



Primary Contact:

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Property Owner:

Derek & Eileen Cheshire
7615 E Mercer Way
Mercer Island, WA 98040

June 17th, 2025
City of Mercer Island

Permit# CAO25-005 (Cheshire Residence SFR)
7615 East Mercer Way, Mercer Island, WA 98040

CORRECTION RESPONSE MEMO

PLANNING REVIEW – REVIEWER RYAN HARRIMAN

CORRECTION ITEM #1: The proposed development is encroaching into the wetland buffer and associated setback as established by SUB20-002. It appears that the retaining wall is outside of the approved building pad. Please provide documentation that would allow this to occur.

Project Team Response: Ryan Harriman provided further clarification re: which portion of development he had a question about re: encroachment into the wetland buffer in an email from May 5, 2025. Areas highlighted by Ryan included low hardscape walls on the west side of the house, as well as a portion of a pergola structure. Plans have been updated to reduce these walls to less than 4' in height. Pergola has been restructured to be completely within 5' building setback from approved building pad. These walls serve as landscape edging to the lawn and patios. Some are seat walls. Our landscape team cited 19.07.190.C.8 re: hardscape and landscape allowances for buffer spaces.

Wall shape/height (including labeling) and pergola shape have been updated/clouded on the following sheets: A1.0, A1.1, C2.0, C2.1, C3.0, L1.0.

CORRECTION ITEM #2: Show all the setbacks on the plan set for this permit and building permit.

Project Team Response: Yard setbacks have been added/clouded where missing prior to Sheets C1.0, C2.0, C2.1, C3.0, L1.0, L1.1. Wetland Setback/Building Pad and 5' Building Pad Structure Setback have been added/clouded where missing prior to Sheets A1.1, C1.0, C2.0, C2.1, C3.0, L1.0.

GEOTECHNICAL PEER REVIEW – REVIEWER MICHELE LORILLA

CORRECTION ITEM #1: The statement of risk on page 5 of the report indicates: "The development is so minor as not to pose a threat to the public health, safety and welfare." The reviewer does not agree with this statement of risk when the potential impact of failure of the steep slope to the west and potential post-seismic impacts to the property and structure are considered. Please consider an alternate statement of risk available in MICC 19.07.160.B.3.

Project Team Response: For this correction response, please review Item 1 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #2: Please provide a scaled site plan with elevation contours showing the boring locations.

Project Team Response: For this correction response, please review Item 2 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #3: Please provide surface and subsurface information for the slope located to the west of the proposed structure.

Project Team Response: For this correction response, please review Item 3 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #4: Please provide a slope stability assessment of the entire site (including the slope west of the residence) under static and seismic loading conditions. Please include the computer printout of all the results of the slope stability analyses. Appendix B of the geotechnical report was not included in the submitted report.

Project Team Response: For this correction response, please review Item 4 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #5: A maximum design earthquake acceleration of 0.35g was used in stability analyses as noted on page 6 of the geotechnical report. Please revise all analyses and design recommendations to include a peak ground acceleration associated with a 2% probability of exceedance in 50 years earthquake as required by IBC. Please clearly show what seismic coefficient was used in the stability analyses.

Project Team Response: For this correction response, please review Item 5 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #6: Please show on the slope stability cross-sections the locations and subsurface information (SPT, soil type and groundwater condition) of the borings used to generate the stratigraphy shown on the sections. Please provide discussion on the stratigraphic changes from one section to another and how the groundwater level was determined across the sections.

Project Team Response: For this correction response, please review Item 6 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #7: Please review the soil strength values assigned under seismic loading conditions and provide supporting information for their use. An increase in cohesion while maintaining the same effective friction angle would result in a higher factor of safety against slope instability under seismic loading which would not be expected. Please revise soil strengths and slope stability analyses.

Project Team Response: For this correction response, please review Item 7 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #8: Unless otherwise determined, it should be assumed that the residence may be impacted by a future landslide since a landslide reached the garage in 1997. Please provide mitigation recommendations. Please consider all types of landslide failures.

Project Team Response: As built photo from auditor showing attached garage from December 1970 attached to this letter for reference. For remainder of this correction response, please review Item 8 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #9: Please assess the potential for liquefaction at the site and estimate post- liquefaction settlement, lateral spreading or flow failures as required by IBC using a peak ground acceleration associated with a 2% probability of exceedance in 50 years earthquake. Please include liquefaction assessment calculations, any post- liquefaction settlement calculations, residual strength determinations and associated stability analyses and/or lateral deformation calculations for review.

Project Team Response: For this correction response, please review Item 9 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #10: On page 14 of the report, an interceptor drain was recommended by Earth Solutions NW to “improve site conditions related to stability...”. Please indicate where the interceptor drain is located along with specific design details such as depth, pipe diameter, construction recommendations, etc.

Project Team Response: Please review Civil Sheets C2.1 and C2.2 for updated interceptor drain placement and construction detail. For the remainder of this correction response re: geotechnical recommendations for this drainage, please review Item 10 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM #11: The proposed foundation design as discussed on page 7 of the report, involves the use of shallow foundations “bearing on undisturbed competent native soil, recompacted native soil, or new structural fill.” The recommendation goes on to indicate “Based on conditions observed during the fieldwork, we recommend new foundations be supported on a structural fill mat consisting of at least two feet of crushed rock structural fill placed on a woven geotextile (Mirafi 500X or approved alternative) that is underlain by a firm subgrade.” It is the opinion of the reviewer that the reported site conditions do not warrant the use of shallow foundations for support of the proposed structure. On page 3 of the report, “Native soils observed at the exploration sites chiefly consisted of loose to medium dense colluvial and ancient landslide deposits that were characterized as sand (USCS: SM, SP-SM and SP) and silt (USCS: ML) ... The upper soils were described as colluvium due to chaotic texture and the presence of organic debris.”

Reviewing logs for borings B-6 and B7, the thickness of what would be considered unsuitable soils for support of shallow foundations extends at least 25 feet below existing grade. Floating shallow foundations on landslide debris is not considered in conformance with the local geotechnical engineering standard of practice. Due to the “chaotic texture and presence of organic debris” it is unrealistic to accurately estimate foundation settlements over the lifespan of the structure. In addition, the presence of potentially liquefiable soils could result in post-earthquake differential ground surface settlement and/or lateral spreading or debris flow failure. These post-earthquake effects could significantly impact the structural integrity of the proposed structure. The associated life safety issue would require mitigation recommendations before a building permit could be approved.

Since the reviewer’s opinion on the appropriate foundation design for the structure differs significantly from the geotechnical engineer of record, an independent third- party review can be requested by the applicant. Please contact the Mercer Island Building Official (gareth.reece@mercergov.org).

Project Team Response: For this correction response, please review Item 11 within Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal.

CORRECTION ITEM FROM BUILDING PERMIT 2503-130: Please coordinate with the geotechnical engineer of record to design wall for slope surcharge loading. Please have the geotechnical engineer present their design recommendations for review in a design memo or revised geotechnical report. Please include seismic loading in the design of the wall. Please provide revised structural calculations showing inclusion of these surcharge loadings in the design of the walls for review

Project Team Response: Geotechnical design recommendations for retaining walls included on page 8 of Geotechnical Memo “RESPONSE TO REVIEW COMMENTS” dated June 12, 2025 from Earth Solutions NW uploaded with this submittal. Structural plans updated/clouded on Sheets S1.0, S2.0 and S3.0, showing design of these walls. Revised structural calculations also updated/clouded reflecting retaining wall as requested. Retaining wall standard provided captures all retaining walls in design.

CORRECTION ITEM FROM BUILDING PERMIT 2503-130: Please provide spacing and orientation (N-S or E-W) of proposed perforated under-slab drain.

Project Team Response: Under-slab drain has been removed from civil plans. Project team notes this correction from building permit 2503-130, as the required changes are captured in this revised plan set submitted under CAO25-005.

Image of attached garage from 1970 of existing SFR:

