ABBREVIATIONS

A
ABV. - Above
A.B. - Anchor Bolt
A/C - Air Conditioner
A.D. - Access Door
ADD. - Addition
ADJ. - Adjust
A.F.F. - Above Finished Floor
A.F.G. - Above Finished Grade
A.G. - Above Grade
ALT. - Alternate
APP'D. - Approved
ARCH. - Architect, Architectural
ASPH. - Asphalt
B
B.C. - Bookcase
BD. - Board
B.L. - Building Line
BLDG. - Building
BLK. - Block
BM. - Beam
B.N. - Boundary nailing
B.O. - Bottom of
B.O.F. - Bottom of footing
B.O.W. - Bottom of wall
BRG. - Bearing
B.U. - Built up
BTM. - Bottom
C
CSMNT. - Casement
CABT. - Cabinet
C.B. - Catch Basin
C.D. - Construction document
CEM. - Cement
C.F.M. - Cubic Feet per Minute
C.L. - Center Line
CH. - Channel
C.I. - Cast Iron
C.I.P. - Cast in Place
CL. - Closet
CLG. - Ceiling
C.O. - Clean Out
C.O. - Cased Opening
COL. - Column
CONT. - Continuous
CONTR. - Contractor
CONC. - Concrete
C.T. - Ceramic Tile
D
d - Penny
D.S. - Down spout
D/W - Dishwasher
DBL. - Double
DEMO. - Demolition
DIA. - Diameter
DIM. - Dimension
D.L. - Dead Load
DN. - Down
DR. - Door
E
EA. - Each
E.F. - Exhaust fan
E.J. - Expansion joint
E.N. - End nailing
ELEV. - Elevation
ELECT. - Electric, electrical
EQ. - Equal
EQUIP. - Equipment
EST. - Estimate
E.W. - Each way
EXH. - Exhaust
EXIST. - Existing
EXT. - Exterior
F
F.A. - Fire alarm
F.C.O. - Floor clean out
F.D. - Floor drain
F.E. - Fire extinguisher
F.N. - Field nailing
FAB. - Fabricate
FDN. - Foundation
FIN. - Finish
FLR. - Floor
FLG. - Flooring
FLUOR. - Fluorescent
FURN. - Furnace

G
GA. - Gauge
GALV. - Galvanized
GAR. - Garage
G.C. - General Contractor
G.F.C.I. - Ground Fault Circuit Interrupt
G.F.I. - Ground Fault Interrupt
GL. - Glass
G.M. - Grade mark
GR. - Grille
G.T. - Glazed tile
GYP. - GypsumH
H.B. - Hose bib
H.C. - Hollow core
HDBD. - Hardboard
HDW. - Hardware
HGT. - Height
HOR. - Horizontal
HR. - Hour
H.R. - Handrail
HTR. - Heater
H.V.A.C. - Heating, Venting and Air Conditioning
H.W. - Hot water
I
I.C.F. - Insulated Concrete Form
I.D. - Inside diameter
I.F. - Inside Face
INCL. - Inclusive, including
INV. - Invert
INSUL. - Insulation
INT. - Interior
J
J-Box - Junction box
JCT. - Junction
JST. - Joist
K
K.-D. - Knock Down
K.D. - Kiln dried
K.O. - Knock out
L
LFT. - Linear feet
LAM. - Laminate
LAT. - Lateral
LAV. - Lavatory
LD. - Lead
LIN. - Linear
LINO. - Linoleum
LT. - Light
LTG. - Lighting
L.V.L. - Laminated Veneer Lumber
M
M.B. - Machine bolt
M.O. - Masonry opening
MAR. - Marble
MAS. - Masonry
MTL. - Material
MAX. - Maximum
MECH. - Mechanical
MED. - Medium
MFG. - Manufacturing
MIN. - Minimum
MOD. - Modular
MTL. - Metal (steel)
MUL. - Mullion
N
N.T.S. - Not to scale
N.C.M. - Non-corrosive metal
N.F.C. - Not for construction
NLR. - Nailer
NO. - Number
NOM. - Nominal
O
O.C. - On center
O.D. - Outside diameter
O.R. - Outside radius
O.H. - Overhead
OPNG. - Opening

P
P. - Paint
PART. - Partition
PAV. - Pavement
P.C. - Pre-Cast Concrete
PERF. - Perforated
PL. - Plaster
PLT. - Plate
P.L. - Property line
PLAS. - Plastic
P.L.V. - Plastic laminate veneer
PLYWD. - Plywood
PORC. - Porcelain
P.S.F. - Pounds per square foot
P.S.I. - Pounds per square inch
P.V.C. - Polyvinyl chloride
PWR. - Power
Q
Q.T. - Quarry tile
QTY. - Quantity
R
RAD. - Radius
R.D. - Roof drain
R.D.L. - Roof drain leader
R.O. - Rough Opening
R.O.W. - Right of way
REFG. - Refrigerator
REF. - Reference
REINF. - Reinforced
RET. - Return
REV. - Revision
RM. - Room
RMV. - Remove
S
SAN. - Sanitary
S.C. - Solid core
S.C. - Self-Closing
SCHED. - Schedule
S.D. - Smoke detector
SECT. - Section
SHT. - Sheet
SHT'G. - Sheathing
SIM. - Similar
SPECS. - Specifications
SQ.FT. - Square feet
SQ. IN. - Square inches
STD. - Standard
STL. - Steel
S.Y. - Square yard
SYS. - System
T
T&G - Tongue and groove
T.B. - Through bolt
T.O. - Top of
T.O.B. - Top of Beam
T.O.C. - Top of curb
T.O.F. - Top of footing
T.O.J. - Top of joist
T.O.M. - Top of masonry
T.O.W. - Top of wall
T.S. - Tube steel
TH. - Threshold
THR. - Threaded
TYP. - Typical
U
UNF. - Unfinished
UTIL. - Utility
V
V.B. - Vapor barrier
V.I.F. - Verify in field
VA. - Voltage
VCT. - Vinyl composition tile
W
W.C. - Toilet (water closet)
WDW. - Window
WCT. - Wainscot
WP. - Weatherproof
WT. - Weight
WTR. HTR. - Water Heater
WD. - Wood
W.I. - Wrought Iron
W.I.C. - Walk In Closet
Y
YD. - Yard

GENERAL NOTES

1. Read drawings in conjunction with all Architectural and other consultant's drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the owner for the decision before proceeding with the work.

2. CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. NOTIFY THE DESIGNER/STRUCTURAL ENGINEER OF ANY DISCREPANCIES.

3. Plumbing, electrical, and refrigeration rough-in and final connections and hookup shall be provided and performed by the respective subcontractors in compliance with applicable national, state, and local codes. All rough-ins are subject to change and verification pending the final selection and location of all equipment.

4. THESE PLANS ARE NOT ISSUED AS A CONSTRUCTION SET UNLESS A BUILDING PERMIT IS ISSUED BY BUILDING AUTHORITY.

5. Existing services are plotted from the best information available. No responsibility is taken for the accuracy and completeness of the information shown. Establish, on site, the exact position of all underground services indicated on the Drawing(s) in the areas of the proposed works, and advise the owner in the event of any discrepancies which affect the proposed works.

6. During construction maintain the structural in a stable conditions and ensure no part is overstressed under construction activities. Keep the site in a clean and tidy condition throughout construction and at completion of work remove all litter and debris to the satisfaction of the owner.

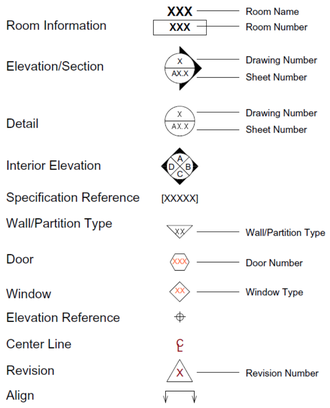
7. Contractor shall protect area and new or existing materials and finishes from damage which may occur from construction, demolition, dust, water, etc. and shall provide and maintain temporary barricades, closure walls, etc., as required to protect the public during the period of construction. Damage to new and existing materials, finishes, structures, and equipment shall be repaired or replaced to the satisfaction of the Owner at the expense of the General Contractor.

8. Work areas are to remain secure and lockable during construction.

9. Contractor shall not proceed with any work requiring additional compensation beyond the contract amount without written authorization from the architect or owner's representative. Failure to obtain written authorization shall invalidate any claim for additional compensation.

10. Delays resulting from failure to supply submittals and information shall be the responsibility of the General Contractor. Appropriate stepsshall be taken to make up lost time.

SYMBOLS LEGEND



PROJECT INFORMATION

SITE ADDRESS:

7663 85th Pl SE, Mercer Island, WA 98040

PROPERTY OWNER:

BEI LUO & HUANG LI

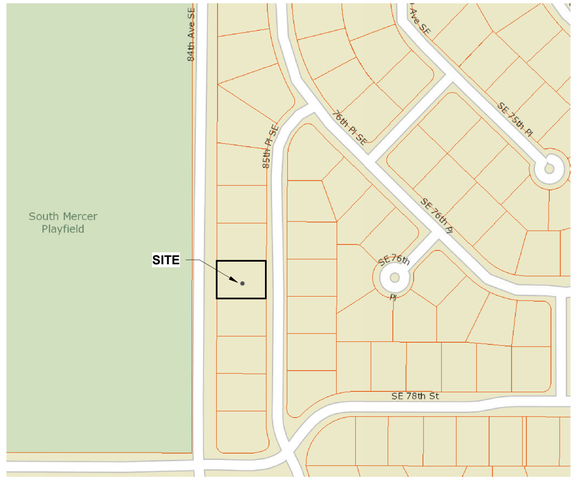
PROJECT DESCRIPTION:

NEW FAMILY ROOM ADDITION ABOVE THE EXISTING GARAGE

BUILDING INFORMATION:

EXISTING HOUSE	2380 SF
NEW FAMILY ROOM ADDITION	439 SF
TOTAL FINISHED AREA	2819 SF

VACINITY MAP



DRAWING INDEX

Architectural Sheet List

Sheet Number	Sheet Name
A - 0.0	TITLE SHEET
A - 1.0	SITE PLAN
A - 1.1	CSWPPP
A - 1.2	CSWPPP DETAIL
A - 1.3	CSWPPP DETAIL
A - 1.4	CSWPPP DETAIL
A - 2.1	ENERGY CODE NOTES
A - 3.0	EXIST. AND DEMO PLAN
A - 3.1	MAIN LEVEL PLAN
A - 3.2	UPPER LEVEL PLAN
A - 3.3	ROOF PLAN
A - 4.0	ELEVATIONS
A - 4.1	ELEVATIONS
A - 5.0	SECTIONS & DETAIL



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BEI NEW ADDITION

7663 85th Pl SE, Mercer Island, WA 98040

No.	Description	Date

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Client:
BEI LUO & HUANG LI

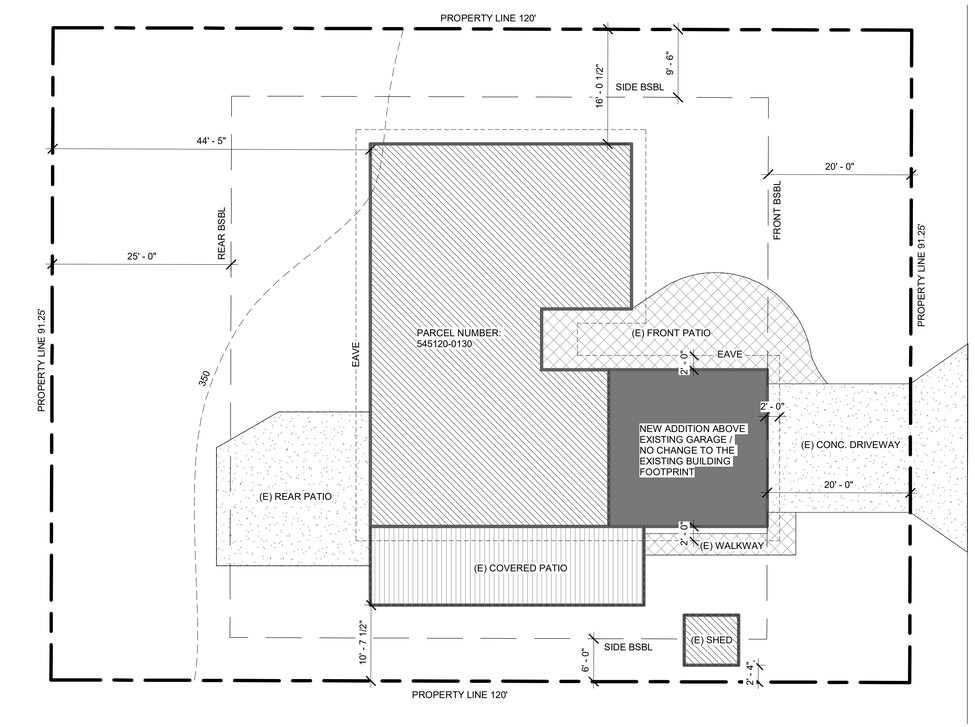
TITLE SHEET

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

A - 0.0

Scale

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1 SITE
1" = 10'-0"

85TH PL SE

NO TREE TO BE REMOVED

LOT INFORMATION:

Parcel Number: 545120-0130

Legal:
MERCER ISLAND ESTATES # 1
Plat Lot: 13

Lot Size: 10,920 SF
Zoning: R-9.6

R-9.6 RESIDENTIAL ZONES DEVELOPMENT STANDARDS

Minimum Front Yard Setback
20 ft

Minimum Side Yard Setback
Lots with a width of more than 90 feet, the side yard setbacks must sum to 17% of the lot width; provided that no side yard shall be less than 33% of the required side yard width.

LOT WIDTH 91.25' X 17% = 15.51'
MIN. SIDE YARD WIDTH = 15.51' X 33% = 5.12'

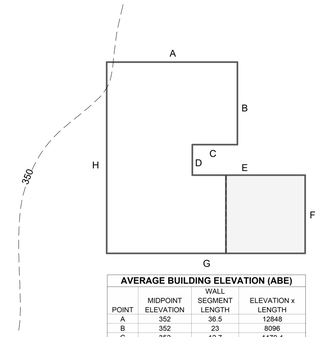
Minimum Rear Yard Setback
25 ft

Minimum Setback From Public Rights-of-ways and vehicular access easements
10 ft

Maximum Building Height
30 ft

Maximum Gross Floor Area
40% of net lot area.

For Lot Slope Less than 15%
Maximum Hardscape
9%
Maximum Lot Coverage (Buildings & driving surfaces)
40%



AVERAGE BUILDING ELEVATION (ABE)

POINT	MIDPOINT ELEVATION	WALL SEGMENT LENGTH	ELEVATION x LENGTH
A	352	36.5	12848
B	352	23	8096
C	352	12.7	4470.4
D	352	8.5	2992
E	352	31.5	11088
F	352	22	7744
G	352	55.5	19536
H	352	53.5	18832
	TOTAL	243.2	85606.4
ABE = 85606.4 / 243.2 =		**352**	

2 ABE CALCULATION
1" = 20'-0"

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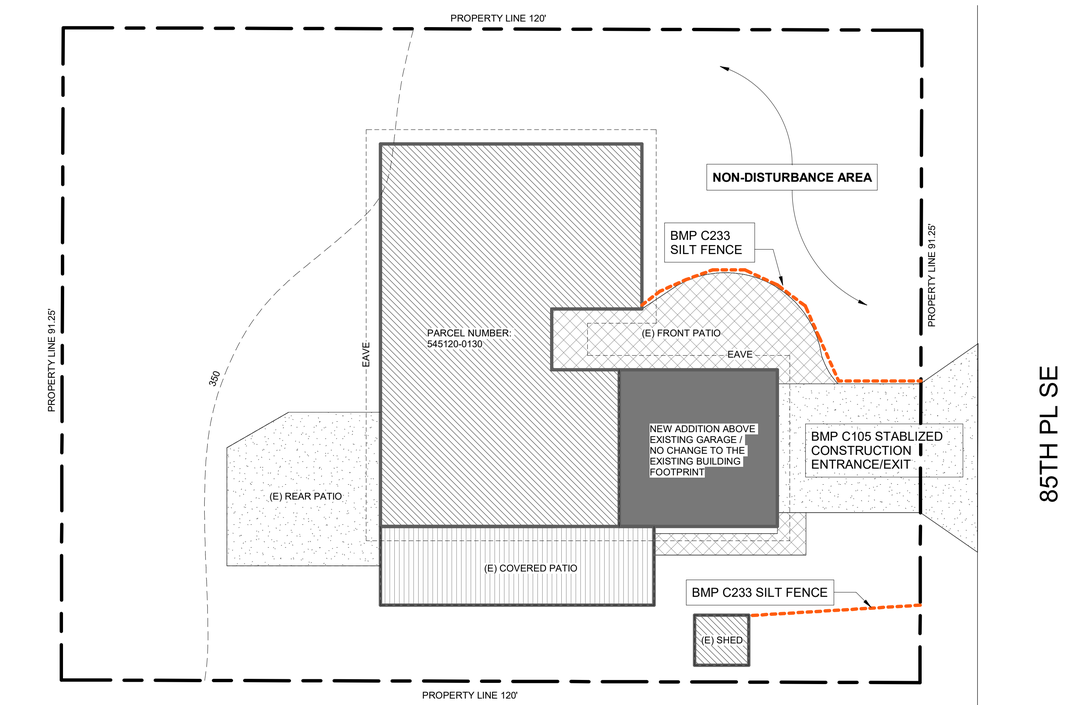
SITE PLAN

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

A - 1.0

Scale: As indicated

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1 CSWPPP
1" = 10'-0"

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Client:
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CSWPPP

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML
	A - 1.1
Scale	1" = 10'-0"

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BMP C105: Stabilized Construction Entrance / Exit

Purpose

Stabilized Construction entrances are established to reduce the amount of sediment transported onto paved roads by vehicles or equipment. This is done by constructing a stabilized pad of quarry spalls at entrances and exits for construction sites.

Conditions of Use

Construction entrances shall be stabilized wherever traffic will be entering or leaving a construction site if paved roads or other paved areas are within 1,000 feet of the site.

For residential construction provide stabilized construction entrances for each residence, rather than only at the main subdivision entrance. Stabilized surfaces shall be of sufficient length/width to provide vehicle access/parking, based on lot size/configuration.

On large commercial, highway, and road projects, the designer should include enough extra materials in the contract to allow for additional stabilized entrances not shown in the initial Construction SWPPP. It is difficult to determine exactly where access to these projects will take place; additional materials will enable the contractor to install them where needed.

Design and Installation Specifications

See Figure 4.1.1 for details. Note: the 100' minimum length of the entrance shall be reduced to the maximum practicable size when the size or configuration of the site does not allow the full length (100').

Construct stabilized construction entrances with a 12-inch thick pad of 4-inch to 8-inch quarry spalls, a 4-inch course of asphalt treated base (ATB), or use existing pavement. Do not use crushed concrete, cement, or calcium chloride for construction entrance stabilization because these products raise pH levels in stormwater and concrete discharge to surface waters of the State is prohibited.

A separation geotextile shall be placed under the spalls to prevent fine sediment from pumping up into the rock pad. The geotextile shall meet the following standards:

Grab Tensile Strength (ASTM D4751)	200 psi min.
Grab Tensile Elongation (ASTM D4632)	30% max.
Mullen Burst Strength (ASTM D3786-80a)	400 psi min.
AOS (ASTM D4751)	20-45 (U.S. standard sieve size)

- Consider early installation of the first lift of asphalt in areas that will paved; this can be used as a stabilized entrance. Also consider the installation of excess concrete as a stabilized entrance. During large concrete pours, excess concrete is often available for this purpose.
- Fencing (see BMP C103) shall be installed as necessary to restrict traffic to the construction entrance.
- Whenever possible, the entrance shall be constructed on a firm, compacted subgrade. This can substantially increase the effectiveness of the pad and reduce the need for maintenance.
- Construction entrances should avoid crossing existing sidewalks and back of walk drains if at all possible. If a construction entrance must cross a sidewalk or back of walk drain, the full length of the sidewalk and back of walk drain must be covered and protected from sediment leaving the site.

Maintenance Standards

Quarry spalls shall be added if the pad is no longer in accordance with the specifications.

- If the entrance is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. This may include replacement/cleaning of the existing quarry spalls, street sweeping, an increase in the dimensions of the entrance, or the installation of a wheel wash.
- Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping. The sediment collected by sweeping shall be removed or stabilized on site. The pavement shall not be cleaned by washing down the street, except when high efficiency sweeping is ineffective and there is a threat to public safety. If it is necessary to wash the streets, the construction of a small sump to contain the wash water shall be considered. The sediment would then be washed into the sump where it can be controlled.
- Perform street sweeping by hand or with a high efficiency sweeper. Do not use a non-high efficiency mechanical sweeper because this creates dust and throws soils into storm systems or conveyance ditches.
- Any quarry spalls that are loosened from the pad, which end up on the roadway shall be removed immediately.
- If vehicles are entering or exiting the site at points other than the construction entrance(s), fencing (see BMP C103) shall be installed to control traffic.
- Upon project completion and site stabilization, all construction accesses intended as permanent access for maintenance shall be permanently stabilized.

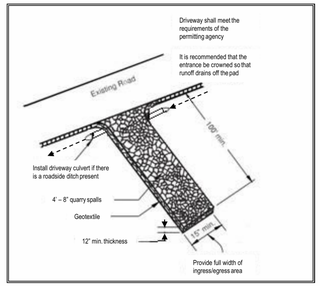


Figure 4.1.1 – Stabilized Construction Entrance

Approved as Equivalent

Ecology has approved products as able to meet the requirements of BMP C105. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept this product approved as equivalent, or may require additional testing prior to consideration for local use. The products are available for review on Ecology's website at http://www.ecy.wa.gov/programs/wq/stormwater/newtech/equivalent.html

BMP C123: Plastic Covering

Purpose

Plastic covering provides immediate, short-term erosion protection to slopes and disturbed areas.

Conditions of Use

Plastic covering may be used on disturbed areas that require cover measures for less than 30 days, except as stated below.

- Plastic is particularly useful for protecting cut and fill slopes and stockpiles. Note: The relatively rapid breakdown of most polyethylene sheeting makes it unsuitable for long-term (greater than six months) applications.
- Due to rapid runoff caused by plastic covering, do not use this method upslope of areas that might be adversely impacted by concentrated runoff. Such areas include steep and/or unstable slopes.
- Plastic sheeting may result in increased runoff volumes and velocities, requiring additional on-site measures to counteract the increases. Creating a trough with wattles or other material can convey clean water away from these areas.
- To prevent undercutting, trench and backfill rolled plastic covering products.
- While plastic is inexpensive to purchase, the added cost of installation, maintenance, removal, and disposal make this an expensive material, up to $1.50-2.00 per square yard.
- Whenever plastic is used to protect slopes install water collection measures at the base of the slope. These measures include plastic-covered berms, channels, and pipes used to covey clean rainwater away from bare soil and disturbed areas. Do not mix clean runoff from a plastic covered slope with dirty runoff from a project.
- Other uses for plastic include:
  1. Temporary ditch liner.
  2. Pond liner in temporary sediment pond.
  3. Liner for bermed temporary fuel storage area if plastic is not reactive to the type of fuel being stored.
  4. Emergency slope protection during heavy rains.
  5. Temporary drainpipe ("elephant trunk") used to direct water.

Design and Installation Specifications

- Plastic slope cover must be installed as follows:
  1. Run plastic up and down slope, not across slope.
  2. Plastic may be installed perpendicular to a slope if the slope length is less than 10 feet.
  3. Minimum of 8-inch overlap at seams.
  4. On long or wide slopes, or slopes subject to wind, tape all seams.
  5. Place plastic into a small (12-inch wide by 6-inch deep) slot trench at the top of the slope and backfill with soil to keep water from flowing underneath.
  6. Place sand filled burlap or geotextile bags every 3 to 6 feet along seams and tie them together with twine to hold them in place.
  7. Inspect plastic for rips, tears, and open seams regularly and repair immediately. This prevents high velocity runoff from contacting bare soil which causes extreme erosion.
  8. Sandbags may be lowered into place tied to ropes. However, all sandbags must be staked in place.
- Plastic sheeting shall have a minimum thickness of 0.06 millimeters.
- If erosion at the toe of a slope is likely, a gravel berm, riprap, or other suitable protection shall be installed at the toe of the slope in order to reduce the velocity of runoff.

Maintenance Standards

- Torn sheets must be replaced and open seams repaired.
- Completely remove and replace the plastic if it begins to deteriorate due to ultraviolet radiation.
- Completely remove plastic when no longer needed.
- Dispose of old tires used to weight down plastic sheeting appropriately.

Approved as Equivalent

Ecology has approved products as able to meet the requirements of BMP C123. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept this product approved as equivalent, or may require additional testing prior to consideration for local use. The products are available for review on Ecology's website at http://www.ecy.wa.gov/programs/wq/stormwater/newtech/equivalent.html

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BEI NEW ADDITION
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No.	Description	Date

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Client:
BEI LUO & HUANG LI

CSWPPP DETAIL

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

A - 1.2

Scale 1/4" = 1'-0"

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BMP C233: Silt Fence

Purpose Use of a silt fence reduces the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow. See Figure 4.2.12 for details on silt fence construction.

Conditions of Use Silt fence may be used downslope of all disturbed areas.

- Silt fence shall prevent soil carried by runoff water from going beneath, through, or over the top of the silt fence, but shall allow the water to pass through the fence.
- Silt fence is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of overland flow. Convey any concentrated flows through the drainage system to a sediment pond.
- Do not construct silt fences in streams or use in V-shaped ditches. Silt fences do not provide an adequate method of silt control for anything deeper than sheet or overland flow.

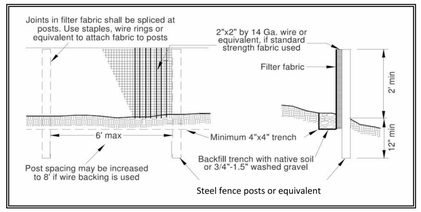


Figure 4.2.12 – Silt Fence

Design and Installation Specifications

- Use in combination with sediment basins or other BMPs.
- Maximum slope steepness (normal (perpendicular) to fence line) 1H:1V.
- Maximum sheet or overland flow path length to the fence of 100 feet.
- Do not allow flows greater than 0.5 cfs.
- The geotextile used shall meet the following standards. All geotextile properties listed below are minimum average roll values (i.e., the test result for any sampled roll in a lot shall meet or exceed the values shown in Table 4.2.3):

Table 4.2.3
Geotextile Standards

Polymeric Mesh AOS (ASTM D4751)	0.60 mm maximum for slit film woven (#30 sieve). 0.30 mm maximum for all other geotextile types (#50 sieve). 0.15 mm minimum for all fabric types (#100 sieve).
Water Permittivity (ASTM D4491)	0.02 sec^{-1} minimum
Grab Tensile Strength (ASTM D4632)	180 lbs. Minimum for extra strength fabric. 100 lbs minimum for standard strength fabric.
Grab Tensile Strength (ASTM D4632)	30% maximum
Ultraviolet Resistance (ASTM D4355)	70% minimum

- Support standard strength fabrics with wire mesh, chicken wire, 2-inch x 2-inch wire, safety fence, or jute mesh to increase the strength of the fabric. Silt fence materials are available that have synthetic mesh backing attached.
- Filter fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F. to 120°F.
- One-hundred percent biodegradable silt fence is available that is strong, long lasting, and can be left in place after the project is completed, if permitted by local regulations.
- Refer to Figure 4.2.12 for standard silt fence details. Include the following standard Notes for silt fence on construction plans and specifications:
  1. The contractor shall install and maintain temporary silt fences at the locations shown in the Plans.
  2. Construct silt fences in areas of clearing, grading, or drainage prior to starting those activities.
  3. The silt fence shall have a 2-feet min. and a 2½-feet max. height above the original ground surface.
  4. The filter fabric shall be sewn together at the point of manufacture to form filter fabric lengths as required. Locate all sewn seams at support posts. Alternatively, two sections of silt fence can be overlapped, provided the Contractor can demonstrate, to the satisfaction of the Engineer, that the overlap is long enough and that the adjacent fence sections are close enough together to prevent silt laden water from escaping through the fence at the overlap.
  5. Attach the filter fabric on the up-slope side of the posts and secure with staples, wire, or in accordance with the manufacturer's recommendations. Attach the filter fabric to the posts in a manner that reduces the potential for tearing.
  6. Support the filter fabric with wire or plastic mesh, dependent on the properties of the geotextile selected for use. If wire or plastic mesh is used, fasten the mesh securely to the up-slope side of the posts with the filter fabric up-slope of the mesh.
  7. Mesh support, if used, shall consist of steel wire with a maximum mesh spacing of 2-inches, or a prefabricated polymeric mesh. The strength of the wire or polymeric mesh shall be equivalent to or greater than 180 lbs. grab tensile strength. The polymeric mesh must be as resistant to the same level of ultraviolet radiation as the filter fabric it supports.
  8. Bury the bottom of the filter fabric 4-inches min. below the ground surface. Backfill and tamp soil in place over the buried portion of the filter fabric, so that no flow can pass beneath the fence and scouring cannot occur. When wire or polymeric back-up support mesh is used, the wire or polymeric mesh shall extend into the ground 3-inches min.
  9. Drive or place the fence posts into the ground 18-inches min. A 12–inch min. depth is allowed if topsoil or other soft subgrade soil is not present and 18-inches cannot be reached. Increase fence post min. depths by 6 inches if the fence is located on slopes of 3H:1V or steeper and the slope is perpendicular to the fence. If required post depths cannot be obtained, the posts shall be adequately secured by bracing or guying to prevent overturning of the fence due to sediment loading.
  10. Use steel or equivalent posts. The spacing of the support posts shall be a maximum of 6-feet. Posts shall consist of either:
      - No. 6 steel rebar or larger.
      - ASTM A 120 steel pipe with a minimum diameter of 1-inch.
      - U, T, L, or C shape steel posts with a minimum weight of 1.35 lbs./ft.
      - Other steel posts having equivalent strength and bending resistance to the post sizes listed above.
  11. Locate silt fences on contour as much as possible, except at the ends of the fence, where the fence shall be turned uphill such that the silt fence captures the runoff water and prevents water from flowing around the end of the fence.
  12. If the fence must cross contours, with the exception of the ends of the fence, place gravel check dams perpendicular to the back of the fence to minimize concentrated flow and erosion. The slope of the fence line where contours must be crossed shall not be steeper than 3H:1V.
      - Gravel check dams shall be approximately 1-foot deep at the back of the fence. Gravel check dams shall be continued perpendicular to the fence at the same elevation until the top of the check dam intercepts the ground surface behind the fence.
      - Gravel check dams shall consist of crushed surfacing base course, gravel backfill for walls, or shoulder ballast. Gravel check dams shall be located every 10 feet along the fence where the fence must cross contours.
- Refer to Figure 4.2.13 for slicing method details. Silt fence installation using the slicing method specifications:
  1. The base of both end posts must be at least 2- to 4-inches above the top of the filter fabric on the middle posts for ditch checks to drain properly. Use a hand level or string level, if necessary, to mark base points before installation.
  2. Install posts 3- to 4-feet apart in critical retention areas and 6- to 7- feet apart in standard applications.
  3. Install posts 24-inches deep on the downstream side of the silt fence, and as close as possible to the filter fabric, enabling posts to support the filter fabric from upstream water pressure.
  4. Install posts with the nipples facing away from the filter fabric.
  5. Attach the filter fabric to each post with three ties, all spaced within the top 8-inches of the filter fabric. Attach each tie diagonally 45 degrees through the filter fabric, with each puncture at least 1-inch vertically apart. Each tie should be positioned to hang on a post nipple when tightening to prevent sagging.
  6. Wrap approximately 6-inches of fabric around the end posts and secure with 3 ties.
  7. No more than 24-inches of a 36-inch filter fabric is allowed above ground level.

     Compact the soil immediately next to the filter fabric with the front wheel of the tractor, skid steer, or roller exerting at least 60 pounds per square inch. Compact the upstream side first and then each side twice for a total of four trips. Check and correct the silt fence installation for any deviation before compaction. Use a flat-bladed shovel to tuck fabric deeper into the ground if necessary.

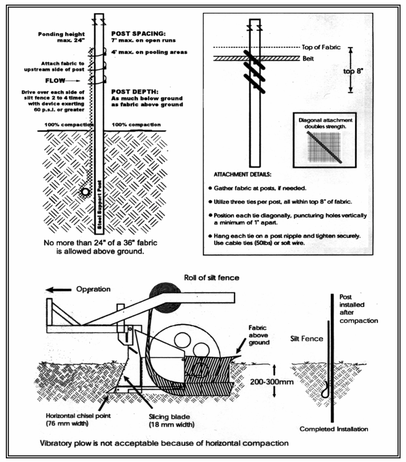


Figure 4.2.13 – Silt Fence Installation by Slicing Method

Maintenance Standards

- Repair any damage immediately.
- Intercept and convey all evident concentrated flows uphill of the silt fence to a sediment pond.
- Check the uphill side of the fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence or remove the trapped sediment.
- Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
- Replace filter fabric that has deteriorated due to ultraviolet breakdown.

BMP C153: Material Delivery, Storage and Containment

Purpose Prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage. Minimize the storage of hazardous materials on-site, store materials in a designated area, and install secondary containment.

Conditions of Use **These procedures are suitable for use at all construction sites with delivery and storage of the following materials:**

- Petroleum products such as fuel, oil and grease
- Soil stabilizers and binders (e.g., Polyacrylamide)
- Fertilizers, pesticides and herbicides
- Detergents
- Asphalt and concrete compounds
- Hazardous chemicals such as acids, lime, adhesives, paints, solvents, and curing compounds
- Any other material that may be detrimental if released to the environment

Design and Installation Specifications **The following steps should be taken to minimize risk:**

- Temporary storage area should be located away from vehicular traffic, near the construction entrance(s), and away from waterways or storm drains.
- Material Safety Data Sheets (MSDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers.
- Hazardous material storage on-site should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- During the wet weather season (Oct 1 – April 30), consider storing materials in a covered area.
- Materials should be stored in secondary containments, such as earthen dike, horse trough, or even a children's wading pool for non-reactive materials such as detergents, oil, grease, and paints. Small amounts of material may be secondarily contained in "bus boy" trays or concrete mixing trays.
- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and, when possible, and within secondary containment.
- If drums must be kept uncovered, store them at a slight angle to reduce ponding of rainwater on the lids to reduce corrosion. Domed plastic covers are inexpensive and snap to the top of drums, preventing water from collecting.

Material Storage Areas and Secondary Containment Practices:

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be stored in temporary secondary containment facilities.
- Temporary secondary containment facilities shall provide for a spill containment volume able to contain 10% of the total enclosed container volume of all containers, or 110% of the capacity of the largest container within its boundary, whichever is greater.
- Secondary containment facilities shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- Secondary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as hazardous waste unless testing determines them to be non-hazardous.
- Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.
- During the wet weather season (Oct 1 – April 30), each secondary containment facility shall be covered during non-working days, prior to and during rain events.
- Keep material storage areas clean, organized and equipped with an ample supply of appropriate spill clean-up material (spill kit).
- The spill kit should include, at a minimum:
  - 1-Water Resistant Nylon Bag
  - 3-Oil Absorbent Socks 3"x 4'
  - 2-Oil Absorbent Socks 3"x 10'
  - 12-Oil Absorbent Pads 17"x19"
  - 1-Pair Splash Resistant Goggles
  - 3-Pair Nitrile Gloves
  - 10-Disposable Bags with Ties
  - Instructions

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BEI NEW ADDITION
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No.	Description	Date

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Client:
BEI LUO & HUANG LI

CSWPPP DETAIL

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

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Scale 1/4" = 1'-0"

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BMP C220: Storm Drain Inlet Protection

Purpose

To prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

Conditions of Use

Where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. Protection should be prov for all storm drain inlets downslope and within 500 feet of a disturbed construction area, unless the runoff that enters the catch basin will be conveyed to a sediment pond or trap. Inlet protection may be used anywhere to protect the drainage system. It is likely that the drainage system will still require cleaning.

Table 4.9 lists several options for inlet protection. All of the methods for drain inlet protection are prone to plugging and require a high frequen maintenance. Drainage areas should be limited to 1 acre or less. Emer overflows may be required where stormwater ponding would cause a hazar an emergency overflow is provided, additional end-of-pipe treatment m required.

Table 4.9
Storm Drain Inlet Protetion

Type of Inlet Protection	Emergency Overflow	Applicable for Paved/ Earthen Surfaces	Conditions of Use
Drop Inlet Protection			
Excavated drop inlet protection	Yes, temporary flooding will occur	Earthen	Applicable for heavy flows. Ea to maintain. Large area Requirement: 30' X 30'/acre
Block and gravel drop inlet protection	Yes	Paved or Earthen	Applicable for heavy concentra flows. Will not pond.
Gravel and wire drop inlet protection	No		Applicable for heavy concentra flows. Will pond. Can withsta traffic.
Catch basin filters	Yes	Paved or Earthen	Frequent maintenance require
Curb Inlet Protection			
Curb inlet protection with a wooden weir	Small capacity overflow	Paved	Used for sturdy, more compact installation.
Block and gravel curb inlet protection	Yes	Paved	Sturdy, but limited filtration.
Culvert Inlet Protection			
Culvert inlet sediment trap			18 month expected life.

Design and Installation Specifications

Excavated Drop Inlet Protection - An excavated impoundment around the storm drain. Sediment settles out of the stormwater prior to entering the storm drain.

- Depth 1-2 ft as measured from the crest of the inlet structure.
- Side Slopes of excavation no steeper than 2:1.
- Minimum volume of excavation 35 cubic yards.
- Shape basin to fit site with longest dimension oriented toward the longest inflow area.
- Install provisions for draining to prevent standing water problems.
- Clear the area of all debris.
- Grade the approach to the inlet uniformly.
- Drill weep holes into the side of the inlet.
- Protect weep holes with screen wire and washed aggregate.
- Seal weep holes when removing structure and stabilizing area.
- It may be necessary to build a temporary dike to the down slope side of the structure to prevent bypass flow.

Block and Gravel Filter - A barrier formed around the storm drain inlet with standard concrete blocks and gravel. See Figure 4.14.

- Height 1 to 2 feet above inlet.
- Recess the first row 2 inches into the ground for stability.
- Support subsequent courses by placing a 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side for dewatering the pool.
- Place hardware cloth or comparable wire mesh with ½-inch openings over all block openings.
- Place gravel just below the top of blocks on slopes of 2:1 or flatter.
- An alternative design is a gravel donut.
- Inlet slope of 3:1.
- Outlet slope of 2:1.
- 1-foot wide level stone area between the structure and the inlet.
- Inlet slope stones 3 inches in diameter or larger.
- Outlet slope use gravel ½- to ¾-inch at a minimum thickness of 1-foot.

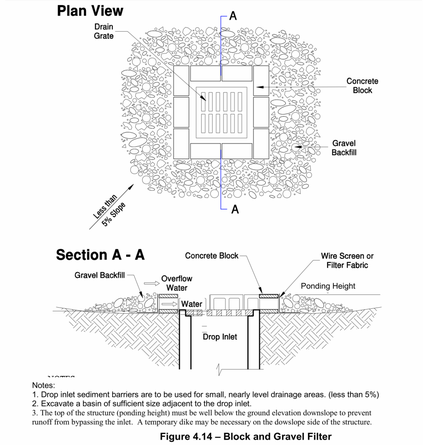


Figure 4.14 – Block and Gravel Filter

Gravel and Wire Mesh Filter - A gravel barrier placed over the top of the This structure does not provide an overflow.

- Hardware cloth or comparable wire mesh with ½-inch openings.
- Coarse aggregate.
- Height 1-foot or more, 18 inches wider than inlet on all sides.
- Place wire mesh over the drop inlet so that the wire extends a minimum of 1-foot beyond each side of the inlet structure.
- If more than one strip of mesh is necessary, overlap the strips.
- Place coarse aggregate over the wire mesh.

- The depth of the gravel should be at least 12 inches over the entire inlet opening and extend at least 18 inches on all sides.

Catchbasin Filters - Inserts should be designed by the manufacturer for use at construction sites. The limited sediment storage capacity increases the amount of inspection and maintenance required, which may be daily for heavy sediment loads. The maintenance requirements can be reduced by combining a catchbasin filter with another type of inlet protection. This type of inlet protection provides flow bypass without overflow and therefore may be a better method for inlets located along active rights-of-way.

- 5 cubic feet of storage.
- Dewatering provisions.
- High-flow bypass that will not clog under normal use at a construction site.
- The catchbasin filter is inserted in the catchbasin just below the grating.

Curb Inlet Protection with Wooden Weir – Barrier formed around a curb inlet with a wooden frame and gravel.

- Wire mesh with ½-inch openings.
- Extra strength filter cloth.
- Construct a frame.
- Attach the wire and filter fabric to the frame.
- Pile coarse washed aggregate against wire/fabric.
- Place weight on frame anchors.

Block and Gravel Curb Inlet Protection – Barrier formed around an inlet with concrete blocks and gravel. See Figure 4.14.

- Wire mesh with ½-inch openings.
- Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are spacer blocks.
- Place a 2x4 stud through the outer holes of each spacer block to align the front blocks.
- Place blocks on their sides across the front of the inlet and abutting the spacer blocks.
- Place wire mesh over the outside vertical face.
- Pile coarse aggregate against the wire to the top of the barrier.

Curb and Gutter Sediment Barrier – Sandbag or rock berm (riprap and aggregate) 3 feet high and 3 feet wide in a horseshoe shape. See Figure 4.16.

- Construct a horseshoe shaped berm, faced with coarse aggregate if

using riprap, 3 feet high and 3 feet wide, at least 2 feet from the in

- Construct a horseshoe shaped sedimentation trap on the outside of berm sized to sediment trap standards for protecting a culvert inlet

Maintenance Standards

- Catch basin filters should be inspected frequently, especially after storm events. If the insert becomes clogged, it should be cleaned replaced.
- For systems using stone filters: If the stone filter becomes clogge with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction sit may be difficult, an alternative approach would be to use the clog stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread al excavated material evenly over the surrounding land area or stockp and stabilize as appropriate.

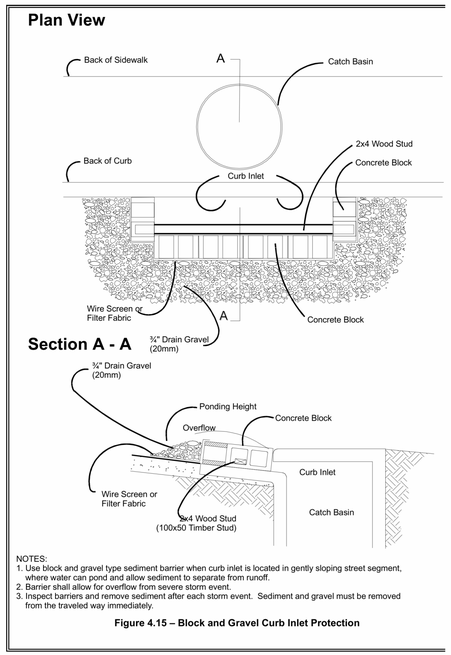


Figure 4.15 – Block and Gravel Curb Inlet Protection

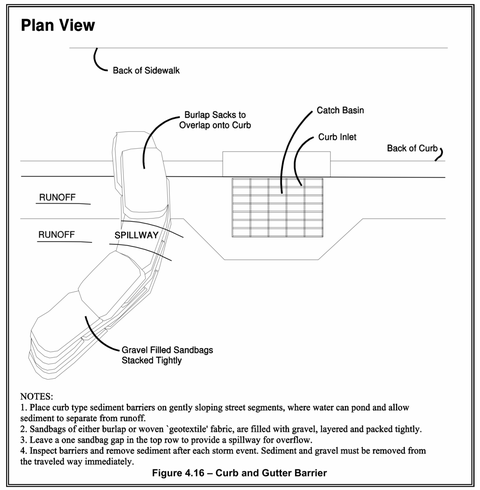


Figure 4.16 – Curb and Gutter Barrier

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No.	Description	Date

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Client:
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CSWPPP DETAIL

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

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Scale 1/4" = 1'-0"

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WASHINGTON STATE UNIVERSITY
Energy Program

Permit#	
Address or Lot & Block	
City	Zip

These requirements apply to all the IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Instructions: This single-family project uses the requirements of the Prescriptive Path below to incorporate the minimum values listed. Based on the conditioned floor area of the structure, the number of required additional credits must be selected by the permit applicant.

Provide all information from the following tables in building permit drawings: Table R402.1.2 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and R406.3 Energy Credits.

Authorized Representative Signature		*Date*	

All Climate Zones Table 402.1.3		
	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b,i]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Ceiling [e]	60	n/a
Wood Frame Wall [g,j]	20+5 or 13+10	n/a
Floor	30	n/a
Below Grade Wall [c,h]	10/15/21 int + 5TB	n/a
Slab [d] R-Value & Depth	10, 4 ft	n/a

a	R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which 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 percent of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.
i	The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "R13+10" means R-13 cavity insulation plus R-10 continuous insulation
j	A maximum U-factor of 0.32 shall apply to vertical fenestration products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section R301.2.1.2 of the International Residential Code.

Each dwelling unit ***in a residential building*** shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

1. Small Dwelling Unit: ..... **5.0 credits**
   Dwelling units less than 1500 square feet in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building greater than 500 square feet of heated floor area but less than 1500 square feet.
2. Medium Dwelling Unit: ..... **8.0 credits**
   All dwelling units that are not included in #1, #3 or #4.
3. Large Dwelling Unit: ..... **9.0 credits**
   Dwelling units exceeding 5000 square feet of conditioned floor area.
4. Dwelling units serving Group R-2 occupancies: ..... **6.5 credits**
   Section R401.1 and residential building Section R202 for Group R-2.
5. Additions 150 square feet to 500 square feet: ..... **2.0 credits**

The drawings included with the building permit application shall identify which options have been selected and the point value of each option, regardless of whether separate mechanical, plumbing, electrical, or other permits are utilized for the project

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Table R406.2 ENERGY EQUALIZATION CREDITS			
System Type	Description of Primary Heating Source	Credits - select ONE system type	
1	For combustion heating equipment meeting minimum federal efficiency standards for the equipment listed in Table C403.3.2(5) or C403.3.2(6)	0	☒
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) and supplemental heating provided by electric resistance or a combustion furnace meeting minimum standards listed in Table C403.3.2(5)b found in the 2021 WSEC- COMMERCIAL ENERGY CODE	1.5	☐
3	For heating system based on electric resistance only (either forced air or Zonal)	0.5	☐
4[c]	For heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) or C403.3.2(9) or Air to water heat pump units that are configured to provide both heating and cooling and are rated in accordance with AHRI 550/590	3.0	☐
5	For heating system based on electric resistance with: 1. Inverter-driven ductless mini-split heat pump system installed in the largest zone in the dwelling, or 2. With 2kW or less total installed heating capacity per dwelling	2.0	☐

a. See Section R401.1 and residential building in Section R202 for Group R-2 scope.
b. The gas back-up furnace will operate as fan-only when the heat pump is operating. The heat pump shall operate at all temperatures above 38°F (3.3°C) (or lower). Below that "changeover" temperature, the heat pump would not operate to provide space heating. The gas furnace provides heating below 38°F (3.3°C) (or lower).
c. Additional points for the HVAC system are included in Table R406.3.

Summary of Table R406.3				
Options	*Energy Credit Option Descriptions*	*Credits – limited to one energy option from each category [d]*		*Comments:*
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	1.5	☐	
1.4	Efficient Building Envelope ☒	2.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.3	Air Leakage Control and Efficient Ventilation ☒	2.0	☐	
3.1[a]	High Efficiency HVAC	1.0	☐	
3.2[a]	High Efficiency HVAC	0.5	☐	
3.3[a,c,d]	High Efficiency HVAC	0.5	☐	
3.4[a,d]	High Efficiency HVAC	1.5	☐	
3.5[d]	High Efficiency HVAC	1.5	☐	
3.6[a]	High Efficiency HVAC	1.0	☐	
3.7[a,d,e]	High Efficiency HVAC	2.0	X	
3.8[a,d]	High Efficiency HVAC	1.0		
3.9	High Efficiency HVAC	1.5	☐	
3.10[f]	High Efficiency HVAC ☒	2.5		
3.11[c]	High Efficiency HVAC	0.5	☒	
4.1	High Efficiency HVAC Distribution System	0.5	☒	
5.1	Efficient Water Heating	0.5	☒	
5.2	Efficient Water Heating	0.5	☒	
5.3	Efficient Water Heating	0.5	☐	
5.4	Efficient Water Heating	1.0	☐	
5.5	Efficient Water Heating	1.5	☐	
5.6	Efficient Water Heating	2.0	☐	
5.7	Efficient Water Heating	2.5	☐	
5.8	Efficient Water Heating ☒	2.5	☐	
6.1	Renewable Electric Energy (4.5 credits max)	0.5-4.5	0.0	
7.1	Appliance Package	0.5	☒	
	Total Credits [2.0] Calculate Total			

a. An alternative heating source sized at a maximum of 0.5 Watts/ft2 (equivalent) of heated floor area or 500 Watts, whichever is bigger, may be installed in the dwelling unit.
b. See Section R401.1 and residential building in Section R202 for Group R-2 scope.
c. Option 3.11 can only be taken with Options 3.1 and 3.3. To qualify to claim Option 3.11 with 3.3, the system shall be a 1-2 speed heat pump system. Variable capacity heat pumps are ineligible from claiming this option.
d. This option may only be claimed if serving System Type 4 or 5 from Table R406.2.
e. Primary living areas include living, dining, kitchen, family rooms, and similar areas.
f Option 3.11 may only be taken with Efficient Water Heating Options 5.1 or 5.2. Equipment sizing for space heating shall be calculated as provided in Section R403.7 with increased capacity to provide a minimum of 75 percent of peak hot water demand or shall be sized in accordance with approved manufacturer's specifications or guidance. Supplementary heat for water heating system shall be in accordance with Section R403.5.7.

ENERGY CREDIT OPTION 3.7
Ductless split system heat pumps with no electric resistance heating in the primary living areas. A ductless heat pump system shall be sized and installed to provide heat to entire dwelling unit at the design outdoor air temperature.
In homes with total heating loads of 24,000 or less using multi-zone mini-split systems with nominal ratings of 24,000 or less, the minimum HSPF s to claim this credit shall be 8.19 HSPF 2 (or 9 HSPF).

Window, Skylight and Door Schedule

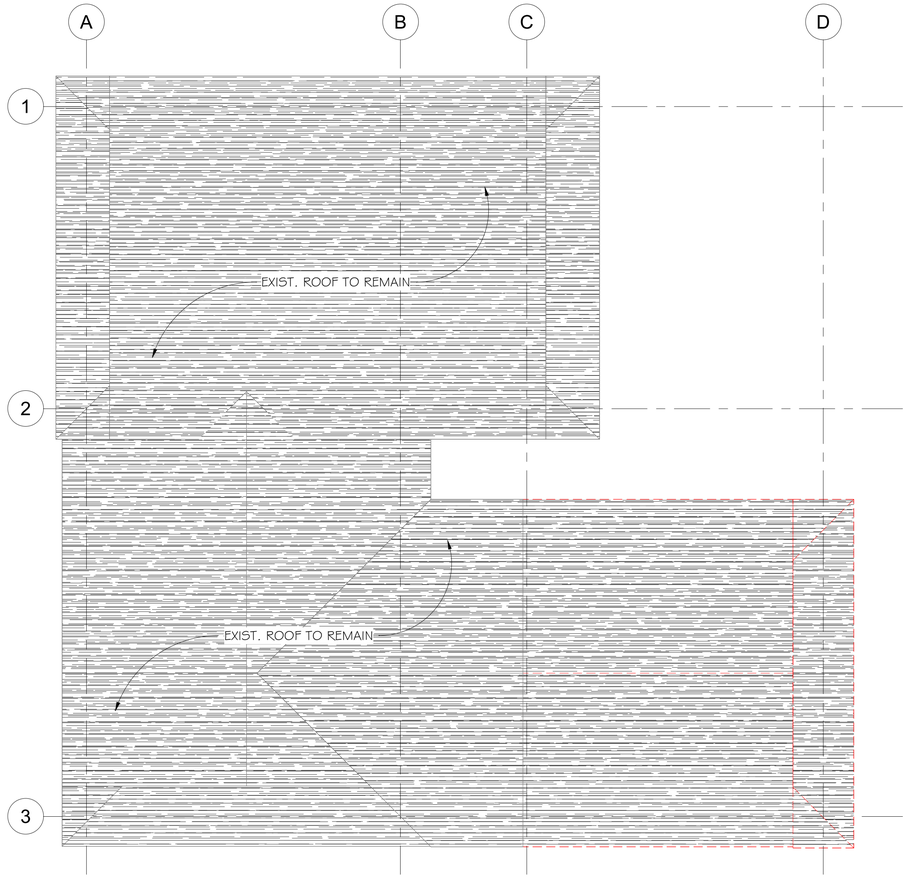
Project Information

Contact Information

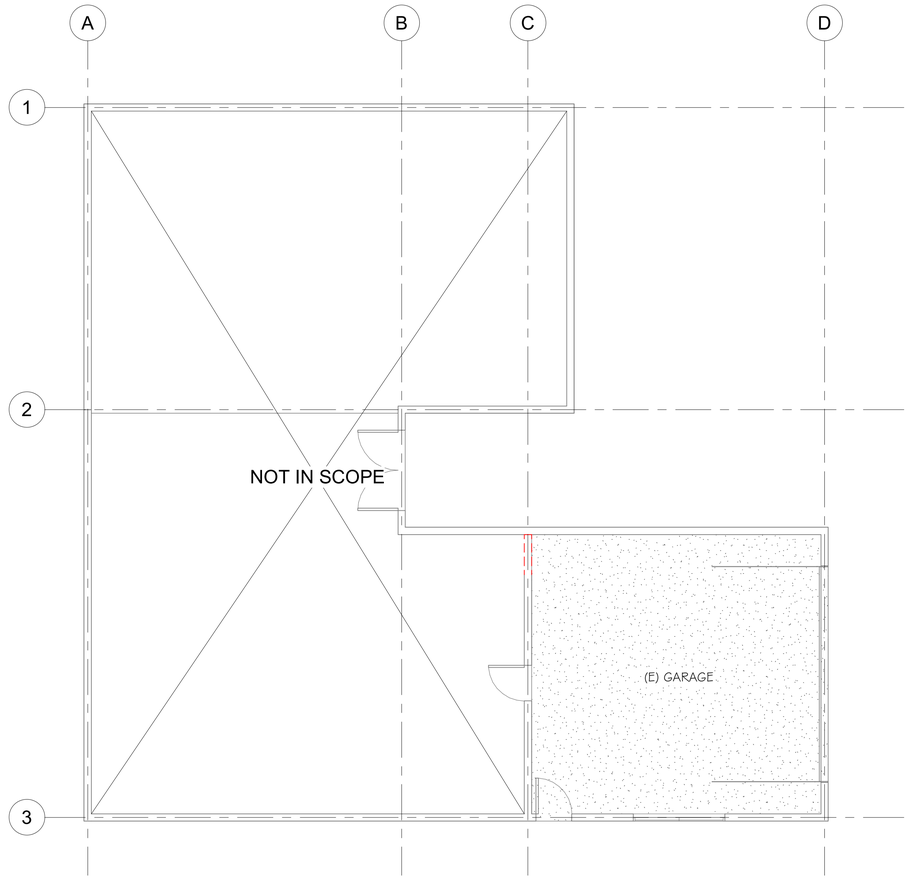
	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
WINDOW	01		1	5		7		35.0	0.00
WINDOW	02		1	5		7		35.0	0.00
WINDOW	03		1	5		7		35.0	0.00
WINDOW	04		1	2.5		7		17.5	0.00
WINDOW	05		1	5		7		35.0	0.00
WINDOW	06		1	2.5		7		17.5	0.00
WINDOW	07		1	5		7		35.0	0.00
WINDOW	08		1	5		7		35.0	0.00
								0.0	0.00
								0.0	0.00
								0



2 EXISTING ROOF
3/16" = 1'-0"



1 EXISTING MAIN LEVEL
3/16" = 1'-0"

Demo Items

gc Design Group

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BEI NEW ADDITION

7663 85th Pl SE, Mercer Island, WA 98040

No.	Description	Date

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Client:
BEI LUO & HUANG LI

EXIST. AND DEMO PLAN

Project number	240320
Date	03/29/2024
Drawn by	Author
Checked by	Checker

A - 3.0

Scale: As indicated

5/14/2024 11:59:15 AM

STAIRWAYS

Min. 36" width
Min. 36" landing length

Headroom:
The headroom in stairways shall be not less than 6 feet 8 inches measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

Risers:
The riser height shall be not more than 7 3/4 inches.

Treads:
The tread depth shall be not less than 10 inches.

Nosings:
The radius of curvature at the nosing shall be not greater than 9/16 inch. A nosing projection not less than 3/4 inch and not more than 1 1/4 inches shall be provided on stairways with solid risers.

Handrails:
- Handrails shall be provided on not less than one side of each continuous run of treads or flight with four or more risers.
- Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches and not more than 38 inches.
- Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safely terminals.
- Handrails adjacent to a wall shall have a space of not less than 1 1/2 inches between the wall and the handrails.
- Grasp dimension between 1-1/4 to 2 inches.
- Where used as a guardrail, a maximum opening of 4 inches.

Under-stair protection: (IRC R302.7)
Minimum ½" GWB for under-stair protection for enclosed accessible space under the stairs.

GARAGE NOTES

The ducts in the garage and penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of minimum No 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings into the garage. (IRC R302.5.2)

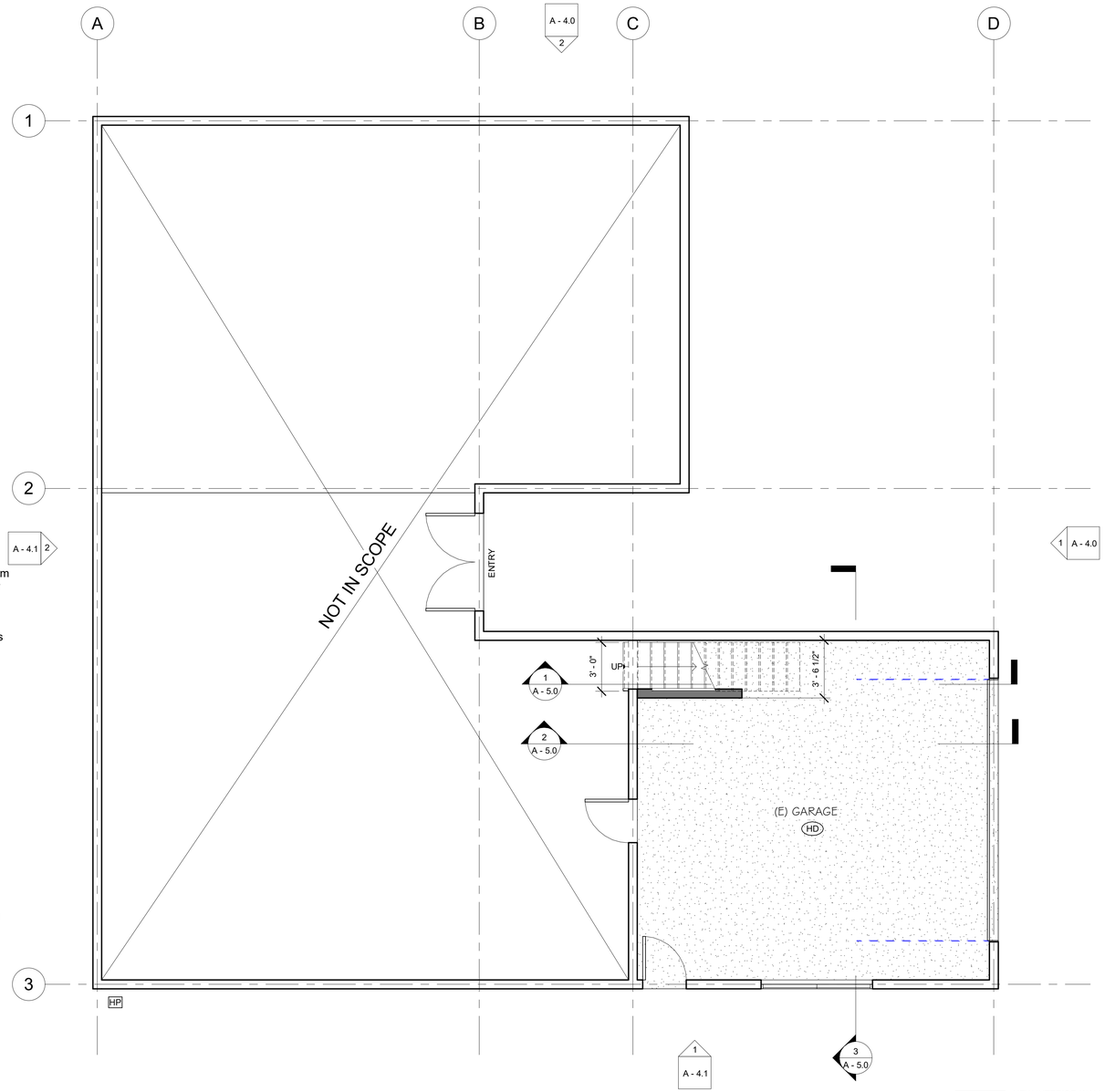
FUEL-BURNING APPLIANCES (IRC M1307.3 &G2408.2)
Appliances having an ignition source shall be elevated such that the source of ignition is not less than 18 inches above the floor in garage.
Motor Vehicle Impact Protection is Required (IRC 1307.3.1)

OPENINGS INTO A GARAGE (IRC R302.5.1)
Shall have solid wood or honeycomb-core steel doors not less than 1-3/8" in thickness, or 20-minute fire-rated doors. Door shall be equipped with a self-closing or automatic-closing device.

GARAGE SEPARATION (IRC R302.6)
Walls: Not less than 1/2" gypsum wall board or equivalent on the garage side.
Ceiling: Not less than 5/8" Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation: Not less than 1/2" gypsum wall board or equivalent

FLOOR SURFACE (IRC R309.1)
Garage floor surface shall be of approved noncombustible material
The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or towards the main entry doorway.

HEAT DETECTOR (IRC R314.2.3)
A heat detector or heat alarm rated for the ambient outdoor temperatures and humidity shall be installed in new garages that are attached to or located under new and existing dwellings. Heat detectors and heat alarms shall be installed in a central location and in accordance with the manufacturer's instructions.



NEW INTERIOR WALL
2" x 6" studs spaced 16" o.c.
R-21 insulation

1 PROPOSED MAIN LEVEL
1/4" = 1'-0"

PLAN NOTES

- SEE SHEET A0.0 FOR GENERAL ARCHITECTURAL NOTES.
- SEE "S" SHEETS FOR LATERAL INFORMATION AND ENGINEERING DETAILS.
- ADD R-21 BATT INSULATION TO EXISTING EXTERIOR WALLS WHERE REQUIRED

(SD) SMOKE DETECTOR
CONTRACTOR TO CONFIRM THAT SMOKE ALARMS/DETECTORS ARE INSTALLED IN ALL SLEEPING ROOMS, IN THE AREA OUTSIDE THE SLEEPING ROOM AND IN OTHER LOCATIONS PER IRC SECTION R314. ELECTRICAL POWER AND INTERCONNECTION PER 2018 IRC.

(CD) CARBON MONOXIDE DETECTOR

(CSD) COMBO SMOKE/CARBON MONOXIDE DETECTOR
CONTRACTOR TO CONFIRM THAT CARBON MONOXIDE DETECTORS ARE LOCATED OUTSIDE OF ALL SLEEPING ROOMS AND ON EACH LEVEL. ELECTRICAL POWER AND INTERCONNECTION PER 2018 IRC.

(HD) HEAT DETECTOR

(EG) EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE INSTALLED IN EVERY SLEEPING ROOM PER 2018 IRC R310.

MIN. 5.7 SF NET CLR OPENABLE AREA
MIN. 24" NET CLR OPENABLE HEIGHT
MIN. 20" NET CLR OPENABLE WIDTH
MAX. 44" FINISHED SILL HEIGHT
OPENABLE W/O KEYS OR SPECIAL TOOLS

(SG) SAFETY GLAZING
AS NOTED AND WHERE REQUIRED PER IRC R308.4.

LOCAL EXHAUST FANS

(F1) 50 CFM (MIN) ON SWITCH

(F2) 75 CFM WHOLE HOUSE FAN RUNNING CONTINUOUSLY, 1.0 SONE MAXIMUM

(F3) 100 CFM (MIN) RANGE HOOD ON SWITCH

(GR) GUARDRAIL PER MANUFACTURE SPEC / GUARD HEIGHT 36" MIN. DIMENSION BETWEEN OPENINGS OF THE GUARD: 4" CLEAR MAX. DESIGNED TO RESIST A 200 LB CONCENTRATED LOAD ON THE TOP RAIL AND 50 PSF ON ALL GUARDRAIL INFILL COMPONENTS.

(HP) HEAT PUMP

(A) THIS DOOR SHALL BE OPENABLE FROM THE INSIDE W/O KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. (A LATCH, DEAD BOLT, OR SECURITY CHAIN MOUNTED AT A MAX. OF 48" AFF MAY BE PROVIDED)

(B) PROVIDE WATER-RESISTANT GWB BEHIND SHOWERS AND BATHTUBS

(C) ATTIC ACCESS
22" X 30" ATTIC ACCESS OPENING. OPENING SHALL BE WEATHER-STRIPPED AND INSULATED. PROVIDE BATT INSULATION ON TOP OF ACCESS DOOR, SECURELY ATTACHED. PROVIDE RETAINER IN ATTIC TO PREVENT LOOSE FILL INSULATION FROM SPILLING INTO THE LIVING SPACE WHEN THE ATTIC ACCESS IS OPENED AND TO MAINTAIN THE R-VALUE OF THE INSULATION AT THE ROOF.

(D) CRAWL SPACE ACCESS
ACCESS OPENINGS THROUGH THE FLOOR SHALL BE A MINIMUM OF 18 INCHES BY 24 INCHES. OPENINGS THROUGH A PERIMETER WALL SHALL BE NOT LESS THAN 16 INCHES BY 24 INCHES.

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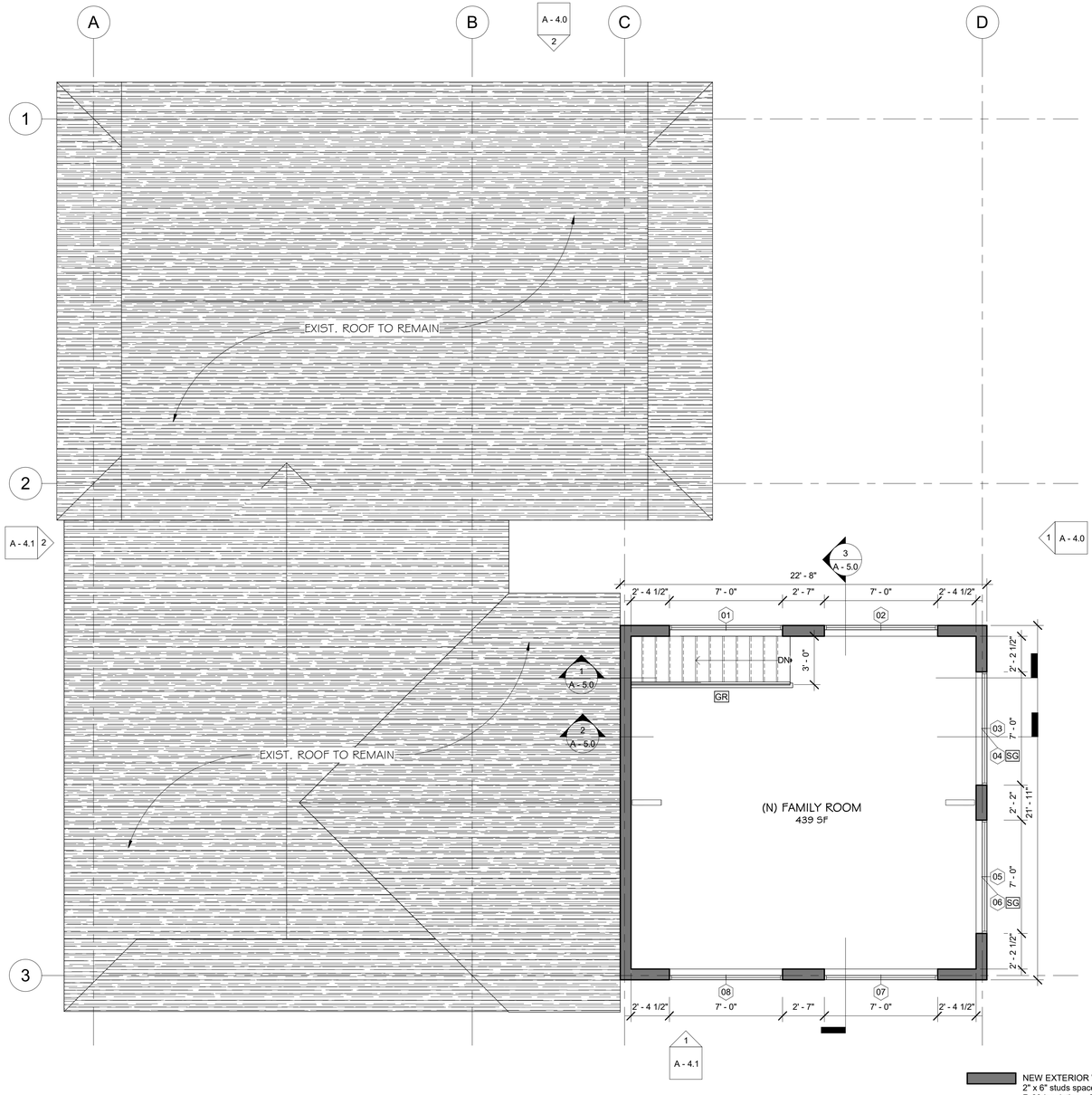
MAIN LEVEL PLAN

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

A - 3.1

Scale 1/4" = 1'-0"

5/14/2024 11:59:16 AM



1 PROPOSED UPPER LEVEL
1/4" = 1'-0"

STAIRWAYS

Min. 36" width
Min. 36" landing length

Headroom:
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PLAN NOTES

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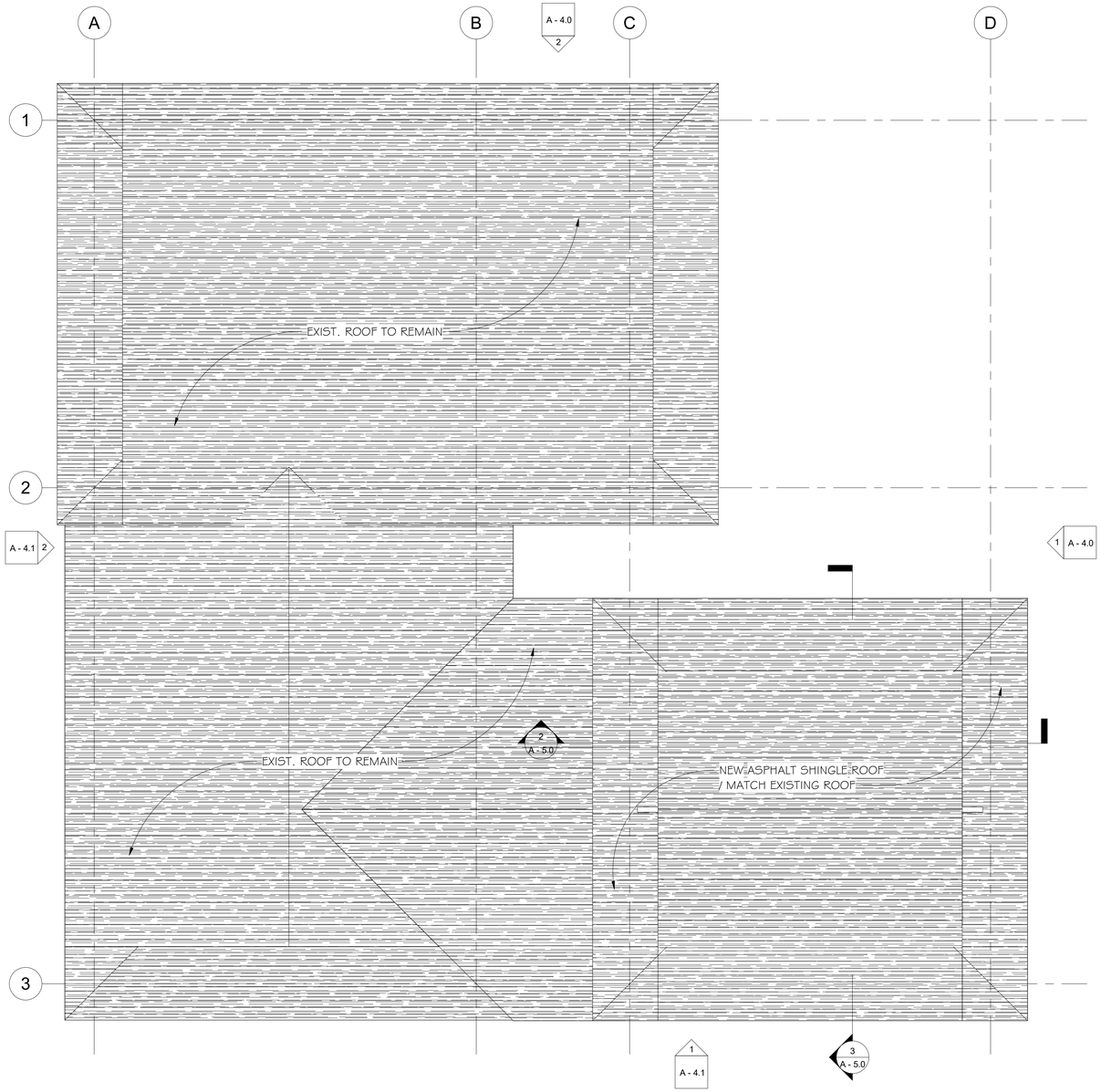
UPPER LEVEL PLAN

Project number	240320
Date	03/29/2024
Drawn by	Author
Checked by	Checker

A - 3.2

Scale 1/4" = 1'-0"

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1 PROPOSED ROOF
1/4" = 1'-0"

ATTIC VENTILATION AREA SHALL NOT BE LESS THAN 1 S.F. FOR EACH 150 S.F. OF ATTIC AREA OR 1 S.F. FOR EACH 300 S.F. WHERE 40% TO 50% OF VENTS ARE WITHIN 3' OF THE RIDGE (IRC R806.2).

CALCULATION
(BASED ON (3) 2" HOLES PER VENT BLOCK)

TOTAL ROOF AREA	439 SF / 150 = 2.93 SF OF VENT AREA REQUIRED
50% AT EAVE	1.46 SF
50% AT RIDGE HIP	1.46 SF

ROOF VENTS PROVIDED	
EAVE VENTS	6.25 SQ.IN./LF X 34 LF = 1.47 SF
RIDGE HIP VENTS	12 SQ.IN./LF X 17 LF = 1.42 SF
MUSHROOM VENTS	144 SQ.IN/VENT X 2 VENTS = 2 SF
TOTAL VENTS PROVIDED	4.89 SF > 2.93 SF REQUIRED

NOTE:
1. EAVE VENTS= 6.25 SQ.IN./ LF

2. RIDGE HIP VENTS = 12 SQ.IN./LF

3. MUSHROOM VENTS = 144 SQ.IN/VENT

4. MINIMUM VENT AREA. THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/150OF THE AREA OF THE VENTED SPACE.

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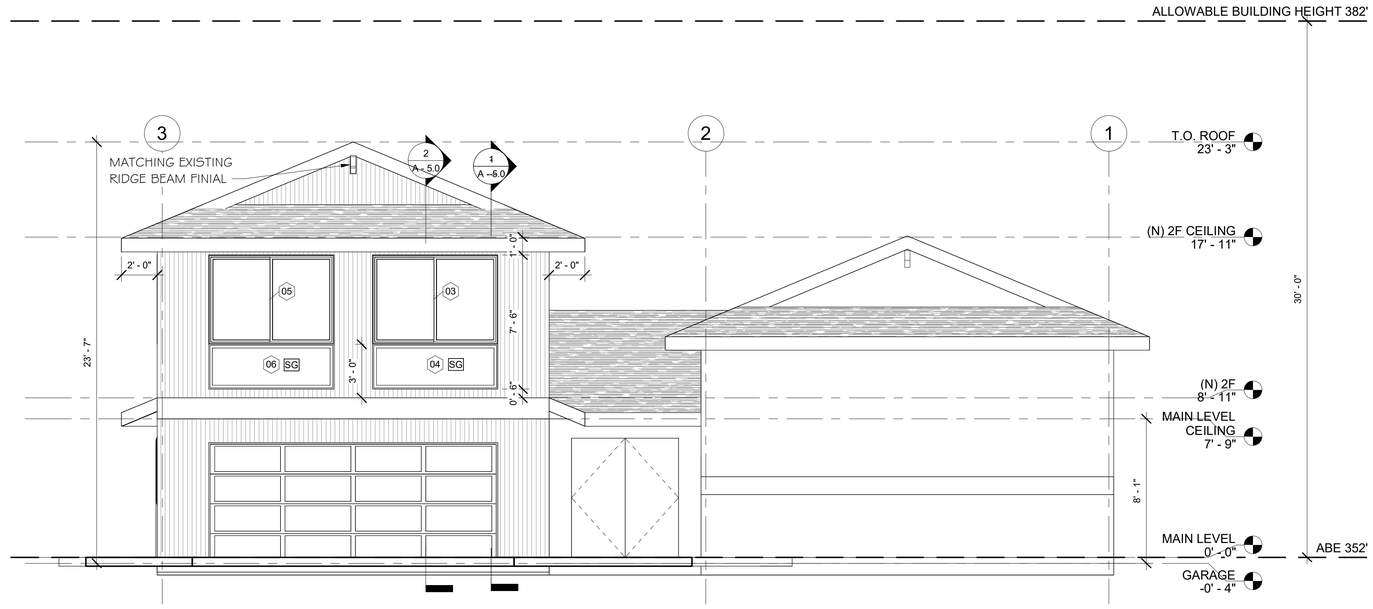
ROOF PLAN

Project number	240320
Date	03/29/2024
Drawn by	Author
Checked by	Checker

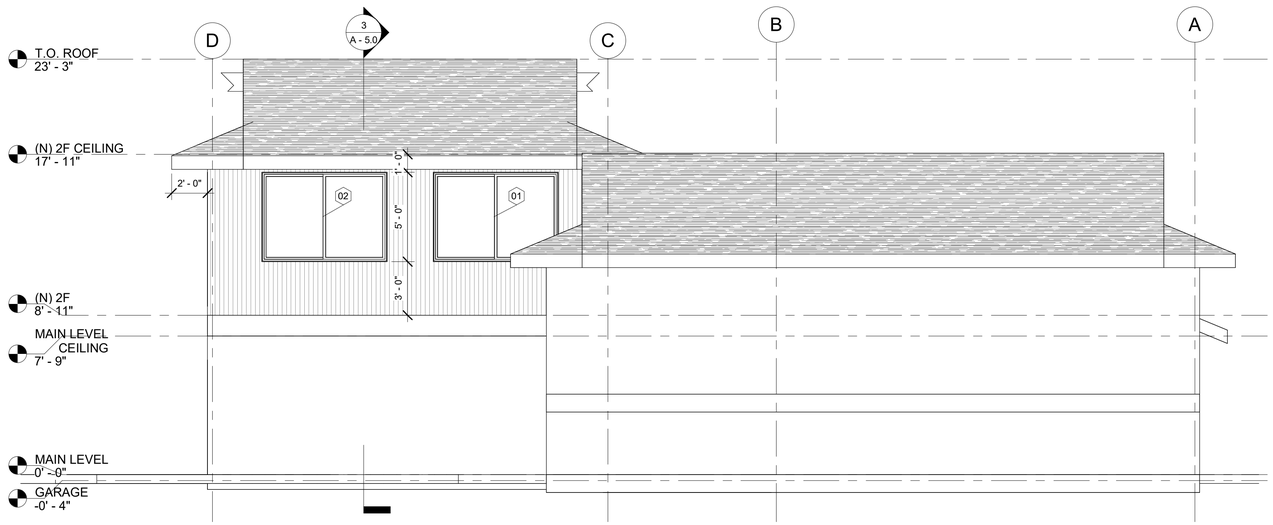
A - 3.3

Scale 1/4" = 1'-0"

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1 PROPOSED EAST ELEVATION
1/4" = 1'-0"



2 PROPOSED NORTH ELEVATION
1/4" = 1'-0"

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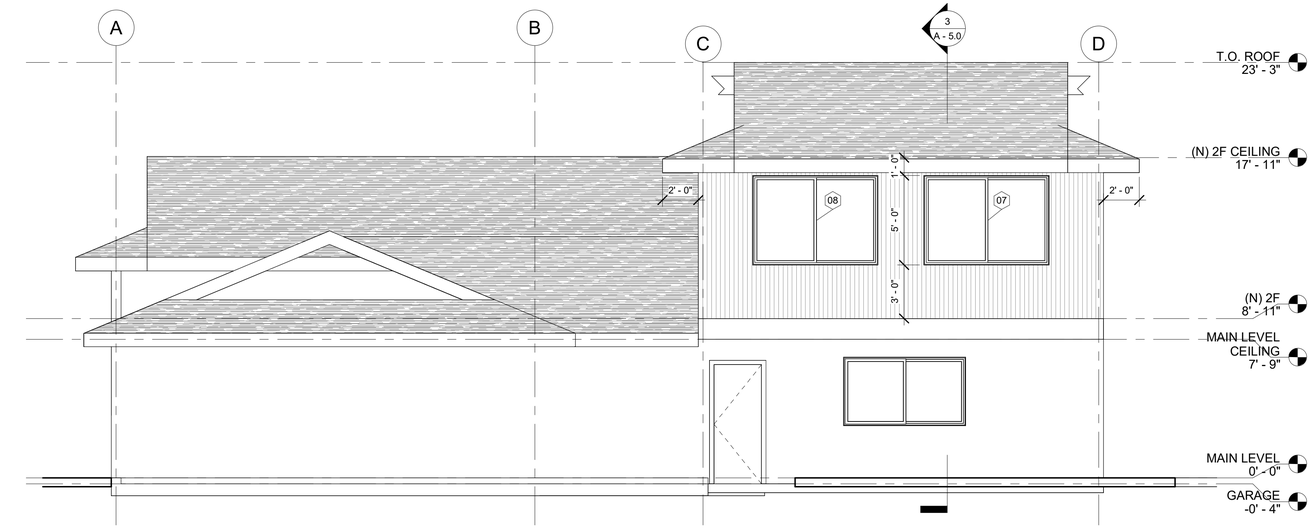
ELEVATIONS

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

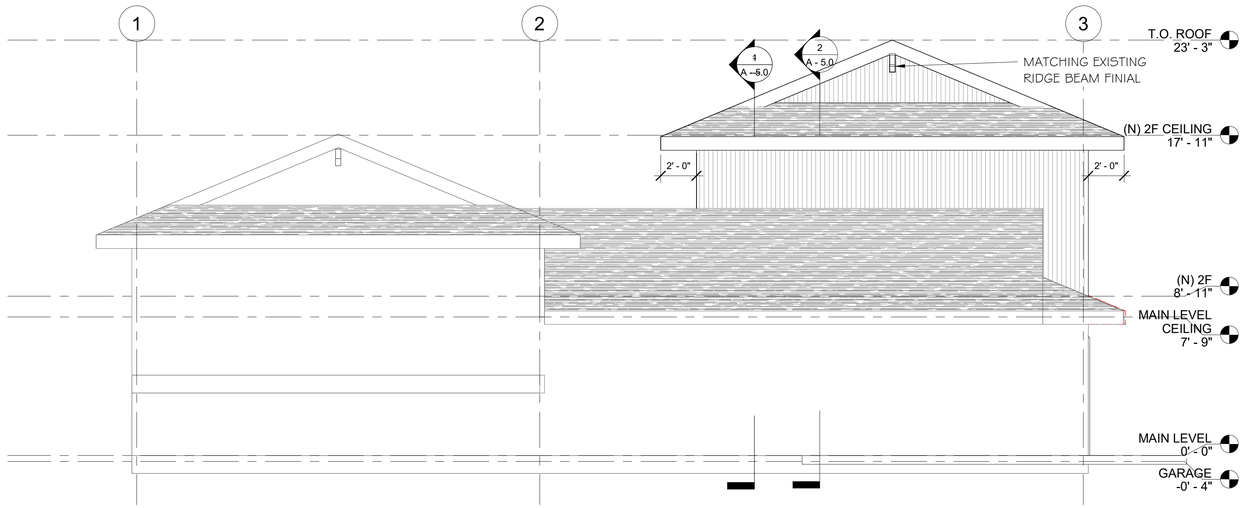
A - 4.0

Scale 1/4" = 1'-0"

5/14/2024 11:59:17 AM



1 PROPOSED SOUTH ELEVATION
1/4" = 1'-0"



2 PROPOSED WEST ELEVATION
1/4" = 1'-0"

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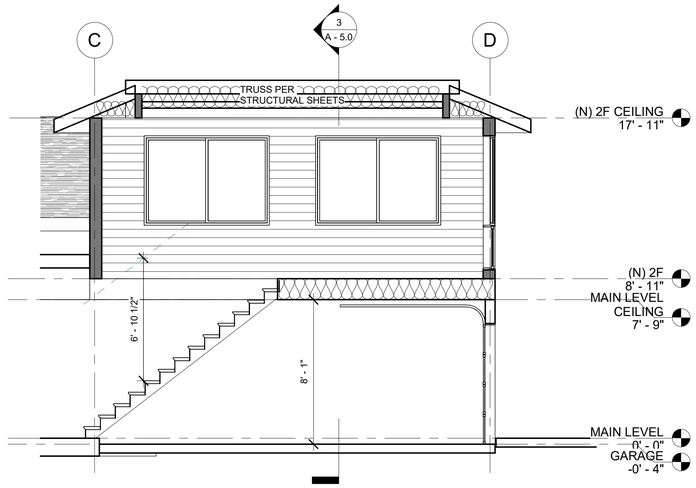
ELEVATIONS

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Date	03/29/2024
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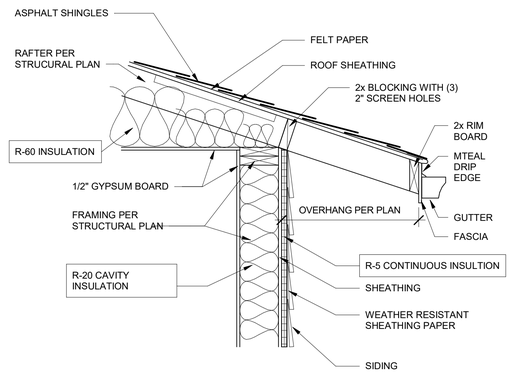
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Scale 1/4" = 1'-0"

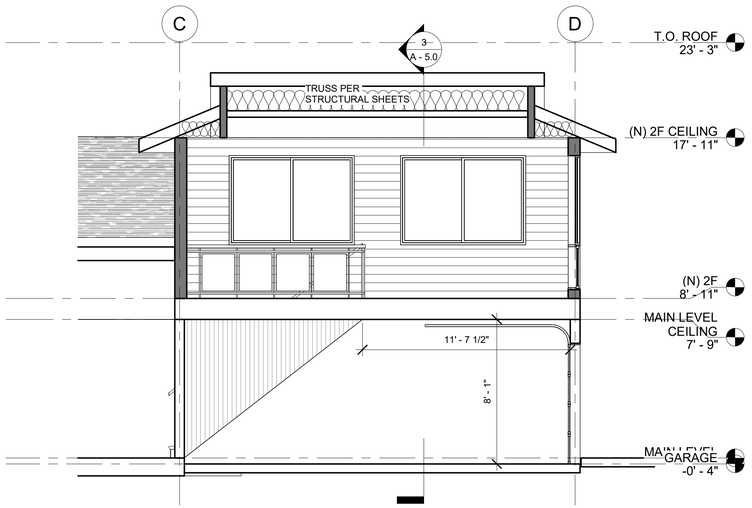
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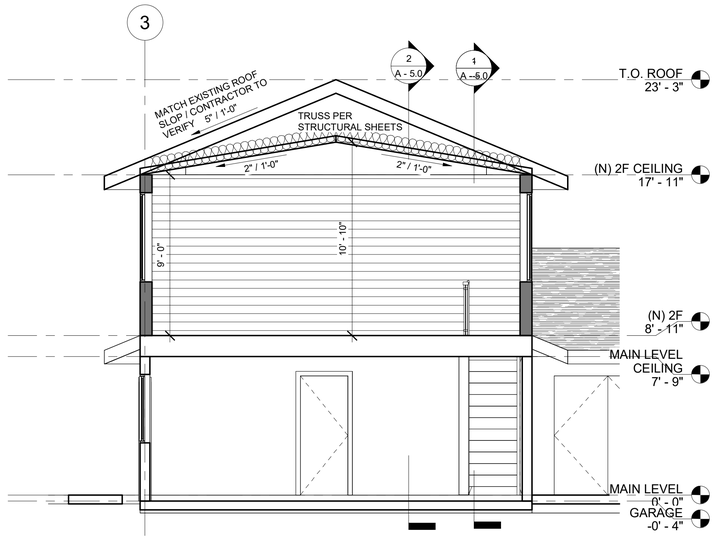
1 Section 1
1/4" = 1'-0"



4 TRUSS EAVE DETAILS TYPICAL
1" = 1'-0"



2 Section 2
1/4" = 1'-0"



3 Section 3
1/4" = 1'-0"

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SECTIONS & DETAIL

Project number	240320
Date	03/29/2024
Drawn by	ML
Checked by	ML

A - 5.0

Scale: As indicated

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GENERAL NOTES

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE 2018 EDITION.

CONTRACTOR SHALL VERIFY ALL LEVELS, DIMENSIONS AND EXISTING CONDITIONS IN FIELD BEFORE PROCEEDING WITH ANY CONSTRUCTION OR DEMOLITION. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR FIELD CHANGES.

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

CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS, EXISTING CONSTRUCTION AND SOIL EXCAVATIONS AS REQUIRED, IN A MANNER SUITABLE TO THE WORK SEQUENCE. TEMPORARY SHORING AND BRACING SHALL NOT BE REMOVED UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND MATERIALS HAVE ACHIEVED DESIGN STRENGTH. FOUNDATIONS WALLS GREATER THAN 4 FEET SHALL NOT BE BACKFILLED UNTIL THE FLOOR FRAMING AND ALL CONNECTIONS TO THE FLOOR FRAMING PER THESE DETAILS ARE COMPLETE.

CHANGES: NO CHANGES TO THESE STRUCTURAL DRAWINGS ARE PERMITTED WITHOUT WRITTEN CONSENT OF THE ENGINEER. CHANGES WILL BE BILLED TO THE CLIENT, OWNER OR CONTRACTOR AT THE ENGINEER'S HOURLY RATE.

SUBMITTALS: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL THE FOLLOWING: STRUCTURAL STEEL, STEEL CANOPIES, GLUED-LAMINATED MEMBERS AND PRE-MANUFACTURED WOOD MEMBERS.

DESIGN DRAWINGS AND CALCULATIONS, FOR PRE-MANUFACTURED WOOD TRUSSES AND JOISTS SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN, AND SHALL BE SUBMITTED TO THE ARCHITECT AND BUILDING OFFICIAL FOR REVIEW PRIOR TO FABRICATION.

DESIGN LOADS

LIVE LOADS: LIVE LOADS ARE DETERMINED IN ACCORDANCE WITH ASCE CH. 7
L = 40 PSF (RESIDENTIAL)

SNOW LOADS: SNOW LOADS ARE DETERMINED IN ACCORDANCE WITH ASCE CH. 7 WITH THE FOLLOWING FACTORS:
GROUND SNOW LOAD PG = 25 PSF CT = 1.0 CE = 1.0
ROOF SNOW LOAD PS = 25 PSF IS = 1.0

WIND LOADS: WIND LOADS ARE BASED ON ASCE 7-16 CH. 28 (ENVELOPE PROCEDURE) WITH THE FOLLOWING FACTORS:
EXPOSURE CATEGORY = B IW = 1.0
VELOCITY (3 SEC) = 110 MPH (ULT) KZT = 1.60
DESIGN WIND PRESSURED FOR DETERMINING FORCES ON COMPONENTS AND CLADDING ARE DETERMINED IN ACCORDANCE WITH ASCE 7-16 CHAPTER 30.

SEISMIC LOADS: SEISMIC LOADS ARE BASED ON THE EQUIVALENT LATERAL FORCE PROCEDURE IN ASCE 7-16 SECTION 12.8 WITH THE FOLLOWING FACTORS:
RISK CATEGORY = II SS = 1.465
SITE CLASS = D S1 = 0.506
DESIGN CATEGORY = D SDS = 1.172
IE = 1.0
R = 6.5 (WOOD SHEAR WALL) CS = 0.180 (ULT.)

FOUNDATIONS

CONCRETE FOUNDATIONS SHALL BEAR ON STIFF, COMPETENT, UNDISTURBED NATIVE SOIL. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN CONFIRMATION FROM THE BUILDING OFFICIAL THAT THE NATIVE SOIL AT THIS PROJECT IS ADEQUATE TO SUPPORT THE FOLLOWING BEARING PRESSURE: ALLOWABLE BEARING PRESSURE USED FOR STRUCTURAL DESIGN = 1500 PSF.

WHERE FOOTINGS MUST BEAR ON STRUCTURAL FILL DUE TO INADEQUATE SOIL CONDITIONS, THE FILL SHALL BE MIXED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS PROVIDED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF WASHINGTON.

BOTTOM OF FOOTING ELEVATION SHALL BE LOCATED AT MINIMUM FROST DEPTH 18" BELOW TOP OF FINISHED GRADE UNLESS REQUIRED OTHERWISE BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL CONFIRM THE MINIMUM FROST DEPTH WITH THE BUILDING OFFICIAL PRIOR TO EXCAVATION.

CONCRETE

CONCRETE WORK SHALL COMPLY, IN GENERAL, WITH ACI 301 (LATEST EDITION) "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.

CONCRETE MIXES: CONCRETE MIXES SHALL CONFORM ACI 318 CH. 5. MINIMUM CONCRETE STRENGTH F'C AT 28 DAYS SHALL BE AS FOLLOWS:
SLAB-ON-GRADE, CURBS AND PADS – 2500 PSI
FOOTINGS – 3000 PSI
WALLS, STEMS – 3000 PSI

WATER/CEMENT RATIO SHALL BE MEASURED BY WEIGHT AND SHALL BE BASED ON THE TOTAL CEMENTITIOUS MATERIAL. WATER/CEMENT RATIO SHALL BE DETERMINED BY THE SUPPLIER BASED ON STRENGTH REQUIREMENTS AND SHALL NOT EXCEED 0.55. WATER-REDUCING ADMIXTURES MAY BE INCORPORATED IN CONCRETE MIX DESIGNS, BUT SHALL CONFORM TO ASTM C 464 AND BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CACL AND OTHER WATER-SOLUBLE CHLORIDE ADMIXTURES SHALL NOT BE USED.

REINFORCING STEEL: ALL REINFORCING SHALL BE DEFORMED BAR (REBAR) WITH BAR DIAMETERS SPECIFIED IN THESE DRAWINGS AND PROPERTIES BELOW:
ALL REINFORCING UNLESS NOTED OTHERWISE – ASTM A615, GRADE 60
#3 STIRRUPS AND TIES – ASTM A615, GRADE 40
WELDED REBAR – ASTM A706, GRADE 60
GALVANIZED WELDED WIRE FABRIC – ASTM A165

REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

REINFORCING STEEL SHALL BE LAPPED AS NOTED ON THE DRAWINGS. WHERE LAP LENGTH IS NOT SHOWN, REINFORCING BARS SHALL BE LAPPED AS FOLLOWS:
#5 AND SMALLER – 48 BAR DIAMETERS
#6 AND LARGER – 60 BAR DIAMETERS

MINIMUM CONCRETE COVER OVER REINFORCING SHALL BE AS FOLLOWS:
NONSTRUCTURAL SLAB-ON-GRADE – MID-DEPTH
WALL BARS: INTERIOR FACE – 3/4"
EXPOSED TO EARTH/WEATHER – 1-1/2" (#5 AND SMALLER), 2" (#6 AND LARGER)
FOOTINGS: BOTTOM BARS – 3" (CAST AGAINST EARTH)
TOP BARS – 1-1/2"
SIDE BARS – 2"

PROVIDE SUPPORTS AS REQUIRED FOR PROPER ALIGNMENT AND CONCRETE COVER AROUND THE REINFORCEMENT. CONSULT THE CRSI MANUAL OF STANDARD PRACTICE MSP-1 FOR SPECIFIC INFORMATION.

DRYPACK

DRYPACK SHALL BE 5,000 PSI NON-SHRINK GROUT, FIVE STAR OR EQUIVALENT. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED.

ANCHORS

USE OF DRILLED CONCRETE ANCHORS, INCLUDING EXPANSION BOLTS AND ADHESIVE ANCHORS, WHERE NOT SPECIFIED IN THESE DOCUMENTS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER, ARCHITECT AND THE BUILDING INSPECTOR

EXPANSION BOLTS: EXPANSION BOLTS IN SOLID CONCRETE SHALL BE WEDGE-TYPE ANCHORS MADE OF CARBON STEEL. BOLT SIZE, SPACING AND EMBEDMENT LENGTH SHALL BE AS DESIGNATED IN THESE DRAWINGS. BOLTS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS WITH INSPECTION PER SCHEDULE. EXPANSION BOLTS SHALL BE SIMPSON STRONG BOLT 2 OR APPROVED EQUAL. A CURRENT ICBO OR ICC REPORT SHALL BE SUBMITTED FOR ALTERNATES.

ADHESIVE ANCHORS: ADHESIVE OR EPOXY TYPE ANCHORS IN SOLID CONCRETE SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. ANCHOR SIZE, SPACING AND EMBEDMENT LENGTH SHALL BE AS DESIGNATED IN THESE DRAWINGS. ADHESIVE SHALL BE SIMPSON SET 3G. A CURRENT ICBO OR ICC REPORT SHALL BE SUBMITTED FOR ALTERNATES.

THREADED RODS SHALL BE CONFORM WITH F1554, GRADE 55. DOWELS SHALL CONFORM WITH ASTM A615, GRADE 60. ALL ADHESIVE (EPOXY) BOLTS SHALL HAVE I.C.C. RATING FOR MATERIAL INTO WHICH INSTALLATION TAKES PLACE. ANCHORS AT EXTERIOR LOCATIONS SHALL BE HOT DIPPED GALVANIZED.

WOOD

SAWN LUMBER: STRUCTURAL SAWN LUMBER SHALL BE KILN DRIED AND BE OF THE SPECIES AND GRADE NOTED BELOW OR BETTER:

USE	GRADE	FB (PSI)
WALL STUDS	HEM FIR STUD	675
PLATES, PLANKS, JOISTS, RAFTERS	HEM FIR #2	850
6X BEAMS	DOUG FIR #2	875
6X BEAMS	HEM FIR #2	675
6X POSTS	HEM FIR #2	575
4X POSTS	HEM FIR #2	850

GLUED LAMINATED MEMBERS: GLUED LAMINATED MEMBERS SHALL EACH BEAR AN AITC IDENTIFICATION MARK AND BE ACCOMPANIED BY AN AITC CERTIFICATE OF CONFORMANCE. ONE COAT OF END SEALER SHALL BE APPLIED IMMEDIATELY AFTER TRIMMING EITHER SHOP OR FIELD. MEMBERS SHALL BE VISUAL GRADED WESTERN SPECIES INDUSTRIAL, ARCHITECTURAL OR PREMIUM GRADE WITH STRENGTH AS FOLLOWS:

SYMBOL SPECIES	FB (PSI)	E (PSI)
GLB 24F-V4 DF/DF	2400/1850 psi	1,800,000

ALL WOOD CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG TIE COMPANY (OR APPROVED EQUAL), AND OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. ALL WOOD CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE TRIPLE ZINC G-185 GALVANIZED (1.85 OZ/SQ FT COATING).

MINIMUM WOOD NAILING REQUIREMENTS: UNLESS OTHERWISE NOTED ON THE DRAWINGS, TYPICAL WOOD FRAMING SHALL BE FASTENED PER IBC 2018 TABLE 2304.10.1.

RATED SHEATHING: STRUCTURAL PANELS SHALL BEAR THE APA TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. SHEATHING SHALL BE AS FOLLOWS:
SHEAR WALL SHTG MIN. 7/16" 32/16 MIN. C-D INT APA WITH EXTERIOR GLUE (CDX)
ROOF SHTG MIN. 15/32" 32/16 MIN. C-D INT APA WITH EXTERIOR GLUE (CDX)
SUB FLOOR SHTG MIN. 3/4" 48/24 T&G MIN. C-D INT APA WITH EXTERIOR GLUE (CDX)

SHEATHING SHALL BE ORIENTATED OVER THE SUPPORTS AS SHOWN ON THE DRAWINGS. SHEAR WALL SHEATHING SHALL BE BLOCKED AT ALL PANEL EDGES AS SHOWN IN THE SHEAR WALL SCHEDULE.

PREMANUFACTURED OPEN WEB WOOD TRUSSES: TRUSSES SHALL BE DESIGN BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON, WHO IS REGULARLY ENGAGED IN THE DESIGN OF PLATE-CONNECTED WOOD TRUSSES. TRUSS DESIGN SHALL BE ACCORDANCE WITH IBC SECTION 2303.4.

TRUSSES SHALL BE DESIGN FOR THE FOLLOWING DEAD LOADS:

	TOP CHORD	BOTTOM CHORD	TOTAL
ROOF TRUSSES	15 PSF	5 PSF	20 PSF

IN ADDITION TO DEAD LOADS, THE DESIGN SHALL INCLUDE THE LIVE, WIND, SNOW AND SNOW DRIFT LOADS AS IDENTIFIED IN THE "DESIGN LOADS" SECTION OF THESE DRAWINGS. IN ADDITION, THE TRUSS DESIGN SHALL INCLUDE CONCENTRATED AND AXIAL LOADS SHOWN ON FRAMING PLANS AND HANGER SCHEDULES IN THESE DRAWINGS. ROOF TRUSSES SHALL BE DESIGNED FOR WIND NET UPLIFT OF 10 PSF UNLESS OTHERWISE NOTED ON THE DRAWINGS. FLOOR TRUSSES SHALL BE DESIGN FOR MAXIMUM LIVE LOAD DEFLECTION = 1/2" AND MINIMUM LIVE LOAD DEFLECTION RATIO = L/480.

TRUSSES SHALL BE FABRICATED BY A MANUFACTURER WHO IS A MEMBER OF THE TRUSS PLATE INSTITUTE. TRUSSES SHALL BE SUPPLIED WITH THE PROPER HANGERS, END CONNECTIONS, BRIDGING, BRACING TO PROVIDE LATERAL STABILITY OF ALL TRUSS MEMBERS, AND TIE-DOWN CONNECTIONS TO BEAMS AND TOPS OF WALLS. TRUSSES SHALL BE SUPPLIED WITH TAPERED HARDWOOD SHIMMING SO THAT EVERY CHORD BEARS ON THE FULL WIDTH OF EVERY SUPPORT, WITHOUT NOTCHING THE TRUSS MEMBERS. THE TRUSS MANUFACTURER IS RESPONSIBLE FOR ENSURING THE BEARING SEAT DOES NOT EXCEED THE SILL PLATE CAPACITY OF THE SUPPORTING ELEMENT.

BUILDING OFFICIAL INSPECTIONS

THE FOLLOWING RECOMMENDED MINIMUM ITEMS SHALL BE INSPECTED BY A QUALIFIED INDIVIDUAL PROVIDED BY THE BUILDING OFFICIAL:
-FOOTINGS BEAR ON COMPETENT NATIVE SOIL PER THE "FOUNDATIONS" SECTION ABOVE
-FOOTING REINFORCEMENT
-SHEAR WALL SILL PLATE ANCHORS AND WASHERS PER SCHEDULE
-SHEAR WALL NAILING AND SHEAR CLIPS PER SCHEDULE
-SHEAR WALL HOLD-DOWNS
-VERIFY TYPE, SIZE AND GRADE OF STRUCTURAL STEEL MEMBERS AND BOLTS

SHEET INDEX

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S2.0 FOUNDATION PLANS
S2.1 FLOOR FRAMING PLANS
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S3.0 TYPICAL STRUCTURAL DETAILS
S3.1 TYPICAL STRUCTURAL DETAILS
S3.2 TYPICAL STRUCTURAL DETAILS
S3.3 SHEAR WALL DETAILS
S3.4 TYPICAL STRUCTURAL DETAILS

ROOF

	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
1.	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 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 (2 1/2" x 0.131") 2-3" x 0.131" nails 2-3"14 gage staples	**Each end, toenail**
		2-16 d common (3 1/2" x 0.162") 3-3" x 0.131" nails 3-3" 14 gage staples	End nail
	Flat blocking to truss and web filler	16d common (3 1/2" x 0.162") @ 6" o.c. 3" x 0.131" nails @ 6" o.c. 3" x 14 gage staples @ 6" o.c	Face nail
2.	Ceiling joists to top plate	3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Each joist, toenail
3.	Ceiling joist not attached to parallel rafter, laps over partitions (no thrust) (see Section 2308.7.3.1, Table 2308.7.3.1)	3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Face nail
4.	Ceiling joist attached to parallel rafter (heel joint) (see Section 2308.7.3.1, Table 2308.7.3.1)	Per Table 2308.7.3.1	Face nail
5.	Collar tie to rafter	3-10d commom (3" x 0.148"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Face nail
6.	Rafter or roof truss to top plate (See Section 2308.7.5, Table 2308.7.5)	3-10 common (3" x 0.148"); or 3-16d box (3 1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131 nails; or 4-3" 14 gage staples, 7/16" crown	Toenail [c]
7.	Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam	2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown; or	End nail
		3-10d common (3 1/2" x 0.148"); or 3-16d box (3 1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Toenail

WALL

8.	Stud to stud (not at braced wall panels)	16d common (3 1/2" x 0.162")	24" o.c. face nail
		10d box (3" x 0.128"); or 3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	16" o.c. face nail
9.	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common (3 1/2" x 0.162"); or	16" o.c. face nail
		16d box (3 1/2" x 0.135"); or	12" o.c. face nail
		3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	12" o.c. face nail
10.	Built-up header (2" to 2" header)	16d common (3 1/2" x 0.162"); or	16" o.c. each edge, face nail
		16d box (3 1/2" x 0.135")	16" o.c. each edge, face nail
11.	Continuous header to stud	4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128")	Toenail
12.	Top plate to top plate	16d common (3 1/2" x 0.162"); or	16" o.c. face nail
		10d box (3" x 0.128"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown	12" o.c. face nail
13.	Top plate to top plate, at end joints	8-16d common (3 1/2" x 0.162"); or 12-10d box (3" x 0.128"); or 12-3"x 0.131" nails; or 12-3" 14 gage staples, 7/16" crown	Each side of end joint, face nail (minimum 24" lap splice length each side of end joint)
14.	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3 1/2" x 0.162"); or	16" o.c. face nail
		16d box (3 1/2" x 0.135"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown	12" o.c. face nail
15.	Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common (3 1/2" x 0.162"); or 3-16d box (3 1/2" x 0.135"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	16" o.c. face nail
16.	Stud to top or bottom plate	4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown; or	Toenail
		2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	End nail
17.	Top plates, laps at corners and intersections	2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Face nail
18.	1" brace to each stud and plate	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-3" x 0.131" nails; or 2-3" 14 gage staples, 7/16" crown	Face nail
19.	1" x 6" sheathing to each bearing	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128")	Face nail
20.	1" x 8" and wider sheathing to each bearing	2-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128")	Face nail

WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING[a]

			Edges (inches)	Intermediate supports (inches)
30.	3/8" - 1/2"	6d common or deformed (2" x 0.113") (subfloor and wall)	6	12
		8d box or deformed (2 1/2" x 0.113") (roof)	6	12
		2 1/2" x 0.113" nail (subfloor and wall)	6	12
		1 1/2" 16 gage staple, 7/16" crown (subfloor and wall)	4	8
		2 1/2" x 0.113" nail (roof)	4	8
		1 1/2" 16 gage staple, 7/16" crown (roof)	3	6
31.	19/32" - 3/4"	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113")	6	12
		2 1/2" x 0.113" nail; or 2" 16 gage staple, 7/16" crown	4	8
32.	7/8" - 1 1/4"	10d common (3" x 0.148"); or 8d deformed (2 1/2" x 0.131")	6	12

OTHER EXTERIOR WALL SHEATHING

33.	1/2" fiberboard sheathing[b]	1 1/2" galvanized roofing nail (7/16" head diameter); or 1 1/2" 16 gage staple with 7/16" or 1" crown	3	6
34.	25/32" fiberboard sheathing[b]	1 1/2" galvanized roofing nail (7/16" diameter head); or 1 1/2" 16 gage staple with 7/16" or 1" crown	3	6

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING

			Edges (inches)	Intermediate supports (inches)
35.	3/4" and less	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113")	6	12
36.	7/8" - 1"	8d common (2 1/2" x 0.131"); or 8d deformed (2 1/2" x 0.131")	6	12
37.	3/4" and less	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113")	6	12

PANEL SIDING TO FRAMING

38.	1/2" or less	6d corrosion-resistant siding (1 1/2" x 0.106"); or 6d corrosion-resistant casing (2" x 0.099")	6	12
39.	5/8"	8d corrosion-resistant siding (2 1/2" x 0.128"); or 8d corrosion-resistant casing (2 1/2" x 0.113")	6	12

INTERIOR PANELING

40.	1/4"	4d casing (1 1/2" x 0.080"); or 4d finish (1 1/2" x 0.072")	6	12
41.	3/8"	6d casing (2" x 0.099"); or 6d finish (Panel supports at 24 inches)	6	12

For SI: 1 inch = 25.4 mm.

a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.
b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail.

5/09/2024

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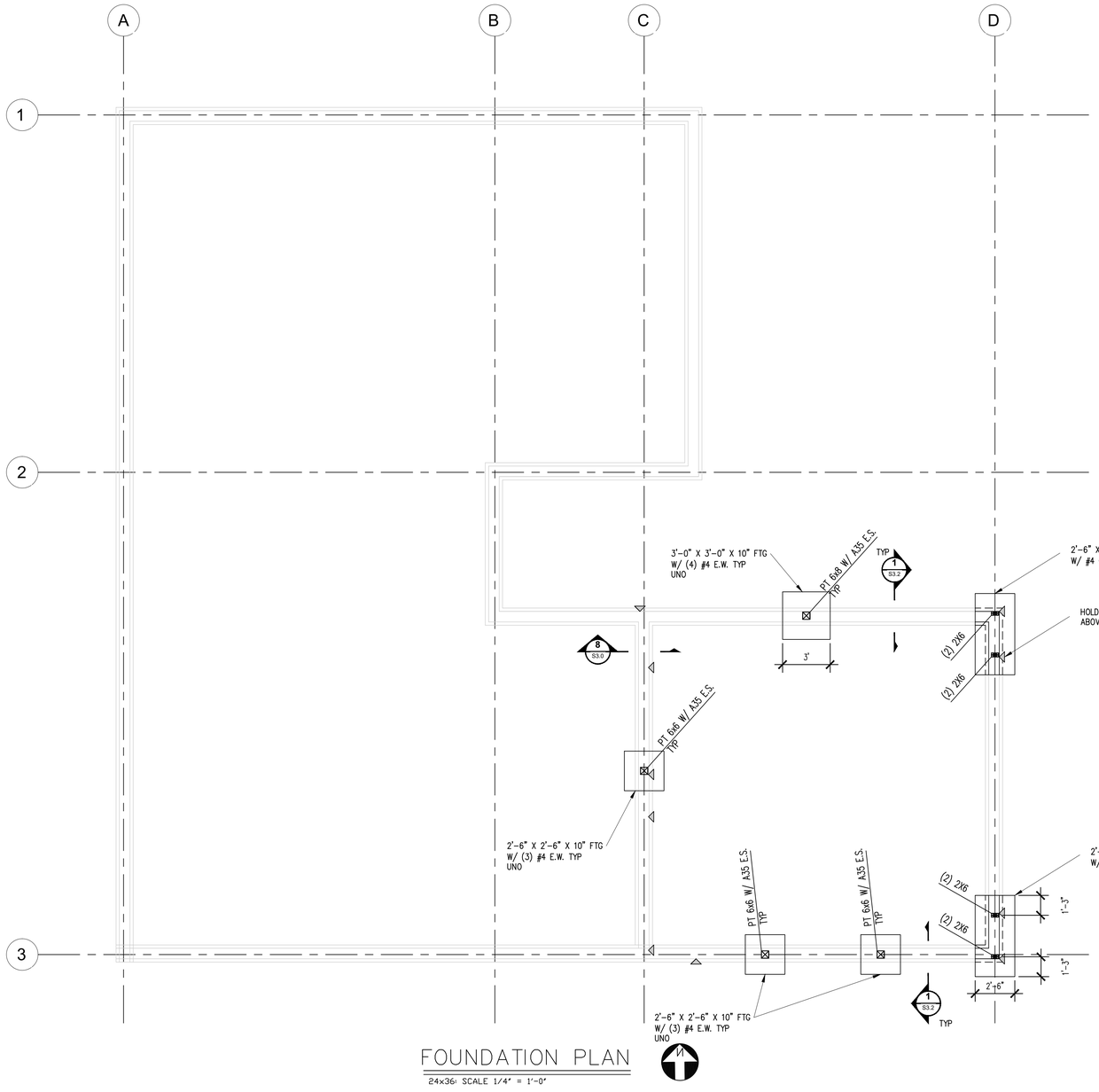
7663 BEI NEW ADDITION

7663 85TH/ PL SE
MERCER ISLAND, WA 98040

JOB # 2024023

REV	DESCRIPTION	DATE

Drawn By:
Drawing Title: STRUCTURAL NOTES
Sheet S1.0



FOUNDATION PLAN

24x36: SCALE 1/4" = 1'-0"

FLOOR PLAN LEGEND

	NEW LOAD BEARING WALL
B-XX	NEW BEAM/HEADER, U.N.O
⊠	NEW POST
△	NEW HOLD-DOWN LOCATION
⊓	NEW HANGER
A / #	INDICATES SHEAR WALL AND HOLD-DOWN TYPE. SEE SCHEDULE ON SHEET S3.3
A / #	FORCE TRANSFER SHEAR WALL SEE DETAIL 6/S3.3
A / #	FORCE TRANSFER SHEAR WALL SEE DETAIL 5/S3.2
	EXISTING WALL TO BE REMOVED
	EXISTING WALL
	EXISTING BEAM/HEADER

PLAN NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. STRUCTURAL DRAWINGS ARE SCHEMATIC. DO NOT SCALE. CONTRACTOR TO PROVIDE TEMPORARY SUPPORT FOR THE DEMOLITION.

2. DIMENSIONS AND LOCATION OF EXISTING FOUNDATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

3. ALL LOAD BEARING WALL WITH OUT SHEAR WALL TYPE SHOULD BE TYPE A.

4. ALL 4" LOAD BEARING WALL SHOULD BE 2X4 HF#2 @ 16" OC.

5. ALL 6" LOAD BEARING WALL SHOULD BE 2X6 HF#2 @ 16"O.C.

6. ALL POST SHALL BE HF#2 U.N.O.

7. ALL BEAM AND HEADER SHOULD BE HF#2 U .N. O.

8. ALL SHEAR WALL DOES NOT LINE UP ABOVE, HOLDOWN SHOULD BE CONTINUOUS AND CONNECTED TO BEAM OR FOUNDATION .

9. All BEAM AT TOP PLATE/WALL CONNECTION SEE DETAIL 5/S3.3.

10. SEE 7/S3.0, 9/S3.0 FOR STAIR CONNECTION

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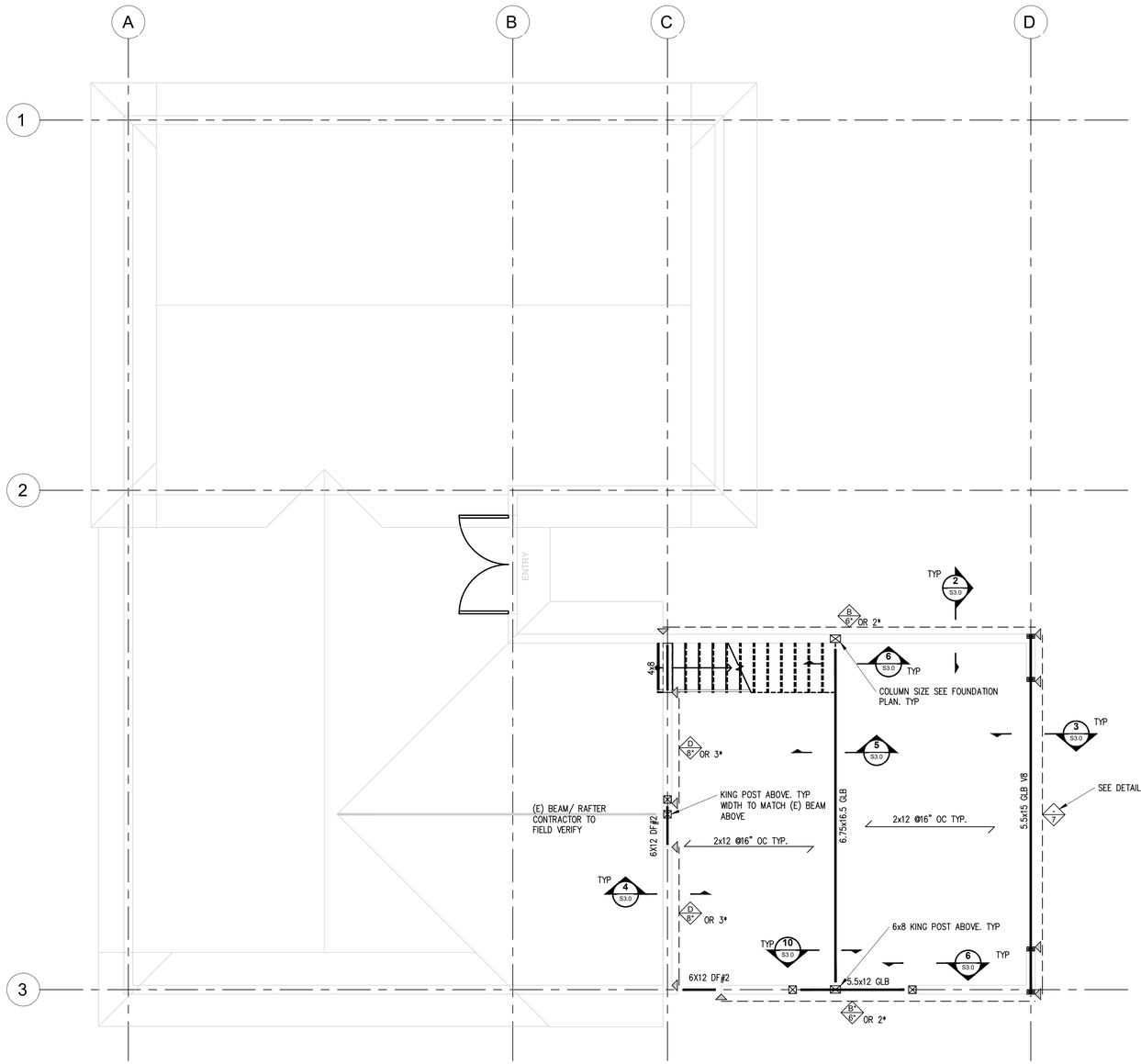
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FOUNDATION PLAN

Sheet

S2.0



FLOOR FRAMING PLAN

24x36 SCALE 1/4" = 1'-0"

FLOOR PLAN LEGEND

	NEW LOAD BEARING WALL
B-XX	NEW BEAM/HEADER, U.N.O
⊠	NEW POST
△	NEW HOLD-DOWN LOCATION
⊢	NEW HANGER
A 6"	INDICATES SHEAR WALL AND HOLD-DOWN TYPE. SEE SCHEDULE ON SHEET S3.3
A 6"	FORCE TRANSFER SHEAR WALL SEE DETAIL 6/S3.3
A 6"	FORCE TRANSFER SHEAR WALL SEE DETAIL 5/S3.2
	EXISTING WALL TO BE REMOVED
	EXISTING WALL
	EXISTING BEAM/HEADER

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9. All BEAM AT TOP PLATE/WALL CONNECTION SEE DETAIL 5/S3.3.

10. SEE 7/S3.0, 9/S3.0 FOR STAIR CONNECTION

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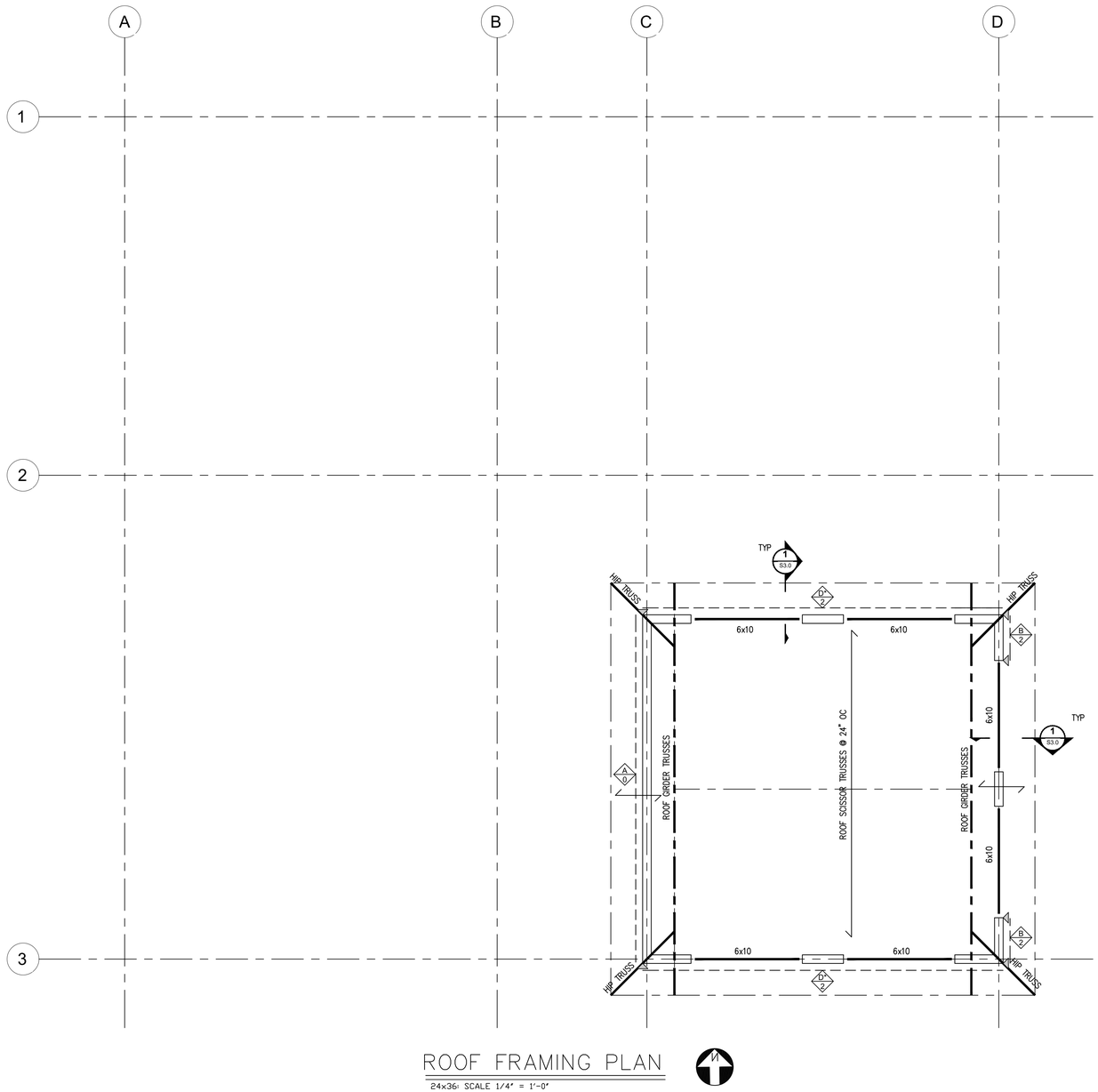
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FLOOR FRAMING PLAN

Sheet
S2.1



ROOF FRAMING PLAN

24×36: SCALE 1/4" = 1'-0"

FLOOR PLAN LEGEND

	NEW LOAD BEARING WALL
B-XX	NEW BEAM/HEADER, U.N.O
⊠	NEW POST
△	NEW HOLD-DOWN LOCATION
⊓	NEW HANGER
X / #	INDICATES SHEAR WALL AND HOLD-DOWN TYPE. SEE SCHEDULE ON SHEET S3.3
X / #'	FORCE TRANSFER SHEAR WALL SEE DETAIL 6/S3.3
X / #"	FORCE TRANSFER SHEAR WALL SEE DETAIL 5/S3.2
	EXISTING WALL TO BE REMOVED
	EXISTING WALL
	EXISTING BEAM/HEADER

PLAN NOTES:

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10. SEE 7/S3.0, 9/S3.0 FOR STAIR CONNECTION

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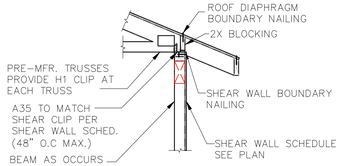
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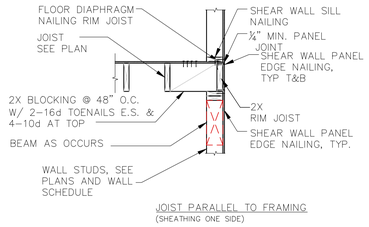
ROOF FRAMING PLAN

Sheet

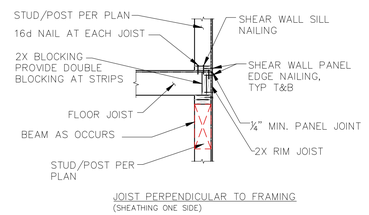
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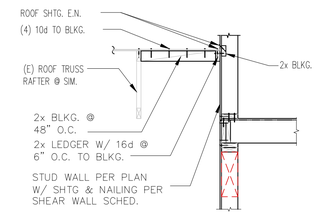
1 S3.0 TYP. TRUSS PERP. TO SHEAR WALL
SCALE: 1/2"=1'-0"



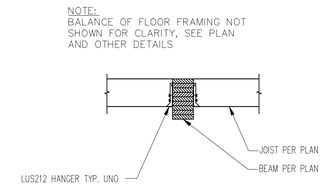
2 S3.0 TYP. EXT. WALL JSTS. PARALLEL
SCALE: 1/2"=1'-0"



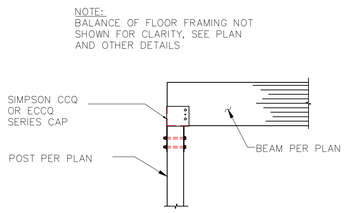
3 S3.0 TYP. EXT. WALL JST. PERP.
SCALE: 1/2"=1'-0"



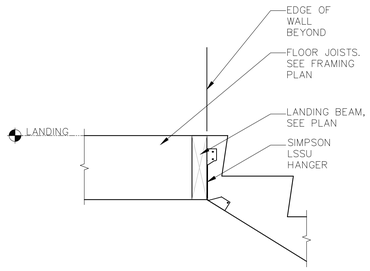
4 S3.0 (E) TRUSS/RAFTER CONNECTION
SCALE: 3/4"=1'-0"



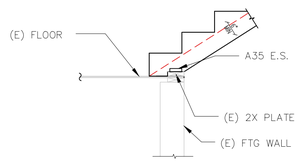
5 S3.0 TYP. JOIST TO BEAM CONNECTION
SCALE: 3/4"=1'-0"



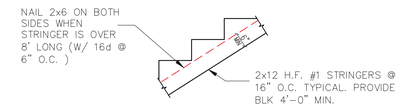
6 S3.0 TYP. COL TO GLB/PSL/LVL END CONN.
SCALE: 1/2"=1'-0"



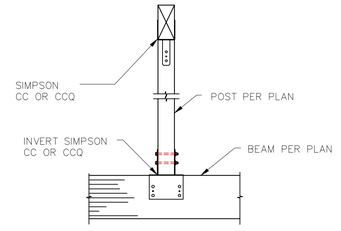
7 S3.0 TYP. STAIR AT LANDING
SCALE: 1/2"=1'-0"



8 S3.0 TYP. STRINGER AT LANDING
SCALE: 3/4"=1'-0"



9 S3.0 TYP. STRINGER SECTION
SCALE: 3/4"=1'-0"



10 S3.0 TYP. POST TO BEAM CONN.
SCALE: 1/2"=1'-0"

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5/12/2024

7663 BEI NEW ADDITION

7663 85TH/ PL SE
MERCER ISLAND, WA 98040

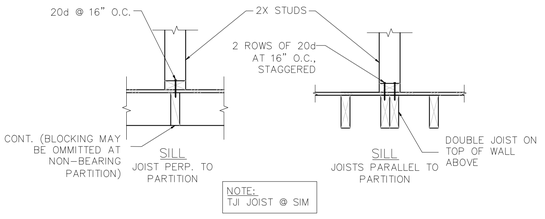
JOB # 2024023

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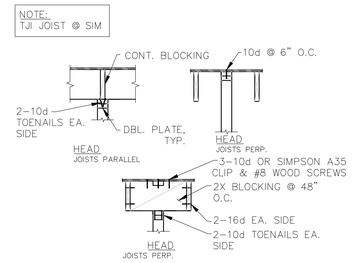
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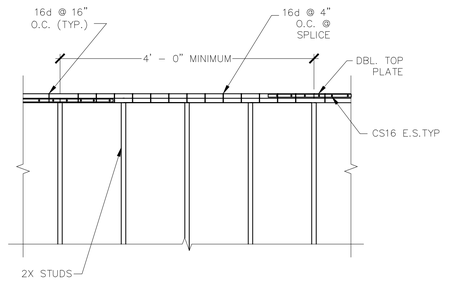
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S3.0



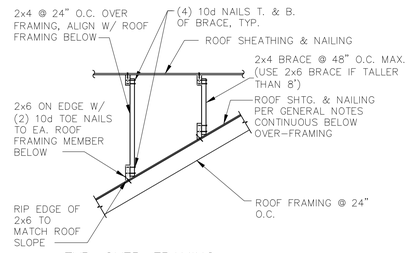
1 TYP. JOIST FRAMING AT NON-LOAD BEARING STUD WALLS
SCALE: 1/2"=1'-0"



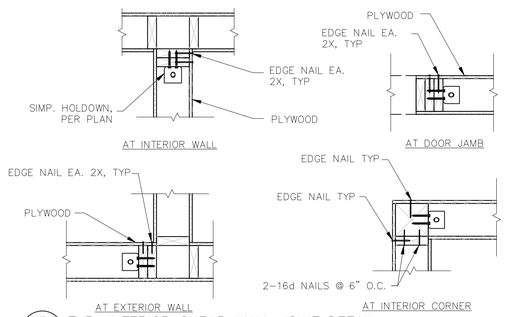
2 TYP. JOIST FRAMING AT STUD WALLS
SCALE: 1/2"=1'-0"



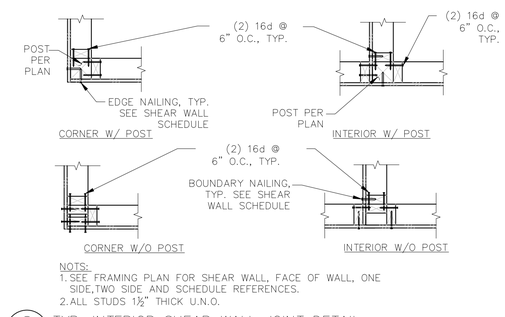
3 TYP. TOP PLATE SPLICE
SCALE: 1/2"=1'-0"



4 TYP. OVER-FRAMING PERP. TO ROOF FRAMING
SCALE: 3/4"=1'-0"

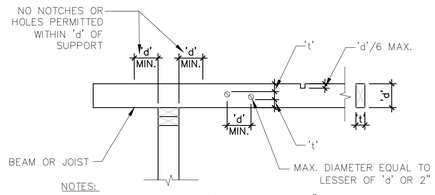


5 TYP. INTERIOR SHEAR WALL JOINT DETAIL
SCALE: 1/2"=1'-0"



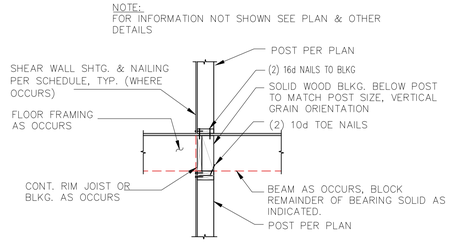
NOTS:
1. SEE FRAMING PLAN FOR SHEAR WALL, FACE OF WALL, ONE SIDE,TWO SIDE AND SCHEDULE REFERENCES.
2. ALL STUDS 1½" THICK U.N.O.

6 TYP. INTERIOR SHEAR WALL JOINT DETAIL
SCALE: 1/2"=1'-0"



NOTES:
1. HOLES & NOTCHES NOT PERMITTED FOR d=4" OR LESS
2. NOTCHES NOT PERMITTED WITHIN MIDDLE THIRD OF SPAN.
3. DO NOT OVER CUT NOTCHES.
4. NOTCHES NOT PERMITTED IN BOTTOM OF MEMBER.

7 TYP. NOTCHES & HOLES IN JOISTS/BEAMS
SCALE: 1/2"=1'-0"



8 TYP. POST @ FLOOR
SCALE: 1/2"=1'-0"

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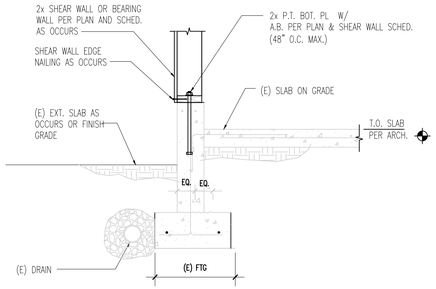
7663 BEI NEW ADDITION

7663 85TH/ PL SE
MERCER ISLAND, WA 98040

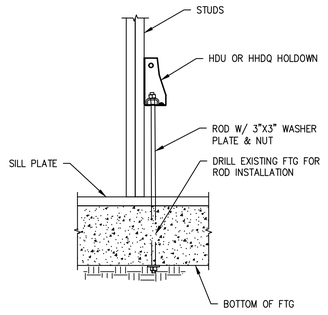
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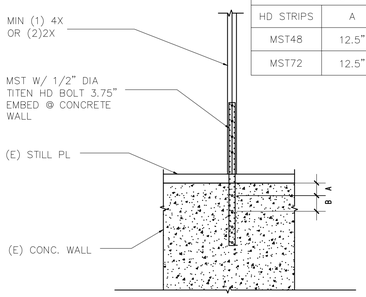
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Drawing Title:
TYPICAL STRUCTURAL DETAILS
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S3.1



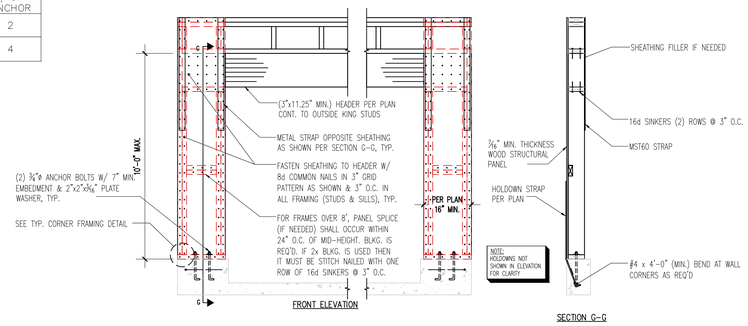
1 S3.2 TYP. (E) EXT. STUD WALL FTG.
SCALE: 3/4"=1'-0"



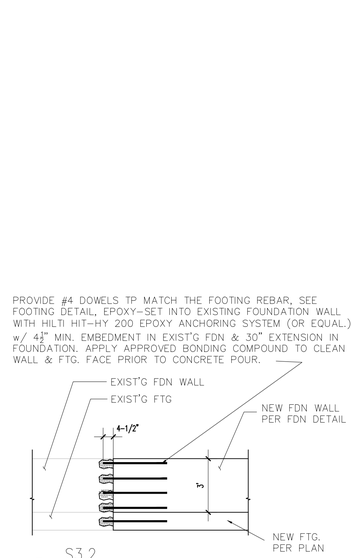


MST STRIPS @ (E) CONCRETE WALL			
HD STRIPS	A	B	# OF ANCHOR
MST48	12.5"	5.25"	2
MST72	12.5"	5.25"	4

5 S3.2 HOLDWODN @ EXISTING WALL FTG
SCALE:



6 S3.2 CS PF WALL DETAILS
SCALE: N.T.S.



7 S3.2 (E) FTG CONNECTION DETAIL
S2.0 SCALE: 1/2"=1'-0"

5/09/2024

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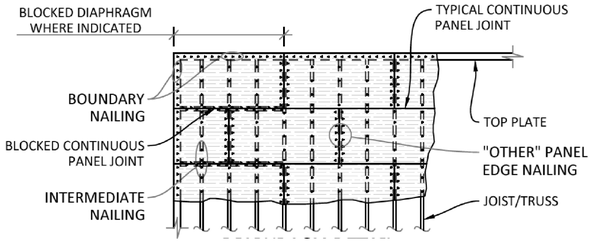
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S3.2



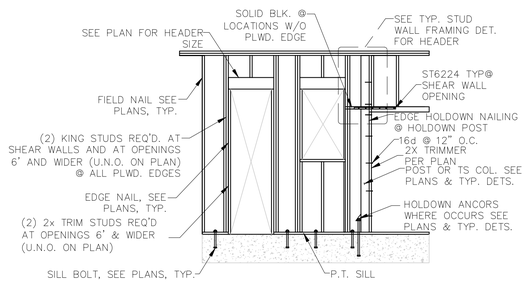
DIAPHRAGM NAILING SCHEDULE

LOCATION	SHEATHING	BLKG REQD	SIZE OF NAIL	NAIL SPACING AT BOUNDARIES AND "OTHER" PANEL EDGES	NAIL SPACING AT INTERMEDIATE FRAMING MEMBERS	NAIL SPACING AT BLOCKED PANEL JOINTS
ROOF	SEE STRUCT	NO	10d	6" OC	12" OC	6" OC
SUB-FLR	NOTES	NO	10d & GLUE	4" OC	12" OC	4" OC

NOTE:
*PROVIDE ⅛" GAP @ TYP. PANEL JOINT

DIAPHRAGM NOTES
1. ALL DIAPHRAGM SHEATHING IS TO BE STAGGERED IN THE DIRECTION OF THE PLYWOOD SPAN PER DIAPHRAGM DETAIL
2. PROVIDE BOUNDARY NAILING CONTINUOUS AROUND THE ENTIRE PERIMETER OF THE DIAPHRAGM
3. NAILS SHALL BE COMMON OR GALVANIZED BOX
4. ALL FRAMING MEMBERS SHALL BE 2x MINIMUM NOMINAL WIDTH

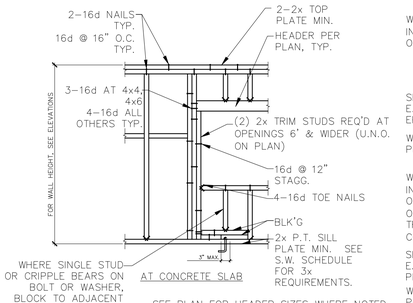
1 TYP. PLY. DIAPHRAGM NAILING
SCALE 1/4" = 1'-0"



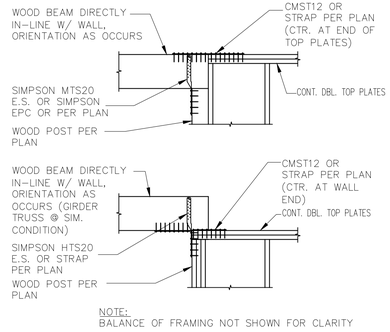
TYP MINIMUM KING STUD AND TRIM			
WIDTH OF OPENING	8'-0"	6'-0"	4'-0"
NUMBER OF TRIMMERS	3	2	1
NUMBER OF KING STUD	4	3	2

NOTES:
1. USE 2x6 AT 16" O.C. AT ALL EXTERIOR WALLS.
2. SEE PLANS FOR SPECIAL FRAMING REQUIREMENTS.
3. HEADER SIZES SHOWN IN SCHEDULES ABOVE ARE MINIMUM HEADER SIZES, SEE PLANS FOR WHERE LARGER HEADER SIZES ARE REQUIRED.
4. IF CALLED OUT STUD HEIGHTS AT ANY GIVEN FLOOR LEVEL EXCEED LIMITATIONS, CONTACT STRUCTURAL ENGINEER FOR CLARIFICATION.
5. TRIMMERS AT 4x4 USE 1-4x4 AND 1-2x4 AND AT 3x4 USE 1-3x4 AND 1-2x4.
6. NAIL TRIMMERS TOGETHER W/ 16d NAILS @ 12" O.C. STAGGERED EACH FACE.
7. SEE PLANS FOR SHEAR WALL FRAMING REQUIREMENTS.

2 TYP. SHEAR WALL FRAMING
SCALE NTS

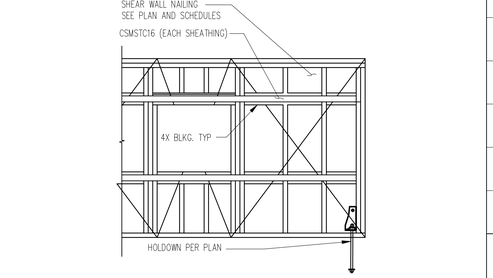


3 TYP. STUD WALL OPENING FRAMING
SCALE NTS



NOTE:
BALANCE OF FRAMING NOT SHOWN FOR CLARITY

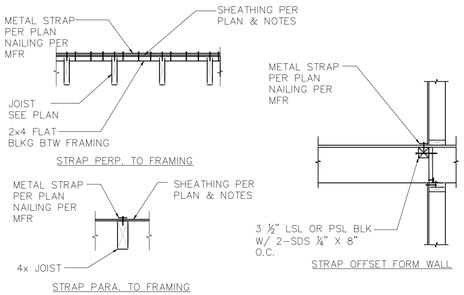
4 TYP. TIE STRAP CONN. DETAILS
SCALE NTS



NOTE:
BALANCE OF FRAMING NOT SHOWN FOR CLARITY

5 TYP. BEAM @ WALL CONNECTION
SCALE NTS

6 TYP. FORCE TRANSFER SHEAR WALL
SCALE NTS



7 TYP. COIL STRAP AT FRAMING
SCALE NTS

SHEAR WALL SCHEDULE

MARK	SHEATHING	SIDE	PANEL NAILING SIZE	PANEL NAILING EDGE	PANEL NAILING FIELD	PANEL BLOCKING	SILL PLATE	ANCHOR BOLTS (MIN. 7" EMBED)	SHEAR CLIP	VALUE (PLF)
A	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	8d	6" O.C.	12" O.C.	2x	2x	5/8" x 10" @ 48" O.C. OR 5/8" X 8" TITEN HD	SIMPSON LTP4/A35 @ 18" O.C.	230
B	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	8d	4" O.C.	12" O.C.	3x	3x (2) 2x	5/8" x 12" @ 42" O.C. OR 5/8" X 8" TITEN HD	SIMPSON LTP4/A35 @ 18" O.C.	380
C	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	8d	3" O.C.	12" O.C.	3x	3x (2) 2x	5/8" x 12" @ 36" O.C. OR 5/8" X 8" TITEN HD	SIMPSON LTP4/A35 @ 16" O.C.	420
D	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	10d	3" O.C.	12" O.C.	3x	3x (2) 2x	5/8" X 12" @ 24" O.C. OR 5/8" X 8" TITEN HD	SIMPSON LTP4/A35 @ 12" O.C.	560
E	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	8d	6" O.C.	12" O.C.	3x	3x (2) 2x	5/8" X 12" @ 32" O.C.	SIMPSON LTP4 E.F. @ 24" O.C.	520
F	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	8d	4" O.C.	12" O.C.	3x	3x (2) 2x	5/8" x 12" @ 24" O.C.	SIMPSON LTP4 E.F. @ 18" O.C.	760
G	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	8d	3" O.C.	12" O.C.	3x	3x (2) 2x	5/8" x 12" @ 16" O.C.	SIMPSON LTP4 E.F. @ 16" O.C.	980
H	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	10d	3" O.C.	12" O.C.	3x	3x (2) 2x	5/8" x 12" @ 12" O.C.	SIMPSON LTP4 E.F. @ 12" O.C.	1,200

NOTES:
1. SOME SHEAR WALLS LISTED MAY NOT BE USED IN THIS PROJECT. REFER TO PLAN FOR TYPES USED.
2. 8d NAIL = 2 1/2" x 0.131" COMMON OR 2 1/2" x 0.113" GALVANIZED BOX.
   10d NAIL = 3" x 0.148" COMMON OR 3" x 0.128" GALVANIZED BOX.
3. IF ANCHOR BOLT SPACING IS GREATER THAN SHEAR WALL LENGTH INSTALL (1) ANCHOR BOLT WITHIN 12" OF EACH END.
4. NAIL SIZES SHOWN ARE FOR COMMON NAILS OR GALVANIZED BOX. POWER DRIVEN NAILS SHALL COMPLY WITH ESR 1539 FOR RECOMMENDED SPACING AND INSTALLATION TO COMPLY WITH THE ABOVE SHEAR WALL SCHEDULE.
5. SILL PLATE ANCHORS SHALL INCLUDE A STEEL PLATE WASHER NOT LESS THAN 0.229"x3"x3" IN SIZE PER AF&PA SDPWS SECTION 4.3.6.4.3. THE HOLE IN THE PLATE WASHER SHALL BE PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 5/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-3/4", PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. THE PLATE WASHER SHALL EXTEND TO WITHIN ½" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.
6. IN SEISMIC DESIGN CATEGORY D, E, OR F, WHERE SHEAR DESIGN VALUES EXCEED 700 POUNDS PER LINEAR FOOT (350 PLF ASD), ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3-INCH NOMINAL MEMBER, OR TWO 2-INCH NOMINAL MEMBERS FASTENED TOGETHER IN ACCORDANCE WITH SECTION 2306.1 TO TRANSFER THE DESIGN SHEAR VALUES BETWEEN FRAMING MEMBERS. WOOD STRUCTURAL PANEL JOINT AND SILL PLATE NAILING SHALL BE STAGGERED IN ALL CASES.
7. WHERE PANELS ARE APPLIED TO BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. ALTERNATIVELY, THE WIDTH OF THE NAILED FACE OF FRAMING MEMBERS SHAL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED.
8. SHEAR WALL NAILING MUST BE INSTALLED SUCH THAT THE NAIL HEAD OR CROWN IS FLUSH WITH THE SURFACE OF SHEATHING. OVERDRIVEN OR OVER PENETRATED NAILS WILL NOT BE ALLOWED OR COUNTED AS APPROPRIATE NAILING.

SHEAR WALL SCHEDULE
SCALE NTS

HOLDOWN SCHEDULE

MARK	HOLDOWN	WOOD MEMBER	WOOD FASTENER	ANCHOR BOLT	ANCHOR BOLT EMBEDMENT (IN)	COMMENTS SEE NOTES BELOW	VALUE (LBS)
0	NONE REQUIRED						
1	SIMPSON MST37	(2) 2x	(22) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED	2,135
2	SIMPSON MST48	(2) 2x	(32) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED	3,425
3	SIMPSON MST72	(2) 2x	(68) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED	6,475
4	SIMPSON CMST12	(1) 4x	(86) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED 39" END LENGTH	9,215
5	SIMPSON LSTHD8 OR LSTHD8RJ	(2) 2x SEE NOTES	(24) 16d SINKERS	N/A	8"	SEE NOTES 1, 2, 3, AND 4 USE (3) 2x AT CORNERS	1,220
6	SIMPSON HDU2-SDS2.5	(2) 2x	(6) SIMPSON SDS SCREWS	5/8" DIA. SIMP. SSTB16	12-5/8"	SEE NOTES 1, 2, 3, AND 4	2215
7	SIMPSON HDU4-SDS2.5	(2) 2x	(14) SIMPSON SDS SCREWS	5/8" DIA. SIMP. SSTB20	16-5/8"	SEE NOTES 1, 2, 3, AND 4	3285
8	SIMPSON HDU5-SDS2.5	(2) 2x	(14) SIMPSON SDS SCREWS	5/8" DIA. SIMP. SSTB24	20-5/8"	SEE NOTES 1, 2, 3, AND 4	4340
9	SIMPSON HDU8-SDS2.5	(1) 4x	(20) SIMPSON SDS SCREWS	7/8" DIA. SIMP. SB7/8x24	18"	SEE NOTES 1, 2, 3, AND 4	5820
10	SIMPSON HHDQ11-SDS2.5	(1) 6x	(24) SIMPSON SDS SCREWS	1" DIA. A307 THREADED ROD	de = 16" W = 48"	SEE NOTES 1, 2, 3, 4 AND 5	8030
11	SIMPSON HHDQ14-SDS2.5	(1) 6x	(30) SIMPSON SDS SCREWS	1" DIA. A307 THREADED ROD	de = 16" W = 48"	SEE NOTES 1, 2, 3, 4 AND 5	12375
12	SIMPSON HDU14-SDS2.5	(1) 6x	(36) SIMPSON SDS SCREWS	1" DIA. A307 THREADED ROD	de = 16" W = 48"	SEE NOTES 1, 2, 3, 4 AND 5	12425

NOTES:
1. DOUBLE STUDS ARE REQUIRED AT HOLDOWNS UNLESS NOTED OTHERWISE. DOUBLE STUDS SHALL BE LAMINATED TOGETHER WITH 16d NAILS AT 6" O.C. FULL HEIGHT (TYPICAL).
2. PROVIDE HOLDOWN NOTED WITHIN 6" FROM EACH END OF EACH SHEAR WALL SHOWN ON PLANS.
3. ADD (2) EXTRA VERTICAL DOWEL WITH STANDARD HOOK IN FOOTING AT EACH ANCHOR BOLT LOCATION.
4. ADJUST FOOTING AND STEM WALL HEIGHT TO ACCOMMODATE ANCHOR BOLT EMBEDMENT REQUIREMENTS.
5. ADJUST FOOTING AND STEM WALL HEIGHT TO ACCOMMODATE ANCHOR BOLT EMBEDMENT REQUIREMENTS.
6. SEE THREADED ROD ANCHOR DETAIL.
7. FOR EXISTING STEM WALL, DRILL AND EPOXY ANCHOR. USE A307 THREADED ROD WITH SIMPSON SET-XP EPOXY. SEE PLANS AND DETAILS FOR REQUIRED EMBEDMENT.
8. ALL HOLDOWN ANCHORS AND BOLTS SHALL BE INSTALLED IN THE CORRECT LOCATION IN THE TOP OF THE CONCRETE WALL AND SECURED TO THE FORMS PRIOR TO CONCRETE INSTALLATION. THERE IS NO PRACTICAL SOLUTION TO POST-INSTALLED HOLDOWN ANCHORS IN THE TOP OF THE 8" CONCRETE STEM WALL. NO EPOXY OR MECHANICAL ANCHOR BOLT ALTERNATIVES WILL BE OFFERED FOR MISSING OR MISPLACED EMBEDDED ANCHORS. CONCRETE FOOTINGS AND STEM WALLS MAY HAVE TO BE REMOVED AT CONTRACTOR'S EXPENSE TO MITIGATE MISPLACED, MISALIGNED, OR MISSING HOLDOWN ANCHORS OR BOLTS.

HOLDOWN SCHEDULE
SCALE NTS

5/09/2024

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STATE OF WASHINGTON
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PROFESSIONAL ENGINEER
5/12/2024

7663 BEI NEW ADDITION

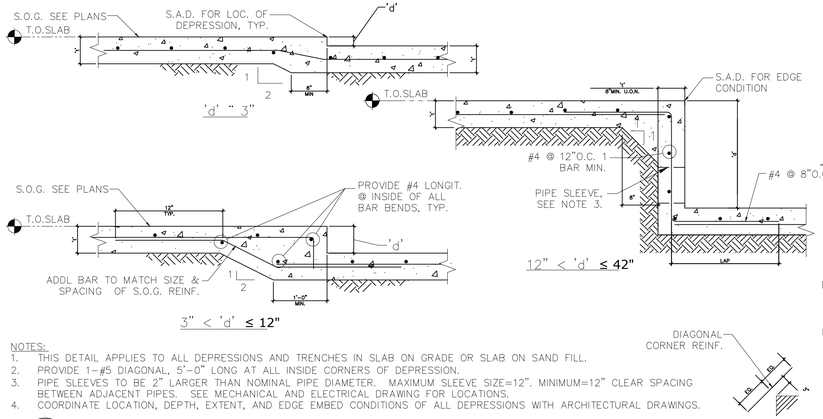
7663 85TH/ PL SE
MERCER ISLAND, WA 98040

JOB # 2024023

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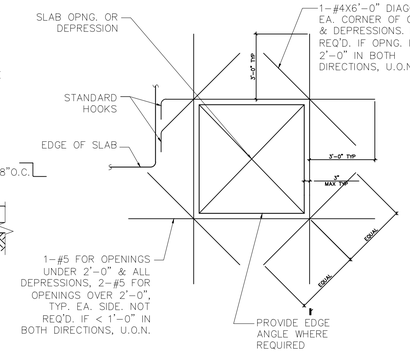
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SHEAR WALL DETAILS

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S3.3

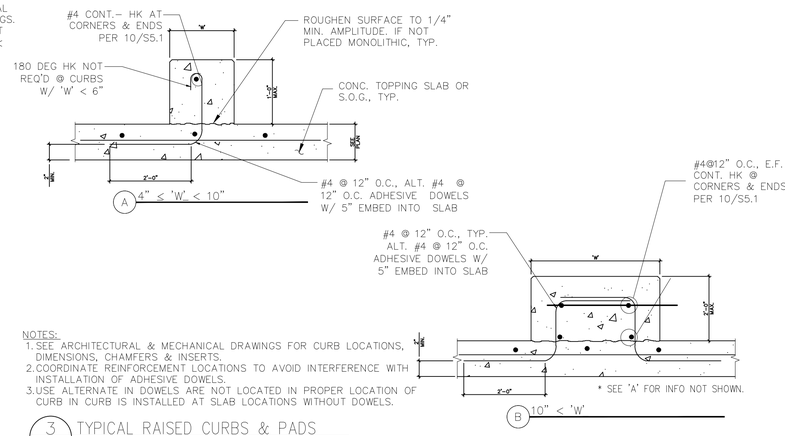


NOTES:
1. THIS DETAIL APPLIES TO ALL DEPRESSIONS AND TRENCHES IN SLAB ON GRADE OR SLAB ON SAND FILL.
2. PROVIDE 1–#5 DIAGONAL, 5'–0" LONG AT ALL INSIDE CORNERS OF DEPRESSION.
3. PIPE SLEEVES TO BE 2" LARGER THAN NOMINAL PIPE DIAMETER. MAXIMUM SLEEVE SIZE=12". MINIMUM=12" CLEAR SPACING BETWEEN ADJACENT PIPES. SEE MECHANICAL AND ELECTRICAL DRAWING FOR LOCATIONS.
4. COORDINATE LOCATION, DEPTH, EXTENT, AND EDGE EMBED CONDITIONS OF ALL DEPRESSIONS WITH ARCHITECTURAL DRAWINGS.

1 SLAB ON GRADE DEPRESSION
SCALE: 1/2"=1'–0"

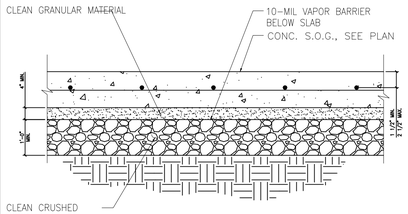


2 SLAB PENETRATION REINFORCING
SCALE: 1/2"=1'–0"



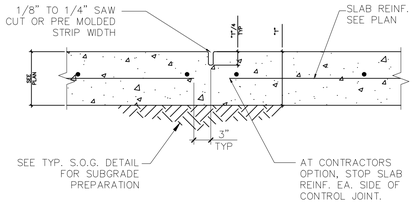
NOTES:
1. SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR CURB LOCATIONS, DIMENSIONS, CHAMFERS & INSERTS.
2. COORDINATE REINFORCEMENT LOCATIONS TO AVOID INTERFERENCE WITH INSTALLATION OF ADHESIVE DOWELS.
3. USE ALTERNATE IN DOWELS ARE NOT LOCATED IN PROPER LOCATION OF CURB IN CURB IS INSTALLED AT SLAB LOCATIONS WITHOUT DOWELS.

3 TYPICAL RAISED CURBS & PADS
SCALE: 1/2"=1'–0"



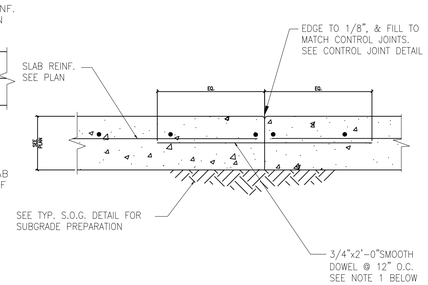
NOTES:
1. SEE GEOTECHNICAL REPORT.
2. SEE SPECIFICATIONS FOR GRANULAR MATERIAL & CRUSHED ROCK.
3. SEE PLANS FOR LOCATIONS OF COLUMN BLOCKOUTS, CONSTRUCTION JOINTS, CONTROL JOINTS AND SLAB DEPRESSIONS.

4 TYP. SUBGRADE PREP. & SLAB ON GRADE DETAIL
SCALE: 1/2"=1'–0"



NOTES:
1. WHEN USED, MAKE SAW CUT AS SOON AS SLAB CAN SUPPORT WEIGHT OF WORKERS & EQUIPMENT WITHOUT DAMAGE TO SLAB FINISH, & CUTS CAN BE MADE WITHOUT DAMAGE TO THE CONCRETE MAKE TRIAL CUTS AS REQUIRED.
2. JOINT TO BE THOROUGHLY CLEANED PRIOR TO FILLING.
3. PROVIDE FILLER MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS & APPLY STRICTLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. FILLER MATERIAL SHALL BE APPLIED WHEN SLAB IS UNDER PERMANENT TEMPERATURE CONTROL, SUCH AS AT THE COMPLETION OF THE BUILDING SHELL, WHENEVER POSSIBLE. IF PERMANENT TEMPERATURE CONTROL IS NOT ESTABLISHED, A MINIMUM OF 90 DAYS AFTER THE COMPLETION OF SLAB CONSTRUCTION SHALL ELAPSE PRIOR TO APPLYING THE JOINT FILLER.

5 CONTROL JOINTS AT SLAB ON GRADE
SCALE: 1/2"=1'–0"



NOTES:
1. BREAK BOND BETWEEN NEW AND PREVIOUSLY POURED SLAB ON GRADE BY SPRAYING OR PAINTING EXPOSED SIDE OF KEY WITH CURING COMPOUND OR FORM OIL.
2. LONG STRIP CONSTRUCTION METHOD SHALL BE USED FOR ALL SLAB ON GRADE, UNLESS OTHERWISE APPROVED BY RESIDENT ENGINEER.
3. SUBGRADE SHALL BE FREE OF STANDING WATER AT TIME OF CONCRETE PLACEMENT.

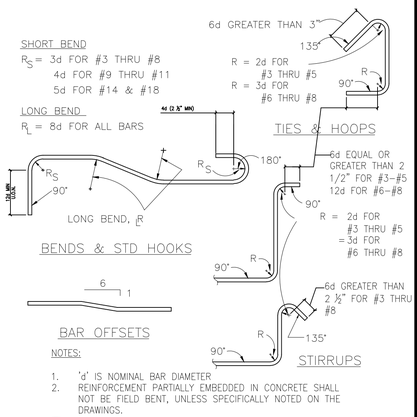
6 CONSTRUCTION JOINTS AT SLAB ON GRADE
SCALE: 1/2"=1'–0"

LAP SPLICE LENGTHS (INCHES)(1,2)
GRADE 60 REINFORCING BARS, NORMAL WEIGHT CONCRETE

BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
f'c'= 3000PSI	TOP BAR (3)	21	28	35	46	62	82	104	132	162
	OTHER BAR	16	21	27	35	48	63	80	101	124
f'c'= 4000PSI	TOP BAR (3)	20	24	30	40	54	71	90	114	140
	OTHER BAR	16	19	23	30	41	55	69	88	108
f'c'= 5000 PSI	TOP BAR (3)	20	22	27	35	48	63	80	102	125
	OTHER BAR	16	17	21	27	37	49	62	79	96

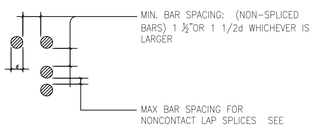
NOTES:
1. LAP SPLICE LENGTHS, WHERE PERMITTED, SHALL BE IN ACCORDANCE WITH THIS TABLE UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE.
2. EMBEDMENT LENGTHS OF DOWELS SHALL BE EQUAL TO LENGTHS FOR "OTHER" BARS.
3. TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

7 REINFORCING LAP SPLICE TABLE
SCALE: NTS



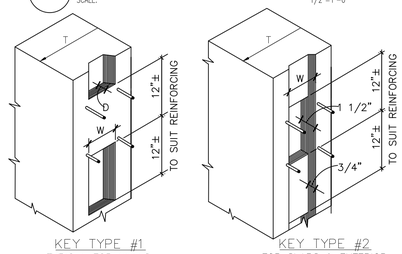
NOTES:
1. 'd' IS NOMINAL BAR DIAMETER
2. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

8 HOOKS AND BENDS
SCALE: NTS



NOTES:
1. COLUMN DOWELS, TYPICAL HORIZONTAL WALL STEEL AND TYPICAL WALL STEEL DOWELS MAY BE WIRED TOGETHER INSTEAD OF SPACING AS SHOWN ABOVE.
2. CLEAR DISTANCE LIMITATION BETWEEN BARS SHALL APPLY ALSO TO THE CLEAR DISTANCE BETWEEN A CONTACT LAP SPLICE AND ADJACENT SPLICES OF BARS.
3. BARS SPLICED BY NONCONTACT LAP SPLICES SHALL NOT BE SPLICED TRANSVERSELY FURTHER APART THAN ONE–FIFTH THE REQUIRED LAP SPLICE LENGTH, NOR 6".

9 BAR SPACING & SLAB ON GRADE DETAIL
SCALE: NTS

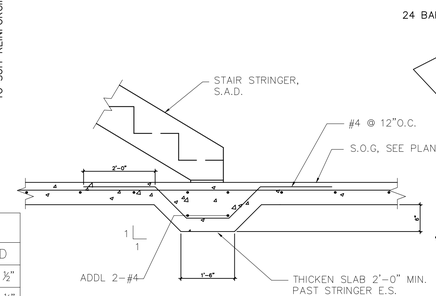


KEY SCHEDULE

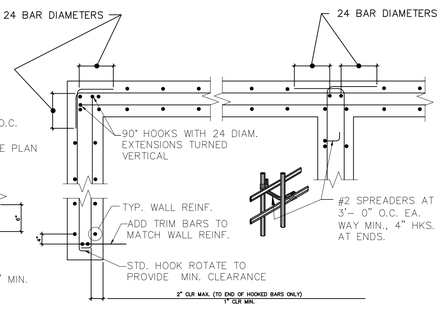
T	W	D	T	W	D
EQUAL LESS THAN 6" WALL OR SLAB	'T'	1 ½"	13"	7 ¼"	1 ½"
7"	7"	1 ½"	14" TO 16"	9 ¼"	2 ½"
8" TO 12"	5 ½"	1 ½"	18" & OVER	11 ¼"	2 ½"

NOTES:
1. BEFORE PLACING 2ND POUR, ALL SURFACES ARE TO BE ROUGHENED TO ¼" AMPLITUDE & THOROUGHLY CLEANED, SEE SPECIFICATIONS.
2. DETAILS APPLY TO BOTH HORIZONTAL & VERTICAL CONSTRUCTION JOINTS.

10 CONSTRUCTION JOINTS IN WALLS & SLABS
SCALE: 1/2"=1'–0"



11 STAIR STRINGER FOOTING
SCALE: 1/2"=1'–0"



NOTES:
1. WALLS WITH SINGLE CURTAIN OF STEEL SIMILAR TO ABOVE WITH HORIZONTAL HOOKS AT CORNERS ONLY.
2. SPLICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED.

12 WALL DETAIL REINF. @ CORNERS & INTER.
SCALE: NTS

5/09/2024

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PROFESSIONAL ENGINEER
9/12/2024

7663 BEI NEW ADDITION

7663 85TH/ PL SE
MERCER ISLAND, WA 98040

JOB # 2024023

REV	DESCRIPTION	DATE

Drawn By:
Drawing Title:
TYPICAL STRUCTURAL DETAILS
Sheet
S3.4