TO Sarah Jane Brazil	Kate Higgins Tom Sloane Chris Barling Ashley Cheong
COMPANY NAME	DATE Original Issue- 21 December, 2016
Office of Environment and Heritage	Revised Issue- 19 January 2017
FROM	PAGES 6 pages
Sydney Opera House	3 attachments

SUBJECT

Re: Sydney Opera House Function Centre Development and Ballet Rehearsal Reallocation (SSD7665)- Heritage Council Comments 30 November 2016 [REF DOC16/534144]

Memo.

Further to the comments issued by the Heritage Council in **Sydney Opera House Function Centre Development and Ballet Rehearsal Reallocation (SSD7665)-Heritage Council Comments 30 November 2016 [** REF DOC16/534144] the Sydney Opera House wishes to make the following comments;

1. OEH Comment

The submitted drawings show that the proposed alterations to the existing structure in order to form the three interconnected double height spaces for the function centre will require the demolition of the two existing concrete radial walls which are significant structural elements of the Podium. This will have an unacceptable impact on the significant fabric of the Opera House. It is considered that the walls must be retained and openings made within them so that a sufficient component of the original walls remain. This will provide clear evidence and understanding the original wall and spatial arrangement of the space.

It is noted that a drawing received from the Sydney Opera House on the 28 November 2016 being, Lateral Walls – Demolition – Elevations Opening being drawing no. 49 BRTZG04 (SK-04) Revision A dated 07.11.16 shows that a section of the existing walls are to be retained at the side and top.

The proposed new openings will require a significant extent of the existing radial walls to be removed. It is recommended that the size of the opening be reduced in order to retain a greater understanding of the nature of the original wall. It is noted that the applicant's heritage consultant has refrained from endorsing the proposed new openings.

1.1. SOH Response

- 49 BRTZG04 (SK-04) Revision A dated 07.11.16 attached for reference
- Clarification of structural opening sizes dated 20.1.17
- TZG (Architect) response attached



The structural opening proposed by the Sydney Opera House is 5775 (w) x 3650mm (h), which was clarified on the 20/1/17.



2 FUNCTION ROOM LATERAL WALL - DEMOLITION ELEVATION EAST 1:50



Figure 1- Extract from 49TZG04 (SK-04) 20.01.17 FOR REVIEW- showing revised opening sizes



This differs to the information provided in the supplementary plan drawing no. 49 BRTZG04 (SK-04) Revision A dated 07.11.16 to OEH initially as refinement of the structural analysis has meant that more of the wall can be retained.

The size of these openings have been workshopped with TZG and the Eminent Architects Panel, as detailed by TZG in their letter attached.

The introduction of openings in the wall are a balance between preserving heritage structure and introducing functionality & connectivity between the spaces.

"Opening heights of 2700mm, 3000mm, 3300mm and 3600mm were modeled and analysed in consultation with the EAP and it was agreed that opening heights of 3000mm and 3300mm caused an awkward relationship with the datum line of the glazing to the northern façade, which is 2700mm AFFL, 2700mm was too low and 3600mm was ideal and most appropriate in proportion."

"It was also agreed with the EAP that an opening of 3600mm high was sympathetic to the existing building fabric as it opens the view to the ceiling wobbly panels in the three interconnected spaces, which will be carefully removed and re-fitted."

"With the reduction of width comes a loss of amenity as areas of dead space are created at the ends of the radial walls, where loss of sight lines means tables and chairs cannot occupy these areas."

The following figure illustrates options considered during the design process for the structural openings.

TYPE 1 - LOW OPENING 2700mm HIGH - ALIGNS WITH UIS OF RING BEAM DON'T NEED TO CUT RING BEAM BRONZE FRAMED WHITE GLASS SIDE PANELS



OPENING: 4.8m(w) x 2.7m(h) UNEQUAL SIDE PANELS 4 EQUAL DOORS



OPTION 18: OPENING: 5m(w) x 2.7m(h) EQUAL SIDE PANELS 4 EQUAL DOORS





TYPE 2 - HIGH OPENING 3600mm HIGH - MAX. HEIGHT OF DOORS NEED TO CUT RING BEAM BRASS CLADDING TO SIDE PANELS





OPTION 3: OPENING: 4.8m(w) x 3.6m(h) EQUAL SIDE PANELS 4 EQUAL DOORS



OPTION 4: OPENING: 5.7m(w) x 3.6m(h) UNEQUAL SIDE PANELS 6 EQUAL DOORS (WIDER CAVITY)



PFION 5: PENING: 5m(w) x 3.6m(h) EQUAL SIDE PANEL8 EQUAL DOORS (WIDER CAVITY)





Figure 2- Function Centre Opening Studies

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Figure 3- Render of proposed function centre openings

It is not correct to say that the Opera House's "heritage consultant has refrained from endorsing the proposed new openings" The conclusion of the Heritage Impact Statement notes "Having considered all the potential impacts, both positive and negative, it is my recommendation that the issues raised in this HIS be noted and addressed, and the proposed Function Centre and Ballet Rehearsal Room projects be granted approval"

The openings have been commented on by the Eminent Architects Panel and endorsed by Design 5 and therefore Opera House believes that sufficient justification is available to enable the openings to be made as documented.

The Opera House does not believe that the opening size of 4755mm x 3000mm high (as per proposed condition New Works [3]) is not justifiable, as made clear by the Architect that it would provide an awkward relationship with the datum line and loss of amenity that comes with an opening width of 4755mm. Therefore SOH feel that the current opening size is justified.

2. OEH Comment

The proposed works maintain the existing curved glass wall facing the Northern Broadwalk, with external modifications limited to two new pairs of double bronze doors and the enlargement of the existing single entry on the western side of the podium. The proposed minor works to the external façade are considered acceptable as existing materials and details will be matched and because they will facilitate access to the proposed new function area. They are also reversible. It is recommended that further details be provided with the s60 application, and that building elements proposed to be removed be salvaged and stored for potential future use.

2.1. <u>SOH Response</u> Noted.



3. OEH Comment

The proposed internal refurbishment of the function centre area provides the opportunity to reinstate original finishes. It is recommended that where paint has been applied to significant concrete surfaces which originally had a face concrete finish, the paint should be removed and original finishes are restored. Details of this process should be provided to the Heritage Division.

3.1. SOH Response

Noted. What details does the OEH require?

4. OEH Comment

The proposed works require the infill of a number of existing openings in the function centre area. It is important that new work, including services, is secondary and is compatible with the existing adjacent materials, finishes and colours.

4.1. SOH Response

Noted, the proposed infill details and finishes are as per the details submitted on the documentation.

5. OEH Comment

The removal of the existing marquee from the northern boardwalk will considerably improve the setting of the Sydney Opera House and views to the northern façade of the Opera House.

5.1. SOH Response

Noted, we agree that this is an important conservation management step for the building.

6. OEH Comment

The relocation of the ballet rehearsal room removes the last remaining original rehearsal space under the Joan Sutherland Theatre. This is not considered appropriate as it impacts on the space's historical association with the building. While it is understood that the relocation of the rehearsal room meets the changing operational requirements, consideration should be given to relocating the ballet rehearsal back to the podium under the eastern shell if the opportunity arises in the future.

6.1. <u>SOH Response</u> Noted.

The Opera House has received the following endorsements from the Australian Ballet and Opera Australia who have been heavily consulted in the location and design of the space. They are resident companies within the Opera House who will be greatest affected by its relocation.

The Australian Ballet

• "Thank you for your letter of 20th October 2016 seeking The Australian Ballet's endorsement of the JST Acoustic Upgrade Project and the new ballet rehearsal room. In general TAB endorses the works and is excited by ongoing



improvements to Sydney Opera House facilities." - Libby Christie Executive Director

Opera Australia:

• *"Please be advised that Opera Australia endorse and support the renewal project as per the specifications documents supplied."-* Joe Martorana, Chief Operating Officer

This issue has been explored within the Opera House & its resident companies and it has been agreed that the proposed location of the Ballet Rehearsal Room will be temporary until a more appropriate location can be found, or a future major upgrade to the Joan Sutherland Theatre is undertaken.

For your consideration and your endorsement prior to the Opera House issuing formal Response to Submissions document to the Department of Planning and Environment.





Attachment 1-

SOH & OEH Revised Correspondence regarding structural opening sizes (Sent 20/1/17)





Chris Barling

From:	Camilla Persson <auto-reply-mel@aconex.com></auto-reply-mel@aconex.com>
Sent:	Friday, 20 January 2017 11:59
То:	Chris Barling
Subject:	TZG-MEMO-000528: Re: Function Centre- Lateral Wall Opening Clarifications
	ACNXREF <im5xucvt8pa1f6dylhoy4></im5xucvt8pa1f6dylhoy4>
Attachments:	161121 FC LATERAL WALLS DEMOLITION ELEVATIONS.pdf; 170120 FC LATERAL
	WALLS DEMOLITION ELEVATIONS.pdf

You have received a new Memorandum: TZG-MEMO-000528

Project:	Building Renewal
Туре:	Memorandum
Mail Number:	TZG-MEMO-000528
To:	Mr Chris Barling, Building Development Group
	Ms Regina Meyer, TONKIN ZULAIKHA GREER ARCHITECTS
Cc:	Simon Evans, Building Development Group
	Mr Matthew Lorrimer, Building Development Group
	Mr Alan Croker, Design 5 Architects
From:	C Persson, TONKIN ZULAIKHA GREER ARCHITECTS
Sent:	20/01/2017 11:58:49 AM EST (GMT +11:00)
Attribute 2:	02-09 Function Centre
Status:	N/A
Subject:	Re: Function Centre- Lateral Wall Opening Clarifications

Hi Chris,

As discussed on the phone, the only change has been a reduction of 100mm in the height of the opening as a result of further detailing and refinement to the operable walls and treatment of the head track in the opening. There has been no change to the width of the opening.

Please find attached updated Demolition Elevation showing this. Visually, the change is minimal and from a heritage perspective, we will be retaining more of the existing wall.

Kind Regards, Camilla Persson

tonkin zulaikha greer architects A 117 Reservoir Street Surry Hills NSW 2010 Australia P +612 9215 4900 P (Direct) +612 9215 4911 F +612 9215 4901 W www.tzg.com.au Nominated Architects Brian Zulaikha (NSW Reg. No.2791) Peter Tonkin (NSW Reg. No. 4147) Tim Greer (NSW Reg. No.5603).



Attachment 2-

TZG Letter clarifying structural opening sizes



11 January 2017

Senior Planning Officer – Key Site Assessment NSW Department of Planning and Environment GPO Box 39 Sydney NSW 2001

Attention: Mr Ashley Cheong



To Ashley,

SYDNEY OPERA HOUSE FUNCTION CENTRE DEVELOPMENT AND BALLET REHEARSAL ROOM REALLOCATION (SSD 7665) RESPONSE TO HERITAGE COUNCIL COMMENTS

I refer to the letter dated 30 November 2016 from Katrina Stankowski, Acting Manager, Conservation with the Heritage Division, Office of Environment and Heritage.

With regard to Condition 4 under New Works, the proposed opening size of 5775mm wide by 3600mm high has been settled upon as the result of multiple option studies and discussions with the Eminent Architects Panel (EAP) and Heritage Consultant.

Opening heights of 2700mm, 3000mm, 3300mm and 3600mm were modeled and analysed in consultation with the EAP and it was agreed that opening heights of 3000mm and 3300mm caused an awkward relationship with the datum line of the glazing to the northern façade, which is 2700mm AFFL, 2700mm was too low and 3600mm was ideal and most appropriate in proportion. Refer drawing A-9112 Lateral Wall Options in EAP Presentation on 12 October 2016 and Lateral Wall Option Perspectives taken from the EAP Presentation on 25 October 2016 showing opening heights of 2700mm and 3600mm. It was also agreed with the EAP that an opening of 3600mm high was sympathetic to the existing building fabric as it opens the view to the ceiling wobbly panels in the three interconnected spaces, which will be carefully removed and re-fitted.

The width of 5775mm wide has also been carefully considered and discussed with the EAP, and with the removal of the Marquee and the requirement for bringing the same level of function and operation back into the building, it is crucial that all usable space internally be maximised. With the reduction of width comes a loss of amenity as areas of dead space are created at the ends of the radial walls, where loss of sight lines means tables and chairs cannot occupy these areas.

The EAP and Heritage Consultant support the proposed openings and feel that the proportion allows for good level of interpretation of the original walls.

Yours faithfully

Tim Greer NSW Registration #5603 Nominated Architect



LATERAL WALL OPTIONS 3600mm high opening







EXISTING WALL SIDE

PERSPECTIVE LATERAL WALLS - 3600MM



LATERAL WALL OPTIONS 2730mm high opening



CONCRETE JACKET AND DOOR SIDE

PERSPECTIVE LATERAL WALLS - 2730MM

TYPE 1 - LOW OPENING

2700mm HIGH - ALIGNS WITH U/S OF RING BEAM

DON'T NEED TO CUT RING BEAM

BRONZE FRAMED WHITE GLASS SIDE PANELS



OPENING: 4.8m(w) x 2.7m(h) UNEQUAL SIDE PANELS 4 EQUAL DOORS **OPTION 1A:**



OPENING: 5m(w) x 2.7m(h) EQUAL SIDE PANELS 4 EQUAL DOORS



OPTION 2: OPENING: 5.7m(w) x 2.7m(h) EQUAL SIDE PANELS 6 EQUAL DOORS (WIDER CAVITY)

REV DESCRIPTION

DATE





TYPE 2 - HIGH OPENING

3600mm HIGH - MAX. HEIGHT OF DOORS **BRASS CLADDING TO SIDE PANELS** NEED TO CUT RING BEAM





OPENING: 4.8m(w) x 3.6m(h) EQUAL SIDE PANELS 4 EQUAL DOORS



OPENING: 5.7m(w) × 3.6m(h) UNEQUAL SIDE PANELS 6 EQUAL DOORS (WIDER CAVITY) **OPTION 4:**



OPTION 5: OPENING: 5m(w) × 3.6m(h) EQUAL SIDE PANELS 6 EQUAL DOORS (WIDER CAVITY)



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TLE	-ATERAL WALLS - OPTIONS				DRAWING NO	TENDER
DRAWING TITLE	LATERAI		SCALES		PHASE	
ARCHITECT	Sydney Opera House - Front Towkin zuLaikha Greer archittects	ABN: 46002722349	F: (02) 9215 4901	EMAIL 1mg/tzg.com.au	WEB www.tzg.com.au	
PROJECT :	Sydney Opera House - Front	of House Kenewal	FUNCTION CENTRE			PROJECT NO : 15031
CLIENT:	SOH Trust Phone: 0498 390 101 (Matthew Lonimer)	Email: morrmer@sydneyoperahouse.com				
BCAPCA CONSULTANT	ureup ULA / Smane Berry Phone: 0483 556936 Email: sheny@groupdia.comau	ESD CONSULTANT Quindall / David Clark	Phone: 0424 750340 Email: d clark@oundal.com			
ELECTRICAL ENGINEER	Soonneen varming / wan Mira Phone: 3967 2200 Emait: Non Mira@steenservarming.com	STRUCTURAL ENGINEER AECOM/ Jonathan Onslow	Phone: 0434 253 327 Errait: janathan onsibw@aeoom.com	ACCESSIBILITY CONSULTANT	EA ocleas / Richard Seidman Phone: 14(18,6,770)8	Email: residman@iaccessoonsultants.com
SECURITY CONSULTANT	A rup / Shane Norben Phone: +61:427:90:238 Errai: Shane.norbin@sinp.com	MECHANICAL ENGINEER	Phone: 02 8934 00.00 ing.com Email:Khang.lp@a.eoom.com	FIRE CONSULTANT	Arup / Alistair Monison Phone: 0405 6 01695	Email: Alistai cronrison@anp.com
AV CONSULTANT	Arup/Ben Moore Phone:+61401572490 Email:Ben.moore§arup.com	LIGHTING ARCHITECT Stensen Varning (Ashleigh Bretherto	Phone: 9967 2300 Errait Ashbigh Bretherton@steensenverr	HERITAGE CONSULTANT	Design 5 / Alan Croker Phone: 0416.227802	Emai: standken@design5.com.au
TANT ACOUSTIC ENGINEER	Arup (Christopher Sims Phone:+6129203462 Email: Christopher Sims@arup.com	HYDRAULIC ENGINEER Warren Smith Partners / Campbell Hazelt	Phone: +61 2 823 4 8555 Email: campbeli@ warrensmith.com.au	COST PLANNING CONSULTANT	Attus Group / Jason Finn Dhoos - 0.413 76:3463	Email: alex budhan@albsgroup.com
VERTICAL TRANSPORT CONSULTANT ACOUSTIC ENGINEER	Aecom / Brendan Byrne Phane: 0434 500 028 Emait b.byrne@ndy.com	FIRE ENGINEERING Waren Smith Partners / David Bolt	Y Phone: 0425 256 322 Errait: david@warmensmith.com.au	KITCHEN CONSULTANT	Mack Group / Nisha Ghantwal	Email: hq@madgoup.com.au
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Attachment 3

SOH & OEH Original Correspondence regarding structural opening sizes (Sent 28/11/16)



Chris Barling

From:	Chris Barling
Sent:	Monday, 28 November 2016 13:51
То:	Kathleen Higgins; Sarah Jane Brazil
Cc:	Alan Croker; 'Rebecka Groth'; Dan Keary
Subject:	SSD7665- Function Centre Structural Openings Clarification
Attachments:	161121 FC LATERAL WALLS DEMOLITION ELEVATIONS (1).pdf; Design 5 Structural
	Confirmation- FC.pdf

Good Afternoon Kate,

Further to our meeting on the 21/11/16 please see attached clarification of the structural opening sizes proposed for the function centre.

This documentation shows the size of the opening and see attached correspondence from Design 5 architector form Series 5 architector 5 This documentation shows the size of the opening and see attached correspondence from Design 5 architects





Chris Barling

From:	Alan Croker <auto-reply-mel@aconex.com></auto-reply-mel@aconex.com>
Sent:	Monday, 28 November 2016 09:26
То:	Chris Barling
Subject:	D5-ADVICE-000057: Re: Function Centre- Lateral Wall Opening Clarifications
	ACNXREF <eww5wjtawuiigihwlhoy4></eww5wjtawuiigihwlhoy4>

You have received a new Advice: D5-ADVICE-000057

Project: Building Renewal

Type: Advice

Mail Number: D5-ADVICE-000057

- advice provided 2011/17 To: Mr Chris Barling, Building Development Group Ms Regina Meyer, TONKIN ZULAIKHA GREER ARCHITECTS Camilla Persson, TONKIN ZULAIKHA GREER ARCHITECTS
- Cc: Mr Matthew Lorrimer, Building Development Group Mr Alan Croker, Design 5 Architects

From: A Croker, Design 5 Architects

Sent: 28/11/2016 9:26:13 AM EST (GMT +11:00)

Attribute 2: 02-09 Function Centre

Status: N/A

Subject: Re: Function Centre- Lateral Wall Opening Clarifications

Hi Chris, Regina and Camilla,

Apologies for the delay - still dealing with backlog from internet problems last week.

This revised demolition drawing from TZG (49 BR TZG04 Rev A) accords with the most recent discussions we have had on this issue. It confirms that the original radial (lateral) walls will not be entirely removed and will remain visible within the space.

regards

Alan

Alan Croker alancroker@design5.com.au Design 5 - Architects Pty Ltd 5 Queen Street Chippendale NSW 2008 AUSTRALIA Phone +61 2 9319 1855 Facsimile +61 2 9319 0836 Nominated Architect: Alan Croker 4693

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To: Chris Barling, Regina Meyer Cc: Matthew Lorrimer, Alan Croker Mail Number: TZG-MEMO-000387 Subject: Re: Function Centre- Lateral Wall Opening Clarifications

Hi Chris,

Please find attached sheet with the Demolition Elevations showing the size of the proposed openings in the Lateral Walls.

Kind Regards, Camilla Persson

tonkin zulaikha greer architects

A 117 Reservoir Street Surry Hills NSW 2010 Australia

P +612 9215 4900

P (Direct) +612 9215 4911

F +612 9215 4901

vv <u>www.tzg.com.au</u> Nominated Architects Brian Zulaikha (NSW Reg. No.2791) Peter Tonkin (NSW Reg. No.4147) Tim Greer (NSW Reg. No.5603).

201/117

From: C Barling Sent: 21/11/2016 12:44:37 PM EST (GMT +11:00) To: Regina Meyer, Camilla Persson Cc: Matthew Lorrimer, Alan Croker Mail Number: BD&M-MEMO-001637 Subject: Function Centre- Lateral Wall Opening Clarifications

Hi Regina,

Office of Environment and Heritage (OEH) have asked for clarification on the proposed openings in the lateral walls to create the Function Centre space, see attached. Our DA documentation does not provide this detail.

The current 50% documentation [49 BR TZG04- A500] shows the door openings D GR-12 & D GR-13 to be 5750 x 3600mm.

Do we have an elevation of these doors to show the extent of wall that is proposed to be left around these doorways? If not can we please have this provided to us in a sketch (hand drawn is fine)?

They have requested this prior to providing a response- how quickly could this be turned around?

Regards,

Chris Barling

Renewal Project

M: 0467 795 254

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