CITY OF MERCER ISLAND
DEVELOPMENT SERVICES GROUP

9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org

INSPECTION REQUESTS:
online: MyBuildingPermit.com
voicemail: (206) 275-7730

NOTE: ALL RECORDS AND DRAWINGS ARE SUBJECT TO PUBLIC DISCLOSURE AS REQUIRED BY RCW 42.56

TO BE COMPLETED BY APPLICANT

CONTACT INFORMATION:
Applicant is to complete the following information.

Applicant Contact information *prior* to permit issuance:

Name: Chris Luthi
Address: 4737 37th Ave SW
Phone: (206) 935-4684
Email: cluthi@ comcast.net

Applicant Contact information *post* permit issuance:

Name: Mike Yageneh
Address:
Phone:
Email:

REQUIRED SPECIAL INSPECTIONS / STRUCTURAL OBSERVATIONS:
It is the Engineer of Record's responsibility to specify all required Special Inspections or Structural Observation (check items below). The owner is responsible for hiring an approved private Special Inspector for the checked inspections noted below. All Special Inspectors (except Geotechnical) must be WABO certified.
When Special Inspection or Structural Observation is required, the report shall be submitted to the City Building Inspector prior to the City Inspection. **Note: Inspection by the City Inspector is required in addition to the Special Inspection or Structural Observation indicated below. Do not cover or conceal any work prior to the City inspection.**

STRUCTURAL OBSERVATION BY ENGINEER OF RECORD (EOR):
Engineer of Record: Javid Abdi PE SE Company: Atlas Consulting Structural Eng Phone: (206) 427-7233
☑ General Conformance to Construction Documents ☐ Other:

SOILS / GEOTECHNICAL:
Special Inspector: Company: Phone:
☐ Erosion control measures
☐ Shoring installation and monitoring
☐ Observe and monitor excavation
☐ Verification of soil bearing
☐ Other:
☐ Subsurface drainage placement
☐ Verify fill material and compaction
☐ Rockery installation
☐ Pile placement (auger cast/driven pile)
☐ Other:

REINFORCED CONCRETE:
Special Inspector: Company: Phone:
☐ Concrete strength
☐ Reinforcing steel and concrete placement
☐ Shotcrete placement
☐ Other:
☐ Retaining wall construction
☐ Prestressed / Precast construction
☐ Other:
☐ Other:

STRUCTURAL STEEL: *(AISC 360, Chapter N)*
Special Inspector: Company: Phone:
☐ Fabrication and shop welds
☐ Structural steel erection, field welds and bolting
☐ Other:
☐ Moment Frame construction
☐ Other:
☐ Other:

STRUCTURAL MASONRY:
Special Inspector: Company: Phone:
☐ Mortar strength
☐ Masonry unit strength
☐ Other:
☐ Other:
☐ Glass unit masonry installation
☐ Wall panel and veneer installation
☐ Other:
☐ Other:

WOOD:
Special Inspector / Engineer of Record: Company: Phone:
☐ Lateral resisting system construction
☐ Other:
☐ High strength diaphragm construction
☐ Other:

OTHER SPECIAL INSPECTIONS:
Special Inspector: Company: Phone:
☐ Epoxy grout installations
☐ Expansion anchor installations
☐ Other post installed anchors
☐ Alternative construction methods:
☐ Alternative construction materials:
☐ Stucco installation
☐ Infiltration System
☐ Exterior Insulation Finish System (EIFS) installation
☐ Other:
☐ Other:

DEFERRED SUBMITTALS:
The Applicant is required to select all deferred submittals / shop drawings for submittal to the City for review and approval prior to item fabrication / construction.

☑ Connector plate wood trusses
☐ Metal joist / metal trusses
☐ Premanufactured structures (stairs, etc.)
☐ Precast concrete elements
☑ Other: Pool and Gazebo Construction Details
☐ Post tension layout
☐ Exterior cladding
☐ Window wall / curtain wall construction
☐ Other:
☐ Other:

TO BE COMPLETED BY APPLICANT

ENERGY CODE COMPLIANCE INFORMATION:
Indicate where the following information is located in the drawing set. Alternatively, incorporate or include the Residential Energy Code Prescriptive Compliance (RECPC) Form into the drawing set.

Sheet:

☑ Building envelope: *WSEC Table 402.1.1* (include U-factors, insulation and moisture control) ____
☑ Whole house ventilation: *IRC Section M1507 WA Amended* (include ventilation option and duct sizing if applicable) ____
☑ Energy Credit Information: *WSEC Table 406.2* (include specific, written requirements) ____
☐ RECPC Form Information: (if incorporated within drawing set) ____
http://www.mercergov.org/files/2012ResidentialEnergyCalcForm.pdf

☑ Air Leakage Testing. *IRC Section R402.4.1.2 WA Amendments*
☑ Provide air leakage test report verifying air leakage rate does not to exceed 5 air changes per hour.
☑ Duct Leakage Testing. *WSEC R403.3.2*
☑ Postconstruction Test. *WSEC R403.2.2.1*
☑ Rough-in Test. *WSEC R403.2.2.3*

FILE NAME: *DSG CVR 2016 24x36.PDF*

TO BE COMPLETED BY DSG

PROJECT ALERTS:
Construction of the project shall be from ***approved plans only***. No deviation from the approved project plans is allowed without prior approval from the City of Mercer Island. Approved plans must be kept on site and maintained in good condition.

☑ Refer to "Conditions of Permit Approval" provided at permit issuance for required construction rules and regulations, including:
- Site Considerations
- Hours of Work
- Construction Vehicle Parking Restrictions
- Acess Road Requirements
- ROW restrictions
- Drainage Requirements
- Sewer Requirements
- Water Service Requirements
- Additional Fire Code Requirements
- Planning Requirements
- Noise Abatement Certification
- Tree Requirements

☐ Refer to "Preconstruction Meeting Checklist" provided at the preconstruction meeting for development related requirements.
☑ Temporary site address with minimum 6" high numbers visible from the street must be installed.
☑ Erosion control measures must be as shown on approved project drawings. All erosion control is to be in place and inspected prior to the start of any site work.
☑ A City of Mercer Island Business License is required for all subcontractors. Call (206) 275-7783 for more information.

TREE PROTECTION REQUIREMENTS:
☑ Tree protection as shown on approved drawings shall be installed at tree dripline prior to start of any site work and must remain in place throughout the project.
☑ No trees shall be cut without a City of Mercer Island tree permit.
☑ Replacement trees must be a minimum of six feet tall at installation. They must be planted and approved prior to final inspection.
☑ For this project, 2 trees are authorized to be removed and replaced with 4 trees.
☐ This project appears to be within a protected eagle nest area. Contact Federal Fish and Wildlife at (360) 534-9304 or visit their website at http://www.fws.gov/pacific/eagle

FIRE PROTECTION REQUIREMENTS:
Separate Permits are required for ALL fire protection systems. For more information, see http://www.mercergov.org/Page.asp?NavID=2614

☑ Fire Sprinkler
☑ NFPA 13D — Waterflow must activate internail sounders or smoke alarms
☐ Plus
☐ NFPA 13R
☐ NFPA 13
☐ Approved Fire Code Alternatives:
☐ FCA1
☐ FCA2
☑ Monitored Household — Separate permits required
Fire Alarm per NFPA 72
☐ Monitored Sprinkler Water Flow Alarm
☐ Other:
☐ FCA3
☐ FCA4

WATER SUPPLY REQUIREMENTS:
☐ Fire sprinkler design calculations must be provided prior to determining water supply system requirements.
☑ Water Supply system upgrade required
☐ City Installation.
☑ Applicant Installation.
Required Service Line Size: 1" (water main to meter) Required Supply Line Size: 1-1/2" (water main to house) Required Meter Size: 1"
☑ Abandonment of existing service and meter required at main.
☑ Pressure reducing valve required if pressure exceeds 80 psi.
☑ Reduced pressure backflow assembly (RPBA) required for all lots with waterfront or non-city water supply (private wells or lake irrigation).
☐ Additional water supply requirements:

DRAINAGE REQUIREMENTS:
☑ On site detention system required.
☐ On site infiltration system required.
☑ As-built Utility drawings required.
☑ Full Size drawings required.
☐ Direct discharge into the lake.
☐ No Storm Water permit required.
☑ Connection to public storm drainage conveyance system req'd.
☑ Other: Civil Engineer certification letter for Post construction Soil

SIDE SEWER REQUIREMENTS:
☑ Side sewer requires a backflow preventer when connecting to the lake line or when the elevation of the lowest plumbing fixture is lower than the elevation of the upstream manhole rim or when side sewer is shared with one or more properties.
☑ Video tape of existing sewer required (see standard details)
☐ New connection. ☑ Connect to existing. ✔ Disconnect permit required. ☑ Reconnect permit required.
☐ Other:
Note: When side sewer is to be connected to the lake line you will need to schedule three (3) days in advance with the City of Mercer Island Maintenance Department at (206) 275-7800.

APPROVED CODE ALTERNATIVES:
Code alternatives must be Inspected. Refer to the Inspection Checklist

☐ CA1:
☐ CA2:

SURVEY REQUIREMENTS (The following survey information must be submitted when checked):
Surveyor shall verify points chosen for height calculations and point verification shall be submitted at the time of City foundation Inspection. A property survey may be required to verify setbacks and in some cases buildings must be surveyed onto the lot. The City reserves the right to request an impervious area survey at any time prior to issuance of Certificate of Occupancy.

Surveyor: Phone:
☐ Building height survey
☐ Building setback survey
☐ Impervious surface survey
☐ Other:

☐ **MAXIMUM 40 PERCENT ALTERATION INSPECTION:** *MICC 19.01.050(D)(1)(b)(i)*
A Building Inspection prior to demolition is required for all legally nonconforming single family dwelling to ensure no more than 40 percent of the dwelling's exterior walls are structurally altered. Contact the Building Inspector at (206) 275-7730.
☐ Civil / Drainage ☐ LUP / Setback requirements

GEOTECHNICAL INFORMATION:
Land clearing, grading, filling and foundation work within geologic hazard areas is **NOT PERMITTED** between October 1 and April 1 without an approved Seasonal Development Limitation Waiver.

☐ Geotechnical Report provided. All construction must comply with the recommendations of the Geotechnical Report. A copy of report and other geotechnical information must be kept on site at all times.

Geotechnical Engineer *Phone*

SEASONAL DEVELOPMENT LIMITATION RESTRICTION:
☐ Applies (Geologic Hazard area). Grading not permitted between October 1 through April 1.
☐ Waiver approved. Grading and excavation permitted subject to all conditions noted in Seasonal Development Limitation Waiver Permit.

Permit number *Approved by* *Date*

TO BE COMPLETED BY DSG

REQUIRED CONSTRUCTION INSPECTIONS:
It is the applicant's responsibility to contact DSG to schedule ALL inspections appropriate for the project. Request inspections online at www.MyBuildingPermit.com or by calling the Inspection Hotline at (206) 275-7730. Allow at least 24 hours (48 hours for Reinforcing steel) in advance of desired inspection. Be specific as to type of inspection.

Inspector shall initial and date appropriate inspection *only* if approved. Note: ***Items marked with an "•" require a separate permit.*** It is the applicants responsibility to apply for and obtain all City of Mercer Island permits.

INSPECTIONS: (Listed in order of typical sequencing)

Inspector | Date | Approved

☐ Pre-construction Meeting to Review Conditions of Permit Approval.
☐ • Tree protection
☐ Erosion control
☐ • Sewer disconnect and cap. If applicable, separate side-sewer permit required
☐ • Right-of-way use or work / easement, material delivery, etc. If applicable, separate ROW permit required
☐ Land clearing, grading and demolition
☐ Temporary power
☐ Pilings / Shoring / Shotcrete. If applicable, provide survey letter (property line); Geotechnical Engineer / Special Inspector reports of inspections (pile and shoring installation, etc.)
☐ Footings, setbacks, UFER ground. If applicable, provide survey letter (building height and setbacks); Special Inspector reports of inspections (soil bearing capacity, compaction, earthwork, pile installation, etc.)
☐ Foundation walls / concrete columns
☐ Roof and footing drains
☐ Foundation damproofing
☐ • Storm drainage, including (but not limited to):
- Connections to storm main in ROW
- Detention systems
- Infiltration systems
- Catch basins including oil-water separator tees
- Area drains
- Conveyance piping / cleanouts
- Storm drain in ROW
- Control structures / manholes
- Pump systems
- Retaining wall drainage

☐ • Water Service
☐ Water Supply
☐ Water as-built drawings
☐ • Side sewer installation, including (but not limited to):
- Connections to side sewer main
- Connections to existing side sewer
- Back-flow valves
- Grinder pump systems
- Sewer manholes

☐ Driveway / Access road
☐ Underslab electrical / mechanical / plumbing
☐ Underslab insulation / vapor barrier / reinforcing
☐ Underfloor framing
☐ Nailing-Roof sheathing. If applicable, provide Special Inspection letter for lateral wood inspection.
☐ Nailing-Exterior wall and Shearwall. If applicable, provide Special Inspection letter for lateral wood inspection.
☐ Rough hydronic installation
☐ Rough electric installation
☐ • Rough fire alarm (wiring inspection)
☐ Rough plumbing installation (DWV, water)
☐ Rough mechanical
☐ Gas Piping
☐ • Rough fire sprinkler / hydrostatic and flow (bucket) test
☐ Framing and glazing. If applicable, provide Special Inspection letter for lateral wood inspection, welding epoxy anchors, etc.
☐ Masonry construction (fireplace / walls / veneer / etc.)
☐ Insulation installation
☐ Stucco (paper and lath)
☐ Shower pan (or tub)
☐ Miscellaneous
☐ Code Alternative CA1:
☐ Code Alternative CA2:
☐ Impact Fees Paid (If applicable)

☐ **Final Inspection:** Tree Restoration ☐ TT
☐ **Final Inspection:** Fire protection, including (but not limited to): ☐ TF
- Sprinkler
- Access Road
- Fire Code Alternatives (see below)
  - ☐ FCA1:
  - ☐ FCA2:
- Fuel Tank Installation
- Fire Extinguishing System
- Fire Alarm System
  - ☐ FCA3:
  - ☐ FCA4:

☐ **Final Inspection:** Water supply protection, including (but not limited to) backflow devices for: ☐ TW
- Waterfront property
- Fire / lawn sprinkler
- Well water on property
- Boiler

☐ **Final Inspection:** Site and utility: includes landscape, utilities and ROW. Site restoration complete and as-built drawings ready for submittal. ☐ TS
☐ **Final Inspection:** Building, including electrical / mechanical / plumbing. If applicable, provide closeout (summary) letters from Engineer, Special Inspectors, Geotechnical Engineer, and exterior wall cladding inspectors (EIFS). ☐ TB

90 DAY TEMPORARY CERTIFICATE OF OCCUPANCY (TCO):
Applicant option. Additional fees will be required and must be approved prior to occupancy. TCO requires tree plantings be completed.

Approved *Start Date* *End Date*

ADDITIONAL REQUIRED CITY INSPECTIONS:
Call the appropriate contact to arrange the inspection.

Required Inspection(s):	Contact:	Phone:	Scheduling:

IMPACT FEES:
If applicable.

☐ Impact fees apply and are due ***prior*** to Final Inspection or on _____, whichever occurs first.
Date

PLAN REVIEW APPROVALS:
Not all review disciplines may be required to review the documents.

☑ GR *Building* ☑ TM *Planning* ☑ RD *Engineering* ☑ JK *Tree* ☑ JH *Fire*

REVISED: *JULY 2019*

APPROVED DRAWINGS MUST BE KEPT ON THE BUILDING SITE AT ALL TIMES

REVIEWED FOR CODE COMPLIANCE
4/19/22 *Date*
GR *Approved*

PROJECT NAME: Kumar Residence
PROJECT ADDRESS: 4034 85th Ave SE

SF

PERMIT NUMBER 2108-082

CERTIFICATE OF OCCUPANCY
Issued after all required inspections have been performed and approved.
Date
Approved

Average Building Elev. Calc.

segment	length	elev @ mid	wtd segment
a	10	324.5	3245
b	4	324.5	1298
c	30	324	9720
d	22	324.5	7139
e	3	324.5	973.5
f	4	324.5	1298
g	24.5	**320**	7840
h	16	**320**	5120
i	20.04	325	6513
j	4	325.5	1302
k	12.08	325.5	3932.04
l	4	325.5	1302
m	12.36	325.5	4023.18
n	24.08	325	7826
o	2	325	650
p	18.92	324.5	6139.54
q	14.25	**320**	4560
r	2	**320**	640
s	11.66	**320**	3731.2
t	4	324.5	1298
u	9	324.5	2920.5
v	7	324.5	2271.5
perim=	258.89		83742.46

avg el = 323.4673

BOLD elevations lower than existing grade

Basement FAR exception Calc.

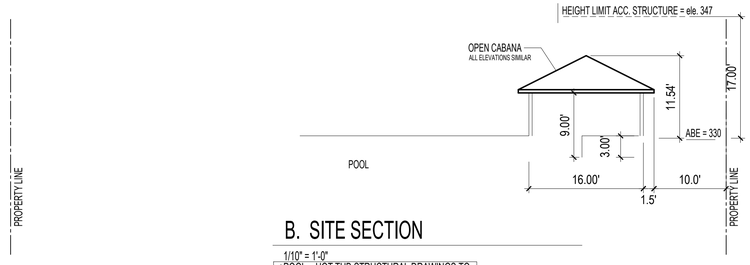
segment	length	beginning elev.	end elev.	begin cov	end cover	avg cover	%cover	wtd
a	10	324.5	324.5	4.50	4.50	4.5	50.0%	5.00
b	4	324.5	324.5	4.50	4.50	4.5	50.0%	2.00
c	30	324.5	324.5	4.50	4.50	4.5	50.0%	15.00
d	22	324.5	325	4.50	5.00	4.75	52.8%	11.61
e	3	325	325	5.00	5.00	5	55.6%	1.67
f	4	325	325	5.00	5.00	5	55.6%	2.22
g	24.5	325	**320**	5.00	0.00	2.5	27.8%	6.81
h	16	**320**	325.5	0.00	5.50	2.75	30.6%	4.89
i	20.04	325.5	325.5	5.50	5.50	5.5	61.1%	12.25
j	4	325.5	325.5	5.50	5.50	5.5	61.1%	2.44
k	12.08	325.5	325.5	5.50	5.50	5.5	61.1%	7.38
l	4	325.5	325.5	5.50	5.50	5.5	61.1%	2.44
m	12.36	325.5	325	5.50	5.00	5.25	58.3%	7.21
n	24.08	325	325	5.00	5.00	5	55.6%	13.38
o	2	324.5	324.5	4.50	4.50	4.5	50.0%	1.00
p	18.92	324.5	324.5	4.50	4.50	4.5	50.0%	9.46
q	14.25	324.5	324.5	4.50	4.50	4.5	50.0%	7.13
r	2	324.5	324.5	4.50	4.50	4.5	50.0%	1.00
s	11.66	324.5	324.5	4.50	4.50	4.5	50.0%	5.83
t	4	324.5	324.5	4.50	4.50	4.5	50.0%	2.00
u	9	324.5	324.5	4.50	4.50	4.5	50.0%	4.50
v	7	324.5	324.5	4.50	4.50	4.5	50.0%	3.50
perim=	258.89					avg.		128.72

raw FAR 2403

basement slab elev = 320
full cover = 9

excepted area = 1194.724

BOLD elevations are lower than existing grade
segment is footprint on the ground or projected overhanging living space



LOT SLOPE

HIGH POINT = 332'
LOW POINT = 320'
LOT SLOPE = 12'/168' = 7.14%

FAR CALCULATION

Main Floor = 2354.6 sf
Lower Floor = 2403 (with gar) sf
Upper Floor = 1938 sf

excepted FAR = (-1194.7) sf
stairs = (-110)

TOTAL = 5390.9 sf
allowable = 13,499 x .4 = 5399.6 sf

LOT COVERAGE

House Roof to eaves (shaded) = 3276.09 sf
Accesory Struct to eaves (shaded) = 361 sf
driveway = 383.66

TOTAL = 4020.75 sf
allowable = 13,499 x .4 = 5399.6 sf

amount available for hardscape = 1378.85 sf

HARDSCAPE

P00L + hot tub = 583.4 sf
PATIOS AND RETAINING = 1596.8 sf

TOTAL = 2180.2sf

allowable = 13,499 x .09 = 1214.9 sf
extra lot cov. = 1378.85
TOTAL allow. = 2593.75 sf

A. SITE PLAN

1/10" = 1'-0"

NORTH

(00) = SPOT ELEVATION, FINAL
(1) = WALL SEGMENT TAG FOR BASEMENT FAR EXCEPTION
(A) = WALL SEGMENT TAG FOR HEIGHT CALCULATION
= EAVE/ROOF LINE
= EXTENT OF MAIN FLOOR
= BUILDING FOOTPRINT (FOUNDATION EXTENTS)
= EXTENT OF UPPER FLOOR
SHADED AREA = BLDG EXTENTS TO EAVE
EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED
= EXISTING TOPOGRAPHY
RT = REPLACEMENT TREE PER ARBORIST'S REPORT
(PYRUS OR OTHER NW NATIVE PER https://treespnw.forestry.oregonstate.edu

B. SITE SECTION

1/10" = 1'-0"
POOL + HOT TUB STRUCTURAL DRAWINGS TO BE PROVIDED BY DEFERRED SUBMISSION
ALL 4 CORNERS OF CABANA ARE AT ELEV. 330, BOTH FINISH AND FINAL GRADE, THEREFOR ABE = 330

All Japanese knotweed (Polygonum cuspidatum) and Regulated Class A, Regulated Class B, and Regulated Class C weeds identified on the King County Noxious Weed list, as amended, shall be removed from the property.

development proposals for a new single-family home shall remove japanese knotweed (polygonum cuspidatum) and regulated class a, regulated class b, and regulated class c weeds identified on the king county noxious weed list, as amended, from required landscaping areas established pursuant to subsection 19.02.020(f)(3)(a). new landscaping associated with new single-family home shall not incorporate any weeds identified on the king county noxious weed list, as amended. provided, that removal shall not be required if the removal will result in increased slope instability or risk of landslide or erosion.

Civil Engineer

Duffy Ellis
CES Civil Engineering
102 NW Canal St Seattle WA 98107
206.930.0342

Structural Engineer

Javid Abdi, PE, SE Atlas Consulting Structural Engineers
6810 NE 149th St Kenmore WA 98028
Phone: (206) 427-7233

Contractor

Aspen Homes NW
Mike Yeganeh
P.O. BOX # 1056
Mercer Island, WA 98040
Lic # ASPPENHN870MK

Project Description

Demolish existing and build new single family residence.

Parcel Number/Legal

Parcel # = 5450300150
Legal Description:
MERCER CREST ADD
PLat Block: B
Plat Lot: 6
ZONING = R-9.6
lot size = 13,499 sf

Owner

SAHIL KUMAR
4034 85TH AVE SE 98040

NFPA 13D and NFPA 72 Monitored Fire Alarm System (per Chapter 29) Required.

9317 REGISTERED ARCHITECT CHRIS LUTH STATE OF WASHINGTON

CENTERLINE DESIGN
4737 37th AVE SW
SEATTLE
206.935.4684
www.Centerline-Design.com

Kumar Residence
4034 85th Ave SE

REVIEWED FOR CODE COMPLIANCE
April 19, 2022
SITE COPY

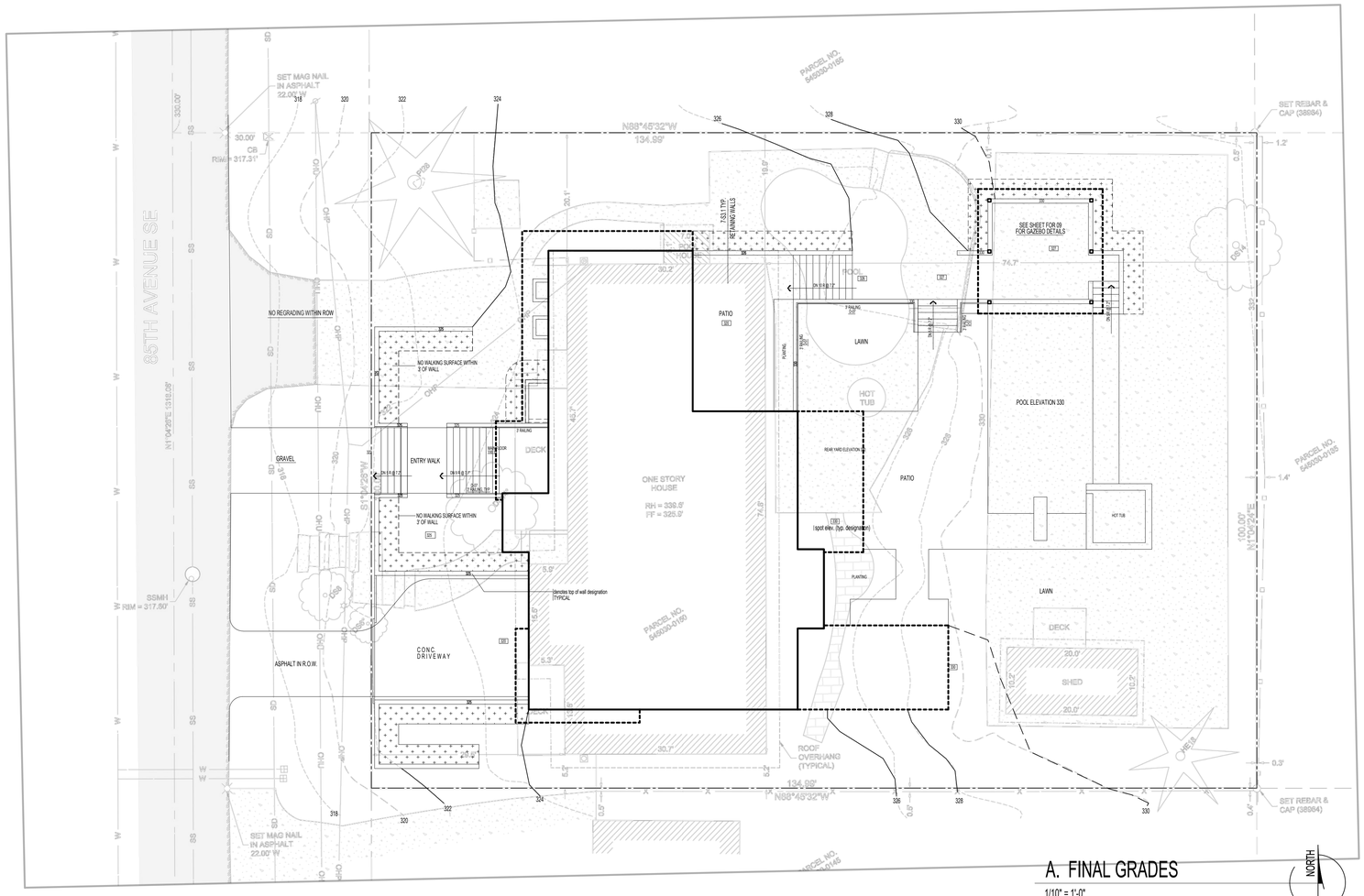
CONTENTS
Site Plan

DRAWN BY
CRL

DATE
5.2121
9.15.21
1.12.22
2.28.22

3.25.22
4.15.22

1a



A. FINAL GRADES

1/10" = 1'-0"

NORTH

= SPOT ELEVATION, FINAL

= CANTILEVER/EAVE/ROOF LINE

= BUILDING FOOTPRINT

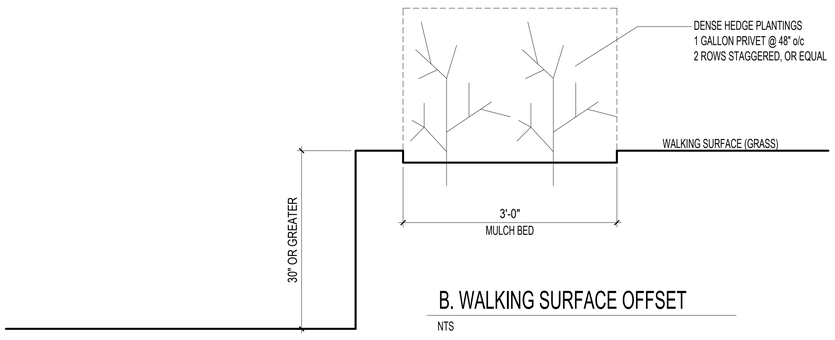
EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED

= EXISTING TOPOGRAPHY

= REVISED TOPO (FINISHED GRADES)

= 3' MIN WIDTH OF DENSE HEDGE PLANTINGS SEE DETAIL B THIS PAGE

POOL + HOT TUB STRUCTURAL DRAWINGS TO BE PROVIDED BY DEFERRED SUBMISSION
POOL AND HOT TUB TO BE PROVIDED WITH SAFETY COVERS CONFORMING TO ASTM F1346



B. WALKING SURFACE OFFSET

NTS

9317 REGISTERED ARCHITECT CHRIS LUTH STATE OF WASHINGTON

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Kumar Residence
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REVIEWED FOR CODE COMPLIANCE
April 19, 2022
SITE COPY

CONTENTS

Site Plan

DRAWN BY
CRL

DATE
5.2121
1.12.22
2.28.22

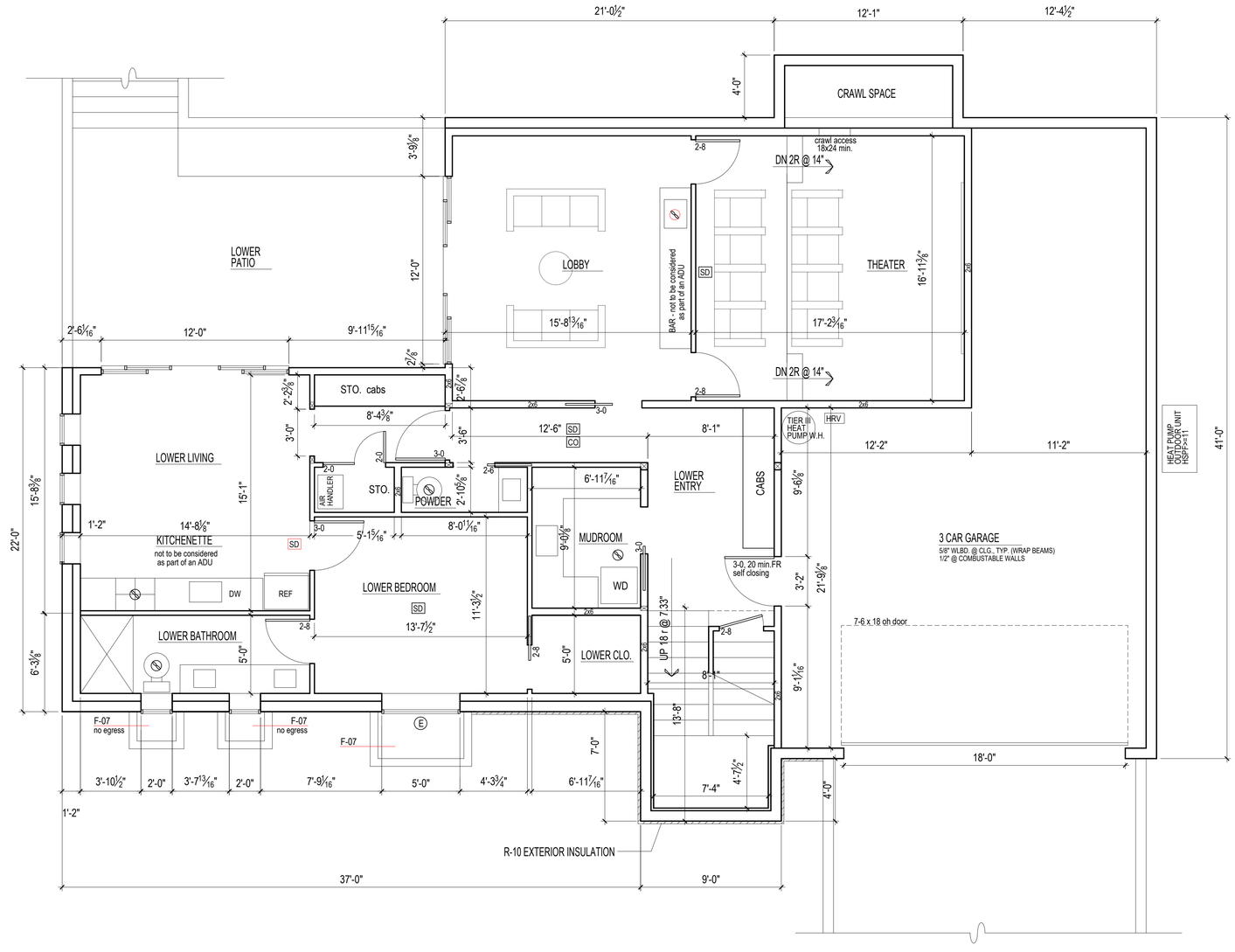
3.25.22

1b

NOTES

SD = SMOKE DETECTOR, HARDWIRE, INTERCONNECTED w/ BATTERY BACK-UP
CO CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated
= FAN, 50 CFM UNLESS OTHERWISE INDICATED
FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS
ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING
(E) =EGRESS WINDOWS
Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.
ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED
(T) =TEMPER/SAFETY GLAZE WINDOWS
ALL GAS F.P. TO BE APPROVED DIRECT VENT



LOWER FLOOR PLAN

1/4" = 1'-0"

FLOOR AREA = 2403sf
GARAGE = 758sf

NORTH

9317 REGISTERED ARCHITECT CHRIS LUTHI STATE OF WASHINGTON

Kumar Residence

4034 85th Ave SE

REVIEWED FOR CODE COMPLIANCE April 19, 2022 SITE COPY

CONTENTS
Lower Floor

DRAWN BY
CRL

DATE
6.7.21
1.12.22

01

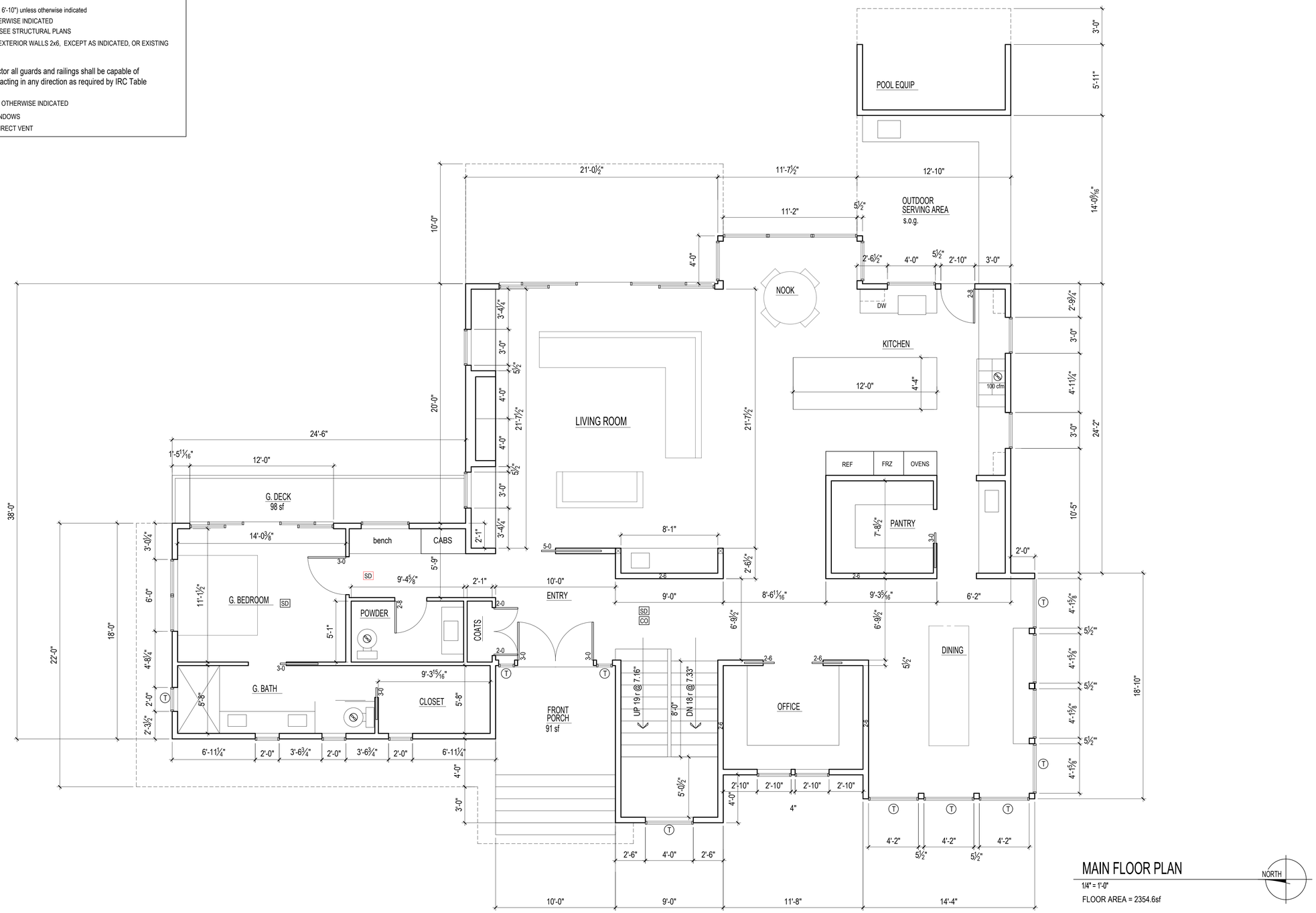
NOTES

SD = SMOKE DETECTOR, HARDWIRE, INTERCONNECTED w/ BATTERY BACK-UP
CO CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated
= FAN, 50 CFM UNLESS OTHERWISE INDICATED
FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS
ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING
(E) =EGRESS WINDOWS

Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED
(T) =TEMPER/SAFETY GLAZE WINDOWS
ALL GAS F.P. TO BE APPROVED DIRECT VENT



MAIN FLOOR PLAN

1/4" = 1'-0"

FLOOR AREA = 2354.6sf

NORTH

9317 REGISTERED ARCHITECT CHRIS LUTH STATE OF WASHINGTON

Kumar Residence

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CONTENTS
Main Floor

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1.12.22

02

NOTES

SD = SMOKE DETECTOR, HARDWIRE, INTERCONNECTED w/ BATTERY BACK-UP
CO CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated
= FAN, 50 CFM UNLESS OTHERWISE INDICATED
FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS
ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING
(E) =EGRESS WINDOWS

Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED
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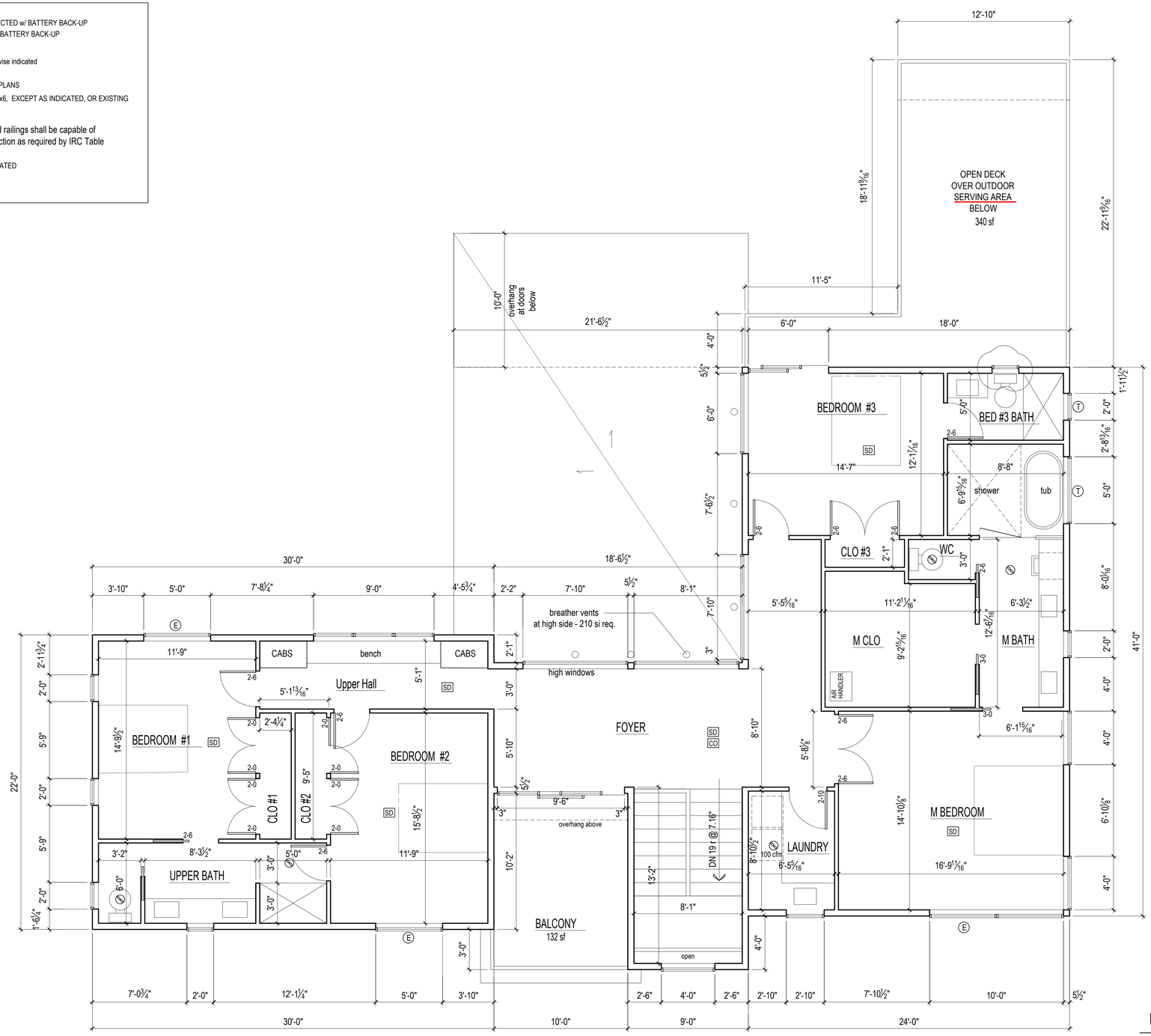

UPPER FLOOR PLAN

1/4" = 1'-0"
FLOOR AREA = 1938sf

NORTH

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CONTENTS
Upper Floor

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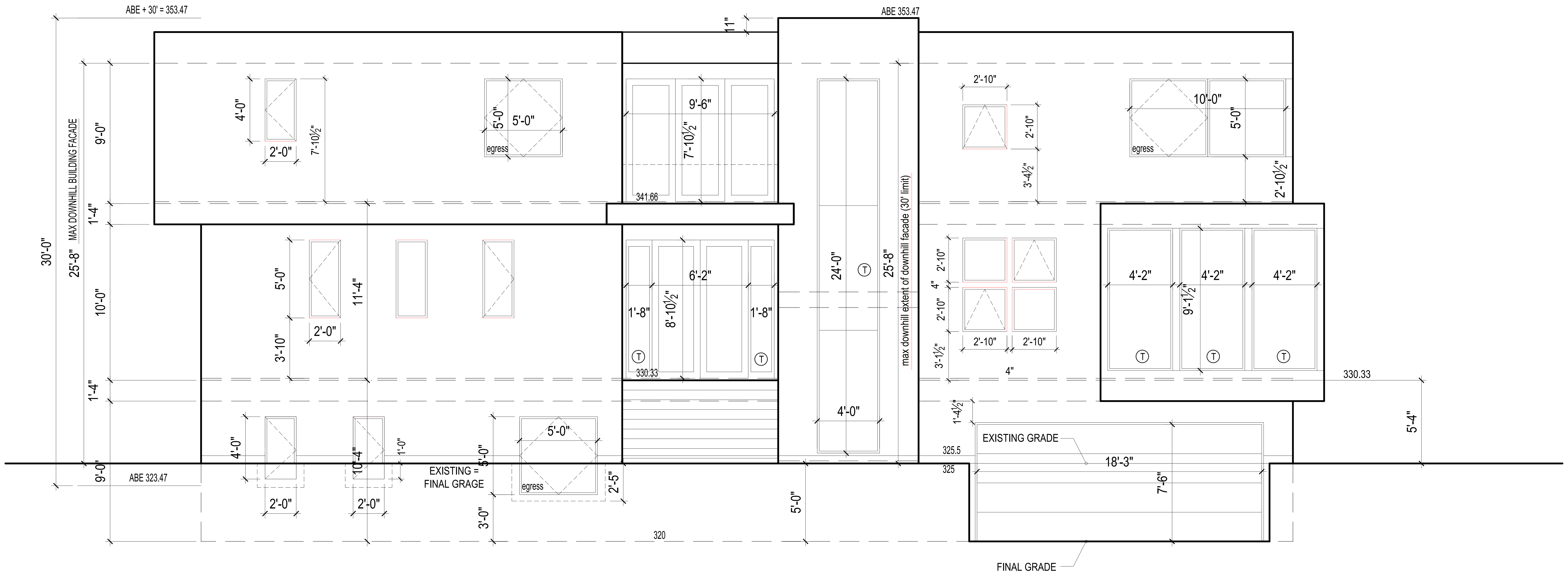
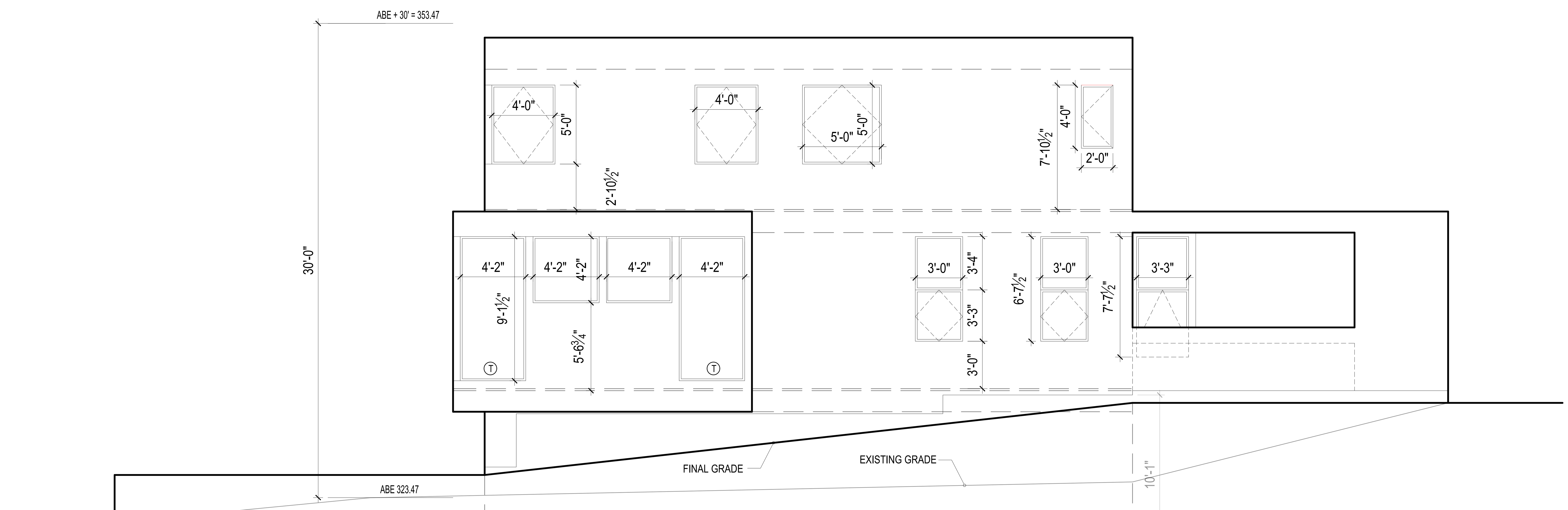
1.12.22
2.28.22

03



WEST ELEVATION

1/4" = 1'-0"



SOUTH ELEVATION

1/4" = 1'-0"

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CHRIS LUTHI
STATE OF WASHINGTON

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SEATTLE
206.935.4684
www.Centerline-Design.com

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CONTENTS
Elevations

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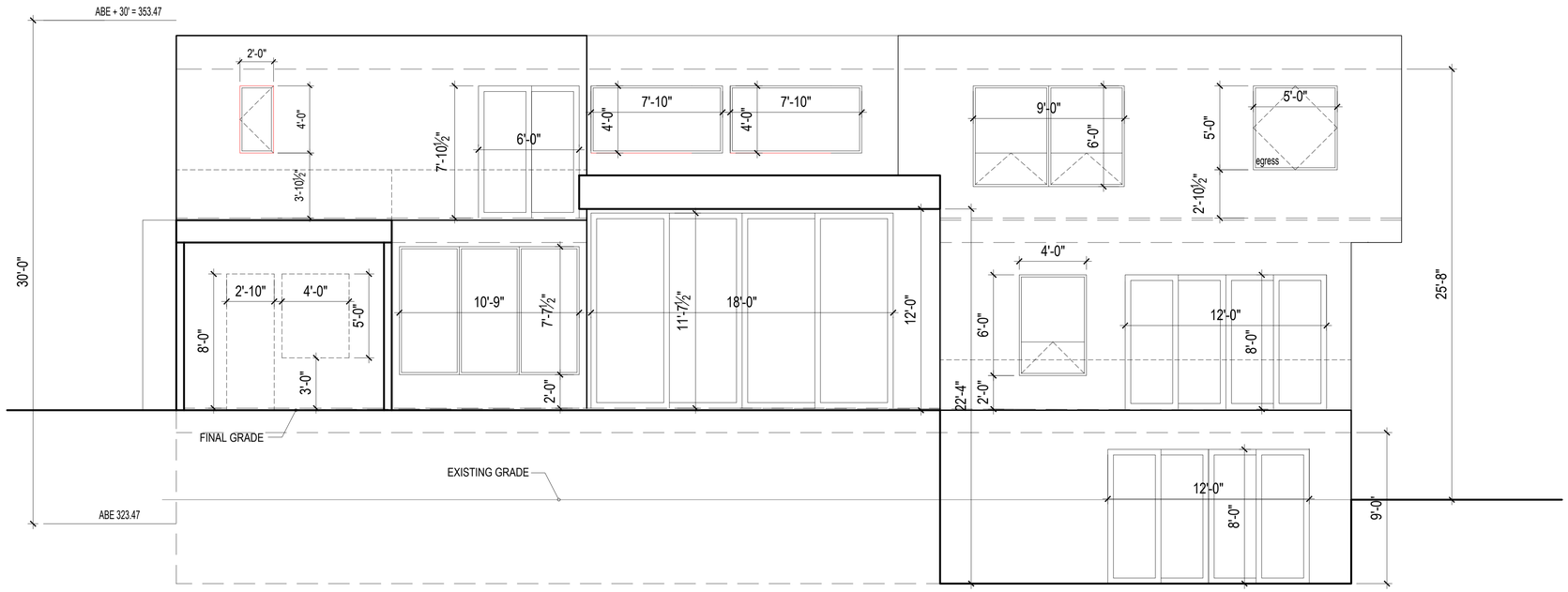
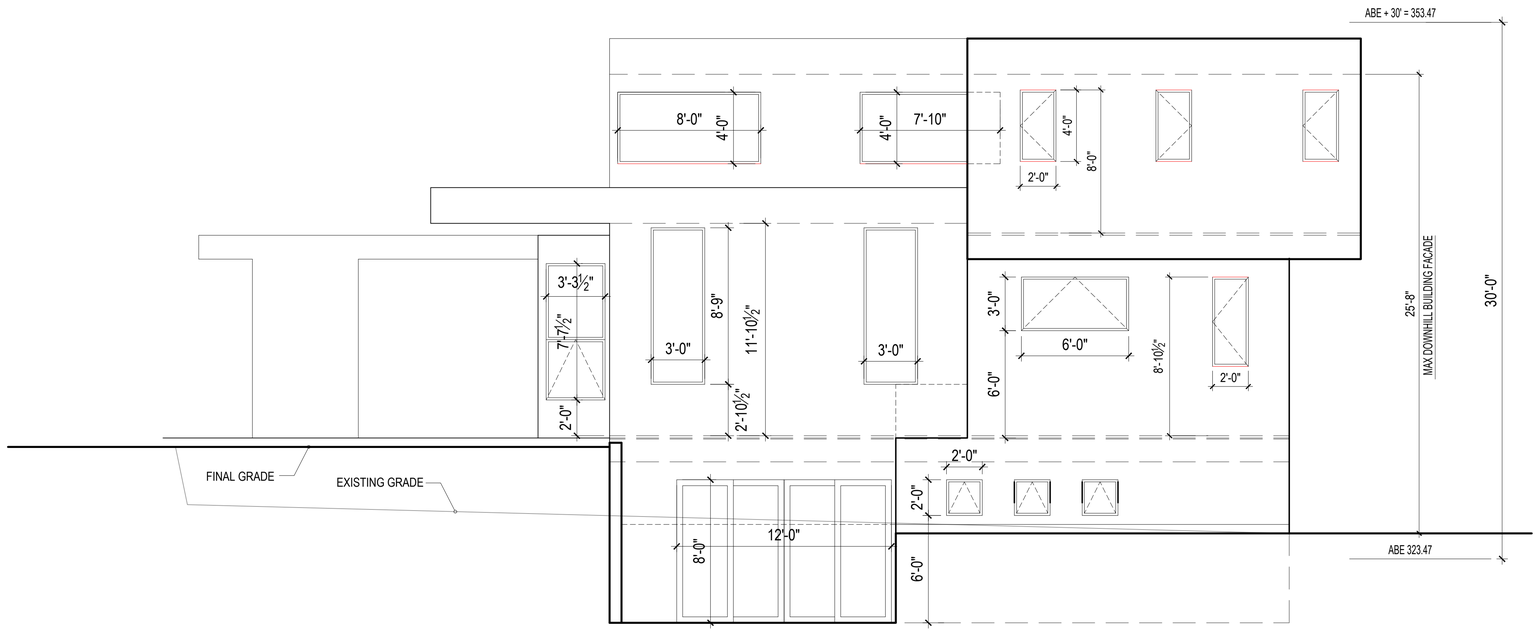
DATE
5.21.21
9.15.21
1.12.22



EAST ELEVATION

1/4" = 1'-0"



NORTH ELEVATION

1/4" = 1'-0"

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CONTENTS

Elevations

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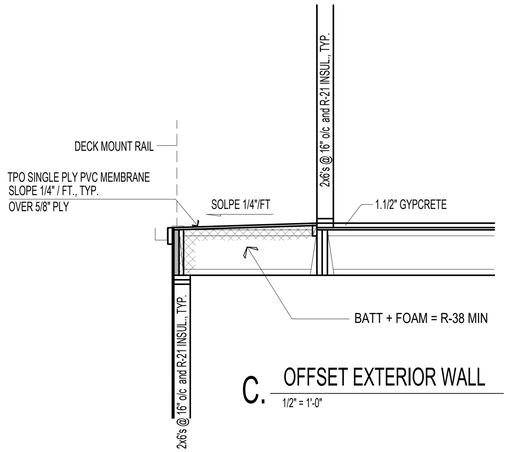
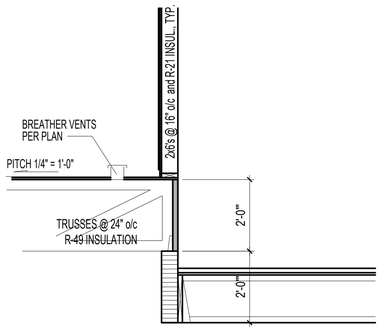
DATE

5.21.21
9.15.21
1.12.22

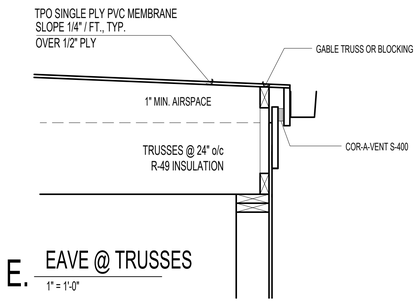


C. OFFSET EXTERIOR WALL
1/2" = 1'-0"

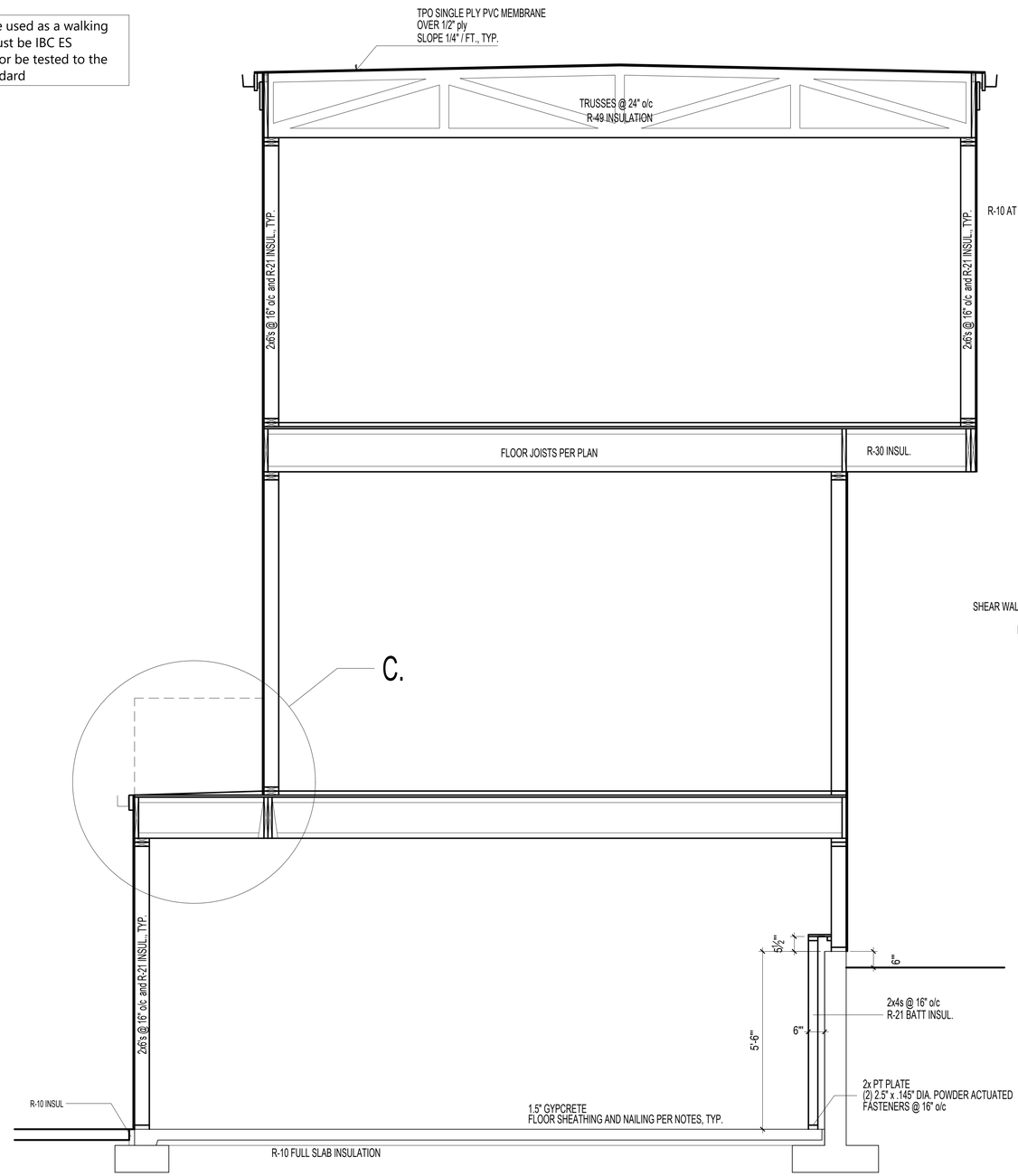
Membrane used as a walking surface must be IBC ES approved or be tested to the AC39 standard



D. UPPER FLOOR TO L.R. ROOF
1/2" = 1'-0"



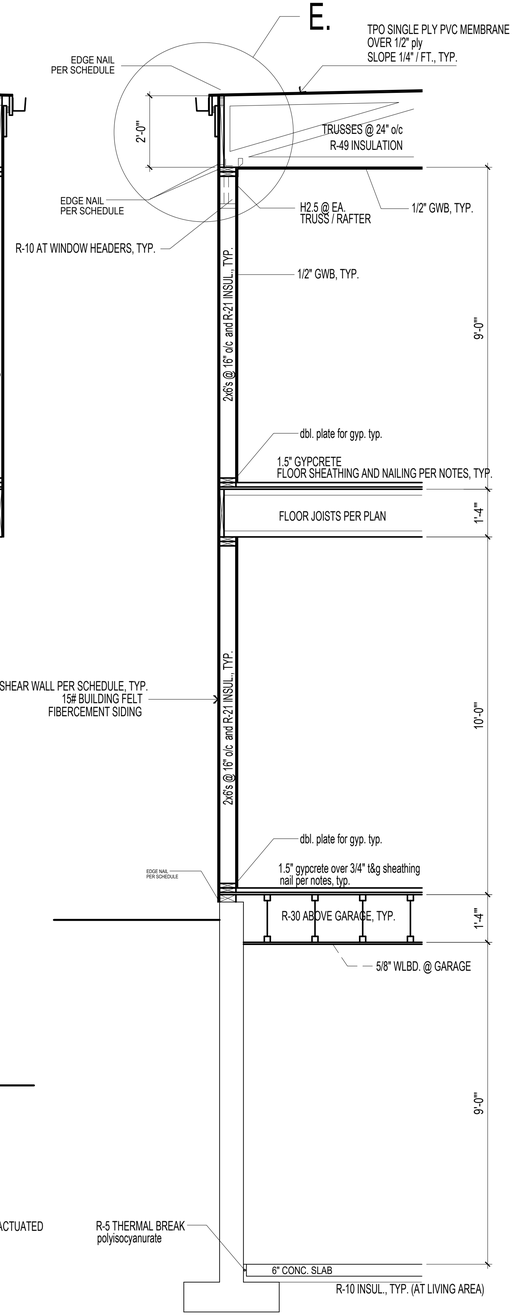
E. EAVE @ TRUSSES
1" = 1'-0"



B. BUILDING SECTION
1/2" = 1'-0"

FOAM INSULATION NOTES

Closed cell spray foam directly applied to
underside of sheathing (min R-10)
+ batts to = r-49 (R-38 min. @ vaulted areas)
Spray foam product to be "Spraytite 178" as manufactured by BASF (ESR-2642), or equal.
Spray foam insulation shall be installed per IRC 806.5.1.3.
A copy of the ICC ESR report for the product used must be provided on the job site for field inspector verification
The applied spray foam must be installed by a certified installer.



A. TYPICAL SECTION
1/2" = 1'-0"

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Sections

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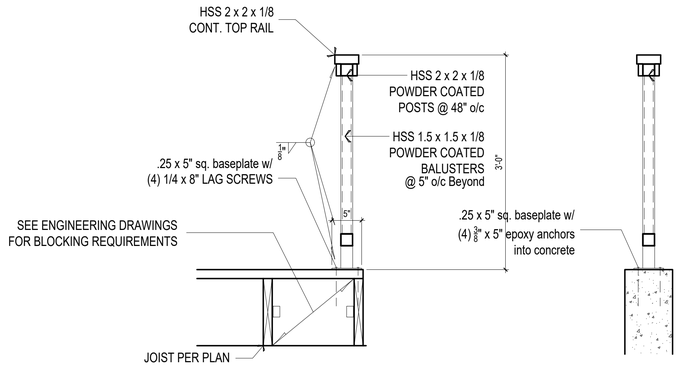
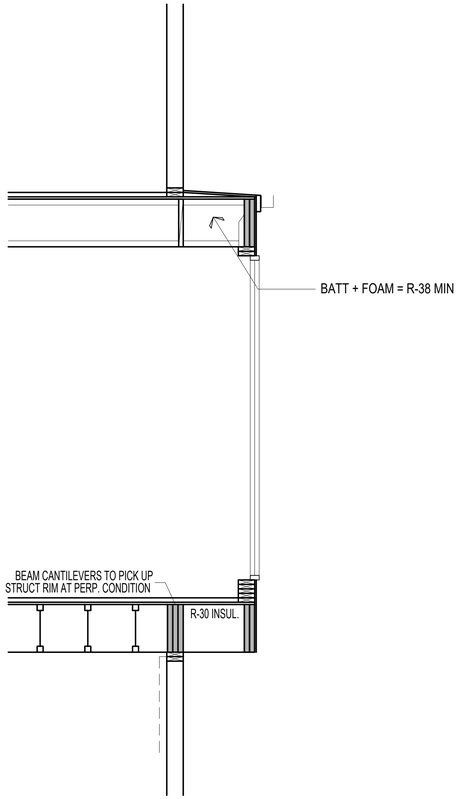
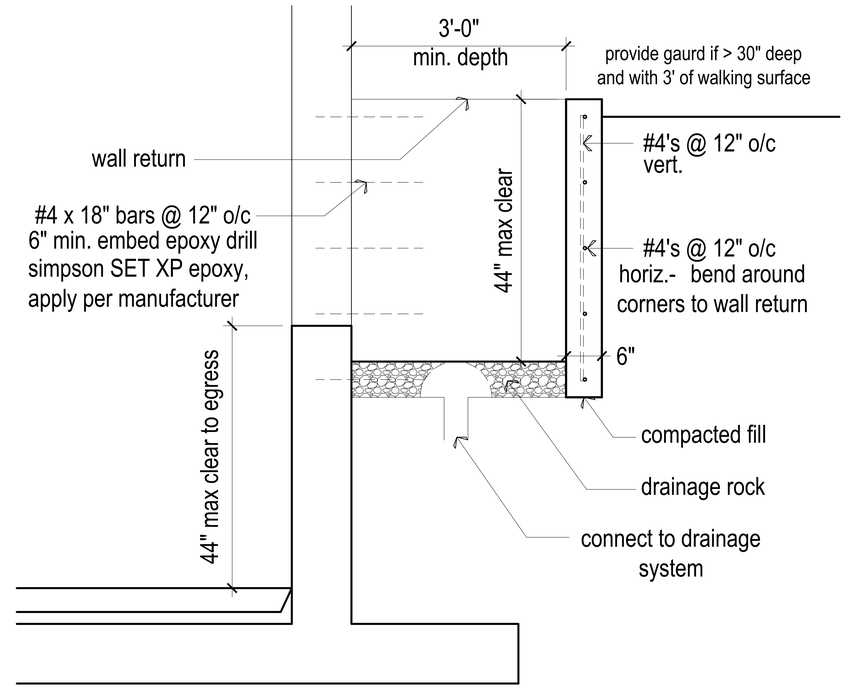


D. RAILING DETAIL
1" = 1'-0"



E. DINING ROOM POP-OUT
1/2" = 1'-0"

C. STAIR SECTION
1" = 1'-0"



F. WINDOW WELL DETAIL
1" = 1'-0"

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1.12.22

07

Energy Code Info

2018 WA STATE PRESCRIPTIVE PATH

energy credit option	credit value	summary
1.7	0.5	ins. over wall, .28 windows
2	1	heat pump
2.2	1	2.0 ACH + HRV
3.5	1.5	central HP, HSPF>=11
4.1	0.5	AH in heated space
5.5	2	elec. HP WH
7.1	0.5	appliance package
total credits	7	

PRIMARY RESIDENCE HVAC NOTES

DUCTED HEAT PUMP (HSPF>11.0) INT. AIR HANDLER
HEAT RECOVERY VENTILATION
REQUIRED VENTING = CONTINUOUS 120CFM
SET TO OPERATE AT 240 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%)
PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX .35 WATTS/CFM)
CONTOLLED TO OPERATE AT LOW SPEED IN VENTILATION
MODE ONLY.

design professional or builder
shall complete and
post an "Insulation Certificate for
Residential Construction" within 3'
of the electrical panel prior to
final inspection.

Maximum flow rates for shower heads and kitchen sink - 1.75 GPM or less. All other lavatory faucets - 1.0 GPM
or less.

Per WSEC R402.4, The building thermal Envelope shall be constructed to limit air leakage to 2.0 air changes per hour maximum. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2). Per WSEC R403.1.1, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule. Per WSEC R403.2.2, Ducts, air handlers, and filter boxes shall be sealed. Per WSEC R404.1, A minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

All Climate Zones (Table R402.1.1)			
		R-Value [a]	U-Factor [a]
Fenestration U-Factor [b]		n/a	~~0.30~~ .28
Skylight U-Factor [b]		n/a	0.50
Glazed Fenestration SHGC [b,e]		n/a	n/a
Ceiling [e]		49	0.026
Wood Frame Wall [g,h]		21 int	0.056
Floor		30	0.029
Below Grade Wall [c,h]		10/15/21 int + TB	0.042
Slab [d,f] R-Value & Depth		10, 2 ft	n/a
a	*R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed *R*-value of the insulation from Appendix Table A101.4 shall not be less than the *R*-value specified in the table.		
b	The fenestration *U*-factor column excludes skylights.		
c	"10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.		
d	R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.		
e	For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.		
f	R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.		
g	For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for *climate zone* 5 of ICC 400.		
h	Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.		

ENERGY CREDIT DESCRIPTIONS

1.7

Advanced framing and raised heel trusses or rafters
Vertical Glazing U-0.28
R-49 Advanced (U-0.020) as listed in Section A102.2.1, Ceilings below a vented attic and R-49 vaulted ceilings with full height of uncompressed insulation extending over the wall top plate at the eaves.

2.2

Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 air changes per hour at maximum 50 Pascals or
For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to 0.25 cfm/sf maximum at 50 Pascals and
All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code or Section 403.8 of the International Mechanical Code shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.65.

3.5

Air-source, centrally ducted heat pump with minimum HSPF of 11.0.

4.1

All supply and return ducts located in an unconditioned attic shall be deeply buried in ceiling insulation in accordance with Section R403.3.7.

For mechanical equipment located outside the conditioned space, a maximum of 10 linear feet of return duct and 5 linear feet of supply duct connections to the equipment may be outside the deeply buried insulation. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices.

Duct leakage shall be limited to 3 cfm per 100 square feet of conditioned floor area.
Air handler(s) shall be located within the conditioned space.

5.5

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 or
For R-2 Occupancy, electric heat pump water heater(s), meeting the standards for Tier III of NEEA's advanced water heating specification, shall supply domestic hot water to all units. If one water heater is serving more than one dwelling unit, all hot water supply and recirculation piping shall be insulated with R-8 minimum pipe insulation.

7.1

All of the following appliances shall be new and installed in the dwelling unit and shall meet the following standards:
Dishwasher Energy Star rated
Refrigerator (if provided) Energy Star rated
Washing machine Energy Star rated
Dryer Energy Star rated, ventless dryer with minimum CEF rating of 5.2

To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the appliance type and provide documentation of Energy Star compliance. At the time of inspection, all appliances shall be installed and connected to utilities. Dryer ducts and exterior dryer vent caps are not permitted to be installed in the dwelling unit.

Window, Skylight and Door Schedule

Project Information: Kumar

Contact Information:

	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
entry		0.28	1	6	2	8	11	54.7	15.32
entry		0.28	2	1	8	8	11	29.6	8.28
stairs		0.28	1	4	0	24	0	96.0	26.88
office		0.28	1	2	6	2	6	6.3	1.75
dining		0.28	5	4	2	9	1.5	190.1	53.23
dining		0.28	2	4	2	4	2	34.7	9.72
kitchen		0.28	2	3	0	6	7.5	39.8	11.13
kitchen		0.28	1	2	10	8	0	22.7	6.35
kitchen		0.28	1	4	0	5	0	20.0	5.60
nook		0.28	1	10	9	7	7.5	82.0	22.95
nook		0.28	2	3	3.5	7	7.5	50.2	14.06
lr		0.28	1	18	0	11	7.5	209.3	58.59
lr		0.28	2	3	0	8	9	52.5	14.70
hall		0.28	1	4	0	6	0	24.0	6.72
g bed		0.28	1	12	0	8	0	96.0	26.88
g bed		0.28	1	6	0	3	0	18.0	5.04
g bath		0.28	4	2	0	5	0	40.0	11.20
laundry		0.28	1	2	10	2	10	8.0	2.25
m bed		0.28	1	10	0	5	0	50.0	14.00
m bed		0.28	2	4	0	5	0	40.0	11.20
m bath		0.28	1	5	0	5	0	25.0	7.00
bed3 bath		0.28	2	2	0	4	0	16.0	4.48
bed3		0.28	1	6	0	7	11	47.3	13.23
bed3		0.28	1	8	0	4	0	32.0	8.96
foyer		0.28	1	9	8	7	11	74.8	20.95
foyer		0.28	3	7	10	4	0	94.0	26.32
up hall		0.28	1	9	0	6	0	54.0	15.12
bed1		0.28	1	5	0	5	0	25.0	7.00
bed1		0.28	2	2	0	4	0	16.0	4.48
up bath		0.28	2	2	0	4	0	16.0	4.48
bed2		0.28	1	5	0	5	0	25.0	7.00
low bed		0.28	1	5	0	5	0	25.0	7.00
low bath		0.28	2	2	0	4	0	16.0	4.48
low liv		0.28	3	2	0	2	0	12.0	3.36
low liv		0.28	1	12	0	8	0	96.0	26.88
lobby		0.28	1	12	0	8	0	96.0	26.88
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Vertical Fenestration Area and UA								1833.8	513.47
Vertical Fenestration Area Weighted U = UA/Area									0.28

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Overhead Glazing Area and UA								0.0	0.00
Overhead Glazing Area Weighted U = UA/Area									0.00
Total Sum of Fenestration Area and UA ***(for heating system sizing calculations)***								1833.8	513.47

9317 REGISTERED ARCHITECT CHRIS LUTH STATE OF WASHINGTON

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CONTENTS
Upper Floor

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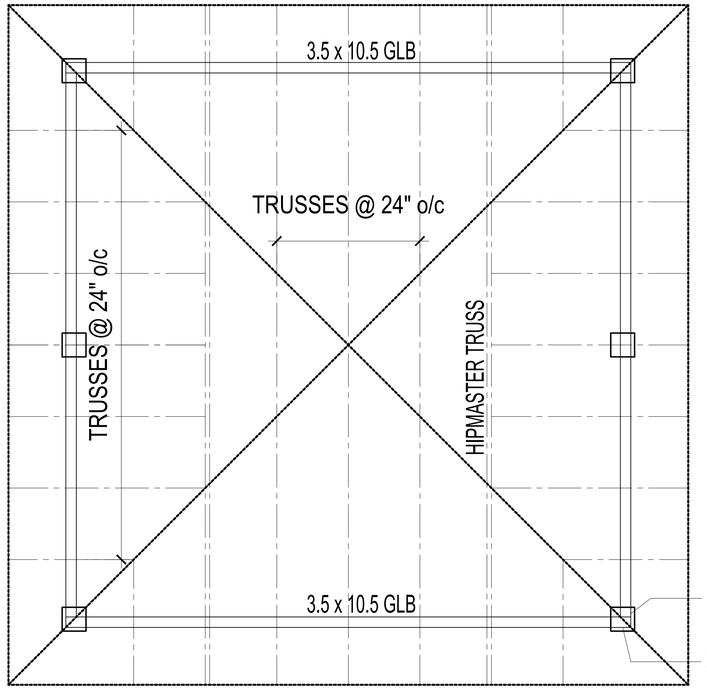
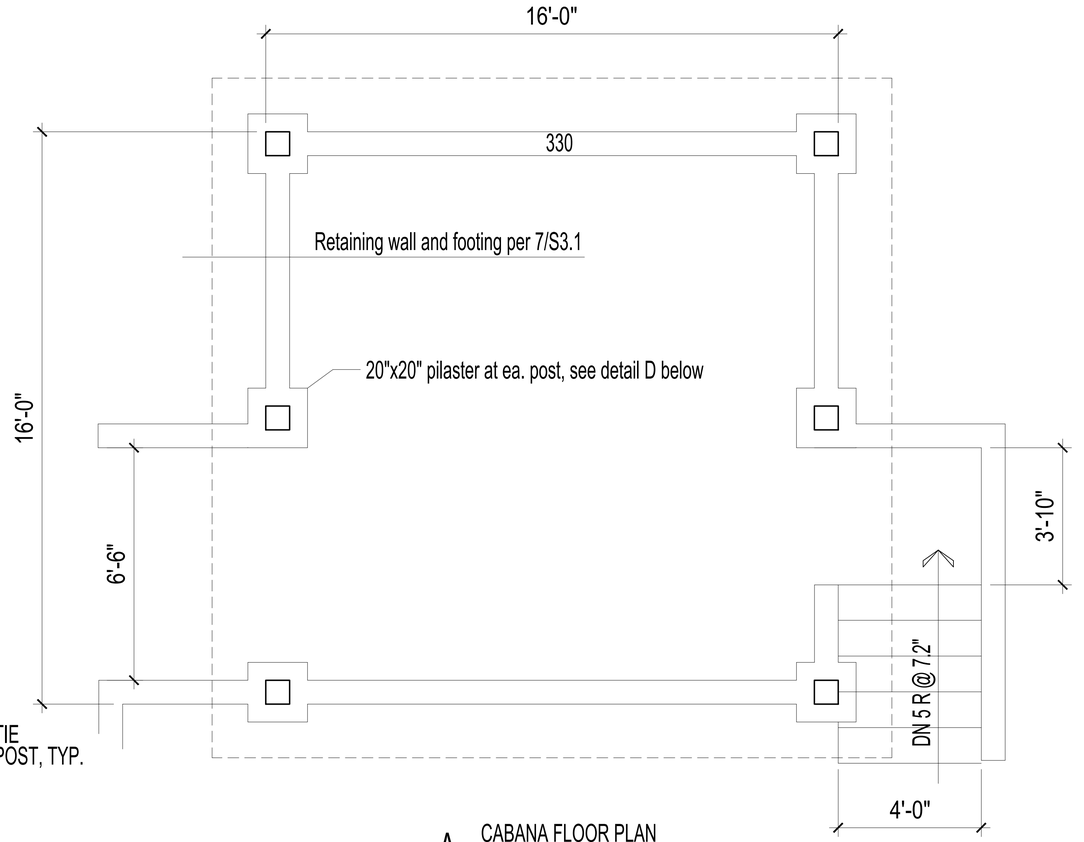
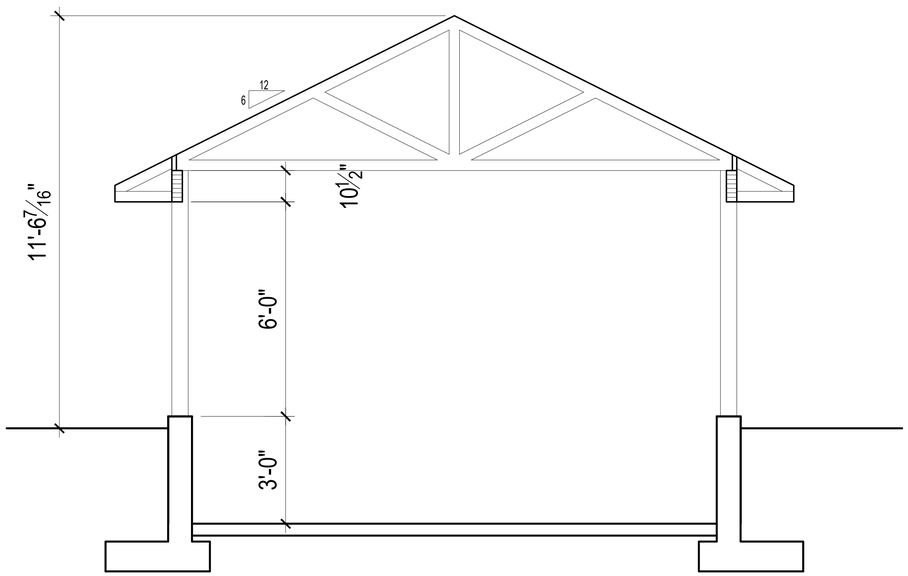


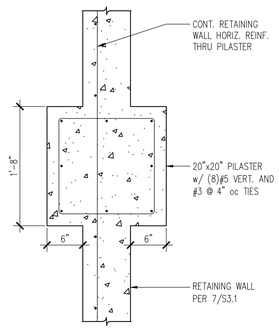
B. CABANA ROOF FRAMING PLAN
1/2" = 1'-0"



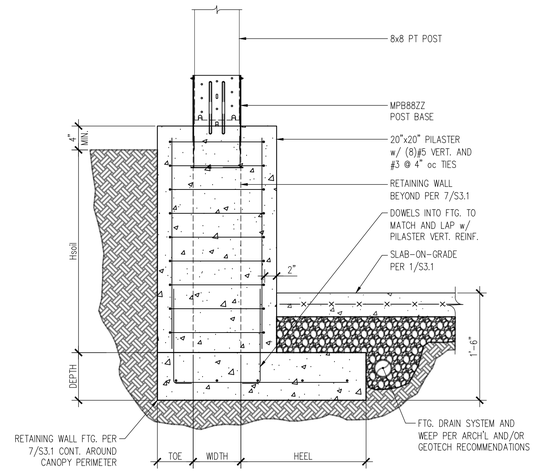
A. CABANA FLOOR PLAN
1/2" = 1'-0"



C. CABANA SECTION
1/2" = 1'-0"



PLAN VIEW



D. PILASTER DETAIL
1" = 1'-0"

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09

General Structural Notes (GSN's)

CRITERIA:

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2018 INTERNATIONAL BUILDING CODE (IBC).

2. DESIGN LOADING CRITERIA
   RISK CATEGORY IBC TABLE 1604.5 II
   ROOF SNOW LOAD . . . . 25 PSF (I_S = 1.0)
   DECK DEAD LOAD . . . . 25 PSF
   LIVE LOAD . . . . 40 PSF
   DECK LIVE LOAD . . . . 60 PSF
   FLOOR DEAD LOAD . . . . 36 PSF

   EARTHQUAKE . . . . SEISMIC DESIGN CATEGORY D
   S_S = 1.414, S_1 = 0.492, S_{DS} = 1.131, S_{D1} = 0.593
   EQUIVALENT LATERAL FORCE PROCEDURE
   LIGHT FRAME (WOOD) WALLS AND ROOFS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
   R = 6.5, Ω_0 = 2½, I_E = 1.0, C_d = 4, C_s = 0.174
   BASE SHEAR V = 41.6 K – LRFD
   WIND . . . . 110 MPH, EXPOSURE "C", Kzt = 1.3
   COMPONENTS & CLADDING . . . . –39.4/–23.6 PSF MAX. AT WALLS (LRFD/ASD)
   –66.5/–39.9 GROSS UPLIFT AT ROOF (LRFD/ASD)
   WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIBUTARY AREAS NEAR WALL CORNERS OR ROOF EDGES (EXCLUDING CORNER ZONES AT ROOF). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7-10 CHAPTER 30.

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ENGINEER OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BUILDING LAYOUT DIMENSIONS (GRID LAYOUTS, SITE COORDINATES, ETC.) AMONGST ALL TRADES, INCLUDING SHOP FABRICATED ITEMS.

4. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, BOTH FOR VERTICAL LOADS AND LATERAL STABILITY, FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

6. 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.

7. ALL STRUCTURAL SYSTEMS COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

8. SEISMIC BRACING AND/OR GRAVITY SUPPORT AND ANCHORAGE OF ALL MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON, EXCEPT FOR ELEMENTS SPECIFICALLY SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. THE MECHANICAL/ELECTRICAL CONTRACTOR MUST HIRE THE ENGINEER AND IS RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF NECESSARY SUPPORTS, BRACING AND ANCHORAGE. SEISMIC BRACING AND ANCHORAGE DESIGN AND CONSTRUCTION SHALL COMPLY WITH CHAPTER 13 OF ASCE 7-10.

9. SHOP DRAWING REVIEW: SHOP DRAWINGS FOR TRUSSES SHALL BE SUBMITTED TO THE CONTRACTOR, ARCHITECT, AND ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS. DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, AND THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND ONE COPY. THE REPRODUCIBLE SHALL BE MARKED AND RETURNED. SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

10. DEFERRED SUBMITTALS SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON. THE COMPONENT DESIGNER SHALL BE A REGISTERED STRUCTURAL ENGINEER IF REQUIRED BY THE BUILDING OFFICIAL OF THE LOCAL JURISDICTION. BUILDING COMPONENT SUBMITTALS SHALL INCLUDE THE DESIGNING PROFESSIONAL ENGINEER'S STAMP AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER OF RECORD FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE INCLUDING ACCOMMODATION FOR STRUCTURAL DISPLACEMENT PER ASCE 7-10 SECTION 13.3.2. AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. DEFERRED SUBMITTALS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE INCLUDED IN THE SUBMITTAL. THE CONTRACTOR SHALL FORWARD DEFERRED SUBMITTALS TO THE BUILDING OFFICIAL AND HAVE THE DEFERRED SUBMITTALS ON SITE FOR THE GOVERNING JURISDICTIONS INSPECTORS USE AND REFERENCE. THE FOLLOWING BUILDING COMPONENTS SHALL BE DEFERRED SUBMITTALS FOR THIS PROJECT:
    PREFABRICATED CONNECTOR PLATE WOOD ROOF TRUSSES (SEE NOTE 23)

GEOTECHNICAL:

11. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS GIVEN IN THE SPECIFICATIONS OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED EARTH OR CONTROLLED, COMPACTED STRUCTURAL FILL AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE AT THE EXTERIOR; AND 12" AT THE INTERIOR. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SPECIFICATIONS OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER
    ALLOWABLE SOIL PRESSURE . . . . 2,000 PSF
    REFERENCE: ASSUMED PER IBC TABLE 1806.2

ANCHORAGE:

12. DRIVE PINS AND OTHER POWDER-ACTUATED FASTENERS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "TE SERIES" (0.157" DIAMETER) AS MANUFACTURED BY ITW RAMSET (ICC-ES NO. 1799); OR "X-U" (0.157" DIAMETER) AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 2269); OR "STRONG-TIE PDPA" (0.157" DIAMETER) AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 2138); OR "CSI PIN" (0.157" DIAMETER) AS MANUFACTURED BY DEWALT/POWERS (ICC-ES NO. 2024); OR AN APPROVED EQUIVALENT IN STRENGTH AND EMBEDMENT. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1" UNLESS OTHERWISE NOTED. MAINTAIN AT LEAST 3-1/2" TO NEAREST CONCRETE EDGE.

CONCRETE:

13. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318-14 CHAPTER 26 AND ACI 301. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 4,000 PSI (4,500 PSI AT ALL CONCRETE EXPOSED TO WEATHER). MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO FOR INTERIOR SLABS SHALL BE BETWEEN 0.40 AND 0.44. ALL CONCRETE SHALL BE EXPOSURE CLASSES F0, S0, W0, AND C0 PER ACI 318-14 TABLES 19.3.1.1 AND 19.3.2.1 EXCEPT AS NOTED BELOW.
    ALL CONCRETE EXPOSED TO EARTH (FOUNDATIONS, ETC.): (F0, S0, W0, C1)
    ALL CONCRETE EXPOSED TO WEATHER: (F1, S0, W0, C1)
    SEE SPECIFICATIONS FOR SHRINKAGE REDUCING CONCRETE MIX CRITERIA WHERE INDICATED ON DRAWINGS. CONCRETE MIXES SHALL MEET OR EXCEED THE REQUIREMENTS SPECIFIED ABOVE. MIXES SHALL BE SUBMITTED TO THE ENGINEER AND BUILDING OFFICIAL FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE AND SHALL INCLUDE THE AMOUNTS OF CEMENT, CEMENTITOUS MATERIAL, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES, AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 318-14, CHAPTER 26 AND 27. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

14. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, fy = 60,000 PSI. GRADE 60 REINFORCING BARS WHICH ARE TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCEMENT COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D1.4 ARE SUBMITTED. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.

15. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315-99 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT IN ACCORDANCE WITH "REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH SCHEDULE" OF 10/S3.1. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 12" AT SIDES AND ENDS. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

16. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
    FOOTINGS AND OTHER UNFORMED SURFACES
    CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . 3"
    FORMED SURFACES EXPOSED TO EARTH
    (i.e. WALLS BELOW GROUND)OR WEATHER (#5 BARS OR SMALLER). . . . . 1 ½"

17. BONDING AGENT SHALL BE "MASTEREMACO ADH 326" BY BASF CORPORATION. OR EQUIVALENT, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST HARDENED CONCRETE. PLACE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING PREPARATION OF EXISTING SURFACES. CONCRETE SHALL BE CONSIDERED HARDENED AFTER 56 DAYS.

18. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (6,000 PSI MINIMUM).

WOOD:

19. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17 OR W.W.P.A. WESTERN LUMBER GRADING RULES. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:
    PLATES, LEDGERS & MISC. — DOUGLAS FIR NO. 3 OR STUD GRADE
    LIGHT FRAMING: — MIN. BASIC DESIGN STRESS, F_b = 525 PSI, E = 1400 KSI; F_c = 775 PSI, F_t = 325 PSI
    JOISTS, BEAMS & POSTS: — DOUGLAS FIR NO. 1; MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI; F_c = 1500 PSI, F_t = 1000 PSI

20. MANUFACTURED LUMBER SHALL BE AS MANUFACTURED BY TRUS JOIST OR APPROVED EQUAL. REQUESTS FOR APPROVAL AS EQUAL WILL REQUIRE SUBMITTAL OF ICC REPORT EQUIVALENT TO ESR-1387 FOR LAMINATED VENNER LUMBER (LVL, LAMINATED STRAND LUMBER (LSL), OR PARALLEL STRAND LUMBER (PSL). THE MINIMUM ALLOWABLE DESIGN VALUES ARE AS FOLLOWS:
    LVL – F_b = 2,600 F_v = 290 PSI E = 2,000,000 PSI
    LSL – F_b = 1,900 F_v = 150 PSI E = 1,300,000 PSI

21. ENGINEERED WOOD I-JOISTS SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS, STIFFENERS, ETC., SHALL BE DETAILED AND FURNISHED BY THE MANUFACTURER. PERMANENT AND TEMPORARY BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH ENGINEERED WOOD I-JOISTS PROVIDED. DESIGN SHOWN ON THE DRAWINGS IS BASED ON RESIDENTIAL JOISTS MANUFACTURED BY WEYERHAUSER IN ACCORDANCE WITH ICC-ES REPORT NO. ESR-1153. ALTERNATE ENGINEERED WOOD I-JOISTS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD

22. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND A.I.T.C. STANDARDS IN ACCORDANCE WITH IBC SECTION 2303.1.3. EACH MEMBER SHALL BEAR AN A.I.T.C. IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN A.I.T.C. CERTIFICATE OF CONFORMANCE. HORIZONTAL MEMBERS AND INCLINED MEMBERS OF LESS THAN 1:1 SLOPE SHALL HAVE A RADIUSED CAMBER OF 3,500 FT. UNLESS OTHERWISE NOTED.
    SIMPLE SPAN BEAMS — DOUGLAS FIR COMBINATION 24F-VR
    F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI
    GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON-CORROSIVE, APPROVED PRESERVATIVE.

23. PREFABRICATED CONNECTOR PLATE WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH ANSI/TPI I-2007 AND IBC SECTION 2303.4 FOR THE SPANS AND CONDITIONS SHOWN ON THE DRAWINGS.
    DESIGN LOADS SHALL BE AS FOLLOWS:
    TOP CHORD LIVE LOAD — 25 PSF, SNOW
    BOTTOM CHORD LIVE LOAD — 0 PSF
    TOP CHORD DEAD LOAD — 17.5 PSF
    BOTTOM CHORD DEAD LOAD — 2.5 PSF
    WIND UPLIFT (TOP CHORD) — SEE NOTE#2 COMPONENTS & CLADDING ROOF LOADS

    THE TRUSS MANUFACTURER SHALL COORDINATE LOCATIONS AND SUPPORT CONFIGURATIONS OF PLUMBING, MECHANICAL UNITS, DUCTS, AND/OR OTHER MISCELLANEOUS ITEMS WITH THE CONTRACTOR PRIOR TO TRUSS FABRICATION. THE TRUSS MANUFACTURER SHALL DESIGN TRUSSES TO SUPPORT ALL LOADS ASSOCIATED WITH SUCH ITEMS. THE TRUSS SHOP DRAWINGS SHALL INCLUDE ALL DESIGN LOADS AND APPROVED HANGER CONNECTION DETAILS TO TRUSS CHORDS FOR SUPPORT OF HUNG MECHANICAL SYSTEM COMPONENTS AS APPLICABLE.

    WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SHOP DRAWINGS AND CALCULATIONS SHALL BE PROVIDED AS A DEFERRED SUBMITTAL TO THE CONTRACTOR AND STRUCTURAL ENGINEER OF RECORD PER GENERAL STRUCTURAL NOTE 13. SHOP DRAWINGS SHALL INDICATE SHAPES, BEARING POINTS, INTERSECTIONS, HIPS, VALLEYS, ETC. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS (USE OF GIRDER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ETC.) SHALL BE DETERMINED BY THE MANUFACTURER UNLESS OTHERWISE NOTED ON THE DRAWINGS. THE TRUSS MANUFACTURER SHALL PROVIDE ALL TRUSS-TO-TRUSS BEAM/JOIST CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. THE TRUSS MANUFACTURER SHALL DESIGN AND PROVIDE DETAILS FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

24. ROOF & WALL SHEATHING SHALL BE APA RATED, EXTERIOR OR EXPOSURE 1 PLYWOOD OR ORIENTED STRAND BOARD (OSB) IN CONFORMANCE WITH IBC SECTION 2303.1.5. SHEATHING SHALL BE MANUFACTURED UNDER THE PROVISIONS OF VOLUNTARY PRODUCT STANDARDS DOC PS 1-09, PS 2-10, OR APA PRP-108 PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS. SEE DRAWINGS FOR THICKNESS, SPAN RATING, AND NAILING REQUIREMENTS.

25. AT NON-SHEAR WALL EXTERIOR WALLS, UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE ½" (NOMINAL) WITH SPAN RATING OF 24/0; WITH 8d @ 6" oc PANEL NAILING (APPLIES TO ALL SHEATHING PANEL EDGES); AND 8d @ 12" oc TO INTERMEDIATE FRAMING.

26. ALL PRESSURE-TREATED (P.T.) WOOD MEMBERS SPECIFIED ON THE DRAWINGS THAT OCCUR ABOVE GROUND AND CONTINUOUSLY PROTECTED FROM MOISTURE (INTERIOR LOCATIONS) SHALL BE PRESSURE-TREATED WITH DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$. AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, WOOD MEMBERS SHALL BE PRESSURE-TREATED WITH ALKALINE COPPER QUAT (ACQ-C FOR DOUGLAS-FIR) PRESERVATIVE UNLESS OTHERWISE NOTED. AMMONIACAL COPPER ZINC ARSENATE (ACZA) PRESERVATIVE OR OTHER PRESERVATIVES WITH AMMONIA CARRIERS, SHALL NOT BE USED.
    GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON-CORROSIVE, APPROVED PRESERVATIVE.
    SEE NOTE #27 FOR MATERIAL REQUIREMENTS OF CONNECTORS AND FASTENERS IN CONTACT WITH PRESSURE-TREATED MEMBERS.

27. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED N THEIR WOOD CONSTRUCTION CONNECTORS CATALOG NO. C-C-2017-18. INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, CENTER STRAP ON JOINT AND INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER, WITH EQUAL NUMBER AND SIZE OF FASTENERS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

    ALL TIMBER CONNECTORS IN CONTACT WITH PRESSURE-TREATED WOOD THAT USED PRESERVATIVE CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$ SHALL BE MANUFACTURED FROM Z_{MAX} STEEL BY SIMPSON (G185 STEEL PER ASTM A653), OR TYPE 304 OR 316 STAINLESS STEEL. ALTERNATIVELY, CONNECTORS CAN BE POST HOT DIP GALVANIZED PER ASTM A123 OR MECHANICALLY GALVANIZED PER ASTM B695, CLASS 55 OR GREATER. STAINLESS STEEL FASTENERS SHALL BE USED WITH STAINLESS STEEL CONNECTORS, AND HOT DIP GALVANIZED FASTENERS PER ASTM A153 SHALL BE USED WITH GALVANIZED CONNECTORS.

28. WOOD FRAMING NOTES: THE FOLLOWING SHALL APPLY UNLESS OTHERWISE NOTED ON THE DRAWINGS:
    A. ALL WOOD FRAMING DETAILS SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE IBC. MINIMUM NAILING SHALL CONFORM TO IBC TABLE 2304.9.1 OR CURRENT ICC-ES REPORT NER-272. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO 2012 NDS SECTION 11.1.4, AND INSTALLATION OF BOLTS SHALL CONFORM TO 2012 NDS SECTION 11.1.3.

    B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE INSTALLED AT THE ENDS OF ALL WALLS, UNLESS NOTED OTHERWISE NOTED. INSTALL SOLID BLOCKING FOR WOOD COLUMN THROUGH FLOOR SPACES TO SUPPORTS BELOW.

    ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS @ 12" oc STAGGERED OR BOLTED TO CONCRETE WITH ⅝"ø ANCHOR BOLTS @ 4'-0" oc PER IBC SECTION 2308.6 (EMBED 7"), UNLESS OTHERWISE NOTED. 3" x 3" x 0.229" PLATE WASHERS SHALL BE USED WITH ALL SILL PLATE ANCHOR BOLTS AND INSTALLED PER AF&PA SDPWS-2008 SECTION 4.3.6.4.3. INDIVIDUAL MEMBERS OF BUILT-UP STUD POSTS SHALL BE NAILED TO EACH OTHER WITH 16d @ 12" oc STAGGERED.

    C. FLOOR AND ROOF FRAMING: INSTALL SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH (2)16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH 16d@12"oc STAGGERED.

    ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AS SHOWN ON THE DRAWINGS. INSTALL APPROVED PANEL EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING ALLOW ⅛" SPACING AT ALL PANEL EDGES AND ENDS OF LOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d@12"oc. IN ACCORDANCE WITH IBC SECTION 1604.8.3, DECKS SHALL BE POSITIVELY ANCHORED TO THE STRUCTURE BY MEANS OTHER THAN NAILS SUBJECT TO WITHDRAWAL. ANCHOR WITH MINIMUM (1) CS16 STRAP AT EACH END ATTACHED TO DECK JOISTS AND TO A SOLID BLOCKING MEMBER WITHIN THE BUILDING.

POST-INSTALLED ANCHORS AND EPOXY ADHESIVE

29. EPOXY-GROUTED RODS OR REBAR TO CONCRETE SPECIFIED ON THE DRAWINGS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "SET-XP" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 2508); OR "HIT-HY 200" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 3187), "SAFE-SET" INSTALLATION WITH HOLLOW CARBIDE DRILL BIT IS PERMITTED; OR "PURE110+" AS MANUFACTURED BY DEWALT/POWERS (ICC-ES NO. 3298). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC308. SPECIAL INSPECTION OF EPOXY-GROUTED ANCHOR INSTALLATION IS REQUIRED. EPOXY GROUTED RODS OR REBAR SHALL NOT BE USED AS SUBSTITUTES FOR CAST-IN-PLACE ANCHOR BOLTS OR REINFORCING STEEL UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY ENGINEER IF ANCHOR LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY CERTIFIED PERSONNEL IN CONFORMANCE TO ACI 318-14 SECTION 17.8.2.2. HOLES SHALL BE HAMMER DRILLED AND DRY.

30. EXPANSION ANCHORS SHALL BE ONE OF THE APPROVED PRODUCTS BELOW:
    – KWIK BOLT TZ ANCHORS AS MANUFACTURED BY HILTI, INC. AND INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. 1917, OR
    – STRONG-BOLT 2 AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. AND INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. 3037
    AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

IBC TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

REQUIRED?	VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC	REF STD.	IBC REF.
N*	1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS AND VERIFY PLACEMENT.	---	X	ACI 318 CH. 20, 25.2, 25.3, 26.5.1–26.5.3	1908.4
N	2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706. B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND C. INSPECT ALL OTHER WELDS	--- X	X X	AWSD1.4 ACI 318 26.5.4	---
YES	3. INSPECT ANCHORS CAST IN CONCRETE.	---	X	ACI 318: 17.8.2	---
YES	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A	X	X	ACI 318: 17.8.2.4 ACI 318:17.8.2	---
N*	5. VERIFY USE OF REQUIRED DESIGN MIX.	---	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
N*	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C 172 ASTM C 31 ACI 318: 26.4.5, 26.12	1908.10
N*	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
N*	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI 318: 26.4.7–26.4.9	1908.9
N	9. INSPECT PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES; AND B. GROUTING OF BONDED PRESTRESSING TENDONS	X X	--- ---	ACI 318: 26.9.2.1 ACI 218: 26.9.2.3	---
N	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	---	X	ACI 318: CH. 26.8	---
N*	11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X	ACI 318: 26.10.2	---
N*	12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI318: 26.10.1(b)	---

* EXCEPTIONS 2 PER IBC SECTION 1705.3 APPLIES TO CONCRETE WORK ON THIS PROJECT.

Minimum Connectors and Fasteners for Wood Members per IBC 2015

DESCRIPTION OF BUILDING ELEMENT	NUMBER AND TYPE OF FASTENERS	SPACING & LOCATION
ROOF		
1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS, OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	3-8d COMMON (2½" x 0.131"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	2-8d COMMON (2½" x 0.131") 2-3" x 0.131" NAILS 2-3" x 14 GAGE STAPLES	EACH END, TOENAIL
	2-16d COMMON (3½" x 0.162") 3-3" x 0.131" NAILS 3-3" x 14 GAGE STAPLES	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON (3½" x 0.162") @ 6" oc 3" x 0.131" NAILS @ 6" oc 3" x 14 GAGE STAPLES @ 6" oc	FACE NAIL
2. CEILING JOISTS TO TOP PLATE	3-8d COMMON (2½" x 0.131"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST, TOENAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITION (NO THRUST) (SEE 2308.7.3.1, TABLE 2308.7.3.1)	3-16d COMMON (3½" x 0.162"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
4. CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT)	PER TABLE 2308.7.3.1	FACE NAIL
5. COLLAR TIE TO RAFTER	3-10d COMMON (3" x 0.148"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
6. RAFTER OR ROOF TRUSS TO TOP PLATE (SEE 2308.7.5, TABLE 2308.7.5)	3-10d COMMON (3" x 0.148"); or 3-16d BOX (3½" x 0.135"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
7. ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2" RIDGE BEAM	2-16d COMMON (3½" x 0.162"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131 NAILS; or 3-3" x 14 GAGE STAPES, 7/16" CROWN	END NAIL
	3-10d COMMON (3½" x 0.148"); or 3-16d BOX (3½" x 0.135"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131 NAILS; or 4-3" x 14 GAGE STAPES, 7/16" CROWN	TOENAIL
WALL		
8. STUD TO STUD (NOT AT SHEARWALL CHORDS)	16d COMMON (3½" x 0.162")"	24" oc FACE NAIL
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	16" oc FACE NAIL
9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTION WALL CORNERS	16d COMMON (3½" x 0.162")"; or	16" oc FACE NAIL
	16d BOX (3½" x 0.135")"; or	12" oc FACE NAIL
	3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	12" oc FACE NAIL
10. BUILT-UP HEADER (2" TO 2" HDR.)	16d COMMON (3½" x 0.162")"; or	16" oc EA. EDGE, FACE NAIL
	16d BOX (3½" x 0.135")	12" oc EA. EDGE, FACE NAIL
11. CONTINUOUS HEADER TO STUD	4-8d COMMON (2½" x 0.131"); or 4-10d BOX (3" x 0.128")	TOENAIL
12. TOP PLATE TO TOP PLATE	16d COMMON (3½" x 0.162"); or	16" oc FACE NAIL
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	12" oc FACE NAIL
13. TOP PLATE TO TOP PLATE, AT END JOINTS	8-16d COMMON (3½" x 0.162"); or 12-10d BOX (3" x 0.128"); or 12-3" x 0.131" NAILS; or 12-3" x 14 GAGE STAPLES, 7/16" CROWN	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EA. SIDE OF END JOINT
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING NOT AT SHEARWALL	16d COMMON (3½" x 0.162")"; or	16" oc FACE NAIL
	16d BOX (3½" x 0.135")"; or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	12" oc FACE NAIL
15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING AT SHEARWALL	2-16d COMMON (3½" x 0.162"); or 3-16d BOX (3½" x 0.135"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	16" oc FACE NAIL
16. STUD TO TOP OR BOTTOM PLATE	4-8d COMMON (2½" x 0.131"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
	2-16d COMMON (3½" x 0.162"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL
17. TOP OR BOTTOM PLATE TO STUD	2-16d COMMON (3½" x 0.162"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL
18. TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2-16d COMMON (3½" x 0.162"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
19. 1" BRACE TO EACH STUD AND PLATE	2-8d COMMON (2½" x 0.131"); or 2-10d BOX (3" x 0.128"); or 2-3" x 0.131" NAILS; or 2-3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
20. 1" x 6" SHEATHING TO EACH BEARING	2-8d COMMON (2½" x 0.131"); or 2-10d BOX (3" x 0.128"); or	FACE NAIL
21. 1" x 8" AND WIDER SHEATHING TO EACH BEARING	3-8d COMMON (2½" x 0.131"); or 3-10d BOX (3" x 0.128"); or	FACE NAIL

DESCRIPTION OF BLDG. ELEMENT	NUMBER AND TYPE OF FASTENERS	SPACING & LOCATION
FLOOR		
22. JOIST TO SILL, TOP PLATE, OR GIRDER	3-8d COMMON (2½" x 0.131"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
23. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL, OR OTHER FRAMING BELOW	8d COMMON (2½" x 0.131"); or 10d BOX (3" x 0.128"); or 3" x .131" NAILS; r 3" x 14 GAGE STAPLES, 7/16" CROWN	6" o.c., TOENAIL
24. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	2-8d COMMON (2½" x 0.131"); or 2-10d BOX (3" x 0.128")	FACE NAIL
25. 2" SUBFLOOR TO JOIST OR GIRDER	2-16d COMMON (3½" x 0.162")	FACE NAIL
26. 2" PLANKS (PLANK & BEAM – FLOOR & ROOF)	2-16d COMMON (3½" x 0.162")"	EA. BEARING, FACE NAIL
27. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4" x 0.192")	32" o.c., FACE NAIL TOP & BOT. STAGGERED ON OPPOSITE SIDES
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	24" o.c., FACE NAIL AT TOP & BOT. STAGGERED ON OPP. SIDES
	AND: 2-20d COMMON (4" x 0.192"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
28. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3-16d COMMON (3½" x 0.162"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST OR RAFTER, FACE NAIL
29. JOIST TO BAND JOIST OR RIM JOIST	3-16d COMMON (3½" x 0.162"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL
30. BRIDGING OR BLOCKING TO JOIST, RAFTER, OR TRUSS	2-8d COMMON (2½" x 0.131"); or 2-10d BOX (3" x 0.128"); or 2-3" x 0.131" NAILS; or 2-3" x 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL

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CONTENTS
General Structural Notes

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DATE
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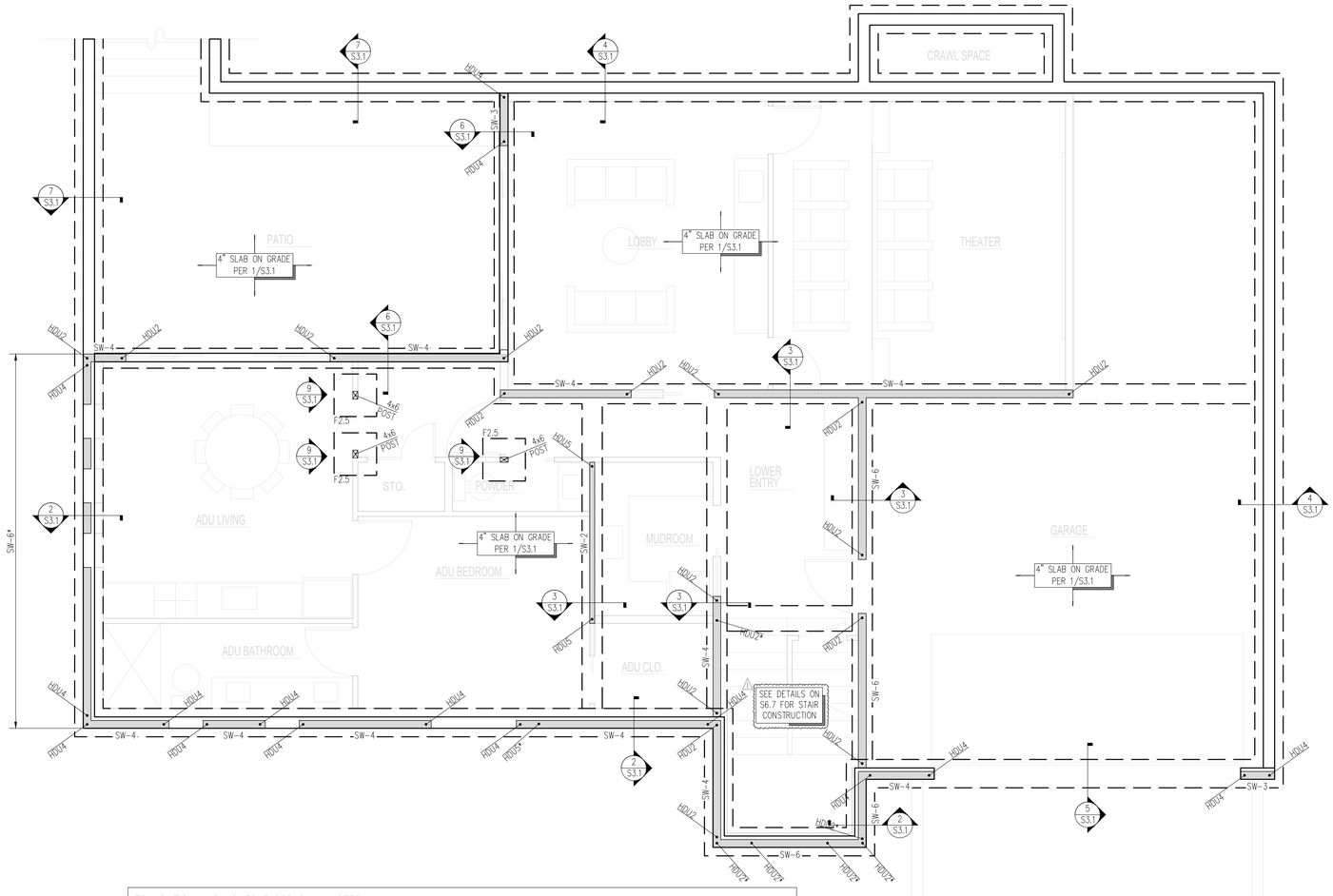
S1.1

LEGEND

- REINFORCED CONCRETE WALL
- REINFORCED CONCRETE FOOTING
- EXISTING CONCRETE FOOTING
- STRUCTURAL WOOD STUDWALL ABOVE
- EXISTING STRUCTURAL WOOD STUDWALL ABOVE
- POST ABOVE
- EXISTING POST ABOVE
- SW-_ — DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.5
- SW-_ * — DENOTES STRAPPED SHEARWALL PER 7/S6.5, WITH * DENOTING LOCATION OF STRAP ABOVE & BELOW OPENING
- HDU_ / MSTC — DENOTES SHEARWALL TENSION TIE PER 4/S6.5
  - * – DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ – DENOTES TIE ATOP FRAMING MEMBER
  - (E) – DENOTES TIE AT EXIST. CONC. w/ EPOXY
- CU_ — DENOTES CUSTOM TENSION TIE INTO EXIST. CONC. w/ EPOXY PER 8/S6.5
- xx'-xx" — DENOTES BOTTOM OF FOOTING ELEVATION



FOUNDATION AND LOWER FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE LOWER FLOOR LEVEL (FROM LOWER FLOOR TO MAIN FLOOR).
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 24" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.1, AND 2/S6.1 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. SEE STRUCTURAL GENERAL NOTES #11 – 16 FOR CONCRETE AND CONCRETE REINFORCING REQUIREMENTS.
4. ALL HEADERS ABOVE (SEE 1/S2.2) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.0 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.0 AT LOAD BEARING EXTERIOR WALLS

1 / S2.1 LOWER FLOOR AND FOUNDATION PLAN

1/4" = 1'-0"

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CONTENTS

Foundation and Lower Floor Plan

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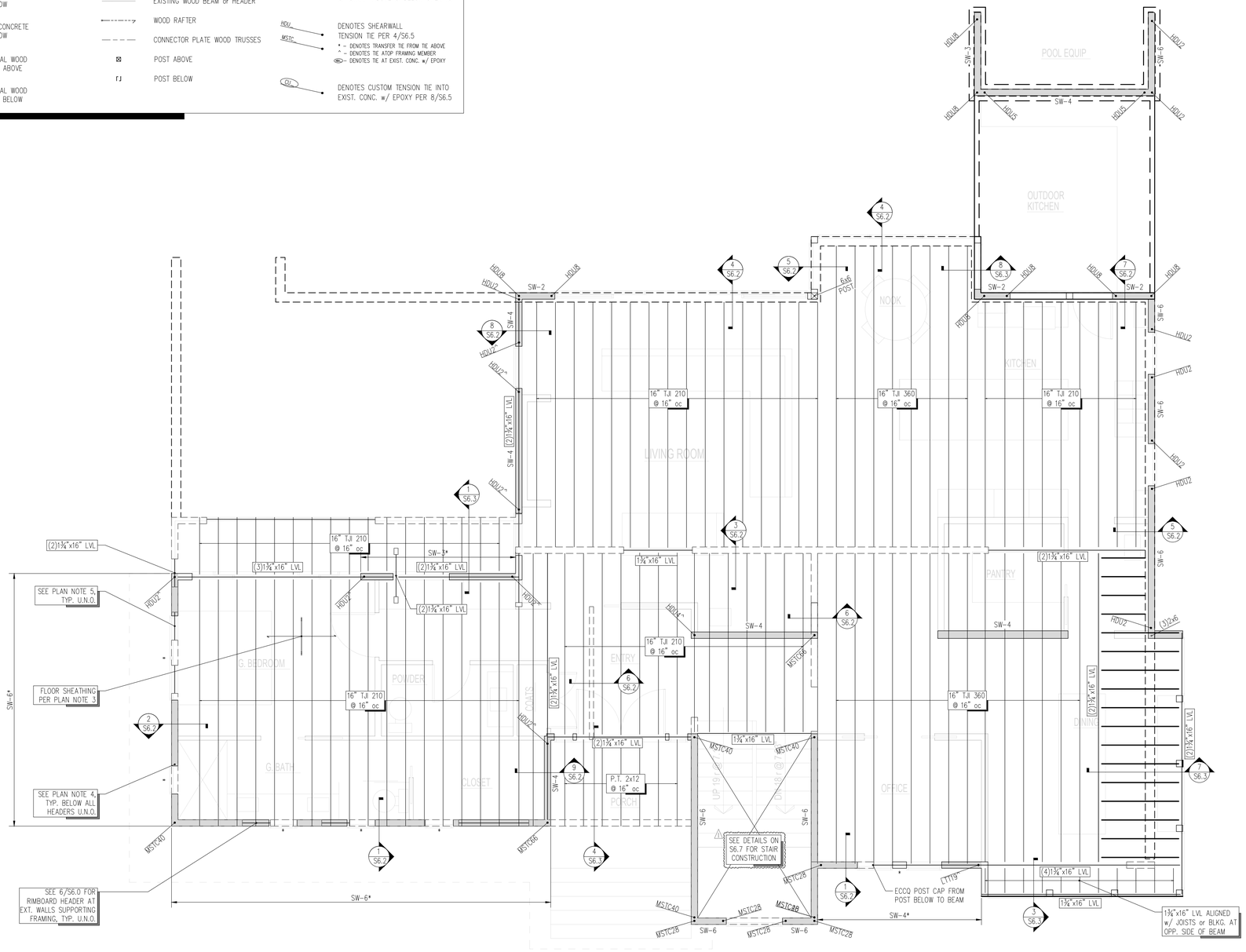
01.04.2022

S2.1

LEGEND

- REINFORCED CONCRETE WALL
- REINFORCED CONCRETE WALL BELOW
- EXISTING CONCRETE WALL BELOW
- STRUCTURAL WOOD STUDWALL ABOVE
- STRUCTURAL WOOD STUDWALL BELOW
- WOOD JOIST
- EXISTING WOOD JOIST
- WOOD BEAM or HEADER
- EXISTING WOOD BEAM or HEADER
- WOOD RAFTER
- CONNECTOR PLATE WOOD TRUSSES
- POST ABOVE
- POST BELOW
- SW-_ : DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.5
- SW-_* : DENOTES STRAPPED SHEARWALL PER 7/S6.5, WITH * DENOTING LOCATION OF STRAP ABOVE & BELOW OPENING
- HDU_ / MSTC_ : DENOTES SHEARWALL TENSION TIE PER 4/S6.5
  - * - DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ - DENOTES TIE ATOP FRAMING MEMBER
  - ⊛ - DENOTES TIE AT EXIST. CONC. w/ EPOXY
- CJC_ : DENOTES CUSTOM TENSION TIE INTO EXIST. CONC. w/ EPOXY PER 8/S6.5



MAIN FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE MAIN FLOOR LEVEL (FROM MAIN FLOOR TO UNDERSIDE OF UPPER FLOOR). DASHED WALLS SHOWN IN PLAN ARE BELOW MAIN FLOOR FRAMING ELEVATION (FROM LOWER FLOOR TO MAIN FLOOR).
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 24" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.1, AND 2/S6.1 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.1). NAIL SHEATHING TO ALL STRUTS AND SHEAR WALLS BELOW w/ TWO ROWS OF 10d @ 6" oc (STAGGER ROWS). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.3) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.0 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.0 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.0 U.N.O. IN PLAN.

1 / S2.2 MAIN FLOOR FRAMING PLAN

1/4" = 1'-0"

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CONTENTS
Main Floor Framing Plan

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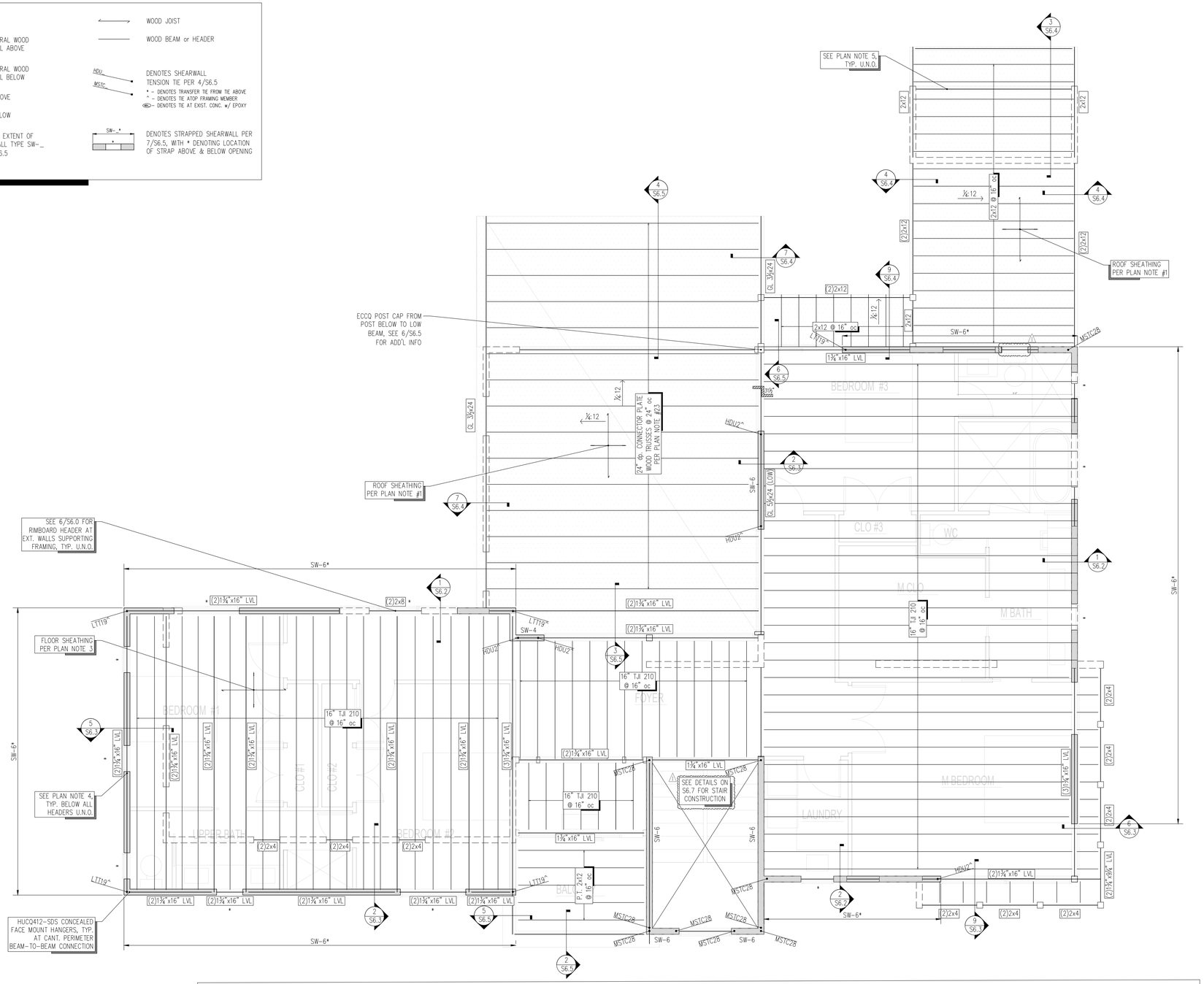
01.04.2022

S2.2

LEGEND

- STRUCTURAL WOOD STUDWALL ABOVE
- STRUCTURAL WOOD STUDWALL BELOW
- POST ABOVE
- POST BELOW
- SW-_ : DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.5
- WOOD JOIST
- WOOD BEAM or HEADER
- HDU_ / MSTC_ : DENOTES SHEARWALL TENSION TIE PER 4/S6.5
  - * - DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ - DENOTES TIE ATOP FRAMING MEMBER
  - (E) - DENOTES TIE AT EXIST. CONC. w/ EPOXY
- SW-_* : DENOTES STRAPPED SHEARWALL PER 7/S6.5, WITH * DENOTING LOCATION OF STRAP ABOVE & BELOW OPENING



UPPER FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE UPPER FLOOR LEVEL (FROM UPPER FLOOR TO UNDERSIDE OF ROOF). DASHED WALLS SHOWN IN PLAN ARE BELOW UPPER FLOOR FRAMING ELEVATION (FROM MAIN FLOOR TO UPPER FLOOR).
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 24" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.1, AND 2/S6.1 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.1). NAIL SHEATHING TO ALL STRUTS AND SHEAR WALLS BELOW w/ TWO ROWS OF 10d @ 6" oc (STAGGER ROWS). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.4) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.0 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.0 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.0 U.N.O. IN PLAN.

1 / S2.3 — UPPER FLOOR FRAMING PLAN

1/4" = 1'-0"

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Upper Floor Framing Plan

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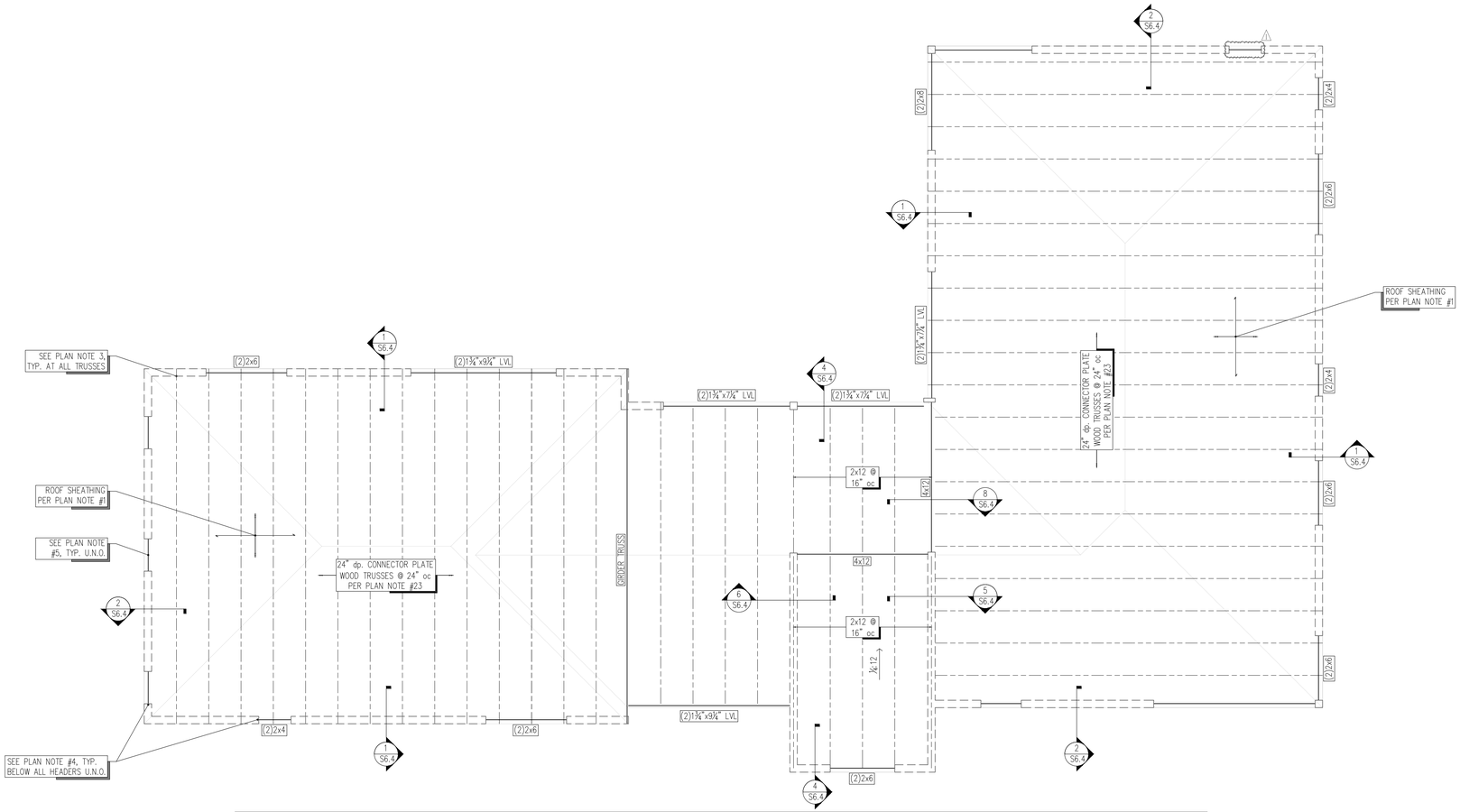
S2.3

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- WOOD JOIST
- WOOD BEAM or HEADER
- CONNECTOR PLATE WOOD TRUSSES
- POST BELOW



ROOF PLAN NOTES

1. ROOF SHEATHING SHALL CONSIST OF 5/8" SHEATHING (PANEL SPAN RATING 32/16) NAILED AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.1). NAIL SHEATHING TO ALL STRUTS AND SHEAR WALLS BELOW w/ TWO ROWS OF 10d @ 6" oc (STAGGER ROWS).
2. DASHED WALLS AND SHEARWALLS SHOWN IN PLAN ARE BELOW ROOF FRAMING ELEVATION (i.e. FROM UPPER FLOOR TO UNDERSIDE OF ROOF DECK).
3. PROVIDE H2.5A HURRICANE TIES AT END OF ALL JOISTS.
4. ALL HEADERS SHALL HAVE A MINIMUM OF POSTS PER 4/S6.0 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.0 AT LOAD BEARING EXTERIOR WALLS.
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.0 U.N.O. IN PLAN.

1 / S2.4 ROOF FRAMING PLAN

1/4" = 1'-0"

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CONTENTS

Roof Deck Framing Plan

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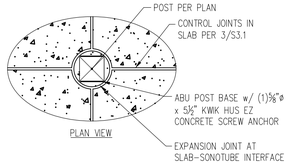
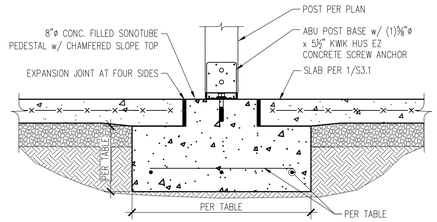
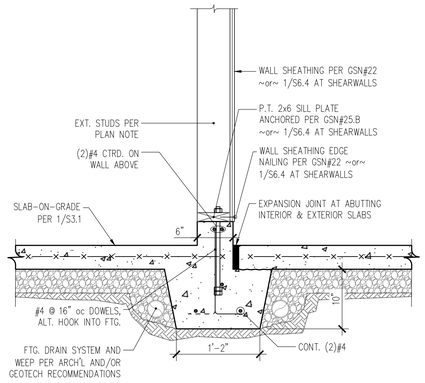
S2.4

FTG. MARK	DIMENSIONS			REINFORCING DIRECTION	
	LENGTH	WIDTH	DEPTH	SHORT	LONG
F2.5	2'-6"	2'-6"	10"	(3)#4	(3)#4

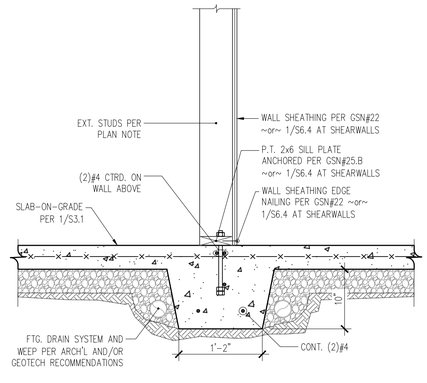




9 S3.1 SPREAD FOOTING
1" = 1'-0"



6 S3.1 SECTION THROUGH THICKENED SLAB AT CONCRETE STEM AND EXTERIOR STRUCTURAL WALL
1" = 1'-0"

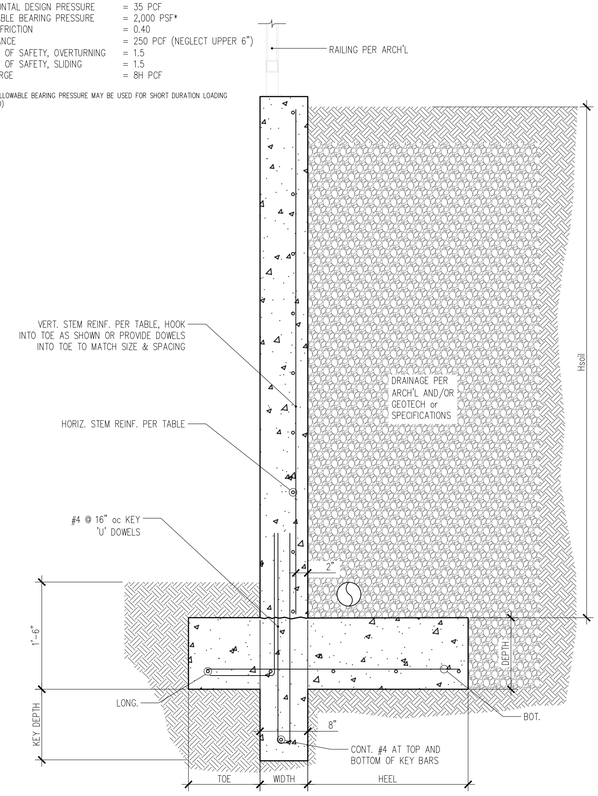


3 S3.1 SECTION THROUGH THICKENED SLAB AT STRUCTURAL WALL
1" = 1'-0"

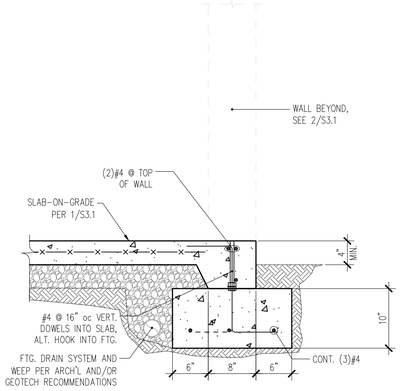
Hsoil	TOE	WIDTH	HEEL	DEPTH	STEM REINF.		FTG. REINF.		KEY DEPTH
					VERT.	HORIZ.	LONG.	BOT.	
H_{soil} < 4'-6"	0'-6"	8"	1'-9"	10"	#4 @ 16" oc	#4 @ 12" oc	(4) #4	#4 @ 10" oc	–
4'-6" ≤ H_{soil} ≤ 5'-6"	0'-6"	8"	2'-3"	10"	#4 @ 16" oc	#4 @ 12" oc	(5) #4	#4 @ 10" oc	–
5'-6" < H_{soil} ≤ 6'-6"	0'-6"	8"	2'-9"	10"	#4 @ 12" oc	#4 @ 12" oc	(5) #4	#4 @ 10" oc	–
5'-6" < H_{soil} ≤ 7'-6"	0'-6"	8"	3'-3"	10"	#5 @ 16" oc	#4 @ 12" oc	(4) #5	#5 @ 12" oc	–
7'-6" < H_{soil} ≤ 8'-6"	0'-6"	8"	4'-0"	12"	#5 @ 12" oc	#4 @ 12" oc	(6) #5	#5 @ 12" oc	–
8'-6" < H_{soil} ≤ 9'-6"	1'-0"	8"	4'-3"	12"	#5 @ 9" oc	#4 @ 12" oc	(6) #5	#5 @ 10" oc	–
9'-6" < H_{soil} ≤ 10'-6"	1'-0"	8"	5'-3"	12"	#5 @ 8" oc	#4 @ 12" oc	(9) #5	#5 @ 8" oc	–

NOTE
MAXIMUM HORIZONTAL DESIGN PRESSURE = 35 PCF
MINIMUM ALLOWABLE BEARING PRESSURE = 2,000 PSF*
COEFFICIENT OF FRICTION = 0.40
PASSIVE RESISTANCE = 250 PCF (NEGLECT UPPER 6")
MINIMUM FACTOR OF SAFETY, OVERTURNING = 1.5
MINIMUM FACTOR OF SAFETY, SLIDING = 1.5
SEISMIC SURCHARGE = 8H PCF

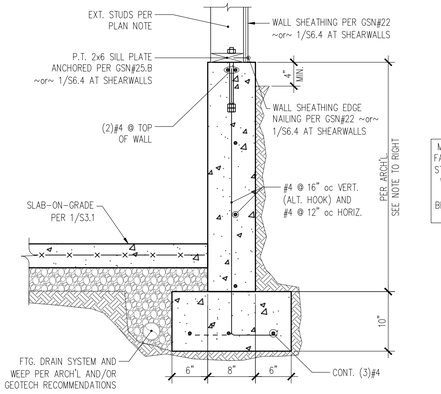
* A ⅓ INCREASE IN ALLOWABLE BEARING PRESSURE MAY BE USED FOR SHORT DURATION LOADING (i.e. SEISMIC & WIND)



7 S3.1 RETAINING WALL
1" = 1'-0"

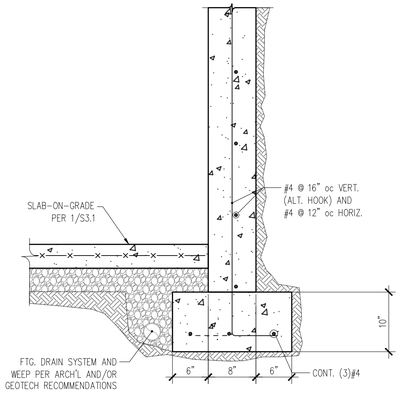


5 S3.1 SECTION THROUGH FOUNDATION WALL AT NO STEM
1" = 1'-0"



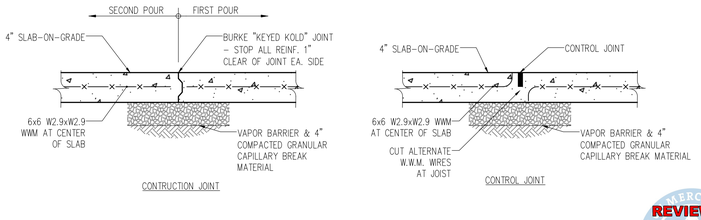
MAX HEIGHT OF SOIL ALLOWED AT FACE OF CONCRETE WALL PRIOR TO STUDWALL/FRAMING BEING SET AND WALL CURING TO 75% OF DESIGN STRENGTH IS 4'-6"...PROVIDE BRACING OR SHORING WALL IF MAX SOIL HEIGHT IS EXCEEDED

2 S3.1 SECTION THROUGH PARTIAL HEIGHT FOUNDATION WALL
1" = 1'-0"



MAX HEIGHT OF SOIL ALLOWED AT FACE OF CONCRETE WALL PRIOR TO STUDWALL/FRAMING BEING SET AND WALL CURING TO 75% OF DESIGN STRENGTH IS 4'-6"...PROVIDE BRACING OR SHORING WALL IF MAX SOIL HEIGHT IS EXCEEDED

4 S3.1 SECTION THROUGH FULL HEIGHT FOUNDATION WALL AT HIGH STEM
1" = 1'-0"



1 S3.1 TYPICAL SLAB-ON-GRADE JOINTING
1" = 1'-0"

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CONTENTS
Foundation Details

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DATE
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01.04.2022

S3.1

ROOF DECK

OPENING WIDTH, L	RIM/HEADER SIZE	MINIMUM No. OF STUD
L ≤ 3'–0"	1¾"x 24" LVL	(1)2x6
L ≤ 5'–0"	1¾"x 24" LVL	(2)2x6
L ≤ 8'–0"	1¾"x 24" LVL	(3)2x6

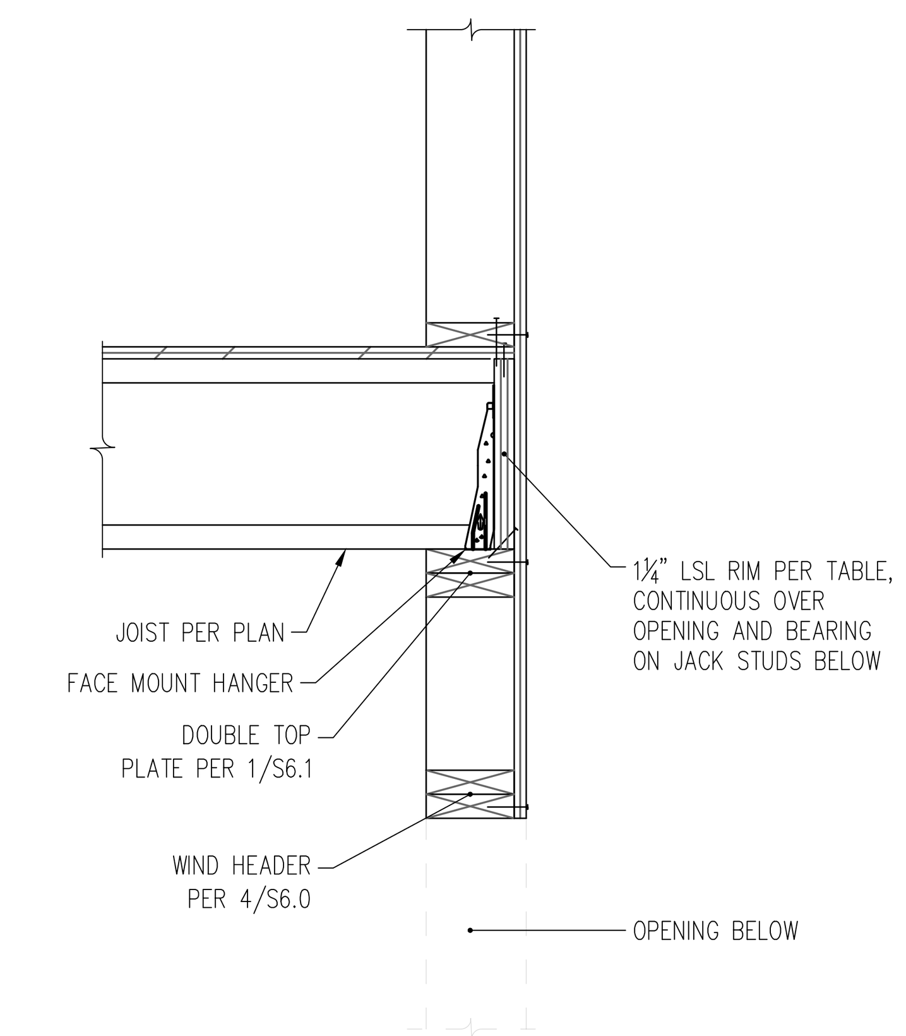
UPPER

OPENING WIDTH, L	RIM/HEADER SIZE	MINIMUM No. OF STUD
L ≤ 3'–6"	1¼"x 11⅞" LSL	(2)2x6
L ≤ 6'–0"	1¼"x 11⅞" LSL	(4)2x6
L ≤ 7'–0"	(2)1¼"x 11⅞" LSL	(3)2x6
L ≤ 10'–0"	(2)1¼"x 11⅞" LSL	(4)2x6

MAIN

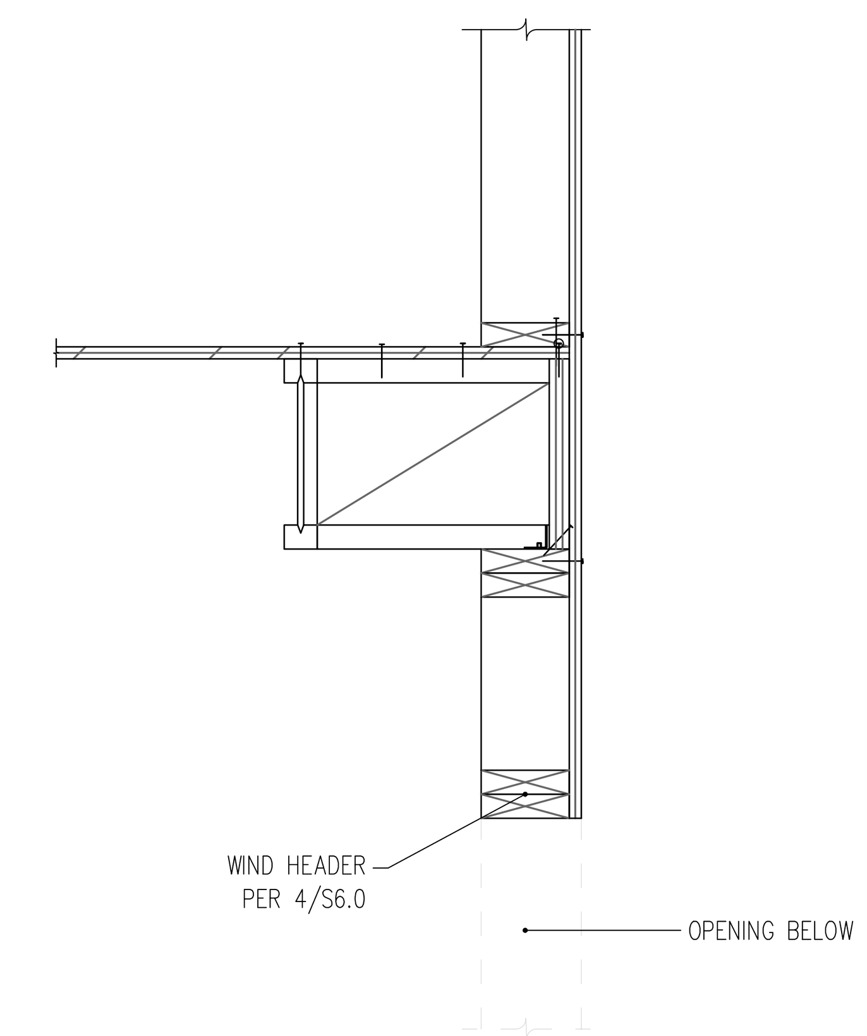
OPENING WIDTH, L	RIM/HEADER SIZE	MINIMUM No. OF STUD
L ≤ 3'–6"	1¼"x 11⅞" LSL	(2)2x6
L ≤ 6'–0"	1¼"x 11⅞" LSL	(4)2x6
L ≤ 7'–0"	(2)1¼"x 11⅞" LSL	(3)2x6
L ≤ 10'–0"	(2)1¼"x 11⅞" LSL	(4)2x6

SEE DETAIL 1/S6.2 FOR CALL OUTS IN COMMON

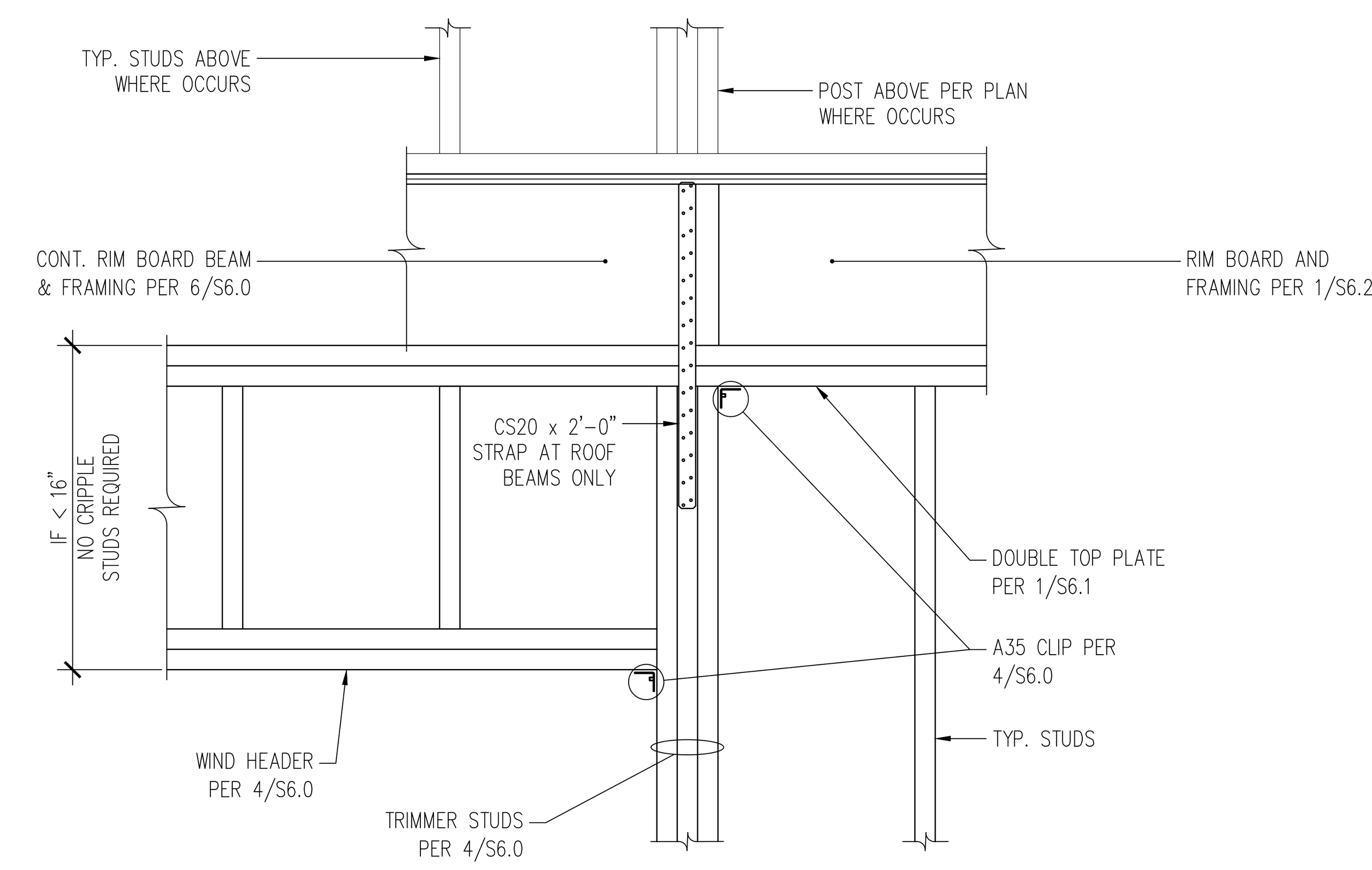


6 / S6.0 TYPICAL RIMBOARD HEADER & WIND HEADER IN LOAD BEARING EXTERIOR WALL
NTS

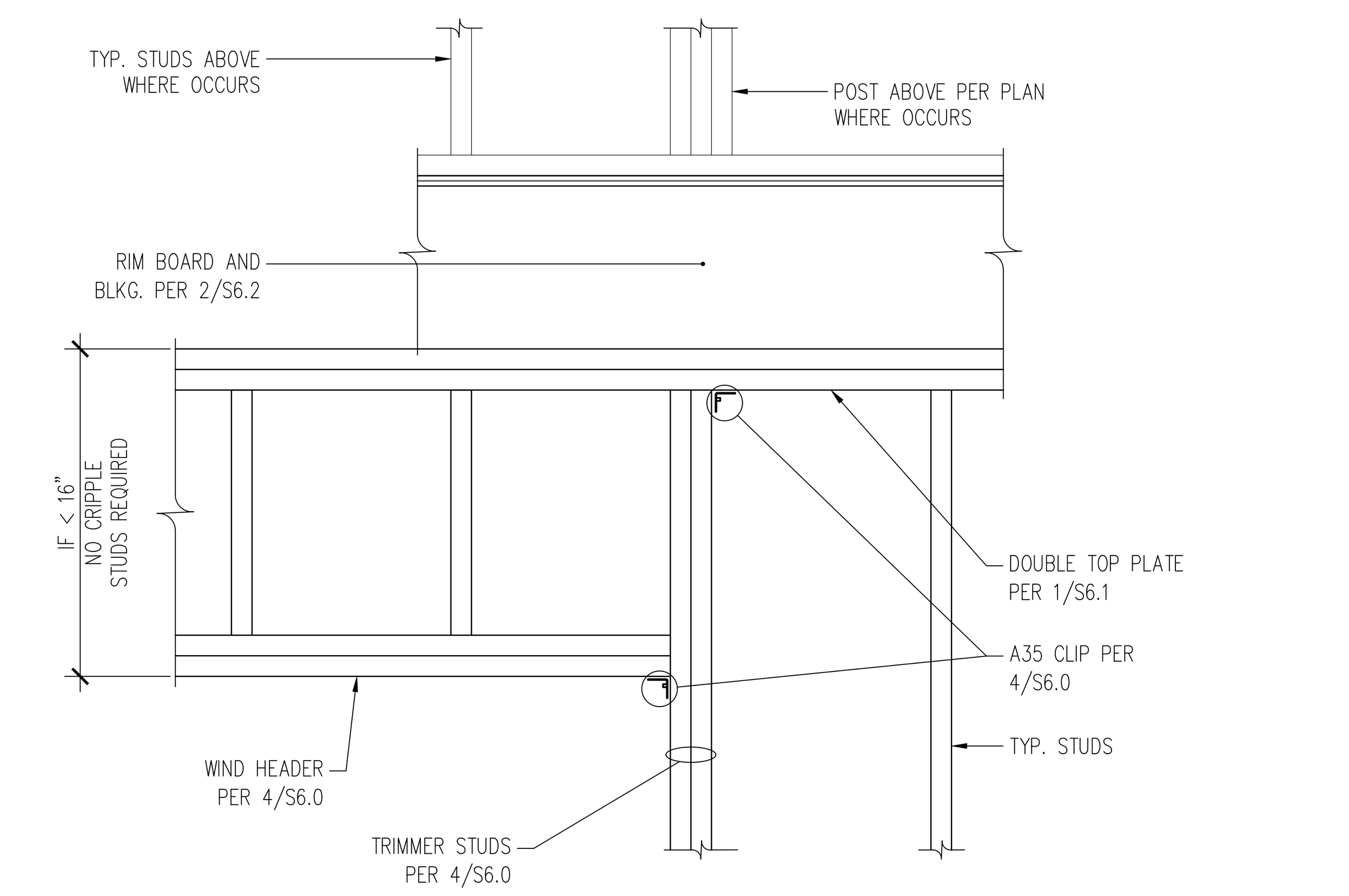
SEE DETAIL 2/S6.2 FOR CALL OUTS IN COMMON



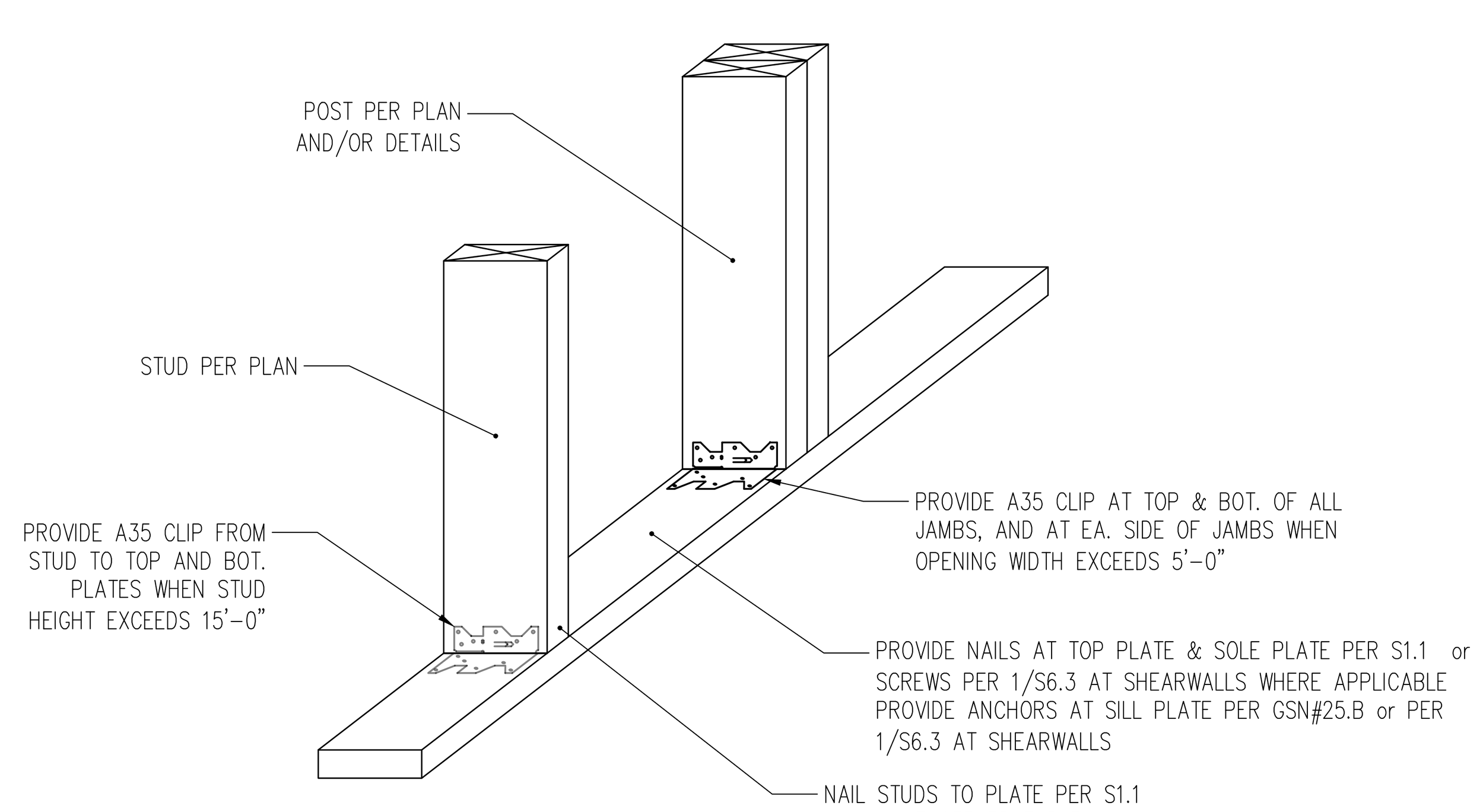
3 / S6.0 TYPICAL WIND HEADER IN NON–LOAD BEARING EXTERIOR WALL
NTS



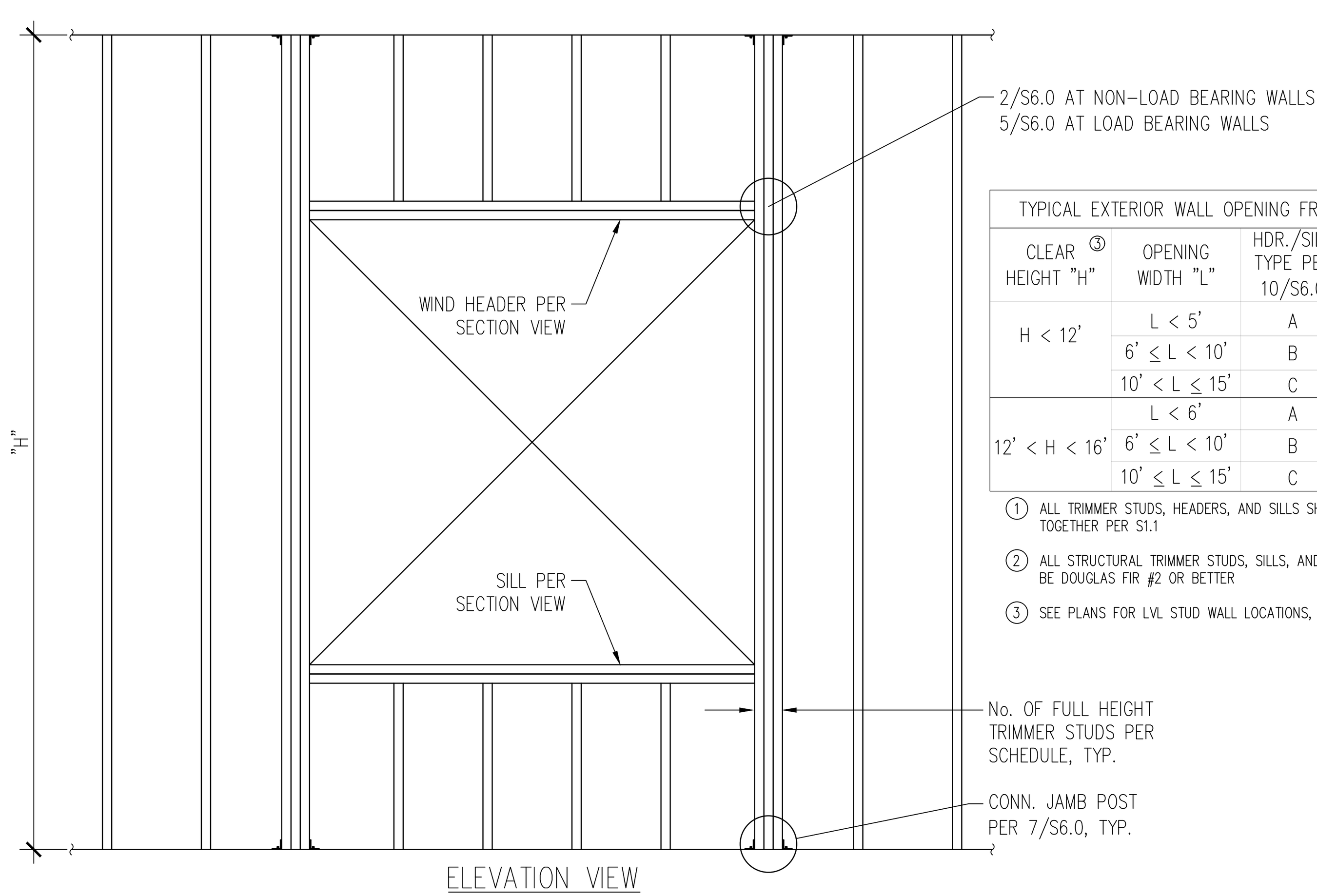
5 / S6.0 TYPICAL FLUSH BEAM/HEADER IN EXTERIOR WALL
NTS



2 / S6.0 TYPICAL WIND HEADER DETAIL
NTS



7 / S6.0 CONNECTION OF EXTERIOR STUDS AT TOP & BOTTOM PLATES
NTS

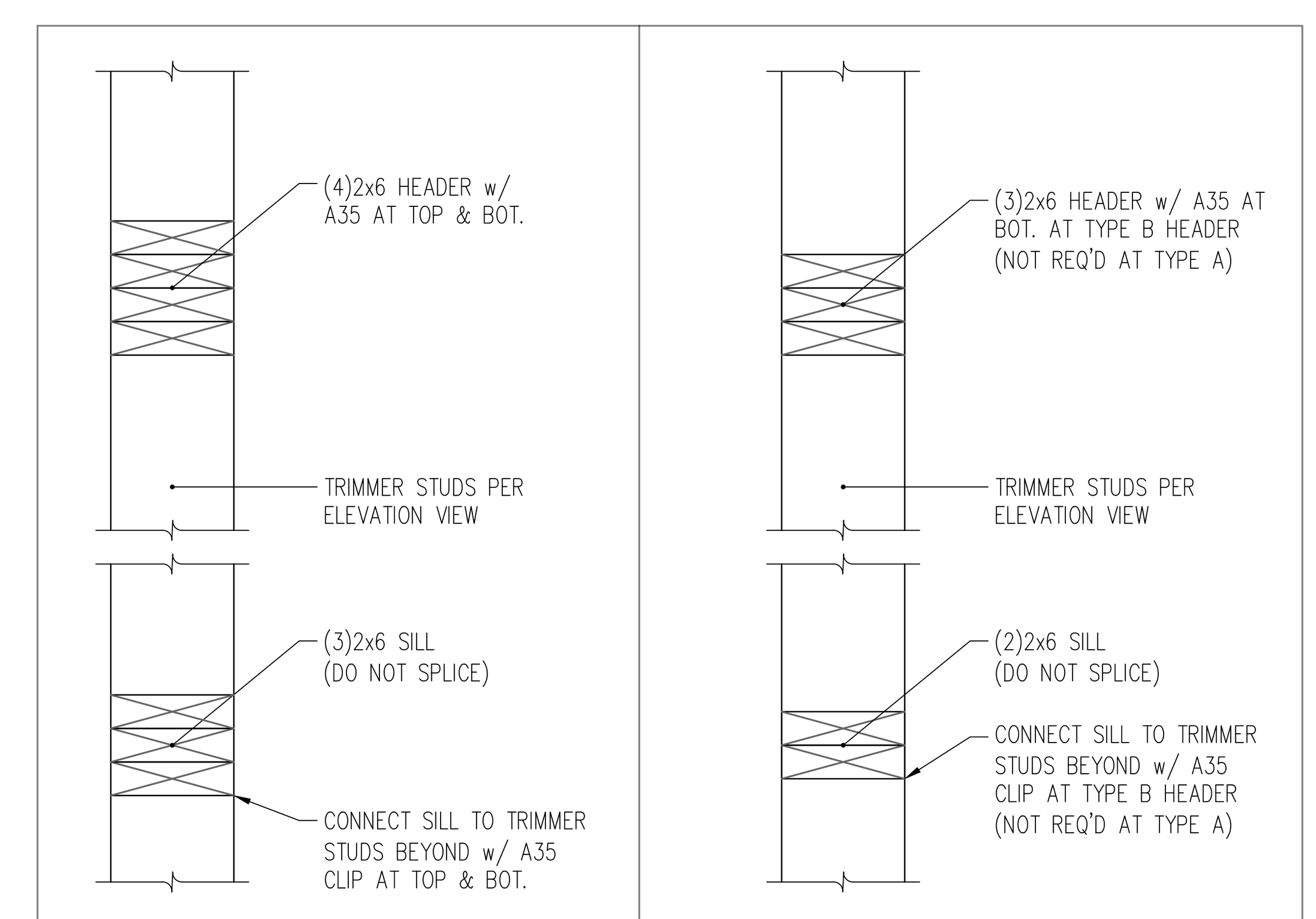


TYPICAL EXTERIOR WALL OPENING FRAMING SCHEDULE ②			
CLEAR ③ HEIGHT "H"	OPENING WIDTH "L"	HDR./SILL TYPE PER 10/S6.0	No. OF FULL HEIGHT TRIMMER STUDS ①
H < 12'	L < 5'	A	2
	6' ≤ L < 10'	B	2
	10' < L ≤ 15'	C	3
12' < H < 16'	L < 6'	A	2
	6' ≤ L < 10'	B	3
	10' ≤ L ≤ 15'	C	6x8

① ALL TRIMMER STUDS, HEADERS, AND SILLS SHALL BE NAILED TOGETHER PER S1.1

② ALL STRUCTURAL TRIMMER STUDS, SILLS, AND HEADERS SHALL BE DOUGLAS FIR #2 OR BETTER

③ SEE PLANS FOR LVL STUD WALL LOCATIONS, WHERE APPLICABLE



HEADER & SILL SECTION TYPE C

HEADER & SILL SECTION TYPE A & B

4 / S6.0 TYPICAL WIND HEADER
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CONTENTS
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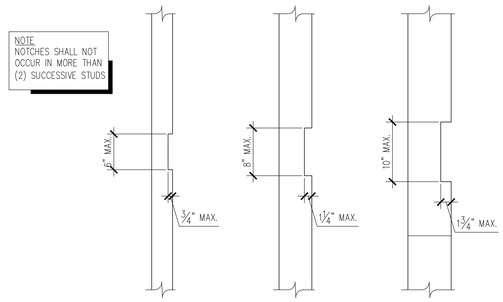
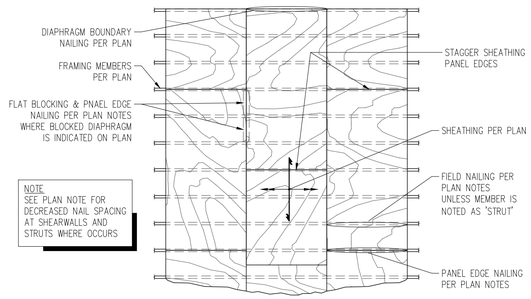
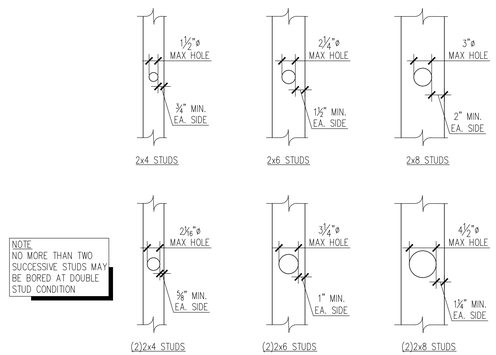


6 S6.1 ALLOWABLE HOLES IN STUDWALL STUDS
NTS



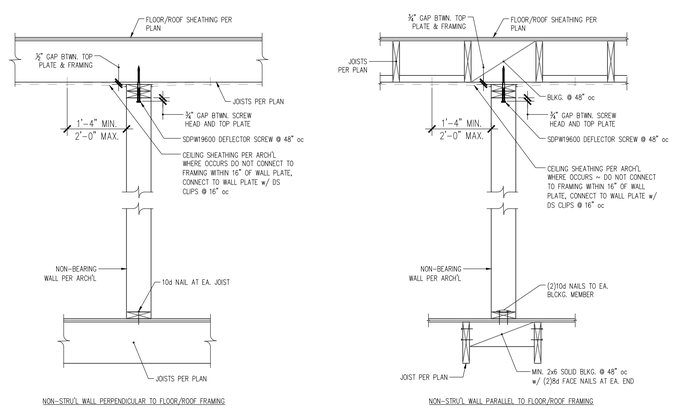
3 S6.1 TYPICAL DIAPHRAGM NAILING
NTS



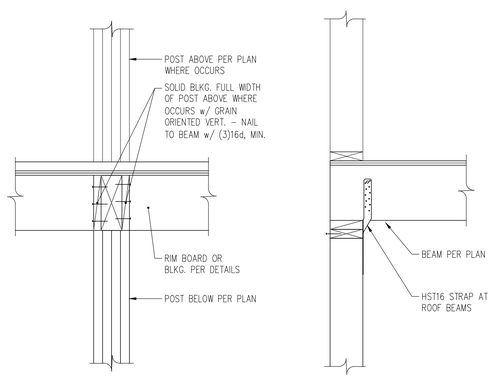
5 S6.1 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

	NO REINF. REQUIRED	STRAP REINF. REQUIRED
2x4 PLATES	1½"ø MAX. HOLE ¾" MIN. EA. SIDE	2⅝"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ⅜" MIN. EA. SIDE
2x6 PLATES	2¼"ø MAX. HOLE 1½" MIN. EA. SIDE	3¾"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ¾" MIN. EA. SIDE
2x8 PLATES	3¼"ø MAX. HOLE 2" MIN. EA. SIDE	5"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 1¼" MIN. EA. SIDE

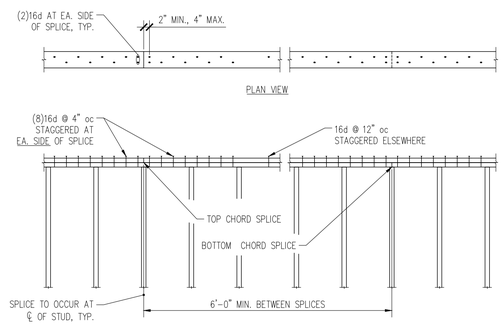
2 S6.1 ALLOWABLE HOLES THROUGH TOP PLATES
NTS



7 S6.1 CONNECTION OF NON-STRUC'L PARTITION WALL TO STRUCTURE
NTS



4 S6.1 TYPICAL BEAM PERPENDICULAR TO WALL
NTS



1 S6.1 TOP PLATE SPLICE
NTS

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CONTENTS
Wood Typical Details

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DATE
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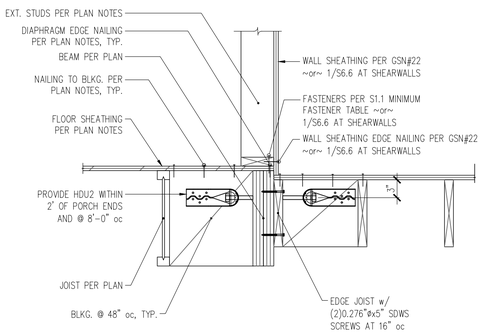
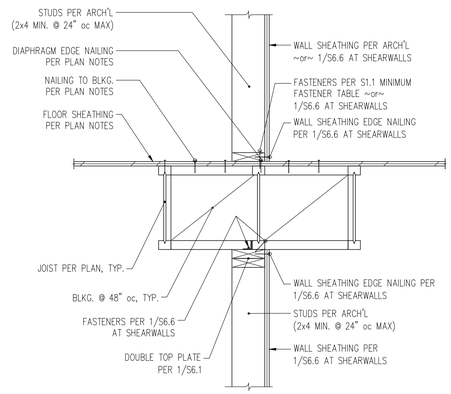
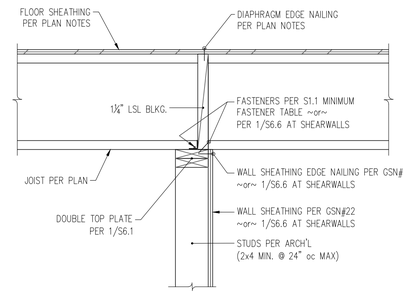


9 S6.2 SECTION THROUGH PARALLEL JOISTS AND EXTERIOR WALL ABOVE BEAM AT PORCH AREA
3/4" = 1'-0"



6 S6.2 SECTION THROUGH INTERIOR SHEAR WALL w/ PERPENDICULAR JOISTS AT EA. SIDE
1" = 1'-0"



3 S6.2 SECTION THROUGH INTERIOR BEARING WALL w/ PERPENDICULAR JOISTS AT EA. SIDE
1" = 1'-0"

8 S6.2 SECTION THROUGH EXTERIOR WALL ABOVE BEAM AND PARALLEL JOISTS
1" = 1'-0"

5 S6.2 SECTION THROUGH FOUNDATION WALL AT PARALLEL JOISTS
1" = 1'-0"

2 S6.2 SECTION THROUGH EXTERIOR WALL AT PARALLEL JOISTS
1" = 1'-0"

7 S6.2 SECTION THROUGH FOUNDATION WALL AT PERPENDICULAR JOISTS AND OUTDOOR KITCHEN SLAB
1" = 1'-0"

4 S6.2 SECTION THROUGH FOUNDATION WALL AT PERPENDICULAR JOISTS
1" = 1'-0"

1 S6.2 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR JOISTS
1" = 1'-0"

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CONTENTS
Wood Framing Details

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DATE
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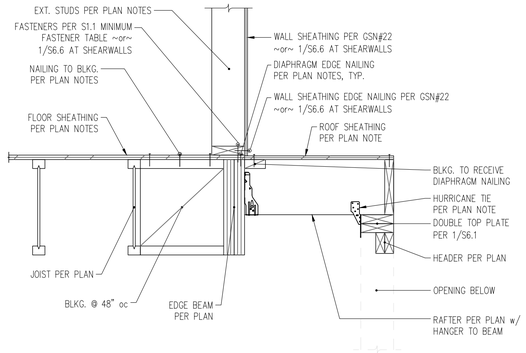
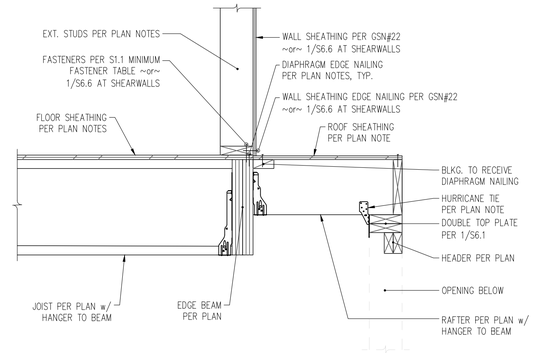
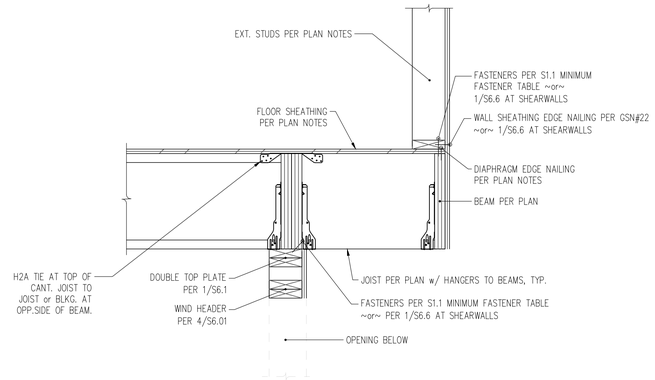


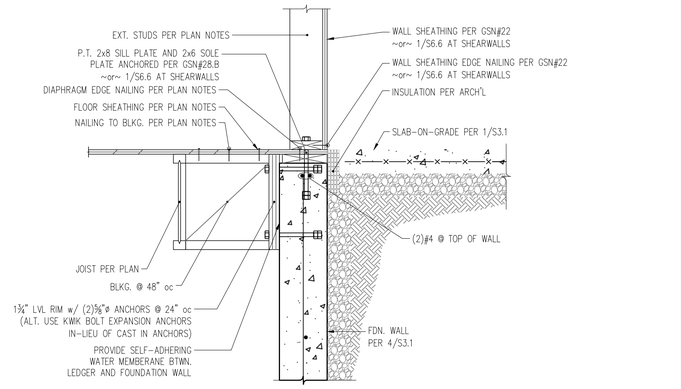
9 S6.3 SECTION THROUGH EXTERIOR WALL AT EDGE BEAM, PARALLEL JOISTS & PERPENDICULAR RAFTERS
1" = 1'-0"



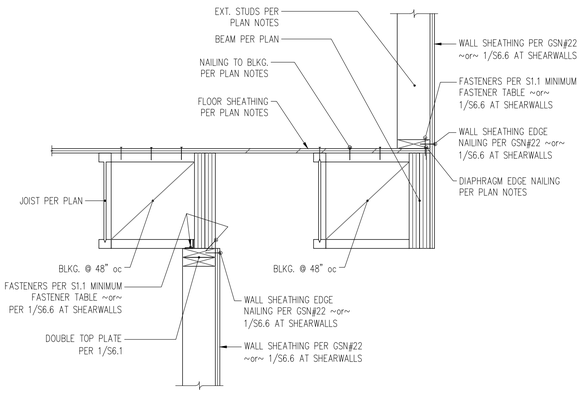
6 S6.3 SECTION THROUGH EXTERIOR WALL AT EDGE BEAM, PERPENDICULAR JOISTS & RAFTERS
1" = 1'-0"



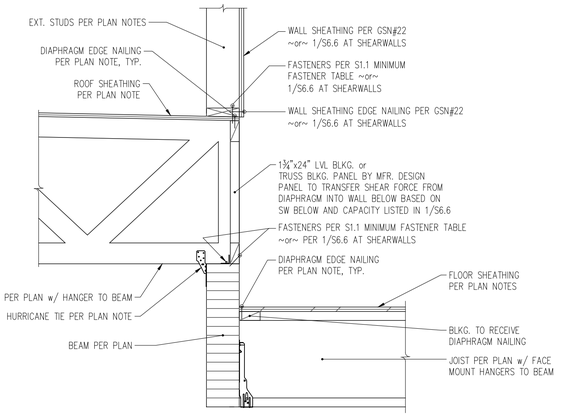
3 S6.3 SECTION THROUGH CANTILEVERED MAIN FLOOR VOLUME AT PERPENDICULAR JOISTS
1" = 1'-0"



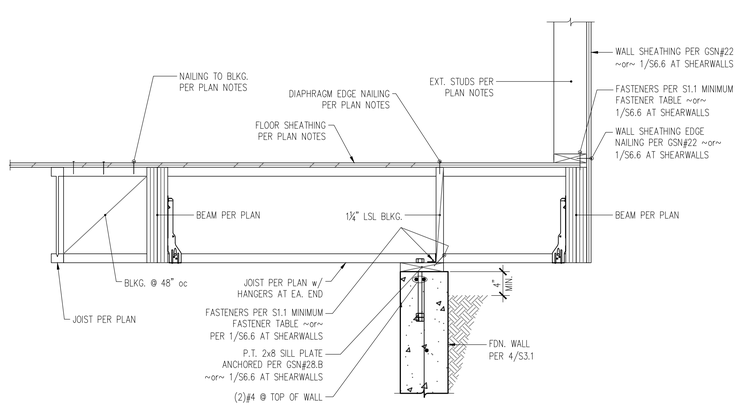
8 S6.3 SECTION THROUGH FOUNDATION WALL AT PARALLEL JOISTS AND OUTDOOR KITCHEN SLAB
1" = 1'-0"



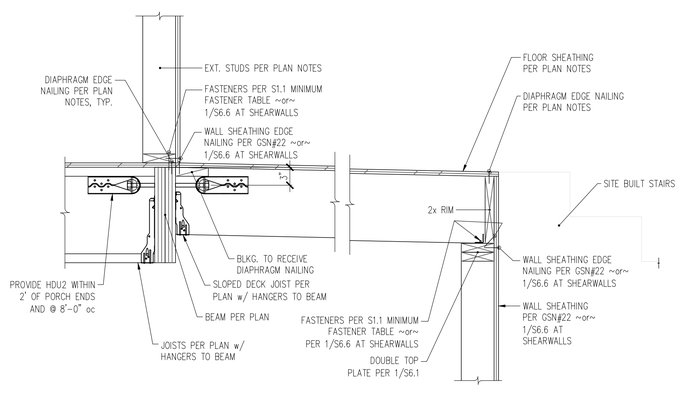
5 S6.3 SECTION THROUGH CANTILEVERED JOISTS AND OFFSET WALL
1" = 1'-0"



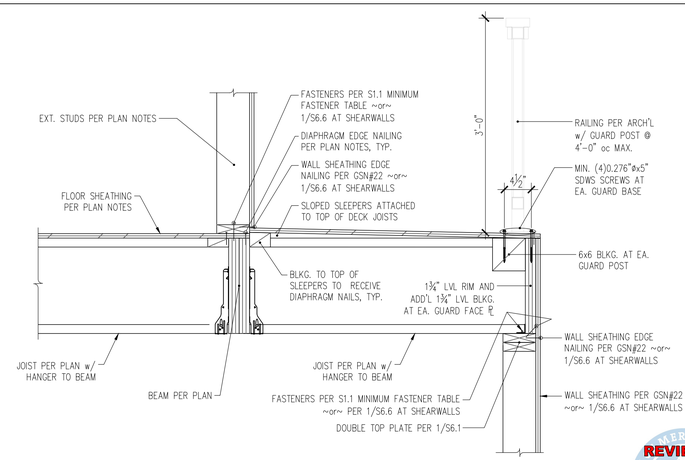
2 S6.3 SECTION THROUGH ROOF BEAM AT PERPENDICULAR ROOF TRUSSES AND FLOOR JOISTS
1" = 1'-0"



7 S6.3 SECTION AT CANTILEVERED JOISTS ABOVE FOUNDATION WALL
1" = 1'-0"



4 S6.3 SECTION THROUGH PORCH AT PERPENDICULAR JOISTS
1" = 1'-0"



1 S6.3 SECTION THROUGH OFFSET EXTERIOR WALL AT PERPENDICULAR JOISTS
1" = 1'-0"

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CONTENTS
Wood Framing Details

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DATE
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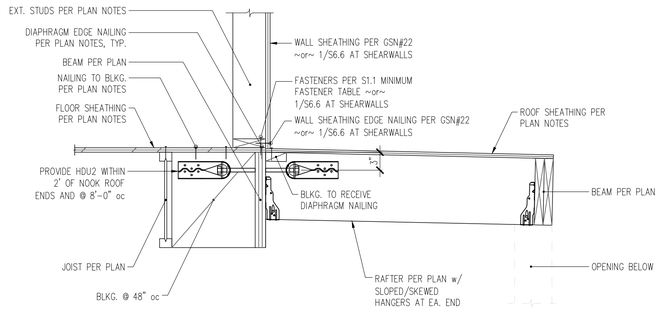
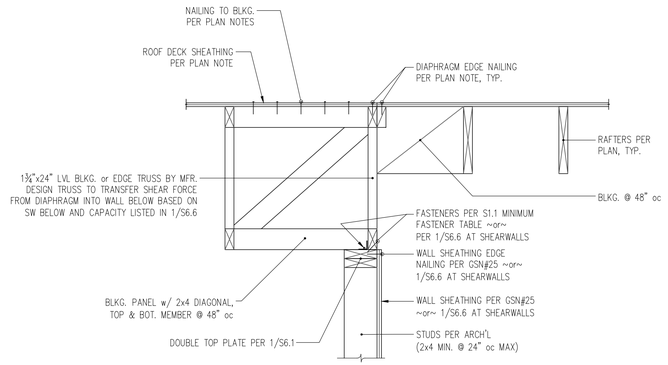
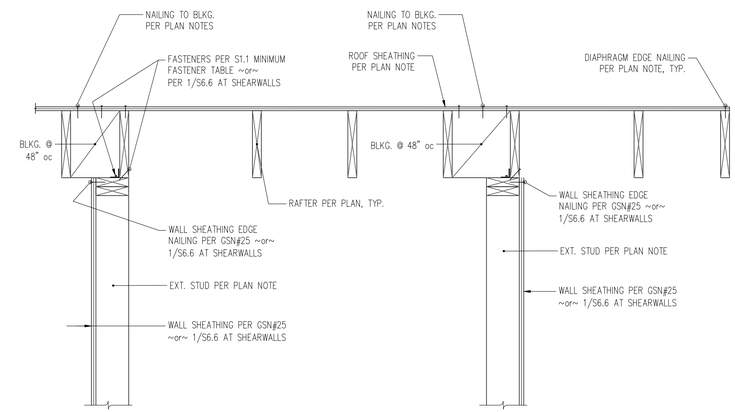
S6.3



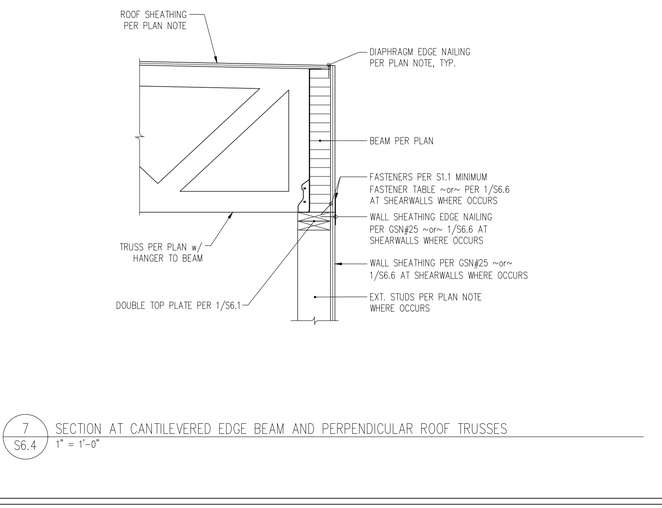
9 S6.4 SECTION THROUGH NOOK ROOF
1" = 1'-0"



6 S6.4 SECTION THROUGH INTERIOR WALL AT PARALLEL TRUSSES & PARALLEL RAFTERS
1" = 1'-0"



3 S6.4 SECTION THROUGH DIMENSIONAL LUMBER CANTILEVERED LOW ROOF VOLUME
1" = 1'-0"

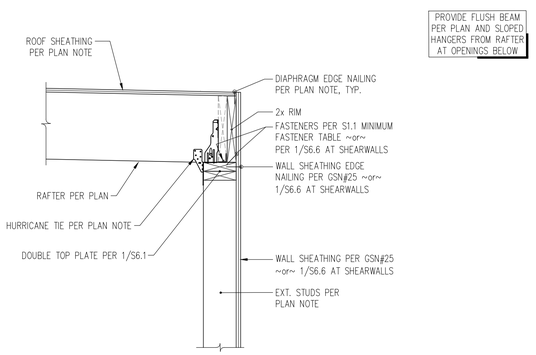


8 S6.4 SECTION THROUGH INTERIOR WALL AT PERPENDICULAR TRUSSES & PARALLEL RAFTERS
1" = 1'-0"

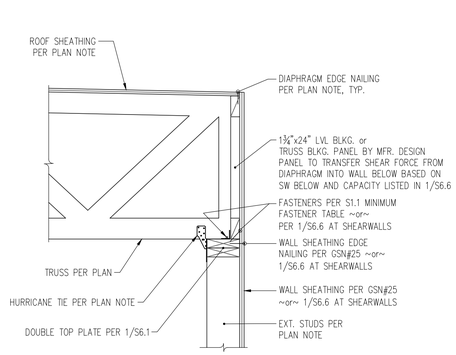
5 S6.4 SECTION THROUGH INTERIOR WALL AT PERPENDICULAR TRUSSES & PARALLEL RAFTERS
1" = 1'-0"

2 S6.4 SECTION THROUGH EXTERIOR WALL AT PARALLEL TRUSSES
1" = 1'-0"

7 S6.4 SECTION AT CANTILEVERED EDGE BEAM AND PERPENDICULAR ROOF TRUSSES
1" = 1'-0"



4 S6.4 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR RAFTERS
1" = 1'-0"



1 S6.4 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR TRUSSES
1" = 1'-0"

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53159 REGISTERED PROFESSIONAL ENGINEER

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CONTENTS
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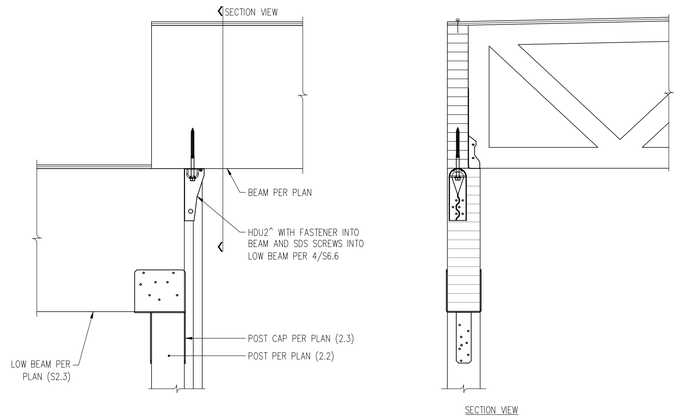
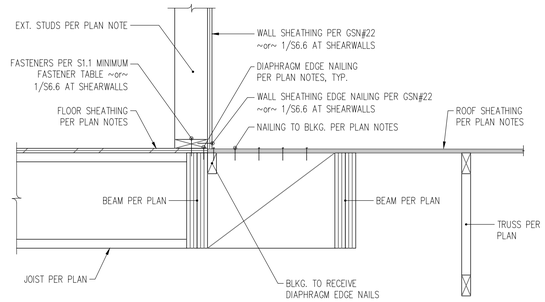
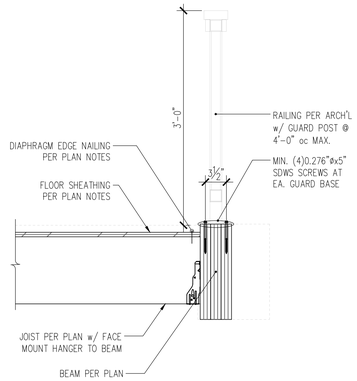
S6.4



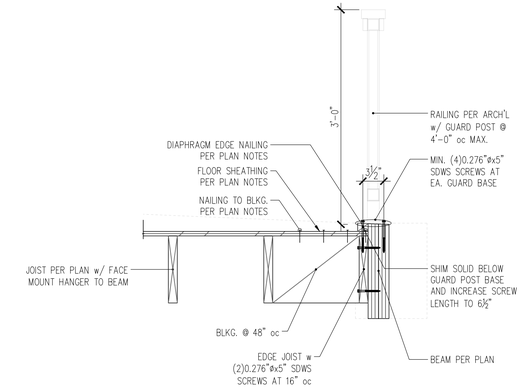
6 / S6.5 SECTION AT EXTERIOR WALL ABOVE BEAM, PERPENDICULAR JOISTS, AND PARALLEL ROOF TRUSSES



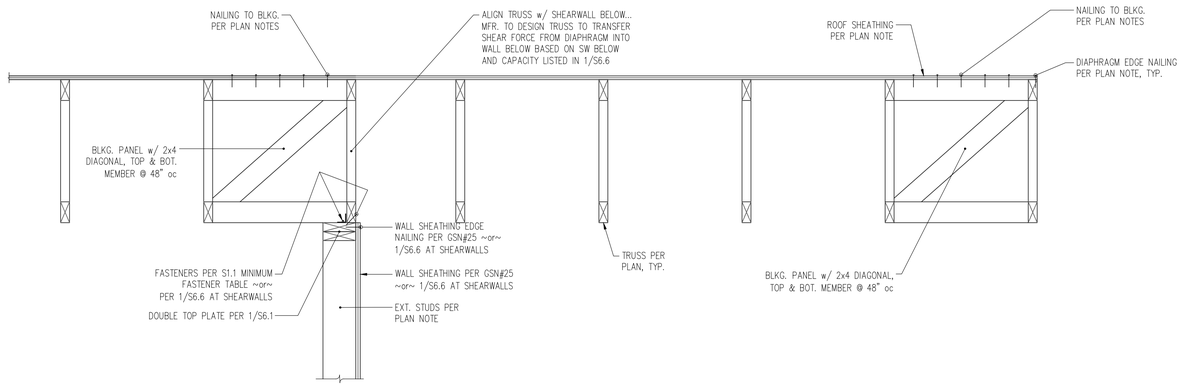
3 / S6.5 SECTION AT EXTERIOR WALL ABOVE BEAM, PERPENDICULAR JOISTS, AND PARALLEL ROOF TRUSSES



5 / S6.5 SECTION THROUGH EDGE OF BALCONY AT PERPENDICULAR JOISTS AND EXTERIOR WALL ABOVE



2 / S6.5 SECTION AT EDGE OF BALCONY AND PARALLEL JOISTS



4 / S6.5 SECTION THROUGH TRUSS CANTILEVERED LOW ROOF VOLUME
1" = 1'-0"

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S6.5

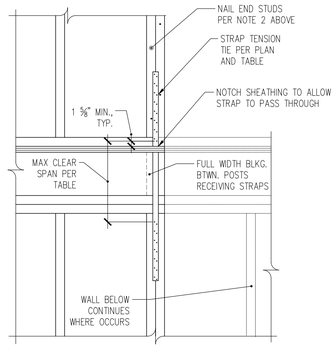
STRAP TENSION TIE SCHEDULE

TIE ① MARK	MIN. NUMBER② OF STUDS	CLEAR SPAN – TOTAL FASTENERS	③ ASD CAPACITY
MSTC28	(2)2x	16" – (16)0.148" x 3¼" NAILS	1,330#
MSTC40	(2)2x	16" – (32)0.148" x 3¼" NAILS	2,655#
MSTC66	(2)2x	16" – (68)0.148" x 3¼" NAILS	5,850#
LTT19^	(2)2x	N/A – (8)0.148" x 3" NAILS	750#
HDU2^	(2)2x	N/A – (6)¼"ø x 2½" SDS SCREWS	3,100#
HDU4^	(2)2x	N/A – (10)¼"ø x 2½" SDS SCREWS	3,500#

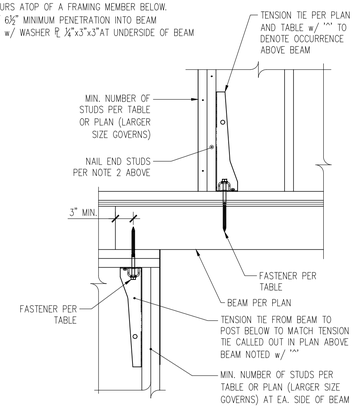
① TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS. NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.

② FASTENERS NOTED IN TABLE ABOVE REPRESENT THE TOTAL AMOUNT. FOR STRAPS, HALF OF THE FASTENERS SHALL BE PROVIDED INTO EACH STUD.

③ ^ DENOTES TENSION TIE THAT OCCURS ATOP OF A FRAMING MEMBER BELOW.
HDU2^...⅝"ø LAG SCREW w/ 6½" MINIMUM PENETRATION INTO BEAM
HDU5^...⅞"ø THREADED ROD w/ WASHER ℄ ¼"x3"x3"AT UNDERSIDE OF BEAM



ELEVATION VIEW – TYPICAL CONDITION



ELEVATION VIEW – TENSION TIE ABOVE BEAM

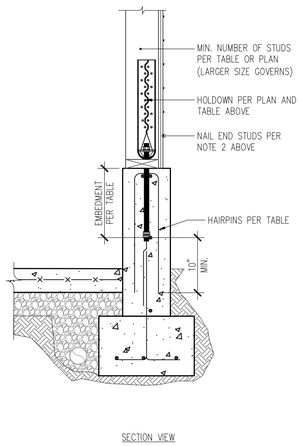
HOLDOWN TENSION TIE SCHEDULE

TIE ① MARK	MIN. NUMBER② OF STUDS	③ ANCHOR (ø x EMBEDMENT) and No. OF HAIRPIN DOWELS	FASTENERS FROM TIE TO STUD	ASD CAPACITY
HDU2	(2)2x	⅝"ø x 20" – (2)#4 HAIRPIN	(6)¼"ø x 2½" SDS SCREWS	3,075#
HDU4	(2)2x	⅝"ø x 20" – (2)#4 HAIRPIN	(10)¼"ø x 2½" SDS SCREWS	4,565#
HDU5	(3)2x	⅝"ø x 20" – (2)#4 HAIRPIN	(14)¼"ø x 2½" SDS SCREWS	5,645#
HDU8	(4)2x	⅞"ø x 20" – (4)#4 HAIRPIN	(20)¼"ø x 2½" SDS SCREWS	7,870#
HDU11	6x6	1¼"ø x 20" – (4)#4 HAIRPIN	(5)1"ø BOLTS	19,070#

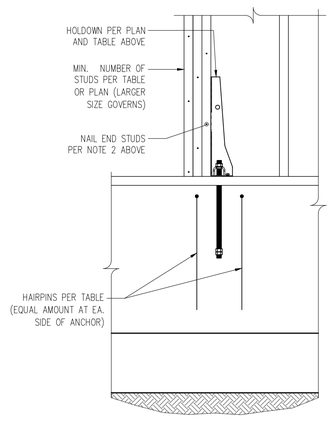
① TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.

② NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.

③ ANCHORS SHALL BE HEAVY HEX HEAD WITH DOUBLE NUT CAST INTO CONCRETE.
ASTM F 1554 Gr. 36 FOR ⅝"ø ANCHOR
ASTM F 1554 Gr. 55 FOR 1"ø ANCHOR



SECTION VIEW



ELEVATION VIEW

4 S6.6 HOLDOWN DETAIL AND SCHEDULE
1" = 1'-0"

SHEARWALL PANEL TYPE	① SHEATHING THICKNESS	② 0.148" x 2½" (10d) PANEL NAILING	③ STUD/BLKG. AT ABUTTING PANEL EDGES & SILL PLATE THICKNESS	⑦ CONN. OF BLKG. OR FRAMING to TOP PLATE; AND SOLE PLATE to SILL PLATE			②③ ANCHOR BOLTS TO CONC.		ASD CAPACITY, PLF
				④ ¼"ø x 3½" SDS SCREWS	⑤ A35 CLIPS	⑥ LTP4 PLATES	⅝"ø	¾"ø	
SW-6	½"	6" oc	2x	15" oc	25" oc	24" oc	48" oc	48" oc	310
SW-4	½"	4" oc	3x	10" oc	16" oc	16" oc	38" oc	48" oc	460
SW-3	½"	3" oc	3x	8" oc	13" oc	12" oc	29" oc	40" oc	600
SW-2	½"	2" oc	3x	6" oc	10" oc	9" oc	23" oc	31" oc	770
SW-33	½	3" oc EA. SIDE	3x	4" oc	6" oc	6" oc	14" oc	20" oc	1200

① SHEATHING SHALL CONSIST OF ½" PLYWOOD AND HAVE A MINIMUM SPAN RATING OF 24/0.

② PANEL NAILING APPLIES TO ALL SHEATHING PANEL EDGES. IF RE-USING EXISTING SHEATHING PER NOTE 1 ABOVE, PROVIDE ADDITIONAL FASTENERS AS REQUIRED TO MEET SPACING REQUIREMENTS. INSTALL BLOCKING AT ALL UNFRAMED PANEL EDGES. ENSURE SHEATHING IS NAILED TO EXISTING INTERMEDIATE FRAMING WITH PANEL NAILS AT 12"oc.

③ DOUBLE 2x MEMBERS MAY BE SUBSTITUTED FOR 3x MEMBERS AT WALLS WITH ONLY ONE LAYER OF SHEATHING. 2x MEMBERS SHALL BE NAILED TOGETHER WITH 10d FACE: @ 5½" oc FOR SW-6, @ 3½" oc FOR SW-4, (2) @ 5" oc FOR SW-3, (2)@ 4" oc FOR SW-2, AND (2)@ 2½" oc FOR SW-2 (148#/NAIL)

④ ROWS OF NAILS AND SDS SCREWS SHALL BE OFFSET AT LEAST ½" AND STAGGERED. MINIMUM EDGE DISTANCE FOR NAILS AND SDS SCREWS INTO EDGE OF MEMBERS SHALL BE ⅝" (400#/SCREW)

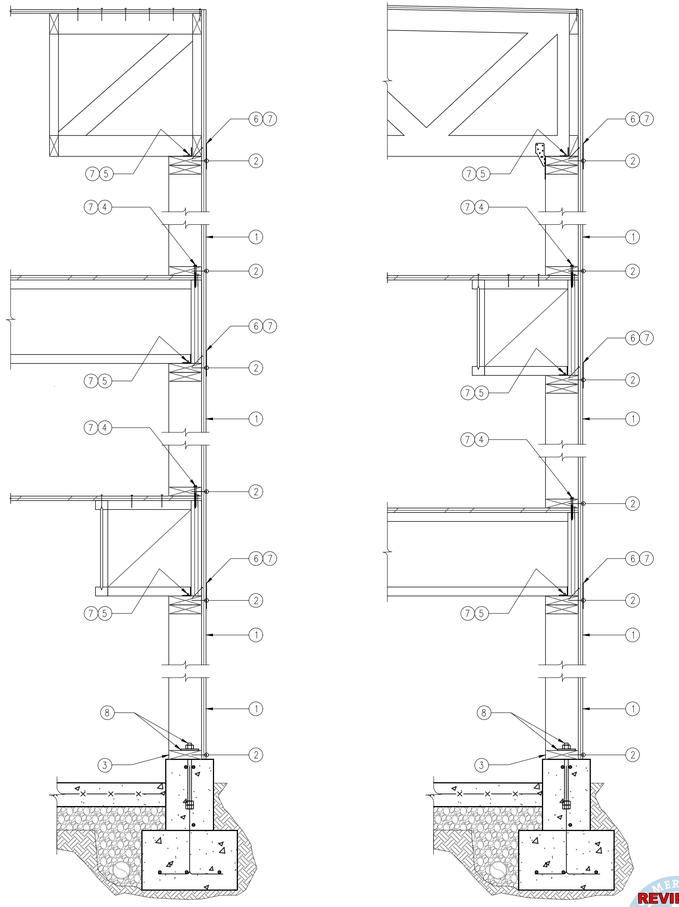
⑤ A35 CLIPS SHALL BE INSTALLED w/ (12)0.131 x 1½ " NAILS (650#/CLIP)

⑥ LTP4 LATERAL TIE PLATES MAY BE INSTALLED OVER SHEATHING w/ (12)0.131 x 2½" NAILS (625#/CLIP)

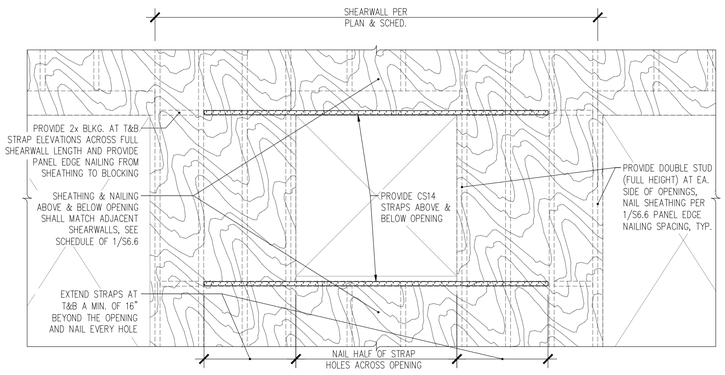
⑦ CONTRACTOR SHALL USE A35 or LT4P CLIPS TO CONNECT ROOF TO DOUBLE TOP PLATE AND SDS SCRWS or LTP4 CLIPS TO CONNECT SOLE PLATE TO RIM BOARD AT MAIN FLOOR. EXTEND SHEATHING TO BOTTOM OF SOLE PLATE AT MAIN FLOOR FOUNDATION WALL AND PROVIDE EDGE FASTENING AS NOTED IN TABLE.

⑧ PLATE WASHERS IN 2x4 STUD WALLS AND ALL SINGLE SIDED SHEAR WALLS SHALL BE 3"x3"x0.229". DOUBLE SIDED 2x6 SHEAR WALLS SHALL HAVE 4½"x3"0.229" PLATE WASHERS. THE EDGE OF PLATE WASHERS SHALL BE LOCATED WITHIN ½" OF THE EDGE OF BOTTOM PLATE ON THE SIDE WITH SHEATHING.

⑨ CAST ANCHORS A MINIMUM OF 7" INTO CONCRETE. INSTALL ADDITIONAL ANCHOR BOLTS AT EACH SIDE OF PLATE BREAKS AND PENETRATIONS EXCEEDING THE "NO REINFORCING" HOLE SIZE PER 2/S6.1.



1 S6.6 SHEARWALL SECTION AND SCHEDULE
1" = 1'-0"



7 S6.6 STRAPPED SHEARWALL DETAIL
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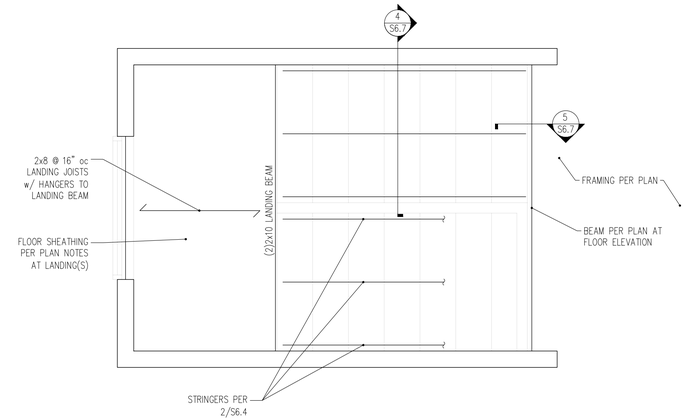
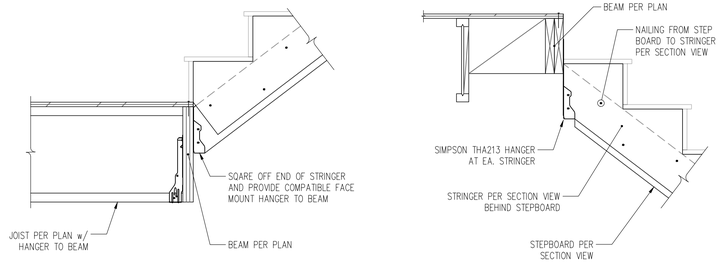
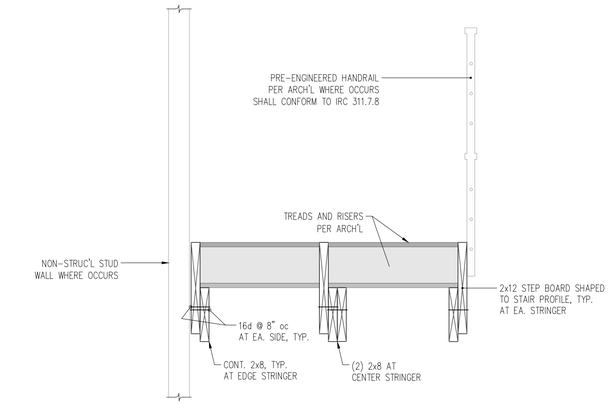
S6.6



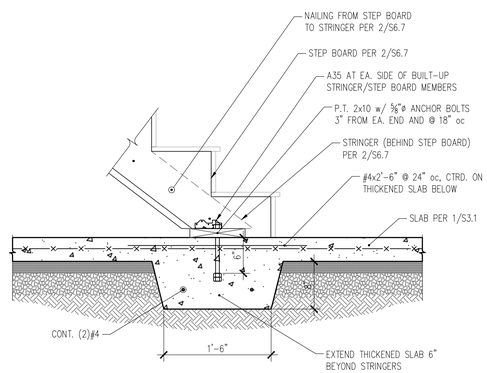
3 S6.7 TYPICAL STAIR FRAMING/LANDING PLAN VIEW
N.T.S.



5 S6.7 SECTION THROUGH LANDING
1" = 1'-0"



2 S6.7 SECTION THROUGH STAIR FRAMING
1" = 1'-0"



1 S6.7 SECTION THROUGH THICKENED SLAB-ON-GRADE AT STAIR STRINGERS
1" = 1'-0"

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CONTENTS
Typical
Stair
Details

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S6.7

ORGANIC SOIL REQUIREMENT

MINIMUM 10% ORGANIC MULCH & COMPOST SOIL REQUIRED

SOIL AMENDMENT REQUIRED

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

SOIL INSPECTION REQUIRED BY ENGINEER

A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

TREE PROTECTION

(TP) ....CHAIN LINK FENCE REQ FOR TREE PROTECTION

EROSION CONTROL LEGEND

LIMITS OF DISTURBANCE		
FILTER FABRIC FENCE (SILT FENCE)	SF	
STABILIZED CONSTRUCTION ENTRANCE	CE	
CATCH BASIN INLET PROTECTION	IP	
INTERCEPTOR SWALE SEE COR DWG 504, TYPE A TEMPORARY SWALE	IS	
TREE PROTECTION FENCING	TP	
CHECK DAM	CD	
STRAW WATTLES	SW	USE AS NEEDED

TREE PROTECTION NOTES (SOURCED FROM ARBORIST)

(REF: SEATTLE TREE CONSULTING, DOUGLAS SMITH, CERTIFIED ARBORIST)

-FOR THE TREES BEING RETAINED, TREE PROTECTION FENCING SHOULD BE INSTALLED AT THE OUTER EDGE OF THE DRIP LINE OR AS CLOSE TO IT AS IS PRACTICALLY POSSIBLE.

-FENCING SHOULD BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES AND REMAIN IN PLACE FOR THE DURATION OF THE PROJECT. FENCING SHOULD ONLY BE MOVED TEMPORARILY IF MINOR DISTURBANCES MUST OCCUR WITHIN THE DRIP LINE AND THE FENCING SHOULD BE REPLACED IMMEDIATELY ONCE THAT PORTION OF THE WORK IS COMPLETED.

-THE TREE PROTECTION AREA IS DESIGNATED TO BE AN AREA OF NO IMPACT, NO STORING OF MATERIALS, NO ENCROACHMENT AND NO STAGING OF DEBRIS.

-THE TREE PROTECTION FENCING SHOULD HAVE SIGNS EVERY 8' FACING ACCESS THAT INDICATE THE AREA IS A TREE PROTECTION ZONE.

-TRENCHING THROUGH THE CRZ FOR UTILITIES IS NOT PERMITTED (TUNNELING IS THE PREFERRED METHOD).

-GRADE CHANGES IN THE CRZ ARE NOT PERMITTED.

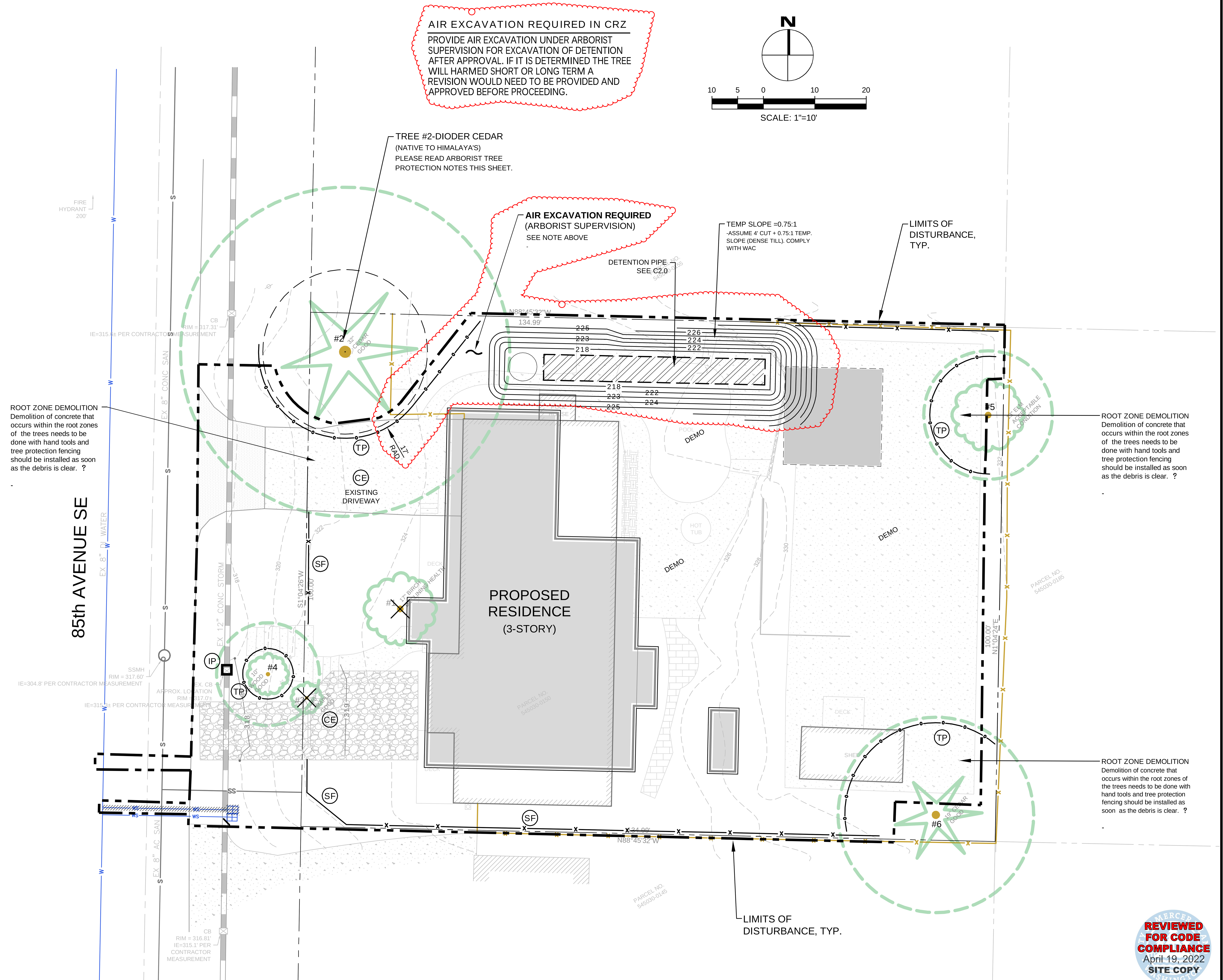
-VEHICLE MAINTENANCE AND WASHING OF EQUIPMENT (ESPECIALLY CONCRETE), IS NOT PERMITTED.

-NO ATTACHING ANYTHING TO THE TREE WITH CINCHING KNOTS OR HARDWARE.

-ROOT FLARE SHOULD BE PROTECTED WITH CHIPS SO THAT LAWN MAINTENANCE EQUIPMENT DOES NOT HAVE TO WORK CLOSE TO THE SYSTEM.

-PROPER CLEARANCES SHOULD BE MONITORED.

-THE CRZ OR CRITICAL ROOT ZONE NEEDS TO BE PROTECTED. THE INNER CRZ IS 50 % OF THE RADIUS OF THE CRZ AND THERE SHOULD BE ZERO DISTURBANCE IN THIS ZONE. A DISTURBANCE OF UP TO 33 % OF THE OUTER CRZ IS PERMISSIBLE PROVIDED THAT ANY HEAVY DIGGING EQUIPMENT WORKS TOWARD THE TREE, AND THAT ANY ROOTS ENCOUNTERED THAT ARE OVER 1" IN DIAMETER ARE EXCAVATED AROUND WITH HAND TOOLS AND CUT CLEAN WITH A SHARP SAW BEHIND THE EXCAVATION ZONE SO THAT THE ROOT CAN BIFURCATE AND CONTINUE TO GROW. IN SOME CASES, IF EXCESSIVE PRUNING HAS BEEN DONE, THE CRZ CAN BE LARGER THAN THE DRIP LINE RADIUS.



2108-082

NO.	DATE	BY	REVISIONS

APPLICANT
MIKE YEGENAH
ASPEN HOMES

DATE: Apr 14, 2022
JOB# 1989
DRAFTED: SS DESIGN: SS
DIGITAL SIGNATURE

Apr 14, 2022 — JEFFREY E. ... STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

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102 NW CANAL STREET SEATTLE, WA 98107
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

TESC PLAN
TREE RETENTION PLAN

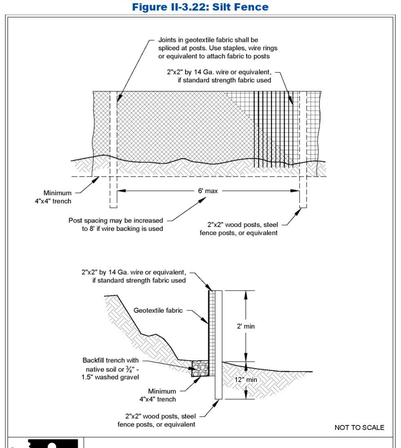
KUMAR RESIDENCE
4034 85th AVENUE SE, MERCER ISLAND, WA 98040

DRAWING NO: C1.0

APN 545030-0150
2108-082

SILT FENCE DETAIL — DOE

Figure II-3.22: Silt Fence



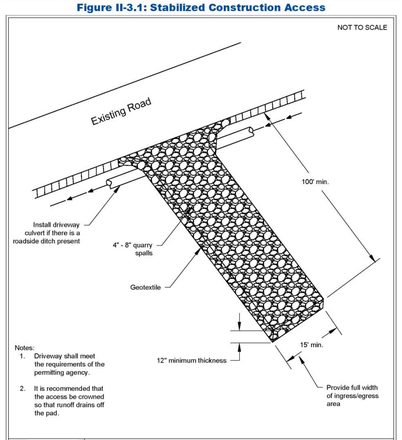
Silt Fence

Revised July 2017

DEPARTMENT OF ECOLOGY State of Washington

CONSTRUCTION ENTRANCE — DOE

Figure II-3.1: Stabilized Construction Access



Stabilized Construction Access

Revised June 2018

DEPARTMENT OF ECOLOGY State of Washington

RECOMMENDED CONSTRUCTION SEQUENCE

A DETAILED CONSTRUCTION SEQUENCE IS NEEDED TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE APPLIED AT THE APPROPRIATE TIMES. A RECOMMENDED CONSTRUCTION SEQUENCE IS PROVIDED BELOW:

1. HOLD AN ONSITE PRE-CONSTRUCTION MEETING.

2. POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).

3. FLAG OR FENCE CLEARING LIMITS.

4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED.

5. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).

6. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).

7. CONSTRUCT SEDIMENT PONDS AND TRAPS.

8. GRADE AND STABILIZE CONSTRUCTION ROADS.

9. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.

10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.

11. RELOCATE SURFACE SURFACE WATER CONTROLS OR TESC MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH CITY OF MERCER ISLAND TESC REQUIREMENTS.

12. COVER ALL AREAS THAT WILL BE UN-WORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) OR TWO DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.

13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.

14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.

15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.

DENUDED AREAS REQUIREMENTS

APRIL 1 TO SEPT 30
ALL DENUDED AREAS MUST BE STABILIZED WITHIN 7 DAYS OF CONSTRUCTION. PLEASE READ ALL CITY TESC NOTES ON SHEET C1.2.

OCT 1 TO MARCH 31
ALL DENUDED AREAS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING. IF AN EROSION PROBLEM ALREADY EXISTS ON THE SITE, OTHER COVER PROTECTION AND EROSION CONTROL WILL BE REQUIRED.

EROSION CONTROL NOTES

D.8.2 STANDARD ESC PLAN NOTES
THE STANDARD ESC PLAN NOTES MUST BE INCLUDED ON ALL ESC PLANS. AT THE APPLICANT'S DISCRETION, NOTES THAT IN NO WAY APPLY TO THE PROJECT MAY BE OMITTED; HOWEVER, THE REMAINING NOTES MUST NOT BE RENUMBERED. FOR EXAMPLE, IF ESC NOTE #3 WERE OMITTED, THE REMAINING NOTES SHOULD BE NUMBERED 1, 2, 4, 5, 6, ETC.

1. APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND
UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.

4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.

5. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.

6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION ETC.) AS DIRECTED BY CITY OF MERCER ISLAND.

7. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.

8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).

9. ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.

10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH DURING THE DRY SEASON, BI-MONTHLY DURING THE WET SEASON, OR WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVENT.

11. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.

13. COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL

14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON.

CITY NOTES

1. ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.

2. APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.

3. CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.

4. CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITES.

5. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.424.5555

6. DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED

7. EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE:

8. PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.

9. CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.

10. PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.

11. ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.

12. INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AN ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.

13. OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.

14. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.

15. REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.

16. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.

17. SILENT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.

18. WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.

19. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.

16. THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.

20. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.

21. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.

22. THE LIMITS AND EXTENDS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZE THE PROJECT.

REVIEWED FOR CODE COMPLIANCE
April 19, 2022
SITE COPY

2108-082

NO.	DATE	BY	REVISIONS

APPLICANT
MIKE YEGENAH
ASPEN HOMES

DATE: Feb 28, 2022
JOB# 1989
DRAFTED: SS DESIGN: DE
DIGITAL SIGNATURE

Feb 28, 2022
JEFFREY E. DUFFY — STATE OF WASHINGTON — 38766 — REGISTERED PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
102 NW CANAL STREET SEATTLE, WA 98107
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

TESC & CITY NOTES
TESC DETAILS
KUMAR RESIDENCE
4034 85th AVENUE SE, MERCER ISLAND, WA 98040

DRAWING NO: C1.2

APN 545030-0150
2108-082

SANITARY SEWER IMPROVEMENTS

1 -

2 -6" SDR 35 PVC SANITARY SEWER(SS) @ MIN 1.0 %.

3 -

4 -

7 -

WATER IMPROVEMENTS

10 -RESIDENTIAL WATER SERVICE & METER PIT. CONFIRM REQUIRED SIZE WITH BUILDING PERMIT REVIEW. INSTALL PER MERCER ISLAND DETAIL W-13, W-14, OR W-14A DEPENDING ON SIZE REQUIREMENT.

11 -1.5" 250 PSI PRIVATE HDPE WATER (ASTM D2239) FROM METER TO HOUSE. RECOMMENDED DEPTH=36". COORDINATE HOUSE ENTRY WITH BUILDER/OWNER.

12 -

14 -

STORM DRAIN

20 -4" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE

21 -4" FOUNDATION DRAIN (3034 PVC) @ MIN 1 % GRADE

22 -6" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE

23 -

24 -

25 -

26 -

28 -

29 -

STORM DRAIN STRUCTURES

30 -TYPE 1 CB WITH STANDARD GRATE. MAX 5' RIM TO FL DEPTH.

31 -

32 -

33 -

34 -

35 -18" YARD DRAIN (OR EQUAL)

36 -6" WIDE NDS DURASLOPE CHANNEL DRAIN KIT OR EQUAL. VEHICLE RATED, GALVANIZED STEEL GRATE

39 -

40 -

41 -54" ID TYPE 2 MH CONTROL STRUCTURE WITH SOLID LID. SEE ALL DETAILS AND PROFILE C4.0.

43 -

46 -

47 -DETENTION PIPE: ALUMINIZED CMP @ 0.5 % GRADE. SEE PLAN FOR SIZE AND CONFIGURATION. SEE PROFILE, NOTES, AND DETAILS ON C4.0.

48 -

STORM BMP's

50 -COMPOST AMENDED SOIL TO ALL DISTURBED AREAS (SEE DETAIL SHEET C3.5). TILL 2-3" OF COMPOST INTO UPPER 8" OF SOIL. LOOSEN COMPACTED SUBSOIL, IF NEEDED BY RIPPING TO 12" DEPTH. MULCH LANDSCAPE BEDS AFTER PLANTING.

51 -

52 -

53 -

54 -

55 -

56 -

57 ~~-PERMEABLE PAVER SURFACE (DRIVEWAY) PER BOE DETAIL. MIN. 4" DEEP RESERVOIR COURSE. SEE DETAIL ON C3.5.~~

58 -

TREE PROTECTION

(ALSO SEE SHEET TESC SHEET C1.0 FOR TREE PROTECTION)

TP CHAIN LINK FENCE TREE PROTECTION AT DRIPLINE / CRZ

SURVEYOR

TOPOGRAPHIC & BOUNDARY SURVEY BY:
SITE SURVEYING, INC.
21923 NE 11th STREET
SAMMAMISH, WA 98074
PHONE 425-298-4412
www.sitesurveymapping.com

VERTICAL DATUM

NAVD 88 PER POINT ID NO. 2150
SEE SURVEY

LEGAL DESCRIPTION

LOT 6 IN BLOCK B OF MERCER CREST, AS PER PLAT RECORDED IN VOLUME 42 OF PLATS, PAGE 26, RECORDS OF KING COUNTY AUDITOR;

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

MINIMUM 10% ORGANIC MULCH & COMPOST SOIL REQUIRED

SOIL AMENDMENT REQUIRED

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

SOIL INSPECTION REQUIRED BY ENGINEER

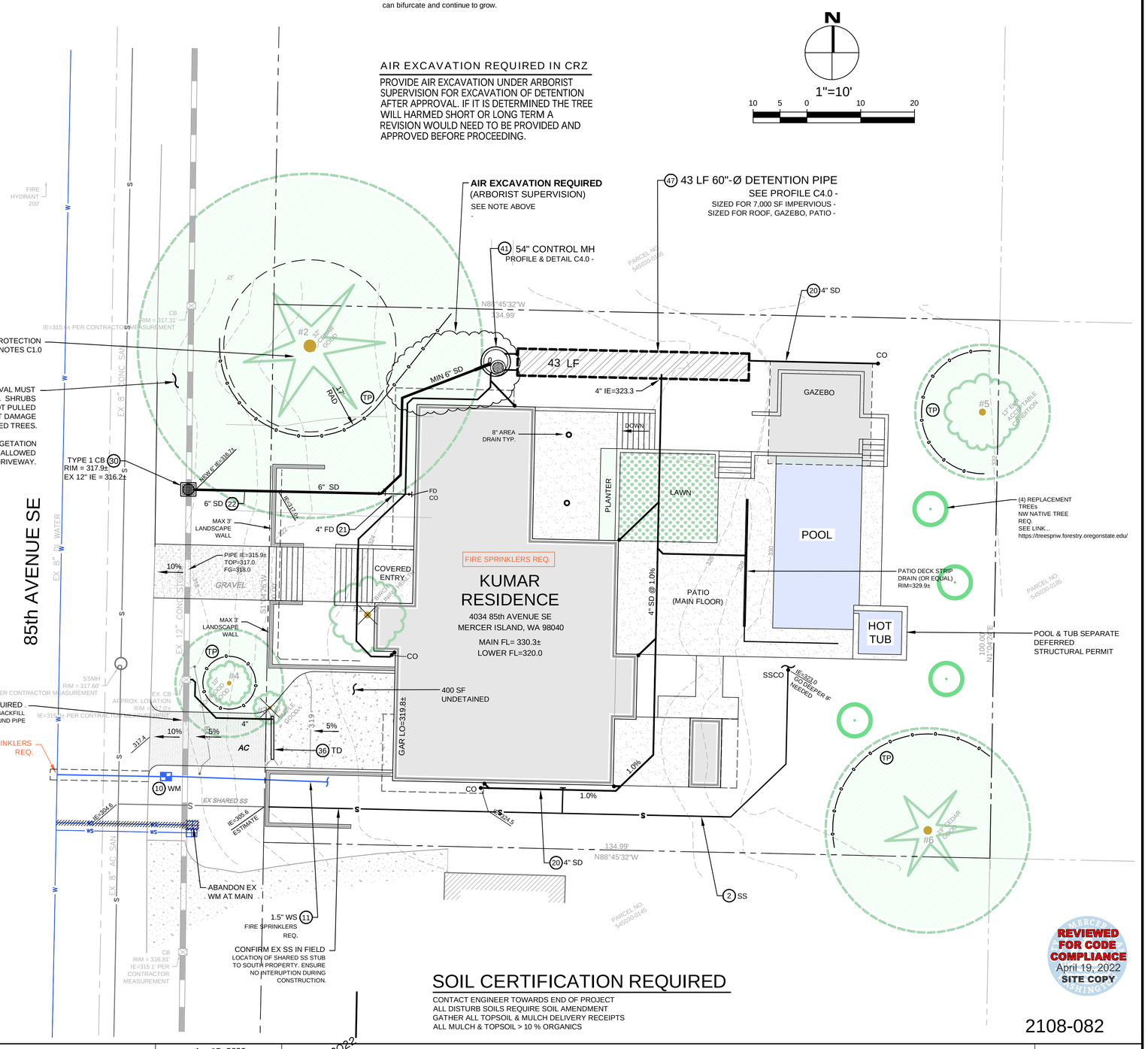
A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER.
THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

TREE ROOTS > 1-INCH

A disturbance of up to 33 % of the Outer CRZ is permissible provided that any heavy digging equipment works toward the tree, and that any roots encountered that are over 1" in diameter are excavated around with hand tools and cut clean with a sharp saw behind the excavation zone so that the root can bifurcate and continue to grow.

AIR EXCAVATION REQUIRED IN CRZ

PROVIDE AIR EXCAVATION UNDER ARBORIST SUPERVISION FOR EXCAVATION OF DETENTION AFTER APPROVAL. IF IT IS DETERMINED THE TREE WILL HARMED SHORT OR LONG TERM A REVISION WOULD NEED TO BE PROVIDED AND APPROVED BEFORE PROCEEDING.



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April 19, 2022
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SOIL CERTIFICATION REQUIRED

CONTACT ENGINEER TOWARDS END OF PROJECT
ALL DISTURB SOILS REQUIRE SOIL AMENDMENT
GATHER ALL TOPSOIL & MULCH DELIVERY RECEIPTS
ALL MULCH & TOPSOIL > 10 % ORGANICS

2108-082

NO.	DATE	BY	REVISIONS

APPLICANT
MIKE YEGENAH
ASPEN HOMES

DATE: Apr 15, 2022
JOB# 1989
DRAFTED: DE DESIGN: DE
DIGITAL SIGNATURE

Apr 15, 2022
JEFFREY E. HANSEN
STATE OF WASHINGTON
39766
REGISTERED PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
102 NW CANAL STREET SEATTLE, WA 98107
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

DRAINAGE / CIVIL PLAN

KUMAR RESIDENCE
4034 85th AVENUE SE, MERCER ISLAND, WA 98040

DRAWING NO: C2.0

APN 545030-0150
2108-082

10% MIN ORGANICS REQUIRED
FOR TOPSOIL & MULCH

SOIL AMENDMENT REQUIRED

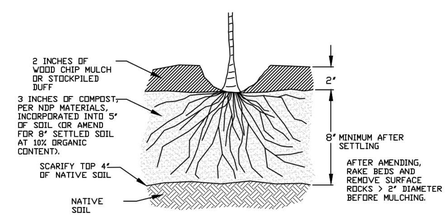
COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL BELOW.

SOIL CERTIFICATION REQUIRED BY ENGINEER

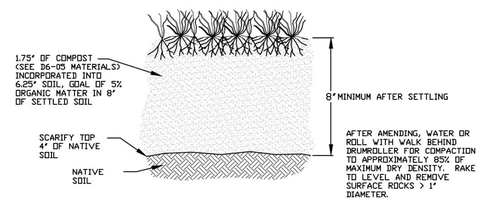
A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER.
THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

COMPOST AMENDED SOIL SPEC

AMENDMENT FOR LANDSCAPED AREAS



SOIL AMENDMENT FOR GRASS OR TURF AREAS



NOTES:

1. AMEND SOILS PER BDE MANUAL, VOL. V, 5.3.1, BMP T5.13, (2012 OR CURRENT) OR WWW.SOILSFORSALMON.ORG.
2. DO NOT AMEND SOILS IN AREAS WITH UNDISTURBED SOIL AND NATIVE VEGETATION.
3. OPTIONAL ALTERNATIVE: STOCKPILE NATIVE TOPSOIL ONSITE, AMEND IF NEEDED, AND REPLACE BEFORE PLANTING.
4. OPTIONAL ALTERNATIVE: IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET REQUIREMENTS.

City of Bellevue — STORM AND SURFACE WATER UTILITY

TITLE: AMENDED SOILS

JANUARY 2019 — NO SCALE — NO. NDP-1

REVIEWED FOR CODE COMPLIANCE
April 19, 2022
SITE COPY

2108-082

NO.	DATE	BY	REVISIONS

APPLICANT
MIKE YEGENAH
ASPEN HOMES

DATE: Feb 28, 2022
JOB# 1989
DRAFTED: SS DESIGN: SS
DIGITAL SIGNATURE

Feb 28, 2022
JEFFREY E. DUFFY — STATE OF WASHINGTON — 39766 — REGISTERED PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
102 NW CANAL STREET SEATTLE, WA 98107
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

BMP DETAILS

KUMAR RESIDENCE
4034 85th AVENUE SE, MERCER ISLAND, WA 98040

DRAWING NO: C3.5

APN 545030-0150
2108-082

MERCER ISLAND DETENTION "TABLE 1"

Table 1

ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in)[3]		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.6	1.3
5,001 to 6,000 sf	36"	162	109	0.5	0.5	2.7	2.2	1.8	1.6
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf[1]	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,501 to 9,000 sf	36"	NA [1]	164	0.5	0.5	NA [1]	2.2	NA [1]	1.9
	48"	NA [1]	89	0.5	0.5	NA [1]	2.9	NA [1]	1.9
	60"	NA [1]	55	0.5	0.5	NA [1]	3.6	NA [1]	1.7
9,001 to 9,500 sf[2]	36"	NA [1]	174	0.5	0.5	NA [1]	2.2	NA [1]	2.1
	48"	NA [1]	94	0.5	0.5	NA [1]	2.9	NA [1]	2.0
	60"	NA [1]	58	0.5	0.5	NA [1]	3.7	NA [1]	1.7

Notes:

• Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (> 15%) slopes.

• Soil type to be determined by geotechnical analysis or soil map.

• Sizing includes a Volume Correction Factor of 120%.

• Upper bound contributing area used for sizing.

[1] On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)

[2] On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)

[3] Minimum orifice diameter = 0.5 inches

in = inch

ft = feet

sf = square feet

Basis of Sizing Assumptions:

Sized per MR#5 in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual)

SBUH, Type 1A, 24-hour hydrograph

2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in

Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)

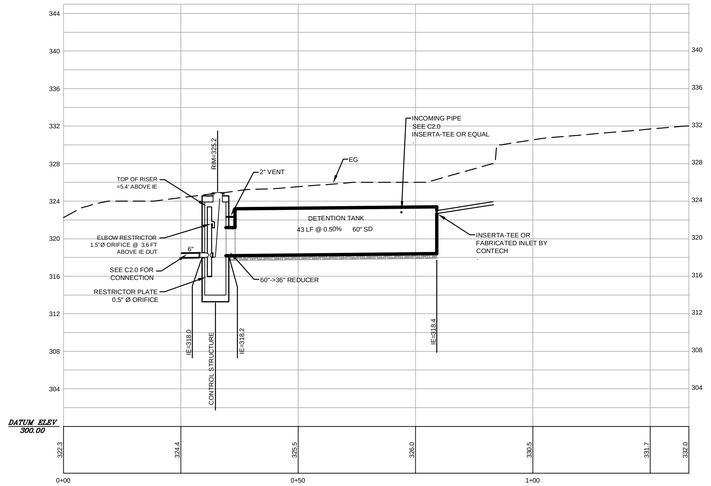
Developed = impervious (CN = 98)

0.5 foot of sediment storage in detention pipe

Overland slope = 5%

DETENTION PROFILE

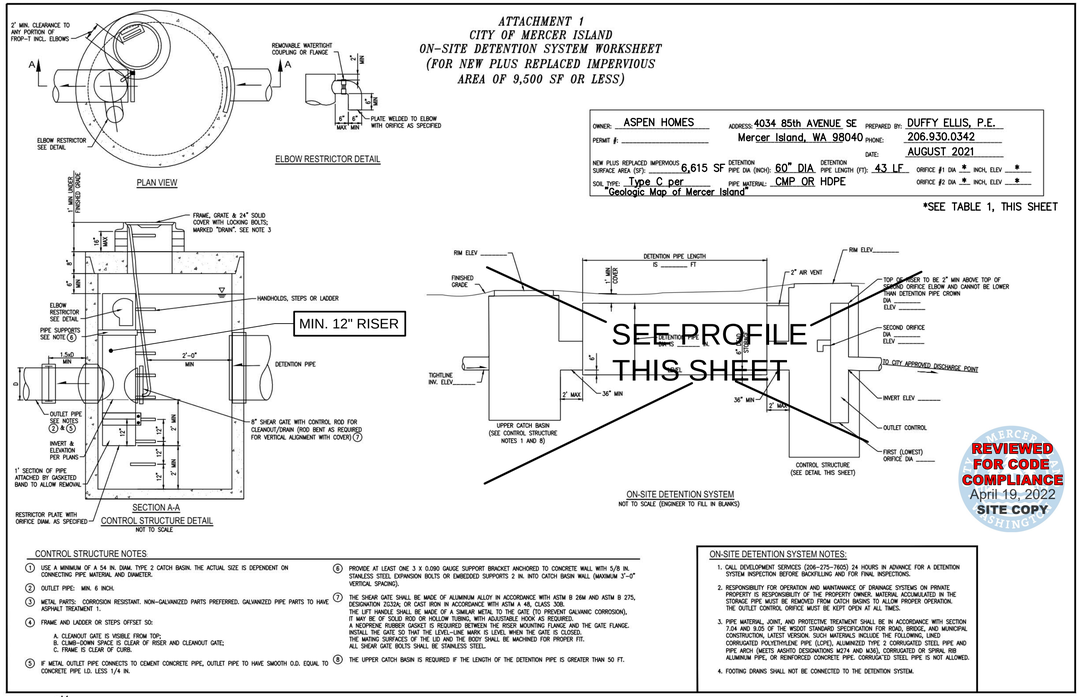
SCALE: HORIZONTAL 1"=10', VERTICAL 1"=5'



IMPERVIOUS TABLE

Impervious Area Spreadsheet		
Kumar Residence - 4034 85th Avenue SE, Mercer Island, WA 98040		
Gross Site area	13,499	sf
	0.310	acres
Existing Impervious Area	8,712	sf
total existing impervious area =	8,712	sf
total existing vegetated area =	4,787	sf
Proposed Impervious Area (on-site)		
Proposed house roof	3,276	sf
Proposed gazebo roof	361	sf
Proposed pool/hardscape, exposed	2,154	sf
Proposed driveway, on-site, exposed	381	sf
total on-site proposed =	6,172	sf
total new + replaced impervious =	(2,540)	sf
new impervious area =	(2,540)	sf
total proposed vetetated area =	7,327	sf

MERCER ISLAND DETENTION DETAIL



CONTROL STRUCTURE NOTES

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION 2633A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING: LINED CORRUGATED POLYETHYLENE PIPE (LDPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

NO.	DATE	BY	REVISIONS

APPLICANT
MIKE YEGENAH
ASPEN HOMES

DATE: Feb 28, 2022
JOB# 1989
DRAFTED: SS DESIGN: SS
DIGITAL SIGNATURE

Feb 28, 2022
JEFFREY E. ELLIS
STATE OF WASHINGTON
39788
REGISTERED
PROFESSIONAL ENGINEER

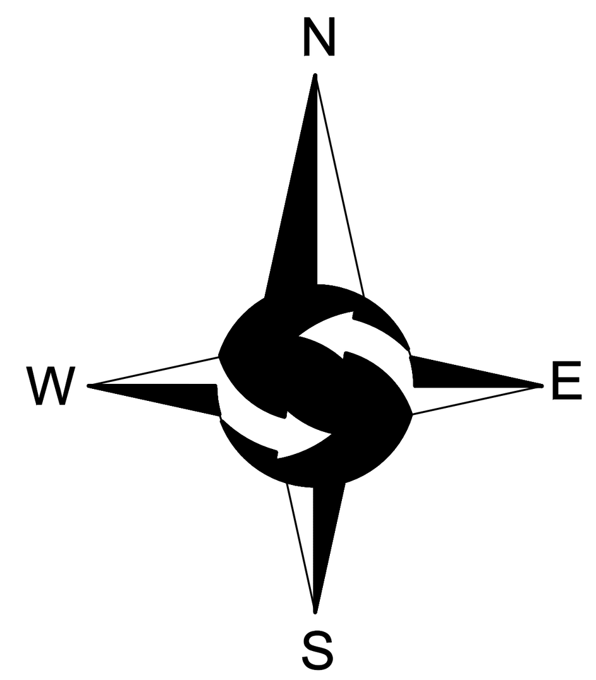
CIVIL ENGINEERING SOLUTIONS
102 NW CANAL STREET
PHONE: 206.930.0342
SEATTLE, WA 98107
DUFFY@CESOLUTIONS.US

DETENTION PROFILE AND DETAIL

KUMAR RESIDENCE
4034 85th AVENUE SE, MERCER ISLAND, WA 98040

DRAWING NO:
C4.0

APN 545030-0150
2108-082



GRAPHIC SCALE
5 0 5 10 20
1 INCH = 10 FT.

LEGEND

	FOUND MONUMENT AS DESCRIBED	—OHP—	OVERHEAD POWER
	SET MAG NAIL AS DESCRIBED	—OHU—	OVERHEAD UTILITIES
	SET 5/8" X 24" IRON ROD W/1" YELLOW PLASTIC CAP	—X—	CHAINLINK FENCE
	POWER METER	—□—	WOOD FENCE
	UTILITY POLE		CONCRETE WALL
	GAS METER		ASPHALT SURFACE
	CATCH BASIN		CONCRETE SURFACE
	YARD LIGHT		BRICK SURFACE
	SANITARY SEWER MANHOLE	DS	DECIDUOUS
	WATER VALVE	HE	HEMLOCK
	FIRE HYDRANT	PI	PINE
	WATER METER		* INDICATES MULTI-TRUNK
— SS —	APPROXIMATE LOCATION SANITARY SEWER LINE		
— SD —	APPROXIMATE LOCATION STORM DRAIN LINE		
— W —	APPROXIMATE LOCATION UNDERGROUND WATER LINE		

LEGAL DESCRIPTION

LOT 6 IN BLOCK B OF MERCER CREST, AS PER PLAT RECORDED IN VOLUME 42 OF PLATS, PAGE 26, RECORDS OF KING COUNTY AUDITOR;

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

BASIS OF BEARINGS

RECORD OF SURVEY BY TERRANE FOR DAVID COLEMAN, AS RECORDED UNDER RECORDING NO. 20160718900008, RECORDS OF KING COUNTY, WASHINGTON.

PROJECT INFORMATION

SURVEYOR:	SITE SURVEYING, INC. 21923 NE 11TH ST SAMMAMISH, WA 98074 PHONE: 425.298.4412
PROPERTY OWNER:	WILLIAM AND JENNISE TURNER 4034 85TH AVENUE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	545030-0150
PROJECT ADDRESS:	4034 85TH AVENUE SE MERCER ISLAND, WA 98040
ZONING:	R-9.6
JURISDICTION:	CITY OF MERCER ISLAND
PARCEL ACREAGE:	13,499 S.F. (0.310 ACRES) AS SURVEYED

GENERAL NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.

2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND SPECTRAPRECISION FOCUS 35 TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.

3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN APRIL 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.

5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

VERTICAL DATUM & CONTOUR INTERVAL

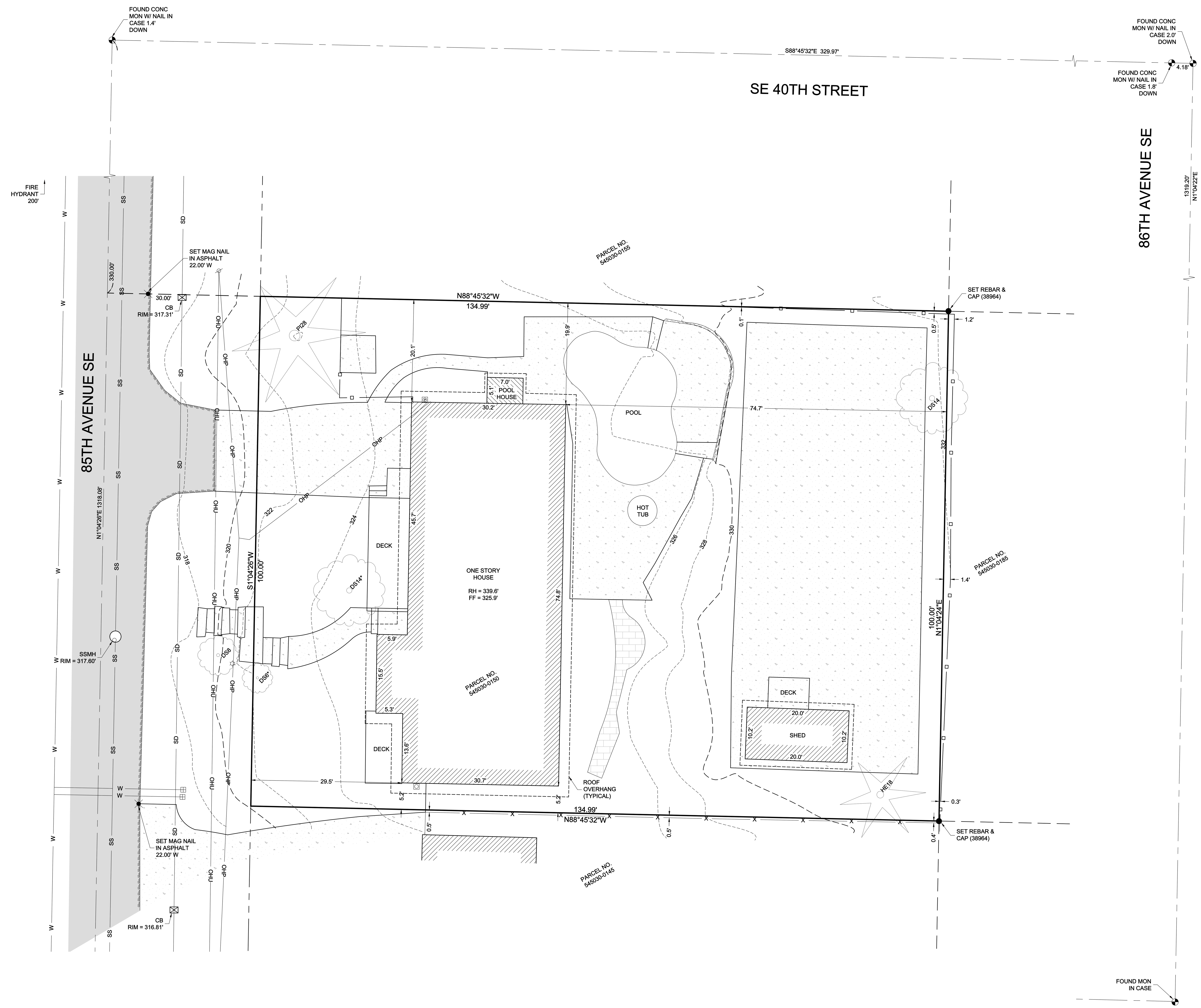
DATUM

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY WCCS SURVEY CONTROL DATABASE.

THE MARK IS A BRASS NAIL IN CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 40TH STREET AND 86TH AVENUE SE.

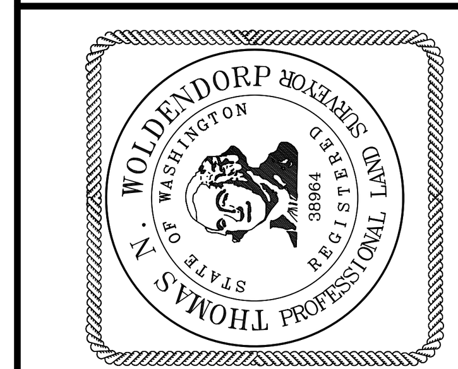
POINT ID NO. 2150;
ELEVATION: 325.718 FEET (99.279 METERS) NAVD 88

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.



NW 1/4, NW 1/4, SEC 18, TWP 24N, RNG 5E, W.M.

Site Surveying, Inc.
21923 NE 11th Street Sammamish, WA 98074
Phone: 425.298.4412
www.sitesurveymapping.com



DRN	REVISION	DATE

TOPOGRAPHIC SURVEY
ASPEN HOMES
4034 85TH AVENUE SE
MERCER ISLAND, WA 98040

PROJECT NO. 21-211

DRAWN BY:	MTS
CHECKED BY:	TNW
DATE:	4/8/2021
SHEET	1 OF 1