

**Stormwater Drainage Report  
2740 61<sup>st</sup> Avenue SE  
Mercer Island, Washington  
KC Tax Parcel #217450-3230  
Permit #: 25xx-xxx**

Prepared For:

**Mercer Partners, LLC  
Attn.: Vann Lanz  
317 4<sup>th</sup> Street  
Kirkland, Washington 98033  
206-499-1277  
[Vann@Inlbuilds.com](mailto:Vann@Inlbuilds.com)**

February 3, 2025

Prepared By:

**Offe Engineers, PLLC  
Darrell Offe, P.E.  
13932 SE 159<sup>th</sup> Place  
Renton, Washington 98058  
425-260-3412  
[Darrell.Offe@comcast.net](mailto:Darrell.Offe@comcast.net)**



02/03/2025

## **TABLE OF CONTENT**

**Section 1: Project Narrative**

**Section 2: Site Evaluation**

**Section 3: Minimum Requirements**

**Appendix A: Geotechnical Evaluation**

### **Section 1: Project Narrative:**

The subject property is located within the East Seattle neighborhood on the west of Mercer Island. The subject property abuts and takes access from the 61<sup>st</sup> Avenue SE on the west side of the property. The subject property has an existing house structure, small gravel driveway, several trees and overgrown landscaping. The subject property slopes from the northeast corner towards the southwest corner, along 61<sup>st</sup> Avenue SE. The existing runoff from the subject property is sheet flow towards the south west corner. There are public facilities within 61<sup>st</sup> Avenue SE that will be used by the proposed new residence; gas, water, sewer, access, power, and cable service. There is not public storm system within 61<sup>st</sup> Avenue SE along the subject property frontage. A new 12" storm pipe will be installed from SE 28<sup>th</sup> Street/61<sup>st</sup> Avenue SE to the subject property. The proposed drainage connection for the proposed new impervious surfaces on the subject property will be into the new 12" storm pipe.

The site soils are characterized between Vashon Glacial Till and infeasible for infiltration type BMPs by geotech Consultants, LLC. The Geotechnical Evaluation is attached within this Report. City staff has determined that on-site detention is not required for this new development provided there is adequate capacity to flow into Lake Washington to the west. Adequate capacity has been determined and indicated within Minimum Requirement #4, attached.

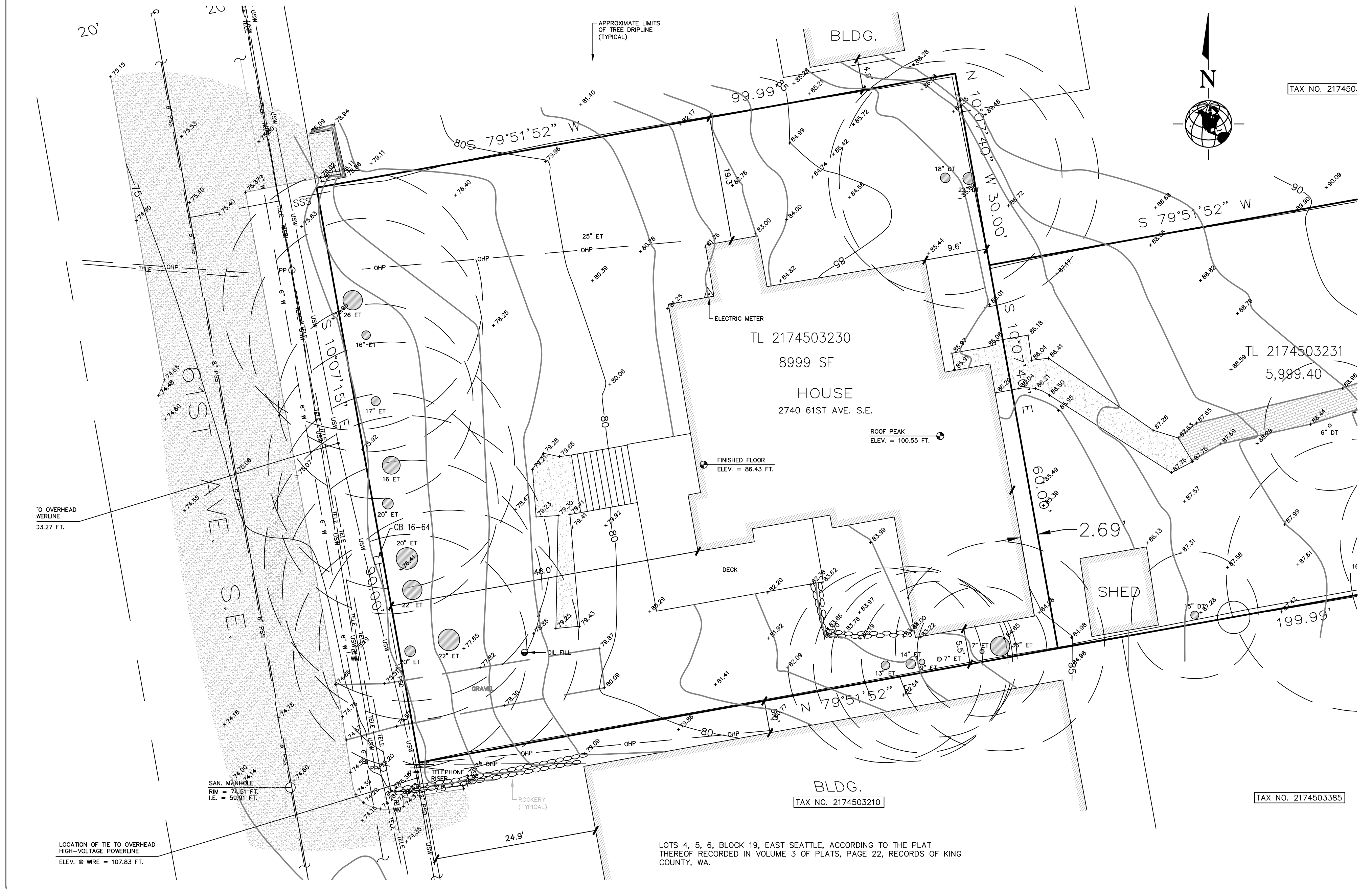
The property was visited in August and September 2024 to verify runoff patterns and possible storm water discharge options. The downstream system to Lake Washington was reviewed and walked, where possible.

The project will be evaluated for storm water treatment and control using the Amended December 2014 SWMMWW (DOE Manual).

# VICINITY MAP



PORTION OF THE NE 1/4, SE 1/4, SECTION 24, TWP. 24 N., RGE. 4 E., W.M.  
MERCER ISLAND, WASHINGTON



TAX NO. 217450.

TL 2174503230  
8999 SF  
HOUSE  
2740 61ST AVE. S.E.

TAX NO. 2174503385

LOTS 4, 5, 6, BLOCK 19, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGE 22, RECORDS OF KING COUNTY, WA.

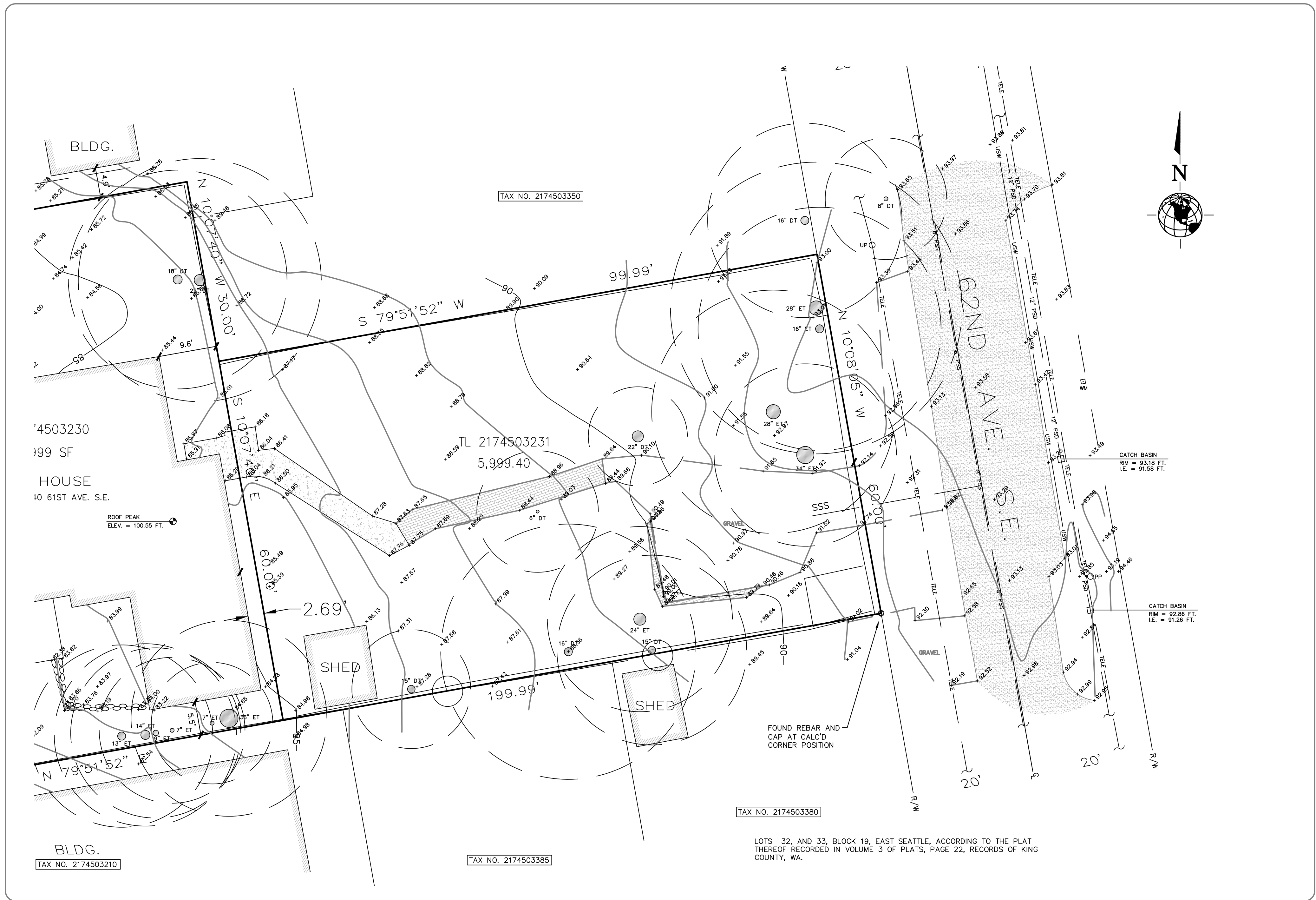
**RECORDER'S CERTIFICATE**  
Filed for record this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ at \_\_M, in Volume \_\_\_\_ of \_\_\_\_\_ at page \_\_\_\_ at the request of Dan M. Touma.  
\_\_\_\_\_  
County Auditor                      Deputy

**SURVEYOR'S CERTIFICATE**  
This map correctly represents a survey made by me or under my direction in conformance with the requirements of the Survey Recording Act at the request of Vann Lanz in July of 2023.  
\_\_\_\_\_  
Daniel M. Touma  
Certificate No. 38992

**BOUNDARY SURVEY**  
FOR  
**TAX LOT 2174503230**

DWN BY RF	DATE 7/20/24	JOB NO. 1019-008
CHKD BY DMT	SCALE 1" = 10'	SHEET 1 OF 1

**TOUMA ENGINEERS AND LAND SURVEYORS, PLLC**  
330 SW 43rd STREET SUITE K412  
RENTON WA 98057  
206-304-3567



'4503230  
199 SF  
HOUSE  
10 61ST AVE. S.E.

ROOF PEAK  
ELEV. = 100.55 FT.

CATCH BASIN  
RIM = 93.18 FT.  
I.E. = 91.58 FT.

CATCH BASIN  
RIM = 92.86 FT.  
I.E. = 91.26 FT.

FOUND REBAR AND  
CAP AT CALC'D  
CORNER POSITION

LOTS 32, AND 33, BLOCK 19, EAST SEATTLE, ACCORDING TO THE PLAT  
THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGE 22, RECORDS OF KING  
COUNTY, WA.

**RECORDER'S CERTIFICATE**

Filed for record this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ at \_\_M,  
in Volume \_\_\_\_ of \_\_\_\_\_ at page \_\_\_\_ at the request of  
Dan M. Touma.

\_\_\_\_\_  
County Auditor

\_\_\_\_\_  
Deputy

**SURVEYOR'S CERTIFICATE**

This map correctly represents a survey made by me or under  
my direction in conformance with the requirements of the Survey  
Recording Act at the request of Vann Lanz  
in July of 2023.

\_\_\_\_\_  
Daniel M. Touma  
Certificate No. 38992

**BOUNDARY SURVEY**  
FOR  
**TAX LOT 2174503231**

DWN BY RF	DATE 7/20/24	JOB NO. 1019-008
CHKD BY DMT	SCALE 1" = 10'	SHEET 1 OF 1

**TOUMA ENGINEERS AND  
LAND SURVEYORS, PLLC**

330 SW 43rd STREET SUITE K412  
RENTON WA 98057  
206-304-3567

## **Section 2: Site Evaluation**

Total Lot Area = 8,999 square feet (0.2066 acres)

### **EXISTING CONDITIONS**

Impervious:

Roof area = 2,096 sq. feet

Deck area = 468 sq. feet

Walkway = 110 sq. feet

Gravel driveway area = 282 sq. feet ((PGHS))

*Subtotal: 2,956 sq. feet*

Pervious:

Lawn, trees, landscaping = 6,043 sq. feet

### **DEVELOPED CONDITIONS**

Impervious (hard) surfaces:

House roof areas w/overhang = 2,854.10 sq. feet

Uncovered driveway = 745.43 sq. feet ((PGHS))

Uncovered patio area = 144.50 sq. feet

Uncovered deck/walkway/walls = 605.10 sq. feet

*Total Impervious (Hard) Surfaces = 4,349.12 sq. feet*

Pervious Surfaces:

Lawn and landscaping = 4,650 sq. feet

*Total Pervious Surfaces = 4,650 square feet*

((PGHS)) -Pollution Generating Hard Surface

### **Summary of Project Information**

Project Site Area	8,999 square feet
Existing Impervious Area	2,956 sq. feet
Existing Impervious Coverage	32.8%
New Impervious Area	3,260 sq. feet
Replaced Impervious Area	1,393 sq. feet (see attached New Impervious Map – next page)
New plus Replaced Impervious	4,349 square feet
Proposed Impervious Area	4,349 square feet
Converted pervious: Native to lawn	0 sq. feet
Converted pervious: Native to pasture	0 sq. feet
Total Area of Land Disturbance	9,200 square feet

The existing property has less than 35% (32.8%) imperious coverage and the total proposed project new plus replaced impervious surfaces will be less than 5,000 (4,349) square feet; using Figure I-2.4.1 – "Flow Chart for Determining Minimum Requirements for New Development" page 37, 2014 Stormwater Management Manual for Western Washington, Minimum Requirements #1 – #5 apply to this project.

TAX NO. 2174503345  
2740 61st Avenue SE

APPROXIMATE LIMITS  
OF TREE DRIFLINE  
(TYPICAL)

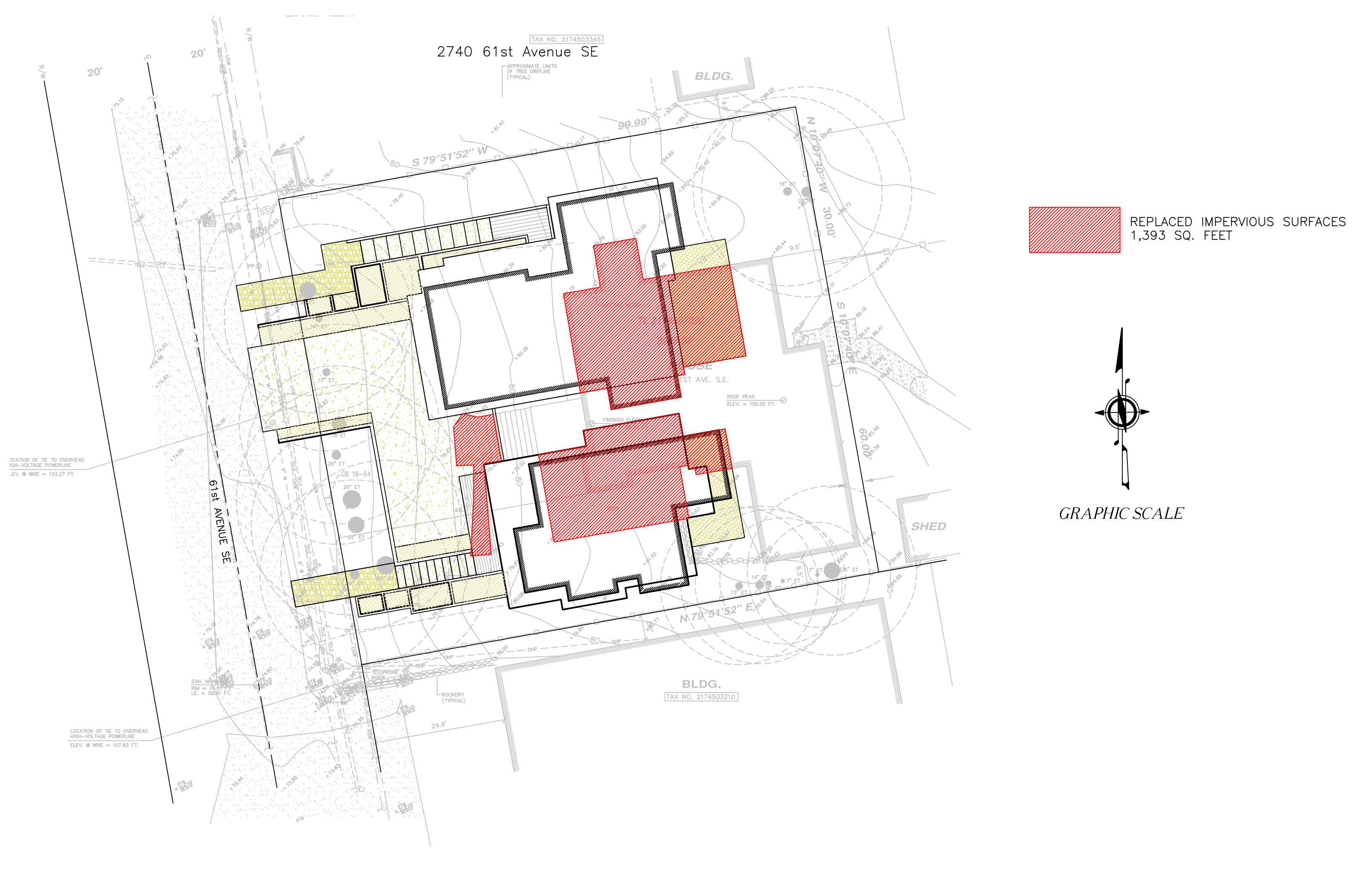
BLDG.



REPLACED IMPERVIOUS SURFACES  
1,393 SQ. FEET



GRAPHIC SCALE



LOCATION OF TIE TO OVERHEAD  
HIGH-VOLTAGE POWERLINE  
ELEV. @ WIRE = 103.27 FT.

LOCATION OF TIE TO OVERHEAD  
HIGH-VOLTAGE POWERLINE  
ELEV. @ WIRE = 107.83 FT.

SAN. MANHOLE  
RIM = 74.51 FT.  
I.E. = 59.91 FT.

BLDG.  
TAX NO. 2174503210

ROOF PEAK  
ELEV. = 100.55 FT.

ROCKERY  
(TYPICAL)

SHED

M 79°51'52" E

S 79°51'52" W

N 10°07'40" W  
30.00'

S 10°07'40" E  
60.00'

61st AVENUE SE

M 79°51'52" E

20'

20'

20'

R/W

R/W

61st AVENUE SE

24.9'

TAX NO. 2174503210

99.99'

N 10°07'40" W  
30.00'

S 10°07'40" E  
60.00'

M 79°51'52" E

S 79°51'52" W

ROOF PEAK  
ELEV. = 100.55 FT.

ROCKERY  
(TYPICAL)

SHED

BLDG.  
TAX NO. 2174503210

BLDG.

M 79°51'52" E

61st AVENUE SE

TAX NO. 2174503210

99.99'

N 10°07'40" W  
30.00'

S 10°07'40" E  
60.00'

M 79°51'52" E

S 79°51'52" W

ROOF PEAK  
ELEV. = 100.55 FT.

ROCKERY  
(TYPICAL)

SHED

BLDG.  
TAX NO. 2174503210

BLDG.

**FLOW CHART FIGURE II-2.4.1**

**Figure I-2.4.1 Flow Chart for Determining Requirements for New Development**

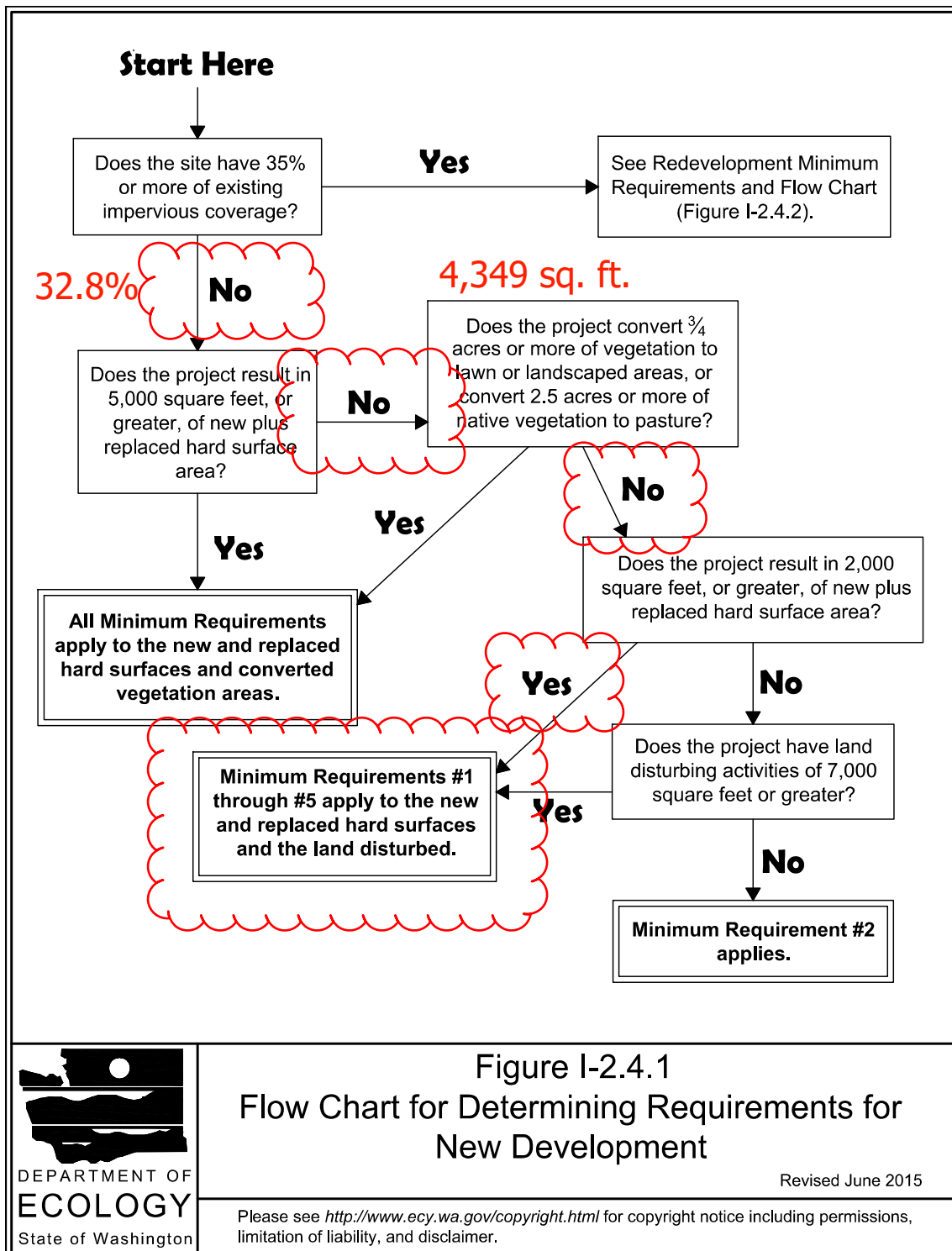


Figure I-2.4.1  
Flow Chart for Determining Requirements for  
New Development

Revised June 2015

Please see <http://www.ecy.wa.gov/copyright.html> for copyright notice including permissions, limitation of liability, and disclaimer.

**Section 3: Minimum Requirements**

Based upon the Flow Chart Figure I-2.4.1 and I-2.4.2 (Amended December 2014 SWMMWW, DOE Manual), all Minimum Requirements 1-5 apply to this project.

***Section I-2.5.1 Minimum Requirement #1 – Preparation of Stormwater Site Plans***

A Stormwater site plan (drainage plan) has been prepared for this project together with construction details for installation of the proposed drainage control system. The Stormwater site plans and drainage narrative shall be submitted and reviewed by the City of Mercer Island as part of the building permit application.

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.  
CALL BEFORE YOU DIG: 811

NOTE: THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED.

NOTE: THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.

**LEGEND**

ACU	AIR CONDITION UNIT	⊗	MONUMENT IN CASE (FOUND)
AD	AREA DRAIN	PAV	PAVER SURFACE
AS	ASPHALT SURFACE	PST	POST
B	BUILDING	P	POWER METER
CR	CENTERLINE ROW	PO	POWER (OVERHEAD)
CS	CONCRETE SURFACE	PP	POWER POLE W/ LIGHT
RW	RETAINING WALL	○	REBAR AS NOTED (FOUND)
EE	ELECTRICAL EASEMENT	●	REBAR & CAP (SET)
D	DECK	ROCK	ROCKERY
FL	FENCE LINE (WOOD)	SL	SEWER LINE
GL	GAS LINE	SM	SEWER MANHOLE
GM	GAS METER	SD	STORM DRAIN LINE
HBR	HOSE BIB RISER	TR	TREE (AS NOTED)
HFL	HEDGE FOLIAGE LINE	WL	WATER LINE
I1	INLET (TYPE 1)	WM	WATER METER
I1S	INLET (TYPE 1) (SOLID)		

**DATUM**  
ELEVATION DATUM - NAVD '88, AS PER DIRECT OBSERVATIONS USING GPS EQUIPMENT ON SEPTEMBER 26, 2023.  
HORIZONTAL DATUM - NAD '83/11 (EPOCH 2010), AS PER DIRECT OBSERVATIONS USING GPS EQUIPMENT ON SEPTEMBER 26, 2023.

**DOWNSPOUT TABLE**

DS#1	GROUND=81.50 DOWNSPOUT LINE=80.00, 4"
DS#2	CONCRETE=73.44 DOWNSPOUT LINE=72.20, 4"
DS#3	GROUND=80.75 DOWNSPOUT LINE=79.75, 4"
DS#4	GROUND=83.75 DOWNSPOUT LINE=82.75, 4"
DS#5	GROUND=83.75 DOWNSPOUT LINE=81.50, 4"

**STORM PIPE TABLE**

1	118LF., 12" D.I. @ S=2.40%
2	15LF., 8" D.I. @ S=2.00%
3	30LF., 6" PVC SDR-35 @ S=2.00%
4	99LF., 6" PVC SDR-35 @ S=12.1%
5	30LF., 4" PVC SDR-35 @ S=2.00%
6	30LF., 4" PVC SDR-35 @ S=35.0%
7	42LF., 4" PVC SDR-35 @ S=23.6%
8	55LF., 6" PVC SDR-35 @ S=2.00%
9	24LF., 4" PVC SDR-35 @ S=2.00%
10	43LF., 4" PVC SDR-35 @ S=17.2%
11	5LF., 6" PVC SDR-35 @ S=2.00%
12	15LF., 4" PVC SDR-35 @ S=50.3%

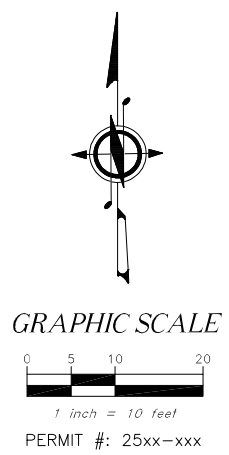


- NOTES:**
- A CB#2, TYPE 1 W/VANED GRATE INLET  
RIM=74.67  
IE=70.45, 8"(E)  
IE=70.20, 12"(S)
  - B CB#1, TYPE II-48" W/SOLID LOCKING FRAME & LID W/OIL SEPARATOR 8" TEE (SEE DETAIL SHEET 4 OF 5)  
RIM=76.00  
ELEV.=72.50, 8" TEE OVERFLOW  
IE=72.00, 4"(NE)-FOUNDATION DRAIN CONNECTION  
IE=71.00, 6"(N,SE,E)  
IE=70.75, 8"(W)  
ELEV.=70.25, 8" TEE BOTTOM  
ELEV.=69.75, INSIDE FLOOR OF CB #1
  - C 15' SLOT DRAIN  
GRATE ELEV.=73.34  
IE=72.50, 4"(SE)
  - D 11' SLOT DRAIN  
GRATE ELEV.=73.34  
IE=72.50, 4"(SE)

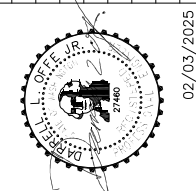
STORM PIPE PVC SHALL BE SDR-35 PVC AT SLOPE=2.00% MINIMUM (TYPICAL) UNLESS OTHERWISE NOTED

**FOUNDATION DRAIN**  
NOTE: 4" PERFORATED FOUNDATION DRAIN @ MINIMUM ELEVATION OF 72.50 IS REQUIRED BUT NOT SHOWN ON PLAN, CONNECT INTO CB#1, WHERE SHOWN ON PLAN.

IMPERVIOUS SURFACES:  
ROOF AREAS (UNDER EAVES) = 2,854.10 SQ. FT.  
UNCOVERED DRIVEWAY AREA = 745.43 SQ. FT.  
UNCOVERED DECK/WALKWAY/WALLS = 605.10 SQ. FT.  
UNCOVERED PATIO AREA = 144.50 SQ. FT.  
TOTAL IMPERVIOUS AREAS = 4,349.12 SQ. FEET

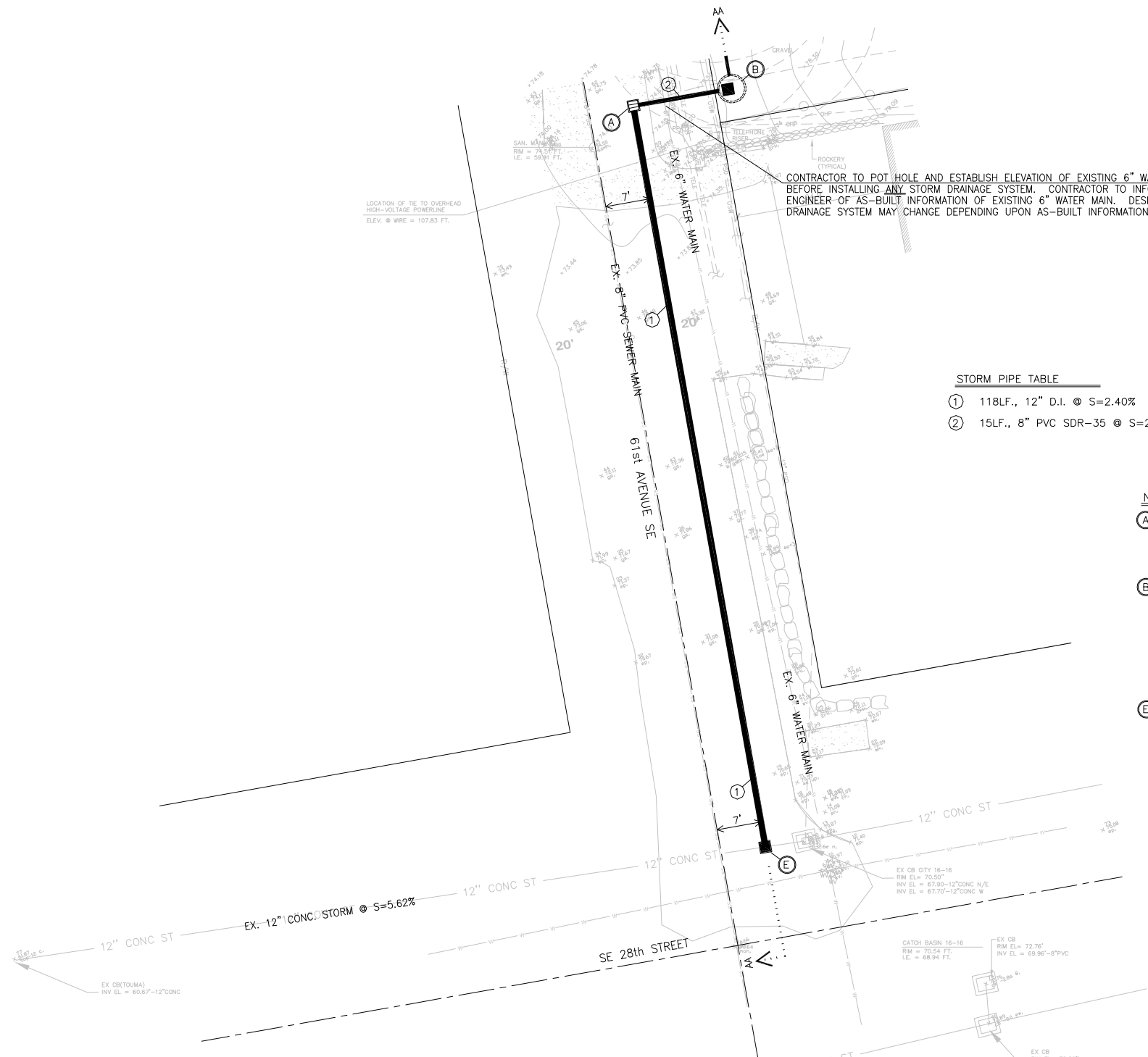


PROJECT		2740 61st Avenue SE	
CLIENT		Mercer Partners, LLC	
SHEET CONTENT		Stormwater Site Plan	
DATE	02/03/2025	CHECKED BY	DLO
JOB NO.		DRAWN BY	SLS
DWG NO.		DESIGNED BY	DLO
SHEET		2 OF 6	
PERMIT #:		25xx-xxx	



**OFFE ENGINEERS**  
ENGINEERS ARCHITECTS PLANNERS  
1000 1ST AVENUE SE  
SUITE 200  
SEASIDE, WA 98148  
PHONE: 206-760-9422  
CONTACT: DAVID@OFFE.COM

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.  
CALL BEFORE YOU DIG: 811



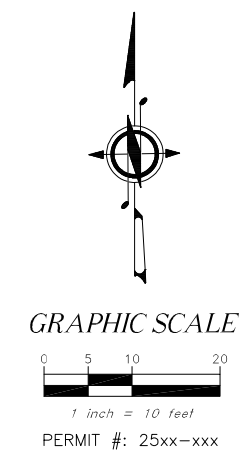
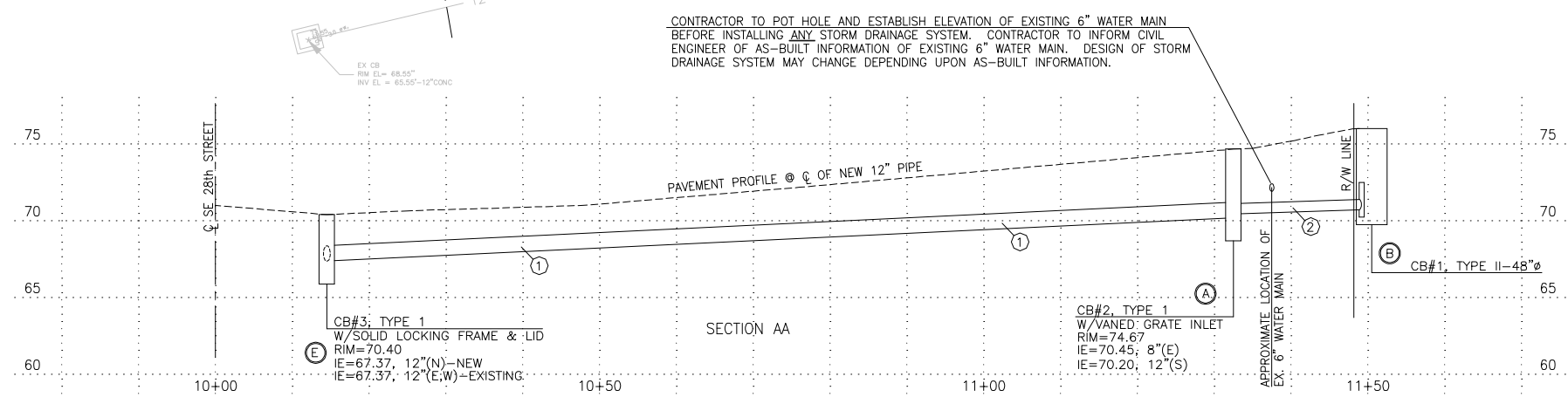
**STORM PIPE TABLE**

①	118LF., 12" D.I. @ S=2.40%
②	15LF., 8" PVC SDR-35 @ S=2.00%

- NOTES:**
- A** CB#2, TYPE 1 W/VANED GRATE INLET  
RIM=74.67  
IE=70.45, 8"(E)  
IE=70.20, 12"(S)
  - B** CB#1, TYPE II-48"Ø W/SOLID LOCKING FRAME & LID W/OIL SEPARATOR 8" TEE (SEE DETAIL SHEET 4 OF 5)  
RIM=76.00  
ELEV.=72.50, 8" TEE OVERFLOW  
IE=72.00, 4"(NE)-FOUNDATION DRAIN CONNECTION  
IE=71.00, 6"(N,SE,E)  
IE=70.75, 8"(W)  
ELEV.=70.25, 8" TEE BOTTOM  
ELEV.=69.75, INSIDE FLOOR OF CB #1
  - E** CB#3, TYPE 1 W/SOLID LOCKING FRAME & LID  
RIM=70.40  
IE=67.37, 12"(N)-NEW  
IE=67.37, 12"(E,W)-EXISTING

**LEGEND**

ACU □	AIR CONDITION UNIT	⊗	MONUMENT IN CASE (FOUND)
AD	AREA DRAIN	PAV	PAVER SURFACE
AS	ASPHALT SURFACE	POST	POST
B	BUILDING	P	POWER METER
CL	CENTERLINE ROW	PO	POWER (OVERHEAD)
CS	CONCRETE SURFACE	PP	POWER POLE W/ LIGHT
RE	RETAINING WALL	○	REBAR AS NOTED (FOUND)
EE	ELECTRICAL EASEMENT	●	REBAR & CAP (SET)
D	DECK	ROCK	ROCKERY
FL	FENCE LINE (WOOD)	S	SEWER LINE
GL	GAS LINE	SM	SEWER MANHOLE
GM	GAS METER	SD	STORM DRAIN LINE
HR	HOSE BIB RISER	T	TREE (AS NOTED)
HFL	HEDGE FOLIAGE LINE	WL	WATER LINE
I1	INLET (TYPE 1)	WM	WATER METER
I1S	INLET (TYPE 1) (SOLID)		



PROJECT: 2740 61st Avenue SE CLIENT: Mercer Partners, LLC SHEET CONTENT: Off Site Storm Plan & Profile		DESIGNED BY: DLO DRAWN BY: SLS CHECKED BY: DLO	REV. NO.: DATE: DESCRIPTION:
DATE: 01/28/2025 JOB NO.: DWG NO.:		SHEET: 3 OF 6 PERMIT #: 25xx-xxx	

***Section I-2.5.2 Minimum Requirement #2 - Construction Storm Water Pollution Prevention Plan (CSWPP)***

A Construction Stormwater Pollution Prevention Plan (CSWPP) has been prepared and included within this Report. The CSWPP plan shall include construction installation of erosion control, establish a construction access, preservation of existing vegetation during construction, and protection of existing drainage inlets. This will include but not limited to: the use of the existing gravel driveway and parking area (on the east side) to provide construction access from 62<sup>nd</sup> Avenue SE; installing filter fabric silt fencing along the down gradient property lines (west and south); installation of filter socks within the public catch basin located within 61<sup>st</sup> Avenue SE; retention of native vegetated areas including tree/vegetation retention within the side (south) and front (east) yards; and the use straw or chipped materials placed over exposed disturbed soils to prevent runoff from carrying solids.

NW 1/4 OF THE NE 1/4 OF SECTION 11, TOWNSHIP 24 NORTH., RANGE 04 EAST, W.M., KING COUNTY, WA.

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.  
CALL BEFORE YOU DIG: 811

VICINITY MAP



LEGEND

- ACU AIR CONDITION UNIT
- AREA DRAIN
- ASPHALT SURFACE
- BUILDING
- CENTERLINE ROW
- CONCRETE SURFACE
- RETAINING WALL
- ELECTRICAL EASEMENT
- DECK
- FENCE LINE (WOOD)
- GAS LINE
- GAS METER
- HOSE BIB RISER
- HEDGE FOLIAGE LINE
- INLET (TYPE 1)
- INLET (TYPE 1) (SOLID)
- MONUMENT IN CASE (FOUND)
- PAVER SURFACE
- POST
- POWER METER
- POWER (OVERHEAD)
- POWER POLE W/ LIGHT
- REBAR AS NOTED (FOUND)
- REBAR & CAP (SET)
- ROCKERY
- SEWER LINE
- SEWER MANHOLE
- STORM DRAIN LINE
- TREE (AS NOTED)
- WATER LINE
- WATER METER

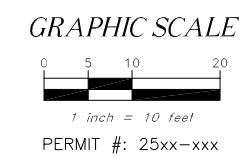
DATUM

ELEVATION DATUM - NAVD '88, AS PER DIRECT OBSERVATIONS USING GPS EQUIPMENT ON SEPTEMBER 26, 2023.  
HORIZONTAL DATUM - NAD '83/11 (EPOCH 2010), AS PER DIRECT OBSERVATIONS USING GPS EQUIPMENT ON SEPTEMBER 26, 2023.



TREE TABLE

Tree ID	Species	DBH (in)	Exceptional	Height	Zone Diameter	Condition	Comments	Retention
67	Western Red Cedar (Thuja plicata)	24"	No	30	20	Fair	Multi stem, topped	Save
68	Western Red Cedar (Thuja plicata)	10"	No	40	15	Fair		Save
69	Western Red Cedar (Thuja plicata)	8"	No	40	15	Fair	Unregulated	Save
70	Western Red Cedar (Thuja plicata)	11"	No	40	15	Fair		Save
71	Western Red Cedar (Thuja plicata)	16"	No	40	15	Fair		Save
72	Western Red Cedar (Thuja plicata)	14"	No	40	15	Fair		Save
73	Western Red Cedar (Thuja plicata)	23"	No	50	25	Poor	Codominant stem, poor structure, wishbone union at base, bark inclusion, heart rot, high risk of failure due to structural defect.	To be removed
74	Western Red Cedar (Thuja plicata)	19"	No	50	20	Fair	Codominant stem	To be removed
75	Western Red Cedar (Thuja plicata)	21"	No	50	20	Poor	Codominant stem, wishbone union at base, bark inclusion, high risk of failure due to structural defect.	To be removed
76	Western Red Cedar (Thuja plicata)	21"	No	50	20	Poor	Wishbone union at base, bark inclusion, high risk of failure due to structural defect.	To be removed
77	Western Red Cedar (Thuja plicata)	16"	No	50	20	Fair	Wishbone union at base, Conflict with building area.	To be removed
78	Western Red Cedar (Thuja plicata)	20"	No	45	20	Poor	Wishbone union at base, bark inclusion, Conflict with building area, high risk of failure due to structural defect.	To be removed
80	Western Red Cedar (Thuja plicata)	16"	No	50	20	Fair	Wishbone union at base, bad form	To be removed
81	Western Red Cedar (Thuja plicata)	27"	No	45	25	Poor	Codominant stem, poor structure, wishbone union at base, bark inclusion, heart rot, high risk of failure due to structural defect.	To be removed
82	Pumpkin Elm (Fraxinus domestica)	19"	No	25	20	Fair	Codominant stem	To be removed



DISTURBANCE ACREAGE: 0.219 ACRES  
PROJECT PARCEL NUMBER: 217450-3230  
PROJECT ADDRESS: 2740 61st AVENUE SE  
MERCER ISLAND, WASHINGTON 98040  
SECTION/TOWNSHIP/RANGE: 11-24N-04E  
TOTAL SITE ACREAGE: 0.20659 ACRES  
TOTAL IMPERVIOUS AREA: 4,673 SQUARE FEET

TABLE OF CONTENT

SHEET #	DESCRIPTION
1	CSWPP PLAN
2	STORMWATER SITE PLAN
3	OFF SITE STORM PLAN & PROFILE
4	SEWER & WATER PLAN
5	STORMWATER DETAILS
6	AMENDED SOILS PLAN

PROJECT

CLIENT

SHEET CONTENT

DATE

2740 61st Avenue SE

Mercer Partners, LLC

CSWPP Plan

01/28/2025

JOB NO.

DWG NO.

SHEET

REV. NO.

1

OF

6

DATE

DESCRIPTION

***Section I-2.5.3 Minimum Requirement #3 - Source Control of Pollution***

Source control BMP's will be utilized to contain pollution generating runoff. No concrete washout will be allowed on the property during construction. No fuel materials will be placed or stored on site during construction.

***Section I-2.5.4 Minimum Requirement #4 - Preservation of Natural Drainage Systems and Outfalls***

The subject property slopes from a high point at the northeast corner at elevation 89.00 feet. The southwest corner along 61<sup>st</sup> Avenue SE is elevation 75.80. The property slopes towards the westerly property line to a low point in the southwest corner at elevation 75.80. The property slopes 10% from the northeast towards the southwest. The existing hard surfaces on the property sheet flow towards the southwest corner. The natural drainage outfall from the subject property is sheet flow towards the southwest corner.

The existing drainage runoff from the subject property leaves the property at the southwest corner and flows into 61<sup>st</sup> Avenue SE then flows south and is collected by City catch basin #16-16. The drainage then flows west within a 12" concrete storm pipe to an open roadside ditch along the north side of SE 28<sup>th</sup> Street; just west of the driveway serving 2760 SE 28<sup>th</sup> Street. The roadside ditch is overgrown with weeds but show no indications of overtopping or flooding due to lack of capacity. The downstream drainage enters a 12" concrete pipe at the northeast corner of SE 28<sup>th</sup> Street and 60<sup>th</sup> Avenue SE and continues to flow west. The drainage crosses the north side of 60<sup>th</sup> Avenue SE and is within catch basins and conveyance pipes within the dead-end location of SE 28<sup>th</sup> Street and Calkins Landing Park. The downstream system outfalls into a well-vegetated channel on the south side of the Park and flows to an outfall into Lake Washington to the west.

The subject property was visited in August and September 2024 to review and evaluate on-site drainage patterns and walk and review the downstream system. The downstream system consists of catch basins, open roadside ditch, and conveyance pipes before discharging into Lake Washington at Calkins Landing Park. The downstream, where accessible, has no indications of flooding, overtopping, scouring.

**27xx 61<sup>st</sup> Avenue SE – Site and Downstream Photos**

Photo #1 – Subject property from 61<sup>st</sup> Avenue SE – viewing west



Photo #2 – Subject property from 61<sup>st</sup> Avenue SE – viewing southeast corner



Photo #3 – Frontage along 61<sup>st</sup> Avenue SE – viewing south (subject property to right)



Photo #4 – Southwest corner of 2740 60<sup>th</sup> Avenue SE



Photo #5 – West side of 60<sup>th</sup> Avenue SE at Southwest corner of 2740 60<sup>th</sup> Avenue SE – viewing south



Photo #6 – West side of 60<sup>th</sup> Avenue SE – viewing south



Photo #7 – Inlet City CB #16-16 at northeaasty corner of SE 28<sup>th</sup> Street & 60<sup>th</sup> Avenue SE



Photo #8 – Open roadside ditch on north side of SE 28<sup>th</sup> Street – viewing west



Photo #9 – Open ditch inlet at northeast corner of SE 28<sup>th</sup> Street & 60<sup>th</sup> Avenue SE



Photo #10 – City CB #16-11 within parking area of Calkins Landing Park (north side)



Photo #11 – City CB #16-13 within Landing Park (north side)



Photo #12 – Vegetated channel on south side of Calkins Landing Park – viewing southwest



Photo #13 – Outfall into Lake Washington at beach head



Photo #14 – Outfall into Lake Washington at beach head





### **Section I-2.5.5 Minimum Requirement #5 - On-Site Stormwater Management**

The proposed project drainage shall be evaluated using "List #1, On-Site Stormwater Management BMPs for projects triggering Minimum Requirements #1 - #5" – DOE Volume 1, chapter 2, pages 56-57. A Geotechnical Evaluation was prepared and is attached to this Report in Appendix A.

#### *List #1*

*Lawn and landscape areas BMP T5.13 – **feasible*** - The use of Post-Construction Soil Quality and Depth shall be implemented within areas of the property that are not covered by hard surfaces and were disturbed during condition.

#### Roofs:

1.a. *Full Dispersion BMP T5.30 – **infeasible*** due to lack of available 100' of vegetated flow path downgradient from the roof area to the west.

1.b. *Downspout Full Infiltration BMP T5.10A – **infeasible*** due to lack of permeable soils. From Geotech Consultants Report – "...that infiltration of runoff from imperious surfaces is infeasible for this site."

2.a. *Rain Garden/Bioretention BMP T5.14A – **infeasible*** due to a perched high ground water table as indicated within Geotech Consultants Report.

2.b. *Bioretention Cells BMP T7.30 - **infeasible*** due to a perched high ground water table as indicated within Geotech Consultants Report.

3. *Downspout Dispersion System BMP T5.10B – **infeasible*** due to lack of available 50' flow path downgradient of the downspout leaders.

4. *Perforated Pipe Connection BMP T5.10C - **infeasible*** - see comment 1.b. above. Impermeable soils.

#### Other Hard Surfaces:

1. *Full Dispersion BMP T5.30 – **infeasible*** due to lack of available 100' of vegetated flow path downgradient from the other hard surfaces.

2.a. *Permeable Pavement BMP T5.15 – **infeasible*** - see comment 1.b. above. Impermeable soils.

2.b. *Rain Garden/Bioretention BMP T7.30 – **infeasible*** due to a perched high ground water table as indicated within Geotech Consultants Report.

3.a. *Sheet Flow Dispersion BMP T5.12 – **infeasible*** due to lack of available 25 feet of flow path downgradient from driveway.

3.b. *Concentrated Flow Dispersion BMP T5.11 - **infeasible*** due to lack of available flow path downgradient from other hard surfaces.

There are no available BMPs to provide treatment of the roof area or other hard surfaces. Therefore, a connection to the public storm system within 60<sup>th</sup> Avenue SE will be provided.

**Appendix A: Geotechnical Evaluation**

November 13, 2023

JN 23396

GM Investment Group, LLC  
P.O. Box 32  
Fall City, Washington 98024

Attention: Will Mentor  
via email: [wmentor@gm-ig.com](mailto:wmentor@gm-ig.com)

Subject: **Foundation Design Criteria and Evaluation of Infiltration Feasibility**  
Proposed Residence and DADU  
2740 – 61<sup>st</sup> Avenue S.E.  
Mercer Island, Washington

Greetings:

This report presents our geotechnical conclusions related to foundation design and the feasibility of onsite infiltration of storm water for the planned redevelopment of the subject lot. On November 12, 2023, the undersigned principal geotechnical engineer visited the site to assess the subsurface conditions. The west and east sides of the lot abut 61<sup>st</sup> Avenue S.E. and 62<sup>nd</sup> Avenue S.E., respectively. The existing residence is located in the western portion of the lot. The subject property, as well as the surrounding lots, generally slopes gently down toward the west. There are no steep slopes on, or near, the site. Our review of the Mercer Island GIS indicates that there are no mapped geologic Critical Areas on the site, or in the surrounding area.

Our firm has previously conducted subsurface explorations and observed foundation excavations for several projects within a one block radius of the subject property. Four test holes were completed on the property at the approximate locations shown on the attached Site Exploration Plan. These test holes found topsoil and a layer of heavily-weathered silt overlying dense, glacially-compressed silt. These are typical soil conditions for the area. No groundwater seepage was encountered in the test holes. However, perched seepage is often found on top of the dense silt following extended wet weather.

The following is a log of the four test holes:

Depth (feet)	Description
0 – 1.0	Topsoil
1.0 – 2.5	Orangish-brown, mottled SILT, low plasticity, very moist, loose
2.5 – 3.5	Grayish-brown SILT, low plasticity, very moist, dense

No seepage was observed in the test holes.

### **CONCLUSIONS AND RECOMMENDATIONS**

Based on the conditions observed in the test holes and surrounding excavations, and our previous experience with other projects in the immediate vicinity, it is our professional opinion that conventional foundations can be utilized for the proposed residence and DADU. All footing areas

will have to be excavated down to the dense, native, glacially-compressed soil. This may require overexcavation below the planned footing grades. We recommend that the footings be excavated using a smooth bucket, in order to prevent the subgrade disturbance that can result from the teeth on an excavator's bucket. Where overexcavation below the planned footing grades is necessary, the additional excavation can be backfilled to the planned footing grade using compacted quarry spalls or railroad ballast rock.

The silt soils will be easily disturbed once they are exposed. As a result, we recommend that the footing subgrades be protected with a layer of clean crushed gravel, in order to prevent disturbance and softening of the bearing soils during the placement of foundation forms and rebar.

### **SEISMIC CONSIDERATIONS**

In accordance with the International Building Code (IBC), the site class within 100 feet of the ground surface is best represented by Site Class Type D (stiff soil).

The IBC and ASCE 7 require that the potential for liquefaction (soil strength loss) be evaluated for the peak ground acceleration of the Maximum Considered Earthquake (MCE), which has a probability of occurring once in 2,475 years (2 percent probability of occurring in a 50-year period). The dense, glacially-compressed soil that will support the foundations is not susceptible to seismic liquefaction under the ground motions of the MCE.

### **CONVENTIONAL FOUNDATIONS**

The proposed structures can be supported on conventional continuous and spread footings bearing on undisturbed, dense soil, or on compacted crushed rock structural fill placed above this competent native soil. Prior to placing any structural fill beneath foundations, the excavation should be observed by the geotechnical engineer or building inspector to document that adequate bearing soils have been exposed.

We recommend that continuous and individual spread footings have minimum widths of 12 and 16 inches, respectively. Exterior footings should also be bottomed at least 18 inches below the lowest adjacent finish ground surface for protection against frost and erosion. The local building codes should be reviewed to determine if different footing widths or embedment depths are required. Footing subgrades must be cleaned of loose or disturbed soil prior to pouring concrete. Depending upon site and equipment constraints, this may require removing the disturbed soil by hand.

Depending on the encountered soil conditions, overexcavation may be required below the footings to expose competent native soil. Unless lean concrete is used to fill an overexcavated hole, the overexcavation must be at least as wide at the bottom as the sum of the depth of the overexcavation and the footing width. For example, an overexcavation extending 2 feet below the bottom of a 2-foot-wide footing must be at least 4 feet wide at the base of the excavation. If lean concrete is used, the overexcavation need only extend 6 inches beyond the edges of the footing.

An allowable bearing pressure of 2,500 pounds per square foot (psf) is appropriate for footings supported on competent native soil. A one-third increase in this design bearing pressure can be used when considering short-term wind or seismic loads. For the above design criteria, it is anticipated that the total post-construction settlement of footings founded on competent native soil

will be less than one inch, with differential settlements on the order of one-half-inch in a distance of 25 feet along a continuous footing with a uniform load.

Lateral loads due to wind or seismic forces may be resisted by friction between the foundation and the bearing soil, or by passive earth pressure acting on the vertical, embedded portions of the foundation. For the latter condition, the foundation must be either poured directly against relatively level, undisturbed soil or be surrounded by level, well-compacted fill.

We recommend using the following ultimate values for the foundation's resistance to lateral loading:

PARAMETER	ULTIMATE VALUE
Coefficient of Friction	0.40
Passive Earth Pressure	300 pcf

Where: pcf is Pounds per Cubic Foot, and Passive Earth Pressure is computed using the Equivalent Fluid Density.

If the ground in front of a foundation is loose or sloping, the passive earth pressure given above will not be appropriate. The above ultimate values for passive earth pressure and coefficient of friction do not include a safety factor.

### **EVALUATION OF INFILTRATION FEASIBILITY**

The dense soil known to underlie this area, and which was observed in the test hole is glacially compressed.

There are no large or continuous pore spaces in the glacially-compressed silt that can transmit water. This soil is essentially impermeable, preventing water from percolating downward, which often causes a perched water table to form following extended heavy rainfall. This perched groundwater condition has been encountered previously on nearby sites.

Considering the observed soil conditions, and the likely presence of seasonal shallow perched groundwater, it is our professional opinion that infiltration of runoff from impervious surfaces is infeasible for this site. Attempting to infiltrate or disperse runoff from impervious surfaces on the site would only increase the potential for surface and subsurface drainage problems on neighboring properties, as well as the adjacent streets.

Please contact us if you have any questions regarding this report.

Respectfully submitted,  
GEOTECH CONSULTANTS, INC.

Marc R. McGinnis, P.E.  
Principal



Attachments: Vicinity Map, Site Exploration Plan

11/13/2023

MRM:kg

**NORTH**



Copyright © and (P) 1988–2012 Microsoft Corporation and/or its suppliers. All rights reserved.

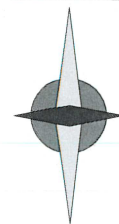
(Source: Microsoft MapPoint, 2013)



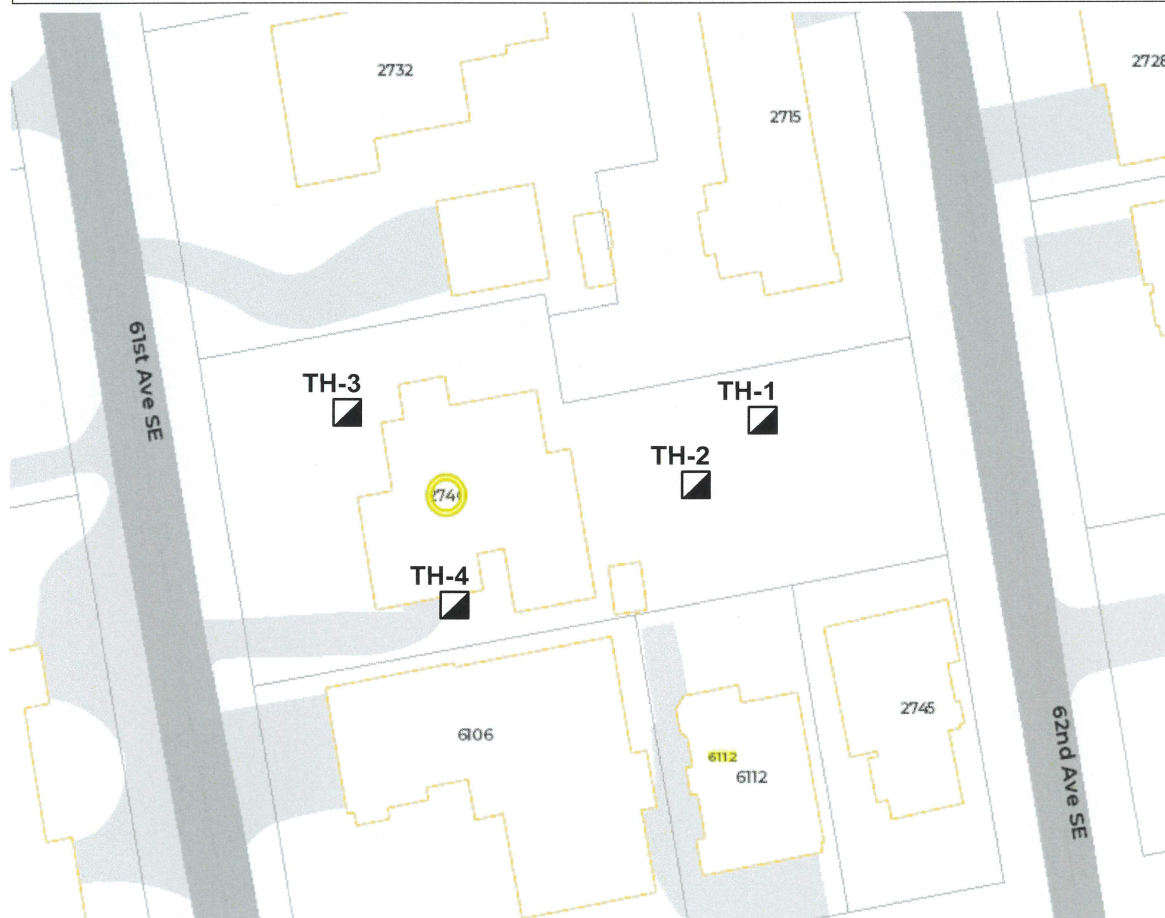
**VICINITY MAP**  
 2740 - 61st Avenue S.E.  
 Mercer Island, Washington

Job No: 23396	Date: Nov. 2023	Plate: 1
------------------	--------------------	-------------

**NORTH**



**City of Mercer Island**



**Legend**

- Address
- Building
- Property Line
- Docks
- Freeway
- Major Street
- Street
- Paved Driveway
- Paved Road
- Paved Parking Area
- Parks
- Lake Washington

**Legend:**

- ▣ Test Hole Location



**GEOTECH**  
CONSULTANTS, INC.

**SITE EXPLORATION PLAN**  
2740 - 61st Avenue S.E.  
Mercer Island, Washington

<i>Job No:</i> 23396	<i>Date:</i> Nov. 2023	<i>No Scale</i>	<i>Plate:</i> 2
-------------------------	---------------------------	-----------------	--------------------