

**GENERAL NOTES**

- All materials, workmanship, design, and construction shall conform to the drawings, specifications, and the following applicable codes used in the design:  
2021 INTERNATIONAL RESIDENTIAL CODE  
2021 WASHINGTON STATE ENERGY CODE
- Contractor shall contact architect immediately in case of any discrepancy between drawings and site conditions or code requirements.
- Unvented Enclosed Rafter Assemblies per IRC R806.5
- Dimensions are to face of concrete and face of stud unless noted otherwise.
- Applicable codes, ordinances, and minimum structural requirements take precedence over all drawings, notes, specifications, and sizes.
- Verify dimensions before beginning work.
- Do not scale drawings.
- Provide approved draft-stopping in concealed space between ceiling and floor per IRC R502.12 & R302.12.
- Provide approved fireblocking in walls, concealed spaces, soffits, drop ceilings, and under stairs per IRC R602.8 & R302.11.
- Provide solid wood blocking as support for all wall mounted fixtures.
- All exterior openings exposed to weather shall be flashed to make weatherproof per IRC R703.2, R703.4, R703.7.3, R703.8, R903, and R905. All flashing, counter-flashing, and coping shall be minimum 26 ga. galvanized.
- Provide weather resistive barrier per IRC 703.2 and R903.
- Caulk all openings per mfg specifications. All exterior joints shall be sealed, caulked, gasketed, or weather-stripped to limit air flow at windows, doors, openings between walls and foundations, walls and roof, utility service penetrations, etc.
- Provide flow control devices for all new fixtures; showers @ 1.8 gpm., Toilets @ 1.28 gallons max per flush, lavatory faucets @ 1.2 gpm, and kitchen faucets @ 1.8 gpm max. All flow rates for plumbing fixtures to comply with WAC 51-56-0400.
- Smoke detectors located and installed per IRC R314 to be hardwired with battery backup and connected to sound alarm in all locations on trigger. Carbon Monoxide detectors shall be located and installed, per IRC R315, outside of each separate sleeping area in the immediate vicinity of each bedroom as required. Placement per plan.
- Safety glazing is required to be permanently marked. Provide tempered glass at required hazardous locations and category ii glass enclosure doors and panels per IRC 308.4.
- All skylights shall conform to IRC R308.6 and be installed per MFR's details and specifications.
- All shower enclosures shall be finished to a height of 72" with a hard, non-absorbent material.
- Water heaters shall meet the requirements of 1987 NAECA and be so labeled. Water heaters shall be strapped to resist displacement by an earthquake per UPC.
- All structural panel components within conditioned space shall be identified as exposure I, exterior or HUD-approved per R702.5.
- Provide emergency escape route for bedrooms per IRC R310.
- Stairways, exits and handrails shall conform to IRC R311.7 requirements. Stairways with 4 or more risers shall have a continuous 1 1/2" handrail, 34"-38" above nosing of tread, which returns to a newel post or wall. Openings in rail shall be less than 4" clear in any direction.
- Decks and guardrails to conform to IRC R312 requirements.
- All ceiling heights shall conform to IRC R305. Habitable space, hallways and portions of basements containing habitable spaces shall have a ceiling height of not less than 7 feet. Toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches
- Clearances of listed appliances from combustible materials shall be specified in appliance label and in manufacturer's installation instructions. Unspecified shall comply with IRC M304.9.
- All wood in contact with concrete or ground to be treated or naturally decay resistant per IRC R317.1.
- Vapor barrier under all concrete slabs, lapped min 12" at all seams and taped.
- Mechanical and service hot water piping to be insulated per WSEC R403.4 and R403.5.
- Per IRC R401.3, surface drainage shall be diverted into a storm sewer or other point of collection.
- Existing roof/ceiling, wall or floor cavities exposed during construction shall be filled with insulation per WSEC R503.
- Construction erosion control measures must be in place and approved by the Authority Having Jurisdiction prior to any earth disturbance.
- No sediment shall be tracked into the street or onto paved surfaces. Sediment shall be removed from trucks and equipment prior to leaving the site. In the event of failure of erosion control system resulting in sediment being tracked onto paved surfaces, the contractor shall immediately implement measures to correct the situation, and street sweeping shall be employed on an emergency basis. If street sweeping vehicles are utilized, they shall be of the type that actually removes sediment from the pavement.



VIEW FROM NE/STREET



VIEW FROM SW

**PROJECT CONTACTS**

**OWNERS:**  
RAHUL PATHAK AND SEVERINE KELLEY  
8541 SE 82ND ST  
MERCER ISLAND, WA 98040

**ARCHITECTS:**  
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CAST ARCHITECTURE  
115 NORTH 36TH ST  
SEATTLE, WA 98103  
(206) 360-8822  
stefan@castarchitecture.com, george@castarchitecture.com

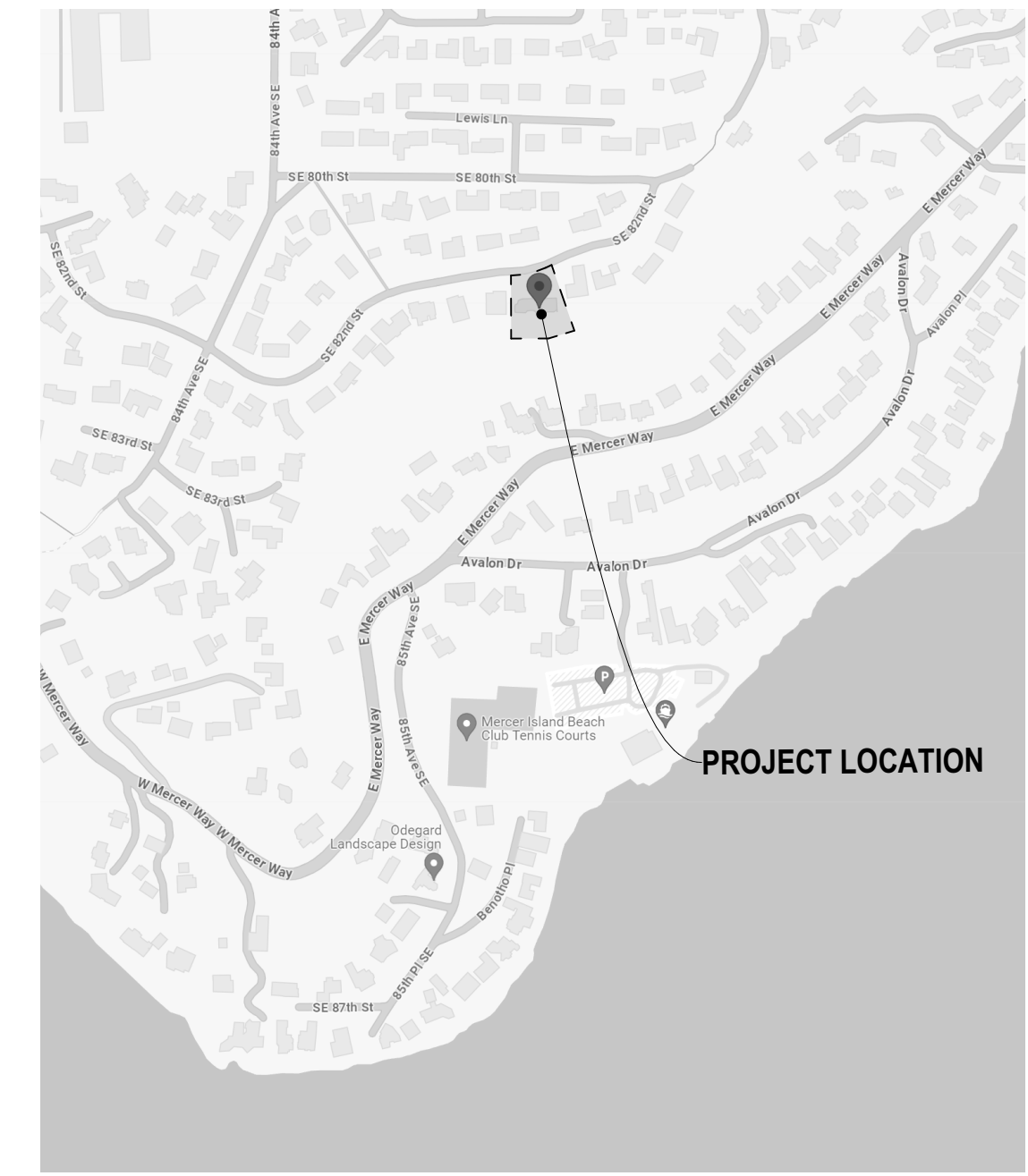
**CONTRACTOR:**  
JEFF WENZEL  
MERCER BUILDERS, LLC  
3026 78TH AVE SE  
MERCER ISLAND, WA 98040  
(206) 719-0069  
jeff.wenzel@mercerbuilders.com  
LICENSE #: MERCEBL942J7  
EXP: 04/27/26

**STRUCTURAL ENGINEER:**  
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gcoons@ssfengineers.com

**SURVEYOR:**  
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info@terrane.net

**GEOTECHNICAL ENGINEER:**  
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206-262-0370

**ARBORIST:**  
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A.B.C. CONSULTING ARBORISTS LLC  
12402 N DIVISION ST, SUITE 294  
SPOKANE, WA 99218  
DANIEL@ABCARBORIST.COM  
509-953-0293



VICINITY MAP

**PROJECT INFORMATION**

CAST PROJECT NUMBER: 2215

**OWNER:**  
RAHUL PATHAK AND SEVERINE KELLEY  
8541 SE 82ND ST  
MERCER ISLAND, WA 98040

**PROJECT ADDRESS:**  
8541 SE 82ND ST  
MERCER ISLAND, WA 98040

**PROJECT DESCRIPTION:**  
INTERIOR REMODEL OF (E) SINGLE-FAMILY RESIDENCE. CONVERT (E) CARPORT TO (N) ATTACHED GARAGE WITH UTILITY ROOM. NO NEW CONDITIONED AREA.

**SHEET INDEX**

a.1	GENERAL INFO
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a.3	SITE PLAN - EXISTING
a.4	SITE PLAN - PROPOSED
a.5	TREE PROTECTION PLAN
a.6	TREE PROTECTION PLAN

**CAST**  
ARCHITECTURE  
115-C north 36th street  
seattle wa, 98103  
CASTarchitecture.com  
ph 206.256.9886

**PATHAK RESIDENCE**

8541 SE 82ND ST,  
MERCER ISLAND, WA 98040



Approved by:

issue	issue date	description	printed
	10/17/23	PRELIMINARY PRICING SET	7/9/2024
	02/19/24	VE COORDINATION SET	
	03/25/24	COORDINATION SET	
	07/03/24	C.A.R.1 DEVELOPMENT PLAN SET	

**GENERAL INFO**

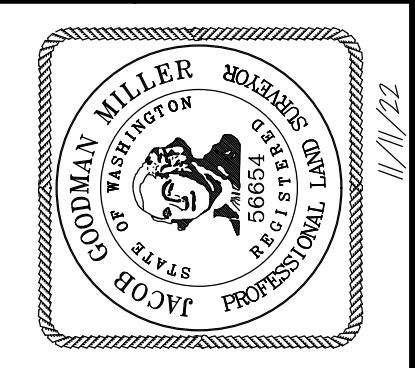
**a.1**

# TOPOGRAPHIC & BOUNDARY SURVEY

We are the measure | terrane.net

TOPOGRAPHIC & BOUNDARY SURVEY  
PARCEL NO. 362550050

PATHAK RESIDENCE  
8541 SE 82ND ST  
MERCER ISLAND, WA 98040



# TERRANE

10801 Main Street, Suite 102  
Bellevue, WA 98004  
p: 425-458-4488 | e: info@terrane.net

JOB NUMBER: 222005  
DATE: 11/11/22  
DRAFTED BY: IDV / RPM  
CHECKED BY: JGM/TB/TLR  
SCALE: 1" = 10'

REVISION HISTORY	

SHEET NUMBER  
1 OF 1

## LEGAL DESCRIPTION

(PER CHICAGO TITLE COMPANY "GUARANTEE", ORDER NO. 0248356-ETU)  
LOT 5, ISLAND POINT, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 75 OF PLATS, PAGE 88, RECORDS OF KING COUNTY, WASHINGTON;  
SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

## BASIS OF BEARINGS

A LINE COMPUTED PER REFERENCE NO. 1 BETWEEN FOUND MONUMENTS BEARS S 81°48'51" W, AS SHOWN HEREON.

## REFERENCES

R1. ISLAND POINT, VOL. 75 OF PLATS, PG. 88, RECORDS OF KING COUNTY, WASHINGTON.

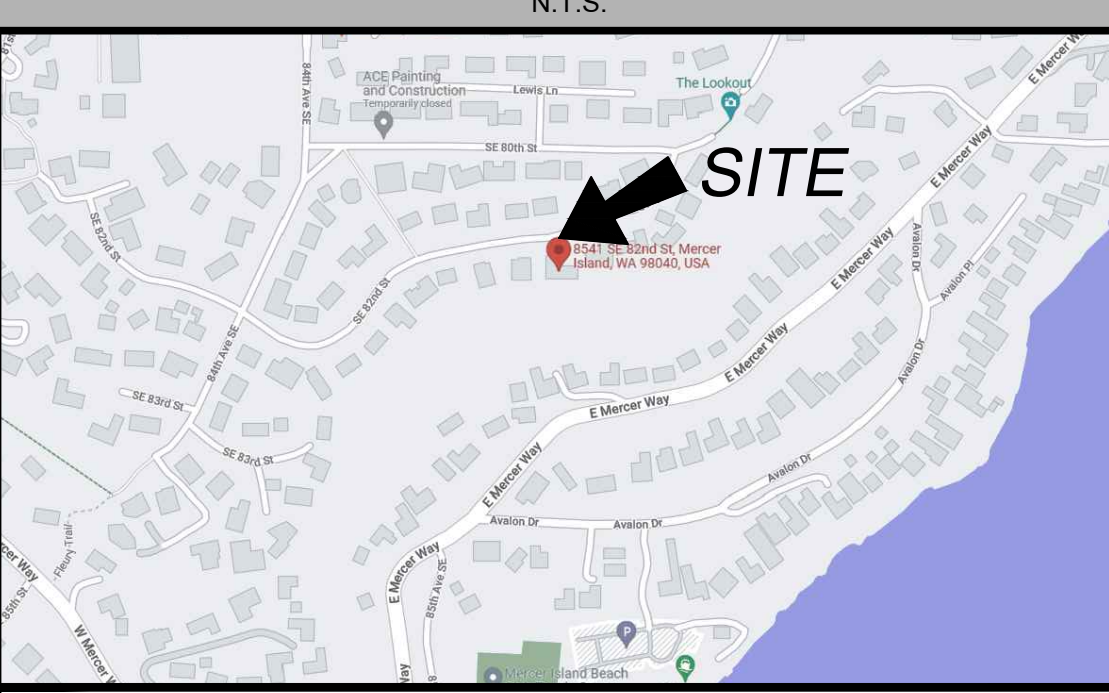
## VERTICAL DATUM

NAVD 88 PER CITY OF MERCER ISLAND BENCHMARK NO. 1722  
DESCRIPTION: BRASS NIPPLE IN CONC (DN 0.9')  
LOCATION: SE 82ND ST, OPP HSE #8500  
ELEVATION: 321.936'

## SURVEYOR'S NOTES

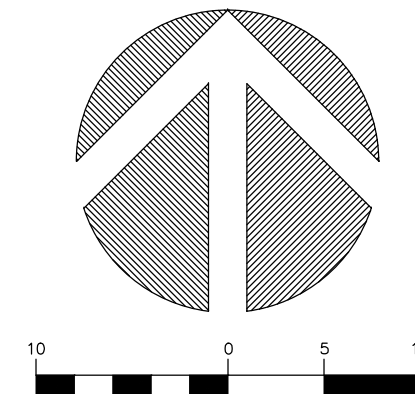
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN NOVEMBER OF 2022. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 362550-0050
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 16,138 ±S.F. (0.37 ACRES)
6. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY'S "GUARANTEE" ORDER NO. 0248356-ETU, DATED OCTOBER 31, 2022. IN PREPARING THIS MAP, TERRANE, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS TERRANE, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED "SUBDIVISION GUARANTEE". TERRANE, INC. HAS RELIED WHOLLY ON NAME.NE.NAME TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND TERRANE, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
7. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

## VICINITY MAP



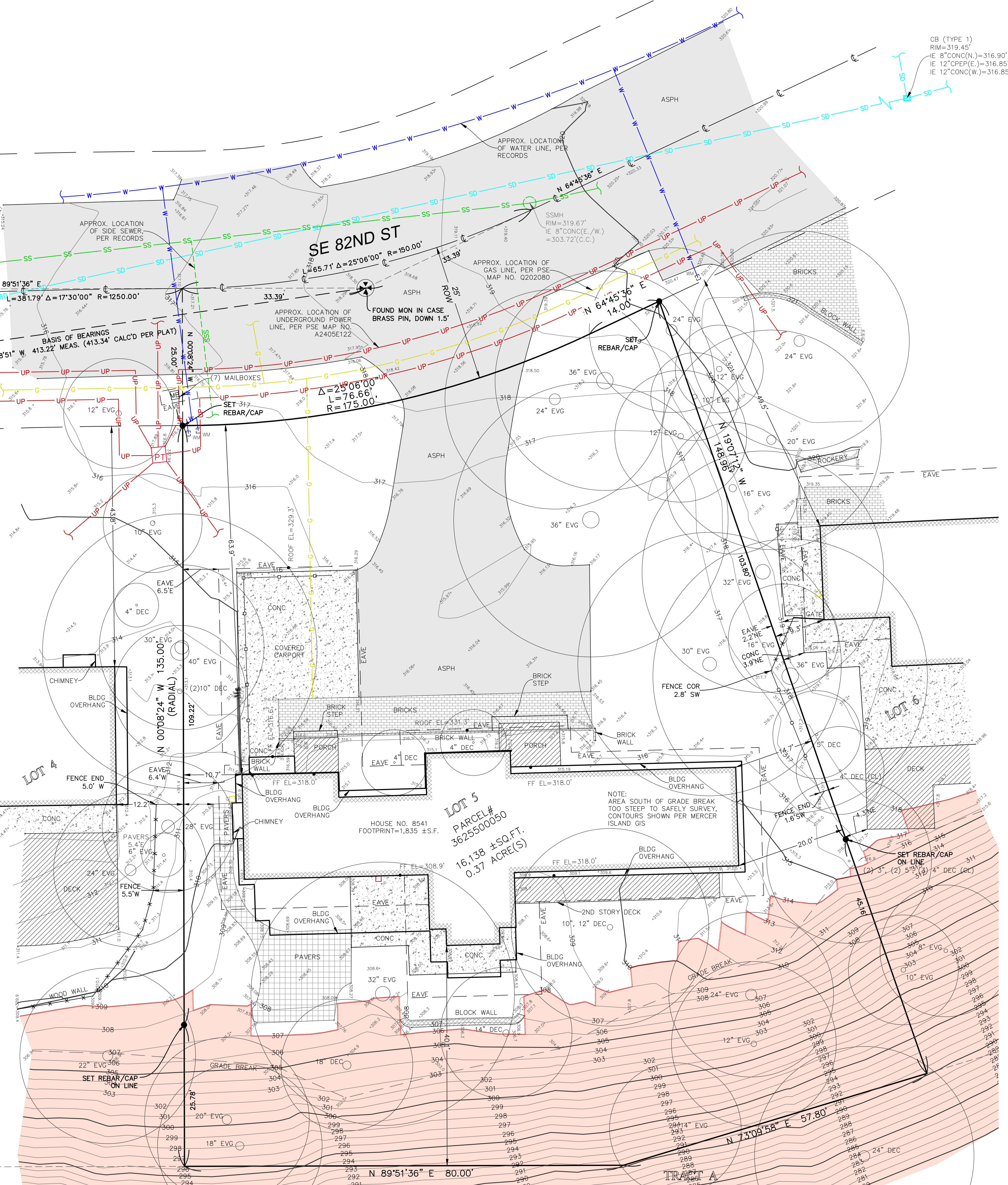
## SCHEDULE B ITEMS

1. RESERVATIONS AND RECITALS CONTAINED IN THE DEED AS SET FORTH BELOW:  
RECORDING DATE: JULY 12, 1939  
RECORDING NO.: 3054284  
(BLANKET IN NATURE. NOTHING TO PLOT.)
2. RESERVATIONS AND RECITALS CONTAINED IN THE DEED AS SET FORTH BELOW:  
RECORDING DATE: SEPTEMBER 7, 1954  
RECORDING NO.: 4482974  
(BLANKET IN NATURE. NOTHING TO PLOT.)
3. COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS, IF ANY, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILY STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH ON THE PLAT OF ISLAND POINT:  
RECORDING NO.: 5733121  
(BLANKET IN NATURE. RESTRICTIONS EXIST. NOTHING TO PLOT.)
4. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:  
GRANTED TO: THE CITY OF MERCER ISLAND, A MUNICIPAL CORPORATION OF THE STATE OF WASHINGTON  
PURPOSE: PEDESTRIAN PATHWAY  
RECORDING DATE: OCTOBER 18, 1973  
RECORDING NO.: 7310180355  
(EASEMENT FALLS OFF SITE.)



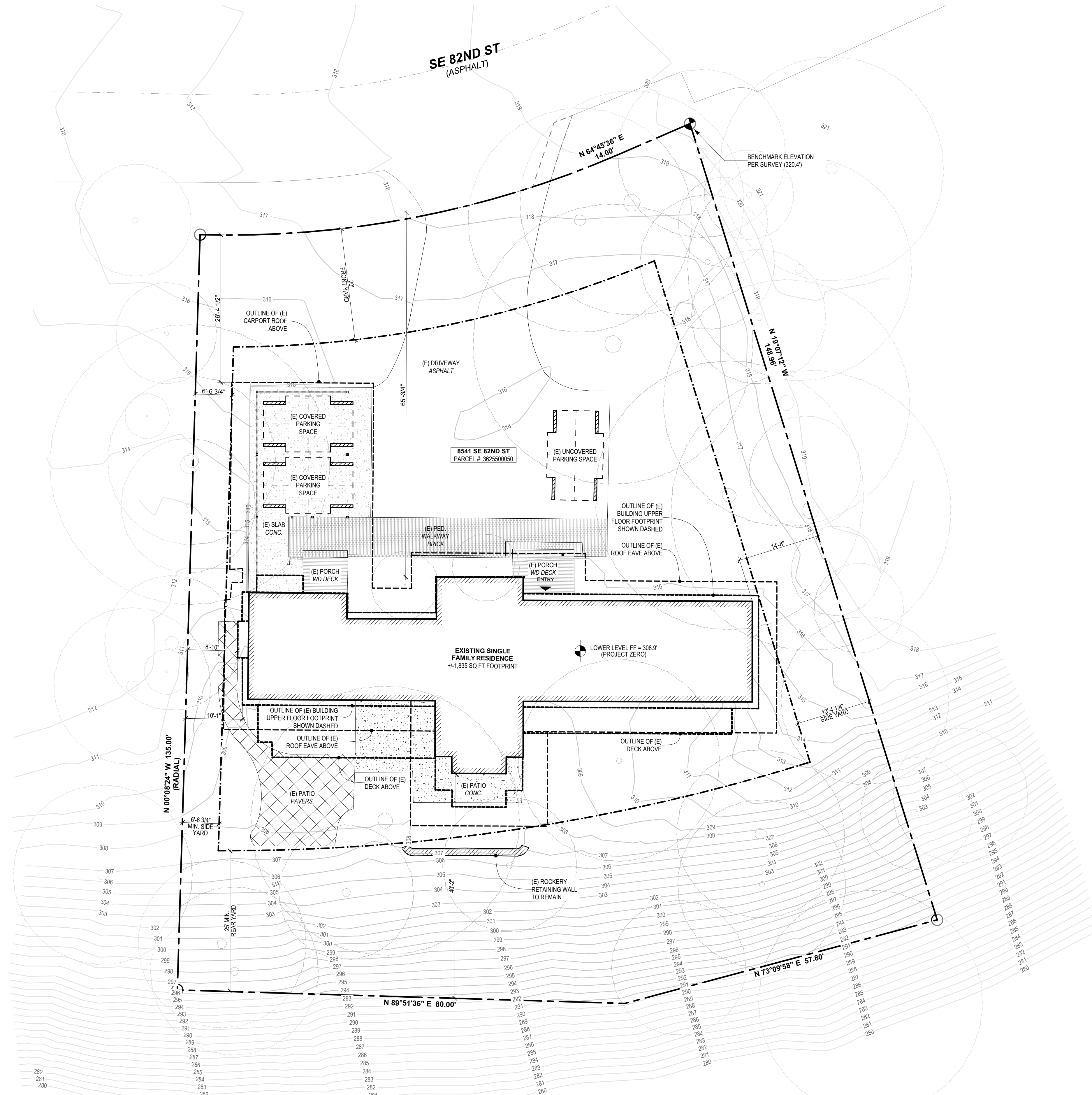
INDEXING INFORMATION			
NW 1/4	NE 1/4	SECTION: 31	
SW 1/4	SE 1/4	TOWNSHIP: 24N	
		RANGE: 05E, W.M.	
		COUNTY: KING	

**STEEP SLOPE/BUFFER DISCLAIMER:**  
THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE PUBLIC DOCUMENTS, AS SUCH, TERRANE CANNOT BE LIABLE OR RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY STEEP SLOPE INFORMATION. ULTIMATELY, THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OR OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.



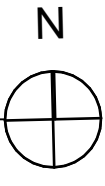
## LEGEND

- |                           |                     |
|---------------------------|---------------------|
| ASPHALT SURFACE           | PAVER SURFACE       |
| BRICK SURFACE             | POWER METER         |
| BUILDING                  | POWER (UNDERGROUND) |
| CENTERLINE ROW            | POWER TRANSFORMER   |
| CONCRETE SURFACE          | REBAR & CAP (SET)   |
| DECK                      | RETAINING WALL      |
| FENCE LINE (WIRE)         | ROCKERY             |
| FENCE LINE (WOOD)         | SEWER LINE          |
| GAS LINE                  | SEWER MANHOLE       |
| GAS METER                 | STORM DRAIN LINE    |
| INLET (TYPE 1)            | TREE (AS NOTED)     |
| MAILBOX (RESIDENTIAL)     | WATER LINE          |
| MONUMENT (IN CASE, FOUND) | WATER METER         |
|                           | STEEP SLOPE AREA    |



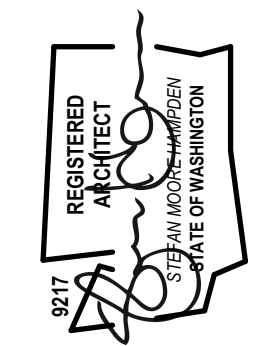
SITE PLAN - EXISTING

SCALE: 1" = 10'



**PATHAK RESIDENCE**

8541 SE 82ND ST,  
MERCER ISLAND, WA 98040

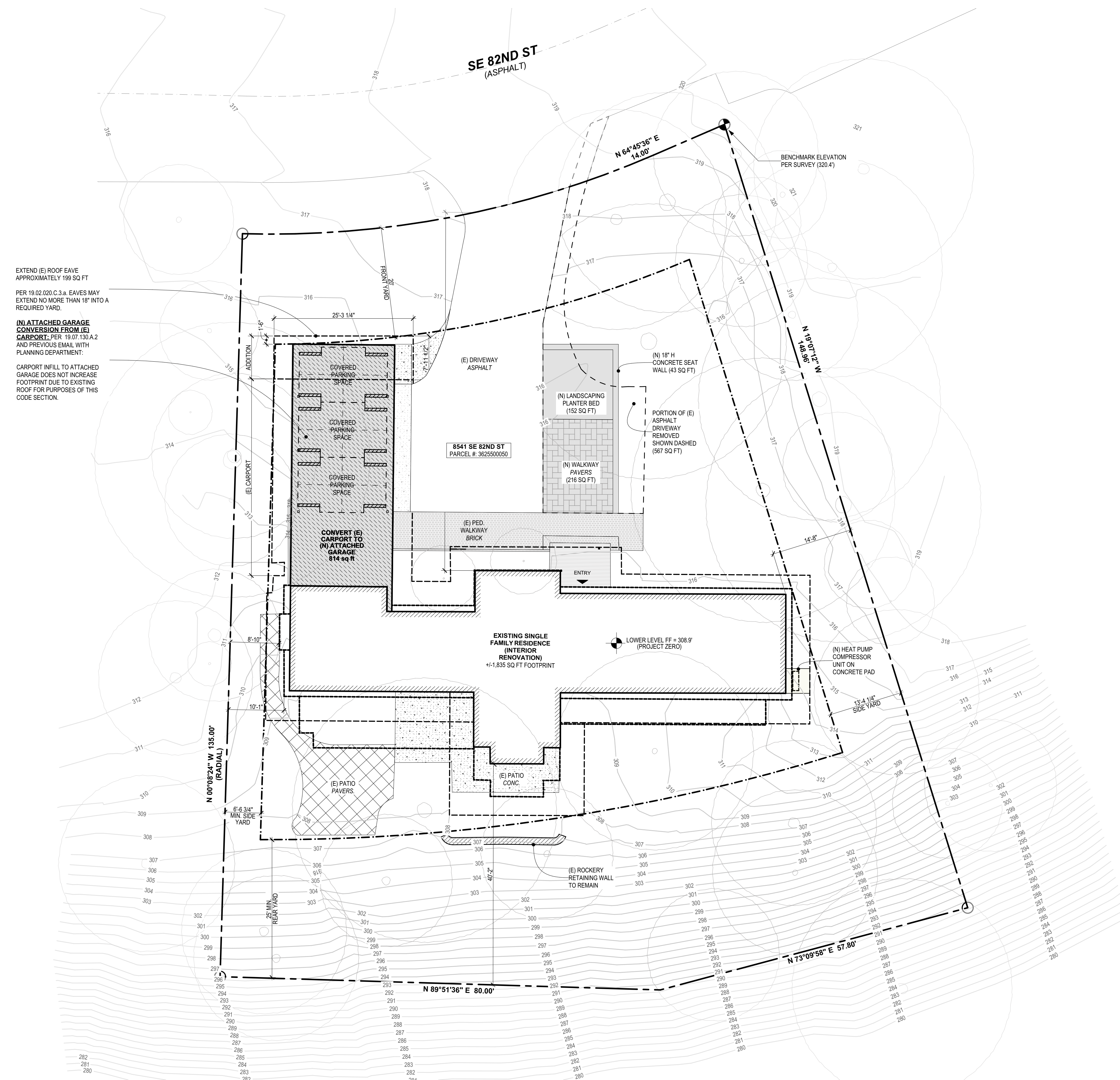


Approved by:

Issue	Issue date	Description	Printed
	10.17.23	PRELIMINARY PRICING SET	7/9/2024
	02.19.24	VE COORDINATION SET	
	03.25.24	COORDINATION SET	
	07.03.24	C.A.R.1 DEVELOPMENT PLAN SET	

**SITE PLAN - EXISTING**

**a.3**



EXTEND (E) ROOF EAVE APPROXIMATELY 199 SQ FT  
 PER 19.02.020.C.3.a. EAVES MAY EXTEND NO MORE THAN 18\"/>

**(N) ATTACHED GARAGE CONVERSION FROM (E) CARPORT PER 19.07.130.A.2 AND PREVIOUS EMAIL WITH PLANNING DEPARTMENT:**  
 CARPORT INFILL TO ATTACHED GARAGE DOES NOT INCREASE FOOTPRINT DUE TO EXISTING ROOF FOR PURPOSES OF THIS CODE SECTION.

**SITE PLAN - PROPOSED**  
 SCALE: 1" = 10'

**SITE INFO**

**LEGAL DESCRIPTION:**  
 (PER CHICAGO TITLE COMPANY "GUARANTEE", ORDER NO. 0248356-ETU)  
 LOT 5, ISLAND POINT, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 75 OF PLATS, PAGE 88, RECORDS OF KING COUNTY, WASHINGTON;  
 SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

**PARCEL TAX NUMBER:** 362550-0050  
**ZONING:** R-9.6  
**HEIGHT LIMIT:** 30 FT  
**CONSTRUCTION TYPE:** V-B

**SETBACKS:**  
**FRONT:** 20'  
**SIDE:** 6'-6 3/4" + 13'-4 1/4" = 19'-11" TOTAL  
**REAR:** 25'

**DEPTH:** 65% of lot (with exceptions)  
**WIDTH:** No Limit

**PARKING:**  
**REQUIRED:** 3  
**PROVIDED:** 3

**GROSS FLOOR AREA**

A. LOT AREA 16,138 SF  
 B. ZONE R-9.6  
 C. ALLOWED GROSS FLOOR AREA (GFA) 8,000 SF  
 D. ALLOWED GROSS FLOOR AREA 40% OF LOT

**EXISTING**

MAIN FLOOR	2,076 SF
BASEMENT	1,751 SF
CARPORT/UNCONDITIONED	802 SF
<b>TOTAL FLOOR AREA</b>	<b>4,629 SF</b>
ACCESSORY BUILDINGS	0 SF
2ND & 3RD STORY ROOFED DECKS	285 SF
CLGS 12'-16'	164 SF
CLGS >16'	0 SF
STAIRCASES	90 SF

**PROPOSED**

MAIN FLOOR	2,075 SF
BASEMENT	1,738 SF
GARAGE/UNCONDITIONED	868 SF
<b>TOTAL FLOOR AREA</b>	<b>4,681 SF</b>
ACCESSORY BUILDINGS	0 SF
2ND & 3RD STORY ROOFED DECKS	285 SF
CLGS 12'-16'	167 SF
CLGS >16'	0 SF
STAIRCASES	90 SF

BASEMENT AREA EXCLUDED 913 SF

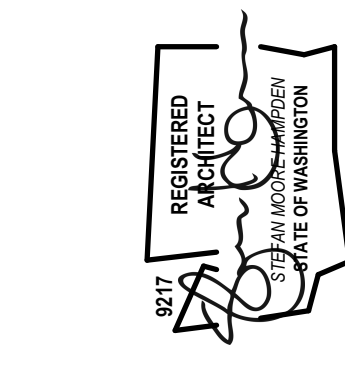
**PROPOSED GFA CALCULATION**

4,681 + 0 + 285 + (167 \* 0.5) + 0 + 90 = 5,140 SF  
 5,140 - 913 = 4,227 SF

**E. PROPOSED GROSS FLOOR AREA** 4,227 SF  
**F. PROPOSED GROSS FLOOR AREA** 26% OF LOT

**PATHAK RESIDENCE**

8541 SE 82ND ST,  
 MERCER ISLAND, WA 98040



Approved by:

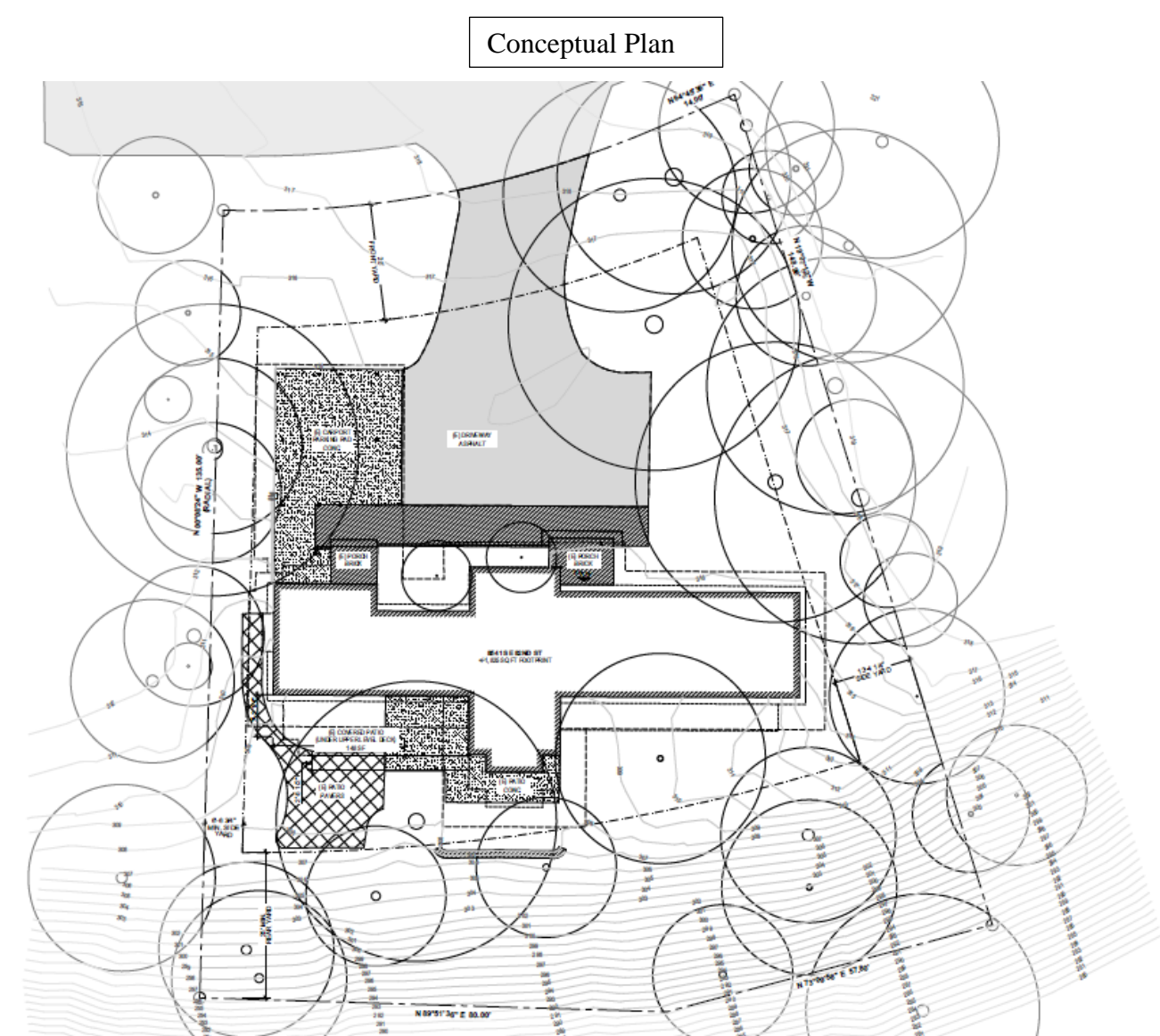
issue	issue date	description	description	description	description	description
			printed 7/3/2024			
	10.17.23	PRELIMINARY PRICING SET				
	02.19.24	VE COORDINATION SET				
	03.25.24	COORDINATION SET				
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**SITE PLAN - PROPOSED**

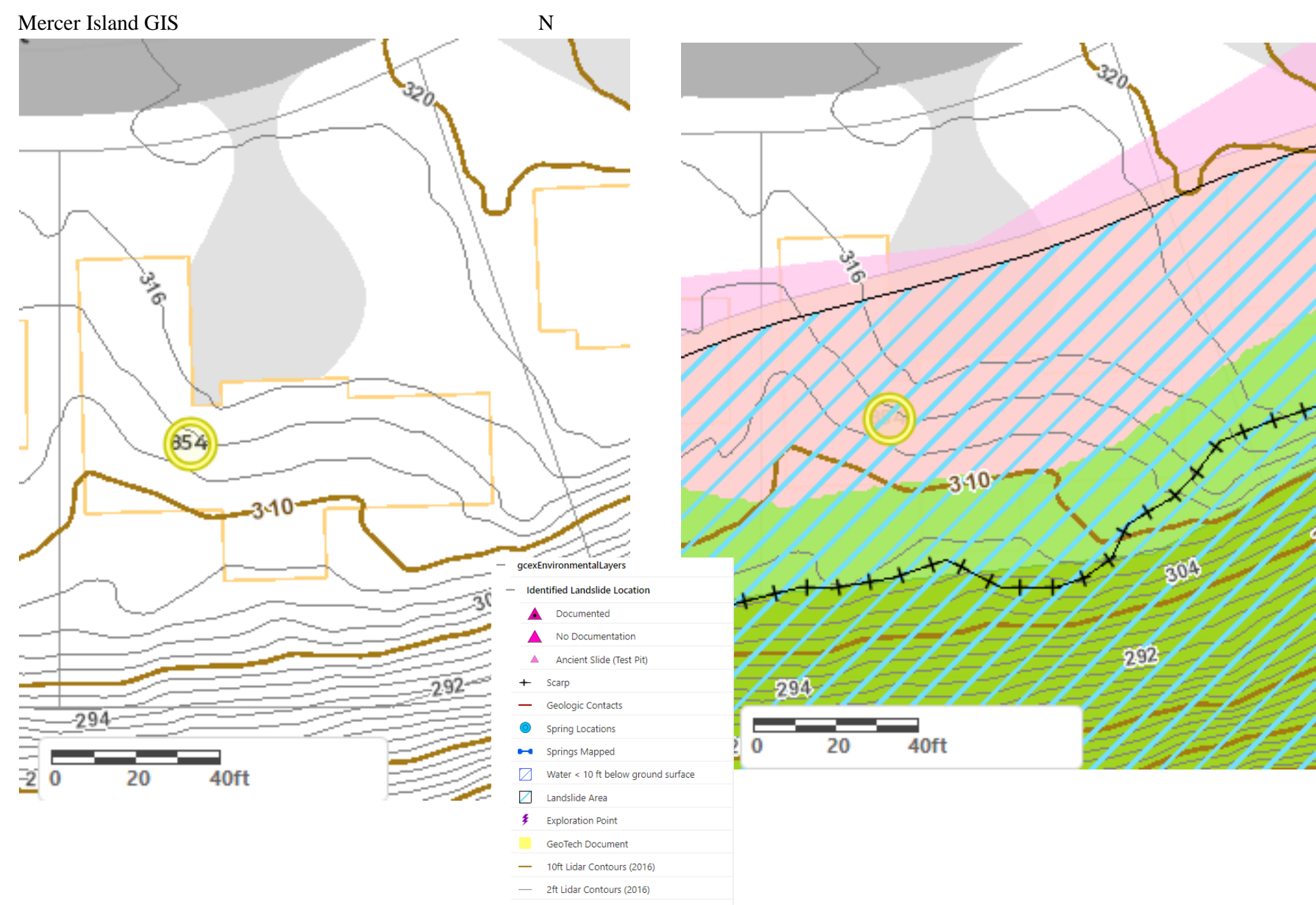
**a.4**

# ATTACHMENTS

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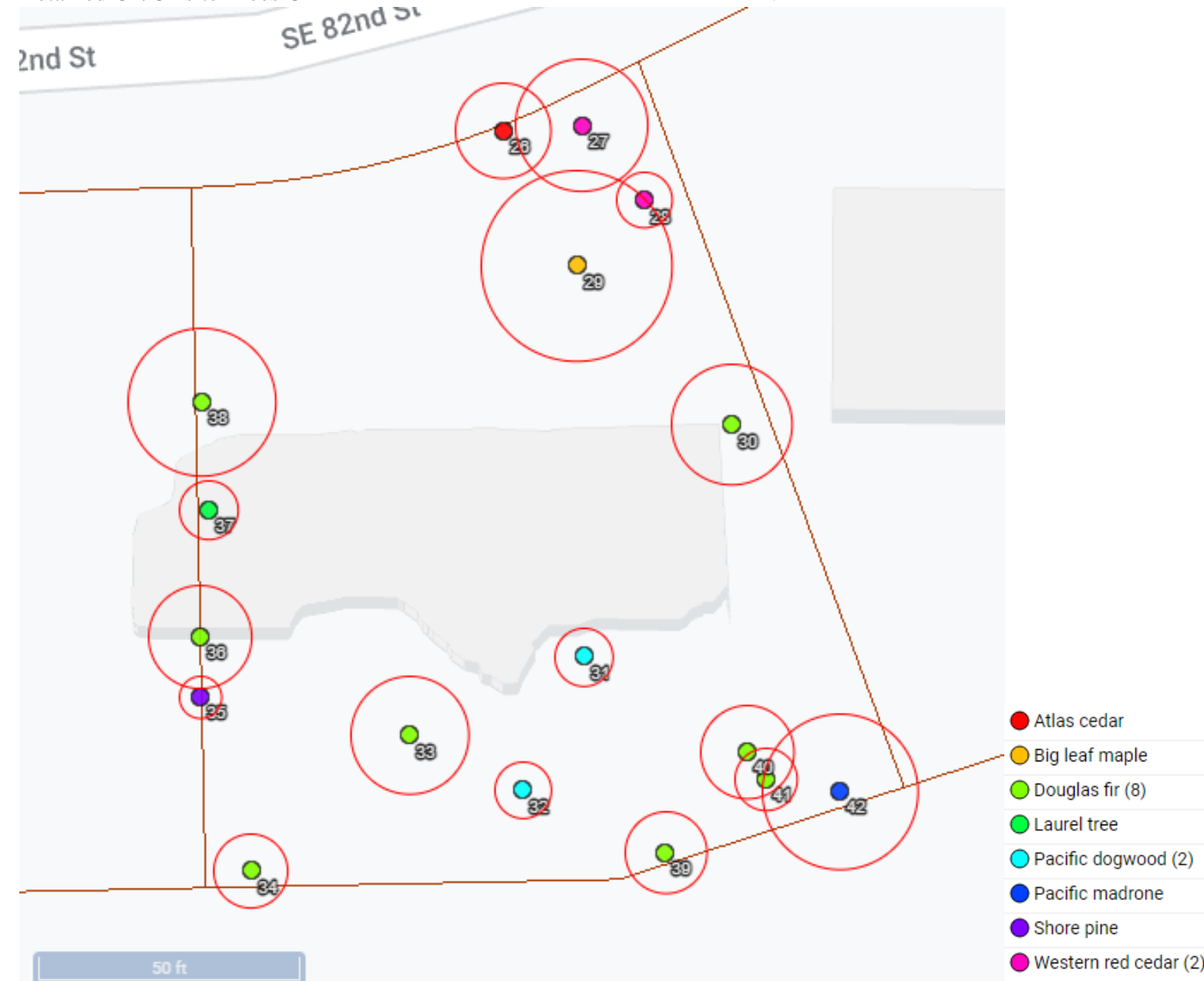
## ATTACHMENT 1 - SITE IMAGES



## Retained On/Offsite Trees TPZ



## Retained On/Offsite Trees CRZ



## ATTACHMENT 2 - TREE SUMMARY, TPZ, CRZ

ID	Species	Latin	DBH	Spread	Condition - Health	Condition - Structure	Landmark Grove Exceptional	Development	TPZ - Radius (ft)	CRZ - Radius (ft)	Notes
26	Atlas cedar	<i>Cedrus atlantica</i>	24.5	30	Good	Good	NO	R-Viable	18.375	9.1875	Viable
27	Western red cedar	<i>Thuja plicata</i>	25.5	Good	Poor	NO	NO	R-Asess	25.5	12.75	Woodpecker holes noted. Root system recommended.
28	Western red cedar	<i>Thuja plicata</i>	10.7	12	Fair	Good	NO	R-Viable	10.7	5.35	Crowded
29	Big leaf maple	<i>Acer macrophyllum</i>	36.8	40	Good	Good	Exceptional	R-Viable	36.8	18.4	Nice specimen tree.
30	Douglas fir	<i>Pseudotsuga menziesii</i>	31	40	Good	Good	Exceptional	R-Viable	23.25	11.625	Good health and vigor
31	Pacific dogwood	<i>Cornus nuttallii</i>	14.92	16	Fair	Good	Exceptional	R-Poor Condition	11.19	5.595	S fork in poor condition
32	Pacific dogwood	<i>Cornus nuttallii</i>	14.5	15	Fair	Poor	NO in Poor Condition	R-Poor Condition	10.875	5.4375	Tree is declining. Decay in the trunk.
33	Douglas fir	<i>Pseudotsuga menziesii</i>	30.3	33	Good	Good	Exceptional	R-Impacted	22.725	11.3625	May conflict with plans, arborist oversight, required during any earth work inside the TPZ
34	Douglas fir	<i>Pseudotsuga menziesii</i>	19	21	Good	Good	NO	R-Viable	14.25	7.125	asymmetrical. In good health at this time.
35	Shore pine	<i>Pinus contorta</i>	6.5	8	Fair	Fair	NO	R-Poor Condition	8.125	4.0625	Suppressed
36	Douglas fir	<i>Pseudotsuga menziesii</i>	26.5	30	Good	Good	NO	R-Viable	19.875	9.9375	Good health and vigor
37	Laurel tree	<i>Laurus nobilis</i>	11.31	12	Good	Fair	NO	R-Viable	11.31	5.655	unmaintained.
38	Douglas fir	<i>Pseudotsuga menziesii</i>	38	37	Good	Good	Exceptional	R-Viable	28.5	14.25	Good health and vigor
39	Douglas fir	<i>Pseudotsuga menziesii</i>	21	26	Good	Good	NO	R-Viable	15.75	7.875	Limbed for a view window
40	Douglas fir	<i>Pseudotsuga menziesii</i>	24	26	Good	Good	NO	R-Viable	18	9	Good health and vigor
41	Douglas fir	<i>Pseudotsuga menziesii</i>	16	20	Fair	Fair	NO	R-Viable	12	6	Suppressed limbed for view
42	Pacific madrone	<i>Arbutus menziesii</i>	22	30	Fair	Fair	Exceptional	R-Viable	30	15	Fair condition

1. The TPZ listed shall be the TPZ that is used. 2. The TPZ can be reduced to the CRZ, unless noted otherwise, as long as the TPZ is not reduced by more than 20%. 3. This may be further reduced on a case-by-case basis, upon review, approval, and under the direct oversight of A.B.C. Consulting Arborists LLC. 4. Install Fencing Per Attachment 3, prior to starting construction activity.

	Total Trees	Hazard Non-Viable	Conflict W/ plans	Trees Retained	Viable Trees Removed	Replacement Ratio	Required Replant
>36"-&Exceptional	6	0	0	6	0	6:1	0
Lg 24-36	4	0	0	4	0	3:1	0
Lg 10-24	6	0	0	6	0	2:1	0
Small < 10"	1	0	0	1	0	1:1	0
Small < 10	0	0	0	0	0	Exempt	0
<b>TOTAL</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>		<b>0</b>

<sup>6</sup> MMCC 19.16.010 Grove = 8 or more trees ≥ 10-inches DBH that form a continuous canopy (exceptional unless hazardous).  
<sup>7</sup> In a Critical Area or Critical Area Buffer or On Public Property.

## ATTACHMENT 3 - TREE PROTECTION

The following minimum Tree Protection Measures can be copied and introduced into all relevant documents such as site plans, permit applications and conditions of approval, and bid documents so that everyone involved is aware of the requirements.

1. Tree Protection Fencing Shall Be Continuous 6' min. Chain Link or like Fencing and:

- a. Tree Protection Fences will need to be placed around each tree or group of trees to be retained.
  - i. Tree Protection Fences are to be placed according to the attached drawing (bottom of attachment) at a distance of not less than 10' feet outside the dripline of the tree or group of trees to be saved, or at the designated TPZ See Attachment 2 for TPZ/CRZ
  - ii. Tree Protection Fences must be inspected prior to the beginning of any demolition or construction work activities.
  - iii. Nothing must be parked or stored within the Tree Protection Fences—no equipment, vehicles, soil, debris, or construction supplies of any sorts.
- b. Signs:
  - i. The Tree Protection Fences need to be clearly marked with the following or similar text in four inch or larger letters every 40'

**TREE PROTECTION FENCE, DO NOT ENTER!**  
**DO NOT PARK OR STORE MATERIALS WITHIN THE PROTECTION AREA**

Questions contact Daniel Maple of A.B.C. Consulting Arborists LLC.  
 Cell: (509) 953-0293 Email: Daniel@AbcArborist.Com

Signs along the TPZ may be waived at the discretion of the City and/or its officials.

2. Cement Trucks/Washout:

- a. Cement trucks must not be allowed to deposit waste or wash out materials from their trucks within the Tree Protection Fences.
- b. No waste, wash out, or contaminated water shall be allowed to flow into the Tree Protection Area.

3. Canopy Pruning:

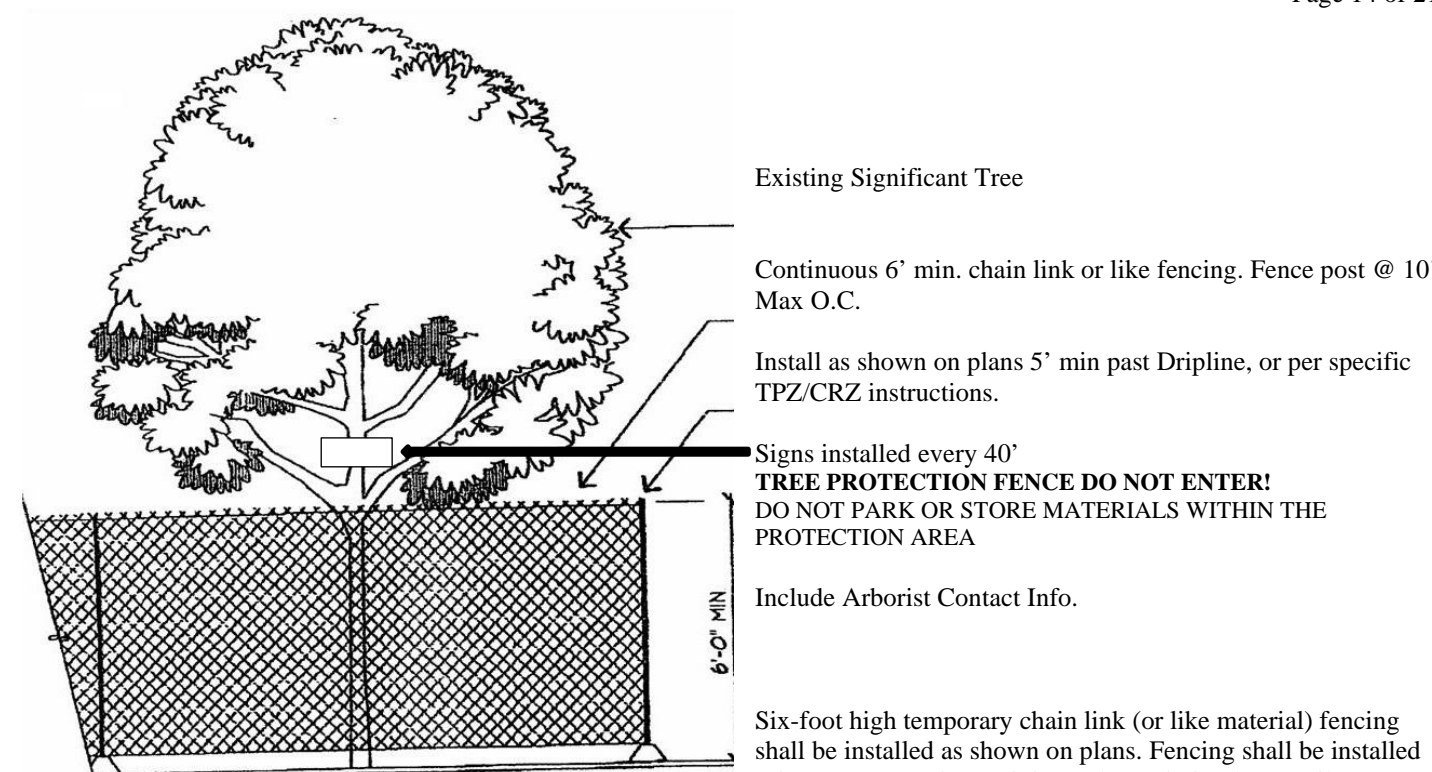
- a. The canopies of some of the trees may need to be properly pruned to allow Sight lines (vehicular), access of equipment, materials, or building and construction clearance.
- b. If so, the pruning must be done by an International Society of Arboriculture, (ISA) Certified Arborist using current industry standard pruning techniques. (ANSI A300 Pruning Standards and ANSI Z131.1 Safety Standards as well as all OSHA, WISHA, and local standards must be followed.)
- c. Plant debris can be chipped and utilized on site for the mulch under the trees.



Approved by:

description	printed 7/9/2024
PRELIMINARY PRICING SET	
VE COORDINATION SET	
COORDINATION SET	
C.A.R.1 DEVELOPMENT PLAN SET	
issue date	issue
10.17.23	
02.19.24	
03.25.24	
07.03.24	

5. When excavation occurs near trees that are scheduled for retention, the following procedure must be followed to protect the long-term survivability of the tree:
  - a. An International Society of Arboriculture, (ISA) Certified Arborist must be working with all equipment operators.
    - i. The Certified Arborist should be outfitted with an Airspade™, shovel, hand pruners, a pair of loppers, a handsaw, and a power saw (a "saws all" type reciprocating saw is recommended).
  - b. The hoe must be placed to "comb" the material directly away from the trunk as opposed to cutting across the roots.
    - i. Combing is the gradual excavation of the ground cover plants and soil in depths that only extend as deep as the tines of the hoe.
  - c. When any roots of one-inch diameter or greater, of the tree to be retained, is struck by the equipment, the Certified Arborist should stop the equipment operator.
  - d. The Certified Arborist should then excavate around the tree root by Airspade™ (recommended) or by hand/shovel and cleanly cut the tree root.
    - i. The Certified Arborist should then instruct the equipment operator to continue.



construction is completed. Fencing panels are recommended. Fencing shall completely encircle the tree(s). Install fence posts using pier blocks. Avoid driving posts or stakes into major roots.

Make a clean straight cut, using loppers, reciprocal saw, or like tool, to remove damaged portion of root(s) over 1" inch diameter that are damaged during construction. ALL exposed roots shall be temporarily covered with damp burlap and covered with soil the same day, if possible, to prevent drying out. If not possible, the burlap must be kept moist at all times.

Work within the protection fencing shall be done manually. No stockpiling of materials, soil, debris, vehicular traffic, or storage of machinery or equipment shall be allowed within the limits of the fencing.

Cement trucks must not be allowed to deposit waste or wash out materials from their trucks within the tree protection fences, or in a manner that would allow the waste or wash out material to enter the TPZ.

The area within the tree protection fencing shall be covered with wood chips, hog fuel, or similar materials, to a depth of 3 to 6 inches. The materials should be placed prior to beginning construction and remain until the tree protection fencing was taken down.

Should the tree protection fencing need to be installed inside the TPZ to allow for construction activity, then the following shall be done.

For construction equipment, cover the area from the tree protection fencing to the outer edge of the TPZ with 8 to 10 inches of wood chips, hog fuel, or similar materials, to reduce compaction cover area with steel plates. For foot traffic, cover the area from the tree protection fencing to the outer edge of the TPZ with 6 inches of wood chips, hog fuel, or similar materials, to reduce compaction, cover with 3/4 inch to 1-inch plywood.

The steel plates, plywood and wood chips are to remain in place until all construction activity is completed. The steel plates, plywood and woodchips shall then be removed and the tree protection fencing installed along the outer edge of the tree protection zone.

**ATTACHMENT 4 - MULCHING**

Mulching is one of the easiest and most effective ways to improve urban soil quality entry health. Mulching is the application materials to the soil surface to improve or protect the tree and/or soil. Most materials can be organic or inorganic. When selecting mulch, organic materials are usually preferred over inorganic materials. Organic mulches moderate soil temperatures reduce soil compaction and erosion, and increase soil organic matter; thereby stimulating microbial activity, soil aggregation, and nutrient availability. Inorganic mulches may be fire resistant, do not decompose, reflect, or transfer heat more readily into the soil, and tend to be more stable when exposed to high wind or flooding.

**Table 2) Potential uses and limitations of typical mulches for urban trees.**

Mulch	Uses										Limitations				
	Prevent compaction	Prevent erosion	Limit evaporation	Deter pest	Control weeds	Promote aggregation	Increase organic matter	Increase nutrients	Expensive or limited availability	Crusting or matting	Unstable	Anaerobic soils	Salts or contaminants	Potential N immobilization	Temporary or unknown effects
Grass clippings	X				X	X	X								X
Fresh leaves		X				X	X	X			X				X
Needles		X	X			X	X	X							
Hay/straw		X	X			X	X	X							X
Arborist woodchips	X	X	X			X	X	X							X
Bark	X	X	X			X	X	X							X
Eucalyptus		X	X	X		X	X	X	X						
Cypress		X	X	X		X	X	X	X						
Pecan shells		X	X			X	X	X	X						
Leaf mold		X	X			X	X	X		X					
Compost		X	X			X	X	X							X
Fabrics		X			X				X		X				
Recycled rubber	X	X		X	X				X						X
Stone/gravel	X	X		X					X						
Black plastic		X	X		X				X		X				

\*Arborist woodchips are less costly and hold up better, they are the preferred mulch, in moderate to high traffic areas.

**Mulching guidelines for urban landscapes**

1. Depth of mulch application is dependent upon mulch texture, density, material decomposition rate, and climate. Wooden chip mulch should be applied and maintained at depths of 3-6 inches for trees. Materials that are finer, denser, and slower to decompose should be applied at lesser depths. thicker mulch layers should be applied in arid regions to retain more water in the soil.
2. Apply a sufficiently thick layer of mulch, usually 2-4 inches, to kill existing weeds and prevent new weed seeds from germinating or reaching the soil surface. If thinner layers are applied, kill or remove weeds prior to installing mulch.
3. Do not place impervious plastic sheeting or fabric barriers under mulch. Impervious barriers stop water movement and limit incorporation of organic matter into the soil.
4. The mulch area should cover as much of the tree root zone as possible, from near the trunk to the dripline, is considered ideal.
5. For recent transplants, mulch beyond the root ball. The minimum recommended radius is 3 feet. Maintain mulch for at least three years to facilitate root growth and protect trees from mechanical damage.
6. For larger existing trees, the minimum radius for mulch is at least three times the trunk diameter.
7. Mulch applied as a continuous bed around multiple trees is more effective than single rings around individual trees.
8. Average chip size of most organic mulches should be 1-2 inch.
9. Avoid woodchips from trees that are known to have allelopathic affects (e.g., *Juglans nigra*) and from individual trees that may have soil transmittable diseases (e.g., Verticillium wilt).

On wet sites, soil drying can be promoted by removing organic mulches. Be aware of some other potential negative impacts of mulches, including: toxicity (allelopathy and "sour" anaerobic mulches with pH of <2.5), slime molds (unsightly, but mostly harmless), matting (hydrophobic layers from fungal mats and mulches), flammability, and some fungus problems (e.g., Sphaerobolus, Mutinuscanini, and M. elegans).

**ATTACHMENT 5 - TREE INVENTORY AND REPLACEMENT**

**TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION**

EXCEPTIONAL TREES	
<i>Exceptional Trees- means a tree or group of trees that because of its unique historical, ecological or aesthetic value constitutes an important community resource. A tree that is rare or exceptional by virtue of its size, species, condition, cultural/historical importance, age, and/or contribution as part of a tree grove. Trees with a diameter of more than 36 inches, or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table shown in MICC 19.16 under Tree, Exceptional.</i>	
List the total number of trees for each category and the tree identification numbers from the arborist report.	
Number of trees 36" or greater	2
List tree numbers:	29, 38
Number of trees 24" or greater (including 36" or greater)	7
List tree numbers:	26, 27, 29, 33, 36, 38, 40
Number of trees from Exceptional Tree Table (MICC 19.16)	
List tree numbers:	29, 30, 31, 33, 38, 42

LARGE REGULATED TREES	
<i>Large Regulated Trees- means any tree with a diameter of 10 inches or more, and any tree that meets the definition of an Exceptional Tree.</i>	
Number of Large Regulated Trees on site	16 (A)
List tree numbers:	26-34 36-42
Number of Large Regulated Trees on site proposed for removal	0 (B)
List tree numbers:	
Percentage of trees to be retained ((A-B)/Ax100) note: must be at least 30%	100 %

RIGHT OF WAY TREES	
<i>Right of Way Trees- means a tree that is located in the street right of way adjacent to the project property.</i>	
Number of Large Regulated Trees in right of way	0
List tree numbers:	
Number of Large Regulated Trees in right of way proposed for removal	
List tree numbers:	
Reason for removal:	

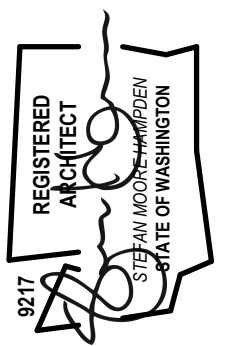
**TREE REPLACEMENT**

Tree replacement- removed trees must be replaced based on the ratio in the table below. Replacement trees shall be conifers at least six feet tall and or deciduous at least one and one-half inches in diameter at base.

Diameter of Removed Tree (measured 4.5' above ground)	Tree replacement Ratio	Number of Trees Proposed for Removal	Number of Tree Required for Replacement Based on Size/Type
Less than 10"	1	0	0
10" up to 24"	2	0	0
Greater than 24" up to 36"	3	0	0
Greater than 36" and any Exceptional Tree	6	0	0
<b>TOTAL TREE REPLACEMENTS</b>			0

	Total Trees	Hazard Non-Viable	Conflict W/ plans	Trees Retained	Viable Trees Removed	Replacement Ratio	Required Replant
>36" & Exceptional	6	0	0	6	0	6:1	0
Lg 24-36	4	0	0	4	0	3:1	0
Lg 10-24	6	0	0	6	0	2:1	0
Small < 10"	1	0	0	1	0	1:1	0
Small < 10	0	0	0	0	0	Exempt	0
<b>TOTAL</b>	17	0	0	17	0		0

\* In a Critical Area or Critical Area Buffer or On Public Property.



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