



December 23, 2022

Ryan Harriman, Planning Manager  
 City of Mercer Island Community Planning & Development  
 9611 SE 36th Street  
 Mercer Island, Washington 98040

***Subject: 3rd Review Completion Letter  
 Koneru Short Plat, File No. SUB21-008  
 PACE Project No. 21436***

Dear Ryan:

We are pleased to submit this letter and the accompanying documents in support of our proposed development of Koneru Short Plat. These submittal documents are provided in response to a review completion letter issued by City of Mercer Island on October 26, 2022. Review comments contained in that letter are provided below (plain text), along with a response (***bold italics***) indicating how each comment was addressed.

**Planning:**

***Contact: Ryan Harriman, Planning Manager – ryan.harriman@mercerisland.gov – 206.275.7717.***

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1. In the last comment review letter, the City requested the applicant complete a Code Criteria Compliance Matrix for the proposed short subdivision. The code criteria compliance matrix was supposed to include specific details and examples about how the proposed project is consistent with Chapter 19.02 MICC, Chapter 19.07 MICC, Chapter 19.08 MICC, and Chapter 19.10 MICC. The responses provided were not specific and did not provide details and examples. Do not write that the applicant acknowledges the standard or that the standard is being met, but rather explain how each standard is being met. At the next submittal the applicant shall provide a complete code criteria compliance matrix that includes specific details and examples about how the proposed project is consistent with Chapter 19.02 MICC, Chapter 19.07 MICC, Chapter 19.08 MICC, and Chapter 19.10 MICC. The applicant bears the burden of proof that the proposed project is consistent with all laws, standards, and requirements provided in the MICC. If a section of the code is not applicable to the proposed development, please indicate that in the matrix. A copy of the Excel files were previously emailed to the applicant.

***PACE Response: The matrix for MCI 19.02, 19.07, 19.08 and 19.10 that you transmitted have been completed in response to your comment. The responses include specific details and calculations that can be established from the preliminary plat application. Items in the matrix that are subject to future building permit review have been noted in the response.***

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2. In the last comment review letter, the City requested the Applicant provide an analysis of school bus stops or safe walking routes to schools. The applicant did not provide an analysis of school bus stops or safe walking routes to schools, nor did the applicant coordinate with the school district on bus stop locations that will serve the proposed development. The Applicant shall provide the analysis and approval from the school district at the next submittal.

***PACE Response: The school bus stop location was discussed with Mr. Patrick Rock of the Mercer Island School District. Mr. Rock said the pickup location would be near the mailbox stand at the private driveway intersection with East Mercer Way. Mr. Rock provided an email that includes the district's map of the pickup location, see attached email.***

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3. On September 8, 2022 the Applicant provided a letter from Pace Engineers, Inc, via email, regarding the private access road. The letter discusses impacts to the private access road and adjacent properties and specifies the prescriptive easement across the original Gregory Addition plat. The letter argues trip impact and fire suppression requirements related to 2112-250 but fails to provide legal documentation that the subject property could be divided, and another lot could utilize the private access road without bringing it to be consistent with current standards. On September 12, 2022, the Applicant was informed via email that whether the private access road is in a tract or an easement, these arrangements often limit the ability to add new lots – unless the underwriting document is amended to include such. At the next submittal, the applicant shall submit evidence that they can legally add an additional lot to the use of this private access road.

***PACE Response: All legal lots must connect to a public roadway by means of a dedicated right-of-way or access easement. The original subdivision had four large lots that accessed East Mercer Way using the private driveway that exists today. The four large lots have since been subdivided into 13 lots that continue to use the existing private driveway. The Koneru property legal access is provided by the existing improved private driveway that has been in continuous use since 1927, or before, according to the Gregory Addition Plat recorded in 1963 (see attached letter from Johns Monroe Mitsunaga Kolouskova). The City of Mercer Island has approved land subdivision of lots that use the existing private driveway to access East Mercery Way without requiring improvements that bring the private driveway into compliance with current road standards. The topographic constrains are the obvious justification for the City's decision to not require road improvements in conjunction with approval of the prior land subdivisions. By approving the adjacent land subdivisions, the City vested the as-constructed driveway as the legal access which overrides the requirements listed in MIC 19.09.040 for Private access roads and driveways. The City of Mercer Island Code 19.08.030 D list the streets, roads, and right-of-way requirements for land subdivisions. D(1) does not apply because the Koneru property is not adjacent to any right-of-way set forth in the comprehensive arterial plan. D(2) does not apply because the Koneru property in not adjacent to a public right-of-way. D(3) does not apply because the Koneru property is not constructing a private access road within the subdivision. D(4) does apply, and the Koneru property subdivision will connect to an existing private access road subject to easements-of-way in favor of the land to be subdivided. MIC 19.08.030 D(4) only requires connection to an "existing improved private road" and does state the private road must conform to current road standards. Prior City subdivision approvals for lots using the existing improved road set a precedence that the current driveway configuration is legal and that topographic constraints make it infeasible to improve the existing private driveway. Therefore, the Koneru property meets the requirements of MIC 18.08.030 and can be subdivided.***

4. Staff reviewed the geotechnical report for consistency with MICC 19.07.160 and was unable to determine where MICC 19.07.160(B)(2) was addressed. Please provide this analysis or where in the report this information is found.

Pursuant to MICC 19.07.160(B)(2) an alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents find that the proposed alteration:

- a. Will not adversely impact other critical areas;
- b. Will not adversely impact the subject property or adjacent properties;
- c. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and
- d. Includes the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.

*PACE Response: See attached letter from Geotech Consultants for response to comments.*

5. Staff reviewed the geotechnical report for consistency with MICC 19.07.160 and was unable to determine where MICC 19.07.160(D) was addressed. Please provide this analysis or indicate where in the report this information is found.

Pursuant to MICC 19.07.160(D) When development is proposed within a seismic hazard area:

1. A critical area study shall be required and shall include an evaluation by a qualified professional for seismic engineering and design, a determination of the magnitude of seismic settling that could occur during a seismic event, and a demonstration that the risk associated with the proposed alteration is within acceptable limits or that appropriate construction methods are provided to mitigate the risk of seismic settlement such that there will be no significant impact to life, health, safety, and property.
2. Identification of seismic hazard areas. Seismic hazard areas shall be identified by a qualified professional who references and interprets information in the U.S. Geological Survey Active Faults Database, performs on-site evaluations, or applies other techniques according to best available science.
3. When development is proposed on a site with an active fault, the follow provisions shall apply:
  - a. A 50-foot minimum buffer shall be applied from latest Quaternary, Holocene, or historical fault rupture traces as identified by the United States Geological Survey or Washington Geological Survey map databases or by site investigations by licensed geologic professionals with specialized knowledge of fault trenching studies; or
  - b. Mitigation sequencing shall be incorporated into the development proposal as recommended based on geotechnical analysis by a qualified professional to prevent increased risk of harm to life and/or property.

*PACE Response: See attached letter from Geotech Consultants for response to comments.*

**Trees:**

Contact: John Kenney, City Arborist - [john.kenney@mercerisland.gov](mailto:john.kenney@mercerisland.gov) – 206.275.7713.

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1. (Repeat comment for Architect/Arborist) Provide the tree inventory worksheet and include all trees removed within five years. This will include the trees that were approved to be removed under the non-development tree permit before this development proposal. This was for five trees to be removed under permit 2104-048 (trees 6,7,8,10,15 in previous report). The tree protection plan must show at least 30% of trees being protected and not damaged by construction for this subdivision to be approved.  
[https://www.mercerisland.gov/sites/default/files/fileattachments/community\\_planning\\_amp\\_development/page/21988/mercerislandtreeinventory.pdf](https://www.mercerisland.gov/sites/default/files/fileattachments/community_planning_amp_development/page/21988/mercerislandtreeinventory.pdf)

***PACE Response: The plans show Tree Retention information approved for the single-family lot (2112-250) with the exception that tree 580 will be removed. See arborist report included with submittal.***

2. (Second repeat comment for arborist/civil) Update Arborists tree report, a draft report has been submitted. Arborist will need to review new plans and confirm the distance of disturbance is adequate and will not damage the saved tree.

***PACE Response: The plans show Tree Retention information approved for the single-family lot (2112-250) with the exception that tree 580 will be removed. See arborist report included with submittal.***

**Civil Engineering:**

Contact: Ruji Ding, Senior Development Engineer - [ruji.ding@mercerisland.gov](mailto:ruji.ding@mercerisland.gov) – 206.275.7703

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1. Please see the attached plan review set, all engineering comments are provided in the document.

***PACE Response: According to an email from Holly Mercier dated December 14, 2022, all comments are in the letter and there are no attached plans with review comments.***

2. There is an existing public sewer easement onsite near the shoreline with recording number 5501889, please show on the plan.

***PACE Response: Easement 5501889 is located on Gregory Addition Lot 1 (offsite lot to the north). It is shown on the existing condition map and site plan.***

3. The private 5-ft wide storm drainage easement and drainage system cannot be inside the public sewer easement near the shoreline, it is unable to verify due to the missing easement (recording # 5501889) with this submittal.

***PACE Response: Easement 5501889 is located offsite and will not interfere with the private storm easement.***

4. Please clarify if the 5-ft storm easement near the northern property line is private or public, and proposed or existing.

***PACE Response: The 5-ft storm easement is private. Any easement callout that states granted by Lot 1 (or Lot 2) to Lot 2 (or Lot 1) is a new private easement for the proposed Koneru Short Plat lots. Private or public has been added to all easement callouts.***

5. Please clarify if the 7-ft side sewer easement for Lot 2 granted to Lot 1 is private.

***PACE Response: Any easement callout that states granted by Lot 1 (or Lot 2) to Lot 2 (or Lot 1) is a new private easement for the proposed Koneru Short Plat lots. Private or public has been added to all easement callouts.***

6. Please clarify if the new 16-ft wide shared access and utility easement is private.

***PACE Response: Any easement callout that states granted by Lot 1 (or Lot 2) to Lot 2 (or Lot 1) is a new private easement for the proposed Koneru Short Plat lots. Private or public has been added to all easement callouts***

7. Please clarify if the access easement for Lot 1 granted by Lot 2 is private, also provide dimensions and limits of this easement. The submitted plan does not show the limits, only the call out.

***PACE Response: Any easement callout that states granted by Lot 1 (or Lot 2) to Lot 2 (or Lot 1) is a new private easement for the proposed Koneru Short Plat lots. Private or public has been added to all easement callouts***

**Fire:**

Contact: Jeromy Hicks, Fire Marshal – [Jeromy.hicks@mercerisland.gov](mailto:Jeromy.hicks@mercerisland.gov) – 206.275.7979.

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1. The plat map needs to have the statement from the fire marshals office placed on it.  
*“All building permits are subject to meeting current fire code requirements at the time of a complete submittal, including fire apparatus access as outlined in adopted code sections of the International Fire Code Appendix D. Fire plan reviews will be conducted at time of building permit submittal and may require additional fire protection systems and/or additional fire prevention measures for building approval.”*

***PACE Response: The note has been added to the cover page C0.0, just above the callout for “call before you dig” and C1.0 Preliminary Short Plat.***

2. Fire Access- Does not meet current standards:  
MICC Amended (17.07.020 SS) IFC Appendix D: Where required. Appendix D, Section 101.1. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the International Fire Code. The requirements in this appendix may be modified by the fire code official if the building is provided with an approved automatic fire sprinkler and/or other approved fire protection features.

***PACE Response: The apparatus access road cannot meet IFC requirements due to topographic constraints. Automatic fire sprinklers, an onsite fire hydrant, and other measures are proposed for mitigation. The requirements will be determined by the fire code official during the building permit review.***

3. Access width- Does not meet current standards  
IFC 503.2.1 Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches. Roads more than 500' feet shall be 26' wide (D103.1)

***PACE Response: The apparatus access road cannot meet IFC requirements due to topographic constraints. Automatic fire sprinklers, an onsite fire hydrant and other measures are proposed for mitigation. The requirements will be determined by the fire code official during the building permit review. Vertical clearance shall be improved to the maximum extent possible.***

4. Dead end- Does not meet current standards  
IFC 503.2.5 Dead-end fire apparatus access roads more than 150 feet in length shall be provided with an approved area for turning around fire apparatus.  
IFC Section D103.1 Design Standards for fire apparatus turn arounds.

***PACE Response: Due to topographic constraints it will be difficult for a fire truck to access the site. The shared driveway for the Koneru Short Plat can be used for a turn around. The apparatus access road cannot meet IFC requirements due to topographic constraints. Automatic fire sprinklers, an onsite fire hydrant and other measures are proposed for mitigation. The requirements will be determined by the fire code official during the building permit review.***

5. Fire Flow- This is determined at time of building permit submittal  
IFC Section B105.2= Chart  
MICC Amended Code Section (17.07.020 PP)- Amended to decrease the fire flow for single family residential structures to 50% of the required water flow if equipped with an approved fire sprinkler system per Chapter 9 of the IFC.  
Note- all new construction is required to install an approved fire sprinkler system per R313.2.

***PACE Response: Fire flow will be determined at the time of building permit submittal. Fire sprinkler systems will be provided for the new homes.***

6. Hydrant spacing- Proposed Fire Hydrant, must meet standards  
IFC C102 Number of Hydrants and spacing required. Hydrants shall be located within 250 feet from the hydrant to the fire department access. Additionally, fire hydrants shall be located within 300 feet from the furthest point of the residence (w/o fire sprinkler system) and 600 feet (with sprinkler system).

***PACE Response: A private fire hydrant will be extended to Lot 2 of the Koneru Short Plat to comply with coverage requirements.***

7. Waterflow- Does not meet standards

This may be corrected with the installation of the proposed fire hydrant. The hydrant shall be calculated/modeled to provide at least 1500gpm. Additional flow may be required depending on the house size and construction as listed in IFC B102.

***PACE Response: Design for the new fire hydrant is provided on the current single family home permit application (2112-250) to mitigate water flow deficiencies. The new fire hydrant will have the highest pressure and flow in the system because it is located at the lowest elevation.***

8. Fire Turn Around- Does not meet standards

IFC 503.2.4 The required turning radius of a fire apparatus access road shall be determined by the fire code official. (See Appendix B)

***PACE Response: The shared access driveway will be used for the turn around. Design for the turnaround will be reviewed under the building permit application.***

9. Grade (14%)- Does not meet current standards

IFC D103.2 Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as approved by the fire code official (Code Alternative)

***PACE Response: The apparatus access road cannot meet IFC requirements due to topographic constraints. Automatic fire sprinklers, an onsite fire hydrant and other measures are proposed for mitigation. The requirements will be determined by the fire code official during the building permit review.***

This concludes our response to the comments in the October 26, 2022 letter. Please feel free to call with any questions or if I can provide anything further.

Sincerely,

PACE Engineers, Inc.



John E. Anderson, PE  
Senior Principal Engineer

Attachments

December 20, 2022

JN 21151

Dheeraj Koneru  
7002 – 93<sup>rd</sup> Avenue Southwest  
Mercer Island, Washington 98040  
via email: [dkoneru@gmail.com](mailto:dkoneru@gmail.com)

Subject: **Response to Request for Information #3 for File No. SUB21-008**  
Proposed Koneru Short-Plat  
6610 East Mercer Way  
Mercer Island, Washington

Greetings:

This letter is intended to respond to the geotechnical-related comments contained in the October 26, 2022 *Request for Information #3 for File No. SUB21-008* issued by the City of Mercer Island.

In response to the Planning comments:

**Mercer Island Planning Comment:**

4. Staff reviewed the geotechnical report for consistency with MICC 19.07.160 and was unable to determine where MICC 19.07.160(B)(2) was addressed. Please provide this analysis or indicate where in the report this information is found.

Pursuant to MICC 19.07.160(B)(2) an alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents find that the proposed alteration:

- a. Will not adversely impact other critical areas;  
**Response:** This is addressed in the required “Statement of Risk” provided on page 4 of our June 8, 2021 *Geotechnical Engineering Study*.
- b. Will not adversely impact the subject property or adjacent properties;  
**Response:** This comment is addressed in the required “Statement of Risk” provided on page 4 of our June 8, 2021 *Geotechnical Engineering Study*.
- c. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and  
**Response:** Mitigation of any impacts related to alteration of the Potential Landslide Hazard or Seismic Hazard areas is discussed under the sections titled Seismic Hazard and Potential Landslide Hazard Areas, and Buffers and Mitigation found on page 4 of our June 8, 2021 *Geotechnical Engineering Study*. Design recommendations for foundations and floor slabs are found on pages 5, 6, 8, 9 and 11 of our *Geotechnical Engineering Study*.
- d. Includes the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.  
**Response:** This should be a requirement of any building permit issued for construction on the site. Our *Geotechnical Engineering Study* provides recommendations for temporary and permanent erosion control on pages 6 and 7.



**Mercer Island Planning Comment:**

5. Staff reviewed the geotechnical report for consistency with MICC 19.07.160 and was unable to determine where MICC 19.07.160(D) was addressed. Please provide this analysis or indicate where in the report this information is found.

*Pursuant to MICC 19.07.160(D)* When development is proposed within a seismic hazard area:

1. A critical area study shall be required and shall include an evaluation by a qualified professional for seismic engineering and design, a determination of the magnitude of seismic settling that could occur during a seismic event, and a demonstration that the risk associated with the proposed alteration is within acceptable limits or that appropriate construction methods are provided to mitigate the risk of seismic settlement such that there will be no significant impact to life, health, safety, and property.

**Response:** The seismic hazard and appropriate mitigation measures are addressed both in our June 8, 2021 *Geotechnical Engineering Study* and our April 12, 2022 *Responses to Geotechnical Third-Party Review Comments*. For reference, a copy of our April 12, 2022 letter is attached. These documents address at length the potential for seismic liquefaction, and resulting ground settlement or lateral spreading. Appropriate mitigation measures (deep foundations, interconnecting grade beams, and structural slabs) are discussed at several different places in both of these documents. Our recommendations are included into the structural design of the planned houses to mitigate the potential hazards associated with soil strength loss in the event of a seismic event.

2. *Identification of seismic hazard areas.* Seismic hazard areas shall be identified by a qualified professional who references and interprets information in the U.S. Geological Survey Active Faults Database, performs on-site evaluations, or applies other techniques according to best available science.

**Response:** As discussed on Pages 2 and 4 of the June 8, 2021 *Geotechnical Engineering Study*, the entire site lies within the seismic hazard area.

3. When development is proposed on a site with an active fault, the follow provisions shall apply:
  - a. A 50-foot minimum buffer shall be applied from latest Quaternary, Holocene, or historical fault rupture traces as identified by the United States Geological Survey or Washington Geological Survey map databases or by site investigations by licensed geologic professionals with specialized knowledge of fault trenching studies; or
  - b. Mitigation sequencing shall be incorporated into the development proposal as recommended based on geotechnical analysis by a qualified professional to prevent increased risk of harm to life and/or property.

**Response:** The site is not located on an active fault.

Please contact us if you have any questions regarding this letter, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



12/20/2022

Marc R. McGinnis, P.E.  
Principal

Attachment: April 12, 2022 *Responses to Geotechnical Third-Party Review Comments*

cc: **JMK Homes** – Jed Murphey  
via email: [jed@jmkhomes.net](mailto:jed@jmkhomes.net)

**McCullough Architects** – Devlin Rose  
via email: [devlin@mccullougharchitects.com](mailto:devlin@mccullougharchitects.com)

April 12, 2022

JN 21151

Dheeraj Koneru  
7002 – 93<sup>rd</sup> Avenue Southwest  
Mercer Island, Washington 98040  
via email: [dkoneru@gmail.com](mailto:dkoneru@gmail.com)

Subject: **Responses to Geotechnical Third-Party Review Comments**  
Proposed Short-Plat and Property Redevelopment  
6610 East Mercer Way  
Mercer Island, Washington

Greetings:

This letter is intended to respond to the comments in the February 16, 2022 letter from Mercer Island's geotechnical third-party reviewer, which are contained within the March 15, 2022 *Request for Information #1* from the City of Mercer Island.

The conditions encountered on the subject site in our explorations, as well as the geotechnical recommendations for the planned development are presented in our June 8, 2021 *Geotechnical Engineering Report* are typical for waterfront residential developments completed previously by our firm. In fact, we have reviewed geotechnical reports prepared in 2018 and 2019 for sites two lots to the north (6454 East Mercer Way) and six lots to the south (6660 East Mercer Way) that found similar loose, liquefiable soil conditions and which recommended only pipe piles for foundation support. These reports, which are available from Mercer Island's GIS, contained little discussion of liquefaction, and made no reference to lateral spreading.

From the February 16, 2022 Mercer Island letter:

*The geotechnical engineer of record, Geotech Consultants, Inc. indicates that the alluvial soils have a moderate to high potential for liquefaction under earthquake loading.*

*Additional information is required regarding the seismic hazards at this site:*

*1. To what depths will the liquefaction occur?*

**Response:** From previous experience, as well as liquefaction analyses we have conducted previously in similar soils, we know that it at least partial liquefaction beneath the site and surrounding area is possible during the Maximum Considered Earthquake (MCE) with a 1-in-2,475-year probability. This liquefaction could occur between the groundwater table (5- to 7-foot depth) and the dense soils, which were found at an approximate depth of 30 feet. Considering the variability in the gradation of the alluvial soils, it is most likely that liquefaction would occur within the saturated layers of sand and silty sand, which are interbedded with silt, typically thought to have a low potential for liquefaction.

In order to respond to these review comments, we utilized NovoLIQ to confirm that liquefaction of the soil underlying the water table is likely to occur in the low-probability MCE. The results of our liquefaction analyses are attached.

*2. What will be the impact of this liquefaction? What magnitude post-liquefaction settlement is estimated? Provide calculations to support estimated settlement.*

**Response:** The evaluation of the potential for liquefaction under a low probability MCE ground shaking has been required by the ASCE7 since at least 2010.

The potential for liquefaction and resulting ground settlement has been studied for many years, but it is still impossible to accurately determine where, and to what extent, liquefaction could/will occur. However, liquefaction of at least the granular soils beneath the site is likely in the MCE. Using two different methods, NovoLIQ estimates that a total of approximately 12.5 inches of ground settlement is possible following widespread liquefaction extending to a depth of 30 feet. The results of this analysis are attached. The amount of actual ground settlement that could occur as a result of liquefaction will vary with differing soil conditions, and the magnitude, length, and predominant direction of ground shaking associated with an earthquake.

*3. How is this settlement taken into account in the design of the deep foundations? Provide a calculation of estimated downdrag loads on the piles.*

**Response:** This is a comment that we have previously responded to numerous times in the City of Seattle. Small-diameter pipe piles are not displacement piles, and their compressive capacity is entirely dependent on end bearing in the dense to very dense glacially-compressed soils they are driven into. Tens of thousands of load tests have been completed throughout Seattle and the remainder of the Puget Sound region by our firm and others using ASTM D-1143, or similar testing methods. These load tests have proven that small-diameter pipe piles driven to refusal rates appropriate for the hammer size have an ultimate capacity of 200-percent, or more, of the typical design allowable capacities, such as those we have recommended in our *Geotechnical Engineering Study*.

The potentially liquefiable soils encountered in the borings below the water table will provide no vertical support to the pipe piles in the event of seismic liquefaction. For a 6-inch-diameter pipe with a 15-ton allowable capacity, an ultimate capacity in excess of 30 tons is achievable in static conditions. Conservatively assuming a skin friction of 300 psf on the pile in the upper approximately 7 feet of non-liquefiable soils, a downdrag load of 3,300 pounds could be applied to the pile. This would allow a residual ultimate compressive capacity of at least 56,700 pounds (28.4 tons). For this short-term loading condition, that would still provide a safety factor in excess of 1.8, which is acceptable for a full-scale seismic event.

As a part of our work for the study on this property, we have reviewed recent geotechnical reports prepared for developments of waterfront lots to the north (#6454) and south (#6660) of the site. These reports, prepared by Earth Solutions and Associated Earth Sciences are available on the Mercer Island GIS. Both reports similarly recommend the use of pipe piles driven into dense soils to support the homes. One report concluded that liquefaction of the loose, saturated soils was unlikely, which we disagree with.

*4. Provide stability analyses of potential flow failure or lateral spreading at the site due to seismic loading and/or liquefaction. Show cross section of stability analyses with results, soil stratigraphy, soil properties, etc.*

**Response:** The potential for lateral spreading is even less understood than liquefaction itself. However, some methods have been developed to estimate the potential amount of lateral ground movement that could occur where liquefiable sites lie next to sloping free face conditions, such as the sloped bottom of Lake Washington. NovoLIQ provides estimates for this lateral movement using five different methods. The results, which are attached, indicate that lateral ground movement of 5 to 10 feet could theoretically occur in the MCE. Having completed similar

computations before by hand, we know that large values such as this are common for lakefront projects with more than a few feet of liquefiable soil beneath them.

Unfortunately, there is no accurate method for determining where, and to what extent, lateral spreading could occur. Even more involved methods, such as Finite Element Analyses, are approximate at best, as they rely on a multitude of assumptions about soil properties and potential ground motions from earthquakes.

*5. How is this flow failure and/or lateral spreading incorporated into the site development? Provide calculations of estimated deformations. Will the proposed pipe piles have sufficient structural integrity to preclude a slenderness ratio issue or lateral failure under these seismic conditions?*

**Response:** Based on the available information, significant lateral ground movement could occur during the MCE. The risk of this is no higher than on nearby waterfront properties that are underlain by similar loose soils and which have recently been developed with new homes. The theoretical lateral movements are large enough that no pile system, drilled or driven, can prevent them from occurring, or can withstand the potential lateral movements without shearing off.

When the issue of lateral spreading was first brought up in the Code years ago, we met with the geotechnical engineering department of Seattle Department of Construction and Inspections (SDCI) to discuss potential mitigation measures for this hazard. The appropriate mitigation against foundation collapse in the event of lateral spreading was determined to be achieved by the reinforced grade beams or mat slab that interconnects the piles. In the event that the ground moves sideways a sufficient distance to bend or break the piles, the grade beams/mat slab would serve to hold the structure in one piece, even if it tilts a significant amount. This approach is still the underlying mitigation for foundation collapse contained in our *Geotechnical Engineering Study*.

*6. What soil improvement techniques are recommended to reduce the potential for liquefaction or to mitigate the impacts of flow failure or lateral spreading at this site? If soil improvement techniques or mitigation measures are not recommended, provide a discussion as to why they are not being considered.*

**Response:** Ground improvement to prevent liquefaction and/or lateral spreading is both infeasible and inappropriate for a waterfront residential site such as this one, for a variety of reasons:

1. Attempting to "improve" the resistance of the granular soils to liquefaction using stone columns or a similar method would involve strong ground vibrations, which would cause ground settlement and likely damage to neighboring properties, structures, and utilities.
2. The high fines content of the alluvial soils, some of which are mostly silt, make the use of ground improvement to reduce the potential for liquefaction infeasible. The density of these fine-grained soils cannot be increased by vibratory or replacement methods. This has been confirmed by our previous discussions with ground improvement designers on other projects underlain by fine-grained soils. The use of other methods, such as deep soil mixing, would provide no reduction of liquefaction and potential lateral spreading in the loose soil below the water table.
3. No localized ground improvement system on an isolated residential lot can resist the significant lateral soil loads that would result from liquefaction and lateral spreading of the upper 30 of soil affecting both the site and adjacent properties. It would be necessary to prevent liquefaction and lateral spreading in the loose soils extending far onto neighboring properties to the north, south, and west to prevent lateral movement within the house footprint on the subject site. This is not practical.

Please contact us if you have any questions regarding this letter, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



04/12/2022

Marc R. McGinnis, P.E.  
Principal

Attachments – NovoLIQ Output

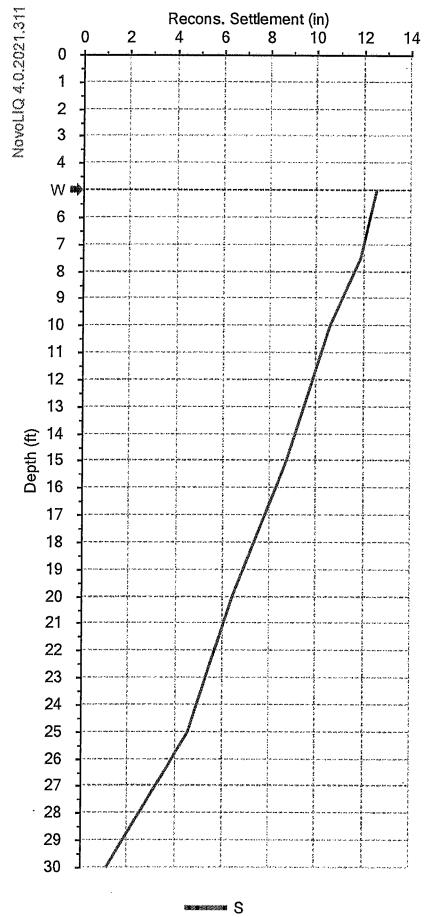
cc: **JMK Homes** – Jed Murphey  
via email: [jed@jmkhomes.net](mailto:jed@jmkhomes.net)

MRM:kg

Depth (ft)	Rd	Rd_I&B	Overburden Stress (ksf)		Fines Content (%)	SPT Test				Relative Density Dr (%)	Simplified CSR	CSR_I& B	NCEER Worksh op	Bouliang er & Idriss	vancouv er Task Force	Cetin et al. (2004)	CRR7.5			
			Total	Effective		N	Co	Cn	N1(60)								Chinese Code	Seed et al. (1993)	Japanes e Micro	
2.5	1	1	0.29	0.29	80	2	0.75	1.7	3	41.9	0.443	0.443	-	-	-	-	-	-	-	-
5	0.993	0.993	0.59	0.59	80	1	0.75	1.68	1	37.6	0.44	0.44	0.05	0.1	0.05	1.92	0.08	0.15	0.52	
7.5	0.984	0.984	0.88	0.72	80	3	0.75	1.56	4	44.8	0.53	0.53	0.07	0.12	0.07	1.92	0.11	0.17	0.56	
10	0.975	0.975	1.17	0.86	5	2	0.79	1.47	2	22.5	0.589	0.589	0.05	0.08	0.05	1.92	0.16	0.16	0.07	
15	0.956	0.956	1.76	1.14	5	8	0.9	1.32	10	45.5	0.656	0.656	0.1	0.12	0.1	1.92	0.12	0.17	0.17	
20	0.933	0.933	2.35	1.41	5	3	0.93	1.2	3	27	0.689	0.689	0.06	0.08	0.06	1.92	0.11	0.15	0.08	
25	0.91	0.91	2.93	1.68	15	3	0.96	1.11	3	35.6	0.702	0.702	0.06	0.09	0.06	1.92	0.08	0.15	0.11	
30	0.884	0.884	3.52	1.96	15	36	0.97	1.02	36	93.1	0.704	0.704	0.8	0.8	0.8	0.53	0.8	0.8	0.35	

Tokimatsu and Yoshimi	Shibata (1981)	Kokusho et al. (1992)	CRR7.5 (ave)	Safety Factor					Safety Factor		Probability of Liquefaction PL(%)					
				NCEER Workshop	Bouliang et al.	Vancouver	Cetin et al. (2004)	Chinese Code	Seed et al. (1992)	Japanese	Tokimatsu and Yoshimi	Shibata (1981)	Kokusho et al. (1992)	Youd & Noble	Cetin et al. 2004	
0.15	0.21	0.16	0.34	0.13	0.27	0.13	3	0.21	0.4	1.37	0.39	0.55	0.43	0.69	98.9	100
0.17	0.22	0.18	0.36	0.16	0.26	0.16	3	0.24	0.37	1.21	0.36	0.47	0.39	0.66	97.4	100
0.12	0.21	0.14	0.3	0.1	0.15	0.1	3	0.32	0.3	0.13	0.24	0.41	0.28	0.5	98.2	100
0.17	0.22	0.18	0.33	0.18	0.21	0.18	3	0.2	0.3	0.3	0.3	0.38	0.32	0.54	92.2	100
0.13	0.21	0.15	0.29	0.09	0.13	0.09	3	0.19	0.25	0.13	0.21	0.35	0.25	0.47	97.6	100
0.14	0.21	0.16	0.3	0.1	0.15	0.1	3	0.12	0.24	0.18	0.24	0.34	0.26	0.47	97.4	100
0.8	0.8	0.56	0.7	1.31	1.31	1.31	0.86	1.31	1.31	0.57	1.31	1.31	0.91	1.15	1.5	0





Type	Method	Movement (Inch)
	Zhang & Robertson, 2004	130
	Faris, 2006	137
Lateral Spreading	Youd et al., 2002	17
	Barlett & Youd, 1992	55
	Hamada et al., 1986	66
	Youd & Perkins, 1987	LS1 ~41 see details for list-en
Vertical Settlement	Ishihara & Yoshimine, 1992	13

# Johns Monroe Mitsunaga Koloušková P L L C

Darrell S. Mitsunaga  
Duana T. Koloušková  
Vicki E. Orrico  
Dean Williams  
Patricia M. Army  
Mary Joy Dingler

Ryan Harriman, Planning Manager  
City of Mercer Island Community Planning & Development  
9611 SE 36<sup>TH</sup> Street  
Mercer Island, WA 98040  
*Via E-Mail: [ryan.harriman@mercerisland.gov](mailto:ryan.harriman@mercerisland.gov)*

November 7, 2022

Re: File No. SUB21-008 – Koneru Short Plat

Dear Mr. Harriman:

We represent JMK Homes, LLC with regard to the above-referenced application. I am writing in response to your Request for Information dated October 12, 2022, specifically:

the Applicant was informed via email that whether the private access road is in a tract or an easement, these arrangements often limit the ability to add new lots – unless the underwriting document is amended to include such. At the next submittal, the applicant shall submit evidence that they can legally add an additional lot to the use of this private access road.

The easement in question was contained in that certain Partition Agreement dated October 17, 1968, and recorded under King County Recording number 6426307. In that agreement, the owners agreed that the underlying properties would be subject to, and benefitted by, an ingress and egress easement over the roadway. The easement contained no restrictions on subdivision or limits on what portions of the benefitted properties could use the easement. Easements without such specific limitations continue to serve subdivision of the original benefitted lots. *See Clippinger v. Birge*, 14 Wn.App. 976, 547 P.2d 871 (1976).

In the case at hand, the easement originally benefitted two lots. Those two lots have been subdivided and the easement currently benefits 12 lots. There is no prohibition against it serving future subdivided portion of these lots. Please do not hesitate to contact me if you have any further questions. Thank you.

Sincerely,



Vicki E. Orrico

*Direct Tel: (425) 467-9968*

*Email: [orrico@jmmklaw.com](mailto:orrico@jmmklaw.com)*

2022-11-03 Letter to City Regarding Easement Rights 1037-001

PARTITION AGREEMENT

THIS AGREEMENT made this 17<sup>th</sup> day of October  
1968, by and between FLORENCE ENGSTROM and MARGARET ENGSTROM  
QUARLES.

6426307

WITNESSETH:

WHEREAS, the parties hereto have acquired certain real  
property on Mercer Island, Washington, as tenants in common; and

WHEREAS, certain of the property has been and is now  
the residence of Florence Engstrom, and both parties desire that  
she own said residence in fee and that all of said property be  
partitioned, now, therefore,

IT IS HEREBY AGREED as follows:

1. Florence Engstrom hereby quit claims and conveys  
to Margaret Engstrom Quarles her interest in the following  
described parcels of property:

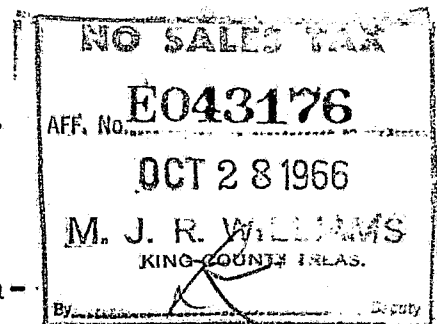
PARCEL A:

An undivided one-half interest in the South  
half of that portion of Government Lot 1,  
and the NW 1/4 of the NE 1/4 of Section 30,  
Township 24 N, Range 5 E, lying between the  
North 498 feet thereof and the south 471  
feet thereof;

EXCEPT the right of way of Mercer Island  
County Road in King County, State of Wash-  
ington; and

EXCEPT the north 9 feet of the south 480  
feet of Government Lot 1, Section 30, Town-  
ship 24 N, Range 5 E, W.M., together with  
the shorelands of the second class in front  
of and abutting thereon; and

EXCEPT the north 9 feet of the south 480  
feet of that portion of NW 1/4 of the NE  
1/4 of said Section 30 lying easterly of  
Mercer Island Boulevard; and



**3 additional sheets**

OCT 28 1968

EXCEPT the north 19 feet of the south 490 feet of that portion of the NW 1/4 of the NE 1/4 of said Section 30, lying westerly of Mercer Island Boulevard; and

EXCEPT the portion thereof lying easterly of a line parallel with and 1,588.78 feet easterly of (measured at right angles to) the west line of the NE 1/4 of said Section 30, all situated in King County, State of Washington.

6426307

Together with an eight foot easement along the southern border of that portion of Government lot 1 hereby retained by grantor for purposes of maintaining the existing private six inch sewer line appurtenant to the property hereinabove conveyed; and

Together with a license to use the existing water delivery system for lawn sprinkling purposes, said license is revocable at the will of grantor.

Reserving to the grantor an easement for unobstructed ingress and egress over the existing private roadway extending northwesterly to East Mercer Way appurtenant to that portion of the property described as lying easterly of a line parallel with and 1,588.78 feet easterly of (measured at right angles to) the west line of the NE 1/4 of said Section 30; and

Reserving to the grantor a ten-foot wide easement on, above and beneath the existing storm sewer and trashrack for the purpose of maintenance and improvement, appurtenant to that portion of the property described as lying easterly of a line parallel with and 1,588.78 feet easterly of (measured at right angles to) the west line of the NE 1/4 of said Section 30.

Subject to all easements of record.

PARCEL B:

An undivided one-half interest in the property beginning at a point on the west border line of East Mercer Way, 248 feet East and 300 feet south of the quarter

OCT 28 1968

6426307

corner between Sections 19 and 30, Township 24 N, Range 5E, W.M.; running thence west on a line parallel to and distant 300 feet from the section line between said sections 19 and 30, a distance of 248 feet more or less, to the center section line of said section 30, thence south along said center section line a distance of 198 feet, thence east to the westerly border line of said East Mercer Way, thence northwesterly along the westerly border line of said boulevard to place of beginning subject to easements and restrictions of record.

PARCEL C:

An undivided one-quarter interest in the property commencing at the quarter corner to sections 19 and 30, Township 24 N, Range 5E, W.M., King County Washington; running thence south 300 feet, thence east 228 feet, thence north 300 feet to section line between said sections 19 and 30, thence west along said section line 228 feet to the point of beginning, subject to easements and restrictions of record.

2. Margaret Engstrom Quarles hereby quit claims and conveys to Florence Engstrom all of her interest in the following described property:

The south 1/2 of that portion of Government Lot 1, Section 30, Township 24 N, Range 5 E, lying between the north 498 feet thereof and the south 471 feet thereof, and easterly of a line parallel with and 1,588.78 feet easterly of (measured at right angles to) the west line of the NE 1/4 of said Section 30; except the south 9 feet thereof.

Together with shorelands of the second class in front of and abutting upon said portion of Government Lot 1.

Together with an easement for unobstructed ingress and egress over the existing private roadway extending northwesterly to East Mercer Way appurtenant to the property hereby conveyed;

Together with a ten-foot wide easement on, above and beneath the existing storm sewer and trashrack for the purpose of maintenance and improvement, appurtenant to the property hereby conveyed.

OCT 28 1968

6426307

Reserving an eight foot easement along the southerly border of the property described for purposes of maintaining the existing private six inch sewer line appurtenant to Parcel A.

Subject to easements of record under Auditor's file Nos. 5758769, 5787753, 5787780.

DATED this 17<sup>th</sup> day of October, 1968.

Florence Engstrom  
Florence Engstrom

Margaret Engstrom Quarles  
Margaret Engstrom Quarles

OCT 28 1968

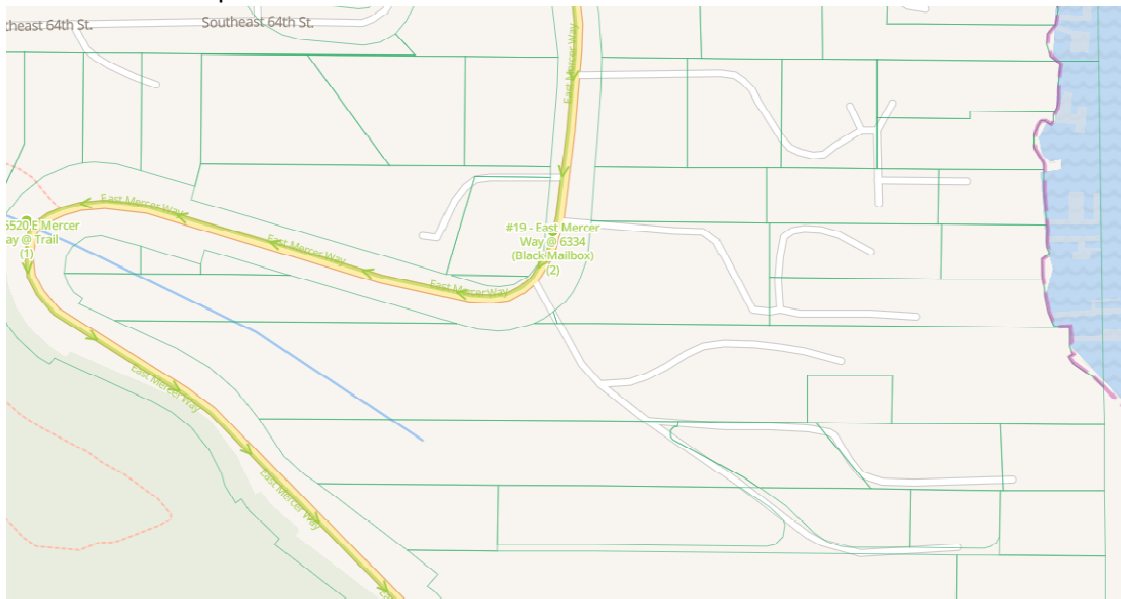
## John Anderson

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**From:** Patrick Rock <patrick.rock@mercerislandschools.org>  
**Sent:** Monday, November 7, 2022 3:18 PM  
**To:** John Anderson  
**Cc:** Jed Murphey; Devlin Rose  
**Subject:** Re: 6610 E. Mercer Way School Bus Stop

External email.

This is the bus stop for that location.



On Tue, Oct 18, 2022 at 3:19 PM John Anderson <[johna@paceengrs.com](mailto:johna@paceengrs.com)> wrote:

Patrick,

Thank you for returning my call regarding the school bus stop at 6610 E. Mercer Island Way. The City is requesting verification from the school district on the school bus stop location. Per our telephone conversation the pick up location is near the existing mail boxes at the driveway intersection with E. Mercer Way. Can you please reply to this email with conformation that children will be picked up near the mail box location.

Thank you again for the prompt follow up.

John



John Anderson, PE  
Sr. Project Engineer  
11255 Kirkland Way | Suite 300  
Kirkland WA 98033  
p. 425.827.2014 | c. 425.449.2511



Celebrating 30 years of providing optimal solutions to our clients in the Northwest and beyond.

--

Patrick Rock  
Director  
MISD Transportation  
206 236 3337 Office



*All electronic mail messages in connection with Mercer Island School District business which are sent or received by this account are subject to the Washington State Public Records Act and may be disclosed to third parties.*