

ATTENTION > John Wallace, SAC Chairperson
REGARDING > 140 Edgehill Way SAC Hearing Minutes
DATE > 2022 06 23

Janey Chan introduction:

Pursuant to San Francisco Building Code Sections 105.6 and 106.4.1.2, a Structural Advisory Committee (SAC) was formed to provide independent expert review and to make recommendations to the Director of Building Inspections on the proposed project:

- > Permit Application Number PA# 2020-1017-6696.
- > Project Address: 140 Edgehill Way.
- > Project Description: Vertical addition to existing 2-level single-family residence and converting existing unconditioned space into new one car parking garage.

AGENDA:

1. Roll call.

Project Architects, Schwartz and Architecture | S^A

- > Neal J. Z. Schwartz (NJZS)
- > Christopher Baile (CB)
- > Neil O'Shea (NO)

Project Structural Engineers, ZFA

- > Evan Gray (EG)
- > Jason Powers (JP)
- > Sean Westbrook (SW)

Project Geotechnical Engineers, Romig Engineers, Inc

- > Ben Romig (BR)
- > Dick Woodard (DW)

Project Geologist, Romig Engineers, Inc

- > David Hoexter (DH)

SAC Members

- > Frank L. Rollo, GE, Geotechnical Engineer (FR)
- > John Wallace, CEG, Certified Engineering Geologist (JW)
- > John Hom, SE, Structural Engineer (JH)
- > Harvey Hacker, AIA, Architect (HH)

DBI

- > Janey Chan (JC)
- > Ming Ge (MG)

2. SAC to select Chairperson to conduct this SAC review meeting.

- > FR: nominates John Wallace – Accepted.

3. Public comment on items other than calendared items.

- > JC: no public comments via email. No public present, no comments at this time.
- > JW: closes item.

4. Scope of SAC's Review and Discussion per SFBC Sections 105A.6.3 and 106A.4.1.2

- > From Notification:

SAC will perform the design review to provide the Director of Building Inspection with a written report concerning the following review considerations, as applicable:

- *The safety and integrity of the proposed design and construction;*
- *The effect that grading construction activity related to the proposed project will have on the safety and slope stability of the area during the construction sequence, and after the construction at subsequent development stages, and interim measures to mitigate any potential sliding and erosion of the site;*
- *The validity and appropriateness of the geotechnical/structural design concepts and criteria;*
- *The adequacy of the geotechnical and geological investigation and study and the appropriateness of the recommended design parameters;*
- *The evaluation of the grading design in preparation of the planned future building/structure development, to determine the appropriateness of its capability to perform satisfactorily without failure; any perpetual limitation of the site to be imposed regarding the level of future development, such as the future excavations, and/or vertical and horizontal additions from the original plan.*
- *The constructability of proposed structural details and construction sequencing and methods;*
- *The sufficiency of the proposed inspection, testing and monitoring to be provided prior to, during, and after construction.*
- *Items to be reviewed will include but not be limited to geotechnical and geological investigation and study, designs, details, drainage, erosion during and after construction, construction/erection methods, appropriateness and adequacy of the proposed shoring design, quality control and special inspection specified.*
- *Site monitoring plan during and after improvement and installation are constructed;*
- *Necessity of follow-up review by the SAC for the additional site findings by the Geotechnical Engineer and Certified Engineering Geologist of Record's during grading, excavation, and construction against the assumed and recommended geotechnical/geological design parameters.*

The review shall include the evaluation of the stability of the project site with regard to the proposed subsequent development and the effect of its development on the stability of adjacent Areas. Review will consider factors including but not limited to design criteria and performance objectives, soil and site conditions, geological factors, historic site stability, the anticipated foundation system designs, soil and

site improvement systems design, shoring/earth retaining system design, structural systems design, on and off site drainage impacts, and other proposed improvement designs for compliance with design criteria and performance objectives.

5. Applicant team presents proposed project with documents and plans.

- > JW: notes that the project architect is responsible for minutes.
- > JW: gives outline – project team will present, SAC will comment. Reads project documents and description into the record.
- > FR: wants to include JH shoring markups to record of project documents.
- > S^A: shares site plan. This is an older house; the original intention was to not add horizontal addition. Instead, add vertically and work with existing house to conserve resources. In the Project Review meeting, the Planning department determined there is no front setback, which allowed a very small exterior entry porch. No other horizontal additions are proposed. The back of the house has a patio and retaining wall, which we are keeping. We are only adding a third-floor addition. During project development we were unsure how much of the existing foundation could be kept and relied upon the support of our consultants to understand the scope of work. In essence we landed on a brand-new foundation, though originally, we hoped the existing one was salvageable. (Shows building section through site, A.06) Shows outline of existing house vs addition. Toned in light gray is allowable massing. Describes averaging of property grade to establish allowable height.

6. Public Comments.

- JC: No public present.

7. SAC Panel Discussion.

- > FR: asks if there are new walls proposed outside of the house. NJZS outlines that everything is existing except for foundation work at house. FR asks about cuts to other sides of the house. NJZS offers presenting other drawings. HH says everything shown so far is perfectly clear. S^A stops sharing.
- > JW: notes the site is in the Slope Protection Act – significant slope instability throughout the City in the 90s – city and everyone concerned about geology – asks DH for overview of his findings.
- > DH: not aware he would be making a formal presentation, but happy to give overview.
- > S^A shares Site Plan Figure 4 of the Geologic Report
- > DH: this is vicinity map, shows red portion with Edgehill – Edgehill was a cause of SPA, opposite side of hill from property. Old quarry. **Cutting to chase – nothing indicates significant past instability at the site. Borings showed shallow bedrock outcrops, indicate chert at top of house.** Look at Figure 2 – site plan. You can see cross section shown blue. Essentially same as architects. Site plan shows two boring locations. Green area is thin fill mass – does not appear it is

supporting residence. Landscaping fill. Red is interpretation of cuts into the slope for house and patio. Goes to profile figure 3. Shows relationship to bedrock. Asks for questions.

- > **JW: my review of geology, didn't find any disagreements with work.** Shallow bedrock depths based on assessment of borings. One thing is potential for shallow sloughing of steep upslope areas. Recommend free board. Has any of that been highlighted or worked into project? **DH says it has, 2 feet freeboard along back wall.** JW - recommendations from Geotech are to extend footings into bedrock, which is good. Temp construction instability is a potential issue. Bedrock stratification perpendicular to slope itself. Excavations to be monitored. **No issues from geologic standpoint. no action items i.e. Further investigation or items that were missed.**
- > FR: would like to talk about geo and Geotech at same time. Hold comments for Geotech. Asks Romig for overview.
- > BR: 2 exploratory borings, one in front and one upslope behind two retaining walls. Found bedrock at 3.5 to 4 feet below ground surface. Silty sand layer above that. Main concerns found and discussed included steep slope uphill and potential for varying support conditions. Bedrock and fill in different areas. Decided to recommend shallow foundations to extend into bedrock. Front portion may need to go deeper. Alternative to drill piers at front section. project team decided on deeper shallow foundation.
- > **FR: talk about exploration. where does the existing foundation lie in relation to existing ground surface. Seems beneficial to dig test pit to find bottom of footing at north side.** Has there been thought given to this? Pits provide more information. Approach shoring with more caution depending on findings. Near EB2. Wouldn't take long
- > BR: Definite possibility. Thought that during construction we would be out there to see site conditions. Test pit would take away guess work. FR would find comfort from Geotech perspective to understand existing footing depth before shoring. Lagging and potential void issues could be identified. **FR would like to see pit – his recommendation.**
- > FR: geology report- reference made on page 5 to origin of tiebacks as uncertain. Per site visit, tie backs actually are brackets for prior handrail on eastern wall, so no tiebacks. Went with JW for site visit. Appears wall on east side was added later. Different concrete and brick work. **Is there any permit history on that wall? NJZS does not recall, can investigate it.** FR just curious.
- > JP: suggestion to dig pit at existing footing – shoring phasing first, then replace that footing to gain passive pressure. Just wants to clarify. **FR says it is up to team, but just thinks it would be helpful to dig test pits. JP happy to support, but just saying that verification can happen during demo.**
- > JW: asks to walk through sequencing on front side so we know structure won't be undermined. Is it instrumental to know where footings are? For owners to know. Walk through entire sequence.
- > FR: No concerns with site class condition. Page 7 foundation should be 5 feet from face of slope on north side. Code says 7? Please check. No problem with values or pressures. Has concern on page 9 – passive soil resistance neglected – 4 feet on north wall resistive area. No test data on quality of material. Concerned that if fill is within only 4 feet of surface, relying on that material for passive resistance is not acceptable.. Rather, design that foundation element to gain passive lateral resistance in the rock – ignoring fill and residual soil. Asks to rethink from design standpoint. **Why are you giving different values for retaining wall and drilled piers?** 350psf vs

450psf. DW: because upper 4 feet neglected. BR confirms. FR: designer used 450psf in calcs for structural and shoring – page 2. FR has no problem but asking why two different values. Review letter June 7th – excellent, very thorough. Only element missing is referencing review and geotechnical parameters used in design. **Asks for Romig to look at this for clean letter – comment on Geotech parameters used. Make sure appropriate design values used. DW says that makes sense. Clarifies that using conservative number at back level – 45 pcf plus 8h for basement wall was appropriate because back wall mostly supporting strong bedrock material.** JP comfortable with back wall being designed for level conditions. FR doesn't disagree, just wants the Geotech to acknowledge that it differs from recommendations. DW agrees.

- > **FR: last point is drainage behind the wall** – structural shows drain rock, fact is vertical cut won't allow drainrock, need drainage panel. Wants drawings to reflect actual conditions. Need to show drainage plan for how water gets out to Edgehill. Says Romig asked for that in review letter. Needs to be separate drainage plan. DW on same page. Says they have been working closely with ZFA. FR thanks everyone and kicks it to JH.
- > JH: issued 6 pages of red marking. Sheet 1 – Footing acting like soldier beam. Orange like lagging. Must build “U”-shaped wall to support hill while holding upper floor. Right side points on need two extra piers to hold up this shoring. Alt would be soldier beam, but can't get drill rig for two sb. Repeats markups on second sheet. This is how you build. Page 3 – elevation. Need green (color shown on comment set) strut until foundation is poured. Bottom of pier needs to be communicated to contractor.
- > JH: can use diagonal braces at corner rather than cantilever. In order to complete this wall addition, need all these elements. FR clarifies that east side needs lagging because of vertical cut.
- > FR: is pier 6 going to interfere with foundation line 1 and 1.6 in drawing? JH talks about keys and mat.
- > JH: says the foundation is acting like a beam. **FR says leave it to Romig and ZFA.**
- > SW: intent is for new footings along Line-E to act as deadman. Piers 1-6 drawing (SH 2.1), lag between to steel soldier piers cast into existing footing. Top left plan w beam runs across property for horizontal thrust reaction. FR what is distance between pit at line 4 and soldier pile? SW it is about 12 feet. Mostly rock there, tapers down to 0. Not full wall of soil needs to be shored. JH Sheet 6 detail 1 extend lagging. FR clarifies that JH is recommending pits, ZFA says install soldier pile and span 12'. FR says there is big difference between design and JH suggestion. Acknowledges that contractor might have trouble with design, needs to be discussed.
- > SW: piers on D not that deep because loading is small. Okay with additional hand-dug pier, will explore to see if it makes sense. Soldier piers shown currently braced at top with steel strut. Will talk to contractor about lagging. JH either way you must shore return walls.
- > NJZS asks what to do with means and methods options – how do we document? What is expectation? **FR – SAC task is check that the site remains stable all the way through construction – if ZFA decides as designed, will be stable, and Romig sign off, SAC is good. JW agrees – somewhat means and methods – want to pass on experience to be helpful. Just want to make sure comments are addressed and considered.**

- > **FR: drainage needs to go to panels and need to show path of water getting away around u shaped wall.**
- > JH: sheet 5 detail 7 – need lagging between piers and drainage panel. All in agreement. Detail 8 – still usable for building in front. Needs open cut. FR says they don't have open cuts.
- > SW says site walls near driveway stay. JH suggests doweling. SW will review.
- > **SW: struts between hand dug piers – original thought was leave existing footings, but acknowledges temp struts make more sense. Will clarify on drawings.**
- > JH: clarifies everything is new at bottom floor. SW confirms.
- > JC: any notes in these drawings about when temporary elements can be removed? SW yes, shoring sequencing notes on first sheet middle. SH2.1, 2.2.
- > DW asks for John Hom's markups – They are public and have been shared with everyone multiple times.
- > JH: wants line E to be continuous – SW confirms it is. DW asks to drop kicker lower. SW says yes. FR asks to call out depth on shoring. Romig to establish requirements into rock. FR. S4.1 detail 1 shows 6 inch minimum – wants to be reconsidered. SW will coordinate with Romig.
- > SW return walls will be cast as soon as possible for stability. It is shown on plans in sequencing.
- > FR: has no issues with Geotech report, no issues with Geology, respect structural designers, JH, believes differences can be resolved. **If letter by Romig is responded to appropriately, no need for another meeting. Does see need for each member of SAC to review final documents before signing.**
- > HH: great interest in asymmetric foundation condition and back of wall drainage. Both adequately addressed. Good presentation.
- > JW additional test pit? Action item?
 - o FR supports. Encourages.
 - o JW is there need if designing for worst case? If not, JW wants additional pits.
 - o FR how deep is cribbing? SW says deep as possible to avoid surcharge on foundations. Will coordinate with Romig.
 - o SW will review.
- > **DW asks about contractors. NJZS says DKG. DW would like to coordinate with contractor that will be performing work. FR says have DKG go out to explore existing conditions. Win win.**
- > **JW: action items**
 - o **Consideration of supplemental excavations against exist foundation.**
 - o **Check free face measurements – 5' from slope edge to face of footing.**
 - o **Check 2' neglected passive, actual fill depth is 4'**
 - o **Check passive resistance consistent throughout project.**
 - o **Plan review letter – review input parameters in calculations and shoring.**
 - o **Drainage clarified, plan view path for water conveyance.**
 - o **JH waterproofing at pier and connecting walls in basement**
- > DW – how best to respond? Action items can be listed in review letter.
- > NJZS – what is process moving forward?
- > **JH waterproofing at pier and connecting walls in basement? S^A to add.**
- > DH asks about process of digging pit – instructions for contractor. Extend into bedrock with pit? Would be 4+ feet. FR yes dig 4' then probe with rebar until refusal. Expects someone from

Romig to be out there to map and log with photo. Photo will be part of response. DW will coordinate with contractor.

- > JC: SAC will see revised drawings before letter confirming.
- > **FR says we need minutes first that include action items, signed off by SAC first. Then responses with independent documents. Draft goes to JW, initial comments go to SAC and DBI, sends comments back to S^A, then submit record.**
- > JC: plan process resumes when responses come in. After SAC, departments need to visit site.
- > GM once we have comments and letter from SAC, should be easy to finish. Back check projects priority. Finish project in 1 week.
- > FR suggests sending one package for SAC to respond.
- > S^A to send motion right after meeting.

8. Motion of recommendations to the Director of Building Inspection, and for incorporation into project design, if any.

- > SAC in agreement no second meeting. JW these are small items. FR suggests motion: On the basis of SAC's review of documents listed by chairman, personal site visits by the members of the SAC, and prior knowledge of the area from past project reviews, we recommend that DBI move forward with its final review toward approval consistent with its policies and practices, provided the action items presented in the minutes are addressed and acceptable to the SAC. **HH fully supports FR comments – this project does not bring up contentious issues of previous projects. Not appropriate to have another meeting. Moves to adopt FR language. JW seconds that.**

9. Adjournment.

- > JW: is there any public commentary? JC there is no public. FR moves to close public portion of meeting.
- > JW motions for meeting to be adjourned.