

Ashfield Reservoir - Subdivision and Curtilage Adjustment

Statement of Heritage Impact

Final - Update

Prepared for Sydney Water Corporation

October 2018



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1 INTRODUCTION

1.1 Project Description

In January 2017, EXTENT Heritage Pty Ltd was commissioned by Sydney Water Corporation to prepare a Statement of Heritage Impact for the subdivision of the property at 165–169 Holden Street Ashbury. The purpose of the report was to analyse the proposed subdivision and the potential impacts on the heritage significance of the Ashfield Reservoir as an item of State significance. Subsequent to the completion of that report, a small alteration in the proposed boundaries of the subdivision and curtilage reduction has been adopted. This Update report has been prepared to address the alteration in the proposed boundaries.

1.2 Approach and Methodology

The methodology used in the preparation of this Statement of Heritage Impact is in accordance with the principles and definitions as set out in the guidelines to *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* and the latest version of the *Statement of Heritage Impact Guidelines (2002)*, produced by the NSW Office of Environment and Heritage.

1.3 Limitations

The site and reservoir were inspected and photographed on 25 May 2017. The inspection was undertaken as a visual study only.

The historical overview and site descriptions are summarised from the *Ashfield Reservoir (WS0003) Conservation Management Plan 2005* and provides sufficient historical background to provide an understanding of the place and provide relevant recommendations, however, it is not intended as an exhaustive history of the site.

1.4 Authorship

The following staff members at EXTENT Heritage Pty Ltd have prepared this Statement of Heritage Impact:

Tony Brassil

Senior Heritage Advisor

1.5 Ownership

The site is owned by Sydney Water Corporation.

1.6 Terminology

The terminology in this report follows definitions presented in The Burra Charter. Article 1 provides the following definitions:

Place means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Places may have a range of values for different individuals or groups.

Fabric means all the physical material of the place including components, fixtures, contents, and objects.

Conservation means all the processes of looking after a *place* so to retain its *cultural significance*.

Maintenance means the continuous protective care of the f*abric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves restoration or reconstruction.

Preservation means maintaining the *fabric* of a *place* in its existing state and retarding deterioration.

Restoration means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

Reconstruction means returning the *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material into the *fabric*.

Adaptation means modifying a *place* to suit the existing use or a proposed use.

Use means the functions of a place, as well as the activities and practices that may occur at the place.

Compatible use means a use that respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

Setting means the area around a *place*, which may include the visual catchment.

Related place means a place that contributes to the *cultural significance* of another place.

2 SITE

2.1 Location

The Ashfield Reservoir is located at 165–169 Holden Street, Ashbury and is within a Sydney Water property comprising Lot 1, DP 115504, Lot 1, DP 711077 and Lot 1, DP 911478. The reservoir is entirely located within Lot 1, DP 911478.

The site is located in a residential area of Ashbury, characterised generally by freestanding dwellings between along Holden Street to the east and Fifth Street to the south. West and north of the Sydney Water property is a landscaped open space named Peace Park, formed over the former brick pit of the South Ashfield Brick and Tile Company works.

The architectural housing stock of the immediate area is a consistent range of Interwar period freestanding bungalows, with recent replacement buildings tending to be larger and of two-storeys.

2.2 Context

The Sydney Water property which includes the Ashfield Reservoir also contains a number of other facilities associated with the Sydney Water Supply and Sydney Water operations. North and east of the reservoir is a square brick building which is a Valve House for the discharge from the Reservoir, contemporary with the reservoir. Due south of the reservoir is a brick building dating from the 1950s containing an access chamber for the City Tunnel and the Water Pumping Station No. 85. Due north of the reservoir is a single-storey brick building built in the 1960s containing offices and amenities for the former Works Depot on the site. Several single-storey sheds occupy the western area of the site.

The surrounding streets contain late nineteenth and and early twentieth century single storey detached houses, typically of brick with terracotta-tile roofs, on regular sized building lots. North west of the site is a large area of parkland covering the site of the brickworks.



Figure 1. The location of Ashfield Reservoir within the Sydney metropolitan area (Source: LPI Six).



Figure 2. Map showing Ashfield Reservoir site outlined in red (Source: LPI Six)



Figure 3. Aerial view with Ashfield Reservoir property outlined in red (Source: LPI Six).

3 LISTINGS AND CONTROLS

3.1 Statutory Listings

3.1.1 Environment Protection and Biodiversity Act 1999

The site is not included on the National Heritage List under the *Environmental Protection and Biodiversity Act 1999*.

3.1.2 NSW Heritage Act 1977

The site is included on the State Heritage Register (SHR) as *Ashfield Reservoir (Elevated) (WS 0003)* (Item 01622)



Figure 4. SHR curtilage - Aerial Photomap (Source: NSW SHI)



3.1.3 Local Environmental Plan

The subject property is included in *Schedule 5 Environmental Heritage* of the *Canterbury Local Environmental Plan 2012*. Details are:

| Suburb | Item name | Address | Property description | Significance It | em no |
|---------|-------------------------------|--------------------------|----------------------|-----------------|-------|
| Ashbury | Ashfield Reservoir (WS003) | 165–169 Holden Street | Lot 1, DP 911478 | State | 11 |

The site of the Reservoir also falls within the boundaries of the Ashbury Heritage Conservation Area (HCA 01), identified as of local significance in the Canterbury LEP 2012. The character of Ashbury, as set out in the *Canterbury Development Control Plan 2012*, is:

Ashbury is a predominantly residential area that was largely developed between 1912 and 1940, with most development occurring during the Inter-War period and particularly during the building boom of the 1920s. Ashbury developed as part of the overall suburban expansion of Sydney that occurred along train lines and major roads.

The area has a consistent subdivision pattern, building form and streetscape, largely because its development occurred over a relatively short period of time. A high standard of design and residential amenity was also achieved, and housing in this area has become increasingly sought after.

Ashbury is experiencing significant development pressures, particularly by residents seeking to expand and/or adapt older houses to meet modern living requirements, or to build replacement houses. Some recent developments have been out of place with the special character of this area. At the same time there has also been a demonstrable move towards adapting and restoring existing houses in a sympathetic manner.

The character of Ashbury is made up of a number of different characteristics and it is important to identify these, as they will help guide development. Likewise analysing the elements that detract from Ashbury's special character will help to identify what is not appropriate in new development.¹



Figure 6. Canterbury LEP heritage map, showing the Heritage Item No. 11, shaded in brown, and the coverage of the Ashbury Heritage Conservation Area in red hatching. (Source: Canterbury LEP 2012, HER_06)

¹ Canterbury Development Control Plan 2012; Canterbury Council, 2012.

4 HISTORIC CONTEXT

The following historical overview is summarised from the *Ashfield Reservoir (WS0003) Conservation Management Plan 2005* and is not intended as an exhaustive history of the subject site but, rather, a brief overview in order to understand the heritage significance of the site and to provide a context for assessing heritage impacts.

4.1 Water Supply Development

After the Tank Stream and then the Botany Swamps, Sydney's water supply has been based upon the Upper Nepean Scheme, which was commissioned in 1888. The Upper Nepean Scheme was based on the provision of water from Nepean River and its tributaries, the Avon, Cataract, and Cordeaux Rivers. A system of tunnels, canals and aqueducts directed the water towards Prospect Reservoir, from where it ran via the Lower Canal to a screening basin at Pipe Head, located in Guildford. From Pipe Head, water was piped to the Potts Hill, where a balance reservoir was installed, and was then distributed to other service reservoirs. In total, the Upper Nepean Scheme included 16km of tunnel, 66km of open channel and 8km of wrought iron pipeline to Potts Hill. As Sydney grew in subsequent years, the Upper Nepean Scheme was expanded through creation of the storage dams on each of the rivers between 1907 and 1935, Warragamba Dam in 1960 and Tallowa Dam in 1977.

Warragamba Dam now supplies the bulk of Sydney's water and the Upper Nepean Scheme is a secondary system. Numerous elements of the Scheme, including Prospect Reservoir, major parts of the Upper Canal and some of the mains laid in the 1880s, are still in use today. The Lower Canal has been decommissioned and is now used as a cycleway.

Southern Water Distribution System

When the Upper Nepean Scheme commenced operation in 1888, a single cast-iron pipeline connected Potts Hill to large in-ground reservoirs at Petersham and at Crown Street, Surry Hills. From Crown St, water was pumped to reservoirs at Paddington and Woollahra, then on to Waverley. A second main was commenced almost immediately and commissioned in 1893.

Water from Petersham Reservoir served the (inner) western and Illawarra suburbs and a pumping station at Carlton passed the water to tanks at Penshurst, from where the higher levels of Kogarah were supplied. The City and eastern suburbs were served from Crown Street, Paddington, Woollahra and Waverley reservoirs, with water from Woollahra fed back to the elevated tank at Ashfield.

By the early twentieth century, increasing demand saw the development of additional supply mains from Potts Hill, feeding the North Shore, the Granville district, Lidcombe/Auburn and Bankstown/Canterbury. From 1912, a pumping station at Potts Hill was commissioned to boost supply beyond what could be delivered by gravity alone. In 1914, investigations commenced on the construction of an underground tunnel between Potts Hill and a new pumping station at Waterloo, to provide a major augmentation of supply. This tunnel, known as the Pressure Tunnel, proved to be a large and difficult undertaking and wasn't commissioned until 1935. Intermediate offtakes along the length of the Tunnel allowed supply to suburbs on either side. Its 454 megalitres (100 million gallons) per day capacity was more than adequate for the requirements of the day.

However, Sydney continued to grow and, post-war, a second tunnel was commenced, to supplement to operation of the first. The 'City Tunnel' was completed in 1961, with the first section, between Potts Hill and Ashfield, opened in 1957. Amongst other connections, the elevated reservoir at Ashfield was now supplied from the City Tunnel, via a new pumping station. Ashfield Reservoir supplies the elevated areas of Ashfield, Drummoyne and the western side of Petersham.



Figure 7. Extract from the Plan of the Southern Metropolitan Area Water Supply Distribution System, showing the pipelines running eastwards from Potts Hill. The Ashfield reservoir site is marked '9' on this diagram. (Source Aird, Op cit.)

Service Reservoirs

Service reservoirs provide gravity-head to the water supply and, as water storage tanks, enable the system to cope with variations in demand, ensuring continuous supply. Service reservoirs are of three broad types – on-ground reservoirs, in-ground reservoirs and elevated reservoirs. Elevated reservoirs were used where the terrain required a reservoir above ground level, in order to meet the pressure requirements for the area to be served. Owing to the topographical nature of Sydney, the water supply distribution system required a large number of service reservoirs to be located on high ground, from where water could be supplied by gravity into local reticulation systems.

The first service reservoirs were at Crown Street, Paddington and Woollahra and were all built into the ground, with brick or concrete walls and roofs. From these reservoirs, local pipelines delivered the water to local streets and houses. When the Upper Nepean Scheme commenced supply in 1888, the initial task was to connect supply to these three reservoirs but, also, along the length of the pipeline between Potts Hill and Crown Street, various take-offs were installed to allow supply to intermediate suburbs. These were supplemented by above-ground tanks of riveted wrought iron and, later, steel. In 1899, reinforced concrete was first used in NSW for an on-ground reservoir at Kiama, followed by reinforced concrete reservoir erected at Mittagong collapsed and there were lingering doubts about the technology for some time afterwards, until it was established that the problem lay in the inexperience of the contractors rather than the design or materials.

Only one elevated service reservoir was erected as part of the 1888 commencement works - this was a wrought-iron water tank (similar to those used by the Railways) mounted on a timber tank-stand located at Ashfield. It was joined by a second elevated reservoir at Penshurst in 1891.

In 1910, a set of four elevated reservoirs was planned, the first elevated service reservoirs of over 0.5MI capacity built. These were all similar in arrangement, with a circular tank stand of reinforced concrete formed as a series of arches supporting a circular reinforced concrete floor, which was further supported by a grid of steel columns. Above this, a riveted steel circular tank was constructed, lined internally with bitumen and painted externally. The four reservoirs were at Bellevue Hill, Drummoyne, Penshurst and Ashfield and all were completed by 1914. Subsequent elevated reservoirs were all built as reinforced concrete tanks on reinforced concrete stands.

4.2 Development of the Site of Ashfield Reservoir

Early Water Supply in Ashfield and Acquisition of Land

By the 1880s, Ashfield was a well-populated suburb. Ashfield lay directly on the path of a 1200 mm diameter cast-iron main running from Potts Hill to the Crown Street Reservoir and, in anticipation, Ashfield Council began laying water mains in Ashfield in 1887. In 1888, Ashfield Council was able to hand this network over to the Metropolitan Board of Water Supply and Sewerage (MBWSS). From 1888, the low level areas of Ashfield were supplied with water by offtakes from the Potts Hill – Crown Street Main.

The high level areas of Ashfield were supplied by an elevated wrought-iron tank fed back from the Woollahra Reservoir (and later from Centennial Park Reservoir). The elevated tank was erected on land adjacent to Holden Street acquired by the MBWSS for this purpose. Within this same lot, the second Ashfield Reservoir was built in 1914.

Five years earlier, in 1909, the MBWSS had purchased a second lot, on the western side of the first (adjacent to the Brickworks site) from the AMP Society. The third lot, on the south side of the previous two, was purchased from the Brickworks in c1947 for construction of an access shaft for construction of the City Tunnel and for the water pumping station which was established after the completion of the City Tunnel (at least, to Ashfield) in 1957.



Figure 8. Ashfield reservoir site in 1943 - The brick stand for the original reservoir is visible on the north side of the 1914 reservoir and the land includes the second allotment to the west of the first. The third allotment, on the south side, has not yet been acquired. (Source: LPI Six)

Ashfield Elevated Reservoir No. 1

The first elevated reservoir, established in 1888, was a riveted wrought iron circular tank on a brick masonry stand. It had a top water level of 68.6 m (223 feet) above sea level and 4.9 m (16 feet) depth of water available with a capacity of 454.6 kilolitres (100,000 gallons). By 1908, however, it was too small to serve the growing population and planning commenced on a new larger reservoir at Ashfield.

The first tank was described in the 1913 Handbook:

Ashfield Tank, capacity 100,000 gallons, depth of water 16ft. This is an open elevated steel (sic) tank 35ft diameter, erected on brick piers in Holden Street, in the highest part of Ashfield, it is filled from Centennial Park Reservoir at night-time, and supplies the surrounding heights during the day. The area served by this tank is now generally supplied from the Hermitage Reservoir (MBWSS, 1913:76).

When the new reservoir was commissioned in 1914, the wrought iron tank was relocated to Holroyd.



Figure 9. Excerpt from:' PWD Survey, Syvr J. Duncan A. Riddle 17 Nov 1890; Revised by Svyr T. Fender 24 Jul 1912' with notation, 'New Water Tank in course of erection concrete pillars'. (Source: Sydney Water Plan Room)

Ashfield Elevated Reservoir No. 2

Although planning commenced in 1908, funding issues delayed the proposal and, by 1910, designs for the stand had changed from a traditional brick masonry stand to the newly adopted technology of reinforced concrete. Construction commenced during the 1911 financial year. In the 1911 MBWSS Annual Report, the four reservoirs, at Ashfield, Penshurst, Bellevue Hill and Drummoyne, were 'under construction' but the report noted slow progress owing to difficulties in obtaining material. Ashfield Reservoir was declared completed 26 September 1914. Ashfield was constructed as an open, circular steel tank with a capacity of 4.5 MI (1,000,000 gallons), erected on concrete arches and steel stanchions and girders with a reinforced concrete floor. The Reservoir's valve house was also completed in 1914.



Figure 10. Archival Plan, Metropolitan Board of Water Supply and Sewerage, 1,000,000 Gallon Steel Tank on Concrete Tower for Ashfield, 1910 (Source: Sydney Water Plan Room)



Figure 11. Metropolitan Board of Water Supply and Sewerage, Sydney, Archival Plan of Valve House for Ashfield Tanks, 1914. (Source: Sydney Water Plan Room)

Subsequent Development

With the construction of Ashfield Elevated Reservoir No. 2, the highest areas of Ashfield gained a reticulated water supply. Ashfield Reservoir has served as a storage and balance reservoir from c.1914 and is still in operational use in that capacity.

By the 1940s, the Ashfield Reservoir was not meeting demand and additional reservoirs were proposed, to be supplied by the Pressure Tunnel. These included an additional elevated reservoir and a low level reservoir, each of 2 million gallons capacity. This scheme was not implemented and, in 1946, construction commenced on the City Tunnel, with its first stage to be completed between Potts Hill and the reservoir site at Ashfield, where a construction shaft (Shaft No. 7) was established. This first section was put into operation in September, 1957. Unlike the Pressure Tunnel, the City Tunnel was, at this stage, a gravitational main and a water pumping station (WP085) was built at Ashfield in 1960 to extract water from the City Tunnel and deliver it into the elevated reservoir.

The 1951 aerial photograph of the site shows that there were numerous buildings and it is likely that these were part of the construction of the City Tunnel. Additional land was leased from the adjoining Brickworks property to provide additional area for the construction site. Most of the buildings were subsequently removed and the only building surviving from this period is the corrugated metal shed in the north west corner of the site.

The site was subsequently used as a MWS & DB works depot and the Water Services Depot building was constructed in 1967 as the depot office. Very similar structures were constructed about the same time at Penshurst and Wahroonga Reservoirs. The works depot led to the construction of the sheet metal store in the mid-1970s.

The use of the site as a works depot ceased in the 1990s following a decision by Sydney Water to centralise all works depots into a small number of sites.



Figure 12. Aerial Photo of the site in 1951, showing the numerous buildings on the site associated with the construction of the City Tunnel. (Photo: Sydney (Cumberland) Run 14 May 1951 12" 12200)(Source: LPI)



Figure 13. Property acquired by the Water Board for Ashfield Reservoir. Ashfield Reservoir site comprises three lots on this map. Lot marked # 2 was purchased in 1889 and it was on this site that the two reservoirs were built, Lot marked # 1 was purchased in 1909 and Lot 5 purchased in 1947. (Source: CMP op cit)

5 PHYSICAL DESCRIPTION

5.1 General

The Ashfield Reservoir site is elevated and located on a crest in the landscape. The site itself has a gentle upward incline from south to northeast. Much of the surrounding area has gentle slopes. However, Peace Park, to the west of the site, has a much steeper decline.

The site is situated on the extensive Wianamatta Group Shales, comprising of Ashfield Shale and Bringelly Shale. These shales consist of a mixture of laminate, siltstone, claystone, shale and coal. The site is highly modified and it appears that there is no remnant vegetation. The site comprises predominantly of grassed areas and mature plantings, which are a mixture of native and exotic species, largely planted for aesthetic purposes.

There are no significant waterways in the immediate vicinity of the Ashfield Reservoir site. The Cooks River is located approximately 1.5km south of the site.

The reservoir is surrounded by residential development to the north, east and south. Peace Park, modified parkland, is located adjacent to the western boundary of the site. The eastern boundary of the site fronts Holden St, which receives relatively low volumes of traffic.

5.2 Site Layout

The Ashfield Reservoir No. 2 is located in the centre, within the eastern half, of the site. North of the Reservoir is an office, amenity, workshop and garage building associated with the works depot. A small brick valve house is located on the boundary of Holden Street, north-east of the Reservoir. A large asphalt-paved car park is sited to the west of the Reservoir, with two single-storey sheds on the western side. The south side of the block has the brick, two-storey Water Pumping Station and Access Shaft to the City Tunnel, a secondary access building and a fenced electrical substation.



Figure 14. The Ashfield Reservoir site, showing the major components (CMP op cit)

5.3 Ashfield Reservoir (Elevated)

Ashfield Reservoir (Elevated) (WS 0003) is an elevated, cylindrical, riveted steel tank, resting on a concrete apron and supported on a steel girder frame. The reservoir has a diameter of 22.2m and a depth of 11.9m. It has a capacity of 4.6 ML and the height of the full service level is 80m above sea level.

The steel tank has nine rows of riveted steel plates; the horizontal seams are lap jointed with a single row of rivets. The vertical seams use fishplates and four rows of rivets, the space between each rivet widening from top to bottom. The expansion joint is likely to be a bituminous-coated lead ring gasket in a cast-iron seating.

The reservoir has stairs to the roof. These consist of a flight following the curvature of the reservoir from the ground to the base of the tank and another rising to the top of the tank, separated by a steel landing at the base of tank level. This original stair has been locked off and a new, compliant stair added on the western side, which is a vertical switchback arrangement within a wire enclosure. The tank has been covered with aluminium roofing and a light, two-rail handrail has been attached around the outer rim at the top. The original walkway around the top of the tank has been removed.

The substructure consists of steel posts of riveted composite sections, braced vertically in two dimensions by diagonal angle sections and horizontally by light RSJs (rolled steel joists). These support steel floor joists riveted in a square grid and connected at their extremities to an encircling crown girder that is embedded in the surrounding concrete wall below the slab. The perimeter consists of a ring of reinforced concrete columns linked by semicircular arches. These are rendered and capped by a corbelled cornice.



Figure 15. Ashfield Reservoir (Elevated) (WS 0003)

5.4 Other Elements

Valve house

The Valve House is a single-storey, L-shaped, brick building with a two-plane skillion roof hidden by a parapet on three sides. The brickwork features a corbelled brick cornice at eaves level and around the top of the parapet and walls feature either recessed brickwork panels or window openings with concrete rendered sills.



Figure 16. The Valve House for Ashfield Elevated Reservoir

City Tunnel Access Shaft and Water Pumping Station

A large square brick building with a skillion roof, the City Tunnel Access Shaft and Water Pumping Station has horizontal rectangular openings containing mesh screens providing ventilation to the equipment within. A late example of the Interwar Functionalist style, the only decorative element is a stripped back horizontal slab moulding over the main entrance with flanking pilasters, rendered and painted white as a 'Dudokian' architectural motif.



Figure 17. City Tunnel Access Shaft and Water Pumping Station building

New Amenities

West of the City Tunnel Access Shaft and Water Pumping Station is a modern, single-storey brick building containing the City Tunnel ventilation and secondary access facility. It was erected in 2008 over an earlier, lower-level structure.



Figure 18. City Tunnel Ventilation and Secondary Access facility building

Sheet metal shed

The Sheet Metal Shed is located on the western side of the asphalt carpark. It is a relic of the use of the site as a maintenance depot and it is now disused.



Figure 19. Sheet metal shed

Corrugated Iron Shed

North of the Sheet Metal Shed is a corrugated iron clad shed formerly containing a workshop. It is a steel framed building with a gabled roof clad in corrugated metal sheeting. It appears to be a Sidney Williams "Comet' hut, a form of prefabricated building used extensively in Australia in WW2. It is a relic of the use of the site as a construction site for the City Tunnel and it is now disused.



Figure 20. Corrugated iron shed

Depot Office

The Depot Office and Amenities Building is of brick construction with a concrete floor, cement rendered internal walls, gyprock-lined ceilings and a skillion roof clad in profiled steel sheeting. The interior comprises an office, lunchroom, shower room and toilet. It has multiple timber-framed windows on the north elevation and a recessed entry porch.



Figure 21. Depot Office and Amenities Building

Flammable Goods Store

A small square brick structure with a roller shutter on the southern side on a concrete slab base. It is located at the north end of the asphalt car park and was formerly used as a Flammable Goods Store. It is a relic of the use of the site as a maintenance depot and it is now disused.



Figure 22. The Flammable Goods Store

Car Park

A large rectangular area of gently sloping land on the western side of the Reservoir, sheeted with asphalt. It is a relic of the use of the site as a maintenance depot.



Figure 23. Asphalt-paved car parking area on the western side of the reservoir

6 HERITAGE SIGNIFICANCE

6.1 Statement of Significance

The following Statement of Significance is reproduced from the State Heritage Register listing sheet for Ashfield Reservoir:

Ashfield Reservoir (Elevated) (WS 3) is one of a small group of four similar elevated reservoirs in the SWC system, the others being Bellevue Hill Reservoir (WS 10), 1910, Drummoyne Reservoir (Elevated) (WS 38), 1910, and Penshurst Reservoir (Elevated) (WS 87), 1910. The group of reservoirs demonstrates a high level of engineering expertise and architectural detail, accommodating both structural requirements and aesthetic qualities.

The following Statement of Significance is reproduced from the Sydney Water Corporation Heritage and Conservation Register for Ashfield Reservoir:

Ashfield Reservoir is of state significance for its historic, aesthetic and technical/research values. Ashfield Reservoir site is important for its role in the history of Sydney's water supply, continually operating in this function since 1888. Ashfield Reservoir, completed in 1914 has technical association with a class of reservoirs that utilised elevated riveted steel walls and reinforced concrete floor and posts (featuring a capacity of over 0.5 Megalitres) and built between 1910 and 1914. Ashfield Reservoir is representative of this class of reservoirs. It is rare, being one of only four reservoirs of this class ever constructed. The class/group as a whole is also important as the first major instance of elevated water service reservoirs built by the Metropolitan Water Sewerage and Drainage Board to utilise Monier concrete reinforcement system. Ashfield Reservoir's structure has a certain potential research value in the analysis of the long-term performance of this construction method. Design of Ashfield Reservoir, including Federation Free Classical architectural style, provides evidence of the cultural philosophy prevalent at the time of its construction, whereby public authorities exercised a conscious effort to integrate the appearance of public utility structures into the aesthetic context of the community. The boldness of Ashfield Reservoir, prominent skyline and detailing features landmark qualities, shows pride of its designers and demonstrates that the arrival of such structures within a community was regarded as a matter of achievement and material progress. In local terms, Ashfield Reservoir is demonstrative of the extent of urban development in its service area and Sydney at the time of its construction, as evidenced by the selection of its locality and its size.

6.2 Assessment against SHR Criteria

For an item to be listed as having State heritage significance, it must meet one or more of the heritage significance criteria established under the Heritage Act. In the assessment of potential impacts arising out of the proposed reduction of curtilage, it may be relevant to consider the heritage values of the place in terms of the individual assessment criteria.

Ashfield Reservoir (Elevated) is listed on the State Heritage Register. The Criteria for Listing on the State Heritage Register stipulate that an item may be considered to have State heritage significance if it meets one or more of the following criteria:

CRITERION A – An item is important in the course, or pattern, of NSW's cultural or natural history or the cultural or natural history of the local area.

CRITERION B – An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history or the cultural or natural history of the local area.

CRITERION C – An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW, or the local area.

CRITERION D – An item has strong or special association with a particular community or cultural group in NSW, or the local area, for social, cultural or spiritual reasons.

CRITERION E – An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history, or the cultural or natural history of the local area.

CRITERION F – An item possesses uncommon, rare or endangered aspects of cultural or natural history of NSW, or cultural or natural history of the local area.

CRITERION G – An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or cultural or natural places; or cultural or natural environments of the local area).

The assessment of the heritage significance of Ashfield Reservoir is set out in the State Heritage Register (SHR) listing report for the item. More detail is contained in the Sydney Water Heritage and Conservation Register (SWHCR). The SHR assessments and the assessments provided in the Sydney Water Heritage and Conservation Register are set out below:

| CRITERION A – An item is important in the course, or pattern, of NSW's cultural or natural history or the cultural or natural history of the local area. | | |
|--|--|--|
| SHR | Ashfield Reservoir (Elevated) (WS 3) is one of a small group of four similar elevated reservoirs, the others being Bellevue Hill Reservoir (WS 10),1910, Drummoyne Reservoir (Elevated) (WS 38), 1910, and Penshurst Reservoir (Elevated) (WS 87), 1910. | |
| SWHCR | Ashfield Reservoir (Elevated) (WS 3) is one of a small group of four similar elevated reservoirs, the others being Bellevue Hill Reservoir (WS 10), 1910, Drummoyne Reservoir (Elevated) (WS 38), 1910, and Penshurst Reservoir (Elevated) (WS 87), 1910, which together represent an important technological development in the use of reinforced concrete for reservoirs in NSW. The group of four elevated steel and reinforced concrete reservoirs is the first group of large (over 0.5MI) water storage reservoirs built above ground level as part of the metropolitan water supply system, allowing gravity reticulation to the highest land areas. This was a major improvement in supply and an important developmental stage in the provision of water supply in Sydney. Ashfield Reservoir provides evidence of the extent of urban development in its service area at the time of its construction, both by its selected locality and size. Ashfield Reservoir's history of usage and current role within the Water Supply system is illustrative of the growth of Sydney and the corresponding development of the water supply network over this period. The design of Ashfield Reservoir illustrates the Victorian and early twentieth century attitude that the provision of public infrastructure was evidence of a cultural and material progress and that the arrival of such structures within a community was a matter of achievement. The boldness its landmark design qualities and the aesthetic details of its fabric show the pride and confidence of the designers and their supervisors. | |

| CRITERION B – An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history or the cultural or natural history of the local area. | | |
|---|----------------------|--|
| SHR | No values identified | |
| SWHCR | No values identified | |

| | CRITERION C – An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW, or the local area. | | |
|-------|---|--|--|
| SHR | The group of reservoirs demonstrate a high level of engineering expertise and architectural detail, accommodating both structural requirements and aesthetic qualities, rare in NSW. The reservoir is a landmark in the surrounding area. | | |
| SWHCR | The group of reservoirs demonstrate a high level of engineering expertise and architectural detail, accommodating both structural requirements and aesthetic qualities. The reservoir is a prominent skyline feature and a landmark in the surrounding area. It is a simple, functional structure, which has been designed with deliberate architectural stylisation. A strikingly elongated structure, it is relatively narrow in relation to its height, with its classical arches set on tall rectangular columns. The reservoir's arched substructure is a fine example of Federation Free Classical architecture, one of the styles in vogue at the time of its construction. Ashfield Reservoir meets the State level of significance for this criterion. | | |

| | ERION D – An item has strong or special association with a particular community or al group in NSW, or the local area, for social, cultural or spiritual reasons. |
|-------|---|
| SHR | No values identified |
| SWHCR | The Ashfield Reservoir site has performed an essential community function for over 100 years. The site has significant local landmark value and is also highly visible in its location to a public park. Ashfield Reservoir meets the local level of significance for this criterion. |

| | ERION E – An item has potential to yield information that will contribute to an standing of NSW's cultural or natural history, or the cultural or natural history of the area. | |
|-------|--|--|
| SHR | This reservoir demonstrates the high level of technical expertise available to the MWS & DB for reservoir construction at the time. | |
| SWHCR | This reservoir demonstrates the high level of technical expertise available to the MWS & DB for reservoir construction at the time. | |

| | TERION F – An item possesses uncommon, rare or endangered aspects of cultural or ral history of NSW, or cultural or natural history of the local area. |
|-----|--|
| SHR | This reservoir is one of four riveted steel elevated reservoirs on a steel girder stand with concrete surround in the SWC system, rarer still because of the high level of |

| | architectural detailing. The 'skid huts' are a rare survival. |
|-------|--|
| SWHCR | This reservoir is one of four riveted steel elevated reservoirs on a steel girder stand with concrete surround in the Sydney Water system, rarer still because of the high level of architectural detailing. The reservoir is one of only four large water supply reservoirs in the metropolitan system which are elevated and combine steel tank walls with a reinforced concrete floor. The group is the first elevated water service reservoirs built in house by the Metropolitan Water Sewerage and Drainage Board to utilise the Monier concrete reinforcement system. |

| CRITERION G – An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or cultural or natural places; or cultural or natural environments of the local area). | | |
|---|---|--|
| SHR | The riveted steel tank was common technology for surface reservoirs but was extremely rare when combined with an elevated steel frame with concrete apron. | |
| SWHCR | The riveted steel tank was common technology for surface reservoirs but was extremely rare when combined with an elevated steel frame with concrete apron. The Ashfield Reservoir is a representative example of elevated service reservoirs built between 1910 and 1914 which utilised a reinforced concrete floor and riveted steel walls. The role that Ashfield Reservoir played in the water supply of its vicinity is representative of the function of all service reservoirs throughout the Sydney metropolitan water supply system. The reservoir, in its appearance and detailing, is representative of a class of historic buildings and structures demonstrating the care and consideration with which these elements were placed in existing environments. | |

7 PROPOSED WORKS

7.1 Subdivision

The proposal involves the re-subdivision of the subject site. In conjunction with an application to the NSW Heritage Council for a reduction in the statutory curtilage associated with the listing of the Ashfield Reservoir on the NSW State Heritage Register, Sydney Water will make an application to Canterbury Council for the land to be re-subdivided.

At present, the Ashfield Reservoir site consists of Lot 1, DP 115504, Lot 1, DP 711077 and Lot 1, DP 911478. The reservoir itself is entirely located within Lot 1, DP 911478.



Figure 24. The current arrangement of land parcels at Ashfield Reservoir (Source: LPI Six)

The proposed new subdivision of the land will only affect the two northern land parcels and will produce two new land parcels, one northern and one southern. The southern land parcel will contain the Reservoir structure and its associated Valve House; the northern land parcel will contain all of the other buildings on the northern end of the site. The third land parcel will remain unchanged and will contain the City Tunnel Access Shaft and Water Pumping Station and the City Tunnel ventilation and secondary access facility.



Figure 25. Proposed subdivision of the current site (Source: Sydney Water).



Figure 26. Proposed subdivision of the current site (detail) (Source: Sydney Water).

7.2 Curtilage Reduction

It is intended to apply to the NSW Heritage Council for a reduction in the statutory curtilage associated with the listing of the Ashfield Reservoir on the NSW State Heritage Register, which will enable the land to be subdivided whilst protecting the heritage significance of the reservoir. The existing statutory curtilage is shown in Figures 4 and 5.

Alteration of the existing statutory curtilage is necessary to address the new land parcels. The current statutory curtilage is based upon the existing land subdivision and covers the whole of the current Lot 1, DP 911478. The proposed new statutory curtilage is to address the proposed Lot 2 in the new subdivision. The proposed new curtilage will contain the all the identified elements of heritage significance on the site.



Figure 27. Proposed future curtilage for the Ashfield Reservoir (red boundary and hatched). This boundary is the same as the proposed boundary to Lot 2 in the new subdivision. (Source: Sydney Water).

7.3 Rationale

Sydney Water's use of the full extent of the land around Ashfield Reservoir for a Works Depot is now defunct and there is no likely future use of the land for such purposes for the foreseeable future. The land is vacant and unused and currently represents a maintenance burden on Sydney Water.

The proposed subdivision of the Ashfield Reservoir site will allow the unused land to be made available for private sale by Sydney Water. This is consistent with current government policy in respect of underutilised state government lands and the liquidation of redundant assets represents the efficient management of Sydney Water's property portfolio.

8 ASSESSMENT OF HERITAGE IMPACT

8.1 Built Heritage

The proposal will have no direct physical impact on the built heritage elements within the site. While the proposed subdivision of the Ashbury site will see the separation of the former Depot land from the Reservoir, the additional land was acquired in 1909 for a development which was not pursued and was ultimately utilised for the construction of the City Tunnel and then for a Works Depot. Now that the Works Depot function is defunct, the land is vacant and unused, with no foreseeable utility for Sydney Water purposes in the future.

The proposal, because it envisages that, in time, the vacant land may be sold to a private owner, does contain the potential for other structures to appear on the site, however, the continued State Heritage Register listing of the Reservoir provides a satisfactory degree of oversight and control for these possible outcomes.

The proposed subdivision of the Ashfield Reservoir site will allow the unused land to be made available for private sale by Sydney Water. The proposed subdivision is considered to have no substantive adverse impact to the heritage significance of the reservoir.

8.2 Curtilage and Subdivision

The proposal will see the subdivision of the existing site (Lot 1, DP 115504, Lot 1, DP 711077 and Lot 1, DP 911478) into three new allotments, separating the Reservoir and City Tunnel facilities from the land currently occupied by the car park and vacant sheds and from the land occupied by the City Tunnel facilities.

The proposed subdivision will concentrate ownership and management responsibility to the specific requirements of the Reservoir and the City Tunnel, freeing Sydney Water from the responsibility for land maintenance where there is no current or foreseeable utility for Sydney Water arising from these lands and their continued ownership. This will have no impact on the physical elements of the Reservoir and City Tunnel facilities. The Reservoir will retain its status as an item of State heritage significance and its associated State Heritage Register curtilage.

8.3 Views and Settings

The proposal will have no impact on views and settings of the site and surrounding area.

8.4 Heritage Items in the Vicinity

The Ashfield Reservoir is not in the immediate vicinity of any other heritage items. As the proposed works to subdivide the allotment will have no visual or physical impact on the site or surrounding area, the works will have no heritage impact on any heritage items in the vicinity.

8.5 Heritage Conservation Area

The proposed subdivision of the Ashfield Reservoir site will not have any direct impact upon the significant attributes of the Ashbury Heritage Conservation Area (HCA). The site is already an exception to the general characteristics of the HCA and subdivision of the land will not, of itself,

produce any conflicts with the heritage values of the area. Any future development of the land which may be sold will be subject to the local planning controls administered by Canterbury Council.

8.6 Compliance with Conservation Management Plan

The Ashfield Reservoir Conservation Management Plan 2005 prepared by Sydney Water contains conservation management policies regarding the subdivision of the allotment and reduction of the heritage curtilage.

Specifically, Section 6.1 states:

All three lots associated with the Ashfield Reservoir have been included in the Heritage listing (see Section 3.1.3 of this CMP). It is considered that a reduced curtilage would be adequate to protect the heritage values of the site. The proposed new curtilage is shown in Figure 6-1.

The site is owned by SWC and has until recently been used as a works depot. The site as a depot is now surplus to need and SWC is investigating the sale of part of the site. Consideration of the future needs for an additional reservoir at the site is being undertaken prior to a firm decision being made about property disposal. The location of the any future reservoir is likely to be the southwest corner of the site. Also prior to the land disposal an investigation of the levels of soil contamination would need to be undertaken.

Reference to the Statutory Curtilage Maps shown in Figures 4 and 5 of this report illustrate that the State Heritage Register Listing Curtilage does not cover all three lots, as suggested; it only includes Lot 1, DP 911478.

Section 7.3 of the CMP proposes a specific 'Curtilage and Subdivision' policy which reiterates the recommended adoption of the statutory curtilage proposed in 'Figure 6.1'. It also states:

"The minimum lot required for heritage curtilage includes the Reservoir and its minimum operational grounds and installations.

Policy

Development of the site, including further subdivision and land/asset disposals may be considered within the curtilage of the site but outside of the minimum lot curtilage required to conserve the significance of the place, and where there has been no significant historic development or use and/or where early sites have been destroyed (as supported by evidence).

Guidelines

• The curtilage shown in Figure 6-1 of this CMP – Proposed boundary for heritage curtilage, is adopted for the protection of the State significant elements of the site.

• Any eventual new development within the minimum lot curtilage should only be considered if required for the essential water pumping operation of the site. Any such development should be sympathetic and comply with archaeological and natural heritage recommendations.

• Any eventual land/asset disposal proposals require notification to the Heritage Council under Section 170(A) of the Heritage Act 1977."



Figure 28. Figure 6.1 from the CMP, showing the recommended statutory boundary for the State Heritage Register listing curtilage. This recommendation from the CMP has not been implemented. (Source: Sydney Water)

Review of the proposed statutory curtilage presented in Figure 6.1 of the CMP indicates that the recommended curtilage is almost identical to that which is currently proposed. The difference is in the north-west corner, where the proposed new Curtilage dips around the southern end of the Sheet Metal Shed, consistent with the boundary of the proposed new Lot 2.

Interpretation of this policy within the current context suggests that:

- Subdivision of the site is consistent with CMP recommendations, where it excises land not required for the operation of the Reservoir or the City Tunnel.
- A reduction in statutory curtilage around the Reservoir is consistent with CMP recommendations.
- Future development within the heritage curtilage should be relevant to the historic water supply nature of the site.
- Future development of lands outside of the heritage curtilage is acceptable, where it has no significant impact upon the heritage values of '*the State significant elements of the site*'.

Overall, the proposed new statutory curtilage is consistent with, and implements, the policies and recommendations of the CMP.

9 STATUTORY CONTROLS

9.1 Heritage Act 1977

The *Heritage Act 1977* provides protection for items of State heritage significance that are listed on the State Heritage Register, as well as for unlisted archaeological relics. Works proposed for items protected by the *Heritage Act 1977* are approved by the Heritage Council of NSW or its delegates, as appropriate.

The Ashfield Reservoir has been identified as an item of State significance.

9.1.1 Section 57 (1) Notifications, Section 60 Approvals

Pursuant to Section 57(1) of the Heritage Act, the approval of the Heritage Council of NSW is generally required for the proposed development within a site included on the State Heritage Register, including works to the grounds or structures².

However, within the legislation are provisions for certain works to be exempt from requiring approval. Minor activities do not require approval under the *Heritage Act 1977*, if undertaken in accordance with the guidelines set out in *Standard Exemptions For Works Requiring Heritage Council Approval* (NSW Heritage Council, 2009). The Standard Exemptions include works relating to:

- 1. Maintenance and Cleaning
- 2. Repairs
- 3. Painting
- 4. Excavation
- 5. Restoration
- 6. Development Endorsed By The Heritage Council or Director-General
- 7. Minor Activities With Little Or No Adverse Impact On Heritage Significance
- 8. Non-Significant Fabric
- 9. Change Of Use
- 10. New Buildings
- 11. Temporary Structures
- 12. Landscape Maintenance
- 13. Signage
- 14. Burial Sites and Cemeteries
- 15. Compliance With Minimum Standards And Orders
- 16. Safety And Security
- 17. Moveable Heritage Items

Any works outside the parameters of the Standard exemptions or Statutory Exemptions outlined above will require an application under Section 60 of the Heritage Act 1977 to the NSW Heritage Council.

Subdivision of land is a legal procedure that is only capable of being approved by the Local Council or the Department of Planning. In this case, it is a matter for the local council and a Development Application to Canterbury Council seeking subdivision will be required. The concurrence of the NSW Heritage Council will be required for the council to proceed with subdivision and, in this regard, the process is similar to that of an 'Integrated Development'.

² Heritage Act 1977, Part 4, Division 2, Section 57

9.1.2 Sydney Water Corporation Heritage and Conservation Register

Section 170 of the Heritage Act requires that all Government departments or agencies must maintain a Heritage and Conservation Register, which includes all property and assets owned or in the care and control of the relevant department or agency that are of State or Local heritage significance. *Ashfield Reservoir* is listed on the Sydney Water Corporation Heritage and Conservation Register.

Under Section 170A of *Heritage Act 1977*, Sydney Water Corporation is required to provide 14 days prior notice to the Heritage Council of NSW in the event that it:

- (a) removes any item from its register under section 170, or
- (b) transfers ownership of any item entered in its register, or
- (c) ceases to occupy or demolishes any place, building or work entered in its register.

The subdivision and curtilage reduction proposal does not trigger any actions required under Section 170A.

9.2 Canterbury Local Environmental Plan 2012

The Ashfield Reservoir WS003 (Item I1) is listed in Schedule 5 (Heritage Items) in the Canterbury Local Environmental Plan 2012. The Canterbury LEP listing mirrors that of the State Heritage Register listing and addresses the same area of land. The proposed subdivision will not have any direct effect upon the LEP listing.

Canterbury Council is the approval authority for the proposed subdivision. However, the agreement/concurrence of the Heritage Council is required for Canterbury Council to be able to give approval, in a similar procedure to that used for Integrated Development.

It may be possible for the proposed subdivision to be presented as a Crown DA, in which case, Canterbury Council *'must not refuse a Crown DA except with the approval of the Minister, or impose a condition on consent except with the approval of the Minister or the applicant'.*³

³ 'Changes to Crown development provisions under the EP&A Act' Planning Circular PS 09–017; NSW Dept. of Planning 2 July 2009

10 CONCLUSION AND RECOMMENDATIONS

10.1 Conclusion

The proposed subdivision of the property containing the Ashfield Reservoir intends to separate the Reservoir from the unused land in respect of their land allotments. The proposed subdivision will result in three new allotments (one for the Reservoir and its Valve House, one for the City Tunnel facilities and one for the unused land).

The purpose of this subdivision is to enable the sale of the unused land. Sale of the unused land is consistent with State Government policies for redundant assets in the ownership of State Agencies. Reuse of the unused land for Sydney Water purposes is not a viable option, as there is no requirement for any operational activities at this location.

Associated with this subdivision is a proposed reduction in the existing SHR curtilage, to allow part of the current land fronting Holden Street to be included in the unused lands to be subdivided and sold, to provide access to the unused land. Sale of the unused land allotment would be undertaken on the basis that it is adjacent to an item listed on the State Heritage Register and future development of the land should not adversely affect the heritage values of Ashfield Reservoir.

The proposed subdivision and subsequent curtilage reduction are considered to have no substantive adverse impact to the heritage significance of Ashfield Reservoir.

10.2 Recommendations

Based upon the analysis and conclusions carried out above, the following recommendations and conclusions should be considered:

- This report should be provided to the NSW Heritage Council and Canterbury Council as part of any development application procedure for subdivision of the land.
- An updated Conservation Management Plan (CMP) should be prepared for the Ashfield Reservoir which includes, inter alia, policies for the management of potential future development on the surplus land attached to site.
- An archival record should be prepared for any buildings to be demolished in the future.