> demonstrate the popularity of family history/local history sharing platforms, and the willingness and enthusiasm local people have in sharing their family connections and lived experiences in the public domain. Being citizen-led, this content is focused on memory and experience, not necessarily historical fact, but allows for a continuation of the oral story-telling tradition which has built the legends and myths of the GWSS to date. | <i>Living and working on the Pipeline</i> | Interactive features<br><br>Activity-based process<br><br>Static features | Information about the webapp could be shared on signage panels at key sites, as well as other information portals including the Golden Pipeline website and the Museums, local historical societies, etc. | The webapp would include a map of the main conduit and key features of the Goldfields Water Supply Scheme, including those elements that are long gone such as former town sites like Ghooli, Gilgai, Dedari, etc. Citizens with an association with the place can upload photos and data which is location specific, allowing others to access this same information whilst at that location, or remotely.<br><br>Curating and moderating content would need to be managed by an administrator and this project would be successfully delivered in a collaboration with a University, research body or other heritage organization/group. |

**Associated Heritage Values - National Heritage List:** Criterion A - Events, Processes; Criterion D - Principal Characteristics of a Class of Places.

## Interpretation Concepts

### Project 5 'Connected by the Pipeline' Community Art Project



## Interpretation Concepts

### Project 5 'Connected by the Pipeline' Community Art Project

| Interpretation Concept                                                       | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Key Themes                                                                           | Method for Interpretation                                                                                                                                                                                                                                                                         | Potential Locations                                                                                                                                                                                                                                        | Heritage sites included                                                                                                                                                                                                                                                                                   |
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| <b>Project Five</b><br><br>'Connected by the Pipeline' community Art project | Taking its inspiration from the Adelaide River Community Quilt project, and some of the existing Arts activities that take place in Pump Station No. 3 (Cunderdin) a community art project is developed that has the route of the Pipeline as its central motif, surrounded by representations of local plants, animals, landscapes and communities who have been supported by the water supply. Creating either a collective artwork or quilt, community members from different places along the Pipeline contribute handmade fabric panels/artworks that can be stitched/collaged together to represent the landscape, plants, animals and communities supported by the <i>Goldfields Water Supply Scheme</i> , including those that spread outward from the main conduit. This project interprets the Pipeline as a long sinuous element that connects communities, which becomes less visible and tangible as it is buried underground. | <i>Connecting to the Goldfields</i><br><br><i>Living and working on the Pipeline</i> | Activity-based Process.<br><br>The project would ideally be led by an existing community Arts group who would coordinate contributions from surrounding areas. A coordinator would develop the concept, coordinate the contributions including curating content to ensure a cohesive end-product. | The project could be co-ordinated by the Regional Arts Network of WA, which already includes ArtGold (Goldfields region) and The Gardiner St Arts Collective (Wheatbelt region) to ensure maximum participation from local communities within the regions. | The collective artwork/quilt could be publicly toured and displayed across the different communities serviced by the Goldfields Water Supply Scheme, and displayed in one of the existing Museums (such as No. 1 Pump Station or No. 3 Pump Station) or at Water Corporation headquarters in Leederville. |

**Associated Heritage Values - National Heritage List:** Criterion A - Events, Processes; Criterion D - Principal Characteristics of a Class of Places.

## Interpretation Concepts

### Project 6

'Gone but not forgotten'

Ghost Towns of the *Goldfields Water Supply Scheme*



## Interpretation Concepts

### Project 6

#### 'Gone but not forgotten'

#### Ghost Towns of the *Goldfields Water Supply Scheme*

| Interpretation Concept                                                                                        | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Key Themes                                | Method for Interpretation                                                                                                                                                                                                                    | Potential Locations                                                                                                                                                                                                                                      | Heritage sites included                                                                                                                                                                                        |
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| <b>Project Six</b><br><br>'Gone but not forgotten' – ghost towns of the <i>Goldfields Water Supply Scheme</i> | <p>Recognising the number of people and places that were involved in the creation and operation of the <i>Goldfields Water Supply Scheme</i> who are now long gone, this project ensures that they are not forgotten, and draws on the content collected during the 'Stories in the Pipeline' Public Research Project and re-animates it using virtual and/or augmented reality to focus on the stories of everyday people at work. Audio presentations could recreate the sounds of the Pump Station and Blacksmith's shop and allow people to experience what everyday life was like working at the Pump Station.</p> <p>Whilst managing physical access around the site might be difficult, a short self-guided trail (perhaps with content accessible by QR code or download) around the site could include a curated narrative that is immersive. Augmented reality could be used to animate archival photos (if available) or virtual reality could be used to reconstruct views and vistas with 'virtual workers' added to the real-life settings.</p> | <i>Living and working on the Pipeline</i> | <p>Interactive features</p> <p>Static features – such as blacksmith tools currently held by Water Corp could be incorporated into new display at No. 8 Pump Station (or safely held at existing Pump Station Museum like No. 1 or No. 3)</p> | <p>Focusing on sites and places that were once the focus of activity to support the <i>Goldfields Water Supply Scheme</i>, including the former townsites/ worker's accommodation at No. 5 Pump Station (Yerbillon) and No. 8 Pump Station (Dedari).</p> | <p>Dedari is the most intact of all the former Pump Station townsites, retaining the Pump Station building as well as the Blacksmith's shop, suction tank, weighbridge, engineer's office and meter house.</p> |

**Associated Heritage Values - National Heritage List:** Criterion D - Principal Characteristics of a Class of Places; Criterion F - Creative or Technical Achievement.

## Interpretation Concepts

### Project 7

#### 'Water Stories connecting people and places' Research Project



## Interpretation Concepts

### Project 7

#### 'Water Stories connecting people and places' Research Project

| Interpretation Concept                                                                    | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Key Themes                                 | Method for Interpretation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Potential Locations                                                                                                                | Heritage sites included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Project Seven</b><br><br>'Water Stories connecting people and places' Research Project | <p>A community research project that pro-actively engages with First Nations knowledge holders, Traditional Owners and community members to capture and record the design innovations and practices of traditional Aboriginal water farming in Western Australia's arid interior, including any regional variations and adaptations. This process of discovery, teaching and learning contributes further to broader community knowledge, understanding and respect for these practices/innovations.</p> <p>The desired outcome of this research project is to reinforce the value of Traditional Knowledge, caring for country and to share the little-told story of how First Nations people survived before potable water was provided by means of carting, condensers and eventually the Pipeline.</p> | <i>Innovative water farming technology</i> | Activity-based process. The project would ideally be lead by an established research institute and/ or Aboriginal language/cultural centre that can facilitate engagement and consultation, further research and preparation of a suitable record of the findings (could include printed research paper and/or documentary film). This team might also include archaeologists, anthropologists and heritage architects to document the design features of the different water farms which can be an educational resource and also used as part of future Aboriginal Cultural Heritage surveys to protect these sites. | Wheatbelt and Goldfields areas primarily, but with consideration to include water farming practices in the Avon River area as well | Known water farms, springs, gnamma holes, water trees and rock catchments are located in Tammin; Youndegin; Kokerbin Rock Pioneer Well; Kellerberrin Rock Catchment & Dam; Jureen Rock; Baandee Lakes; Mooranoppin;; Doodlakine; Merredin; Totadgin Rock; Talgomine Rock; Burracoppin; Sandford Rocks; Bodallin, Kekanie; Nulla Nulla; Moorine Rock, Koorkoordine; Yellowdine Catchment and Dams; Karalee Rocks and dam; Duladgin Rock; Boondini (Boondi) Rock; Boorabbin; Woolgangie; Bullabulling; Wallaroo Rock; Victoria Rock; and, Burra Rock, but more may be uncovered during the research project. |

**Associated Heritage Values - National Heritage List:** Criterion A - Events, Processes; Criterion D - Principal Characteristics of a Class of Places; Criterion F - Creative or Technical Achievement.

## Interpretation Concepts

### Project 8 'Community Landmark' Community Art Project



## Interpretation Concepts

### Project 8 'Community Landmark' Community Art Project

| Interpretation Concept                                                                                                                                                                                                                                                                                                                                                    | Proposed medium and experience, potential outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Key Themes                                                                                                                                    | Method for Interpretation                                                                                                                                                                                                                                                                                                              | Potential Locations                                                                                                                                                                                                                                              | Heritage sites included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p><b>Project Eight</b></p> <p>'Community Landmark'</p> <p>Community Art project*</p> <p><i>* Project 8 links directly with Project 1, which involves retaining pipe in situ and salvaging pipe to present at key locations. The Water Corporation has identified 27 sites along the main conduit to retain pipe, with 4.5km of the original pipe to be retained.</i></p> | <p>For sections of Pipe and concrete anchor blocks able to be retained in situ or able to be salvaged and re-purposed/relocated, or that have previously been salvaged and are currently already displayed within the public domain, into a community art project at a new strategic location that encourages more interaction with the material.</p> <p>Consideration could be given to using pipe in standardized section sizes (ie. Deconstructing from original assembly) noting that cutting is likely to impact on stability of material. Preference should be given to activities that explore the landmark value of the pipe, its innovative design features, and its materiality. The concrete anchor points are also an innovative feature of the pipe and should be incorporated wherever possible.</p> <p>Where minimal intervention is possible to material due to inherent hazards/ contamination, art projects could focus on application of murals or narratives along the retained sections of pipeline.</p> | <p><i>Innovative water farming technology</i></p> <p><i>Connecting to the Goldfields</i></p> <p><i>Living and working on the Pipeline</i></p> | <p>Activity-based process with end result likely to be static art feature/ sculpture on display in public location.</p> <p>Community groups should ideally work with professional artists (particularly industrial artists and those used to working at an urban art scale) to develop concepts and to implement the final design.</p> | <p>The project could be coordinated by the Regional Arts Network of WA, which already includes ArtGold (Goldfields region) and The Gardiner St Arts Collective (Wheatbelt region) to ensure maximum participation from local communities within the regions.</p> | <p>Key sections of Pipeline retained in situ (but decommissioned) in landmark locations as identified in the Heritage Management Plan (Stephen Carrick Architects, 2024), summarised as follows:</p> <p>Mundaring; Sawers Valley; Bakers Hill; Clackline; Northam; Cunderdin; East Tammin; Kellerberrin; Doodlakine; Merredin; Burracoppin; Walgoolan; Carrabin; Yerbillion; Bodallin; Moorine Rock; Ghooli; Yellowdine; Karalee Rocks; Gilgai; Boorabbin; Dedari; Toorak Hill; Kurrawang; Binduli; Mt Charlotte.</p> |

**Associated Heritage Values - National Heritage List:** Criterion D - Principal Characteristics of a Class of Places.





*National Heritage Themes identified for the Goldfields Water Supply Scheme associated with Criterion A include; Theme 4.5 Land, water and resource use; Theme 5.7 Knowledge and social systems; Theme 5.9 Developing a national economy; and Theme 6.2 Australians working.*

*Refer to 'Thematic Framework - National Themes' for more information.*

### CRITERION A: Events, Processes

**The Pipeline element of the Goldfields Water Supply Scheme demonstrates Criterion A in the following ways;**

The Pipeline element of the GWSS is recognised as being the largest scale steel structure in the world at the time of its construction and the largest pipe contract let at that time.

The Pipeline element of the GWSS is directly associated with the history of one of Western Australia's largest employment projects and during its design, construction and operational phases has employed a varied workforce that included sustenance workers, post-war migrants and Aboriginal people at key periods in the Nation's history.

The Pipeline element of the GWSS is directly associated with the expansion of agriculture and development in the Western Australian Wheatbelt, with the ongoing productivity coming mainly from the areas serviced by the pipeline, which has had a lasting impact on the national economy. The main conduit as well as the secondary conduits installed as part of the ongoing expansion of the Scheme allowed for a permanent and reliable water supply to rural communities and farms, who became less vulnerable to seasonal water shortages. Measuring over 560kms in length, the Pipeline is a tangible linking element between communities, all of whom rely on water supplied by the Pipe and have a shared history of life along the Pipeline.

*Refer to Notes for Interpretation 'Agricultural Production', 'Representation', 'Continual Service', and 'Characteristic Features', Section 4.9, Table 15.0 of the Goldfields Water Supply Scheme Heritage Management Plan (Stephen Carrick Architects, 2024).*

*Interpretation Projects communicating the Heritage Values of Criterion A include; Project 1 'Conserve the Pipe'; Project 2 'Stories in the Pipeline'; Project 3 'Eastward Bound'; Project 4 'Past Pipe'; Project 5 'Connected by the Pipeline'; and Project 7 'Water Stories connecting people and places'.*

### CRITERION A: Events, Processes

The following Interpretation Projects proposed for the Pipeline element of the *Goldfields Water Supply Scheme* communicate the heritage values of Criterion A in the following ways:

**Project 1 'Conserve the Pipe'** communicates the values of Criterion A through static interpretation of the physical fabric of the Pipeline. Retaining representative sections of different eras of the Pipe, including the original 'locking bar' technique, the Kellerberrin Pipe etc., evidence of the innovative above ground concrete anchorage system from the 1933 refurbishment as well as the large diameter of the pipe itself are retained so future generations can view and engage with the Pipeline in various locations along the alignment of the original conduit.

**Project 2 'Stories in the Pipeline', Project 4 'Past Pipe', Project 5 'Connected by the Pipeline' and Project 7 'Water Stories connecting people and places'** communicate the values of Criterion A by creating a place for the Australian public to share and engage with stories about living and working along the Pipeline through interactive (Project 2 and Project 4) and activity based (Project 5 and Project 7) interpretive elements. These community engagement based projects use storytelling of lived experiences to capture the social and economic impact of the Pipeline's construction and the lasting legacy it has had on the agricultural industry across the Wheatbelt, the mining industry in the Goldfields region as well as local people and industries in towns situated along the Pipeline.

**Project 3 'Eastward Bound'** communicates the values of Criterion A using an interactive interpretation format to present documentary evidence about the Pipeline in an engaging medium. Each episode potentially covers different aspects of the history of the Pipeline, including its technological advancements and innovation, as well as the significant economic and social impact the construction of the Pipeline had on Western Australia and Australia as a whole. Episodes include the story of opening up of agricultural areas with the introduction of permanent reticulated water supply.



## Interpretation Concepts

*National Heritage Themes identified for the Goldfields Water Supply Scheme associated with Criterion D include; Theme 4.5 Land, water and resource use; and Theme 5.6 Transport, communication and infrastructure.*

*The Pipeline element of the Goldfields Water Supply Scheme is a potential representative of Theme '4.1 First Nations management and modification of the landscape'.*

*Refer to 'Thematic Framework - National Themes' for more information.*

*The innovation for traditional Aboriginal water farming is not currently recognised in the National Values described for the GWSS but is a potential addition. Refer to page 73 of the Thematic Framework - National Themes section of this document for more information.*

## Demonstrating & Communicating National Heritage Values

### CRITERION D: Principal characteristics of classes or places

**The Pipeline element of the Goldfields Water Supply Scheme demonstrates Criterion D in the following ways;**

As the largest steel structure anywhere in the world at that time, and its construction being the largest pipe contract let to that time, the Pipeline element of the GWSS is a significant component of the Scheme and is noted specifically in the official values of the place for its scale. Measuring over 560kms in length, the Pipeline is a tangible linking element between communities, all of whom rely on water supplied by the Pipe and have a shared history of life along the Pipeline.

The Pipeline element is recognisable as a highly visible continuous infrastructure element in the Western Australian landscape. Despite the Pipeline having both underground and overland sections, it remains a well known landmark along its route from Mundairing Weir, through the Wheatbelt and Goldfields regions, terminating at Mt Charlotte Reservoir in Kalgoorlie. The alignment of the Pipeline is a direct design response to the topography of the diverse landscape it traverses and its form, materiality and design reflects the unique characteristics of the *Goldfields Water Supply Scheme*.

*Refer to Notes for Interpretation '1903 Scheme', 'Regulating Tanks', 'Mundaring Weir', 'Main Conduit Parts', and 'Pump Stations', Section 4.9, Table 15.0 of the Goldfields Water Supply Scheme Heritage Management Plan (Stephen Carrick Architects, 2024).*

The Pipeline element is associated with First Nations land management practices, specifically water farming techniques for catchment and storage of water, crossing and sometimes intersecting physically with traditional Aboriginal water farming sites. The route of the Pipeline element largely follows the path of existing infrastructure, including roads, railways, and telegraphs, which generally align with Hunt's Track.

*Interpretation Projects communicating the Heritage Values of Criterion D include; Project 1 'Conserve the Pipe'; Project 3 'Eastward Bound'; Project 4 'Past Pipe'; Project 5 'Connected by the Pipeline'; Project 6 'Gone but not forgotten'; Project 7 'Water Stories connecting people and places'; and Project 8 'Community Landmark'.*

### CRITERION D: Principal characteristics of classes or places

The following Interpretation Projects proposed for the Pipeline element of the *Goldfields Water Supply Scheme* communicate the heritage values of Criterion D in the following ways:

**Project 1 'Conserve the Pipe' and Project 8 'Community Landmark'** communicate the values of Criterion D through static interpretive displays of the physical fabric of the Pipeline element along the alignment of the original conduit. The Pipe seen in context with other infrastructure comprising the GWSS, including the pump stations, dams and reservoirs, allows people to understand the scale and complexity of the water transfer system.

**Project 3 'Eastward Bound'** communicates the values of Criterion D using an interactive interpretation format to present documentary evidence about the Pipeline in an engaging manner. Each episode potentially covers different aspects of the history of the Pipeline, including its technological advancements and innovation, as well as the significant economic and social impact the construction of the Pipeline had, particularly the east-west connection between Bakers Hill to the Goldfields region, on Western Australia and Australia as a whole.

**Project 4 'Past Pipe', Project 5 'Connected by the Pipeline', Project 7 'Water Stories connecting people and places'** are all community focused interactive, activity based interpretive elements that communicate the values of Criterion D by enabling communities between Mundaring and Kalgoorlie to share their experiences of living and working along the Pipeline. Using a variety of creative mediums, such as art, film, photography and written text, the Australian public have the opportunity to share knowledge through story telling, capturing the impact the construction of the Pipeline element had on local lives, industries and development across the Wheatbelt and Goldfields regions enabling future generations to better understand the profound impact the Scheme had on development in Western Australia and the nation.

**Project 6 'Gone but not forgotten'** communicates the values of Criterion D through an interactive, activity based interpretation format that enables future generations to experience what life was like living and working along the Pipeline and the Scheme in its entirety. Using augmented reality to recreate missing elements allows people to understand the scale of the entire Scheme and its operation.



## Interpretation Concepts

*National Heritage Themes identified for the Goldfields Water Supply Scheme associated with Criterion F include; Theme 4.5 Land, water and resource use; Theme 5.6 Transport, communication and infrastructure; and Theme 5.7 Knowledge and social systems.*

*The Pipeline element of the Goldfields Water Supply Scheme is a potential representative of Theme '4.1 First Nations management and modification of the landscape'.*

*Refer to 'Thematic Framework - National Themes' for more information.*

*The innovation for traditional Aboriginal water farming is not currently recognised in the National Values described for the GWSS but is a potential addition. Refer to page 73 of the Thematic Framework - National Themes section of this document for more information.*

## Demonstrating & Communicating National Heritage Values

### CRITERION F: Creative or technical achievement

**The Pipeline element of the Goldfields Water Supply Scheme demonstrates Criterion F in the following ways;**

The Western Australian Public Works Department, led by CY O'Connor, designed the Pipeline component of the GWSS. The Pipeline component of the GWSS showcases significant technological advancements in the design and scale of a +560km main conduit that transports water between the basins at Mundaring and Kalgoorlie as well as supporting a sizable network of secondary supply lines throughout the Wheatbelt and Goldfields regions.

The Pipeline element is a key part of the GWSS infrastructure, recognised for its scale as the largest steel structure in the world at the time of construction and for having the largest pipe contract awarded until that time. It incorporated innovative Australian design, featuring the 'locking bar' technique developed by Mephan Ferguson. A significant refurbishment in 1933 involved lifting the Pipeline element above ground and was the first instance worldwide of using such a type of concrete anchorages, mitigating movement, to successfully support such a large-diameter pipeline above ground.

Designed by the Western Australian Public Works Department under CY O'Connor's leadership, the Pipeline element showcases major technological advancements in its design and scale, facilitating water supply from the Mundaring to the Kalgoorlie basin, supporting an extensive network of secondary supply lines throughout the Wheatbelt and Goldfields regions.

*Refer to Notes for Interpretation 'Size of Scheme and Use of New Technology', 'Volume of Steel', 'Locking Bar Type', 'Lifting of the Pipeline', 'Anchorage', and 'International Recognition', Section 4.9, Table 15.0 of the Goldfields Water Supply Scheme Heritage Management Plan (Stephen Carrick Architects, 2024).*

The Pipeline element is associated with First Nations land management practices, specifically water farming techniques for catchment and storage of water, crossing and sometimes intersecting physically with traditional Aboriginal water farming sites. The route of the Pipeline element largely follows the path of existing infrastructure, including roads, railways, and telegraphs, which generally align with Hunt's Track.

*Interpretation Projects communicating the Heritage Values of Criterion F include; Project 1 'Conserve the Pipe'; Project 3 'Eastward Bound'; Project 6 'Gone but not forgotten'; and Project 7 'Water Stories connecting people and places'.*

*The innovation for traditional Aboriginal water farming is not currently recognised in the National Values described for the GWSS but is a potential addition. Refer to page 73 of the Thematic Framework - National Themes section of this document for more information.*

### CRITERION F: Creative or technical achievement

**The following Interpretation Projects proposed for the Pipeline element of the *Goldfields Water Supply Scheme* communicate the heritage values of Criterion F in the following ways:**

**Project 1 'Conserve the Pipe'** communicates the values of Criterion F through static interpretive displays of select sections of different eras of the physical fabric of the Pipeline element. The Pipeline element of the GWSS is a crucial element in both design and function that lead to the Scheme's success. Whilst the achievement of the overall physical scale of the overland sections of the Pipeline element will no longer be extant, retention of sections of the pipe as a representative element for the progressive technological achievement and ingenuity behind the developing design over time enables future generations to view and engage with the high level of craftsmanship behind the Pipeline's construction.

**Project 3 'Eastward Bound'** communicates the values of Criterion F through an interactive interpretation format, enabling people travelling along the main conduit of the Pipeline element to learn about the history and technological achievement behind the success of the GWSS. Each episode has the potential to cover topics behind the design and construction of the scheme, including innovation regarding surveying of water sites to allow the construction of the government railway and later support the operation of the steam pumps.

**Project 6 'Gone but not forgotten'** communicates the values of Criterion F using the power of artificial intelligence to capture what life was like living and working along the Pipeline element, even after the physical fabric is no longer extant. Bringing the ghost towns along the main conduit back to life, future generations will be able to virtually interact with the spaces, learning about the history of the place and the profound impact the construction of the GWSS had on the Goldfields and Wheatbelt regions. Life, industry and development literally followed the path of the Pipeline as it was constructed, paving the way for more lucrative development in regions previously untapped due to water scarcity.

**Project 7 'Water Stories connecting people and places'** communicates the values of Criterion F through a collaborative research project aimed at capturing the traditional knowledge and storylines behind the traditional Aboriginal water farming sites that influenced the original alignment of the Pipeline element. Thousands of years before European settlement, Aboriginal people practised water farming throughout the region managing a vast network of natural water resources including springs, soaks and gnammas holes, along with innovations to maximise catchment of available rainfall through the active modification and care of natural rock watersheds, diversion channels and creation of water trees to facilitate storage of rainwater. The GWSS alignment was informed by these sites and in many locations adapted traditional rock watersheds and diversion channels to store and boost the water supply running through the Pipeline element.



*National Heritage Themes identified for the Goldfields Water Supply Scheme associated with Criterion H include; Theme 5.7 Knowledge and social systems; and Theme 6.2 Australians working.*

*The Pipeline element of the Goldfields Water Supply Scheme is a potential representative of Theme '4.1 First Nations management and modification of the landscape'.*

*Refer to 'Thematic Framework - National Themes' for more information.*

### CRITERION H: Significant people

**The Pipeline element of the Goldfields Water Supply Scheme demonstrates Criterion H in the following ways;**

Developed by the Western Australian Public Works Department, Engineer-in-Chief CY O'Connor oversaw the design and construction of the GWSS, including the Pipeline component, and is credited with being the main motivator behind the scheme's construction, which greatly benefited the Western Australian and Australian economy as a whole.

The Pipeline element, spanning over 560 kilometers and transporting water from Mundaring, through the Wheatbelt and Goldfields regions to Kalgoorlie, showcases innovative Australian design and significant technological advancements in the design and scale of its main conduit, including the innovative 'locking bar' technique developed by Mephan Ferguson and the above ground anchorage system implemented in 1933. It also supports an extensive network of secondary supply lines throughout the Wheatbelt and Goldfields regions, the Pipeline element physically linking rural communities all of whom rely on water supplied by the Pipe and have a shared history of life along the Pipeline.

The Pipeline element of the GWSS is directly associated with the history of one of Western Australia's largest employment projects and during its design, construction and operational phases has employed a varied workforce that included sustenance workers, post-war migrants and Aboriginal people at key periods in the Nation's history.

The Western Australian Public Works Department, led by CY O'Connor, designed the Pipeline component of the GWSS. The Pipeline component of the GWSS showcases significant technological advancements in the design and scale of a +560km main conduit that transports water between the basins at Mundaring and Kalgoorlie as well as supporting a sizable network of secondary supply lines throughout the Wheatbelt and Goldfields regions.

The Pipeline element of the GWSS made use of innovative Australian design in the locking bar pipe invented by Mephan Ferguson. The refurbishment of the Pipeline element in 1933 lifting the pipeline out of the ground and re-laying it above ground placed the Scheme among the world leaders in pipeline technology for the second time in less than 40 years. This was the first time anywhere in the world that pipe anchorages of this type had been used to permit such a large diameter pipeline to be laid above ground.

*Refer to Notes for Interpretation 'Charles Yelverton O'Connor', and 'Sir John Forrest', Section 4.9, Table 15.0 of the Goldfields Water Supply Scheme Heritage Management Plan (Stephen Carrick Architects, 2024).*

## Interpretation Concepts

*Interpretation Projects communicating the Heritage Values of Criterion H include; Project 1 'Conserve the Pipe'; Project 2 'Stories in the Pipeline'; and Project 3 'Eastward Bound'.*

*As per the analysis undertaken in earlier sections of this report, there is already considerable interpretation content focused on this Criterion, particularly the achievements of CY O'Connor and Premier John Forrest. The interpretation projects intend to provide more information on lesser known people who helped CY O'Connor deliver and operate the Goldfields Water Supply Scheme.*

## Demonstrating & Communicating National Heritage Values

### CRITERION H: Significant people

**The following Interpretation Projects proposed for the Pipeline element of the *Goldfields Water Supply Scheme* communicate the heritage values of Criterion H in the following ways:**

**Project 1 'Conserve the Pipe'** communicates the values of Criterion H through static interpretation of the physical fabric of the Pipeline element. The achievements of the Australian Public Works Department team, lead by CY O'Connor, in both the design and construction of the Pipeline element as well as the Scheme itself are nationally recognised for their innovation, craftsmanship and technical achievement. Mephan Ferguson's invention of the 'locking bar' technique revolutionised pipeline construction, enabling the Pipeline infrastructure to increase in capacity whilst remaining durable in a harsh environment. Retaining sections of the Pipeline elements from different eras of construction and development of the Pipeline enables future generations to see first hand the unique and innovative techniques used to construct the monumental scheme.

**Project 2 'Stories in the Pipeline'** communicates the values of Criterion H through a community research project capturing the lived experiences of those who lived and worked along the Pipeline. The construction of the Pipeline element was the largest contract of its time, with whole towns established to house workers and their families who were employed to build, maintain and operate the Scheme. Spanning over 560 kilometers, it took thousands of people to ensure the Scheme and the Pipeline element operated successfully. By documenting peoples stories, future generations are able to engage with the enormity of the Schemes operation and the profound impact it had on people in the Wheatbelt and Goldfields regions, Western Australians and the nation as a whole.

**Project 3 'Eastward Bound'** communicates the values of Criterion H through an interactive interpretive format, with each podcast episode having the potential to share the history of the people behind the Pipeline element. The GWSS's lead designer and driver behind the Scheme, CY O'Connor, Australian inventor of the "locking bar" technique Mephan Ferguson, and the Australian Public Works Department's work, including the original design's success and the ongoing redesign and adaptation over time to boost capacity and enhance the Pipeline element's functionality, could all be included in the content. Future generations will be able to interact with and learn about the nationally recognised accomplishments of the individuals who constructed and maintained the Pipeline element, as well as those in the Wheatbelt and Goldfields regions who were able to establish new areas of development and industry, having a significant impact on Australia's economic and social development.

# CONSERVATION AND INTERPRETATION

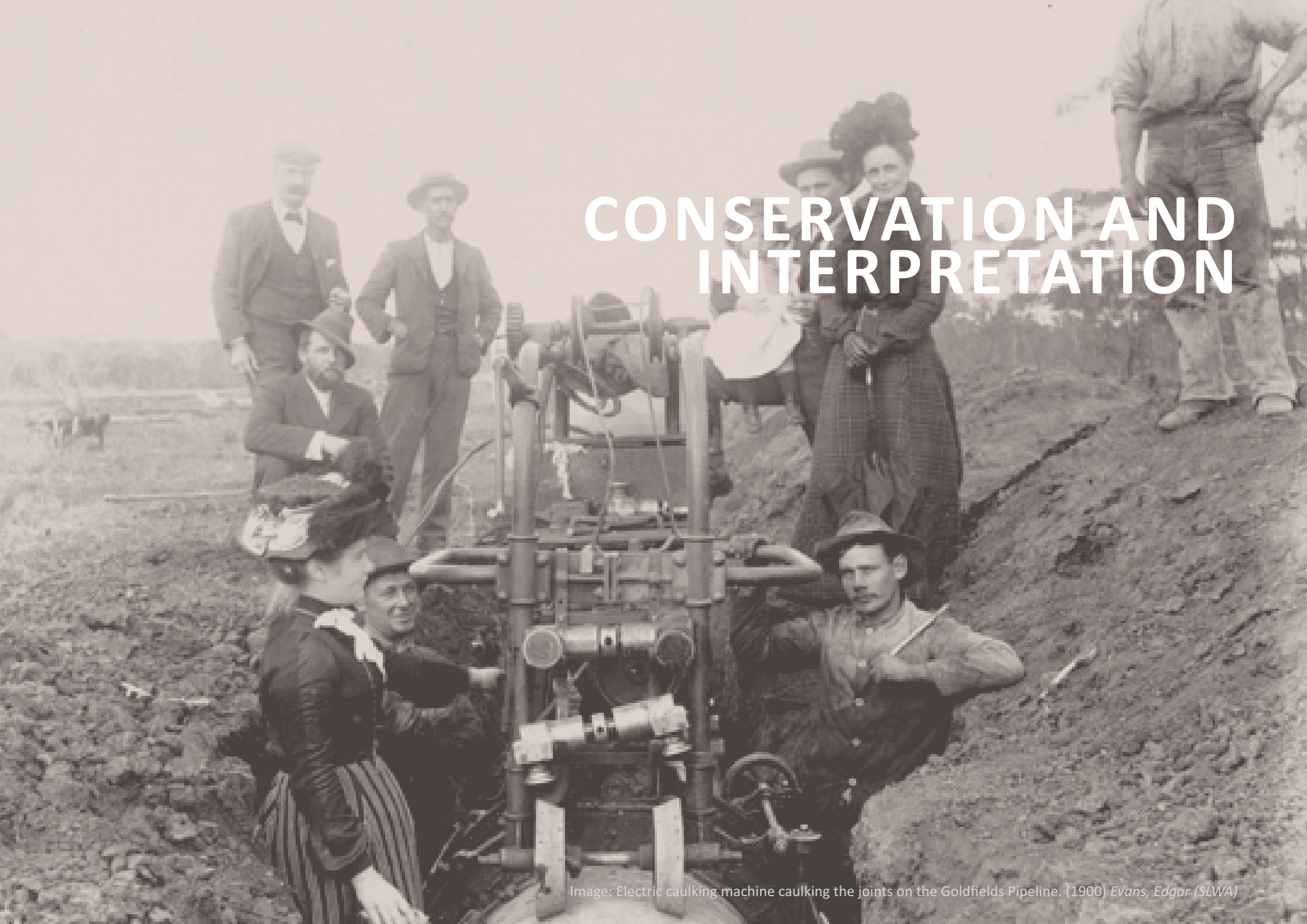
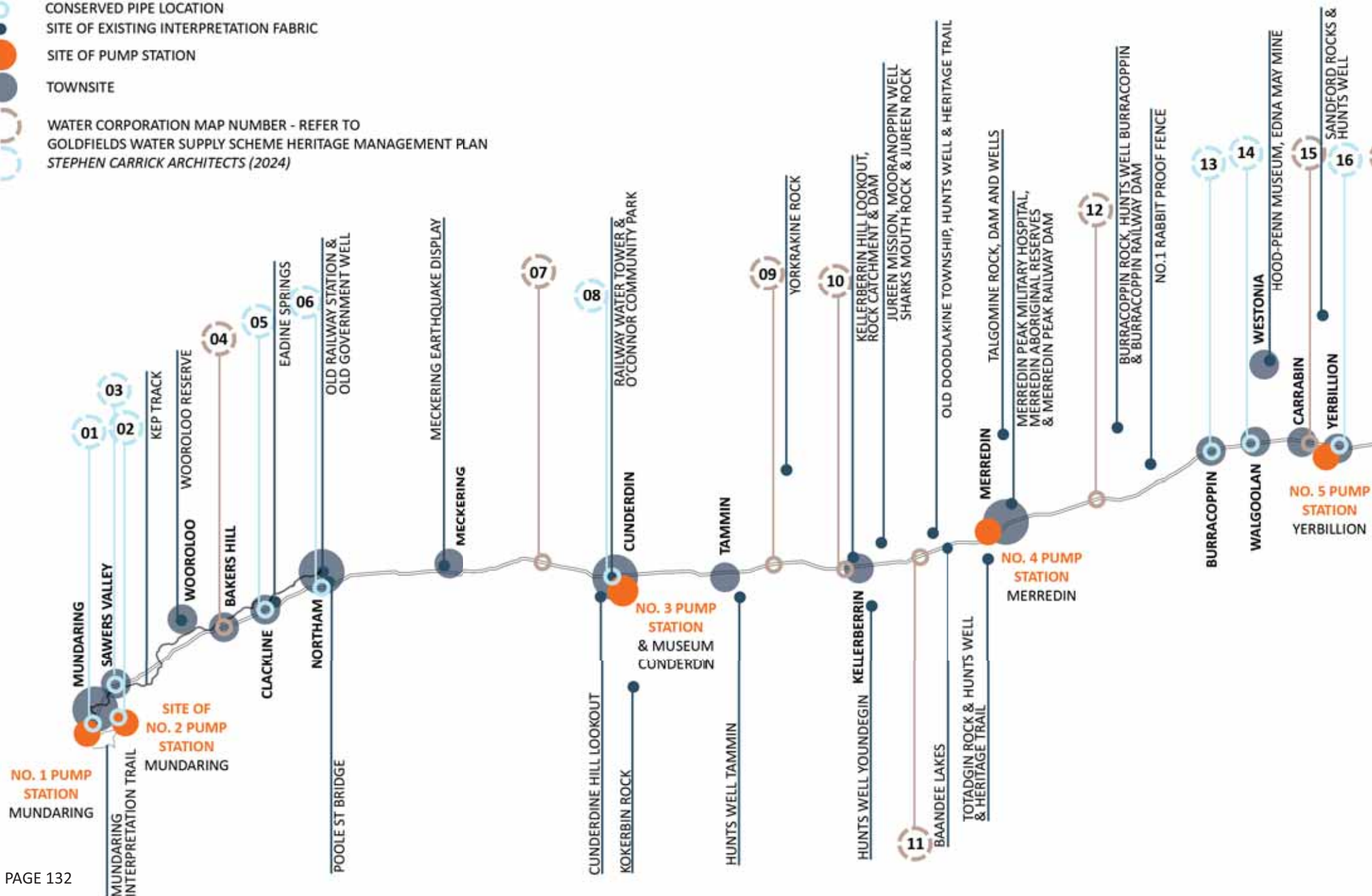
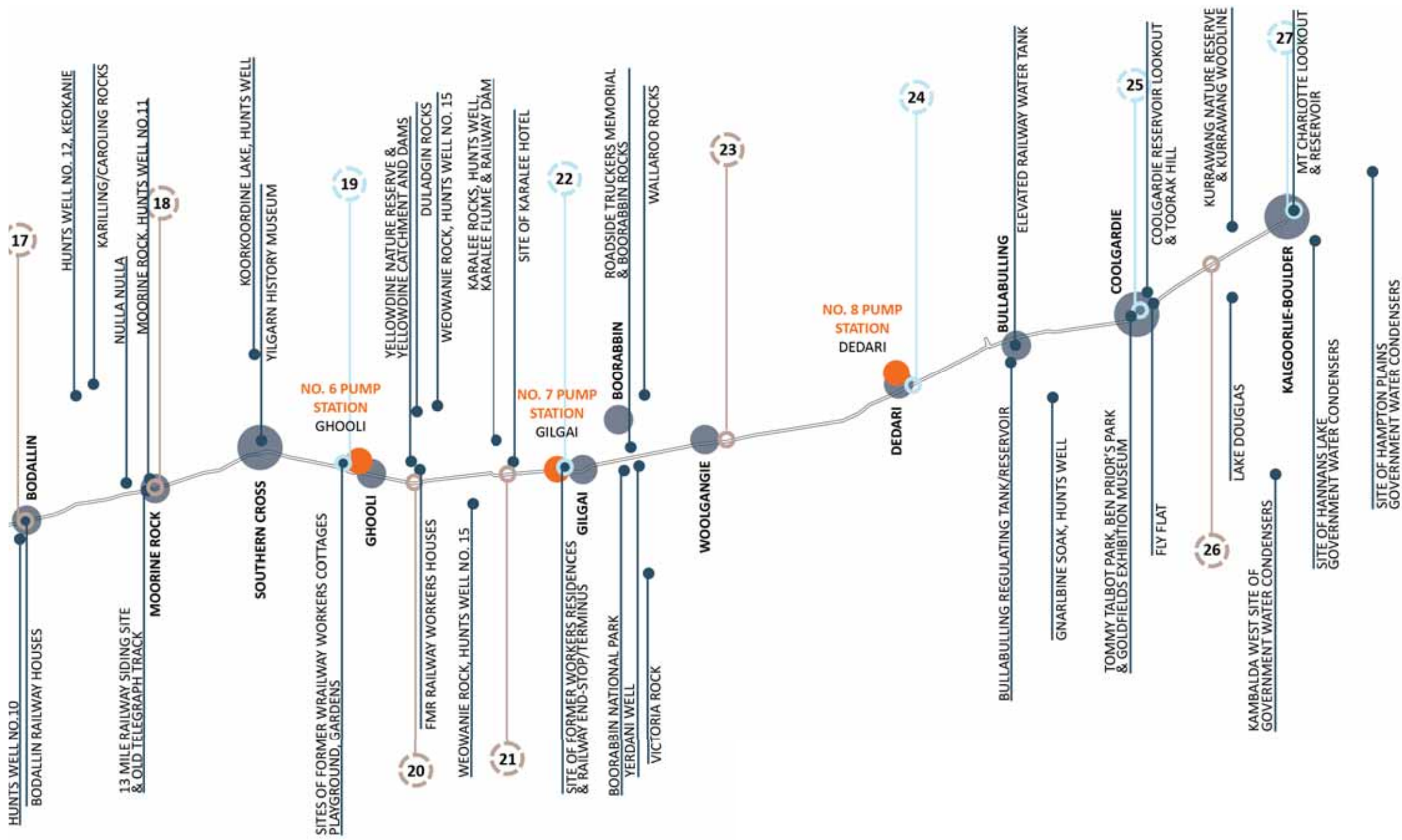


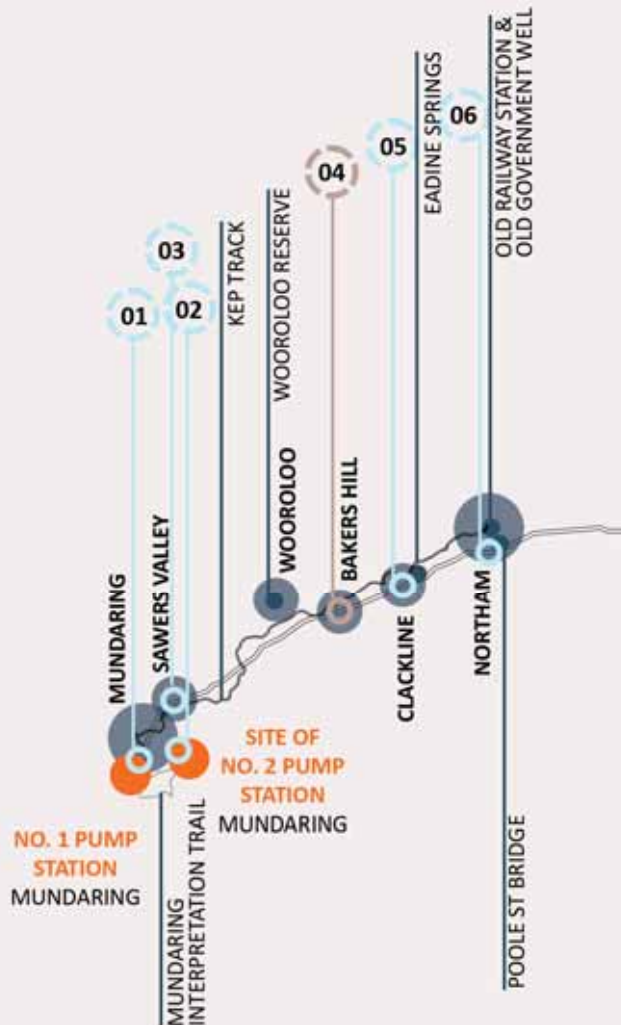
Image: Electric caulking machine caulking the joints on the Goldfields Pipeline. (1900) *Evans, Edgar (SLWA)*

- PRESENTED PIPE LOCATION
- CONSERVED PIPE LOCATION
- SITE OF EXISTING INTERPRETATION FABRIC
- SITE OF PUMP STATION
- TOWNSITE
- WATER CORPORATION MAP NUMBER - REFER TO  
GOLDFIELDS WATER SUPPLY SCHEME HERITAGE MANAGEMENT PLAN  
STEPHEN CARRICK ARCHITECTS (2024)





To align with the recommendations of the Heritage Management Plan (Stephen Carrick Architects, 2024) and the objectives of this Interpretation Strategy, it is proposed to have a mixture of retained/presented heritage fabric and interpretation where heritage fabric has been removed to ensure that the unique heritage values of the Goldfields Water Supply Scheme are retained and conserved. Working on the premise that there needs to be sufficient 'coverage' across the length of the Pipeline of both conservation and interpretation, the following chapter summarises the main locations along the Pipeline and provides commentary on the Conservation and Interpretation approach proposed for each location.



## Location - Mundaring

### GWSS Heritage Fabric to be Conserved

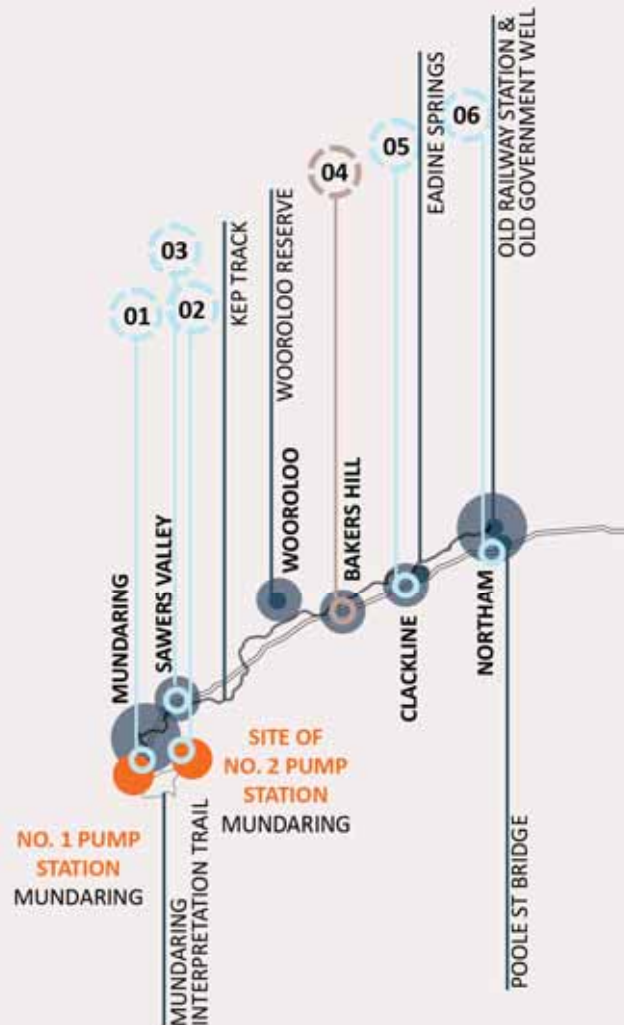
- Pipeline Retain short above-ground section of existing pipe from Pump Station No. 1 to the Mundaring Weir Hotel (as per WC mapping)
- Pump Station No. 1 site and CY O'Connor Museum
- Mundaring Weir and associated infrastructure including spillway, footwalk and valve houses

### Existing Interpretation fabric in the vicinity

- Mundaring Weir Heritage Interpretation Trail
- Kep Track

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline' - printed copies retained at No. 1 Pump Station Museum
- Project 3 – 'Eastward Bound' – traPOOLE ST BRIDGEil head information encouraging people to download Podcast (particularly as Mundaring has 5G mobile coverage) for journey eastward along the Golden Pipeline Trail
- Project 4 – 'Past Pipe' – encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens
- Project 5 – 'Connected by the Pipeline' – No. 1 Pump Station could be a meeting place for contributors or coordinators of the project
- Project 6 – 'Gone but not forgotten' – No. 1 Pump Station could be used as a safe-keeping place for the Blacksmiths tools held by Water Corp, if it is decided that No. 8 Dedari site is not appropriate
- Project 8 – 'Community landmark' – retained sections of Pipe between No. 1 and No.2 Pump Station sites could be included in public art scope, particularly as they provide a long continuous 'canvas' along the existing heritage walk trails including the Kep Track



### GWSS Heritage Fabric to be Conserved

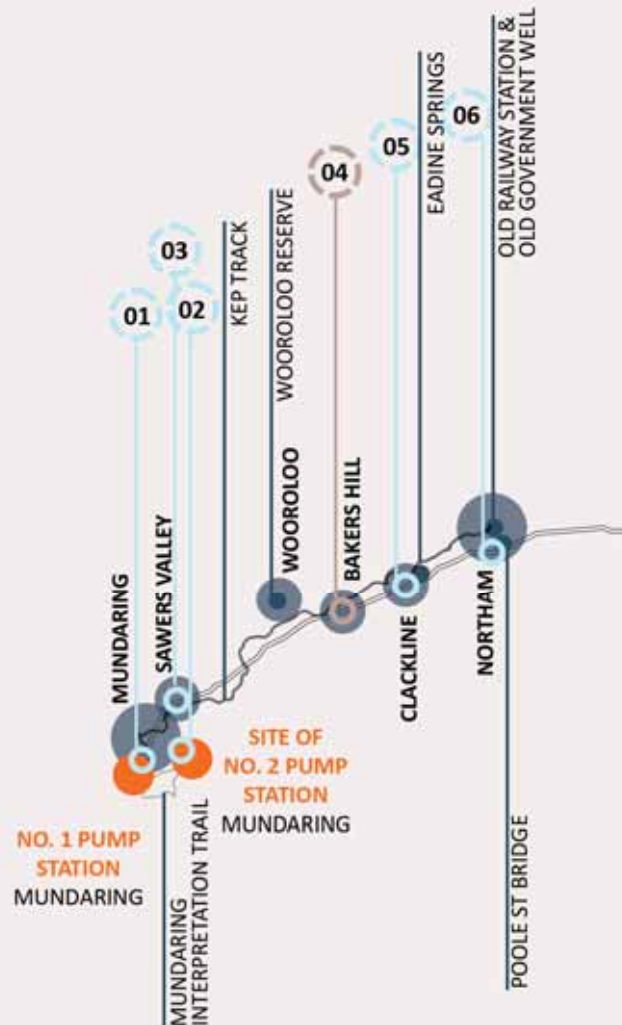
- Pump Station No. 2 site including concrete suction tank, drainage, pipework and access stairs situated north of Fred Jacoby Park (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Mundaring Weir Heritage Interpretation Trail
- Kep Track
- Public Artwork at Wooroloo Reserve

### New potential Interpretation Projects associated with this location

- Project 4 – ‘Past Pipe’ – encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens
- Project 6 - ‘Gone but not forgotten’ - expand on information displayed in existing static interpretative displays/ signage panels on walk trails. This content could include virtual reconstruction of the former built assets that comprised No. 2 including houses and Pump Station using archival photographs and plans and reminisces of people who once lived there.



## Location - Sawyers Valley

### GWSS Heritage Fabric to be Conserved

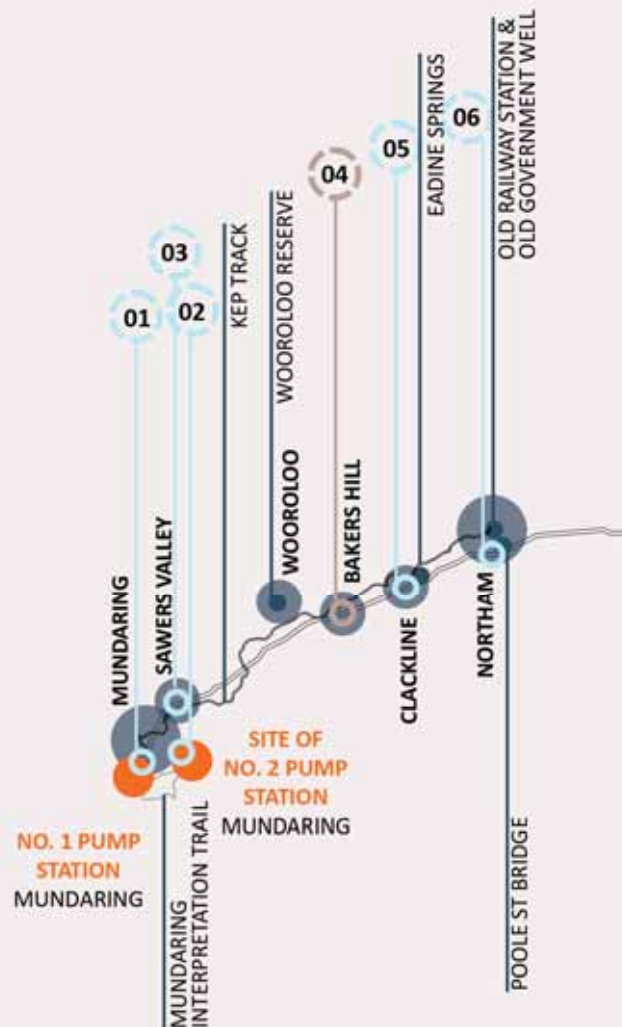
- Retain short above-ground section of existing pipe at on the western side of the original Sawyers Valley School site, where the Pipeline aligns with Barlow Street (near the intersection with Stephenson St) on a reserve area that is accessible by the public (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Railway Reserve Heritage Trail (Sawyers Valley to Mt Helena, runs parallel to pipeline/Sawyers Rd)

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone



## Location - Bakers Hill

### GWSS Heritage Fabric to be Conserved

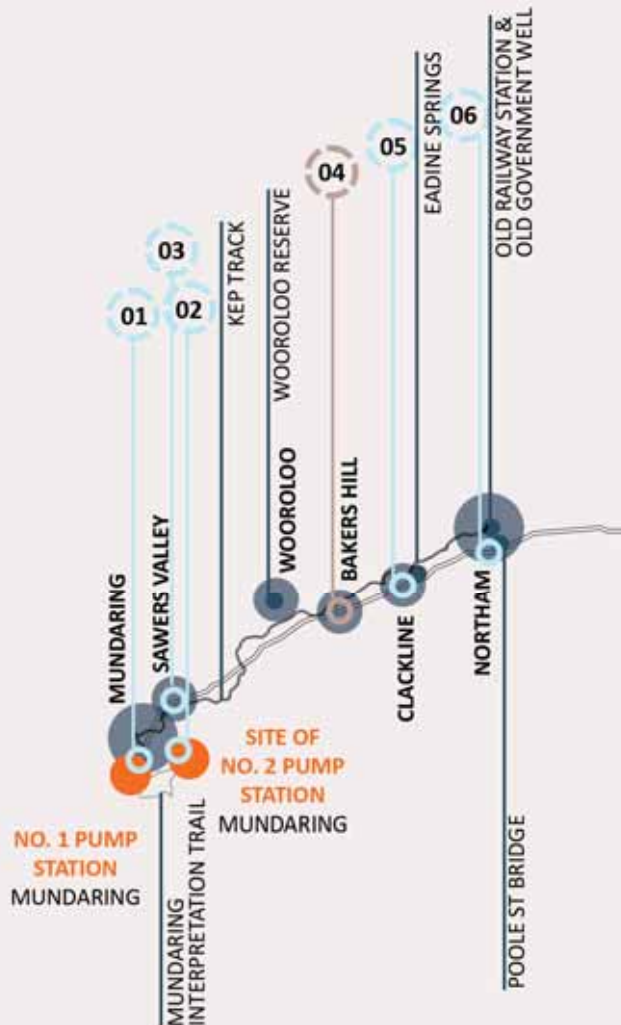
- Pipeline Retain short section of pipeline at the regulating tank
- Bakers Hill Regulating Tank including concrete lined tank and timber-framed railway platform (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Highest section of the Eastern Railway that extended between Perth and Kalgoorlie

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 1 starts at Bakers Hill/Clackline when the Pipeline as a landmark is quite evident alongside Great Eastern Highway and the traveller has left the metro area. Consider information panel and 'trail head' at Bakers Hill (perhaps multiple locations where travellers stop such as the local Pie Shop, Tavern and Memorial Park?)



## Location - Clackline

### GWSS Heritage Fabric to be Conserved

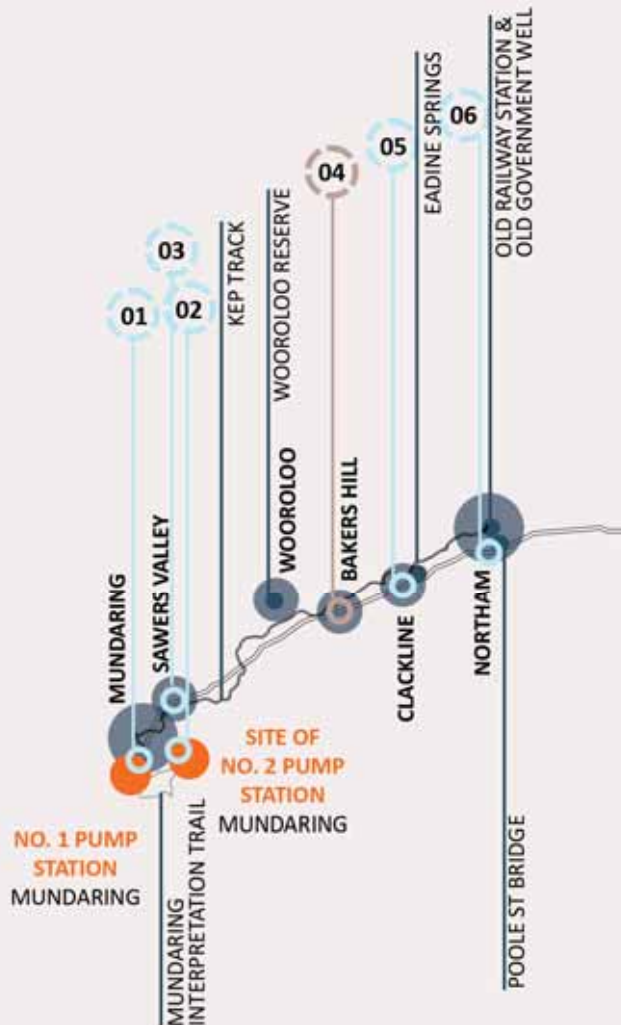
- Retain prominent portion of above-ground pipeline on the eastern side of town between Eadine Road and Old Coach Road (as per WC mapping)
- Retain existing short section of presented pipe at Lion's Park in Clackline

### Existing Interpretation fabric in the vicinity

- Eadine Springs natural pool and walk trail

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 1 starts at Bakers Hill/Clackline when the Pipeline as a landmark is quite evident alongside Great Eastern Highway and the traveller has left the metro area. Consider information panel at Clackline Lions Park and/or Eadine Springs where local water sources are evident alongside the remaining sections of the Pipeline.
- Project 4 – 'Past Pipe' – install static signs or information to encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens
- Project 8 – 'Community landmark' - There is a section of pipeline presented at the Clackline Lions Park (accessible by pedestrians as well as people in vehicles) which have that could have artistic representation of retained Pipeline.



## Location - Northam

### GWSS Heritage Fabric to be Conserved

- West Northam Regulating Tank
- Pipeline Retain section of pipeline crossing the Avon River near Muluckine, visible from Burlong Park and then extending east into private property before it goes underground (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Poole Street Bridge (formerly carried the pipeline)
- Kep Track and associated trail interpretative signage
- Old Railway Station, Northam
- Government Well, Northam

### New potential Interpretation Projects associated with this location

- Project 1 – ‘Conserve the Pipe’ – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – ‘Stories in the Pipeline’, notes the significance of the landmark value of the Pipeline where it crosses the Avon River in Northam
- Project 3 – ‘Eastward Bound’ – Episode 2 starts at Northam and reflects on the route taken by Dempster’s 1861 expedition from Buckland Homestead (near Northam) eastward through to Cunderdin, Tammin, Doodlakine, Merredin, Westonia before heading more northward towards Bullfinch.
- Project 4 – ‘Past Pipe’ – install static signs or information to encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens
- Project 8 – ‘Community landmark’ - There is a section which runs through the Clackline Lions Park and the Eadine Springs location (both accessible by pedestrians as well as people in vehicles) which have that could have artistic representation of retained Pipeline.



### GWSS Heritage Fabric to be Conserved

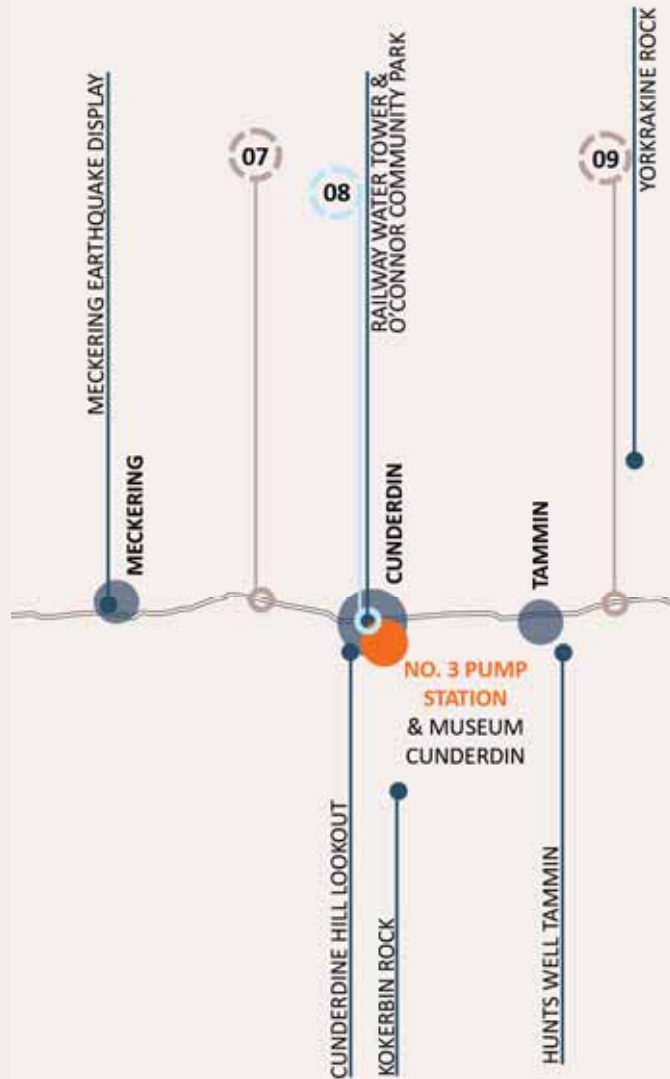
- No portion of the Pipeline to be retained

### Existing Interpretation fabric in the vicinity

- Meckering Earthquake site Memorial

### New potential Interpretation Projects associated with this location

- Project 2 – ‘Stories in the Pipeline’, notes the significance of the landmark value of the Pipeline where schoolchildren have historically written their names on the pipe as part of end of school celebrations in Meckering
- Project 4 – ‘Past Pipe’ – install static signs or information to encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens



### GWSS Heritage Fabric to be Conserved

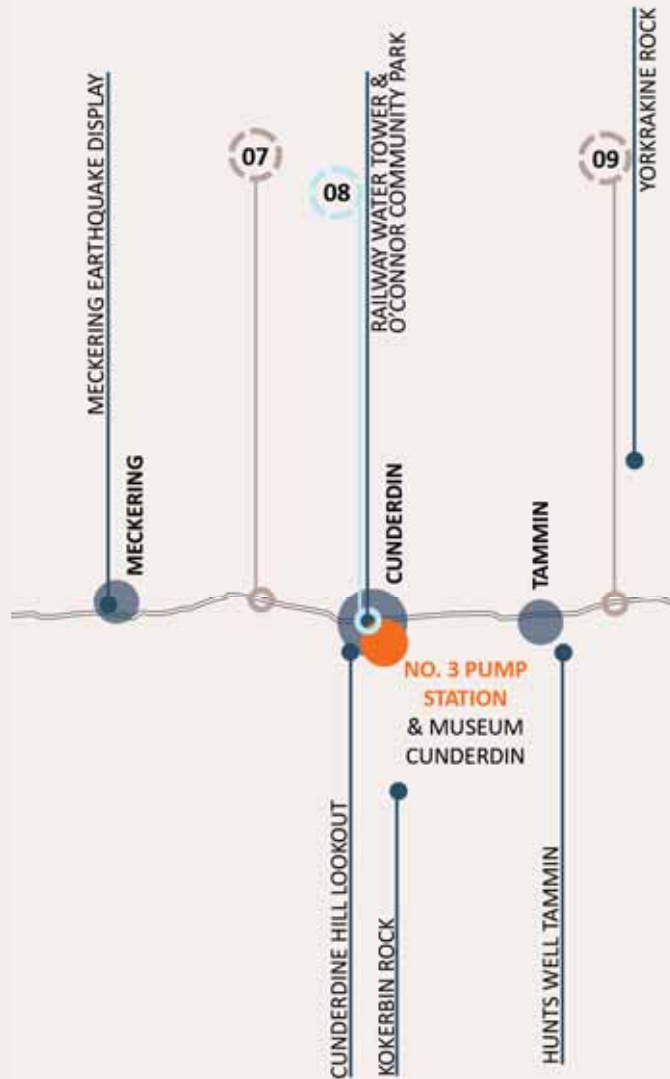
- No. 3 Pump Station, Cunderdin (managed by the National Trust (WA))
- Pipeline Retain section of pipeline that runs behind the No. 3 Pump Station and Museum (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- No. 3 Pump Station and Museum, Cunderdin
- O'Connor Community Park, including short section of gold-painted pipe
- Cunderdin Hill Lookout
- Railway Water Tower

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline', notes the significance of the landmark value of the gold-painted pipeline in Cunderdin, and the rich history associated with Pump Station No. 3
- Project 3 – 'Eastward Bound' – Episode 2 starts at Northam and reflects on the route taken by Dempster's 1861 expedition from Buckland Homestead (near Northam) eastward through to Cunderdin, Tammin, Doodlakine, Merredin, Westonia before heading more northward towards Bullfinch.
- Project 4 – 'Past Pipe' – install static signs or information to encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens
- Project 5 – 'Connected by the Pipeline' – on the basis that No. 3 Pump Station Museum already houses one community artwork that celebrates the Pipeline, it could be used to display the collective artwork/quilt publicly within the existing gallery space.



### GWSS Heritage Fabric to be Conserved

- Pipeline Retain short section of locking bar pipe (1901-1920s) on south side of Great Eastern Highway, near intersection with Leslie Road where valve complex is located (as per WC mapping)

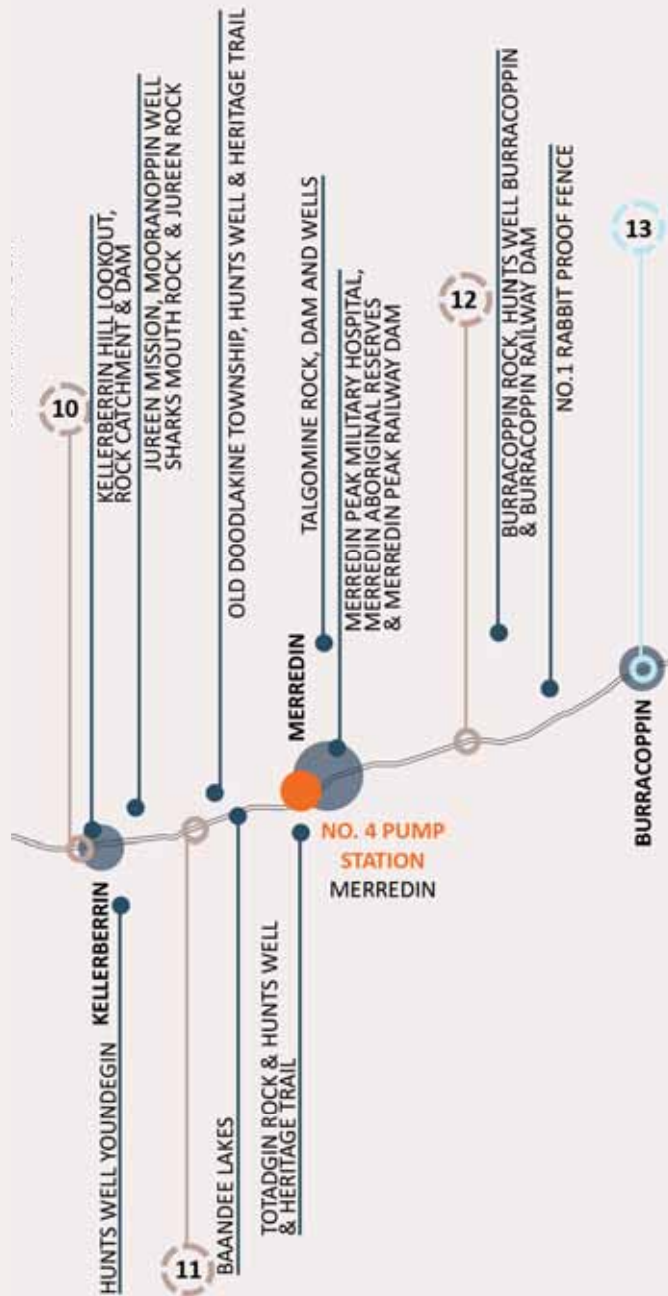
### Existing Interpretation fabric in the vicinity

- Hunt's Well, Tammin
- Yorkrakine Rock (24kms north of Tammin townsite)

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 2 starts at Northam and reflects on the route taken by Dempster's 1861 expedition from Buckland Homestead (near Northam) eastward through to Cunderdin, Tammin, Doodlakine, Merredin, Westonia before heading more northward towards Bullfinch.
- Project 7 'Water Stories connecting people and places' – Tammin is in close proximity to a number of the significant traditional water farming sites including gnamma holes and rock catchments at Yorkrakine Rock and Hunt's Well.

## Conservation and Interpretation



## Location - Kellerberrin

### GWSS Heritage Fabric to be Conserved

- Pipeline Retain short section of pipe on south side of Great Eastern Highway, near the Kellerberrin Roadhouse, and opposite the intersection with Watt Street (as per WC mapping)

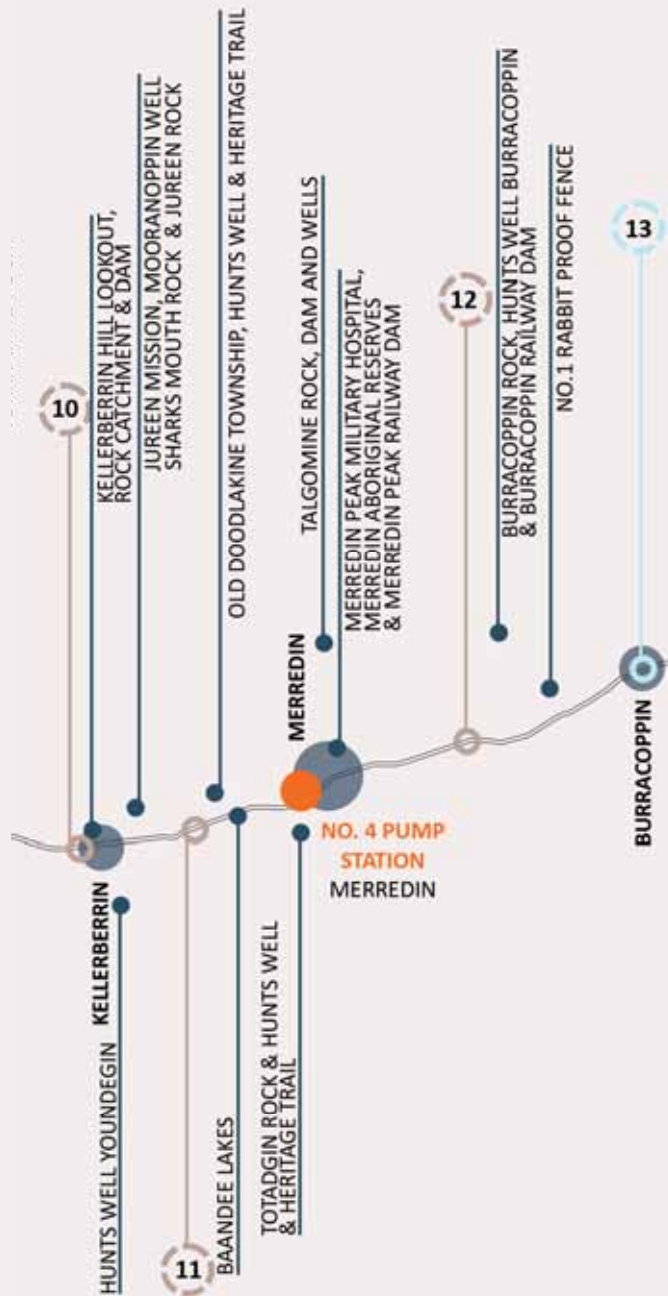
### Existing Interpretation fabric in the vicinity

- Kellerberrin Rock Catchment and Dam
- Kellerberrin Hill site
- Kokerbin Rock Pioneer Well (30km south of Kellerberrin)
- Hunt's Well, Youndegin
- Mooranoppin Well (south of Goldfields Road)
- Shark's Mouth Rock (situated on private property north of Kellerberrin townsite)

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 3 Focuses on Hunt's Track and his mapping of traditional Aboriginal water farming sites and Hunt's Wells.
- Project 7 - 'Water Stories connecting people and places' – Kellerberrin is in close proximity to a number of the significant traditional water farming sites including gnamma holes and rock catchments at Kellerberrin, Kokerbin, wells at Youndegin and Mooranoppin. There is a cluster of registered Aboriginal sites in the vicinity of Kellerberrin and Doodlakine associated with water stories.

## Conservation and Interpretation



## Location - Doodlakine

### GWSS Heritage Fabric to be Conserved

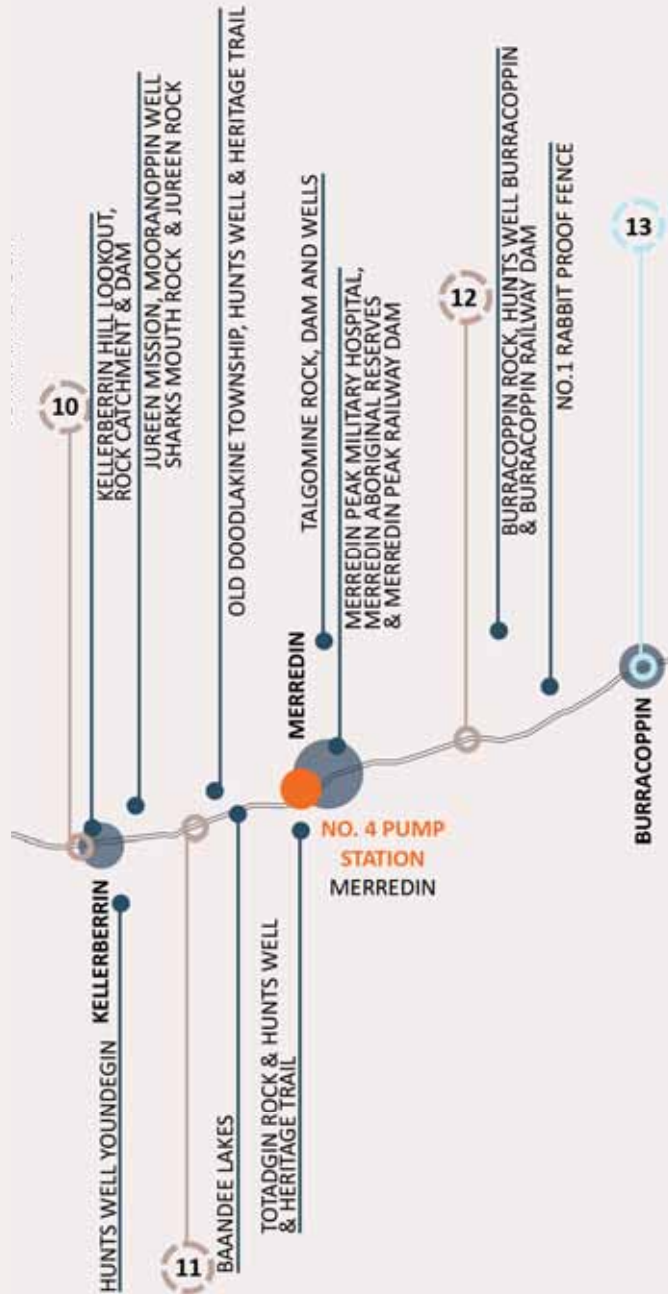
- Pipeline Retain short section of pipe on north side of Great Eastern Highway/Moore Street, on either side of the Spring Street crossing, which marks the entry to the Doodlakine townsite (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Original Doodlakine Townsite marker and interpretation signage
- Hunt's Well (Doodlakine) and heritage trail
- Baandee Lakes
- Jureen Rock
- Jureen Mission site (also known as Jiriny Mission)

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 3 Focuses on Hunt's Track and his mapping of traditional Aboriginal water farming sites and Hunt's Wells.
- Project 7 - 'Water Stories connecting people and places' - Doodlakine is in close proximity to a number of the significant traditional water farming sites including Jureen Rock, Baandee Lakes, etc. There is a cluster of registered Aboriginal sites in the vicinity of Kellerberrin and Doodlakine associated with water stories.



### GWSS Heritage Fabric to be Conserved

- No. 4 Pump Station and Reservoir
- Pipeline Present short section of salvaged pipe in the vicinity of No. 4 Pump Station and Reservoir (as per WC mapping)

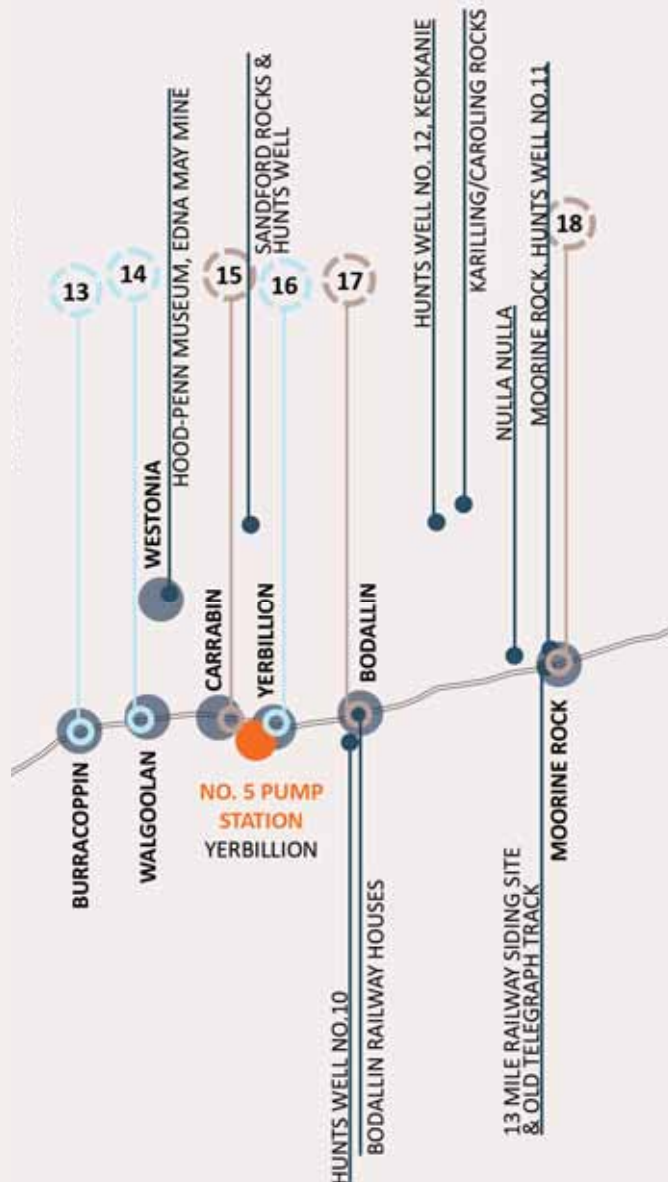
### Existing Interpretation fabric in the vicinity

- No. 4 Pump Station, Merredin, signage and display
- Totadgin Rock and Hunt's Well, including signage and walk trail
- Goldfields Road
- Merredin Peak and Railway Dam, including interpretation signage
- Merredin Aboriginal Reserve and Merredin Peak Military Hospital site
- Talgomine Rock, dam and wells

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline', notes the significance of location of No.4 Pump Station impacting the layout of the town, as well as the direct association with other significant water sites in the vicinity including the Railway Dam, Hunts Well, etc
- Project 3 – 'Eastward Bound' – Episode 4 reflects on Aboriginal water farming sites as seen at Totadgin Rock and Talgomine Rock, whilst Episode 5 discusses the establishment of Government Railway dams, as can be seen at the base of Merredin Peak, which was once a natural spring.
- Tammin, Doodlakine, Merredin, Westonia before heading more northward towards Bullfinch.
- Project 4 – 'Past Pipe' – install static signs or information to encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens.
- Project 7 - 'Water Stories connecting people and places' – Merredin is a hub of local water farming stories and demonstrates a range of innovations including gnamma holes, water sheds, reservoirs, dams, springs and the Pump Station all in close proximity to the townsite.

## Conservation and Interpretation



## Location - Burracoppin

### GWSS Heritage Fabric to be Conserved

- Pipeline Retain short section of pipe on south side of Great Eastern Highway, within the vicinity of Burracoppin Centenary Park, which is situated between White Street and Hunt Street (as per WC mapping)

### Existing Interpretation fabric in the vicinity

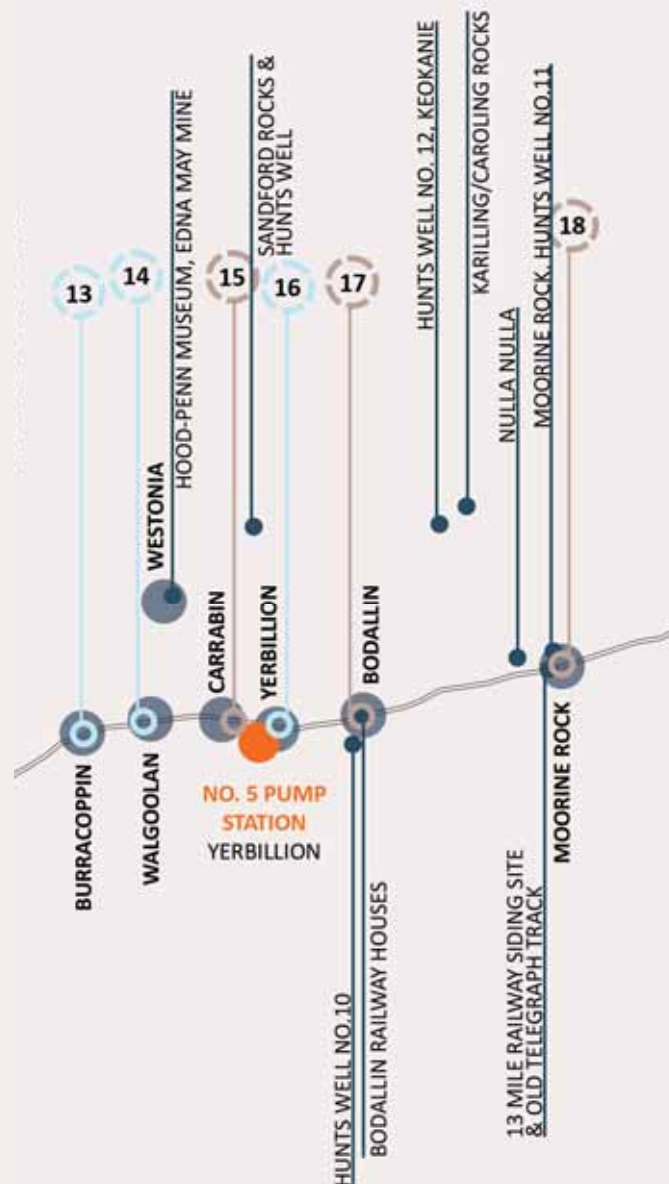
- Hunt's Well, Burracoppin
- Burracoppin Railway Dam (base of Burancooping Rock)
- No. 1 Rabbit Proof Fence

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 4 reflects on Aboriginal water farming sites, many of which are found in the vicinity of Burracoppin, including Burancooping Rock, the granite outcrop where rainwater was channelled across the watershed to collect at the base, where later, the Government built the Burracoppin Railway Dam. This history is discussed in Episode 5.
- Project 4 – 'Past Pipe' – install static signs or information to encourage people to learn about the webapp and upload their own photos, memories and content as well as reviewing the contributions of other Heritage Citizens. The pipeline is something of a landmark in the townsite of Burracoppin, which consists of only a small cluster of buildings close to the Highway.
- Project 7 - 'Water Stories connecting people and places' – Burracoppin features a number of water farming innovations from different eras including traditional use by First Nations people at Burancooping Rock, Hunt's Well, and the Railway dam.

## Conservation and Interpretation

## Location - Walgoolan



### GWSS Heritage Fabric to be Conserved

- Pipeline Retain short section of pipe on south side of Great Eastern Highway, in a rest stop just east of the Walgoolan Hall (as per WC mapping)

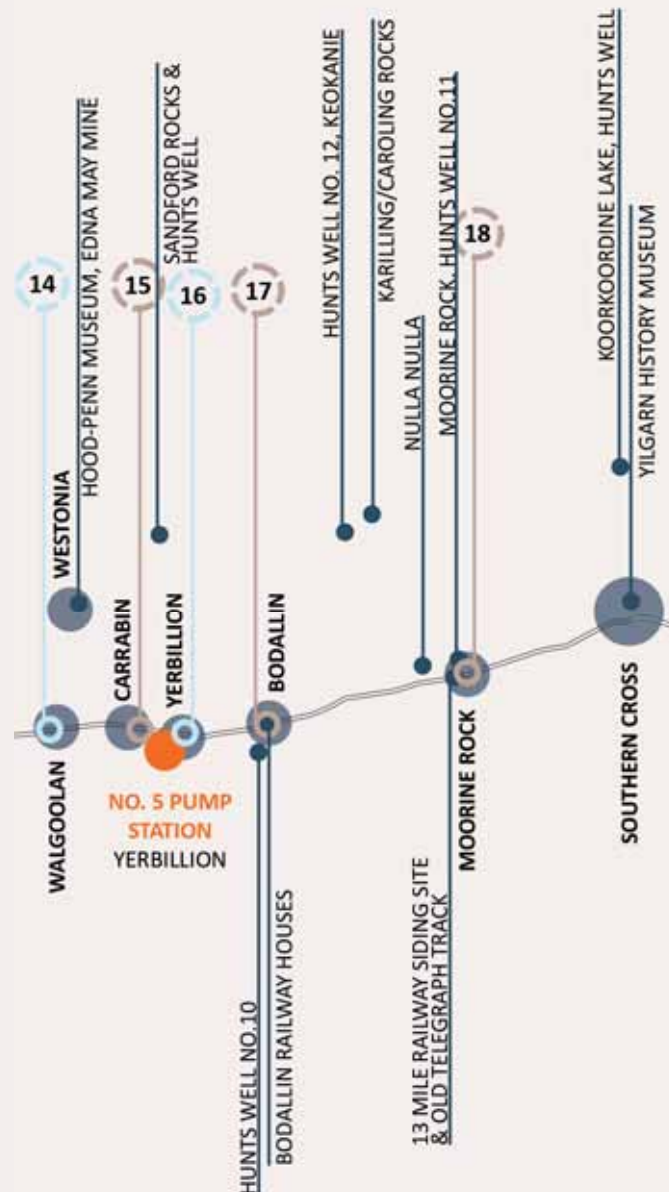
### Existing Interpretation fabric in the vicinity

- Westonia Townsite
- Hood-Penn Museum, Westonia
- Edna May Mine (Westonia)
- Sandford Rocks

### New potential Interpretation Projects associated with this location

- Project 1 – ‘Conserve the Pipe’ – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – ‘Stories in the Pipeline’- identified the importance of the GWSS in the development of agriculture and industry around Westonia

## Conservation and Interpretation



## Location - Carrabin

### GWSS Heritage Fabric to be Conserved

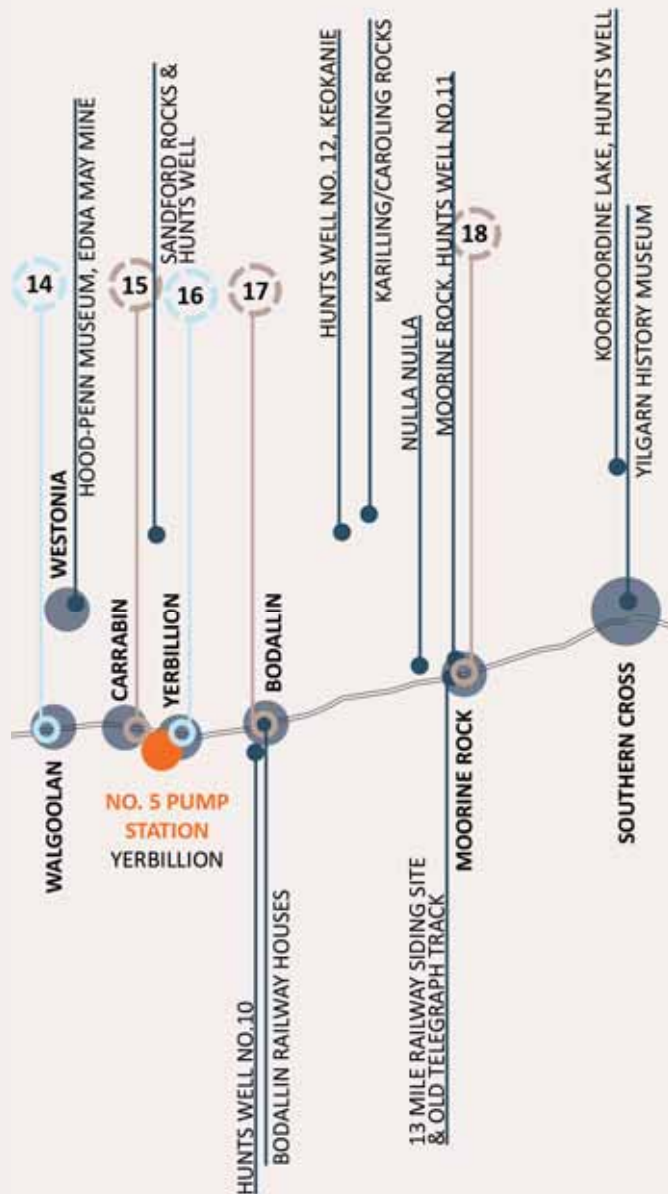
- Pipeline Salvage and present a short section of pipe in the vicinity of the Carrabin Roadhouse and truck rest stop, on Great Eastern Highway/York Road. This section of Great Eastern Highway was modified in late 2023, further distancing the Pipeline from the road alignment in the vicinity of Carrabin (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- No interpretation elements in this zone

### New potential Interpretation Projects associated with this location

- Project 1 – ‘Conserve the Pipe’ – retain landmark section of Pipeline in publicly accessible zone
- Project 8 – ‘Community Landmark’ – the salvaged section of Pipe could become part of an art project



### GWSS Heritage Fabric to be Conserved

- Pipeline Retain short section of pipe immediately north of No. 5 Pump Station, alongside Graham Road (as per WC mapping)
- No. 5 Pump Station
- Remains of Yerbillion workers houses to the west and north of No. 5 Pump Station including orchard trees, clothes line and vines
- Remains of Yerbillion Pump Station school site and anthill tennis court

### Existing Interpretation fabric in the vicinity

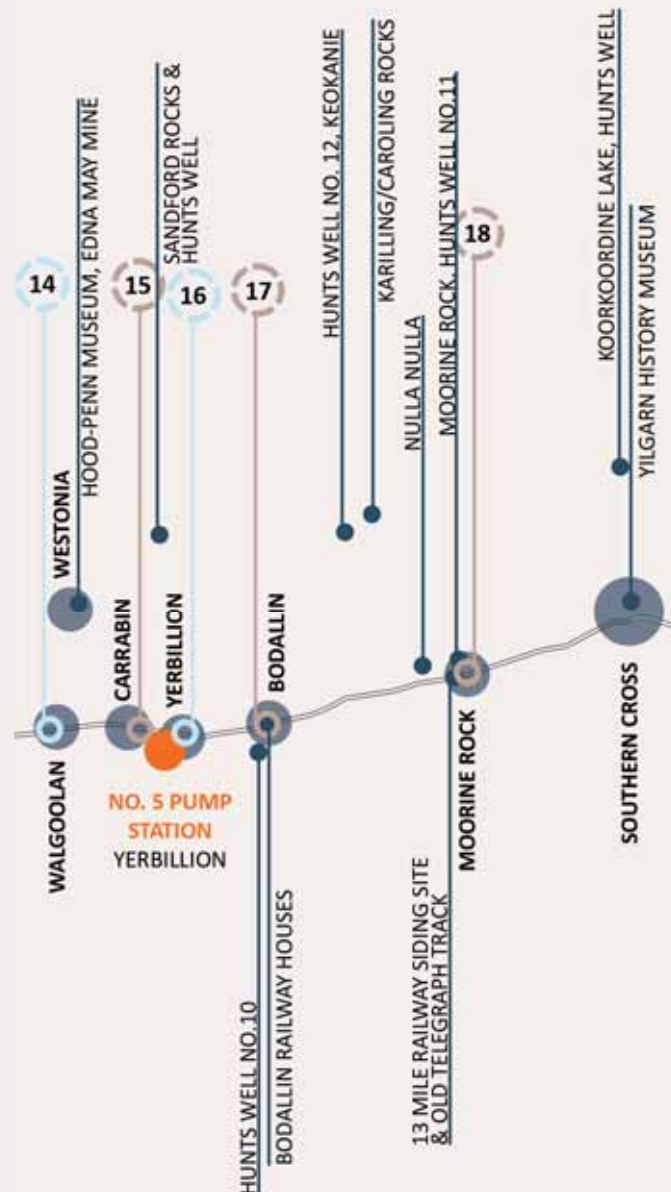
- No. 5 Pump Station

### New potential Interpretation Projects associated with this location

- Project 1 – ‘Conserve the Pipe’ – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – ‘Stories in the Pipeline’- identified the importance of the communities that developed up around the Pump Station sites, including houses for Engineers and schools for their children.
- Project 6 - ‘Gone but not forgotten’ – Yerbillion was once a hive of activity to support the GWSS, with only fragments left of the lives that were once focused around the No. 5 Pump Station.

## Conservation and Interpretation

## Location - Bodallin



### GWSS Heritage Fabric to be Conserved

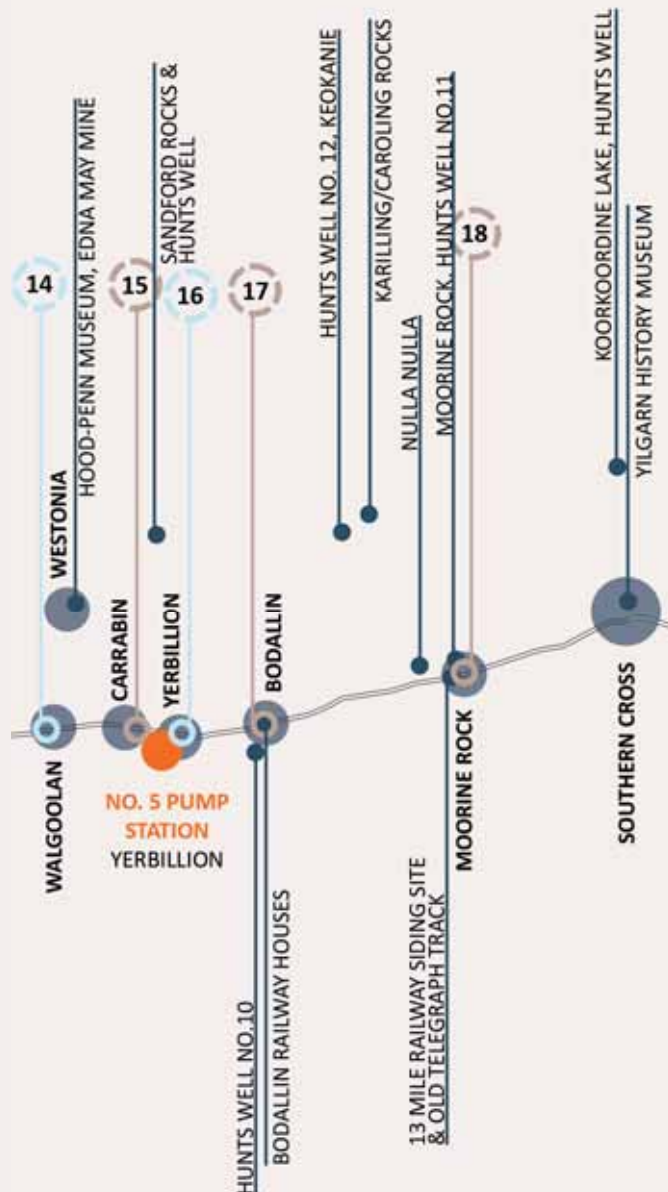
- Pipeline Salvage and present short section of pipe in vicinity of Kalgoorlie Road, where old Railway Cottages are still extant, just south of Great Eastern Highway. This is not far from Bodallin Pioneers Park and Roadhouse. (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Bodallin Railway Houses
- Bodallin Dam
- Hunt's Track and Well No. 10
- Keokanie (Hunt's Well No. 12)

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 3 discusses Hunt's Track and his route eastward, whilst Episode 6 reflects on the establishment of the Goldfields Road, and how the alignment was informed by Hunt's Track, the railway and the water pipeline, all of which can be seen at Bodallin.



### GWSS Heritage Fabric to be Conserved

- Pipeline Salvage and present short section of pipe in vicinity of Moorine Rock Primary School, off McInnes Road. This is some distance from the existing pipeline alignment, which runs further north of the Moorine Rock townsite before connecting back with Great Eastern Highway on the east side of the town. (as per WC mapping)

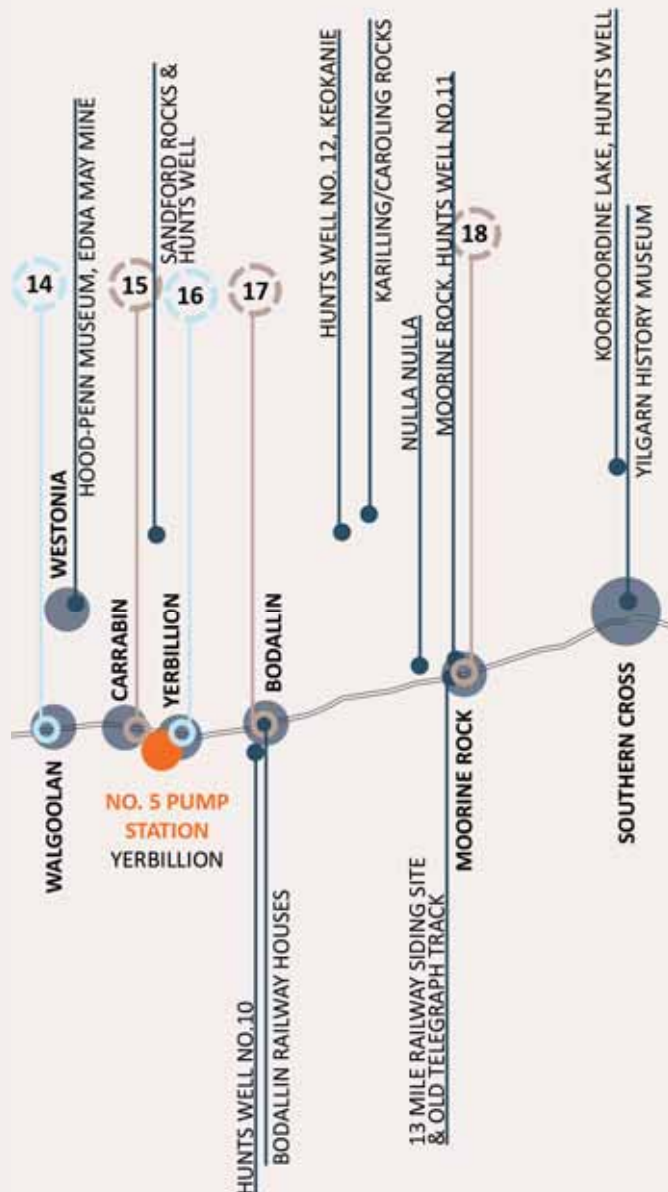
### Existing Interpretation in the vicinity

- Moorine Rock Dam
- Hunt's Well No. 11
- Nulla Nulla
- Old Telegraph Track site
- 13 Mile Railway Siding site

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 3 discusses Hunt's Track and his route eastward, whilst Episode 4 reflects on traditional Aboriginal water farming, both of which are evident at Moorine Rock. Episode 6 discusses the alignment of the Goldfields Road, the Government Railway and the Pipeline, and Parkers Range Road on the west side of Moorine Rock is where the old Telegraph line ran parallel to Great Eastern Highway.
- Project 7 – 'Water Stories connecting people and places' – Moorine Rock and nearby Nulla Nulla are both significant heritage sites for Aboriginal people and include a large rock watershed and natural soak which provided fresh water. Hunt modified the soak and built No. 11 Well on the site, which became a vital stop for prospectors and teamsters on their way to the Goldfields.
- Project 8 – 'Community Landmark' – the short section of salvaged pipe proposed to be presented near the School could become the focus of a community art project for Moorine Rock

## Conservation and Interpretation



## Location - Southern Cross

### GWSS Heritage Fabric to be Conserved

- No sections of pipeline to be retained in this location

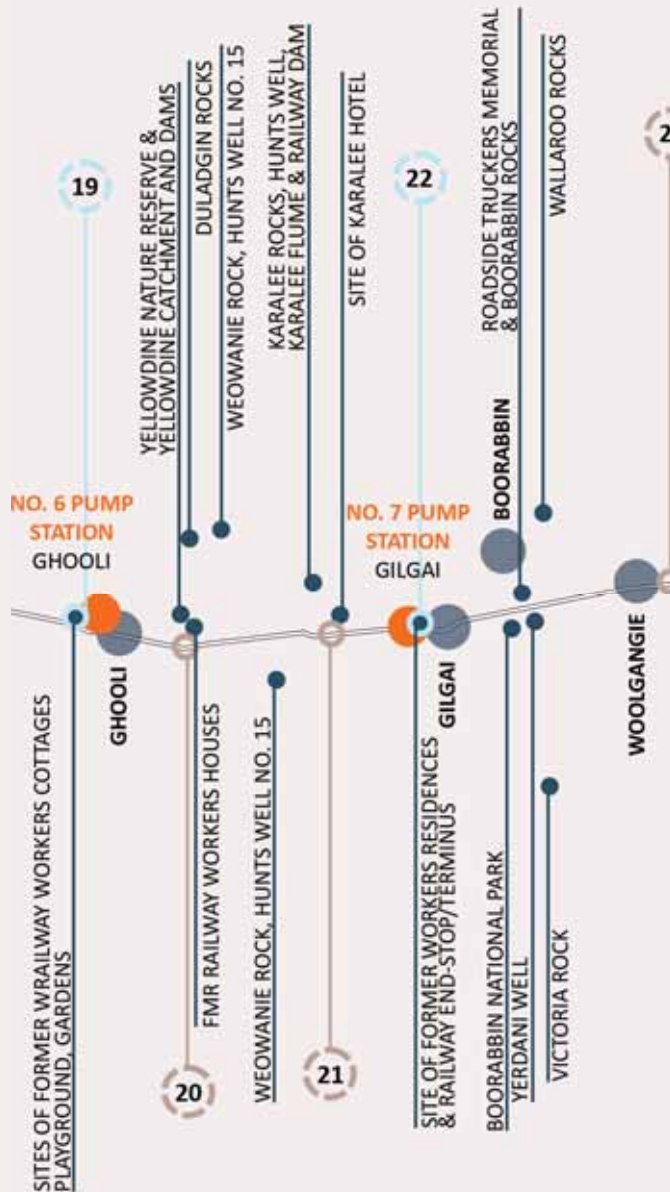
### Existing Interpretation fabric in the vicinity

- Yilgarn History Museum, Southern Cross
- Hunt's Well, Koorkoordine Lake

### New potential Interpretation Projects associated with this location

- Project 2 – 'Stories in the Pipeline' – the roles of the GWSS was significant in the development of Southern Cross and the elevated pipeline is recognized as a distinct landmark in the town
- Project 3 – 'Eastward Bound' – Episode 3 discusses Hunt's Track and his route eastward, whilst Episode 4 reflects on traditional Aboriginal water farming, both of which are evident at Koorkoordine Lake, just north of Southern Cross.
- Project 4 – 'Past Pipe' – acknowledging the important role the GWSS played in opening up Southern Cross for farming following the end of the gold boom, the Pipe .
- Project 5 – 'Connected by the Pipeline' – the community art project could be hosted at the Yilgarn History Museum and could become the focus of interpretation for Southern Cross

## Conservation and Interpretation



## Location - Ghooli

### GWSS Heritage Fabric to be Conserved

- No. 6 Pump Station Ghooli
- Reservoir (covered suction tank)
- Weighbridge
- Pipeline Retain section of pipe on west side of No.6 Pump Station which extends for the approximate length of the extent of the row of former Worker's cottages. (as per WC mapping)

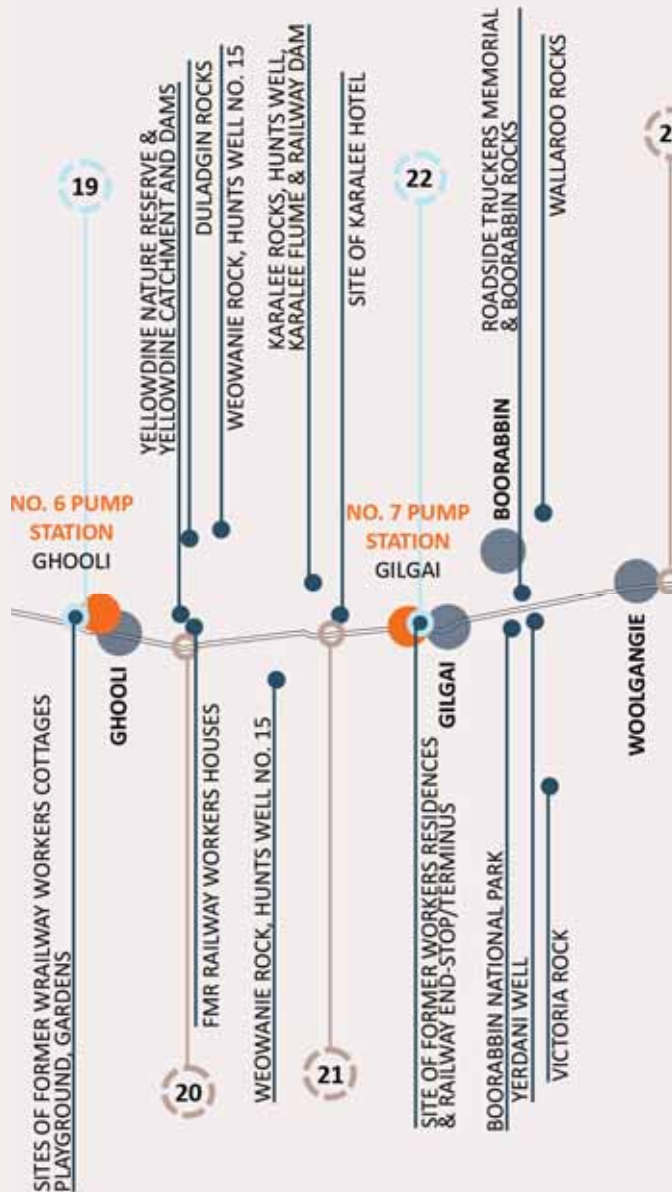
### Existing Interpretation fabric in the vicinity

- Sites of former Workers' Cottages, playground, gardens

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline' – the once vibrant social life of the No. 6 Pump Station was recalled with fond memories by many former residents and workers from Ghooli, with very little now remaining of these lives.
- Project 6 – 'Gone but not forgotten' – focusing on sites and places that were once hubs of activity to support the GWSS, including the former townsites/worker accommodation at Ghooli

## Conservation and Interpretation



## Location - Yellowdine

### GWSS Heritage Fabric to be Conserved

- Pipeline Salvage and present short section of pipe on north side of Great Eastern Highway opposite truck-stop and in the vicinity of the former Railway Worker's House. (as per WC mapping)

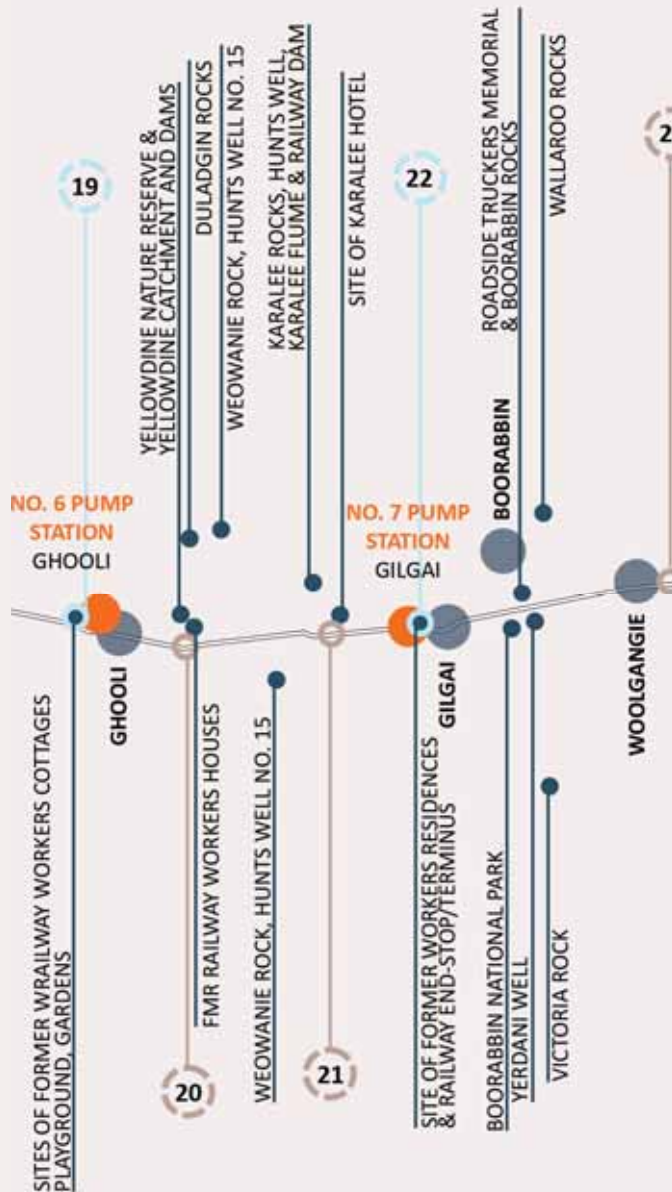
### Existing Interpretation fabric in the vicinity

- Yellowdine Catchment & Dams
- Yellowdine Nature Reserve
- Fmr Railway Workers House
- Duladgin Rocks
- Karolling/Caroling Rocks
- Weowanie Rock and Well No. 15

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline' – the once vibrant social life of the No. 6 Pump Station was recalled with fond memories by many former residents and workers from Ghooli, with very little now remaining of these lives.
- Project 8 – 'Community Landmark' – the short section of salvaged pipe proposed to be presented near the truck stop could become the focus of a community art project for Yellowdine

## Conservation and Interpretation



## Location - Karalee Rocks

### GWSS Heritage Fabric to be Conserved

- Pipeline Salvage and present short section of pipe on north side of Great Eastern Highway, just south of the Karalee Rocks & Railway Dam site. (as per WC mapping)

### Existing Interpretation fabric in the vicinity

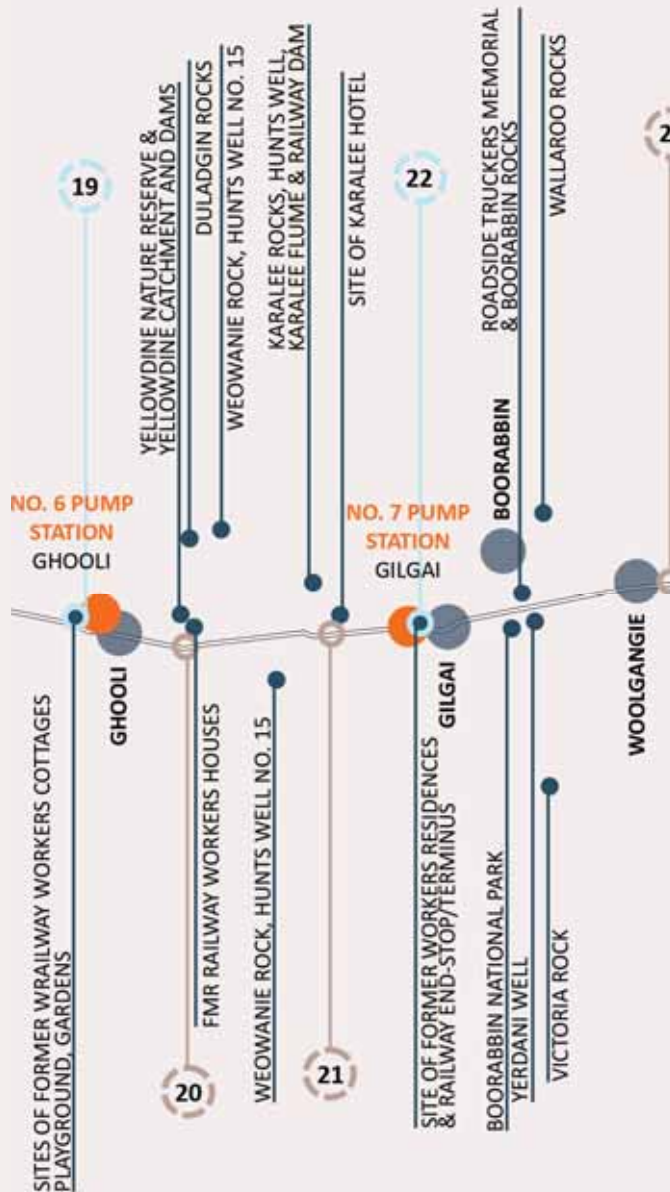
- Karalee Rocks
- Karalee Flume and Railway Dam
- Hunt's Wells, Karalee Rocks
- Site of Karalee Railway Siding
- Site of Karalee Hotel

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' – Episode 3 discusses Hunt's Track and his route eastward, whilst Episode 4 reflects on traditional Aboriginal water farming, both of which are evident at Karalee Rocks. Episode 5 discusses the establishment of the Government Railway and the development of railway dams and use of Aboriginal water farms to support this venture.
- Project 7 – 'Water Stories connecting people and places' – Karalee Rock is a significant example of water farming innovations across multiple cultures, with the granite watershed and rock walls demonstrating how Aboriginal people diverted and captured water in gnamma holes and natural soak using a technique that was later expanded to create the rock catchment and overland steel flume that fed the Karalee Railway Dam.

## Conservation and Interpretation

## Location - Gilgai



### GWSS Heritage Fabric to be Conserved

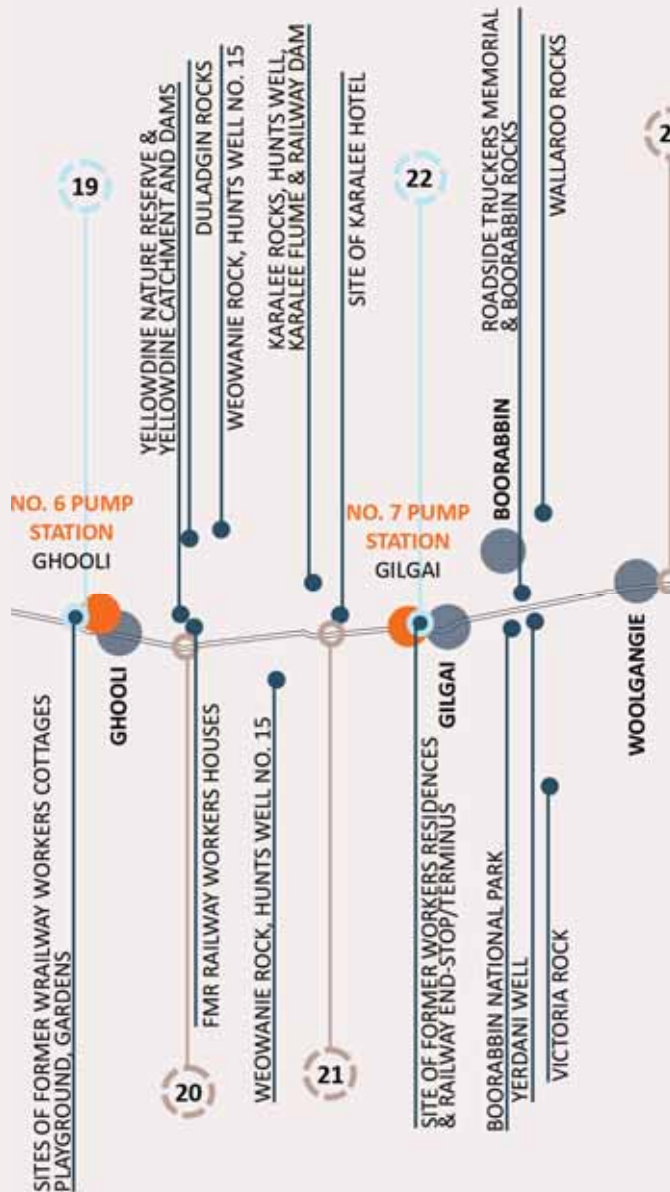
- Pipeline Retain short section of pipe on south side of concrete receiving tank, just north of Great Eastern Highway. (as per WC mapping)
- Rectangular concrete receiving tank associated with No. 7 Pump station, Gilgai

### Existing Interpretation fabric in the vicinity

- Railway end-stop/terminus
- Site of former Worker's Residences at No. 7 Pump Station

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline' – the remote and lonely life of workers and their families based at the No. 7 Pump Station was recalled with fond memories by many former residents and workers from Gilgai, with very little now remaining of this Pump Station.
- Project 6 – 'Gone but not forgotten' – focusing on sites and places that were once hubs of activity to support the GWSS, including the former townsites/worker accommodation at Gilgai No. 7 Pump Station



### GWSS Heritage Fabric to be Conserved

- Pipeline Salvage and present short section of pipe on south side of Great Eastern Highway, near Auburn Street in Boorabbin, or alternate site at Boondi Rock Dam turnoff (as per WC mapping)

### Existing Interpretation fabric in the vicinity

- Boondi/Boondini Rock and Railway Dam
- Boorabbin Rocks and Railway Dam
- Boorabbin National Park
- Boorabbin to Woolgangie rail line (former)
- Roadside Trucker's Memorial 2007 (Bedford, Murley & Taylor), Great Eastern Hwy
- Wallaroo Rocks
- Yerdani Well
- Victoria Rock

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 3 – 'Eastward Bound' –Episode 4 reflects on traditional Aboriginal water farming, of which there are many significant examples in the vicinity of Boorabbin including Boondi Rock, Boorabbin Rocks, Wallaroo Rocks and Victoria Rock. Episode 5 discusses the establishment of the Government Railway and the development of railway dams and use of Aboriginal water farms to support this venture, which can be seen at both Boondi Rock and Boorabbin Rocks.
- Project 7 – 'Water Stories connecting people and places' – Both Boondi Rock and Boorabbin Rocks are significant traditional Aboriginal water farming sites that were later modified to create railway dams to support the Government Railway.



### GWSS Heritage Fabric to be Conserved

- No. 8 Pump Station, Dedari
- Pipeline Retain short section of pipeline to north of reservoir, in close proximity to No. 8 Pump Station, being the section that runs past the other ancillary buildings associated with the Pump Station operations (as per WC mapping)

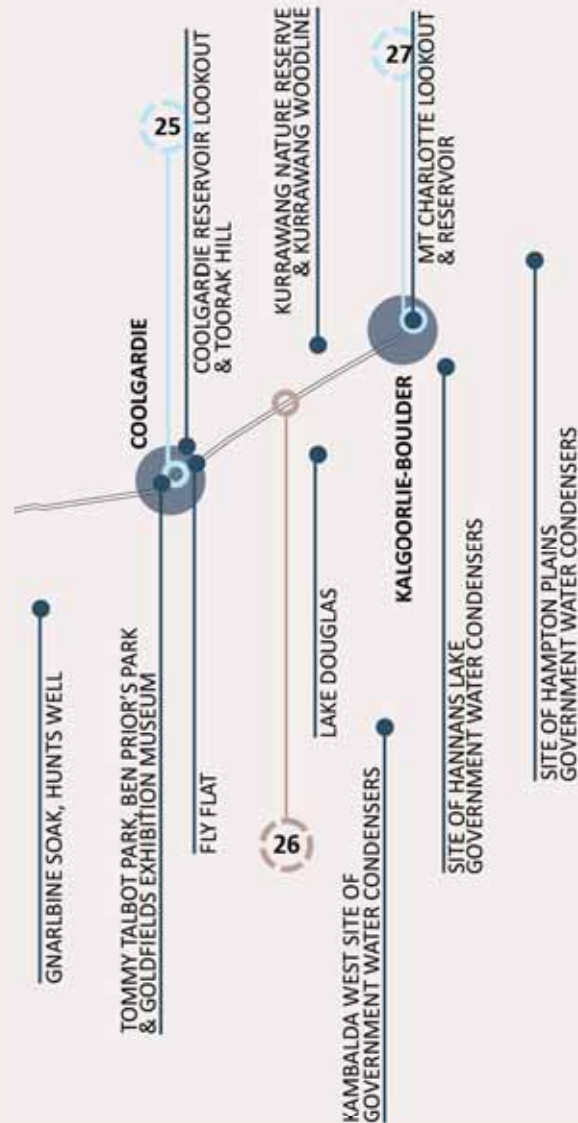
### Existing Interpretation fabric in the vicinity

- Bullabulling Reservoir/regulating tank
- Bullabulling elevated railway water tank

### New potential Interpretation Projects associated with this location

- Project 1 – ‘Conserve the Pipe’ – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – ‘Stories in the Pipeline’ – the remote and lonely life of workers and their families based at the No. 8 Pump Station was recalled with fond memories by many former residents and workers from Dedari, with this being a highly intact site, retaining considerable evidence of life at the Pump Station.
- Project 3 – ‘Eastward Bound’ – Episode 5 reflects on the considerable infrastructure developed throughout the Eastern Goldfields to support the extension of the Government Railway, with examples like the Bullabulling Reservoir and elevated tank contrasting against the more ambitious GWSS.
- Project 6 – ‘Gone but not forgotten’ – focusing on sites and places that were once hubs of activity to support the GWSS, including the former townsites/worker accommodation at Dedari No. 8 Pump Station

## Conservation and Interpretation



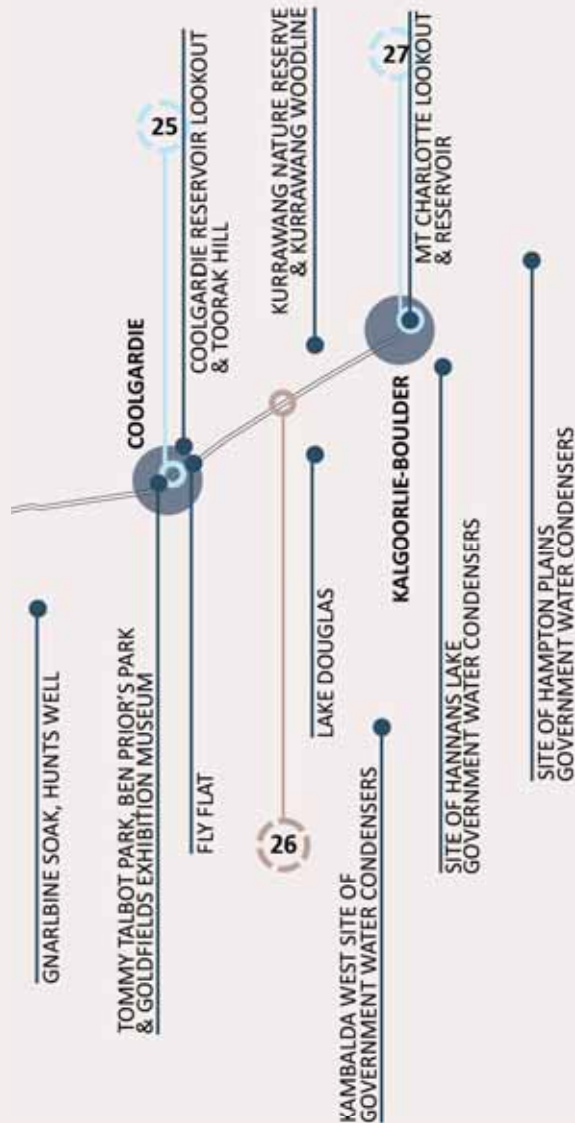
## Location - Toorak Hill

### GWSS Heritage Fabric to be Conserved

- Toorak Hill regulating tank/reservoir
- Pipeline Retain two branches of pipeline on the western side of Toorak Hill and a single line on the eastern side (as per WC mapping)
- Pipeline Consider retention of short section of Kellerberrin Pipe (1938-1958) situated in the vicinity of Bali Station, on Great Eastern Highway, West Coolgardie

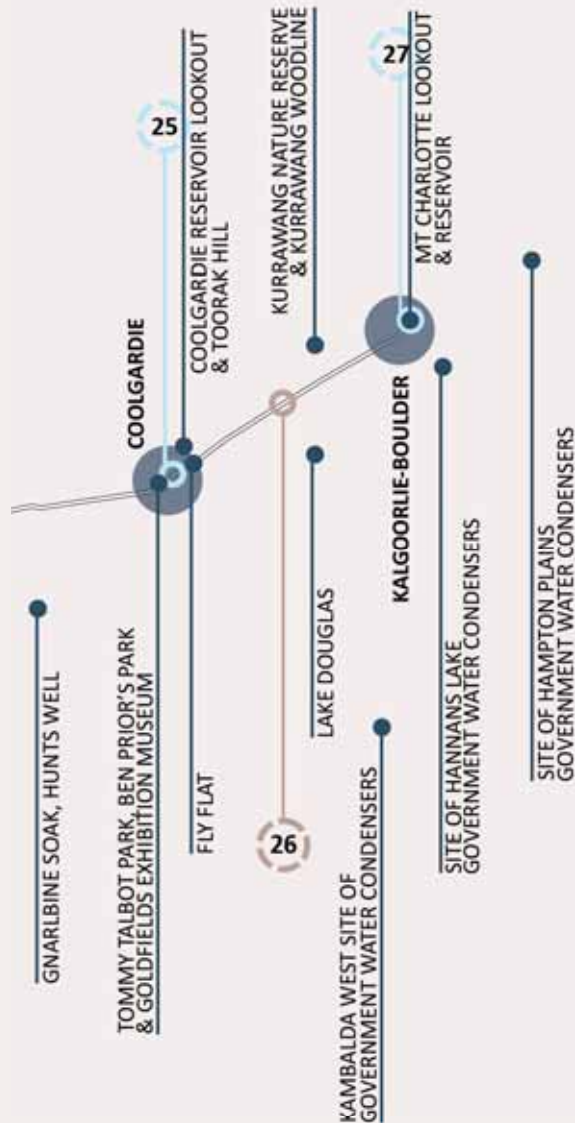
### Existing Interpretation fabric in the vicinity

- Coolgardie Reservoir Lookout
- Goldfields Exhibition Museum
- Tommy Talbot Park
- Ben Prior's Park
- Gnarlbine Soak and Hunt's Well



### New potential Interpretation Projects associated with this location

- Project 1 – ‘Conserve the Pipe’ – retain landmark section of Pipeline in publicly accessible zone. This section is highly visible from the nearby lookout, and is also incorporated into part of the course for the Pipeline Marathon event
- Project 2 – ‘Stories in the Pipeline’ – the importance of water in Coolgardie during the gold rush period before the introduction of the GWSS is well recognized, and the place was the site of an expansive Water Condenser facility after the local gnamma hole was damaged and deemed inadequate as the public water supply for a growing population. Many water stories came from Coolgardie.
- Project 5 – ‘Connected by the Pipeline’ – as a longstanding hub of trading, meeting and communication, and with a rich creative community, Coolgardie is a great site to accommodate a community art project focused around the Pipeline.
- Project 7 – ‘Water Stories connecting people and places’ – Coolgardie demonstrates a range of different innovations to address the necessity of fresh water, with its gnamma hole in the centre of town, as well as being the site of substantial Government Water Condensers during the 1890s, followed by being the original terminus of the GWSS pipeline, the place has the ability to demonstrate changing responses to water needs of the local population over time.



### GWSS Heritage Fabric to be Conserved

- Pipeline Salvage and present short sections of pipe in locations along the Great Eastern Highway between Coolgardie and Kalgoorlie, possibly at Kurrawang and Binduli (as per WC mapping)

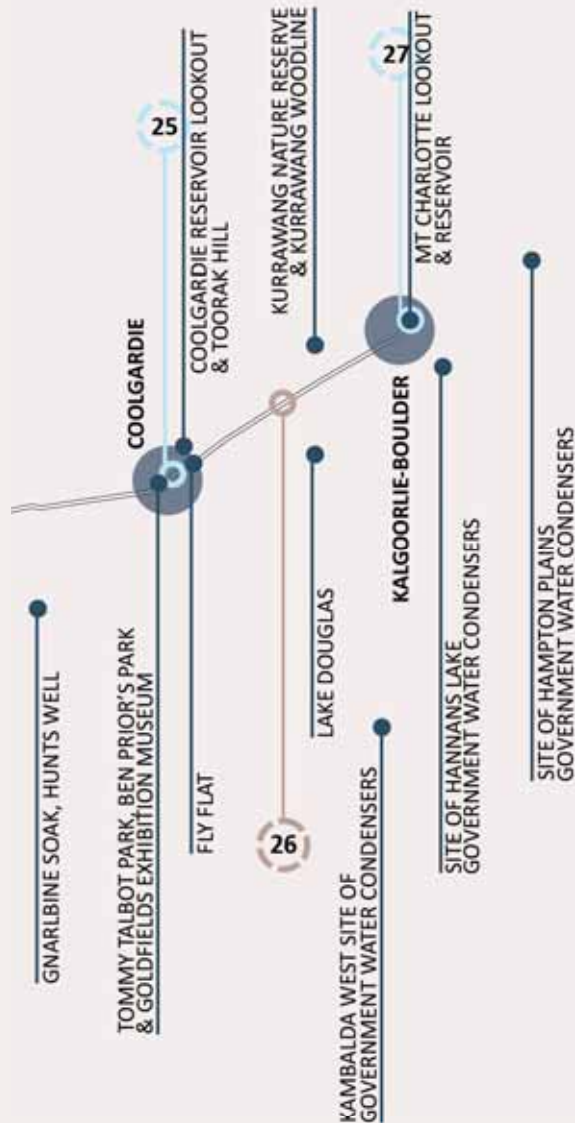
### Existing Interpretation fabric in the vicinity

- Lake Douglas
- Kurrawang Nature Reserve
- Kurrawang Woodline
- Fly Flat, Coolgardie

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline' – sections of pipe in between Coolgardie and Kalgoorlie have individual significance to many people who have left their names on the pipe, and the pipeline is a significant landmark on this strip of highway.
- Project 3 – 'Eastward Bound' – Episode 6 describes the establishment of the Goldfields Road and highlights how the alignment was informed by Hunt's track, the railway and the pipeline.
- Project 7 – 'Water Stories connecting people and places' – the area between Coolgardie and Kalgoorlie comprises many examples of traditional water farming sites, contrasted alongside innovations such as the Water Condenser sites at Coolgardie, Kambalda West, Hannan's Lake and Hampton's Plains

## Conservation and Interpretation



## Location - Mt Charlotte

### GWSS Heritage Fabric to be Conserved

- Pipeline Retain substantial branches of pipeline as they extend into/from the Mt Charlotte Reservoir, the easternmost terminus of the GWSS (as per WC mapping)
- Mt Charlotte Reservoir

### Existing Interpretation fabric in the vicinity

- Mt Charlotte Lookout, heritage interpretation trail and displays
- Site of Govt Water Condensers at Hannan's Lake, Hampton Plains and Kambalda West

### New potential Interpretation Projects associated with this location

- Project 1 – 'Conserve the Pipe' – retain landmark section of Pipeline in publicly accessible zone
- Project 2 – 'Stories in the Pipeline' – The Mt Charlotte Reservoir is associated with the grand opening of the GWSS and is the easternmost terminus of the main conduit. It is a well known landmark and has many associations for people whose lives have been affected by the GWSS.

# INTERPRETATION IMPLEMENTATION



Image: Boxing fun at the Mundaring Weir Construction Camp, Goldfields Water Supply Scheme. (1900) (SLWA).

## Interpretation Implementation

## Implementation Approach

The Burra Charter defines Interpretation as “all the ways of presenting the cultural significance of a place” and may be a combination of the treatment of the fabric; the use of and activities at the place; and the use of introduced and explanatory material. This Interpretation Strategy considers all these aspects and has developed a series of Interpretation Projects that combine conservation, engagement and interpretative material to provide a well-rounded understanding of the cultural significance of the Pipeline, providing scope for retention of the identified heritage values, even when the fabric will be substantially changed.

An important component of the implementation of this Interpretation Strategy will be to align it with the conservation of 'retained' and 'presented' sections of Pipe, as described in Project 1 – 'Conserve the Pipe', which has been developed to link with the Heritage Management Plan for the Goldfields Water Supply Scheme (Stephen Carrick Architects, 2024). The focus of this project is to present sections of salvaged/conserved pipe in a range of locations along the breadth of the +560kms of the Scheme, supported by interpretative material, to ensure that the heritage values and meanings can be retained and conserved. The implementation of the pipe conservation will be intrinsically linked to Water Corporation capital works projects to upgrade the main conduit over the next 70 years hence it is important to identify and map strategic locations for retention/presentation of Pipe in advance. It is also important to ensure that these sections of conserved Pipe link in with the other interpretation projects where possible, to provide visitors with an understanding of the scale of the GWSS and to provide a meaningful context for the remaining elements, especially with the pipeline itself becoming less visible over time.

Acknowledging that the planned replacement of the above-ground main conduit will be phased over 70 years, it is recommended that the Interpretation Strategy is also implemented on a progressive basis, with a series of prioritized projects undertaken in the short-term (the next 2-5 years), medium term (within 10 years) and the remainder being implemented over the longer term (within 70 years). This reflects on the fact that much of the above-ground Pipeline will still be operational and visible in many locations for decades to come, thus reducing the immediate urgency and emphasis placed on interpretation in lieu of retention of heritage fabric.

The approach for implementation should not be too rigid, and should be open to further development, including new interpretation concepts that align with the Interpretation Strategy, the key themes and narratives. Changing technology, innovations in communications and evolving audience interests and expectations will all influence how the Interpretation strategy may be implemented over time. The Water Corporation has made a commitment to implement the projects proposed to be implemented in the short and medium term. Long-term projects outlined in this Interpretation Strategy to be implemented in the next 70 years will be progressively developed as the Heritage Interpretation Strategy is implemented and success is monitored over time. Given the nature of these projects and their extended development timelines, no formal commitments from stakeholders for implementation have been confirmed at this stage. These projects represent future interpretation opportunities and could be undertaken by a range of stakeholders, including Water Corporation, local governments, community groups, or other organisations.

Water Corporation has committed to implement the short term (Project 2 – 'Stories in the Pipeline', Project 3 – 'Eastward Bound') and medium term (Project 6 – 'Gone but not forgotten', Project 7 – 'Water Stories Connecting People and Places') projects as per the Implementation Schedule in this Interpretation Strategy, as well as Project 1 – 'Conserve the Pipe' over the life of the Action.

## Projects to be implemented in the short term (the next 2-5 years)

THE FOLLOWING PROJECTS SHOULD BE UNDERTAKEN WITHIN THE NEXT 2-5 YEARS (FROM THE DATE OF MINISTERIAL APPROVAL):

### PROJECT 2 - 'Stories in the Pipeline'

Publication and distribution of the Public Research Project

Project 2 focuses on the social history of the Goldfields Water Supply Scheme, and the personal connections and meanings that many individuals and communities feel for the Pipeline itself. The Public Research Project captures the historic and contemporary heritage values, and can be distributed to individuals, community groups, local libraries and historical societies who contributed their memories and stories to the project. This project offers broad appeal and can reach a wide audience with print and online publication.



### PROJECT 3 - 'Eastward Bound'

Connecting to the Goldfields discovery podcast

Project 3 allows an interpretation of the scale and breadth of the pipeline at a time when the Pipe itself is starting to disappear from the landscape. This project allows people to understand how the Pipeline has become a longstanding visual landmark in the trip eastward to the Goldfields, giving the audience an audio experience across the +560kms of the main conduit so that it can continue to accompany them on their journey.



# Projects to be implemented in the medium term (within 10 years)

## THE FOLLOWING PROJECTS SHOULD BE UNDERTAKEN WITHIN THE NEXT 10 YEARS (FROM THE DATE OF MINISTERIAL APPROVAL)<sup>6</sup>

**PROJECT 6 - 'Gone but not forgotten'**  
Ghost towns of the Goldfields Water Supply Scheme augmented reality project.

This project interprets the social history of the GWSS towns that developed around the Pump Stations, many of which have very little evidence remaining. Using augmented reality, sites like No. 5 Pump Station at Yerbillion can be brought back to life for visitors, enabling them to understand that these remote and isolated places had a life of their own for many people.



**PROJECT 7 - 'Water Stories connecting people and places'**  
A Community Research Project capturing the innovation of Aboriginal water farming.

This community research project pro-actively engages with First Nations Knowledge holders, Traditional Owners and community members to capture and record the design innovations and practices of traditional Aboriginal water farming in Western Australia. This interpretation project addresses current gaps in interpretation content in the arid areas of Western Australia, and places innovations in water farming in a never-before-seen context.



# Projects to be implemented in the long term (within 70 years)

THE FOLLOWING PROJECTS SHOULD BE UNDERTAKEN WITHIN THE NEXT 70 YEARS (FROM THE DATE OF MINISTERIAL APPROVAL):

PROJECT 4 - 'Past Pipe'  
Citizen heritage project

PROJECT 5 - 'Connected by the Pipeline'  
Community art project.

PROJECT 8 - 'Community Landmark'  
Community artwork.

These projects relate more specifically to community identity and placemaking. Project 8 in particular, could be linked with the outcomes of Project 1 – 'Conserve the Pipe', whereby sections of salvaged/ conserved pipe of suitable condition become a canvas for a community art project.



### Interpretation Project Development Recommended Actions

#### Actions to Support Implementation

In order to develop the interpretation projects, each concept will need more detailed design resolution to allow them to realise their full potential. For each of the projects to be implemented, the following actions will be undertaken:

- Confirm stated objectives of each project
- Develop the delivery technique
- Prepare estimates of cost
- Determine resources required
- Determine time to implement
- Engage with key stakeholders/knowledge holders
- Engage with expert input to deliver project

#### Projects to be Developed with Expert Input

In order to develop the proposed Interpretation Projects to the highest calibre, it is recommended that suitably qualified and innovative project teams are engaged when required to full research, develop, document and produce the concepts proposed in this Interpretation Strategy, whether that be on an individual project-by-project basis, or for the development of a number of projects simultaneously.

The project team(s) will comprise qualified personnel with proven ability and experience in the interpretation, design and development of similar types of heritage sites, interpretative facilities and multimedia projects. The project team should work collaboratively with key stakeholders and regulatory authorities such as the Water Corporation, local government and heritage authorities, local historical societies, Traditional Owners & Knowledge Holders as well as any other relevant organisations and stakeholders.

## Implementation Schedule

The Water Corporation have committed to undertake the proposed interpretation projects within the following timeframes.

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>0-2 years</b>  | Complete Project 2 - 'Stories in the Pipeline'                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>2-5 years</b>  | Complete Project 3 - 'Eastward Bound'                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>2-6 years</b>  | Undertake evaluative monitoring of Project 2 - 'Stories in the Pipeline' and Project 3 - 'Eastward Bound'                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>5-10 years</b> | Scoping of Project 6 - 'Gone but not forgotten' and Project 7 - 'Water Stories connecting people and places'                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>10 years</b>   | Review of Interpretation Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>+10 years</b>  | Scoping of Project 4 - 'Past Pipe', Project 5 - 'Connected by the Pipeline' and Project 8 - 'Community Landmark' (and any new Interpretation projects identified as part of the review)                                                                                                                                                                                                                                                                                                         |
| <b>0-70 years</b> | Complete Project 1 - 'Conserve the Pipe'. The 27 proposed conservation sites will be completed in association with the installation of belowground pipe in the vicinity of each site. The conservation works will be funded by the capital project for the laying of new belowground main conduit pipe. All 27 sites have been mapped in Water Corporation's Corporate GIS to ensure that, over the 70-year life of the Action, the conservation sites are completed alongside future upgrades. |

### Interpretation Project Development Evaluation of Interpretation

#### Monitoring of Project Success

The success of the implementation of this Interpretation Strategy should be appraised against the key objectives, which were identified as follows:

- Maximise the opportunities to engage with the public
- Provide a range of different modes for engagement (ie. static, interactive, activity-based)
- Ensure the interpretation of heritage values

It is recommended that this monitoring is undertaken progressively, to align with the staged completion of individual interpretation projects, so that the extent of audience engagement can be understood, and the success of different engagement modes can be assessed.

Traditionally interpretation of the GWSS has relied heavily on static interpretation, with some interactive interpretation supporting the physical setting, including print and electronic publications (such as 'The Golden Pipeline' website hosted by the National Trust of Australia (WA)). The use of more interactive and activity-based interpretation, like podcasts, augmented reality and community art projects, will change how people interact with the heritage values. Likewise, the focus on the 'lesser known and forgotten stories' in this Interpretation Strategy presents audiences with new information and perspectives than the existing narratives. It will therefore be useful to obtain feedback from audiences on the following aspects:

- Sense of connection with the content
- Accessibility of the interpretation content
- Interest in the themes and narratives
- Interest in the cultural heritage perspectives

This monitoring could be undertaken by Water Corporation with visitor surveys and feedback from audiences engaging directly with the content, ie. those downloading the podcast or visiting the AR-experience. The outcomes of the feedback should inform the implementation of future Interpretation projects identified as part of this Interpretation Strategy, so that the community's sense of connection with the Goldfields Water Supply Scheme can be retained into the future.



Image: Pipeline between Mundaring and Sawyers Valley. (1960) *Schroder, Alan (SLWA)*



ALBANY + KALGOORLIE + BUNBURY  
*Kalgoorlie + Kalbarri + Gossmurup*