LANZ RESIDENCE

1 SINGLE-FAMILY RESIDENCE

8020 SE 57TH STREET MERCER ISLAND WA 98040

ABBREVIATIONS

ABV	ABOVE
ACT	ACOUSTIC CEILING TILE
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
ARCH	ARCHITECTURAL
ASPH	ASPHALT
AVG	AVERAGE
BLDG	BUILDING
BLKG	BLOCKING
BSMT	BASEMENT
BTW	BETWEEN
BYND	BEYOND
BO	BOTTOM OF
BOT	BOTTOM
CAB	CABINET
CB	CATCH BASIN
CIP	CAST IN PLACE
CHNL	CHANNEL
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CPT	CARPET
CTR	CENTER
DBL	DOUBLE
DEMO	DEMOLISH
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DN	DOWN
DW	DISHWASHER
EA	EACH
EG	EGRESS
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR OR ELEVATION
EQ	EQUAL
EXIST, (E)	EXISTING
EXT	EXTERIOR
FAR	FLOOR AREA RATIO
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FFE	FINISHED FLOOR ELEVATION
FLR	FLOOR
FO	FACE OF
FND	FOUNDATION
GA	GAUGE
GALV	GALVANIZED
GWB	GYPSUM WALL BOARD
HB	HOSE BIB
HC	HOLLOW CORE
HORIZ	HORIZONTAL
HR	HOUR
INSUL	INSULATION
INT	INTERIOR
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MTL	METAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER OR OVERFLOW DRAIN
OPP	OPPOSITE
PL	PROPERTY LINE
PLY	PLYWOOD
PT	PRESSURE TREATED
PNT	PAINT OR PAINTED
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REQD	REQUIRED
RM	ROOM
R.O.W.	RIGHT OF WAY
SF	SQUARE FEET
SIM	SIMILAR
SPEC	SPECIFIED
SPK	SPRINKLER
SS	STAINLESS STEEL
STC	SOUND TRANSMISSION COEFFICIENT
STL	STEEL
STRUCT	STRUCTURE OR STRUCTURAL
T&G	TONGUE & GROOVE
TELE	TELEPHONE
TEMP	TEMPERED
TO	TOP OF
T/D	TELEPHONE/DATA
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
VP	VISION PANEL
W/	WITH
WD	WOOD

SYMBOLS

DOOR DESIGNATION (1.1)

WINDOW DESIGNATION (1.1) 3'-0" WINDOW WIDTH, 5'-0" WINDOW HEIGHT

DETAIL NUMBER (XX) / SHEET NUMBER (X.X)

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 X 4 FRAMING

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 x 6 FRAMING

CAST-IN-PLACE CONCRETE WALL

PROVIDE (1) LAYER 5/8" EXTERIOR GWB AT OVERHANG

PROVIDE CMU WALL

W/D — WASHING/ DRYER MACHINE (COMBO)

W — WASHING MACHINE

D — CLOTHES DRYER

XX / X.X — SECTION MARKER

HWH — ON-DEMAND HOT WATER HEATER

SD — IRC R314 AND IFC 907.2.10.2: SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
1. IN EACH SLEEPING ROOM
2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
3. ON EACH ADDITIONAL STORY OF THE DWELLING INCLUDING BASEMENTS BUT NOT INCLUDING CRAWL SPACES.
4. PER IFC 907.2.10 AND IRC R314.3 SMOKE ALARMS SHALL BE: INSTALLED 20' MIN FROM KITCHEN APPLIANCES OR 10' MIN WITH AN ALARM-SILENCING SWITCH; 3' MIN FROM BATHROOM DOORS
5. SMOKE ALARMS REQUIRED TO BE INSTALLED, HARDWIRED AND INTERCONNECTED, TYP.

SD$_{SW}$ — SMOKE ALARM WITH SWITCH, PER ITEM 4 ABOVE

HD — HEAT DETECTOR/HEAT ALARM PER IRC R314.2.1

FAN LOCATION (IRC TABLE M 1505.4.4(1) AND IMC TABLE 403.4.7)
1. AT BATHROOMS AND LAUNDRY, PROVIDE 50 CFM FAN W/ TIMER AT 0.25 W.G. OR GREATER
2. AT KITCHENS, PROVIDE 100 CFM FAN AT 0.25 W.G. OR GREATER
3. VENT ALL EXHAUST FANS TO THE OUTSIDE
4. EXHAUST DUCTS ARE TO BE CONST. OF SMOOTH BORE NONCOMBUSTIBLE MATERIAL AND ARE TO BE INSUL. AS REQUIRED PER WSEC.

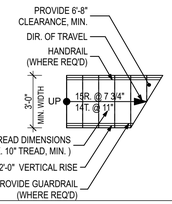
CO — IRC R315 AND 2018 IFC 915: AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS AND ON EACH LEVEL OF THE DWELLING. SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2075.

FLOOR STEP DOWN

SOFFIT STEP DOWN

TYPICAL STAIR

PROVIDE MIN. 3'-0" LANDING WHERE OCCURS



GENERAL NOTES

01 ALL WORK SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE 2018 WASHINGTON STATE ENERGY CODE (WSEC), 2018 INTERNATIONAL BUILDING CODE (IBC), 2018 INTERNATIONAL RESIDENTIAL CODE (IRC), 2018 INTERNATIONAL MECHANICAL CODE (IMC) AND APPLICABLE CODES.

02 CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND VERIFY LOCATION OF WORK WITH THE ARCHITECT. NO SCALE MEASUREMENTS SHALL BE USED AS DIMENSIONS FOR WORK. LARGE SCALE DETAILS AND DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER. NOTIFY ARCHITECT WHENEVER DIMENSION DISCREPANCIES ARISE.

03 CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITION OF THE JOB SITE, INCLUDING SAFETY, PROTECTION OF PROPERTY AND THE LIKE DURING THE PERFORMANCE OF THE WORK.

04 CONTRACTOR SHALL PROVIDE METHODS, MEANS, AND FACILITIES REQUIRED TO PREVENT CONTAMINATION OF SOIL, WATER, OR ATMOSPHERE.

05 DIMENSIONS ARE TO:
- FACE OF STRUCTURE, UNLESS NOTED OTHERWISE (UNO)
- DIMENSIONS INDICATED AS CLEAR (CLR) OR FINISH (FIN) ARE TO FINISH FACE.

06 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE OWNER'S WORK AND/OR SUPPLIED ITEMS THAT ARE "FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR" OR ARE "NOT IN CONTRACT", BUT ARE ATTACHED TO THE CONTRACTOR'S WORK.

07 DESTINATION OF EXCAVATED SOILS TO BE DETERMINED. SDCI WILL BE NOTIFIED OF DISPOSAL SITE AFTER CONFIRMATION BY EARTHWORK SUBCONTRACTOR.

08 DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

09 FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER.

10 DRAWINGS ISSUED FOR CONSTRUCTION PRIOR TO FINAL PERMITTING APPROVAL ARE SUBJECT TO REVISION. VERIFY CONSTRUCTION DOCUMENTS CONFORM TO PERMIT DRAWINGS BEFORE PROCEEDING WITH WORK. NOTIFY ARCHITECT WHENEVER DISCREPANCIES ARISE.

11 SURVEYOR TO LOCATE BELOW GRADE AND ABOVE GRADE STRUCTURES ON SITE.

12 TOP OF CONCRETE ELEVATIONS AND FINISHED GRADE TO BE VERIFIED IN FIELD, CONTRACTOR TO INFORM ARCHITECT, CIVIL AND STRUCTURAL ENGINEERS IF THERE ARE INCONSISTENCIES WITH THE CONTRACT DOCUMENTS.

13. PER TABLE R402.1.1 FOOTNOTE H, ALL HEADERS ARE REQUIRED TO BE INSULATED TO A MINIMUM OF R-10, REFER TO SECTION SHEETS, A4.00.

14. NOTE THAT ALL ELEVATIONS PROVIDED WITHIN THE PLAN SET REFERENCE VERTICAL DATUM PER LICENSED SURVEYOR, REFER TO LICENSED SURVEY IN PLAN SET.

SHEET INDEX

SHEET INDEX		SHEET INDEX		SHEET INDEX	
ID	SHEET NAME	ID	SHEET NAME	ID	SHEET NAME
A0.00	General Notes	A2.03	Second Floor Plan	S13.0	First Floor Framing
A0.10	Lot Coverage Plan	A2.04	Roof Plan	S14.0	First Floor Framing
A0.11	Average Building Elevation	A3.10	Elevations	A4.00	Wall Sections
A0.12	Basement Floor Area Calculation	A3.11	Elevations	A4.10	Wall Sections
A0.13	Below Grade Story Diagram	A3.12	Elevations	A9.00	Concrete Details
A0.16	Land Use Code - Gross Floor Area / Use Diagrams	A3.20	Sections	A9.10	Exterior Details
A0.20	Arborist Report	A3.21	Sections	A9.20	Roof Details
A0.21	Arborist Report	A3.22	Sections	A9.30	Fire Details
A0.22	Arborist Report	A8.00	Wall Types		
C1	CSWPP PLAN	A8.01	Floor Types		
C2	STORMWATER SITE PLAN	A8.10	Windows Schedule		
C3	STORMWATER SITE PLAN	A8.11	Windows Schedule		
C4	STORMWATER DETAILS	A8.20	Door Schedule		
C5	AMENDED SOIL PLAN	S1.0	Solidier Pile Plot Plan		
L1.0	Landscape Plan	S2.0	Soldier Pile-Notes		
DR.01	Rendered Elevation	S3.0	Soldier Pile Plan		
DR.02	Rendered Elevation	S4.0	Details		
DR.03	Rendered Elevation	S5.0	General Notes		
A1.00.a	Survey	S6.0	Typical Wall Framing		
A1.00.b	Survey	S7.0	Second Floor Shear Walls		
A1.01	Demolition Plan	S8.0	First Floor Level Shear Walls		
A1.02	Excavation Plan	S9.0	Basement Floor Level Shear Walls		
A1.10	Site Plan	S10.0	Roof Framing		
A2.01	Garage/ Basement Floor Plan	S11.0	Second Floor Framing Plan		
A2.02	First Floor Plan	S12.0	First Floor Framing Plan		

WASHINGTON STATE ENERGY CODE

PER WSEC R406.3: PROVIDE 7 CREDITS FOR A LARGE DWELLING UNIT

FUEL NORMALIZATION SYSTEM TYPE SELECTION
SYSTEM TYPE CREDIT #2 - 1.0 POINT
FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3.2(1)C OR C403.3.2(2)

TABLE R406.3 OPTION 1.4: EFFICIENT BUILDING ENVELOPE - 1.0 POINT
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS:
VERTICAL FENESTRATION U = 0.25
WALL R-21 PLUS R-4 CI
FLOOR R-38
BASEMENT WALL R-21 INT PLUS R-5 CI
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

TABLE R406.3 OPTION 2.1: AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION - 0.5 POINTS
COMPLIANCE BASED ON R402.4.1.2:
REDUCE THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS

TABLE R406.5 OPTION 3.5: HIGH EFFICIENCY HVAC - 1.5 POINTS
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

TABLE R406.5 OPTION 4.2: HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM - 1.0 POINT
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R403.3.7.
LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION.
ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.
DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND SHALL SHOW THE LOCATION OF THE HEATING AND COOLING EQUIPMENT AND ALL THE DUCTWORK.

TABLE R406.5 OPTION 5.5: EFFICIENT WATER HEATING - 2.0 POINTS
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING:
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION

PER WSEC R401.3 - A RESIDENTIAL ENERGY COMPLIANCE CERTIFICATE COMPLYING W/ WSEC W401.3 IS REQ'D TO BE COMPLETED BY THE DESIGN PROFESSIONAL OR BUILDER AND PERMANENTLY POSTED.

PER WSEC R403.1.1 - EACH DWELLING UNIT IS REQ'D TO BE PROVIDED W/ CONTROLS TO MINIMIZE SUPPLEMENTAL HEAT USAGE DURING START-UP, SET-UP AND DEFROST CONDITIONS.

PER WSEC R404.1. - NOT LESS THAN 90 PERCENT OF LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY

PER WSEC R402.4 - BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED, TESTED AND VERIFIED TO LIMIT AIR LEAKAGE TO A MAXIMUM OF 5 AIR CHANGES PER HOUR

THIS PROJECT DOES NOT REQUIRE SOLAR-READY ZONES PER SRC APPENDIX T SECTION T101.1

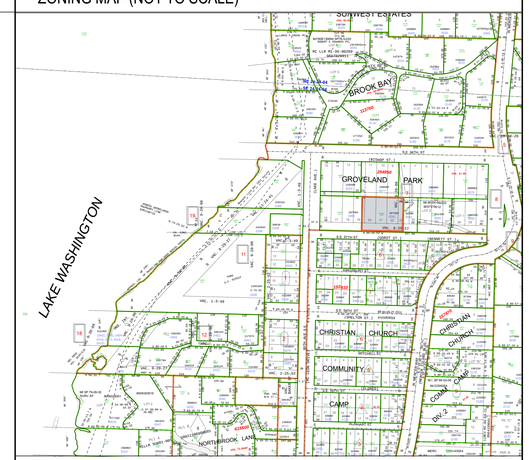
WHOLE HOUSE VENTILATION

A. INSTALL FAN IN DWELLING UNIT MASTER BATH. REFER TO PLAN SHEETS FOR LOCATION. INSTALL 24 HOUR TIMER TO CONTROL EXHAUST FAN. FAN TO OPERATE CONTINUOUSLY. REFER TO SHEET NOTE 7 ON FLOOR PLAN SHEET, A2.01-A2.03.

B. EXHAUST FAN TO BE MIN 75 CFM RUNNING CONTINUOUSLY, AT 1.0 SONE, AT .25 WG

C. ALL EXHAUST DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED TO A MINIMUM OF R-8.

ZONING MAP (NOT TO SCALE)



VICINITY MAP (NOT TO SCALE)

PROJECT SUMMARY

ADDRESS:	8020 SE 57TH STREET MERCER ISLAND, WA 98040
OWNER:	LNL BUILDS 8015 SE 60th ST MERCER ISLAND, WA 98040
ARCHITECT:	b9 ARCHITECTS, INC. 610 2ND AVENUE SEATTLE, WA 98104 TEL. 206.297.1284
STRUCTURAL ENGINEER:	LUCIA ENGINEERING, INC. 7307 12TH AVENUE NE, SEATTLE, WA 98115
CIVIL ENGINEER:	OFFE ENGINEERS, PLLC 13932 SE159TH PLACE RENTON, WA 98058-7832
LANDSCAPE ARCHITECT:	ROOT OF DESIGN 2020 MALTBY RD, SUITE 7, PMB 370 BOTHELL, WA 98021
LEGAL DESCRIPTION:	THE EAST 10 FEET OF LOT 19, AND LOTS 20 THROUGH 22, INCLUSIVE, AND THE WEST 20 FEET OF LOT 23, BLOCK 7, GROVELAND ARK, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME7 OF PLATS, PAGE 48, RECORDS OF KING COUNTY, WASHINGTON TOGETHER WITH THE VACATED BENNET STREET THEREOF SITUATED IN THE CITY OF SEATTLE, COUNTY IF KING, STATE OF WASHINGTON.
APN:	294890-0082
PROJECT DESCRIPTION:	CONSTRUCT A NEW TWO-STORY SINGLE-FAMILY RESIDENCE WITH A BELLOW GRADE BASEMENT AND GARAGE
APPLICABLE CODES:	CITY OF MERCER ISLAND MUNICIPAL CODE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) 2018 INTERNATIONAL MECHANICAL CODE (IMC) 2018 INTERNATIONAL FUEL GAS CODE (IFGC) 2018 UNIFORM PLUMBING CODE (UPC) WASHINGTON STATE ENERGY CODE (WCEC)
CMI PROJECT #:	#CITY OF MERCER ISLAND CN#, #CITY OF MERCER ISLAND DM#,

ZONING SUMMARY

ZONE	R-15
TOTAL LOT AREA	18,750 SF | 0.43 ACRES
YARDS:	MICC 19.02.020.C **FRONT**: 20 FT MIN. **SIDE**: FOR LOTS WITH A LOT WIDTH OF MORE THAN 90 FEET, THE SUM OF THE SIDE YARDS' WIDTH SHALL BE A WIDTH THAT IS EQUAL TO AT LEAST 17 PERCENT OF THE LOT WIDTH. MINIMUM SIDE YARD WIDTH. THE MINIMUM SIDE YARD WIDTH IS FIVE FEET OR 33 PERCENT OF THE AGGREGATE SIDE YARD TOTAL WIDTH, WHICHEVER IS GREATER. MINIMUM SIDE YARD REQUIRED: 21.25 FEET X .33 = 7.0125 FEET NORTHSIDE YARD = 7'-6" SOUTH SITE YARD = 21.25 FEET - 7.0125 FEET = 14.2375 FEET = 14'-3" **REAR:** 25 FT
LOT COVERAGE ALLOWED:	**30% MAX: 18,750SF x 0.30 = 5,625 SF**
LOT COVERAGE PROVIDED:	
LOT SLOPE	**EL. 126' - EL. 84' = 42'; 42.00' ÷ 125.04' = 0.335 = 34%**
HARDSCAPE	**9% OF THE NET LOT AREA: 18,750 x 9% = 1,687.5 SF**
LANDSCAPE	**70% REQUIRED PER MICC 19.02.020.F.3**
ALLOWABLE GROSS FLOOR AREA	R-15: 12,000 SF OR 40% OF THE LOT AREA, WHICHEVER IS LESS **18,750 sf x 40% = 7,500**
PROVIDED GROSS FLOOR AREA	**sf**
HEIGHT RESTRICTION	MICC 19.02.020.E HEIGHT LIMIT: 30 FT
AVERAGE BUILDING ELEVATION *CALCULATIONS ON SHEET A0.11*	**108'- 0"**
MAX BUILDING HEIGHT BUILDING HEIGHT	108'-0" + 30'-0" = **138'-0"** 107'-11"
PARKING REQUIRED	3 (AT LEAST 2 COVERED)
TREE REQUIREMENTS	**REFER TO ARBORIST REPORT ON SHEETS A0.20-A0.22** REMOVAL OF EXCEPTIONAL TREES WITH A DIAMETER OF 24 INCHES OR MORE SHALL BE LIMITED TO THE FOLLOWING CIRCUMSTANCES: A. RETENTION OF AN EXCEPTIONAL TREE(S) WITH A DIAMETER OF 24 INCHES OR MORE WILL RESULT IN AN UNAVOIDABLE HAZARDOUS SITUATION; ORB. RETENTION OF AN EXCEPTIONAL TREE(S) WITH A DIAMETER OF 24 INCHES OR MORE WILL LIMIT THE CONSTRUCTIBLE GROSS FLOOR AREA TO LESS THAN 85 PERCENT OF THE MAXIMUM GROSS FLOOR AREA ALLOWED UNDER CHAPTER 19.02 MICC.

REFER TO THE LOT COVERAGE DIAGRAM AND CALCULATIONS ON SHEET A0.10 TO REFERENCE THE AREAS LISTED BELOW

FIRE SPRINKLER NOTES

1) PROVIDE DWELLING UNIT WITH AN INDIVIDUAL **NFPA 13D SPRINKLER SYSTEM** PER 2018 INTERNATIONAL FIRE CODE SECTION 903. NO SPRINKLER RISER ROOM IS REQUIRED.
2) PROJECT WILL HAVE SMOKE ALARMS INSTALLED IN ALL LOCATIONS PER 2018 IRC SECTION 907.2.10.2. AND IN ALL INTERIOR CORRIDORS SERVING SLEEPING UNITS PER IRC 907.2.8.2.
3) PROJECT WILL HAVE NO CENTRAL MONITORING SYSTEM PER 2018 INTERNATIONAL FIRE CODE 907.6.6 EXCEPTION 3.
4) SMOKE ALARMS SHALL BE INTERCONNECTED PER IRC 907.2.10.5.
5) PROJECT WILL HAVE NO FIRE ALARM SYSTEM
6) CONNECT THE INDIVIDUAL SPRINKLER SYSTEM TO AN APPROVED EXTERIOR WATER FLOW ALARM DEVICE
7) SUBMIT CONTRACTORS SHOP DRAWINGS FOR REVIEW BY MERCER ISLAND BUILDING DEPARTMENT
8) FOR INFORMATION REGARDING FIRE DEPARTMENT INSPECTIONS CALL THE FIRE MARSHAL'S OFFICE, ENGINEERING SECTION AT 206-275-7605
9) THE SPRINKLER SYSTEM CAN BE SUPPLIED BY A DOMESTIC SERVICE IN ACCORDANCE WITH 2018 INTERNATIONAL FIRE CODE SECTION 903.3.5.1.

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:
Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

General Notes

A0.00

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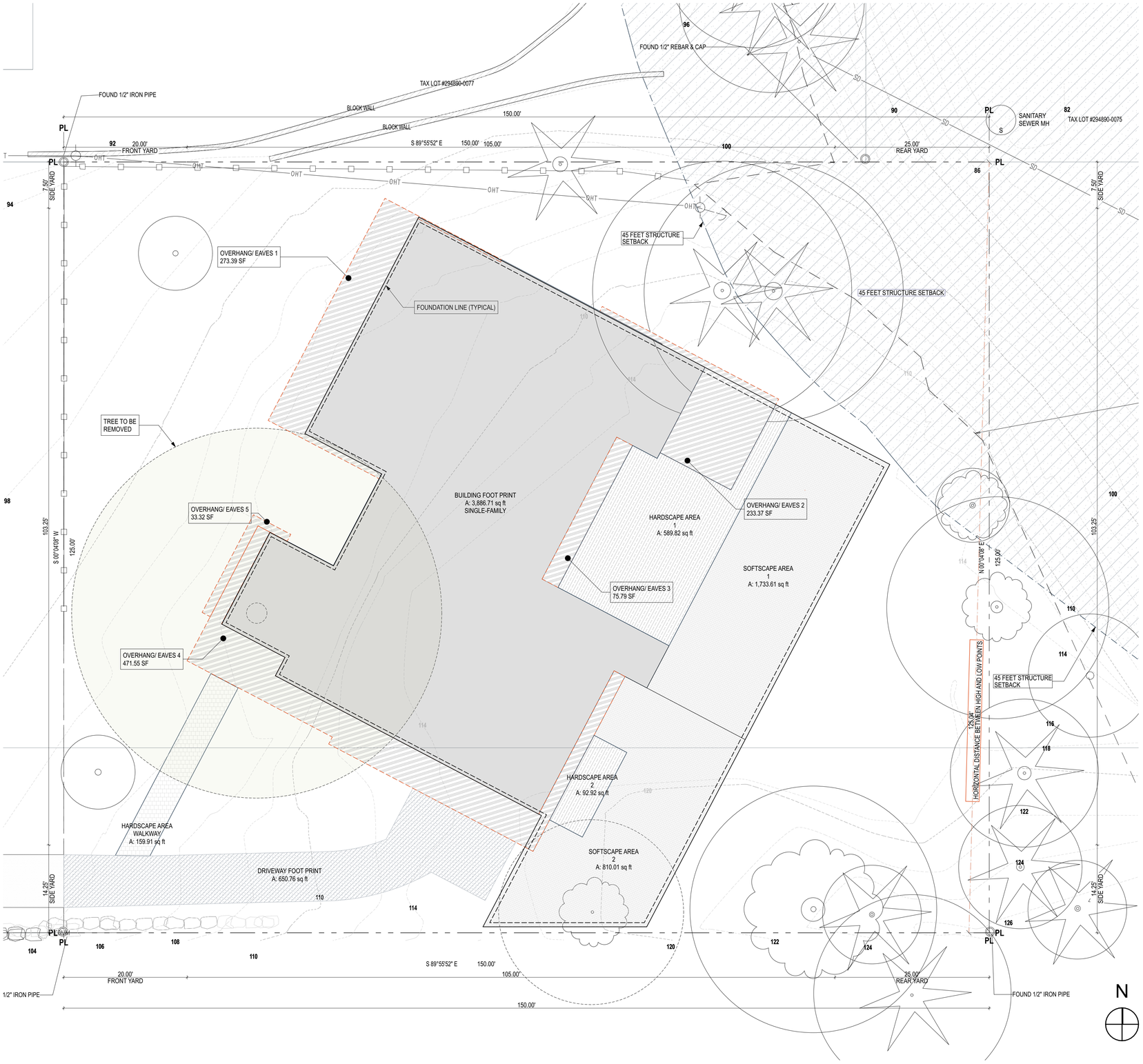

1 LOT COVERAGE DIAGRAM

SCALE: 1/8" = 1'-0"

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LOT COVERAGE PLAN LEGEND

- PROPERTY LINE
- NEW BUILDING STRUCTURE FOOTPRINT AT GRADE
- NEW BUILDING OVERHANG OR EAVES
- NEW BUILDING STRUCTURE BELLOW GRADE | EXEMPT
- NEW DRIVEWAY FOOT PRINT
- 3'-0" — LOT SLOPE: SHORTEST HORIZONTAL DISTANCE BETWEEN HIGH AND LOW POINTS

LOT COVERAGE NOTES AND CALCULATIONS

19.16.010 DEFINITIONS: LOT SLOPE

SLOPE: A MEASUREMENT OF THE INCLINE OF A LOT OR OTHER PIECE OF LAND CALCULATED BY SUBTRACTING THE LOWEST EXISTING ELEVATION FROM THE HIGHEST EXISTING ELEVATION AND DIVIDING THE RESULTING NUMBER BY THE SHORTEST HORIZONTAL DISTANCE BETWEEN THESE TWO POINTS.

HIGHEST ELEVATION POINT OF LOT:	**EL. 126.00'**
LOWEST ELEVATION POINT OF LOT:	**EL. 84.00'**
ELEVATION DIFFERENCE:	**42.00'**
HORIZONTAL DISTANCE BETWEEN HIGH AND LOW POINTS:	**120.17'**

ELEVATION DIFFERENCE ÷ HORIZONTAL DISTANCE BETWEEN HIGH AND LOW POINTS:
42.00' ÷ 123.68' = 0.339 = **34%**
LOT SLOPE PERCENTAGE: 34%

19.02.020.F.3: LOT COVERAGE - LANDSCAPE REQUIRED

a. MINIMUM AREA REQUIRED. DEVELOPMENT PROPOSALS FOR SINGLE-FAMILY DWELLINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS BASED ON THE NET LOT AREA:

MAXIMUM LOT COVERAGE (LOT SLOPE 30% TO 50%): **30%**
(HOUSE, DRIVING SURFACES, AND ACCESSORY BUILDINGS)
LOT AREA :18,750 SF x .30 = **5,625 SF**

MAXIMUM LOT COVERAGE ALLOWED: **5,625 SF**

REQUIRED LANDSCAPE AREA (LOT SLOPE 30% TO 50%): **70%**
LOT AREA: 18,750 SF x .70 = **13,125 SF**

REQUIRED LANDSCAPE AREA: **13,125 SF**

PROPOSED LOT COVERAGE

LOT COVERAGE CHARGEABLE AREAS		HARDSCAPE AND SOFTSCAPE LOT COVERAGE EXEMPT AREAS		
	AREA			**AREA**
BUILDING FOOT PRINT	3,886.71	HARDSCAPE AREA	1	589.82
DRIVEWAY FOOT PRINT	650.76	HARDSCAPE AREA	2	92.92
OVERHANG/ EAVES 1	273.39	HARDSCAPE AREA	WALKWAY	159.91
OVERHANG/ EAVES 2	233.37	**TOTAL**		842.65 ft²
OVERHANG/ EAVES 3	75.79	SOFTSCAPE AREA	1	1,733.61
OVERHANG/ EAVES 4	471.55	SOFTSCAPE AREA	2	810.01
OVERHANG/ EAVES 5	33.32	**TOTAL**		2,543.62 ft²
TOTAL	**5,624.89 ft²**	**TOTAL**		**3,386.27 ft²**

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:
Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

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Lot Coverage Plan

A0.10

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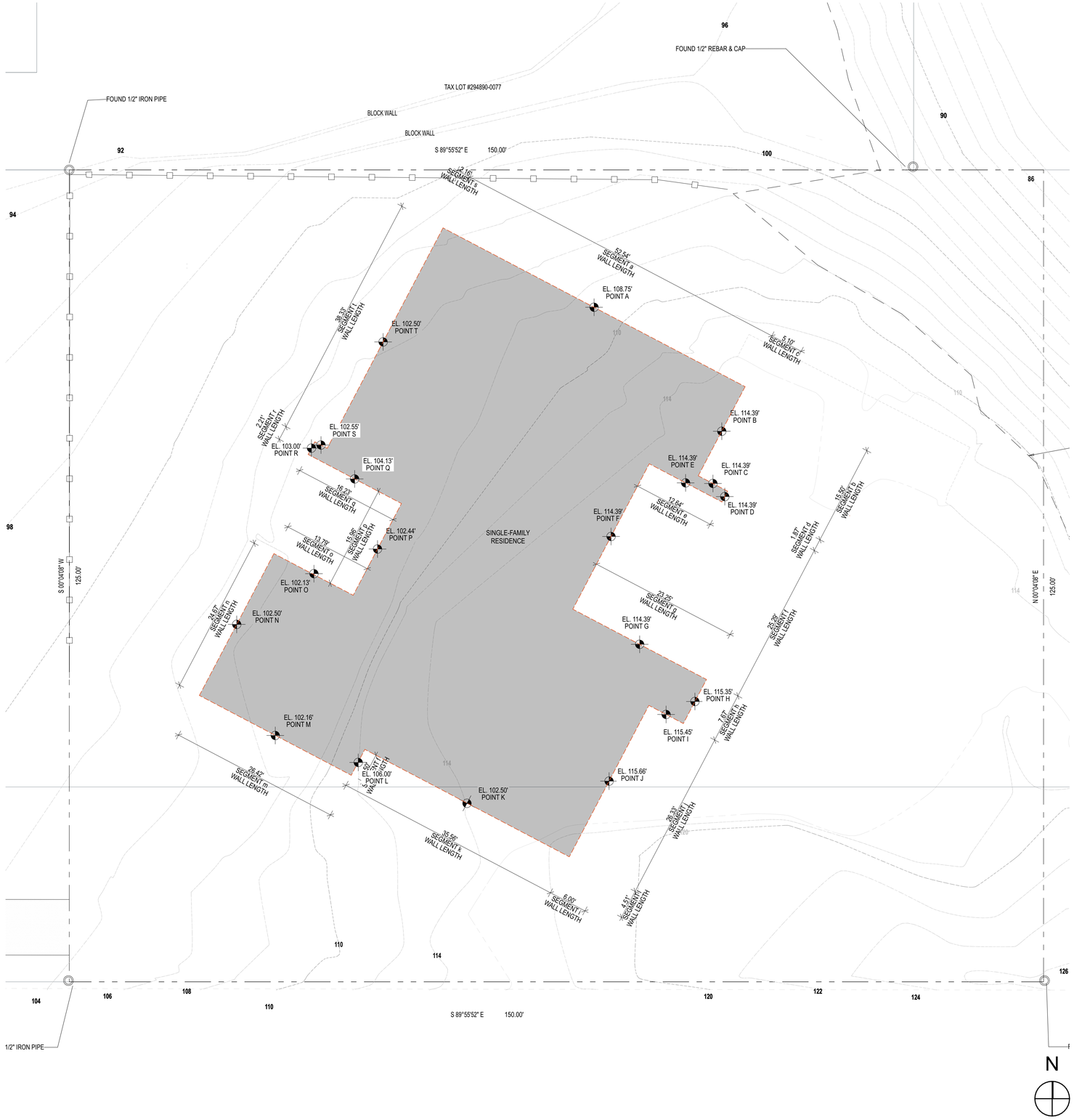

1 AVERAGE BUILDING ELEVATION PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

HEIGHT PLAN LEGEND

- NEW STRUCTURE FOOTPRINT AT GRADE
- BUILDING PERIMETER
- PROPERTY LINE
- DISTANCE a — BUILDING PERIMETER LENGHT
- POINT A 332.20' — MID POINT ELEVATION

HEIGHT MEASUREMENT

BUILDING HEIGHT LIMIT PER 19.02.010.E:

AVERAGE BUILDING ELEVATION CALCULATION BASED ON THE CITY OF MERCER ISLAND CODE 19.02.010.E.4

$$\frac{(A \times a) + (B \times b) + (C \times c) + (D \times d) + (E \times e) + (F \times f) + (G \times g) + (H \times h) + (I \times i) + (J \times j) + (K \times k)+(L \times l)+(M \times m) +(N \times n)+(O \times o) + (P \times p) +(Q+ q)+(R \times r)+(S}{a + b + c + d + f + g + h + i + j + k + l + m + n + o + p + q + r + s + t}$$

AVERAGE BUILDING ELEVATION: **138'-0"**

AVERAGE BUILDING ELEVATION

SEGMENT	WALL LENGTH	ELEVATION	SUM
A	52.54	108.75	5713.725
B	15.5	114.39	1773.045
C	5.1	114.39	583.389
D	1.87	114.39	213.9093
E	12.64	114.39	1445.8896
F	25.29	114.39	2892.9231
G	23.25	114.39	2659.5675
H	7.67	115.35	884.7345
I	6	115.45	692.7
J	26.33	115.66	3045.3278
K	35.56	102.5	3644.9
L	4.51	106	478.06
M	26.42	102.16	2699.0672
N	24.67	102.5	2528.675
O	13.79	102.13	1408.3727
P	15.96	102.44	1634.9424
Q	16.23	104.13	1690.0299
R	2.21	102.94	227.4974
S	2.16	103.33	223.1928
T	38.33	104.5	4005.485
TOTAL	356.03	2174.18	38445.4332
AVERAGE BUILDING ELEVATION			**107.9836901**
HEIGHT RESTRUCTION			**30.00 FT**
MAX ALLOWED BUILDING HEIGHT	108 FT + 30 FT =		**138 FT**

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

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Average Building Elevation

A0.11

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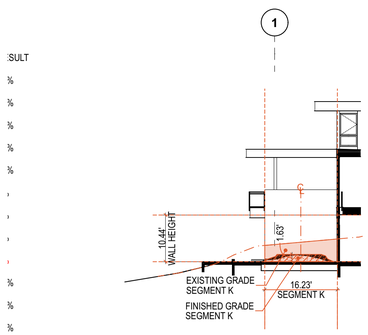
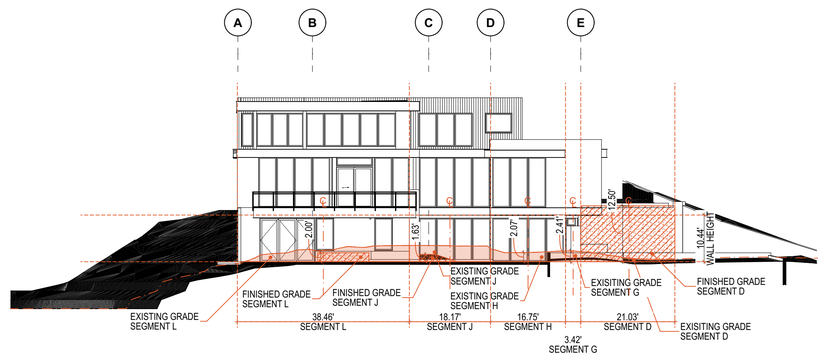
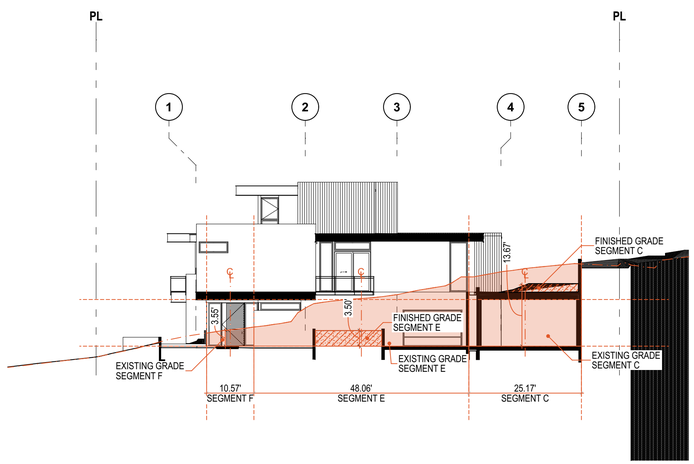


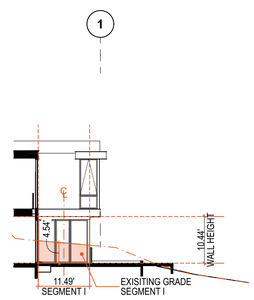
6 NORTH ELEVATION POND
SCALE: 1/16" = 1'-0"



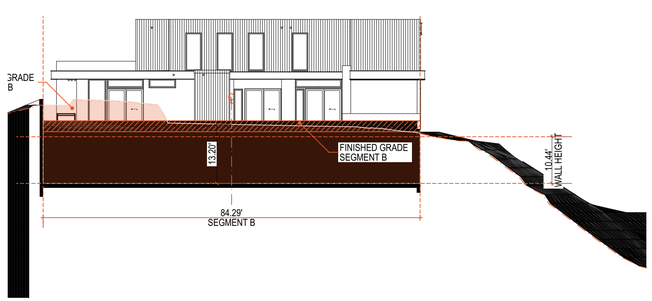
7 SOUTH ELEVATION POND
SCALE: 1/16" = 1'-0"



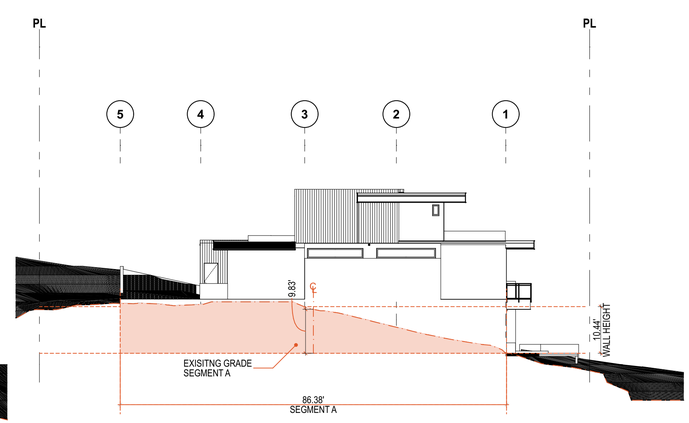
4 BASEMENT AREA CLACULATION | SOUTH ELEVATION
SCALE: 1/16" = 1'-0"



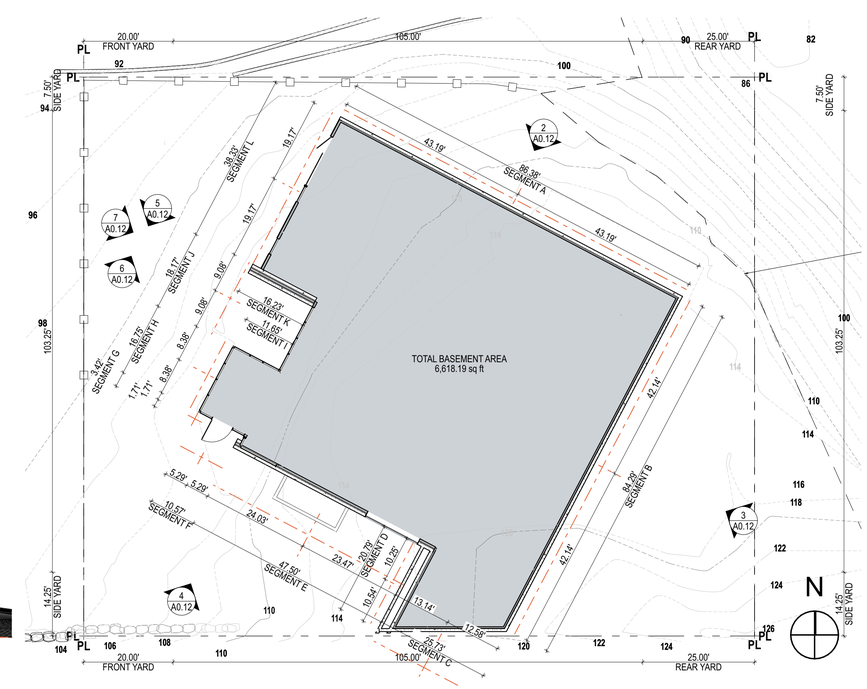
5 SOUTH ELEVATION POND
SCALE: 1/16" = 1'-0"



3 BASEMENT AREA CLACULATION | EAST ELEVATION
SCALE: 1/16" = 1'-0"



2 BASEMENT AREA CLACULATION | NORTH ELEVATION
SCALE: 1/16" = 1'-0"



1 BASEMET FLOOR AREA CALCULATION
SCALE: 1/16" = 1'-0"

BASEMENT FLOOR AREA CALCULATIONS LEGEND

- PROPERTY LINE
- TOTAL BASEMENT FLOOR AREA
- WALL SEGMENT AREA COVERAGE EXISITING GRADE
- WALL SEGMENT AREA COVERAGE FINISHED GRAGE
- 3'-0" WALL SEGMENT LENGTHS
- WALL SEGMENT MID POINT
- EXISTING GRADE

BASEMENT FLOOR AREA NOTES AND CALCULATIONS

CITY OF MERCER ISLAND CODE: 19.02.020.F
APPENDIX B BASEMENT FLOO AREA CALCULATION

WALL SEGMENT COVERAGE PERCENTAGE:
(EXISTING GRADE & FINISHED GRADE)

WALL SEGMENT	LENGTH (FEET)	COVERAGE PERCENTAGE		RESULT
SEGMENT A:	86.38'	9.83' ÷ 10.44' x 100	= 94.16	94%
SEGMENT B:	84.29'	FULLY COVERED	= 100%	84%
SEGMENT C:	25.17'	FULLY COVERED	= 100%	25%
SEGMENT D:	21.03'	FULLY COVERED	= 100%	21%
SEGMENT E:	48.06'	3.50' ÷ 10.44' x 100	= 33.52	34%
SEGMENT F:	10.57'	NOT COVERED	= 0%	0%
SEGMENT G:	3.42'	NOT COVERED	= 0%	0%
SEGMENT H:	16.75'	NOT COVERED	= 0%	0%
SEGMENT I:	11.49'	NOT COVERED	= 0%	0%
SEGMENT J:	18.17'	1.63' ÷ 10.44' x 100	= 15.61	16%
SEGMENT K:	16.23'	1.63' ÷ 10.44' x 100	= 15.61	16%
SEGMENT L:	38.46'	2.00' ÷ 10.44' x 100	= 19.16	19%
Σ				
TOTALS:	380.02'		N/A	309%

TOTAL BASEMENT AREA x $\frac{\sum \text{(WALL SEGMENT COVERAGE \% x WALL SEGMENT LENGTH)}}{\text{TOTAL OF ALL WALL SEGMENT LENGTHS}}$ =

6,618.19 SF x $\frac{309}{380.02}$ =

6,618.19 SF x 81.31% = **5,381.35 SF**

BASEMENT FLOOR AREA EXCLUDED FROM GROSS FLOOR AREA = 5,381 SF

Architect of Record
b9 architects
610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

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Basement Floor Area Calculation

A0.12

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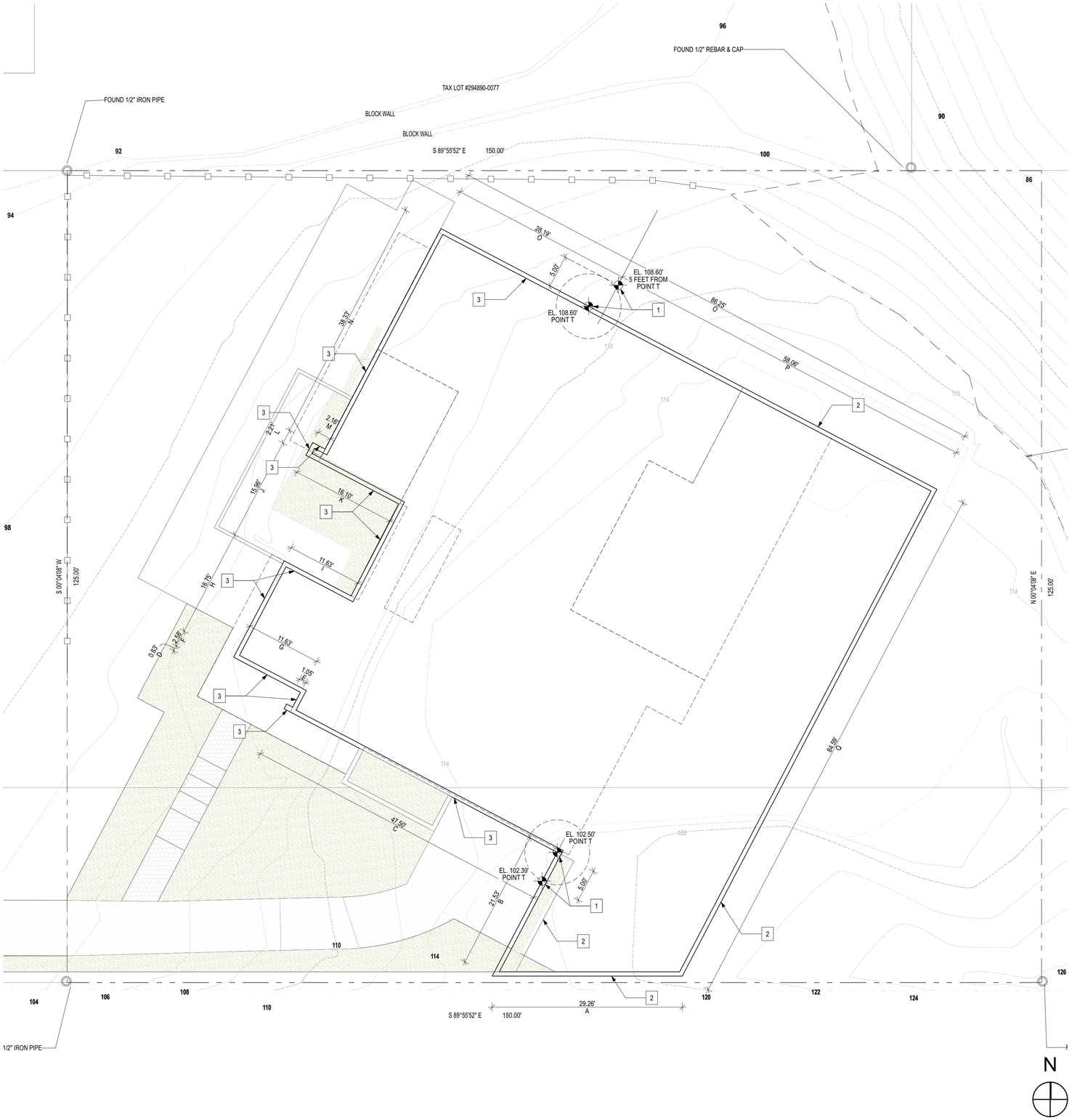

1 BELOW GRADE STORY DIAGRAM

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

BELOW GRADE STORY NOTES/CALCULATIONS

1. POINT AT WHICH THE FINISHED FLOOR LEVEL DIRECTLY ABOVE A USABLE UNDER-FLOOR SPACE IS MORE THAN SIX FEET ABOVE GRADE
2. WALL SEGMENT FULLY BELOW GRADE
3. WALL SEGMENT ABOVE GRADE
4. THE FINISHED FLOOR LEVEL DIRECTLY ABOVE A USABLE UNDER-FLOOR SPACE IS ALWAYS LESS THAN TWELVE FEET ABOVE GRADE
5. GRADE IS MEASURED AS THE LOWEST POINT ON THE PROPERTY WITHIN A DISTANCE OF FIVE FEET FROM THE EXTERIOR WALL

BASED ON THE CALCULATIONS BELOW, THE BASEMENT IS NOT CONSIDERED A STORY, THEREFORE THE FIRST FLOOR IS THE FIRST STORY OF THE PROPOSED STRUCTURE.

SEGMENT	WALL LENGTH
A	28.63
B	21.24
C	47.5
D	0.83
E	1.05
F	2.58
G	11.63
H	16.75
I	11.63
J	15.96
K	16.1
L	2.21
M	2.16
N	38.33
O	28.19
P	60.56
Q	84.59
AGGREGATE ABOVE GRADE MORE THAN 6 FEET	**194.92**
TOTAL WALL LENGTH	**389.9**
PERCENTAGE ABOVE GRADE MORE THAN 6 FEET	**49.99%**

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b9 architects

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Below Grade Story Diagram

A0.13

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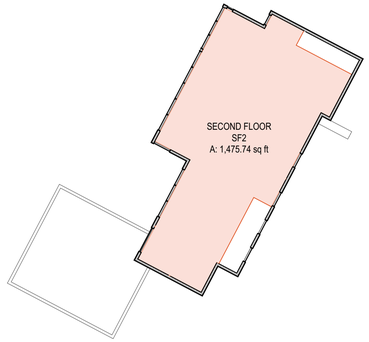
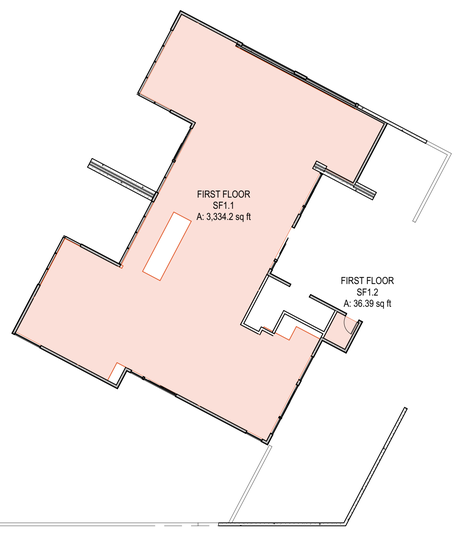


N

3 SECOND FLOOR
SCALE: 1/16" = 1'-0"

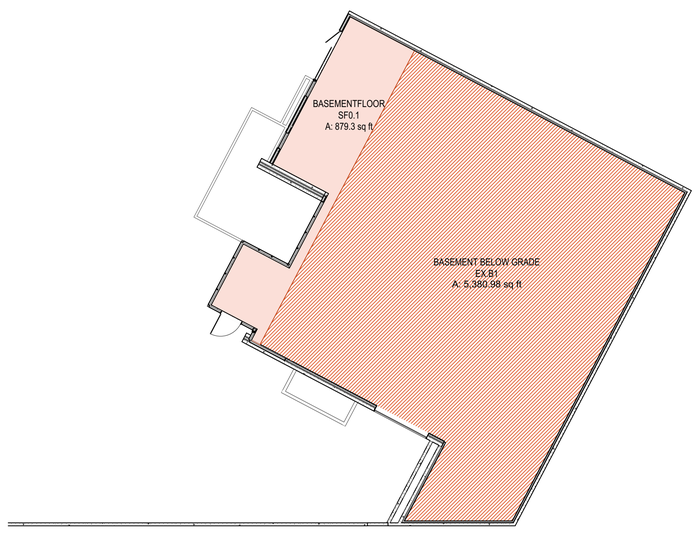
0 8' 16' 32'



N

2 FIRST FLOOR
SCALE: 1/16" = 1'-0"

0 8' 16' 32'



N

1 GROUND FLOOR/BASEMENT
SCALE: 1/16" = 1'-0"

0 8' 16' 32'

PLAN LEGEND

CHARGEABLE GROSS FLOOR AREA

EXEMPT GROSS FLOOR AREA

FAR REQUIREMENTS

ZONE:	R-15
LOT AREA:	18,750 SF | 0.43 ACRES
GROSS FLOOR AREA ALLOWED:	R-15: 12,000 SF OR 40% OF THE LOT AREA, WHICHEVER IS LESS
	18,750 sf x 40% = 7,500
GROSS FLOOR AREA PI	**5,725.63**

GROSS FLOOR AREA

STORY		FLOOR GROSS AREAS	CHARGEABLE FLOOR GROSS AREAS	CODE EXEMPTION
GROUND FLOOR/BASEMENT				
	EX.B0	5,380.98	0.00	APPENDIX B BASEMENT FLOOR AREA CALCULATION
	SF1.1	879.30	879.30	
		6,260.28 ft²	879.30 ft²	
FIRST FLOOR				
	SF1.1	3,334.20	3,334.20	
	SF1.2	36.39	36.39	
		3,370.59 ft²	3,370.59 ft²	
SECOND FLOOR				
	SF2	1,475.74	1,475.74	
		1,475.74 ft²	1,475.74 ft²	
		11,106.61 ft²	**5,725.63 ft²**	

Architect of Record

b9 architects

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Seattle, WA 98104
206.297.1284
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Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Land Use Code - Gross Floor Area / Use Diagrams

A0.16

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Arborist Report

Tree Protection Plan 8020 Se 57th St, Mercer Island
August 25, 2023

Prepared For:

LNL Builds
Vann Lanz
317 4th Street
Kirkland, WA 98033
vann@lnlbuilds.com
206.715.6200

Prepared By:

Davey Resource Group, Inc.

18809 10th Ave NE
Shoreline, WA, 98155
Contact: Ian Scott
ian.scott@davey.com
Local Office: 206.536.2977.
Corporate Office: 330-673-5685

Notice of Disclaimer

Assessment data provided by Davey Resource Group is based on visual recording at the time of inspection. Visual records do not include testing or analysis and do not include aerial or subterranean inspection unless indicated. Davey Resource Group is not responsible for discovery or identification of hidden or otherwise non-observable risks. Records may not remain accurate after inspection due to variable deterioration of surveyed material. Risk ratings are based on observable defects and mitigation recommendations do not reduce potential liability to the owner. Davey Resource Group provides no warranty with respect to the fitness of the trees for any use or purpose whatsoever.

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Appendix B: Site Pictures **12**

Introduction

Davey Resource Group (DRG) was contracted by Vann Lanz from LNL Builds to inspect and provide an arborist report and tree protection plan for the property 8020 Se 57th St, Mercer Island, WA (parcel #2948900082). The client intends to develop the property.

Using a pen tablet computer, the arborist visited each tree on the site which was visually assessed, and the required tree data was collected within a GIS database. Following data collection, specific tree preservation plan elements were calculated that identified each tree's dripline and Limits of Disturbance (LOD) to better ensure survivability during the planned development. The following details are provided in alignment with the information required by the City of Mercer Island Municipal Code (Mercer Island Municipal Code):

- A numbering system of all existing significant trees on the subject property
- Tree type or species and DSH (Diameter at 4.5' above soil level).
- Identify all Exceptional Trees and differentiate between those less than 24 inches and those greater than or equal to 24 inches in diameter.
- A complete description of each tree's health, condition and viability.
- Determination of significant and exceptional trees as defined by the Mercer Island Municipal Code.
- Determination of the Limits of Disturbance (LOD) of all trees to be preserved and a description of the methods used to establish the Limits of Disturbance (LOD).
- A discussion of the timing for the installation of tree protection measures.
- Any special instructions for tree care when work may be required within the CRZ.
- Map illustrations of tree locations, identification numbers, and dripline dimensions.

Limits of the Assignment

There are many factors that can limit specific and accurate data when performing evaluations of trees, their conditions, and values. The determinations and recommendations presented here are based on current data and conditions that existed at the time of the evaluation and cannot be a predictor of the ultimate outcomes for the trees. A visual inspection was used to develop the findings, conclusions, and recommendations found in this report. Values were assigned to grade the attributes of the trees, including structure and canopy health, and to obtain an overall condition rating. No physical inspection of the upper canopy, sounding, root crown excavation, and resistograph or other technologies were used in the evaluation of the trees.

Methods

Data was collected by a Davey Resource Group (DRG) Inventory Arborist Technician and field verified by International Society of Arboriculture (ISA) Certified Arborists (PN-5408BUM). The results will be used to determine the Tree Protection Zone (TPZ) and any other tree protection measures required during construction. The results will be used to determine the Limits of Disturbance (LOD) and any other tree protection measures required during construction. The location and dripline of all trees six inches or greater in diameter at breast height (DSH, 4.5 ft. above grade) were documented.

The following attributes were collected for each site:

Tree Number: Tree ID number was assigned and a numbered aluminum tag was affixed to the tree.

Species: Trees were identified by genus and species, cultivar if evident, and by common name.

Diameter at Standard Height (DSH): Trunk diameter was recorded to the nearest inch at 4.5 feet (standard height) above grade except where noted. When limbs or deformities occurred at standard height, measurement was taken below 4.5 ft. The DSH of multi-trunk trees was determined by taking the square root of the sum of the DSH for each individual stem squared.

Height: Tree Height estimated to the nearest <5ft.

Avg. Crown Radius: Average dripline distance was measured.

Large (Regulated) Trees: Any tree with a diameter of 10 inches or more, and any tree that meets the definition of an Exceptional Tree.

Exceptional Trees: a tree or group of trees that because of unique historical, ecological, or aesthetic value constitutes an important community resource. An exceptional tree is 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 (see MICC 19.16.010) are considered exceptional trees.

Condition: Condition ratings were based on but not limited to:(1) the condition and environment of the tree's root crown; (2) the condition of the trunk, including decay, injury, callusing, or presence of fungus sporophore; (3) the condition of the limbs, including the strength of crotches, amount of deadwood, hollow areas, and whether there was excessive weight borne by them; (4) the condition and growth rate history of the twigs, including pest damage and diseases; (5) the leaf appearance, including abnormal size and density as well as pest and disease damage.

Using an average of the above factors together with the arborist's best judgment, the general condition of each tree was recorded in one of the following categories adapted from the rating system established by the International Society of Arboriculture and 10th Edition of the Council of Tree & Landscape Appraisers (CTLA) *Guide for Plant Appraisal*[1] :

- **Excellent (81%-100%):** High vigor and near-perfect health with little or no twig dieback, discoloration, or defoliation. Nearly ideal and free of structural defects. Nearly ideal form for the species and generally symmetrical.

[1] Council of Tree and Landscape Appraisers. (2019). *Guide for Plant Appraisal, 10th Edition, Second Printing*. Atlanta, GA: International Society of Arboriculture.

- **Good (61%-80%):** Vigor is normal for the species and has no significant damage due to disease or pests. Twig dieback, discoloration, or defoliation is minor. Well-developed structure with minor defects that can be corrected easily. Minor asymmetries/deviations from species norm. Function and aesthetics are not compromised.
- **Fair (41%-60%):** Reduced vigor. Damage due to insects or diseases may be significant and associated with defoliation but is not likely to be fatal. Twig dieback, defoliation, discoloration, and/or dead branches may comprise up to 50% of the canopy. A single structural defect of a significant nature or multiple moderate defects. Structural defects are not practical to correct or would require multiple treatments over several years. Major asymmetries/deviations from species norm. Function and aesthetics are compromised.
- **Poor (21%-40%):** Unhealthy and declining in appearance. Poor vigor and low foliage density and poor foliage color are present. Potentially fatal pest infestation. Extensive twig or branch dieback. A single serious structural defect or multiple significant defects. Observed structural problems cannot be corrected. Failure may occur at any time. Largely asymmetrical or abnormal form. Form detracts from aesthetics or intended use to a significant degree.
- **Very Poor (6%-20%):** Poor vigor and appears to be dying. Little live foliage. Single or multiple severe structural defects. Visually unappealing and provides little or no function in the landscape.
- **Dead (0%-5%)**

Tree Preservation Priority: In order to capture the priority for preservation of an individual tree as it relates to planning for development projects, DRG utilized a rating scale of one to four, with one being the highest priority for protection and four being of least concern. The condition rating of an individual tree is an important component of the priority rating, but several other variables are factored in: species desirability, species longevity, species sensitivity to root loss and construction impacts, uniqueness, and aesthetics both of the tree itself and its relation to the site. It is important to note that these are qualitative ratings based solely on the site, individual tree, and existing conditions at the time of the inventory. Proposed development and construction plans are not considered when assigning ratings. The following criteria constituted the basis of tree placement in a particular category of priority**:**

- **Priority 1:** Highest priority for protection (i.e. particularly good condition, unique tree and/or should be protected at all reasonable cost).
- **Priority 2:** Good or fair condition trees well worth protecting though not uniquely valuable.
- **Priority 3:** Poor condition average tree that will not be missed if it were gone, not worth any special protection measures.
- **Priority 4:** Trees that should be removed under most or any circumstances (i.e., invasive or undesirable species, poor condition or critical trees, particularly high-risk situations, etc.).

Observations

This site is manicured around the house and has a steep slope into a natural unmaintained area toward the northwest. A total of fifteen (15) trees were inspected at the site. Observed onsite were seven (7) good condition trees and eight (8) fair condition trees. According to Mercer Island's exceptional definition onsite there are seven (7) trees. Tree tag # 8036, 8037, 8038, 8039, 8040, 8043, and 8049 have exceptional status.

Tree ID	DSH (in)	Avg Dripline (ft)	Height (ft)	Species	Observations	Condition	MICC Status	Preservation Priority	Maintenance Task	Maintenance Detail
8036	12	6	15	Dogwood *(Cornus spp.)*	Co dominant	Good	Exceptional	2	Small Tree Routine Prune	Structural Prune
8037	40	30	45	Big leaf maple *(Acer macrophyllum)*	5% deadwood, included bark, mechanical damge to roots	Fair	Exceptional	2	Large Tree Routine Prune	Structural Prune
8038	10.3	6	12	Vine maple *(Acer circinatum)*	5% deadwood, multiple trunks	Fair	Exceptional	3	Small Tree Routine Prune	Structural Prune
8039	33	21	81	Western red cedar *(Thuja pilcata)*	Poor location, on slope	Fair	Exceptional	2	Large Tree Routine Prune	Clearance
8040	34	21	81	Western red cedar *(Thuja pilcata)*	Climbing ivy, on slope	Fair	Exceptional	2	Large Tree Routine Prune	Clearance
8042	11	6	24	Cherry spp. *(Prunus spp.)*	Unbalanced crown, 10% deadwood, Canker, co dominant, climbing ivy, on slope	Fair	Grove	3		
8043	23	18	39	Cherry spp. *(Prunus spp.)*	Unbalanced crown, 10% deadwood, Included bark, multiple leaders, Debris on root collar	Fair	Exceptional (Grove)	3		
8044	15	10	48	Western red cedar *(Thuja pilcata)*	On slope	Good	Grove	2		
8045	26	12	70	Western red cedar *(Thuja pilcata)*	5% deadwood, climbing ivy, on slope	Good	Grove	2		

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:
Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Arborist Report

A0.20

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Tree ID	DSH (in)	Avg Dripline (ft)	Height (ft)	Species	Observations	Condition	MICC Status	Preservation Priority	Maintenance Task	Maintenance Detail
8046	11	8	50	Western red cedar *(Thuja pilcata)*	5% deadwood, suppressed, climbing ivy, on slope	Fair	Grove	2		
8047	15	10	70	Douglas fir *(Pseudotsuga menziesii)*	50% deadwood	Fair	Grove	2		
8048	10	8	33	Douglas fir *(Pseudotsuga menziesii)*	5% deadwood, climbing ivy	Good	Not Significant	2		
8049	46	20	78	Big leaf maple *(Acer macrophyllum)*	5% deadwood, Climbing ivy, epicormic shoot, Light fixture attached to tree about 20 feet up	Good	Exceptional	2	Large Tree Routine Prune	Structural Prune
8050	14	10	50	Big leaf maple *(Acer macrophyllum)*	5% deadwood, climbing ivy	Good	Not Significant	2	Large Tree Routine Prune	Structural Prune
9999	24	15	58	Western red cedar *(Thuja pilcata)*	on property line	Good	Not Significant	2		

Analysis & Recommendations

As with most tree preservation planning, a critical element is in minimizing root disturbance. When evaluating tree root disturbance during construction there are two considerations; the removal of absorption roots and the removal of anchoring roots. Removal (or compaction in the area) of the absorption roots can cause immediate water stress and a significant decline in tree health. The ability of a tree to survive the loss of absorption roots is dependent on its tolerance of drought, tree health, and the ability to form new roots quickly. Removal of the larger anchoring roots can lead to structural instability. Trees that suffer substantial root loss or damage are seldom good candidates for preservation.

The Critical Root Zone (CRZ) is considered the ideal preservation area of the root zone of a tree. It is measured as one (1) foot of radius for every inch of trunk diameter measured at 4.5 feet from grade. CRZ measurements are calculated from DSH and may not be an accurate representation of the actual dimensions of the root zone of the trees in the field. Many factors can limit root growth and expansion such as the degree of slope, present hardscape or heavily compacted areas, and/or tree health. Final selections for tree preservation are largely determined by the percentage of Critical Root Zone impacted using a commonly accepted method established by Dr. Kim Coder in Construction Damage Assessments: Trees and Sites[2].

Limits of Disturbance & Timing

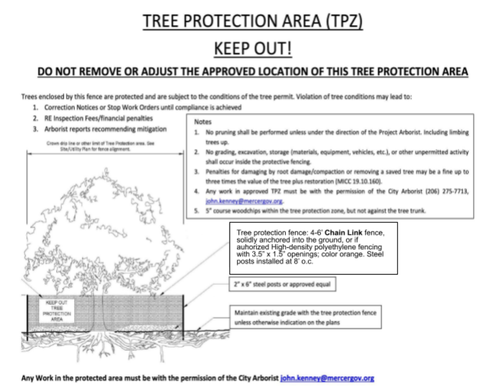
To ensure the long-term viability of trees and stands identified for protection, construction activities shall comply with the minimum required tree protection through established Limits of Disturbance (LOD) for those trees determined to remain on the site.

- LOD fencing will be installed outside the dripline, at a minimum, of all retained trees. It is recommended that LOD fencing be installed to encompass as much of the tree's root zone as is allowable by design plans.
- Preventative measures are recommended in addition to the installation of tree protection barriers for retained trees including mulching over the drip line, supplemental fertilization for stressed trees, supplemental irrigation as necessary, soil amendments and soil aeration, and pruning to remove deadwood or create clearance on trees to be protected.
- Mulch the root zones of all significant trees to be retained during construction with 3" of organic mulch or arborist wood chips to help maintain moisture, avoid soil compaction, and avoid runoff.
- Install tree protection fencing for all remaining significant trees on the site and all those trees with canopies that extend onto the subject property.
- LOD fencing will follow the edge of building/road/paved paths where necessary and is not required to extend to the dripline where impervious surfaces are determined to be the limiting factor for root development (fence following existing curb does not trigger 'impact' status). Tree protection fencing may be installed at the edge of the impermeable or paved surfaces for those trees whose driplines extend over the edge.
- LOD fencing shall be a minimum of 4 feet high, constructed of chain link or polyethylene laminar safety fencing or similar material.

[2] Dr. Kim Coder, University of Georgia June 1996

- "Tree Protection Area - Keep Out" or similar signs are required to accompany the LOD fencing at regular intervals and include the contact information of the consulting arborist or entity responsible for enforcing tree protection standards.
- LODs shall be constructed in such a fashion as to not be easily moved or dismantled.
- LODs shall remain in place for the entirety of the project and only be removed, temporarily or otherwise, with authorization by an ISA-certified arborist after submission and approval of intent.
- Any entry or work within the LOD of retained trees is prohibited. This includes but is not limited to the storage of materials, parking, or contaminating soil by washing out equipment.
- Retain a site arborist for the duration of the project that may conduct periodic site visits to investigate tree protection compliance and any changes to tree condition.

Image 1. An example of the required tree protection barrier signage.



Pre-Development Tree Care

Successful tree preservation efforts begin in the planning and design phase. In order to select the appropriate trees for preservation and then incorporate those trees into future development plans, site managers and designers need detailed information on the health and status of the existing trees. This report satisfies the conditions of the critical first step in the preservation process: a tree inventory, assessment, and analysis conducted by a qualified professional. The resulting findings guide the beginning stages of the preservation process.

Condition rating and preservation priority rating help nominate potential candidates for preservation. Development plans should ensure that no impact or root damage occurs within the inner root zone and plans should take into consideration the significant reduction in the likelihood of tree survival when the root zone is impacted. After individual trees are selected for preservation, the following action steps are recommended prior to development activities:

- **Prune** trees, as necessary, to remove existing deadwood and stubs. This strategy controls potential future vectors of decay. Clean cuts made at branch collars allow the tree to undergo its natural process of compartmentalizing wounds, preventing the spread of decay. During the pruning process, remove as minimal amount of live foliage as possible and no more than 25% removal in any one season while allowing for the safe and unimpeded operation of construction activities.
- **Install Limits of Disturbance** (LOD) fencing out to the furthest possible radius distance from the tree.
- If the soil within the LOD is compacted, then **aerate the soil** using an air spade to alleviate compaction and promote the flow of oxygen and water to the roots.
- **Add a 3-inch layer of mulch** to the portion of the root zone protected by the LOD. Be sure not to cover/bury the tree root collar. Mulch aids the soil in water retention and also helps insulate the soil from hot and cold weather extremes.
- Where possible, **add a 12-inch layer of wood chips** over any parts of a root zone not protected by the LOD. This aids in reducing the impact of soil compaction from heavy equipment during the upcoming construction activities.

Tree Care During Development

Once development begins, several measures are necessary to help ensure optimal outcomes for all trees selected for preservation:

- **Retain a Certified Arborist** on site to monitor activities and assess impacts to trees. The arborist can make as-needed recommendations to improve tree preservation activities throughout the development process. This is particularly important in order to make a timely response when a preserved tree is accidentally damaged or otherwise impacted during development.
- **Signage** instructing site workers not to enter Limits of Disturbance should be posted throughout the job site. Signage should be posted in both English and Spanish as well as any other language as deemed necessary by site managers.
- **Discuss tree protection** regularly at required staff meetings. Reiterate the importance of respecting the Limits of Disturbance as critical to the safety of staff working on site and the success of tree preservation efforts.
- Strictly **enforce** the Limits of Disturbance as "No-Go" zones. No activity, human or machinery, should breach the established LOD.
- **Root prune** where any grading or trenching occurs within the critical root zone.
- Ensure the area within the LOD receives the **weekly watering** equivalent to the amount of average natural rainfall for the specific development site. When the amount of natural rainfall received is less than the historical average, manual watering methods should be employed. The on-site Certified Arborist can make the determination when additional manual watering is necessary.
- **Do not raise or lower the soil grade near the LOD**. A tree relies upon small, non-woody roots called feeder roots for the absorption of water and nutrients. These roots predominantly reside in the upper several inches of soil, just below grade. Lowering the soil grade, even just a few inches, will sever these feeder roots and compromise tree health. Raising the soil above existing grade, such as through the addition of fill soil, buries feeder roots too deep and restricts feeder root access to water and oxygen.

Post-Development

A successful tree preservation effort continues well past the conclusion of development activities:

- The preserved trees should be **re-inspected** for signs of the impact that may have gone undetected during construction and mitigation measures assigned accordingly.
- The preserved trees should be placed on a **seasonal care plan** for two years that includes both monitoring and routine soil inoculation treatments designed to stimulate new root growth.
- Annual monitoring should continue for several years, as the effects of construction may take anywhere from 3 to 7 years to become visibly apparent.

Concluding Remarks

This report, along with the tree inventory, is the first step in preserving the health, function, and value of the trees on the site during and after development. Trees and green spaces provide benefits and add value to residential properties. Tree preservation starts with a basic understanding of the health and structure of the trees on the site. With proper care and protection, these trees can continue to thrive. Tree protection guidelines and strategies should be shared with contractors and employers prior to any disturbance at the site.

The suitability of a tree for preservation is a qualitative process based on the interaction of a variety of influencing factors. A tree inventory and arborist report provides a snapshot in time of each individual tree assessed across many of the most important observable factors relative to preservation. Healthy, vigorous trees better tolerate impacts from construction and more readily adapt to the new site conditions that exist after the completion of development. Additionally, tolerance to impact from construction activities varies across species and sites. The percentage impact on the Limits of Disturbance also greatly influences the suitability of a particular tree for preservation.

Successful tree preservation requires a team effort to find the right balance and select the appropriate trees. Using the findings of this report as a guiding foundation, planners are equipped to design, prepare, and implement a tree preservation plan tailored to achieving the optimal outcome.

Architect of Record
b9 architects
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SDCI Number:
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Professional Stamp

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Arborist Report

A0.21

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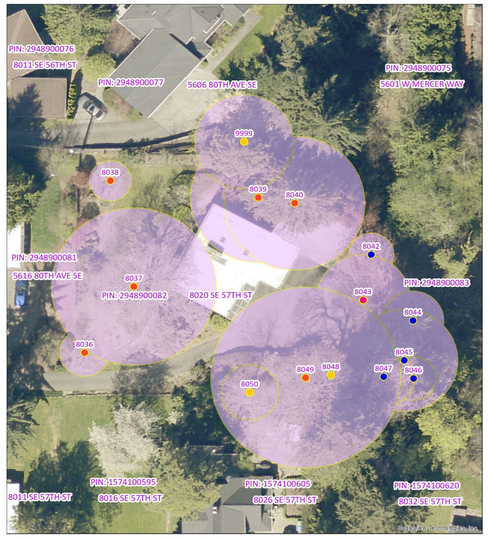
Appendix A: Inventory Site Maps

Map 1- Site map overview showing tree ID number. Aerial photos are only used for reference. Map projections may distort tree canopy size and locations.



TREE INVENTORY

8020 SE 57th St.
Mercer Island, WA
October 2023

Exceptional
Exceptional, Grove
Grove
not-Significant
CRZ

0 10 Feet

N

DAVEY Resource Group

*Aerial imagery is from 2021. Imagery is for reference only.

Appendix B: Site Pictures

Image 2: Tree # 8037 next to the home

Image 3: Tree #8039 and 8040

Image 5: Trees within a Grove

Image 4: Trees 8039 and 8040 showing the proximity to the garage/shed

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Arborist Report

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NE 1/4 OF THE SE 1/4 OF SECTION 24, 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 UTILIITES 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.

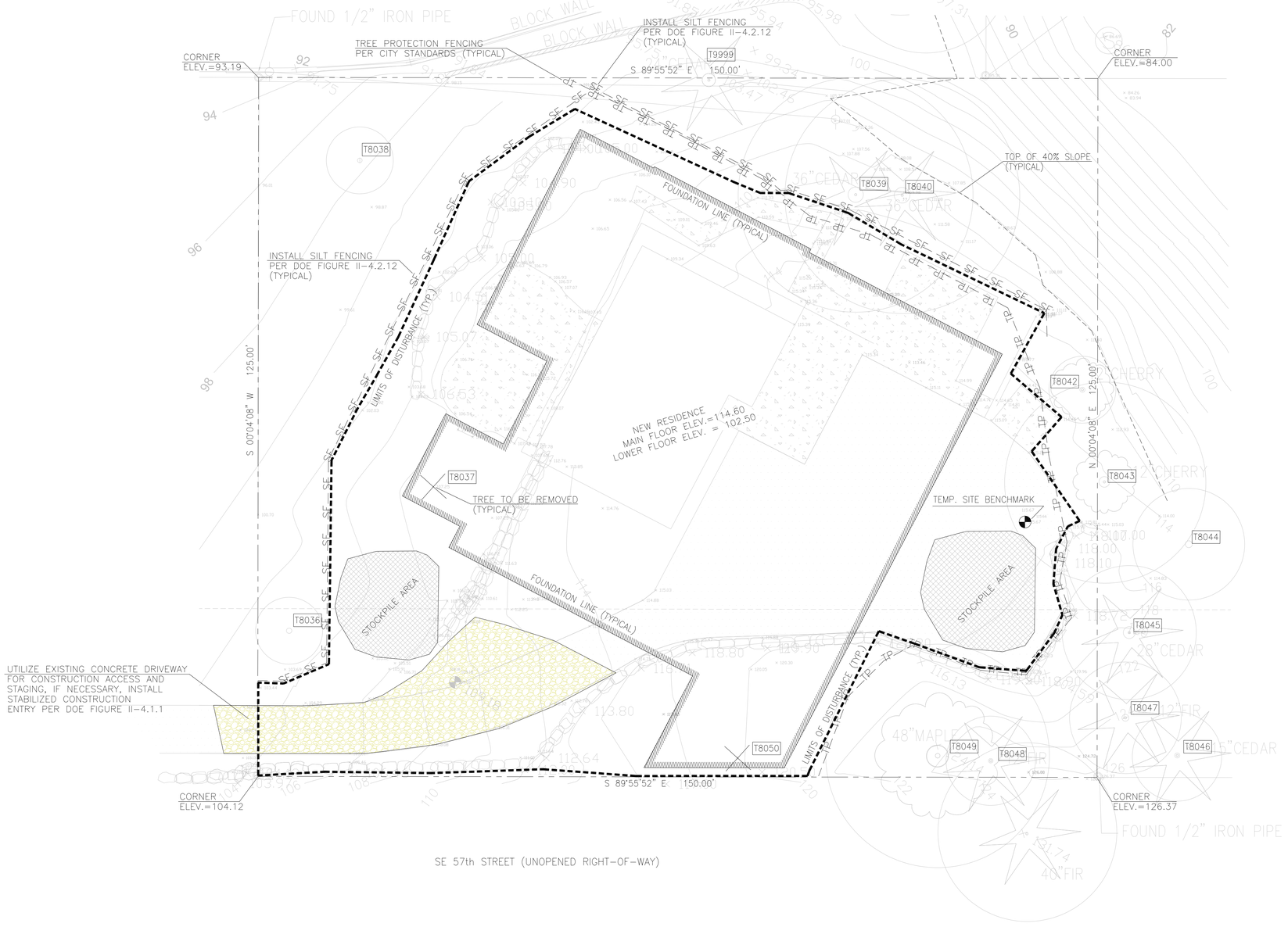
CALL BEFORE YOU DIG: 811

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
- PST POST
- P POWER METER
- POWER (OVERHEAD)
- POWER POLE W/ LIGHT
- REBAR AS NOTED (FOUND)
- REBAR & CAP (SET)
- ROCKERY
- SEWER LINE
- SEWER MANHOLE
- STORM DRAIN LINE
- SIZE TYPE TREE (AS NOTED)
- WATER LINE
- WM WATER METER

BENCH MARK

SITE BENCHMARK
SET PK NAIL IN PARKING LOT OF RESIDENCE
NEAR THE EAST SIDE OF PROPERTY
ELEVATION = 115.67' (NAVD88)



DISTURBANCE ACREAGE: 0.27 ACRES

PROJECT PARCEL NUMBER: 294890-0082
PROJECT ADDRESS: 8020 SE 57th STREET
MERCER ISLAND, WASHINGTON 98040

SECTION/TOWNSHIP/RANGE: 24-24N-04E

TOTAL SITE ACREAGE: 0.4304 ACRES
TOTAL IMPERVIOUS AREA: 6,484 SQUARE FEET

TABLE OF CONTENT

SHEET #	DESCRIPTION
1	CSWPP PLAN
2	STORMWATER SITE PLAN
3	STORMWATER SITE PLAN
4	STORMWATER DETAILS
5	AMENDED SOILS PLAN

GRAPHIC SCALE

0 5 10 20

1 inch = 10 feet

PERMIT #: 24XX-XXX

REV. NO.	DATE	DESCRIPTION

03/14/2024

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DESIGNED BY DLO
DRAWN BY SLS
CHECKED BY DLO

PROJECT 8020 SE 57th Street
CLIENT Vann Lanz Residence
SHEET CONTENT CSWPP Plan

DATE 03/14/2024
JOB NO.
DWG NO.

SHEET 1 OF 5

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

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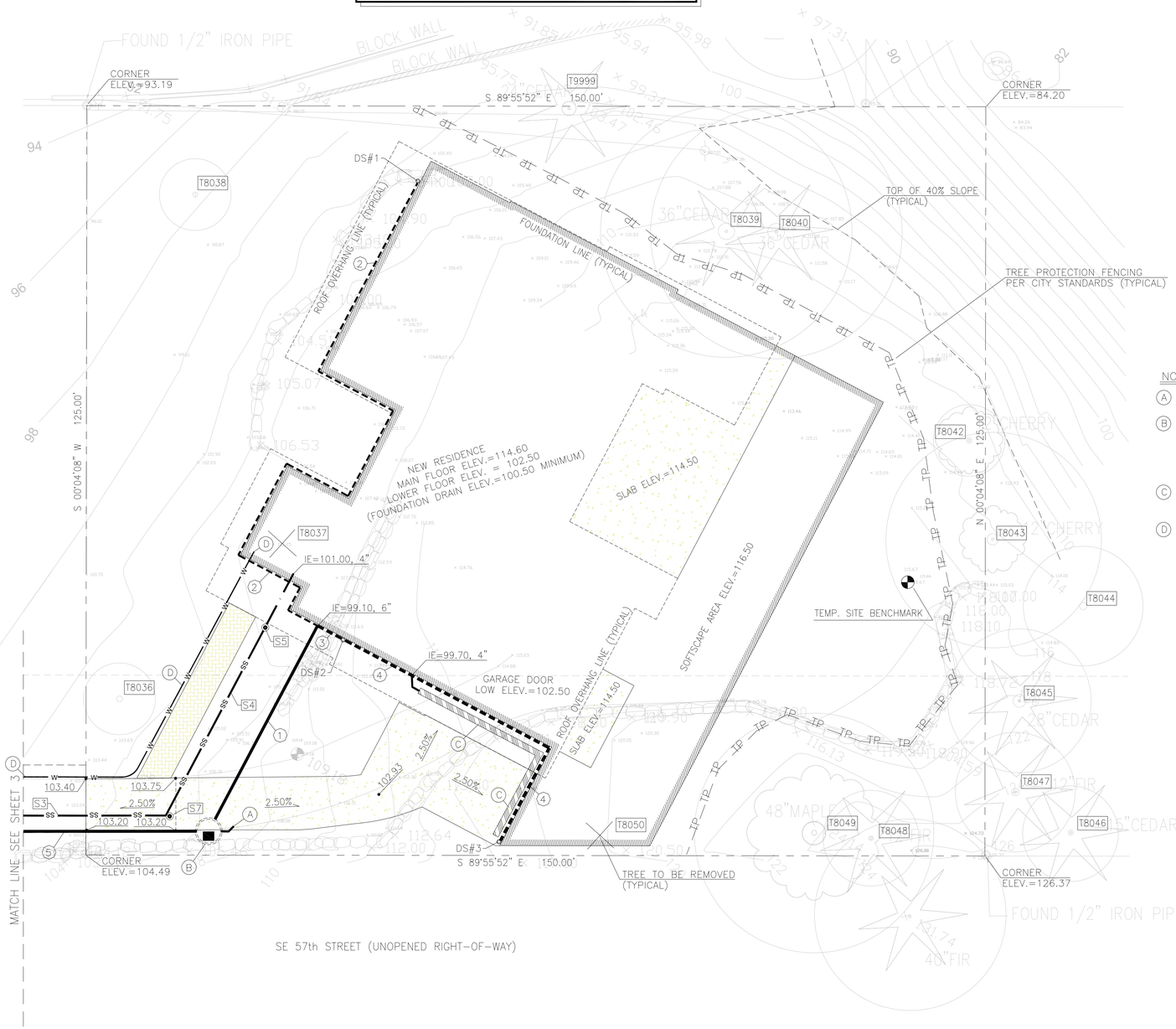
CALL BEFORE YOU DIG: 811

NOTE: CONNECT 4" FOUNDATION DRAIN AT LOCATION SHOWN ON PLANS – ONLY!



LEGEND

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

BENCH MARK

SITE BENCHMARK
SET PK NAIL IN PARKING LOT OF RESIDENCE
NEAR THE EAST SIDE OF PROPERTY
ELEVATION = 115.67' (NAVD88)

NOTES:

(A) 4" FOUNDATION DRAIN CONNECTION
IE=264.43, 8"x4" WYE

(B) CB#1, TYPE II-48"ø
W/SOLID LOCKING FRAME & LID
RIM=103.60
IE=99.00, 4"(E)-FOUNDATION DRAIN CONNECTION
IE=98.36, 6"(NE)
IE=98.36, 6"(W)

(C) 38' SLOT DRAIN
GRATE ELEV.=102.45
IE=101.00, 4"(NW)

(D) INSTALL 1-1/2" METER AND 2" SERVICE LINE
PER CITY OF MERCER ISLAND STANDARD PLAN W-14.

NOTE: CONTRACTOR TO COORDINATE FINAL LOCATION OF NEW METER WITH CITY OF MERCER ISLAND INSPECTOR AT TIME OF CONSTRUCTION

DOWNSPOUT TABLE

DS#1	GROUND=102.50 DOWNSPOUT LINE=101.50, 4"
DS#2	CONCRETE=102.50 DOWNSPOUT LINE=99.25, 6"
DS#3	CONCRETE=102.50 DOWNSPOUT LINE=101.00, 6"

STORM PIPE TABLE

1. 37LF., 6" PVC SDR-35 @ S=2.00%
2. 116LF., 4" PVC SDR-35 @ S=2.00%
3. 5LF., 6" PVC SDR-35 @ S=3.11%
4. 56LF., 6" PVC SDR-35 @ S=3.11%
5. 125LF., 6" PVC SDR-35 @ S=4.35%
6. 65LF., 8" PVC SDR-35 @ S=2.00%

SIDE SEWER NOTES

- S1 41LF., 6" PVC SDR-35 GASKETED SIDE SEWER @ MIN. 2% SLOPE
- S2 100LF., 4" PVC SDR-35 GASKETED SIDE SEWER @ MIN. 2% SLOPE
- S3 63LF., 4" PVC SDR-35 GASKETED SIDE SEWER @ MIN. 2% SLOPE
- S4 45LF., 4" PVC SDR-35 GASKETED SIDE SEWER @ MIN. 2% SLOPE
- S5 4" SEWER CLEANOUT PER CITY STD. DETAIL #S-19
- S6 6" SEWER CLEANOUT PER CITY STD. DETAIL #S-19 W/ TRAFFIC BEARING FRAME & LID
- S7 4" SEWER CLEANOUT PER CITY STD. DETAIL #S-19 W/ TRAFFIC BEARING FRAME & LID

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.

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

IMPERVIOUS SURFACES:
ROOF AREA (UNDER EAVES) = 4,968 SQ. FT.
UNCOVERED DRIVEWAY AREA = 651 SQ. FT.
UNCOVERED WALKWAY = 160 SQ. FT.
UNCOVERED SLAB AREA = 683 SQ. FT.

TOTAL IMPERVIOUS AREAS = 6,462 SQ. FEET

GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

PERMIT #: 24XX-XXX

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RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DESIGNED BY DLO
DRAWN BY SLS
CHECKED BY DLO

PROJECT 8020 SE 57th Street
CLIENT Vann Lanz Residence
SHEET CONTENT Stormwater Site Plan

DATE 03/14/2024
JOB NO.
DWG NO.
SHEET 2 OF 5

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LEGEND

ACU	AIR CONDITION UNIT
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	ASPHALT SURFACE
	BUILDING
	CENTERLINE ROW
	CONCRETE SURFACE
	RETAINING WALL
	ELECTRICAL EASEMENT
	DECK
	FENCE LINE (WOOD)
	GAS LINE
G	GAS METER
HB	HOSE BIB RISER
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	INLET (TYPE 1) (SOLID)
	MONUMENT IN CASE (FOUND)
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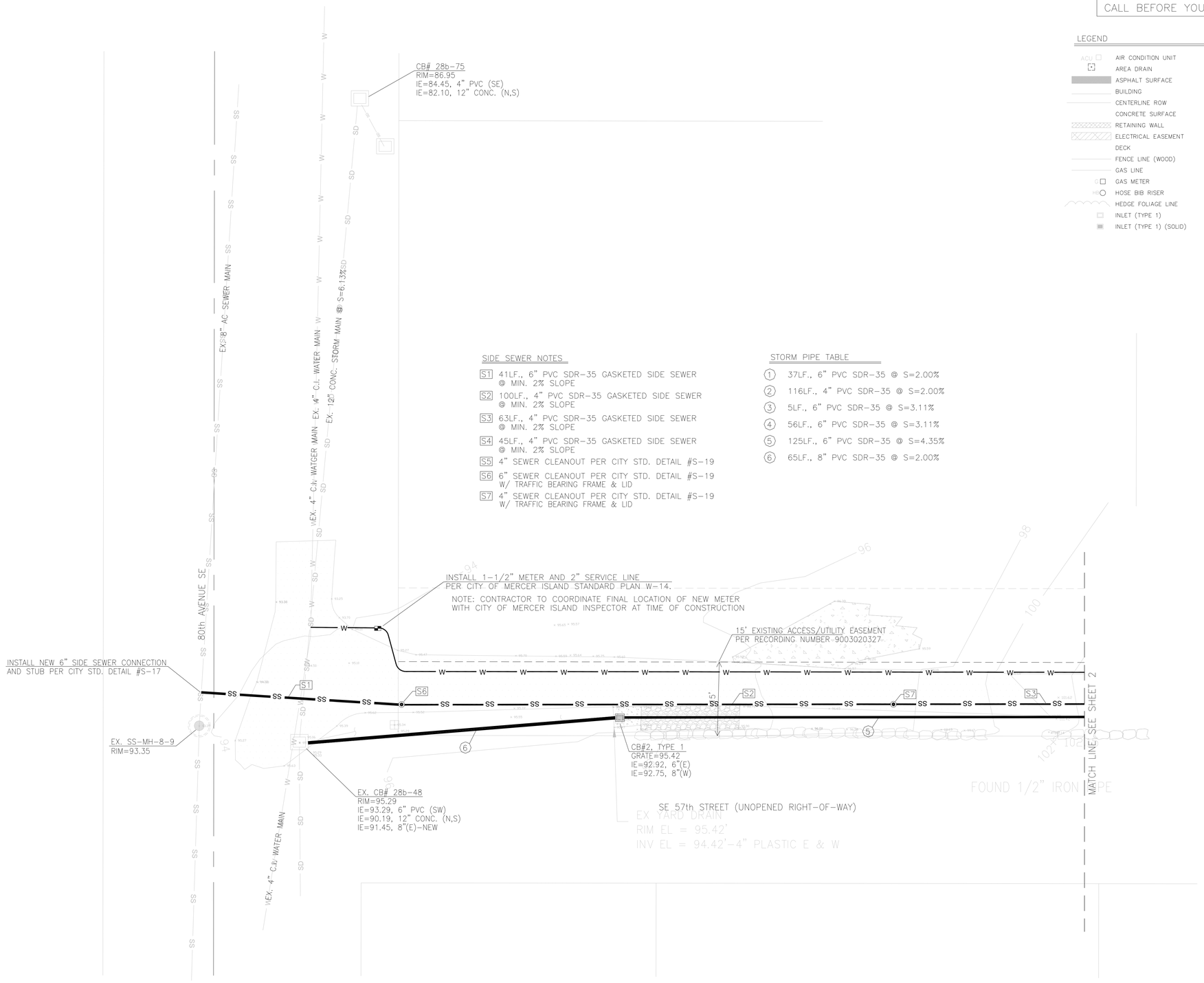
	STORM DRAIN LINE
SIZE TYPE	TREE (AS NOTED)
	WATER LINE
WM	WATER METER



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- S5 4" SEWER CLEANOUT PER CITY STD. DETAIL #S-19
- S6 6" SEWER CLEANOUT PER CITY STD. DETAIL #S-19 W/ TRAFFIC BEARING FRAME & LID
- S7 4" SEWER CLEANOUT PER CITY STD. DETAIL #S-19 W/ TRAFFIC BEARING FRAME & LID

STORM PIPE TABLE

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3	5LF., 6" PVC SDR-35 @ S=3.11%
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0 5 10 20

1 inch = 10 feet

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DESIGNED BY: DLO

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SHEET CONTENT: Stormwater Site Plan

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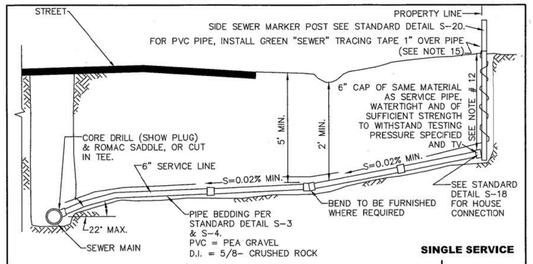
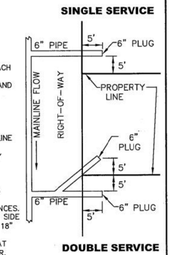


SINGLE SERVICE



DOUBLE SERVICE

NOTES

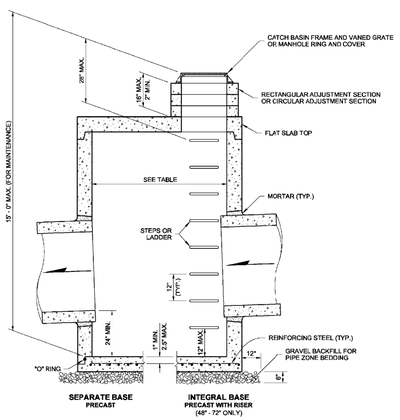
1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-62-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

SIDE SEWER CONNECTION AND STUB

6-5-2009	NO SCALE	S-17

REV DATE | APPROVED



NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification 9-04.3.**

CATCH BASIN DIMENSIONS

CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144*	12"	12"	108"	12"

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ①	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144*	78"	96"	60"	48"	48"

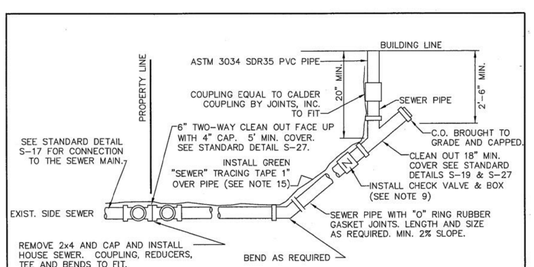
① Corrugated Polyethylene Storm Sewer Pipe **(Standard Specification 9-05.20)**
② **(Standard Specification 9-05.12(1))**
③ **(Standard Specification 9-05.12(2))**

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Pasco Bakotich III 02-07-12
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation



BUILDING CONNECTION

NOTES

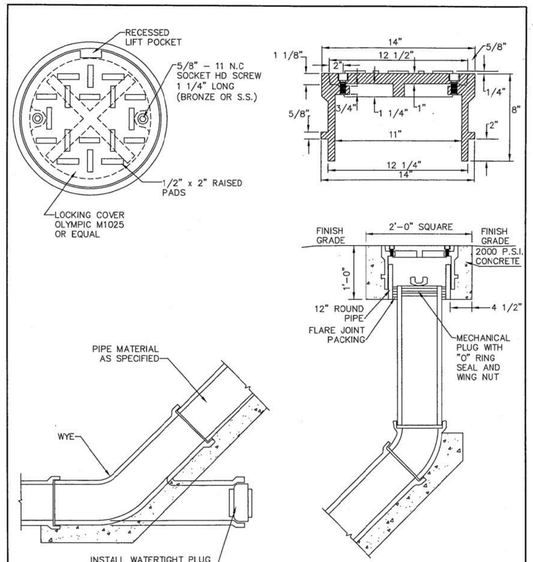
1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT".
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

HOUSE SEWER CONNECTION

6-5-2009	NO SCALE	S-18

REV DATE | APPROVED



FOR PVC PIPE

NOTES

1. SEE S-27 FOR INSTALLATION DETAILS.

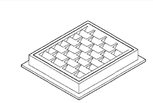
CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

CLEAN OUT DETAIL

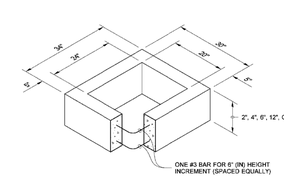
6-5-2009	NO SCALE	S-19

REV DATE | APPROVED

DRAWN BY: FERN LIDDELL



FRAME AND VANED GRATE



RECTANGULAR ADJUSTMENT SECTION

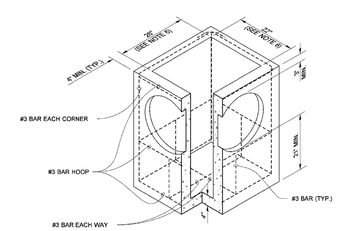
PIPE ALLOWANCES

PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP ★ (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

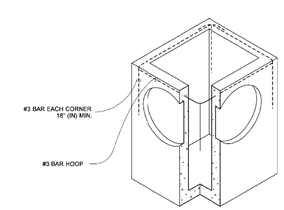
★ CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the **Precast Base Section**.
7. All pickup holes shall be grouted full after the basin has been placed.



PRECAST BASE SECTION



(SEE NOTE 1)
ALTERNATIVE PRECAST BASE SECTION

CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve — Digitally signed by Roark, Steve Date: 2020.05.09 09:45:23 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation

PERMIT #: 24XX-XXX

REV. NO.	DATE	DESCRIPTION

03/14/2024

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DRAWN BY: SLS
CHECKED BY: DLO
DESIGNED BY: DLO

PROJECT: 8020 SE 57th Street
CLIENT: Vann Lanz Residence
SHEET CONTENT: Stormwater Details

DATE 03/14/2024
JOB NO.
DWG NO.

SHEET 4 OF 5

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 UTILIITES 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 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.

AMENDED SOIL MAP

1,048 SQUARE FEET – TURF AREA AMENDED 8" DEEP (26 CU. YDS.)

5,264 SQUARE FEET – PLANTER AREA AMENDED 6" DEEP (114 CU. YDS.)

LEGEND

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

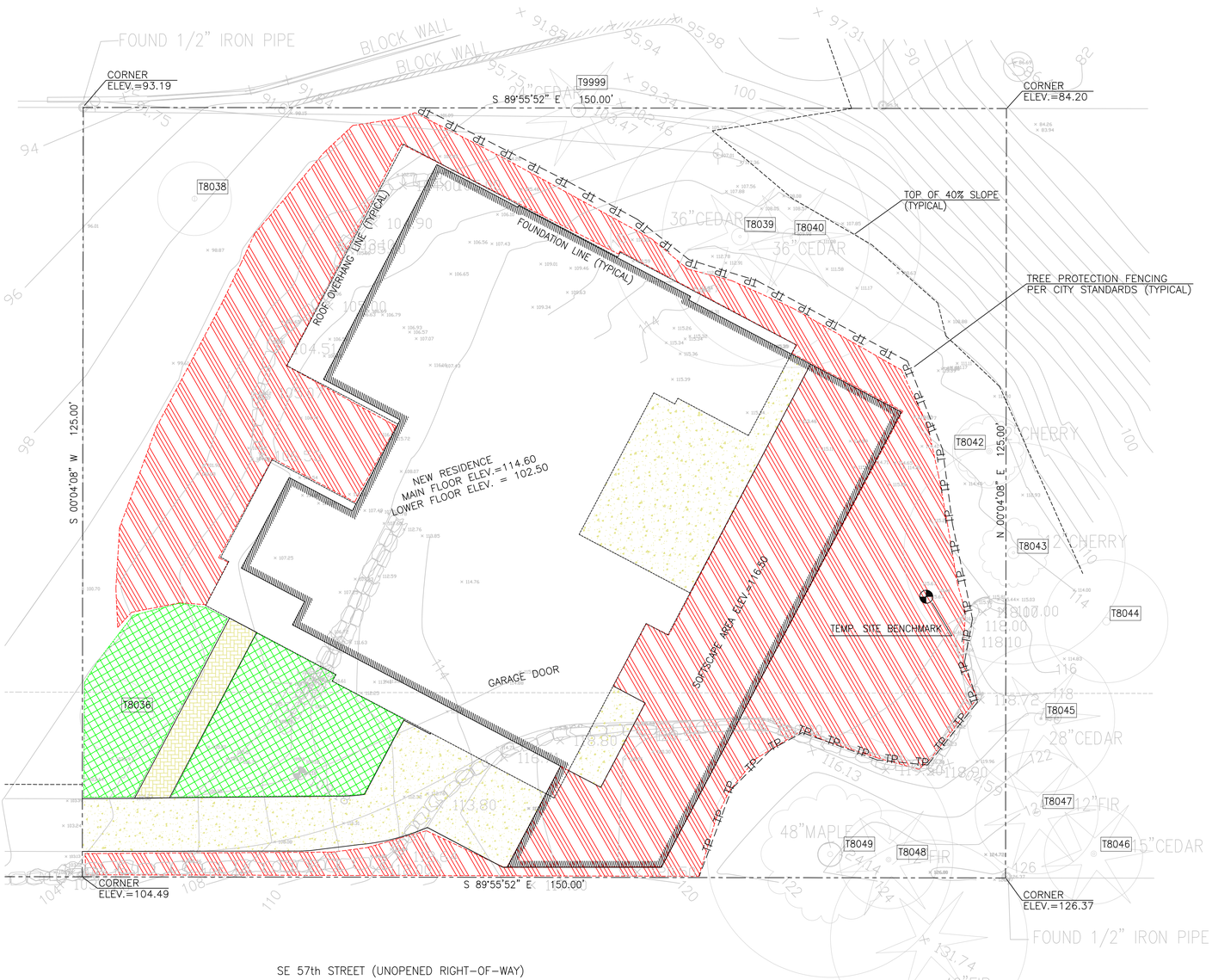
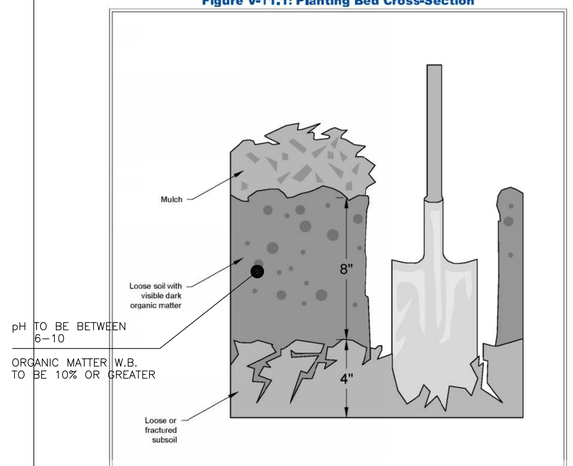


Figure V-11.1: Planting Bed Cross-Section



pH TO BE BETWEEN 6–10

ORGANIC MATTER W.B. TO BE 10% OR GREATER

Reprinted from *Guidelines and Resources For Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington*, 2010, Washington Organic Recycling Council

NOT TO SCALE

DEPARTMENT OF ECOLOGY State of Washington

Planting Bed Cross-Section

Revised June 2016

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2019 Stormwater Management Manual for Western Washington

Volume V - Chapter 11 - Page 930

GRAPHIC SCALE

0 5 10 20

1 inch = 10 feet

PERMIT #: 24XX–XXX

REV. NO.	DATE	DESCRIPTION

DARRELL L. OFFE, JR. STATE OF WASHINGTON 21460 REGISTERED PROFESSIONAL ENGINEER

03/14/2024

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DRAWN BY SLS

CHECKED BY DLO

DESIGNED BY DLO

PROJECT 8020 SE 57th Street

CLIENT Vann Lanz Residence

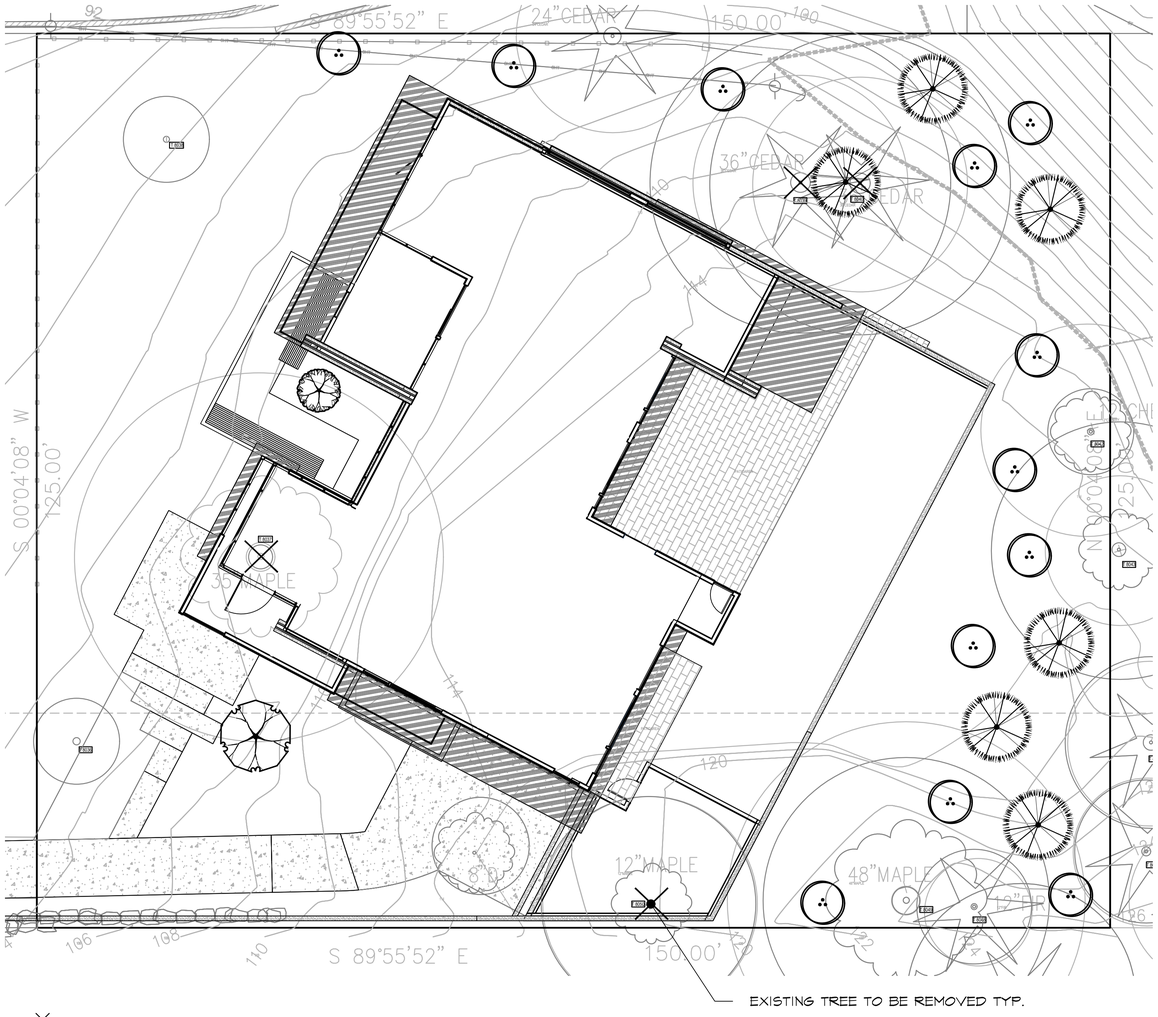
SHEET CONTENT Amended Soil Plan

DATE 02/25/2024

JOB NO.

DWG NO.

SHEET 5 OF 5



NORTH

TREE REPLACEMENT CALCULATIONS

0 10 20 30 feet

SCALE: 1" = 10'

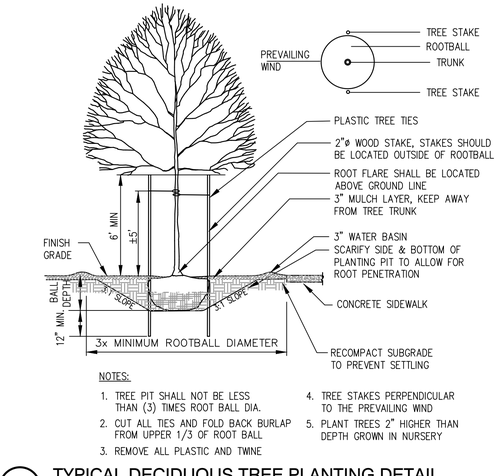
TREE REPLACEMENT CALCULATIONS			
DIAMETER OF REMOVED TREE (MEASURED 4.5' ABOVE GROUND)	TREE REPLACEMENT RATIO	NUMBER OF TREES PROPOSED FOR REMOVAL	NUMBER OF TREES REQUIRED FOR REPLACEMENT BASED ON SIZE/TYPE
LESS THAN 10"	1	0	0
10" UP TO 24"	2	1 (8050)	2
GREATER THAN 24" UP TO 36"	3	0	0
GREATER THAN 36" AND ANY EXCEPTIONAL TREE	6	3 (8037,8039,8040)	18
TOTAL:			20

PLANT SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	SIZE	QTY
TREES			
	Acer circinatum / Vine Maple	3 stem min, 6' Ht	12
	Acer palmatum 'Bloodgood' / Bloodgood Japanese Maple	2" Cal.	1
	Calocedrus decurrens / Incense Cedar	6'-7' Ht.	6
	Stenartia pseudocamellia / Japanese Stenartia	2" Cal.	1

LANDSCAPE NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL OTHER SITE IMPROVEMENTS AND CONDITIONS PRIOR TO STARTING LANDSCAPE WORK.
2. CONTRACTOR SHALL USE CAUTION WHILE EXCAVATING TO AVOID DISTURBING ANY UTILITIES ENCOUNTERED. CONTRACTOR IS TO PROMPTLY ADVISE OWNER OF ANY DISTURBED UTILITIES. LOCATION SERVICE PHONE 1-800-424-5555.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPUTING SPECIFIC QUANTITIES OF GROUND COVERS AND PLANT MATERIALS UTILIZING ON-CENTER SPACING FOR PLANTS AS STATED ON THE LANDSCAPE PLAN AND MINIMUM PLANTING DISTANCES AS SPECIFIED BELOW IN THESE NOTES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE QUANTITIES OF PLANTS THAT ARE REPRESENTED BY SYMBOLS ON THE DRAWINGS.
5. SUBGRADE IS TO BE WITHIN $\frac{1}{10}$" OF ONE FOOT AS PROVIDED BY OTHERS. ALL PLANTING AREAS TO BE CLEARED OF ALL CONSTRUCTION MATERIAL AND ROCKS AND STICKS LARGER THAN 2" DIAMETER.
6. IMPORT 8 INCHES OF COMPOST AMENDED TOPSOIL (25% COMPOST FOR TURF AREAS; 40% COMPOST FOR PLANTING BEDS). SCARIFY SUBSOIL 4" TO INCORPORATE WHERE FEASIBLE WITHOUT IMPACTING TREE ROOTS.
7. 2" DEPTH ORGANIC MULCH IN ALL BED AREAS.
8. ALL PLANT MATERIAL SHALL BE FERTILIZED WITH AGRO TRANSPLANT FERTILIZER 4-2-2 PER MANUFACTURER'S SPECIFICATIONS.
9. ALL PLANT MATERIAL SHALL CONFORM TO AAN STANDARDS FOR NURSERY STOCK, LATEST EDITION. ANY REPLACEMENTS MADE AT ONCE.
   - 9.A. GENERAL: ALL PLANT MATERIAL FURNISHED SHALL BE HEALTHY REPRESENTATIVES, TYPICAL OF THEIR SPECIES OF VARIETY AND SHALL HAVE A NORMAL GROWTH HABIT. THEY SHALL BE FULL, WELL BRANCHED, WELL PROPORTIONED, AND HAVE A VIGOROUS, WELL DEVELOPED ROOT SYSTEM. ALL PLANTS SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT.
   - 9.B. TREES, SHRUBS, AND GROUND COVER: QUANTITIES, SPECIES, AND VARIETIES, SIZES AND CONDITIONS AS SHOWN ON THE PLANTING PLAN. PLANTS TO BE HEALTHY, VIGOROUS, WELL FOLIATED WHEN IN LEAF. FREE OF DISEASE, INJURY, INSECTS, DECAY, HARMFUL DEFECTS, AND ALL WEEDS. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM LANDSCAPE ARCHITECT OR OWNER.
10. ALUMINUM EDGING, PERMALOC OR APPROVED EQUAL, TO BE INSTALLED BETWEEN BARK AND COBBLE.

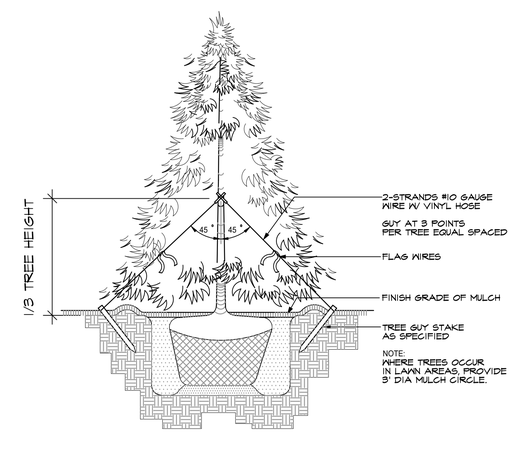


NOTES:

1. TREE PIT SHALL NOT BE LESS THAN (3) TIMES ROOT BALL DIA.
2. CUT ALL TIES AND FOLD BACK BURLAP FROM UPPER 1/3 OF ROOT BALL
3. REMOVE ALL PLASTIC AND TWINE
4. TREE STAKES PERPENDICULAR TO THE PREVAILING WIND
5. PLANT TREES 2" HIGHER THAN DEPTH GROWN IN NURSERY

1 TYPICAL DECIDUOUS TREE PLANTING DETAIL

NTS



2 TYPICAL EVERGREEN TREE PLANTING DETAIL

NTS

Root of Design
206.491.9545
2020 Maltby Rd
Ste 7, PMB 370
Bothell, WA 98021
www.rootofdesign.com

STATE OF WASHINGTON
DEVIN AGEE
LICENSED NO. 1222 EXP. 01/29/2025
LICENSED LANDSCAPE ARCHITECT

Devin Agee

PROJECT TITLE

LANDSCAPE PLAN

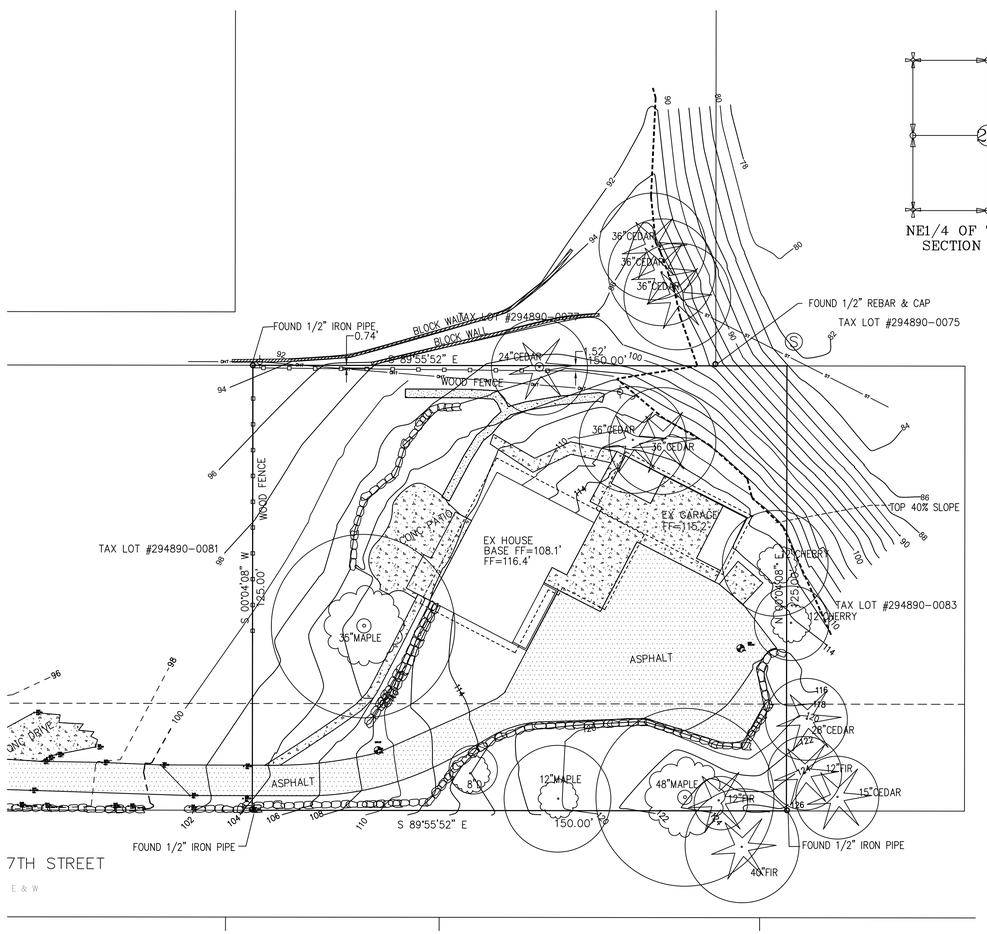
8020 SE 57TH ST SEATTLE, WA

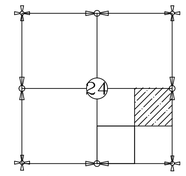
DRAWN	DATE
KJ	03.12.24
REVISED	DATE

1"=10'-0"

L1

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





NE1/4 OF THE SE 1/4
SECTION 24-24-4

N

0' 20' 40'

AREA = 18,750 SQ. FT. OR 0.43 ACRES +/-
BASIS OF BEARINGS IS SOUTH LINE OF PROPERTY
KING COUNTY PARCEL NO. 294890-0082

LEGEND

- CB (TYPE 1)
- STMH (TYPE 11)
- SANITARY SEWER MH
- WATER VALVE
- WATER METER/SERVICE
- FIRE HYDRANT
- UTILITY POLE
- GUY WIRE
- SIGNAL CABINET
- POWER JUNCTION BOX
- LIGHT POLE
- GAS VALVE
- POWER VAULT
- POWER PEDESTAL
- ASPHALT ROAD
- CONCRETE
- STREAM
- TELEPHONE VAULT
- TELEPHONE CABINET
- SIGN
- CONIFER TREE W/ DRIPLINE
- DECIDUOUS TREE W/DRIPLINE
- MONITORING WELL
- MAIL BOX
- PK NAIL
- MON IN CASE/
- EX REBAR / PIPE AS NOTED

LEGAL DESCRIPTION

THE EAST 10 FEET OF LOT 19,AND LOTS 20 THROUGH 22, INCLUSIVE AND THE WEST 20 FEET OF LOT 23, BLOCK 7, GROVELAND PARK, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 7 OF PLATS, PAGE 48, RECORDS OF KING COUNTY, WASHINGTON.

TOGETHER WITH THE VACATED BENNET STREET THEROF

SITUATE IN THE CITY OF SEATTLE, COUNTY OF KING, STATE OF WASHINGTON.

TAX PARCEL – 294890-0082

ADDRESS
8020 SE 57th STREET
MERCER ISLAND, WA 98040

SURVEYOR'S NOTES

1. INSTRUMENTATION FOR THIS SURVEY WAS A FOCUS 35 5 SECOND TOTAL STATION. PROCEDURES USED IN THIS SURVEY WERE FIELD TRAVERSE, MEETING OR EXCEEDING STANDARDS SET BY WAC 332-130-090.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN JULY 2023, AND SHOWS THE GENERAL CONDITION

BENCH MARK

SITE BENCHMARK
SET PK NAIL IN PARKING LOT OF RESIDANCE
NEAR THE EAST SIDE OF PROPERTY
ELEVATION = 115.67' (NAVD88)

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

DAN M. TOUMA
STATE OF WASHINGTON
38992
REGISTERED
PROFESSIONAL LAND SURVEYOR
2/14/24

BOUNDARY SURVEY
FOR
TAX LOT 294890-0082
8020 SE 57th STREET, MERCER ISLAND, WA 98040

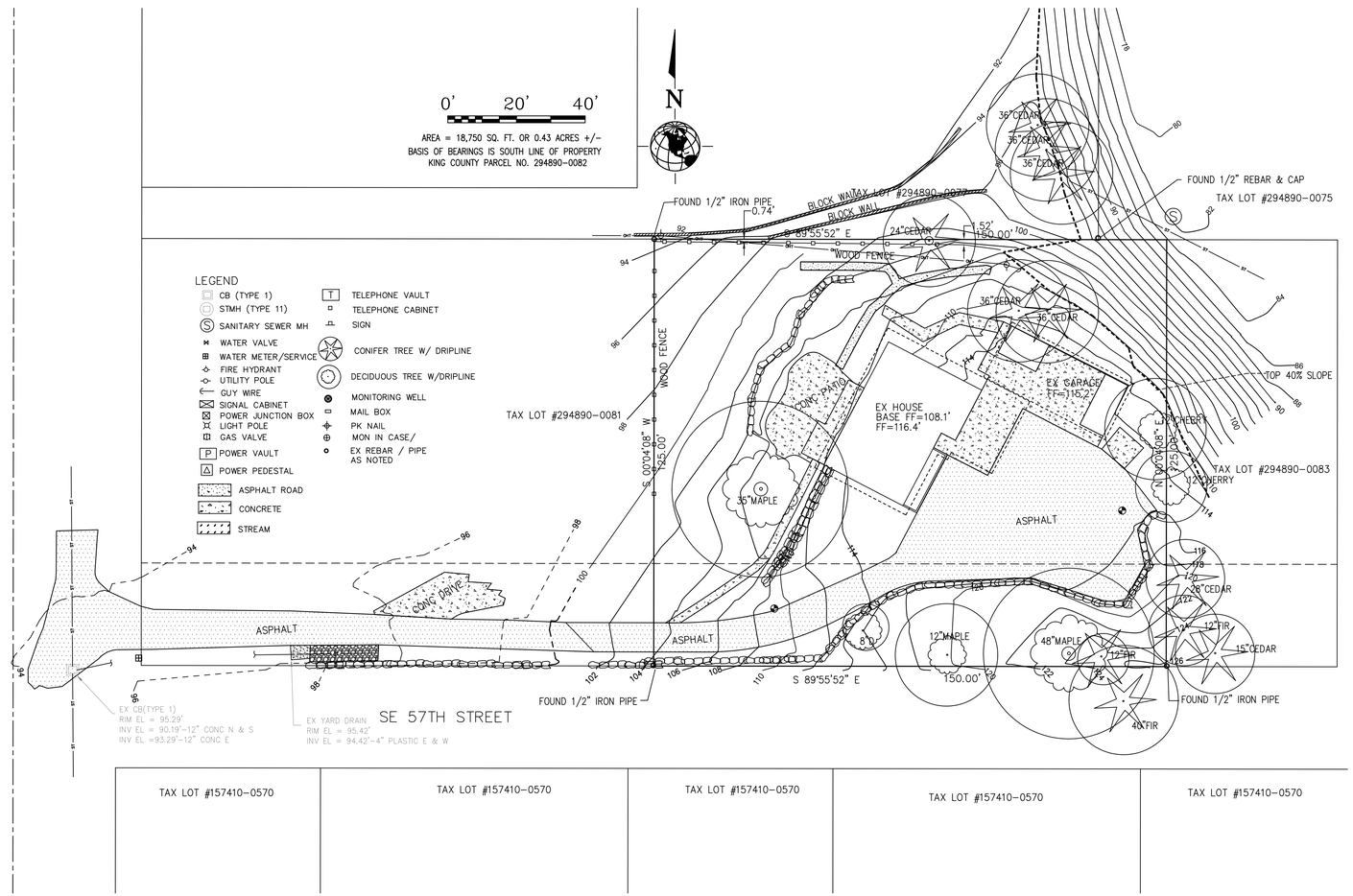
DWN BY RF	DATE 2/14/24	JOB NO. 1019-008
CHKD BY DMT	SCALE 1" = 20'	SHEET 1 OF 2

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

Survey

A1.00.a

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



TAX LOT #157410-0570	TAX LOT #157410-0570	TAX LOT #157410-0570	TAX LOT #157410-0570	TAX LOT #157410-0570

DAN M. TOUMA
STATE OF WASHINGTON
38992
REGISTERED
PROFESSIONAL LAND SURVEYOR
2/14/24

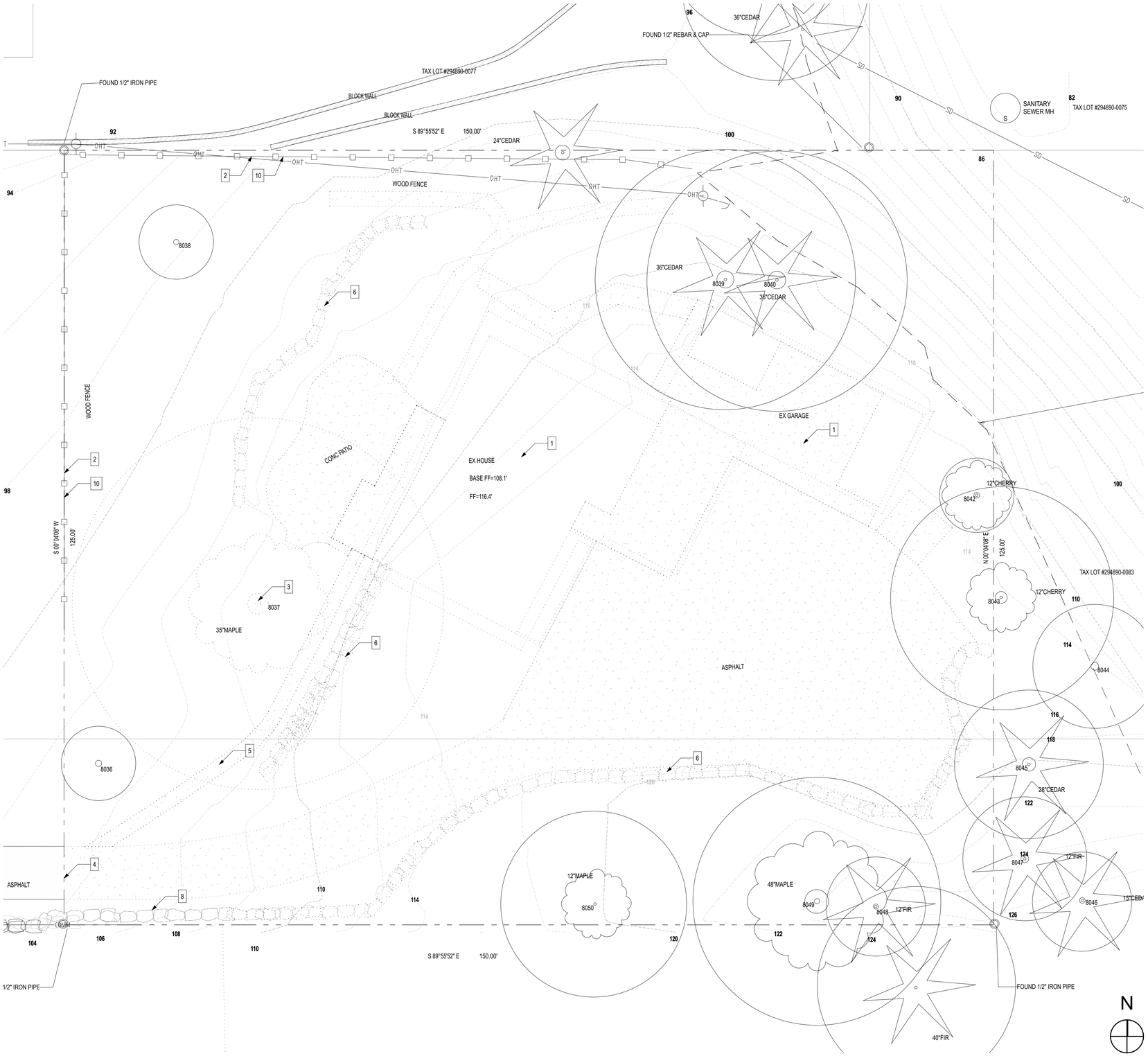
BOUNDARY SURVEY
FOR
TAX LOT 294890-0082
8020 SE 57th STREET, MERCER ISLAND, WA 98040

DWN BY RF	DATE 2/14/24	JOB NO. 1019-008
CHKD BY DMT	SCALE 1" = 20'	SHEET 2 OF 2

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

Survey

A1.00.b



1 DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

DEMOLITION PLAN LEGEND

- - - - - - - - - - EXISTING STRUCTURE TO BE DEMOLISHED

- - - - - - - - EXISTING TREE TO BE REMOVED

DEMO PLAN NOTES

1. EXISTING STRUCTURE TO BE DEMOLISHED
2. EXISTING FENCE TO BE DEMOLISHED
3. EXISTING TREE TO BE REMOVED, TYP. REFER TO ARBORIST REPORT, REFER TO A1.10
4. EXISTING DRIVEWAY TO REMAIN
5. EXISTING SITE WALL TO BE DEMOLISHED
6. EXISTING ROCKERY TO BE DEMOLISHED
7. EXISTING WALKWAY AND STAIRS TO BE DEMOLISHED
8. EXISTING ROCKERY TO REMAIN
9. EXISTING SITE WALL TO REMAIN
10. EXISTING FENCE TO REMAIN

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:

Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Demolition Plan

A1.01

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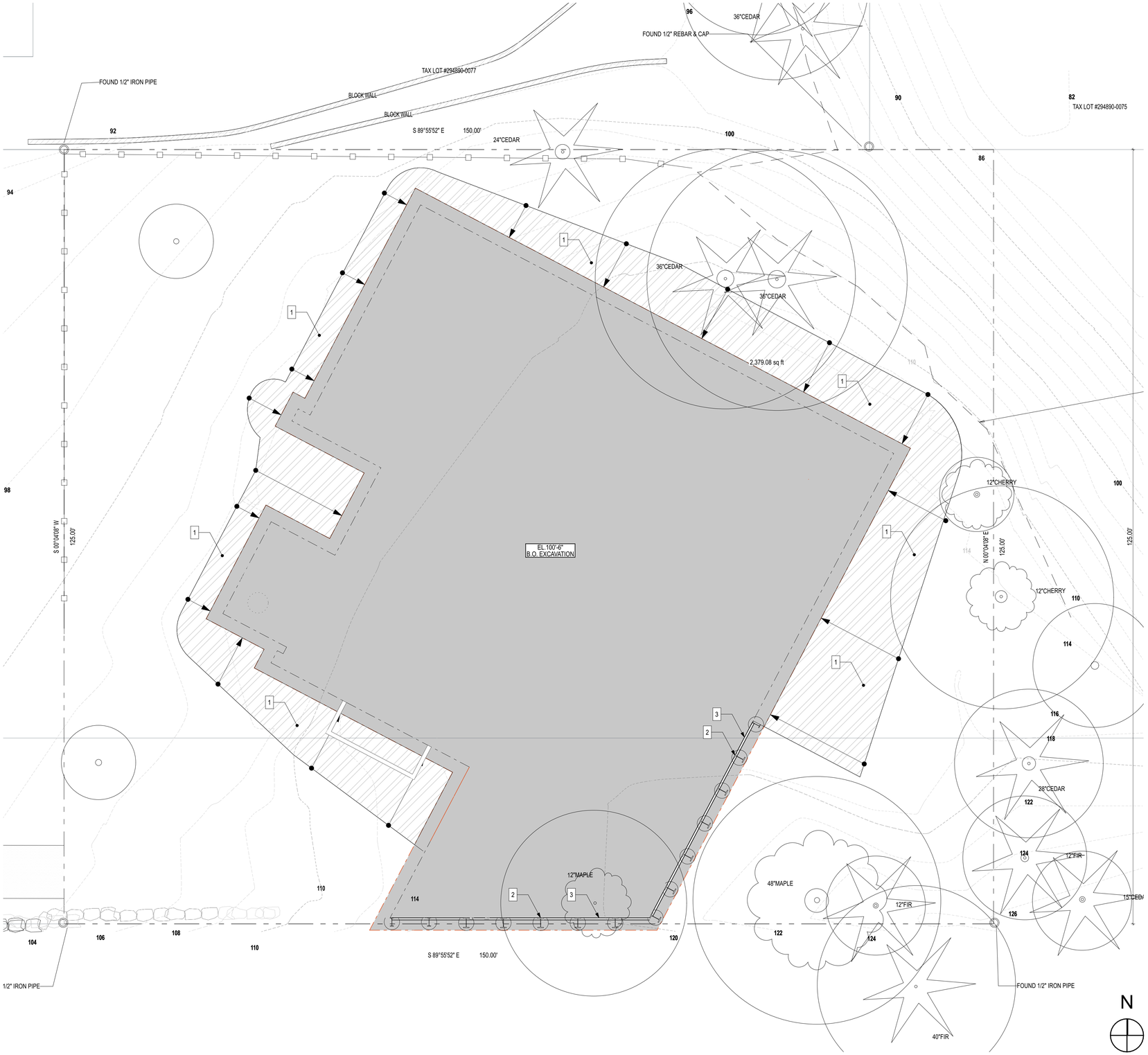

2 EXCAVATION PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

EXCAVATION PLAN LEGEND

- 1:1 CUT TO FIRM SOIL
- BOTTOM OF EXCAVATION TO BE AT FIRM SOIL. WHERE NECESSARY, SEE NOTES ABOVE
- OUTLINE OF STRUCTURE AT GRADE
- DIRECTION OF CUT

EXCAVATION PLAN NOTES

1. PROVIDE 1:1 CUT TO BEARING
2. PROVIDE SOLDIER PILE SHORING PER STRUCTURAL DRAWINGS AT VERTICAL CUT PER GEOTECHNICAL REPORT.
3. PROVIDE TIMBER LAGGING PER STRUCTURAL DESIGN AND AS RECOMMENDED BY GEOTECHNICAL. REFER TO STRUCTURAL DRAWINGS AND GEOTECHNICAL REPORT.

Architect of Record

b9 architects

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MERCER ISLAND, WA 98040

SDCI Number:

Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KINOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Excavation Plan

A1.02

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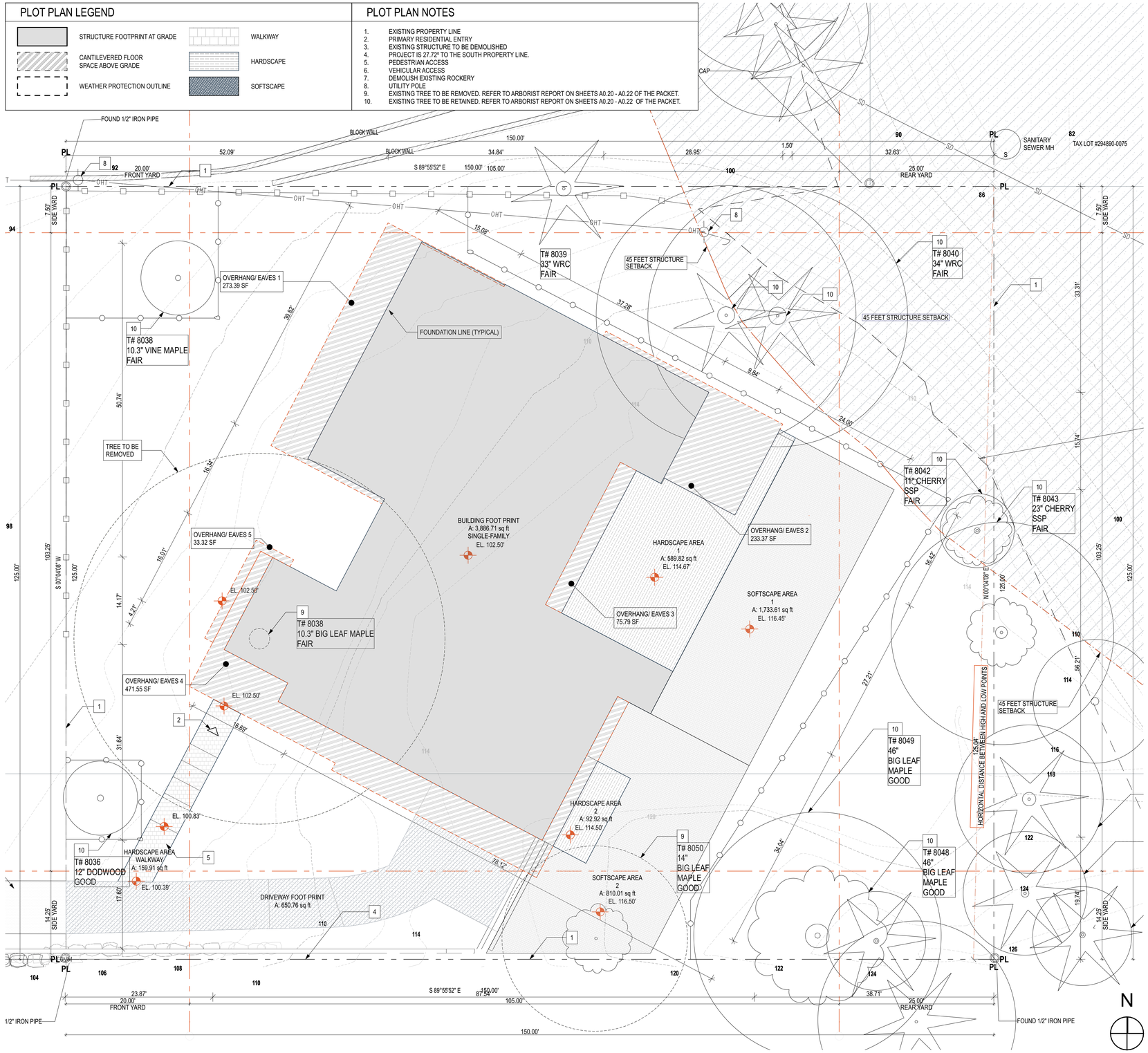
PLOT PLAN LEGEND

- STRUCTURE FOOTPRINT AT GRADE
- CANTILEVERED FLOOR SPACE ABOVE GRADE
- WEATHER PROTECTION OUTLINE
- WALKWAY
- HARDSCAPE
- SOFTSCAPE

PLOT PLAN NOTES

1. EXISTING PROPERTY LINE
2. PRIMARY RESIDENTIAL ENTRY
3. EXISTING STRUCTURE TO BE DEMOLISHED
4. PROJECT IS 27.72' TO THE SOUTH PROPERTY LINE.
5. PEDESTRIAN ACCESS
6. VEHICULAR ACCESS
7. DEMOLISH EXISTING ROCKERY
8. UTILITY POLE
9. EXISTING TREE TO BE REMOVED. REFER TO ARBORIST REPORT ON SHEETS A0.20 - A0.22 OF THE PACKET.
10. EXISTING TREE TO BE RETAINED. REFER TO ARBORIST REPORT ON SHEETS A0.20 - A0.22 OF THE PACKET.



1 SITE PLAN
SCALE: 1/8" = 1'-0"

PROJECT SUMMARY

ADDRESS:	8020 SE 57TH STREET MERCER ISLAND, WA 98040
OWNER:	LNL BUILDS 8015 SE 60th ST MERCER ISLAND, WA 98040
ARCHITECT:	b9 ARCHITECTS, INC. 610 2ND AVENUE SEATTLE, WA 98104 TEL. 206.297.1284
LEGAL DESCRIPTION:	THE EAST 10 FEET OF LOT 19, AND LOTS 20 THROUGH 22, INCLUSIVE, AND THE WEST 20 FEET OF LOT 23, BLOCK 7, GROVELAND ARK, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME7 OF PLATS, PAGE 48, RECORDS OF KING COUNTY, WASHINGTON TOGETHER WITH THE VACATED BENNET STREET THEREOF SITUATED IN THE CITY OF SEATTLE, COUNTY IF KING, STATE OF WASHINGTON.
APN:	294890-0082
PROJECT DESCRIPTION:	CONSTRUCT A NEW TWO-STORY SINGLE-FAMILY RESIDENCE WITH A BELLOW GRADE BASEMENT AND GARAGE
CMI PROJECT #:	#CITY OF MERCER ISLAND CN#, #CITY OF MERCER ISLAND DM#,

ZONING SUMMARY

ZONE	R-15
TOTAL LOT AREA	18,750 SF | 0.43 ACRES
YARDS:	MICC 19.02.020.C **FRONT**: 20 FT MIN. **SIDE**: FOR LOTS WITH A LOT WIDTH OF MORE THAN 90 FEET, THE SUM OF THE SIDE YARDS' WIDTH SHALL BE A WIDTH THAT IS EQUAL TO AT LEAST 17 PERCENT OF THE LOT WIDTH. MINIMUM SIDE YARD WIDTH. THE MINIMUM SIDE YARD WIDTH IS FIVE FEET OR 33 PERCENT OF THE AGGREGATE SIDE YARD TOTAL WIDTH, WHICHEVER IS GREATER. MINIMUM SIDE YARD REQUIRED: 21.25 FEET X .33 = 7.0125 FEET NORTHSIDE YARD = 7'-6" SOUTH SITE YARD = 21.25 FEET - 7.0125 FEET = 14.2375 FEET = 14'-3" **REAR:** 25 FT
LOT COVERAGE ALLOWED:	**30% MAX: 18,750SF x 0.30 = 5,625 SF**
LOT COVERAGE PROVIDED:	
LOT SLOPE	**EL. 126' - EL. 84' = 42'; 42.00' ÷ 125.04' = 0.335 = 34%**
HARDSCAPE	**9% OF THE NET LOT AREA: 18,750 x 9% = 1,687.5 SF** **5,725.63**
LANDSCAPE	**70% REQUIRED PER MICC 19.02.020.F.3**
ALLOWABLE GROSS FLOOR AREA	R-15: 12,000 SF OR 40% OF THE LOT AREA, WHICHEVER IS LESS **18,750 sf x 40% = 7,500**
PROVIDED GROSS FLOOR AREA	**sf**
HEIGHT RESTRICTION	MICC 19.02.020.E HEIGHT LIMIT: 30 FT
AVERAGE BUILDING ELEVATION *CALCULATIONS ON SHEET A0.11*	**108'- 0"**
MAX BUILDING HEIGHT BUILDING HEIGHT	108'-0" + 30'-0" = **138'-0"** 107'-11"
PARKING REQUIRED	3 (AT LEAST 2 COVERED)
TREE REQUIREMENTS	**REFER TO ARBORIST REPORT ON SHEETS A0.20-A0.22** REMOVAL OF EXCEPTIONAL TREES WITH A DIAMETER OF 24 INCHES OR MORE SHALL BE LIMITED TO THE FOLLOWING CIRCUMSTANCES: A. RETENTION OF AN EXCEPTIONAL TREE(S) WITH A DIAMETER OF 24 INCHES OR MORE WILL RESULT IN AN UNAVOIDABLE HAZARDOUS SITUATION; ORB. RETENTION OF AN EXCEPTIONAL TREE(S) WITH A DIAMETER OF 24 INCHES OR MORE WILL LIMIT THE CONSTRUCTIBLE GROSS FLOOR AREA TO LESS THAN 85 PERCENT OF THE MAXIMUM GROSS FLOOR AREA ALLOWED UNDER CHAPTER 19.02 MICC.

REFER TO THE LOT COVERAGE DIAGRAM AND CALCULATIONS ON SHEET A0.10 TO REFERENCE THE AREAS LISTED BELOW

LOT COVERAGE CHARGEABLE AREAS		HARDSCAPE AND SOFTSCAPE LOT COVERAGE EXEMPT AREAS		
	AREA			AREA
BUILDING FOOT PRINT	3,886.71	HARDSCAPE AREA	1	589.82
DRIVEWAY FOOT PRINT	650.76	HARDSCAPE AREA	2	92.92
OVERHANG/ EAVES 1	273.39	HARDSCAPE AREA	WALKWAY	159.91
OVERHANG/ EAVES 2	233.37	**TOTAL**		842.65 ft²
OVERHANG/ EAVES 3	75.79	SOFTSCAPE AREA	1	1,733.61
OVERHANG/ EAVES 4	471.55	SOFTSCAPE AREA	2	810.01
OVERHANG/ EAVES 5	33.32	**TOTAL**		2,543.62 ft²
TOTAL	**5,624.89 ft²**	**TOTAL**		**3,386.27 ft²**

Architect of Record

b9 architects

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Project:

LANZ RESIDENCE

Location:

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MERCER ISLAND, WA 98040

SDCI Number:
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8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Site Plan

A1.10

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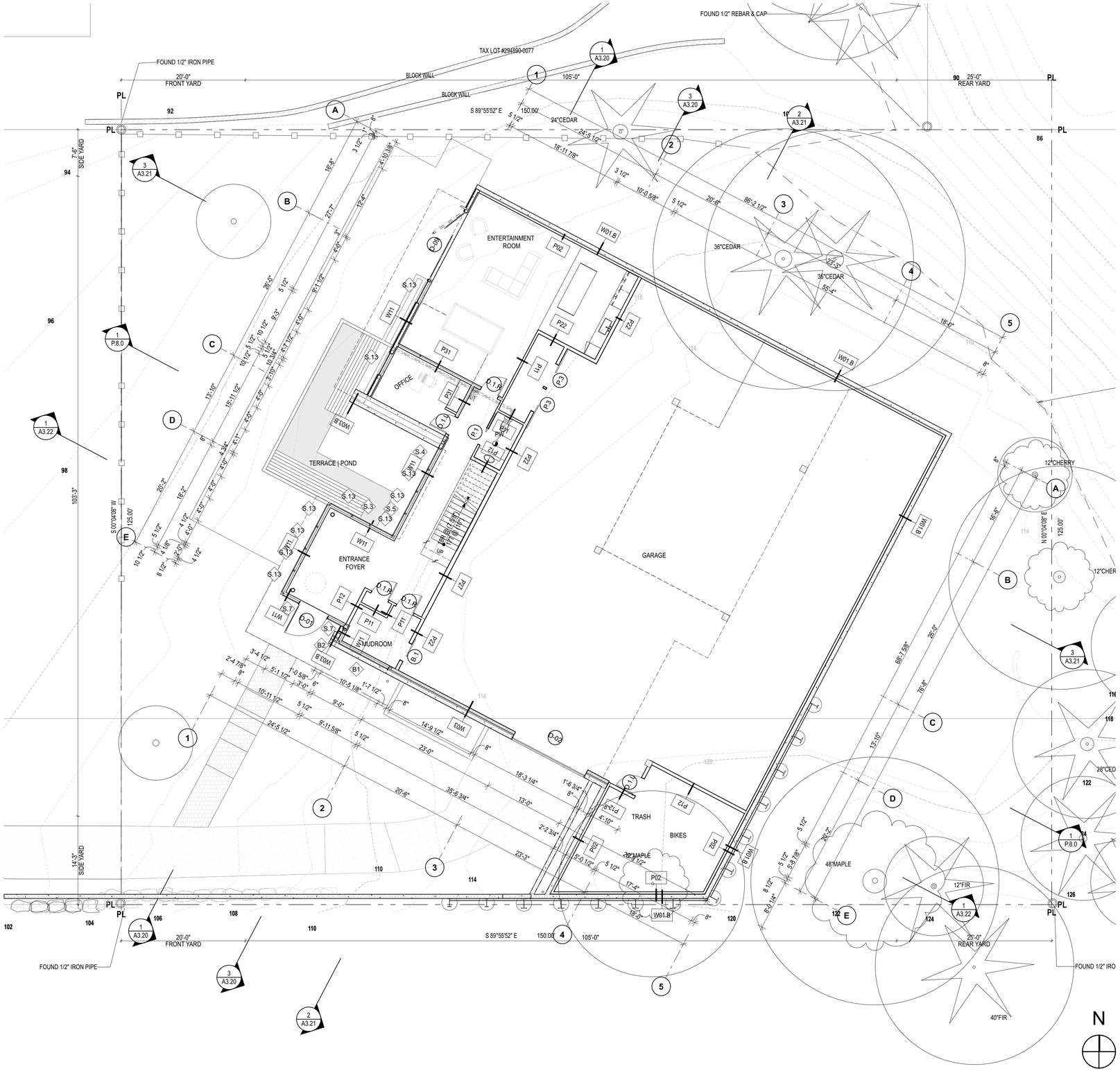


1 GROUND FLOOR/BASEMENT

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

PLAN NOTES

1. PROPERTY LINE
2. ROOF/DECK ABOVE
3. PEDESTRIAN ACCESS
4. NOT USED
5. STRUCTURE ABOVE, TYP
6. STRUCTURE BELOW, TYP
7. PROVIDE WHOLE HOUSE EXHAUST FAN WITH A NOISE RATING OF SONE 1.0 OR LESS THAT MEETS THE REQUIREMENTS OF IRC M1505.4. SEE A0.00 WHOLE HOUSE VENTILATION NOTE.
8. PROVIDE ENVIRONMENTAL AIR EXHAUST OUTLETS AT FAN LOCATIONS. THEY SHALL BE PROVIDED A MIN OF 3 FEET FROM OPERABLE OPENINGS INTO THE BUILDING AND PROPERTY LINES PER IRC M1504.3.
9. PER IRC TABLE M1505.4.4(1), AT KITCHENS, PROVIDE 100 CFM LOCAL EXHAUST FAN AT 0.25 W.G. OR GREATER, TO RUN INTERMITTENTLY.
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY. DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
11. PROVIDE HANDRAIL AT 34" - 38" ABOVE TREAD PER IRC R311.7.8.1, 1 1/4" MIN - 1 1/2" MAX GRASP DIMENSION PER IRC R311.7.8.5, 1 1/2" CLEARANCE BETWEEN WALL AND HANDRAIL PER IRC R311.7.8.3 AND CONTINUITY PER R311.7.8.4, TYP.
12. NOT USED
13. PROVIDE 6'-8" MIN VERTICAL CLEARANCE TO FINISH AT ALL STAIRS PER IRC R311.7.2, TYP.
14. PER IRC R302.7, PROVIDE MIN 1/2" GYPSUM BOARD BENEATH STAIR AT ACCESSIBLE SPACE, TYP.
15. MIN 5/8" EXTERIOR TYPE 'X' GYPSUM WALLBOARD SEPARATING GARAGE FROM HABITABLE SPACE ABOVE PER IRC R302.6
16. NOT USED
17. PROVIDE WOOD-FRAMED EAVE PROJECTION ABOVE. PAINT PER ELEVATIONS.
18. PROVIDE SHORING FOR EXCAVATION ADJACENT TO PROPERTY LINE. PER STRUCTURAL.
19. MIN 1/2" GYPSUM WALLBOARD WRAPPING POSTS SUPPORTING GARAGE OR COMMON AREA PER SRC R302.6
20. MIN 1/2" GYPSUM WALLBOARD WRAPPING BEAMS SUPPORTING GARAGE OR COMMON AREA PER SRC R302.6
21. PROVIDE PLANTER, REFER TO LANDSCAPE PLANS FOR PLANTING SCHEDULE
22. VEHICULAR ENTRY
23. TREE PROTECTION AREA, REFER TO PLOT PLAN, SHEET A1.10 AND ARBORIST REPORT, SHEET A0.14
24. TREE DRIP LINE, REFER TO TREE PROTECTION PLAN, SHEET A1.10, PLOT PLAN, SHEET A1.10, AND ARBORIST REPORT, SHEET A0.14
25. PROPOSED DISTURBED AREA WITHIN TREE PROTECTION AREA, PER ARBORIST REPORT, SHEET A0.14.
26. PLUMBING WASTE STACK
27. PROVIDE ROOF OVERHANG ABOVE, TYP.
28. PROVIDE BOLT ON BALCONY BY OTHERS, TYP.
29. HEAT PUMP CONDENSER

PLAN LEGEND

DOOR DESIGNATION — 1.1

WINDOW DESIGNATION — 1.1 — 3'-0" WINDOW WIDTH — 5'-0" WINDOW HEIGHT

XX / X.X — DETAIL NUMBER / SHEET NUMBER

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 X 4 FRAMING

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 x 6 FRAMING

CAST-IN-PLACE CONCRETE WALL

PROVIDE (1) LAYER 5/8" EXTERIOR GWB AT OVERHANG

PROVIDE CMU WALL

W/D — WASHING/ DRYER MACHINE (COMBO)

W — WASHING MACHINE

D — CLOTHES DRYER

XX / X.X — SECTION MARKER

HWH — ON-DEMAND HOT WATER HEATER

SD — IRC R314 AND IFC 907.2.10.2: SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
1. IN EACH SLEEPING ROOM
2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
3. ON EACH ADDITIONAL STORY OF THE DWELLING INCLUDING BASEMENTS BUT NOT INCLUDING CRAWL SPACES.
4. PER IFC 907.2.10 AND IRC R314.3 SMOKE ALARMS SHALL BE INSTALLED 20' MIN FROM KITCHEN APPLIANCES OR 10' MIN WITH AN ALARM-SILENCING SWITCH; 3' MIN FROM BATHROOM DOORS
5. SMOKE ALARMS REQUIRED TO BE INSTALLED, HARDWIRED AND INTERCONNECTED, TYP.

SD SW — SMOKE ALARM WITH SWITCH, PER ITEM 4 ABOVE

HD — HEAT DETECTOR/HEAT ALARM PER IRC R314.2.1

FAN LOCATION (IRC TABLE M 1505.4.4(1) AND IMC TABLE 403.4.7)
1. AT BATHROOMS AND LAUNDRY, PROVIDE 50 CFM FAN W/ TIMER AT 0.25 W.G. OR GREATER
2. AT KITCHENS, PROVIDE 100 CFM FAN AT 0.25 W.G. OR GREATER
3. VENT ALL EXHAUST FANS TO THE OUTSIDE
4. EXHAUST DUCTS ARE TO BE CONST. OF SMOOTH BORE NONCOMBUSTIBLE MATERIAL AND ARE TO BE INSUL. AS REQUIRED PER WSEC.

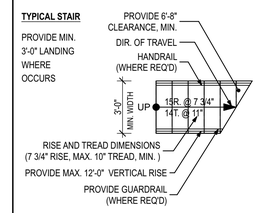
CO — IRC R315 AND 2018 IFC 915: AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS AND ON EACH LEVEL OF THE DWELLING. SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2075.

FLOOR STEP DOWN

SOFFIT STEP DOWN

TYPICAL STAIR

PROVIDE MIN. 3'-0" LANDING WHERE OCCURS



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Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Garage/ Basement Floor Plan

A2.01

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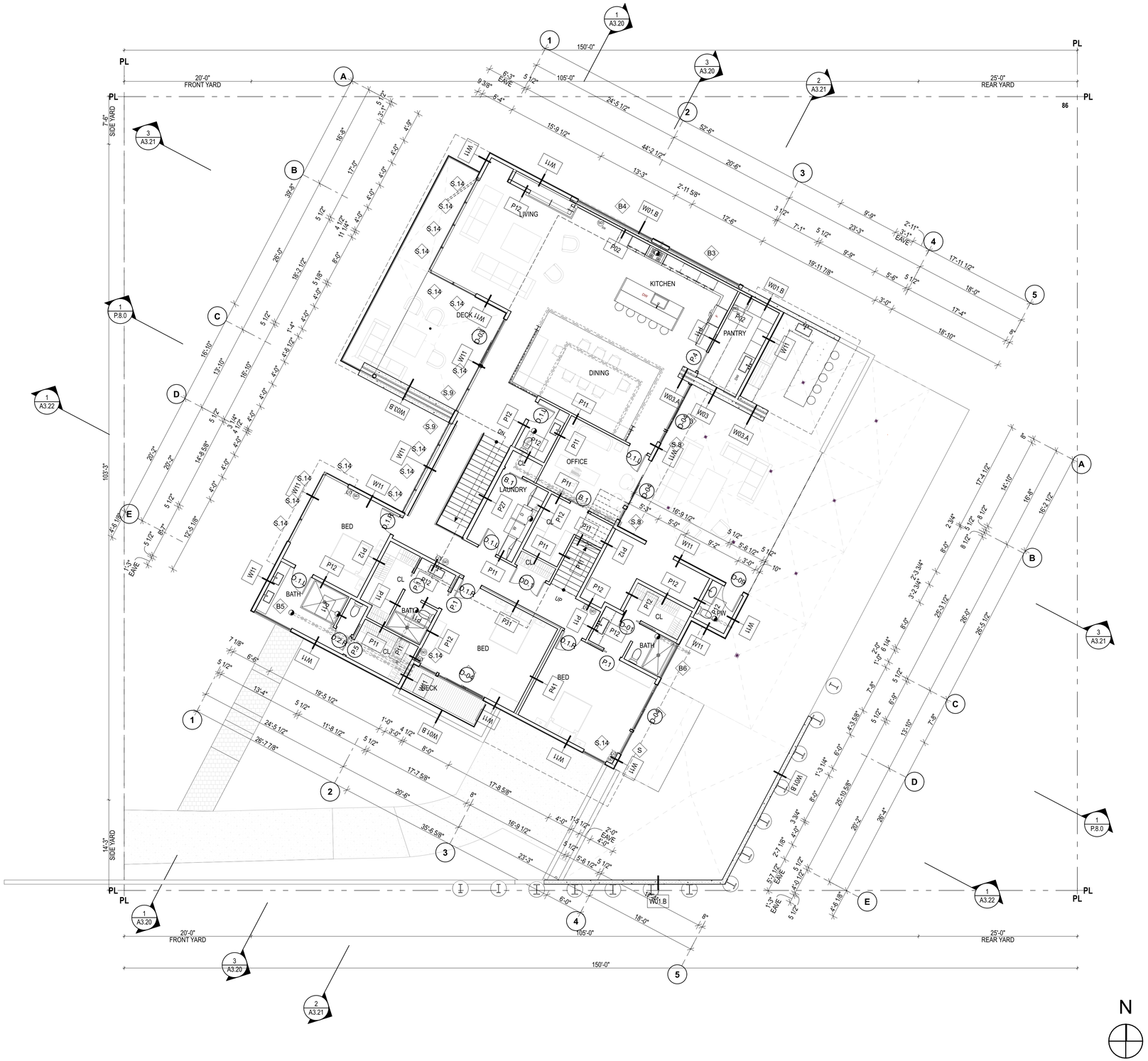

1 FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

PLAN NOTES

1. PROPERTY LINE
2. ROOF/DECK ABOVE
3. PEDESTRIAN ACCESS
4. NOT USED
5. STRUCTURE ABOVE, TYP
6. STRUCTURE BELOW, TYP
7. PROVIDE WHOLE HOUSE EXHAUST FAN WITH A NOISE RATING OF SONE 1.0 OR LESS THAT MEETS THE REQUIREMENTS OF IRC M1505.4. SEE A0.00 WHOLE HOUSE VENTILATION NOTE.
8. PROVIDE ENVIRONMENTAL AIR EXHAUST OUTLETS AT FAN LOCATIONS. THEY SHALL BE PROVIDED A MIN OF 3 FEET FROM OPERABLE OPENINGS INTO THE BUILDING AND PROPERTY LINES PER IRC M1504.3.
9. PER IRC TABLE M1505.4.4(1), AT KITCHENS, PROVIDE 100 CFM LOCAL EXHAUST FAN AT 0.25 W.G. OR GREATER, TO RUN INTERMITTENTLY.
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY. DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
11. PROVIDE HANDRAIL AT 34" - 38" ABOVE TREAD PER IRC R311.7.8.1, 1 1/4" MIN - 1 1/2" MAX GRASP DIMENSION PER IRC R311.7.8.5, 1 1/2" CLEARANCE BETWEEN WALL AND HANDRAIL PER IRC R311.7.8.3 AND CONTINUITY PER R311.7.8.4, TYP.
12. NOT USED
13. PROVIDE 6'-8" MIN VERTICAL CLEARANCE TO FINISH AT ALL STAIRS PER IRC R311.7.2, TYP.
14. PER IRC R302.7, PROVIDE MIN 1/2" GYPSUM BOARD BENEATH STAIR AT ACCESSIBLE SPACE, TYP.
15. MIN 5/8" EXTERIOR TYPE 'X' GYPSUM WALLBOARD SEPARATING GARAGE FROM HABITABLE SPACE ABOVE PER IRC R302.6
16. NOT USED
17. PROVIDE WOOD-FRAMED EAVE PROJECTION ABOVE. PAINT PER ELEVATIONS.
18. PROVIDE SHORING FOR EXCAVATION ADJACENT TO PROPERTY LINE. PER STRUCTURAL
19. MIN 1/2" GYPSUM WALLBOARD WRAPPING POSTS SUPPORTING GARAGE OR COMMON AREA PER SRC R302.6
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24. TREE DRIP LINE, REFER TO TREE PROTECTION PLAN, SHEET A1.10, PLOT PLAN, SHEET A1.10, AND ARBORIST REPORT, SHEET A0.14
25. PROPOSED DISTURBED AREA WITHIN TREE PROTECTION AREA, PER ARBORIST REPORT, SHEET A0.14.
26. PLUMBING WASTE STACK
27. PROVIDE ROOF OVERHANG ABOVE, TYP.
28. PROVIDE BOLT ON BALCONY BY OTHERS, TYP.
29. HEAT PUMP CONDENSER

PLAN LEGEND

DOOR DESIGNATION (1.1)

WINDOW DESIGNATION (1.1) 3'-0" WINDOW WIDTH 5'-0" WINDOW HEIGHT

(XX / X.X) DETAIL NUMBER / SHEET NUMBER

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 X 4 FRAMING

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 x 6 FRAMING

CAST-IN-PLACE CONCRETE WALL

PROVIDE (1) LAYER 5/8" EXTERIOR GWB AT OVERHANG

PROVIDE CMU WALL

W/D — WASHING/ DRYER MACHINE (COMBO)

W — WASHING MACHINE

D — CLOTHES DRYER

XX / X.X — SECTION MARKER

HWH — ON-DEMAND HOT WATER HEATER

SD — IRC R314 AND IFC 907.2.10.2: SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
1. IN EACH SLEEPING ROOM
2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
3. ON EACH ADDITIONAL STORY OF THE DWELLING INCLUDING BASEMENTS BUT NOT INCLUDING CRAWL SPACES.
4. PER IFC 907.2.10 AND IRC R314.3 SMOKE ALARMS SHALL BE INSTALLED 20' MIN FROM KITCHEN APPLIANCES OR 10' MIN WITH AN ALARM-SILENCING SWITCH; 3' MIN FROM BATHROOM DOORS
5. SMOKE ALARMS REQUIRED TO BE INSTALLED, HARDWIRED AND INTERCONNECTED, TYP.

SD SW — SMOKE ALARM WITH SWITCH, PER ITEM 4 ABOVE

HD — HEAT DETECTOR/HEAT ALARM PER IRC R314.2.1

FAN LOCATION (IRC TABLE M 1505.4.4(1) AND IMC TABLE 403.4.7)
1. AT BATHROOMS AND LAUNDRY, PROVIDE 50 CFM FAN W/ TIMER AT 0.25 W.G. OR GREATER
2. AT KITCHENS, PROVIDE 100 CFM FAN AT 0.25 W.G. OR GREATER
3. VENT ALL EXHAUST FANS TO THE OUTSIDE
4. EXHAUST DUCTS ARE TO BE CONST. OF SMOOTH BORE NONCOMBUSTIBLE MATERIAL AND ARE TO BE INSUL. AS REQUIRED PER WSEC.

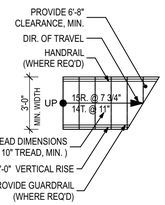
CO — IRC R315 AND 2018 IFC 915: AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS AND ON EACH LEVEL OF THE DWELLING. SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2075.

FLOOR STEP DOWN

SOFFIT STEP DOWN

TYPICAL STAIR

PROVIDE MIN. 3'-0" LANDING WHERE OCCURS



Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
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SDCI Number:

Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

First Floor Plan

A2.02

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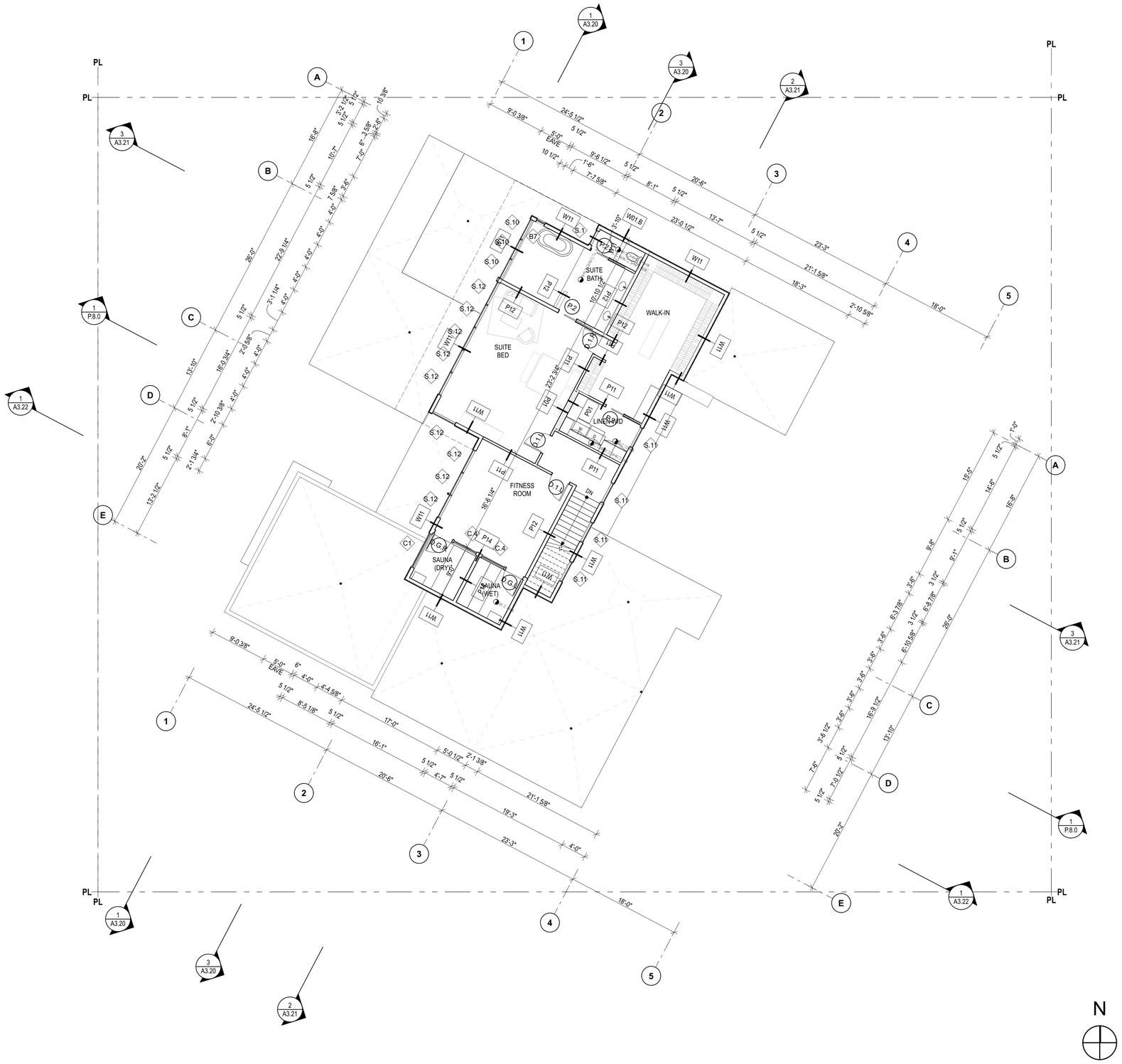

1 SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"

PLAN NOTES

1. PROPERTY LINE
2. ROOF/DECK ABOVE
3. PEDESTRIAN ACCESS
4. NOT USED
5. STRUCTURE ABOVE, TYP
6. STRUCTURE BELOW, TYP
7. PROVIDE WHOLE HOUSE EXHAUST FAN WITH A NOISE RATING OF SONE 1.0 OR LESS THAT MEETS THE REQUIREMENTS OF IRC M1505.4. SEE A0.00 WHOLE HOUSE VENTILATION NOTE.
8. PROVIDE ENVIRONMENTAL AIR EXHAUST OUTLETS AT FAN LOCATIONS. THEY SHALL BE PROVIDED A MIN OF 3 FEET FROM OPERABLE OPENINGS INTO THE BUILDING AND PROPERTY LINES PER IRC M1504.3.
9. PER IRC TABLE M1505.4.4(1), AT KITCHENS, PROVIDE 100 CFM LOCAL EXHAUST FAN AT 0.25 W.G. OR GREATER, TO RUN INTERMITTENTLY.
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY, DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
11. PROVIDE HANDRAIL AT 34" - 38" ABOVE TREAD PER IRC R311.7.8.1, 1 1/4" MIN - 1 1/2" MAX. GRASP DIMENSION PER IRC R311.7.8.5, 1 1/2" CLEARANCE BETWEEN WALL AND HANDRAIL PER IRC R311.7.8.3 AND CONTINUITY PER R311.7.8.4, TYP.
12. NOT USED
13. PROVIDE 6'-8" MIN VERTICAL CLEARANCE TO FINISH AT ALL STAIRS PER IRC R311.7.2, TYP.
14. PER IRC R302.7, PROVIDE MIN 1/2" GYPSUM BOARD BENEATH STAIR AT ACCESSIBLE SPACE, TYP.
15. MIN 5/8" EXTERIOR TYPE 'X' GYPSUM WALLBOARD SEPARATING GARAGE FROM HABITABLE SPACE ABOVE PER IRC R302.6
16. NOT USED
17. PROVIDE WOOD-FRAMED EAVE PROJECTION ABOVE. PAINT PER ELEVATIONS.
18. PROVIDE SHORING FOR EXCAVATION ADJACENT TO PROPERTY LINE. PER STRUCTURAL
19. MIN 1/2" GYPSUM WALLBOARD WRAPPING POSTS SUPPORTING GARAGE OR COMMON AREA PER SRC R302.6
20. MIN 1/2" GYPSUM WALLBOARD WRAPPING BEAMS SUPPORTING GARAGE OR COMMON AREA PER SRC R302.6
21. PROVIDE PLANTER, REFER TO LANDSCAPE PLANS FOR PLANTING SCHEDULE
22. VEHICULAR ENTRY
23. TREE PROTECTION AREA, REFER TO PLOT PLAN, SHEET A1.10 AND ARBORIST REPORT, SHEET A0.14
24. TREE DRIP LINE, REFER TO TREE PROTECTION PLAN, SHEET A1.10, PLOT PLAN, SHEET A1.10, AND ARBORIST REPORT, SHEET A0.14
25. PROPOSED DISTURBED AREA WITHIN TREE PROTECTION AREA, PER ARBORIST REPORT, SHEET A0.14.
26. PLUMBING WASTE STACK
27. PROVIDE ROOF OVERHANG ABOVE, TYP.
28. PROVIDE BOLT ON BALCONY BY OTHERS, TYP.
29. HEAT PUMP CONDENSER

ROOF PLAN NOTES

1. PROPERTY LINE
2. ROOF/DECK ABOVE
3. PROVIDE 2X6 PARAPET ON ROOF. REFER PARAPET HEIGHT PLAN AND ELEVATION DRAWINGS FOR HEIGHT, TYP.
4. PROVIDE PROTECTION BOARD UNDER ROOF DECK SUPPORTS AT WALKING SURFACE
5. STRUCTURE ABOVE, TYP
6. STRUCTURE BELOW, TYP
7. ROOFING MEMBRANE. PROVIDE MIN 18" UP WALL WITH 12" LAP OF WRB.
8. PROVIDE CRICKET WITH RIGID INSULATION, 3" MIN PER ROOF ASSEMBLIES, REFER TO RELEVANT RC TYPE, A8.01. SLOPE TO DRAIN, MIN. 3/8" PER FOOT
9. NOT USED
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY, DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
11. NOT USED
12. INTERNAL ROOF DRAIN, REFER TO PLUMBING FOR ROUTING
13. NOT USED
14. NOT USED
15. CONNECT INTERNAL ROOF DRAIN TO SANITARY SEWER. PROVIDE SECONDARY OVERFLOW PER SRC R903.4.
16. NOT USED
17. LOCATE PLUMBING VENT PENETRATION AT ROOF 10' MIN FROM EDGE OF OCCUPIABLE ROOF DECK PER SEATTLE PLUMBING CODE 906. OTHERWISE EXTEND VENT 7' ABOVE WALKING SURFACE PER SEATTLE PLUMBING CODE 906.

PLAN LEGEND

DOOR DESIGNATION (1.1)

WINDOW DESIGNATION (1.1) 3'-0" WINDOW WIDTH 5'-0" WINDOW HEIGHT

(XX / X.X) DETAIL NUMBER / SHEET NUMBER

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 X 4 FRAMING

1-HOUR FIRE-RESISTANCE RATED CONSTRUCTION 2 x 6 FRAMING

CAST-IN-PLACE CONCRETE WALL

PROVIDE (1) LAYER 5/8" EXTERIOR GWB AT OVERHANG

PROVIDE CMU WALL

W/D WASHING/ DRYER MACHINE (COMBO)

W WASHING MACHINE

D CLOTHES DRYER

(XX / X.X) SECTION MARKER

HWH ON-DEMAND HOT WATER HEATER

SD IRC R314 AND IFC 907.2.10.2: SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
1. IN EACH SLEEPING ROOM
2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
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FLOOR STEP DOWN

SOFFIT STEP DOWN

TYPICAL STAIR

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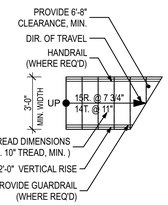

Architect of Record

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8914 REGISTERED ARCHITECT BRADLEY G. ICHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Second Floor Plan

A2.03

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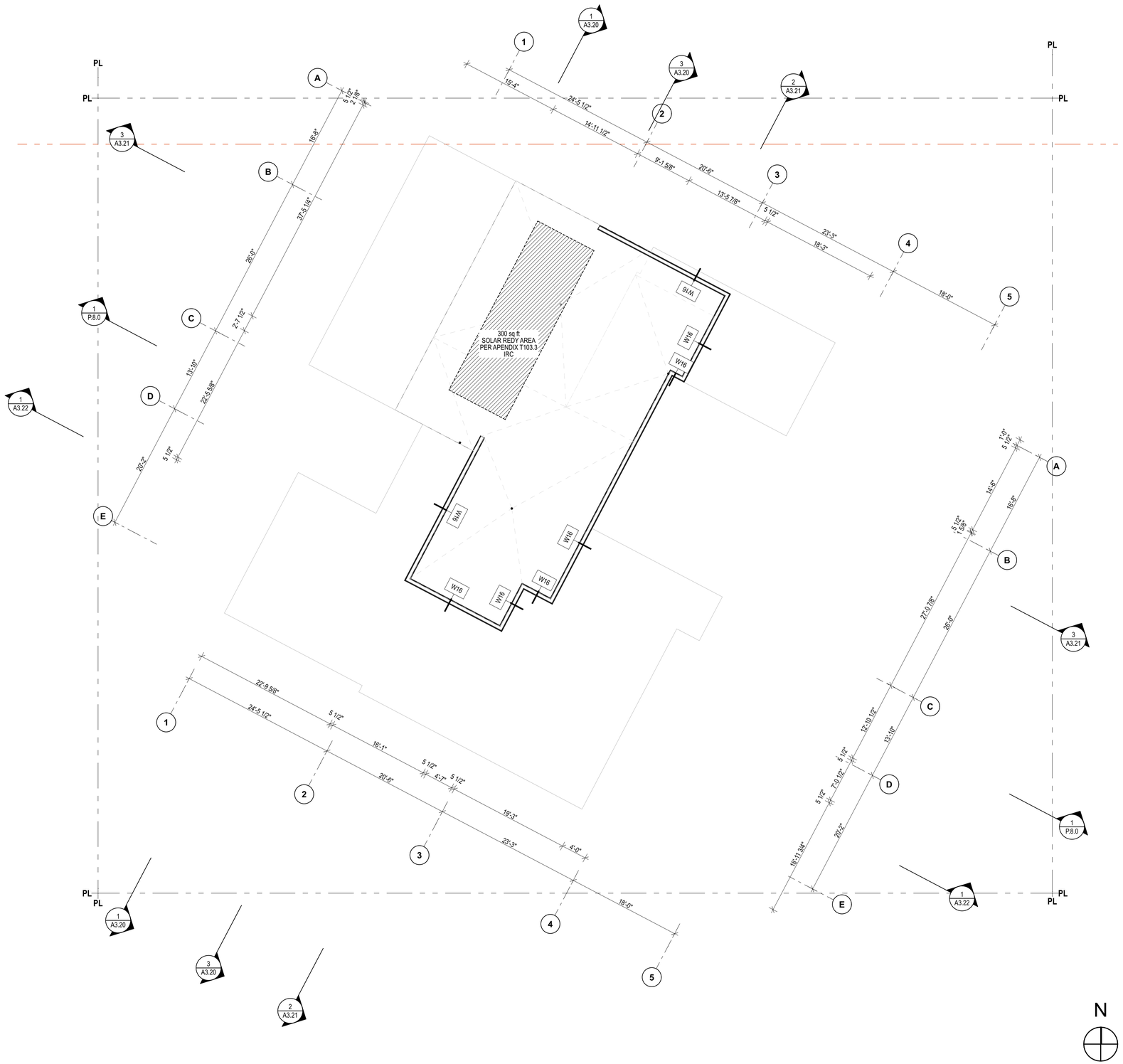

1 ROOF PLAN
SCALE: 1/8" = 1'-0"

ROOF PLAN NOTES

1. PROPERTY LINE
2. ROOF/DECK ABOVE
3. PROVIDE 2X6 PARAPET ON ROOF. REFER PARAPET HEIGHT PLAN AND ELEVATION DRAWINGS FOR HEIGHT, TYP.
4. PROVIDE PROTECTION BOARD UNDER ROOF DECK SUPPORTS AT WALKING SURFACE
5. STRUCTURE ABOVE, TYP
6. STRUCTURE BELOW, TYP
7. ROOFING MEMBRANE. PROVIDE MIN 18" UP WALL WITH 12" LAP OF WRB.
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9. NOT USED
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY, DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
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PLAN LEGEND

DOOR DESIGNATION 1.1

WINDOW DESIGNATION 1.1 3'-0" WINDOW WIDTH 5'-0" WINDOW HEIGHT

XX X.X DETAIL NUMBER SHEET NUMBER

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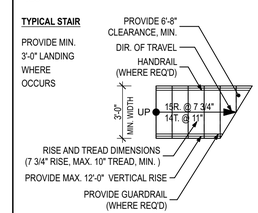
SOFFIT STEP DOWN

TYPICAL STAIR

PROVIDE MIN. 3'-0" LANDING WHERE OCCURS



Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:
Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Roof Plan

A2.04

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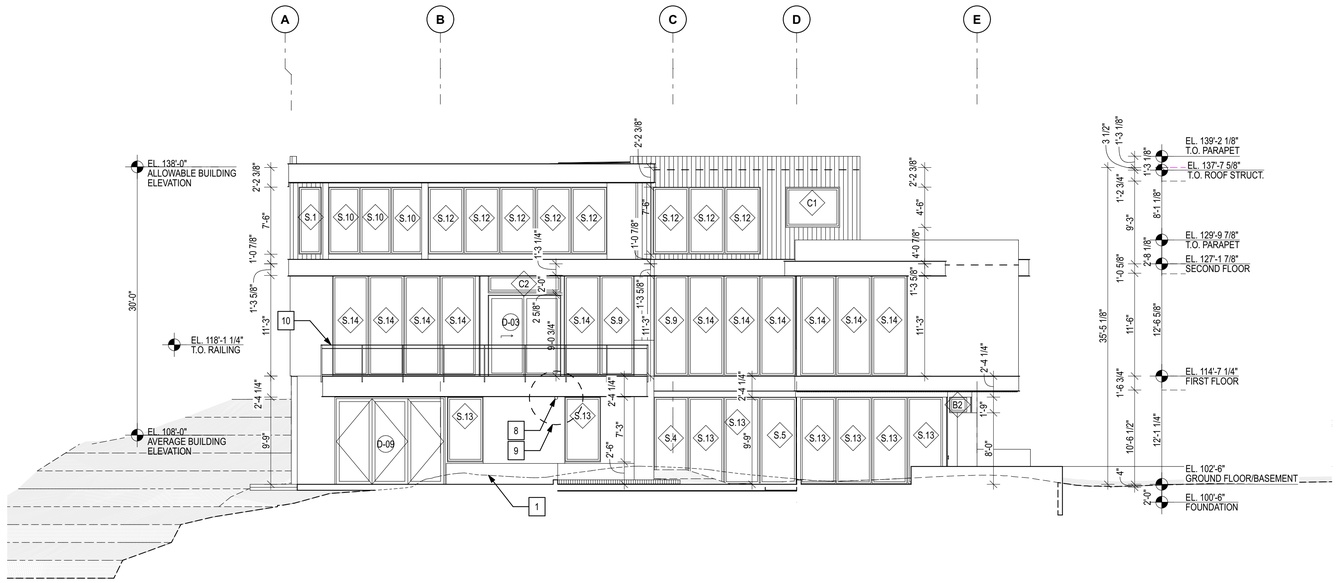
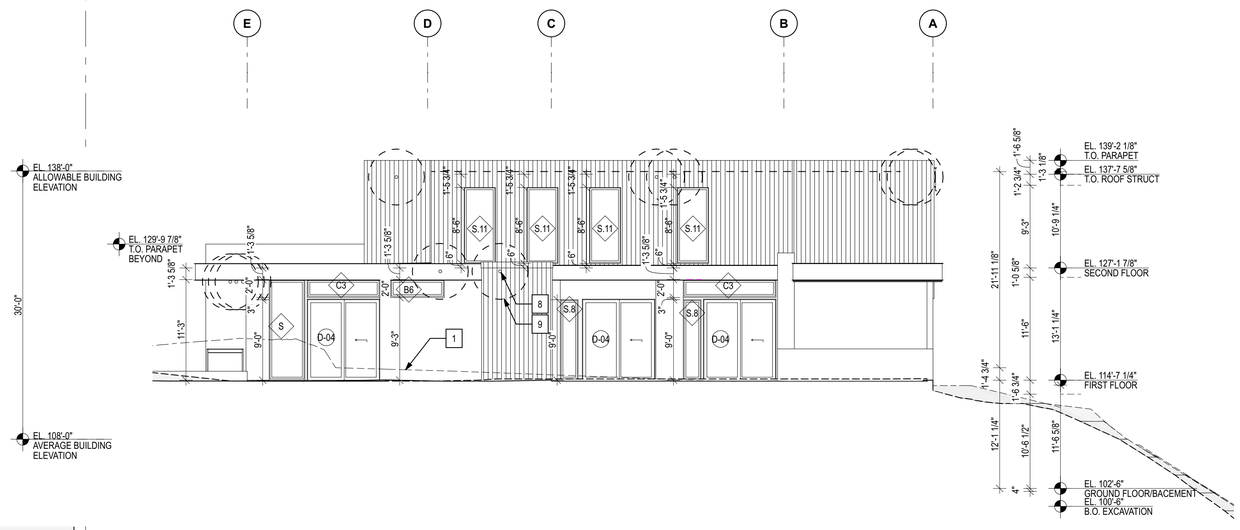


1 WEST ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



2 EAST ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

ELEVATION NOTES

1. EXISTING GRADE, TYP.
2. DENOTES FOOTING BEYOND, TYP.
3. PROVIDE NON-COMBUSTIBLE STEEL CANOPY PROVIDED BY OTHERS OVER ENTRY DOOR FOR WEATHER PROTECTION, TYP.
4. PROVIDE EXTERIOR LIGHTING AT DOOR ENTRY
5. DENOTES TOP OF ROOF SHEATHING BEHIND PARAPET, TYP.
6. PROVIDE SHORING, REFER TO STRUCTURAL DRAWINGS
7. NOT USED
8. PROVIDE ENVIRONMENTAL AIR EXHAUST OUTLET AT EXTERIOR WALL PER IRC M1504.3, TYP.
9. PROVIDE MINIMUM 3-FOOT CLEARANCE BETWEEN OPERABLE OPENINGS INTO THE BUILDING AND PROPERTY LINES PER IRC M1504.3
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY, DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
11. ROOF EAVE IN YARD PER MICC 19.02.020.C.3.a
12. POINT AT WHICH THE FINISHED FLOOR LEVEL DIRECTLY ABOVE A USABLE UNDER-FLOOR SPACE IS MORE THAN SIX FEET ABOVE GRADE

Architect of Record

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SDCI Number:

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8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Elevations

A3.10

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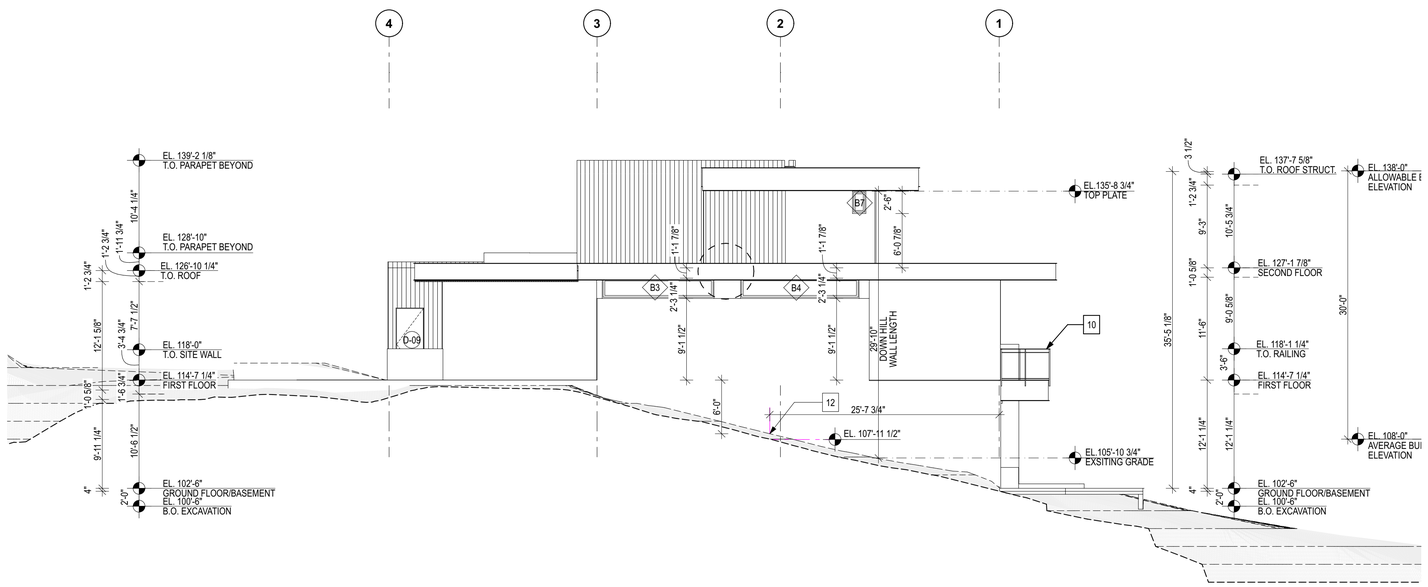
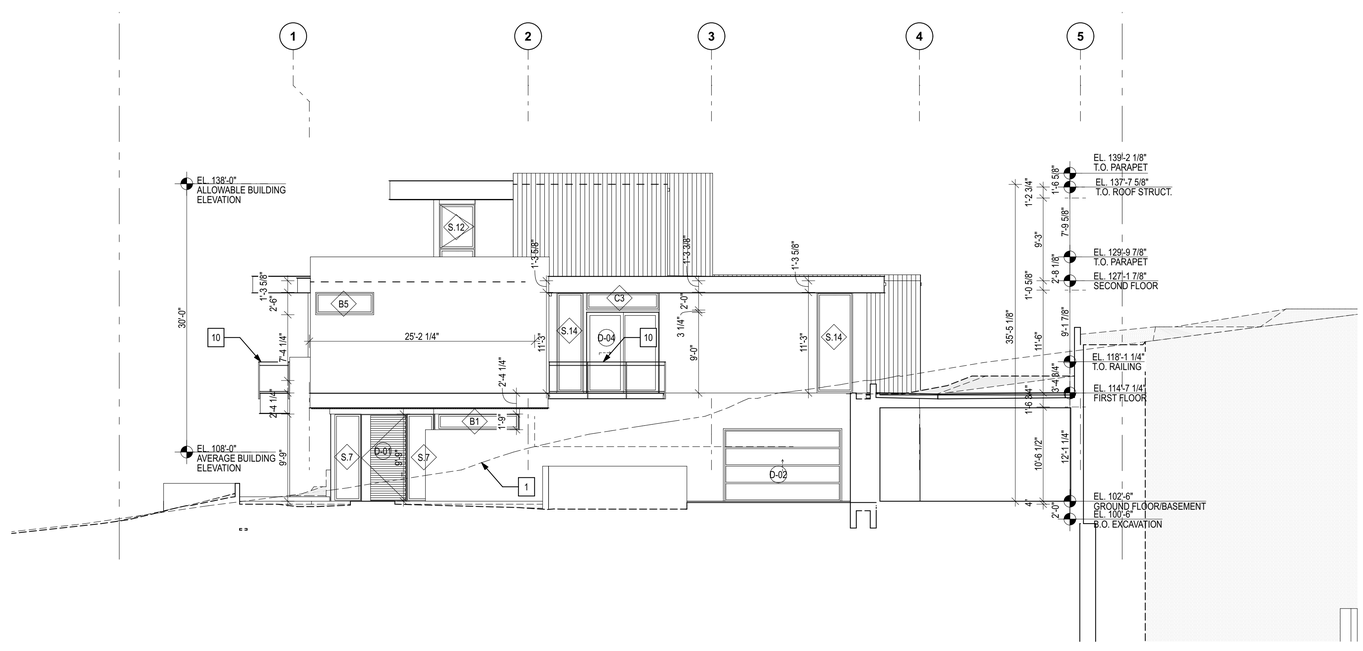


1 NORTH ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



2 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

ELEVATION NOTES

1. EXISTING GRADE, TYP.
2. DENOTES FOOTING BEYOND, TYP.
3. PROVIDE NON-COMBUSTIBLE STEEL CANOPY PROVIDED BY OTHERS OVER ENTRY DOOR FOR WEATHER PROTECTION, TYP.
4. PROVIDE EXTERIOR LIGHTING AT DOOR ENTRY
5. DENOTES TOP OF ROOF SHEATHING BEHIND PARAPET, TYP.
6. PROVIDE SHORING, REFER TO STRUCTURAL DRAWINGS
7. NOT USED
8. PROVIDE ENVIRONMENTAL AIR EXHAUST OUTLET AT EXTERIOR WALL PER IRC M1504.3, TYP.
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Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Elevations

A3.11

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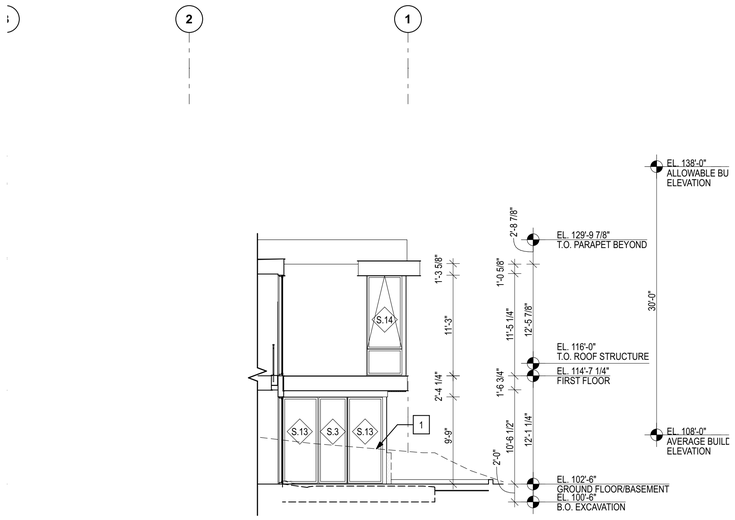
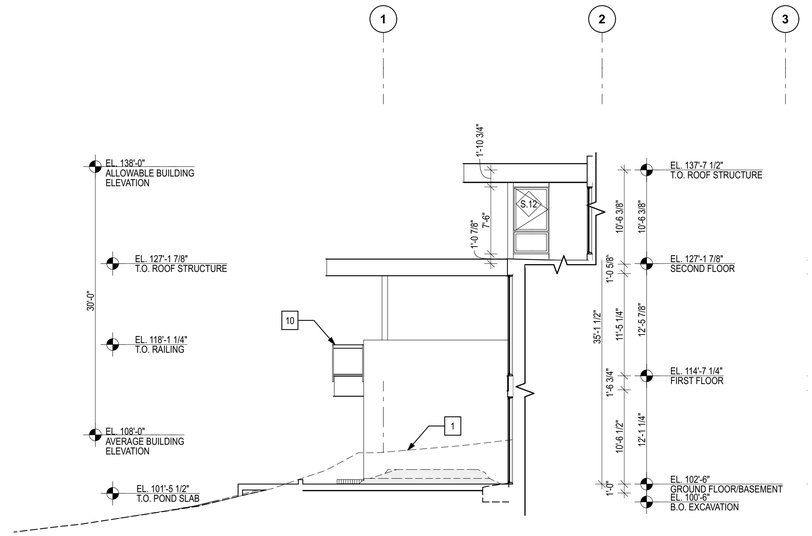


4 SOUTH COURT ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



3 NORTH COURT ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

ELEVATION NOTES

1. EXISTING GRADE, TYP.
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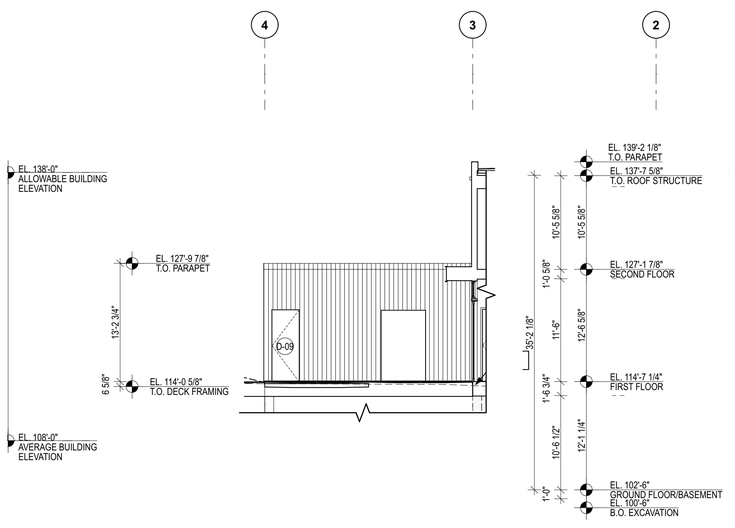
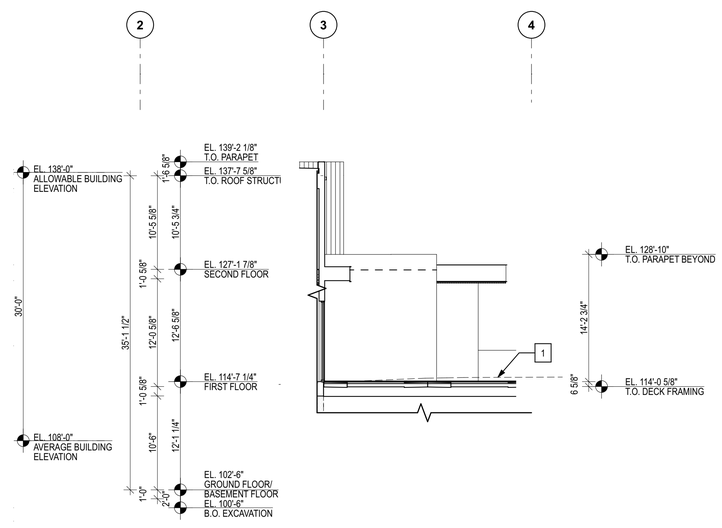


2 SOUTH PATIO ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



1 NORTH PATIO ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:

Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Elevations

A3.12

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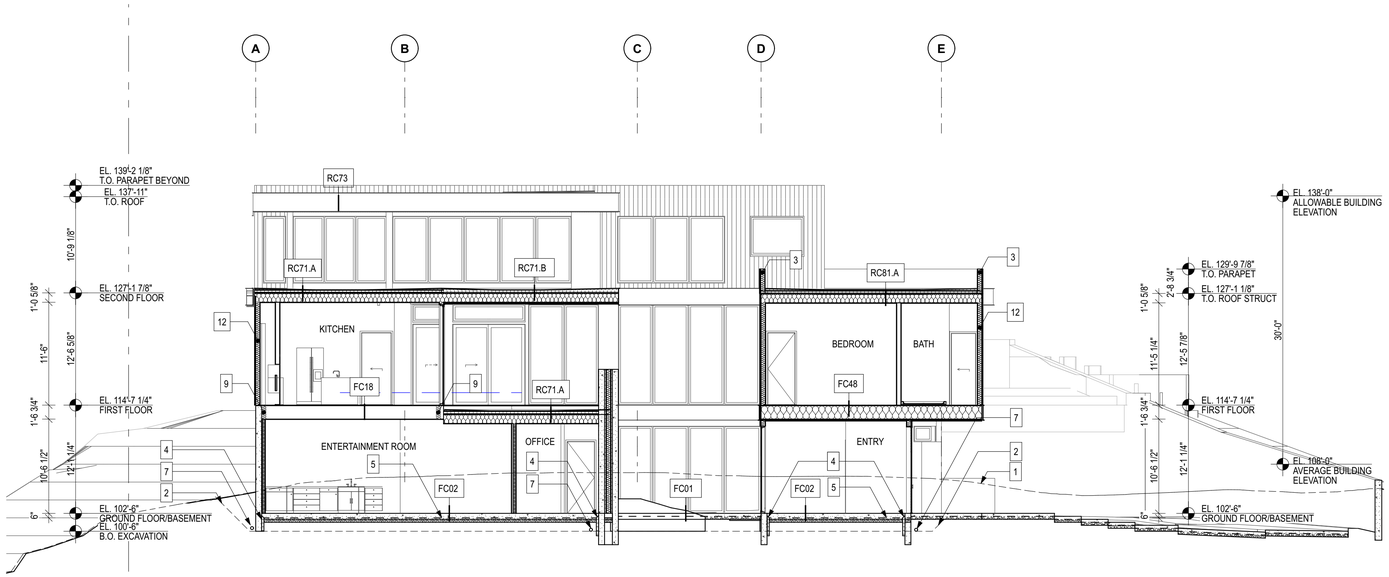
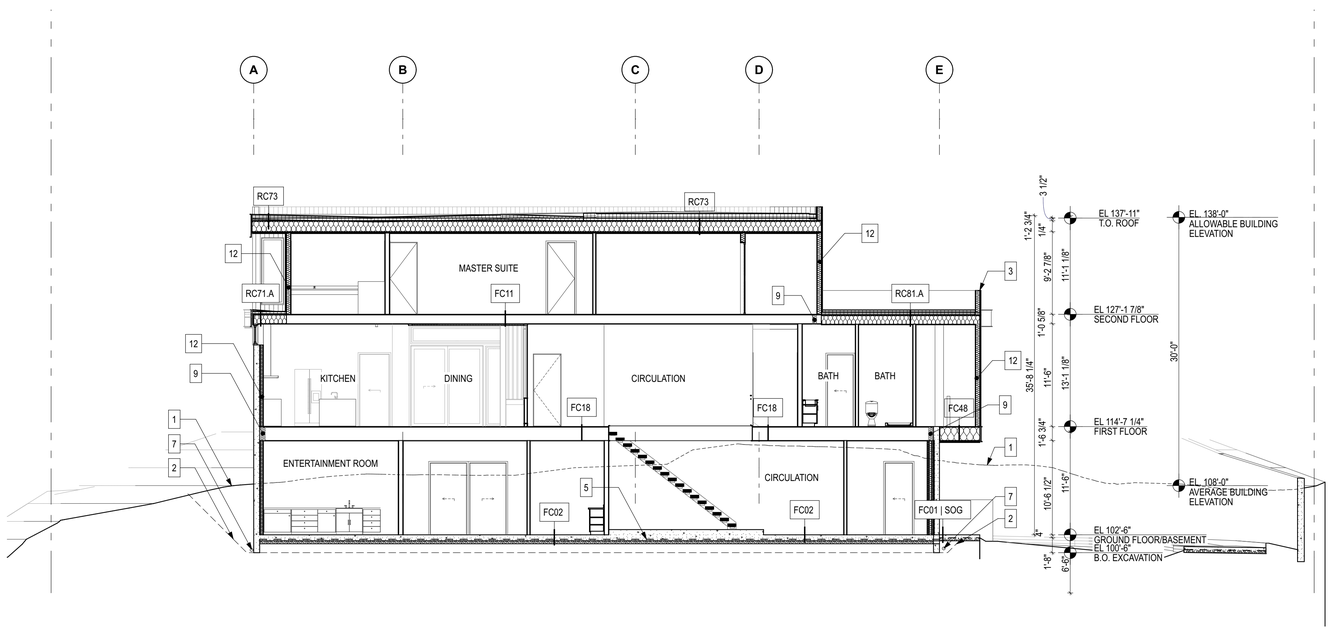


1 LONGITUDINAL SECTION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



3 LONGITUDINAL SECTION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

SECTION NOTES

1. EXISTING GRADE, TYP.
2. PROVIDE 1H:1V CUT WITHIN PROPERTY BOUNDARIES, REFER TO GEOTECHNICAL REPORT, TYP.
3. PROVIDE 2X6 PARAPET ON ROOF. REFER PARAPET HEIGHT PLAN AND ELEVATION DRAWINGS FOR HEIGHT, TYP.
4. PROVIDE INSULATION EXTENDING DOWNWARD FROM THE TOP OF THE SLAB TO THE TOP OF THE FOOTING, PER WSEC R402.2.9, TYP.
5. PROVIDE INSULATION BELOW SLAB ON GRADE PER FLOOR ASSEMBLY
6. MINIMUM 5/8" TYPE 'X' GYPSUM WALLBOARD SEPARATING GARAGE FROM HABITABLE SPACE ABOVE
7. PROVIDE FOOTING DRAIN, TYP. REFER TO GEOTECHNICAL REPORT.
8. PER IRC R302.7, PROVIDE MIN 1/2" GYPSUM BOARD BENEATH STAIR AT ACCESSIBLE SPACE, TYP.
9. PROVIDE R-21 INSULATION AT EDGE OF FLOOR, TYP.
10. PROVIDE GUARDRAIL AT MIN 36" A.F.F. PER IRC R312.1.2. OPENINGS SHALL BE 4" MAX PER IRC R312.1.3, TYP. REFER TO STRUCTURAL DRAWINGS FOR CONNECTION DETAIL AT EXTERIOR ATTACHMENTS TO THE STRUCTURE. AT ALL EXTERIOR LOCATIONS PROVIDE CONNECTION THROUGH VERTICAL WALL SURFACE ONLY, DO NOT PROVIDE CONNECTION THOUGH ROOF MEMBRANE OR PARAPET CAP OR OTHER FLASHING AT TOP OF WALL.
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12. PROVIDE R-21 INSULATION WITH R-4 CONTINUOUS INSULATION AT EXTERIOR WALLS, TYP.
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14. PROVIDE SHORING, REFER TO SH DRAWINGS AND GEOTECHNICAL REPORT
15. MIN 1/2" GYPSUM WALLBOARD WRAPPING WALLS SUPPORTING GARAGE PER IRC R302.6
16. INTERNAL ROOF DRAIN, REFER TO PLUMBING FOR ROUTING
17. COLUMN PER STRUCTURAL
18. BOLT ON STEEL BALCONY, BY OTHERS, REFER TO DR SHEETS FOR MATERIAL/FINISH
19. PROVIDE LANDSCAPE GROUND COVER OVER GRAVEL ABOVE GARAGE ROOF

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Sections

A3.20

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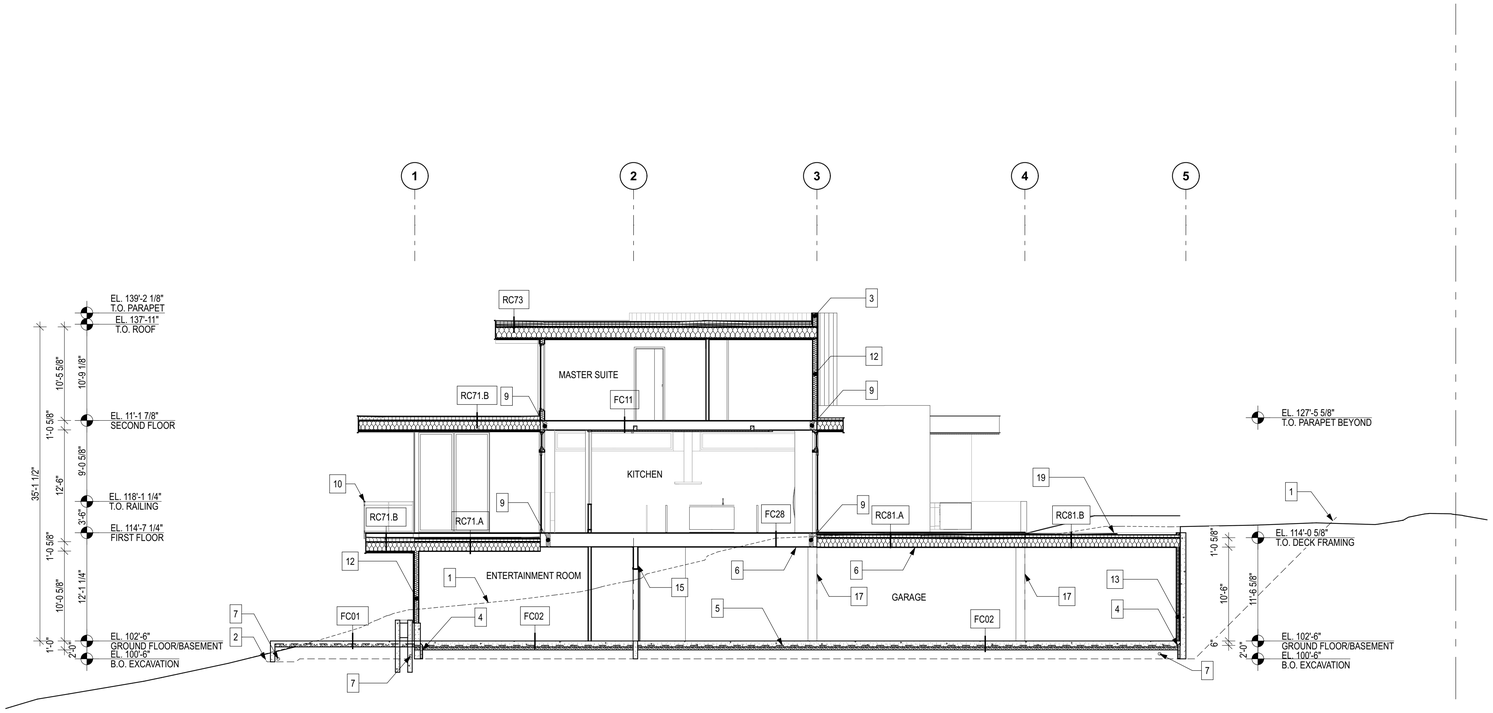
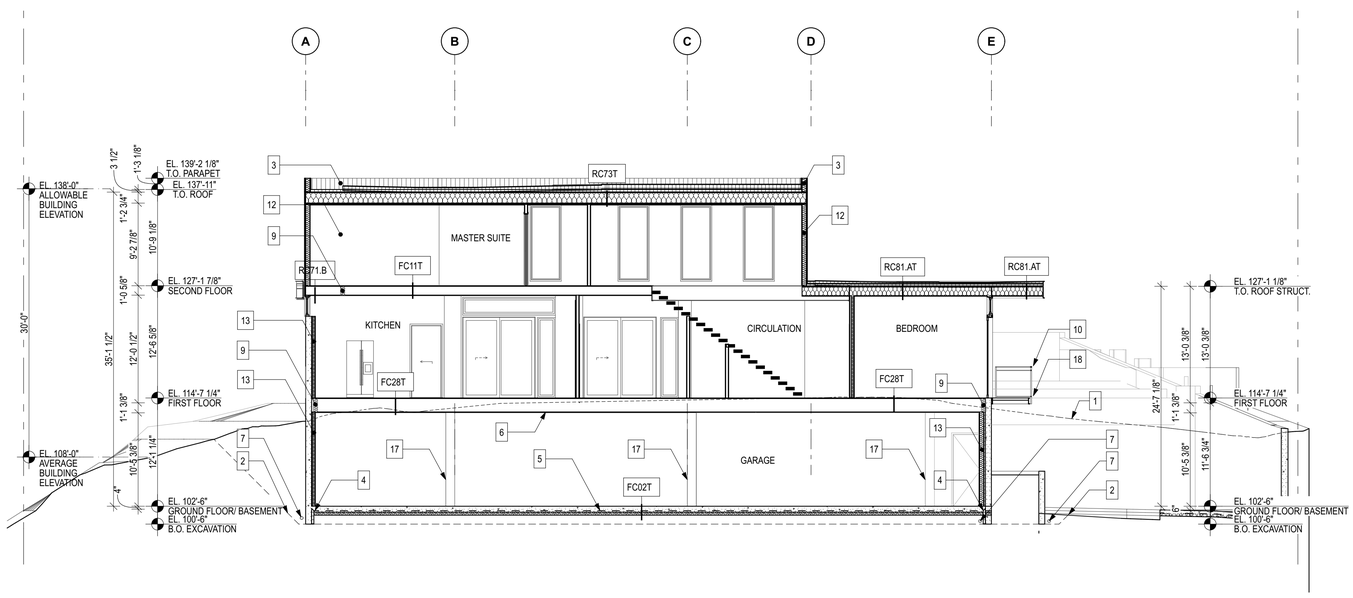


3 TRANSVERSE SECTION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



2 LONGITUDINAL SECTION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

SECTION NOTES

1. EXISTING GRADE, TYP.
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Sections

A3.21

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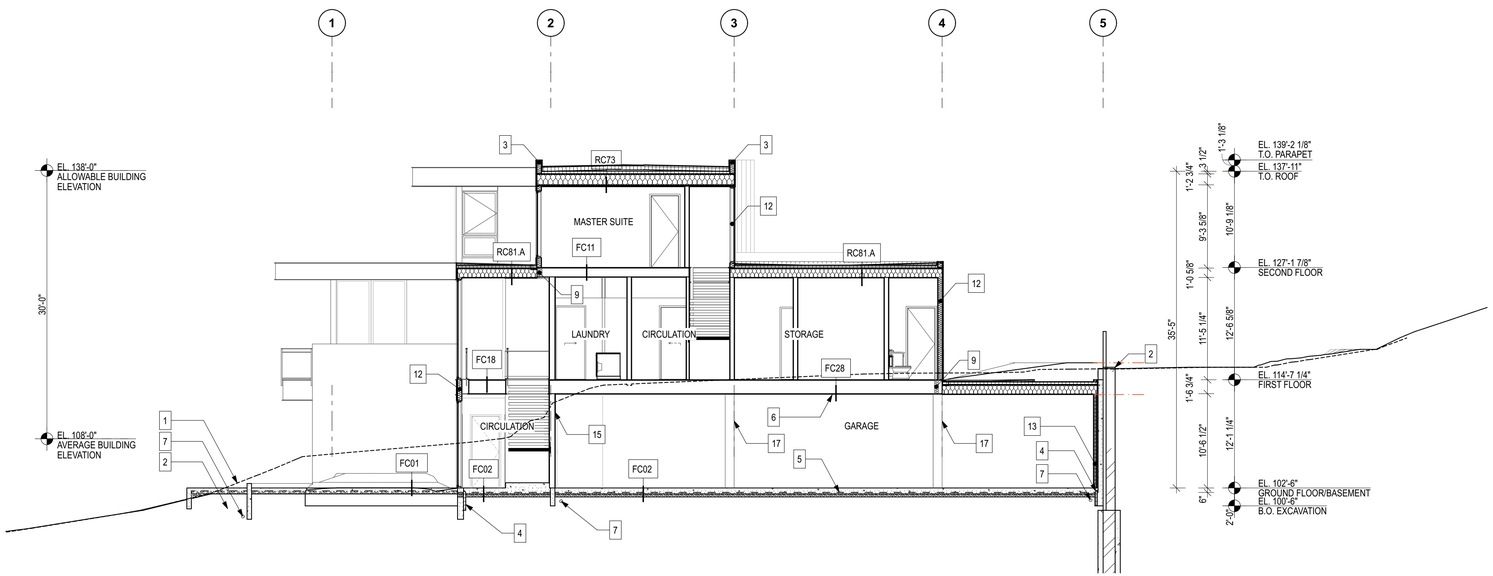
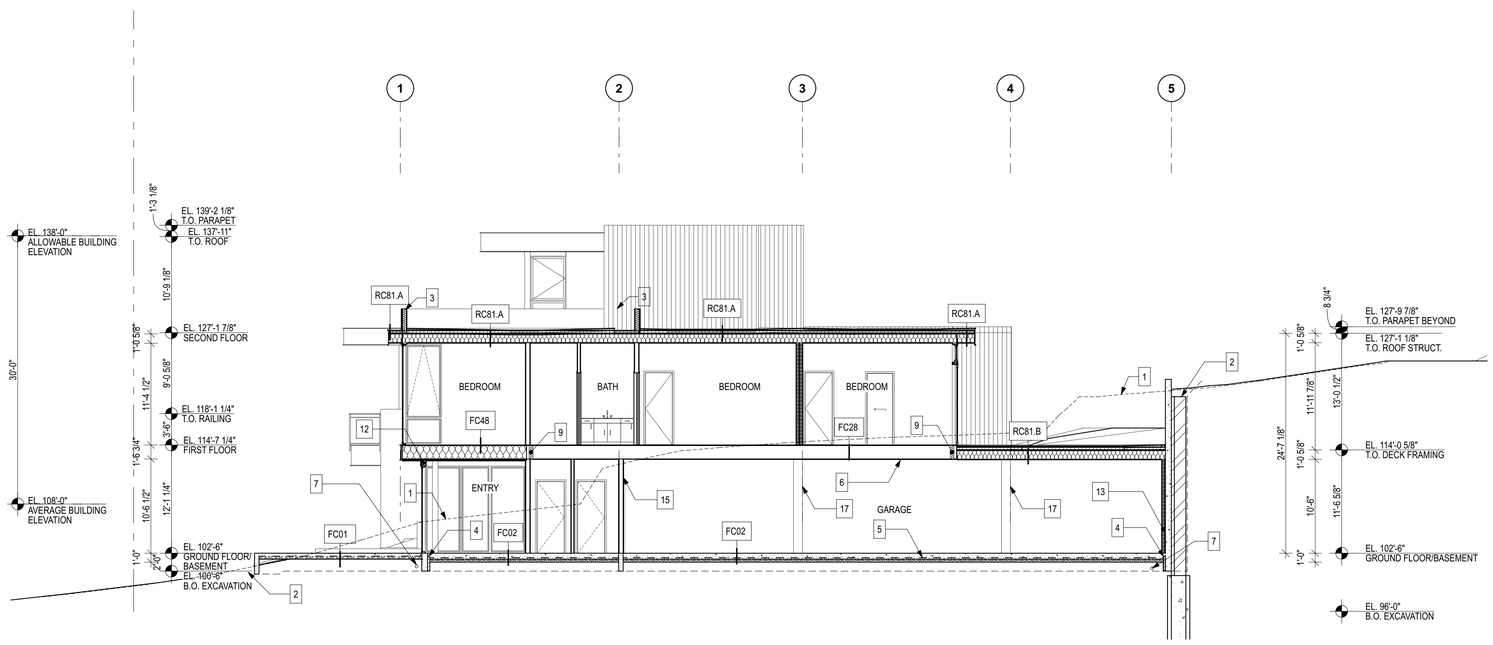


2 TRANSVERSE SECTION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



1 TRANSVERSE SECTION

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0 4' 8' 16'

SECTION NOTES

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Sections

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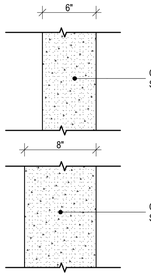
EXTERIOR WALL TYPES

W01

W01.A

6"

CONCRETE WALL PER STRUCTURAL PLANS



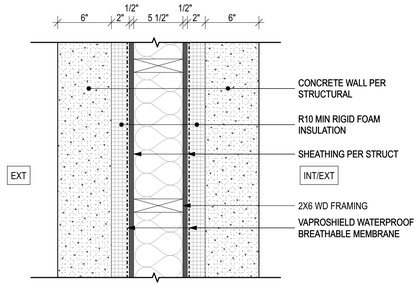
W01.B

8"

CONCRETE WALL PER STRUCTURAL PLANS

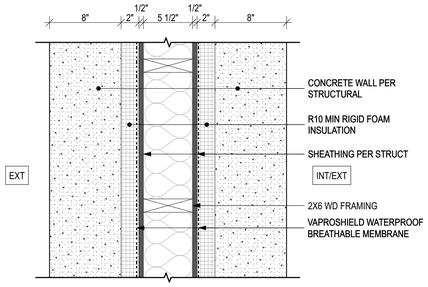
W02

W03.A



W02

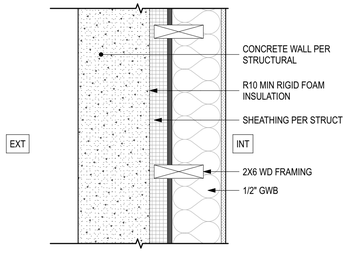
W03.B



W03

CONCRETE WALL PER STRUCTURAL PLANS

WD 2X6 FURRING WALL

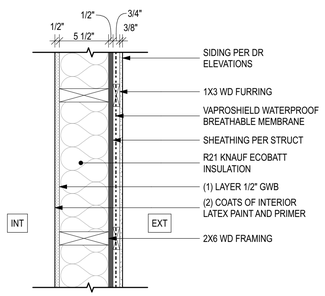


EXTERIOR WALL TYPES

W11

EXTERIOR WALL
SIDING PER DR ELEVATION AND MATERIAL SCHEDULE

WD 2X6 EXT
MIN R-21
UNRATED

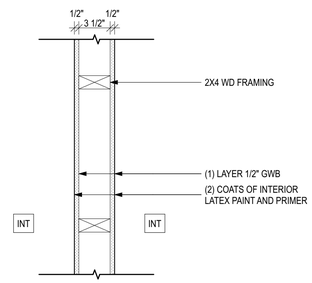


INTERIOR WALL TYPES

P11

INTERIOR PARTITION WALL

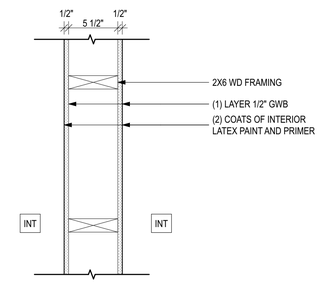
WD 2X4 INT
UNRATED



P12

INTERIOR PARTITION WALL

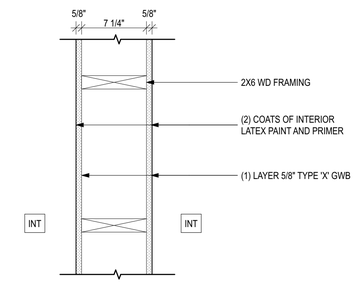
WD 2X6 INT
UNRATED
GARAGE SEPARATION
WHERE NOTED



P27

INTERIOR PARTITION WALL

WD 2X8 INT
UNRATED
GARAGE SEPARATION

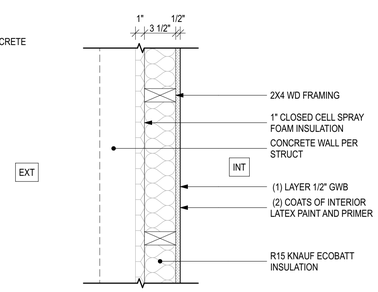


INTERIOR WALL TYPES

P02

FURRING WALL AT CONCRETE

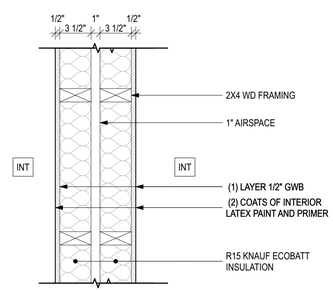
WD 2X4 INT
MIN R-21
UNRATED



P41

DOUBLE 2X4 INT WALL

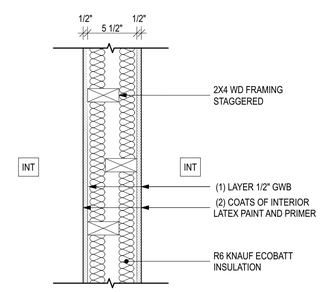
(2) WD 2X4 INT
INSULATED FOR SOUND
UNRATED



P31

STAGGERED 2X4 INT WALL

(2) WD 2X4 INT
2X6 BASE PLATE
INSULATED FOR SOUND
UNRATED



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00	Building Permit	03/14/2024

City Stamp

Wall Types

A8.00

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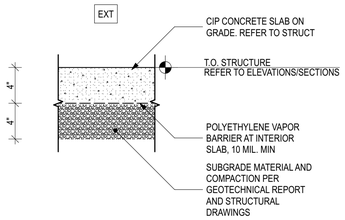
FC TYPES

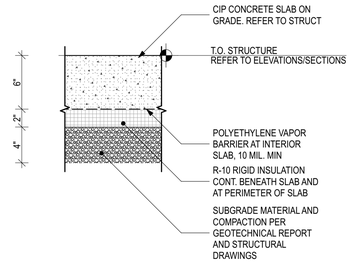
FC01

CONCRETE SLAB ON GRADE
UNINSULATED



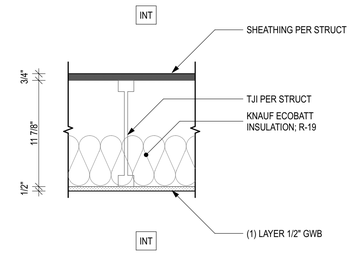
FC02

CONCRETE SLAB ON GRADE
INSULATED



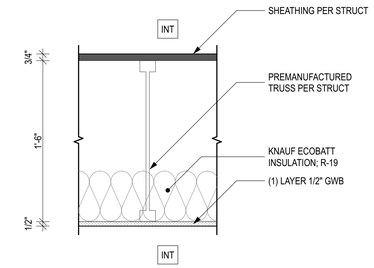
FC11

TJI 11 7/8" INT



FC18

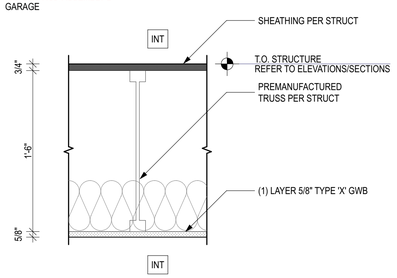
PREMANUFACTURED TRUSS 18" INT



FC TYPES

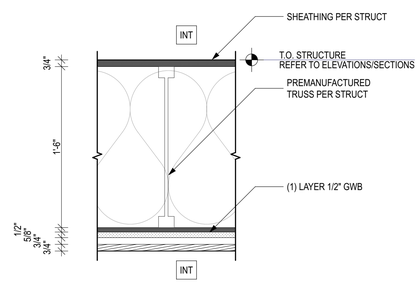
FC28

PREMANUFACTURED TRUSS 18" INT
1 HR RATED
ICC-ESR 1153, ASSEMBLY B
GARAGE



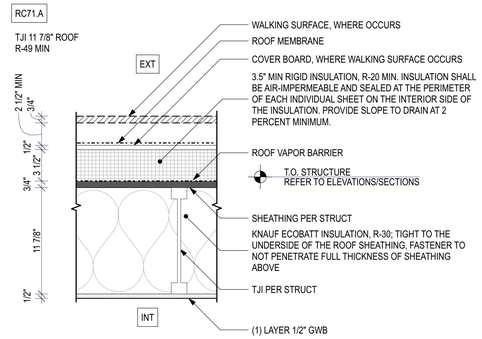
F48

PREMANUFACTURED TRUSS 18" INT



RC71.A

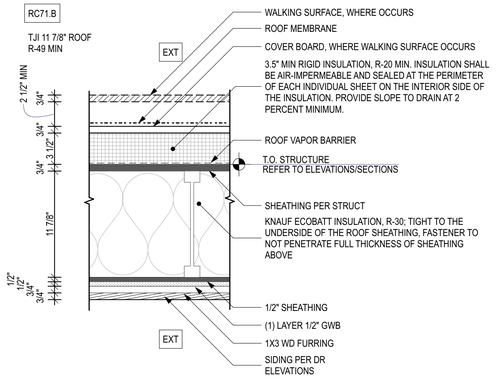
TJI 11 7/8" ROOF
R-49 MIN



RC TYPES

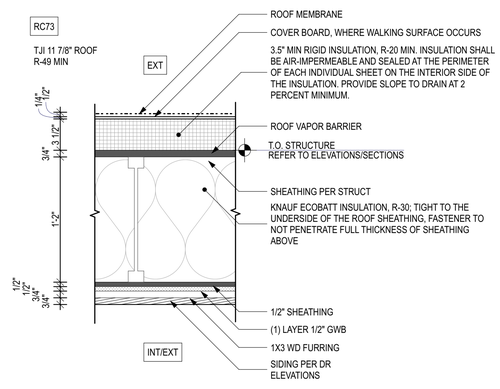
RC71.B

TJI 11 7/8" ROOF
R-49 MIN



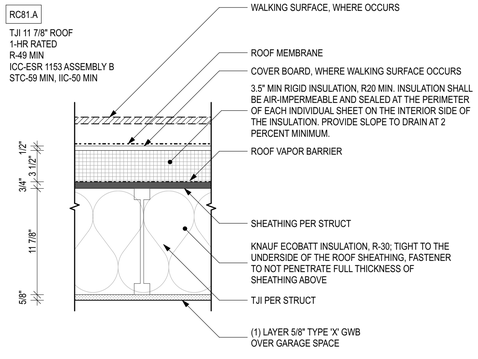
RC73

TJI 11 7/8" ROOF
R-49 MIN



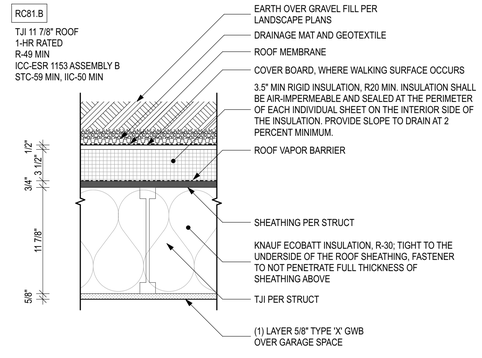
RC81.A

TJI 11 7/8" ROOF
1-HR RATED
R-49 MIN
ICC-ESR 1153 ASSEMBLY B
STC-59 MIN, IIC-50 MIN



RC81.B

TJI 11 7/8" ROOF
1-HR RATED
R-49 MIN
ICC-ESR 1153 ASSEMBLY B
STC-59 MIN, IIC-50 MIN



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Floor Types

A8.01

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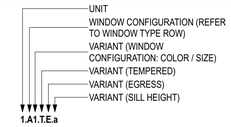
WINDOW TYPES

WINDOW NUMBER	B1	B2	B3	B4	B5	B6
QUANTITY	1	1	1	1	1	1
ELEVATION	9'-0" × 1'-9"	2'-0" × 1'-9"	12'-6" × 2'-3"	13'-3" × 2'-3 1/4"	6'-6" × 2'-6"	7'-0" × 2'-0"
WINDOW TYPE	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED
NOMINAL W x H SIZE	9'-0"×1'-9"	2'-0"×1'-9"	12'-6"×2'-3"	13'-3"×2'-3 1/4"	6'-6"×2'-6"	6'-0"×2'-0"
SILL HEIGHT	8'-0"	8'-0"	0"	0"	8'-9"	9'-3"
WINDOW AREA	16.63	4.38	28.13	30.05	16.25	12.00
FRAME MATERIAL	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN
FRAME EXTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
FRAME INTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
U-VALUE	.25	.25	.25	.25	.25	.25
STC RATING	TBD	TBD	TBD	TBD	TBD	TBD
SHGC	TBD	TBD	TBD	TBD	TBD	TBD
FIRE EGRESS	☐	☐	☐	☐	☐	☐
TEMPERED	☒	☒	☒	☒	☒	☒
NOTES						

WINDOW TYPES

WINDOW NUMBER	B7	C1	C2	C3	C3	C3	C.4
QUANTITY	1	1	1	1	1	1	2
ELEVATION	1'-6" × 2'-6"	6'-0" × 4'-6"	8'-1 1/2" × 2'-0"	10'-4 1/2" × 2'-0"	8'-1 1/2" × 2'-0"	8'-1 1/2" × 2'-0"	4'-0" × 4'-0"
WINDOW TYPE	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED
NOMINAL W x H SIZE	1'-6"×2'-6"	6'-0"×4'-6"	8'-1 1/2"×2'-0"	10'-4 1/2"×2'-0"	8'-1 1/2"×2'-0"	8'-1 1/2"×2'-0"	4'-0"×4'-0"
SILL HEIGHT	6'-0 7/8"	4'-0 7/8"	9'-3 3/8"	9'-3"	9'-3"	9'-3 1/4"	4'-0 3/4"
WINDOW AREA	3.75	20.44	16.25	20.75	16.25	16.25	16.00
FRAME MATERIAL	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN
FRAME EXTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
FRAME INTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
U-VALUE	.25	.25	.25	.25	.25	.25	.25
STC RATING	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SHGC	TBD	TBD	TBD	TBD	TBD	TBD	TBD
FIRE EGRESS	☐	☐	☐	☐	☐	☐	☐
TEMPERED	☒	☒	☒	☒	☒	☒	☒
NOTES							

WINDOW TYPES NAMING CONVENTION

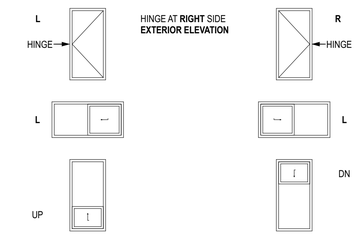


WINDOW NUMBER ID:

OPERABILITY:

HINGE AT **LEFT** SIDE **EXTERIOR ELEVATION**

HINGE AT **RIGHT** SIDE **EXTERIOR ELEVATION**



NOTE: ALL INTERIOR WINDOW FRAMES ARE TO BE WHITE VINYL, REFER TO WINDOW SCHEDULE FOR EXTERIOR FRAME COLOR

WINDOW GROUPING DESIGNATIONS

CONFIGURATION:		TYPES:	
VERTICAL WINDOW WITH/WITHOUT OPERABLE PANE	A	FIXED/ PICTURE WINDOW	F
HORIZONTAL WINDOW WITH/WITHOUT OPERABLE PANE	B	SLIDING WINDOW	S
FIXED / PICTURE WINDOW	C	AWNING	A
COMBINATION	D	CASEMENT	C
SPECIALTY WINDOWS	S	SINGLE HUNG	SH
STOREFRONT	ST	DOUBLE HUNG	DH

GENERAL WINDOW NOTES

1. ALL WINDOW SIZES DENOTE **ROUGH OPENING**
2. CONTRACTOR IS RESPONSIBLE FOR ORDERING THE CORRECT WINDOW SIZES, CONTRACTOR SHALL VERIFY ALL ROUGH OPENINGS DURING CONSTRUCTION.
3. **SEE PLANS AND ELEVATIONS FOR HINGE LOCATIONS AND DIRECTIONS.**
4. ALL GLAZING TO BE LOW-E, INSULATED GLAZING, U.O.N.
5. U-FACTORS SHALL BE LABELED AND NFRC CERTIFIED.
6. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS FOR EGRESS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24" AND THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20".
7. HAZARDOUS GLAZING LOCATIONS PER **2018 IBC SECTION 2406.4.**
   1. GLAZING IN DOORS: GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING, AND BIFOLD DOORS.
      EXCEPTIONS:
      a. GLAZED OPENINGS OF A SIZE THROUGH WHICH A 3-INCH DIAMETER SPHERE IS UNABLE TO PASS.
      b. DECORATIVE GLAZING
   2. GLAZING ADJACENT TO DOORS: GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24-INCH ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.
      EXCEPTIONS:
      a. DECORATIVE GLAZING.
      b. WHERE THERE IS AN INTERVENING WALL OR OTHER PERMANENT BARRIER BETWEEN THE DOOR AND GLAZING.
   3. GLAZING ADJACENT TO WINDOWS: GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
      EXCEPTIONS:
      a. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQUARE FEET, AND
      b. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FLOOR, AND
      c. THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES ABOVE THE FLOOR, AND
      d. ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
   4. GLAZING IN GUARDRAILS AND RAILINGS: ALL GLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.
   5. GLAZING AND WET SURFACES: GLAZING IN ENCLOSURES FOR OR WALLS FACING BATHTUBS AND SHOWERS WHERE THE EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.
      EXCEPTION: GLAZING THAT IS MORE THAN 60 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE FROM THE WATER'S EDGE OF A BATHTUB.
   6. GLAZING ADJACENT TO STAIRWAYS AND RAMPS: GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAT 60 INCHES ABOVE THE PLANE OF THE ADJACENTWALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED TO BE HAZARDOUS LOCATIONS.
      EXCEPTIONS:
      a. THE SIDE OF THE STAIRWAY, LANDING, OR RAMPTHAT HAS GUARD COMPLYING WITH SECTIONS 1015 AND 1607.8, AND THE PLANE OF THE GLASS IS GREATER THAN 18 INCHES FROM THE RAILING.
      b. GLAZING 36 INCHES OR MORE MEASURED HORIZONTALLY FROM THE WALKING SURFACES.
   7. GLAZING ADJACENT TO THE BOTTOM STAIRWAY LANDING: GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 60 INCHES ABOVE THE LANDING AND WITHIN A 60-INCH HORIZONTAL ARC THAT IS LESS THAN 180 DEGREES FROM THE BOTTOM TREAD NOSING SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.
      EXCEPTION: GLAZING THAT IS PROTECTED BY A GUARD COMPLYING WITH SECTIONS 1015 AND 1607.8 WHERE THE PLANE OF THE GLASS IS GREATER THAN 18 INCHES FROM THE GUARD
   8. FIRE DEPARTMENT ACCESS PANELS: FIRE DEPARTMENT GLASS ACCESS PANELS SHALL BE OF TEMPERED GLASS. FOR INSULATING GLASS UNITS, ALL PANES SHALL BE TEMPERED.
9. **REFER TO FLOOR PLAN FOR ALL EGRESS WINDOWS.**

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:
Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Windows Schedule

A8.10

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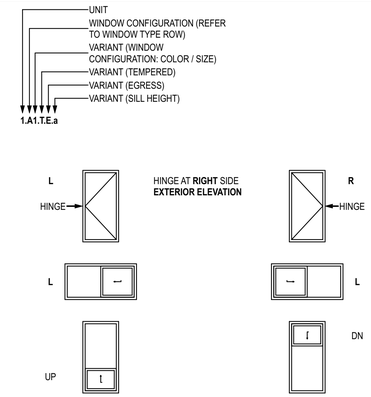
WINDOW TYPES

WINDOW NUMBER	S	S.1	S.3	S.4	S.5	S.7	S.8	S.9	S.10	S.11
QUANTITY	1	1	1	1	1	2	2	2	3	4
ELEVATION	4'-0" × 11'-3"	2'-6" × 7'-6"	3'-3" × 9'-9"	3'-10" × 9'-9"	4'-1 3/8" × 9'-9"	3'-0" × 9'-9"	2'-0" × 9'-0"	3'-10" × 11'-3"	3'-6" × 7'-6"	3'-6" × 8'-6"
WINDOW TYPE	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED
NOMINAL W x H SIZE	4'-0"×11'-3"	2'-6"×7'-6"	3'-3"×9'-9"	3'-10"×9'-9"	4'-1 3/8"×9'-9"	3'-0"×9'-9"	2'-0"×9'-0"	3'-10"×11'-3"	3'-6"×7'-6"	3'-6"×8'-6"
SILL HEIGHT	0"	1'-0 7/8"	0"	0"	0"	0"	0"	0"	1'-0 7/8"	6"
WINDOW AREA	45.00	18.75	31.69	37.38	45.04	29.25	18.00	43.13	26.25	29.75
FRAME MATERIAL	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN
FRAME EXTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
FRAME INTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
U-VALUE	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25
STC RATING	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SHGC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
FIRE EGRESS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TEMPERED	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
NOTES										

WINDOW TYPES

WINDOW NUMBER	S.12	S.12	S.13	S.13	S.14	S.14	S.14
QUANTITY	1	8	2	8	1	1	14
ELEVATION	4'-0" × 7'-6"	4'-0" × 7'-6"	4'-0" × 7'-3"	4'-0" × 9'-9"	3'-0" × 11'-3"	4'-0" × 11'-3"	4'-0" × 11'-3"
WINDOW TYPE	OUTSING	FIXED	FIXED	FIXED	FIXED	OUTSING	FIXED
NOMINAL W x H SIZE	4'-0"×7'-6"	4'-0"×7'-6"	4'-0"×7'-3"	4'-0"×9'-9"	3'-0"×11'-3"	4'-0"×11'-3"	4'-0"×11'-3"
SILL HEIGHT	1'-0 7/8"	1'-0 7/8"	2'-6"	0"	0"	0"	0"
WINDOW AREA	30.00	30.00	29.00	39.00	33.75	50.68	45.00
FRAME MATERIAL	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN
FRAME EXTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
FRAME INTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
U-VALUE	.25	.25	.25	.25	.25	.25	.25
STC RATING	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SHGC	TBD	TBD	TBD	TBD	TBD	TBD	TBD
FIRE EGRESS	☒	☐	☐	☐	☐	☒	☐
TEMPERED	☒	☒	☒	☒	☒	☒	☒
NOTES							

WINDOW TYPES NAMING CONVENTION



NOTE: ALL INTERIOR WINDOW FRAMES ARE TO BE WHITE VINYL, REFER TO WINDOW SCHEDULE FOR EXTERIOR FRAME COLOR

WINDOW GROUPING DESIGNATIONS

CONFIGURATION:		TYPES:	
VERTICAL WINDOW WITH/WITHOUT OPERABLE PANE	A	FIXED/ PICTURE WINDOW	F
HORIZONTAL WINDOW WITH/WITHOUT OPERABLE PANE	B	SLIDING WINDOW	S
FIXED / PICTURE WINDOW	C	AWNING	A
COMBINATION	D	CASEMENT	C
SPECIALTY WINDOWS	S	SINGLE HUNG	SH
STOREFRONT	ST	DOUBLE HUNG	DH

GENERAL WINDOW NOTES

1. ALL WINDOW SIZES DENOTE **ROUGH OPENING**
2. CONTRACTOR IS RESPONSIBLE FOR ORDERING THE CORRECT WINDOW SIZES, CONTRACTOR SHALL VERIFY ALL ROUGH OPENINGS DURING CONSTRUCTION.
3. **SEE PLANS AND ELEVATIONS FOR HINGE LOCATIONS AND DIRECTIONS.**
4. ALL GLAZING TO BE LOW-E, INSULATED GLAZING, U.O.N.
5. U-FACTORS SHALL BE LABELED AND NFRC CERTIFIED.
6. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS FOR EGRESS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24" AND THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20".
7. HAZARDOUS GLAZING LOCATIONS PER **2018 IBC SECTION 2406.4.**
   1. GLAZING IN DOORS: GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING, AND BIFOLD DOORS.
      EXCEPTIONS:
      a. GLAZED OPENINGS OF A SIZE THROUGH WHICH A 3-INCH DIAMETER SPHERE IS UNABLE TO PASS.
      b. DECORATIVE GLAZING
   2. GLAZING ADJACENT TO DOORS: GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24-INCH ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.
      EXCEPTIONS:
      a. DECORATIVE GLAZING.
      b. WHERE THERE IS AN INTERVENING WALL OR OTHER PERMANENT BARRIER BETWEEN THE DOOR AND GLAZING.
   3. GLAZING ADJACENT TO WINDOWS: GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
      EXCEPTIONS:
      a. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQUARE FEET, AND
      b. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FLOOR, AND
      c. THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES ABOVE THE FLOOR, AND
      d. ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
   4. GLAZING IN GUARDRAILS AND RAILINGS: ALL GLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.
   5. GLAZING AND WET SURFACES: GLAZING IN ENCLOSURES FOR OR WALLS FACING BATHTUBS AND SHOWERS WHERE THE EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.
      EXCEPTION: GLAZING THAT IS MORE THAN 60 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE FROM THE WATER'S EDGE OF A BATHTUB.
   6. GLAZING ADJACENT TO STAIRWAYS AND RAMPS: GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAT 60 INCHES ABOVE THE PLANE OF THE ADJACENTWALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED TO BE HAZARDOUS LOCATIONS.
      EXCEPTIONS:
      a. THE SIDE OF THE STAIRWAY, LANDING, OR RAMPTHAT HAS GUARD COMPLYING WITH SECTIONS 1015 AND 1607.8, AND THE PLANE OF THE GLASS IS GREATER THAN 18 INCHES FROM THE RAILING.
      b. GLAZING 36 INCHES OR MORE MEASURED HORIZONTALLY FROM THE WALKING SURFACES.
   7. GLAZING ADJACENT TO THE BOTTOM STAIRWAY LANDING: GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 60 INCHES ABOVE THE LANDING AND WITHIN A 60-INCH HORIZONTAL ARC THAT IS LESS THAN 180 DEGREES FROM THE BOTTOM TREAD NOSING SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.
      EXCEPTION: GLAZING THAT IS PROTECTED BY A GUARD COMPLYING WITH SECTIONS 1015 AND 1607.8 WHERE THE PLANE OF THE GLASS IS GREATER THAN 18 INCHES FROM THE GUARD
   8. FIRE DEPARTMENT ACCESS PANELS: FIRE DEPARTMENT GLASS ACCESS PANELS SHALL BE OF TEMPERED GLASS. FOR INSULATING GLASS UNITS, ALL PANES SHALL BE TEMPERED.
9. **REFER TO FLOOR PLAN FOR ALL EGRESS WINDOWS.**

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:

Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

Windows Schedule

A8.11

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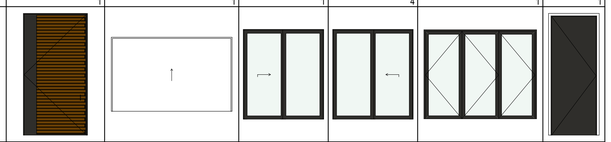
DOOR TYPES

B	BARN DOOR
D	SINGLE SWING DOOR
D.G	SINGLE INT SWING DOOR WITH GLAZING
DD	DOUBLE SWING DOOR
F	BI-FOLD DOORS - (1) LEAF
FF	BI-FOLD DOORS - (2) LEAVES
O	OVERHEAD/GARAGE DOOR
P	POCKET DOOR
T	UNIT SLIDING DOORS
S	EXTERIOR ENTRY DOOR

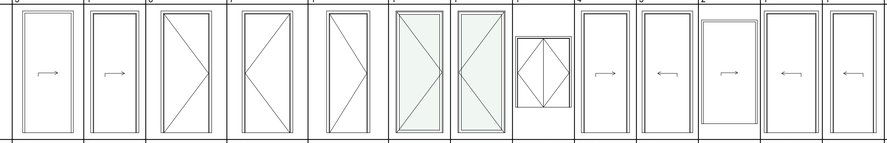
GENERAL DOOR NOTES

1. SEE ARCHITECTURAL PLANS AND ELEVATIONS FOR HINGE DIRECTIONS
2. SWING ESTABLISHED FACING HINGE SIDE OF DOOR (CONTRACTOR TO VERIFY SWING DIRECTION)
3. ALL WIDTHS AND HEIGHTS DENOTE DOOR LEAF SIZES, EXCEPT DOUBLE DOOR UNITS WHICH ARE NOTED AS DOUBLE LEAF SIZE. U.N.O. IN KEY NOTES
4. ALL DOORS WITH GLAZING TO HAVE LOW-E, INSULATED TEMPERED SAFETY GLASS
5. EGRESS DOORS NOTED IN KEY NOTES
6. U-FACTORS SHALL BE LABELED AND NFRC CERTIFIED

EXTERIOR DOOR TYPES

DOOR TYPE	D-01	D-02	D-03	D-04	D-09	D-09
QUANTITY	1	1	1	4	1	1
ELEVATION						
LEAF DIMENSIONS	5'-0"×9'-8"	13'-0"×8'-0"	8'-0"×9'-0"	8'-0"×9'-0"	12'-0"×9'-7"	3'-0"×8'-0"
LEAF THICKNESS	1 3/4"	1 3/4"	1 3/4"	7"	1 3/4"	1 3/4"
DOOR LEAF MATERIAL	SC WOOD	TBD	ALUM / GLASS	ALUM / GLASS	ALUM / GLASS	HOLLOW METAL
DOOR FRAME MATERIAL	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	ALUMINUM THERMALLY BROKEN	HOLLOW METAL
FRAME EXTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
FRAME INTERIOR FINISH	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM	DARK BRONZE ANODIZED ALUMINUM
U-VALUE	.25	.25	.25	.25	.25	.25
SHGC	TBD	TBD	TBD	TBD	TBD	TBD
HARDWARE SET	TBD	TBD	TBD	TBD	TBD	TBD
TEMPERED	☐	☐	☒	☒	☒	☐
NOTES		GARAGE DOOR				

SF INTERIOR DOOR TYPES

DOOR TYPE	B.1	D-01	D.1.L	D.1.R	D.2.R	D.G.L	D.G.R	DD.1	P.1	P.2	P.3	P.4	P.5	
QUANTITY	3	1	8	7	1	1	1	1	4	3	2	1	1	34
ELEVATION														
LEAF DIMENSIONS	3'-0"×8'-0"	2'-10"×8'-0"	3'-0"×8'-0"	3'-0"×8'-0"	2'-6"×8'-0"	3'-0"×8'-0"	3'-0"×8'-0"	5'-0"×6'-8"	2'-10"×8'-0"	3'-0"×8'-0"	4'-0"×8'-0"	3'-3"×8'-0"	2'-8"×8'-0"	
LEAF THICKNESS	1 3/4"		1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	
DOOR LEAF MATERIAL	SC WOOD	TBD	SC WOOD	SC WOOD	SC WOOD	WOOD / GLASS	WOOD / GLASS	SC WOOD	SC WOOD	SC WOOD	SC WOOD	SC WOOD	SC WOOD	
DOOR FRAME MATERIAL	WOOD	TBD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	
DOOR LEAF FINISH	TBD		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
TEMPERED	☐	☒	☐	☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	
HARDWARE SET	BARN DOOR; PER GC	TBD	SWING/HINGE; PASSAGE LEVER; LOCKSET PER GC	SWING/HINGE; PASSAGE LEVER; LOCKSET PER GC	SWING/HINGE; PASSAGE LEVER; LOCKSET PER GC	TBD; PER GC	TBD; PER GC	SWING/ HINGE; PASSAGE LEVER	POCKET; PER GC	POCKET; PER GC	POCKET; PER GC	POCKET; PER GC	POCKET; PER GC	
NOTES														

Architect of Record

b9 architects

610 2nd Avenue
Seattle, WA 98104
206.297.1284
www.b9architects.com

Project:

LANZ RESIDENCE

Location:

8020 SE 57TH STREET
MERCER ISLAND, WA 98040

SDCI Number:

Project No.

8914 REGISTERED ARCHITECT BRADLEY G. KHOURI STATE OF WASHINGTON

Professional Stamp

Issue ID	Issue Name	Printed Issue Date
00	Building Permit	03/14/2024

City Stamp

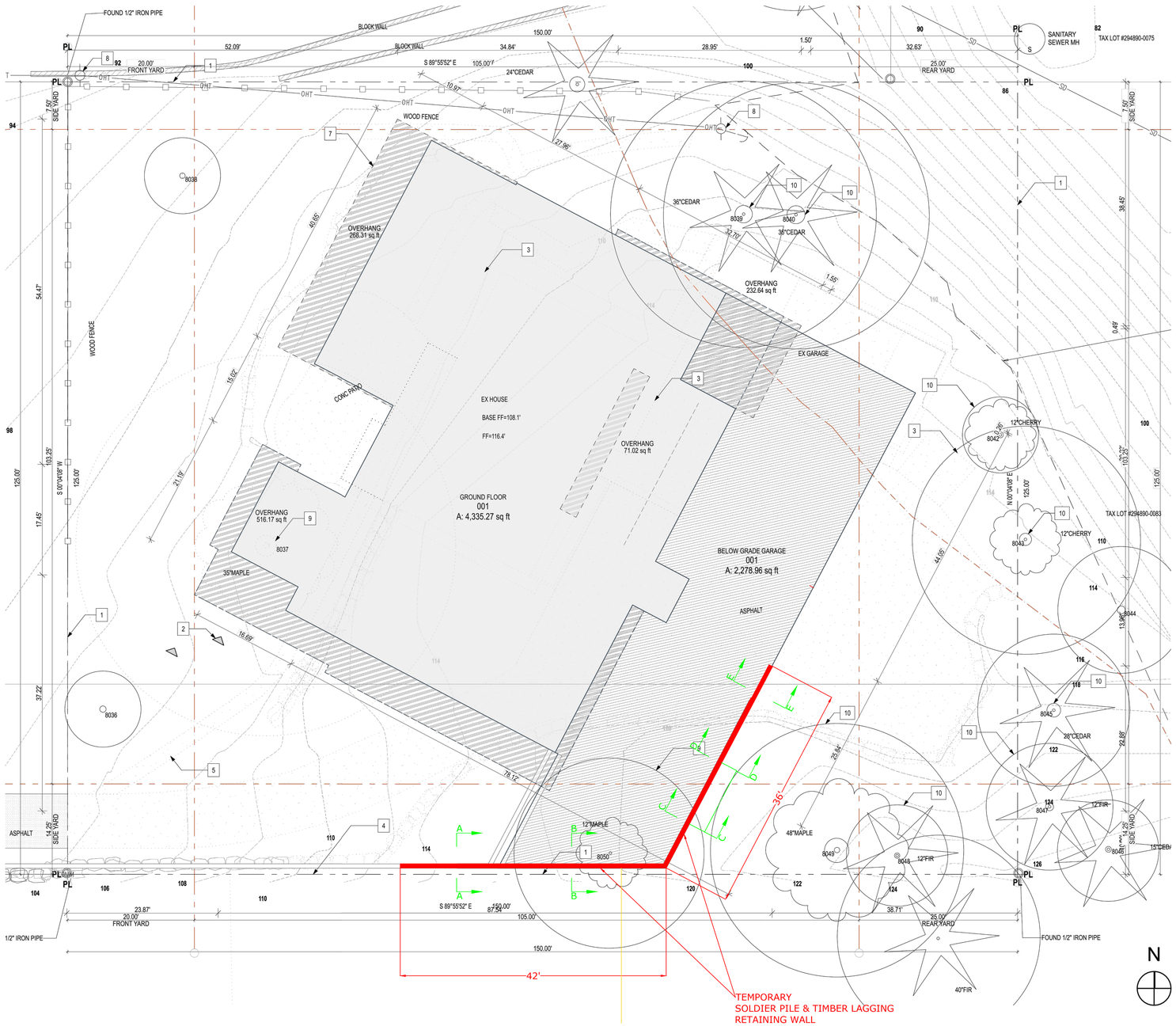
Door Schedule

A8.20

© 2024 b9 architects

LANZ RESIDENCE - SOLDER PILE RETAINING WALL

PERMANENT SOLDIER PILE & TIMBER LAGGING SHORING WALL



1 PLOT PLAN

SCALE: 1/8" = 1'-0"

OWNER:
Vann Lanz
8020 SE 57th Street
Mercer Island, WA 98040
(206)499-1277

SHORING DESIGNER:
Lucia Engineering, Inc.
Joseph M Lucia
12527 Huckleberry Lane
Arlington, WA 98223
(206)790-8039

GEOTECHNICAL ENGINEER:
Earth Solutions NW, LLC
15365 N.E. 90th Street, Suite 100
Redmond,WA 98052
(425)449-4704

ARCHITECT:
Bradley Khouri
610 2nd Avenue
Seattle, WA 98104
(206)297-1284

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-1.0

SOLDIER PILE - NOTES:

REFERENCE STANDARDS:

ACI 301-10 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE"
2021 INTERNATIONAL BUILDING CODE
2018 NATIONAL DESIGN SPECIFICATIONS for WOOD CONSTRUCTION

DESIGN LOADING:
REF. SOIL REPORT
EARTH SOLUTIONS NW, LLC
Dated: October 4, 2023
Pa = 42 PCF
Pp = 200 PCF
Seismic loading = 8H

SEISMIC LOADING:
EQUIVALENT LATERAL FORCE PROCEDURE (ASCE 7-16, SECTION 12.8)
SITE CLASS: D
S_S: 1.462
S_1: 0.507
RISK CATEGORY: II
IMPORTANCE FACTOR: (I_E) 1.0
SEISMIC DESIGN CATEGORY: D

CONCRETE:

CONCRETE MIXTURES: CONFORM TO:
(1) ACI 301 SECTION 4 "CONCRETE MIXTURES"

MATERIALS: CONFORM TO:
(1) ACI 301 SECTION 4.2.1 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

MIX DESIGN REQUIREMENTS:

PILE CONCRETE:
ABOVE EXCAVATION LINE (DREDGE LINE): LEAN MIX
BELOW EXCAVATION LINE (DREDGE LINE): LENA MIX

MIX DESIGN NOTES:
LEAN MIX SHALL HAVE A MINIMUM OF 1-1/2 SACKS (141 POUNDS) OF CEMENT AND 200 POUNDS OF FLY ASH PER CUBIC YARD OF CONCRETE.

PORTLAND CEMENT SHALL BE TYPE I, II, OR III CONFORMING TO ASTM C150 / AASHTO M85
FLY ASH SHALL BE TYPE F CONFORMING TO ASTM C618

FINE AGGREGATES SHALL CONFORM TO ASTM C88 / AASHTO M6
COARSE AGGREGATES SHALL CONFORM TO AASHTO M80. CLASS B

SLUMP FOR LEAN -MIX CONCRETE SHALL NOT BE LESS THAN 5 INCHES AND NOT MORE THAN 9 INCHES.

ADMIXTURES SHALL CONFORM TO ASTM C494 / AASHTO M194

MIX DESIGNS ARE TO BE SUBMITTED TO THE SHORING DESIGN ENGINEER FOR APPROVAL PRIOR TO USE

STRUCTURAL STEEL:

REFERENCED STANDARDS:
(1) AISC "MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN"
(2) AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES"
(3) AWS D1.1 "STRUCTURAL WELDING CODE - STEEL"

MATERIALS: CONFORM TO:
STRUCTURAL WF SHAPES - ASTM A992-GR50
HEADED STUDS SHALL CONFORM TO ASTM A108

PAINT:

CORROSION PROTECTION IS NOT REQUIRED

WELDING:

WELDING AND REPAIR WELDING FOR ALL STEEL FABRICATION SHALL COMPLY WITH THE AWS D1.1/D1.1M, LATEST EDITION, STRUCTURAL WELDING CODE. THE REQUIREMENTS DESCRIBED IN THE REMAINDER OF THIS SECTION SHALL PREVAIL WHENEVER THEY DIFFER FROM EITHER OF THE ABOVE WELDING CODES.

THE CONTRACTOR SHALL WELD STRUCTURAL STEEL ONLY TO THE EXTENT SHOWN IN THE PLANS.
NO WELDING, INCLUDING TACK AND TEMPORARY WELDS SHALL BE DONE IN THE SHOP OR FIELD UNLESS THE LOCATION OF THE WELDS IS SHOWN ON THE APPROVED SHOP DRAWINGS OR APPROVED BY THE ENGINEER IN WRITING. WELDING PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH SHOP DRAWINGS . THE PROCEDURES SHALL SPECIFY THE TYPE OF EQUIPMENT TO BE USED, ELECTRODE SELECTION, PREHEAT REQUIREMENTS, BASE MATERIALS, AND JOINT DETAILS. WHEN THE PROCEDURES ARE NOT PREQUALIFIED BY AWS OR AASHTO, EVIDENCE OF QUALIFICATION TESTS SHALL BE SUBMITTED.

WELDING SHALL NOT BEGIN UNTIL AFTER THE CONTRACTOR HAS RECEIVED THE ENGINEER'S APPROVAL OF SHOP PLANS.
THESE PLANS SHALL INCLUDE PROCEDURES FOR WELDING, ASSEMBLY, AND ANY HEAT-STRAIGHTENING OR HEAT-CURVING.

IN SHIELDED METAL-ARC WELDING, THE CONTRACTOR SHALL USE LOW-HYDROGEN ELECTRODES.
IN SUBMERGED-ARC WELDING, FLUX SHALL BE OVEN-DRIED AT 550°F FOR AT LEAST 2-HOURS, THEN STORED IN OVENS HELD AT 250°F OR MORE. IF NOT USED WITHIN 4-HOURS AFTER REMOVAL FROM A DRYING OR STORAGE OVEN, FLUX SHALL BE REDRIED BEFORE USE.
PREHEAT AND INTERPASS TEMPERATURES SHALL CONFORM TO THE APPLICABLE WELDING CODE AS SPECIFIED IN THIS SECTION. REFER TO APPROVED WELDING PROCEDURES WHEN WELDING MAIN TO STEEL MEMBERS. IF GROOVE WELDS (WEB-TO-WEB OR FLANGE-TO-FLANGE) HAVE BEEN REJECTED, THEY MAY BE REPAIRED NO MORE THAN TWICE. IF A THIRD FAILURE OCCURS, THE CONTRACTOR SHALL:

1. TRIM THE MEMBERS, IF THE ENGINEER APPROVES, AT LEAST ½-INCH ON EACH SIDE OF THE WELD;
2. REPLACE THE MEMBERS AT NO EXPENSE TO THE CONTRACTING AGENCY.

BY USING EXTENSION BARS AND RUNOFF PLATES, THE CONTRACTOR SHALL TERMINATE GROOVE WELDS IN A WAY THAT ENSURES THE SOUNDNESS OF EACH WELD TO ITS ENDS. THE BARS AND PLATES SHALL BE REMOVED AFTER THE WELD IS FINISHED AND COOLED. THE WELD ENDS SHALL THEN BE GROUND SMOOTH AND FLUSH WITH THE EDGES OF ABUTTING PARTS.

THE CONTRACTOR SHALL NOT:

1. WELD WITH ELECTROGAS OR ELECTROSLAG METHODS,
2. WELD NOR FLAME CUT WHEN THE AMBIENT TEMPERATURE IS BELOW 20°F,
3. USE COPED HOLES IN THE WEB FOR WELDING BUTT SPLICES IN THE FLANGES UNLESS THE PLANS SHOW THEM.

TIMBER:

MATERIALS:
TIMBER LAGGING SHALL BE:
HEM FIR No. 1 OR BETTER
DESIGN PROPERTIES:
E = 1,500,000 PSI (NDS Table 4A)
$F_{v\ allowable}$ = 150 PSI (NDS Table 4A)
$F_{p\ allowable}$ = 405 PSI (NDS Table 4A)
$F_{b\ allowable}$ = 975 PSI (NDS Table 4A)
OR
DOUGLAS FIR - LARCH No. 2 OR BETTER
DESIGN PROPERTIES:
E = 1,600,000 PSI (NDS Table 4A)
$F_{v\ allowable}$ = 180 PSI (NDS Table 4A)
$F_{p\ allowable}$ = 625 PSI (NDS Table 4A)
$F_{b\ allowable}$ = 900 PSI (NDS Table 4A)
4x12 LAGGING (TYPICAL) (11.25" x 3.5")
A = 39.38 IN^2 (11.24" x 3.5")
S = 22.96 IN^3 ($11.25 \times 3.5^2 / 6$)
I = 160.78 IN^4 ($11.25 \times 3.5^3 / 3$)

PRESERVATIVE TREATMENT:
NONE REQUIRED

UTILITIES & INTERFERENCES:

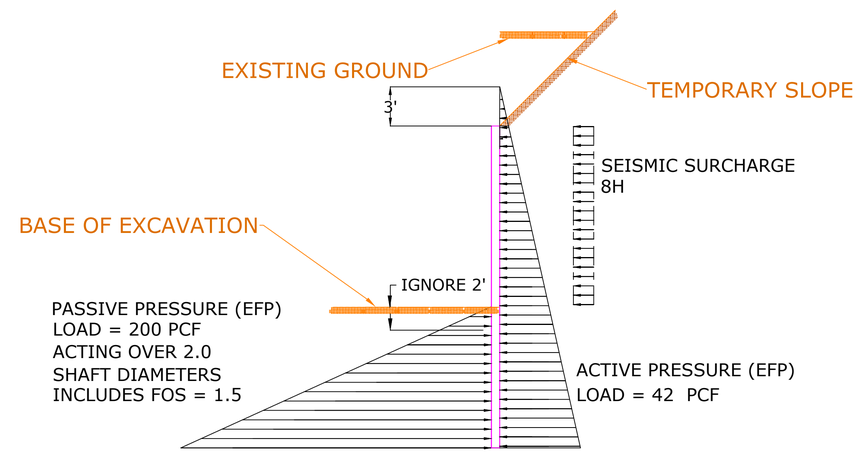
ALL EXISTING UTILITIES AND OTHER OBJECTS WHICH MAY INTERFERE WITH THE INSTALLATION OF THE SHORING SYSTEM ARE TO BE LOCATED PRIOR TO BEGINNING CONSTRUCTION.

POSSIBLE INTERFERENCES BETWEEN THE SHORING AND ANY UTILITY OR OTHER OBJECT(S) IS TO BE PROVIDED TO THE SHORING DESIGNER PRIOR TO THE START OF WORK.

SHORING INSTALLATION REVIEW:

SEE THE GEOTECHNICAL REPORT FOR REQUIRED GEOTECHNICAL INSPECTIONS & REVIEW
THE CITY REQUIRES CONTINUOUS MONITORING OF ALL SHORING INSTALLATION ACTIVITY BY THE GEOTECHNICAL ENGINEER.

SOLDIER PILE INSTALLATION - REQUIRES CONTINUOUS INSPECTION



LOADING DIAGRAM - CANTILEVERED CONDITION

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

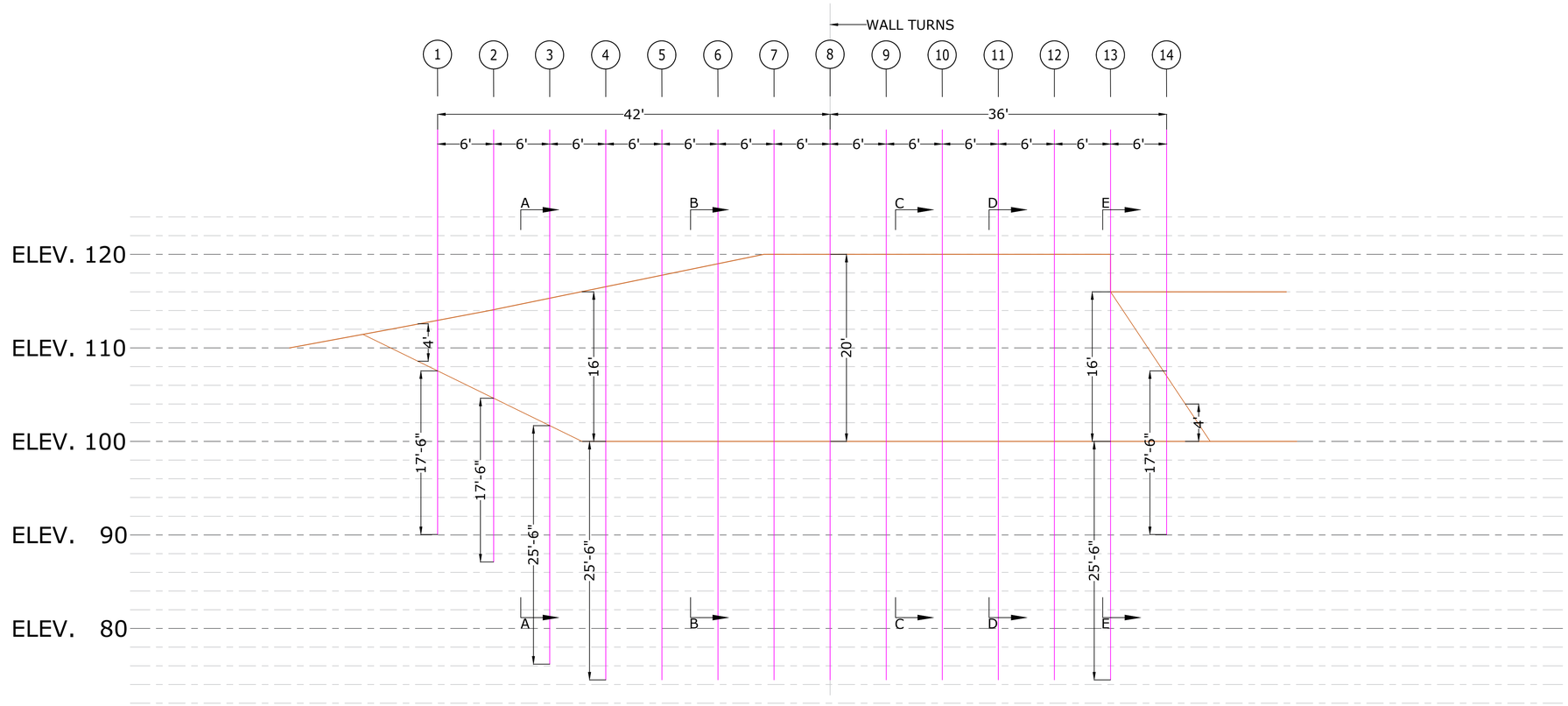
Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

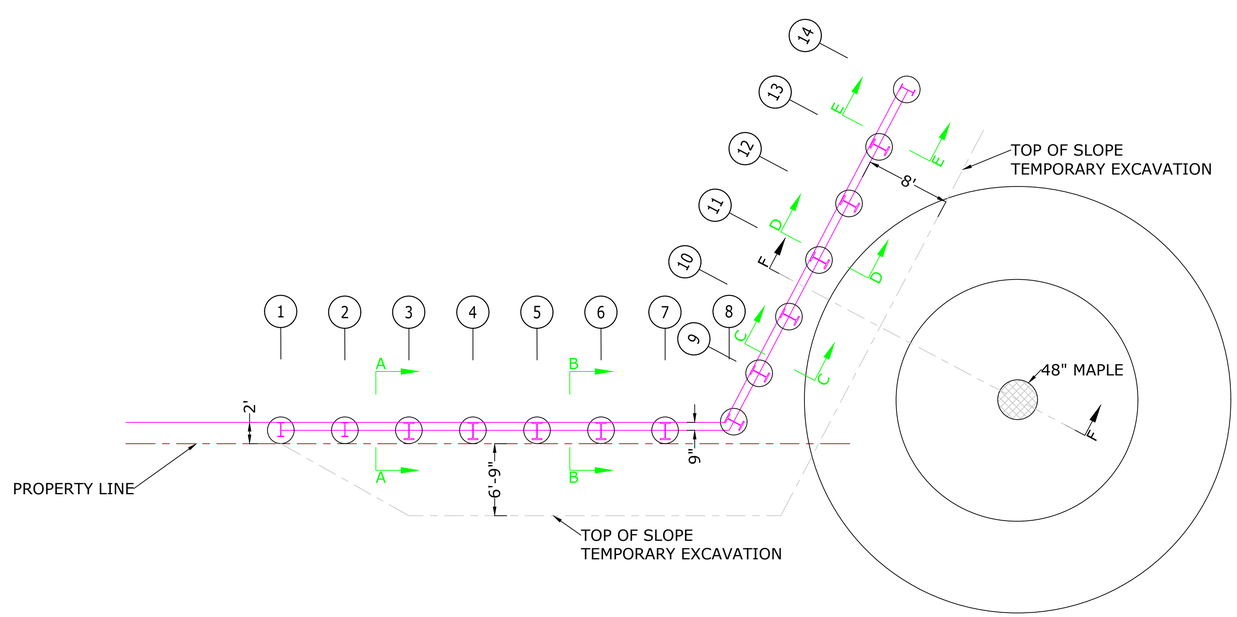
JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-2.0



ELEVATION



PLAN

LANZ RESIDENCE
8020 SE 57th Street
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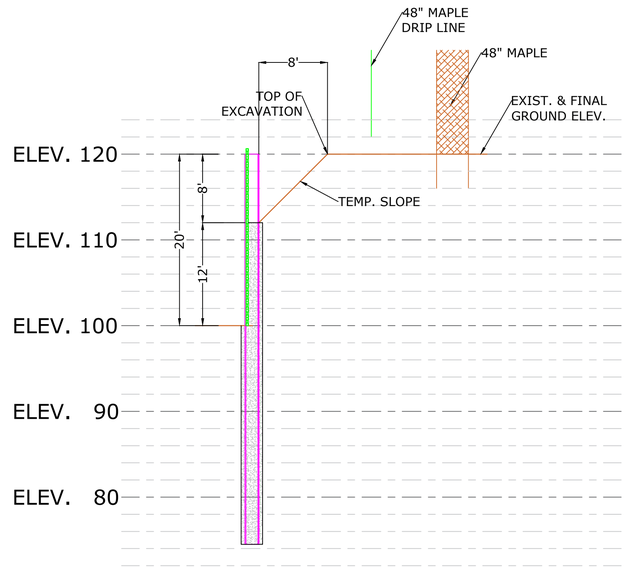
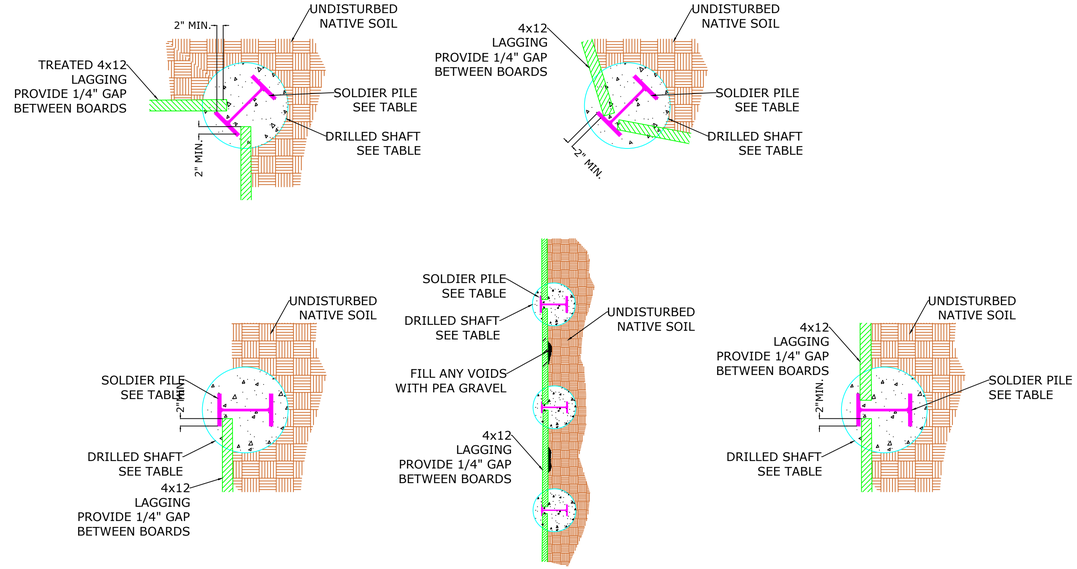
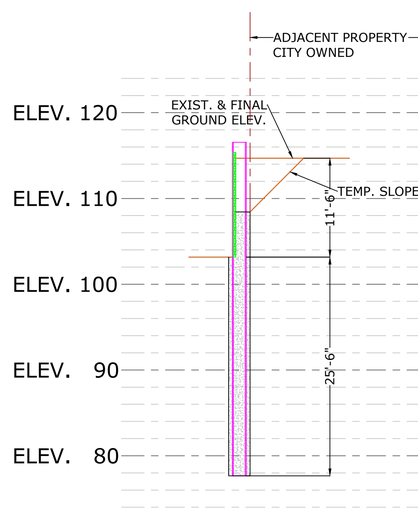


SECTION F-F



TYPICAL DETAILS - SOLDIER PILE & TIMBER LAGGING



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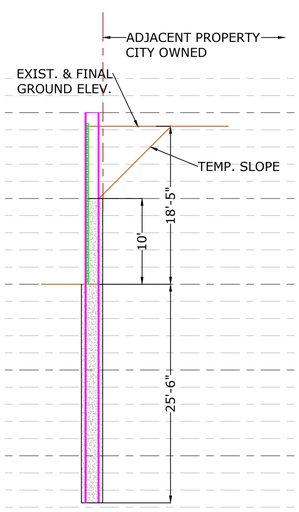

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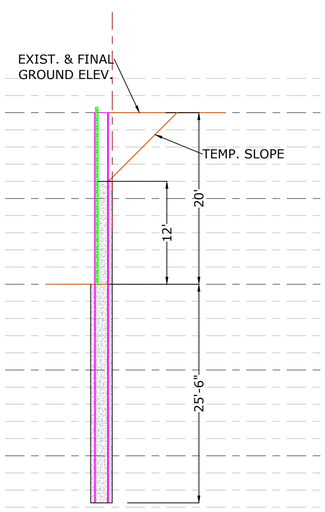
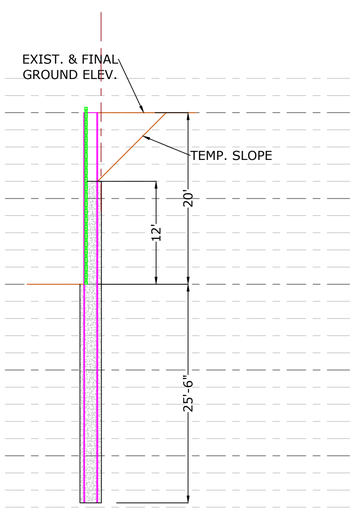


SECTION C-C & D-D



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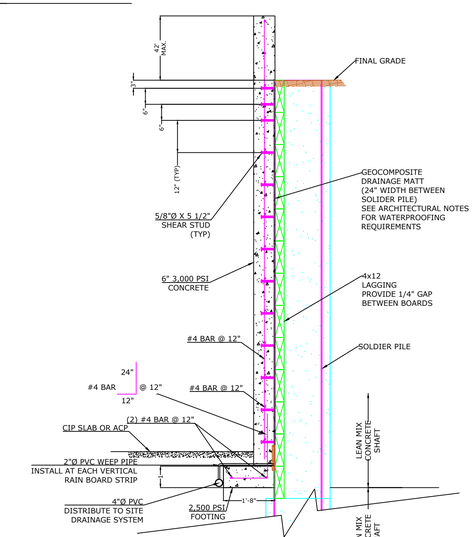

FUTURE FASCIA WALL DETAIL

PILE INFORMATION

Pile No.	Wide Flange Section	Pile Spacing (FT)	Calculated Wide Flange Pile Length (FT)	Pile Weight (LBS)	Shored Height (FT)	Exist & Final Ground Eleve. At Back of Wall	Req'd Embedment Depth (FT)	Predicted Deflection (Inches)	Shaft Diameter (FT)	Lean Mix Concrete (CY Neat)	Timber Lagging	Lagging Area (SF)	Top of Pile Elev. (FT)	Excavation Grade Face of Wall Elev. (FT)	Bottom of Shaft Elev. (FT)
1	W16 x 45		31.50	1,417.50	8.00	113.00	17.50	< 1	2.50	5.72	4 x 12		114.00	100.00	82.50
2	W16 x 45	6.00	33.50	1,507.50	12.00	114.00	17.50	< 1	2.50	6.09	4 x 12	84.00	116.00	100.00	82.50
3	W18 x 143	6.00	42.50	6,077.50	12.00	115.50	25.50	< 1	2.50	7.72	4 x 12	96.00	117.00	100.00	74.50
4	W18 x 143	6.00	43.50	6,220.50	12.00	116.50	25.50	< 1	2.50	7.90	4 x 12	102.00	118.00	100.00	74.50
5	W18 x 143	6.00	44.50	6,363.50	12.00	118.00	25.50	< 1	2.50	8.09	4 x 12	108.00	119.00	100.00	74.50
6	W18 x 143	6.00	45.50	6,506.50	11.75	119.00	25.50	< 1	2.50	8.27	4 x 12	114.00	120.00	100.00	74.50
7	W18 x 143	6.00	45.50	6,506.50	11.50	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
8	W18 x 143	6.00	45.50	6,506.50	11.00	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
9	W18 x 143	6.00	45.50	6,506.50	8.50	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
10	W18 x 143	6.00	45.50	6,506.50	7.50	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
11	W18 x 143	6.00	45.50	6,506.50	6.00	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
12	W14 x 143	6.00	45.50	6,506.50	2.00	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
13	W14 x 143	6.00	45.50	6,506.50	2.25	120.00	25.50	< 1	2.50	8.27	4 x 12	120.00	120.00	100.00	74.50
14	W16 x 45	6.00	33.50	1,507.50	4.00	117.00	17.50	< 1	2.50	6.09	4 x 12	120.00	116.00	100.00	82.50
				75,146 LBS						108 CY		1,464 SF			

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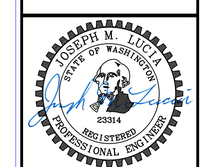

04-27-24

Number	Date	By	Description
3	04-27-24	JML	

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GENERAL NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE DRAWINGS, SPECIFICATIONS, AND THE CODES, RULES AND REGULATIONS OF INTERNATIONAL BUILDING CODE (IBC) 2021 EDITION.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
3. IF ANY ERRORS OR OMISSIONS APPEAR IN THESE DRAWINGS, SPECIFICATIONS, OR OTHER DOCUMENTS; THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OR ARCHITECT IN WRITING OF SUCH OMISSION OR ERROR BEFORE PROCEEDING WITH THE WORK.
4. MANUFACTURED MATERIALS SHALL BE APPROVED BY THE CHECKING AGENCY PRIOR TO THEIR USE. ALL REQUIREMENTS OF THOSE APPROVALS SHALL BE FOLLOWED.
5. ALL STRUCTURAL SYSTEMS THAT ARE TO BE COMPOSED OF MANUFACTURED COMPONENTS TO BE FIELD ERECTED SHALL BE APPROVED BY THE CHECKING AGENCY PRIOR TO THEIR USE AND SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER
6. FRAMING MEMBERS THAT ARE NOT DIMENSIONED SHALL BE EQUALLY SPACED BETWEEN DIMENSIONED POINT OR MEMBERS.
7. SEE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR THE FOLLOWING:
   SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS AND THRESHOLD REQUIREMENTS.
   SIZE AND LOCATION OF ALL NON-BEARING PARTITIONS.
   SIZE AND LOCATION OF ROOF, FLOOR AND WALL OPENINGS.
   SIZE AND LOCATION OF DEPRESSED AREAS, CHANGES IN ELEVATION, FLOOR AND ROOF DRAINS,
   SLOPES, CONCRETE CURBS, LEDGES, PADS AND ISLANDS, CHAMFERS, GROOVES, INSERTS, ETC.
   DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SIZE, WEIGHT AND LOCATION OF MACHINES AND EQUIPMENT BASES.
8. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
9. OPENINGS, POCKETS, ETC. SHALL NOT BE PLACED IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., LARGER THAN 6 INCHES NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS.
10. SPECIFICATIONS, CODES, AND STANDARDS NOTED IN THE CONTRACT DOCUMENTS SHALL BE OF THE LATEST APPROVED ISSUE, INCLUDING SUPPLEMENTS, UNLESS OTHERWISE NOTED. MATERIAL SPECIFICATIONS ARE ASTM LATEST EDITION.
11. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

DESIGN CRITERIA

LIVE LOADS

ROOF SNOW LOAD 25.0 PSF BASIC

DEAD LOADS

SUPERIMPOSED ROOF DEAD LOAD
FRAMING, CEILING, ETC. 15 PSF

SUPERIMPOSED WALL DEAD LOAD
EXTERIOR WALLS. 10 PSF

WIND DESIGN (PER 1615 -1622)
BASIC WIND SPEED 110 MPH
EXPOSURE B
IMPORTANCE FACTOR 1.0
TOPOGRAPHIC FACTOR 1.38
SEISMIC DESIGN (PER 1615 - 1633)
SEISMIC CATEGORY II
IMPORTANCE FACTOR= 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:
S_s = 1.466
S_1 = 0.508 SITE CLASS = D
S_{ds} = 1.173 SEISMIC RISK CATEGORY = D
BASIC SEISMIC FORCE-RESISTING SYSTEMS:
LIGHT FRAMED WALLS SHEATHED WITH
WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE.
DESIGN BASE SHEAR: 47.88 KIPS
R= 6.5 - Wood Framed
R = 5.0 - Concrete
ANALYSIS METHODS USED:
WIND; METHOD 2 - ANALYTICAL PROCEDURE
SEISMIC; METHOD 2 - EQUIVALENT LATERAL FORCE

MAPPED SPECTRAL RESPONSE
ACCELERATIONS OBTAINED FROM THE USGS - SEISMIC HAZARD MAPS & DATA

FOUNDATIONS

1. ALL FOUNDATIONS SHALL BE FOUNDED A MINIMUM OF 18" BELOW LOWEST ADJACENT FINAL FINISH FLOOR OR GRADE. EXPOSED SOIL SHALL BE INSPECTED FOR COMPLIANCE BY THE ENGINEER OR HIS REPRESENTATIVE PRIOR TO CONSTRUCTING CONCRETE FORMS AND/OR PLACING REINFORCING STEEL. ANY EXCESS OR NON-COMPLYING MATERIAL AS DETERMINED BY THE ENGINEER OR HIS REPRESENTATIVE SHALL BE REMOVED AND REPLACED AS DIRECTED.
2. THE ALLOWABLE SOIL BEARING LOAD IS PER THE GEOTECHNICAL REPORT.

REINFORCING STEEL

1. REINFORCING STEEL SHALL BE DETAILED, INCLUDING HOOKS AND BENDS, AND PLACED IN ACCORDANCE WITH ACI 315 AND ACI 318.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 OR A-706, GRADE 40 OR BETTER,
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185,
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD,
5. REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS,
6. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY, UON,
7. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED AND REVIEWED BY THE STRUCTURAL ENGINEER
8. WELDING OF REINFORCEMENT SHALL BE WITH LOW HYDROGEN ELECTRODES IN CONFORMANCE WITH ACI 318-95 AND THE RECOMMENDATIONS OF THE AMERICAN WELDING SOCIETY, AWS DI,4 AND WITH THE REVIEW OF THE STRUCTURAL ENGINEER

CONCRETE

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE' ACI 318 AND ACI 301, WITH MODIFICATIONS AS NOTED IN THE CONTRACT DOCUMENTS,
2. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE 1 OR TYPE H,
3. COARSE AND FINE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33,
4. WATER SHALL BE CLEAR AND SHALL CONFORM TO ASTM C-94,
5. CONCRETE MIXING OPERATION SHALL CONFORM TO ASTM C-94,
6. ADD TO ALL CONCRETE EXPOSED TO WEATHER MICROAIR OR MBVR AIR ENTRAINING AGENT TO ATTAIN 5 PERCENT +1- 1 PERCENT ENTRAINED AIR, BY VOLUME, CONFORMING TO ASTM C-260, ALL REFERENCE DATA USED FOR PAST PERFORMANCE DESIGN SHALL HAVE CONTAINED THE SAME ADMIXTURE BRAND AS THAT USED IN THE MIX SUBMITTED,
7. CONCRETE STRENGTHS SHALL BE VERIFIED BY 28-DAY CYLINDER TESTS, UNLESS OTHERWISE APPROVED, CONCRETE SHALL BE AS FOLLOWS:

ELEMENT TYPE	STRENGTH PSI CONCRETE
FOOTINGS, GRADE BEAMS	2,500 NORMAL WT
SLAB ON GRADE	2,500 NORMAL WT
FOUNDATION STEM WALLS	3,000 NORMAL WT
RETAINING WALLS	3,000 NORMAL WT

A MINIMUM 5 SACK MIX SHALL BE USED TO ACHIEVE THE DESIGN STRENGTHS LISTED ABOVE.

8. CONTRACTOR MAY USE AN ADMIXTURE SYSTEM TO PRODUCE FLOWABLE CONCRETE, MAXIMUM SLUMP SHALL NOT EXCEED 10 INCHES MEASURED AT THE PUMP, THE WATER/CEMENTIOUS MATERIAL RATIO OF THE APPROVED MIXES SHALL BE MAINTAINED OR LOWERED WHEN FLOWABLE CONCRETE IS USED,
9. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT PLACED IN CAST-IN-PLACE CONCRETE:

	CONCRETE COVER (MINIMUM)
A . CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THROUGH #18 BARS	2"
#5 BAR, W31 OR D31 WIRE, A1413 SMALLER	1 1/2"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS	
#14 AND #18 BARS	1 1/2"
#11 BARS AND SMALLER	3/4"
BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1 1/2"

10. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304 AND THE CONTRACT DOCUMENTS. SANDBLAST ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED,
11. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE,
12. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING, REINFORCING SHALL NOT BE CUT, CORING OF CONCRETE IS NOT PERMITTED EXCEPT AS INDICATED,
13. CURING COMPOUNDS USED ON CONCRETE TO RECEIVE A FINISH SHALL BE APPROVED BY THE FINISH APPLICATOR BEFORE USE.

DESIGN LOADING:
REF. SOIL REPORT
EARTH SOLUTIONS NW, LLC
Dated: October 4, 2023
Pa = 42 PCF
Pp = 200 PCF
Seismic loading = 8H
Allowable Bearing Pressure = 2,500 PSF

WOOD

1. FRAMING LUMBER SHALL BE GRADED AND MARKED IN CONFORMANCE WITH WCLB STANDARD GRADING AND DRESSING RULES FOR WEST COAST LUMBER NO, 16, LATEST EDITION. UNLESS OTHERWISE NOTED ON THE DRAWINGS, LUMBER GRADES SHALL BE AS FOLLOWS:
   A. JOISTS: 2" AND 3" THICKNESS, HEM FIR NO, 1,
   B. BEAMS AND STRINGERS: DOUGLAS FIR NO, 1,
   C. POST AND TIMBERS: DOUGLAS FIR NO, 1,
   D. PLATES AND MISCELLANEOUS LIGHT FRAMING: HEM FIR STANDARD,
   E. STUDS: HEM FIR STUD.
   F. ALL BOLTED CONNECTIONS TO BE 3/4"Ø A302 BOLTS

2. MINIMUM NAILING REQUIREMENTS:

   UNLESS OTHERWISE NOTED, MINIMUM NAILING SHALL CONFORM TO THE GOVERNING CODE AND AS FOLLOWS:
   A. JOISTS OR RAFTERS TO SIDES OF STUDS 8-INCH OR LESS 3-16DB
   B. FOR EACH ADDITIONAL 4-INCH IN DEPTH OF JOISTS 1-16DC
   C. JOISTS OR RAFTERS AT ALL BEARINGS - TOENAILS EACH SIDE 2-10DD
   D. STUDS TO BEARING - TOENAILS EACH SIDE 2-10DE
   E. BLOCKING BETWEEN JOISTS OR RAFTERS TO JOIST OR RAFTERS - TOENAILS EACH SIDE EACH END 2-10D TO JOIST OR RAFTER BEARINGS - TOENAILS EACH SIDE 2-10D
   F. CROSS-BRIDGING BETWEEN JOISTS OR RAFTERS TOE NAILS EACH END 2-8D
   G. BLOCKING BETWEEN STUDS - TOENAILS EACH END 2-10D
   H. DOUBLE TOP PLATES - LOWER PLATE TO TOP OF STUD 2-16D
   J. UPPER TO LOWER PLATE - STAGGERED 16D @ 16" O,C,
   K. MULTIPLE JOISTS - STAGGERED 16D @ 12" O,C,
   L. MULTIPLE JOISTS STAGGER FOR WIDTHS MORE THAN 4 INCHES 16D @ 12" O,C.

3. INDIVIDUAL MEMBERS OF BUILT-UP POSTS AND BEAMS SHALL EACH BE ATTACHED WITH 16D SPIKES AT 12" O,C. STAGGERED, MIN,
4. ALL NAILS SHALL BE COMMON WIRE NAILS, WHENEVER POSSIBLE, NAILS DRIVEN PERPENDICULAR TO THE GRAIN SHALL BE USED, THERE SHALL BE A MINIMUM OF 2 NAILS AT ALL WOOD CONTACTS AND JOINTS USING 8D NAILS FOR 1-INCH THICK MATERIAL, 16D NAILS FOR 2-INCH THICK MATERIAL, AND 40D NAILS FOR 3-INCH THICK MATERIAL, ALL CONTINUOUS CONTACTS PROVIDE MINIMUM NAILS AT 12" O,C, WITH NAIL SIZES AS CALLED ABOVE,
5. NOTATIONS ON DRAWINGS RELATING TO FRAMING CLIPS, JOIST HANGERS, AND OTHER CONNECTING DEVICES REFER TO CATALOG NUMBERS OF STRONG-TIE CONNECTORS MANUFACTURED BY THE SIMPSON COMPANY, EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THAT THEY HAVE ICBO APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES AND ARE REVIEWED BY THE STRUCTURAL ENGINEER,
6. AT SAWN TIMBER JOISTS WITH THICKNESS-TO-DEPTH RATIO OF 1:6 AND GREATER, PROVIDE CROSS-BRIDGING AT 8' 0" O,C, AND SOLID BLOCKING AT BEARING POINTS,
7. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE GOVERNING CODE,
8. ALL BEARING AND EXTERIOR STUD WALLS SHALL BE 2X6 @6"O.C. BELOW SECOND FLOOR AND 2X4 @ 16" O.C. ELSEWHERE, UNLESS OTHERWISE NOTED.
9. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHTS AND AT INTERVALS NOT TO EXCEED 8 FEET OF ALL STUD-BEARING WALLS OVER 8 FEET IN HEIGHT,
10. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF INTERIOR NONBEARING STUD PARTITIONS FOR LOCATION AND SIZE OF OPENINGS IN STUD WALLS, AND FOR ALL WALL FINISH DETAILS,
11. ALL CANTS AND CRICKETS SHALL BE PLACED OVER BASIC ROOF SHEATHING. SEE ARCHITECTURAL DRAWINGS FOR DETAILS AND LOCATIONS,
12. ALL WOOD STUD WALL SILL PLATES SHALL BE ATTACHED TO CONCRETE OR MASONRY WITH 1/2-INCH DIAMETER ANCHOR BOLTS AT 48" O.C., UNLESS OTHERWISE NOTED ,
13. ALL WOOD STUD WALLS SHALL HAVE LOWER WOOD PLATE ATTACHED TO WOOD FRAMING BELOW WITH 16D NAILS AT 6" 0.C, STAGGERED UNLESS SHOWN OTHERWISE.
14. FASTEN ALL POSTS TO CONCRETE WITH "CB" COLUMN BASE OR EQUAL,
15. ALL WOOD PLATES AND BLOCKING IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WITH AN APPROVED PRESERVATIVE IN ACCORDANCE WITH AWPS-FDN, AND BEAR THAT QUALITY MARK,
16. PROVIDE STANDARD CUT WASHERS UNDER ALL BOLTS HEADS AND NUTS IN CONTACT WITH WOOD.
17. ATTACH TIMBER JOISTS TO FLUSH HEADERS AND BEAMS WITH "U" SERIES METAL JOIST HANGERS TO SUIT THE JOIST SIZE.
18. ALL PLYWOOD SHALL BE HEM FIR, STRUCTURAL 2 OR BETTER AND SHALL CONFORM TO APA C-D INTERIOR GRADE WITH EXTERIOR GLUE, WITH UBC STANDARD 23-2 AND WITH PRODUCT STANDARD PSI, WOOD-BASED STRUCTURAL-USE PANELS SHALL CONFORM WITH UBC STANDARD 23-3 AND WITH PRODUCT STANDARD PS2, TYPE AND THICKNESS SHALL BE AS SPECIFIED ON THE PLANS.
19. PLYWOOD NAILING, USE UNLESS OTHERWISE NOTED:

A. ROOF:	8D @ 6" O.C. AT SHEET EDGES
	8D @ 12" O.C. AT INTERMEDIATE BEARING POINTS
B. FLOOR:	10D @ 6" O.C. AT SHEET EDGES
	10D @ 10" O.C. AT INTERMEDIATE BEARING POINTS
C. WALLS:	8D @ 6" O.C. AT EDGES
	8D @ 12" O.C. AT INTERMEDIATE BEARING POINTS

PLYWOOD AND WOOD-BASED STRUCTURAL-USE PANELS USED FOR WALL SHEATHING SHALL HAVE SOLID BLOCKING AT ALL EDGES.

20. MACHINE APPLIED NAILING IS SUBJECT TO A SATISFACTORY DEMONSTRATION AND THE APPROVAL OF THE CHECKING AGENCY AND THE ARCHITECT, NAIL HEADS SHALL NOT PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER. EDGE DISTANCES SHALL BE MAINTAINED, SHINERS SHALL BE REMOVED AND REPLACED, THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE, MACHINE APPLIED NAILING ONLY ON PLYWOOD GREATER THAN 5/16".

STRUCTURAL STEEL, MISC. METAL

1. STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL BE BASED ON THE LATEST EDITION AND SUPPLEMENTS OF THE AISC "SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN", STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS,

TYPE OF MEMBER	ASTM SPECIFICATION	FY
WIDE FLANGE SHAPES	A572 OR A992	50 KSI
PLATES, SHAPES, ANGLES, AND RODS	A36	36 KSI
HOLLOW STRUCTURAL SECTION (ROUND)	A53 (GRADE B)	36 KSI
HOLLOW STRUCTURAL SECTION (SQUARE OR RECTANGLE)	A500 (GRADE B)	46 KSI
ANCHOR RODS (EMBEDDED IN CONCRETE)	A307	

2. ALL WELDS SHALL BE PREQUALIFIED IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WELDERS CERTIFIED IN THE JURISDICTION HAVING AUTHORITY OVER THIS PORTION OF THE WORK, USE E70XX ELECTRODES.3, WELD LENGTHS CALLED FOR ON THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED, WELD SIZE SHALL BE AISC MINIMUM, UNLESS OTHERWISE NOTED.

ANCHORAGE

1. EXPANSION ANCHORS SHALL BE ZINC PLATED IN ACCORDANCE WITH ASTM B 633, AND CONFORM WITH FS FF-S-325, GROUP II, TYPE 4, CLASS 1,
2. SLEEVE ANCHORS SHALL BE ZINC PLATED IN ACCORDANCE WITH ASTM B 633, AND CONFORM WITH FS FF-S-325, GROUP II, TYPE 3, CLASS 3,
3. FLUSH SHELL ANCHORS SHALL ZINC PLATED IN ACCORDANCE WITH ASTM B 633, AND CONFORM WITH FS FF-S-325, GROUP VIII, TYPE 1,
4. ADHESIVE ANCHORS SHALL CONSIST OF ALL-THREAD ANCHOR ROD, NUT, WASHER AND EPOXY INJECTION GEL OR ADHESIVE CAPSULE SYSTEM, ANCHOR RODS SHALL BE MANUFACTURED FROM A-36 MATERIAL, ZINC PLATED IN ACCORDANCE WITH ASTM B 633,
5. ALL RELATED PRODUCTS, MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS,
6. NOTATIONS ON DRAWINGS RELATING TO EXPANSION, SLEEVE, FLUSH OR ADHESIVE ANCHORS AND OTHER CONNECTING DEVICES REFER TO CONNECTORS MANUFACTURED BY POWERS FASTENING, INC, EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THAT THEY HAVE ICBO APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES AND ARE REVIEWED BY THE STRUCTURAL ENGINEER

SPECIAL INSPECTION

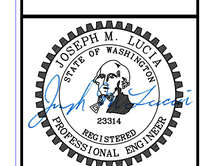
1. SPECIAL INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR, APPROVED BY THE ARCHITECT AND THE CHECKING AGENCY SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK. SEE THE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS, SPECIAL INSPECTIONS SHALL NOT BE REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION,
   SOIL
      EXCAVATION
      SOIL COMPACTION
   CONCRETE
      DESIGN STRENGTHS GREATER THAN 2,500 PSI PLACING OF REINFORCING STEEL
   WELDING
      STRUCTURAL STEEL
      REINFORCING STEEL
   FABRICATED TIMBER JOISTS
   EXPANSION TYPE ANCHOR BOLTS
   STRUCTURAL MASONRY CONSTRUCTION
   PILING, DRILLED OR DRIVEN
   STRUCTURAL STEEL FABRICATION

2. ALL PREPARED SOIL-BEARING SURFACES SHALL BE INSPECTED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL,
3. EXPANSION TYPE ANCHORS SHALL BE APPROVED BY THE CHECKING AGENCY FOR THEIR USE AND SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS,
4. THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING OFFICIAL SHALL BE FURNISHED WITH COPIES OF ALL TEST RESULTS.

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com



04-27-24

Number	Date	By	Description
32	04-27-24	JML	

SHEET
S-5.0

SHEAR WALL SCHEDULE

MARK	SHEATHING	NAILING (5)		LUMBER			SHEAR TRANSFER					1.4 INCREASE FOR WIND
		EDGE (E.N.)	FIELD	ALLOWABLE SHEAR	SILL PL	TOP PL'S	"A" SILL PL TO CONC.	"B" BLKG TO TOP PL.	"C" SILL PL RIM/JST/BLKG (F.N.)	"D" SHEAR WALL INTERSECTIONS	CAPACITY	CAPACITY
P1-8-6	3/8" APA RATED SHEATHING, ONE SIDE	8d@6"	8d@ 6"	2x	2x	(2)2x	5/8 @ 48"	A35@20" OR LPT4 @ 30"	16d @ 5"	16d @ 8"	270 PLF	378 PLF
P1-8-4	3/8" APA RATED SHEATHING, ONE SIDE	8d@4"	8d@ 6"	2x	2x	(2)2x	5/8 @ 40"	A35@16" OR LPT4 @ 20"	16d @ 5"	16d @ 5"	360 PLF	504 PLF
P1-8-3	3/8" APA RATED SHEATHING, ONE SIDE	8d@2-1/2"	8d@4"	2x	3x	(2)2x	5/8 @ 36"	A35@12" OR LPT4 @ 15"	20d @ 4"	16d @ 3 1/2"	530 PLF	742 PLF
P1-8-2	3/8" APA RATED SHEATHING, ONE SIDE	8d@2"	8d@ 3"	3x(9)	3x	(2)2x	5/8 @ 24"	A35@9" OR LPT4 @ 11"	20d @ 3"	1/2" x4 1/2" LAG @ 9"	610 PLF	854 PLF
P2-8-4	3/8" APA RATED SHEATHING, TWO SIDE	8d@4"	8d@ 6"	3x(9)	3x	(2)2x	5/8 @ 12"	LPT4 @ 9"	(2)ROWS 20d @ 3"	1/2" x4 1/2" LAG @ 6"	720 PLF	1008 PLF
P2-8-3	3/8" APA RATED SHEATHING, TWO SIDE	8d@2"	8d@ 6"	3x(9)	3x	(2)2x	5/8 @ 12"	LPT4 @ 7"	(2)ROWS 20d @ 3"	1/2" x4 1/2" LAG @ 5"	980 PLF	1372 PLF
P2-8-2	3/8" APA RATED SHEATHING, TWO SIDE	8d@2"	8d@3"	3x(9)	3x	(2)2x	5/8 @ 12"	LPT4 @ 6"	(2)ROWS 20d @ 3"	1/2" x4 1/2" LAG @ 4 1/2"	1220 PLF	1708 PLF

ROOF & FLOOR DIAPHRAGM NAILING SCHEDULE

DIA. #	DIAPHRAGM SHEATHING	NAILING (INCHES o.c.) 15/32" SHEATHING W/ 10d COMMON			
		EDGE (E.N.)	FIELD	ALLOWABLE SHEAR (KLF)	NOTES
	UNBLOCKED, OTHER		6	0.20	2x
	UNBLOCKED CASE#1		6	0.28	2x
1	BLOCKED	6	6	0.32	3x
2	BLOCKED	4	6	0.43	3x
3	BLOCKED	2.5	4	0.67	3x
4	BLOCKED	2	3	0.73	3x
5	BLOCKED	2	3	0.82	3x

DIAPHRAGM NOTES:

1. APA RATED SHEATHING, STURD-I-FLOOR EXP1/EXP2/EXT OR C-C/C-D PLYWOOD
2. STRUCTURAL 1 APA RATED SHEATHINGEXP1/EXT OR STRUCT 1 PLYWOOD
3. PROVIDE 3x'S (76mm) AT ADJOINING PANEL EDGES W/NAILS STAGGERED.
4. ALL MEMBERS TO BE 4x MINIMUM W/2 LINES OF FASTENERS (ICBO ER 1952)
5. ALL MEMBERS TO BE 4x MINIMUM W/3 LINES OF FASTENERS (ICBO ER 1952)
6. SPECIAL INSPECTION REQUIRED IN ACCORDANCE WITH ICBO ER 1952
7. PROVIDE BOUNDARY NAILING @ ALL PANEL EDGES, CASES 3,4,5 & 6.
8. ALL MEMBERS TO BE 3x (76mm) MINIMUM.

SHEAR WALL FRAMING NOTES:

1. IN ADDITION TO THE TYPICAL WALL FRAMING REQUIREMENTS PROVIDE FRAMING AT SHEAR WALLS AS INDICATED.
2. SEE SCHEDULE FOR SHEATHING AND NAILING REQUIRED. SCHEDULE ASSUMES HEM-FIR OR BETTER LUMBER. STAGGER PANEL JOINTS EACH SIDE OF WALL WHERE SHEATHING IS REQUIRED BOTH SIDE OF WALL.
3. STUD BLOCKING THICKNESS SHOWN ARE MINIMUM SIZES BASED ON SHEAR WALL NAILING REQUIREMENT. PROVIDE LARGER STUD WHERE REQUIRED OTHERWISE.
4 BLOCK ALL PANEL EDGES.
5. 10d SHALL BE 0.148x3". 8d SHALL BE 0.131X2 ½". DRIVE ALL NAILS FLUSH WITH THE FACE OF . TOLERANCE IS +1/16 to -0
6. PLATES ON CONCRETE SHALL BE TREATED. SEE GENERAL STRUCTURAL NOTES.
7. NAIL OR LAG SHEATHING & STUD AT SHEAR WALL INTERSECTION AS INDICATED.
8. WHERE ONLY ONE HOLDOWN IS SPECIFIED LOCATE ON OPENING SIDE OF HOLDOWN STUDS. SEE WALL ELEVATION AT RIGHT.
9. (2)2x MAY BE USED IN LIEU OF 3x AT PANEL JOINTS. STITCH NAIL THE STUDS TOGETHER PER SHEAR TRANSFER 'C'. SEE 'PLAN VIEW 1'. REFER TO APA TECHNICAL PUBLICATION TT-076.

TYPICAL WALL FRAMING NOTES:

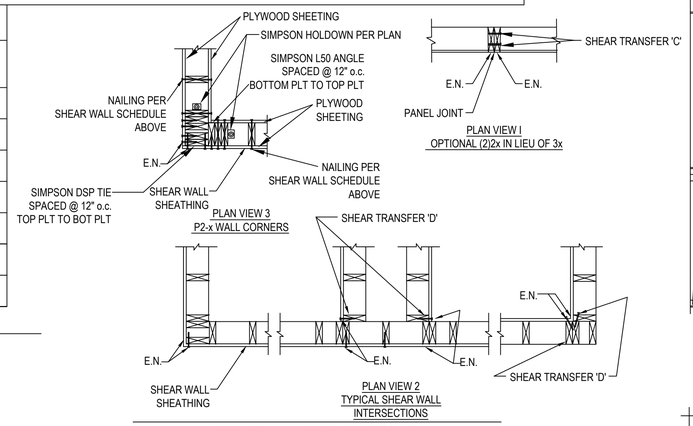
1. PROVIDE TYPICAL WALL FRAMING INDICATED, EXCEPT WHERE NOTED OTHERWISE.
2. SEE ARCHITECTURAL DRAWINGS FOR FIRE BLOCKING AND BACKING FOR FINISHES AND FURNISHINGS.

TYPICAL ROOF & FLOOR DIAPHRAGM FRAMING NOTES:

1. ROOF AND FLOOR DIAPHRAGMS ARE UNBLOCKED, U.L.N. AND NAILED ACCORDING TO THE FASTENING SCHEDULE OF IBC TABLE 2304.9.1.

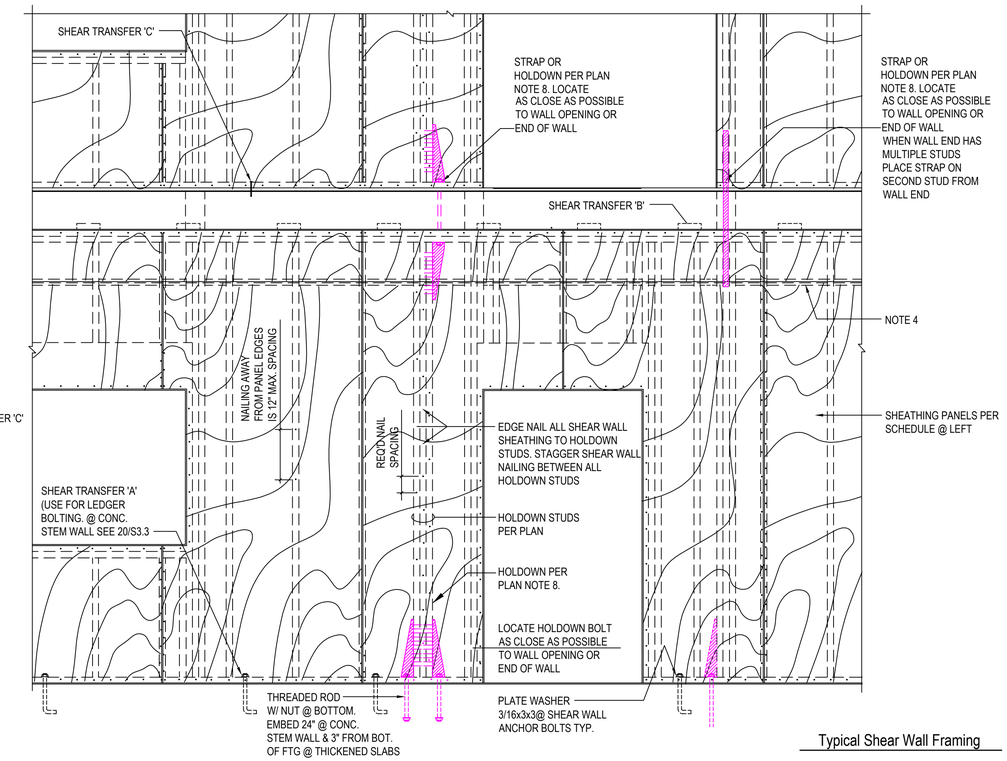
HEADER END NAILING	
NOMINAL DEPTH	END ATTACHMENT
4	(4)16d
6	(6)16d
8	(8)16d
10	(10)16d
12	(12)16d
14	(14)16d
16	(16)16d
18	(18)16d

ROUGH WINDOW SILL			
HORIZ ROUGH OPENING	NUMBER OF SILLS REQUIRED	END ATTACHMENT	REF.
0 TO 6'	1	(2)16d END NAIL	20/S6.1
> 6'	2	(2)16d END NAIL, +A35 EA END @ EA SILL	20/S6.1

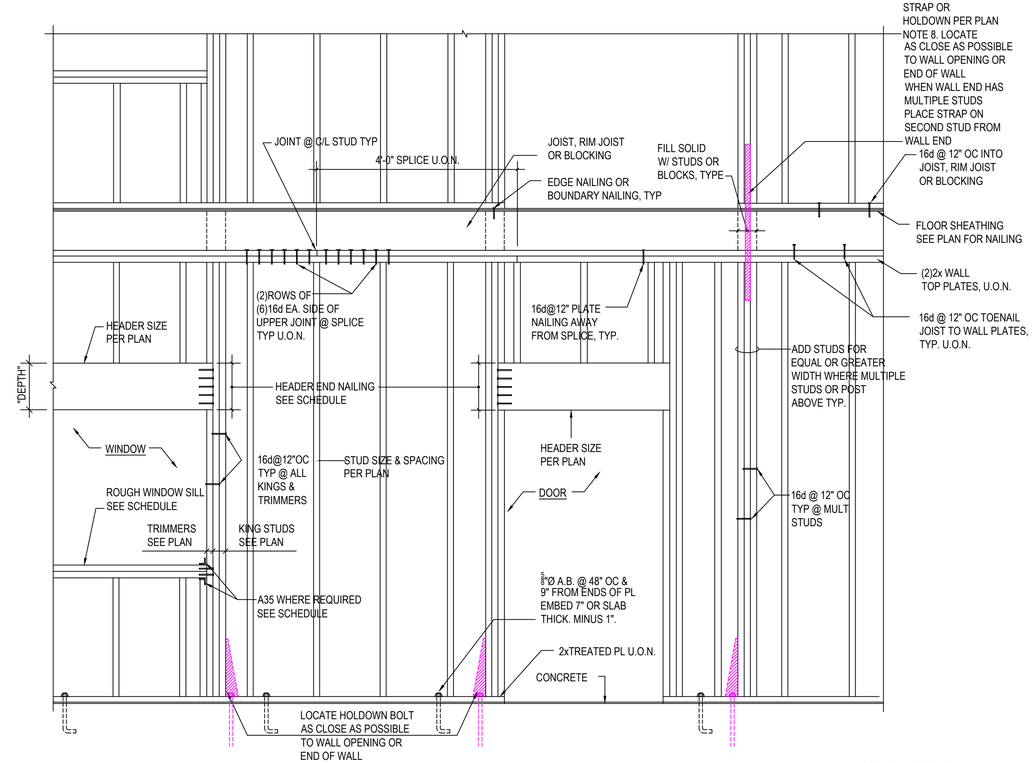


MINIMUM NAILING SCHEDULE

CONNECTION	NAILS
1. Joist to sill or girder, toenail	(3) 8d
2. Bridging to joist, toenail each end	(2) 8d
3. 1" x 6" sub floor or less to each joist, face nail	(2) 8d
4. Wider than 1"x6" sub floor to each joist, face nail	(3)8d
5. 2" subfloor to joist or girder, blind and face nail	(2)16d
6. Sole plate to joist or blocking, typical face nail	16d at 16" o.c.
Sole plate to joist or blocking, at braced wall panels	(3)16d per 16"
7. Top plates to stud, end nail	(4)16d
8. Stud to sole plate	(4)8d, toenail or (2) 16d, end nail
9. Double stud, face nail	16d at 24" o.c.
10. Double top plates, typical face nail	16d at 16" o.c.
Double top plates, lap splice	(8)16d
11. Blocking between joist or rafters to top plate, toenail	(3)8d
12. Rim joist to top plate, toenail	8d at 6" o.c.
13. Top plates, laps and intersections, face nail	(2)16d
14. Continuous header, two pieces	16d at 16" o.c. along each edge
15. Ceiling joist to plate, toenail	(3)8d
16. Continuous header to studs, toenail	(4)8d
17. Ceiling joist, lap over partitions face nail	(3)16d
18. Ceiling joist to parallel rafters, face nail	(3)16d
19. Rafter to plate, toenail	(3)8d
20. 1" brace to each stud and plate, face nail	(2)8d
21. 1"X8" sheathing or less to each bearing , face nail	(2)8d
22. Wider than 1"x8" sheathing to each bearing face nail	(5)8d
23. Built up corner studs	16d at 24" o.c.
24. Built up girder and beams	



Typical Shear Wall Framing

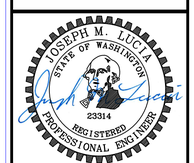


Typical Wall Framing
Scale: N.T.C.

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

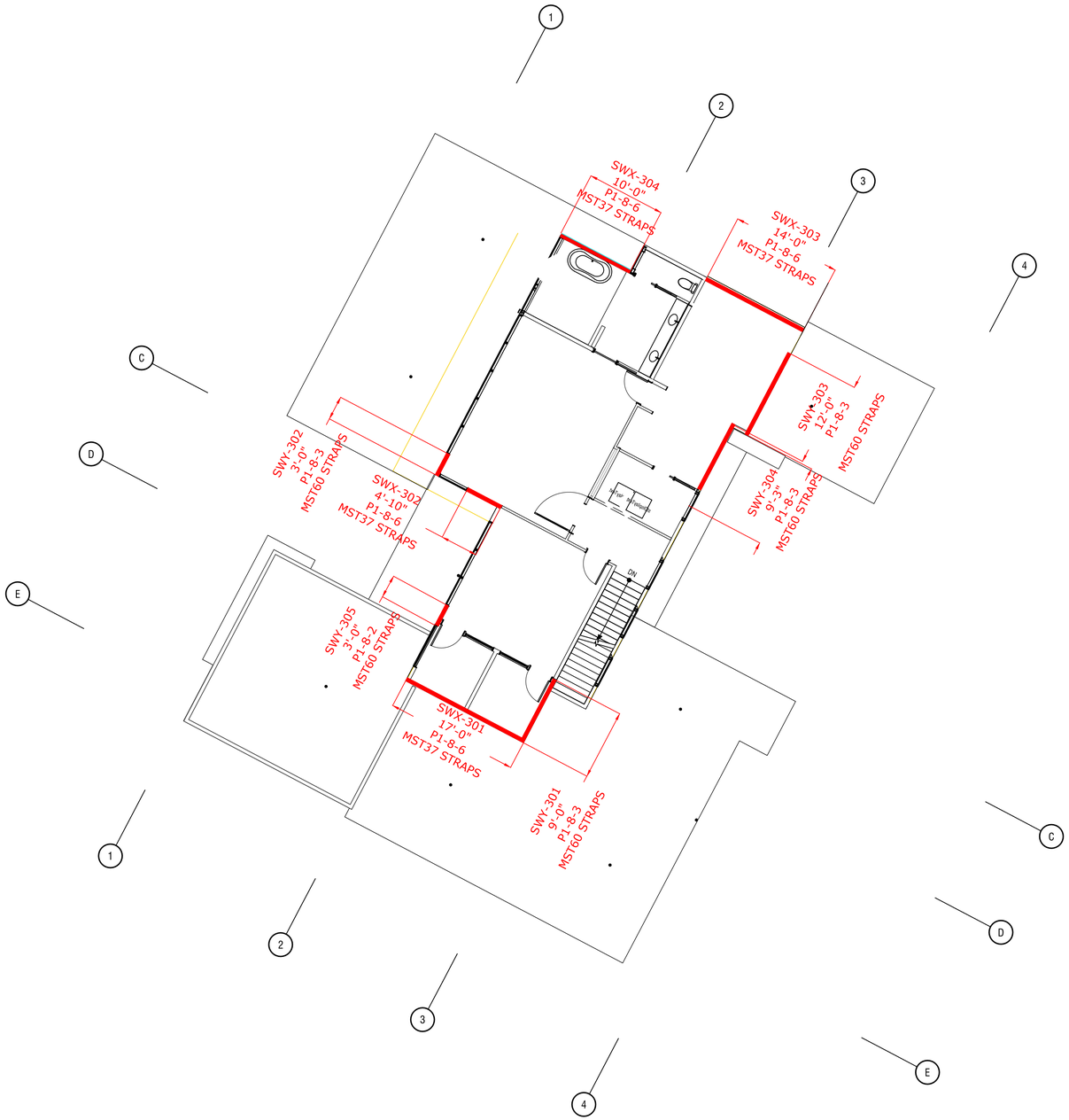
LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

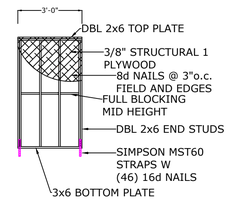


04-27-24

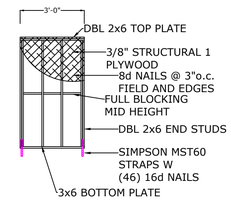
Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-6.0

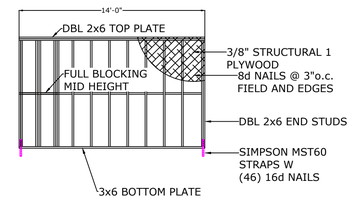




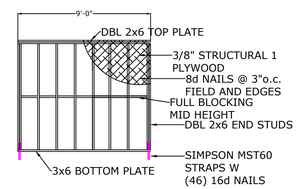
SWY-302
P1-8-6



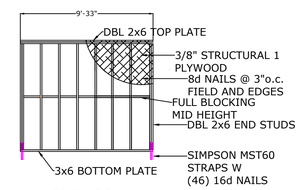
SWY-305
P1-8-6



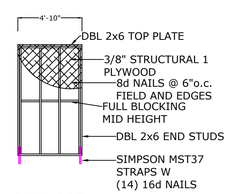
SWY-303
P1-8-6



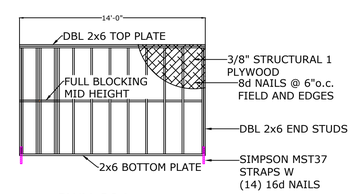
SWY-301
P1-8-6



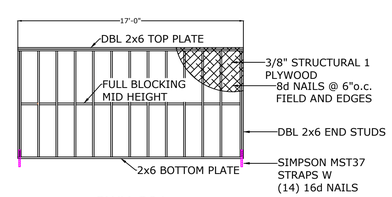
SWY-304
P1-8-6



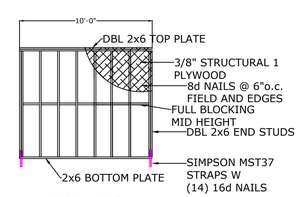
SWX-302
P1-8-6



SWX-304
P1-8-6



SWX-301
P1-8-6



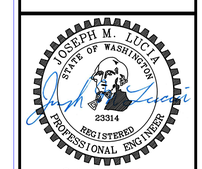
SWX-303
P1-8-6

SECOND FLOOR LEVEL - SHEAR WALLS

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

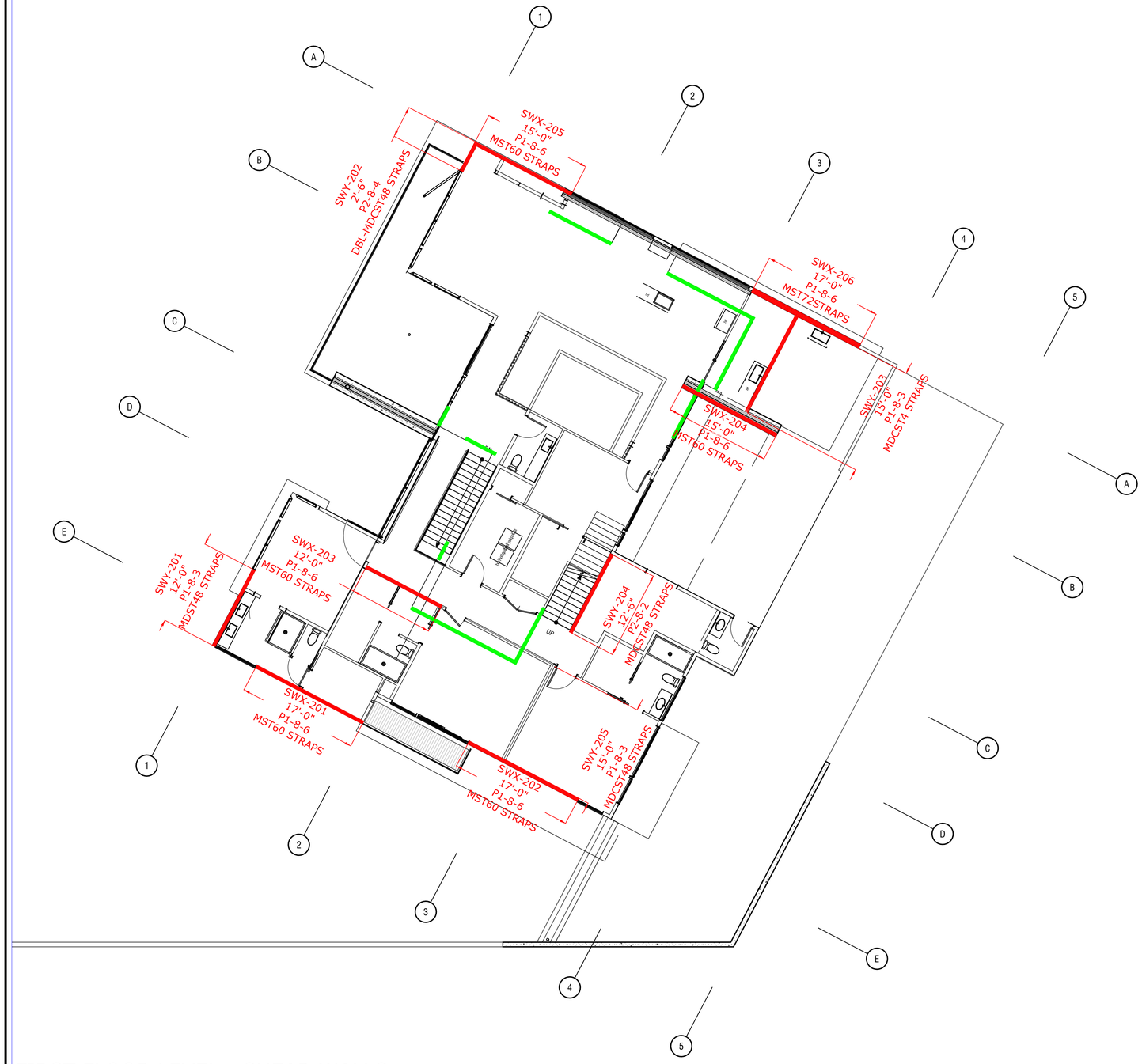
LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com



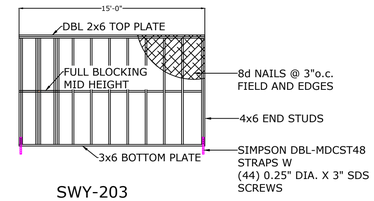
04-27-24

Number	Date	By	Description
32	04-27-24	JML	

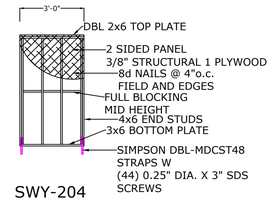
SHEET
S-7.0



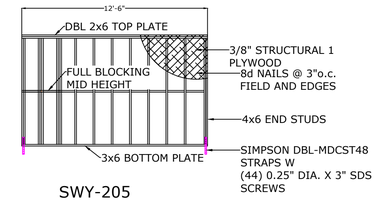
FIRST FLOOR LEVEL - SHEAR WALLS



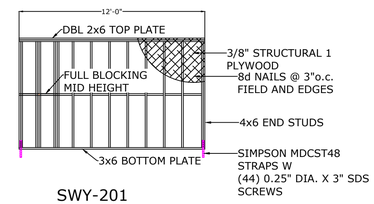
SWY-203
P1-8-6



SWY-204
P1-8-6



SWY-205
P1-8-6



SWY-201
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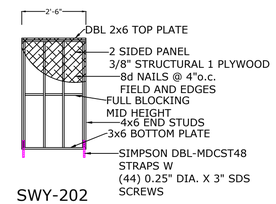
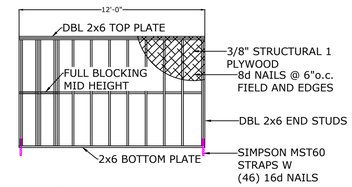
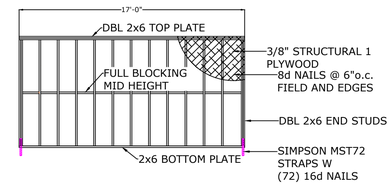


SWY-202
P1-8-6



SWX-203
P1-8-6



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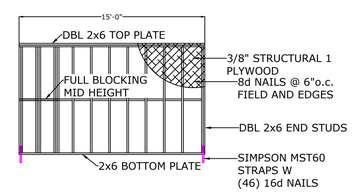
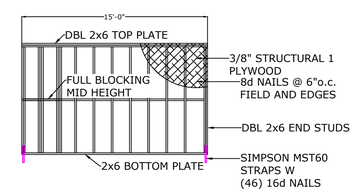
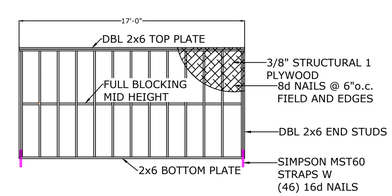


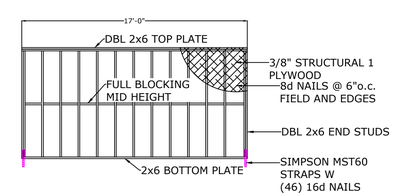
SWX-204
P1-8-6



SWX-205
P1-8-6



SWX-201
P1-8-6

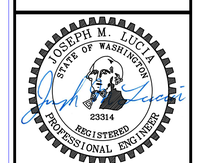


SWX-202
P1-8-6

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile
& Timber Lagging
Retaining Wall

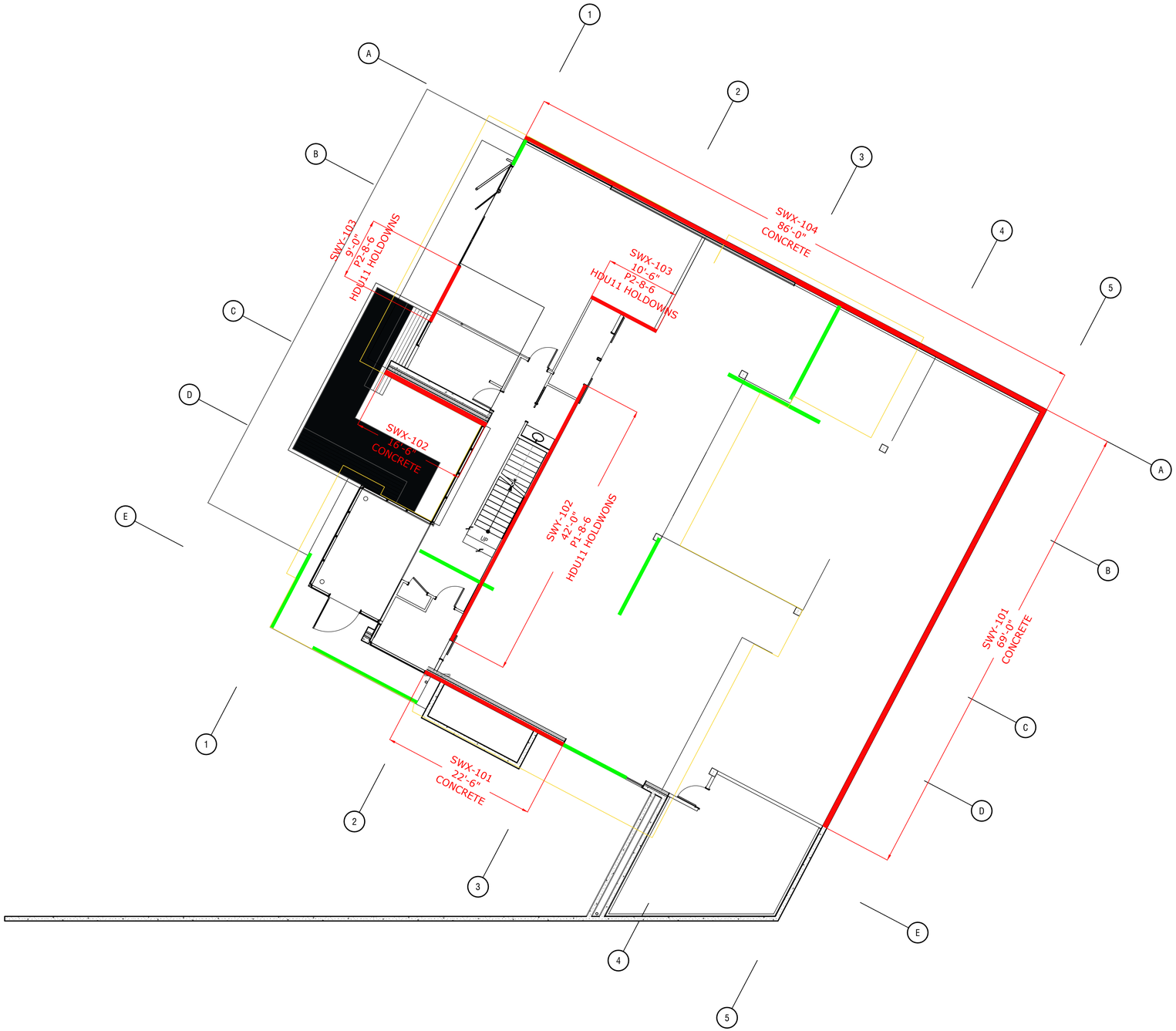
LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

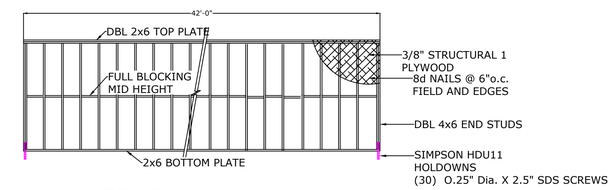


04-27-24

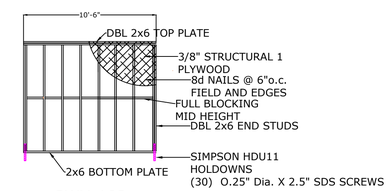
Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-8.0

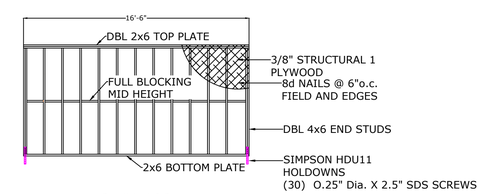




SWY-102
P1-8-6



SWX-103
P1-8-6



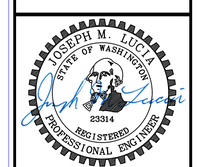
SWX-102
P1-8-6

GARAGE-BASEMENT LEVEL - SHEAR WALLS

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile
& Timber Lagging
Retaining Wall

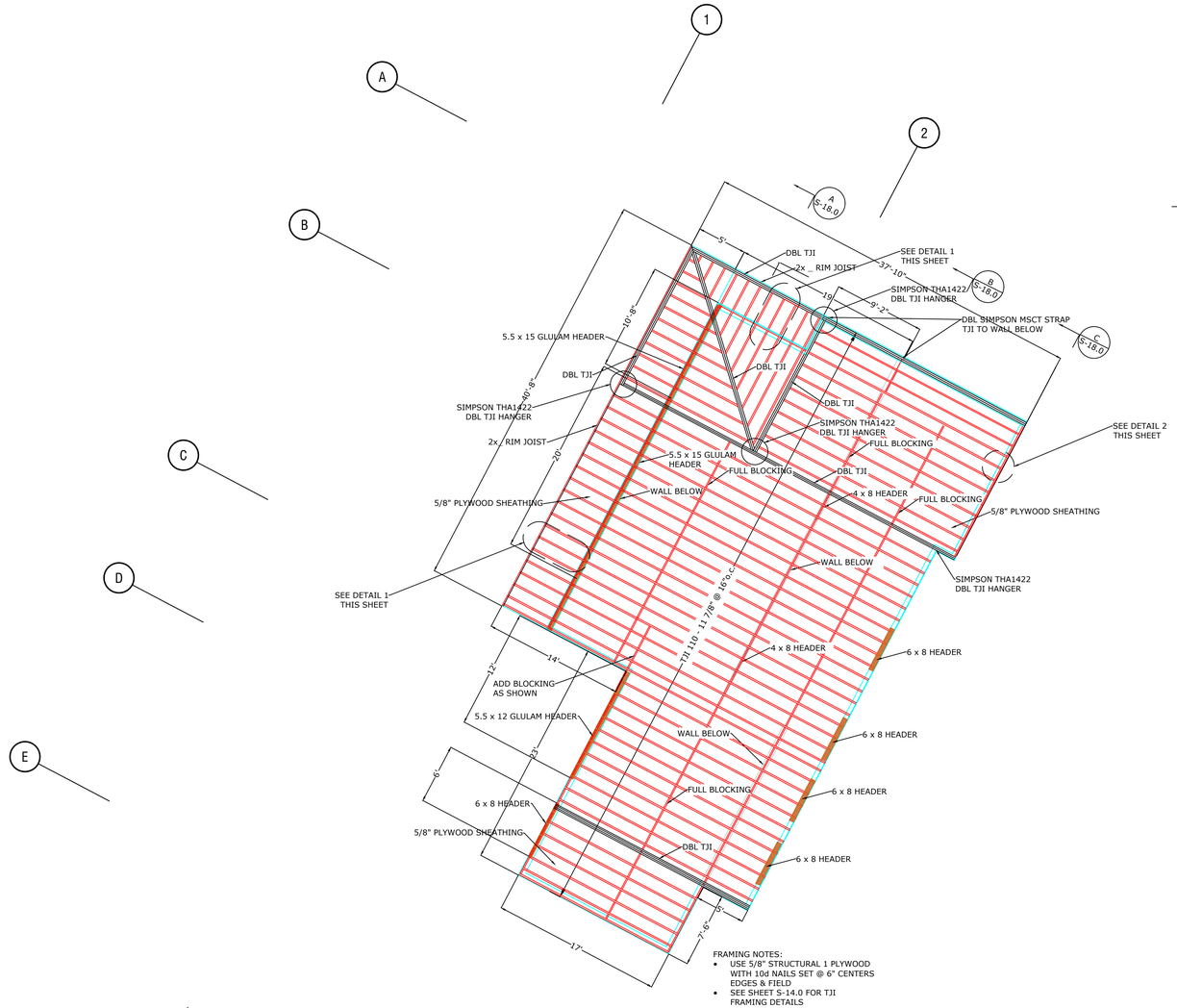
LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com



04-27-24

Number	Date	By	Description
3	04-27-24	JML	

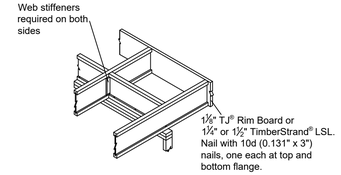
SHEET
S-9.0



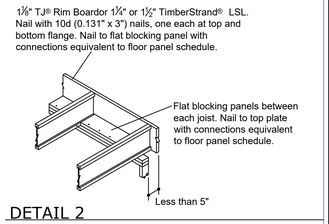
FRAMING NOTES:

- USE 5/8" STRUCTURAL 1 PLYWOOD WITH 10d NAILS SET @ 6" CENTERS EDGES & FIELD
- SEE SHEET S-14.0 FOR TJI FRAMING DETAILS

ROOF FRAMING



DETAIL 1

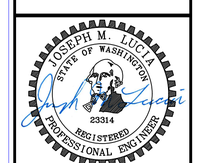


DETAIL 2

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com



04-27-24

Number	Date	By	Description
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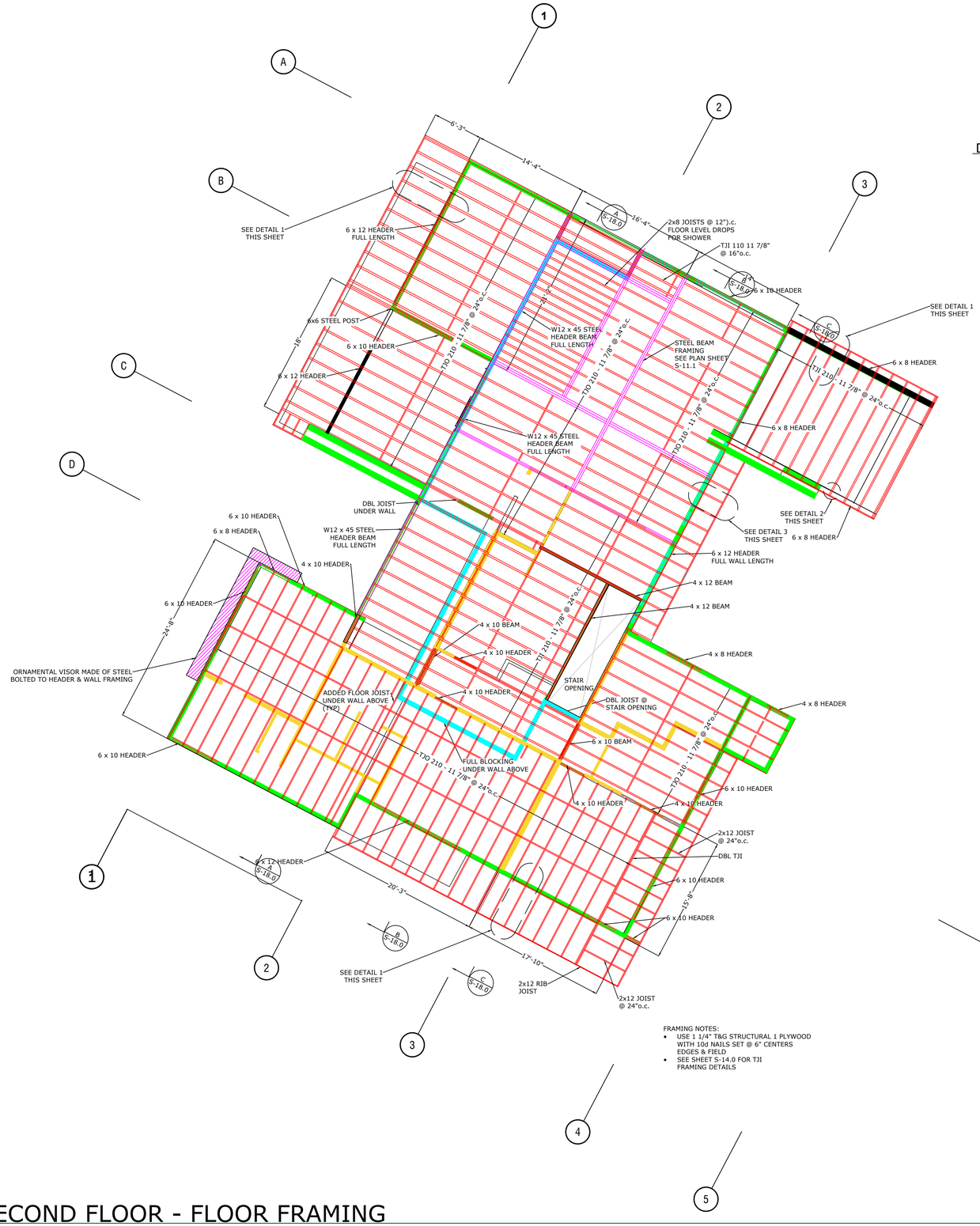
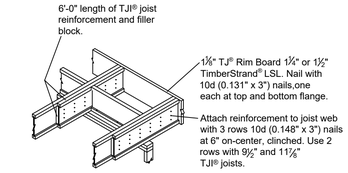
SHEET
S-10.0

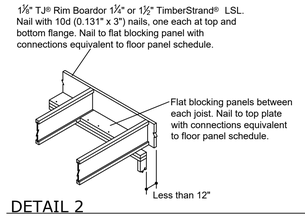


FRAMING NOTES:

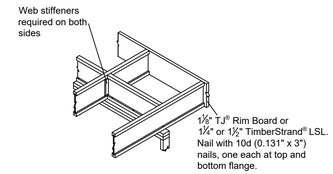
- USE 1 1/4" T&G STRUCTURAL 1 PLYWOOD WITH 10d NAILS SET @ 6" CENTERS EDGES & FIELD
- SEE SHEET S-14.0 FOR TJI FRAMING DETAILS



DETAIL 1



DETAIL 2



DETAIL 3

SECOND FLOOR - FLOOR FRAMING

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

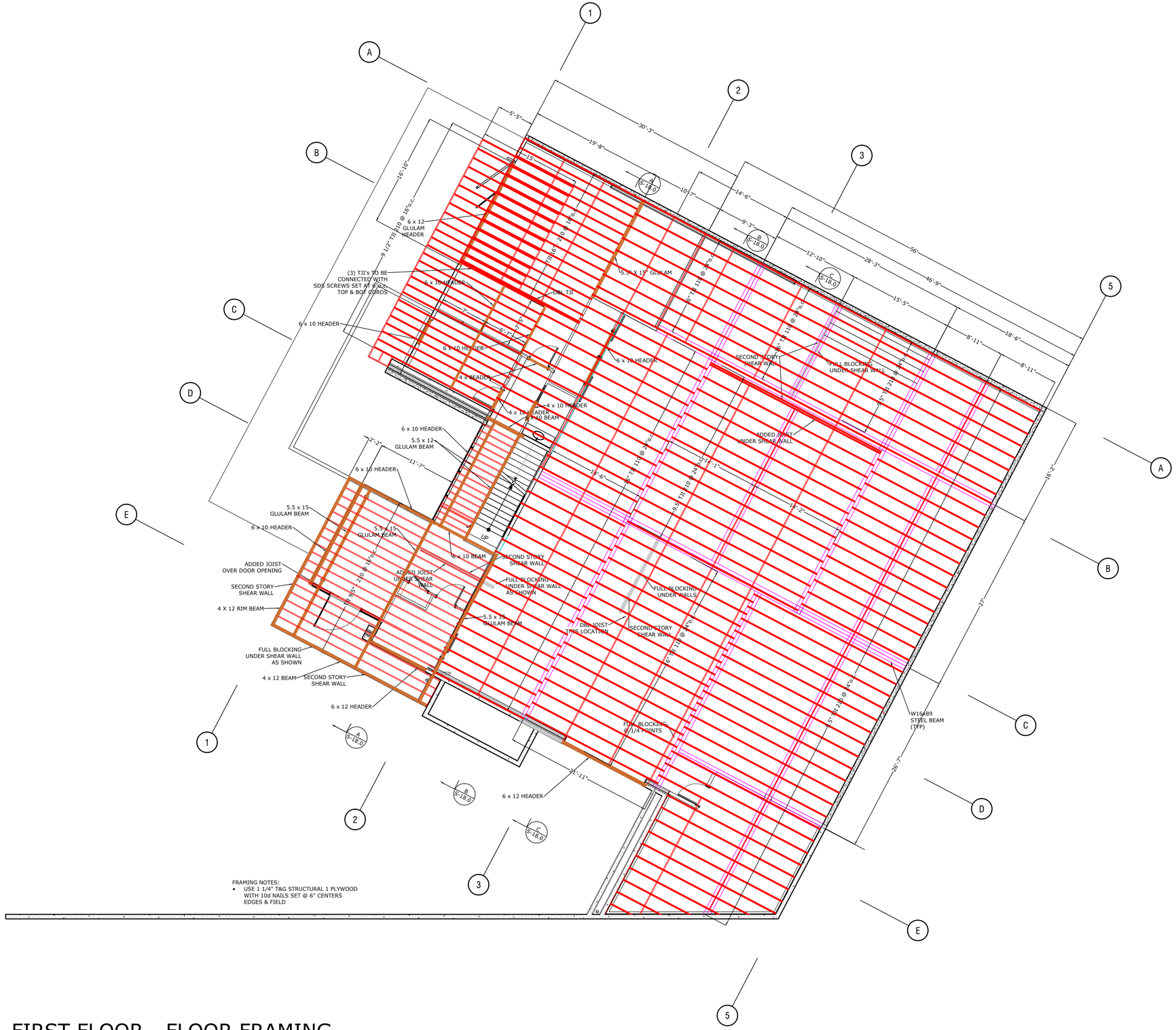
Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-11.0



FRAMING NOTES:
- USE 1 1/4" T&G STRUCTURAL 1 PLYWOOD WITH 10d NAILS SET @ 6" CENTERS EDGES & FIELD

FIRST FLOOR - FLOOR FRAMING

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

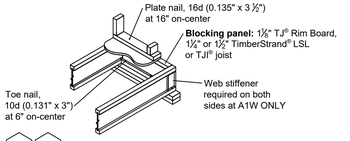
Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

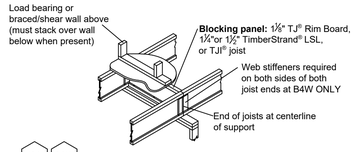
JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

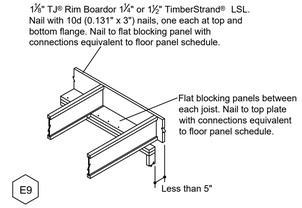
SHEET
S-12.0



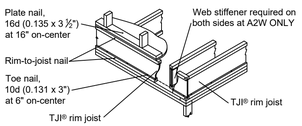
A1 A1W Attach blocking per Rim Board Details and Installation in *Weyerhaeuser Installation Guide for Floor and Roof Framing*, TJ-9001.



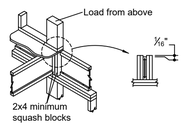
B4 B4W



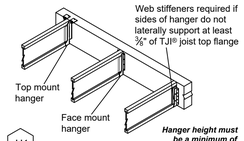
E9



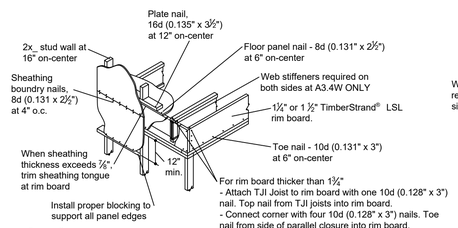
A2 A2W **Must have 1¾" minimum joist bearing at ends. Attach rim joist per Rim Board Details and Installation in *Weyerhaeuser Installation Guide for Floor and Roof Framing*, TJ-9001.**



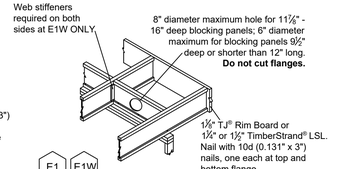
CS ***Use 2x4 minimum squash blocks to transfer load around TJI® joist***



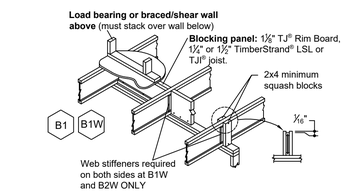
H1 ***Hanger height must be a minimum of 60% of joist depth***



A3.4 A3.4W For additional installation specifications see Rim Board Details and Installation in *Weyerhaeuser Installation Guide for Floor and Roof Framing*, TJ-9001.

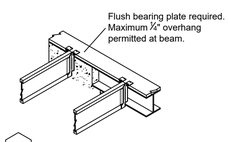


E1 E1W

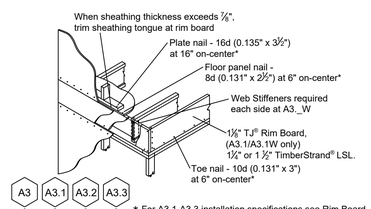


B1 B1W

B2 B2W Blocking panels may be required with braced/shear walls above or below — see detail B1

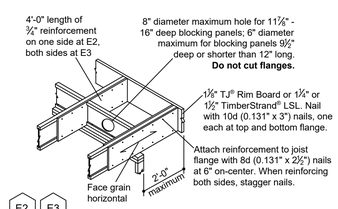


H3

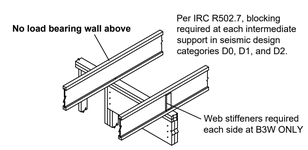


A3 A3.1 A3.2 A3.3
A3W A3.1W A3.2W A3.3W

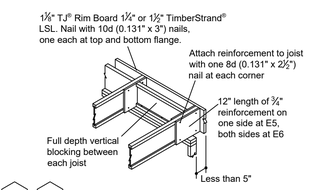
* For A3.1-A3.3 installation specifications see Rim Board Details and Installation in *Weyerhaeuser Installation Guide for Floor and Roof Framing*, TJ-9001.



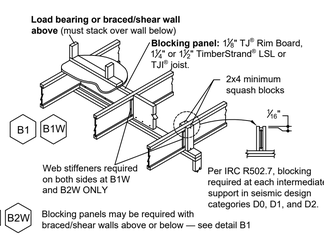
E2 E3



B3 B3W Blocking panels may be required with braced/shear walls above or below — see detail B1

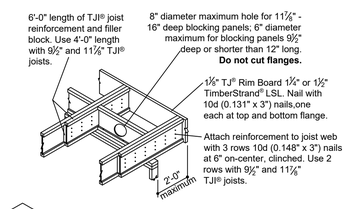


E5 E6

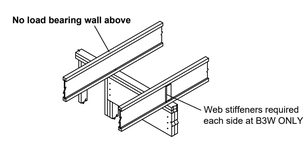


B1 B1W

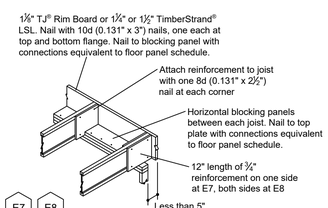
B2 B2W Blocking panels may be required with braced/shear walls above or below — see detail B1



E4 ***Not for use with 3½" TJI® joist flange widths***



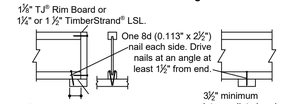
B3 B3W Blocking panels may be required with braced/shear walls above or below — see detail B1



E7 E8

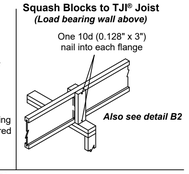
NAILING AT BEARING (FLOOR)

TJI® Joist to Bearing Plate

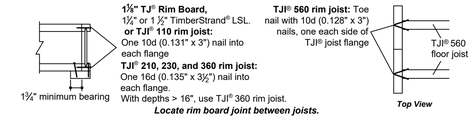


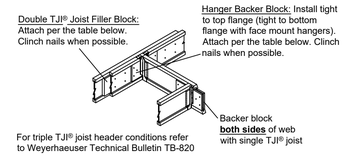
Shear transfer: Connections equivalent to floor panel nailing schedule

Squash Blocks to TJI® Joist
(Load bearing wall above)



Rim to TJI® Joist





For triple TJI® joist header conditions refer to Weyerhaeuser Technical Bulletin TB-820

TJI® Depth, D	TJI® Flange Width	Block Type	Nail	
			Size	Quantity
9½" <D≤ 20"	less than 3½"	Filler	10d(0.128" x 3")	15
		Backer	10d(0.128" x 3")	15
	3½"	Filler	16d(0.135" x 3½")	15 - each side
		Backer	10d(0.128" x 3")	15
20" <D≤ 24"	3½"	Filler	16d(0.135" x 3½")	25 - each side
		Backer	10d(0.128" x 3")	15

For nailing capacities refer to TB-834 (ASD) and TB-861 (LSD)

H2 **With top mount hangers, backer block required only for downward loads exceeding 250 (395 factored) lbs or for uplift conditions. For filler and backer block sizes see *Weyerhaeuser Installation Guide for Floor and Roof Framing*, TJ-9001.**

TYPICAL INSTALLATION DETAILS - TJI® Joists

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-13.0

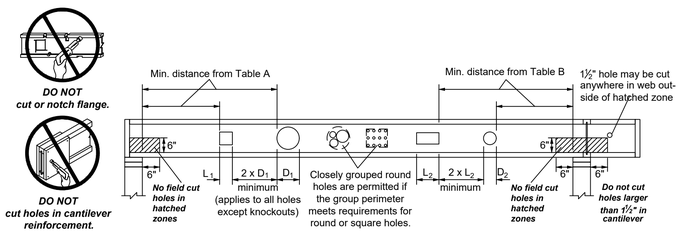


Table A - End Support

Minimum distance from edge of hole to inside face of nearest end support

JOIST DEPTH	TJI®	ROUND HOLE SIZE 2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"	SQUARE OR RECTANGULAR HOLE SIZE 2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"
9½"	110	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
	230	1'-6"	2'-0"	2'-6"	3'-6"	5'-6"					1'-0"	2'-0"	3'-0"	4'-6"	5'-0"				
	360	1'-6"	2'-0"	3'-0"	4'-0"	6'-0"					1'-6"	2'-6"	3'-6"	5'-0"	5'-6"				
	560	1'-6"	2'-6"	3'-6"	5'-0"	7'-0"					2'-0"	3'-0"	4'-0"	5'-6"	6'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	5'-6"			1'-0"	1'-6"	2'-0"	2'-6"	4'-6"	5'-0"	6'-0"		
	210	1'-0"	1'-6"	2'-0"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-6"	2'-6"	3'-0"	5'-0"	5'-6"	6'-6"		
	230	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	6'-6"			1'-0"	2'-0"	2'-6"	3'-6"	5'-6"	5'-6"	7'-0"		
	360	1'-6"	2'-0"	3'-0"	3'-6"	4'-6"	5'-0"	7'-0"			1'-6"	2'-6"	3'-6"	4'-6"	6'-6"	6'-6"	7'-6"		
	560	1'-6"	2'-6"	3'-0"	4'-0"	5'-6"	6'-0"	8'-0"			2'-6"	3'-6"	4'-6"	5'-6"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	5'-6"		1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-6"	6'-0"		1'-0"	1'-0"	2'-0"	2'-6"	4'-0"	4'-6"	6'-6"	8'-6"	
	230	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	2'-6"	4'-0"	7'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	9'-0"	
	360	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	4'-0"	5'-6"	8'-0"		1'-0"	1'-6"	2'-6"	4'-0"	6'-0"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	6'-6"	9'-0"		1'-6"	3'-0"	4'-0"	5'-0"	7'-0"	7'-6"	9'-0"	10'-0"	
16"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	5'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-0"	3'-0"	5'-6"	7'-6"	10'-0"
	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	4'-0"	6'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	6'-6"	8'-0"	11'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	3'-0"	4'-0"	7'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	7'-0"	9'-0"	11'-0"
	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	2'-6"	4'-6"	6'-6"	9'-0"	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	5'-6"	9'-0"	10'-0"	11'-6"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-0"	7'-6"	10'-0"	1'-0"	2'-0"	3'-0"	4'-6"	6'-6"	7'-0"	10'-0"	11'-0"	12'-0"

		4"	6"	7"	8"	10"	12"	14¾"	16¾"		4"	6"	7"	8"	10"	12"	14¾"	16¾"	
18"	360	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	5'-6"	9'-6"			1'-0"	3'-0"	4'-6"	6'-0"	10'-0"	11'-0"	13'-6"		
	560	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	7'-0"	10'-6"			2'-0"	5'-0"	6'-6"	8'-0"	11'-0"	12'-0"	14'-0"		
20"	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	7'-0"	10'-0"		1'-0"	1'-6"	3'-0"	4'-6"	8'-0"	11'-6"	13'-6"	15'-6"	
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	8'-6"	11'-0"		1'-0"	3'-6"	5'-0"	7'-0"	10'-6"	13'-0"	14'-6"	15'-6"	

Table B - Intermediate or Cantilever Support

Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

JOIST DEPTH	TJI®	ROUND HOLE SIZE 2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"	SQUARE OR RECTANGULAR HOLE SIZE 2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"
9½"	110	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	5'-0"	8'-0"					2'-0"	3'-0"	4'-0"	6'-6"	7'-6"				
	230	2'-6"	3'-0"	4'-0"	5'-6"	8'-6"					2'-0"	3'-6"	4'-6"	6'-6"	7'-6"				
	360	3'-0"	4'-0"	5'-6"	6'-6"	9'-0"					3'-0"	4'-6"	5'-6"	7'-6"	8'-0"				
	560	3'-6"	5'-0"	6'-0"	7'-6"	10'-0"					4'-0"	5'-6"	6'-6"	8'-0"	9'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	8'-6"			1'-0"	1'-6"	2'-6"	4'-0"	7'-0"	7'-0"	9'-6"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	8'-0"	8'-0"	10'-0"		
	230	1'-0"	2'-0"	2'-6"	3'-6"	5'-0"	5'-6"	10'-0"			1'-0"	2'-6"	3'-6"	5'-0"	8'-6"	9'-0"	10'-6"		
	360	2'-0"	3'-0"	4'-0"	5'-6"	7'-0"	7'-6"	11'-0"			2'-0"	3'-6"	5'-0"	7'-0"	9'-6"	9'-6"	11'-0"		
	560	1'-6"	3'-0"	4'-6"	5'-6"	8'-0"	8'-6"	12'-0"			3'-0"	4'-6"	6'-0"	8'-0"	10'-6"	11'-0"	12'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	4'-6"	8'-6"		1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	9'-0"	12'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-6"	9'-6"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	13'-0"	
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	6'-0"	10'-6"		1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	7'-6"	11'-0"	13'-6"	
	360	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	6'-0"	8'-6"	12'-6"		1'-0"	2'-0"	4'-0"	5'-6"	9'-0"	10'-0"	12'-0"	14'-0"	
	560	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	6'-6"	9'-6"	13'-6"		1'-0"	3'-0"	5'-0"	7'-0"	10'-0"	11'-0"	13'-6"	15'-0"	
16"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	8'-6"	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	4-6"	8'-6"	11'-6"	15'-0"
	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	6'-0"	10'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	4'-6"	5'-6"	10'-0"	12'-6"	16'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	4'-0"	6'-6"	11'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	10'-6"	13'-6"	16'-6"
	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	4'-0"	6'-6"	10'-0"	13'-6"	1'-0"	1'-0"	2'-0"	4'-0"	7'-6"	8'-6"	13'-0"	14'-6"	17'-0"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	7'-0"	11'-0"	15'-0"	1'-0"	1'-0"	3'-6"	5'-6"	9'-0"	10'-0"	14'-6"	16'-0"	18'-0"

		4"	6"	7"	8"	10"	12"	14¾"	16¾"		4"	6"	7"	8"	10"	12"	14¾"	16¾"	
18"	360	1'-0"	1'-0"	1'-6"	3'-0"	6'-0"	9'-0"	14'-6"			1'-0"	4'-0"	6'-6"	9'-0"	14'-6"	16'-6"	19'-0"		
	560	1'-0"	1'-0"	1'-0"	2'-0"	6'-0"	10'-0"	15'-6"			1'-0"	6'-0"	8'-6"	11'-6"	16'-6"	18'-0"	19'-6"		
20"	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-0"	11'-0"	15'-0"		1'-0"	1'-6"	4'-0"	7'-0"	12'-6"	16'-6"	19'-0"	20'-6"	
	560	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	5'-6"	11'-6"	15'-6"		1'-0"	3'-0"	6'-0"	8'-6"	14'-0"	17'-6"	19'-0"	20'-6"	

Rectangular holes based on measurement of longest side.

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**

ALLOWABLE HOLES - TJI® Joists

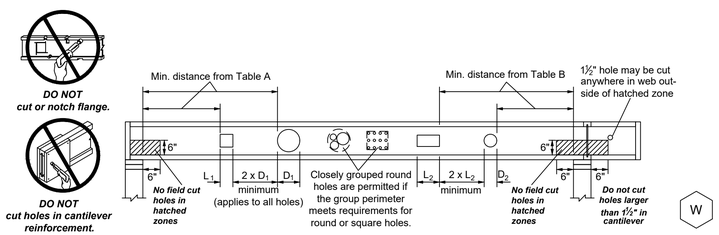


Table A - End Support

Minimum distance from edge of hole to inside face of nearest end support

JOIST DEPTH	TJI®	ROUND HOLE SIZE 2"	3"	4"	5"	6¼"	7"	8⅝"	10¼"	12¼"	SQUARE OR RECTANGULAR HOLE SIZE 2"	3"	4"	5"	6¼"	7"	8⅝"	10¼"	12¼"
9½"	s31	1'-0"	2'-0"	2'-6"	3'-6"	5'-6"					1'-0"	1'-6"	2'-6"	4'-0"	4'-6"				
	s33	1'-6"	2'-6"	3'-0"	4'-0"	6'-0"					1'-0"	2'-0"	3'-0"	4'-6"	5'-0"				
	s47	1'-0"	1'-0"	2'-6"	4'-0"	6'-0"					1'-6"	2'-6"	3'-6"	5'-0"	5'-6"				
11⅞"	s31	1'-0"	1'-6"	1'-6"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-6"	2'-6"	3'-0"	4'-6"	5'-0"	6'-0"		
	s33	1'-0"	1'-6"	2'-6"	3'-0"	3'-6"	4'-6"	7'-0"			1'-0"	2'-0"	3'-0"	4'-6"	5'-6"	6'-0"	7'-0"		
	s47	1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	4'-6"	7'-0"			2'-0"	3'-0"	3'-6"	4'-6"	6'-6"	6'-6"	7'-6"		
14"	s31	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	6'-0"		1'-0"	1'-6"	2'-0"	2'-6"	3'-6"	4'-6"	6'-0"	7'-6"	
	s33	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	4'-6"	8'-0"		1'-0"	1'-6"	2'-6"	3'-0"	4'-6"	5'-6"	7'-0"	8'-6"	
	s47	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	5'-0"	8'-6"		1'-0"	2'-0"	3'-0"	4'-0"	5'-6"	6'-6"	8'-0"	9'-6"	
16"	s31	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	2'-6"	3'-6"	6'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	3'-6"	6'-0"	7'-0"
	s33	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	5'-0"	8'-0"	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	7'-0"	9'-0"	10'-6"
	s47	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	5'-6"	9'-0"	1'-0"	1'-0"	2'-6"	3'-6"	4'-6"	5'-6"	8'-6"	10'-0"	11'-0"

		4"	5"	6¼"	7"	8⅝"	10¼"	12¼"	14¾"	16¾"	4"	5"	6¼"	7"	8⅝"	10¼"	12¼"	14¾"	16¾"
18"	s47	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	6'-0"	9'-6"		1'-0"	2'-6"	4'-0"	5'-0"	7'-0"	10'-6"	12'-0"	13'-6"	
20"	s47	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	6'-6"	10'-0"	1'-0"	1'-0"	2'-6"	3'-6"	6'-0"	10'-0"	11'-6"	13'-0"	14'-6"

Table B - Intermediate or Cantilever Support

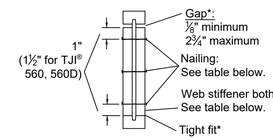
Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

JOIST DEPTH	TJI®	ROUND HOLE SIZE 2"	3"	4"	5"	6¼"	7"	8⅝"	10¼"	12¼"	SQUARE OR RECTANGULAR HOLE SIZE 2"	3"	4"	5"	6¼"	7"	8⅝"	10¼"	12¼"
9½"	s31	2'-0"	3'-0"	4'-0"	5'-0"	8'-6"					2'-0"	3'-0"	4'-0"	5'-6"	6'-6"				
	s33	2'-6"	3'-6"	5'-0"	6'-6"	9'-0"					2'-0"	3'-6"	4'-6"	6'-6"	7'-6"				
	s47	1'-6"	3'-0"	4'-6"	6'-0"	8'-6"					3'-0"	4'-6"	5'-6"	7'-6"	8'-0"				
11⅞"	s31	1'-6"	2'-0"	2'-6"	3'-6"	4'-6"	5'-0"	9'-0"			1'-6"	2'-6"	3'-6"	4'-6"	7'-0"	7'-6"	9'-0"		
	s33	2'-0"	3'-0"	3'-6"	4'-6"	5'-6"	7'-0"	10'-6"			2'-0"	3'-0"	4'-0"	5'-6"	8'-6"	9'-0"	10'-0"		
	s47	1'-0"	2'-0"	2'-0"	3'-6"	5'-6"	7'-0"	11'-0"			2'-0"	3'-6"	5'-0"	6'-6"	9'-6"	10'-0"	11'-0"		
14"	s31	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	3'-6"	5'-0"	9'-0"		1'-0"	1'-6"	2'-6"	4'-0"	5'-6"	6'-6"	9'-0"	11'-6"	
	s33	1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-6"	12'-0"		1'-0"	2'-0"	3'-6"	4'-6"	6'-6"	8'-0"	11'-0"	13'-0"	
	s47	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	5'-0"	7'-6"	12'-6"		1'-0"	2'-6"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	13'-6"	
16"	s31	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	3'-6"	5'-6"	9'-6"	1'-0"	1'-0"	1'-6"	3'-0"	4'-6"	5'-6"	9'-0"	11'-0"	14'-0"
	s33	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	5'-0"	7'-6"	12'-6"	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	7'-0"	11'-0"	13'-6"	15'-6"
	s47	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	5'-6"	9'-0"	14'-0"	1'-0"	1'-6"	3'-0"	5'-0"	7'-0"	8'-6"	13'-0"	15'-0"	16'-6"

		4"	5"	6¼"	7"	8⅝"	10¼"	12¼"	14¾"	16¾"	4"	5"	6¼"	7"	8⅝"	10¼"	12¼"	14¾"	16¾"
18"	s47	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-6"	9'-6"	14'-6"		1'-6"	3'-6"	6'-0"	7'-6"	11'-0"	15'-6"	17'-0"	18'-6"	
20"	s47	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	7'-0"	10'-6"	15'-0"	1'-0"	1'-0"	4'-0"	5'-6"	9'-0"	15'-0"	16'-6"	18'-0"	19'-6"

Rectangular holes based on measurement of longest side.

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**



* With point load from above, and no support below, install web stiffener tight to top flange (gap at bottom flange)

TJI® Joist Series	Depth (in.)	Minimum Web Stiffener Size	Nailing Requirements: Type	Number Nails: End	Number Nails: Intermediate
110 210 230 & 360	All All All	⅝" x 2⁵⁄₁₆"(1) ¾" x 2⁵⁄₁₆"(1) ⅞" x 2⁵⁄₁₆"(1)	8d (0.113" x 2½")	3	3
560	All	2x4 (2)	16d (0.135" x 3½")		
560D	18" 20" 22"(3) 24"(3)	2x4 (2)	16d (0.135" x 3½")	4 5 6 6	4 5 11 13

(1) PS1 or PS2 sheathing, face grain vertical
(2) Construction grade or better
(3) Web stiffeners are always required for 22" and 24" TJI® 560D Joists

WEB STIFFENER ATTACHMENT

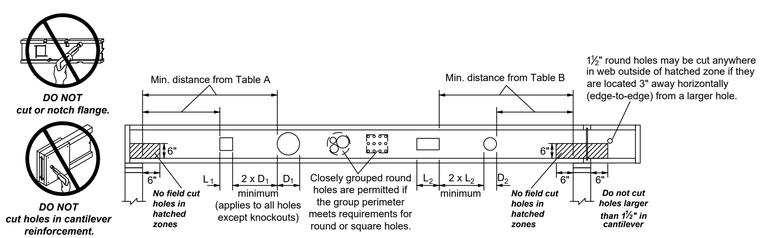


Table A - End Support

Minimum distance from edge of hole to inside face of nearest end support

JOIST DEPTH	TJI®	ROUND HOLE SIZE 4"	6"	7"	8"	10"	12"	14¾"	16¾"	18¾"	20"	SQUARE OR RECTANGULAR HOLE SIZE 4"	6"	7"	8"	10"	12"	14¾"	16¾"	18¾"	20"
18"	560D	1'-0"	1'-0"	2'-6"	3'-6"	5'-6"	7'-6"	11'-0"				3'-0"	5'-6"	6'-6"	8'-0"	10'-6"	11'-6"	13'-6"			
20"		1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	6'-0"	9'-0"	11'-6"			2'-6"	5'-0"	6'-0"	7'-0"	10'-0"	12'-6"	14'-0"	15'-0"		
22"		1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	5'-0"	7'-0"	9'-6"	12'-6"		1'-0"	3'-6"	5'-0"	6'-6"	14'-6"	15'-0"	16'-0"	16'-6"	17'-0"	
24"		1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	5'-0"	7'-0"	11'-0"	12'-6"		1'-6"	4'-0"	5'-0"	6'-6"	9'-6"	15'-0"	16'-0"	16'-6"	17'-0"	17'-0"

Table B - Intermediate or Cantilever Support

Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

JOIST DEPTH	TJI®	ROUND HOLE SIZE 4"	6"	7"	8"	10"	12"	14¾"	16¾"	18¾"	20"	SQUARE OR RECTANGULAR HOLE SIZE 4"	6"	7"	8"	10"	12"	14¾"	16¾"	18¾"	20"
18"	560D	1'-0"	1'-0"	2'-6"	4'-6"	7'-6"	11'-0"	16'-6"				3'-0"	7'-6"	9'-6"	11'-6"	16'-0"	17'-0"	19'-0"			
20"		1'-0"	1'-0"	1'-0"	1'-0"	4'-6"	8'-6"	13'-6"	17'-0"			1'-0"	5'-6"	8'-0"	10'-0"	15'-0"	18'-0"	19'-6"	20'-6"		
22"		1'-0"	2'-6"	3'-6"	4'-6"	6'-6"	8'-0"	11'-0"	14'-6"	17'-6"		3'-6"	6'-6"	8'-6"	10'-0"	19'-0"	20'-0"	21'-0"	21'-6"	22'-0"	
24"		2'-6"	4'-0"	5'-0"	5'-6"	7'-0"	8'-6"	11'-0"	13'-6"	16'-0"	17'-6"	5'-0"	7'-6"	9'-0"	10'-6"	14'-0"	20'-0"	21'-0"	21'-6"	22'-0"	22'-0"

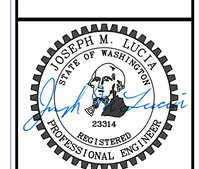
Rectangular holes based on measurement of longest side.

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile
& Timber Lagging
Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com



04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-14.0

SECOND FLOOR - FLOOR FRAMING

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-15.0

FIRST FLOOR - FLOOR FRAMING

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

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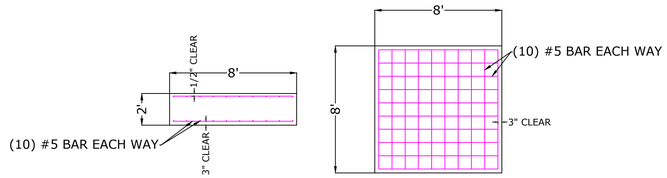
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

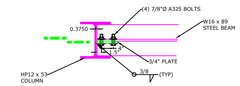
JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
32	04-27-24	JML	

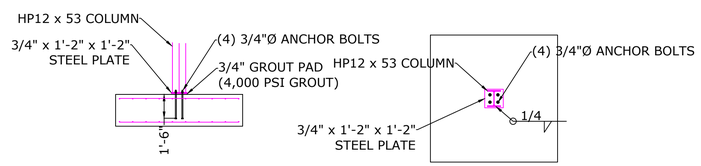
SHEET
S-16.0



COLUMN FOOTING DETAIL



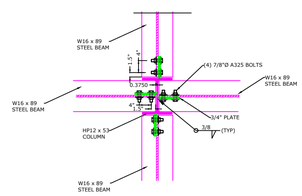
PLAN



COLUMN TO FOOTING DETAIL

ELEVATION

DETAIL D



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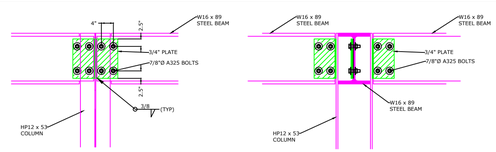
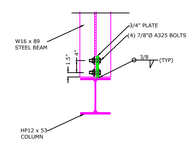


ELEVATION

DETAIL B



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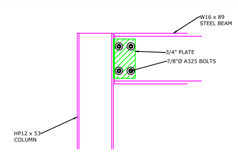
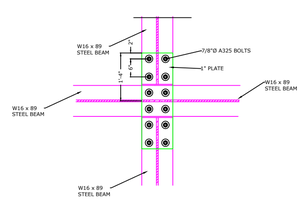
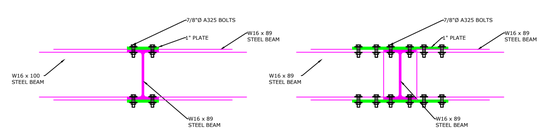


ELEVATION

DETAIL C

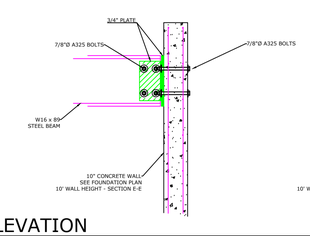


PLAN

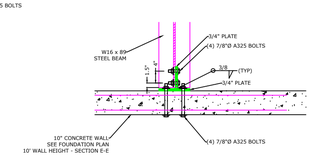


ELEVATION

DETAIL A



ELEVATION



PLAN

DETAIL E

ALTERNATES TO THE W16x89 STEEL BEAM SHOWN
W14 X 109, W18 X 97

LANZ RESIDENCE
8020 SE 57th Street
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Permanent Soldier Pile
& Timber Lagging
Retaining Wall

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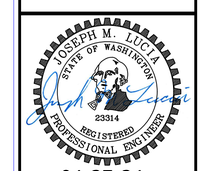
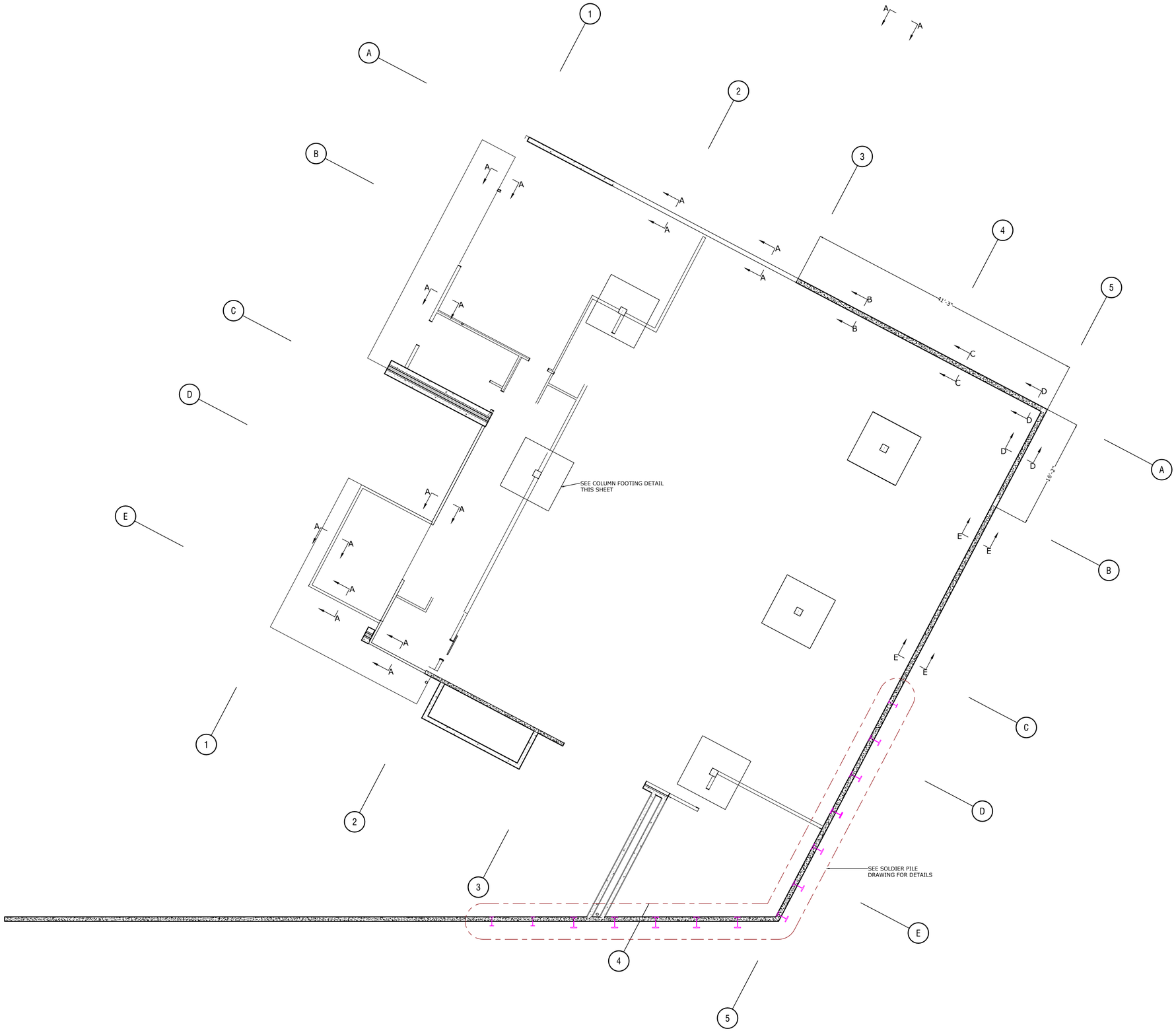


04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-17.0



FOUNDATION PLAN

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

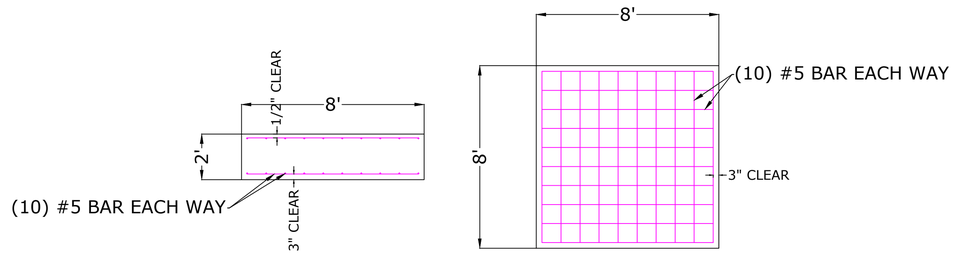
Permanent Soldier Pile
& Timber Lagging
Retaining Wall

LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com

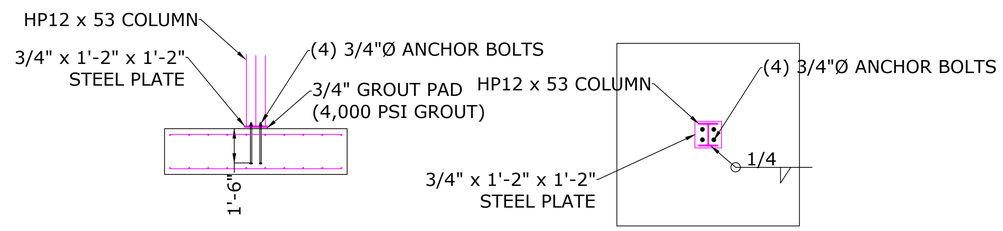
JOSEPH M. LUCIA
STATE OF WASHINGTON
23314
REGISTERED
PROFESSIONAL ENGINEER
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

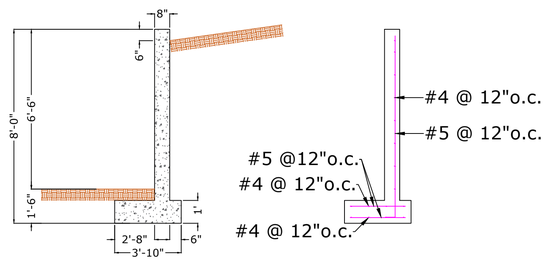
SHEET
S-18.0



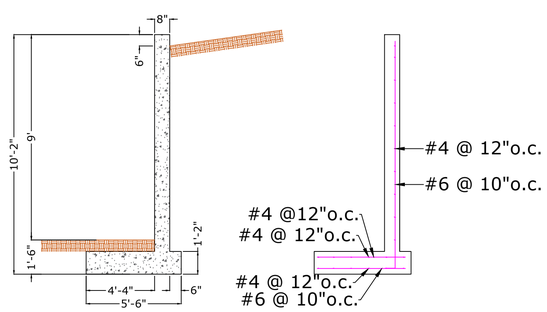
COLUMN FOOTING DETAIL



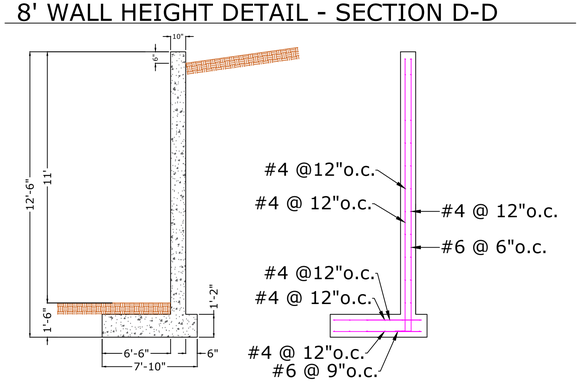
COLUMN TO FOOTING DETAIL



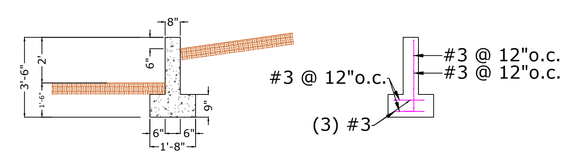
6' WALL HEIGHT DETAIL - SECTION C-C



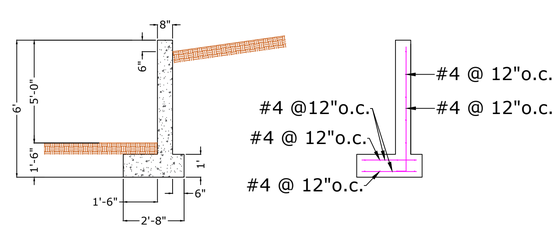
8' WALL HEIGHT DETAIL - SECTION D-D



10' WALL HEIGHT DETAIL - SECTION E-E



STANDARD FOOTING DETAIL - SECTION A-A

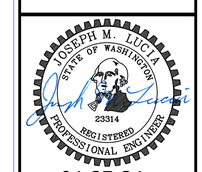


4' WALL HEIGHT DETAIL - SECTION B-B

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile & Timber Lagging Retaining Wall

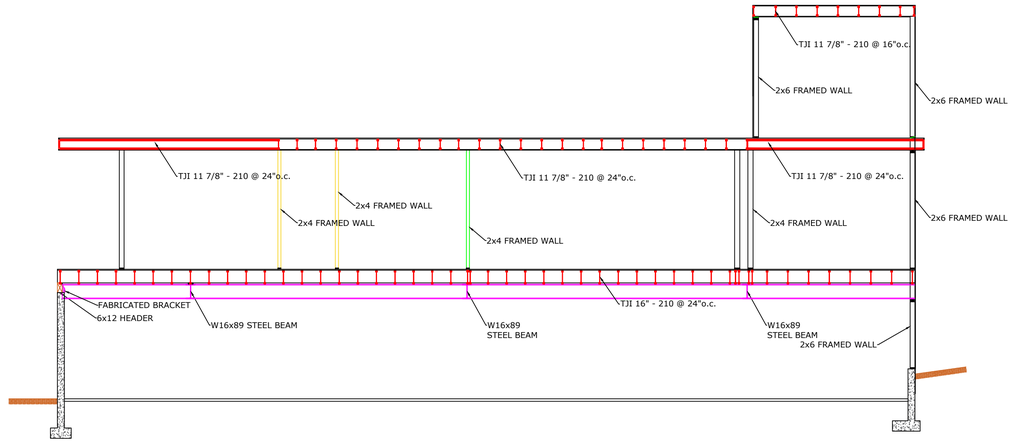
LUCIA ENGINEERING, INC.
12527 Huckleberry Lane
Arlington, Washington 98223
PHONE: (206) 790-8039
E-MAIL: joe@luciaeng.com



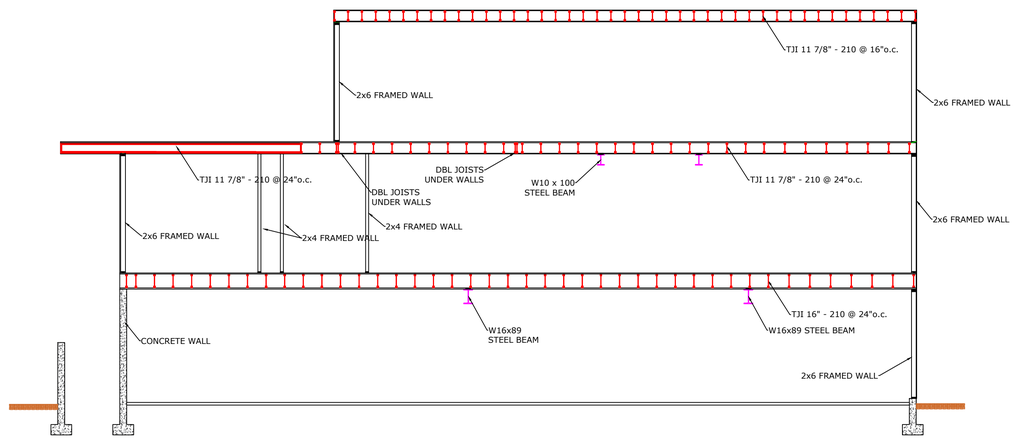
04-27-24

Number	Date	By	Description
3	04-27-24	JML	

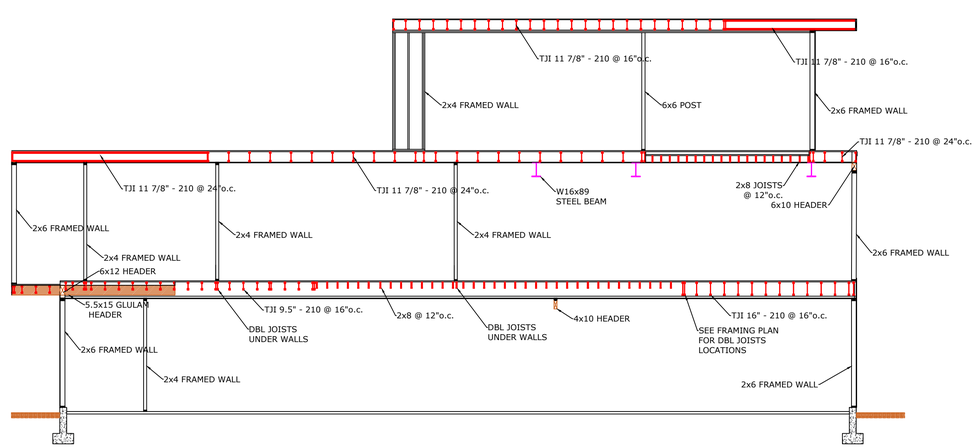
SHEET
S-19.0



SECTION C-C



SECTION B-B



SECTION A-A

LANZ RESIDENCE
8020 SE 57th Street
Mercer Island, WA 98040

Permanent Soldier Pile
& Timber Lagging
Retaining Wall

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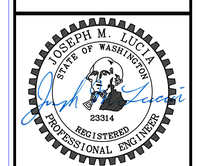

04-27-24

Number	Date	By	Description
3	04-27-24	JML	

SHEET
S-20.0