

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | www.mercerisland.gov



August 11, 2022

Jed Murphy
PO Box 317
Ronald WA 98940
Via email: jed@jmkhomes.net

RE: Request for Information #2 for File No. SUB21-008 – Koneru Short Plat
6610 East Mercer Way, Mercer Island, WA 98040; King County Tax Parcel # 302405-9153

Dear Mr. Murphy:

The City of Mercer Island reviewed your second submittal for SUB21-008. Following the review of the materials, City staff has determined that additional information is necessary to ensure compliance with the Mercer Island City Code (MICC). The following items will need to be addressed at your next submittal:

General:

1. When resubmitting, please submit a response letter to address each review comment. Please also state where the proposed changes can be found (i.e. sheet number, document name, etc.).
2. When resubmitting electronically to the SFTP website, please make it clear in the file name that the resubmittal is for all 3 associated land use applications and notify the Permitting Staff at epermittech@mercerisland.gov.

Planning:

Contact: Ryan Harriman, EMPA, AICP, Planning Manager, at ryan.harriman@mercerisland.gov or 206-275-7717.

1. Code Criteria Compliance Matrix: The applicant shall complete a Code Criteria Compliance Matrix for the proposed short subdivision. The code criteria compliance matrix shall 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 purpose of the code compliance matrix is to provide guidance to applicants on the requirements for the development of property. The applicant bears the burden of proof that the proposed project is consistent with all laws, standards, and requirements provided in the MICC. This is a tool to ensure the proposed development is consistent with the requirements of the MICC, a guide and reference for developers to ensure all requirements are accounted for in application submittals, and a tool for staff to seamlessly review proposals and to enhance the quality and speed of the review process. 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 will be emailed with this comment letter.
2. The applicant shall provide an analysis of school bus stops or safe walking routes to schools. The applicant shall 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.

Trees:

Contact: John Kenney, City Arborist at john.kenney@mercerisland.gov or 206-275-7713.

1. (Repeat comment for Architect/Arborist) provide Arborist evaluation that Dead Tree 1 would not have been damaged with the building pads encroachment into the tree's dripline. Even though this tree was already allowed for removal under a non-development tree permit. Since the tree was exceptional it would have been required to be retained and not damaged by development in the tree protection zone. This minimal excavation zone for the deck will be conditioned for the building phase.
2. (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 percent 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

3. (Repeat comment for Arborist) 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.
4. (New comment for Civil/Arborist) because of change of plans Tree 573 is exceptional in size and now shown for removal. Fire had approved Sub 1. What has changed? The new hydrant is beyond the minimum recommended limits of disturbance. Please provide the access and hydrant requirements that conflict with the tree. Could some asphalt removal mitigate for the impacts of the new improvements?

5. Future Building Permits:

- a. For Civil and Arborist) During building plan review a tree protection plan with all Civil information must be created. Tree protection will need to be shown on C3.0. The retaining wall, trench, and other utilities to be moved outside saved trees driplines/minimum limits of allowable disturbance. The SD is shown within 9-feet of exceptional tree 576. Tree 575 also has a SD line within minimum limits of allowable disturbance. Update tree protection plan with tree protection chain link fence and all the following items in this checklist. Exceptional trees must be retained according to 19.10.060.3, and protected under 19.10.080.

https://www.mercerisland.gov/sites/default/files/fileattachments/community_planning_amp_development/page/21988/treesubmittalchecklist.pdf

- b. A tree replanting plan will be required to mitigate for all removed trees. At least half of the trees need to be Pacific Northwest native, see the following link:

https://oregonstate.edu/trees/name_common.html.



The trees need to be at least 10-feet apart from each other, structures, fences and utilities. If requested and you can show no room exists on site for all the trees, the remainder can be a fee in lieu if requested.

Civil Engineering:

Contact: Ruji Ding, Senior Development Engineer, at ruji.ding@mercerisland.gov or 206-275-7703.

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

Geotechnical Engineering:

1. Please see the attached peer-review and provide responses to each item provided.

Fire:

Contact: Jeromy Hicks, Fire Marshal, at Jeromy.hicks@mercerisland.gov or 206-275-7979.

1. The plat map needs to have the statement from the fire marshals office placed on it.

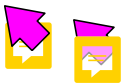
"All building permits are subject to meeting current fire code requirements at the time of a complete submittal, including fire apparatus access as outlined in adopted code sections of the International Fire Code Appendix D. Fire plan reviews will be conducted at time of building permit submittal and may require additional fire protection systems /or additional fire prevention measures for building approval."

With your resubmittal, please provide a cover letter responding to each of the items above. Please reference page/sheet numbers noting where the requested information can be found. An incomplete resubmittal may delay your project.

The City's processing of the Short Plat application has been put on hold until these issues are resolved. Pursuant to MICC 19.15.110, all requested information must be submitted within 60 days or a request for extension requested. The deadline for a complete response or request for extension is Monday, October 10, 2022. If a complete response is not received or an extension response has been received prior to that date, the application will expire and be canceled for inactivity. No additional notification regarding this deadline or expiration of the application will be provided.

Please do not hesitate to contact me at 206-275-7717 or via e-mail at ryan.harriman@mercerisland.gov if you have any questions.

Sincerely,



Ryan Harriman

Ryan Harriman, EMPA, AICP – Planning Manager
City of Mercer Island Community Planning & Development

Enclosed:

Attachment A: Code Criteria Compliance Matrix (Emailed)
Attachment B: Civil Engineering Review Plan Set with Comments
Attachment C: Geotechnical Peer-review letter

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as
co
nst
ru
cte

FILE NAME: P:\21\21436_KONERU_SHORT PLAT\ENGINEERING\DWG\21436_C0V.DWG
USER NAME: JAY
XREF FILES: 21436_BDR.dwg 21436_SITE.dwg 21436_SR.dwg 21436_MATCH.dwg
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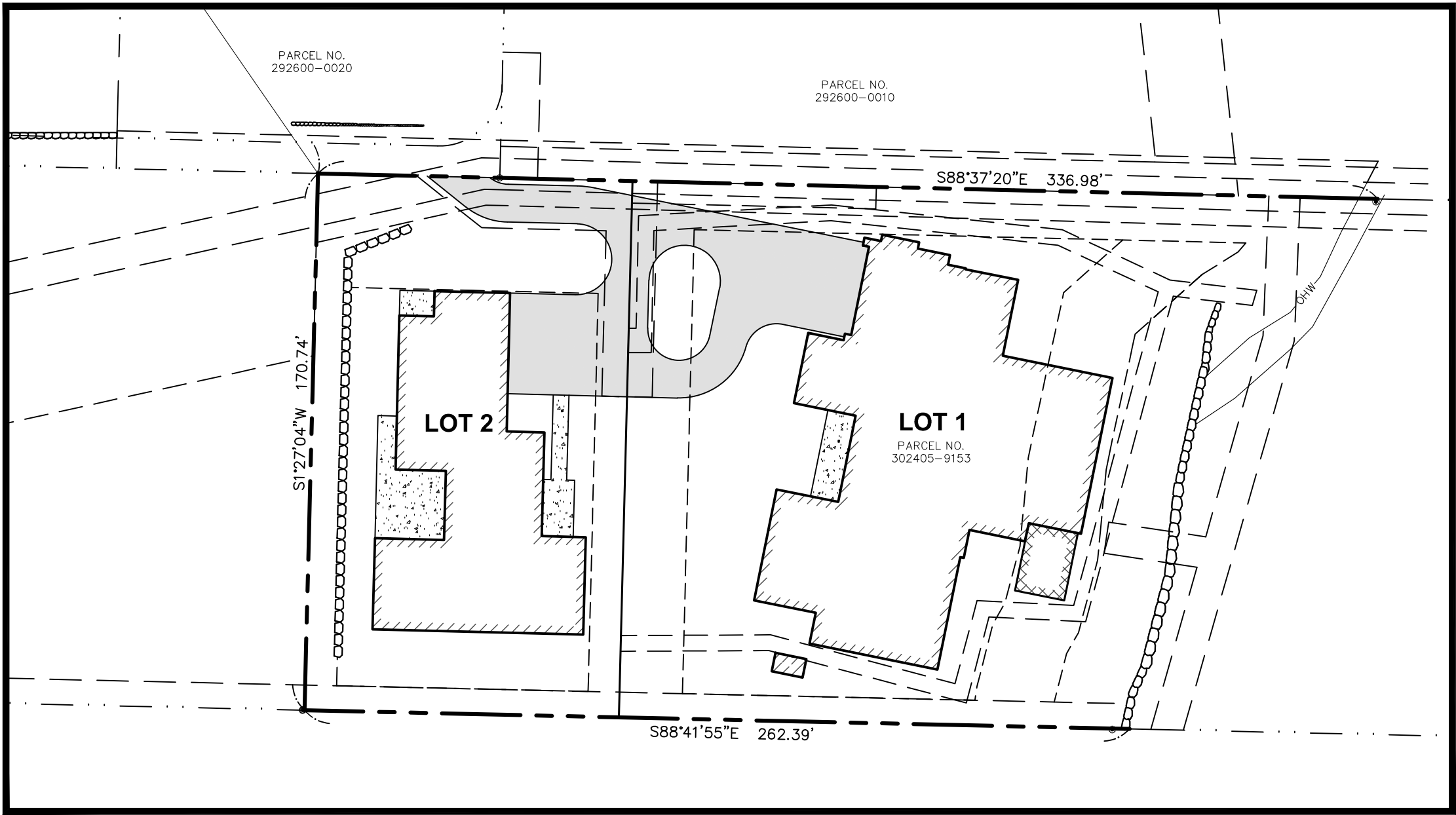
PORTION OF: NE1/4, NE1/4, SECTION 30, T.24N., R5E., W.M.

KONERU SHORT PLAT, SUB21-008

6610 EAST MERCER WAY MERCER ISLAND, WA. 98040

PROJECT CONTACTS	
OWNER/APPLICANT:	DHEERAJ KONERU
	7002 93RD AVENUE SE MERCER ISLAND, WA 98040
ENGINEER/SURVEY:	PACE ENGINEERS, INC.
	11255 KIRKLAND WAY, SUITE 300 KIRKLAND, WA 98033 JOHN ANDERSON, PE BILL HAWKINS, PLS PHONE: (425) 827-2014 EMAIL: JOHNA@PACEENGRS.COM BILLH@PACEENGRS.COM
ARBORIST:	TREE 133, LLC
	12408 17TH AVENUE NE SEATTLE, WA. 98125 CRAIG BACHMANN, CERTIFIED ARBORIST PHONE: (206) 745-0473 EMAIL: ARBORIST@TREE133.COM
GEOTECHNICAL:	GEOTECH CONSULTANTS, INC.
	2401 10TH AVENUE E. SEATTLE, WA 98102 MARC MCGINNIS, PE PHONE: (425) 747-5618 EMAIL:

PROJECT INFORMATION	
SITE DATA	
ADDRESS:	6610 EAST MERCER WAY
PARCEL NUMBER:	3024059153
PARCEL AREA:	50,094 SF
LEGAL DESCRIPTION:	THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF. TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI 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. SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON
ZONING SUMMARY	
EXISTING ZONING:	R-15
MINIMUM LOT SIZE:	15,000 SQ. FT.
MAXIMUM HEIGHT:	30' ABOVE ABE
MAX. LOT COVERAGE: (40% OF LOT AREA)	LOT 1 13,591 SQ. FT. LOT 2 6,826 SQ. FT.
MAX. HARDSCAPE: (9% OF LOT AREA)	LOT 1 3,058 SQ. FT. LOT 2 1,536 SQ. FT.
MAX GROSS FLOOR AREA:	LOT 1 12,000 SQ. FT. (MAX ALLOWED) LOT 2 6,826 SQ. FT. (40% OF LOT AREA)
BUILDING SETBACKS	
SIDE:	SUM 15' WITH 5' MIN.
	REAR: 25
	FRONT: 20



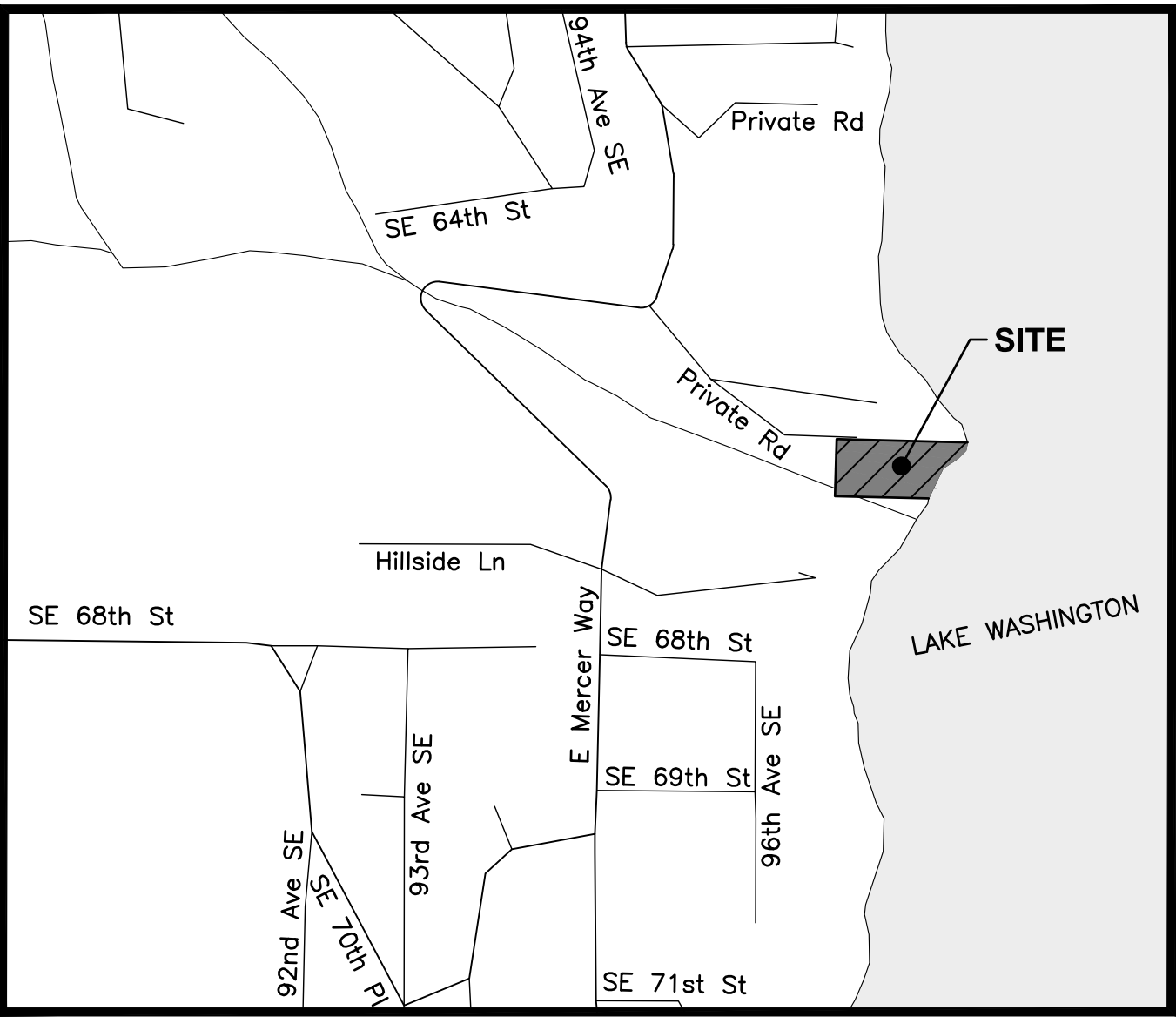
SITE MAP
SCALE: 1"=40'

PROJECT INFORMATION			
DEVELOPMENT SUMMARY			
PROPOSED NUMBER LOTS:	2		
NUMBER OF DWELLING UNITS:	2		
GROSS SITE AREA:	50,094	SQ. FT.	
NET SITE AREA:	50,094	SQ. FT.	
LOT SIZE:	LOT 1 33,978	SQ. FT.	*
	LOT 2 17,067	SQ. FT.	
GROSS DENSITY:	1.73	DU/AC	
NET DENSITY:	1.73	DU/AC	
EXISTING IMPERVIOUS AREA:	9,862	SQ. FT.	
PROPOSED IMPERVIOUS AREA:	LOT 1 12,000	SQ. FT.	
	LOT 2 7,785	SQ. FT.	
LOT WIDTH:	LOT 1 100	FT.	
	LOT 2 162	FT. (MIN)	
LOT DEPTH:	LOT 1 = LOT 2 = 171	FT.	
PARKING SPACES:	COVERED	UNCOVERED	
	LOT 1 3	3	
	LOT 2 3	3	
LOT SLOPE:	6.6%		

* LIMIT SUBDIVISION WITH NOTE ON TITLE

DEMO NOTE:

THE EXISTING HOUSE WILL NEED TO BE DEMOLISHED PRIOR TO PRELIMINARY SHORT PLAT APPROVAL OR A CONDITION OF APPROVAL SHALL BE ADDED STATING THAT THE EXISTING HOUSE WILL BE DEMOLISHED PRIOR TO FINAL PLAT APPLICATION

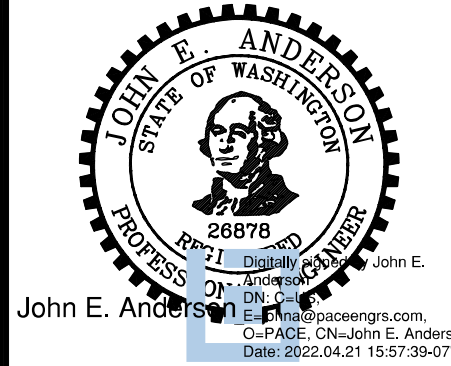


VICINITY MAP
1"=500'

SHEET INDEX	
SHEET NO.	SHEET TITLE
C0.0	COVER SHEET
C0.1	EXISTING CONDITIONS
C1.0	PRELIMINARY SHORT PLAT
C2.0	GRADING & DRAINAGE PLAN
C3.0	COMPOSITE UTILITY PLAN
L1.0	TREE RETENTION PLAN
CITY OF MERCER ISLAND FILE NUMBER	
PRE-SUBMITTAL CONFERENCE NUMBER:	PRE21-023
UTILITY PURVEYORS	
WATER:	CITY OF MERCER ISLAND
SEWER:	CITY OF MERCER ISLAND
ELECTRICITY:	PUGET SOUND ENERGY
GAS:	PUGET SOUND ENERGY
TELEPHONE:	CENTURY LINK
CABLE:	CENTURY LINK/XFINITY
SCHOOL DISTRICT:	MERCER ISLAND SCHOOL DISTRICT
EARTHWORK SUMMARY	
APPROX. CUT	464 CY
APPROX. FILL	1251 CY
NET	787 CY FILL

THIS REQUEST DOES NOT GUARANTEE THAT THE LOTS WILL BE SUITABLE FOR DEVELOPEMENT NOW OR IN THE FUTURE. THE LEGAL TRANSFER OF THE PROPERTY MUST BE DONE BY SEPARATE INSTRUMENT UNLESS ALL LOTS HEREIN ARE UNDER THE SAME OWNERSHIP.

CALL BEFORE
YOU DIG 811
UNDERGROUND SERVICE (USA)



DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

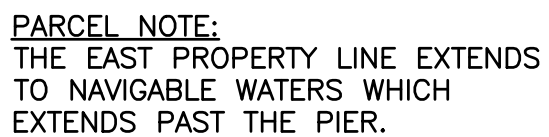
KONERU
SHORT PLAT (21-008)
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	
SCALE: AS SHOWN	DATE: 07/20/21
DESIGNED BY: MA	CHECKED BY: JA
PACE PROJECT NO. 21436.00	

SHEET C0.0

DATE	SYN	REVISION	COMMENTS
4/12/22	1		RESPONSE TO CITY

FILE NAME: P:\21\21436 RESIDENCE\CAD\ENGINEERING\ SHEETS\21436_EC.DWG
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 USER NAME: JAY PULLEN
 XREF FILES: 21436_BDR.dwg 21436_DEMO.dwg 9433-11-SRV.dwg 21436-SRV.dwg



LOT 1:

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1688.75 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES) TO THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30;

EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SAID GOVERNMENT LOT 1.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON

LOT 2:

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF PARALLEL LINES 1588.78 FEET AND 1688.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30;

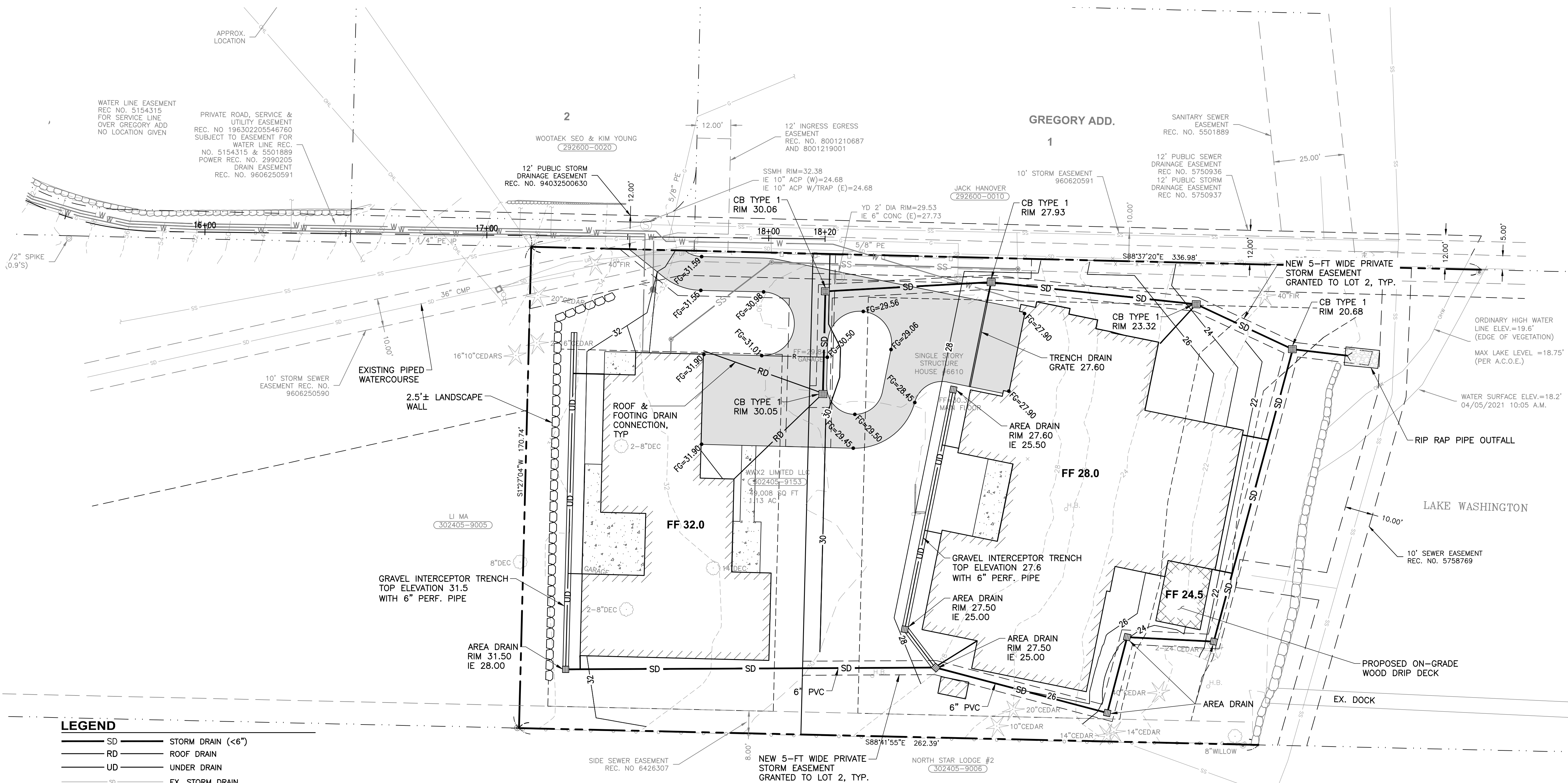
EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON

[illegible]

PORTION OF: NE1/4, NE1/4, SECTION 30, T.24N., R.5E., W.M.



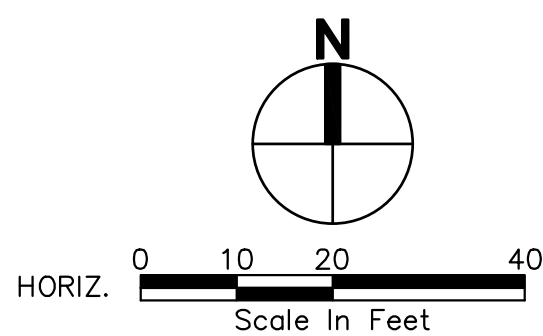
LEGEND

- SD STORM DRAIN (<6")
RD ROOF DRAIN
UD UNDER DRAIN
SD EX. STORM DRAIN
SS SANITARY SEWER
SS EX. SANITARY SEWER
W WATER LINE
W EXISTING WATER LINE
20 PROPOSED CONTOUR
R RIDGE LINE

- EXISTING PROPOSED
□ ■ AREA DRAINS
○ ■ CB TYPE 1
○ ■ SS CLEANOUT
○ ■ SSMH 48"
○ ■ WATER METER
○ ■ 2 NOZZLE FIRE HYDRANT/FDC
○ ■ 3 NOZZLE FIRE HYDRANT
○ ■ HOSE BIB

DEMO NOTE:

THE EXISTING HOUSE WILL NEED TO BE DEMOLISHED PRIOR TO PRELIMINARY SHORT PLAT APPROVAL OR A CONDITION OF APPROVAL SHALL BE ADDED STATING THAT THE EXISTING HOUSE WILL BE DEMOLISHED PRIOR TO FINAL PLAT APPLICATION



FILE NAME: P:\21\21436_KONERU_RESIDENCE\CAO\ENGINEERING\21436_SHORT.DWG
USER: JAY
DATE: 4/21/2022 3:52 PM
XREF FILES: 21436_SDR.DWG 9433-11-SRV.DWG 21436_SITE.DWG 21436_HATCH.DWG 21436_SS.DWG 21436_W.DWG

CALL BEFORE
YOU DIG 811
UNDERGROUND SERVICE (USA)

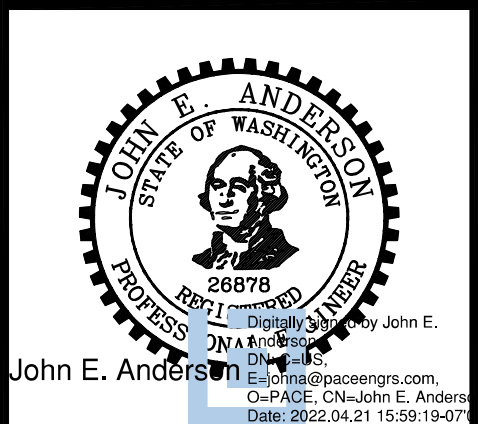
1 RESPONSE TO CITY COMMENTS		4/12/22	DATE
SYM		REVISION	
11255 Kirkland Way, Suite 300 Kirkland, WA 98033 p. 425.827.5043 www.paceengr.com			
John E. Anderson, P.E. Date: 2022.04.21 16:59:09 -0700			
DHEERAJ KONERU 7002 93RD AVENUE SE MERCER ISLAND, WA 98040			
KONERU SHORT PLAT (21-008) 6610 EAST MERCER WAY MERCER ISLAND, WA 98040		GRADING & DRAINAGE PLAN	
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.			
SCALE: 1"=20'	DATE: 07/20/21		
DESIGNED BY: MA	CHECKED BY: JA		
PACE PROJECT NO. 21436.00			
SHEET C2.0			



PACE
An Engineering Services Company

11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014 | f. 425.827.5043

Civil | Structural | Planning | Survey
www.paceengrs.com



DHEERAJ KONERU
70002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
SHORT PLAT (21-008)
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

COMPOSITE UTILITY PLAN

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING. 0"  1"	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	
SCALE: 1"=20'	DATE: 07/20/21
DESIGNED BY: MA	CHECKED BY: JA
PACE PROJECT NO. 21436.00	
C3.0	
SHEET	

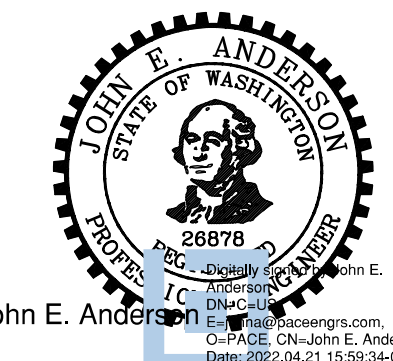


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Tree ID	Scientific Name	Common Name	DSH (inches)	DSH Multistem	Health Condition	Structural Condition	N	E	S	W	Exceptional Threshold	Exceptional	24-Inch DSH or Greater	MLOD	RLOD (feet)	Proposed Action	Notes
573	<i>Pseudotsuga menziesii</i>	Douglas-fir	47.0		Good	Good	24.0	24.5	22.5	28.5	30.0	Exceptional-Size	Yes	20	47	Remove	Pavement on all sides, center of drive, crown raised, end weight reduction pruning on north side, water main bored beneath tree
574	<i>Cornus florida</i>	Eastern Dogwood	10.7	8,8,6,1	Good	Good	6.4	8.9	11.9	12.9	12.0		-	6	10	Remove	Hollow tree, very old specimen
575	<i>Pseudotsuga menziesii</i>	Douglas-fir	39.5		Good	Good	21.6	19.6	23.6	25.6	30.0	Exceptional-Size	Yes	16	40	Retain	Top blown out repeatedly, storm damaged limbs, excellent health, soil saturated, gnarled trunk
576	<i>Thuja plicata</i>	Western Redcedar	37.0		Fair	Good	18.5	20.5	18.5	19.5	30.0	Exceptional-Size	Yes	15	37	Retain	Thin canopy, drought stress
577	<i>Thuja plicata</i>	Western Redcedar	14.0		Fair	Good	11.6	10.6	10.6	4.6	30.0		-	6	14	Remove	
578	<i>Thuja plicata</i>	Western Redcedar	13.0		Fair	Good	4.5	11.5	10.5	11.5	30.0		-	6	13	Remove	
579	<i>Thuja plicata</i>	Western Redcedar	10.0		Fair	Good	8.4	8.4	8.4	8.4	30.0		-	6	10	Retain	
580	<i>Magnolia x soulangiana</i>	Saucer magnolia	15.0	9,12	Good	Fair	23.6	20.6	15.1	9.6	-		-	6	15	Remove	Phototropic sprouting, failed tree on too
581	<i>Thuja plicata</i>	Western Redcedar	27.0		Good	Good	21.1	23.1	19.1	5.1	30.0		Yes	11	27	Retain	Codominant at 6' with narrow union
582	<i>Thuja plicata</i>	Western Redcedar	23.0		Good	Good	22.0	21.0	11.0	19.0	30.0		-	10	23	Retain	
Dead 1	<i>Thuja plicata</i>	Western Redcedar	34.8	27,14,17	N/A	N/A	16.5	23.0	21.5	22.5	30.0	Exceptional-Size	Yes	15	N/A	Reduce to wildlife snag	Dead tree, clear signs of purposeful girdling, codominant at base, good candidate for wildlife snag
Dead 2	<i>Thuja plicata</i>	Western Redcedar	20.0		N/A	N/A	16.8	19.8	18.8	18.8	30.0		-	8	N/A	Remove	Dead tree, clear signs of purposeful girdling, funnel sticking out of tree, likely for herbicide application
A	<i>Fraxinus pennsylvanica</i>	Green Ash	18.0		Good	Good	30.8	30.8	30.8	30.8	30.0		-	8	18	Retain	
B	<i>Thuja plicata</i>	Western Redcedar	23.7	11,21	Good	Good	15.0	13.0	19.0	21.0	30.0		-	10	24	Retain	Codominant with narrow union, part of grove with tree 582 and 581

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.....
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DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
SHORT PLAT (21-008)
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

TREE RETENTION PLAN

VERIFY SCALE

0 1"

SCALE: 1"=20'	DATE: 07/20/21
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DESIGNED BY: MA	CHECKED BY: JA
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PACE PROJECT NO. 21436.00

110

QUEST **L1.0**

SHEET 111

May 11, 2022

Andrew Leon
Planner
Community Planning and Development (CPD)
City of Mercer Island

Re: Koneru Short Plat (SUB 21-008/CAO 22-003)
6610 East Mercer Way
Mercer Island, Washington

This revised letter combines our comments for SUB21-003 and CAO22-003 and supersedes our previous letters dated February 16, 2022 (SUB21-008) and February 23, 2022 (CAO22-003). This letter is provided to address whether the proposed subdivision complies with the following Mercer Island City Codes (MICC).

- MICC 19.07.160 Geologically hazardous areas.
- MICC 19.09.090 Building pad. (Specifically, 19.09.090(A)(1)(b) and (c) as well as 19.09.090(A)(2)(c).
- MICC 19.07.180(C)(6)(d) Watercourses

MICC 19.07.160 Geologically hazardous areas

A review of the geotechnical report provided for the proposed development (Geotech Consultants, June 8, 2021) and their response to comments (Geotech Consultants, April 12, 2022) indicates the presence of liquefiable soils at the site.

The International Building Code requires use of the Maximum Considered Earthquake (MCE) in determining liquefaction potential of a site. This MCE has a 2% probability of exceedance in 50 years (return period of 2475 years).

The geotechnical response (Geotech Consultants, April 12, 2022) indicated:

"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."

"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."

"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."

"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."

"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."

"Ground improvement to prevent liquefaction and/or lateral spreading is both infeasible and inappropriate for a waterfront residential site such as this one..."

The geotechnical engineer of record, Geotech Consultants, Inc., has provided a risk statement in their June 8, 2021 report that conforms to MICC 19.07.160.(B)(3)(c).

“Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties;”

However, the appropriateness of this risk statement will depend highly on the structural design of the development and therefore cannot be made until that design takes into consideration the anticipated settlement and deformation due to liquefaction of the onsite soils under MCE loading.

MICC 19.09.090 Building pad. Specifically, 19.09.090(A)(1)(b) and (c) as well as 19.09.090(A)(2)(c)

- 19.09.090(A)(1)(b). Disturbance of the existing, natural topography as a result of anticipated development within the building pad shall be minimized;
- 19.09.090(A)(1)(c). Impacts to critical areas and critical area buffers shall be minimized, consistent with the provisions of Chapter 19.07 MICC; and
- 19.09.090(A)(2)(c). Building pads shall not be located within:
 - (c) Critical areas, buffers or critical area setbacks; provided building pads may be located within geohazard hazard areas and associated buffers and setbacks when all of the following are met:
 - i. A qualified professional determines that the criteria of MICC 19.07.160(B)(2) and (3), Site Development, are satisfied;
 - ii. Building pads are sited to minimize impacts to the extent feasible; and
 - iii. Building pads are not located in steep slopes or within 10 feet from the top of a steep slope, unless such slopes, as determined by a qualified professional, consist of soil types determined not to be landslide prone.

In my opinion, the proposed development meets the requirements of MICC 19.09.090(A)(1)(b) and (c). Meeting the requirements of 19.09.090(A)(2)(c)(i) cannot be determined at this time. The requirements could be met if the structural design of the development can tolerate the estimated range of post-liquefaction ground movements without building collapse.

Therefore, we agree with the statement on the cover sheet of the plans. ***“This request does not guarantee that the lots will be suitable for development now or in the future.”***

MICC 19.07.180(C)(6)(d) Piped Watercourses

- Piped watercourse setback widths shall be reduced to: (i) ten feet on lots with a lot width of 50 feet or more, and (ii) five feet on lots with a width of less than 50 feet, when daylighting is determined by qualified professional(s) to result in one or more of the following outcomes:
 - i. Increased risk of landslide or other potential hazard that cannot be mitigated;
 - ii. Increased risk of environmental damage (e.g., erosion, diminished water quality) that cannot be mitigated;
 - iii. The inability of a legally established existing lot to meet the vehicular access requirements of this title; or
 - iv. The inability of a legally established existing lot to meet the building pad standards in section 19.09.090.

Geotech Consultants, Inc., provided a letter dated August 24, 2021, discussing the geotechnical feasibility of watercourse restoration across the northwest corner of the property.

We generally agree with the conclusions provided in their letter which would, at a minimum, meet the requirement stated in MICC 19.07.180.(C)(6)(d)(ii).

Summary

There are significant geotechnical and structural design issues associated with the development of this site. Whether these issues are adequately addressed during design of the development will determine whether the requirements of MICC 19.09.090(A)(2)(c)(i) and 19.07.160 can be met.

Should further information be required, feel free to contact me.

Sincerely,

City of Mercer Island – CPD

A handwritten signature in dark ink, appearing to read "Michele Lorilla", with a stylized flourish at the end.

Michele Lorilla, P.E.
Geotechnical Peer Reviewer