



# City of Seattle

## Department of Construction and Inspections

### Engineering Services

BRIAN J PALIDAR  
1735 Westlake Ave N, Suite 200  
Seattle, WA 98109

**Re: Project# 6600506**

### Correction Notice #1

<b>Review Type</b>	STRUCT ENG, ORDINANCE	<b>Date</b>	December 05, 2017
<b>Project Address</b>	118 W Mercer St	<b>Contact Phone</b>	(206) 365-1230
<b>Contact Email</b>	brian@grouparch.com	<b>Contact Fax</b>	(206) 365-1857
<b>SDCI Reviewer</b>	Ben Enfield	<b>Address</b>	Seattle Department of Construction and Inspections 700 5th Ave Suite 2000 PO Box 34019 Seattle, WA 98124-4019
<b>Reviewer Phone</b>	(206) 615-0774		
<b>Reviewer Fax</b>			
<b>Reviewer Email</b>	Benjamin.Enfield@Seattle.gov		
<b>Owner</b>	JOHN SHAW		

### Applicant Instructions

Please see the attached flyer to learn "[How to Respond to a SDCI Correction Notice](#)".  
If the 3-step process outlined in this document is not followed, it is likely that there will be a delay in permit issuance and there is a potential for penalty fees.

### Codes Reviewed

This project has been reviewed for conformance with one or more of the following codes: 2015 Seattle Building Code (SBC); 2015 Seattle Residential Code (SRC); 2015 Seattle Existing Building Code (SEBC); 2015 Seattle Energy Code (SEC); Grading Code; Environmentally Critical Areas Regulations (ECA).

### Corrections

- 1 SBC 1704.2 - Complete and return the attached SDCI Statement of Structural Special Inspections, signed by the owner or engineer or architect acting as the owner's agent. Note: SDCI will not accept the signature of the contractor on the statement.

#### General

- 2 Provide approval from SCL for the vault location.
- 3 A203 - SBC 2406 - Show that that Window F is tempered as required.

A6.10 - SBC 2406 - Verify that the glass around the doors are tempered.

- 4 A7.02 - detail 6 - At level 2 the stair cuts away the 2-hour ratings. Revise as required.

### **Chapter 3**

- 5 A0.12 - Level 1 - Retail area is M space, not B. Revise the loading at the level, the occupant load of the level, the egress paths, the accessible egress paths, and the occupancy on this sheet.

### **Chapter 7**

- 6 A0.13 - SBC 705.8

A. The covered area at level 1 at the right of the diagram is considered open per I705.8. Revise the openings as required.

B. The elevator wall is less than 15' from the property line. Revise the allowable openings/remove the section of wall from the allowed openings.

- 7 Vault Exhaust shaft - SBS 707.5.1 Supporting construction - Show the continuity of the vault exhaust shaft. Show that any supporting construction for the exhaust shaft also has a 3 hour rating.
- 8 A2.03 - The roof of the south part of stair B is required to be 2 hours at the southern extension of the stair. The supporting construction is also required to be 2 hours. Show how this has been accommodated.
- 9 A2.14 - Provide details for the rating around the ducts.

### **Chapter 10**

- 10 L1.0- 6/A0.16 - The eastern section of the green roof is enclosed by the guardrail and will be required to be a part of the 100psf/15 sf/person area unless it can be shown that the area is not conducive for standing or sitting.
- 11 2/A0.13 - SBC 1009.3 - The M space will have more than 50 occupants and will require 2 accessible means of egress. Per 1009.3, AMOE may not go through a exit access stairway that connects levels in the same story. Revise as required.
- 12 A9.11 - SBC 1020.5.2 - Is the space between the corridor ceiling and the floor or roof structure being used as a return air plenum?

### **Chapter 12**

- 13 SBC 1207 - The vault exhaust shaft is shown to demise two units. Show that the two walls have a minimum STC rating of 50.
- 14 A9.01 - Detail 22 - The referenced GA File does not have the required STC rating of 50. Revise details/referenced details here and at W.32 to have STC of 50 or more.

### **Lateral Wood**

- 15 Calc Crit 1 -

A. Show that the solar roof has been included at the roof (also for gravity loading, not anticipated to change design). Show that the green roof within the occupiable roof area has been designed for the solar weight.

B. The east portion of the green roof is within the handrails of the amenity area, and appears to be required to be designed as an assembly area with 100 psf live load.

- 16 S2.3 - Level 3, LAT4 - Show the load path for the transfer of forces into the shear walls at grid 1. Show that the diaphragm capacities have not been exceeded.

- 17** Calculations LAT X - The building is an open front structure in both directions. Show how SDPWS 4.2.5.2(3) has been accommodated for in the design, with the diaphragm either being analyzed as rigid or semi-rigid. This is anticipated to increase forces in the shear walls immediately adjacent to the open front. (note that, if a semi-rigid analysis is required per SDPWS, the city accepts design for the envelope of forces of a rigid and flexible model)

#### **Lateral Concrete**

- 18** Calcs CL1 - The weight of the wood levels above appear to be taken as 46k. It appears that this should be 470k. This is anticipated to increase the forces in the concrete designs by about 40%. This is anticipated to change the concrete design.
- 19** Calcs CL1 - This building has been analyzed as a podium. Per ASCE 7-10 12.2.3.2, the lower portion of the building is required to be designed as an ELF. The design has been conducted with a response spectra analysis. Due to the presence of torsional irregularities, the code requires the use of a RS. Since the base shear requirements of 12.2.3.2 with an ELF are higher than with an RS, if a RS is used, it is required to be scaled to the ELF base shear. This is anticipated to increase the forces in the concrete design by  $1/0.85-1=18$  percent.
- 20** Calcs CL1 - ASCE 7-10 12.7.3 - For the modal analyses please show full printouts for the model, including the modal mass participation ratios. It is somewhat surprising for a 1 story structure with modal analysis to have sufficient higher mode effects such that only 60% of the ELF shear is present in the CQC'd results.
- 21** Calcs CL2 - ASCE 7-10 12.7.3 - Show that the diaphragm openings adjacent to the shear walls has been modeled. Show that (due to the irregularities present, and the openings at the shear walls) the diaphragm has been modeled as semi-rigid. Note that S2 and E1 have no slab contact, with E1 not even having bearing. Note that EA will require forces to be drug south of 5 through the slab segment between E and F, or collectors will be required to be provided.
- 22** Calcs CL31 - Show analysis of the shear walls for both maximum and minimum axial loads (including  $0.2S_{ds} \cdot D$ ), typ all shear walls.
- 23** Calcs CL40 - The shear forces for the force transfer do not include rho or, where collectors are required at S2, E1, and EA, overstrength. This is anticipated to increase the forces in the transfer and collectors by 30%-100%.
- 24** Provide the design for hold-downs anchored to concrete. Include
- A. The ACI 318-14 chapter 17 calculations
  - B. Calculations for the transfer slab showing that the uplift-compression couples do not overstress the slab. It appears that the design provided only includes gravity design.
- 25** S3.1 & S3.2 - Show that the vertical dowels for the shear walls have been developed per 18.10.2.3, for  $1.25 \cdot f_y$ .

#### **Wood Gravity**

- 26** S2.3 - There are joists are called out as RJ2. Is this intentional at a level that is not the roof?

#### **Concrete Gravity**

- 27** Calcs C8 - page 5 -
- A. Why is the moment at the rigid support less that at the column on the other side of the span? Is this an ADAPT artifact of centerline modeling of the support and reduction of moments to the face?
  - B. Why are the sum of the moments on each side of the wall less than the moment in the wall? Please draw a balanced free body diagram showing the moments in the slab and the wall.

**28** S2.2 - Opening at D6

A. C21 - The column at grid C has a drop cap and an opening to the south of the column. Show how the design has included the large opening, the superimposed loads from the stairs, how the drop cap complies with the geometric requirements of ACI 318-14 8.2.4 and 8.2.5, how the column strip has been designed without apparent area in the column strip, and how the loads on the column and adjacent slab take into account the discontinuity.

B. C30 - the column at the east side of the building has a drop cap and has an adjacent opening. Show how these geometric discontinuities have been included in the ADAPT model.

C. Provide details for the slab to the east of the opening. It does not appear to be able to support the wall and posts at this side of the stair.

**29** C65 - 8/S3.5 -

A. ACI 318-14 18.14.3 18.7.5.2(f) - Show that the transverse reinforcement where  $P_u$  is greater than  $0.3 A_g f'_c$  meets the requirements of the referenced sections.

B. ACI 318-14 18.14.3.2 - 18.8.3.1 - Show the required confinement within the slabs.

**Soil**

**30** Provide foundation calculations.

**31** C300 - There has not been a design for the shoring beyond the maximum 0.75:1 slope approved by the geotechnical engineer. Provide the design for the shoring and the full temporary grading plan.

**Misc**

**32** Calculations page 127 (canopy) -

A. Provide ACI 318-14 Chapter 17 calculations for the concrete anchorage. Note that the canopy calculations appear to use allowable stresses.

B. Provide full calculations for the MC section capacities. There are cases where steel is governed by additional load cases than fb checks, including LTB. Note that the top flange is probably not braced.

**33** 4&8/S4.4 - Provide calculations for the moment connection, including the welding, bolts, and block shear. Clarify whether the bolts are to be slip critical.

☐ Revised Schedule    ☐ Addition to Previous Schedule    ☒ SEBC2015PR



## SDCI Statement of Structural Special Inspection

**Project Number** 6600506

**Date** Dec 05, 2017

**Project Address** 118 W Mercer St

**SDCI Plan Examiner** Benjamin Enfield

**Architect**

**Architect Phone**

**Engineer**

**Engineer Phone**

Prior to issuance of a building permit, the owner, architect, or engineer acting on behalf of the owner shall appoint an inspection agency and, if required, an engineering firm to provide structural observation, and shall sign and submit this form to the building official.

### Property Owner, Architect, or Engineer Signature

I hereby certify that the engineering firm and inspection agency named below have been engaged to perform any required structural observation and special inspections outlined below as required by the Seattle Building Code. It is the responsibility of the owner or the owner's designee to notify the inspection agency or observer in a timely manner when the inspections listed below are required.

Signature

Title

Date

Phone Number

### Required Special Inspections

**Inspection Agency Name**

**Inspection Agency Phone**

Inspection Type	Description
1. BRICK VENEER	
2. REINFORCED CONCRETE - CIP	
3. COLD FORMED STEEL FRAMING	
4. HIGH STRENGTH HOLD DOWN SYSTEM	
5. PT PRESTRESSED CONCRETE	
6. SHORING SYSTEM WELDING	if used
7. SHOTCRETE	if used
8. STRUCTURAL STEEL ERECTION	
9. STRUCTURAL STEEL FABRICATION	
10. WOOD SEISMIC RESISTANCE SYSTEM	

**Call (206) 684-8860 to schedule a pre-construction conference before the start of construction**



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### Step 1: Wait for all reviews to be completed

- You may check the status of any review at the following link:  
<http://web6.seattle.gov/dpd/permitstatus>
- All reviews must be completed before the applicant can respond, upload, or submit any correction responses.
- **Electronic Plans:** We will send correction letters to the Seattle DCI Project Portal. We will notify the primary contact for the project when all reviews in the review cycle are complete.
- **Paper Plans:** We will notify the primary contact for the project by email or phone when all reviews in the review cycle are complete and plans are ready to be picked up. Once you have been notified, pick up the plans at Plans Routing in the Applicant Service Center.

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### Step 2: Make Corrections

**Provide a written response for each item on all correction notices. We will not accept corrected plans without written responses. Include the following information for each item:**

- Describe the change
- Say where the change can be found in the plan set
- If you have not made a requested change, give a code citation or provide calculations to explain why not
- Coordinate responses to correction items among all designers, architects, engineers, and owners
- If you make voluntary changes to your plans, describe the changes you have made in your response letter

#### **Correct your Plans:**

- Cloud or circle all changes
- You may add new sheets to the plan set if you have new information to show

#### **For Electronic Plans:**

- Always upload a complete plan set

#### **For Paper Plans:**

##### **If you replace sheets in the paper plan sets:**

- Remove the old sheets, mark them as "VOID," and include them loose at the back of each plan set
- All original sheets and plan pages must be returned to Plans Routing in the Applicant Service Center
- Insert the new sheets and staple the plan sets

##### **If you make changes to the original paper plan sheets:**

- Make all changes with ink (preferably red, waterproof ink). Do not use pencil to make changes
- Do not tape or staple anything to the plan sets

**Platting Actions:** Provide new copies of the survey when responding to a correction notice for a shortplat, lot boundary adjustment, or other platting action. Provide the same number of copies that were required when you submitted the project.

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### Step 3: Submit Corrected Plans

#### **Electronic Plans:**

Upload your corrected plan set and correction response letter through your Seattle DCI Project Portal.

#### **Paper Plans:**

Return your corrected plans and your correction response letter to Plans Routing in the Applicant Services Center.

#### **If you don't follow these instructions:**

- **Plans Routing may not accept your corrected plans**
- **We may be delayed in starting corrected plan review, which can delay permit issuance**
- **We may charge a penalty fee**