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Dear Karl

**RE: Response to Response to Submissions (RTS) of Sydney Opera House (SOH)
Building Renewal Program – Concert Hall Upgrade and new Creative Learning Centre
(SSD 8663)**

I respond to your correspondence received on 11 July 2019 inviting the Heritage Council of NSW to provide comment on the Response to Submission (RTS) for this component of the SOH Building Renewal project.

Concert Hall

- Acoustic upgrades including reflectors, speakers and wall fabric;
- Accessibility upgrades to front and back of house including provision of new lifts and passageway through stairs surrounding the Hall;
- Functional upgrades including to mechanical and back of stage area.

Creative Learning Centre

- Re-purposing of existing office space within the north-western corner of the SOH to a Creative Learning Centre

Our response is provided in Attachment A. The report consists of comments and recommendations of the Heritage Council of NSW on the assessment of the project's impacts on the SOH State heritage values. We acknowledge SOH's efforts to respond to the Heritage Council's concerns, in particular the removal of Lift 29 and the hooded ventilation opening in the Western Podium from the scope of works.

Should you have any queries, please contact David Nix, Senior Heritage Officer, at the Heritage Division on (02) 9895 6523 or at david.nix@environment.nsw.gov.au.

Yours sincerely

Tim Smith OAM
Director Heritage Operations
Heritage, Department Premier and Cabinet
As Delegate of the Heritage Council of NSW
16 August 2019

ATTACHMENT A: SYDNEY OPERA HOUSE BUILDING RENEWAL PROGRAM
CONCERT HALL & CREATIVE LEARNING CENTRE HERITAGE RESPONSE TO
SUBMISSIONS RESPONSE

1.0 INTRODUCTION

- 1.1 On 20 February 2019, the Heritage Council provided an assessment of this project's impacts on the Sydney Opera House's State heritage values and recommendations to minimise identified impacts.
- 1.2 The SOH has responded to the Heritage Council's submission. We provide the following assessment of that response and recommendations to minimise and manage the impacts of the proposed works. The basis for the assessment is informed by the endorsed SOH conservation management plan (CMP) policies, The Burra Charter, the *Sydney Opera House Concert Hall and Creative Learning Centre Renewal Projects* Heritage Impact Statement (HIS) (prepared by Design 5), and Attachment D1 *Responses to State Heritage Recommendations Raised in Heritage Council Submission 20 February 2019* (prepared by SOH).
- 1.3 The following response identifies and comments on matters that:
- Require further refinement;
 - SOH state that it will address at Section 60 stage; and,
 - SOH have agreed to.

2.0 CONCERT HALL ACCESSIBILITY PROJECTS

Eastern Passageway connecting Southern Foyer to Northern Foyer

Applicant response

- 2.1 The SOH Response states that it will work with an experienced precast concrete craftsperson to ensure that the colour, form and finish for new work matches existing, and that concrete finish benchmarks will be prepared in consultation with the Heritage Council's delegate.
- 2.2 It also states that the use of bronze panelling in the passageway has been further considered by the SOH Design Advisory Panel (DAP). The DAP supports the use of bronze panelling for the passageway. However, further review of the use of bronze panelling within the "Caves" area will be undertaken and submitted as part of the s60 application.

Heritage Council assessment

- 2.3 It is still considered that the proposed eastern passageway works will have an adverse impact on significant form, fabric and structure in this area. It is noted that SOH has agreed with Heritage Council recommendations (20 February 2019) that the works, including to new concrete finishes, will be determined in consultation with the nominated heritage consultant working closely with an experienced precast concrete craftsperson to ensure colour, form, finish, quality and workmanship of the new works are integrated into the design.
- 2.4 The Heritage Council considers that the use of the bronze panelling material for the proposed passageway eastern wall introduces a new wall treatment within the SOH. It recommended further consideration be given to better aligning the material with the consistent palette of materials of the SOH. It is also acknowledged that the SOH has undertaken further consultation with the DAP to reconsider the use of bronze panelling within the passageway in accordance with Heritage Council's

recommendations. The DAP presented their preference to the Heritage Council's delegate.

- 2.5 Traditionally bronze has been used within the SOH as an accent material on trims and handrails etc. The proposed use of the material within the passageway represents a new wall treatment within the SOH. Further refinement is required to better integrate the passageway wall with the proposed panelled lift shaft.
- 2.6 It is understood that the SOH will further investigate the use of bronze panelling within the western caves (southern wall) in accordance with HIS recommendations, and that this will be submitted as part of the Section 60 application for the works.

Recommendations

In addition to the Heritage Council recommendations 3.18 & 3.19 (20 February 2019), the following conditions are recommended.

- 2.7 The following condition is included in the HIS, *the use of bronze panelling on the southern wall in the Caves area (Level 2) should be tested and reviewed once the other walls are stripped back, by the Opera House's Conservation Council, Eminent Architects Panel (now DAP) and heritage architect, to determine its appropriateness (Pg104)*. This should also be undertaken in consultation with a representative of the Heritage Council and documentation submitted as part of the section 60 application for the works.
- 2.8 Further refinement of the passageway details should be undertaken to better integrate with the proposed finish to the new lift including skirting. This should be submitted as part of the section 60 application for the works.

Relocation of existing plantroom/ Western podium façade exhaust hood

Applicant response

- 2.9 The SOH Response states that the existing plant on the eastern side of the podium can be replaced in-situ with smaller equipment. Therefore, the proposed relocation of the plant room to the western side is not required. This removes the proposed previous requirement for a new hood on the western side podium.
- 2.10 SOH will also undertake a significance assessment of the impacted mechanical equipment and machinery prior to its removal, including an archival recording. Where appropriate, significant pieces will be retained in SOH collections.

Heritage Council assessment

- 2.11 The removal of the western side podium hood from the scope of works removes the adverse physical and visual impacts on the exceptionally significant podium structure, one of the SOH's most highly visible external areas.
- 2.12 It is noted a significance assessment of the mechanical equipment will be undertaken in accordance with Heritage Council recommendations.

Recommendations

As per Heritage Council recommendation 3.27 (20 February 2019).

Additional handrails to eastern and western foyer stairs

Applicant response

- 2.13 The SOH Response states that the handrail installation will be designed to minimise impacts and that further details will be provided with the section 60 application. It also states that a 'kit of parts' has been developed in consultation with the DAP, to create a consistent set of handrail solutions to be used as part of future upgrades. It notes that the existing 'D' shaped profile is not compliant with current standards. The

proposed new handrails will be consistent with those installed in similar locations in the JST.

Heritage Council assessment

- 2.14 The proposed works to install handrails centrally within the side foyer staircase will require intervention to several existing precast granite stair treads to install the posts for the handrail. It remains unclear how the posts will be installed and what impacts this will have on existing fabric. SOH have stated that further detail will be provided at section 60 stage.
- 2.15 The SOH states that the proposed handrails are consistent with the modular '*Kit of Parts*' which has been developed in consultation with the DAP and is to be implemented across all the public spaces affected by the SOH Building Renewal Projects. The kit of parts was not included as part of the documentation provided nor has it been presented and considered by the Heritage Council. Therefore, we are unable to assess if the proposed handrails are consistent with the handrails used in similar area of the SOH. Further detail is required, including the kit of parts document, to assess the visual impacts of the works and ensure a consistency of use throughout the SOH.

Recommendations

In addition to the Heritage Council recommendation 3.33 (20 February 2019), the following condition is recommended.

- 2.16 Additional details must be provided demonstrating the consistency of the proposed handrails with those used in similar locations throughout the SOH, and with the kit of parts document. Further, the Kit of Parts document should be submitted as part of the section 60 application for the works for Heritage Council's consideration.

New lifts in Northern Foyers

Applicant response

- 2.17 The SOH Response states that Lift 29 (western lift) has been removed from the project scope. Should future requirements demand additional compliant access, SOH states that it reserves the right to seek modification to the approval.
- 2.18 It also states that the detail to the significant concrete cranked beams proposed to be impacted by the installation of the lift has been carefully considered and that the modified beams retain visual integrity and continuity and differentiate new work from original.
- 2.19 The SOH will also work with an experienced precast concrete craftsman to ensure that the colour, form and finish of new works matches existing.

Heritage Council assessment

- 2.20 The insertion of lifts will have high impacts on the broad sweep of stairs and cranked concrete beams within the Northern Foyer and Caves below. The removal of the proposed western lift (Lift 29) from the scope of works will reduce the intervention and impact to the Northern Foyers.
- 2.21 It is understood that due to the size of the lift proposed on the eastern side and the structure required, the internal lift shaft is proposed to be constructed of concrete and clad in bronze panels at the lower levels.
- 2.22 The SOH has clarified the extent of the proposed demolition required to install the lift. This includes confirming the number of cranked beams impacted and clarifying what will be removed as part of the works. As much original fabric is to be retained in situ

as possible. In addition, any new works including new steps, concrete beams and stair hobs must match the existing in material, form, finish quality and workmanship.

- 2.23 It is still considered that the proposed detail to extend two beams to the new lift adversely impacts the aesthetics of the distinctive bend line of the cranked beams. The design of this detail requires further refinement to better integrate the beams within the existing significant design aesthetic and minimise visual impacts.

Recommendations

In addition to the Heritage Council recommendations 3.52 and 3.54 (20 February 2019), the following condition is recommended.

- 2.24 The proposed detail of the extension of two cranked beams connecting to the new lift should be reviewed and revised to minimise visual impacts and to ensure the new works do not disrupt the aesthetic qualities of the distinctive line of crank points in the beams.

Toilet upgrades (Northern Foyers)

Applicant response

- 2.25 The SOH Response states that only one accessible toilet facility will be constructed (western side) within the vestibule area of the existing Peter Hall male toilets following removal of the second proposed lift on the western side of the Northern Foyers. In addition, the decision to retain the existing mechanical plant adjacent on the eastern side of the podium will negate the need to make modifications to the female toilet in the Northern Foyers.

Heritage Council assessment

- 2.26 As a result of the retention of the mechanical plant room on the eastern side, the accessible toilet facilities proposed to be constructed within the existing toilet facilities vestibule area (Level 3) will now be relocated to an existing storage room adjacent. This limits intervention to the vestibule area to one side of the Northern Foyers only and is considered a positive outcome.
- 2.27 In addition, the retention of the mechanical plant room on the eastern side of the podium removes the need for modification to the female toilets. This is a positive outcome as it retains both original Peter Hall toilet facilities within the Northern Foyer of the Concert Hall.

Accessibility upgrades to Seating/ Dressing rooms

Applicant response

- 2.28 The SOH Response states that the SOH will retain the original Peter Hall fittings and reuse these in the upgraded dressing rooms in accordance with the Heritage Council recommendation. They will also undertake an assessment of fixtures and fittings to determine the significance of elements in these spaces, and recommendations to retain, reuse and incorporate significant elements into new areas consistent with the CMP4.

Heritage Council assessment

- 2.29 The assessment of fixtures and fittings, including number and condition of Peter Hall dressing room facilities is important to better understand the cumulative impacts of the proposed works on original Peter Hall spaces. SOH have noted an assessment will be provided at section 60 stage in accordance with Heritage Council recommendations.

Recommendations

As per Heritage Council recommendations 3.68 and 3.69 (20 February 2019).

3.0 ACOUSTIC UPGRADES

Acoustic Reflectors

Applicant response

- 3.1 The SOH Response states that the SOH agrees to develop an 'at rest' mode as an automated setting that can be deployed when the venue is not required for a performance or being reset for a different performance. Further, it proposes that a policy governing the implementation of the 'at rest' mode when the venue is not being used for performances is included in its future revision of the CMP.
- 3.2 The document also notes further in-situ prototyping of the reflectors will take place, including consultation with a representative of the Heritage Council as per the recommendation in the HIS.
- 3.3 It also states that one original reflector will be archived in the SOH collection and that a strategy will be developed as part of the Renewal Interpretation Strategy to interpret the original reflectors.

Heritage Council assessment

- 3.4 The development of the 'at rest' mode was recommended to ensure direct vision of the organ and pipes ensemble, the folded and domed ceiling forms and the timber finishes, which are significant Peter Hall design elements, were visible when the Concert Hall was not in performance mode as the proposed over stage reflectors introduce much larger, more solid elements to the Concert Hall compared with the existing 'donut' reflectors. The provided renderings indicate that an uninterrupted view of the grand organ and pipes ensemble during 'at rest' stage is only visible from the upper circle.
- 3.5 SOH have agreed to develop a policy governing the implementation of the 'at rest' mode when the venue is not being used for performances to be included in a future revision of the CMP in accordance with Heritage Council recommendations. The proposed 'at rest' policy should be determined in consultation with a Heritage Council's delegate as part of the section 60 application.
- 3.6 It is understood that a single existing over stage reflector will be retained in the SOH collection and that a Renewal Interpretation Strategy will be developed for the future interpretation of the reflectors. This strategy must include the meaningful use of a selection of the remaining reflectors (that is publicly accessible) in a way that interprets the story of change to the SOH. This should be determined in consultation with a representative of the Heritage Council as part of the section 60 application.

Recommendations

In addition to the Heritage Council recommendations 4.11, 4.12, 4.13 and 4.15 (20 February 2019), the following condition is recommended.

- 3.7 A policy governing the implementation of the 'at rest' mode when the venue is not being used for performances, is to be included in a future revision of the CMP. This must be developed in consultation with a Heritage Council's delegate as part of the Section 60 stage application.

Panelled Box Fronts

Applicant response

- 3.8 The SOH Response states that the existing flat box front panels are not original and were installed in 2011 when the original sawtooth box front panels were removed. The document notes these would be readily reinstated in the future as they are/will be stored by SOH. However, it also states the proposed works affect much of the 1973 fabric.
- 3.9 It also states that further detail of the final designs and the fabric to be replaced will be included within the section 60 application.

Heritage Council Assessment

- 3.10 The proposed works will have a major impact on significant fabric in the Concert Hall as it requires the removal of original Hall components. It is still not demonstrated what original fabric will be removed and what will be retained in situ.
- 3.11 It is understood that a full-size prototype has already been installed on the front of Box C and that a number of refinements will be made as a result of this prototype. The final design is proposed to be included in the section 60 application in accordance with Heritage Council recommendations.
- 3.12 Any component of the new acoustic solution should be flexible, reversible and able to respond to new technologies as they emerge. Therefore, it was recommended that new acoustic finishes or amended surfaces should overlay original material and forms. Again, it has not been adequately demonstrated why this is unable to occur.
- 3.13 It is noted that areas of original tapered bronze guard rail are proposed to be removed to enable accessible seating to be installed at the rear of Boxes A, B, C, U, V and W. It is unclear whether the tapered bronze guard rails are required to be replaced in all areas. Further details are required.

Recommendations

In addition to the Heritage Council recommendations 4.21 and 4.23 (20 February 2019), the following condition is recommended.

- 3.14 The following recommended condition relating to the tapered bronze guard rails within the HIS (p 105) should be adopted.
- *The original tapered bronze guard-rails surrounding the boxes and the front of the circle should, if possible, be retained.*
- In addition, further detail is required to understand the extent of original tapered bronze guard-rails to be removed. This should be provided as part of the section 60 application for the works.
- 3.15 The extent of removal of box fronts including rear wall of side boxes, rear wall of stalls and upper and lower circles, should be clarified to better understand if representative samples of all types of 1973 box fronts could be retained in situ and whether new panels can overlay original materials and forms to enable the reinstatement of original fabric and the uncluttered experience of the space should new technologies emerge. This should be resolved in consultation with a representative of the Heritage Council as part of the Section 60 stage application.

Acoustic Drapes

Applicant response

- 3.16 The SOH Response states that the new acoustic drapes and mechanisms are reversible and would be able to be removed in the future. It also states that SOH is committed to complying with the condition detailed in the HIS and that further details

of the proposed construction methodology will be provided in the Section 60 application.

Heritage Council Assessment

- 3.17 It is acknowledged that the SOH has committed to complying with conditions noted in the HIS and in accordance with Heritage Council recommendations regarding the proposed modification works to white birch ceiling crown (concentric white birch plywood rings) and the white birch side walls to install the operable drawers.

Recommendations

As per Heritage Council recommendations 4.28 and 4.30 (20 February 2019).

Lighting/ Speakers

Applicant response

- 3.18 The SOH Response states that revision of the speaker system has reduced the need for five speaker arrays across the stage front. Instead only three speakers are proposed to be deployed - left, centre and right at the front of the stage. SOH has agreed to provide further detail at section 60 stage.
- 3.19 Further, it states that the SOH has made every effort to minimise the number of new penetrations required in the ceiling for lighting and speaker arrays and will patch any penetrations which are no longer required, as part of the works.

Heritage Council Assessment

- 3.20 The revision to the speaker system arrays from five to three will reduce the visual clutter and is seen as positive. It is noted that during the 'at rest' stage, the centre speaker array is raised high towards the ceiling. This reduces obstruction to the grand organ. The speaker arrays on either side of the stage will be positioned in line with the over stage reflectors.

Recommendations

In addition to the Heritage Council recommendations 4.35 and 4.38 (20 February 2019), the following condition is recommended.

- 3.21 The following recommended condition relating to the new speaker arrays within the HIS (p 108) should be adopted, to maximise views to the grand organ and minimise clutter.
- *Speaker arrays are as small as possible to minimise their visual presence.*
 - *For non-amplified performance, at least the centre 3 speaker arrays are raised high towards the ceiling or preferably, removed. This should apply to all other speaker arrays wherever and whenever this is possible.*
 - *Speaker arrays deployed anywhere in the space for any performance are minimum in number.*

In addition, the colour of the speaker and lighting arrays should be revisited to minimise visual impacts during the 'at rest' stage. To be issued as part of the Section 60 stage application, including a revisit of the colour of speaker units to minimise visual impacts at the rest stage.

4.0 CONCERT HALL FUNCTIONAL WORKS

Stage improvements

Applicant response

- 4.1 The SOH Response states that it agrees to comply with the condition detailed in the HIS relating to undertaking a full heritage assessment of existing machinery and equipment in the Concert Hall. Further, it agrees to comply with the condition relating to the seating and minimising impacts to original fabric in accordance with Heritage Council recommendations.

Recommendations

As per Heritage Council recommendations 5.5 and 5.6 (20 February 2019).

Modifications to back stage area

Applicant position

- 4.2 The SOH Response states that the proposed reconfiguration to increase the backstage area for the arena risers retains and respects the geometry of Peter Hall's auditorium and foyer walls, and that the changes to the side foyers are minimal. Further, it notes that it will not have any impact on normal paths of access through the foyers. The document also states that the brushbox panelling in the anteroom will be considered for reuse elsewhere in the project if possible.
- 4.3 It also states that SOH will work with an experienced precast concrete craftsman to ensure that the colour, form and finish for new work matches existing, and that concrete finish benchmarks will be prepared in consultation with the Heritage Council's delegate.

Heritage Council Assessment

- 4.4 The SOH has provided additional renders for the area impacted by the proposed reconfiguration to the backstage area to accommodate the automated stepped stage platforms. These support that the resultant relocation of the brush box foyer walls will not result in major impacts to the space.
- 4.5 However, the patron access to the theatre has been reduced from two access points to one, with the relocated access being pushed out into the foyer space. The new position limits visual access to the full sweep of the podium stairs. In addition, the relocated opening has been positioned much closer to a foyer column, impeding direct visual access and orientation. This is not consistent with Utzon's design principle on orientation and movement. Further consideration should be given to the reconfiguration of this entry to provide better visual access and orientation.
- 4.6 The SOH has clarified the extent of the proposed demolition within the anteroom and orchestra assembly room. It is also noted that the SOH will consider options to reinstate the removed timber panelling from the anteroom walls to be used elsewhere in the project. This should be undertaken in consultation with the SOH heritage architect. It is also noted that the final finishes for the anteroom and orchestra assembly room will be submitted as part of the section 60 application in accordance with Heritage Council recommendations.

Recommendations

In addition to the Heritage Council recommendations 5.17, 5.18 and 5.19 (20 February 2019), the following condition is recommended.

- 4.7 The relocated entry position to the theatre should be reconsidered to provide better visual access and orientation to patrons. Further detail of this consideration should be submitted as part of the section 60 application for the works.

Technical improvements

Applicant response

- 4.8 The SOH Response states that the SOH agrees to comply with the condition detailed in the HIS relating to undertaking a full heritage assessment of existing machinery and equipment in the Concert Hall in accordance with Heritage Council recommendations. Details of additional strengthening works have also been provided.

Heritage Council Assessment

- 4.9 Further details regarding the strengthening of the steel structure above the plywood Concert Hall ceiling have been provided. These support that the works will not have a significant impact to existing fabric. In addition, the strengthening works will increase the lifting capacity within the ceiling and enable the concealment of some of the automated acoustic systems, reducing the clutter within the Concert Hall.

Recommendations

As per Heritage Council recommendation 5.23 (20 February 2019).

Seat refurbishment

Applicant response

- 4.10 The SOH Response states that it agrees to comply with the condition detailed in the HIS relating to only replacing the seat shells if they are beyond repair.

Heritage Council Assessment

- 4.11 It is acknowledged that the SOH has committed to complying with the condition noted in the HIS, and in accordance with Heritage Council recommendations.

Recommendations

As per Heritage Council recommendation 5.29 (20 February 2019).

Air conditioning upgrade

Applicant response

- 4.12 The SOH Response states that it agrees to comply with the condition detailed in the HIS including to in-situ prototyping. In addition, it also states a significance assessment will be undertaken.

Heritage Council Assessment

- 4.13 It is acknowledged that the SOH has committed to complying with the condition noted in the HIS and will undertake a significance assessment of the mechanical equipment and machinery, and in accordance with Heritage Council recommendations.

Recommendations

As per Heritage Council recommendations 5.34 and 5.35 (20 February 2019).

5.0 CREATIVE LEARNING CENTRE

Applicant response

- 5.1 The SOH Response states that the relocation of the entry doorway setback 1.95m from the podium wall is sufficient to maintain the deep shadow. It also states that the renders provided within the EIS did not accurately represent the proposed opening within the curved concrete wall, which is smaller than originally indicated.

Heritage Council assessment

- 5.2 It is still considered that the new location of the entry doors to the proposed Creative Learning Centre will emphasise the opening and impact the solidity of the base of the podium. Whilst the additional comparison renderings indicate the new location of the external doorway to be in shadow, they also highlight that the original doorway location is in much deeper shadow limiting visibility to it.
- 5.3 The additional renders provided support that the cutting of a large opening in the major curved loadbearing concrete wall to connect spaces is not as broad as what was initially indicated. The revised opening size allows sufficient area of the original wall to remain, providing an understanding of the original curved corridor space and room configuration.
- 5.4 In addition, details of strengthening of the wall to facilitate the new opening have been provided. This is consistent with works undertaken within the new Function Centre in the north eastern section of the SOH.

Recommendations

- 5.5 The proposed relocation of the western entry door should be revised to sit further east of the proposed location to ensure the deep shadow of the existing entry is retained. This is to be submitted as part of the Section 60 application for the works.

6.0 ARCHAEOLOGY

Applicant response

- 6.1 The SOH Response confirms that the proposal does not involve any excavation.

7.0 CULUMLATIVE IMPACTS

Applicant response

- 7.1 The SOH Response acknowledges that it will update the CMP following completion of the Building Renewal Stage 1 projects. The Summary Assessment of Impact tables have been revised in consultation with the Heritage Council.

Heritage Council assessment

- 7.2 The large scope of works proposed in the Concert Hall and Creative Learning Centre Renewal Project, and the overall SOH Building Renewal Program, including to significant spaces, fabric, forms and materials, will have a high cumulative impact on the heritage values of the SOH.
- 7.3 The revised *Summary Assessment of Impacts* model has been modified following consultation with the Heritage Division and a representative of the Heritage Council. This revision continues to progress the development of a model to assess the cumulative impacts. Heritage will continue to work with the SOH in the refinement of the model to better document and assess the cumulative impacts of the works. We shall further progress it once the section 60 application is submitted.

Recommendations

As per Heritage Council recommendation 8.4 (20 February 2019).