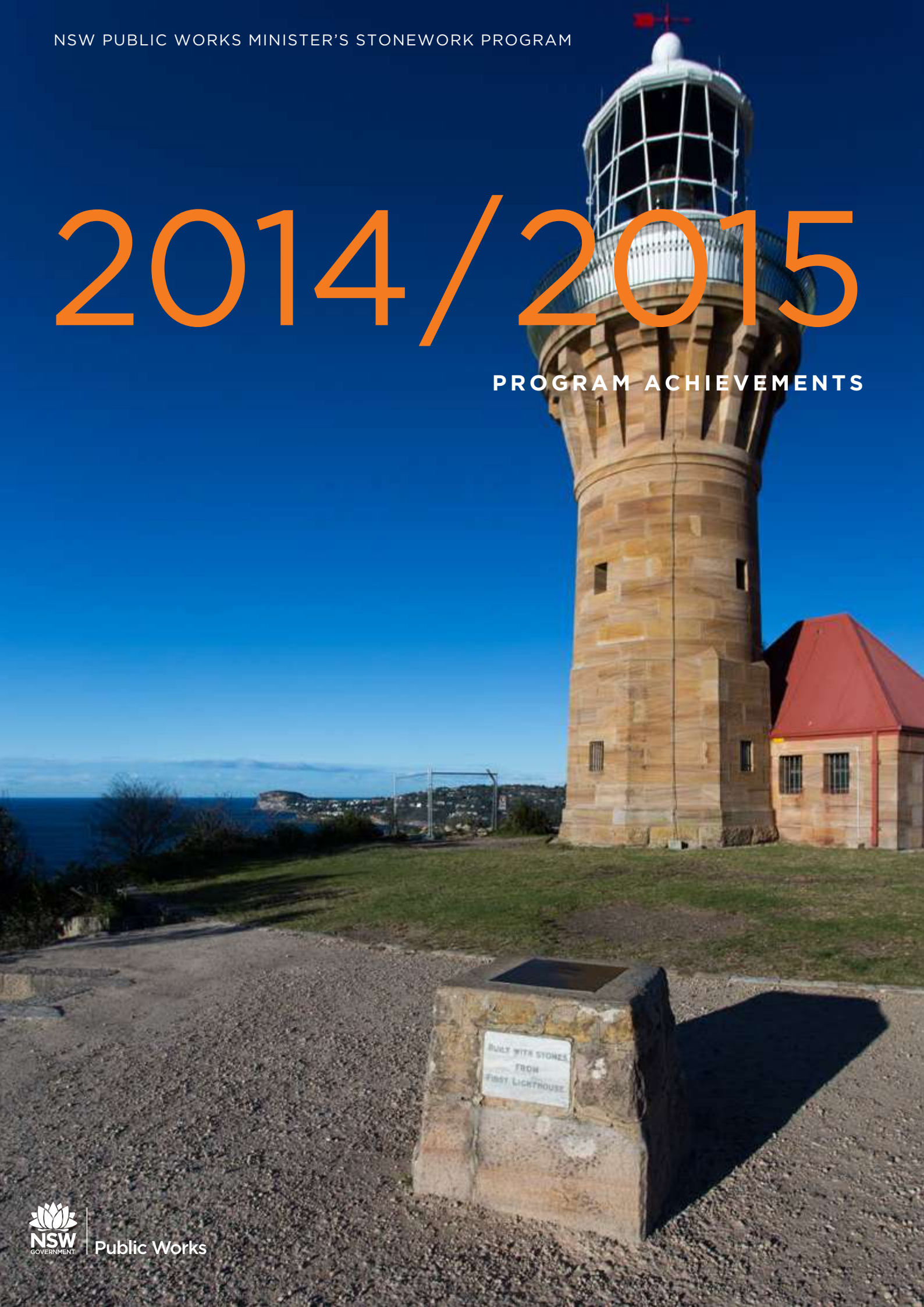


# 2014/2015

PROGRAM ACHIEVEMENTS





## PROGRAM SUMMARY

2014/15 was an exceptional year for the Minister's Stonework Program (MSP) as we continued to develop our role as leader in public stonework conservation in Australia.

This year the NSW Treasury allocation was increased to \$6,043,985. Co-contributions of \$5,165,385 were provided by our partnership agencies, resulting in a total MSP budget of \$11,209,370. The MSP team continued to provide rapid response safety audits where potentially dangerous stone at risk to the public was addressed.

Our efforts to increase awareness of stonework conservation continued with training for state and local government staff across the state. Both iconic and humble state government heritage stone assets continued to receive much needed backlog maintenance including the Lands Titles Office, Sydney Hospital, regional courthouses and schools. Industry recognition was once again received at the 21st Annual National Trust Awards. Key forward planning documents were updated and completed by the MSP team to assist the Department of Education and the Department of Justice to identify their maintenance needs and develop rolling annual programs.



*Lands Title Office carving*

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**inside cover image**: Sydney Observatory East Dome Adaptive Re-use



**TEAM**

The MSP conservation team is recognised both nationally and internationally by conservation practitioners for applying best practise principles to conservation projects. The multi-disciplined team consists of specialist heritage architects, stonemasons, roofers, scaffolders, geologists and structural engineers.

A glossary of typical facade detailing terms was prepared and is on permanent display at the Alexandria Stoneyard to assist in keeping the language alive.

## MASONRY TERMS

**Abutment** – Solid masonry on either side of an arch, counteracting its lateral thrust

**Achievement** – Heraldic device which typically consists of a shield of arms, motto, supporters, helm, crown and crest. Also called "coat of arms"

**Acroterion** – Technically the flat pedestal at the apex or end of a pediment in classical Greek temples, intended for sculpture. Also used to refer to the pedestal and its sculpture or ornament together.

**Archade** – A regular row of arches supported on columns or piers

**Arch Ring** – Each separate row of voussoirs making up an arch

**Architrave** – Lowest of the three main divisions of an entablature, often itself divided into fasciae. Also used for the mouldings around doors and windows

**Archivolt** – An archivolt moulding on the face of an arch following the line of the arch

**Ashlar** – Masonry with carefully worked beds, finely jointed (generally no more than 4.5mm) and set in horizontal courses. The stones in each course are of the same height, although successive courses may be of different height.

**Attic** – A storey built on top of a main entablature, generally composed of a plinth, dado and smaller entablature

**Broken Pediment** – Pediment in which one or both of the cornices or entablatures is left open. Can be described as open topped, open bed, or broken

**Console** – Bracket in the form of a scroll, supporting a cornice, sculpture or other feature

**Coping** – The upper course of a wall designed to shed water.

**Cornice** – The uppermost of the three main divisions of an entablature, or any similar-shaped upper projecting moulding on top of a pedestal or opening or at the junction of a wall and ceiling

**Crown** – The top part of an arch including the keystone or apex

**Dado** – Middle part of a pedestal between the plinth and the surbase, or a similar component in an attic storey or balustrade. Also called a die

**Dentils** – A row of small, square, tooth-like carvings or mouldings usually integrated into the bed moulding of an entablature.

**Dexter supporter** – Figure or animal supporting the shield of arms (in a coat of arms) on the left hand side when viewed from the front

**Elliptical Arch** – Arch set out in the form of a half-ellipse

**Entablature** – The superstructure of the order above the capitals, consisting of architrave, frieze and cornice

**Equilateral Arch** – Pointed arch with the centres on the springing line where it meets the intrados

**Extrados** – Outer curve of an arch

**Flat Arch** – Arch in which stone or brick voussoirs are set out from a point in line with the perpendicular centre below the springing line and the crown is horizontal

**Frieze** – The middle of the three main divisions of an entablature, essentially a plain horizontal band. The Doric frieze may have triglyphs, while the Ionic or Corinthian may have relief sculpture

**Haunch (or shoulder)** – The sides of an arch, from springer to approximately one-third the way up, which carry the thrust

**Helm** – The helmet above the shield in a coat of arms

**Impost** – Block built into a wall to support an arch below the springer (unless a 'stilted' arch)

**Intrados** – The inner curve of an arch

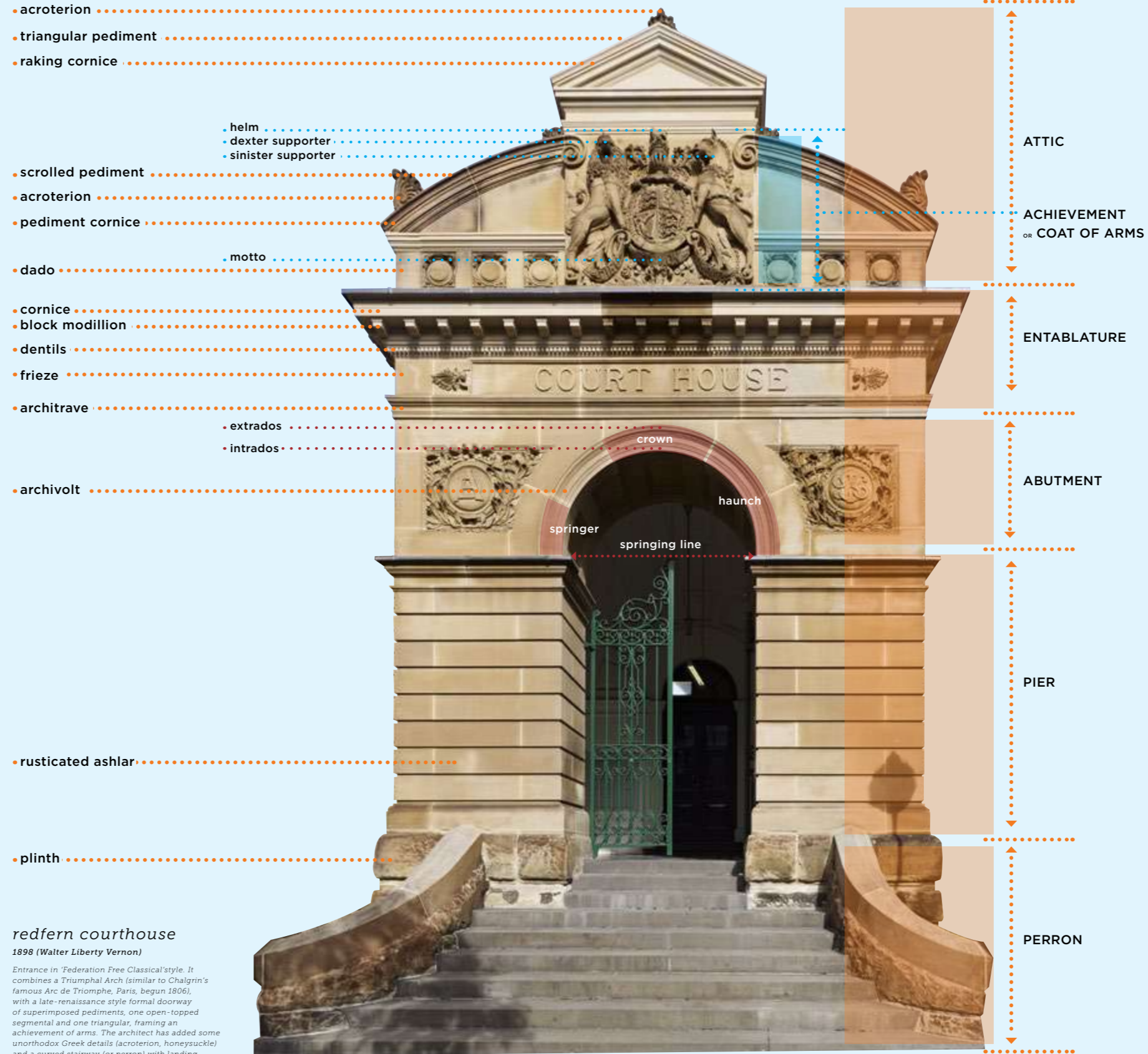
**Keystone** – The central stone of an arch, usually in the shape of a truncated wedge.

**Lancet Arch** – Pointed arch with the centres on the springing line but outside the lines of the intrados

**Modillion** – Horizontal ornamental bracket, often ornamented with scroll and acanthus motifs, under the corona of a cornice. A block modillion is not ornamented

**Motto** – The phrase inscribed on the ribbon of a coat of arms

**Ogee Arch** – Double curved arch set out from three points of an isosceles triangle: one point in line with the perpendicular centre and two points either side of the curve of the arch



**Pediment** – Gable-like structure on top of an entablature; in classical architecture, it is triangular in shape and sometimes has a carved tympanum. Smaller pediments are used on doors and windows

**Pediment cornice** – Any of the cornices belonging to a pediment, such as the horizontal cornice or raking cornices

**Perron** – Platform and flight of steps in front of the main entrance to a building in the Palladian classical style

**Pier** – Masonry pillar, usually rectangular in cross-section, supporting an arcade or roof; also the solid portion of a wall between two adjacent windows, doors, or other openings

**Plinth** – In a column or pilaster, the cube or slab supporting the base; also the supporting cube at the bottom of a pedestal, or the projecting courses of masonry at ground level supporting a wall.

**Raking Cornice** – Sloping sides of a pediment worked in the form of a cornice

**Rise** – The internal vertical height of an arch from springing line to the inside edge of the crown

**Rustication** – Masonry where joints are recessed from the main face, the latter being worked in a distinctive way to create shadows and texture

**Scrolled Pediment** – Curved or double-curved pediment broken in the centre and terminating in a pair of scrolls

**Segmental Arch** – Arch in the shape of a segment of a circle, set out from a point in line with the perpendicular centre below the springing line

**Semicircular arch (or Roman arch)** – Arch in the shape of a semicircle set out from the springing line

**Sinister supporter** – Figure or animal supporting the shield of arms (in a coat of arms) on the right hand side when viewed from the front

**Soffit** – The underside face of an arch, beam or cornice

**Span** – Distance between the inside faces of the uprights (piers or columns) supporting an arch

**Spandrel** – Masonry forming the roughly triangular space between the haunch of an arch and the abutment

**Springer** – The lowest voussoir in an arch, its bottom bed laid at the springing line.

**Springing Line** – The horizontal line at which an arch springs from its supports

**Stilted Arch** – Arch in which the springing line is raised on supporting masonry above the impost level

**String Course** – Continuous horizontal band of masonry extending across the facade and in some cases wrapped round decorative features such as columns and arches

**Surbase** – The mouldings at the top of a pedestal or above a dado

**Thrust** – The combination of horizontal and vertical forces that (in structural terms) push the arch outwards from its centre

**Triangular Pediment** – Pediment in the form of a triangle

**Tudor Arch (or four-centred arch)** – Flat pointed arch set out from two points on the springing line and two points below the springing line

**Voussoirs** – Wedge shaped stones used in the construction of an arch

*winner*



**2**

*national  
trust  
awards*

## AWARDS

The MSP won 2 National Trust Awards this year:-

Sydney Observatory, New East Dome Building,  
Winner, Adaptive Re-use Category

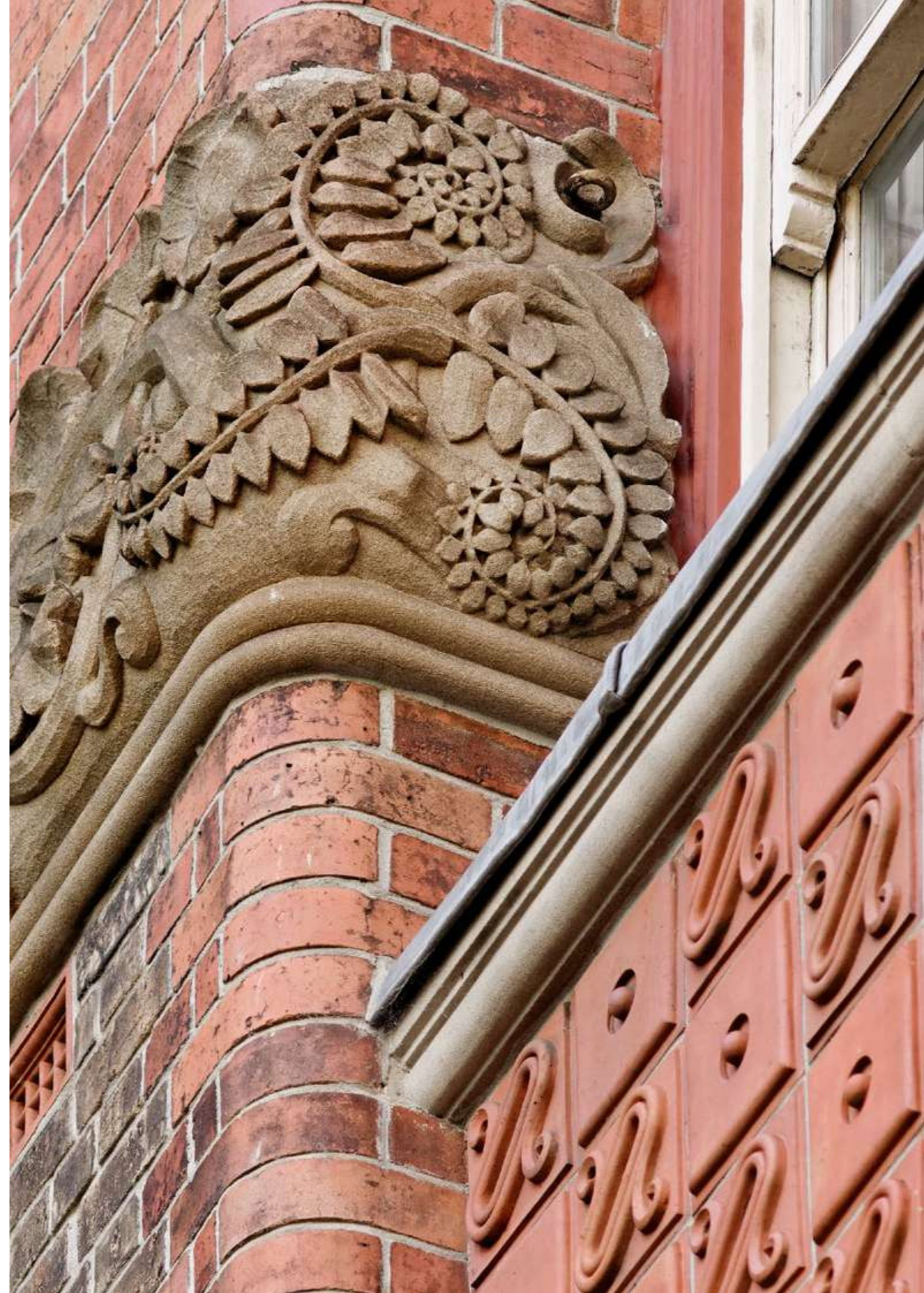
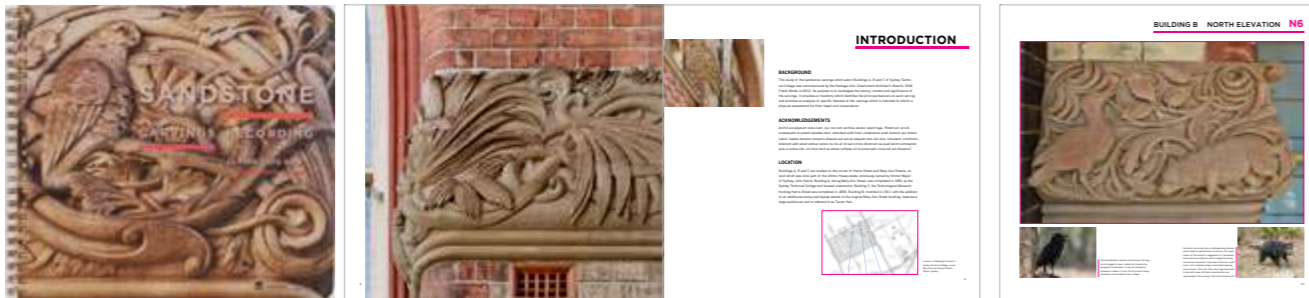
Ultimo TAFE Sandstone Carvings Recording,  
Winner, Education/Interpretation Category



**WINNER** Sydney Observatory, East Dome **ADAPTIVE REUSE**



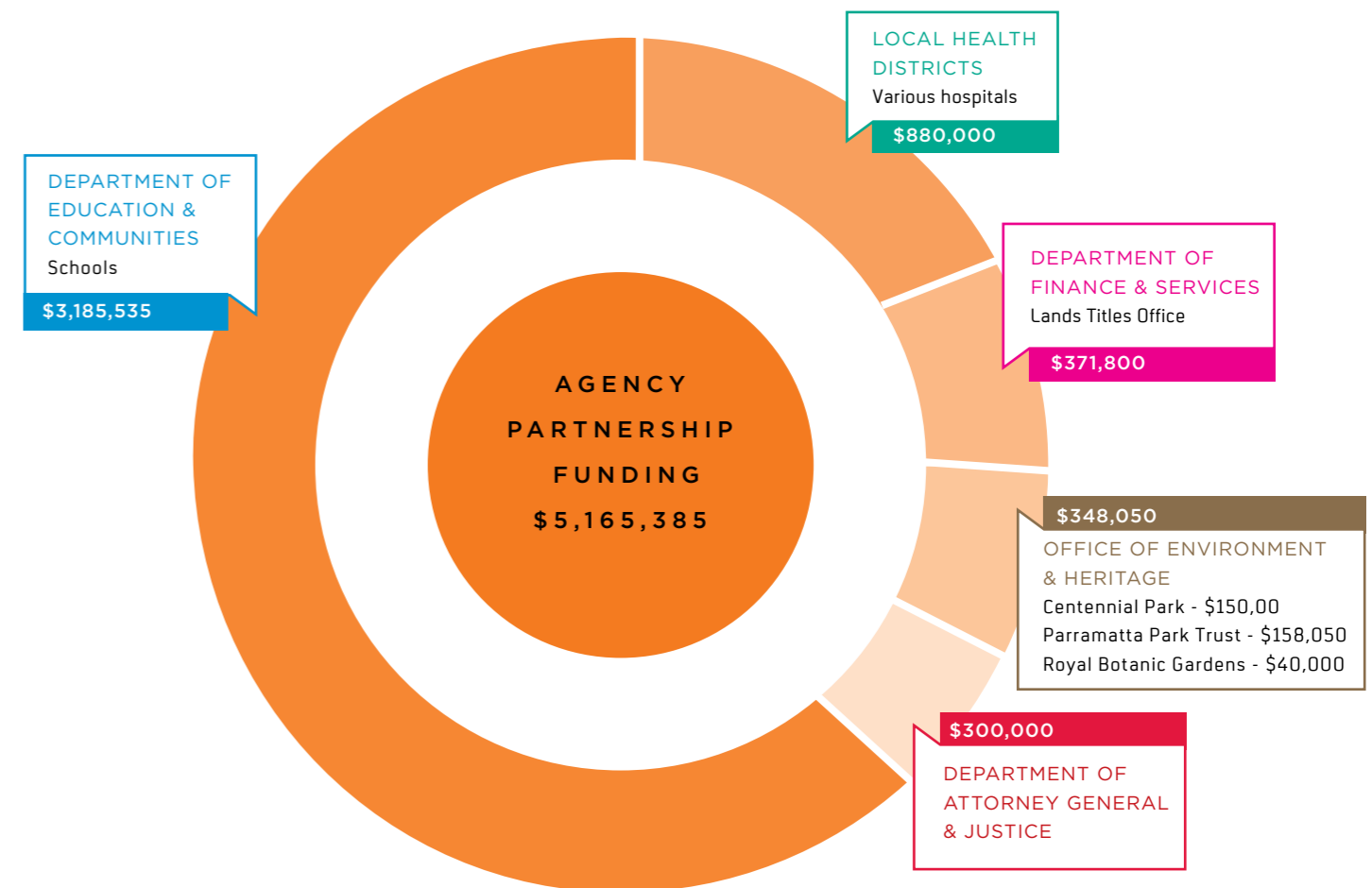
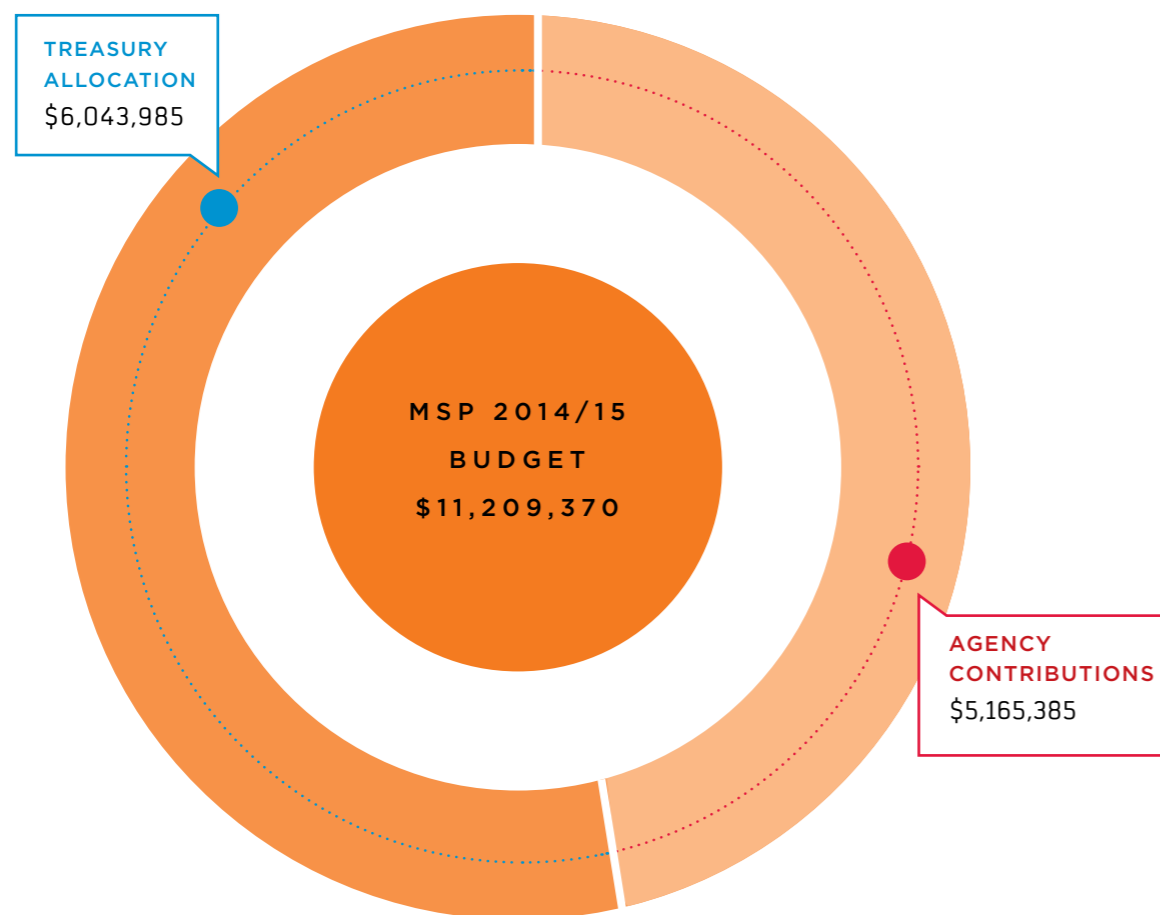
**WINNER** Ultimo TAFE Sandstone Carvings Recording **HERITAGE RECORDINGS**



## MSP 2014/15 BUDGETS

The Minister's Stonework Program works in funding partnership with state government agencies to undertake associated external repairs to maximise site establishment, scaffold access and heritage trades expertise. These works include roofing, timber joinery repairs, repainting and chimney seismic stabilisation. In 2014/15 co-contributions from 7 state government agencies totalled \$5,165,385 towards the Minister's Stonework Program. This collaboration provides cost, time & quality efficiencies to government.

Treasury allocation \$6,043,985. Co-contributions of \$5,165,385 were provided by our partnership agencies, resulting in a total MSP budget of \$11,209,370



## PROJECTS SHEETS

MSP 2014/15 Project list.

\* Key projects are featured in the following project sheets

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\*Barrenjoey Lighthouse, Final stage

Bathurst Courthouse

Bowral PS

Centennial Park Musgrave Gates

\*Crown Street Public School, Stage 2

\*Greenwich Public School, Final Stage

Hornsby Courthouse

Lands Titles Office, Stage 3

\*Leichhardt Public School, Final Stage

Manly Courthouse

Newcastle East Public School, Stage 1

Parkes Courthouse, Stage 1

\*Public Monuments

Royal Prince Alfred, Stage 1

\*Safety Audits

Sydney Hospital





## BARRANJOEY LIGHTHOUSE

AGENCY NPWS

LOCATION Barrenjoey Rd, Palm Beach

2014/15 EXPENDITURE \$ 211,406 (MSP \$131,406 , NPWS \$80,000)

The Barrenjoey Lighthouse and associated living quarters were constructed in 1878 and designed by the NSW Colonial Architect James Barnet. Constructed of sandstone quarried from the site, the lighthouse was not painted white but rather left unpainted in the natural stone finish. It remains one of only two unpainted lighthouses on the NSW coast. The lighthouse retains its original function today using recent technology to allow for automated operation. The structures are generally in good condition, however the stone elements had early signs deterioration due to damage caused by more recent cement rich mortar repointing.

While the sandstone is generally in good condition, unsympathetic repointing of the joints with cement

based mortar was causing deterioration of the stone. Conservation repairs included careful removal of the hard cement pointing to the lighthouse and cottages and replacement with a traditional lime mortar. Corroded metal inserts were causing the stone to crack. The significant metal fixtures was treated against corrosion and reinstated. Damaged stone was retained and patched and external timber joinery was repainted. Located on an isolated headland with only steep footpath access, materials and tools delivery was a significant project challenge.



## CROWN STREET PUBLIC SCHOOL

AGENCY Department of Education

LOCATION 356 Crown St, Surry Hills NSW 2010

2014/15 EXPENDITURE \$ 2,371,394 (MSP \$871,394 , DE \$1,500,000)

Crown Street Public School was designed by the Council of Education architect G.A. Mansfield and constructed in 1879. The school reflects the rapid growth of Darlinghurst and Surry Hills as residential area in the 1860s to 1880s. A large two storey building in Gothic Revival style, the walls are detailed face brick with sandstone foundations and dressing around windows and sills, cornices and finely detailed parapet cappings. The building is listed on the State Heritage Register and the Department of Education Section 170 Heritage Register.

Heritage Conservation works commenced in 13/14 and continued in 2014/15. Works completed this financial year include replacement of deteriorated sandstone elements, seismic stabilisation of gables and chimneys, stabilisation of structural cracking to external brickwork, brickwork tuckpointing, repair and replace of rotten timbers, ease and adjust and painting of external doors and windows, removal of dust and debris from roof cavities.



## GREENWICH PUBLIC SCHOOL

AGENCY Department of Education

LOCATION 32 Kingslangley Rd, Greenwich NSW 2065

2014/15 EXPENDITURE \$1,341,500

Greenwich Public School was inspected in June 2013 as a part of the DEC schools with Stonework Strategy, the building was found to be structurally unstable requiring urgent works. Greenwich Public School was found to be unsafe therefore was included in the 2013-2014 program of repairs works for DEC.

Conservation and stabilisation works began in February 2014. The scope of repair work that was developed for Greenwich PS included structural repairs and stone replacement to three large brick and stone gables, stone replacement and seismic stabilisation to four chimneys. Steel bracing and strengthening of the chimneys and roof structure including cleaning and treatment of the copper dome. Repointing to all stonework and approximately 30% of brickwork.

Desalination of stonework was carried out and bird proofing installed. Other associated works included a new slate roof, timber repairs and painting, lead work and drainage remediation including new copper guttering and downpipes.

Greenwich is an important historic landmark, the school is listed in the local LEP and on the Department of Education and communities Section 170 register a large banner was displayed to the front of the scaffolding to inform the public and school parents of the proceeding works.



## LEICHHARDT PUBLIC SCHOOL

AGENCY Department of Education

LOCATION Marion St, Leichhardt NSW 2040

2014/15 EXPENDITURE \$977,191 (MSP \$377,191 , DE \$600,000)

Leichhardt Public School is listed as a heritage item on the Inner West LEP and the Department of Education Section 170 Heritage Register. Façade and roof conservation works commenced in 2012/13 and were completed in 2014/15 on Buildings A, E and boundary palisade fence. The works were carried out by a multidisciplinary team of conservation specialists and heritage trades consisting of a historian, architect, structural engineer, stonemasons, roofers, carpenters and painters.

The scope of the works included replacement and repair of deteriorated stone, installation of protective lead weathering to overhanging stone elements and repointing of defective mortar joints to the brickwork and stonework. Working in funding partnership allowed for repairs to the associated façade elements such as timberwork repairs and repainting, installation of a new slate roof and seismic stabilisation of the chimneys and gables.



## PUBLIC MONUMENTS

AGENCY & LOCATION Various

2014/15 EXPENDITURE \$436,237

An allocation of funds is set aside each year to assist agencies in maintaining their smaller heritage significant assets, most commonly public artworks, statues and monuments. These items, located within the public domain, do not fall into the standard building maintenance requirements and require specialist heritage care.

During 2014/15 projects carried out under the Public Monuments Program, positioned within MSP included conservation of the 1888 Musgrave Gate stone piers at Centennial Park. The Macquarie Culvert located within Parramatta Park involved the assessment of surviving remains structurally and archeologically, removal of unsympathetic late 20th century alterations and re-instatement of the culvert's functional role in the landscape, based on historic evidence and in situ analysis.

The Sydney Botanic Gardens was the site of two Monuments Projects this year; documentation of repairs to the sandstone Choragic Monument and repairs to decorative urns. MSP also assisted with documentation of repairs to the Boer War Memorial, located within Parramatta Park, repairs to a sun dial at Fort Street High School and a series of presentations to Local Councils and RSL's throughout NSW on best practice maintenance of war memorials to mark the 100 year anniversary of World War One. MSP Monuments funding contributed to the re-use of the third dome to be incorporated into a new building at the Sydney Observatory

## SAFETY AUDITS

AGENCY & LOCATION Various

2014/15 EXPENDITURE \$300,000

A key role of MSP is to identify potential risks to the public and heritage significant stone assets, by means of a 'Make Safe' audit program which precedes conservation works. The Safety Audit Program enables the team to establish priorities for MSP projects and the information gained during the inspections assists in establishing forward planning documents and budgets.

The majority of the State's heritage stone buildings are constructed of Yellowblock sandstone. This stone has unique case hardening characteristics, which results in delamination or cracking over time, defects which cannot be detected from drones and without a hands-on method of stone tapping to identify voids below the surface. The Safety Audits are carried out by a multidisciplinary team via

elevated work platforms to assess the condition of the facades, remove loose and potentially dangerous stone and to document repairs.

Safety Audits undertaken in 2014/15 include, .Gladesville Hospital, Forest Lodge Public School, Former Darlinghurst Gaol Wall, The Power House Museum, Kogarah Courthouse and Leichhardt Public School.

