

SYDNEY Office 26, The Commons 388 George Street Sydney NSW 2000 M. +61 422 023 327 Anita.Krivickas@purcellau.com www.purcellap.com

Purcell Asia Pacific Limited is a limited company registered in Hong Kong, registration number 1422134. Purcell Miller Tritton LLP is the holding entity, a limited liability partnership registered in the UK, registration number 0C315259.

Nominated Architec Tracey Skovronek ARN NSW11029

14 December 2022

Jamel Sadiki BUILT

Job No: 239670

Dear Jamel,

Re: Lands Department – SSDA 7484 – MOD 18 – Methodology for the templating, removal, reinstatement, and reconstruction of plaster cornices

Background

The following methodology applies to the templating, removal/salvage, reinstatement, and reconstruction of the decorative plaster cornices affected by MOD 18 of SSD 7484 for the Lands Building. This methodology has been prepared as part of the modification package to be submitted to the Department of Planning and Environment.

The following methodology is to be read in conjunction with the attached Heritage Cornice Salvage Methodology prepared by Traditional Restoration Company (TRC). This methodology has been reviewed by Urbis as the nominated Heritage Consultant for the project. The methods identified below, including hold points, will be incorporated into the technical specification for the works.

Methodology

The methodology for the templating, removal/salvage, reinstatement and reconstruction of the decorative plaster cornices, inclusive of ceiling beams, ceiling mouldings and stringcourses, is as follows:

General

- 1. HOLD POINT: Prior to any works being undertaken, Design Architect, Heritage Architect, Heritage Consultant and Heritage Engineer to confirm the scope for removal/salvage or demolition of the cornice for <u>each</u> room, including whether any components of the cornice (e.g. horizontal stringcourses) are able to be retained in situ.
- 2. The contractor is to make all personnel aware that the Lands Department Building is of State Heritage Significance and its fabric is old and fragile. Care is to be exercised during all phases of the works to protect all historic fabric that is to be retained.
- 3. All work should be conducted in a careful and systematic manner.
- 4. All damage sustained to the building during the removal/salvage or demolition of the cornices is to be rectified by the contractor.
- 5. No work is to be undertaken without the approval of the Design Architect (Hassell) and Heritage Architect (Purcell).
- 6. Both removal/salvage and reinstallation are to be undertaken by a qualified plasterer.

Templating

Take a mould (template) of <u>all</u> cornices, including ceiling beams, ceiling mouldings and stringcourses identified for removal/salvage or demolition prior to commencement of the works.

- 1. HOLD POINT: Design Architect and Heritage Architect to inspect to confirm locations for templating, including the length of the repeat pattern and any a-typical details, e.g. corner details and junctions with ceiling beams, chimney breasts or joinery.
- 2. Photograph the cornice to be templated, including all corner details and junctions.
- 3. Remove existing layers of paint, using a suitable stripping agent for removal; of heritage paint back to plaster. Take care to avoid damage to the surface of the cornice, particularly to arrises and decoration (floral motifs). Note, multiple applications or steam cleaning may be necessary for built up paint layers or highly intricate cornices.

- 4. HOLD POINT: Design Architect and Heritage Architect to inspect cornice to be templated after removal of paint.
- 5. HOLD POINT: Submit proposed materials for templating to the Heritage Architect for approval. Material selection to ensure that no residues are left on the surface of the comices to be reinstated.
- 6. Coat the area to be templated with a releasing agent.
- 7. Apply several thin coats of flexible moulding medium, prior to application of casting plaster or silicone resin. Provide support for the cornice during the templating works as required while the plaster sets.
- 8. Once the moulding medium has set, carefully remove the mould from the plaster cornice.
- 9. HOLD POINT: Design Architect and Heritage Architect to inspect the mould to confirm adequacy for use.
- 10. For a repeat pattern, allow to tidy up any imperfections in the mould and cast a 'replica' should the mould become damaged, so that a new mould can be made without the need for further handling of the original cornice.

Removal/salvage of cornices and stringcourses identified for reinstatement

The contractor is to carefully remove and temporarily store the plaster cornices, including ceiling mouldings, and stringcourses, identified for reinstatement as detailed below. The final methodology is to be reviewed and agreed by the Design Architect, Heritage Architect, Heritage Consultant and Heritage Engineer.

Enabling works

- 1. Prior to commencing removal contractor is to prepare a drawing identifying the existing pattern and set-out of the cornice to enable reinstatement of the salvaged cornice pieces in their existing position.
- 2. Each cornice piece is to be given a unique identifying number (UIN) cross-referenced to the above-mentioned drawing. Prepare written and photographic record of the condition of the cornice before and after removal, and provide general notes of regarding any discovery of any fabric discovery during removal.
- 3. HOLD POINT: Submit the completed record to the Heritage Architect for approval prior to undertaking the works.
- 4. Prior to removal, take a mould of the cornice as per methodology above, in the instance that the cornice is damaged during removal/salvage.
- 5. Contractor to undertake trial for removal of a cornice section to agreed methodology with the Design Architect and Heritage Architect. Final methodology for removal to be approved by Design Architect, Heritage Architect and Heritage Consultant. All works to be undertaken by an experienced plasterer.
- 6. Contractor to fabricate bespoke crates for storage and transport of the cornice once removed.

Removal/salvage - comice

- 7. Remove floorboards and coke breeze immediately above the cornice. (Note coke breeze is to be removed under established hazmat conditions. Vacuum any dust behind the cornice to expose the rear surface of the plaster
- 8. Remove existing layers of paint, using a suitable stripping agent of heritage paint back to plaster. Take care to avoid damage to the surface of the cornice, particularly to arrises and decoration (floral motifs). Note, multiple applications or steam cleaning may be necessary for built up paint layers or highly intricate cornices.
- 9. Create a polyurethane foam mould of the paint stripped surface of the plaster to act as a cradle support for the removed comice.
- 10. HOLD POINT: Design Architect and Heritage Architect to inspect comice after paint stripping and prior to removal to confirm methodology for removal/salvage, including the location of joints.
- II. Remove the cornice as follows:
 - a. Create lifting points in the timber frame/brackets supporting the cornice and support the cornice from the floor above (such as with an A-frame) prior to cutting.
 - b. Carefully remove between 100-200mm of wall lime plaster from below the cornice and 100-200mm of ceiling plaster and laths from the leading edge of the cornice to separate the cornice from its surrounds.
 - c. From the underside, vertically cut through the cornice and laths at the proposed joint lines, between 1-1.5m in length and located midway between the ceiling joists. Locate the cut with respect to the pattern of the cornice, e.g. between dentils or projecting brackets to facilitate a seamless join during reinstatement.
 - d. Cut through the nails/fixings between the cornice brackets and ceiling joists/wall battens.
 - e. If the fixings are not able to be removed or cut through, prop the ceiling structure and cut through the timber joists/wall battens.
 - f. HOLD POINT: Design Architect, Heritage Architect and Heritage Engineer to inspect removal of fixings at item (d) to confirm approval to cut through the timber joists/wall battens as per item (e).
 - g. Once loose, carefully lower the cornice and affix its UIN to its rear face with a non-marking adhesive label. Place the cornice within its polyurethane foam mould and carefully strap the cornice and mould to keep the two together.

- h. Place within bespoke crate marked with the UIN to identify and record the location of the cornice piece within, ensuring labels are near the top of the crate. Crates shall include a removable lid and be marked 'FRAGILE DO NOT MOVE'.
- i. Contractor to store all items in a secure, weather-tight location with suitable environmental conditioning. Note, items may be required to be accessed for inspection or testing.

Removal/salvage - stringcourses (horizontal wall mouldings)

- 12. Carefully remove the 100-200mm plaster above and below the horizontal stringcourse to provide access to the rear of the moulding.
- 13. Remove paint create a polyurethane foam mould as identified in Items 8 and 9 above.
- 14. HOLD POINT: Design Architect and Heritage Architect to inspect stringcourse after paint stripping and prior to removal to confirm methodology for removal/salvage, including the location of joints.
- 15. Remove the stringcourse as follows:
 - a. Mark out the location of cuts with a knife and cut through with masonry hand saw to create 1-1.5m lengths. Locate the cut with respect to the pattern to facilitate a seamless join during reinstatement.
 - b. Carefully remove plaster from behind the front surface until the moulding either comes free from the wall surface or timber wedge wall fixings are exposed.
 - c. Support the mould prior to cutting through the timber edge wall fixings using a reciprocating or hand saw, and gently lower the stringcourse into its polyurethane foam mould.
 - d. Mark the rear of the stringcourse with its UIN, wrap in closed cell foam wrapping and affix the UIN to the outside of the wrapping.
 - e. Place within bespoke crate marked with the UIN to identify and record the location of the stringcourse within, ensuring labels are near the top of the crate. Crates shall include a removable lid and be marked 'FRAGILE DO NOT MOVE'.
 - f. Contractor to store all items in a secure, weather-tight location with suitable environmental conditioning. Note, items may be required to be accessed for inspection or testing.

Reinstatement

The following methodology is for the reinstatement of the salvaged original cornice. Final methodology is to be reviewed and agreed by the Design Architect, Heritage Architect, Heritage Consultant and Heritage Engineer.

- I. Clean the salvaged cornice pieces with fresh water to remove and surface soiling and depositions.
- 2. HOLD POINT: Design Architect and Heritage Architect to inspect cornice pieces to confirm condition is as documented as per Item 3 above.
- 3. Contactor to allow to repair and consolidate salvaged comice sections, including timber laths and supporting structure. All materials and methods to the submitted to the Design Architect, Heritage Architect and Heritage Engineer for approval prior to undertaking the works.
- 4. Final methodology for reinstatement to be confirmed once the condition of the cornice sections is known, including its supports and fixings, and is to be coordinated with the final fire engineering details where applicable. The methodology for reinstatement including transition with adjacent existing finishes (e.g. horizontal mouldings to be retained) is to be reviewed and agreed with the Design Architect and Heritage Architect prior to works commencing. Contractor to allow to prepare benchmark samples insitu for all transitions between the reinstated cornice and adjacent original wall plaster and the new fire rated ceiling lining.

Reconstruction ('replica' comice / string course)

The following methodology is for the reconstruction and installation of a 'replica' cornice, based on the original profiles. Final methodology is to be reviewed and agreed by the Design Architect, Heritage Architect, Heritage Consultant and Heritage Engineer.

- 1. HOLD POINT: Prior to casting the 'replica' cornice or stringcourse, Design Architect and Heritage Architect to confirm any a-typical casts that may be required, including those at junctions and corners with ceiling beams and chimney breasts.
- 2. Using the templates taken above, fabricate the 'replica' cornice and stringcourse using fibrous lime plaster or casting plaster. Contractor to allow to prepare a benchmark sample to confirm material, finish and profile for Design Architect and Heritage Architect approval.
- 3. Provide fixings to the building structure as per Heritage Engineer detail, including any secondary supports, and in coordination with the final fire engineering details. Note: as access from above will not be possible, it may be necessary to fix from below and patch the face of the cornice. Any such fixings to be located to minimise impact to the decorative detail.

Patching / Reconstruction (adjacent original and / or salvaged cornice)

The following methodology is for patching / reconstruction of the cornice adjacent salvaged and for the reinstated original cornice (in the instance that discrete sections are damaged or in a condition beyond repair / reinstatement). Final methodology is to be reviewed and agreed by the Design Architect, Heritage Architect, Heritage Consultant and Heritage Engineer.

- I. Provide timber brackets and laths shaped to match existing adjacent.
- 2. Fabricate zinc profile based on the original cornice, including 'muffled' profiles as required.
- 3. Build up the plaster cornice in layers, starting with a base coat of approximately 10-12mm thick. Run a plywood 'muffled' running mould (based on the original mould) along the plaster and key with lath scratcher.
- 4. Apply second layer of plaster, shaped with second 'muffled' mould, similar 10-12mm thick, and keyed with comb scratcher.
- 5. Apply final coat up to 3mm thick and moulded using zinc profile mould, matching the original cornice profile. Hand finish mitres using steel rules/tools.
- 4. To fix decorative enrichments (e.g. dentils, floral patterning, brackets), scratch the final coat to provide a key prior to fixing. Heavier decoration (e.g. brackets) may require additional fixings to be confirmed by the Heritage Engineer. Any such fixings on the face of the cornice to be located to minimise impact to the decorative detail.
- 6. HOLD POINT: Design Architect, Heritage Architect and Heritage Engineer to inspect the build-up of the cornice as follows:
 - a. Construction of supporting structure and laths;
 - b. During and after application of first coat;
 - c. During and after application of second coat;d. During application of the final coat;

 - e. At completion the works.

If you have any questions regarding the matters discussed in this letter, please do not hesitate to contact me.

aull

Anita Krivickas B.Arch (Hons), AIA, M.ICOMOS Associate On behalf of Purcell®

cc: Jeff Morgan (HASSELL); Patricia Salgado (HASSELL); Renee Riley (URBIS); Anthony Kilias (URBIS); Natalie Tran (BUILT)

Attachment: Heritage Cornice Salvaging Methodology, Traditional Restoration Company, 12 December 2022.

Traditional Stonemasonry (Consulting) Pty Ltd

A.B.N. 75 103 944 583 www.traditionalstone.com.au

Factory 69 Forrester Road ST MARYS NSW 2760 Ph: (02) 9623 3057 Fax: (02) 9623 3305 Head Office Suite 606, Level 6 75 King St. NSW 2000 Ph: (02) 9299 1072 Fax: (02) 9299 1073



Date: 12/12/22

The Department of Lands Building Heritage Cornice Salvaging Methodology

The step by step process outlined below is intended to provide the process upon which the original heritage listed lathe and plaster decorative cornices, Beam mouldings and horizontal string mouldings beneath the cornice shall be systematically salvaged, consolidated and reinstated post installation of a fire rated floor separating ceiling and beam lining.

1.0 Enabling Works

- 1.1 Create a CAD drawn reflected ceiling plan and annotate the plan to identify the size and location and unique ID code of each section of cornice to be salvaged.
- 1.2 Create a Heritage register for each piece being salvaged that will provide a unique ID code for each piece to be salvaged. The register is to include the following:
 - 1.2.1 Plan view of the location of the piece being salvaged
 - 1.2.2 Written and photographic condition of the cornice prior to commencement of any salvaging works.
 - 1.2.3 General notes of fabric discovery during removal of the cornice
 - 1.2.4 Written and photographic condition post removal.
- 1.3 Fabricate bespoke crates for eh cornice to be placed in once salvaged for transport to the TRC Factory for repairs and consolidation.

2.0 In Situ Salvaging Works

Wall cornice

- 2.1 Remove floorboards immediately above the cornice to be salvaged.
- 2.2 Under haz mat conditions, remove any coke breeze and accumulated debris by hand.
- 2.3 Vacuum out any dust to fully expose surface lime mortar, plaster and timber lathes.
- 2.4 Paint Strip the cornice using an alkaline based stripping agent back to plaster (90% strip) avoiding any damage to the surface of the cornice.
- 2.5 Spray the top surface of the cornice to saturation with Westox RAP primer.
- 2.6 After 24 hours respray to saturation with Westox RAP adhesive.
- 2.7 Apply a polyurethane foam mould lining to the paint stripped surface of the plaster to act as a softening to protect against impact damage as well as a cradling support to the cornice.
- 2.8 Remove the mould and set to one side for use prior to lowering the salvaged cornice to the floor below.
- 2.9 Drill holes in the solid timber supports to enable bolts and D shackles to be inserted for lifting the salvaged cornice once freed.
- 2.10Using an A frame from the floor above, sling the D shakles and lift using the A Frame and block and tackle until mild tension in the slings has occurred.

Page 1 of 3

- 2.11Place a vertical cut through the cornice and lathes at the proposed joint lines, preferably at mid span between timber joist, where relevant, to create a piece between 1000mm and 1500mm in length. Ensure the vertical line is chosen to enable a seamless join during reinstatement (example: midpoint between projecting dentils)
- 2.12Carefully remove 100-200mm of wall lime render below the cornice to provide access to the bottom fixing position.
- 2.13Carefully remove 100-200mm of plaster ceiling and lathes from the leading edge of the top of the cornice to provide access to the top surface of the connection fo the cornice to the timber floor joists above.
- 2.14 Extraction of cornice is to be assessed when undertaking the works as below:
 - 2.14.1 Attempt to withdraw or cut through nails, using a reciprocating saw, which currently affix the solid timber supports to the timber floor joists (from above) and the timber wall fixing batten (from below). Or
 - 2.14.2 If fixings cannot be withdrawn or cut through, prop (design tbc) the ceiling around the cornice and then using a reciprocating saw cut the timber floor joists (from above) and the timber wall fixing batten (from below).
- 2.15Once the cornice is loose, it can be gently lowered to the floor using the block and tackle and the unique ID code can be applied to the rear face.
- 2.16 Place the salvaged cornice into the polyurethan foam mould and gently strap to keep them together.
- 2.17Place the strapped and salvage cornice with mould into the bespoke crate marked with the unique ID code and transport through the building to the loading dock on ground floor for transport to the TRC factory.



Horizontal String Mouldings

- 2.18Carefully remove 100-200mm of wall lime render above and below the string moulding to provide access to rear vertical face of the moulding.
- 2.19Paint Strip the string moulding using an alkaline based stripping agent back to plaster (90% strip) avoiding any damage to the surface of the moulding.
- 2.20Apply a polyurethane foam mould lining to the paint stripped surface of the plaster to act as a softening to protect against impact damage as well as a cradling support to the moulding.
- 2.21Cut through the plaster moulding using a knife to scribe a cut into the plaster and then by masonry hand saw to create 1000mm – 1500mm long lengths to salvage.

Page 2 of 3

- 2.22Gently scrape away lime render from behind the plaster mouldings using tungsten scribers until the moulding either comes free or the helicopter timber wedge wall fixings are exposed.
- 2.23Cut through the helicopter timber wedge wall fixings using a reciprocating saw or hand saw and gently lower the mould whilst still in tis supporting mould.
- 2.24Mark the rear face of the moulding with its unique ID code.
- 2.25Wrap salvaged mould in closed cell foam wrapping and transfer the unique ID code to the outside of the wrap.
- 2.26Carry by hand the salvaged and wrapped items to the loading dock located on the ground floor and to the TRC factory.

3.0 Consolidation, Restoration, and installation of supporting structure

- 3.1 Unwrap the salvaged items and wash thoroughly with fresh water to remove any surface soiling and depositions.
- 3.2 Consolidation of the salvaged materials will be developed once the condition of the elements are fully known. Proposals may include the following:
 - 3.2.1 Reinforcement of thinning sections that appear too fragile to leave with casting plaster and sisal reinforcement applied to the rear of the cornice.
 - 3.2.2 Embedment of support stiffening structure under a layer or layers of fibreglass matting.
 - 3.2.3 Installation of fixing armatures to the rear of the cornice to allow for future fixing onto an engineer designs mounting system. (Design Pending)
- 4.0 Reinstatement on Site Methodology to be developed once cornice are salvaged and condition known.

Sincerely, Traditional Restoration Company P/L

James Ginter Managing Director