



## REGISTER OF HERITAGE PLACES - ASSESSMENT DOCUMENTATION

### 11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

#### PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.3.3 Mining
- 7.5.2 Providing for the common defence
- 7.5.3 Preparing to face invasion
- 7.5.4 Going to war

#### HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 303 Mining (including mineral processing)
- 501 World wars and other wars

#### 11.1 AESTHETIC VALUE\*

*Woodman Point Munitions Magazines (fmr)* is significant in exhibiting aesthetic characteristics as a group of brick buildings, each surrounded by distinctive concrete 'pillow' barrier berms, constructed during World War II for the particular purpose of storing war-time munitions. (Criteria 1.1 and 1.2)

*Woodman Point Munitions Magazines (fmr)* forms its own aesthetic precinct as a group of identically designed buildings for the storage of cordite, whilst also forming part of a larger precinct of explosives storage magazines. (Criterion 1.4)

*Woodman Point Munitions Magazines (fmr)* has landmark quality owing to its relationship with the remaining munitions storage related structures, including the Owen Anchorage jetty, barrier berms and the remnants of the railway sidings. (Criterion 1.4)

#### 11.2 HISTORIC VALUE

*Woodman Point Munitions Magazines (fmr)* is located on a reserve utilised by the Department of Minerals and Energy since 1904, as a facility for the storage of mining industry explosives, and contains the Owen Anchorage explosives jetty, barrier berms surviving the 1984 removal of the predating Department of Minerals and Energy explosives magazines, and the remnants of the

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\* For consistency, all references to architectural style are taken from Apperly, Richard; Irving, Robert and Reynolds, Peter *A Pictorial Guide to Identifying Australian Architecture: Styles and Terms from 1788 to the Present*, Angus & Robertson, North Ryde, 1989.

narrow-gauge railway sidings which serviced the entire explosives reserve (Criterion 2.1)

*Woodman Point Munitions Magazines (fmr)* is significant as a group of structures erected during World War II for the purpose of storing war-time explosive materials. The construction and use of *Woodman Point Munitions Magazines (fmr)* was essential to support operations of the munitions factory at Welshpool. (Criterion 2.2)

*Woodman Point Munitions Magazines (fmr)* has historical significance as a group of buildings constructed during World War II to the specifications of the Commonwealth Department of the Interior for the storage of cordite, at a time when no other suitable facility existed within Western Australia for that purpose. (Criterion 2.2)

*Woodman Point Munitions Magazines (fmr)* played a significant role in the military defence operations of Western Australia during World War II by providing ammunition supplies. (Criterion 2.2)

The design of *Woodman Point Munitions Magazines (fmr)* is historically innovative, the double layer of roof material having been selected specifically for suitability to a hot climate by cooling, and storage of volatile materials by being fire retardant. (Criterion 2.4)

### **11. 3. SCIENTIFIC VALUE**

The three buildings in particular, and the reserve as a whole, have significance as an educational reference to the manner in which explosive materials were required to be transported and stored. (Criterion 3.1)

*Woodman Point Munitions Magazines (fmr)* is significant in demonstrating technical innovation in: the distinctive design of roof chosen specifically to assist the ventilation and cooling of the storage magazines in a location which experiences very high summer temperatures; the distinctive design of the stacked concrete blast barriers surrounding each building to contain the force of an accidental explosion, and the use of materials such as asbestos to reduce the risk of the buildings' contents being exposed to sparks or fire. (Criterion 3.3)

### **11. 4. SOCIAL VALUE**

*Woodman Point Munitions Magazines (fmr)* is valued by the local community for its associations with World War Two activities as evidenced by its inclusion in the City of Cockburn's Municipal Inventory of Heritage Places. (Criterion 4.1)

## **12. DEGREE OF SIGNIFICANCE**

### **12. 1. RARITY**

*Woodman Point Munitions Magazines (fmr)* is unique in that although the magazines were built to a standard design, no similar structures were built in Western Australia, and the general site itself as an explosives storage areas is also rare. (Criterion 5.1)

*Woodman Point Munitions Magazines (fmr)* is distinctive as it demonstrates part of the history of munitions manufacturing in Western Australia during World War II. (Criterion 5.2)

## **12. 2 REPRESENTATIVENESS**

*Woodman Point Munitions Magazines (fmr)* is significant in demonstrating the characteristics of a standard-design cordite storage facility typical of the period during World War II. (Criterion 6.1)

The overall site is significant in demonstrating the design characteristics and operations of an early-twentieth century explosives-handling precinct. (Criterion 6.2)

## **12. 3 CONDITION**

Magazines number One and Two appear to be in sound condition, structurally. The lines remain square and the walls intact (though damaged). While the roof rafters all appear to be sound, charring and scorching is evident on some of the rafters in magazine number One. The asbestos roofing material in the inner and outer roofs shows the most damage, aside from the hole in the outer layer of brick on the west wall of the building closest to Nyyerbup Circle. The barrier berms are intact, though they have begun to collapse. All of the deterioration appears to have been caused either by natural processes or vandalism. No management programmes are known to have been in effect since the buildings were abandoned.

Magazine number Three is in very good condition, owing to its restoration and adaptation for use by the Caravan Park. All of the asbestos roofing material was removed and replaced with a new metal roof. Deterioration of the barrier berm has been repaired.

## **12. 4 INTEGRITY**

Magazines number One and Two retain a moderate to high degree of integrity. The railroad track has been concealed, with the bitumen paving over the track being the largest injury to the place's integrity. Even in this, it appears that the track material was not removed, but simply paved over, so restoration of the track is still possible.

Magazine number Three displays moderate integrity. The adaptation of the structure as a camp kitchen for the caravan park, while not incompatible, is on the whole a divergence from the building's original purpose as a storage place for cordite.

## **12. 5 AUTHENTICITY**

Magazines number One and Two are highly authentic, in that the original fabric remains intact, although some fabric has been lost due to deterioration and/or vandalism. Aside from minor changes to the doorways, they have not been altered from their original design. Since their abandonment in 1984, Magazines number One and Two have not been used for an incompatible purpose. The access track has been removed or covered over by the bitumen paving of Conservation Close.

Magazine number Three is moderately authentic. The original brickwork and most of the original concrete 'pillows' in the barrier berm remain intact. However, the original roof has been replaced, the interior has been completely renovated with the addition of partitions to create toilets and storage areas, and the access track has been replaced by a brick patio and barbecue area.

### 13. SUPPORTING EVIDENCE

The documentary evidence has been compiled by Robyn Peel, Alan Diggin, and Joel Gilman, students in Curtin University of Technology's Heritage Studies 511. They were assisted in compiling the physical evidence by Kris Bizzaca, Consultant. Additional information has been compiled by Lynley Forgiione; Heritage Council staff.

See HCWA Drawing No. 4626 for curtilage detail.

#### 13.1 DOCUMENTARY EVIDENCE

The place is located generally in the Woodman Point Recreation Reserve, adjacent to and partly occupied by the Woodman Point Caravan Park, approximately 50 metres south of Nyyerbup Circle on Conservation Close. The place consists of three single-story brick buildings erected in 1942<sup>1</sup>, fronting on Conservation Close. Each building is surrounded by a distinctive barrier berm built from stacks of concrete 'pillows.'<sup>2</sup> In this document, the northern-most building is designated 'magazine number One,' the middle building is 'magazine number Two,' and the southern-most building is 'magazine number Three.'

The southern most building (identified as 'Magazine number Three') is contained within Reserve No. 42009, which is occupied by the Woodman Point Caravan Park. The remaining two buildings (identified as 'Magazine number One' and 'Magazine number Two') are contained within Reserve No.40184, the main recreation reserve. Both reserves are at present vested in the Recreation, Camps and Reserves Board and managed on behalf of the Bpard by the Department of Conservation and Land Management (CALM) as part of Woodman Point Regional Park.

In 1904, the area in which the place is located was established as Mines Department Reserve No. 8907 for the storage of explosives used by the mining industry. The reserve comprised 327 acres, one-fifth being held for future use, the remainder enclosed by an 8 foot high galvanized iron fence, connected to the railway main line and to an existing explosives jetty in Owen Anchorage, owned by the Fremantle Harbor Trust. Within the enclosure, sites were laid out for 27 main magazines (for the storage of explosives, such as cordite or gelignite) and 19 detonator magazines (for the storage of detonating devices such as percussion caps or fuses). All such sites were served by parallel railway lines traversing the reserve.<sup>3</sup>

After the reserve's establishment, most of the magazine sites were built on by private firms as well as by the Department of Mines. For example, the firm of Nobel (Australasia) Pty Ltd, built a total of 8 magazines at the site between 1936 and 1938.<sup>4</sup>

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<sup>1</sup> The City of Cockburn municipal inventory incorrectly states that the place was built in 1903.

<sup>2</sup> Word of German origin meaning border or brim, berm, in this case, refers to 'a mound or bank of earth, used especially as a barrier or to provide insulation'. To clarify their use as 'blast' barriers in this instance, constructed to absorb the impact of a possible explosion; the text will refer to them as barrier berms. Dictionary.com/berm

<sup>3</sup> Mines Department of Western Australia, *Report for year ended 31 December 1904*, Report of Chief Inspector of Explosives, pp 119-120.

<sup>4</sup> Mines Department of Western Australia, *Report for year ended 31 December 1936*, Report of Chief Inspector of Explosives; *Ibid.*, *Report for year ended 31 December 1937*, Report of Chief Inspector of Explosives; *Ibid.*, *Report for year ended 31 December 1938*, Report of

Following Australia's entry into World War II in 1939, the Commonwealth Department of the Interior sought permission from the Western Australia Department of Mines to erect 'explosives stores' for the Navy Department, on land previously leased for the quarantine station adjacent to the explosives reserve. The Department of Mines approved the request.<sup>5</sup> That same year, the Fremantle Harbour Trust rebuilt the Owen Anchorage jetty on concrete pilings.<sup>6</sup>

In 1941, construction started on the 3 brick 'standard design cordite and ammunition magazines' (cordite is an explosive material containing cellulose nitrate, sometimes mixed with nitroglycerin<sup>7</sup>), which comprise the *Woodman Point Munitions Magazines (fmr)*, in support of the Munitions Factory at Welshpool.<sup>8</sup> Like most munitions factories operating in Australia during World War II, this one employed a nearly all-female workforce.<sup>9</sup>

The construction contract for the three brick magazines was awarded to Fairweather and Son on 14 August, 1941, for the amount of £4776. Construction commenced two days later, and was to be completed within 10 weeks, by 23 October 1941.<sup>10</sup>

Apparently there were problems completing the project. A letter dated 27 November 1941 from the Works Director to Fairweather indicated the work was 'unsatisfactory' and 'not acceptable.' (This was only 8 days after the disappearance and presumed loss of the light cruiser HMAS *Sydney*.) Following the attack on Pearl Harbour and the apparently heightened threat to Australia's security, the Works Director again wrote to Fairweather on 12 December, indicating the urgency of the project and requesting 'every effort' to complete the project immediately.<sup>11</sup> In the meantime, the rail siding extension to the magazines was completed on 1 December 1941.<sup>12</sup> At Woodman Point two sidings were provided, one servicing the three Magazines and the other, older and more intricate system, connecting Coogee Spur to the sidings with branches to the boundary of the explosives area and to the jetty. During the construction of the Magazine siding, the sand was left in heaps by the Western Australian Government Railways (WAGR)

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Chief Inspector of Explosives. It is not known whether these magazines are still extant. They are located outside this study area, and there is a general need for an archaeological survey of the entire area

- 5 Mines Department file 1145/39: *Woodman's Point Magazine and Explosives Reserve, Volume VIII*, in microfilm collection of Department of Minerals and Energy Records Office, folios 46B, 47, and 48AA.
- 6 Mines Department of Western Australia, *Report for year ended 31 December 1940*, Report of Chief Inspector of Explosives.
- 7 *Collins Concise Dictionary*, 4<sup>th</sup> Australian ed., HarperCollins, Glasgow, 1999.
- 8 Letter from Commonwealth Department of the Interior to the Works Director of Western Australia dated 12 July 1941, reply to same dated 16 July 1941, and further response from Commonwealth dated 25 July 1941 (National Archives K1141/1, Items D.40-41/17-29 and 17-15, respectively)
- 9 Adam-Smith, Patsy, 1984, *Australian Women at War*, Melbourne, Thomas Nelson Australia; see also Cairns, Lynne, 1995, *Fremantle's Secret Fleets*, Fremantle, Western Australian Maritime Museum, p. 35.
- 10 Commonwealth Department of the Interior, *Report on Application for Extension of Contract Period*, dated 20 July 1942 (National Archives Series K1141/1, Item D.40-41/17-5)
- 11 National Archives Series K1141/1, Item D.40-41/17-5
- 12 Letter from Western Australia Government Railways, Civil Engineering Branch, to Western Australia Works Director, dated 10 December 1941 (National Archives Series K1141/1, Item D.40-41/17-29)

in order to be sandbagged, and was the possible origin of the cement 'pillow' barrier berms.<sup>13</sup>

Construction and all rework and contract extensions were finally completed on 25 February 1942.<sup>14</sup> By this time the entire Woodman's Point Reserve had come under the control of the Naval Department.<sup>15</sup> When the Naval Department took over the site<sup>16</sup>, tractors travelling at 15 miles (24 km) were used on the older sidings that had, by the Department of Mines, only been operated using horse-drawn wagons. The tractors were three times faster than the wagons and caused considerable wear to the track, resulting in the WAGR having to re-sleeper the siding. Due to the belief that the Department of Mines, along with their horses, would return to the site, use of these sidings was therefore kept to a minimum. After the war however, the Mines Department did not re-occupy the extent of the area occupied by the sidings and the system was leased by the WAGR to Westralian Farmers' Co-operative in 1948 for the storage of wool.<sup>17</sup>

After the war, the Reserve passed back into the control of the state government on 15 October 1945.<sup>18</sup> The three brick magazines provided storage for mining explosives. However, by 1962 the Mines Department had begun to look for a new site for explosives storage, owing to the urban expansion around the Explosives Reserve and the desirability of improving recreation access to the beach north of Woodman Point.<sup>19</sup> Finally, in 1983, Cabinet announced that the Explosives Reserve was to be relocated within 12 months to a new site at Baldivis.<sup>20</sup> The new site officially opened on 16 November 1984, and explosive materials began to be moved to Baldivis from Woodman Point.<sup>21</sup>

Since 1984, the place fell into disuse and disrepair. Vandalism has caused further damage to the brick buildings and to the concrete barrier berms. In 1995, magazine number Three was enclosed within the boundaries of the Woodman Point Caravan Park and adapted for use as the camper's kitchen.<sup>22</sup> Magazines number One and Two remain abandoned as of March 2001.

It is intended in the future that the vesting of the reserves will be transferred from the Recreation, Camps and Reserves Board to the Conservation Commission of Western Australia and will continue to be managed by the Department of Conservation and Land Management. Accordingly, CALM will also continue to manage the lease for the existing Woodman Point Holiday Park site. A management plan for these sites is expected to be completed by March 2002.

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<sup>13</sup> Rogers, Phillipa, 1999, *Troops, Trains and Trades: The Wartime Role of the Railways of Western Australia, 1939-1945*, Perth, Phillipa Rogers.

<sup>14</sup> Commonwealth Department of the Interior, *Report on Application for Extension of Contract Period*, op. cit.

<sup>15</sup> Letter of 4 August 1942 from Western Australia Works Director to Director-General of Works, Commonwealth Department of the Interior (National Archives Series K1141/1, Item D.40-41/17-29)

<sup>16</sup> This is stated in *Troops, Trains and Trades* as being 1943. Rogers, Phillipa, op cit., p61.

<sup>17</sup> Rogers, Phillipa. Op cit.

<sup>18</sup> Mines Department file, op. cit., folio 171.

<sup>19</sup> Mines Department file 860/56: *Woodman's Point Magazine and Explosives Reserve, Volume VXi*, folio 168, State Records Office of Western Australia, Acc 2921/221665-9.

<sup>20</sup> Department of Minerals and Energy Annual Report 1983-84, p. 58

<sup>21</sup> Department of Minerals and Energy Annual Report 1984-85, p. 64

<sup>22</sup> Western Australia Planning Commission letter to City Manager/Town Clerk, City of Cockburn, Ref 23-631-1

## 13.2 PHYSICAL EVIDENCE

The place is located within the Woodman Point Recreation Reserve, an area of low coastal sand dunes, approximately 8km south of Fremantle. Although surrounded by low coastal scrub vegetation, the place is just visible from Cockburn Road, being situated along Conservation Close, a sealed access road off Nyyerbup Circle, which itself is off Cockburn Road.

Nyyerbup Circle runs from Cockburn Road in a semi-circle to the carpark of Cockburn Beach and jetty - once part of the munitions facilities. The topographical map shows evidence of several bunkers within the reserves that do not form part of this assessment.

The Coogee (Woodman Point) Lighthouse (1902) is visible from the place, being in an elevated position, approximately half a kilometre away, in a south-easterly direction, the Woodman Point Quarantine Station (fmr)(1886) is about one kilometre to the south-west and the Explosives Jetty (fmr)(1904) is almost due west, extending into Owen Anchorage.

The place consists of all three of the original brick buildings, each surrounded by a distinctive barrier berm, or 'blast barrier' to contain the force of an accidental explosion.<sup>23</sup> For the purpose of distinguishing between buildings, the northern-most building will be referred to in this document as 'magazine number One,' the central building as 'magazine number Two,' and the southern-most building as 'magazine number Three.'

The three buildings are spaced roughly 70 metres apart and all face west along Conservation Close, which runs generally north-south. This stretch of Conservation Close is built on top of the old railway siding originally built to service the magazines. Sections of rail can be glimpsed at some points in the soil adjacent to the bitumen paving.

The three structures are all of similar scale and design. Each one features double red brick cavity walls with cream mortar pointing. There are two double width doorways on the western wall and ten sets of timber framed, double casement windows at regular intervals high on the external walls. Window frames present in magazine numbers One and Two contain remnants of wire-reinforced glass, while magazine number Three has had clear window glass installed. Each window in magazine numbers One and Two has a pair of timber framed, corrugated iron shutters, a feature which has been replaced, in magazine number Three, by wrought iron security window bars. All three buildings retain their original sloping clay brick window sills. Air ventilation grilles are provided at regular intervals around the lower part of the walls, with two larger ventilation holes high in each end wall.

Magazine number Three lies behind the fence of the Woodman Point Caravan Park, effectively visually segregated from magazine numbers One and Two and has been adapted for use as the park's campers' kitchen. Brick lintels over the double doorways have been altered, such that the new brickwork is consistent with the stretcher bond used in the walls. New timber door frames have been installed, as have flush panel timber doors. A new single doorway has been added in the southern wall. The new roof is of a light grey corrugated colourbond, and the external timber features and window treatments have been painted in 'Federation' colours of cream and dark green. Down pipes from the roof have also been painted dark green.

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<sup>23</sup> refer to footnote #2

The roof of each building is of a distinctive, double-layer design, intended to assist ventilation. The outer roof extends a considerable distance beyond the walls, and the inner roof is spaced approximately one metre inside the outer roof. The rafters of the outer roof are exposed, while the eaves of the inner roof are semi-enclosed with timber slats running parallel to the external walls and chicken wire to fill the gaps in between the slats. Timber supports for the eaves are cantilevered from the engaged brick piers spaced evenly around the outside of the building. The brickwork in the piers is English bond, while that of the main external walls is of the standard stretcher bond. While magazine number Three has a new steel roof and gyprock ceilings, magazine numbers One and Two still have corrugated asbestos outer roofs and flat sheet asbestos inner roofs. All three buildings have steel, perimeter roof guttering.

A concrete 'blast barrier', or barrier berm, surrounds each of the buildings. This is a mound of bagged concrete, (i.e., hessian bags filled with concrete which are then stacked and wet and allowed to harden in place, after which the hessian is removed or allowed to deteriorate), trapezoidal in cross section, to a height approximately level with the edge of the roof. The base of the barrier berm is set about four metres from the back and end walls of the building, forming a continuous barrier along those three sides. This barrier berm supports steel drainpipes from the roof to transport rainwater to the outside of the berm. In the case of magazine number Three, which has newer, functioning drainpipes, the outflow of rainwater over the outside of the barrier berms has caused a significant degree of erosion on the surface of the concrete. The fourth wall of each barrier berm is located on the opposite side of Conservation Close, the original intention being to permit access to each building from the former railway siding.

The barrier berms along the south side and the southern third of the east side of magazine number Three have been replaced with new material. Although an attempt has been made to replicate the appearance of the original sections, there is a marked difference in colour and texture between the old and new material. Scraps of hessian still cling to the new concrete 'pillows' in many places.

Concrete-aggregate ramps lead from the double doorways of magazine numbers One and Two, to the access road. The remaining unpaved ground between the buildings and their respective barrier berms consists of sandy, gravelly soil. The ground area around magazine number Three has been landscaped, with extensive areas of brick paving and gardens and a barbecue area featuring tables, seats and sail-like shade treatments. A painted, demountable shed is set next to the northern end of the building under the eaves. A pair of timberlap fences prevent access to the rear of the building, which is used for storage.

Each building as originally constructed contains a single large room with walls of smooth rendered (possibly plastered) brick. Remnants of a bituminized flooring material are in evidence in magazine numbers One and Two, on a thick concrete aggregate floor. The interior bezels of the ventilator grilles are ceramic.

Internally, magazine number Three has a new ceramic-tiled floor and skirtings, fluorescent lighting and ceiling fans. The once single room has been partitioned off at the southern end to provide toilets and a storeroom. In the remaining main room, a small modern kitchen has been built into the south wall (which is the new partition). Security cameras have been installed at each



end of the main room. The main room itself can be divided as required with a retractable concertina partition.

Magazine numbers One and Two have deteriorated. Small remnants of asbestos sheet ceiling material clings to the rafters. A great deal of graffiti is on the interior and exterior walls. The interiors reveal a recent history of casual occupation – discarded beverage containers, bedding and scorched surfaces from fires, with roofing timbers inside magazine number One showing evidence of having been alight at some stage. Both buildings' exterior roofs have lost approximately five percent of their coverage, due to deterioration or having been punctured by rocks and debris thrown at them by vandals. The interior roofs are about fifty percent destroyed, owing to vandalism.

Magazine number One, the nearest to Nyyerbup Circle, shows the most deterioration, with a substantial number of bricks loose or missing from the western wall. Evidence of fire damage appears in some of the exposed roof rafters. The southern double door was enlarged at some point, widened to the extent of the engaged piers on either side. The door height has also been increased through the removal of the header bricks. The surrounding barrier berm has begun to collapse along the north and east sides, while the west berm is still in very good condition.

Magazine number Two has been modified by the widening of its northern double door and some of the window shutter material has been replaced with more modern-looking square-profile steel. The barrier berm along all four sides shows slumping and collapse.

### **13.3 COMPARATIVE INFORMATION**

There are no other known examples of this standard type of munitions magazine in Western Australia.<sup>24</sup> Given that this was a standard design for such purpose-built structures in Australia at the time, it is expected that there might be other examples remaining in other states which had munitions factories during the World War II, such as the factory at Maribyrnong<sup>25</sup> in Victoria.

Other Munitions Magazines in Western Australia include those at Irwin Barracks, comprising two limestone buildings constructed in 1898. The smaller is a shifting room and fuse room, and the larger a powder and ammunition room. These originally had slate roofs but have been replaced by concrete, and Safety features include double doors and windows.<sup>26</sup> A concrete magazine also exists at Marble Bar, but is used for mining rather than military purposes.

### **13.4 REFERENCES**

National Archives K1141/1, Items D.40-41/17-5, 17-15 & 17-29.

### **13.5 FURTHER RESEARCH**

The history and development of the munitions factory at Welshpool.

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<sup>24</sup> further examples were sought using the Heritage Council of WA database, and Clement, C. & Edmonds, L. 1998 Historic WWII sites: a Methodology and pilot study to develop a type profile, for the Australian Heritage Commission.

<sup>25</sup> Adam-Smith, op. cit.

<sup>26</sup> City of Nedlands Municipal Heritage Inventory, place No K1

The history and development of the Commonwealth Department of the Interior's 'standard design' for cordite magazines.

The history and development of the Department of Mines programme of storing and inspecting explosive materials for use in the mining industry, and in particular the design of the storage magazines and loose stone barrier berms surrounding them, remains of which can still be seen at various points within the Woodman Point Recreation Reserve.

Examples of similar function buildings, such as the Irwin Barracks, listed on the City of Nedlands Municipal Heritage Inventory.