BEFORE THE HEARING EXAMINER OF THE CITY OF MERCER ISLAND

IN RE: NOTICE OF DECISION: FILE NO. 2207-019 DANIEL GROVE, Appellants, v. CITY OF MERCER ISLAND, Respondent.	Case No. APL23-009 DECLARATION OF DANIEL GROVE IN SUPPORT OF APPELLANT'S MOTION FOR RECONSIDERATION

I, Daniel Grove, declare under penalty of perjury under the laws of the State of Washington as follows:

1. I am a citizen of the United States. I am over the age of eighteen and competent to testify in this matter. I have personal knowledge of the following:

2. Attached as **Exhibit A** is a true and correct copy of a site plan for Building Permit 2205-096, dated May 4, 2022.

3. Attached as **Exhibit B** is a true and correct copy of a revised site plan for Building Permit 2205-096, dated October 19, 2022.

4. Attached as **Exhibit C** is a true and correct copy of a site plan for Building Permit 2210-198, dated July 21, 2023.

5. Attached as **Exhibit D** is a true and correct copy of a site plan for Building Permit 2210-120, dated November 27, 2023.

6. Attached as **Exhibit E** is a true and correct copy of Mr. Grove's Closing Argument, dated May 31, 2024.

Perkins Coie LLP
1201 Third Avenue, Suite 4900
Seattle, Washington 98101-3099
Phone: +1.206.359.8000
Fax: +1.206.359.9000

7. Attached as **Exhibit F** is a true and correct copy of an exchange, dated June 12, 2023, between the City of Mercer Island's ("City") planner regarding the insufficiency of the information that the Applicant, Ms. Dorothy Strand, provided to the City on Building Permit 2201-019.

8. On October 3, 2023, I submitted a Public Records Act request to the City for all records after June 1, 2023 regarding Building Permit 2207-019. The City responded with a small number of documents and deemed the production complete. That production did not include Exhibit F. Later, on March 25, 2024, I submitted a Public Records Act request to the City asking for all records regarding building façades and several aspects of the Mercer Island City Code ("MICC"). The City responded by producing a large number of documents (roughly 1,000), including some documents responsive to my October 3, 2023 request that were previously not produced, such as Exhibit F. 504 of these later produced documents were returned just six days before the May 9, 2024 hearing. Given the number of documents in the City's later production, I was not able to identify Exhibit F until after the May 9, 2024 hearing.

Executed this 20th day of June at Mercer Island, Washington.

DANIEL D. GROVE

_____

Daniel Grove

Perkins Coie LLP
1201 Third Avenue, Suite 4900
Seattle, Washington 98101-3099
Phone: +1.206.359.8000
Fax: +1.206.359.9000

CERTIFICATE OF SERVICE

I hereby certify that I served the foregoing Declaration on the following:

Daniel Grove 3515 72nd Avenue SE Mercer Island, WA 98040 *Appellant*	□First Class, U.S. Mail, Postage Prepaid □Legal Messenger □Overnight Delivery □Facsimile ■E-Mail: dan@grove.cx
Martin Snoey 7145 SE 35th Street Mercer Island, WA 98040 *Appellant*	□First Class, U.S. Mail, Postage Prepaid □Legal Messenger □Overnight Delivery □Facsimile ■E-Mail: mrsnoey@msn.com
Jim and Susan Mattison 7075 SE Maker Street Mercer Island, WA 98040 *Appellants*	□First Class, U.S. Mail, Postage Prepaid □Legal Messenger □Overnight Delivery □Facsimile ■E-Mail: jim@mattison.me susan@mattison.me
Pam Faulkner 7011 SE Maker Street Mercer Island, WA 98040 *Appellant*	□First Class, U.S. Mail, Postage Prepaid □Legal Messenger □Overnight Delivery □Facsimile ■E-Mail: pfaulk9801@gmail.com

to be sent by the following indicated method or methods, on the date set forth below:

- [ ] by **sending via the court's electronic filing system**
- [x] by **email**
- [ ] by **mail**
- [ ] by **hand delivery**

DATED: June 20, 2024

PERKINS COIE LLP

By: */s/ Zachary E. Davison*

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Phone: +1.206.359.8000
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Zachary E. Davison, WSBA No. 47873
ZDavison@perkinscoie.com
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Seattle, Washington 98101-3099
Telephone: +1.206.359.8000
Facsimile: +1.206.359.9000

Attorneys for Appellant Daniel Grove

SITE INFO

OWNER:	- HELIX DESIGN BUILD
ADDRESS:	- 6922 SE 33rd ST. MERCER ISLAND, WA 98040
PARCEL NUMBER:	- 9359100160
JURISDICTION:	- KING COUNTY
ZONE:	- R-8.4
LOT SIZE:	- 10,000# (0.23 ACRES)
LOT COVERAGE:	- MAX. 40% (4,000#)
FRONT SETBACK:	- 20' FROM PROPERTY LINE
REAR SETBACK:	- 25' FROM PROPERTY LINE
SIDE SETBACK:	- 11% OF LOT WIDTH (100'x11% = 11')
HEIGHT LIMIT:	- 20' FROM HIGHEST POINT OF LOT PER COVENANT

LOT COVERAGE CALCULATIONS

MAIN STRUCTURE W/ O.H.	- 3,450#	
DRIVEWAY	- 450#	
TOTAL LOT COVERAGE	- 3,900#	
LOT AREA PROPOSED	- 10,000#	
LOT COVERAGE	- 3,900/10,000	= 39%
MAXIMUM LOT COVERAGE	- 40% (4,000#)	
UNUSED LOT COVERAGE	- 1% (100#)	

HARDSCAPE CALCULATIONS

RETAINING/LANDSCAPE WALLS	- 51#	
HVAC CONCRETE PAD	- 7#	
OUTDOOR LIVING STEPS	- 22#	
TOTAL HARDSCAPE	- 80#	
LOT AREA	- 10,000#	
PROPOSED HARDSCAPE	- 80/10,000	= 0.008%
MAXIMUM HARDSCAPE	- 1% + 9% = 10%	

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000#	= 40% OR 8,000# = MAX. 4,000#
LOWER FLOOR W/ GARAGE & STORAGE	= 792#
MAIN FLOOR	= 2,861#
UPPER FLOOR	= 324#
TOTAL FLOOR AREA	= 3,983#
PROPOSED G.F.A.	= 3,983#

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #21666)

PROVIDE STRAW OR PLASTIC COVER TO ANY EXPOSED SOILS THROUGH OUT THE CONSTRUCTION CYCLE.

LOT SLOPE:
HIGHEST ELEVATION POINT OF LOT (NORTHWEST CORNER): 271.5'
LOWEST ELEVATION POINT OF LOT (SOUTHHEAST CORNER): 255.5'
ELEVATION DIFFERENCE: 15.0'
HORIZONTAL DIFFERENCE BETWEEN HIGH & LOW POINTS: 141.1'
LOT SLOPE: 10.6%

24 HOUR EROSION CONTROL CONTACT INFO:
ERIN JACOBSEN - 206.910.8758

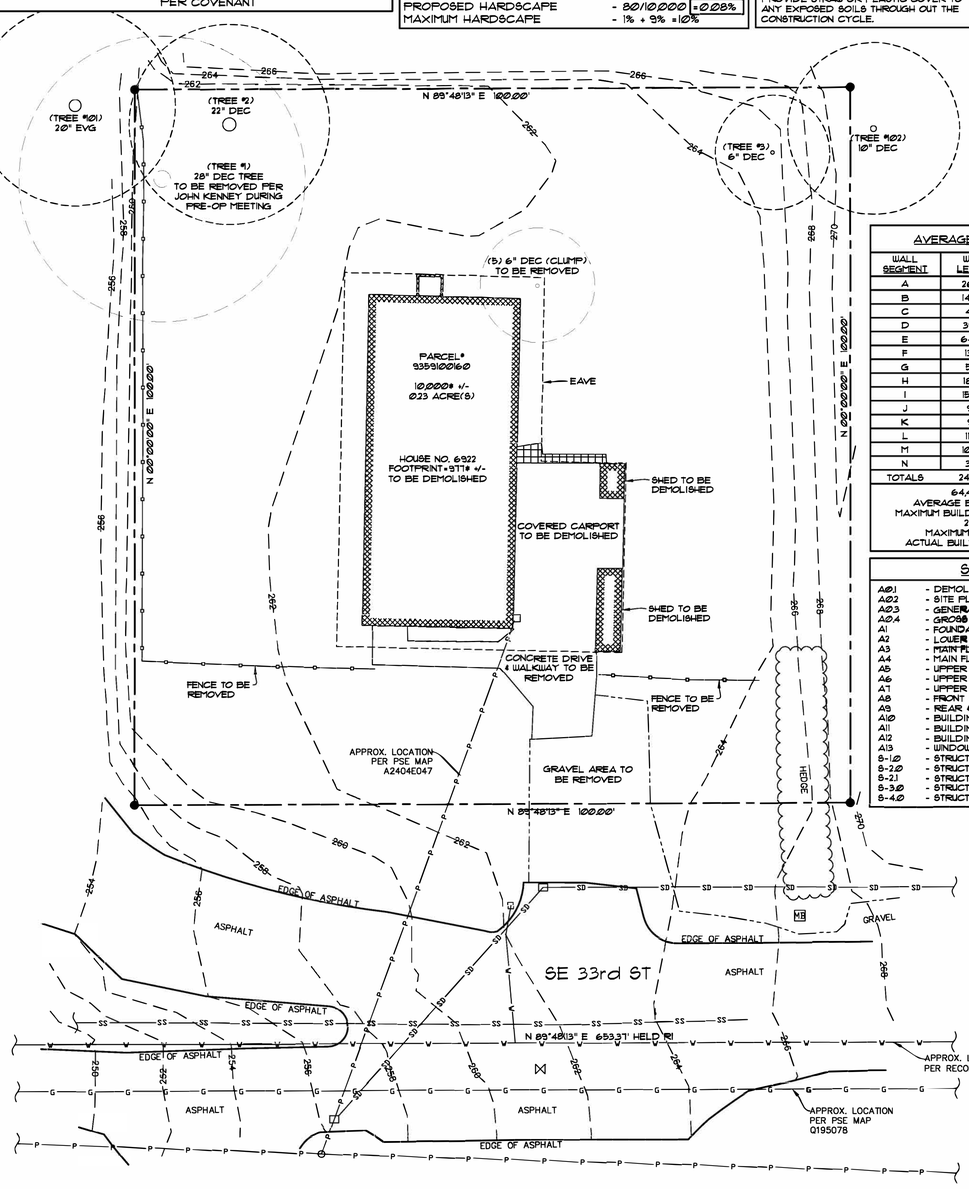
PER MICC 19.07.070(F)(3)(D):
DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION

AVERAGE BUILDING ELEVATION

WALL SEGMENT	WALL LENGTH	MIDPOINT ELEVATION	RESULT
A	26.83'	262.3	7,037.51
B	14.00'	261.8	3,665.2
C	4.42'	261.8	1,157.16
D	39.25'	261.9	10,279.6
E	64.46'	262.2	16,901.4
F	13.25'	262.8	3,482.1
G	5.29'	262.8	1,390.21
H	18.67'	262.9	4,908.34
I	15.00'	262.9	3,943.5
J	9.71'	262.8	2,551.79
K	9.21'	262.7	2,419.47
L	11.67'	262.9	3,068.04
M	10.50'	262.8	2,758.4
N	3.38'	262.7	887.93
TOTALS	245.64'	N/A	64,451.6

64,451.6 / 245.64 = 262.4
AVERAGE BUILDING ELEVATION = 262.4'
MAXIMUM BUILDING HEIGHT = 30' ABOVE A.B.E.
262.4' + 30' = 292.4'
MAXIMUM BUILDING HEIGHT = 292.4'
ACTUAL BUILDING HEIGHT = 26.43' (288.83')

SHEET INDEX

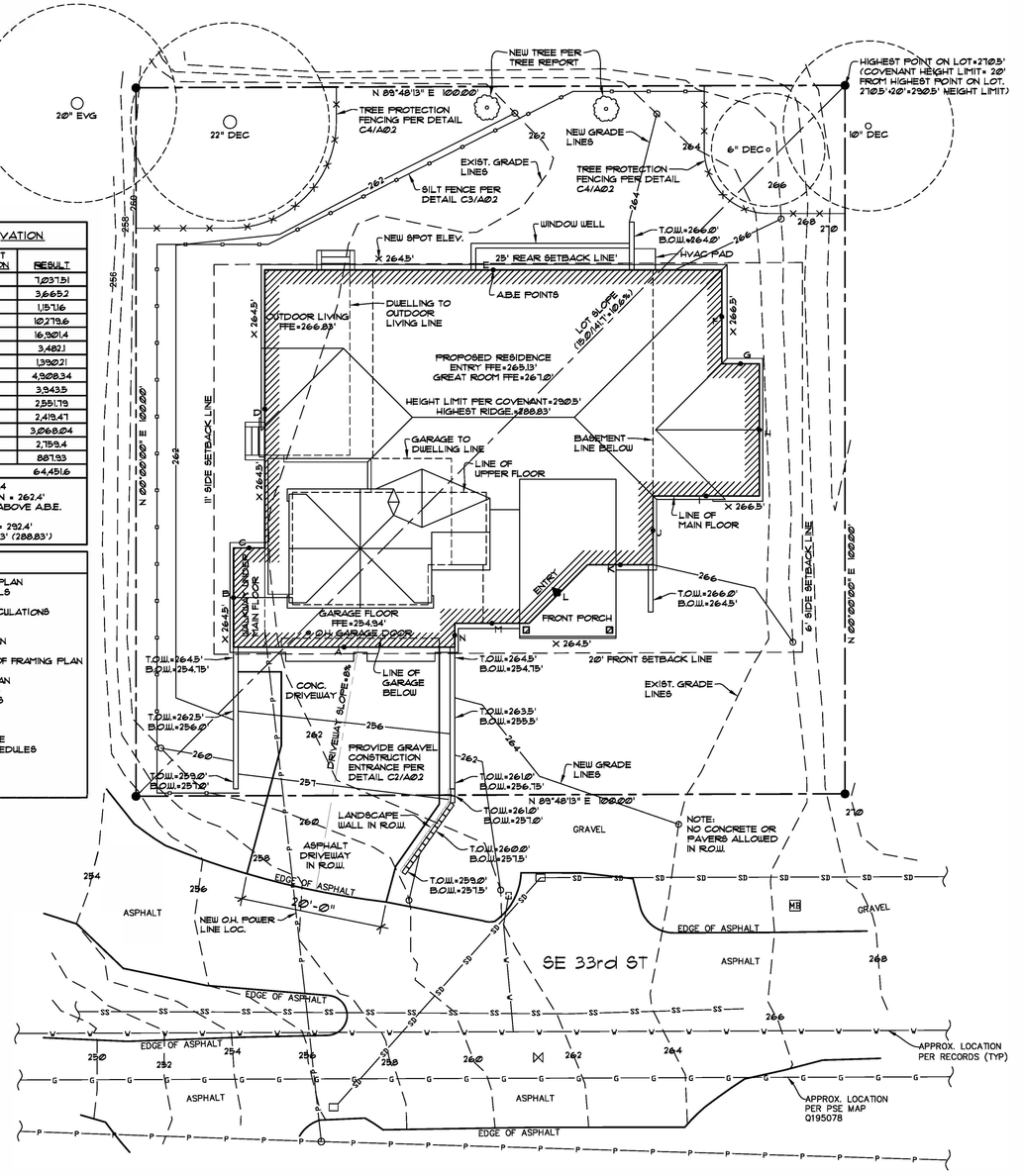


NORTH

DEMOLITION PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040



NORTH

SITE PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

matthew mawer
residential design
matt@mmrd.net
425.417.7817

helix
DESIGN + BUILD
www.helixdesignbuild.com
206.910.8758

HELIX DESIGN BUILD
6922 SE 33rd ST.
MERCER ISLAND, WA 98040

JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED:

SHEET NO.
A0.1

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING# 20211210000582)

LOTS 32, 33, 34 AND 35 IN BLOCK 1 OF WHITE & NOBLES FIRST ADDITION TO EAST SEATTLE, AS PER PLAT RECORDED IN VOLUME 3 OF PLATS, PAGE 104, RECORDS OF KING COUNTY;

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

BASIS OF BEARINGS

N 89°48'13" E BETWEEN SURVEY MONUMENTS FOUND ON CENTERLINE OF SE 32ND ST, PER R1.

REFERENCES

R1. RECORD OF SURVEY, VOL. 210, PG. 079, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER GPS OBSERVATIONS

SURVEYOR'S NOTES

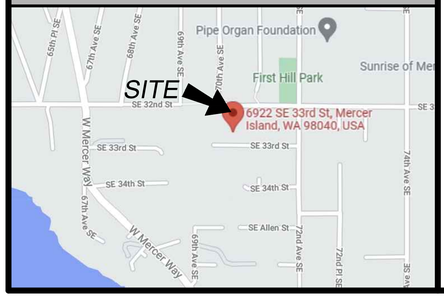
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN FEBRUARY OF 2022. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 9359100160.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,000± S.F. (0.23 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

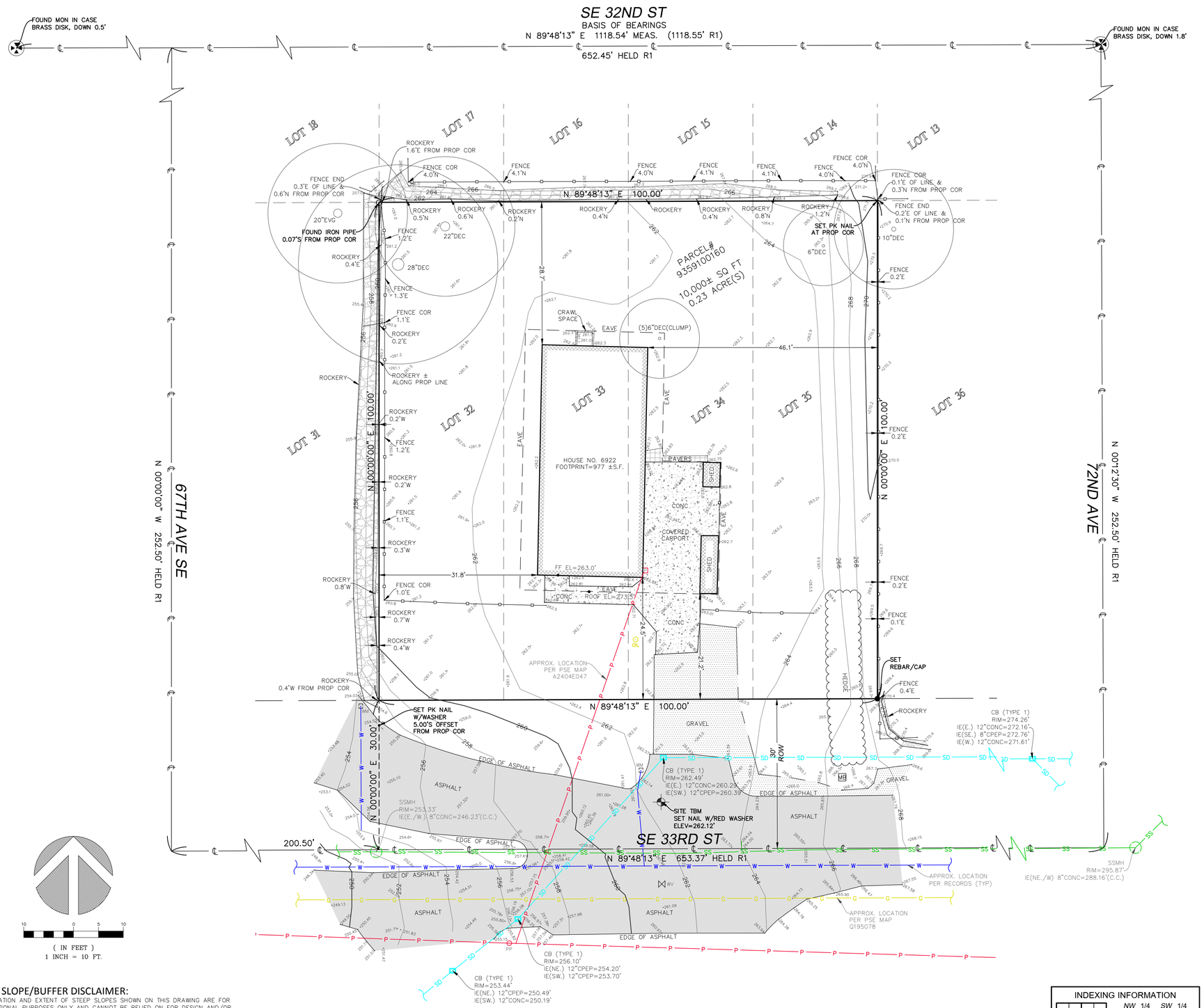
LEGEND

- ASPHALT SURFACE
- BENCHMARK
- BUILDING
- CENTERLINE ROW
- CONCRETE SURFACE
- FENCE LINE (WOOD)
- GAS LINE
- GRAVEL SURFACE
- HEDGE FOLIAGE LINE
- INLET (TYPE 1)
- IP IRON PIPE (FOUND)
- MB MAILBOX (RESIDENTIAL)
- MONUMENT IN CASE (FOUND)
- NAIL AS NOTED
- OIL OIL FILL CAP
- PAVER SURFACE
- P POWER METER
- P POWER (OVERHEAD)
- PP POWER POLE
- RETAINING WALL
- REBAR & CAP (SET)
- ROCKERY
- SS SEWER LINE
- SEWER MAINHOLE
- SD STORM DRAIN LINE
- SIZE TYPE TREE (AS NOTED)
- W WATER LINE
- WM WATER METER
- WV WATER VALVE

VICINITY MAP

N.T.S.





STEEP SLOPE/BUFFER DISCLAIMER:

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

INDEXING INFORMATION

NW 1/4 SW 1/4
SECTION: 12
TOWNSHIP: 24N
RANGE: 04E, W.M.
COUNTY: KING

We are the measure | terrane.net

TOPOGRAPHIC & BOUNDARY SURVEY
PARCEL NO. 9359100160

JACOBSEN RESIDENCE
6922 SE 33RD ST
MERCER ISLAND, WA 98040

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

JOB NUMBER:	212666
DATE:	02/09/2022
DRAFTED BY:	JAK
CHECKED BY:	JGM/DRT
SCALE:	1" = 10'

REVISION HISTORY

SHEET NUMBER
1 OF 1

EROSION/SEDIMENTATION CONTROL - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
A. CONDUCT PRE-CONSTRUCTION MEETING.
B. FLAG OR FENCE CLEARING LIMITS.
C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
H. GRADE AND STABILIZE CONSTRUCTION ROADS.
I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY/COUNTY TESC MINIMUM REQUIREMENTS.
L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

2. CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS CLEAN AND FREE OF CONTAMINANTS AT ALL TIMES AND FOR PREVENTING AN ILLICIT DISCHARGE INTO THE MUNICIPAL STORM DRAIN SYSTEM. IF YOUR CONSTRUCTION PROJECT CAUSES AN ILLICIT DISCHARGE TO THE MUNICIPAL STORM DRAIN SYSTEM, THE CITY/COUNTY STORM MAINTENANCE DIVISION WILL BE CALLED TO CLEAN THE PUBLIC STORM SYSTEM, AND OTHER AFFECTED PUBLIC INFRASTRUCTURE. THE CONTRACTOR(S), PROPERTY OWNER, AND ANY OTHER RESPONSIBLE PARTY MAY BE CHARGED ALL COSTS ASSOCIATED WITH THE CLEAN-UP AND MAY ALSO BE ASSESSED MONETARY PENALTIES. THE MINIMUM PENALTY IS $500. A FINE FOR A REPEAT VIOLATION SHALL BE A MULTIPLIED BY THE NUMBER OF VIOLATIONS. A FINE MAY BE REDUCED OR WAIVED FOR PERSONS WHO IMMEDIATELY SELF-REPORT VIOLATION TO THE CITY/COUNTY. A FINAL INSPECTION OF YOUR PROJECT WILL NOT BE GRANTED UNTIL ALL COSTS ASSOCIATED WITH THE CLEAN-UP, AND PENALTIES, ARE PAID TO THE CITY/COUNTY.

3. CONSTRUCTION DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN GSK POLICY E-1 SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25 NTU, AND NOT CONSIDERED AN ILLICIT DISCHARGE. TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR.

4. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND SPECIFICATIONS.

5. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

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

7. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

8. A COPY OF THE APPROVED ESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.

10. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY/COUNTY INSPECTOR.

11. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.

12. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.

13. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

14. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

15. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
- MAY 1 TO SEPTEMBER 30 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
- OCTOBER 1 TO APRIL 30 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
- STABILIZE SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.

16. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

17. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".

18. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 6' HIGH TEMPORARY CONSTRUCTION FENCE (CHAIN LINK WITH PIER BLOCKS) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL THE PLANNING DEPARTMENT AUTHORIZES REMOVAL.

19. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.

20. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.

21. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON THE SITE.

22. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.

23. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.

24. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED IMMEDIATELY FOLLOWING REMOVAL OF EROSION CONTROL BMPS. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

25. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.

26. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.

27. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.

28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

29. ANY AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT (INCLUDING A 5-FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.

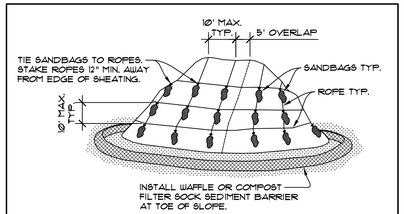
30. IF THE TEMPORARY CONSTRUCTION ENTRANCE OR ANY OTHER AREA WITH HEAVY VEHICLE LOADING IS LOCATED IN THE SAME AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT, 6" OF SEDIMENT BELOW THE GRAVEL SHALL BE REMOVED PRIOR TO INSTALLATION OF THE INFILTRATION FACILITY OR PERVIOUS PAVEMENT (TO REMOVE FINES ACCUMULATED DURING CONSTRUCTION).

31. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE ADEQUATE PROTECTION FROM SEDIMENT. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "STORM DRAIN PROTECTION INSERT" OR EQUIVALENT.

32. IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.

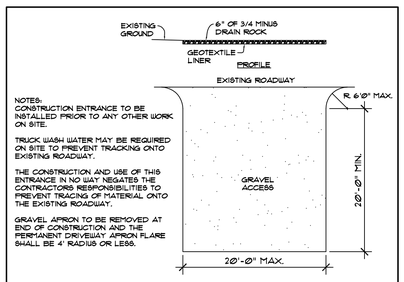
33. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.

34. RECYCLED CONCRETE SHALL NOT BE STOCKPILED ON SITE, UNLESS FULLY COVERED WITH NO POTENTIAL FOR RELEASE OF RUNOFF.



NOTES:
1. INSTALL PLASTIC SHEATING VERTICALLY DOWN SLOPE.
2. INSTALL PLASTIC SHEATING SO EDGES OVERLAP AND ARE SHINGLED AWAY FROM FREEVAILING WINDS.
3. PLASTIC SHEATING SHALL BE BLACK, MIN. 6 MIL.

C1 TEMPORARY STOCK PILE DETAIL N.T.S.



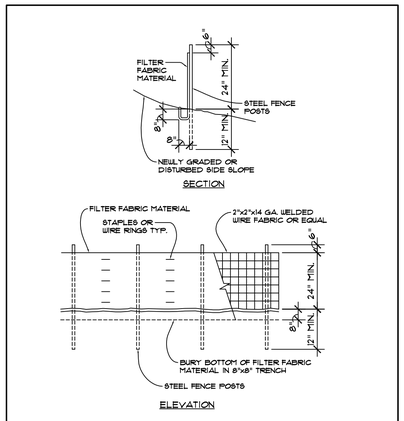
NOTES:
CONSTRUCTION ENTRANCE TO BE INSTALLED PRIOR TO ANY OTHER WORK ON SITE.

TRUCK WASH WATER MAY BE REQUIRED ON SITE TO PREVENT TRACKING ONTO EXISTING ROADWAY.

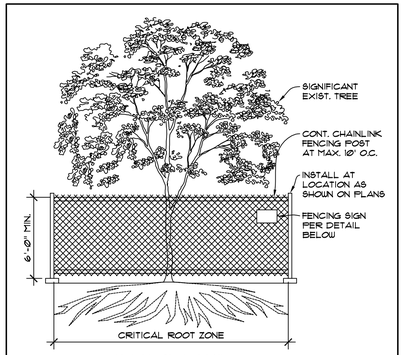
THE CONSTRUCTION AND USE OF THIS ENTRANCE IN NO WAY NEGATES THE CONTRACTORS RESPONSIBILITIES TO PREVENT TRACING OF MATERIAL ONTO THE EXISTING ROADWAY.

GRAVEL APRON TO BE REMOVED AT END OF CONSTRUCTION AND THE PERMANENT DRIVEWAY APRON FLARE SHALL BE 4' RADIUS OR LESS.

C2 GRAVEL CONSTRUCTION ENTRANCE N.T.S.



C3 SILT FENCE DETAIL



NOTES:

1. MINIMUM SIX (6') FOOT HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.

2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.

4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE. SIGN TO BE MINIMUM 11"x11", AND MADE OF WEATHERPROOF MATERIAL.

C4 TREE PROTECTION DETAIL N.T.S.

SITE PLAN NOTES & DETAILS

SCALE: N.T.S.

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JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED:

SHEET NO.
A0.2

GENERAL NOTES:

1. ALL FLOOR JOISTS PER PLAN. REFER TO MFG. LAYOUT FOR ALL FRAMING DETAILS AND BLOCKING. REVIEW MFG. LAYOUT PRIOR TO FRAMING. DOUBLE UNDER BEARING PARTITIONS. PROVIDE SOLID BLOCKING OVER BEARING MEMBERS.

2. ALL PRE-MANUFACTURED TRUSSES TO BE IDENTIFIED BY MFG'S STAMP.

3. FACTORY BUILT FIREPLACE & CHIMNEY TO BE UL LABELED INSTALL PER MANUFACTURERS SPECS O/SIDE COMBUSTION AIR REQ'D (MIN 6 SQ IN) DUCTED TO F/BOX W/ OPERABLE O/SIDE DAMPER, TIGHTLY FITTING FLUE DAMPER, AND TIGHT FITTING GLASS OR METAL DOORS OR FLUE DRAFT INDUCTION FAN. MINIMUM FIREPLACE EFFICIENCY OF 50% OR GREATER PER WSEC R402.4.2.1. PILOT LIGHT SHALL NOT BE CONTINUOUSLY BURNING PER WSEC R403.1.3.

4. LIMIT SHOWER FLOW TO 2.5 GALLON/MIN.

5. H.W.T. TO BE LABELED PER ASHRAE STD. NO. 90A-80, AND MEET THE REQUIREMENTS. PER 1981 NATIONAL APPLIANCE ENERGY CONSERVATION ACT.

6. FURNACE AND H.W. TANK, PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES TO BE A MIN. OF 18" ABOVE FINISHED FLOOR.

7. ALL SKYLITES TO COMPLY WITH I.R.C. SECTION 2409.1 & 2603.7

8. ALL SIDELITES, SLIDING GLASS DOORS AND TUB/SHOWER ENCLOSURES TO COMPLY WITH I.B.C. SECTION 2406.

9. HEAT REGISTERS TO BE PER LEGEND, LOCATE APPROXIMATELY AS SHOWN, 6" IN FROM EXTERIOR WALLS, 3" IN FROM INTERIOR WALLS.

10. VENT DRYER, OVEN/RANGE & EXHAUST FANS TO O/SIDE. DRYER EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMB HORIZ. AND VERT. LENGTH OF 14'-0", INCL. 2 90Ø. ELBOWS. DEDUCT 2'-0" FOR EA. 90Ø. ELBOW EXCEEDING 2. SEE DRYER DUCT DTL. FOR ALT. SOLUTIONS. ALL EXHAUST DUCTS INSULATED (MIN. OF R-4)

11. ALL NAILING PER IRC TABLE R602.3(1) AND/OR IBC TABLE 2304.9.1, COLUMN, POST & BEAM CONNECTIONS TO COMPLY WITH I.B.C. SECTION 2316.

12. ---

13. SOLID SHT'G REQ'D ON LOWER STORY OF 2 STORY BUILDING PER I.B.C. DRYWALL NAILED PER SHEAR NAILING SCHEDULES OR IBC 2018 EDITION.

14. TUB/SHOWER SURROUND WALLS TO HAVE WATER RESISTANT GYP BOARD AND A SMOOTH HARD SURFACE TO A MINIMUM HEIGHT OF 70" ABOVE DRAIN INLET

15. PROVIDE SMOKE DETECTOR IN COMPLIANCE WITH I.B.C. AND I.R.C. STD. *43.6. ALL SMOKE DETECTORS W/BAT BACKUP. SMOKE DETECTORS WILL SOUND AN AUDIBLE ALARM IN ALL SLEEPING ROOMS.

16. DWELLING TO COMPLY W/ 2018 WSEC-R.

17. SEAL, CAULK, GASKET, OR WEATHERSTRIP TO LIMIT AIR LEAKAGE: AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALL AND ROOF AND WALL PANELS, OPENINGS AT UTILITY PENETRATIONS THROUGH WALLS, FLOORS, AND ROOFS, ALL OTHER OPENINGS IN BUILDING ENVELOPE.

18. ALL EXTERIOR DOORS OR ACCESS HATCHES TO ENCLOSED UNHEATED AREAS MUST BE WEATHERSTRIPPED.

19. MINIMUM SOIL BEARING PRESSURE = 1500 PSF.

20. FOOTINGS TO BE PLACED ON FIRM, UNDISTURBED NATIVE SOIL.

21. DWELLING TO COMPLY WITH INTERNATIONAL BUILDING CODE (I.B.C.) 2018

22. FIRE STOPS SHALL BE PROVIDED TO CUT OFF ALL CONCL'D DRAFT OPENINGS FROM VERT. TO HORIZ. SPACES, INCLUDING THE STAIR, TUB, SHOWER, FIREPLACE, ETC.

ALL WINDOWS TO HAVE INDIVIDUAL OUTDOOR AIR INLET PORTS PER IMC 402.2 & 402.1

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE. THE RESULTS OF THE TEST SHALL BE BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL (R402.4.1.2).

AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE.

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. A MINIMUM OF 75% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

R317.1.3 GEOGRAPHICAL AREAS. APPROVED NATURALLY DURABLE OR PRESSURE-PRESERVATIVE-TREATED WOOD SHALL BE USED FOR THOSE PORTIONS OF WOOD MEMBERS THAT FORM THE STRUCTURAL SUPPORTS OF BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES WHEN THOSE MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING THAT WOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS. DEPENDING ON LOCAL EXPERIENCE, SUCH MEMBERS MAY INCLUDE:

1. HORIZONTAL MEMBERS SUCH AS GIRDERS, JOISTS AND DECKING.
2. VERTICAL MEMBERS SUCH AS POSTS, POLES AND COLUMNS.
3. BOTH HORIZONTAL AND VERTICAL MEMBERS.

R303.7 STAIRWAY ILLUMINATION.
ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIRS, INCLUDING THE LANDINGS AND TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF EACH LANDING OF THE STAIRWAY. FOR INTERIOR STAIRS THE ARTIFICIAL LIGHT SOURCES SHALL BE CAPABLE OF ILLUMINATING TREADS AND LANDINGS TO LEVELS NOT LESS THAN 1 FOOT-CANDLE (11 LUX) MEASURED AT THE CENTER OF TREADS AND LANDINGS. EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF THE STAIRWAY. EXTERIOR STAIRWAYS PROVIDING ACCESS TO A BASEMENT FROM THE OUTSIDE GRADE LEVEL SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE BOTTOM LANDING OF THE STAIRWAY.

SOURCE SPECIFIC VENTILATION REQUIREMENTS:

BATHROOMS, LAUNDRY ROOMS AND POWDER ROOM FANS TO BE 50 CFM.
KITCHEN EXHAUST FANS TO BE 100 CFM U.N.O.
EXHAUST FANS SHALL BE FLOW RATED AT .25 W.G. STATIC PRESSURE

EXHAUST DUCTS SHALL:
BE INSULATED TO R-4 IN UNCONDITIONED SPACE
BE EQUIPPED WITH A BACKDRAFT DAMPER
TERMINATE OUTSIDE THE BUILDING PER SRC M1501.1
COMPLY WITH BELOW:

FAN CFM	MAX. FLEX DIA.	MAX. FT.	MAX. SMOOTH DIA.	MAX. FT.
50	4"	25'	4"	70'
50	5"	90'	5"	100'
50	6"	OVER 100'	6"	OVER 100'
80	4"	N/A	4"	20'
80	5"	15'	5"	100'
80	6"	90'	6"	OVER 100'
100	5"	N/A	5"	50'
100	6"	45'	6"	OVER 100'
125	6"	15'	6"	OVER 100'
125	7"	70'	7"	OVER 100'

WHOLE HOUSE VENTILATION REQUIREMENTS:

A 6" DIAMETER FRESH AIR INLET SHALL BE DUCTED FROM THE EXTERIOR TO THE FRESH AIR RETURN PLENUM.
THE FRESH AIR DUCT SHALL BE PROTECTED FROM THE ENTRY OF INSECTS, LEAVES, OR OTHER DEBRIS AND LOCATED SO AS NOT TO TAKE AIR FROM:
- HAZARDOUS OR UNSANITARY LOCATIONS.
- WHERE IT WILL PICK UP OBJECTIONABLE ODORS, FUMES OR FLMMBL. VPRS.
- A ROOM OR SPACE HAVING FUEL BURNING APPLIANCES THERIN.
- ATTIC, CRAWL SPACE, OR GARAGE.
- CLOSER THAN 10' FROM AN APPLNC OR PLMBG VENT OUTLET, UNLESS THE DUCT VENT OUTLET IS AT LEAST 3' ABOVE THE FRESH AIR INLET.
- DUCT SHALL BE INSLT'D TO R-4 WHEN PASSING THROUGH A COND'D SPACE.

INLET DUCT SHALL BE EQUIPPED WITH A MOTORIZED DMPR THAT WILL OPEN WHEN THE VNTLTN FAN RELAY IS ACTIVATED, AND REMAIN CLOSED AT ALL OTHER TIMES. IN ADD'N TO THE MOTORIZED DMPR, A MANUAL DMPR SET TO .35-.5 AIR CHANGES PER HOUR IS ALSO REQUIRED.

A WHOLE HOUSE EXHAUST FAN SHALL BE LCT'D IN THE CEILING. SIZE PER THE CALCS BELOW. THE AIR INTAKE DUCT DMPR SHALL BE SET W/N THIS RNG

WHOLE HOUSE VENTILATION:
THIS SECTION ESTABLISHES MINIMUM PRESCRIPTIVE DESIGN REQUIREMENTS FOR WHOLE HOUSE VENTILATION SYSTEMS. EACH DWELLING UNIT OR GUEST ROOM SHALL BE EQUIPPED WITH A VENTILATION SYSTEM COMPLYING WITH OPTION I, II, III OR IV. COMPLIANCE IS ALSO PERMITTED TO BE DEMONSTRATED THROUGH COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE.

- ☐ OPTION I: WHOLE-HOUSE VENTILATION USING EXHAUST FANS. (IRC M1507.3.4)
- ☐ OPTION II: WHOLE-HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM. (IRC M1507.3.5.)
- ☒ OPTION III: WHOLE-HOUSE VENTILATION USING A SUPPLY FAN. (IRC M1507.3.6)
- ☐ OPTION IV: WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM. (IRC M1507.3.7)

MECHANICAL VENTILATION RATE:
THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR TO EACH HABITABLE SPACE AT A CONTINUOUS RATE NOT LESS THAN THAT DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(1).

EXCEPTION:
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS PERMITTED TO OPERATE INTERMITTENTLY WHERE THE SYSTEM HAS CONTROLS THAT ENABLE OPERATION FOR NOT LESS THAN 25 PERCENT OF EACH 4-HOUR SEGMENT AND THE VENTILATION RATE PRESCRIBED IN TABLE M1507.3.3(1) IS MULTIPLIED BY THE FACTOR DETERMINED IN TABLE M1507.3.3(2).

TABLE M1507.3.3(1) CONTINUOUS WHOLE HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (SQUARE FEET)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
	AIRFLOW IN CFM				
< 1,500	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	90	105	120	135	150
>7,500	105	120	135	150	165

TABLE M1507.3.3(2) INTERMITTENT WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS a,b,c

RUN TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
FACTOR	4	3	2	1.5	1.3	1

a. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
b. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

EXHAUST FANS MUST BE FLOW RATED AT .25 W.G. AND MAX. 1.5 SONE RATING. READILY ACCSSBLE 24 HR CLCK TMR OR DEHUMIDISTAT & RELAY SHALL BE INSTLL'D AND WIRED TO REGULATE THE FURN FAN, RELAY AND WHOLE HOUSE EXHAUST FAN.

INTERIOR DOORS SHALL BE INSTLL'D SO AS NOT TO IMPEDE THE MVMNT OF FRESH AIR TO ALL HABITABLE ROOMS.

VNTLTN SYSTEM MUST BE PERFORMANCE TESTED JUST PRIOR TO THE FINAL INSPECTION BY THE INSTALLER OR A GLF'D THIRD PARTY. THE INLET DUCT SHALL BE LABELED WITH THE ACTUAL CFMS MSRD & A LETTER OF COMPLNC SHALL BE AVAILABLE ON SITE FOR THE INSPCTR BEFORE A CERT OF OCCUPANCY WILL BE ISSUED.

STAIRWAYS - 2018 IRC SECTION 311.7

R311.7.1 WIDTH - STAIRWAYS SHALL BE NOT LESS THAN 36" IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. THE CLEAR WIDTH OF STAIRWAYS AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL BE NOT LESS THAN 31-1/2" WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 27" WHERE HANDRAILS ARE PROVIDED ON BOTH SIDES.
EXCEPTION: THE WIDTH OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.2 HEADROOM - THE HEADROOM IN STAIRWAYS SHALL BE NOT LESS THAN 6'-8" 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.
EXCEPTIONS: 1. WHERE THE NOSINGS OF TREADS AT THE SIDE OF A FLIGHT EXTEND UNDER THE EDGE OF A FLOOR OPENING THROUGH WHICH THE STAIR PASSES, THE FLOOR OPENING SHALL BE ALLOWED TO PROJECT HORIZONTALLY INTO THE REQUIRED HEADROOM NOT MORE THAN 4-3/4".
2. THE HEADROOM FOR SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.3 VERTICAL RISE - A FLIGHT OF STAIRS SHALL NOT HAVE A VERTICAL RISE LARGER THAN 151" BETWEEN FLOOR LEVELS OR LANDINGS.

R311.7.5 STAIR TREADS AND RISERS - STAIR TREADS AND RISERS SHALL MEET THE REQUIREMENTS OF THIS SECTION. FOR THE PURPOSES OF THIS SECTION, DIMENSIONS AND DIMENSIONED SURFACES SHALL BE EXCLUSIVE OF CARPETS, RUGS OR RUNNERS.

R311.7.5.1 RISERS - THE RISER HEIGHT SHALL BE NOT MORE THAN 7-3/4". THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE NOSING OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED PROVIDED THAT THE OPENING LOCATED MORE THAN 30", AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE.
EXCEPTIONS: 1. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON SPIRAL STAIRWAYS.
2. THE RISER HEIGHT OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.5.2 TREADS - THE TREAD DEPTH SHALL BE NOT LESS THAN 10". THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8".

R311.7.5.3 NOSINGS - NOSINGS AT TREADS, LANDINGS, AND FLOORS OF STAIRWAYS SHALL HAVE A RADIUS OF CURVATURE AT THE NOSINGS NOT GREATER 9/16" OR A BEVEL NOT GREATER THAN 1/2". A NOSING PROJECTION NOT LESS THAN 3/4" AND NOT MORE THAN 1-1/4" SHALL BE PROVIDED ON STAIRWAYS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8" WITHIN A STAIRWAY.
EXCEPTION: A NOSING PROJECTION IS NOT REQUIRED WHERE THE TREAD DEPTH IS NOT LESS THAN 11".

R311.7.6 LANDINGS FOR STAIRWAYS - THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED. LANDINGS OF SHAPES OTHER THAN SQUARE OR RECTANGULAR SHALL BE PERMITTED PROVIDED THAT THE DEPTH AT THE WALK LINE AND THE TOTAL AREA IS NOT LESS THAN THAT OF A QUARTER CIRCLE WITH A RADIUS EQUAL TO THE REQUIRED LANDING WIDTH. WHERE THE STAIRWAY HAS A STRAIGHT RUN, THE DEPTH IN THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN 36".

R311.7.7 STAIRWAY WALKING SURFACE - THE WALKING SURFACE OF TREADS AND LANDINGS OF STAIRWAYS SHALL BE SLOPED NOT STEEPER THAN ONE UNIT VERTICAL IN 48" HORIZONTAL.

R311.7.8 HANDRAILS - HANDRAILS SHALL BE PROVIDED ON NOT LESS THAN ONE SIDE OF EACH FLIGHT OF STAIRS WITH FOUR OR MORE RISERS.

R311.7.8.1 HEIGHT - HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34" AND NOT MORE THAN 38".

R311.7.8.2 HANDRAIL PROJECTION - HANDRAILS SHALL NOT PROJECT MORE THAN 4-1/2" ON EITHER SIDE OF THE STAIRWAY
EXCEPTION: WHERE NOSINGS OF LANDINGS, FLOORS OR PASSING FLIGHTS PROJECT INTO THE STAIRWAY REDUCING THE CLEARANCE AT PASSING HANDRAILS, HANDRAILS SHALL PROJECT NOT MORE THAN 6-1/2" INTO THE STAIRWAY, PROVIDED THAT THE STAIR WIDTH AND HANDRAIL CLEARANCE ARE NOT REDUCED TO LESS THAN REQUIRED.

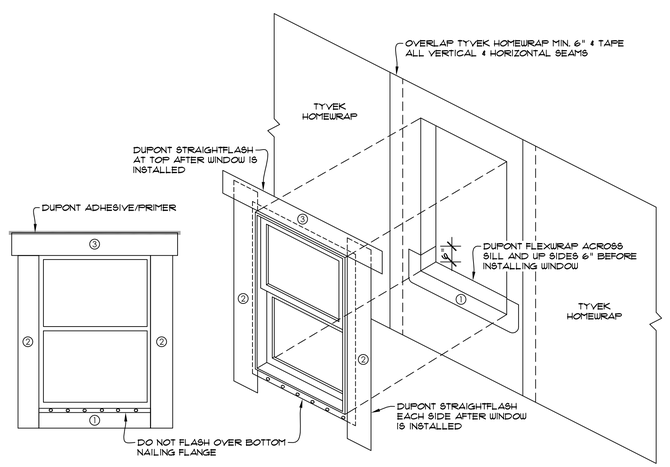
R311.7.8.3 HANDRAIL CLEARANCE - HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAILS.

R311.7.8.4 CONTINUITY - HANDRAILS 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 SAFETY TERMINALS.
EXCEPTIONS: 1. HANDRAIL CONTINUITY SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT A TURN IN A FLIGHT WITH WINDERS, AT A LANDING, OR OVER THE LOWEST TREAD.
2. A VOLUTE, TURNOUT OR STARTING EASING SHALL BE ALLOWED TO TERMINATE OVER THE LOWEST TREAD

R311.7.8.5 GRIP SIZE - REQUIRED HANDRAILS SHALL BE OF ONE OF THE FOLLOWING TYPES OR PROVIDE EQUIVALENT GRASPABILITY.
1. TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF NOT LESS THAN 1-1/4" AND NOT GREATER THAN 2". IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER DIMENSION OF NOT LESS THAN 4" AND NOT GREATER THAN 6-1/4" WITH A CROSS SECTION OF DIMENSION OF NOT MORE THAN 2-1/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".
2. TYPE II. HANDRAILS WITH A PERIMETER GREATER THAN 6-1/4" SHALL HAVE A GRASPABLE FINGER RECESS AREA ON BOTH SIDES OF THE PROFILE. THE FINGER RECESS SHALL BEGIN WITHIN A DISTANCE OF 3/4" MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND ACHIEVE A DEPTH OF NOT LESS THAN 5/16" WITHIN 7/8" BELOW THE WIDEST PORTION OF THE PROFILE. THIS REQUIRED DEPTH SHALL CONTINUE FOR NOT LESS THAN 3/8" TO A LEVEL THAT IS NOT LESS THAN 1-3/4" BELOW THE TALLEST PORTION OF THE PROFILE. THE WIDTH OF THE HANDRAIL ABOVE THE RECESS SHALL BE NOT LESS THAN 1-1/4" AND NOT MORE THAN 2-3/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".

EXHAUST VENT CLEARANCES:
PER SRC M1501 EXHAUST FAN VENTS SHALL TERMINATE OUTDOORS AND NOT IN ATTICS, SOFFITS, RIDGE VENTS, OR CRAWL SPACES. KITCHEN, BATHROOMS, AND LAUNDRY EXHAUST TERMINATIONS TO EXIT THE STRUCTURE WITH CLEARANCES MEETING SRC M1506.3, NOT LESS THAN 3 FEET FROM PROPERTY LINES, 3 FEET FROM OPERABLE OPENINGS IN THE BUILDING AND 10 FEET FROM MECHANICAL AIR INTAKES.

FLANGED WINDOW FLASHING INSTALLATION AFTER TYVEK HOMEWRAP (OR EQUIVALENT)



NOTE:
INSTALL DUPONT FLASHING IN ORDER SHOWN BY NUMBERS.
INSTALL WINDOW PER MANUFACTURERS INSTRUCTIONS.

PRESCRIPTIVE ENERGY CODE COMPLIANCE FOR ALL CLIMATE ZONES IN WASHINGTON PER 2018 WSEC:

MEDIUM DWELLING UNIT: 6 CREDITS

HEATING OPTION 2 - HEAT PUMP (1.0 CREDIT)

ENERGY OPTIONS:

1.3 - EFFICIANT BUILDING ENVELOPE (0.5 CREDITS):
VERTICAL FENESTRATION U = 0.28
FLOOR R-38
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

2.3 - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION (1.5 CREDITS):
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

3.2 - HIGH EFFICIANCY HVAC EQUIPMENT (1.0 CRDITS):
AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5

5.5 - EFFICIANT WATER HEATING (2.0 CREDITS):
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION

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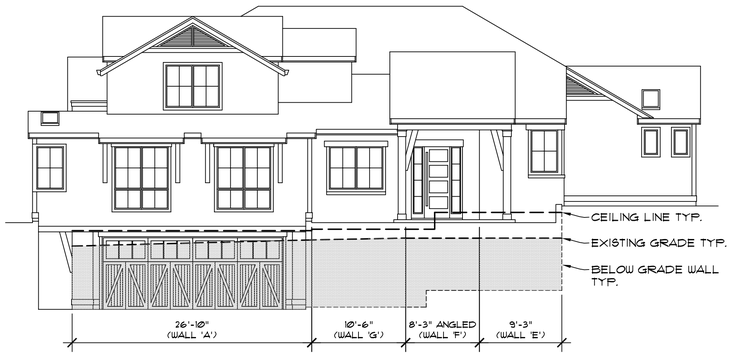
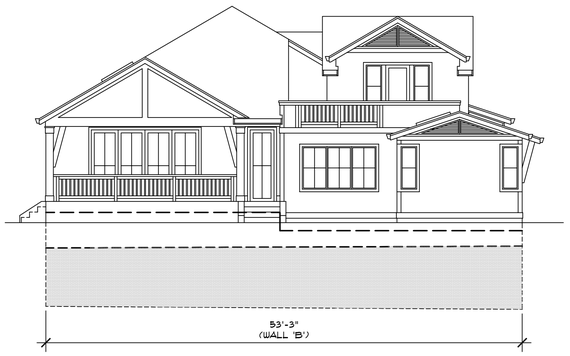
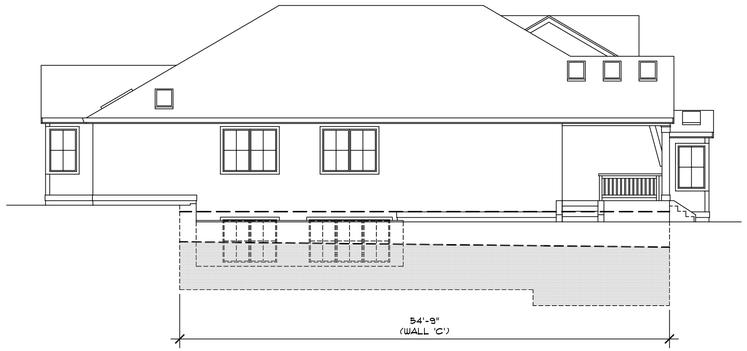


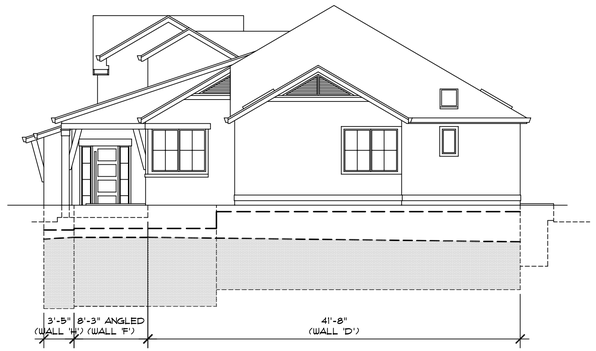
FRONT ELEVATION



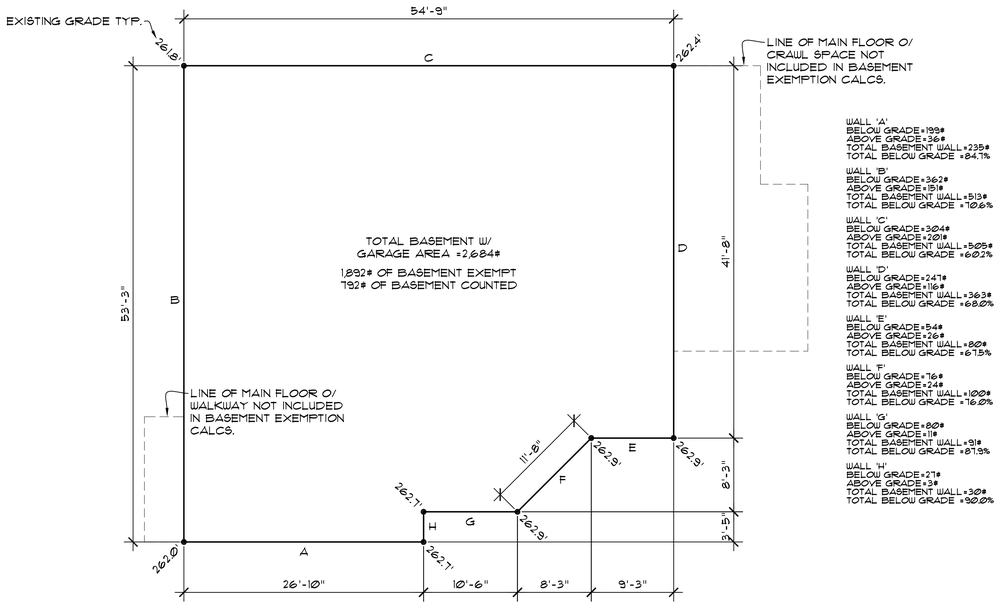
LEFT ELEVATION



REAR ELEVATION



RIGHT ELEVATION



BASEMENT FLOOR PERIMETER

WALL 'A'
BELOW GRADE =198#
ABOVE GRADE =36#
TOTAL BASEMENT WALL =235#
TOTAL BELOW GRADE =84.1%

WALL 'B'
BELOW GRADE =362#
ABOVE GRADE =151#
TOTAL BASEMENT WALL =513#
TOTAL BELOW GRADE =70.6%

WALL 'C'
BELOW GRADE =304#
ABOVE GRADE =201#
TOTAL BASEMENT WALL =505#
TOTAL BELOW GRADE =60.2%

WALL 'D'
BELOW GRADE =241#
ABOVE GRADE =116#
TOTAL BASEMENT WALL =363#
TOTAL BELOW GRADE =66.0%

WALL 'E'
BELOW GRADE =54#
ABOVE GRADE =26#
TOTAL BASEMENT WALL =80#
TOTAL BELOW GRADE =67.5%

WALL 'F'
BELOW GRADE =76#
ABOVE GRADE =24#
TOTAL BASEMENT WALL =100#
TOTAL BELOW GRADE =76.0%

WALL 'G'
BELOW GRADE =80#
ABOVE GRADE =11#
TOTAL BASEMENT WALL =91#
TOTAL BELOW GRADE =87.9%

WALL 'H'
BELOW GRADE =27#
ABOVE GRADE =3#
TOTAL BASEMENT WALL =30#
TOTAL BELOW GRADE =90.0%

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

TABLE OF WALL LENGTHS & COVERAGE

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	26.83'	84.1%	22.73
B	53.25'	70.6%	37.60
C	54.75'	60.2%	32.96
D	41.67'	68.0%	28.34
E	9.25'	67.5%	6.24
F	11.67'	76.0%	8.87
G	10.5'	87.9%	9.23
H	3.42'	90.0%	3.08
TOTALS	211.34'	N/A	149.05

149.05 / 211.34 = 70.5%

2,684 x 70.5% = 1,892# EXEMPT FROM GROSS FLOOR AREA

2,684 - 1,892 = 792# OF BASEMENT COUNTED

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000#	= 40% OR 8,000# = MAX. 4,000#
LOWER FLOOR W/ GARAGE & STORAGE	= 792#
MAIN FLOOR	= 2,867#
UPPER FLOOR	= 324#
TOTAL FLOOR AREA	= 3,983#
PROPOSED G.F.A.	= 3,983#

NORTH

GROSS FLOOR AREA CALCULATIONS

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

SUBJECT PROPERTY TAX PARCEL NO. 9359100160
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FOOTING SCHEDULE:

18" SQUARE x 10" DEEP W/ (2) #4 EA. WAY

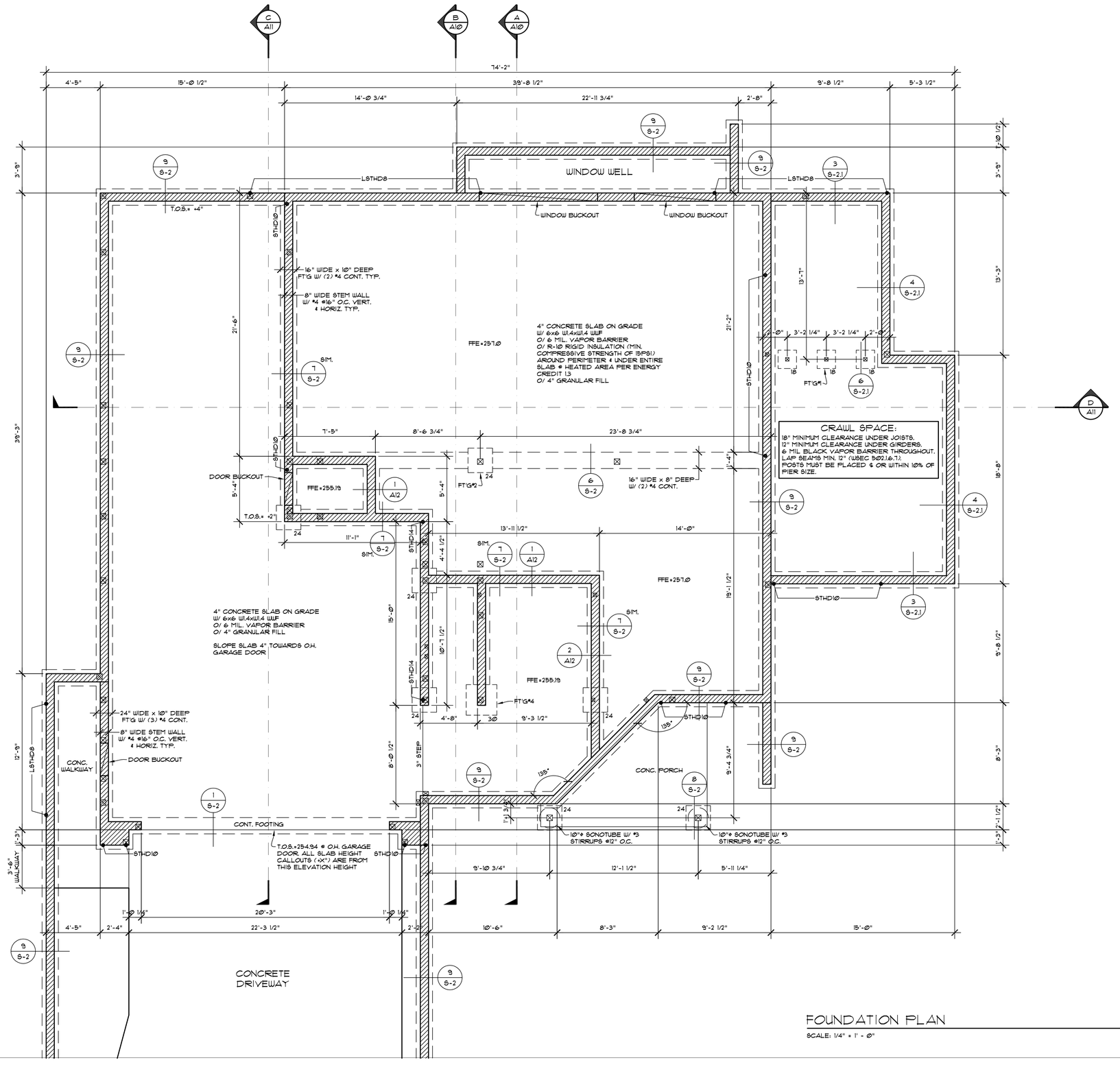
24" SQUARE x 10" DEEP W/ (3) #4 EA. WAY

30" SQUARE x 10" DEEP W/ (3) #4 EA. WAY

NOTE:
ALL UNDERGROUND PLUMBING LOCATIONS TO BE FIELD VERIFIED PRIOR TO FOUNDATION INSTALLATION.

CRAWL VENTILATION CALCULATION

CRAWL SPACE UNDER FLOOR AREA TO REQUIRE VENTING = 403 SF.
PROVIDE 1Ø CFM PER 50 SF. OF MECHANICAL VENTILATION
403 / 50 = 8.2
PROVIDE MINIMUM 9 CFM CONTINUOUS MECHANICAL VENTING



FOUNDATION PLAN

SCALE: 1/4" = 1' - Ø"

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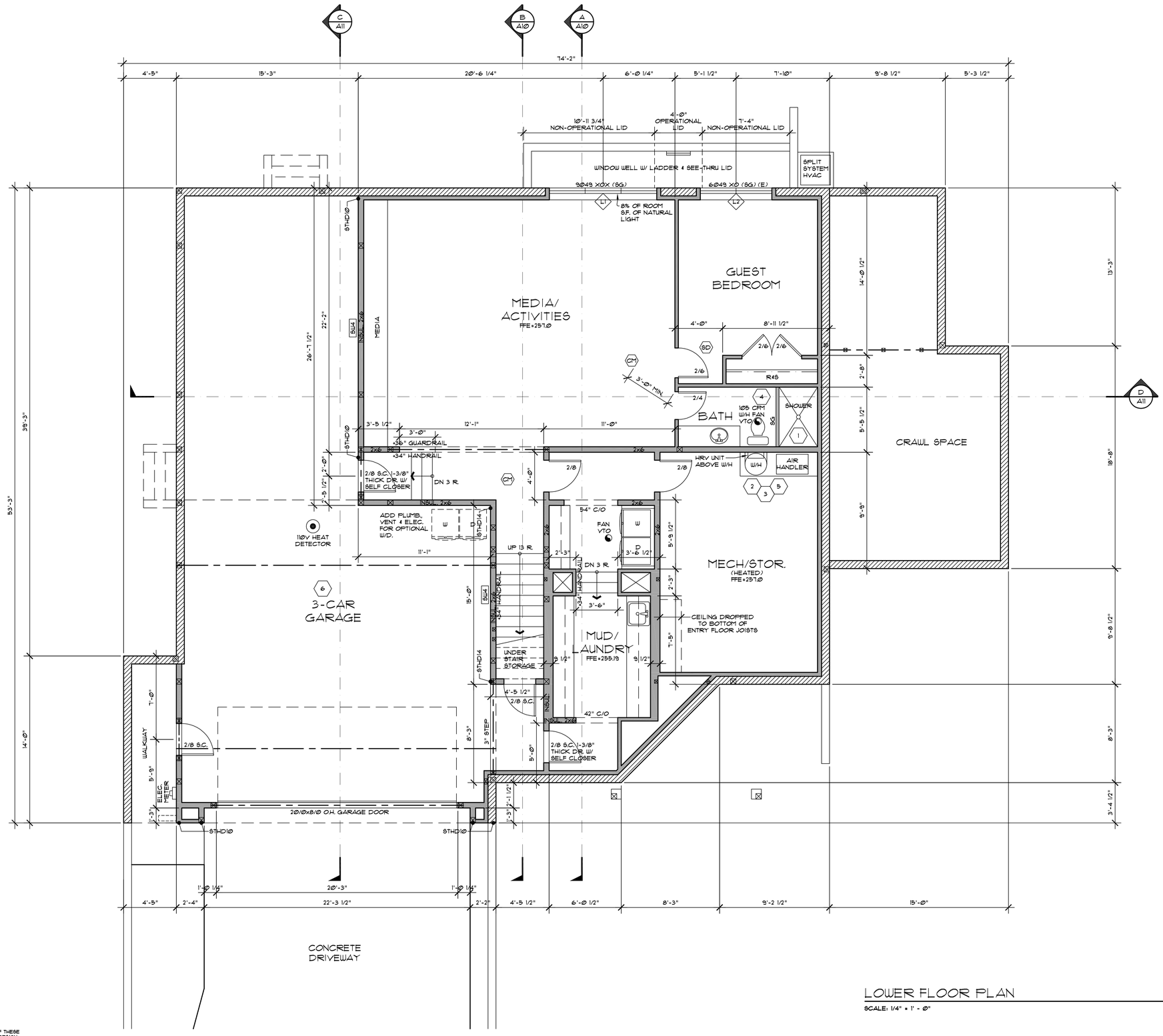
A1

1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6" ABOVE DRAIN
2	PILOTS & BURNERS OR HTG. ELEMENTS & SWITCHES TO BE AT LEAST 18" ABOVE FLOOR. MIN. 6" DIA. FRESH AIR DUCT TO CONNECT TO RETURN AIR PLENUM
3	WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT CAUSED BY EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF THE APPLIANCE'S VERTICAL DIMENSIONS. AT THE LOWER POINT, THE STRAPPING SHALL MAINTAIN A MINIMUM DISTANCE OF 4 INCHES ABOVE THE CONTROLS
4	WHOLE HOUSE VENTILATION SYSTEM PER M1507.13.3 OF THE I.R.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAX. @.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED. WHOLE HOUSE VENTILATION RATE PER TABLE M1507.13.3(2) AND SET TO RUN @ (2) 4 HOUR SEGEMENTS
5	PER ENERGY CREDIT 5.5: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION
6	5/8" TYPE "X" GWB OVER ALL WARM WALLS AND SECOND FLOOR FRAMING & SUPPORT MEMBERS, GARAGE CEILING PROTECTION TO BE CONTINUOUS ABOVE GARAGE.
7	PER ENERGY CREDIT 3.2: AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP



LOWER FLOOR PLAN

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

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NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

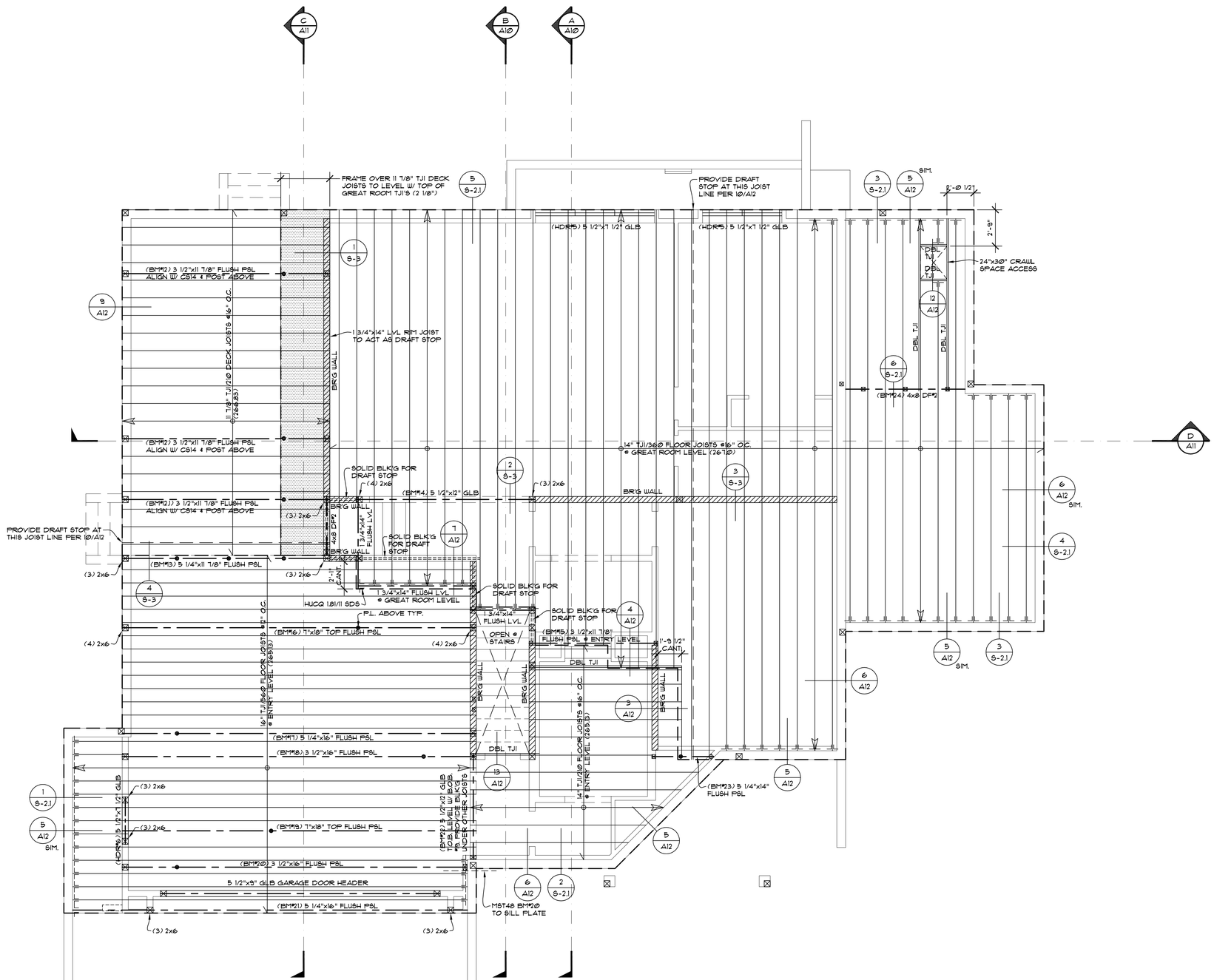
ALL ROOF PITCHES AS NOTED. X:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM



MAIN FLOOR FRAMING PLAN

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

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PER PERSCRIPTIVE REQUIREMENTS 2018 W.S.E.C.
*(MODIFIED FOR ENERGY CREDIT 1.3)

CLIMATE ZONE 5B
MAX. GLAZING U-FACTOR: VERT. U=.28*, OVERHEAD U=.50
MAX. DOOR U-FACTOR: U=.28
INSULATION @ CONDITIONED AREA:
TRUSSED CEILING: R-49
VAULTED & SINGLE RAFTER CEILING: R-38 (R40.22)
ABOVE GRADE WALLS: R-21
BELOW GRADE WALLS: R-21
FLOOR OVER VENTED CRAWL SPACE: R-38*
SLAB ON GRADE: R-10 @ PERIMETER
& UNDER ENTIRE SLAB*

PERCENT GLAZING CALCULATIONS: 6666 (S.F. GLAZING AREA) / 4,758 (S.F. FLOOR AREA) =14.0%

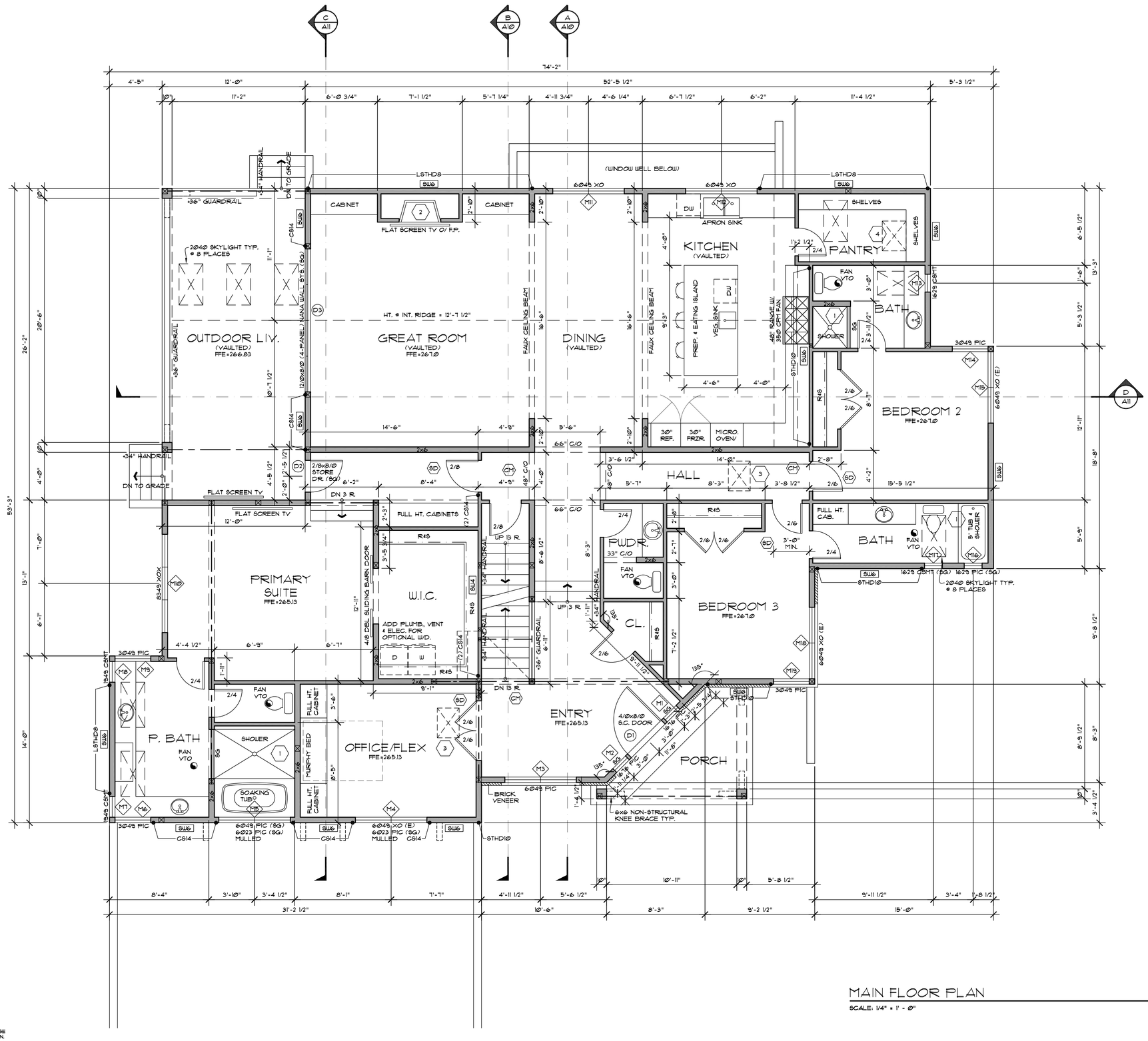
1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6' ABOVE DRAIN
2	DIRECT VENT FIREPLACE. INSTALL PER MANUFACTURERS SPECIFICATIONS
3	22"x30" ATTIC ACCESS. WEATHERSTRIP & INSULATE OVER TO EQUAL CEILING INSULATION. PROVIDE WOOD SURROUND TO PREVENT LOOSE INSULATION SPILLAGE TO LIVING SPACE.
4	24"x30" CRAWL SPACE ACCESS. WEATHERSTRIP & INSULATE TO LEVEL EQUAL TO SURROUNDING SURFACES.
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP

SQUARE FOOTAGE SUMMARY

UPPER FLOOR	324#
MAIN FLOOR	2,867#
LOWER FLOOR	1,566#
TOTAL HEATED	4,757#
GARAGE	1,118#
UPPER FLOOR DECK	131#
M.F. OUTDOOR LIVING	314#
M.F. FRONT PORCH	93#

PER ENERGY CREDIT 2.3:
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

NOTE:
CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL ACTING IN ANY DIRECTION AS REQUIRED BY IRC TABLE R301.5.



MAIN FLOOR PLAN

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

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R807.1 ATTIC ACCESS:
BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC ACCESS OPENING TO ATTIC AREAS THAT HAVE A VERTICAL HEIGHT OF 30 INCHES OR GREATER OVER AN AREA OF NOT LESS THAN 30 SQUARE FEET. THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION TO THE UNDERSIDE OF THE ROOF FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION.

ALL TRUSSES:
-SHALL CARRY MANUFACTURERS STAMP
-SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS
-WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS
-SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

ALL ROOF PITCHES AS NOTED. X:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

A ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 368 SF. / 300 = 1.23 SF. NET FREE
EAVE VENTILATION = 46 L.F. x 3.3 SQ. IN./L.F. = 1Ø5 SF.
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 1.23 x Ø.5 = Ø.62 SF.
ROOF-TO-WALL VENTILATION PROVIDED = 31 L.F. x 9.Ø SQ. IN./L.F. = 1.9 SF.

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = 1Ø5 SF.
ROOF-TO-WALL ABOVE EAVE VENTILATION = 1.9 SF.
TOTAL VENTILATION REQUIRED = 1.23 SF.
TOTAL VENTILATION PROVIDED = 2.95 SF.

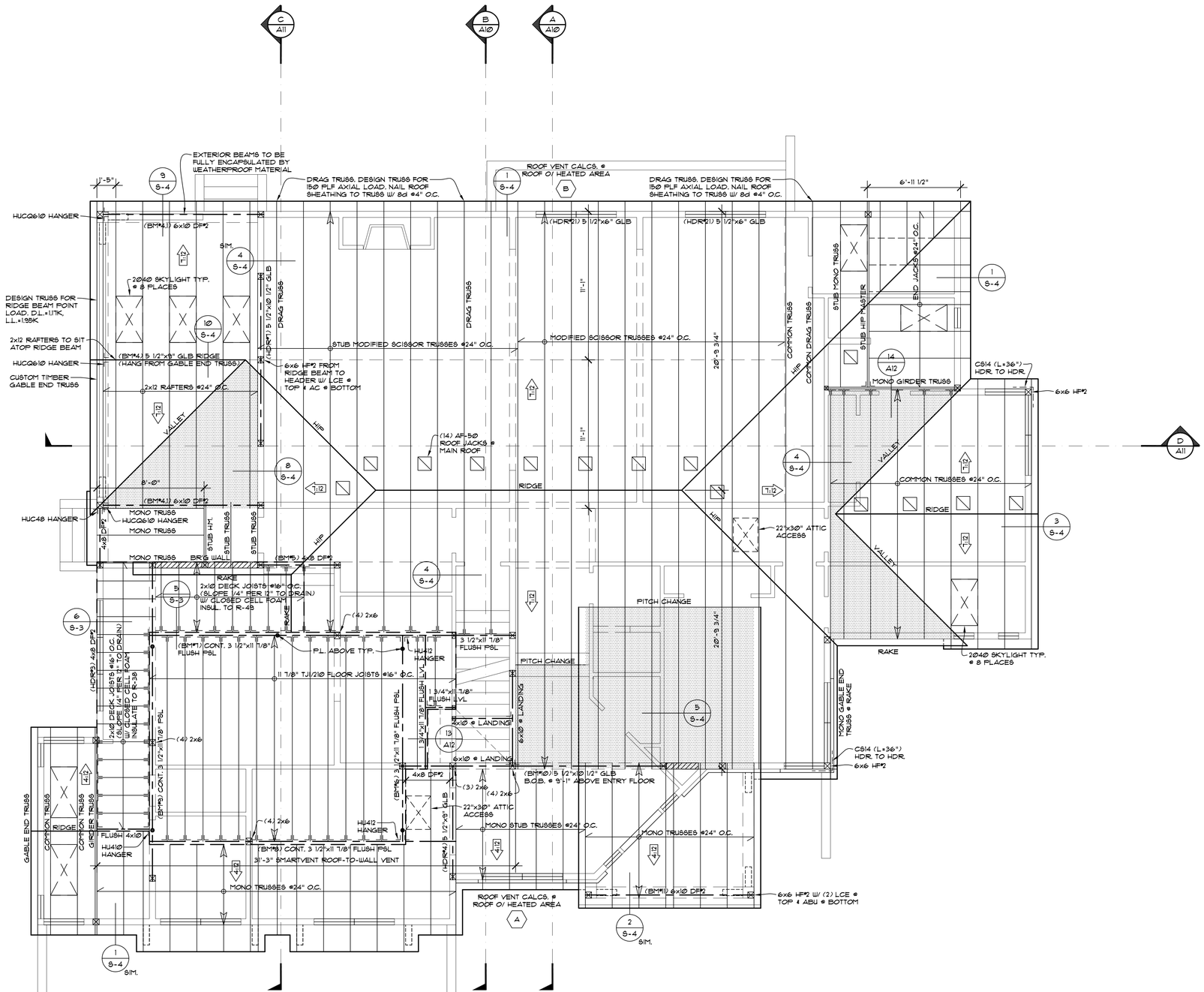
NOTE:
USE SMARTVENT ROOF-TO-WALL VENT OR EQUIV.

B ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 2Ø23 SF. / 3ØØ = 6.8 SF. NET FREE
EAVE VENTILATION = 91 L.F. x 3.3 SQ. IN./L.F. = 2Ø8 SF.
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 6.8 x 3.4 = 2.15 SF.
(14) AF-5Ø ROOF JACK YIELD 4.9 SF. (Ø.35 SF. NET FREE EACH)

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = 2.Ø8 SF.
ROOF JACK ABOVE EAVE VENTILATION = 4.9 SF.
TOTAL VENTILATION REQUIRED = 6.8 SF.
TOTAL VENTILATION PROVIDED = 6.98 SF.

HATCHING DENOTES 2x OVERFRAMING



UPPER FLOOR & MAIN ROOF FRAMING PLAN

SCALE: 1/4" = 1' - Ø"

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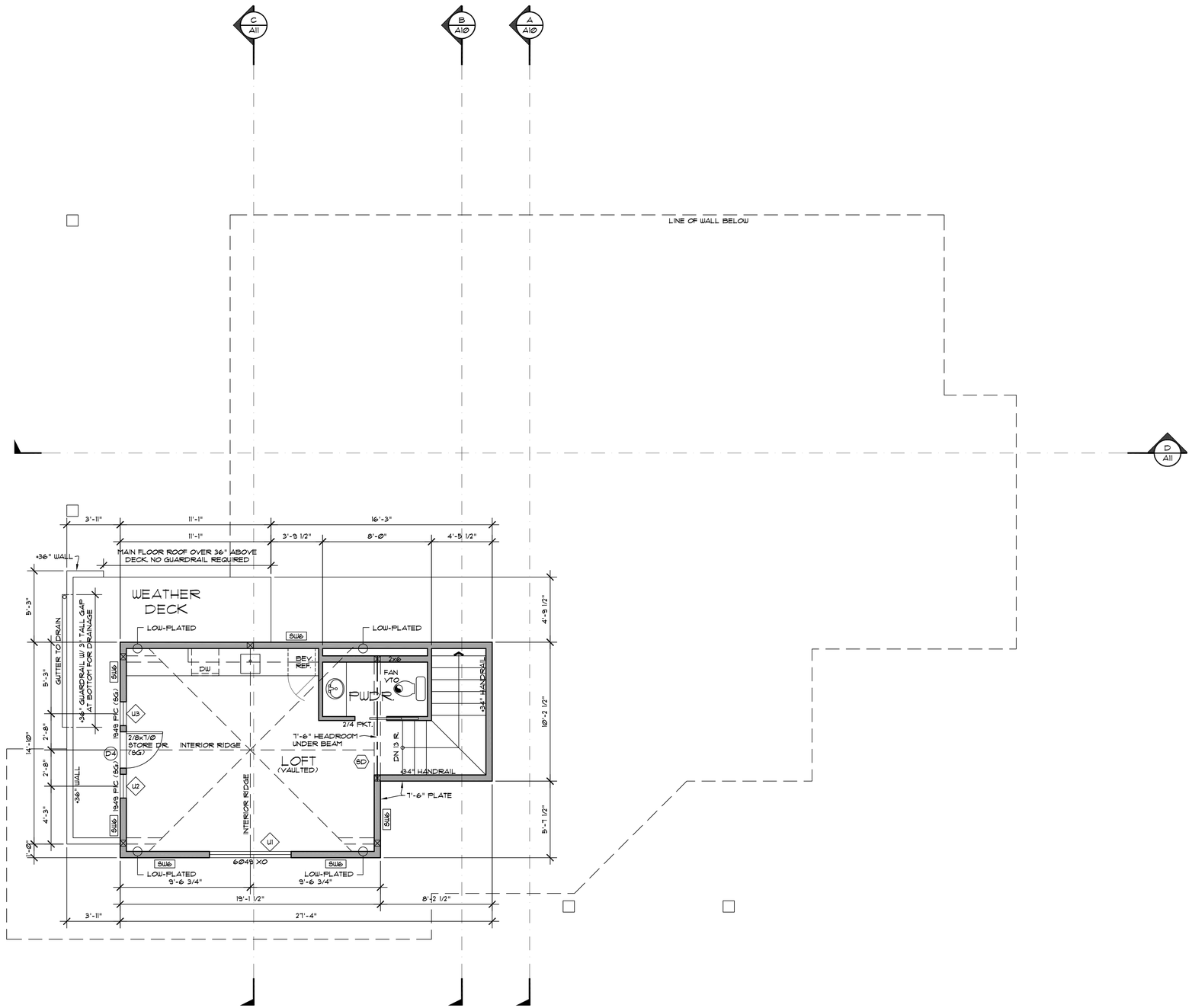
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP



UPPER FLOOR PLAN

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

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ALL TRUSSES:
- SHALL CARRY MANUFACTURERS STAMP
- SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS
- WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS
- SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

ALL ROOF PITCHES AS NOTED. 4:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

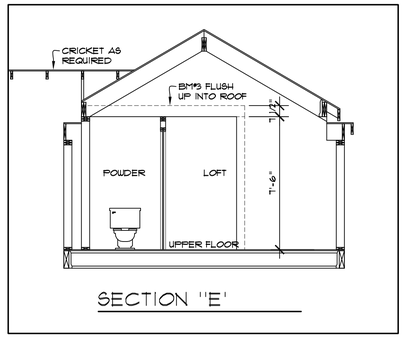
(C) ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 84 S.F. / 300 = Ø.28 S.F. NET FREE

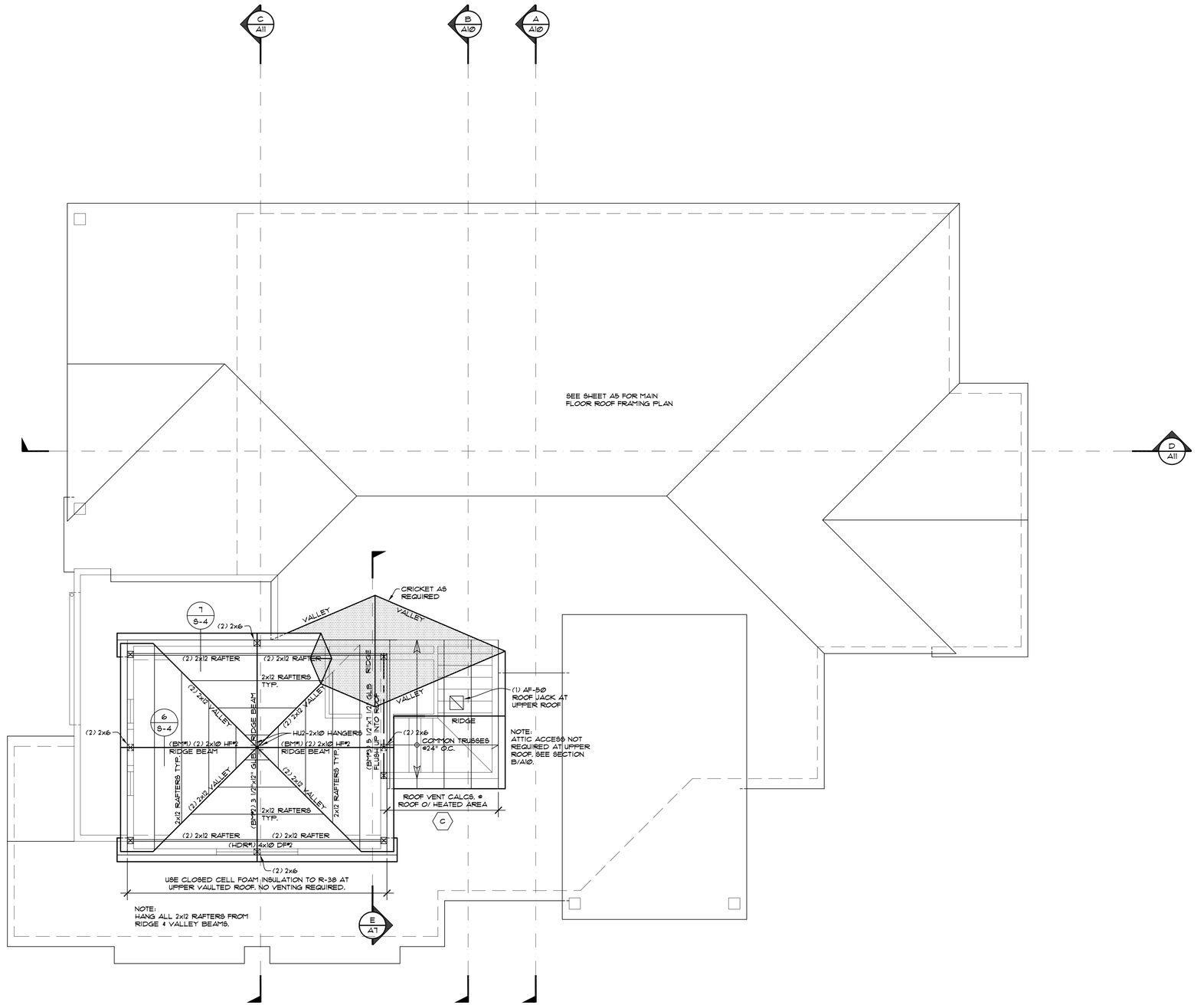
EAVE VENTILATION = 8 L.F. x 3.3 SQ. IN./L.F. = Ø.18 S.F.
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 6.8 x 3.4 = 2.15 S.F.
(1) AF-30 ROOF JACK YIELD Ø.35 S.F. (Ø.35 S.F. NET FREE EACH)

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = Ø.18 S.F.
ROOF JACK ABOVE EAVE VENTILATION = Ø.35 S.F.
TOTAL VENTILATION REQUIRED = Ø.28 S.F.
TOTAL VENTILATION PROVIDED = Ø.53 S.F.

HATCHING DENOTES 2x OVERFRAMING



SECTION "E"



UPPER ROOF FRAMING PLAN

SCALE: 1/4" = 1' - Ø"

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DATE: 5/Ø4/22
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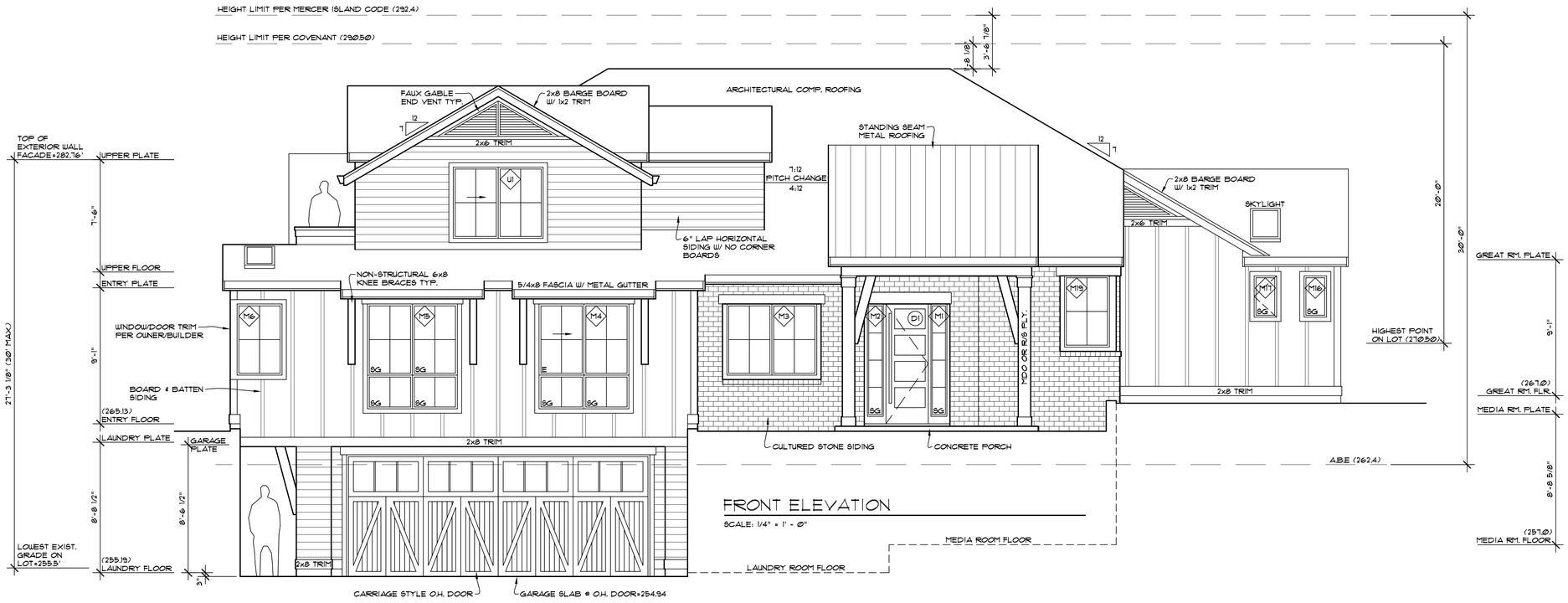
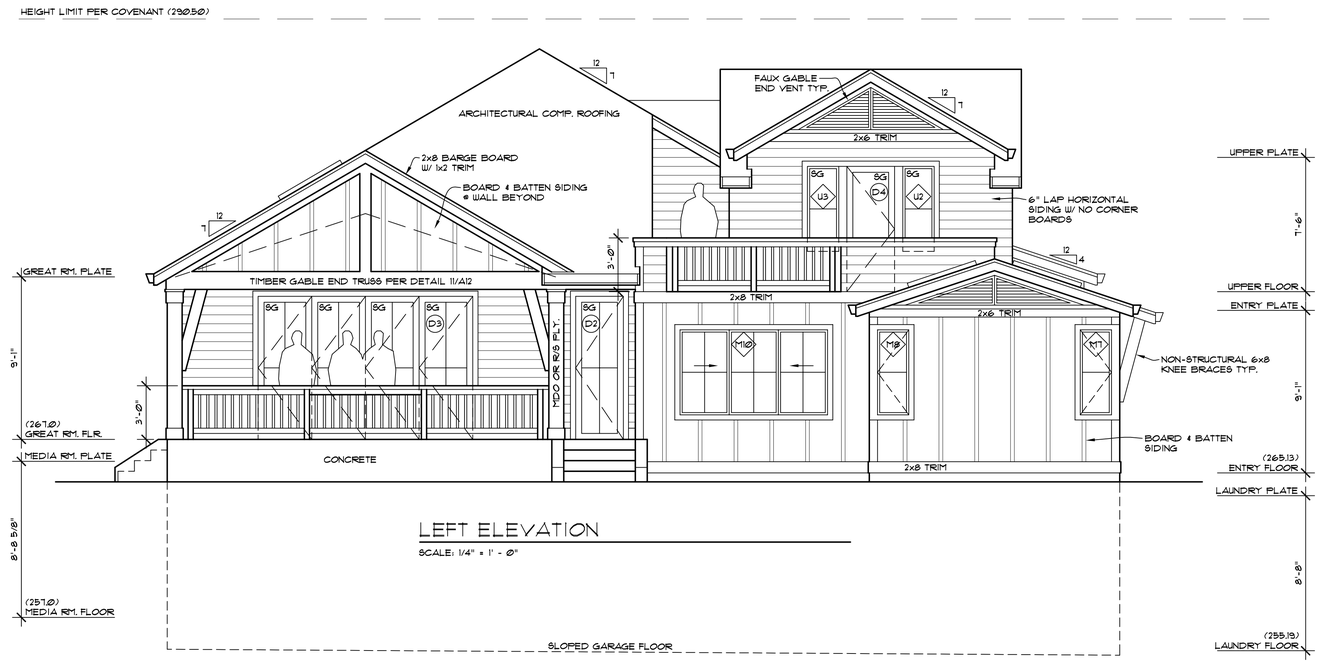
A7





FRONT ELEVATION

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

LEFT ELEVATION

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

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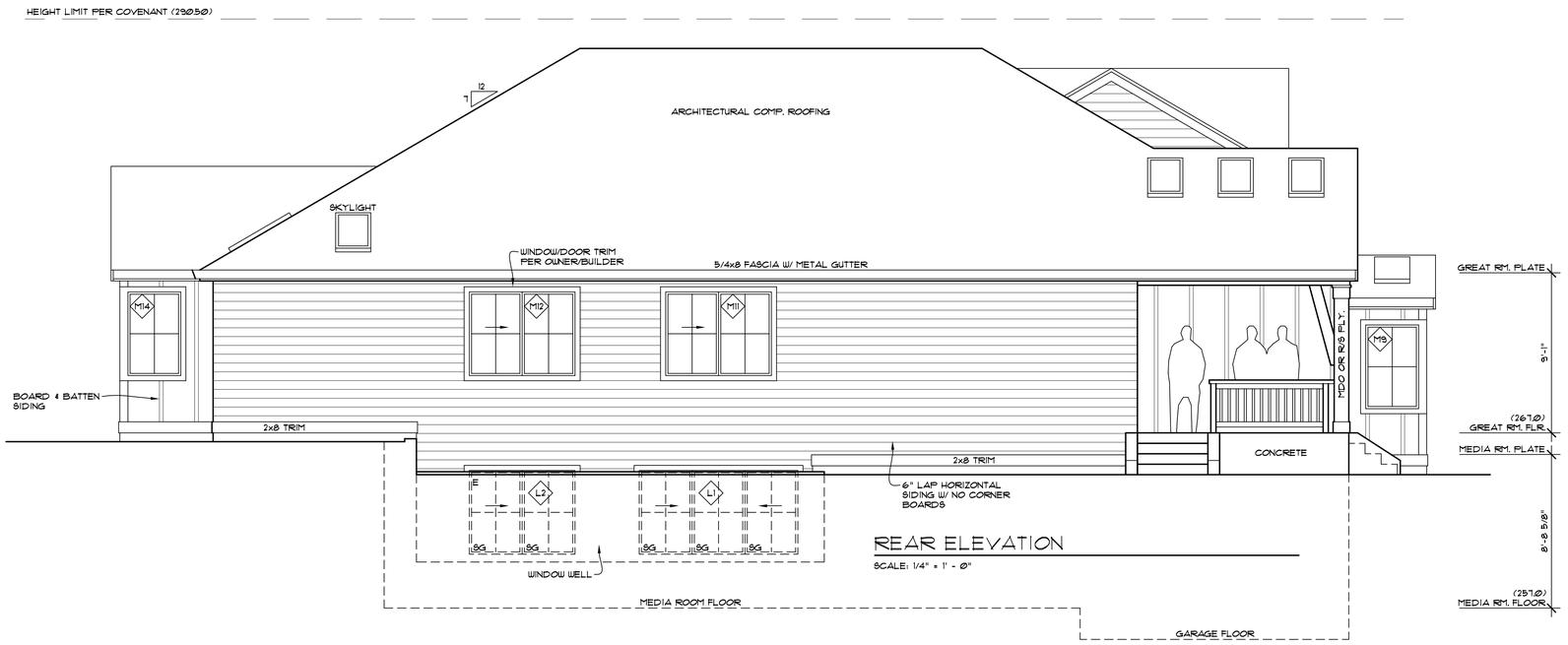
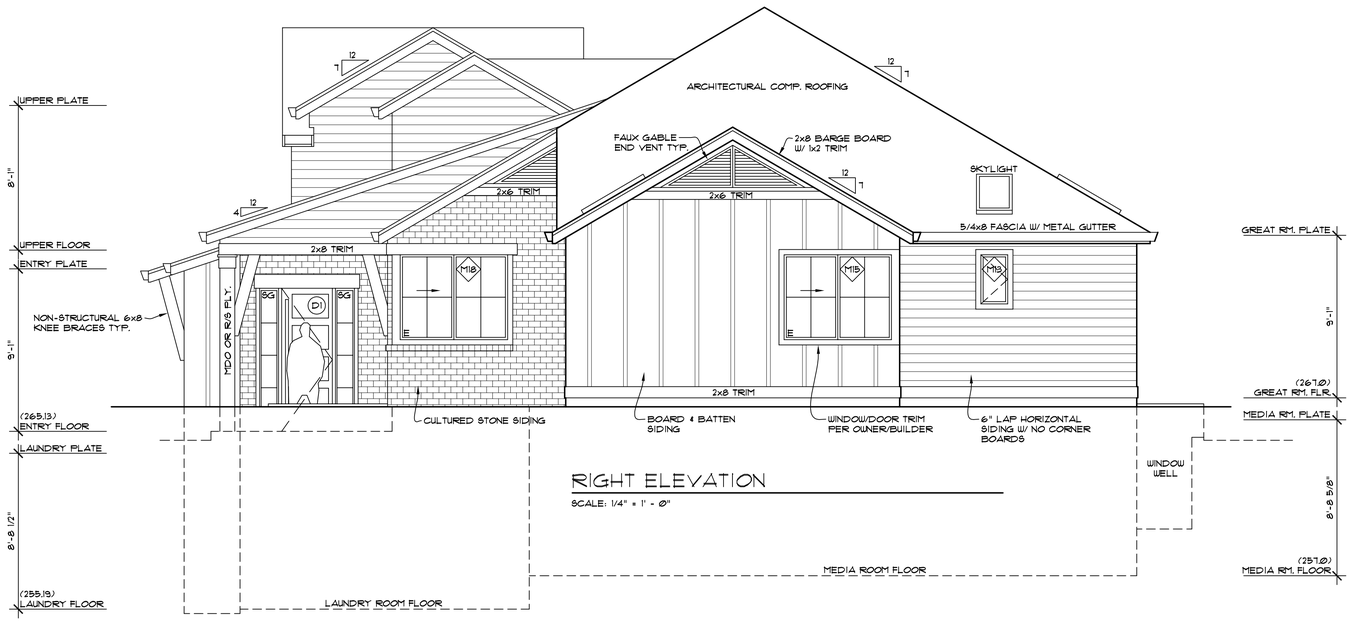


REAR ELEVATION

SCALE: 1/4" = 1' - Ø"



RIGHT ELEVATION

SCALE: 1/4" = 1' - Ø"

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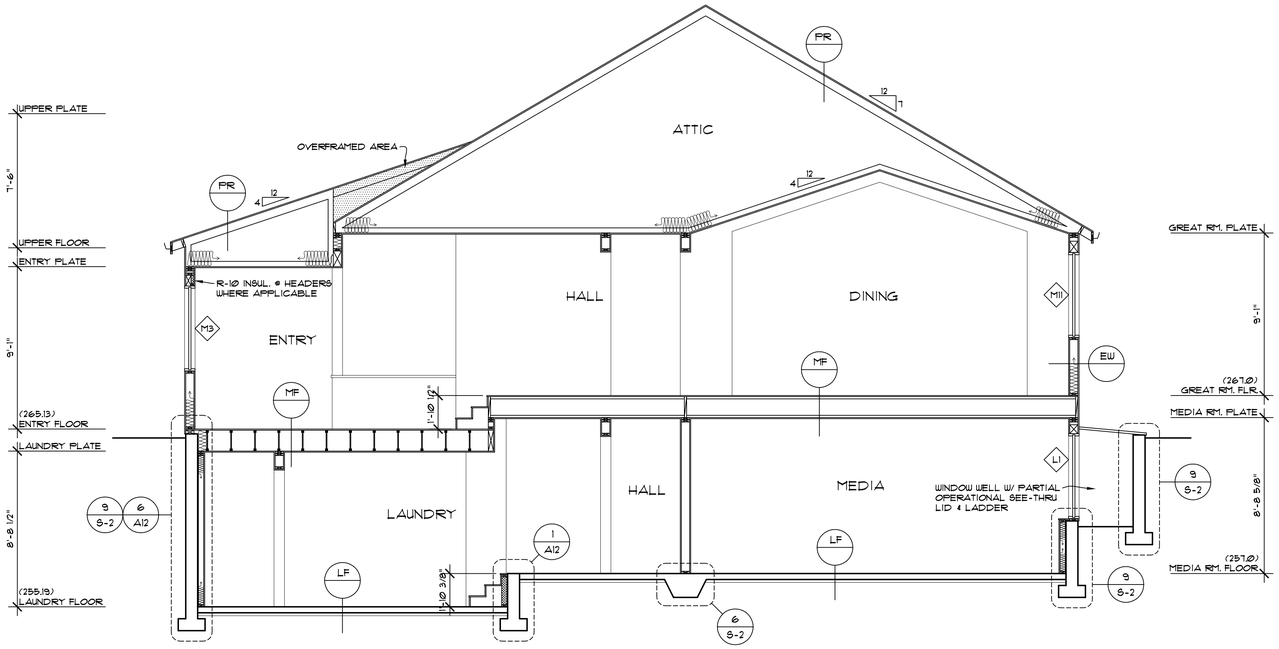
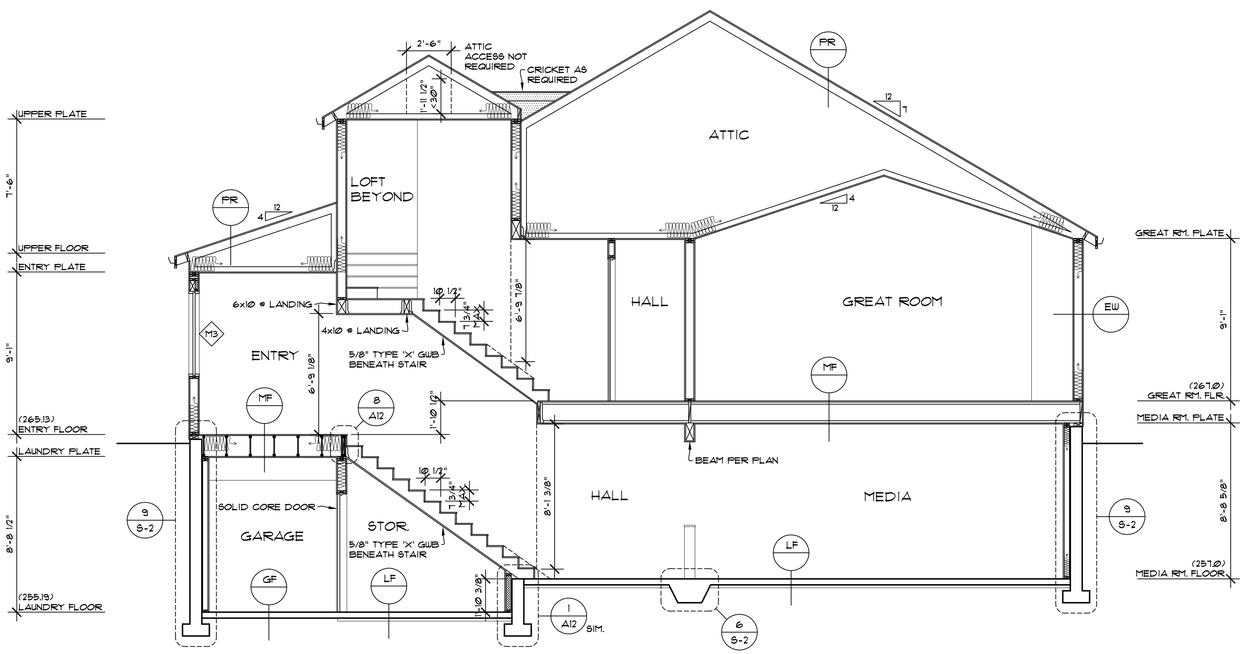


BUILDING SECTION 'A'

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



BUILDING SECTION 'B'

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

LR	LOFT ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER 2x RAFTERS PER PLAN CLOSED CELL FOAM INSULATION TO R-38 @ SINGLE RAFTER ROOF 4 MIL. U.V. POLY. 5/8" GWB
PR	PITCHED ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER TRUSSES OR 2x RAFTERS PER PLAN R-49 INSULATION @ TRUSSED ROOF R-38 INSULATION @ SINGLE RAFTER ROOF W/ VENT BAFFLE AS NEEDED 4 MIL. U.V. POLY. 5/8" GWB
EW	EXTERIOR CONDITIONED WALL 1/2" GWB. R-21 BATT INSULATION 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
GW	EXTERIOR GARAGE WALL 1/2" GWB. 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
DG	DWELLING TO GARAGE WALL 1/2" GWB 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. R-21 BATT INSULATION 1/2" GWB
UF	UPPER FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) 11 7/8" TJI/210 FLOOR JOISTS @16" O.C. R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
MF	MAIN FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) TJI FLOOR JOISTS PER PLAN R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
LF	LOWER FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL R-10 RIGID INSULATION (MIN. COMPRESSIVE STRENGTH OF 15 PSI) UNDER ENTIRE SLAB @ HEATED AREA
GF	GARAGE FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL
WD	WEATHER DECK @ UPPER FLOOR WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 2x10 DECK JOISTS @16" O.C. SLOPED 1/4" PER 12" TO DRAIN CLOSED CELL FOAM INSUL. TO R-49
OL	OUTDOOR LIVING COVERED DECK WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 11 7/8" TJI/210 DECK JOISTS @16" O.C.

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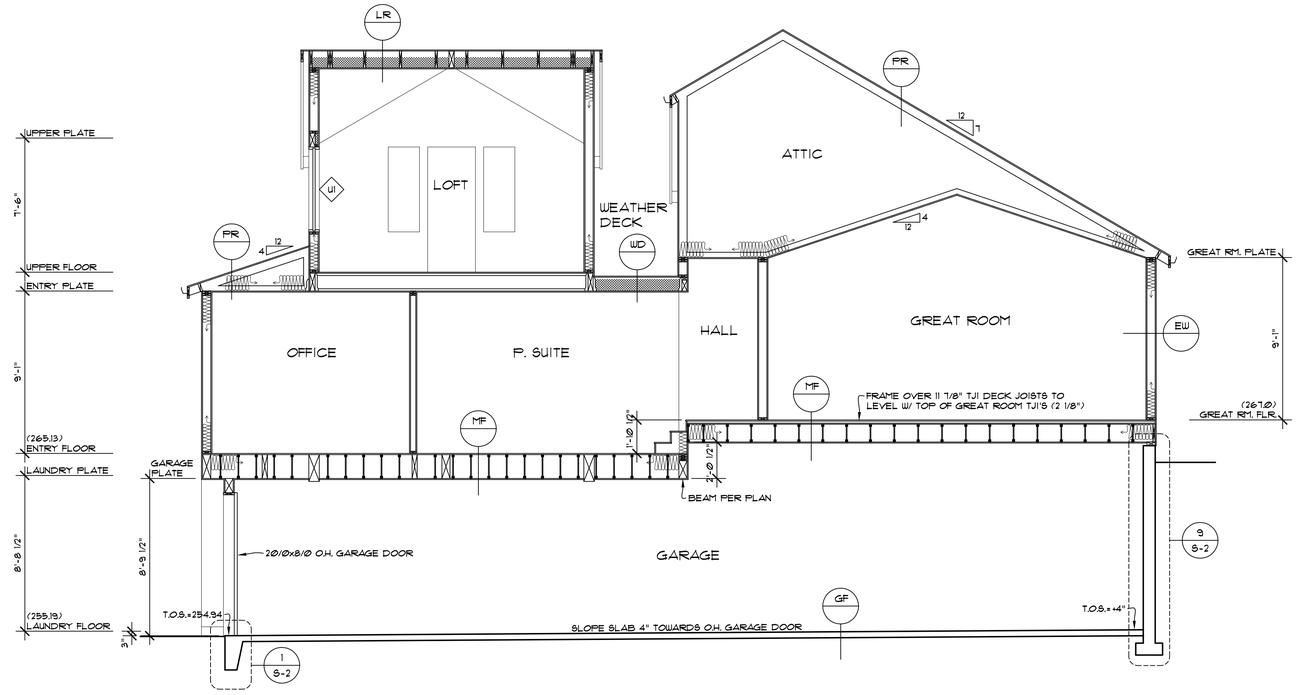
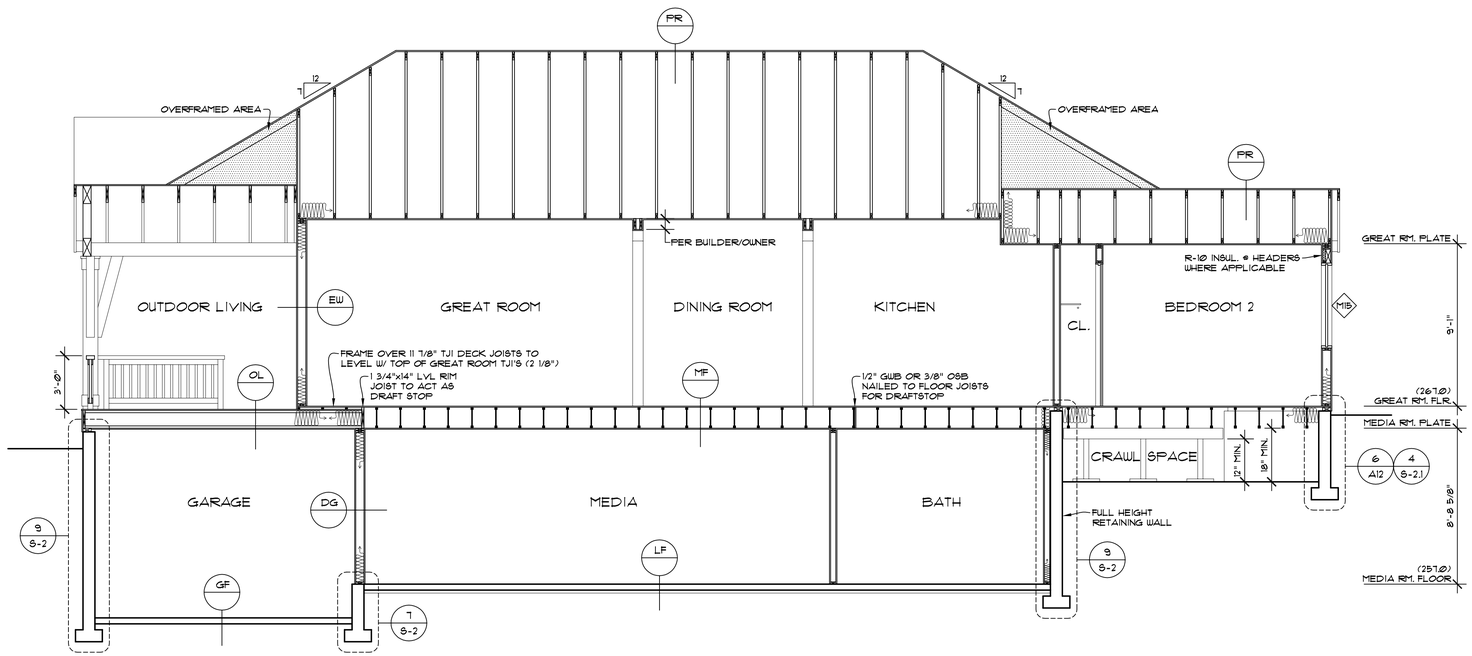


BUILDING SECTION 'C'

SCALE: 1/4" = 1' - Ø"



BUILDING SECTION 'D'

SCALE: 1/4" = 1' - Ø"

LR	LOFT ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER 2x RAFTERS PER PLAN CLOSED CELL FOAM INSULATION TO R-38 @ SINGLE RAFTER ROOF 4 MIL. U.V. POLY. 5/8" GWB
FR	PITCHED ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER TRUSSES OR 2x RAFTERS PER PLAN R-49 INSULATION @ TRUSSED ROOF R-38 INSULATION @ SINGLE RAFTER ROOF W/ VENT BAFFLE AS NEEDED 4 MIL U.V. POLY. 5/8" GWB
EW	EXTERIOR CONDITIONED WALL 1/2" G.W.B. R-21 BATT INSULATION 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
GW	EXTERIOR GARAGE WALL 1/2" G.W.B. 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
DG	DWELLING TO GARAGE WALL 1/2" GWB 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. R-21 BATT INSULATION 1/2" GWB
UF	UPPER FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) 11 7/8" TJI/21Ø FLOOR JOISTS @16" O.C. R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
MF	MAIN FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) TJI FLOOR JOISTS PER PLAN R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
LF	LOWER FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL R-1Ø RIGID INSULATION (MIN. COMPRESSIVE STRENGTH OF 15 PSI) UNDER ENTIRE SLAB @ HEATED AREA
GF	GARAGE FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL
WD	WEATHER DECK @ UPPER FLOOR WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 2x1Ø DECK JOISTS @16" O.C. SLOPED 1/4" PER 12" TO DRAIN CLOSED CELL FOAM INSUL. TO R-49
OL	OUTDOOR LIVING COVERED DECK WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 11 7/8" TJI/21Ø DECK JOISTS @16" O.C.

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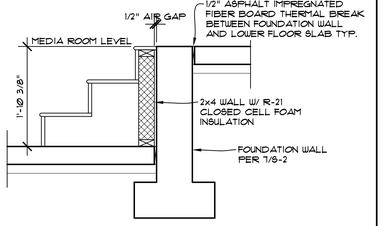
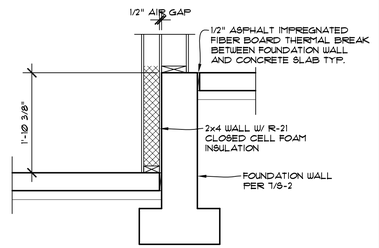
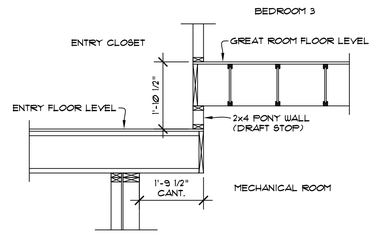


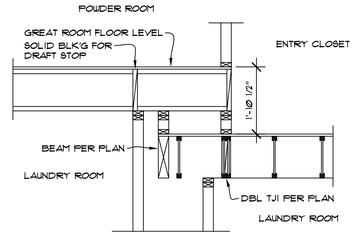
1 STEPPED FLOOR @ STAIR DETAIL
N.T.S.



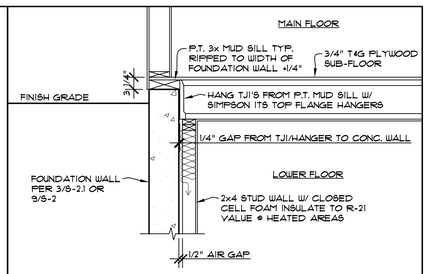
2 STEPPED FLOOR DETAIL
N.T.S.



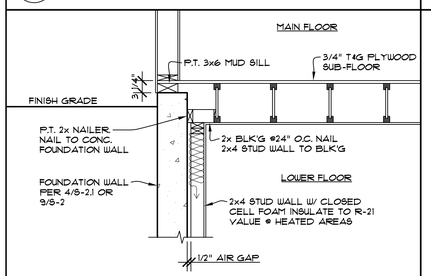
3 STEPPED FLOOR DETAIL
N.T.S.



4 STEPPED FLOOR DETAIL
N.T.S.



5 DROPPED JOIST DETAIL
N.T.S.



6 DROPPED JOIST DETAIL
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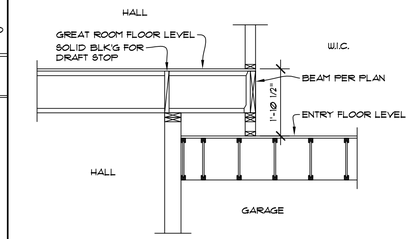
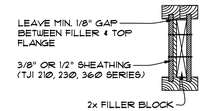
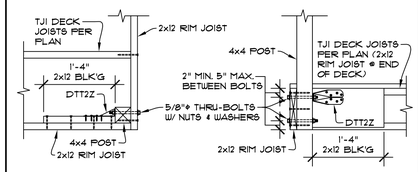


7 STEPPED FLOOR DETAIL
N.T.S.



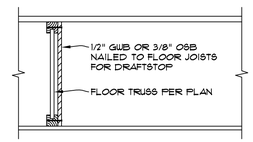
NOTE:
PROVIDE TJI WEB STIFFENER AT ALL DOUBLE TJI'S

8 TJI WEB STIFFENER DETAIL
N.T.S.



NOTE:
TYP. @ ALL GUARDRAIL POSTS

9 GUARDRAIL CONNECTION DETAIL
N.T.S.



10 DRAFTSTOP DETAIL
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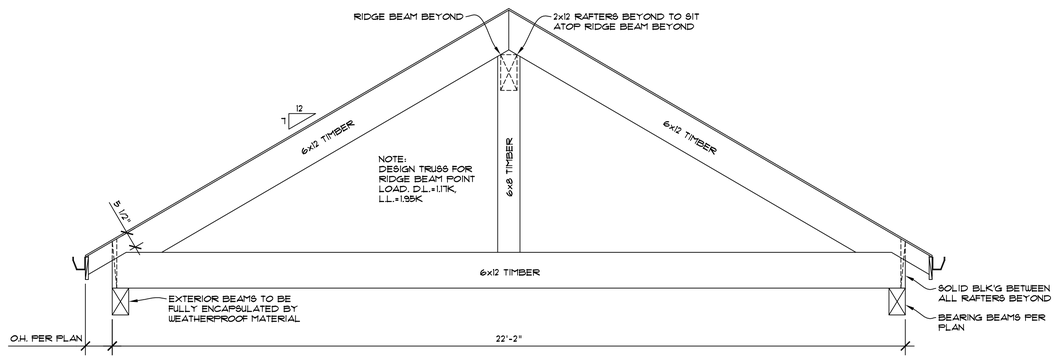

11 CUSTOM TIMBER GABLE END TRUSS @ OUTDOOR LIVING
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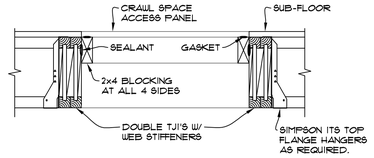

12 CRAWL SPACE ACCESS DETAIL
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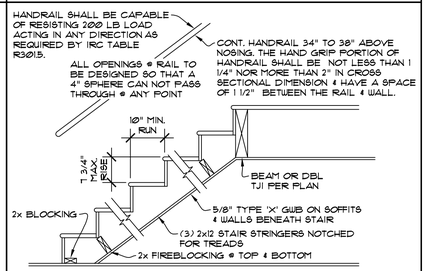
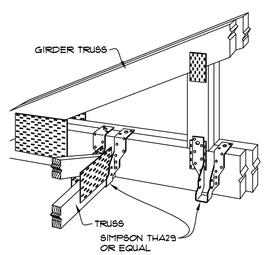


13 STAIR SECTION DETAIL
N.T.S.



14 GIRDER TRUSS DETAIL
N.T.S.

NOT USED

15
N.T.S.

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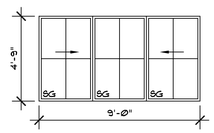
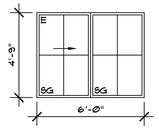
WINDOW SCHEDULE

LOWER FLOOR WINDOWS

U1 — MEDIA — HDR. HT. 7'-10"

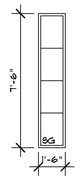


U2 — MEDIA — HDR. HT. 7'-10"

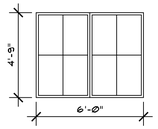


MAIN FLOOR WINDOWS

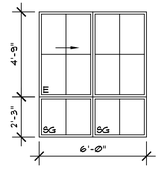
M1 M2 — ENTRY — HDR. HT. 8'-0"



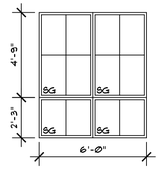
M3 — ENTRY — HDR. HT. 8'-0"



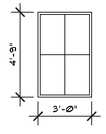
M4 — OFFICE — HDR. HT. 8'-0"



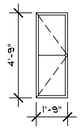
M5 — P. BATH — HDR. HT. 8'-0"



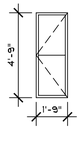
M16 M19 — P. BATH — HDR. HT. 8'-0"



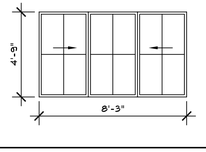
M17 — P. BATH — HDR. HT. 8'-0"



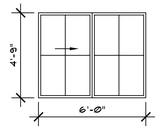
M18 — P. BATH — HDR. HT. 8'-0"



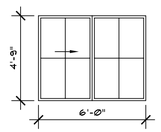
M10 — P. SUITE — HDR. HT. 8'-0"



M11 — DINING — HDR. HT. 8'-0"

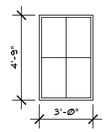


M12 — KITCHEN — HDR. HT. 8'-0"

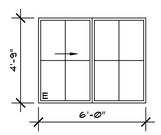


M13 — BATH — HDR. HT. 8'-0"

M14 — BEDROOM 2 — HDR. HT. 8'-0"

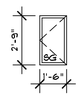


M15 — BEDROOM 2 — HDR. HT. 8'-0"

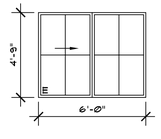


M16 — BATH — HDR. HT. 8'-0"

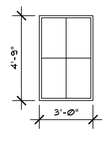
M17 — BATH — HDR. HT. 8'-0"



M18 — BEDROOM 3 — HDR. HT. 8'-0"

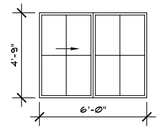


M19 — BEDROOM 3 — HDR. HT. 8'-0"

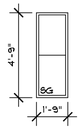


UPPER FLOOR WINDOWS

U1 — LOFT — HDR. HT. 7'-0"



U2 U3 — LOFT — HDR. HT. 7'-0"



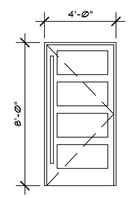
SG = SAFETY GLASS
E = EGRESS WINDOW

U-FACTOR FOR ALL WINDOWS = .028
U-FACTOR FOR DOORS = .020

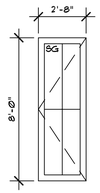
DOOR SCHEDULE

EXTERIOR DOORS

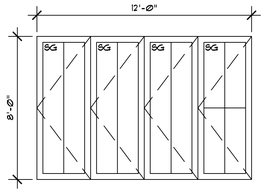
D1 — ENTRY



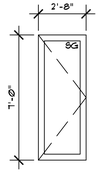
D2 — P. SUITE



D3 — GREAT ROOM



D4 — LOFT



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JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED:

SHEET NO.
A13

STRUCTURAL NOTES

GENERAL REQUIREMENTS & DESIGN CRITERIA

BUILDING CODE & REFERENCE STANDARDS: THE "INTERNATIONAL BUILDING CODE", 2018 EDITION, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

ARCHITECTURAL DRAWINGS: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES: THE PE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

WIND DESIGN: BASIC WIND SPEED (3-SECOND GUST), V = 85 MPH(ASD); WIND IMPORTANCE FACTOR, IW = 1.0; OCCUPANCY CATEGORY = II; EXPOSURE CATEGORY = C;

SEISMIC DESIGN: SEISMIC IMPORTANCE FACTOR IE = 1.0; OCCUPANCY CATEGORY = II; SS = 1.409G; S1 = 0.490G; SITE CLASS = D; SDS = 1.127G; SD1 = 0.490G; SEISMIC DESIGN CATEGORY = D; BASIC SEISMIC FORCE RESISTING SYSTEM = A-13 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE; CS = 0.121; R = 6.5; ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7, SEC 12.8.

SNOW LOAD: GROUND SNOW LOAD, PG = 20 PSF; FLAT ROOF SNOW LOAD, PF = 25 PSF (DRIFT LOADS CONSIDERED PER ASCE 7 WHERE APPLICABLE); SNOW EXPOSURE FACTOR, CE = 1.0; SNOW IMPORTANCE FACTOR, IS = 1.0; THERMAL FACTOR, CT = 1.0.

LIVE LOADS:

ROOF (LIVE)	20 PSF
ROOF (SNOW)	25 PSF
RESIDENTIAL FLOOR	40 PSF
RESIDENTIAL DECK	60 PSF

DESIGN-BY-OTHERS (DEFERRED SUBMITTALS) LOADS: ALL PRE-ENGINEERED/FABRICATED/MANUFACTURED OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT AND CLADDING LOADS WHEN APPLICABLE. DESIGN SHALL CONFORM TO THE PROJECT DRAWINGS AND SPECIFICATIONS, REFERENCE STANDARDS, AND GOVERNING CODE.

ROOF DEAD LOAD	15 PSF
TOP CHORD DEAD LOAD	8 PSF
BOTTOM CHORD DEAD LOAD	7 PSF
TRUSS UPLIFT LOAD (GROSS)	10 PSF

DEFERRED SUBMITTALS: ITEMS DESIGNED BY OTHERS SHALL INCLUDE CALCULATIONS, SHOP DRAWINGS AND PRODUCT DATA. DESIGN SHALL BE PREPARED BY THE SSE AND SUBMITTED TO THE ARCHITECT AND SER FOR REVIEW PRIOR TO SUBMISSION TO THE JURISDICTION FOR APPROVAL. THE SSE SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALCULATIONS AND SHOP DRAWINGS THAT ARE STAMPED AND SIGNED BY THE SSE. REVIEW OF THE SSE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE SSE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE SSE'S DESIGN DRAWINGS AND CALCULATIONS.

INSPECTIONS: ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 109. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO IBC SEC 1703.6.

GEOTECHNICAL INSPECTION: THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL SHALL INSPECT ALL PREPARED SOIL BEARING SURFACES PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL AND PROVIDE A LETTER TO THE OWNER STATING THAT SOILS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION PRESSURE" SHOWN BELOW. SOIL VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

GEOTECHNICAL REPORT: RECOMMENDATIONS CONTAINED IN "GEOTECHNICAL EVALUATION" BY COBALT GEOSCIENCES, LLC., DATED MARCH 12, 2022 WERE USED FOR FOOTING DESIGN.

DESIGN SOIL VALUES:

ALLOWABLE BEARING PRESSURE	3000 PSF
PASSIVE LATERAL PRESSURE	275 PSF/FT
ACTIVE LATERAL PRESSURE (UNRESTRAINED)	35 PSF/FT
AT-REST LATERAL PRESSURE (RESTRAINED)	50 PSF/FT
COEFFICIENT OF SLIDING FRICTION	0.40

SLABS-ON-GRADE & FOUNDATIONS: ALL FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL SLABS-ON-GRADE SHALL BE FOUNDED ON APPROPRIATE SUB-GRADE PREPARATION AS NOTED IN THE GEOTECHNICAL REPORT. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.

COMPACTION: UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER, FOOTINGS SHALL BE PLACED ON COMPACTED MATERIAL AND SHALL BE WELL-GRADED GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING A #2 SIEVE. FILLS PLACED SHALL BE IN MAXIMUM 8" LIFTS AND ALL BEARING SOILS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT USING THE MODIFIED PROCTOR TEST.

CAST-IN-PLACE CONCRETE & REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:
(1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".
(2) IBC CHAPTER 19.
(3) ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SEC 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 318 CHAPTER 5 "CONCRETE QUALITY, MIXING, AND PLACING."

MATERIALS: CONFORM TO ACI 318 CHAPTER 3 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

REINFORCING BARS	ASTM A615, GRADE 60, DEFORMED BARS.
DEFORMED WELDED WIRE FABRIC	ASTM A497
BAR SUPPORTS	CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS."
TIE WIRE	16.5 GAGE OR HEAVIER, BLACK ANNEALED.

MIX DESIGNS: PROVIDE A 5-SACK MINIMUM, 28-DAY COMPRESSIVE STRENGTH F'C = 2,500 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO FOR ALL ISOLATED POST AND CONTINUOUS WALL FOOTINGS, SLABS-ON-GRADE, AND BASEMENT WALLS EXTENDING NO MORE THAN 8" ABOVE FINISH GRADE ELEVATION. FOR BASEMENT WALLS EXTENDING MORE THAN 8" ABOVE FINISH GRADE AND ALL SITE WALLS, PROVIDE A 5-1/2 SACK MINIMUM F'C = 3,000 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO.

MIX DESIGN NOTES:
(1) W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS.
(2) CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.B. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY SER.
(3) AIR CONTENT: CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
(4) SLUMP: CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
(5) NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK: CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'C.

MEASURING, MIXING, AND DELIVERY: CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SEC 5.

REBAR FABRICATION & PLACING: CONFORM TO ACI 301, SEC 3.2.2 "FABRICATION", AND ACI SP-66 "ACI DETAILING MANUAL." CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

SPLICES: CONFORM TO ACI 301, SEC 3.3.2.7. REFER TO PLANS FOR TYPICAL SPLICES.

FIELD BENDING: CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS.

CORNERS BARS: PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

CONCRETE COVER: CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3:

CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER)	1-1/2"
BARS IN SLABS AND WALLS	3/4"

CONSTRUCTION JOINTS: CONFORM TO ACI 301 SEC 2.2.2.5, 5.1.2.3A, 5.2.2.1, AND 5.3.2.6. CONSTRUCTION JOINTS SHALL BE LOCATED AND DETAILED AS ON THE CONSTRUCTION DRAWINGS. USE OF AN ACCEPTABLE ADHESIVE, SURFACE RETARDER, PORTLAND CEMENT GROUT, OR ROUGHENING THE SURFACE IS NOT REQUIRED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. WHERE SHEAR BOND IS REQUIRED, ROUGHEN SURFACES TO 1/4" AMPLITUDE.

WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO:
(1) IBC CHAPTER 23 "WOOD",
(2) NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION",
(3) ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION",

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE SSE IN THE STATE OF WASHINGTON FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER DESIGN LOADS SECTION.

IDENTIFICATION: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:
- SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB OR NLGA. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.

MEMBER USE	SIZE	SPECIES	GRADE
STUDS & POSTS	2x, 4x	HEM-FIR	NO. 2
RAFTERS	2x4 - 2x10	HEM-FIR	NO. 2
BEAMS	4x8 - 4x12	HEM-FIR	NO. 2
BEAMS	6x8 - 6x12	HEM-FIR	NO. 2
POSTS & TIMBERS	6x, 8x	DOUG-FIR	NO. 2

- GLUED LAMINATED TIMBER: CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE-LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED MEMBERS BEAMS TO 2000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

MEMBER USE	SIZES	SPECIES	STRESS CLASS	USES
BEAMS	ALL	DF/DF	24F-1.8E	SIMPLE SPANS
	ALL	DF/DF	24F-1.8E [(-FB)=(+FB)]	CANTILEVER SPANS

- METAL PLATE CONNECTED WOOD ROOF TRUSSES: CONFORM TO IBC SEC 2303.4 "TRUSSES."
- WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1 AND PS-2 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA).

	MINIMUM APA RATING			
LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE	EXPOSURE
ROOF	15/32"	32/16	C-D	1
FLOOR	23/32" T&G	24 OC	STURD-I-FLOOR	1
WALLS	15/32"	32/16	C-D	1
WALLS(ALT)	7/16" OSB	24/16	C-D	1

- JOIST HANGERS AND CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY OR USP EQUIVALENT AS SPECIFIED IN THEIR LATEST CATALOGS. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.
- NAILS AND STAPLES: CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.9.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED ON THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
8d	2-1/2"	0.131"
10d	3"	0.148"
(8d & 10d ALTERNATIVE) PASLODE TETRAGRIP NAILS	2-3/8"	0.113"
12d (16d SINKER)	3-1/4"	0.148"
16d	3-1/2"	0.162"

- LAG BOLTS/BOLTS: CONFORM TO ASTM A307.

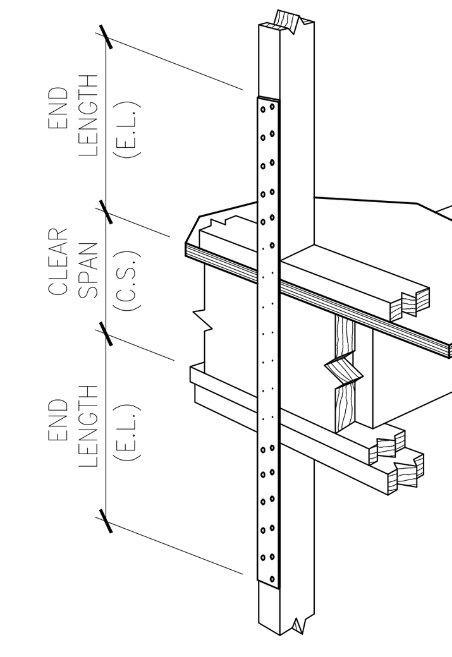
NAILING REQUIREMENTS: PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."
(1) WALL FRAMING: UNLESS OTHERWISE NOTED, ALL INTERIOR WALLS SHALL BE 2X4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2X6 @ 16"OC. PROVIDE (2)BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. UNO, ALL SOLID SAWN LUMBER HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1)TRIM AND (1)KING STUD AND ALL GLULAM OR ENGINEERED WOOD HEADERS BY (2)TRIM AND (2)KING STUDS. AT FRAMED WALLS, UNO, ALL SOLID SAWN LUMBER BEAMS SHALL BE SUPPORTED ON A MINIMUM OF (2) BUNDLED 2X STUDS AND ALL GLULAM OR ENGINEERED WOOD BEAMS ON A MINIMUM OF (3) BUNDLED 2X STUDS. STITCH-NAIL BUNDLED STUDS WITH (2)10D @ 12"OC. UNO, ALL INTERIOR AND EXTERIOR HEADERS SHALL BE 4X6. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. UNO, ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8"-DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. UNO, PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.
(2) ROOF/FLOOR FRAMING: UNLESS OTHERWISE NOTED, PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. UNO, MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNBLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

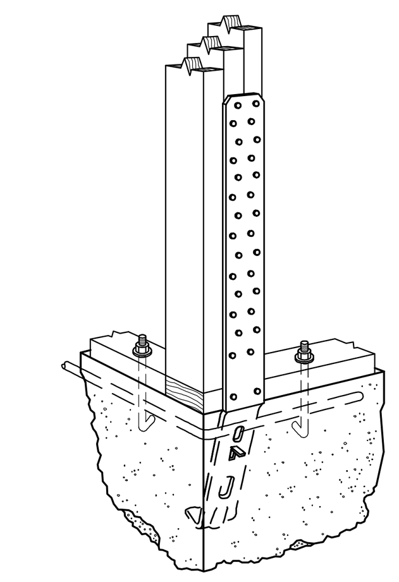
MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE.

PRESERVATIVE TREATMENT: WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.11 "PROTECTION AGAINST DECAY AND TERMITES". CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK.

METAL CONNECTORS/PT WOOD: CK ENGINEERING LLC RECOMMENDS THAT ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ/SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE WOOD.



DETAIL A


DETAIL C

MODEL # (1)	ANCHORAGE TYPE (4,5,6)	FASTENERS	END STUD REQUIRED (2,3)	CAPACITY (LBS) DOUG-FIR	CAPACITY (LBS) HEM-FIR
CS14	FLR-TO-FLR STRAP (E.L.=19")	(30) 10d COMMON	2x STUD	2,490	2,490
LSTHD8/RJ	CAST-IN-PLACE	(16) 16d SINKERS	(2) 2x STUDS[7]	1,975	1,975
STHD10/RJ	CAST-IN-PLACE	(18) 16d SINKERS	(2) 2x STUDS[7]	2,640	2,640
STHD14/RJ	CAST-IN-PLACE	(22) 16d SINKERS	(2) 2x STUDS[7]	3,695	3,695

NOTES:
1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON ANCHOR TIE DOWN CO., INC; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH SER APPROVAL.
2. LOCATE ALL HOLDOWNS AT ENDS OF ALL SHEAR WALLS & FASTEN TO BUNDLED END STUDS.
3. BUNDLED END STUDS SHOULD BE STITCH-NAILED TOGETHER USING MINIMUM (2) 16d @ 10"OC, UNO.
4. LOCATE "HDU#", "LSTHD#" & "STHD#" HOLDOWNS AT CONCRETE FOUNDATION LEVEL. (DETAIL B & C) LOCATE "CS#", "MST", "MSTC#" & "CMST#" STRAPS AT FLOOR-TO-FLOOR CONNECTIONS. (DETAIL A)
5. ALL HOLDOWN ANCHOR BOLTS SHALL BE MIN 5" FROM CONCRETE WALL ENDS.
6. USE "SSTB" FOR 2x SILL PLATES & "SSTBL" FOR 3x SILL PLATES.
7. ADDITIONAL END STUD REQUIRED TO MEET MINIMUM $1\frac{1}{2}$" EDGE DISTANCE FROM CONCRETE CORNER TO "STHD" STRAP. USE "RJ" STYLE WITH "STHD" WHERE RIM JOIST IS PRESENT.
8. INSTALL ALL HOLDOWN HARDWARE PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.

HOLDOWN SCHEDULE
SCALE: N.T.S.
8

WOOD-FRAMED SHEAR WALL SCHEDULE
FOR HEM-FIR/DOUG-FIR STUD FRAMING

SW TYPE	SW SHEATHING APA-RATED [1, 2, 12]	NAIL SIZE & SPACING @ PANEL EDGES [4, 5, 6]	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW [8, 9]	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS [3, 7, 13]: SHEAR NAILING TO WOOD FRAMING BELOW	BOTTOM PL AT FRAMING	SILL PLATE REQUIREMENTS: ANCHOR BOLT TO CONCRETE FOUNDATION [10]	SILL PL AT FOUNDATION [11]	SHEAR LOAD CAPACITY (PLF)
SW-6	15/32" CD-EXT	0.131"ø x $2\frac{1}{2}$" @ 6"OC	CLIP @ 18"OC	0.148"ø x $3\frac{1}{4}$" @ 6"OC	2x	$\frac{5}{8}$"ø @ 48"OC	P.T. 2x	242
SW-4	15/32" CD-EXT	0.131"ø x $2\frac{1}{2}$" @ 4"OC	CLIP @ 14"OC	0.148"ø x $3\frac{1}{4}$" @ 4"OC	3x [15]	$\frac{5}{8}$"ø @ 32"OC	P.T. 2x	353
						$\frac{5}{8}$"ø @ 48"OC	P.T. 3x [15]	

NOTES:
1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY
2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUDS.
3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.
4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.
5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
6. SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
7. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148"Ø x $2\frac{1}{2}$" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"Ø x $2\frac{1}{2}$" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
8. BASED ON 0.131"Ø x $1\frac{1}{2}$" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131"Ø x $2\frac{1}{2}$" NAILS WHERE INSTALLED OVER SHEATHING.
9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED $\frac{13}{16}$"x$1\frac{3}{4}$" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN $\frac{1}{2}$" OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR (4) 0.131"Øx$2\frac{1}{2}$" TOENAILS.

WOOD-FRAMED SHEAR WALL SCHEDULE
SCALE: N.T.S.
12

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REGISTERED PROFESSIONAL ENGINEER
4/27/2022

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REVISION #	DATE	DESCRIPTION:

Drawn By: PK
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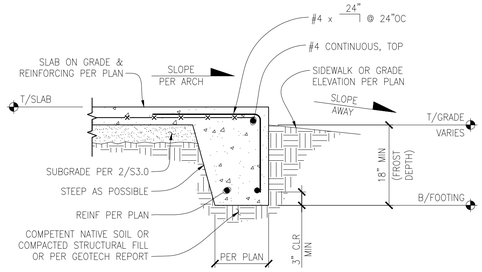
Date: 04-27-2022

CK JOB NO.
22-021

STRUCTURAL NOTES/SCHED.

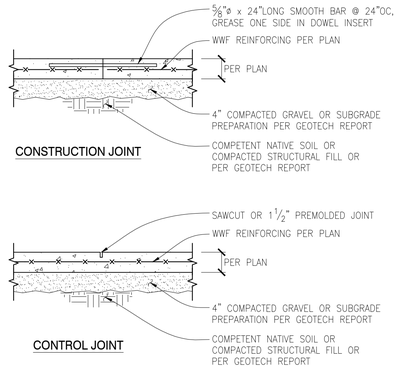
S-1.0



TYPICAL THICKENED SLAB EDGE FOOTING

SCALE: 3/4" = 1'-0"

1



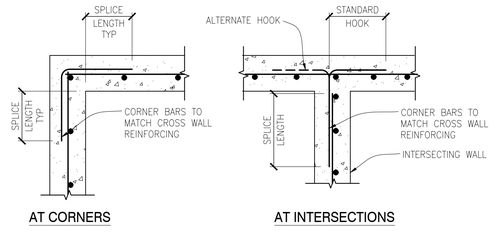
NOTES:

1. FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FOUNDATION/SLAB PLAN
2. USE "SOFTCUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST
3. PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX

TYPICAL SLAB ON GRADE JOINT DETAILS

SCALE: N.T.S.

2



NOTES:

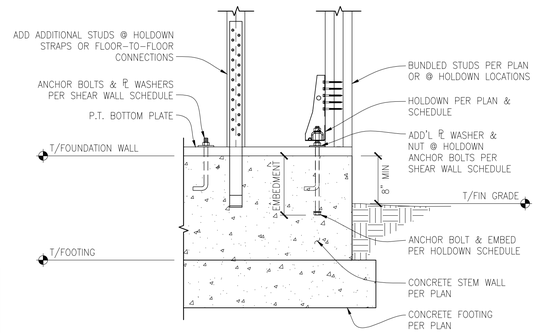
1. WALL SIZE & REINFORCING PER PLAN.
2. CORNER BARS SIZE & SPACING TO MATCH HORIZONTAL REINFORCING.

SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"

TYPICAL CORNER BARS AT CONCRETE WALLS - SINGLE MAT

SCALE: N.T.S.

3

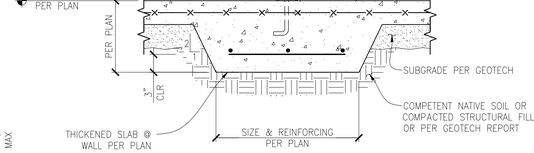


TYPICAL SHEAR WALL HOLDOWN CONNECTIONS AT FOUNDATION CONCRETE WALL

SCALE: N.T.S.

4

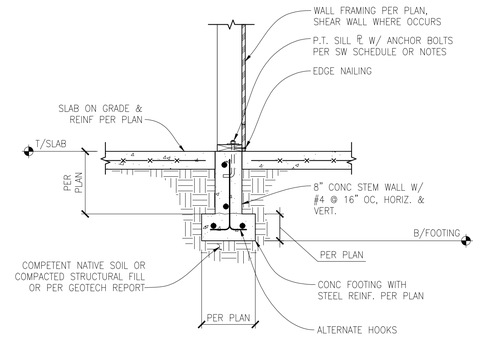
SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"



TYPICAL INTERIOR THICKENED SLAB FOOTING AT BEARING / SHEAR WALL

SCALE: 1" = 1'-0"

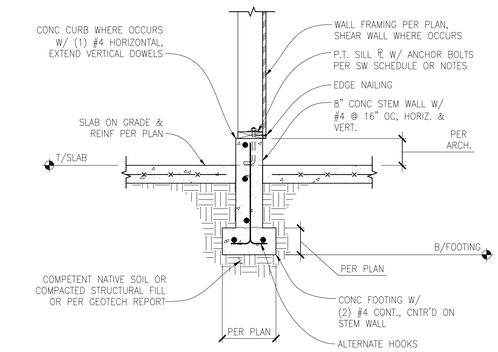
6



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE

SCALE: 3/4" = 1'-0"

7

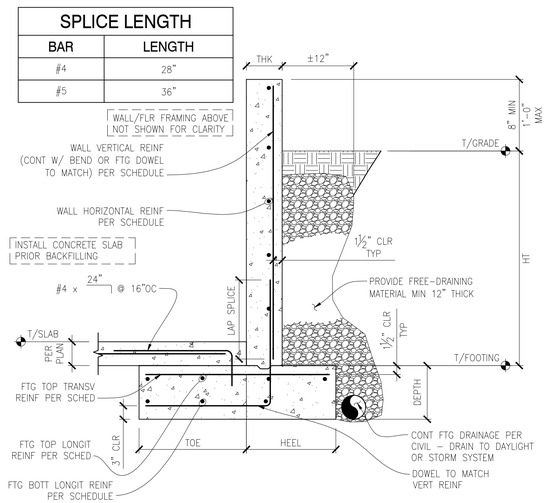


TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE

SCALE: 3/4" = 1'-0"

8

SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"

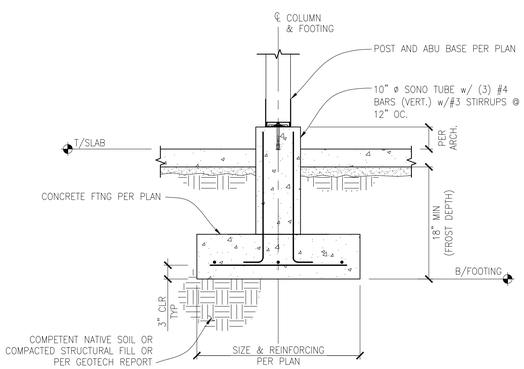


RETAINING WALL/FOOTING SCHEDULE									
WALL				FOOTING					
SIZE		REINFORCEMENT		SIZE			REINFORCEMENT		
HT (MAX)	THK	VERTICAL	HORIZONTAL	TOE	HEEL	DEPTH	TOP/TRANSV	TOP/LONGIT	BOTTOM/LONGIT
4'-0"	8"	#4 @ 12"OC	#4 @ 12"OC	1'-0"	1'-6"	10"	#4 @ 10"OC	(3) #4	(2) #4
6'-0"	8"	#4 @ 8"OC	#4 @ 12"OC	2'-6"	1'-6"	10"	#4 @ 10"OC	(4) #4	(3) #4
8'-0"	8"	#5 @ 10"OC	#4 @ 12"OC	4'-0"	1'-6"	14"	#5 @ 10"OC	(5) #5	(3) #5
10'-0"	10"	#6 @ 9"OC	#4 @ 10"OC	5'-0"	2'-0"	16"	#6 @ 10"OC	(7) #5	(6) #5

RETAINING WALL SCHEDULE

SCALE: N.T.S.

9



NEW FOOTING/POST CONNECTION

SCALE: 3/4" = 1'-0"

10

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4/27/2022

HELIX HOMES
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REVISION #	DATE	DESCRIPTION:

Drawn By: PK
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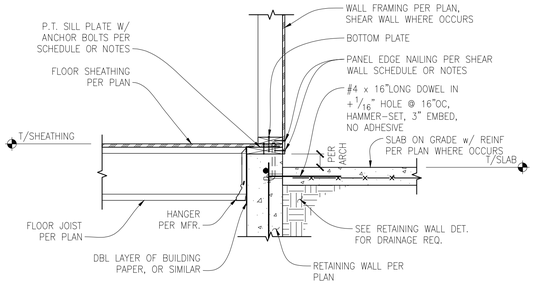
CK JOB NO.
22-021

STRUCTURAL DETAILS

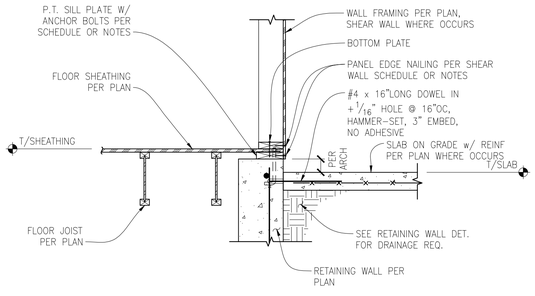
S-2.0



EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RETAINING WALL

1

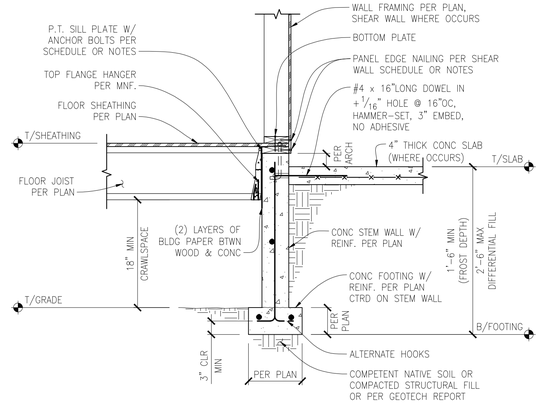
SCALE: 3/4" = 1'-0"



EXTERIOR SHEAR WALL WITH JOISTS PERARALLEL TO RETAINING WALL

2

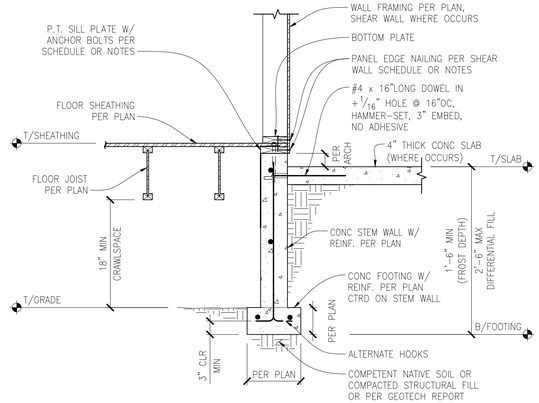
SCALE: 3/4" = 1'-0"



CRAWL SPACE EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RAISED STEM WALL

3

SCALE: 3/4" = 1'-0"



SHEAR WALL WITH JOISTS PARALLEL TO RAISED STEM WALL

4

SCALE: 3/4" = 1'-0"

MAIN FLOOR SHEAR WALL TO FOUNDATION CONN. (JOISTS PERPENDICULAR)

5

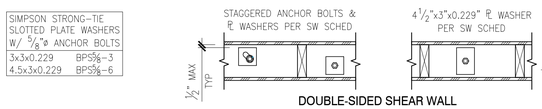
SCALE: 3/4" = 1'-0"

POST AND BEAM AT CRAWLSPACE

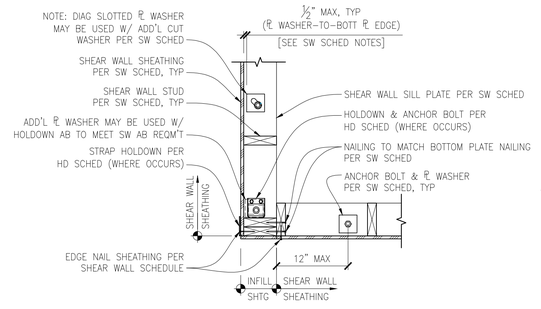
6

SCALE: 3/4" = 1'-0"

SIMPSON STRONG-TIE SLOTTED PLATE WASHERS W/ 5/8"ø ANCHOR BOLTS	
3x3x0.229	BPS5/8-3
4.5x3x0.229	BPS5/8-6



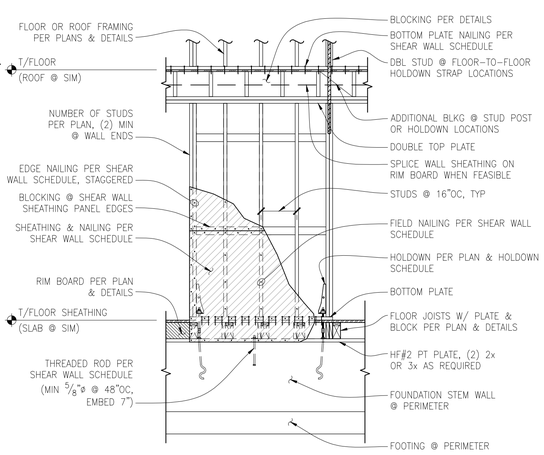
DOUBLE-SIDED SHEAR WALL ANCHOR BOLT OPTIONS



TYPICAL PLAN VIEW - SHEAR WALL HOLDOWNS & ANCHOR BOLTS

7

SCALE: 1" = 1'-0"



TYPICAL SHEAR WALL ELEVATION

8

SCALE: N.T.S.

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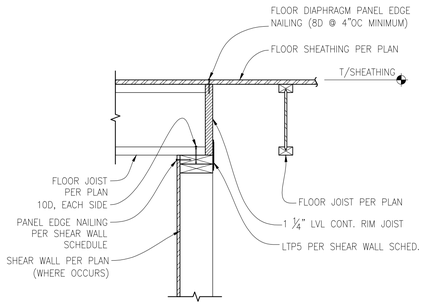
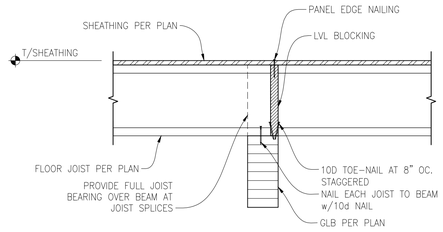
STRUCTURAL DETAILS

S-2.1



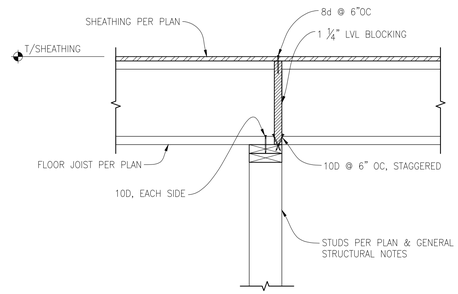
FLOOR JOIST TO SHEAR WALL CONNECTION 1

SCALE: 1" = 1'-0"



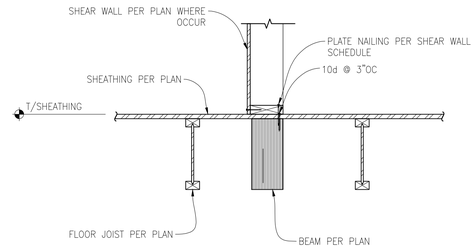
FLOOR JOIST/DROPPED BEAM CONNECTION 2

SCALE: 1" = 1'-0"



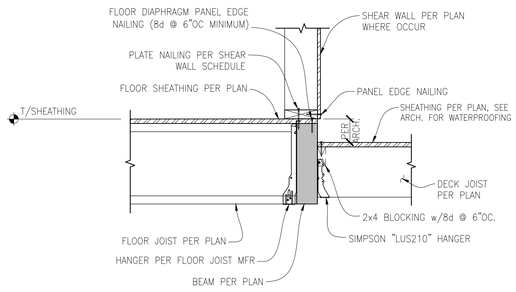
FLOOR JOIST PERP. AT INTERIOR BEARING WALL 3

SCALE: 1" = 1'-0"



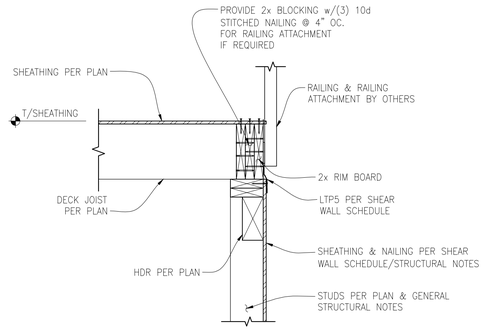
FLOOR BEAM AT BEARING/SHEAR WALL CON. 4

SCALE: 1" = 1'-0"



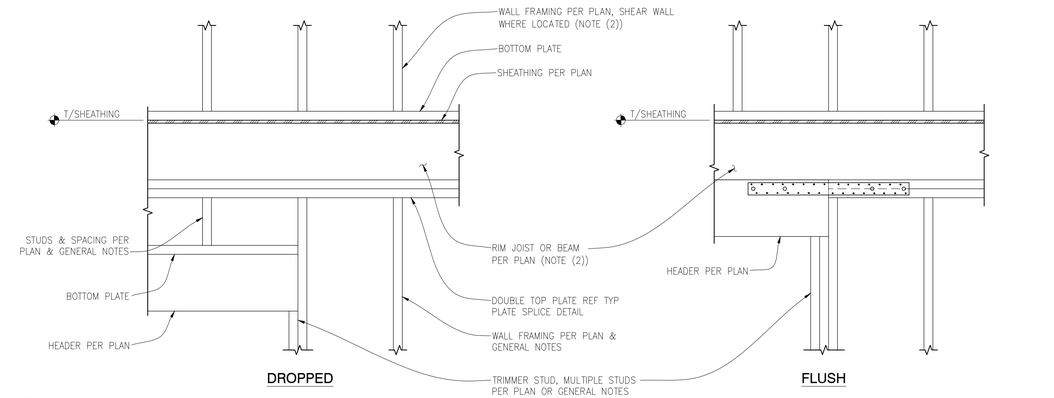
FLOOR JOIST/FLUSH BEAM/DECK JOIST CON. 5

SCALE: 1" = 1'-0"



EXTERIOR WALL PERPENDICULAR TO DECK JOISTS 6

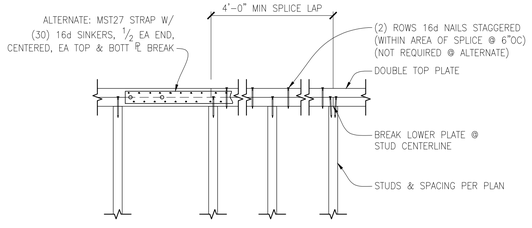
SCALE: 1" = 1'-0"



NOTES:
1. WALL SHEATHING NOT SHOWN FOR CLARITY
2. WHERE ROOF ABOVE, RAFTERS OR PRE-MANUFACTURED TRUSSES PER PLAN REPLACES RIM JOIST

TYPICAL HEADER FRAMING 8

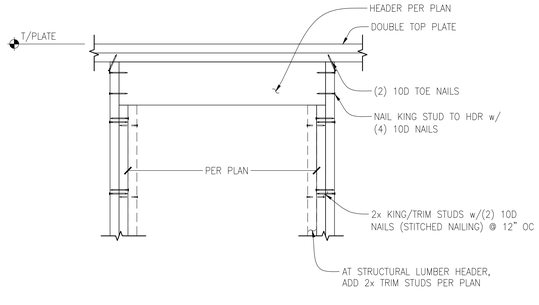
SCALE: 1" = 1'-0"



NOTE:
FLOOR JOISTS NOT SHOWN FOR CLARITY.

TYPICAL PLATE SPLICE DETAIL 9

SCALE: N.T.S.



NOTE:
FLOOR/ROOF FRAMING NOT SHOWN FOR CLARITY.

TYPICAL HEADER CONNECTION 10

SCALE: N.T.S.

CK ENGINEERING LLC
PROFESSIONAL STRUCTURAL ENGINEERING SERVICES
19229 38th Pl. NE
Lake Forest Park, WA 98155
Phone: (206) 417-0670

STEVEN COOKE
STATE OF WASHINGTON
44212
REGISTERED PROFESSIONAL ENGINEER
4/27/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

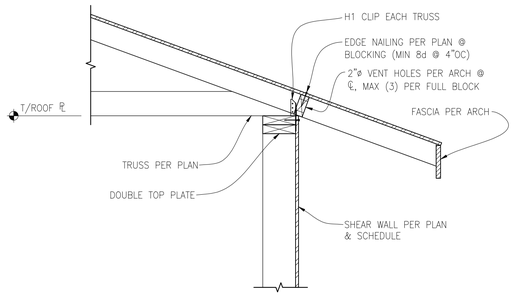
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 04-27-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

S-3.0



EXTERIOR SHEAR WALL PERPENDICULAR TO ROOF TRUSS

1

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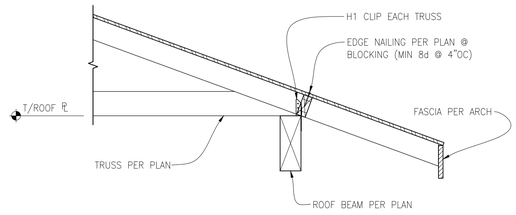
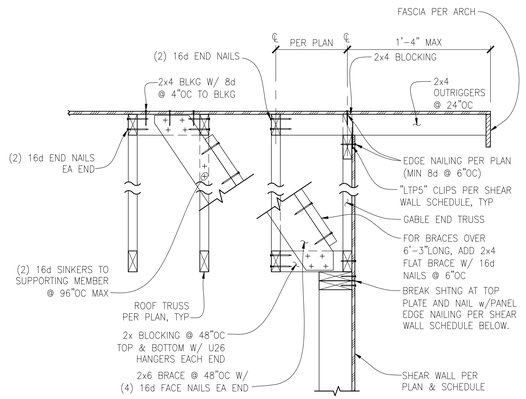


EXTERIOR ROOF TRUSS BEAM CONNECTION

2

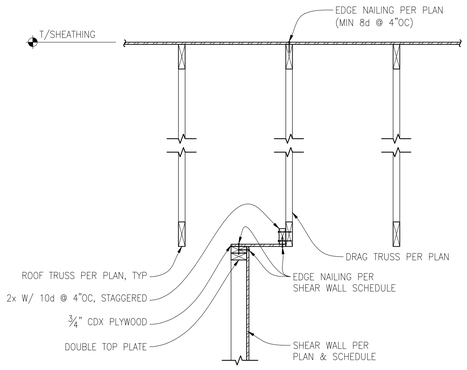
SCALE: 1" = 1'-0"



EXTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS

3

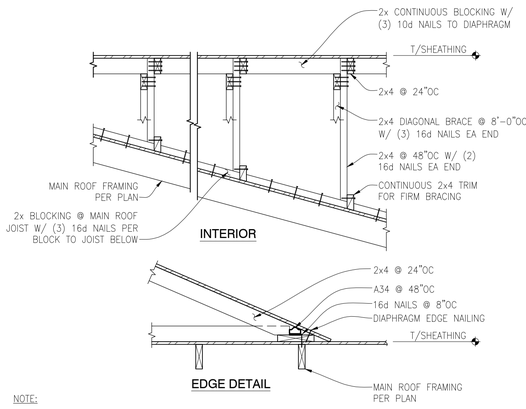
SCALE: N.T.S.



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

4

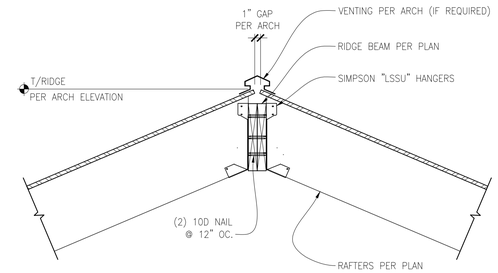
SCALE: ¾" = 1'-0"



TYPICAL ROOF OVERFRAMING DETAIL

5

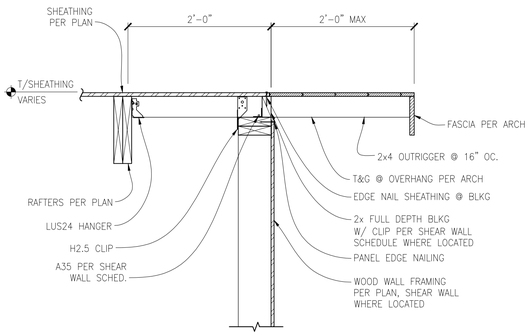
SCALE: N.T.S.



TYPICAL SECTION AT RIDGE BEAM

6

SCALE: 1" = 1'-0"



TYPICAL OUTRIGGER AT GABLE END

7

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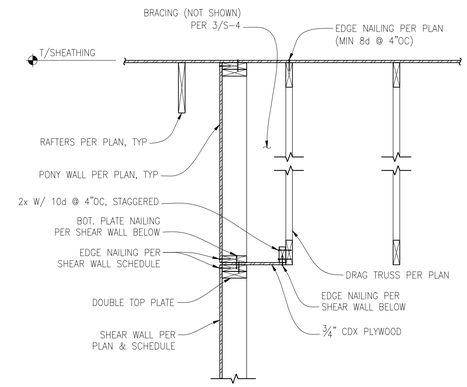
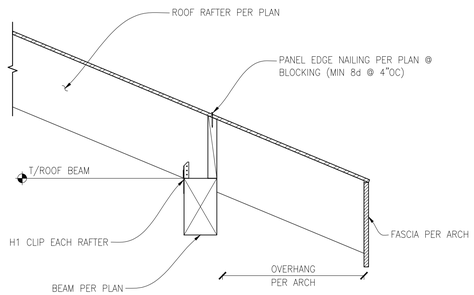


INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

8

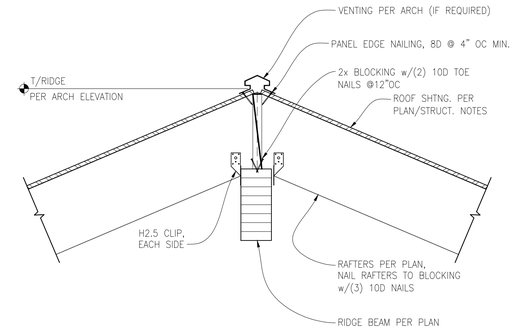
SCALE: ¾" = 1'-0"



EXTERIOR ROOF RAFTERS TO ROOF BEAM CONNECTION

9

SCALE: 1" = 1'-0"



RIDGE BEAM TO RAFTERS CON.

10

SCALE: 1" = 1'-0"

CK ENGINEERING LLC
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19229 38th Pl. NE
Lake Forest Park, WA 98155
Phone: (206) 417-0670

STEVEN COOKE
STATE OF WASHINGTON
49213
REGISTERED PROFESSIONAL ENGINEER
4/27/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

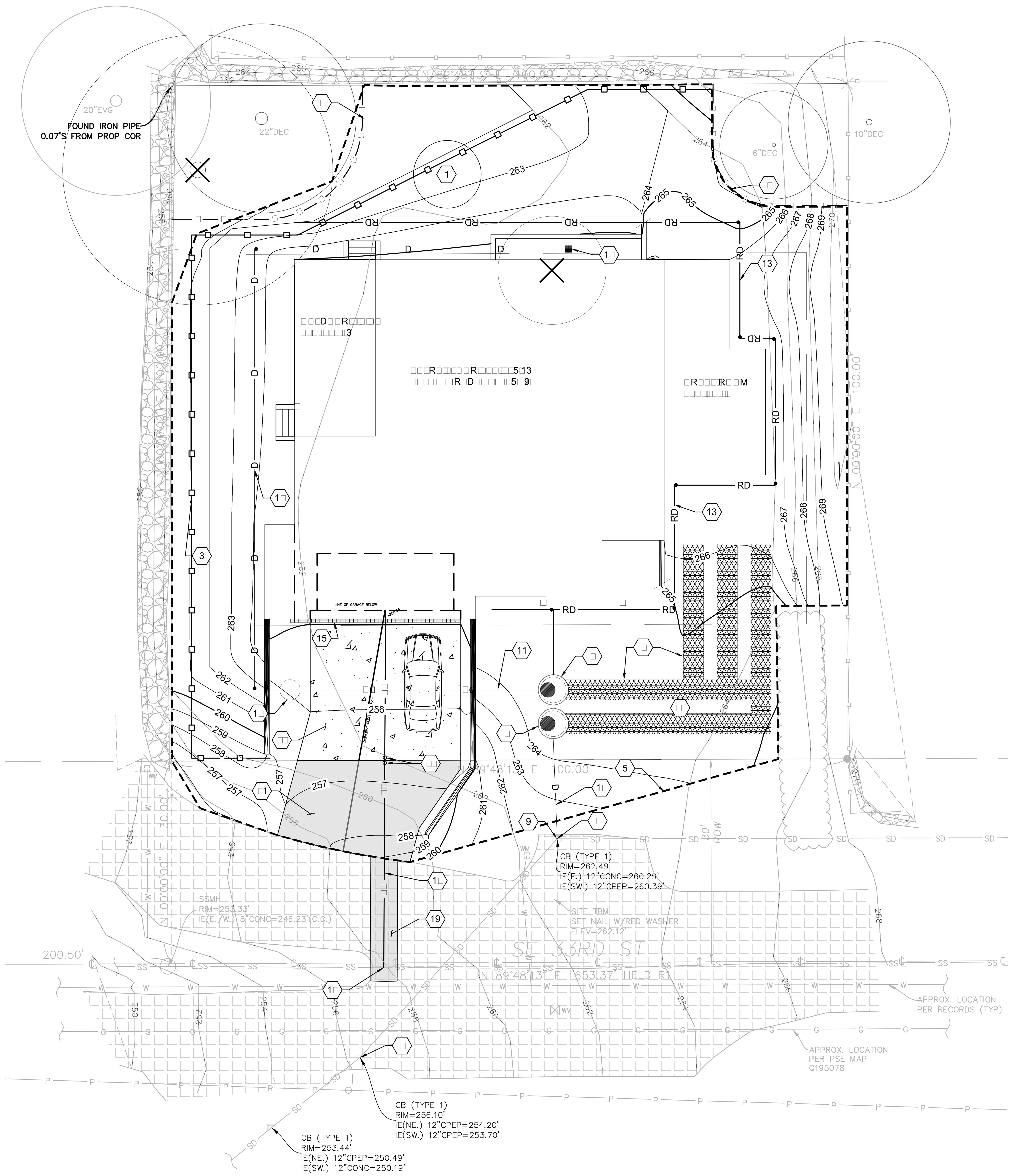
REVISION #	DATE	DESCRIPTION:

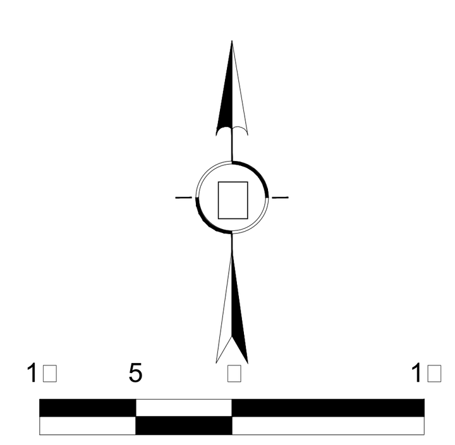
Drawn By: PK
Checked By: SC
Date: 04-27-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

S-4.0





DATE PLOTTED: 5/4/2022 4:15:49 PM FILENAME: 22022C-SITE.DWG BY: ----

Know what's below. Call before you dig.

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

bcra
T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET, SUITE 200, SEATTLE, WA 98101

SEAL

PROJECT

REVISIONS

DATE

BCRA NO.

DRAWN BY:

DESIGNED BY:

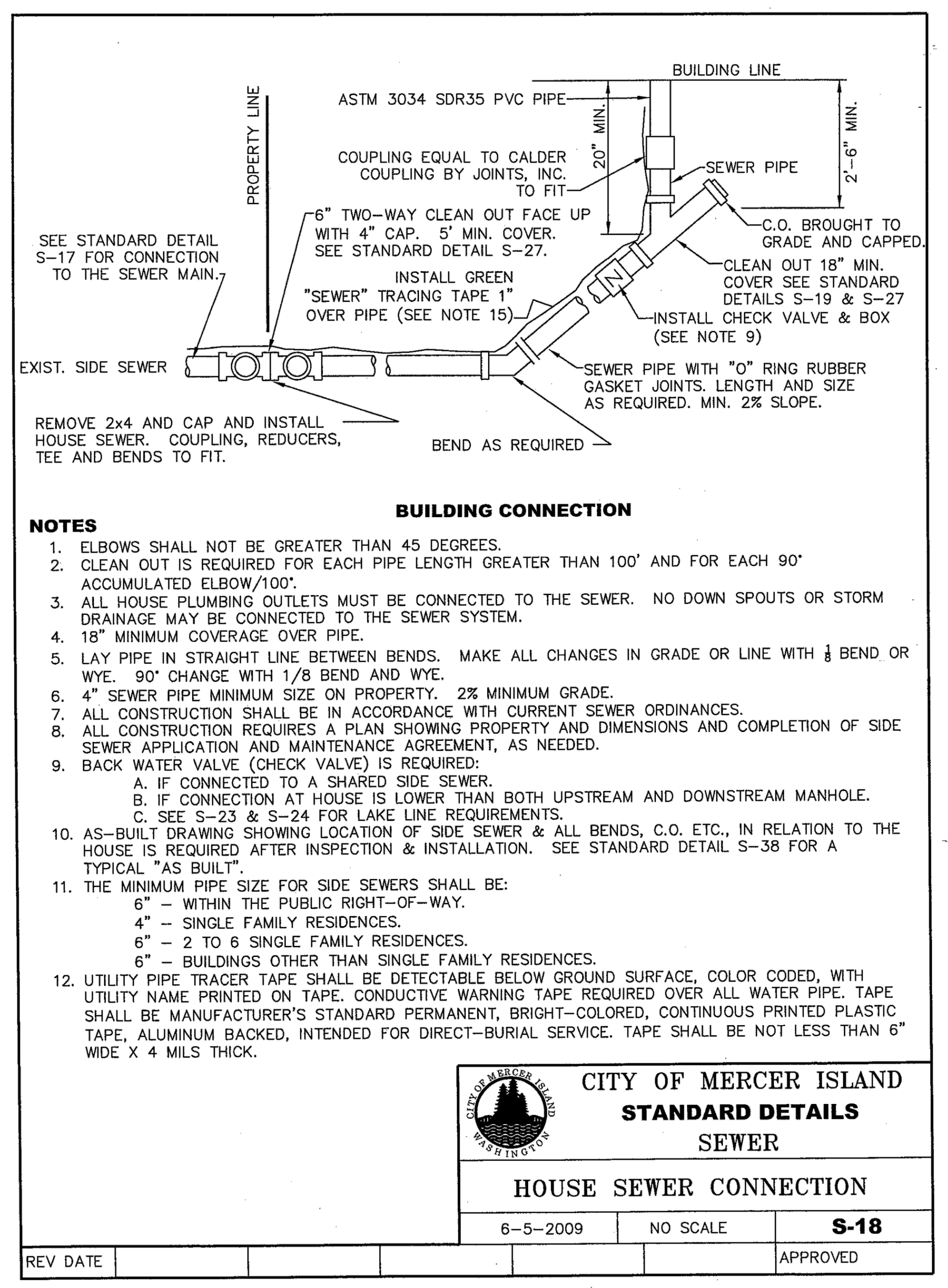
REVIEWED BY:

SHEET TITLE

SHEET

C-001

STORM DESIGN



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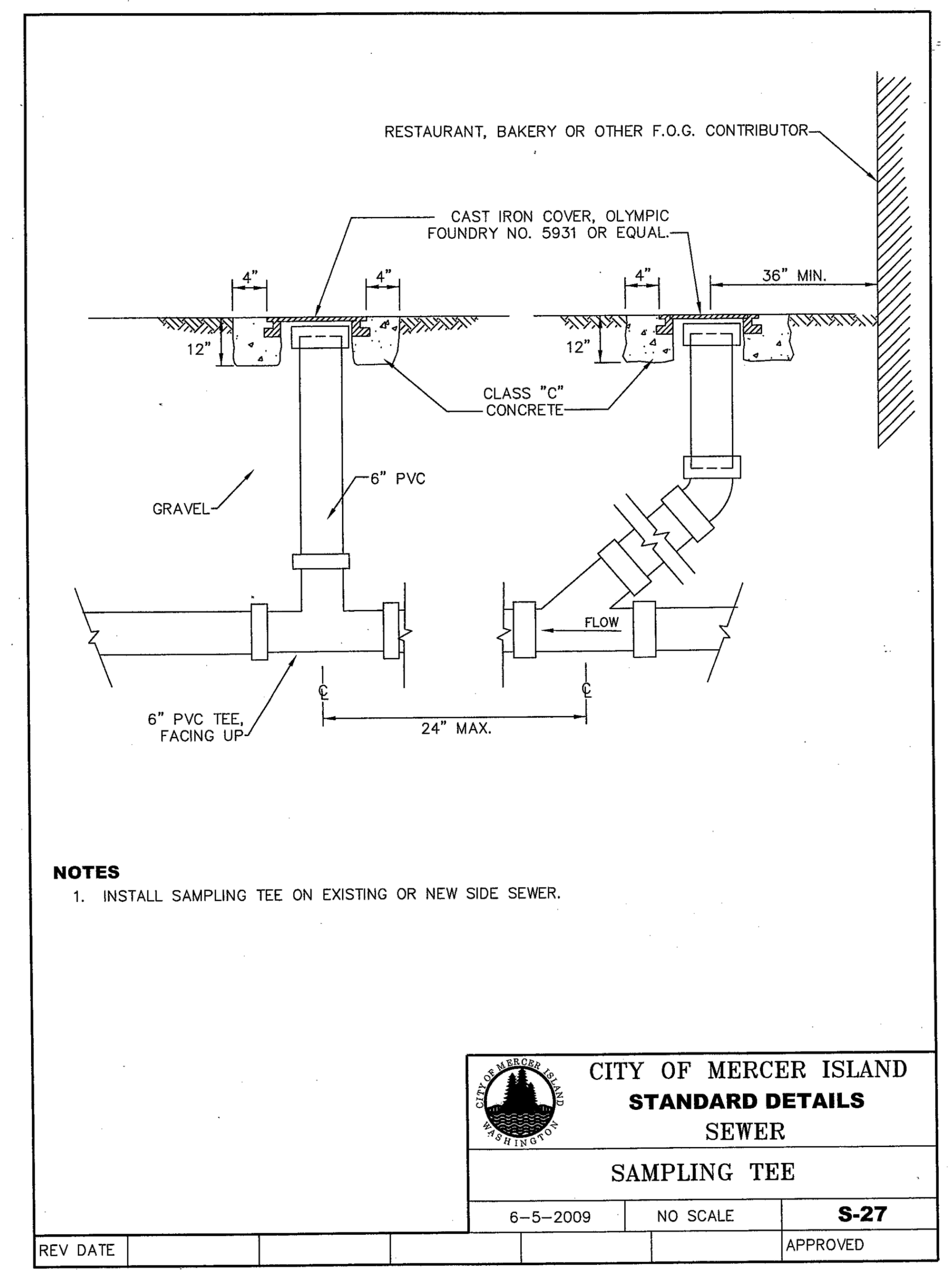

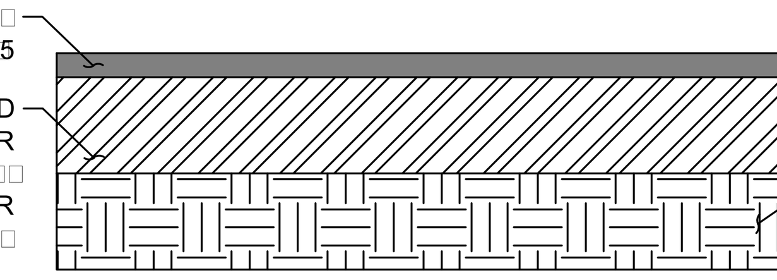

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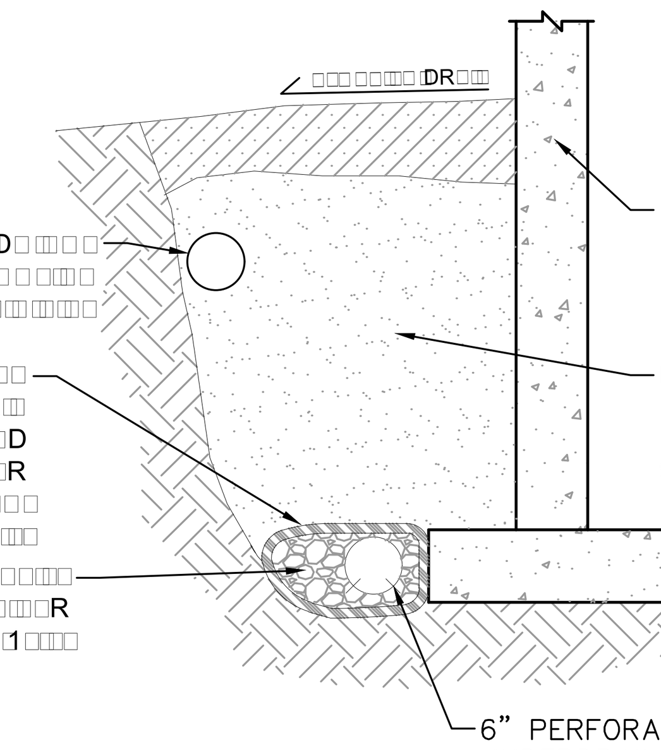

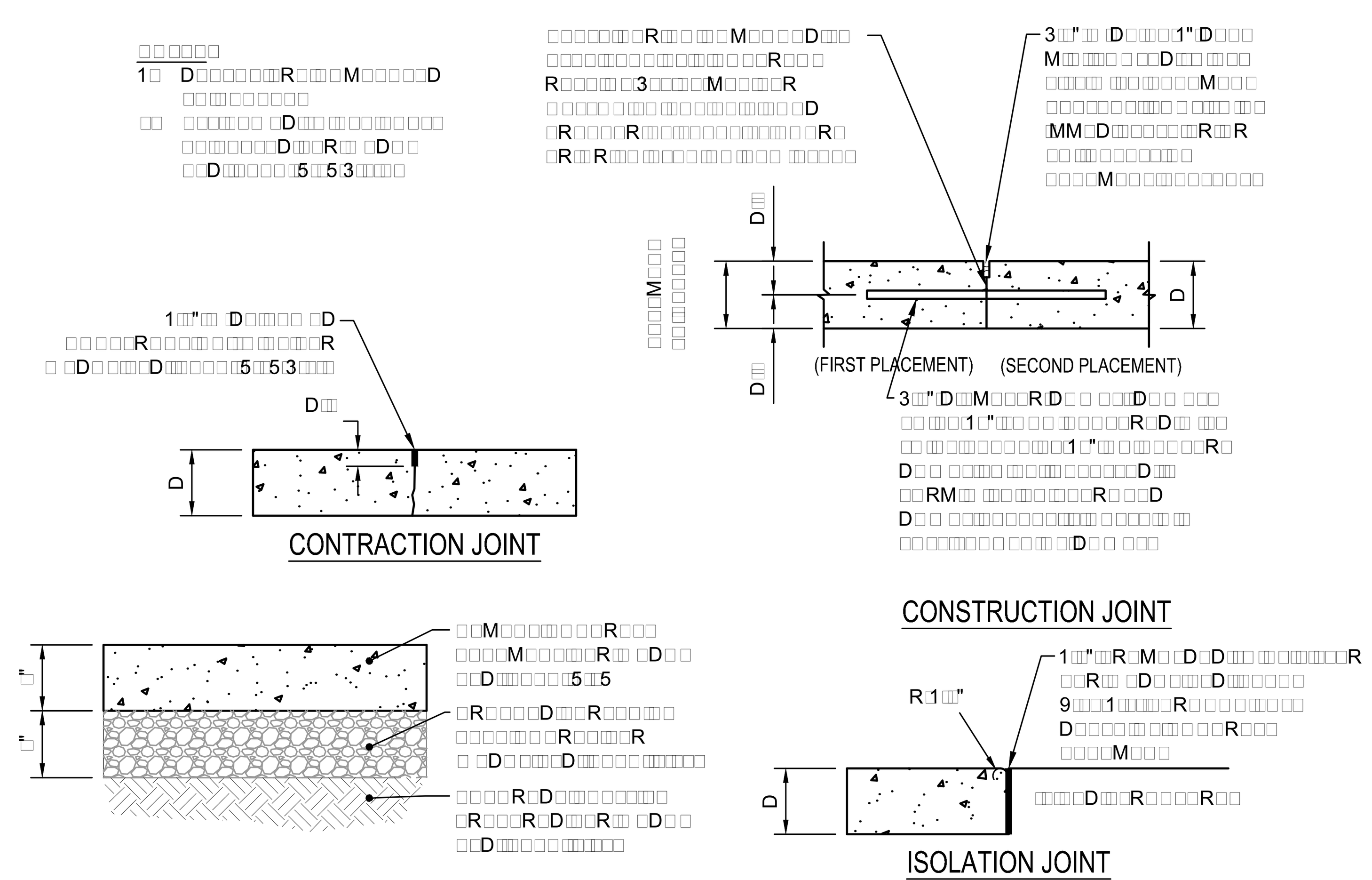

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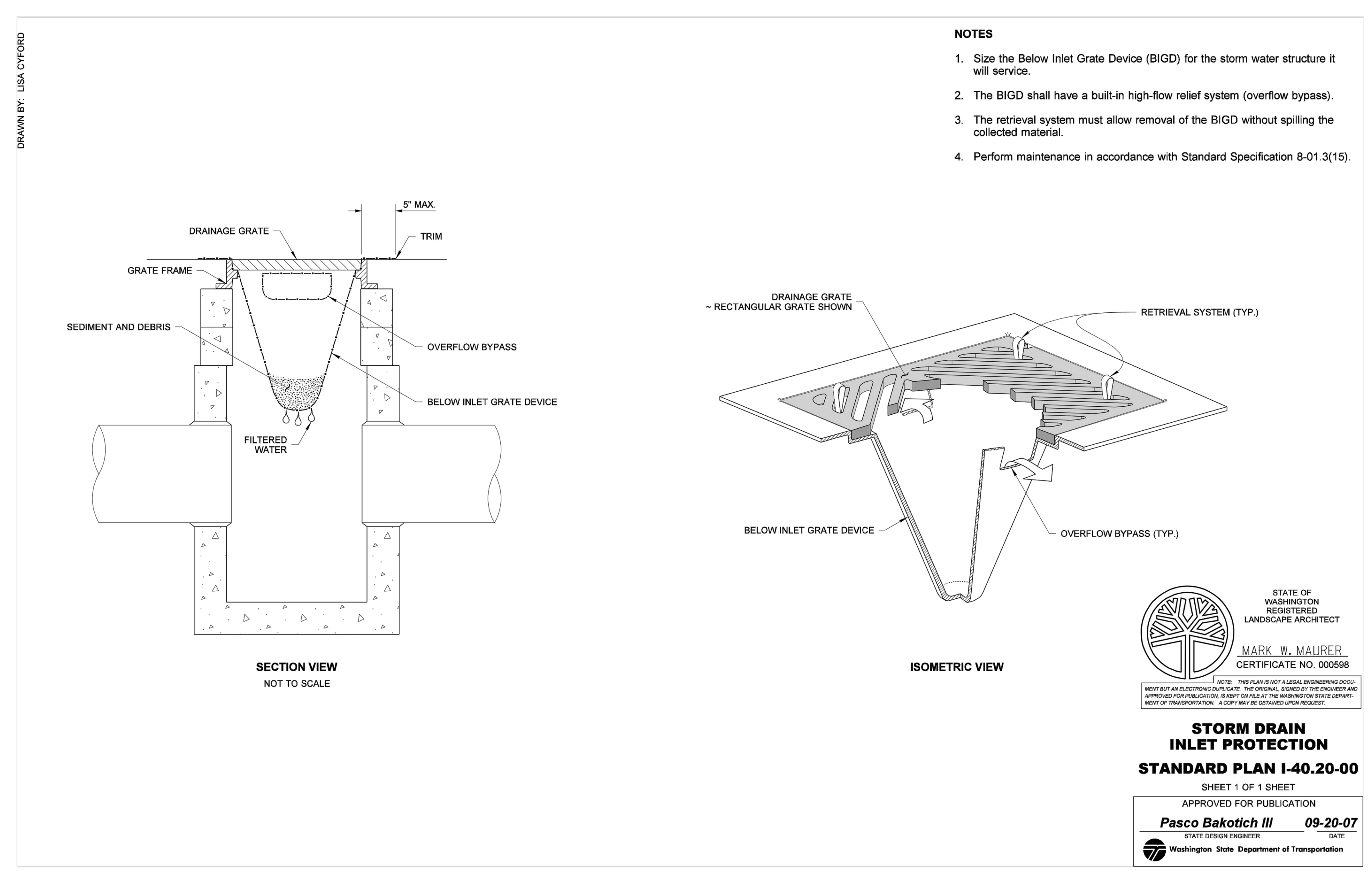

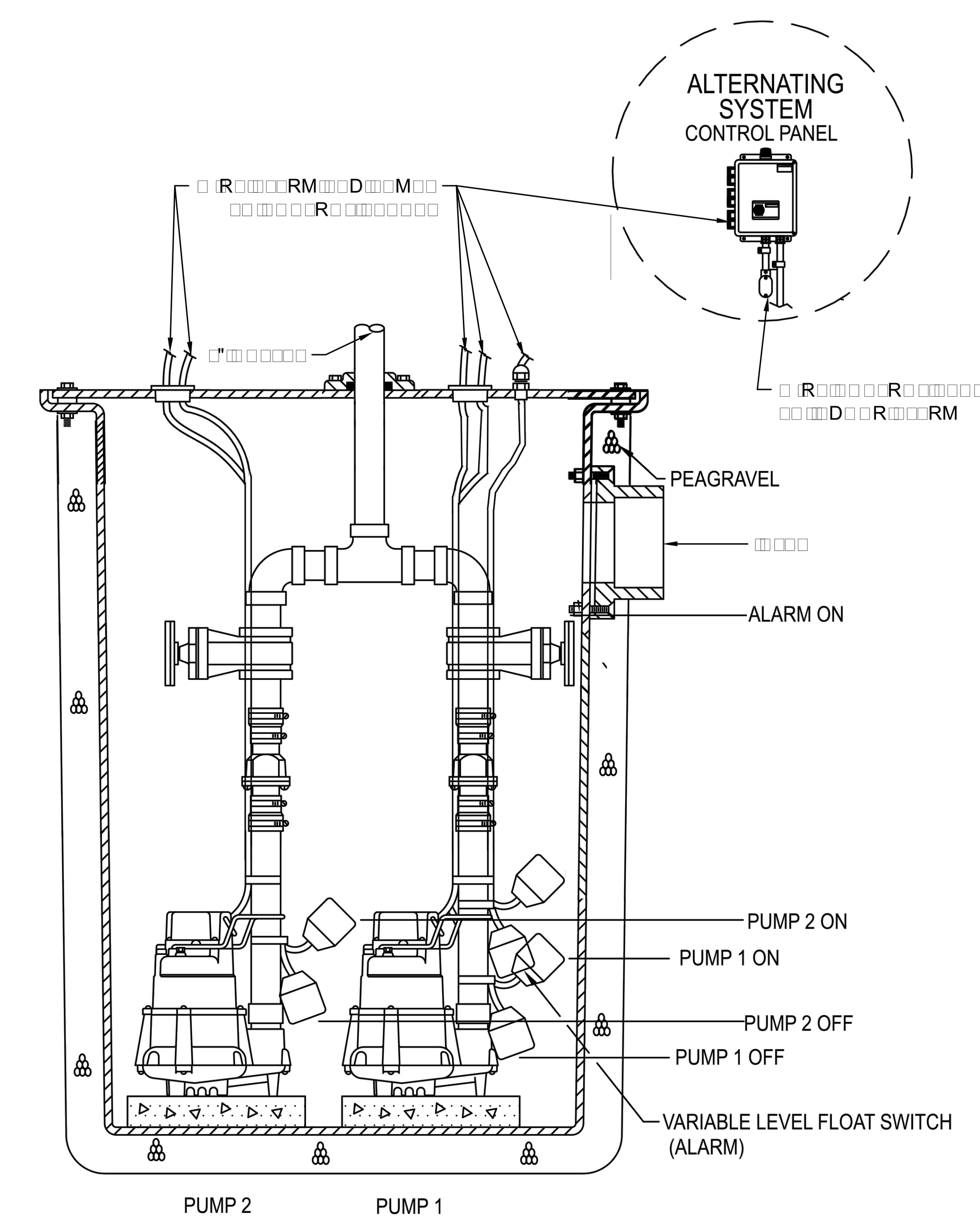

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PROJECT

REVISIONS

DATE

BCRA NO.

DRAWN BY: DESIGNED BY:

REVIEWED BY:

SHEET TITLE

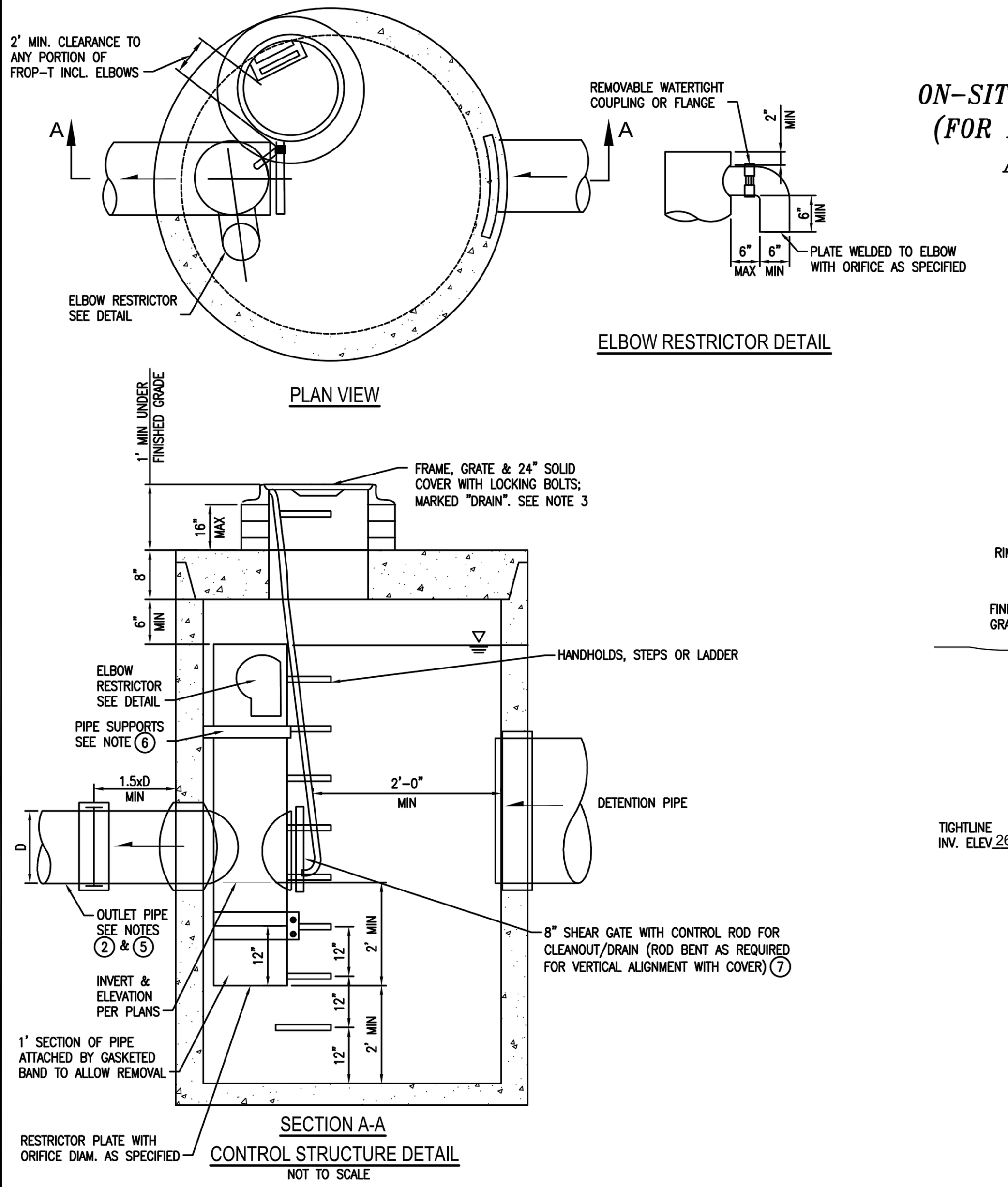
SHEET

C-002

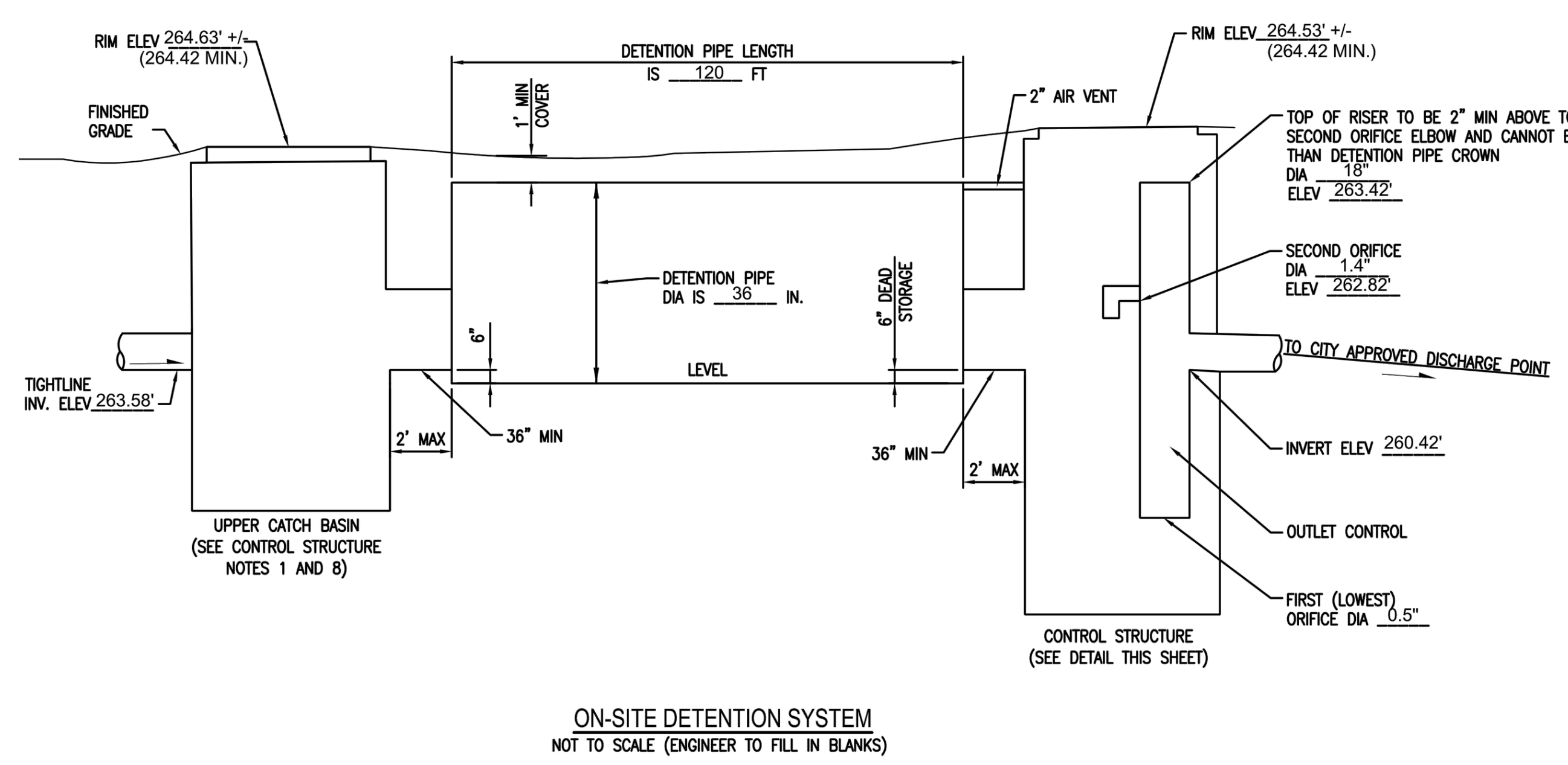
STORM DESIGN

DATE PLOTTED: 5/4/2022 4:15:49 PM FILENAME: 22022C-SITE.DWG BY: ----

ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)



OWNER: XXXXX	ADDRESS: 6922 33RD ST SE, MERCER ISLAND, WA	PREPARED BY: JUSTIN GOROCH, P.E.
PERMIT #: TBD		PHONE: (253) 627 - 4367
		DATE: 03/XX/2022
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 3,871	DETENTION PIPE DIA (INCH): 36 — DETENTION PIPE LENGTH (FT): 120	ORIFICE #1 DIA 0.5 INCH, ELEV 258.42'
SOIL TYPE: ARENTS, ALDERWOOD MATERIAL (HSG B/D)	PIPE MATERIAL: PER ON-SITE DETENTION SYSTEM NOTE #3	ORIFICE #2 DIA 1.4 INCH, ELEV 262.82'



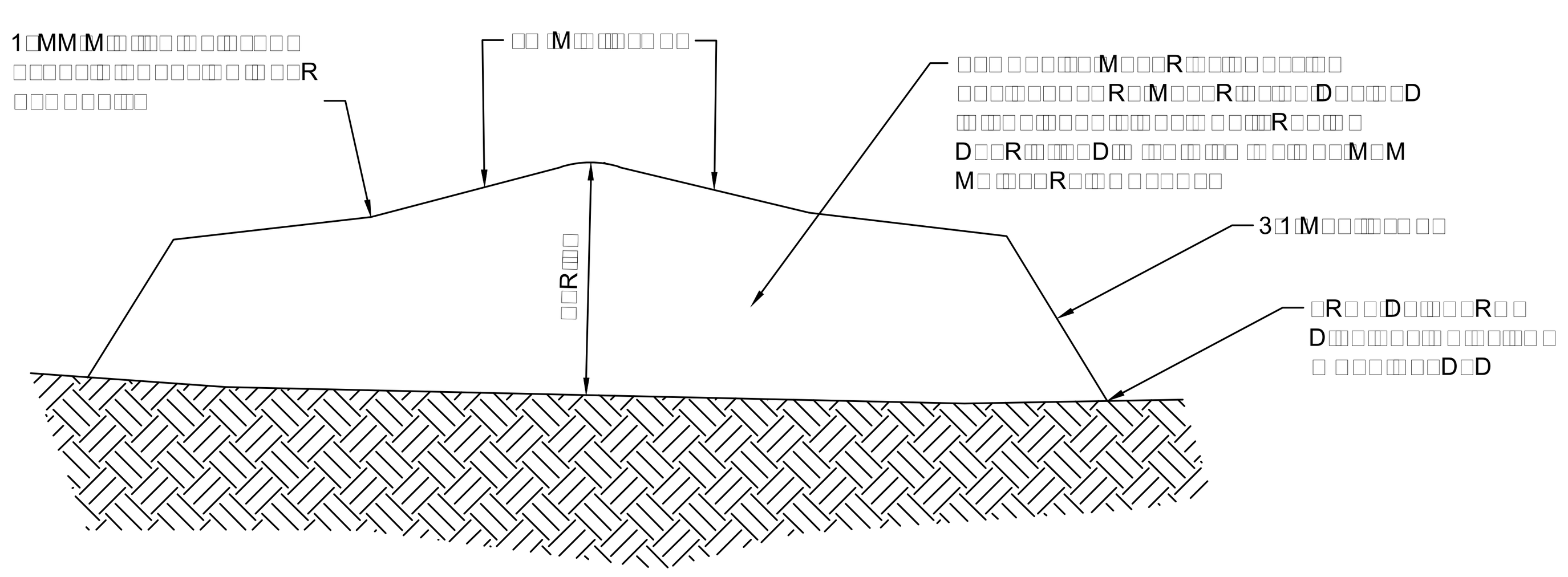
ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STANLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

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



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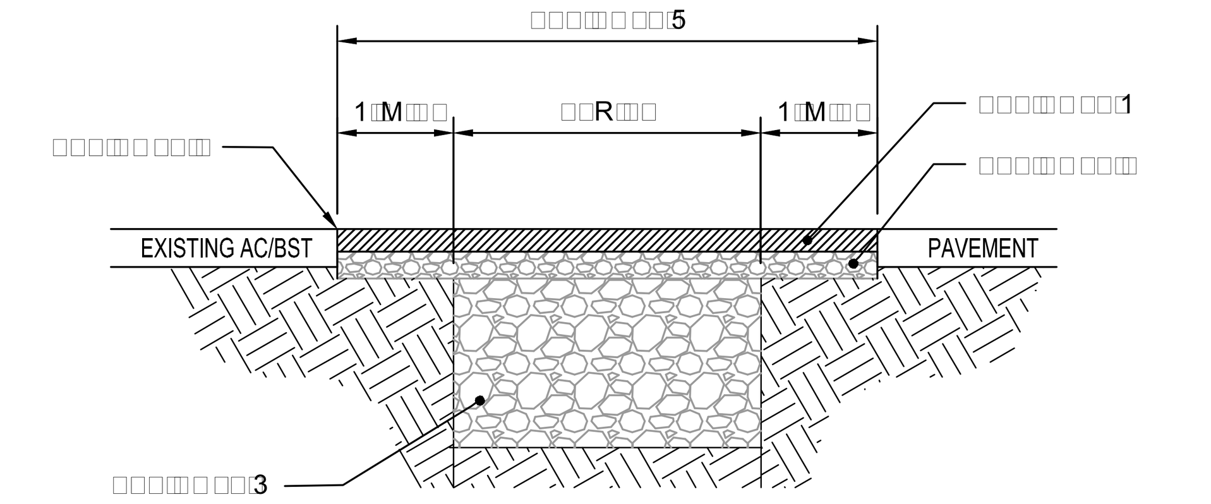

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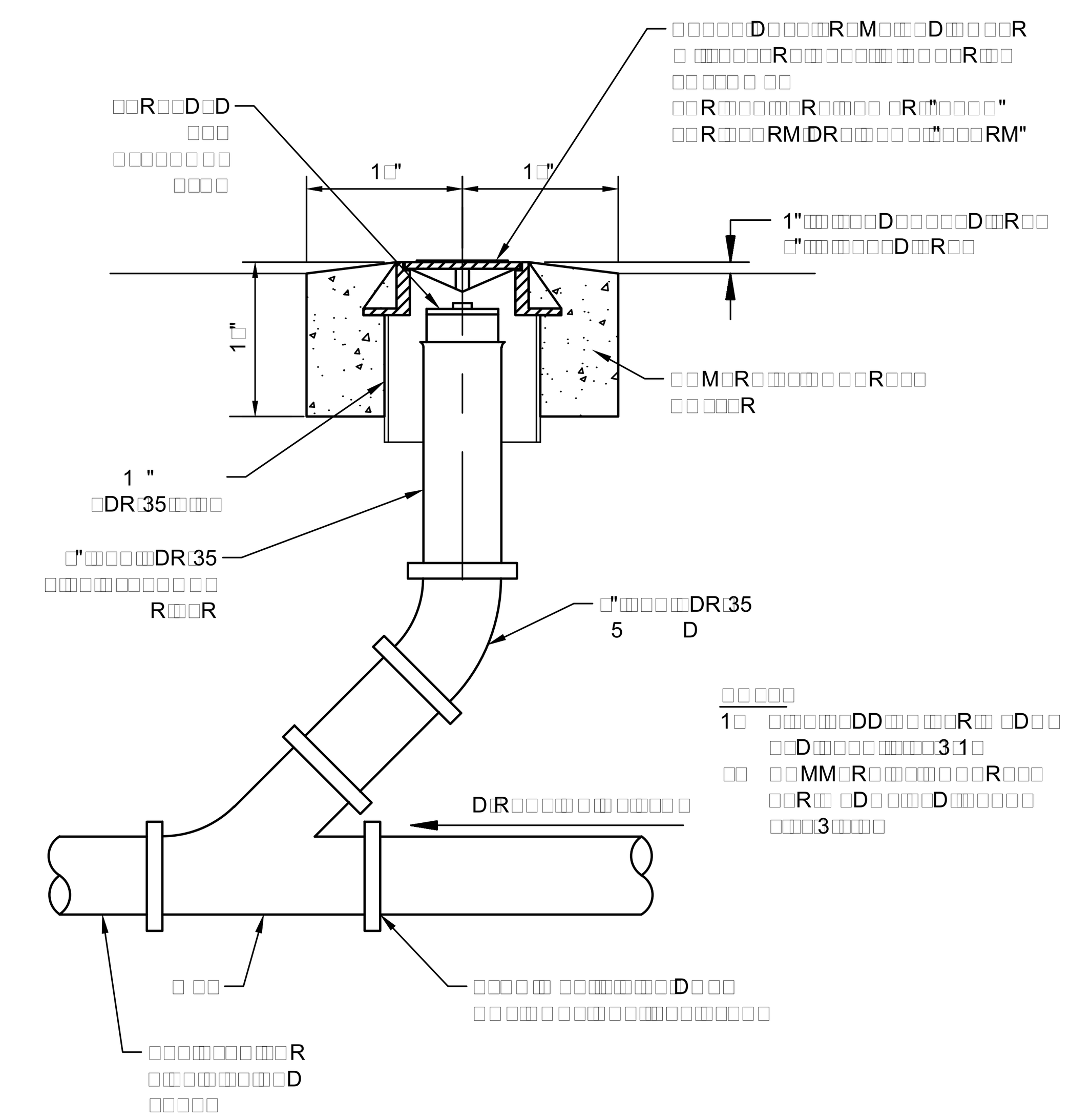


11

T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET, SUITE 200, SEATTLE, WA 98101

SEAL

PROJECT

REVISIONS

DATE

BCRA NO.

DRAWN BY:　DESIGNED BY:

REVIEWED BY:

SHEET TITLE

bcra

SHEET

C-003

STORM DESIGN

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

DATE PLOTTED: 5/4/2022 4:15:51 PM FILENAME: 22022C-SITE.DWG BY: ----

SITE INFO

OWNER:	- HELIX DESIGN BUILD
ADDRESS:	- 6922 SE 33rd ST. MERCER ISLAND, WA 98040
PARCEL NUMBER:	- 9359100160
JURISDICTION:	- KING COUNTY
ZONE:	- R-8.4
LOT SIZE:	- 10,000# (0.23 ACRES)
LOT COVERAGE:	- MAX. 40% (4,000#)
FRONT SETBACK:	- 20' FROM PROPERTY LINE
REAR SETBACK:	- 25' FROM PROPERTY LINE
SIDE SETBACK:	- 11% OF LOT WIDTH (100'x11% = 11')
HEIGHT LIMIT:	- 20' FROM HIGHEST POINT OF LOT PER COVENANT

LOT COVERAGE CALCULATIONS

MAIN STRUCTURE W/ O.H.	- 3,440#
DRIVEWAY	- 479#
TOTAL LOT COVERAGE	- 3,919#
LOT AREA PROPOSED	- 10,000#
LOT COVERAGE	- 3,919/10,000 = 39.2%
MAXIMUM LOT COVERAGE	- 40% (4,000#)
UNUSED LOT COVERAGE	- 0.8% (81#)

HARDSCAPE CALCULATIONS

RETAINING/LANDSCAPE WALLS	- 54#
HVAC & GEN. CONCRETE PADS	- 33#
OUTDOOR LIVING STEPS	- 25#
CONCRETE WALKWAY	- 108#
FRONT PORCH	- 43#
TOTAL HARDSCAPE	- 263#
LOT AREA	- 10,000#
PROPOSED HARDSCAPE	- 263/10,000 = 2.6%
MAXIMUM HARDSCAPE	- 0.8% + 9% = 9.8%

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000# MAIN FLOOR	= 40% OR 5,000# = MAX. 4,000#
BASEMENT FLOOR W/ GARAGE	= 2,414#
MAIN FLOOR	= 2,846#
TOTAL FLOOR AREA	= 5,260#
BASEMENT EXCLUSION	= (1,272#)
PROPOSED G.F.A.	= 3,988#

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

PROVIDE STRAW OR PLASTIC COVER TO ANY EXPOSED SOILS THROUGH OUT THE CONSTRUCTION CYCLE.

LOT SLOPE:
HIGHEST ELEVATION POINT OF LOT (NORTHWEST CORNER): 270.5'
LOWEST ELEVATION POINT OF LOT (SOUTHHEAST CORNER): 255.5'
ELEVATION DIFFERENCE: 15.0'
HORIZONTAL DIFFERENCE BETWEEN HIGH & LOW POINTS: 141.1'
LOT SLOPE: 10.6%

24 HOUR EROSION CONTROL CONTACT INFO:
ERIN JACOBSEN - 206.910.8758

FIRE SPRINKLER NOTE:

A NFPA 13R FIRE SPRINKLER SYSTEM AND A NFPA 72 "CHAPTER 29" MONITORED FIRE ALARM SYSTEM TO BE INSTALLED. (SEPARATE PERMIT REQUIRED)

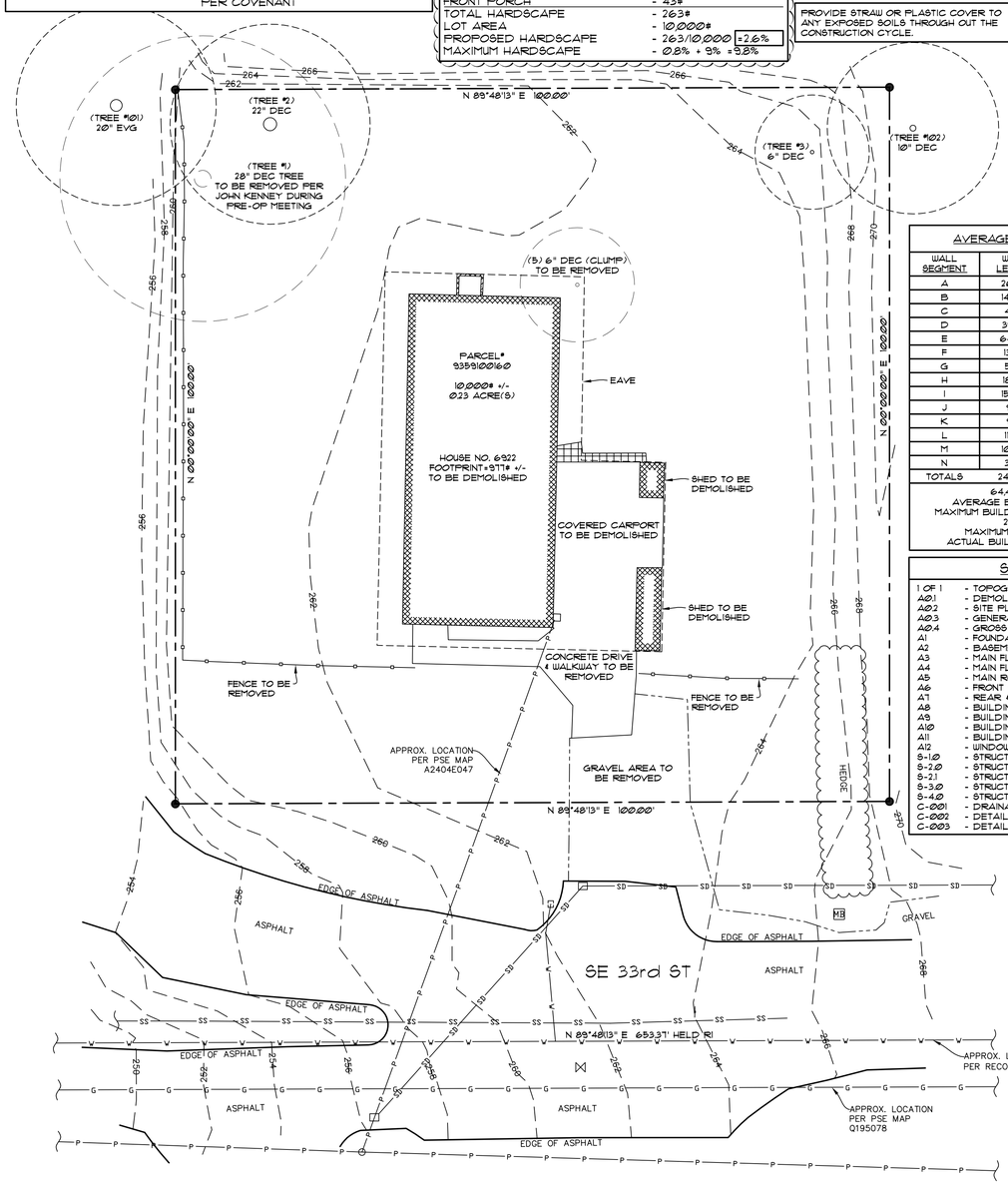
PER MICC 19.07.020(F)(3)(D):
DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION

AVERAGE BUILDING ELEVATION

WALL SEGMENT	WALL LENGTH	MIDPOINT ELEVATION	RESULT
A	26.83'	262.3	7,037.51
B	14.00'	261.8	3,665.2
C	4.42'	261.8	1,157.16
D	39.25'	261.9	10,279.6
E	64.46'	262.2	16,901.4
F	13.25'	262.8	3,482.1
G	5.29'	262.8	1,390.21
H	18.67'	262.9	4,908.34
I	15.00'	262.9	3,943.5
J	9.71'	262.8	2,551.79
K	9.21'	262.7	2,419.47
L	11.67'	262.9	3,068.04
M	10.50'	262.8	2,759.4
N	3.38'	262.7	887.93
TOTALS	245.64'	N/A	64,451.6

64,451.6 / 245.64 = 262.4
AVERAGE BUILDING ELEVATION = 262.4'
MAXIMUM BUILDING HEIGHT = 30' ABOVE A.B.E.
262.4' + 30' = 292.4'
MAXIMUM BUILDING HEIGHT = 292.4'
ACTUAL BUILDING HEIGHT = 26.43' (288.6')

SHEET INDEX

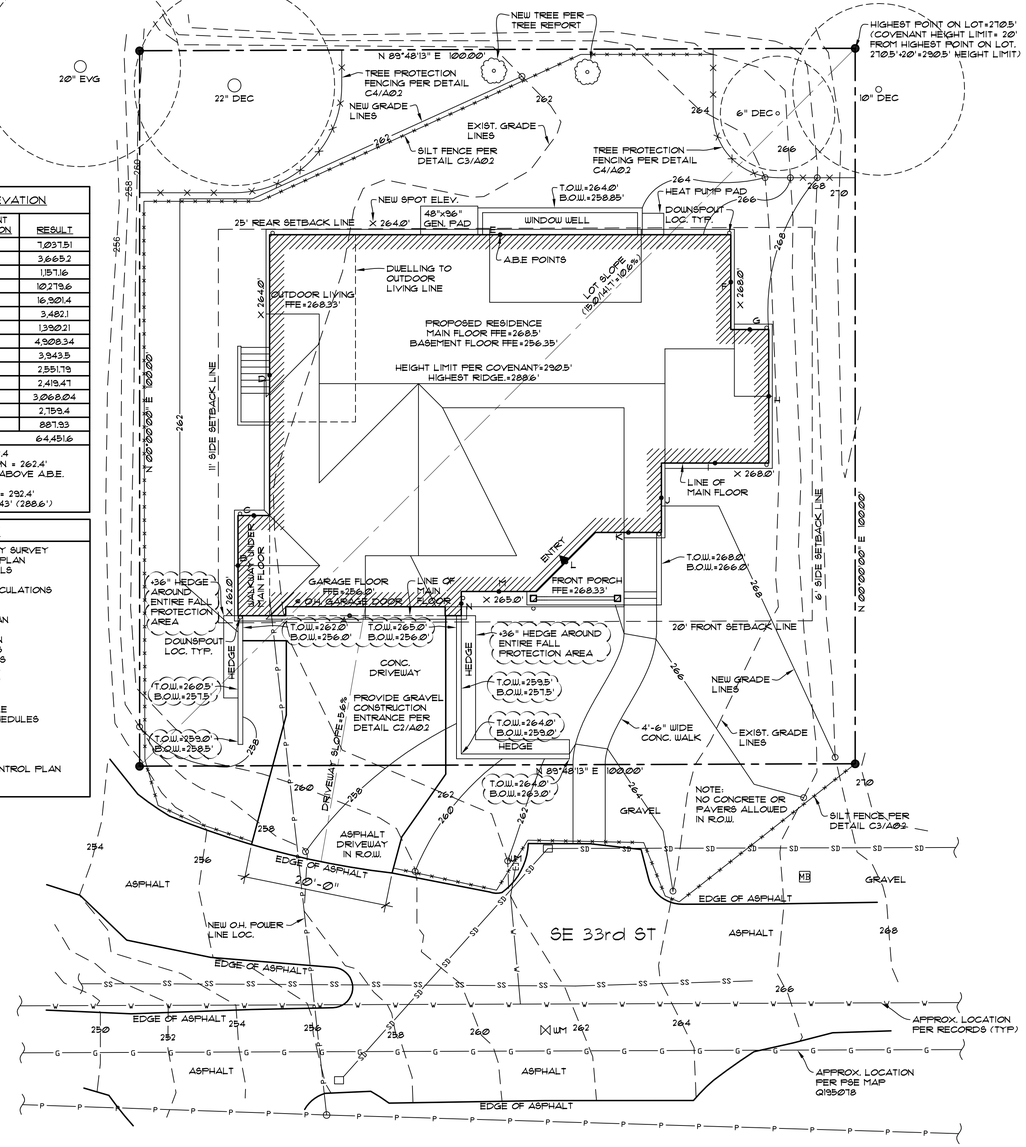


DEMOLITION PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

NORTH



SITE PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

NORTH

matthew mawer
residential design
matt@mmrd.net
425.417.7817

helix
DESIGN + BUILD
www.helixdesignbuild.com
206.910.8758

HELIX DESIGN BUILD
6922 SE 33rd ST.
MERCER ISLAND, WA 98040

JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A0.1

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING# 20211210000582)

LOTS 32, 33, 34 AND 35 IN BLOCK 1 OF WHITE & NOBLES FIRST ADDITION TO EAST SEATTLE, AS PER PLAT RECORDED IN VOLUME 3 OF PLATS, PAGE 104, RECORDS OF KING COUNTY;

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

BASIS OF BEARINGS

N 89°48'13" E BETWEEN SURVEY MONUMENTS FOUND ON CENTERLINE OF SE 32ND ST, PER R1.

REFERENCES

R1. RECORD OF SURVEY, VOL. 210, PG. 079, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER GPS OBSERVATIONS

SURVEYOR'S NOTES

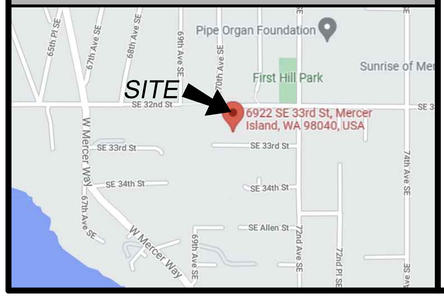
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN FEBRUARY OF 2022. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 9359100160.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,000± S.F. (0.23 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

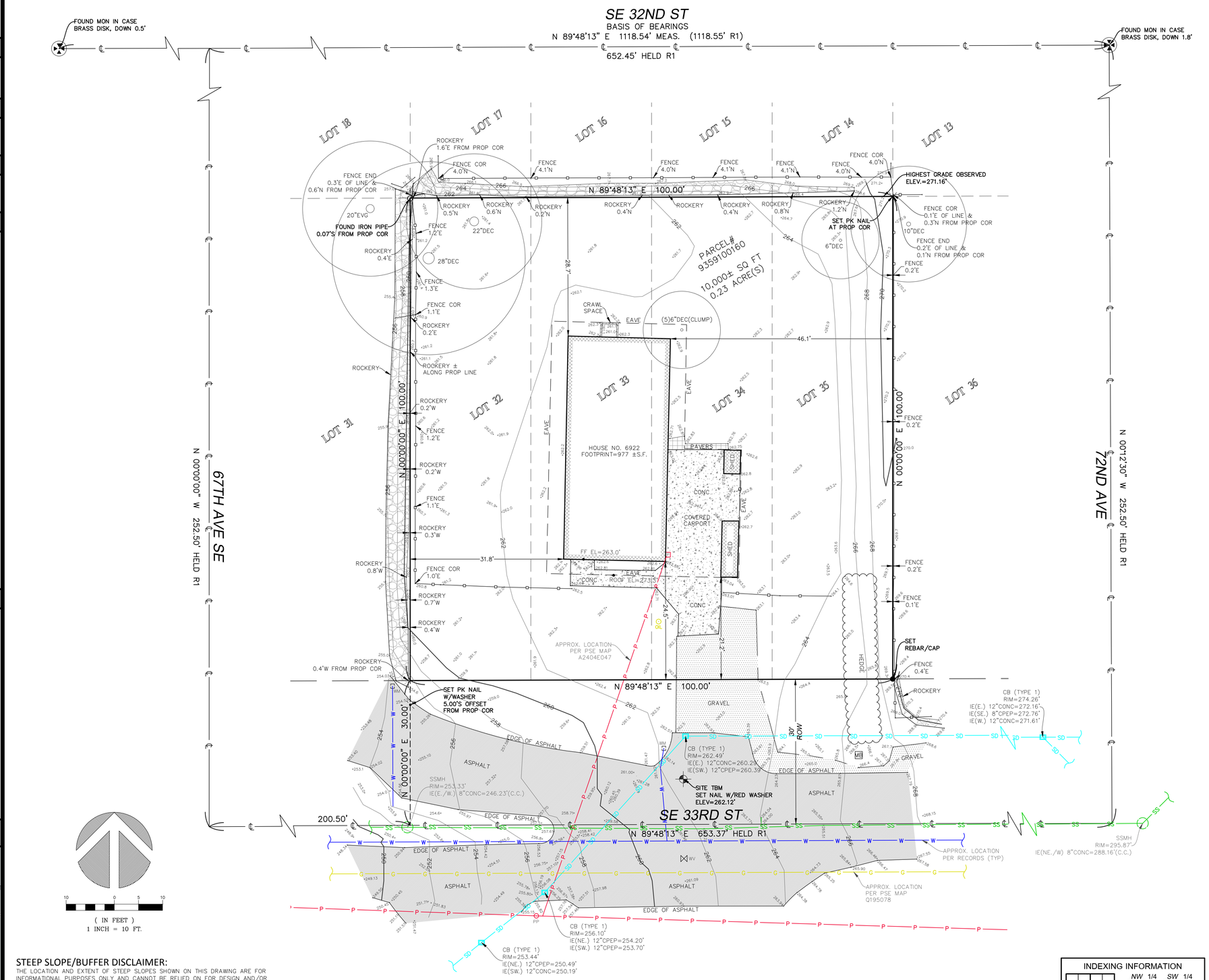
LEGEND

- ASPHALT SURFACE
- BENCHMARK
- BUILDING
- CENTERLINE ROW
- CONCRETE SURFACE
- FENCE LINE (WOOD)
- GAS LINE
- GRAVEL SURFACE
- HEDGE FOLIAGE LINE
- INLET (TYPE 1)
- IRON PIPE (FOUND)
- MAILBOX (RESIDENTIAL)
- MONUMENT IN CASE (FOUND)
- NAIL AS NOTED
- OIL FILL CAP
- PAVER SURFACE
- POWER METER
- POWER (OVERHEAD)
- POWER POLE
- RETAINING WALL
- REBAR & CAP (SET)
- ROCKERY
- SEWER LINE
- SEWER MAINHOLE
- STORM DRAIN LINE
- TREE (AS NOTED)
- WATER LINE
- WATER METER
- WATER VALVE

VICINITY MAP

N.T.S.





(IN FEET)
1 INCH = 10 FT.

STEEP SLOPE/BUFFER DISCLAIMER:

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

INDEXING INFORMATION

NW 1/4 SW 1/4
SECTION: 12
TOWNSHIP: 24N
RANGE: 04E, W.M.
COUNTY: KING

terrane.net
We are the measure

TOPOGRAPHIC & BOUNDARY SURVEY
PARCEL NO. 9359100160

JACOBSEN RESIDENCE
6922 SE 33RD ST
MERCER ISLAND, WA 98040

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

JOB NUMBER:	212666
DATE:	02/09/2022
DRAFTED BY:	JAK
CHECKED BY:	JGM/DRT
SCALE:	1" = 10'

REVISION HISTORY

10/19/22	ADD HIGHEST GRADE

SHEET NUMBER
1 OF 1

EROSION/SEDIMENTATION CONTROL - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
A. CONDUCT PRE-CONSTRUCTION MEETING.
B. FLAG OR FENCE CLEARING LIMITS.
C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
H. GRADE AND STABILIZE CONSTRUCTION ROADS.
I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY/COUNTY TESC MINIMUM REQUIREMENTS.
L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

2. CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS CLEAN AND FREE OF CONTAMINANTS AT ALL TIMES AND FOR PREVENTING AN ILLICIT DISCHARGE INTO THE MUNICIPAL STORM DRAIN SYSTEM. IF YOUR CONSTRUCTION PROJECT CAUSES AN ILLICIT DISCHARGE TO THE MUNICIPAL STORM DRAIN SYSTEM, THE CITY/COUNTY STORM MAINTENANCE DIVISION WILL BE CALLED TO CLEAN THE PUBLIC STORM SYSTEM AND OTHER AFFECTED PUBLIC INFRASTRUCTURE. THE CONTRACTOR(S), PROPERTY OWNER, AND ANY OTHER RESPONSIBLE PARTY MAY BE CHARGED ALL COSTS ASSOCIATED WITH THE CLEAN-UP AND MAY ALSO BE ASSESSED MONETARY PENALTIES. THE MINIMUM PENALTY IS $500. A FINE FOR A REPEAT VIOLATION SHALL BE A MULTIPLIED BY THE NUMBER OF VIOLATIONS. A FINE MAY BE REDUCED OR WAIVED FOR PERSONS WHO IMMEDIATELY SELF-REPORT VIOLATION TO THE CITY/COUNTY. A FINAL INSPECTION OF YOUR PROJECT WILL NOT BE GRANTED UNTIL ALL COSTS ASSOCIATED WITH THE CLEAN-UP, AND PENALTIES, ARE PAID TO THE CITY/COUNTY.

3. CONSTRUCTION DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN CGK POLICY E-1 SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25 NTU, AND NOT CONSIDERED AN ILLICIT DISCHARGE. TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR.

4. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND SPECIFICATIONS.

5. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

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

7. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

8. A COPY OF THE APPROVED ESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.

10. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY/COUNTY INSPECTOR.

11. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.

12. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.

13. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

14. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

15. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
- MAY 1 TO SEPTEMBER 30 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
- OCTOBER 1 TO APRIL 30 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
- STABILIZE SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.

16. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

17. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".

18. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 6' HIGH TEMPORARY CONSTRUCTION FENCE (CHAIN LINK WITH PIER BLOCKS) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL THE PLANNING DEPARTMENT AUTHORIZES REMOVAL.

19. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.

20. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.

21. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON THE SITE.

22. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.

23. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.

24. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED IMMEDIATELY FOLLOWING REMOVAL OF EROSION CONTROL BMPS. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

25. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.

26. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.

27. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.

28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

29. ANY AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT (INCLUDING A 5-FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.

30. IF THE TEMPORARY CONSTRUCTION ENTRANCE OR ANY OTHER AREA WITH HEAVY VEHICLE LOADING IS LOCATED IN THE SAME AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT, 6" OF SEDIMENT BELOW THE GRAVEL SHALL BE REMOVED PRIOR TO INSTALLATION OF THE INFILTRATION FACILITY OR PERVIOUS PAVEMENT (TO REMOVE FINES ACCUMULATED DURING CONSTRUCTION).

31. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE ADEQUATE PROTECTION FROM SEDIMENT. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "STORM DRAIN PROTECTION INSERT" OR EQUIVALENT.

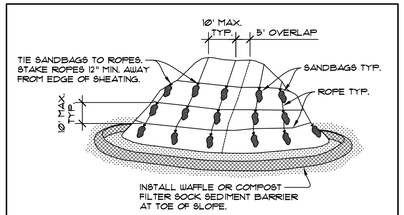
32. IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.

33. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.

34. RECYCLED CONCRETE SHALL NOT BE STOCKPILED ON SITE, UNLESS FULLY COVERED WITH NO POTENTIAL FOR RELEASE OF RUNOFF.

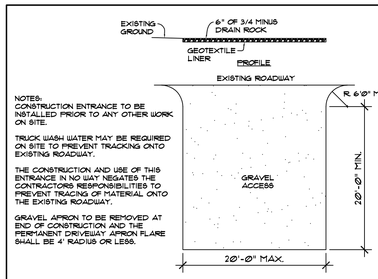
EFFECTIVE FEBRUARY 1, 2021 WASHINGTON STATUTES MANDATE ALL JURISDICTIONS IN THE STATE TO ADOPT AND ENFORCE THE FOLLOWING UPDATED CONSTRUCTION CODE EDITIONS AS THEY WERE ADOPTED AND AMENDED BY THE STATE OF WASHINGTON:

2018 INTERNATIONAL BUILDING CODE (IBC)
2018 INTERNATIONAL RESIDENTIAL CODE (IRC)
2018 INTERNATIONAL MECHANICAL CODE (IMC)
2018 INTERNATIONAL FUEL GAS CODE (IFGC)
2018 UNIFORM PLUMBING CODE (UPC)
2018 INTERNATIONAL FIRE CODE (IFC)
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL SWIMMING POOL AND SPA CODE
WASHINGTON STATE ENERGY CODE (WSEC)
ICC/ANSI A117.1-09, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, WITH STATEWIDE AND CITY AMENDMENTS



NOTES:
1. INSTALL PLASTIC SHEATING VERTICALLY DOWN SLOPE.
2. INSTALL PLASTIC SHEATING SO EDGES OVERLAP AND ARE SHINGLED AWAY FROM PREVAILING WINDS.
3. PLASTIC SHEATING SHALL BE BLACK, MIN. 6 MIL.

C1 TEMPORARY STOCK PILE DETAIL N.T.S.



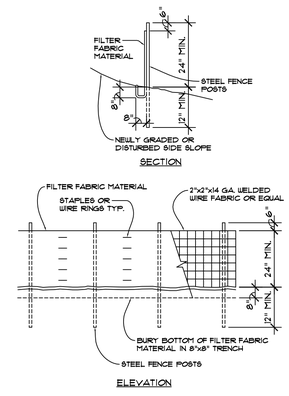
NOTES:
CONSTRUCTION ENTRANCE TO BE INSTALLED PRIOR TO ANY OTHER WORK ON SITE.

TRUCK WASH WATER MAY BE REQUIRED ON SITE TO PREVENT TRACKING ONTO EXISTING ROADWAY.

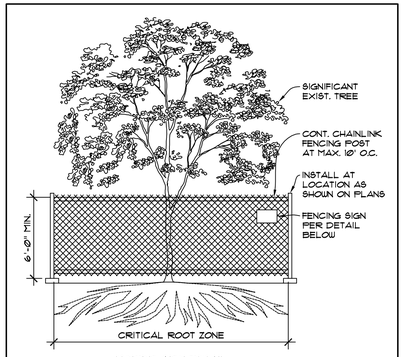
THE CONSTRUCTION AND USE OF THIS ENTRANCE IN NO WAY NEGATES THE CONTRACTORS RESPONSIBILITIES TO PREVENT TRACING OF MATERIAL ONTO THE EXISTING ROADWAY.

GRAVEL APRON TO BE REMOVED AT END OF CONSTRUCTION AND THE PERMANENT DRIVEWAY APRON FLARE SHALL BE 4' RADIUS OR LESS.

C2 GRAVEL CONSTRUCTION ENTRANCE N.T.S.



C3 SILT FENCE DETAIL



NOTES:

1. MINIMUM SIX (6') FOOT HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.

2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.

4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE. SIGN TO BE MINIMUM 11"x11", AND MADE OF WEATHERPROOF MATERIAL.

C4 TREE PROTECTION DETAIL N.T.S.

matthew mawer
residential design
matt@mmrd.net
425.417.7817

helix
DESIGN + BUILD
www.helixdesignbuild.com
206.910.8758

HELIX DESIGN BUILD
6922 SE 33rd ST.
MERCER ISLAND, WA 98040

JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A0.2

SITE PLAN NOTES & DETAILS

SCALE: N.T.S.

GENERAL NOTES:

1. ALL FLOOR JOISTS PER PLAN. REFER TO MFG. LAYOUT FOR ALL FRAMING DETAILS AND BLOCKING. REVIEW MFG. LAYOUT PRIOR TO FRAMING. DOUBLE UNDER BEARING PARTITIONS. PROVIDE SOLID BLOCKING OVER BEARING MEMBERS.

2. ALL PRE-MANUFACTURED TRUSSES TO BE IDENTIFIED BY MFG'S STAMP.

3. FACTORY BUILT FIREPLACE & CHIMNEY TO BE UL LABELED INSTALL PER MANUFACTURERS SPECS O/SIDE COMBUSTION AIR REQ'D (MIN 6 SQ IN) DUCTED TO F/BOX W/ OPERABLE O/SIDE DAMPER, TIGHTLY FITTING FLUE DAMPER, AND TIGHT FITTING GLASS OR METAL DOORS OR FLUE DRAFT INDUCTION FAN. MINIMUM FIREPLACE EFFICIENCY OF 50% OR GREATER PER WSEC R402.4.2.1. PILOT LIGHT SHALL NOT BE CONTINUOUSLY BURNING PER WSEC R403.1.3.

4. LIMIT SHOWER FLOW TO 2.5 GALLON/MIN.

5. H.W.T. TO BE LABELED PER ASHRAE STD. NO. 90A-80, AND MEET THE REQUIREMENTS. PER 1981 NATIONAL APPLIANCE ENERGY CONSERVATION ACT.

6. FURNACE AND H.W. TANK, PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES TO BE A MIN. OF 18" ABOVE FINISHED FLOOR.

7. ALL SKYLITES TO COMPLY WITH I.R.C. SECTION 2409.1 & 2603.7

8. ALL SIDELITES, SLIDING GLASS DOORS AND TUB/SHOWER ENCLOSURES TO COMPLY WITH I.B.C. SECTION 2406.

9. HEAT REGISTERS TO BE PER LEGEND, LOCATE APPROXIMATELY AS SHOWN, 6" IN FROM EXTERIOR WALLS, 3" IN FROM INTERIOR WALLS.

10. VENT DRYER, OVEN/RANGE & EXHAUST FANS TO O/SIDE. DRYER EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMB HORIZ. AND VERT. LENGTH OF 14'-0", INCL. 2 90Ø. ELBOWS, DEDUCT 2'-0" FOR EA. 90Ø. ELBOW EXCEEDING 2. SEE DRYER DUCT DTL. FOR ALT. SOLUTIONS. ALL EXHAUST DUCTS INSULATED (MIN. OF R-4)

11. ALL NAILING PER IRC TABLE R602.3(1) AND/OR IBC TABLE 2304.9.1, COLUMN, POST & BEAM CONNECTIONS TO COMPLY WITH I.B.C. SECTION 2316.

12. ---

13. SOLID SHT'G REQ'D ON LOWER STORY OF 2 STORY BUILDING PER I.B.C. DRYWALL NAILED PER SHEAR NAILING SCHEDULES OR IBC 2018 EDITION.

14. TUB/SHOWER SURROUND WALLS TO HAVE WATER RESISTANT GYP BOARD AND A SMOOTH HARD SURFACE TO A MINIMUM HEIGHT OF 70" ABOVE DRAIN INLET

15. PROVIDE SMOKE DETECTOR IN COMPLIANCE WITH I.B.C. AND I.R.C. STD. #43.6. ALL SMOKE DETECTORS W/BAT BACKUP. SMOKE DETECTORS WILL SOUND AN AUDIBLE ALARM IN ALL SLEEPING ROOMS.

16. DWELLING TO COMPLY W/ 2018 WSEC-R.

17. SEAL, CAULK, GASKET, OR WEATHERSTRIP TO LIMIT AIR LEAKAGE: AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALL AND ROOF AND WALL PANELS, OPENINGS AT UTILITY PENETRATIONS THROUGH WALLS, FLOORS, AND ROOFS, ALL OTHER OPENINGS IN BUILDING ENVELOPE.

18. ALL EXTERIOR DOORS OR ACCESS HATCHES TO ENCLOSED UNHEATED AREAS MUST BE WEATHERSTRIPPED.

19. MINIMUM SOIL BEARING PRESSURE = 1500 PSF.

20. FOOTINGS TO BE PLACED ON FIRM, UNDISTURBED NATIVE SOIL.

21. DWELLING TO COMPLY WITH INTERNATIONAL BUILDING CODE (I.B.C.) 2018

22. FIRE STOPS SHALL BE PROVIDED TO CUT OFF ALL CONCL'D DRAFT OPENINGS FROM VERT. TO HORIZ. SPACES, INCLUDING THE STAIR, TUB, SHOWER, FIREPLACE, ETC.

ALL WINDOWS TO HAVE INDIVIDUAL OUTDOOR AIR INLET PORTS PER IMC 402.2 & 402.1

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE. THE RESULTS OF THE TEST SHALL BE BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL (R402.4.1.2).

AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE.

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. A MINIMUM OF 75% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

R317.1.3 GEOGRAPHICAL AREAS. APPROVED NATURALLY DURABLE OR PRESSURE-PRESERVATIVE-TREATED WOOD SHALL BE USED FOR THOSE PORTIONS OF WOOD MEMBERS THAT FORM THE STRUCTURAL SUPPORTS OF BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES WHEN THOSE MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING THAT WOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS. DEPENDING ON LOCAL EXPERIENCE, SUCH MEMBERS MAY INCLUDE:

1. HORIZONTAL MEMBERS SUCH AS GIRDERS, JOISTS AND DECKING.
2. VERTICAL MEMBERS SUCH AS POSTS, POLES AND COLUMNS.
3. BOTH HORIZONTAL AND VERTICAL MEMBERS.

R303.7 STAIRWAY ILLUMINATION.
ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIRS, INCLUDING THE LANDINGS AND TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF EACH LANDING OF THE STAIRWAY. FOR INTERIOR STAIRS THE ARTIFICIAL LIGHT SOURCES SHALL BE CAPABLE OF ILLUMINATING TREADS AND LANDINGS TO LEVELS NOT LESS THAN 1 FOOT-CANDLE (11 LUX) MEASURED AT THE CENTER OF TREADS AND LANDINGS. EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF THE STAIRWAY. EXTERIOR STAIRWAYS PROVIDING ACCESS TO A BASEMENT FROM THE OUTSIDE GRADE LEVEL SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE BOTTOM LANDING OF THE STAIRWAY.

SOURCE SPECIFIC VENTILATION REQUIREMENTS:

BATHROOMS, LAUNDRY ROOMS AND POWDER ROOM FANS TO BE 50 CFM.
KITCHEN EXHAUST FANS TO BE 100 CFM U.N.O.
EXHAUST FANS SHALL BE FLOW RATED AT .25 W.G. STATIC PRESSURE

EXHAUST DUCTS SHALL:
BE INSULATED TO R-4 IN UNCONDITIONED SPACE
BE EQUIPPED WITH A BACKDRAFT DAMPER
TERMINATE OUTSIDE THE BUILDING PER SRC M1501.1
COMPLY WITH BELOW:

FAN CFM	MAX. FLEX DIA.	MAX. FT.	MAX. SMOOTH DIA.	MAX. FT.
50	4"	25'	4"	70'
50	5"	90'	5"	100'
50	6"	OVER 100'	6"	OVER 100'
80	4"	N/A	4"	70'
80	5"	15'	5"	100'
80	6"	90'	6"	OVER 100'
100	5"	N/A	5"	90'
100	6"	45'	6"	OVER 100'
125	6"	15'	6"	OVER 100'
125	7"	70'	7"	OVER 100'

WHOLE HOUSE VENTILATION REQUIREMENTS:

A 6" DIAMETER FRESH AIR INLET SHALL BE DUCTED FROM THE EXTERIOR TO THE FRESH AIR RETURN PLENUM.
THE FRESH AIR DUCT SHALL BE PROTECTED FROM THE ENTRY OF INSECTS, LEAVES, OR OTHER DEBRIS AND LOCATED SO AS NOT TO TAKE AIR FROM:
- HAZARDOUS OR UNSANITARY LOCATIONS.
- WHERE IT WILL PICK UP OBJECTIONABLE ODORS, FUMES OR FLMMBL. VPRS.
- A ROOM OR SPACE HAVING FUEL BURNING APPLIANCES THERIN.
- ATTIC, CRAWL SPACE, OR GARAGE.
- CLOSER THAN 10' FROM AN APPLNC OR PLMBG VENT OUTLET, UNLESS THE DUCT VENT OUTLET IS AT LEAST 3' ABOVE THE FRESH AIR INLET.
- DUCT SHALL BE INSLT'D TO R-4 WHEN PASSING THROUGH A COND'D SPACE.

INLET DUCT SHALL BE EQUIPPED WITH A MOTORIZED DMPR THAT WILL OPEN WHEN THE VNTLTN FAN RELAY IS ACTIVATED, AND REMAIN CLOSED AT ALL OTHER TIMES. IN ADD'N TO THE MOTORIZED DMPR, A MANUAL DMPR SET TO .35-.5 AIR CHANGES PER HOUR IS ALSO REQUIRED.

A WHOLE HOUSE EXHAUST FAN SHALL BE LCT'D IN THE CEILING. SIZE PER THE CALCS BELOW. THE AIR INTAKE DUCT DMPR SHALL BE SET W/N THIS RNG

WHOLE HOUSE VENTILATION:
THIS SECTION ESTABLISHES MINIMUM PRESCRIPTIVE DESIGN REQUIREMENTS FOR WHOLE HOUSE VENTILATION SYSTEMS. EACH DWELLING UNIT OR GUEST ROOM SHALL BE EQUIPPED WITH A VENTILATION SYSTEM COMPLYING WITH OPTION I, II, III OR IV. COMPLIANCE IS ALSO PERMITTED TO BE DEMONSTRATED THROUGH COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE.

- ☐ OPTION I: WHOLE-HOUSE VENTILATION USING EXHAUST FANS. (IRC M1507.3.4)
- ☐ OPTION II: WHOLE-HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM. (IRC M1507.3.5.)
- ☒ OPTION III: WHOLE-HOUSE VENTILATION USING A SUPPLY FAN. (IRC M1507.3.6)
- ☐ OPTION IV: WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM. (IRC M1507.3.7)

MECHANICAL VENTILATION RATE:
THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR TO EACH HABITABLE SPACE AT A CONTINUOUS RATE NOT LESS THAN THAT DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(1).

EXCEPTION:
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS PERMITTED TO OPERATE INTERMITTENTLY WHERE THE SYSTEM HAS CONTROLS THAT ENABLE OPERATION FOR NOT LESS THAN 25 PERCENT OF EACH 4-HOUR SEGMENT AND THE VENTILATION RATE PRESCRIBED IN TABLE M1507.3.3(1) IS MULTIPLIED BY THE FACTOR DETERMINED IN TABLE M1507.3.3(2).

TABLE M1507.3.3(1) CONTINUOUS WHOLE HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (SQUARE FEET)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
	AIRFLOW IN CFM				
< 1,500	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	90	105	120	135	150
>7,500	105	120	135	150	165

TABLE M1507.3.3(2) INTERMITTENT WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS a,b,c

RUN TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
FACTOR	4	3	2	1.5	1.3	1

a. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
b. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

EXHAUST FANS MUST BE FLOW RATED AT .25 W.G. AND MAX. 1.5 SONE RATING. READILY ACCSSBLE 24 HR CLCK TMR OR DEHUMIDISTAT & RELAY SHALL BE INSTLL'D AND WIRED TO REGULATE THE FURN FAN, RELAY AND WHOLE HOUSE EXHAUST FAN.

INTERIOR DOORS SHALL BE INSTLL'D SO AS NOT TO IMPEDE THE MVMNT OF FRESH AIR TO ALL HABITABLE ROOMS.

VNTLTN SYSTEM MUST BE PERFORMANCE TESTED JUST PRIOR TO THE FINAL INSPECTION BY THE INSTALLER OR A QLF'D THIRD PARTY. THE INLET DUCT SHALL BE LABELED WITH THE ACTUAL CFMS MSRD & A LETTER OF CMPLNC SHALL BE AVAILABLE ON SITE FOR THE INSPCTR BEFORE A CERT OF OCCUPANCY WILL BE ISSUED.

STAIRWAYS - 2018 IRC SECTION 311.7

R311.7.1 WIDTH - STAIRWAYS SHALL BE NOT LESS THAN 36" IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. THE CLEAR WIDTH OF STAIRWAYS AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL BE NOT LESS THAN 31-1/2" WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 27" WHERE HANDRAILS ARE PROVIDED ON BOTH SIDES.
EXCEPTION: THE WIDTH OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.2 HEADROOM - THE HEADROOM IN STAIRWAYS SHALL BE NOT LESS THAN 6'-8" 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.
EXCEPTIONS: 1. WHERE THE NOSINGS OF TREADS AT THE SIDE OF A FLIGHT EXTEND UNDER THE EDGE OF A FLOOR OPENING THROUGH WHICH THE STAIR PASSES, THE FLOOR OPENING SHALL BE ALLOWED TO PROJECT HORIZONTALLY INTO THE REQUIRED HEADROOM NOT MORE THAN 4-3/4".
2. THE HEADROOM FOR SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.3 VERTICAL RISE - A FLIGHT OF STAIRS SHALL NOT HAVE A VERTICAL RISE LARGER THAN 151" BETWEEN FLOOR LEVELS OR LANDINGS.

R311.7.5 STAIR TREADS AND RISERS - STAIR TREADS AND RISERS SHALL MEET THE REQUIREMENTS OF THIS SECTION. FOR THE PURPOSES OF THIS SECTION, DIMENSIONS AND DIMENSIONED SURFACES SHALL BE EXCLUSIVE OF CARPETS, RUGS OR RUNNERS.

R311.7.5.1 RISERS - THE RISER HEIGHT SHALL BE NOT MORE THAN 7-3/4". THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE NOSING OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED PROVIDED THAT THE OPENING NOT LOCATED MORE THAN 30", AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE.
EXCEPTIONS: 1. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON SPIRAL STAIRWAYS.
2. THE RISER HEIGHT OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.5.2 TREADS - THE TREAD DEPTH SHALL BE NOT LESS THAN 10". THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8".

R311.7.5.3 NOSINGS - NOSINGS AT TREADS, LANDINGS, AND FLOORS OF STAIRWAYS SHALL HAVE A RADIUS OF CURVATURE AT THE NOSINGS NOT GREATER 9/16" OR A BEVEL NOT GREATER THAN 1/2". A NOSING PROJECTION NOT LESS THAN 3/4" AND NOT MORE THAN 1-1/4" SHALL BE PROVIDED ON STAIRWAYS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8" WITHIN A STAIRWAY.
EXCEPTION: A NOSING PROJECTION IS NOT REQUIRED WHERE THE TREAD DEPTH IS NOT LESS THAN 11".

R311.7.6 LANDINGS FOR STAIRWAYS - THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED. LANDINGS OF SHAPES OTHER THAN SQUARE OR RECTANGULAR SHALL BE PERMITTED PROVIDED THAT THE DEPTH AT THE WALK LINE AND THE TOTAL AREA IS NOT LESS THAN THAT OF A QUARTER CIRCLE WITH A RADIUS EQUAL TO THE REQUIRED LANDING WIDTH. WHERE THE STAIRWAY HAS A STRAIGHT RUN, THE DEPTH IN THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN 36".

R311.7.7 STAIRWAY WALKING SURFACE - THE WALKING SURFACE OF TREADS AND LANDINGS OF STAIRWAYS SHALL BE SLOPED NOT STEEPER THAN ONE UNIT VERTICAL IN 48" HORIZONTAL.

R311.7.8 HANDRAILS - HANDRAILS SHALL BE PROVIDED ON NOT LESS THAN ONE SIDE OF EACH FLIGHT OF STAIRS WITH FOUR OR MORE RISERS.

R311.7.8.1 HEIGHT - HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34" AND NOT MORE THAN 38".

R311.7.8.2 HANDRAIL PROJECTION - HANDRAILS SHALL NOT PROJECT MORE THAN 4-1/2" ON EITHER SIDE OF THE STAIRWAY
EXCEPTION: WHERE NOSINGS OF LANDINGS, FLOORS OR PASSING FLIGHTS PROJECT INTO THE STAIRWAY REDUCING THE CLEARANCE AT PASSING HANDRAILS, HANDRAILS SHALL PROJECT NOT MORE THAN 6-1/2" INTO THE STAIRWAY, PROVIDED THAT THE STAIR WIDTH AND HANDRAIL CLEARANCE ARE NOT REDUCED TO LESS THAN REQUIRED.

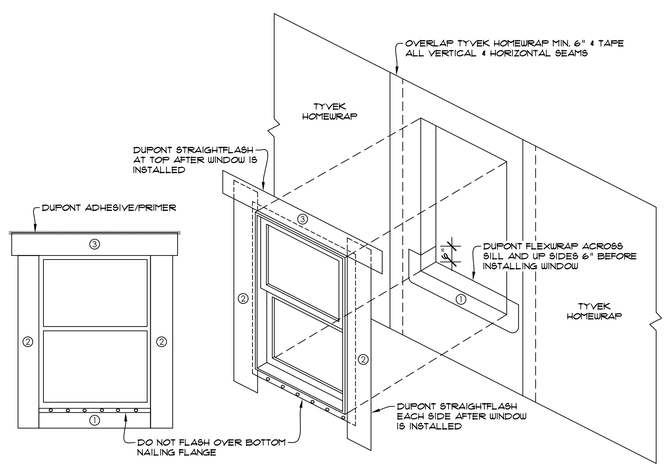
R311.7.8.3 HANDRAIL CLEARANCE - HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAILS.

R311.7.8.4 CONTINUITY - HANDRAILS 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 SAFETY TERMINALS.
EXCEPTIONS: 1. HANDRAIL CONTINUITY SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT A TURN IN A FLIGHT WITH WINDERS, AT A LANDING, OR OVER THE LOWEST TREAD.
2. A VOLUTE, TURNOUT OR STARTING EASING SHALL BE ALLOWED TO TERMINATE OVER THE LOWEST TREAD

R311.7.8.5 GRIP SIZE - REQUIRED HANDRAILS SHALL BE OF ONE OF THE FOLLOWING TYPES OR PROVIDE EQUIVALENT GRASPABILITY.
1. TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF NOT LESS THAN 1-1/4" AND NOT GREATER THAN 2". IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER DIMENSION OF NOT LESS THAN 4" AND NOT GREATER THAN 6-1/4" WITH A CROSS SECTION OF DIMENSION OF NOT MORE THAN 2-1/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".
2. TYPE II. HANDRAILS WITH A PERIMETER GREATER THAN 6-1/4" SHALL HAVE A GRASPABLE FINGER RECESS AREA ON BOTH SIDES OF THE PROFILE. THE FINGER RECESS SHALL BEGIN WITHIN A DISTANCE OF 3/4" MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND ACHIEVE A DEPTH OF NOT LESS THAN 5/16" WITHIN 7/8" BELOW THE WIDEST PORTION OF THE PROFILE. THIS REQUIRED DEPTH SHALL CONTINUE FOR NOT LESS THAN 3/8" TO A LEVEL THAT IS NOT LESS THAN 1-3/4" BELOW THE TALLEST PORTION OF THE PROFILE. THE WIDTH OF THE HANDRAIL ABOVE THE RECESS SHALL BE NOT LESS THAN 1-1/4" AND NOT MORE THAN 2-3/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".

EXHAUST VENT CLEARANCES:
PER SRC M1501 EXHAUST FAN VENTS SHALL TERMINATE OUTDOORS AND NOT IN ATTICS, SOFFITS, RIDGE VENTS, OR CRAWL SPACES. KITCHEN, BATHROOMS, AND LAUNDRY EXHAUST TERMINATIONS TO EXIT THE STRUCTURE WITH CLEARANCES MEETING SRC M1506.3, NOT LESS THAN 3 FEET FROM PROPERTY LINES, 3 FEET FROM OPERABLE OPENINGS IN THE BUILDING AND 10 FEET FROM MECHANICAL AIR INTAKES.

FLANGED WINDOW FLASHING INSTALLATION AFTER TYVEK HOMEWRAP (OR EQUIVALENT)



NOTE:
INSTALL DUPONT FLASHING IN ORDER SHOWN BY NUMBERS.
INSTALL WINDOW PER MANUFACTURERS INSTRUCTIONS.

PRESCRIPTIVE ENERGY CODE COMPLIANCE FOR ALL CLIMATE ZONES IN WASHINGTON PER 2018 WSEC:

MEDIUM DWELLING UNIT: 6 CREDITS

HEATING OPTION 2 - HEAT PUMP (1.0 CREDIT)

ENERGY OPTIONS:

1.3 - EFFICIANT BUILDING ENVELOPE (0.5 CREDITS):
VERTICAL FENESTRATION U = 0.28
FLOOR R-38
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

2.3 - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION (1.5 CREDITS):
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

3.2 - HIGH EFFICIANCY HVAC EQUIPMENT (1.0 CRDITS):
AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5

5.5 - EFFICIANT WATER HEATING (2.0 CREDITS):
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION

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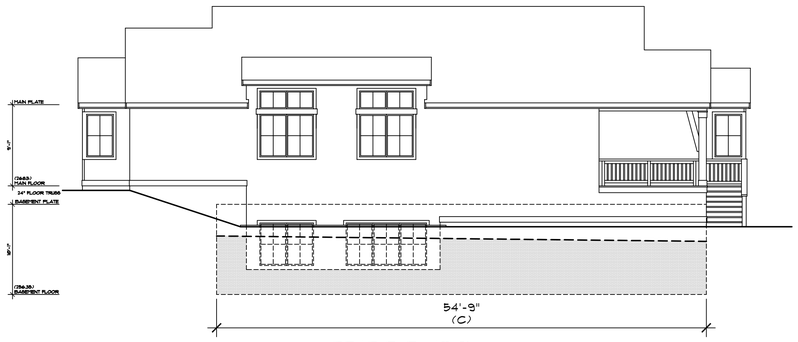
JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

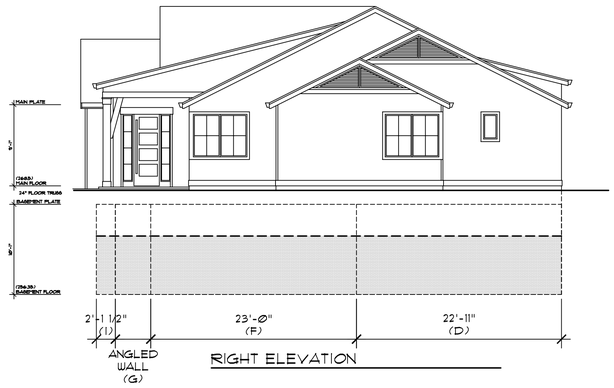
SHEET NO.
A0.3

FRONT ELEVATION

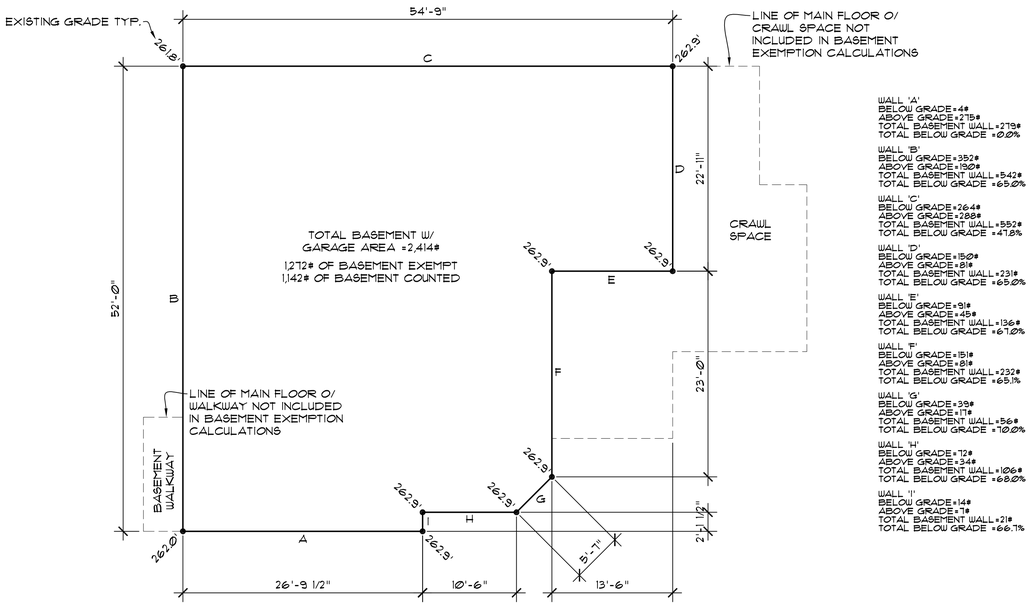
LEFT ELEVATION



REAR ELEVATION



RIGHT ELEVATION



BASEMENT FLOOR PERIMETER

WALL 'A'
BELOW GRADE = 4#
ABOVE GRADE = 275#
TOTAL BASEMENT WALL = 279#
TOTAL BELOW GRADE = 0.0%

WALL 'B'
BELOW GRADE = 352#
ABOVE GRADE = 190#
TOTAL BASEMENT WALL = 542#
TOTAL BELOW GRADE = 65.0%

WALL 'C'
BELOW GRADE = 264#
ABOVE GRADE = 288#
TOTAL BASEMENT WALL = 552#
TOTAL BELOW GRADE = 47.8%

WALL 'D'
BELOW GRADE = 150#
ABOVE GRADE = 81#
TOTAL BASEMENT WALL = 231#
TOTAL BELOW GRADE = 65.0%

WALL 'E'
BELOW GRADE = 91#
ABOVE GRADE = 45#
TOTAL BASEMENT WALL = 136#
TOTAL BELOW GRADE = 67.0%

WALL 'F'
BELOW GRADE = 151#
ABOVE GRADE = 81#
TOTAL BASEMENT WALL = 232#
TOTAL BELOW GRADE = 65.1%

WALL 'G'
BELOW GRADE = 39#
ABOVE GRADE = 17#
TOTAL BASEMENT WALL = 56#
TOTAL BELOW GRADE = 70.0%

WALL 'H'
BELOW GRADE = 72#
ABOVE GRADE = 34#
TOTAL BASEMENT WALL = 106#
TOTAL BELOW GRADE = 68.0%

WALL 'I'
BELOW GRADE = 14#
ABOVE GRADE = 7#
TOTAL BASEMENT WALL = 21#
TOTAL BELOW GRADE = 66.7%

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

TABLE OF WALL LENGTHS & COVERAGE

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	26.79'	0.0%	0.0
B	52.0'	65.0%	33.8
C	54.75'	47.8%	26.17
D	22.92'	65.0%	14.90
E	13.5'	67.0%	9.05
F	23.0'	65.1%	15.0
G	5.58'	70.0%	3.91
H	10.5'	68.0%	7.14
I	2.13'	66.7%	1.42
TOTALS	211.17'	N/A	111.39

111.39 / 211.17 = 52.7%

2,414 x 52.7% = 1,272# EXEMPT FROM GROSS FLOOR AREA

2,414 - 1,272 = 1,142# OF BASEMENT COUNTED

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000#	= 40% OR 5,000# = MAX. 4,000#
BASEMENT FLOOR W/ GARAGE	= 2,414#
MAIN FLOOR	= 2,846#
TOTAL FLOOR AREA	= 5,260#
BASEMENT EXCLUSION	= (1,272#)
PROPOSED G.F.A.	= 3,988#

RESULT: WITHIN CODE PARAMETERS

NORTH

GROSS FLOOR AREA CALCULATIONS

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

SUBJECT PROPERTY TAX PARCEL NO. 9359100160
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JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A0.4

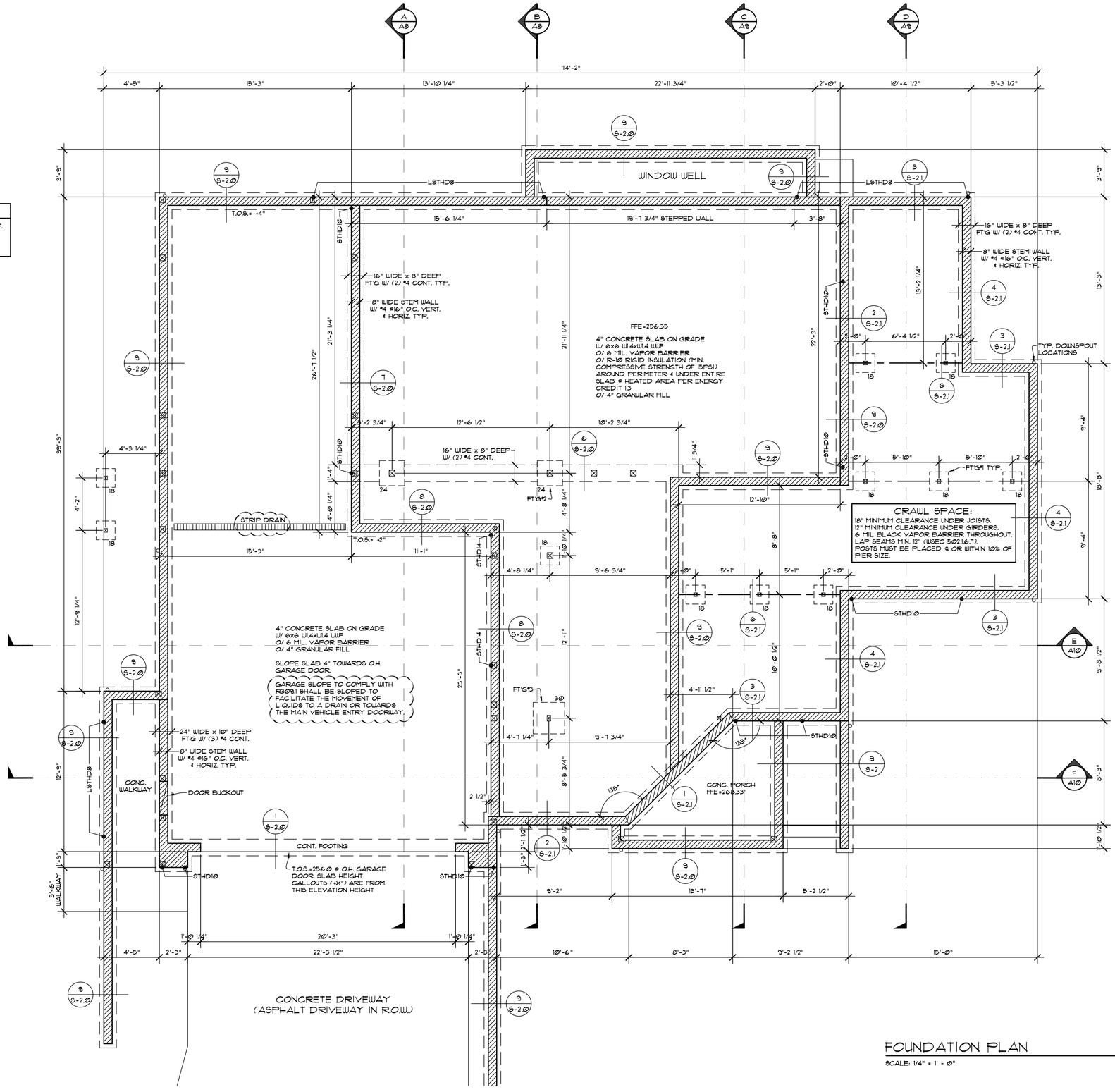
FOOTING SCHEDULE:

- 18" SQUARE x 10" DEEP W/ (2) #4 EA. WAY
- 24" SQUARE x 10" DEEP W/ (3) #4 EA. WAY
- 30" SQUARE x 10" DEEP W/ (3) #4 EA. WAY

NOTE:
ALL UNDERGROUND PLUMBING LOCATIONS TO BE FIELD VERIFIED PRIOR TO FOUNDATION INSTALLATION.

CRAWL VENTILATION CALCULATION

CRAWL SPACE UNDER FLOOR AREA TO REQUIRE VENTING = 670 SF.
PROVIDE 1Ø CFM PER 50 SF. OF MECHANICAL VENTILATION
670 / 50 = 13.4
PROVIDE MINIMUM 14 CFM CONTINUOUS MECHANICAL VENTING



CONCRETE DRIVEWAY
(ASPHALT DRIVEWAY IN R.O.W.)

FOUNDATION PLAN

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

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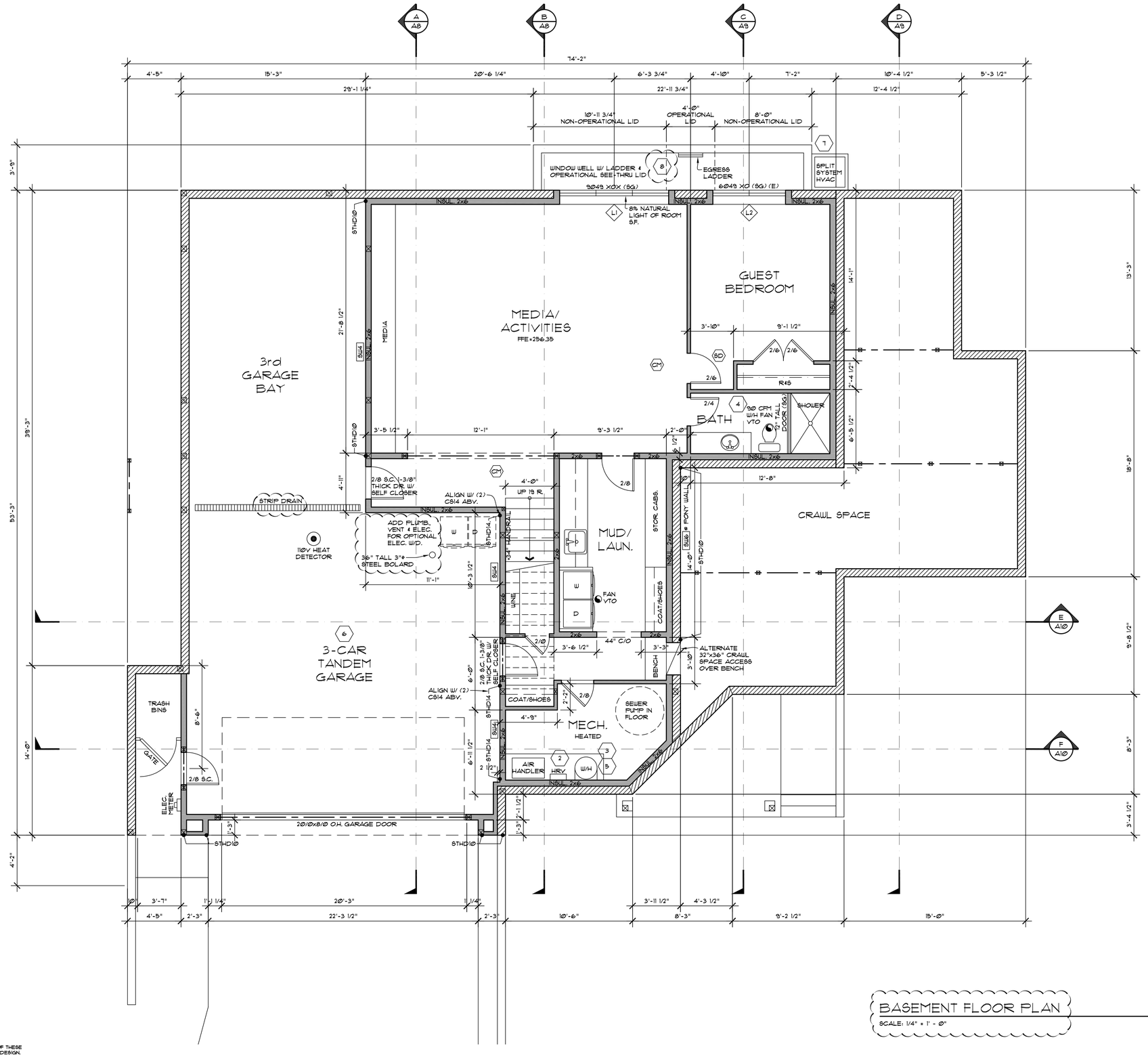
SHEET NO.
A1

1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6" ABOVE DRAIN
2	PILOTS & BURNERS OR HTG. ELEMENTS & SWITCHES TO BE AT LEAST 18" ABOVE FLOOR. MIN. 6" DIA. FRESH AIR DUCT TO CONNECT TO RETURN AIR PLENUM
3	WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT CAUSED BY EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF THE APPLIANCE'S VERTICAL DIMENSIONS. AT THE LOWER POINT, THE STRAPPING SHALL MAINTAIN A MINIMUM DISTANCE OF 4 INCHES ABOVE THE CONTROLS
4	WHOLE HOUSE VENTILATION SYSTEM PER M1507.3.3 OF THE I.R.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAX. 0.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED. WHOLE HOUSE VENTILATION RATE PER TABLE M1507.3.3(2) AND SET TO RUN @ (2) 4 HOUR SEGEMENTS
5	PER ENERGY CREDIT 5.5: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION
6	5/8" TYPE "X" GWB OVER ALL WARM WALLS AND SECOND FLOOR FRAMING & SUPPORT MEMBERS, GARAGE CEILING PROTECTION TO BE CONTINUOUS ABOVE GARAGE.
7	PER ENERGY CREDIT 3.2: AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5
8	WINDOW WELL W/ OPERATIONAL SEE-THRU LID & LADDER. LID TO COMPLY W/ R310.4.4 DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL, OR FORCE GREATER THAN THAT REQUIRED FOR THE NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP



BASEMENT FLOOR PLAN

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

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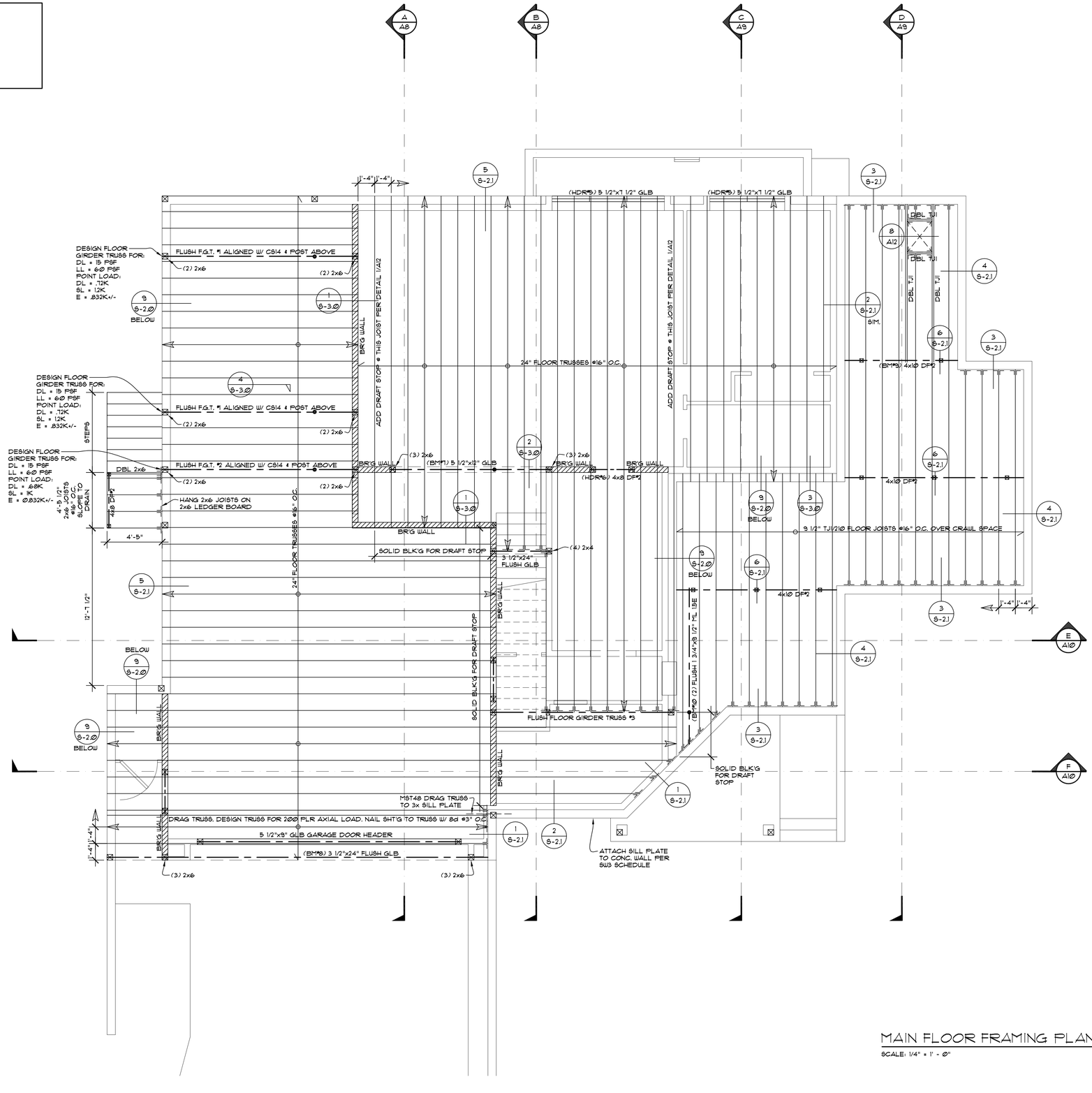
SHEET NO.
A2

ALL HEADERS TO BE 4x8 DF#2 U.N.O.
ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.
A.M.F. = ABOVE MAIN FLOOR
A.U.F. = ABOVE UPPER FLOOR
T.O.B. = TOP OF BEAM
B.O.B. = BOTTOM OF BEAM



MAIN FLOOR FRAMING PLAN

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

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SHEET NO.
A3

PER PERSCRIPTIVE REQUIREMENTS 2018 W.S.E.C.
*(MODIFIED FOR ENERGY CREDIT 1.3)

CLIMATE ZONE 5B
MAX. GLAZING U-FACTOR: VERT. U=.28*, OVERHEAD U=.50
MAX. DOOR U-FACTOR: U=.20
INSULATION @ CONDITIONED AREA:
TRUSSED CEILING: R-49
VAULTED & SINGLE RAFTER CEILING: R-38 (R40.22)
ABOVE GRADE WALLS: R-21
BELOW GRADE WALLS: R-21
FLOOR OVER VENTED CRAWL SPACE: R-38*
SLAB ON GRADE: R-10 @ PERIMETER
& UNDER ENTIRE SLAB*

PERCENT GLAZING CALCULATIONS: 626.8 (S.F. GLAZING AREA) / 4,186 (S.F. FLOOR AREA) = 15.0%

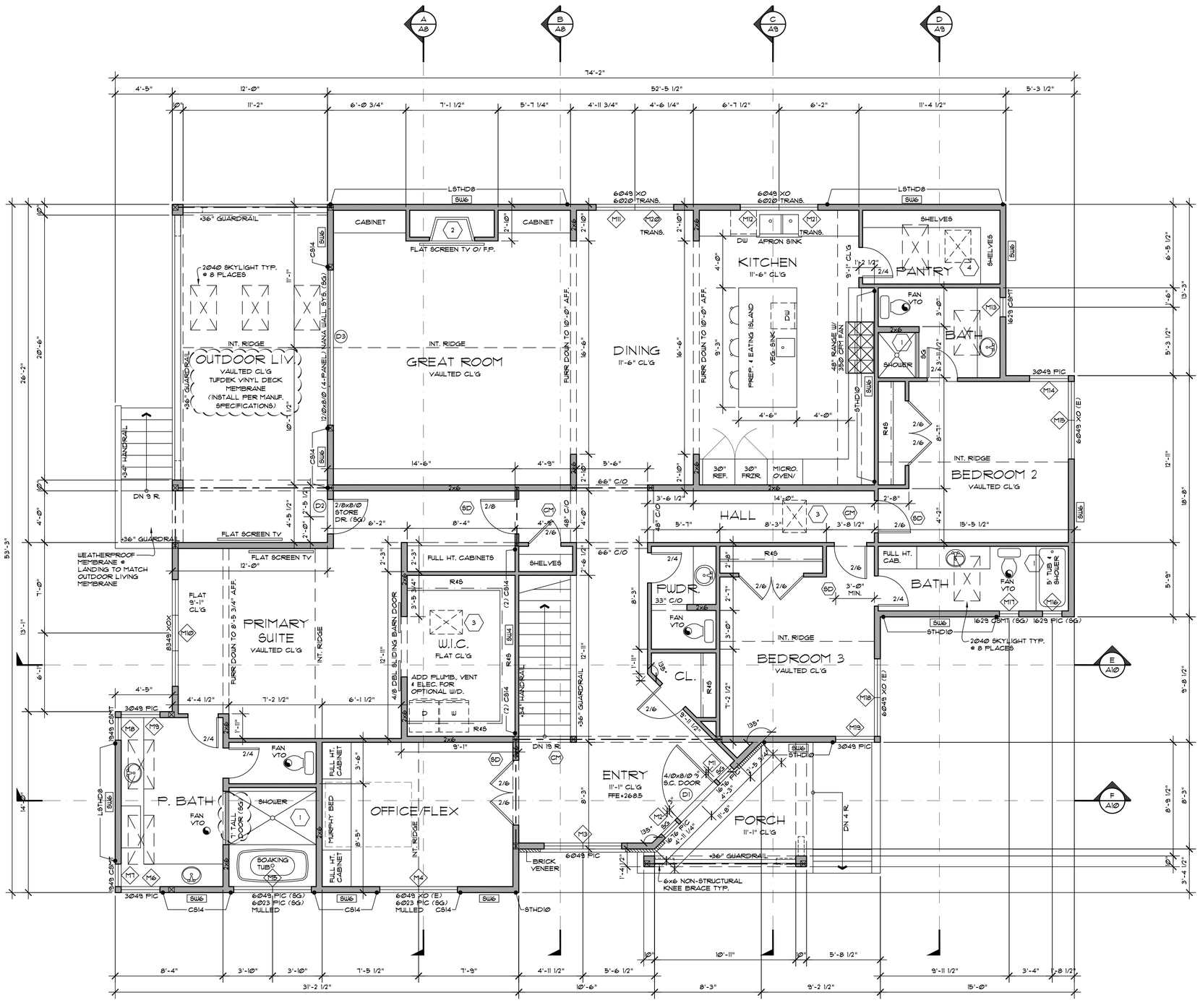
1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6' ABOVE DRAIN
2	DIRECT VENT FIREPLACE. INSTALL PER MANUFACTURERS SPECIFICATIONS
3	22"x30" ATTIC ACCESS. WEATHERSTRIP & INSULATE OVER TO EQUAL CEILING INSULATION. PROVIDE WOOD SURROUND TO PREVENT LOOSE INSULATION SPILLAGE TO LIVING SPACE.
4	24"x30" CRAWL SPACE ACCESS. WEATHERSTRIP & INSULATE TO LEVEL EQUAL TO SURROUNDING SURFACES.
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP

SQUARE FOOTAGE SUMMARY

MAIN FLOOR	2,846#
BASEMENT FLOOR	1,340#
TOTAL HEATED	4,186#
GARAGE	1,074#
M.F. OUTDOOR LIVING	331#
M.F. FRONT PORCH	138#

PER ENERGY CREDIT 2.3:
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

NOTE:
CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL ACTING IN ANY DIRECTION AS REQUIRED BY IRC TABLE R301.5.



MAIN FLOOR PLAN

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

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SHEET NO.
A4

R807.1 ATTIC ACCESS:
BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC ACCESS OPENING TO ATTIC AREAS THAT HAVE A VERTICAL HEIGHT OF 30 INCHES OR GREATER OVER AN AREA OF NOT LESS THAN 30 SQUARE FEET. THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION TO THE UNDERSIDE OF THE ROOF FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION.

ALL TRUSSES:
- SHALL CARRY MANUFACTURERS STAMP
- SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS
- WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS
- SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

ALL ROOF PITCHES TO BE 6:12 U.N.O. X:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

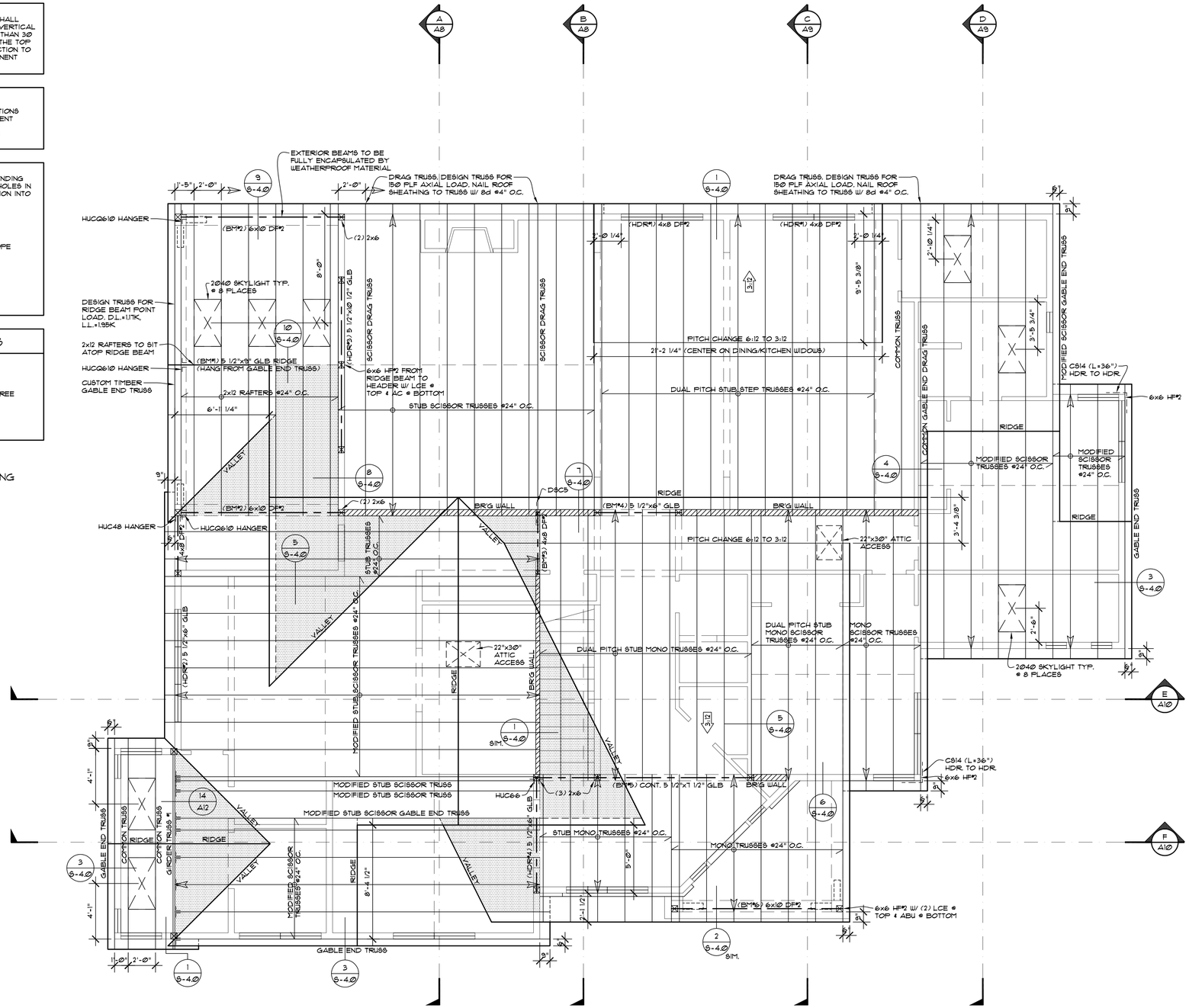
ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 2,846# / 300 = 9.5 SF. NET FREE

EAVE VENTILATION = 124 L.F. x 3.3 SQ. IN./L.F. = 2.84#
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 9.5 x Ø.5 = 4.75#
GABLE END VENTILATION ABOVE EAVE = (5) 18"x24" = 15.Ø# NET FREE

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = 2.84#
GABLE END ABOVE EAVE VENTILATION = 15.Ø#
TOTAL VENTILATION REQUIRED = 9.5#
TOTAL VENTILATION PROVIDED = 17.84#

HATCHING DENOTES 2x OVERFRAMING



MAIN ROOF FRAMING PLAN

SCALE: 1/4" = 1' - Ø"

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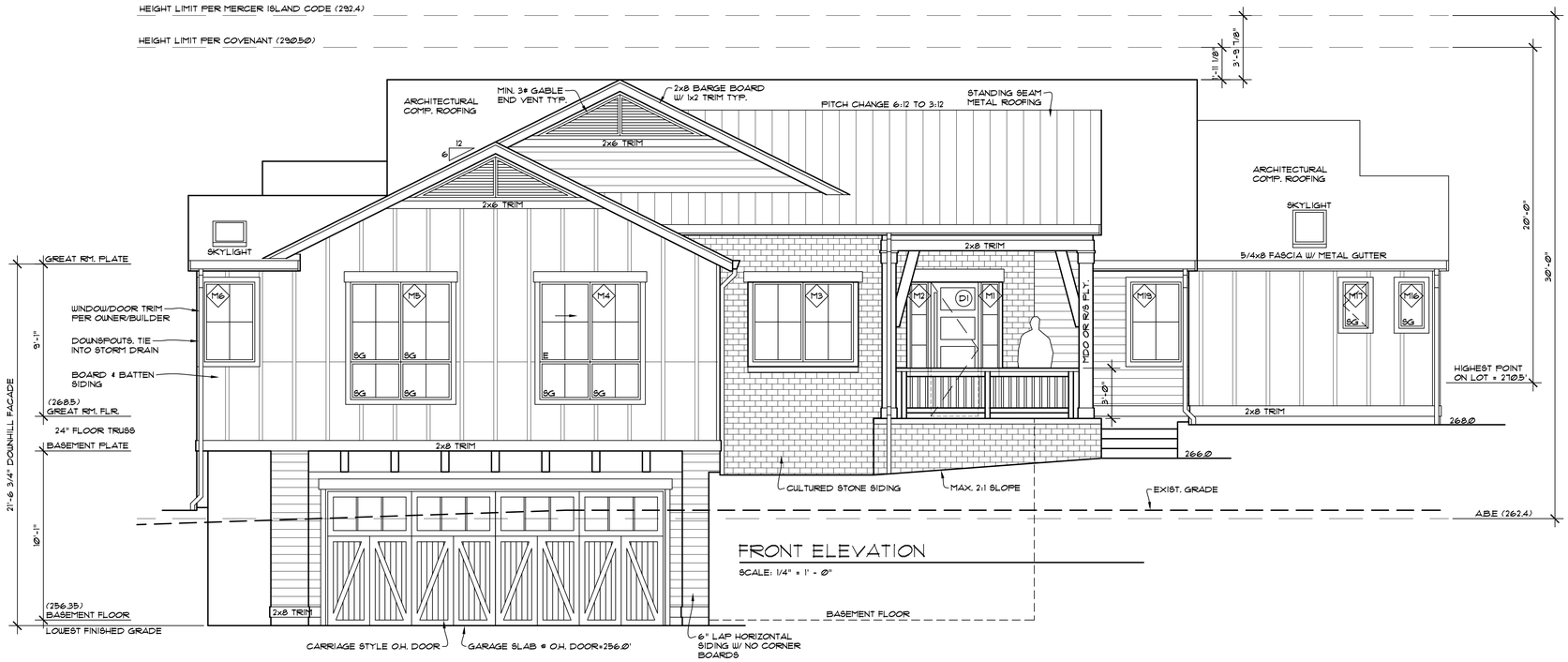
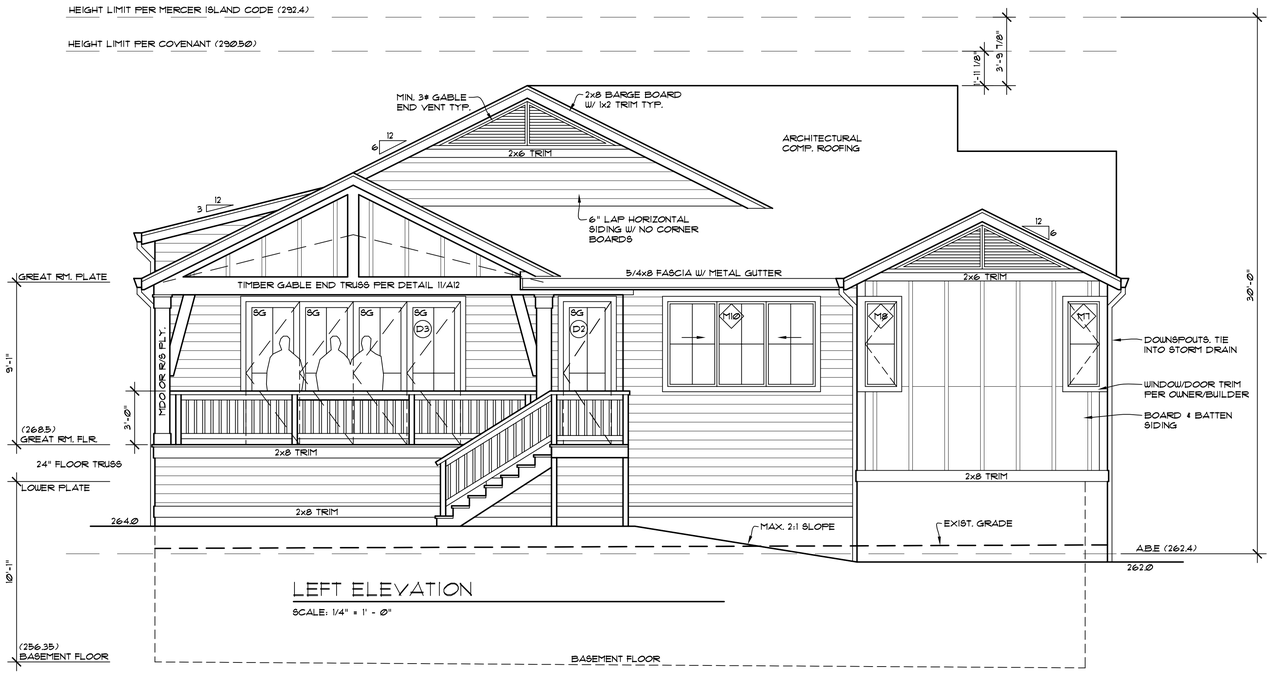
SHEET NO.
A5



FRONT ELEVATION

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



LEFT ELEVATION

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

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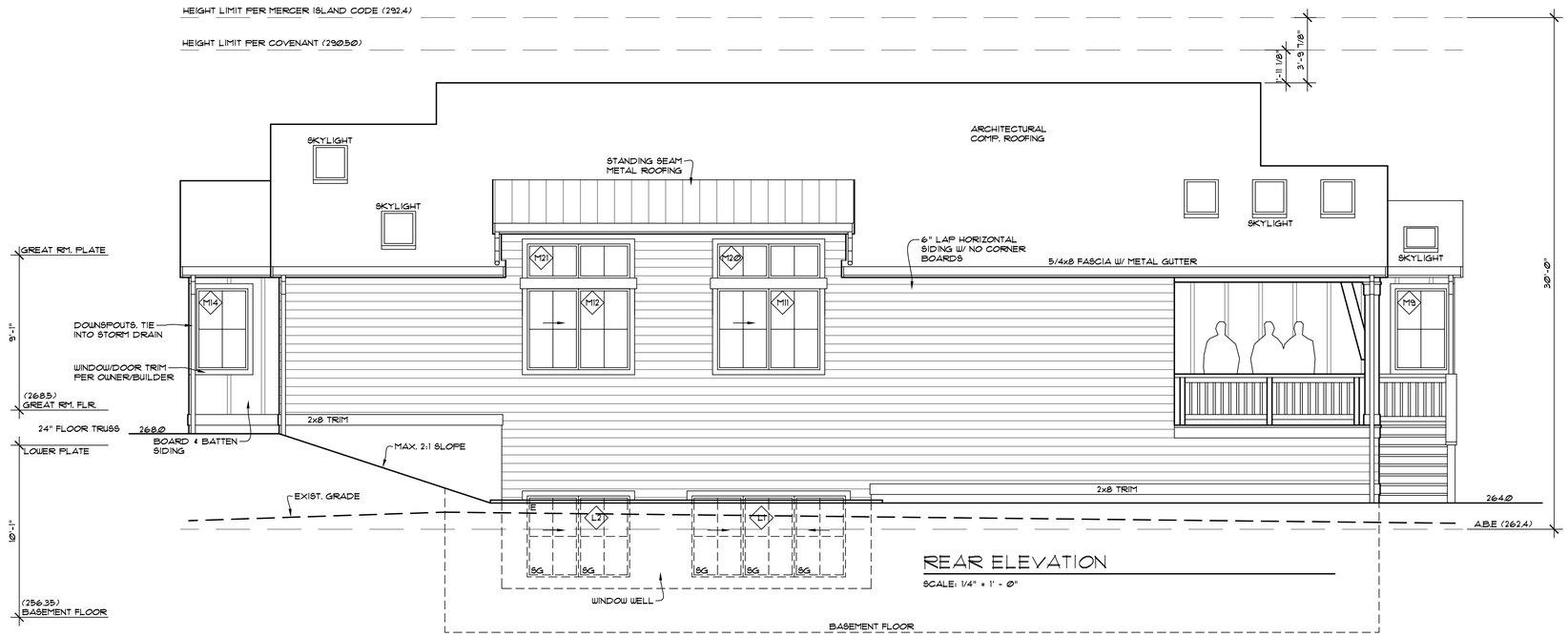
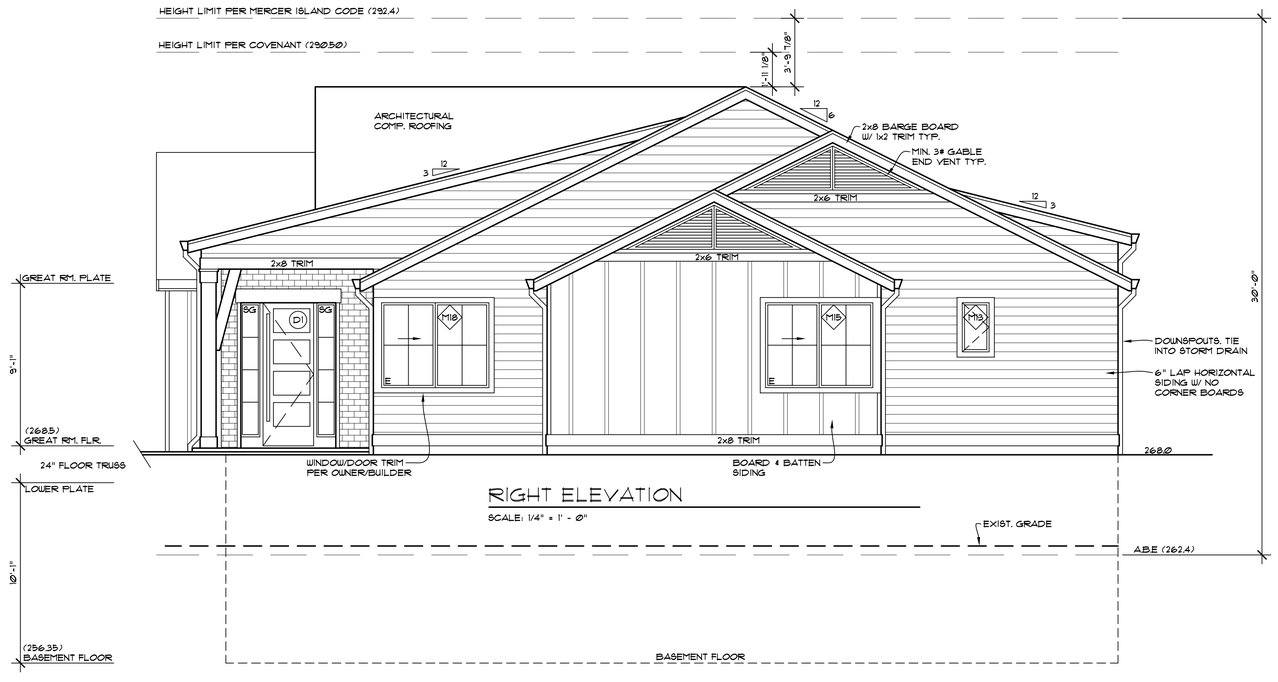
SHEET NO.
A6



REAR ELEVATION

SCALE: 1/4" = 1' - Ø"



RIGHT ELEVATION

SCALE: 1/4" = 1' - Ø"

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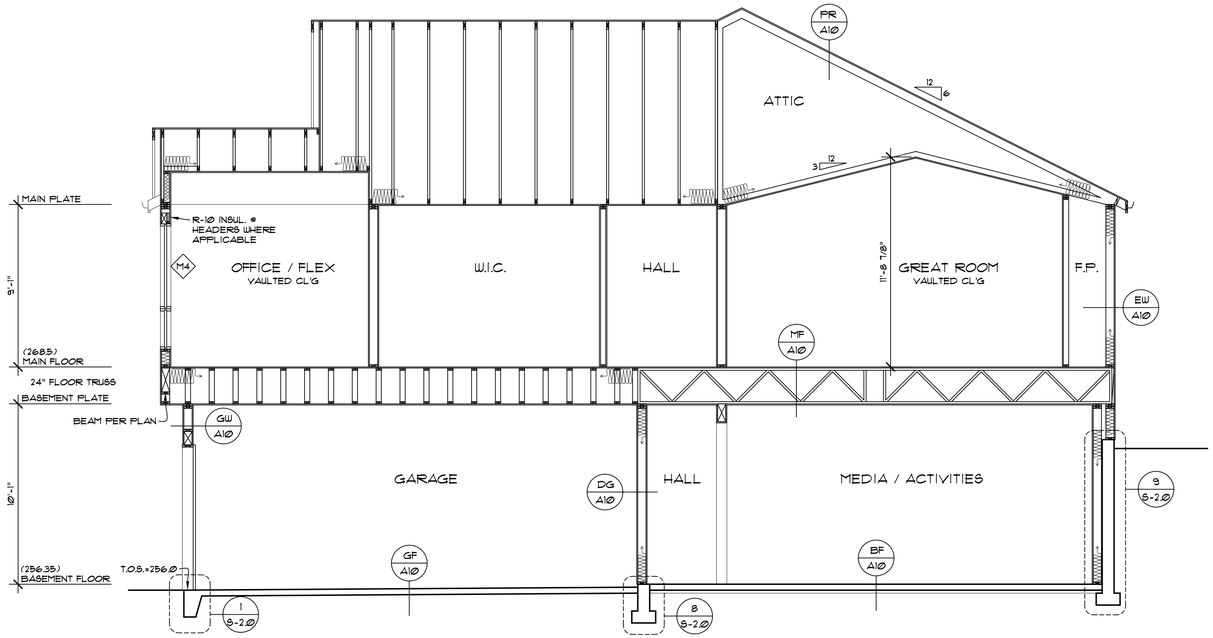
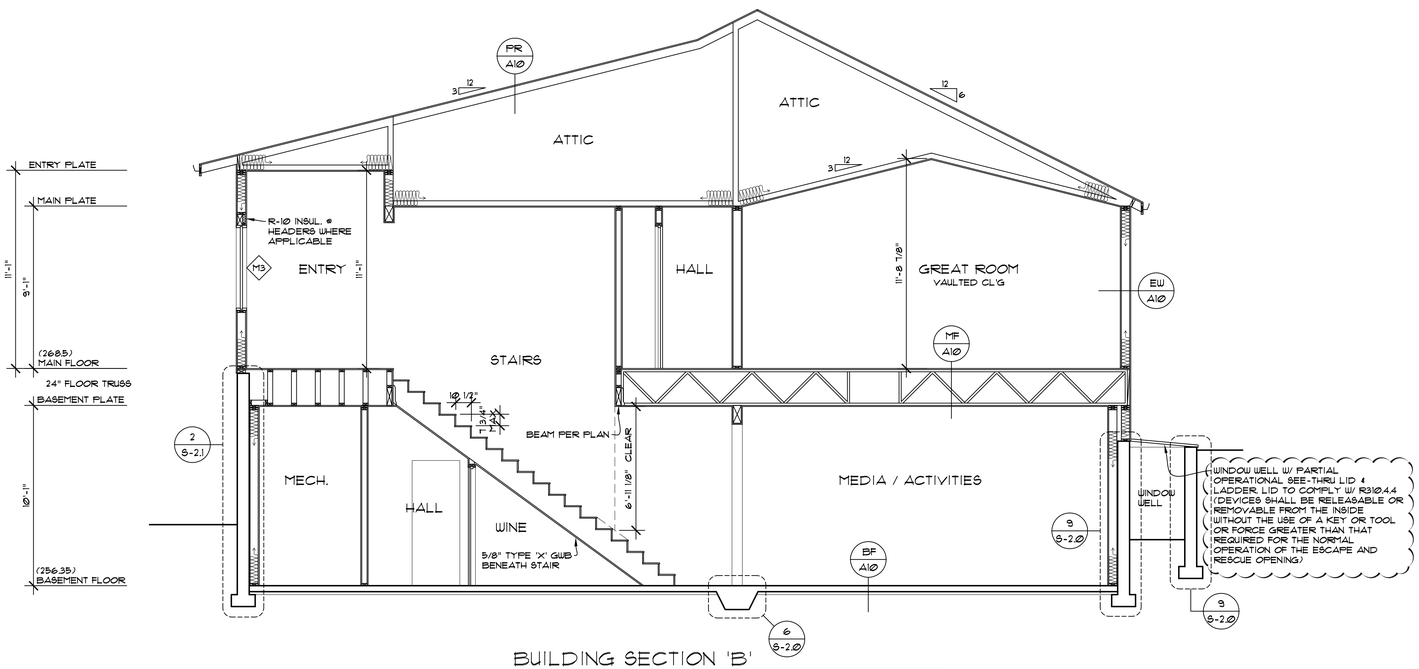
SHEET NO.
A7



BUILDING SECTION 'A'

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



BUILDING SECTION 'B'

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

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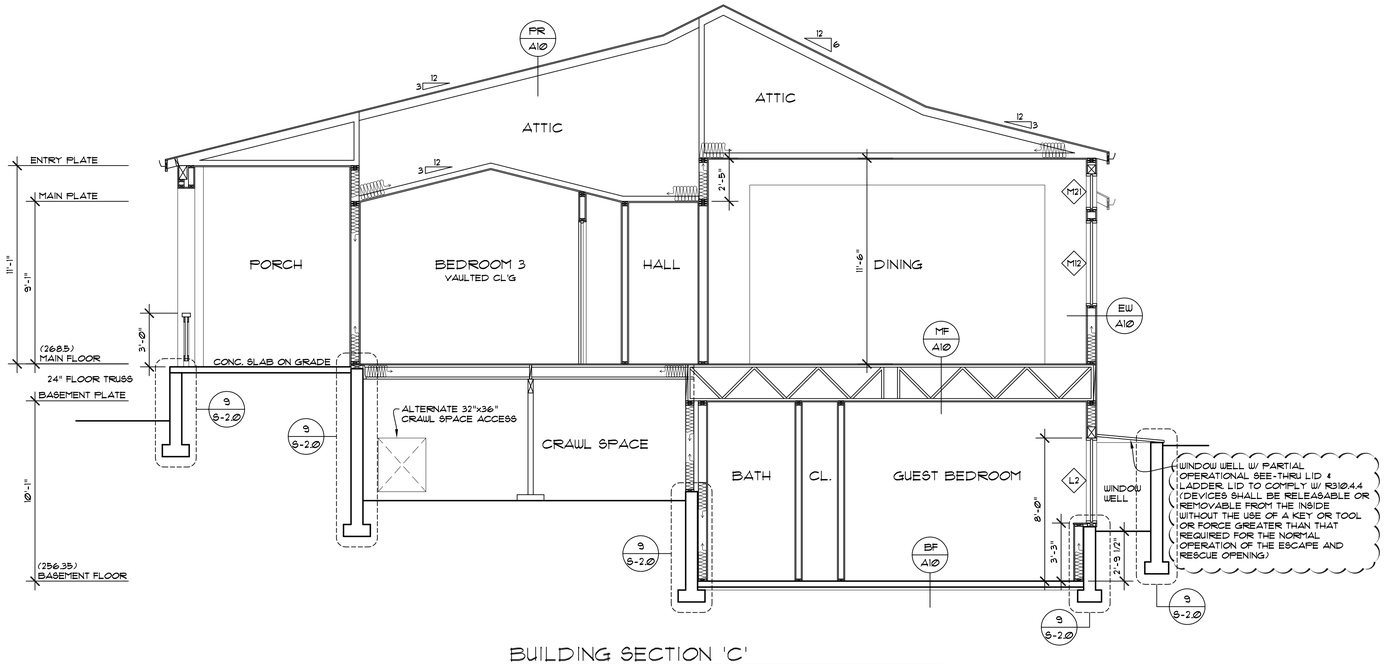
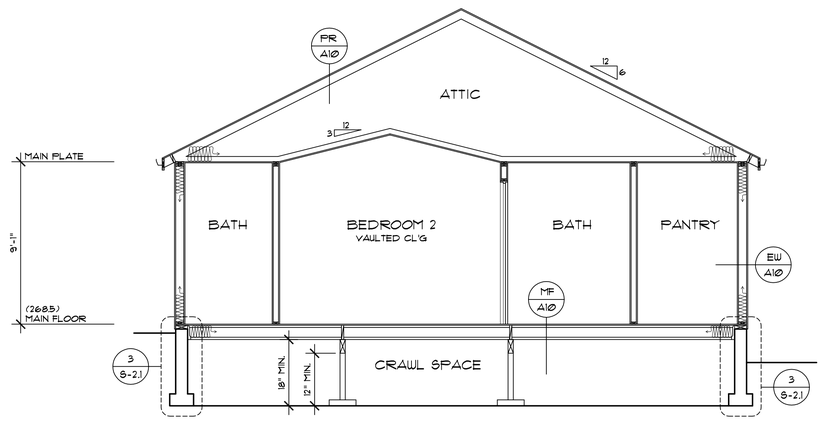
SHEET NO.

A8



BUILDING SECTION 'C'

SCALE: 1/4" = 1' - Ø"



BUILDING SECTION 'D'

SCALE: 1/4" = 1' - Ø"

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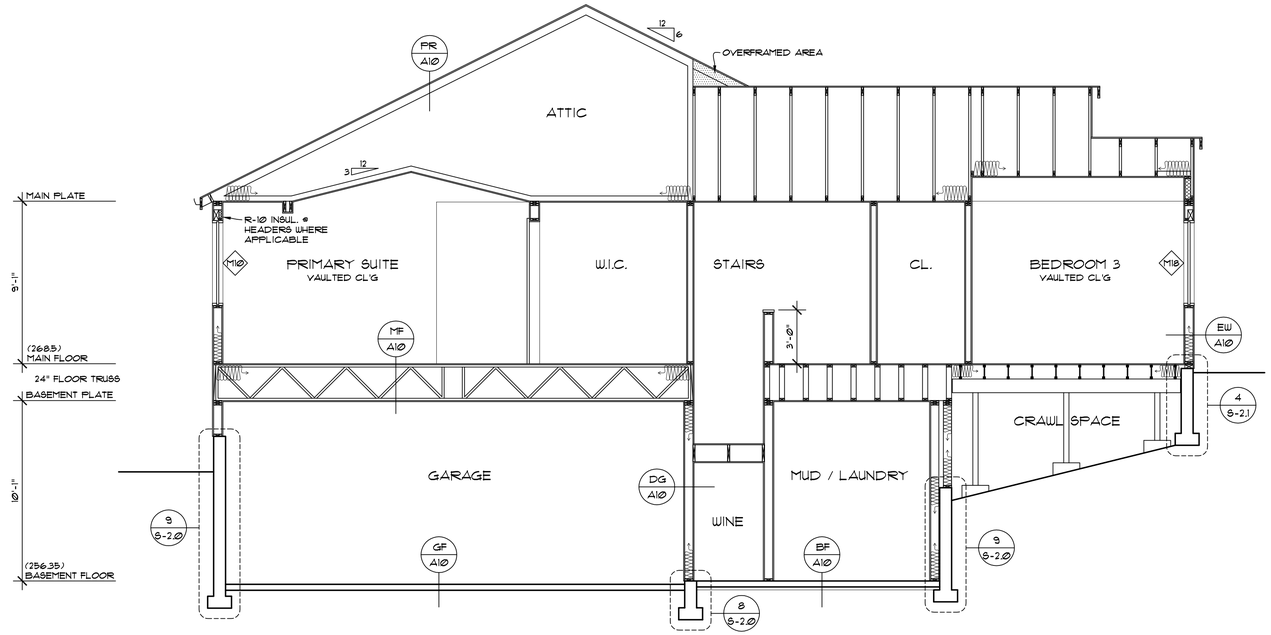
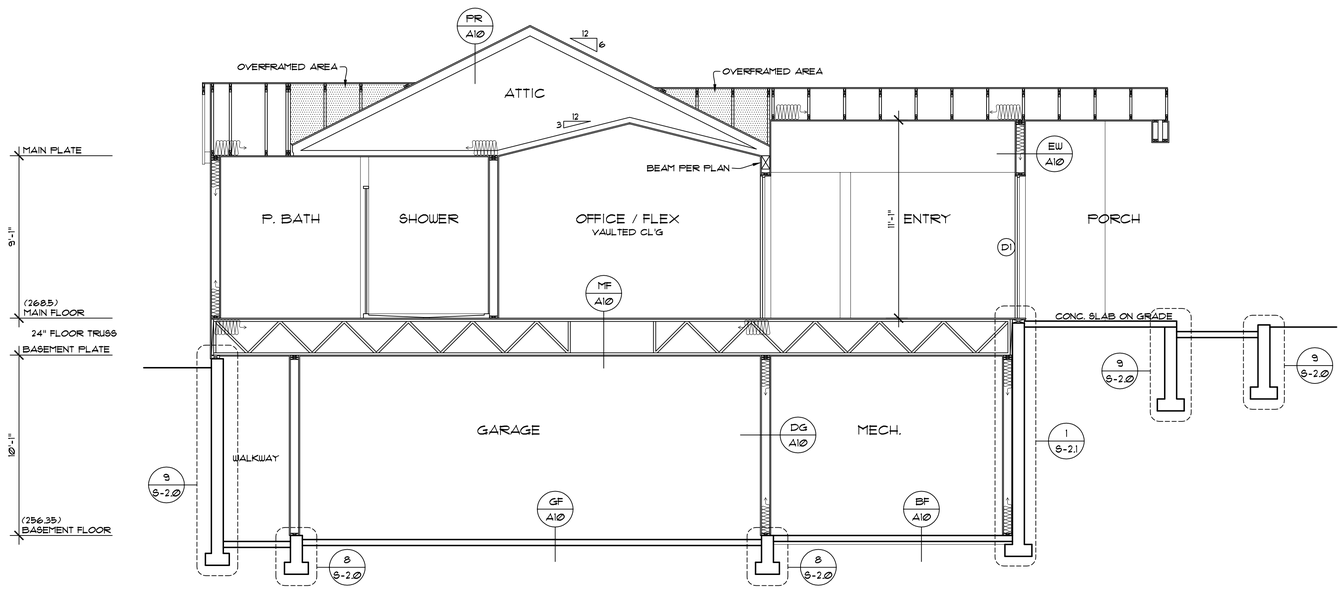
SHEET NO.

A9



BUILDING SECTION 'E'

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



BUILDING SECTION 'F'

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

FR A10	PITCHED ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER TRUSSES OR 2x RAFTERS PER PLAN R-49 INSULATION @ TRUSSED ROOF R-38 INSULATION @ SINGLE RAFTER ROOF W/ VENT BAFFLE AS NEEDED 4 MIL U.V. POLY. 5/8" GWB
EW A10	EXTERIOR CONDITIONED WALL 1/2" GWB. R-21 BATT INSULATION 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
GW A10	EXTERIOR GARAGE WALL 1/2" GWB. 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
DG A10	DWELLING TO GARAGE WALL 1/2" GWB 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. R-21 BATT INSULATION 1/2" GWB
UF A10	UPPER FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) FLOOR JOISTS PER PLAN R-38 BATT INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
MF A10	MAIN FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) FLOOR JOISTS PER PLAN R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
BF A10	BASEMENT FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL R-10 RIGID INSULATION (MIN. COMPRESSIVE STRENGTH OF 15 PSI) UNDER ENTIRE SLAB @ HEATED AREA
GF A10	GARAGE FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL

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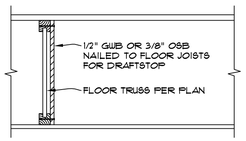
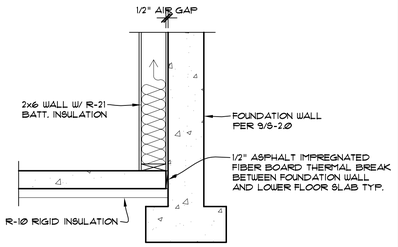
SHEET NO.
A10

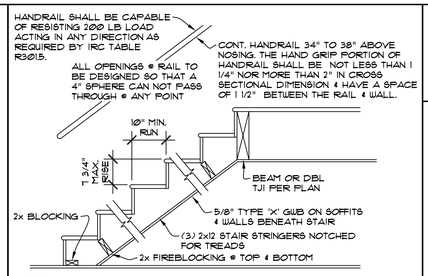


1 DRAFTSTOP DETAIL
N.T.S.

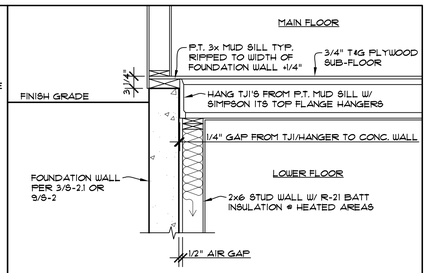


2 BASEMENT FLOOR/WALL DETAIL
N.T.S.

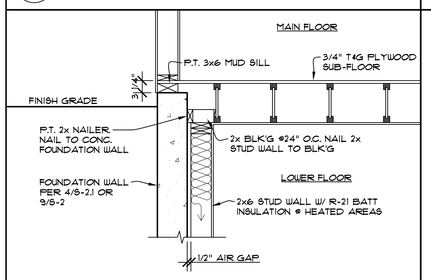
3 TYP. TJI WEB STIFFENER DETAIL
N.T.S.



4 STAIR SECTION DETAIL
N.T.S.



5 DROPPED JOIST DETAIL
N.T.S.



6 DROPPED JOIST DETAIL
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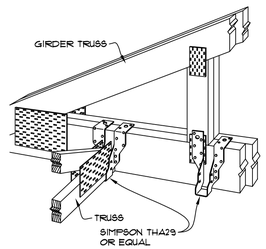
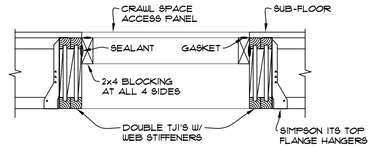


7 GIRDER TRUSS DETAIL
N.T.S.



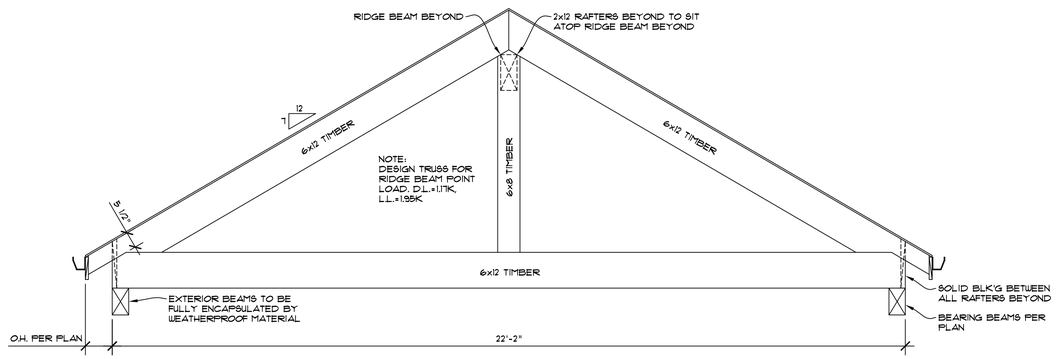
8 CRAWL SPACE ACCESS DETAIL
N.T.S.

NOT USED

9
N.T.S.

NOT USED

10
N.T.S.



11 CUSTOM TIMBER GABLE END TRUSS @ OUTDOOR LIVING
N.T.S.

NOT USED

12
N.T.S.

NOT USED

13
N.T.S.

NOT USED

14
N.T.S.

NOT USED

15
N.T.S.

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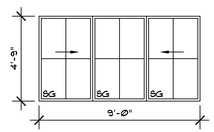
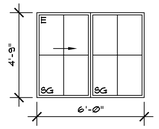
DRWN. BY: MM
REVISED: 10/19/22

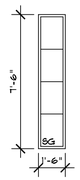
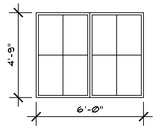
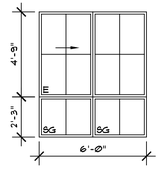
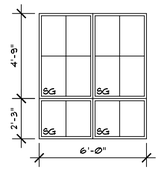
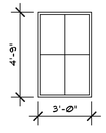
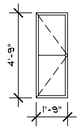
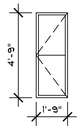
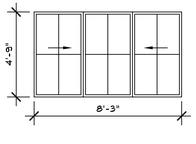
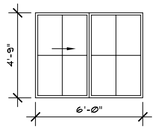
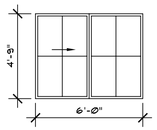
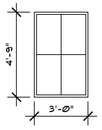
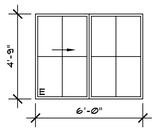
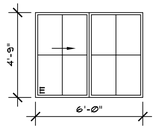
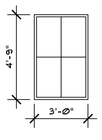
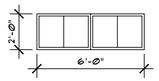
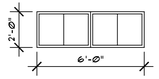
SHEET NO.
A11

WINDOW SCHEDULE

LOWER FLOOR WINDOWS

L1	MEDIA HDR. HT. 7'-10"	
L2	MEDIA HDR. HT. 7'-10"	

MAIN FLOOR WINDOWS

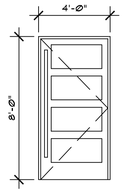
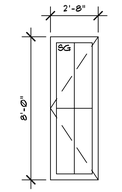
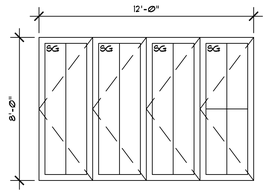
M1 M2	ENTRY HDR. HT. 8'-0"	
M3	ENTRY HDR. HT. 8'-0"	
M4	OFFICE HDR. HT. 8'-0"	
M5	P. BATH HDR. HT. 8'-0"	
M6 M9	P. BATH HDR. HT. 8'-0"	
M7	P. BATH HDR. HT. 8'-0"	
M8	P. BATH HDR. HT. 8'-0"	
M10	P. SUITE HDR. HT. 8'-0"	
M11	DINING HDR. HT. 8'-0"	
M12	KITCHEN HDR. HT. 8'-0"	
M13	BATH HDR. HT. 8'-0"	
M14	BEDROOM 2 HDR. HT. 8'-0"	
M15	BEDROOM 2 HDR. HT. 8'-0"	
M16	BATH HDR. HT. 8'-0"	
M17	BATH HDR. HT. 8'-0"	
M18	BEDROOM 3 HDR. HT. 8'-0"	
M19	BEDROOM 3 HDR. HT. 8'-0"	
M20	DINING HDR. HT. 9'-8 7/8"	
M21	KITCHEN HDR. HT. 9'-8 7/8"	

SG = SAFETY GLASS
E = EGRESS WINDOW

U-FACTOR FOR ALL WINDOWS = .28
U-FACTOR FOR DOORS = .20

DOOR SCHEDULE

EXTERIOR DOORS

D1	ENTRY	
D2	P. SUITE	
D3	GREAT ROOM	

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JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A12

STRUCTURAL NOTES

GENERAL REQUIREMENTS & DESIGN CRITERIA

BUILDING CODE & REFERENCE STANDARDS: THE "INTERNATIONAL BUILDING CODE", 2018 EDITION, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

ARCHITECTURAL DRAWINGS: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES: THE PE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

WIND DESIGN: BASIC WIND SPEED (3-SECOND GUST), V = 85 MPH(ASD); WIND IMPORTANCE FACTOR, IW = 1.0; OCCUPANCY CATEGORY = II; EXPOSURE CATEGORY = C;

SEISMIC DESIGN: SEISMIC IMPORTANCE FACTOR IE = 1.0; OCCUPANCY CATEGORY = II; SS = 1.409G; S1 = 0.490G; SITE CLASS = D; SDS = 1.127G; SD1 = 0.490G; SEISMIC DESIGN CATEGORY = D; BASIC SEISMIC FORCE RESISTING SYSTEM = A-13 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE; CS = 0.121; R = 6.5; ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7, SEC 12.8.

SNOW LOAD: GROUND SNOW LOAD, PG = 20 PSF; FLAT ROOF SNOW LOAD, PF = 25 PSF (DRIFT LOADS CONSIDERED PER ASCE 7 WHERE APPLICABLE); SNOW EXPOSURE FACTOR, CE = 1.0; SNOW IMPORTANCE FACTOR, IS = 1.0; THERMAL FACTOR, CT = 1.0.

LIVE LOADS:

ROOF (LIVE)	20 PSF
ROOF (SNOW)	25 PSF
RESIDENTIAL FLOOR	40 PSF
RESIDENTIAL DECK	60 PSF

DESIGN-BY-OTHERS (DEFERRED SUBMITTALS) LOADS: ALL PRE-ENGINEERED/FABRICATED/MANUFACTURED OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT AND CLADDING LOADS WHEN APPLICABLE. DESIGN SHALL CONFORM TO THE PROJECT DRAWINGS AND SPECIFICATIONS, REFERENCE STANDARDS, AND GOVERNING CODE.

ROOF DEAD LOAD	15 PSF
TOP CHORD DEAD LOAD	8 PSF
BOTTOM CHORD DEAD LOAD	7 PSF
TRUSS UPLIFT LOAD (GROSS)	10 PSF

DEFERRED SUBMITTALS: ITEMS DESIGNED BY OTHERS SHALL INCLUDE CALCULATIONS, SHOP DRAWINGS AND PRODUCT DATA. DESIGN SHALL BE PREPARED BY THE SSE AND SUBMITTED TO THE ARCHITECT AND SER FOR REVIEW PRIOR TO SUBMISSION TO THE JURISDICTION FOR APPROVAL. THE SSE SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALCULATIONS AND SHOP DRAWINGS THAT ARE STAMPED AND SIGNED BY THE SSE. REVIEW OF THE SSE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE SSE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE SSE'S DESIGN DRAWINGS AND CALCULATIONS.

INSPECTIONS: ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 109. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO IBC SEC 1703.6.

GEOTECHNICAL INSPECTION: THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL SHALL INSPECT ALL PREPARED SOIL BEARING SURFACES PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL AND PROVIDE A LETTER TO THE OWNER STATING THAT SOILS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION PRESSURE" SHOWN BELOW. SOIL VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

GEOTECHNICAL REPORT: RECOMMENDATIONS CONTAINED IN "GEOTECHNICAL EVALUATION" BY COBALT GEOSCIENCES, LLC., DATED MARCH 12, 2022 WERE USED FOR FOOTING DESIGN.

DESIGN SOIL VALUES:

ALLOWABLE BEARING PRESSURE	3000 PSF
PASSIVE LATERAL PRESSURE	275 PSF/FT
ACTIVE LATERAL PRESSURE (UNRESTRAINED)	35 PSF/FT
AT-REST LATERAL PRESSURE (RESTRAINED)	50 PSF/FT
COEFFICIENT OF SLIDING FRICTION	0.40

SLABS-ON-GRADE & FOUNDATIONS: ALL FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL SLABS-ON-GRADE SHALL BE FOUNDED ON APPROPRIATE SUB-GRADE PREPARATION AS NOTED IN THE GEOTECHNICAL REPORT. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.

COMPACTION: UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER, FOOTINGS SHALL BE PLACED ON COMPACTED MATERIAL AND SHALL BE WELL-GRADED GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING A #2 SIEVE. FILLS PLACED SHALL BE IN MAXIMUM 8" LIFTS AND ALL BEARING SOILS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT USING THE MODIFIED PROCTOR TEST.

CAST-IN-PLACE CONCRETE & REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:
(1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".
(2) IBC CHAPTER 19.
(3) ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SEC 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 318 CHAPTER 5 "CONCRETE QUALITY, MIXING, AND PLACING."

MATERIALS: CONFORM TO ACI 318 CHAPTER 3 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

REINFORCING BARS	ASTM A615, GRADE 60, DEFORMED BARS.
DEFORMED WELDED WIRE FABRIC	ASTM A497
BAR SUPPORTS	CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS."
TIE WIRE	16.5 GAGE OR HEAVIER, BLACK ANNEALED.

MIX DESIGNS: PROVIDE A 5-SACK MINIMUM, 28-DAY COMPRESSIVE STRENGTH F'C = 2,500 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO FOR ALL ISOLATED POST AND CONTINUOUS WALL FOOTINGS, SLABS-ON-GRADE, AND BASEMENT WALLS EXTENDING NO MORE THAN 8" ABOVE FINISH GRADE ELEVATION. FOR BASEMENT WALLS EXTENDING MORE THAN 8" ABOVE FINISH GRADE AND ALL SITE WALLS, PROVIDE A 5-1/2 SACK MINIMUM F'C = 3,000 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO.

MIX DESIGN NOTES:
(1) W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS.
(2) CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.B. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY SER.
(3) AIR CONTENT: CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
(4) SLUMP: CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
(5) NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK: CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'C.

MEASURING, MIXING, AND DELIVERY: CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SEC 5.

REBAR FABRICATION & PLACING: CONFORM TO ACI 301, SEC 3.2.2 "FABRICATION", AND ACI SP-66 "ACI DETAILING MANUAL." CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

SPLICES: CONFORM TO ACI 301, SEC 3.3.2.7. REFER TO PLANS FOR TYPICAL SPLICES.

FIELD BENDING: CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS.

CORNERS BARS: PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

CONCRETE COVER: CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3:

CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER)	1-1/2"
BARS IN SLABS AND WALLS	3/4"

CONSTRUCTION JOINTS: CONFORM TO ACI 301 SEC 2.2.2.5, 5.1.2.3A, 5.2.2.1, AND 5.3.2.6. CONSTRUCTION JOINTS SHALL BE LOCATED AND DETAILED AS ON THE CONSTRUCTION DRAWINGS. USE OF AN ACCEPTABLE ADHESIVE, SURFACE RETARDER, PORTLAND CEMENT GROUT, OR ROUGHENING THE SURFACE IS NOT REQUIRED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. WHERE SHEAR BOND IS REQUIRED, ROUGHEN SURFACES TO 1/4" AMPLITUDE.

WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO:
(1) IBC CHAPTER 23 "WOOD",
(2) NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION",
(3) ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION",

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE SSE IN THE STATE OF WASHINGTON FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER DESIGN LOADS SECTION.

IDENTIFICATION: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:

- SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB OR NLGA. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.

MEMBER USE	SIZE	SPECIES	GRADE
STUDS & POSTS	2x, 4x	HEM-FIR	NO. 2
RAFTERS	2x4 - 2x10	HEM-FIR	NO. 2
BEAMS	4x8 - 4x12	HEM-FIR	NO. 2
BEAMS	6x8 - 6x12	HEM-FIR	NO. 2
POSTS & TIMBERS	6x, 8x	DOUG-FIR	NO. 2

- GLUED LAMINATED TIMBER: CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE-LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED MEMBERS BEAMS TO 2000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

MEMBER USE	SIZES	SPECIES	STRESS CLASS	USES
BEAMS	ALL	DF/DF	24F-1.8E	SIMPLE SPANS
	ALL	DF/DF	24F-1.8E [(-FB)=(+FB)]	CANTILEVER SPANS

- METAL PLATE CONNECTED WOOD ROOF TRUSSES: CONFORM TO IBC SEC 2303.4 "TRUSSES."
- WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1 AND PS-2 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA).

LOCATION	THICKNESS	SPAN RATING (MINIMUM APA RATING)	PLYWOOD GRADE (MINIMUM APA RATING)	EXPOSURE (MINIMUM APA RATING)
ROOF	15/32"	32/16	C-D	1
FLOOR	23/32" T&G	24 OC	STURD-I-FLOOR	1
WALLS	15/32"	32/16	C-D	1
WALLS(ALT)	7/16" OSB	24/16	C-D	1

- JOIST HANGERS AND CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY OR USP EQUIVALENT AS SPECIFIED IN THEIR LATEST CATALOGS. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.
- NAILS AND STAPLES: CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.9.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED ON THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
8d	2-1/2"	0.131"
10d	3"	0.148"
(8d & 10d ALTERNATIVE) PASLODE TETRAGRIP NAILS	2-3/8"	0.113"
12d (16d SINKER)	3-1/4"	0.148"
16d	3-1/2"	0.162"

- LAG BOLTS/BOLTS: CONFORM TO ASTM A307.

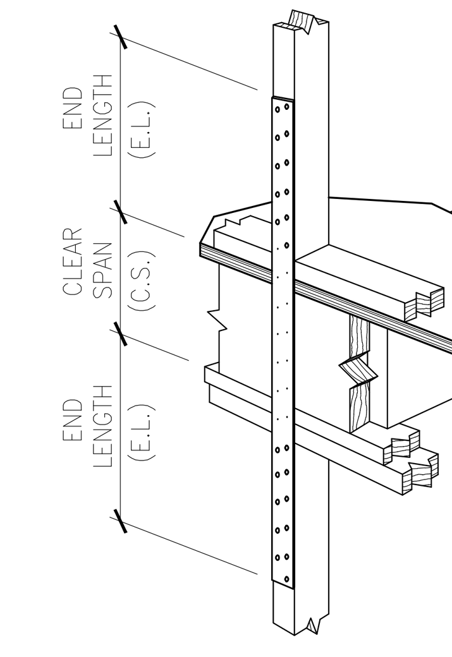
NAILING REQUIREMENTS: PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."
(1) WALL FRAMING: UNLESS OTHERWISE NOTED, ALL INTERIOR WALLS SHALL BE 2X4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2X6 @ 16"OC. PROVIDE (2)BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. UNO, ALL SOLID SAWN LUMBER HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1)TRIM AND (1)KING STUD AND ALL GLULAM OR ENGINEERED WOOD HEADERS BY (2)TRIM AND (2)KING STUDS. AT FRAMED WALLS, UNO, ALL SOLID SAWN LUMBER BEAMS SHALL BE SUPPORTED ON A MINIMUM OF (2) BUNDLED 2X STUDS AND ALL GLULAM OR ENGINEERED WOOD BEAMS ON A MINIMUM OF (3) BUNDLED 2X STUDS. STITCH-NAIL BUNDLED STUDS WITH (2)10D @ 12"OC. UNO, ALL INTERIOR AND EXTERIOR HEADERS SHALL BE 4X6. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. UNO, ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8"-DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. UNO, PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.
(2) ROOF/FLOOR FRAMING: UNLESS OTHERWISE NOTED, PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. UNO, MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNBLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

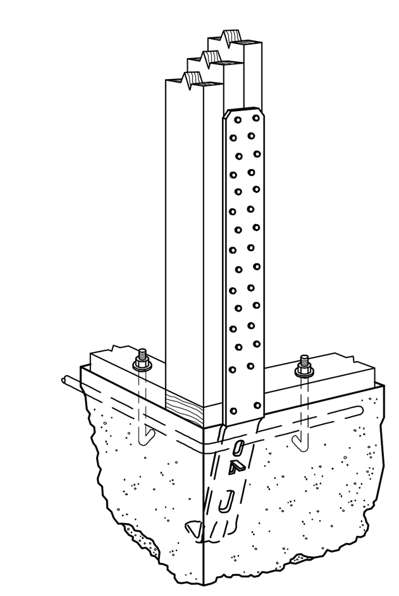
MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE.

PRESERVATIVE TREATMENT: WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.11 "PROTECTION AGAINST DECAY AND TERMITES". CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK.

METAL CONNECTORS/PT WOOD: CK ENGINEERING LLC RECOMMENDS THAT ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ/SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE WOOD.



DETAIL A


DETAIL C

MODEL # (1)	ANCHORAGE TYPE (4,5,6)	FASTENERS	END STUD REQUIRED (2,3)	CAPACITY (LBS) DOUG-FIR	CAPACITY (LBS) HEM-FIR
CS14	FLR-TO-FLR STRAP (E.L.=19")	(30) 10d COMMON	2x STUD	2,490	2,490
LSTHD8/RJ	CAST-IN-PLACE	(16) 16d SINKERS	(2) 2x STUDS[7]	1,975	1,975
STHD10/RJ	CAST-IN-PLACE	(18) 16d SINKERS	(2) 2x STUDS[7]	2,640	2,640
STHD14/RJ	CAST-IN-PLACE	(22) 16d SINKERS	(2) 2x STUDS[7]	3,695	3,695

NOTES:
1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON ANCHOR TIE DOWN CO., INC; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH SER APPROVAL.
2. LOCATE ALL HOLDOWNS AT ENDS OF ALL SHEAR WALLS & FASTEN TO BUNDLED END STUDS.
3. BUNDLED END STUDS SHOULD BE STITCH-NAILED TOGETHER USING MINIMUM (2) 16d @ 10"OC, UNO.
4. LOCATE "HDU#", "LSTHD#" & "STHD#" HOLDOWNS AT CONCRETE FOUNDATION LEVEL. (DETAIL B & C) LOCATE "CS#", "MST", "MSTC#" & "CMST#" STRAPS AT FLOOR-TO-FLOOR CONNECTIONS. (DETAIL A)
5. ALL HOLDOWN ANCHOR BOLTS SHALL BE MIN 5" FROM CONCRETE WALL ENDS.
6. USE "SSTB" FOR 2x SILL PLATES & "SSTBL" FOR 3x SILL PLATES.
7. ADDITIONAL END STUD REQUIRED TO MEET MINIMUM 1½" EDGE DISTANCE FROM CONCRETE CORNER TO "STHD" STRAP. USE "RJ" STYLE WITH "STHD" WHERE RIM JOIST IS PRESENT.
8. INSTALL ALL HOLDOWN HARDWARE PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.

HOLDOWN SCHEDULE (8)
SCALE: N.T.S.

WOOD-FRAMED SHEAR WALL SCHEDULE
FOR HEM-FIR/DOUG-FIR STUD FRAMING

SW TYPE	SW SHEATHING APA-RATED [1, 2, 12]	NAIL SIZE & SPACING @ PANEL EDGES [4, 5, 6]	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW [8, 9]	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS [3, 7, 13]: SHEAR NAILING TO WOOD FRAMING BELOW	BOTTOM PL AT FRAMING	SILL PLATE REQUIREMENTS: ANCHOR BOLT TO CONCRETE FOUNDATION [10]	SILL PL AT FOUNDATION [11]	SHEAR LOAD CAPACITY (PLF)
SW-6	15/32" CD-EXT	0.131"ø x 2½" @ 6"OC	CLIP @ 18"OC	0.148"ø x 3¼" @ 6"OC	2x	⅝"ø @ 48"OC	P.T. 2x	242
SW-4	15/32" CD-EXT	0.131"ø x 2½" @ 4"OC	CLIP @ 14"OC	0.148"ø x 3¼" @ 4"OC	3x [15]	⅝"ø @ 32"OC	P.T. 2x	353
						⅝"ø @ 48"OC	P.T. 3x [15]	

NOTES:
1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY
2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUDS.
3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.
4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.
5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
6. SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
7. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148"Ø x 2½" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"Ø x 2½" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
8. BASED ON 0.131"Ø x 1½" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131"Ø x 2½" NAILS WHERE INSTALLED OVER SHEATHING.
9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED 13/16"x1¾" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN ½" OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR (4) 0.131"Øx2½" TOENAILS.

WOOD-FRAMED SHEAR WALL SCHEDULE (12)
SCALE: N.T.S.

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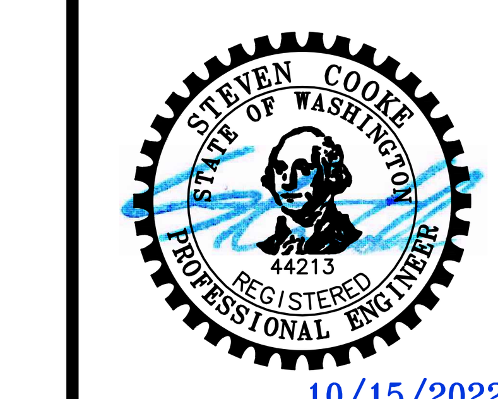

10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

REVISION #	DATE	DESCRIPTION:

Drawn By: PK
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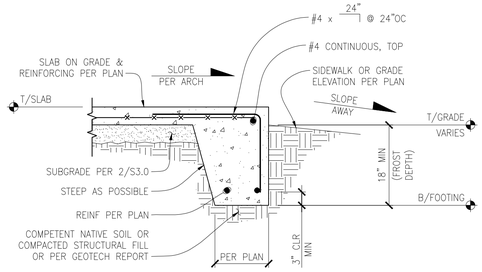
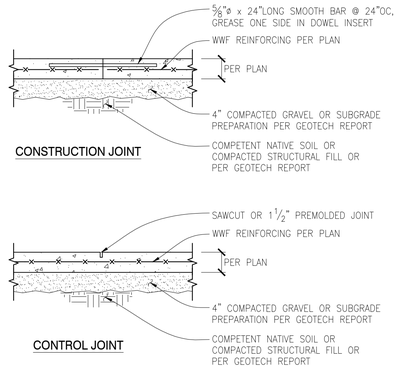
STRUCTURAL NOTES/SCHED.

S-1.0



TYPICAL THICKENED SLAB EDGE FOOTING — 1

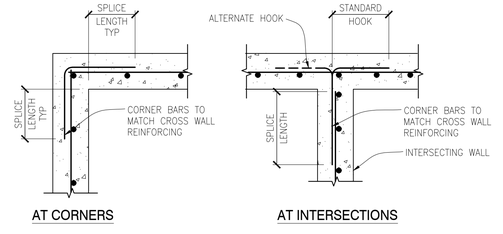
SCALE: 3/4" = 1'-0"



NOTES:
1. FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FOUNDATION/SLAB PLAN
2. USE "SOFTCUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST
3. PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX

TYPICAL SLAB ON GRADE JOINT DETAILS — 2

SCALE: N.T.S.

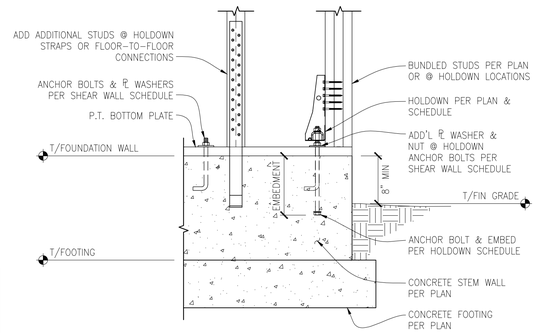


NOTES:
1. WALL SIZE & REINFORCING PER PLAN.
2. CORNER BARS SIZE & SPACING TO MATCH HORIZONTAL REINFORCING.

SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"

TYPICAL CORNER BARS AT CONCRETE WALLS - SINGLE MAT — 3

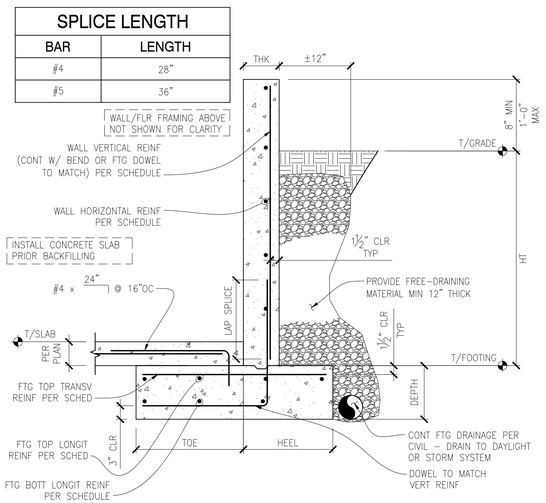
SCALE: N.T.S.



TYPICAL SHEAR WALL HOLDOWN CONNECTIONS AT FOUNDATION CONCRETE WALL — 4

SCALE: N.T.S.

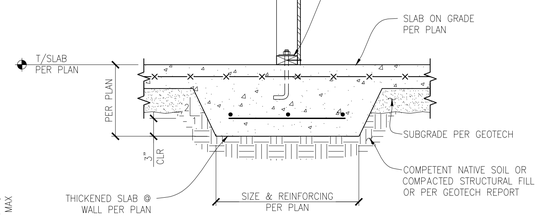
SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"



RETAINING WALL/FOOTING SCHEDULE									
WALL				FOOTING					
SIZE		REINFORCEMENT		SIZE			REINFORCEMENT		
HT (MAX)	THK	VERTICAL	HORIZONTAL	TOE	HEEL	DEPTH	TOP/TRANSV	TOP/LONGIT	BOTTOM/LONGIT
4'-0"	8"	#4 @ 12"OC	#4 @ 12"OC	1'-0"	1'-6"	10"	#4 @ 10"OC	(3) #4	(2) #4
6'-0"	8"	#4 @ 8"OC	#4 @ 12"OC	2'-6"	1'-6"	10"	#4 @ 10"OC	(4) #4	(3) #4
8'-0"	8"	#5 @ 10"OC	#4 @ 12"OC	4'-0"	1'-6"	14"	#5 @ 10"OC	(5) #5	(3) #5
10'-0"	10"	#6 @ 9"OC	#4 @ 10"OC	5'-0"	2'-0"	16"	#6 @ 10"OC	(7) #5	(6) #5

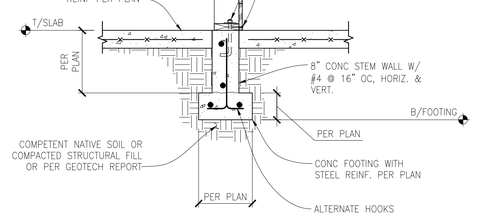
RETAINING WALL SCHEDULE — 9

SCALE: N.T.S.



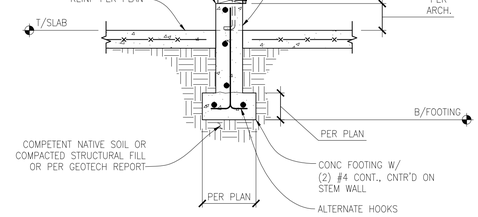
TYPICAL INTERIOR THICKENED SLAB FOOTING AT BEARING / SHEAR WALL — 6

SCALE: 1" = 1'-0"



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE — 7

SCALE: 3/4" = 1'-0"



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE — 8

SCALE: 3/4" = 1'-0"

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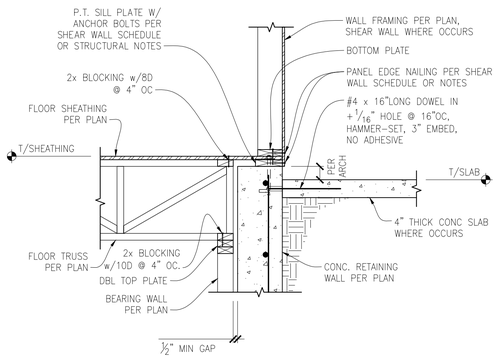
STRUCTURAL DETAILS

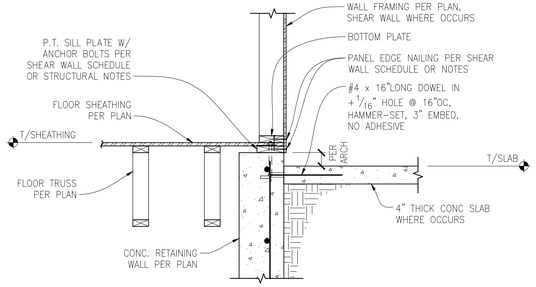
S-2.0



EXTERIOR WALL/SHEAR WALL (WHERE OCCURS)/ TRUSSES PARALLEL TO RETAINING WALL CON.

1

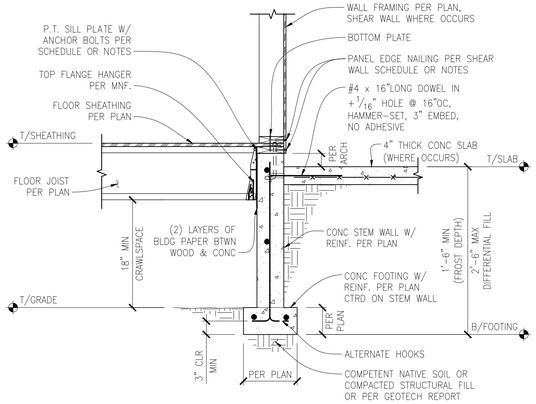
SCALE: 3/4" = 1'-0"



EXTERIOR SHEAR WALL WITH TRUSSES PARALLEL TO RETAINING WALL CON.

2

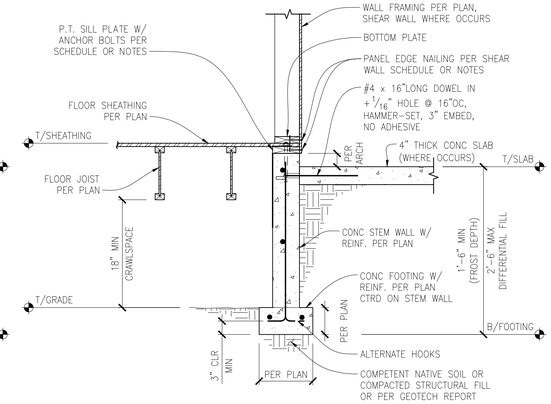
SCALE: 3/4" = 1'-0"



CRAWL SPACE EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RAISED STEM WALL

3

SCALE: 3/4" = 1'-0"



SHEAR WALL WITH JOISTS PARALLEL TO RAISED STEM WALL

4

SCALE: 3/4" = 1'-0"

EXTERIOR SHEAR WALL WITH TRUSSES PERPENDICULAR TO RET. WALL CON.

5

SCALE: 3/4" = 1'-0"

POST AND BEAM AT CRAWLSPACE

6

SCALE: 3/4" = 1'-0"

SIMPSON STRONG-TIE SLOTTED PLATE WASHERS W/ 5/8"ø ANCHOR BOLTS	
3x3x0.229	BPS5/8-3
4.5x3x0.229	BPS5/8-6

TYPICAL PLAN VIEW - SHEAR WALL HOLDOWNS & ANCHOR BOLTS

7

SCALE: 1" = 1'-0"

TYPICAL SHEAR WALL ELEVATION

8

SCALE: N.T.S.

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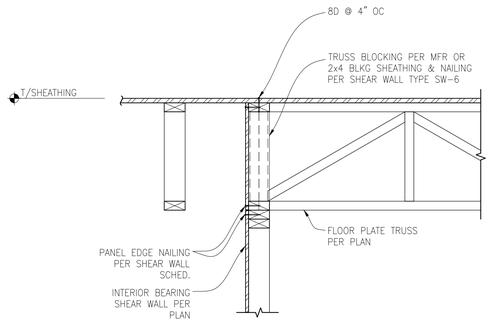
STRUCTURAL DETAILS

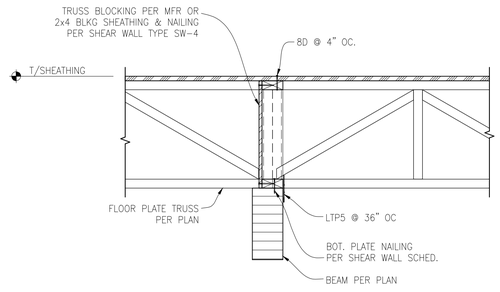
S-2.1



FLOOR TRUSS AT INTERIOR SHEAR WALL

SCALE: 1" = 1'-0"

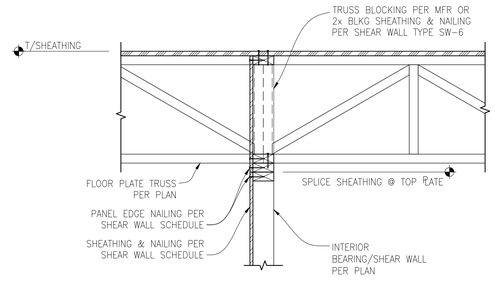
1



FLOOR TRUSS 'DROPPED' BEAM CONNECTION

SCALE: 1" = 1'-0"

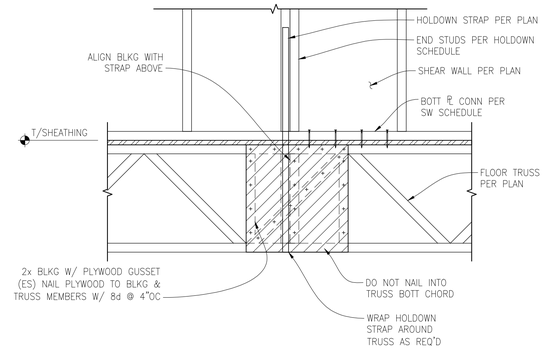
2



FLOOR TRUSS AT INTERIOR BEARING/SHEAR WALL

SCALE: 1" = 1'-0"

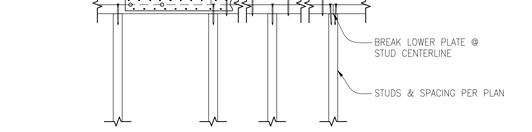
3



HOLDOWN STRAP ABOVE FLOOR TRUSS

SCALE: 1" = 1'-0"

4

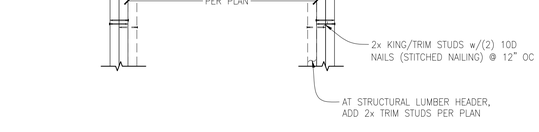


NOTE:
FLOOR JOISTS NOT SHOWN FOR CLARITY.

TYPICAL PLATE SPLICE DETAIL

SCALE: N.T.S.

5

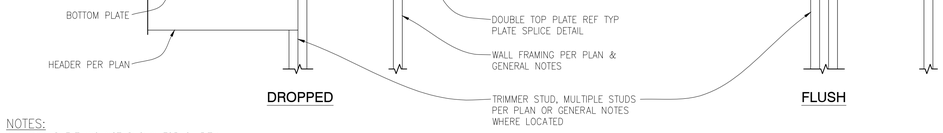


NOTE:
FLOOR/ROOF FRAMING NOT SHOWN FOR CLARITY.

TYPICAL HEADER CONNECTION

SCALE: N.T.S.

6



NOTES:
1. WALL SHEATHING NOT SHOWN FOR CLARITY
2. WHERE ROOF ABOVE, RAFTERS OR PRE-MANUFACTURED TRUSSES PER PLAN REPLACES RIM JOIST

TYPICAL HEADER FRAMING

SCALE: 1" = 1'-0"

8

CK ENGINEERING LLC
PROFESSIONAL STRUCTURAL ENGINEERING SERVICES
19229 38th Pl. NE
Lake Forest Park, WA 98155
Phone: (206) 417-0670

STEVEN COOKE
STATE OF WASHINGTON
44212
REGISTERED PROFESSIONAL ENGINEER

10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

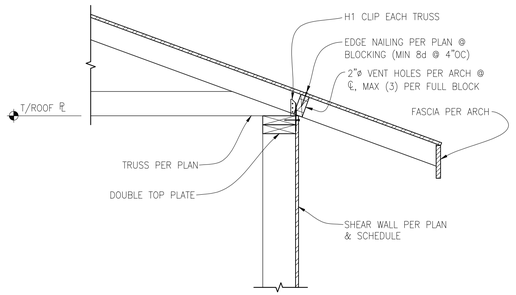
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 10-15-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

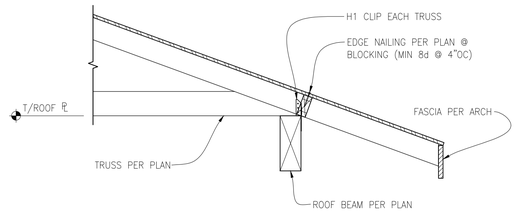
S-3.0



EXTERIOR SHEAR WALL PERPENDICULAR TO ROOF TRUSS

SCALE: 1" = 1'-0"

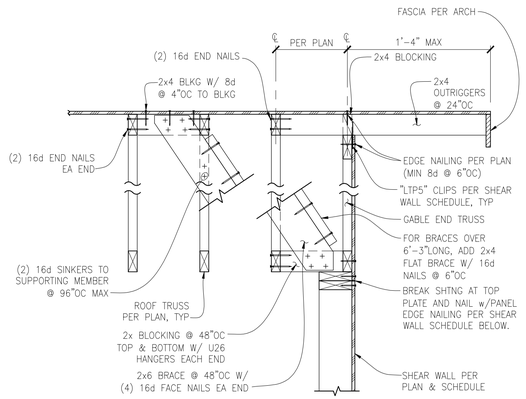
1



EXTERIOR ROOF TRUSS BEAM CONNECTION

SCALE: 1" = 1'-0"

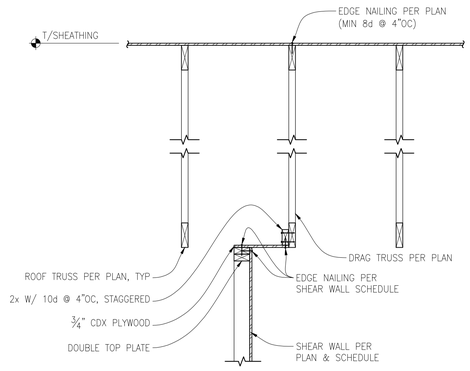
2



EXTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS

SCALE: N.T.S.

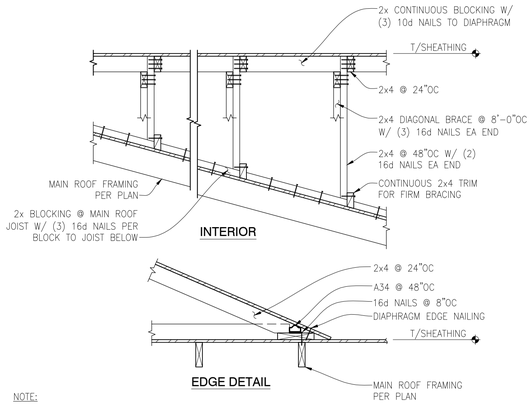
3



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

SCALE: ¾" = 1'-0"

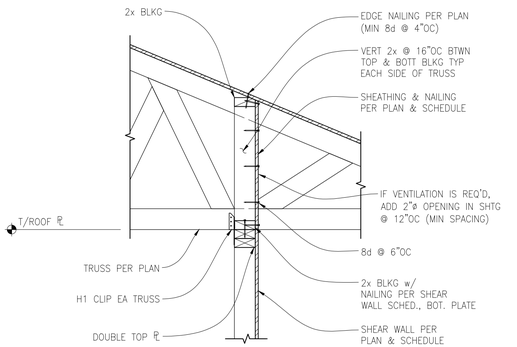
4



TYPICAL ROOF OVERFRAMING DETAIL

SCALE: N.T.S.

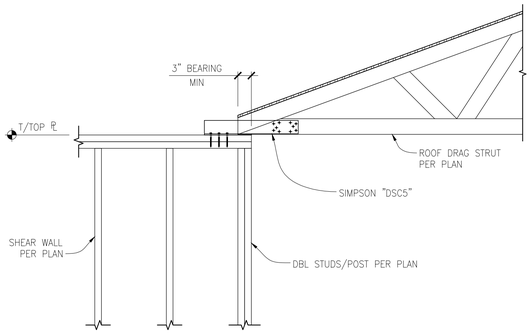
5



SHEAR WALL PERPENDICULAR TO ROOF TRUSS

SCALE: 1" = 1'-0"

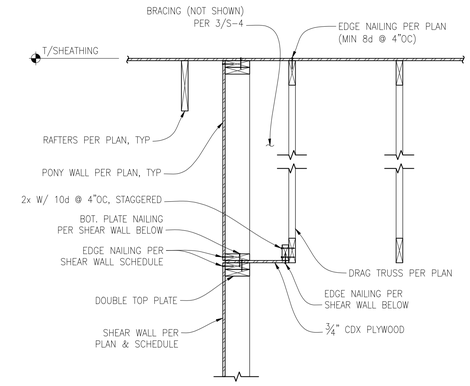
6



ROOF DRAG STRUT TO SHEAR WALL CONNECTION

SCALE: ¾" = 1'-0"

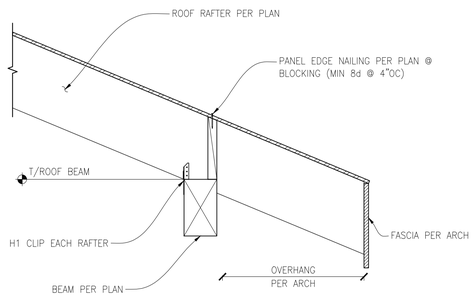
7



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

SCALE: ¾" = 1'-0"

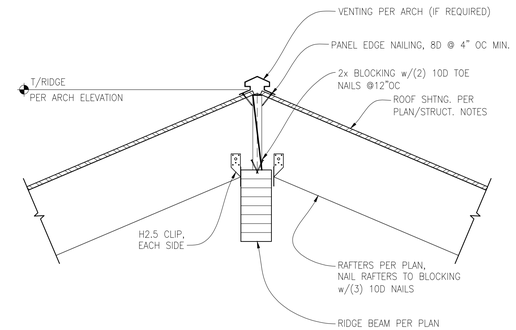
8



EXTERIOR ROOF RAFTERS TO ROOF BEAM CONNECTION

SCALE: 1" = 1'-0"

9



RIDGE BEAM TO RAFTERS CON.

SCALE: 1" = 1'-0"

10

CK ENGINEERING LLC
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19229 38th Pl. NE
Lake Forest Park, WA 98155
Phone: (206) 417-0670

STEVEN COOKE
STATE OF WASHINGTON
21213
REGISTERED PROFESSIONAL ENGINEER

10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

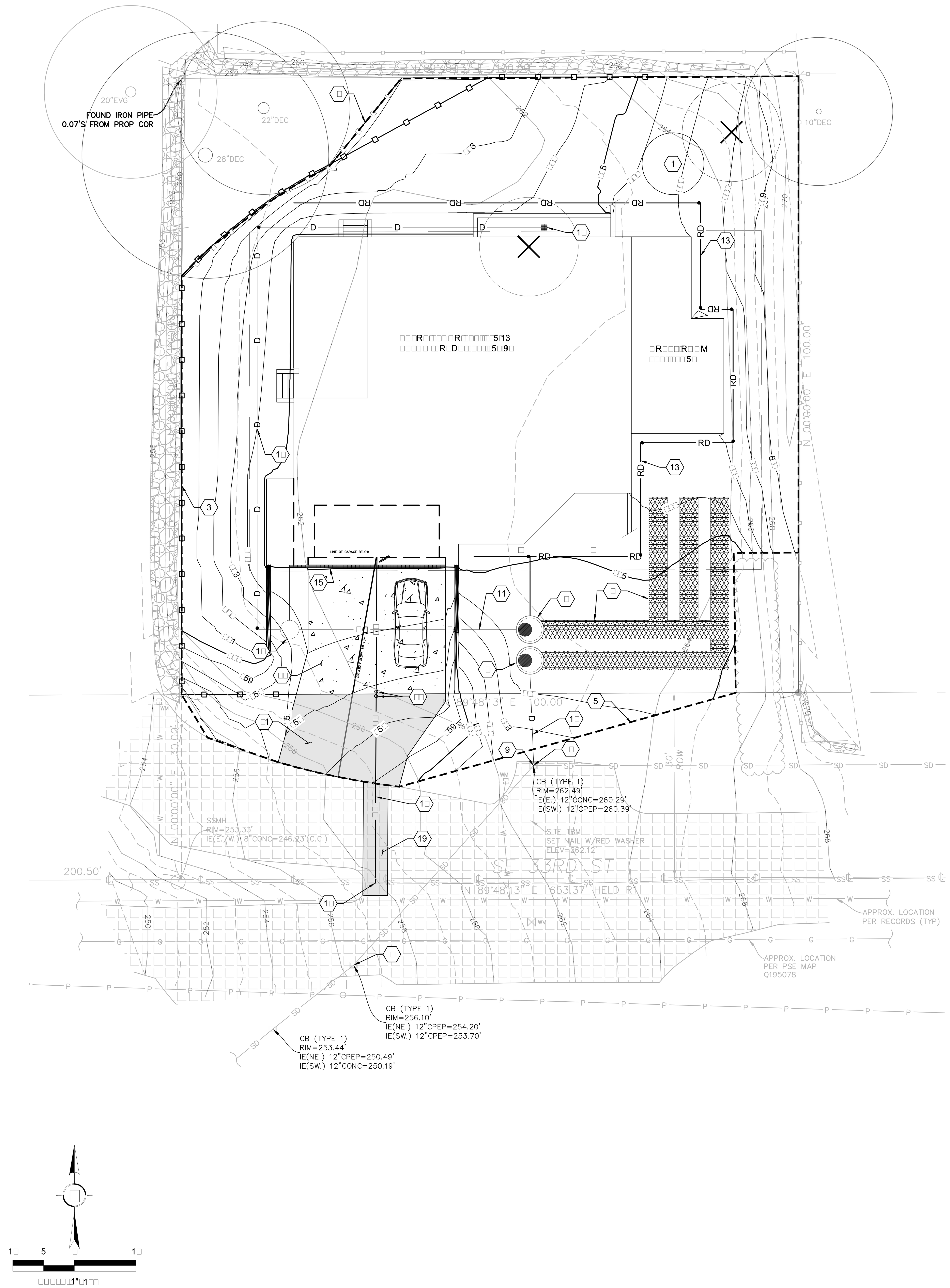
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 10-15-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

S-4.0



DATE PLOTTED: 3/30/2022 7:53:20 AM FILENAME: 22022C-SITE.DWG BY: ----

Know what's below. Call before you dig.

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

bcra

T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET, SUITE 200, SEATTLE, WA 98101

SEAL

JUSTIN JAN GOROCH
STATE OF WASHINGTON
43432
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

DATE

BCRA NO.

DRAWN BY:

DESIGNED BY:

REVIEWED BY:

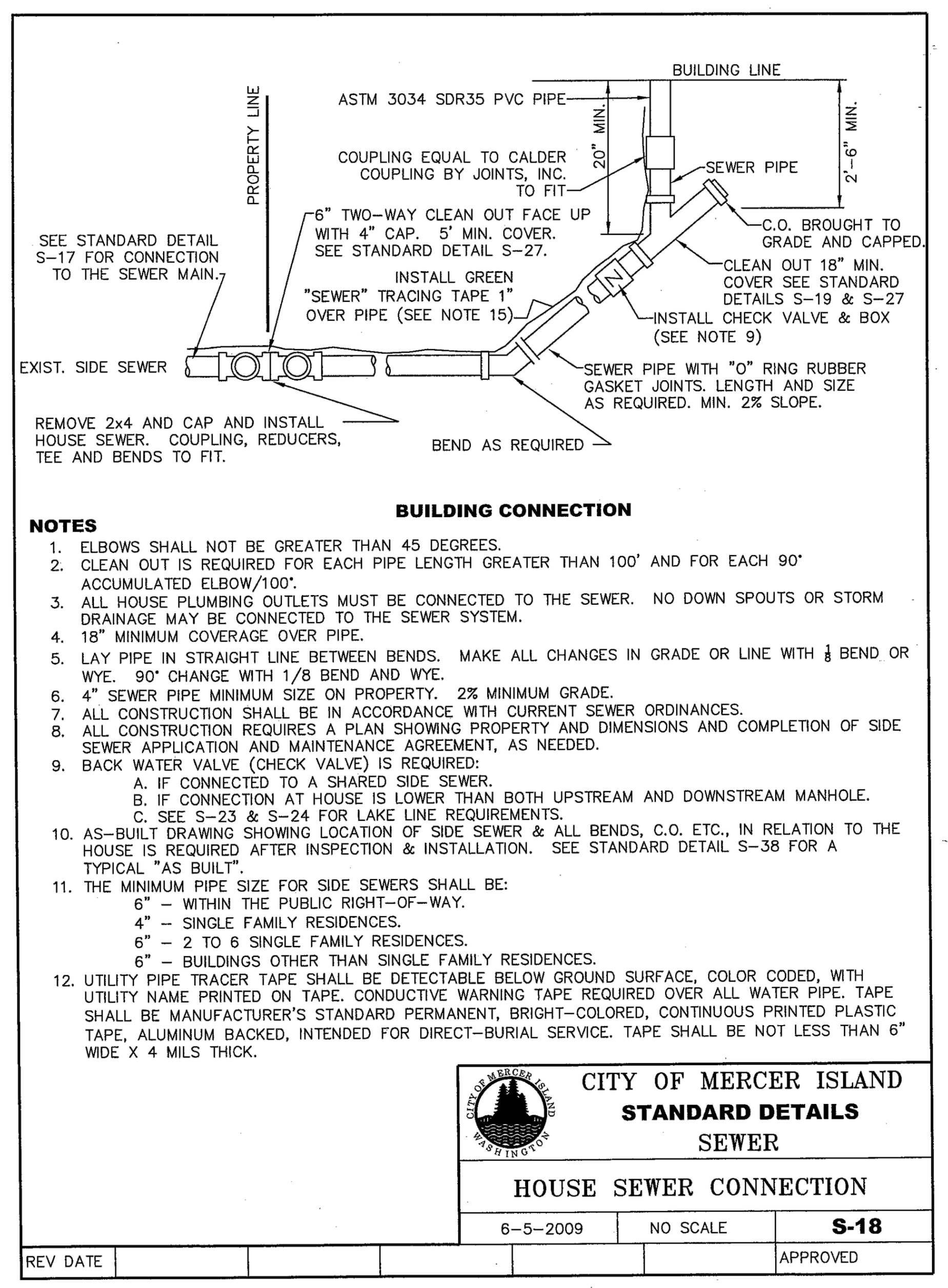
SHEET TITLE

bcra

SHEET

C-001

STORM DESIGN



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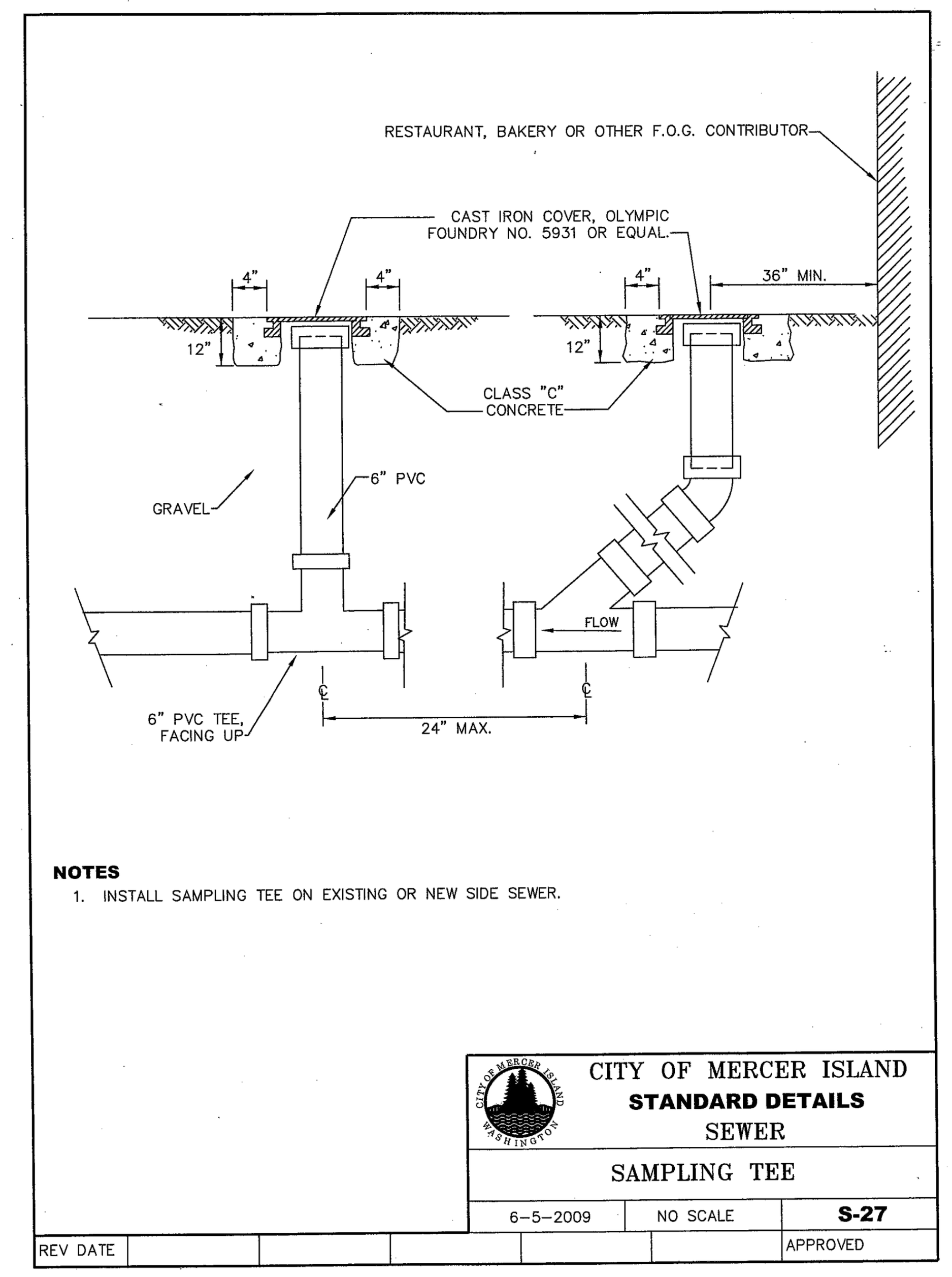

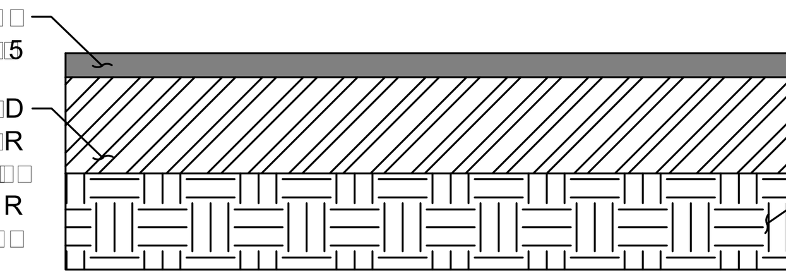

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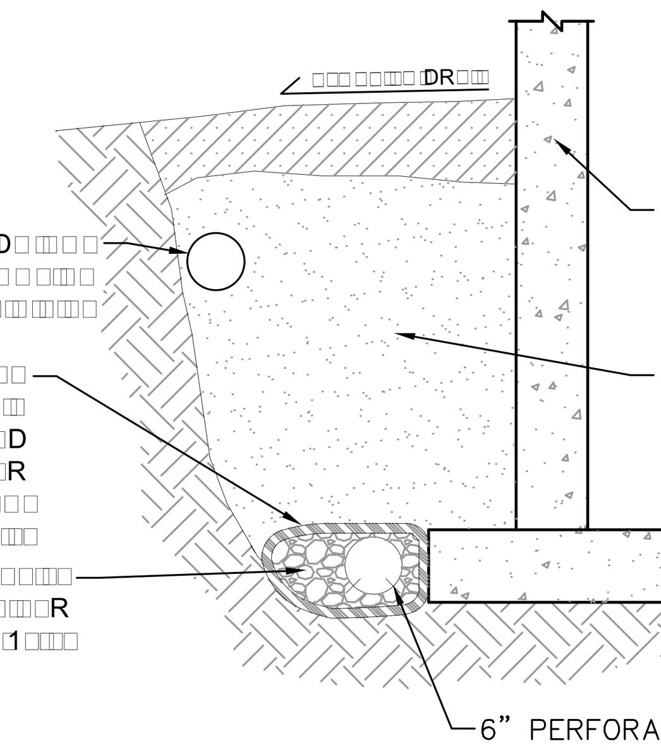

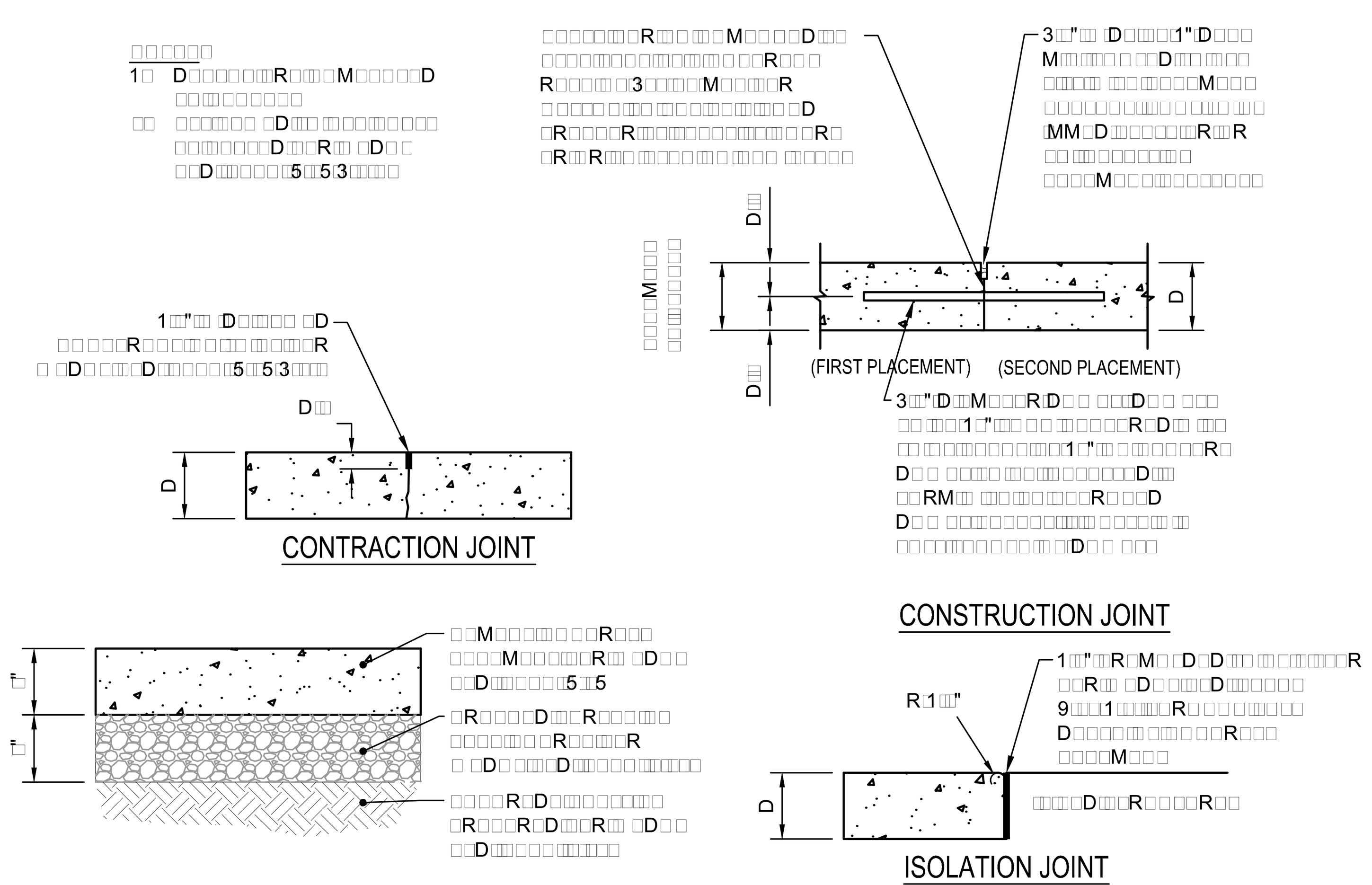

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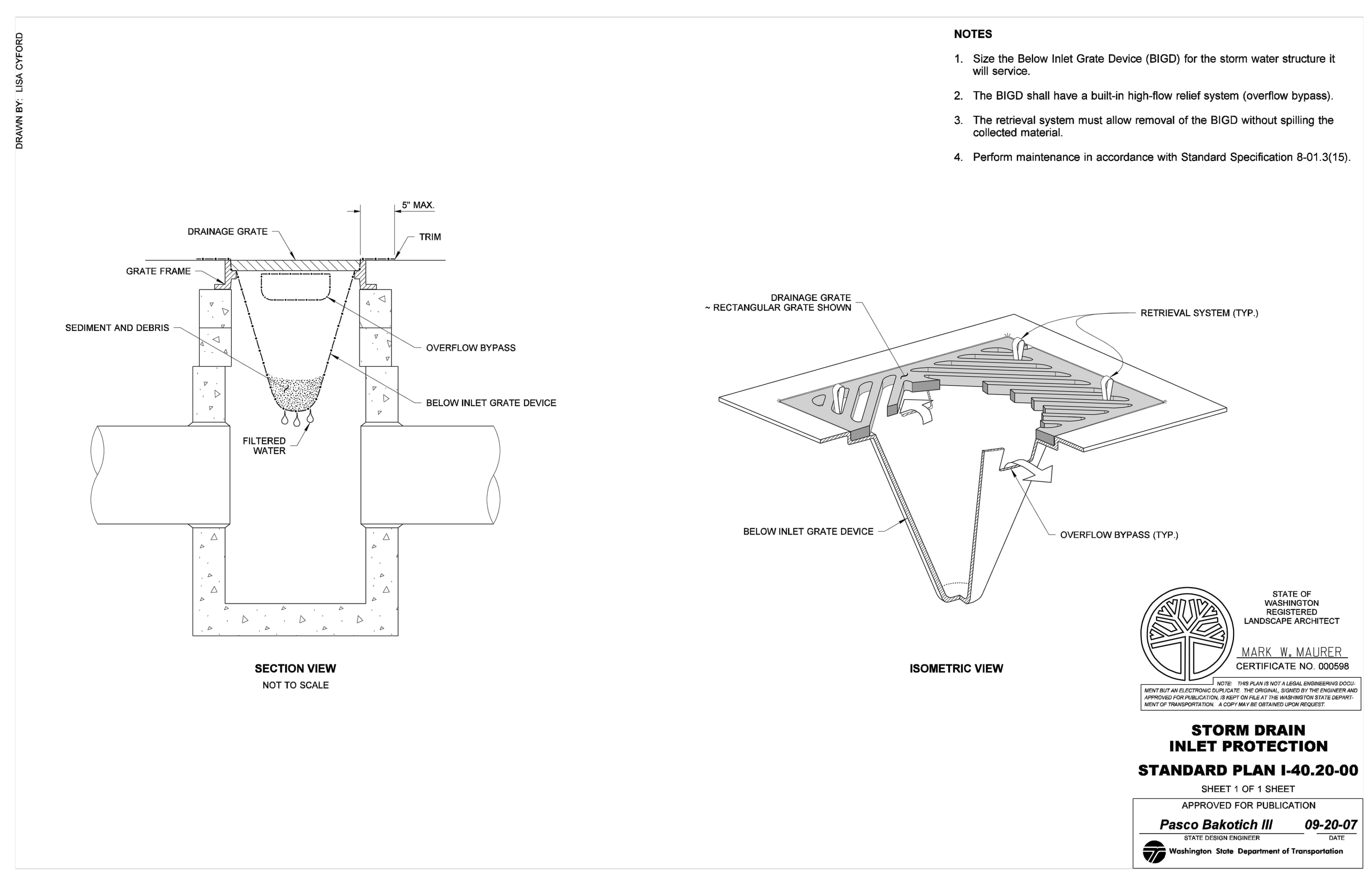

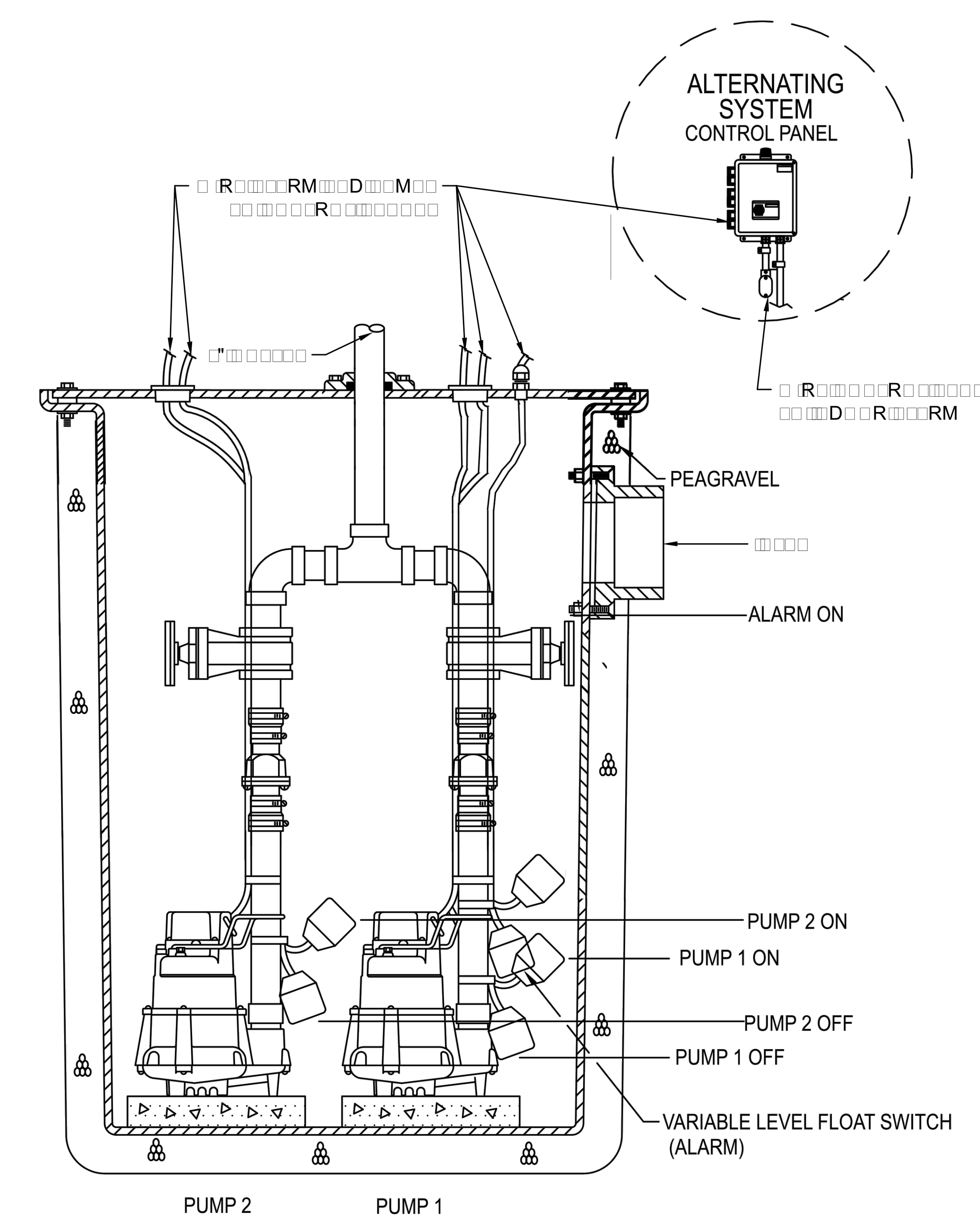

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414 STEWART STREET, SUITE 200, SEATTLE, WA 98101

SEAL

REVISIONS

DATE

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REVIEWED BY:

SHEET TITLE

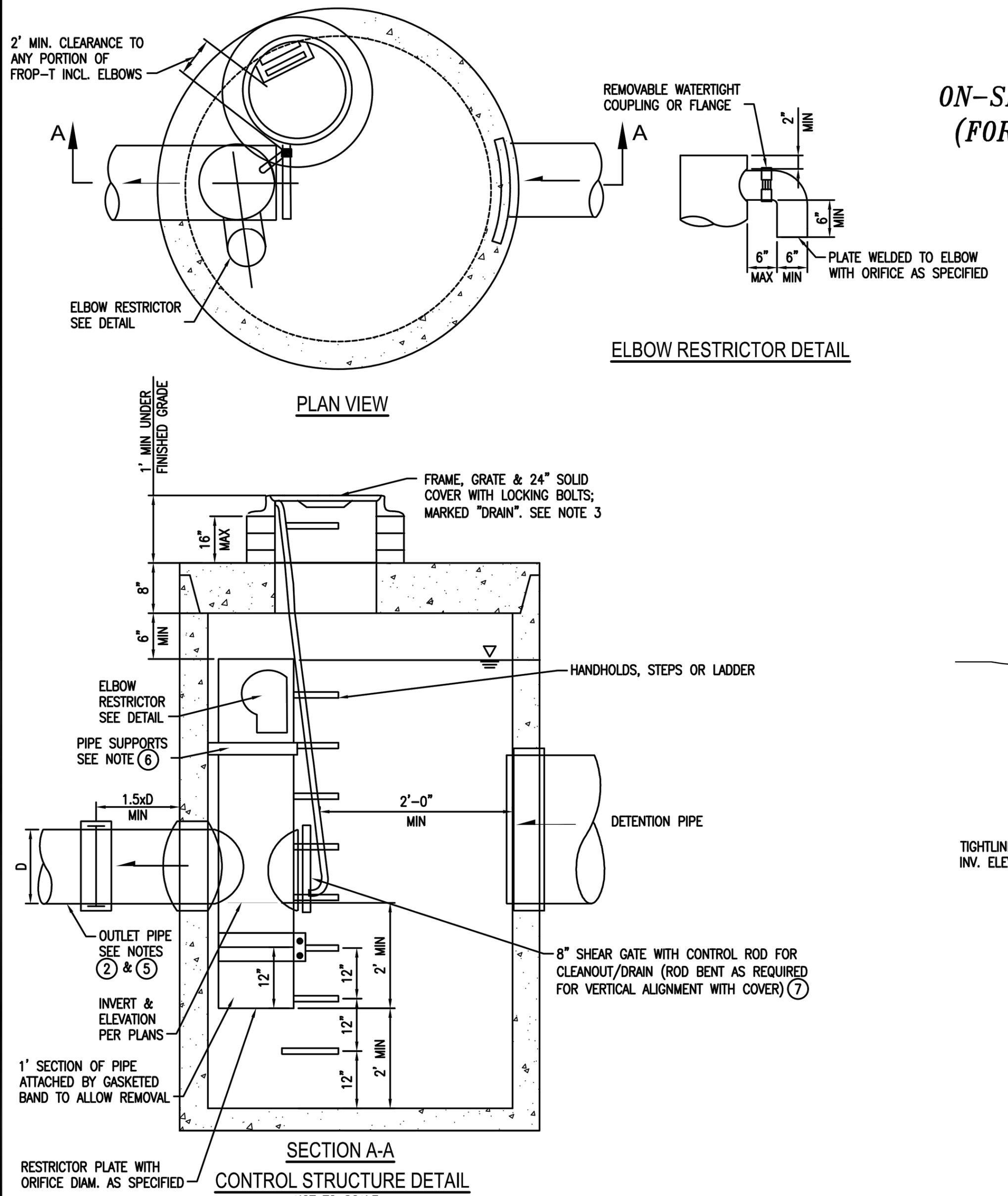
SHEET

C-002

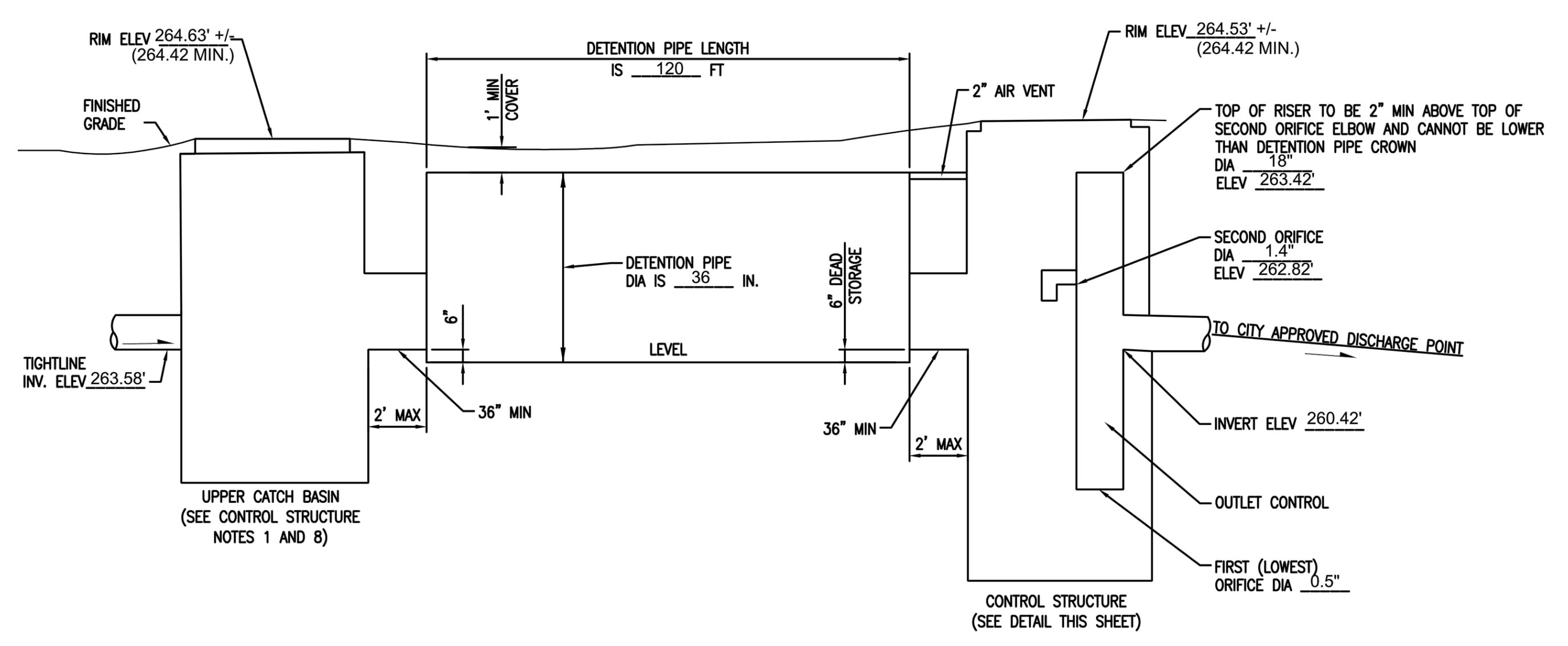
STORM DESIGN

ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

OWNER: XXXXX	ADDRESS: 6922 33RD ST SE	PREPARED BY: JUSTIN GOROCH, P.E.
PERMIT #: TBD	MERCER ISLAND, WA	PHONE: (253) 627 - 4367
		DATE: 03/XX/2022
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 3,871	DETENTION PIPE DIA (INCH): 36 / DETENTION PIPE LENGTH (FT): 120	ORIFICE #1 DIA 0.5 INCH, ELEV 258.42'
SOIL TYPE: ARENTS, ALDERWOOD MATERIAL (HSG B/D)	PIPE MATERIAL: PER ON-SITE DETENTION SYSTEM NOTE #3	ORIFICE #2 DIA 1.4 INCH, ELEV 262.82'



CONTROL STRUCTURE DETAIL
NOT TO SCALE



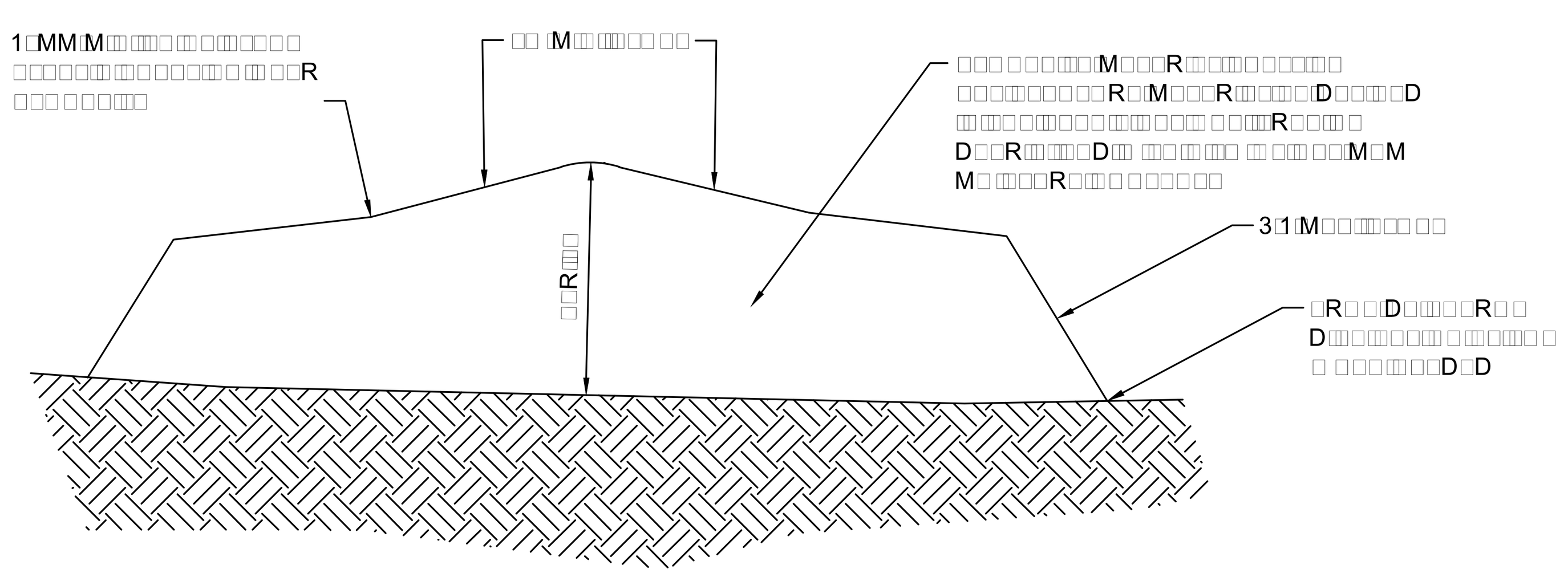
ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

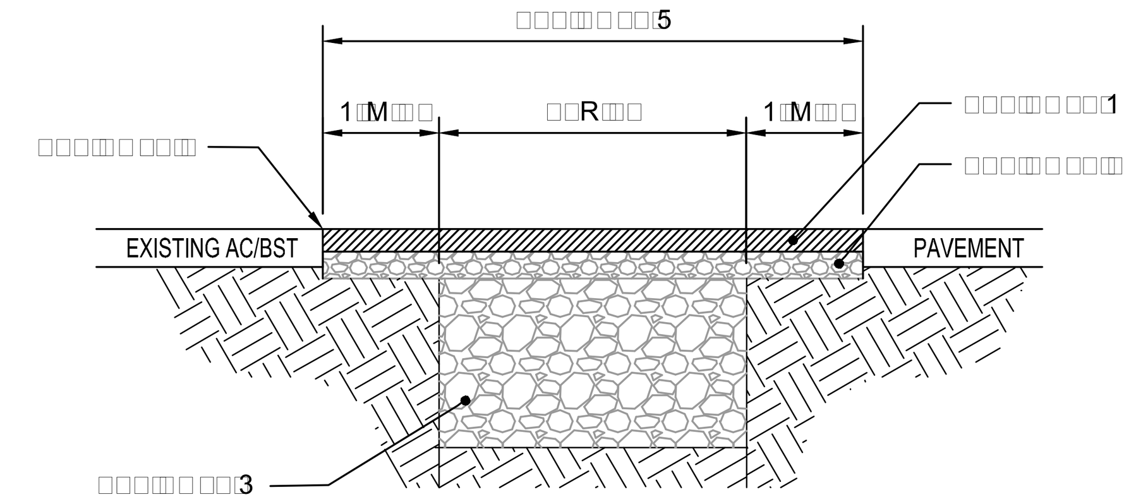
CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STANLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.
   INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.
   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

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





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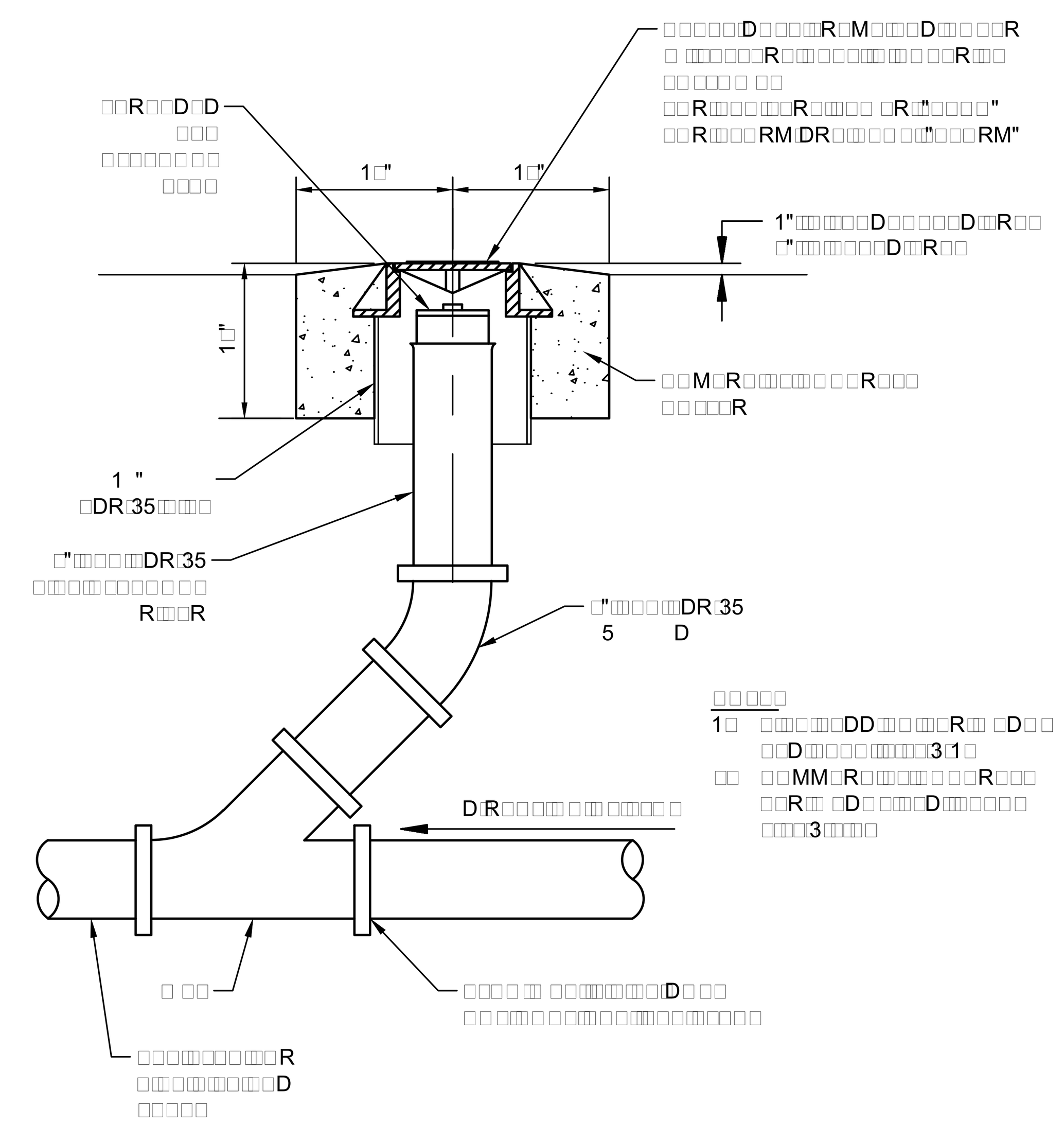

11

bcra
T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET, SUITE 200, SEATTLE, WA 98101

SEAL

REVISIONS

DATE

BCRA NO.

DRAWN BY: DESIGNED BY:

REVIEWED BY:

SHEET TITLE

SHEET

C-003

STORM DESIGN

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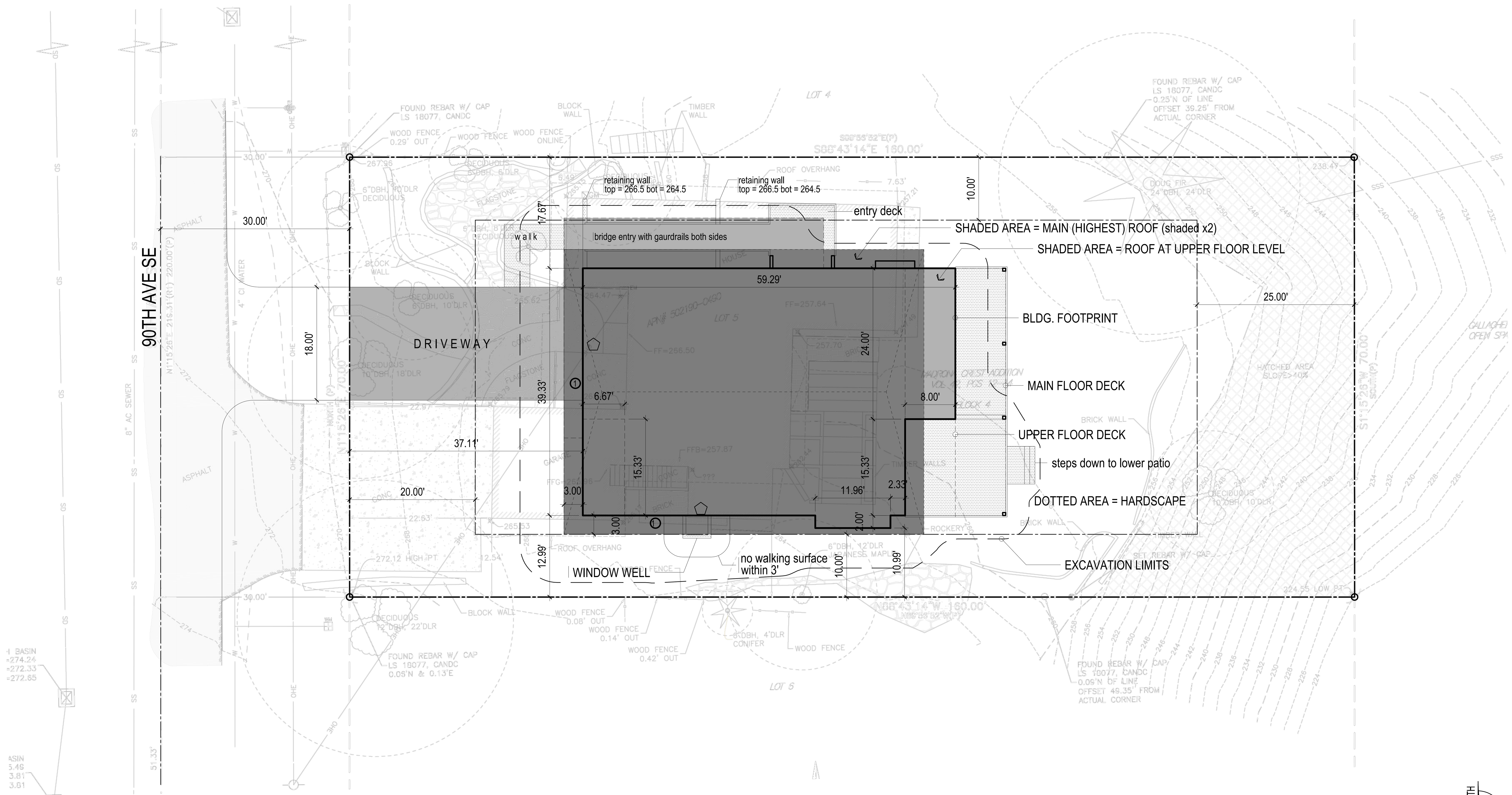


All Japanese knotweed (Polygonum cuspidatum) and Regulated Class A, Regulated Class B, and Regulated Class C weeds identified on the King County Noxious Weed list, as amended, shall be removed from the property.

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

r

Nick Bossoff
191 NE Tari Lane
Stevenson WA 98648
425.881.5904

r

Keith Johnson
Geo Group NW Inc.
Bel-Red Road, Bellevue, Washington 9800
(425) 649-8757 / E-mail: info@geogroupnw.com

r r r

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

r r

Mike Yeganeh
Aspen Homes NW
(206) 799-3016

d D

2018 International Building Code (IBC) - struct.
2018 International Residential Code (IRC)
2018 International Mechanical Code (IMC)
2018 International Fuel Gas Code (IFGC)
2018 Uniform Plumbing Code (UPC)
2018 International Fire Code (IFC)
2018 International Existing Building Code
2018 International Swimming Pool and Spa Code
Washington State Energy Code (WCEC)
ICC/ANSI A117.1-09, Accessible and Usable Buildings and Facilities, with statewide and City amendments

A. SITE PLAN

1/10" = 1'-0"

327 = SPOT ELEVATION, FINAL
= EAVE/ROOF LINE
= EXTENT OF LIVING AREA
= BUILDING FOOTPRINT (FOUNDATION EXTENTS)
SHADED AREA = BLDG EXTENTS TO EAVE
EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED
= EXISTING TOPOGRAPHY

NORTH

r D r

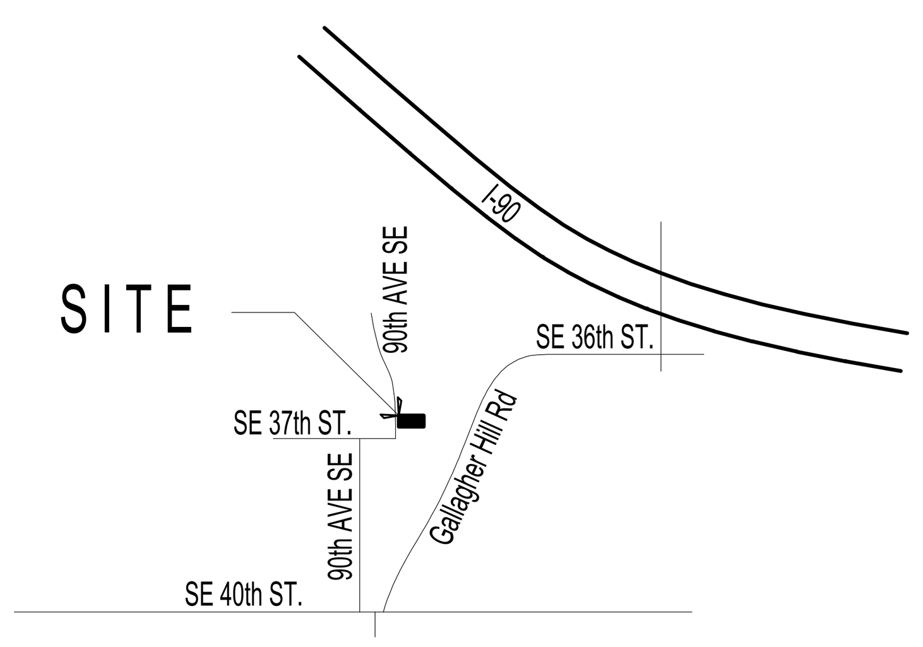
Demolish existing and build new single family residence with attached accessory dwelling unit.

r r

Parcel # = 502190-0490
D r
M DR R DD
5
ZONING = R-8.4
lot size = 11,200 sf

r

ANANTA & SATYA GUDIPATY
3737 77TH AVE SE
MERCER ISLAND WA 98040



VICINITY MAP

NTS

1
55
5 1 9 3
R 35

R M R R R M

1. Installation of an NFPA 72 "Chapter 29" Monitored Fire Alarm System – Separate FIRE permit required
2. Installation of an NFPA 13R Fire Sprinkler System – Separate FIRE permit required.

R
M r 1 5 r
D r r r 3
r r r r 1 39
r r 1
9 5
d 1 55
r 1
r 9
d 5
9 11 1

R D D R
R 1
r d r d
dr d d 1
353
11 35 3 9
r rd 3 1

RD D D R
D 3
R
51 9
11 9 1
r 3 1
13 9

Geotechnical recommendations do not support wet weather foundation construction.

REGISTERED ARCHITECT
9317
CHRIS LUTHI
STATE OF WASHINGTON

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

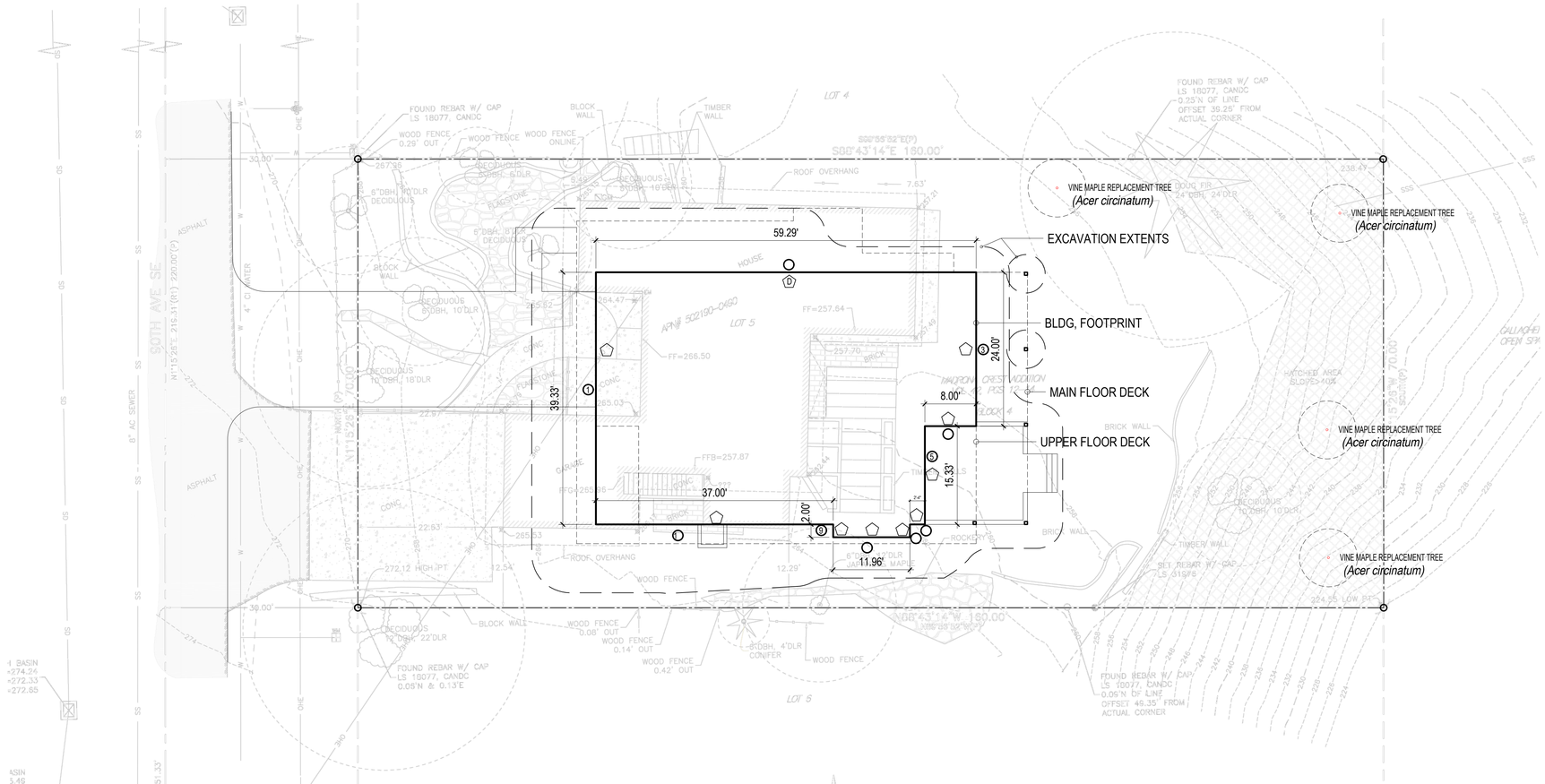
Mithila
3632 90th Ave SE Mercer Island WA

CONTENTS
Site Plan

DRAWN BY
CRL

DATE
11.17.22
4.28.23
7.21.23

1a



BASEMENT AREA F.A. EXCEPTION CALCULATION

segment	length	beginning elev.	end elev.	begin cov	end cover	avg cover	%cover	wtd
a	15.33	262	**256**	6.00	0.00	3	39.0%	5.97
b	8	**256**	258.7	0.00	2.70	1.35	17.5%	1.40
c	24	258.7	257.5	2.70	1.50	2.1	27.3%	6.55
d	59.29	257.5	265.5	1.50	9.50	5.5	71.4%	42.35
e	39.33	265.5	265.5	9.50	9.50	9.5	100.0%	48.52
h	37	**percentage determined graphically, see A-05**					77.4%	32.63
i	2	263.5	263.5	7.50	7.50	7.5	88.2%	1.76
j	11.96	263.5	262	7.50	6.00	6.75	87.7%	10.48
k	2	262	262	6.00	6.00	6	77.9%	1.56
l	2.33	262	262	6.00	6.00	6	77.9%	1.82
perim=	201.24							153.05
						avg.	76.1%	

raw FAR 2177

basement slab elev = 256
full cover = 8.5 ft (fin. clg.)

excepted area = 1655.697
BOLD elevations are lower than existing grade
segment is footprint on the ground or projected overhanging living space

ELEVATION CALC.

	EL @ MIDPOINT	segment (ft)	wtd sgmnt
1	265.50	39.33	10442.12
2	257.70	59.29	15279.03
3	257.50	24	6180.00
4	**256.00**	8	2048.00
5	**256.00**	15.33	3924.48
6	262.00	2.33	610.46
7	262.00	2	524.00
8	263.00	11.96	3145.48
9	263.00	2	526.00
10	265.00	37	9805.00
		201.24	52484.57

AVG. EL = 260.8058
BOLD = NEW EL LOWER THAN EXIST
all others exist = final

A. SUPPLEMENTAL SITE PLAN

1/10" = 1'-0"

NORTH

⬠ = WALL SEGMENT TAG FOR BASEMENT FAR EXCEPTION
① = WALL SEGMENT TAG FOR HEIGHT CALCULATION
– – – – – = EAVE/ROOF LINE
——— = BUILDING FOOTPRINT (FOUNDATION EXTENTS)

R M R R

1. NEW TREES WILL BE AT LEAST 6 FEET TALL FOR CONIFERS AND 1.5 INCHES IN CALIPER FOR DECIDUOUS SPECIES
2. NEW TREES WILL BE PLANTED BETWEEN OCTOBER AND MARCH
3. MINIMUM SPACING BETWEEN TREES AND DISTANCES FROM BUILDINGS OR INFRASTRUCTURE WILL BE 10 FEET
4. EACH NEW TREE WILL BE WATERED FOR THE FIRST 2 YEARS ON THE FOLLOWING SCHEDULE:
5. MINIMUM OF 5 GALLONS OF WATER PER WEEK FOR THE FIRST 4 WEEKS AFTER PLANTING
6. EVERY 2 WEEKS WHEN WEEKLY DAYTIME MAXIMUM TEMPERATURES ARE BELOW 70°
7. ONCE A WEEK WHEN WEEKLY DAYTIME MAXIMUM TEMPERATURES ARE OVER 70° (E.G. MAY THROUGH SEPTEMBER)

9317 REGISTERED ARCHITECT
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3632 90th Ave SE Mercer Island WA

CONTENTS

Site Plan

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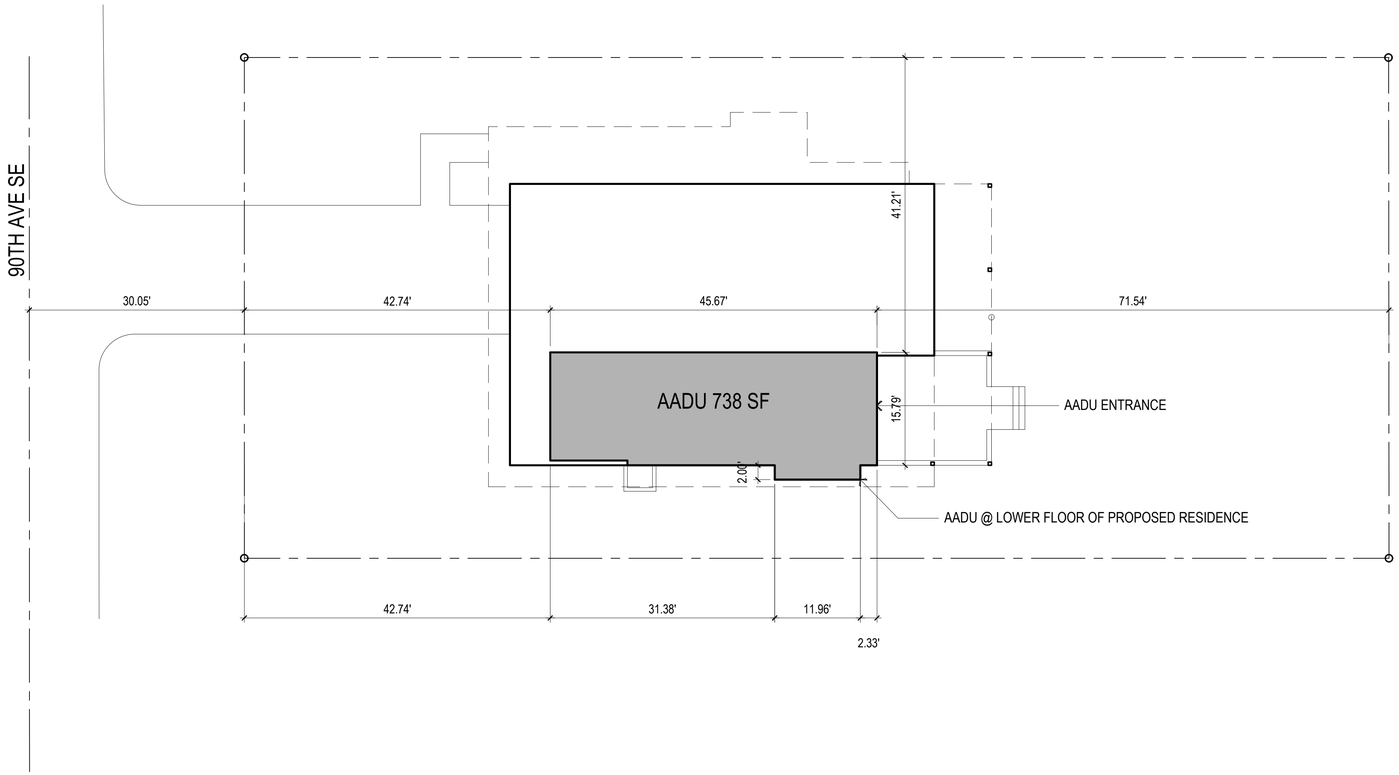
DATE
10.20.22
4.28.23
7.21.23

1b



A. AADU LOCATION DIAGRAM

NORTH

1/10" = 1'-0"

= EAVE/ROOF LINE

= BUILDING FOOTPRINT (FOUNDATION EXTENTS)

D r rr

An ADU attached to a new SFR as part of the new construction project (permit 2210-198) will include 738.0 sq. ft of living space, it will include a full kitchen with its own dishwasher, sink, oven, refrigerator, microwave and washer and dryer. There will be a separate entrance that connects by walkway to 90th ave SE. The ADU will include a living room and bedroom with an attached full bathroom. Heating control will be separate from the main house.

The ADU is within the size limits of 19.02.030 B4.
The location meets 19.02.030 B5.
The entrance of the ADU meets 19.02.030 B6
Parking for the ADU meets 19.02.030 B9

The ADU will be recorded as such with the King County Department of records and elections which runs with the land and identifies the address of the property, states the owner resides in either principle dwelling unit or the accessory dwelling unit, includes a statement that the owners will notify any prospective purchasers of the limitations of this section, and provides for the removal of the accessory dwelling unit if any of the requirements of this chapter are violated.

9317 REGISTERED ARCHITECT CHRIS LUTHI STATE OF WASHINGTON

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ADU Site Plan

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4.28.23

lc

NOTES

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

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

= FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

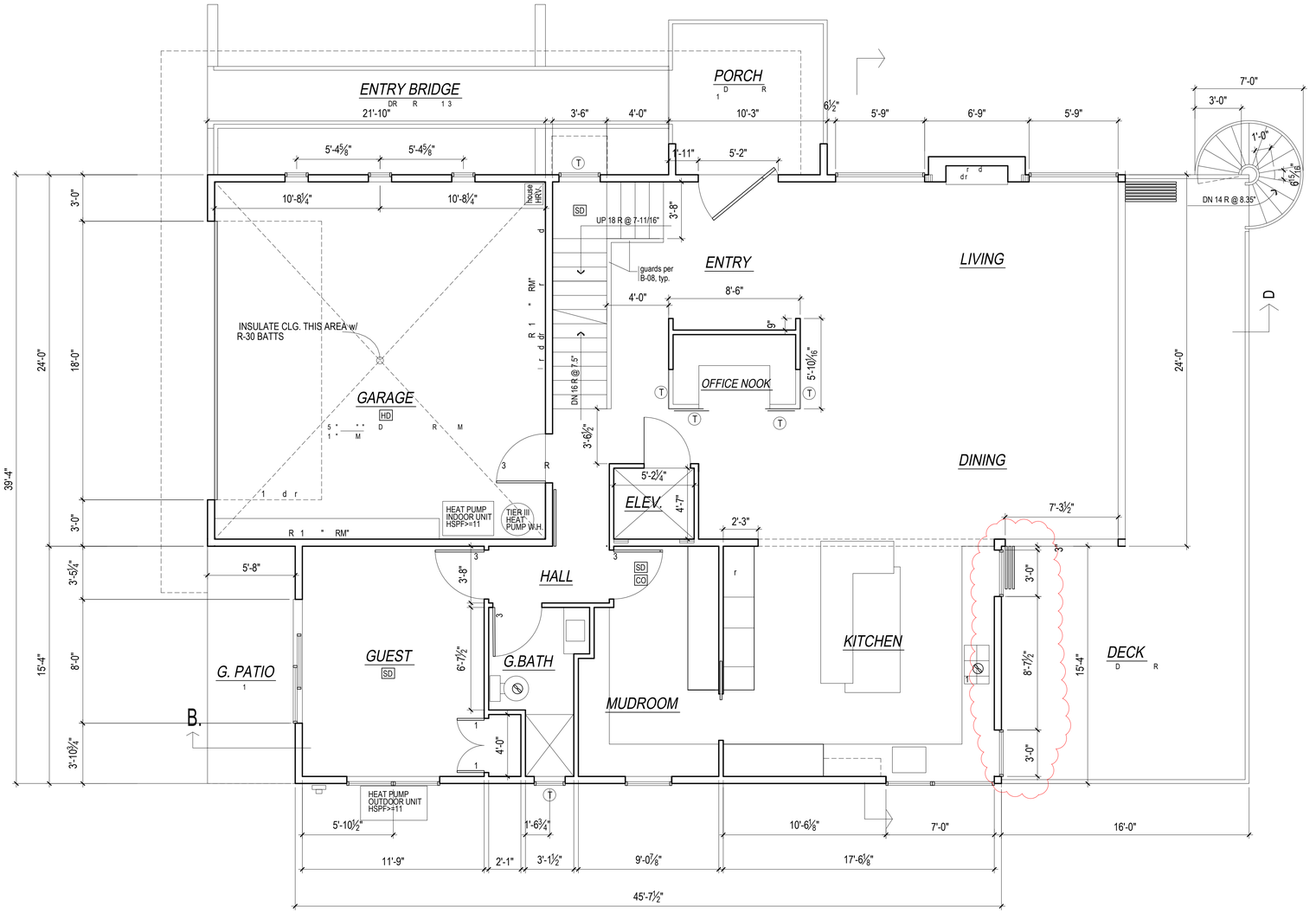
(E) =EGRESS WINDOWS

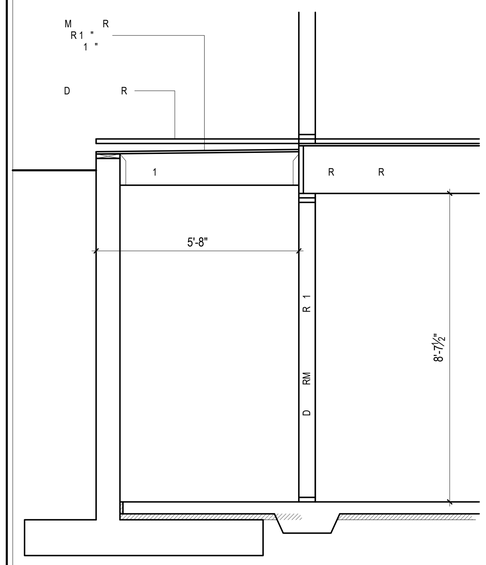
r r r r rd dr
r d r dr r rd R
R3 1 5

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT





B. SECTION AT GUEST PATIO
1/2" = 1'-0" see also 9-S3.2

A. MAIN FLOOR PLAN
1/4" = 1'-0"

LIVING SPACE (TO O.S. WALLS) = 1598.5 sf
GARAGE (TO O.S. WALLS) = 506 sf
TOTAL F.A. THIS FLOOR = 2104.5 sf
STAIR AREA = 74 SF

NORTH

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Main Floor

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02

NOTES

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

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

⦸ = FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

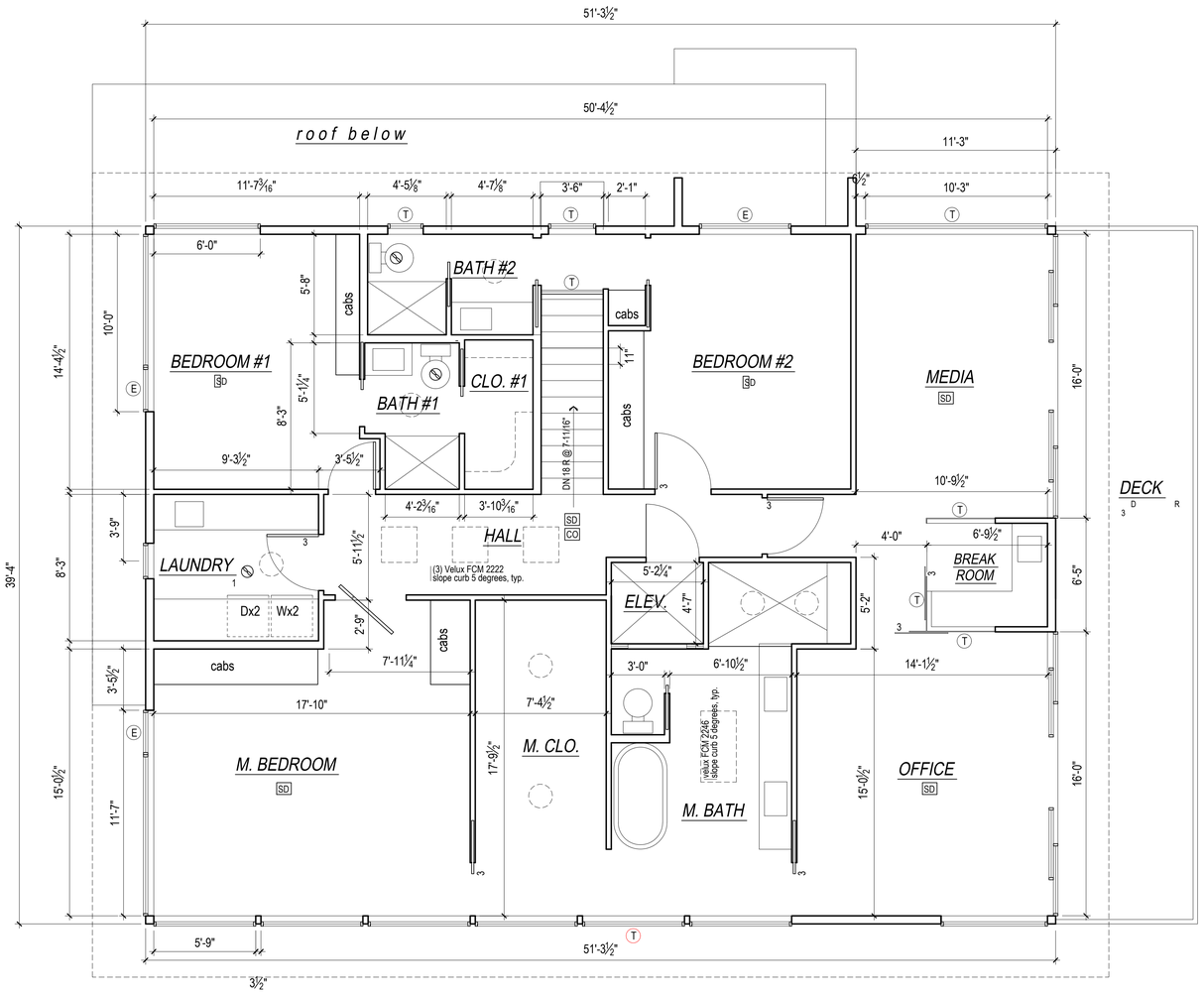
(E) =EGRESS WINDOWS

r r r r rd dr
r d r dr r rd R
R3 1 5

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. UPPER FLOOR PLAN
1/4" = 1'-0"

FLOOR AREA (TO O.S. WALLS) = 2017 sf

⦸ = SOLAR TUBE LOCATION

NORTH

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Upper Floor

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03

NOTES

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

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

= FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

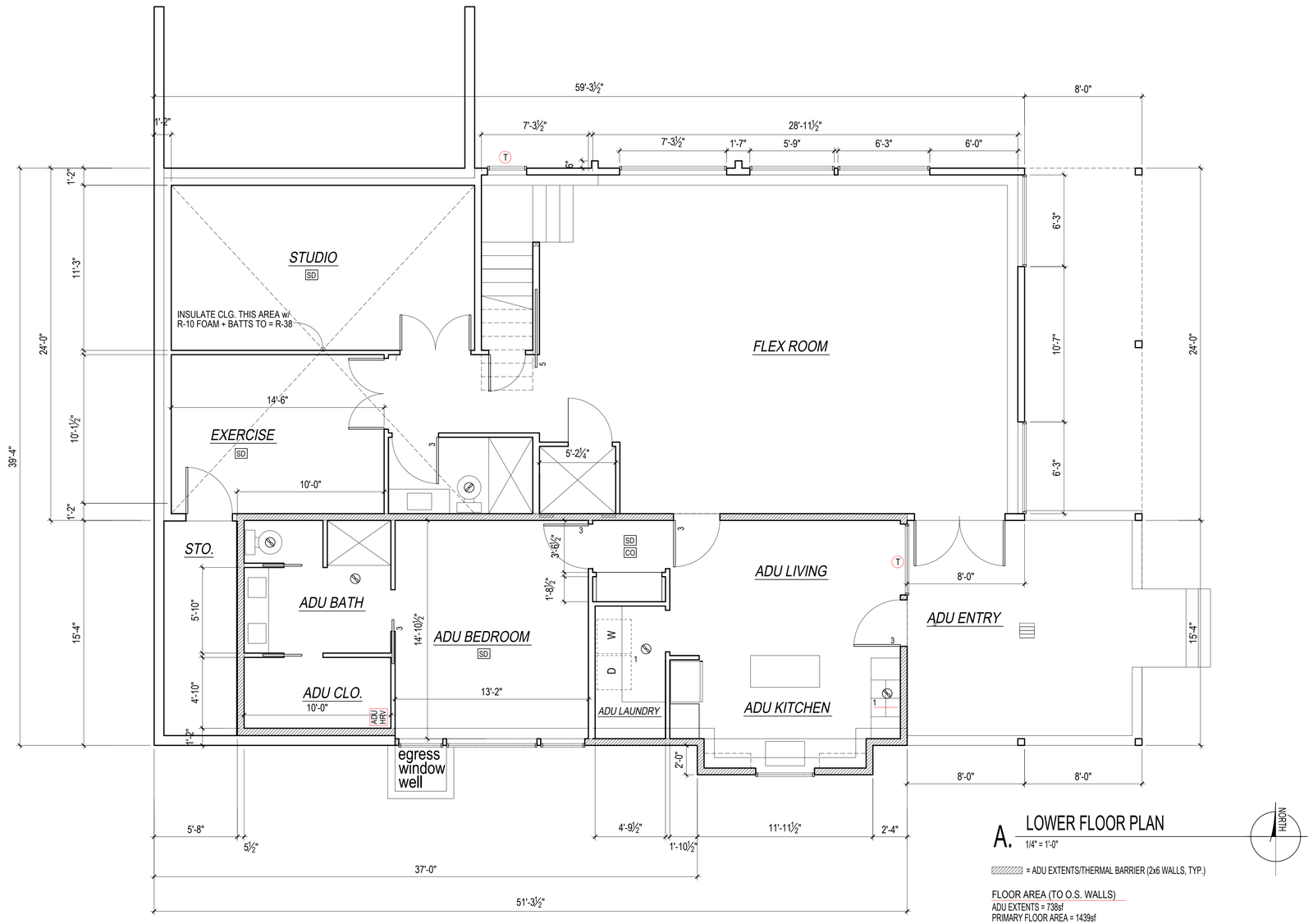
(E) =EGRESS WINDOWS

r r r r rd dr
r d r dr r r d R
R3 1 5

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. LOWER FLOOR PLAN
1/4" = 1'-0"

NORTH

= ADU EXTENTS/THERMAL BARRIER (2x6 WALLS, TYP.)

FLOOR AREA (TO O.S. WALLS)
ADU EXTENTS = 738sf
PRIMARY FLOOR AREA = 1439sf
TOTAL FLOOR AREA = 2177sf

FOAM INSULATION NOTES

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

ADU CLG. SOUND/FIRE REQUIREMENTS

Provide sound insulation (STC rating of at least 45 & ICC rating of at least 50) and 1 hr fire resistance in the entire ADU ceiling (including under stairs) . See ESR-1153 Assembly B.
Requirements:
1. 48/24 tongue-and-groove span rated sheathing (Exposure 1).
1. Two layers of 1/2 inch thick Type X gypsum board.
2. TJI Joist.
3. Optional minimum 3-1/2 inch thick glass fiber insulation or non-combustible insulation that is rated R-30 or less, with resilient channels

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CONTENTS
Lower Floor

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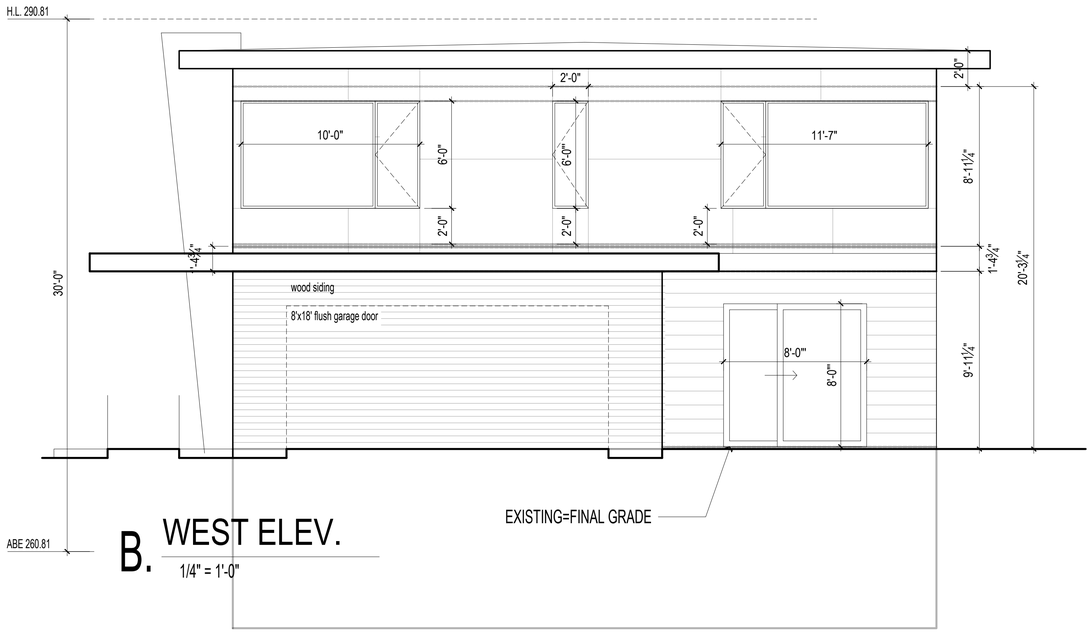
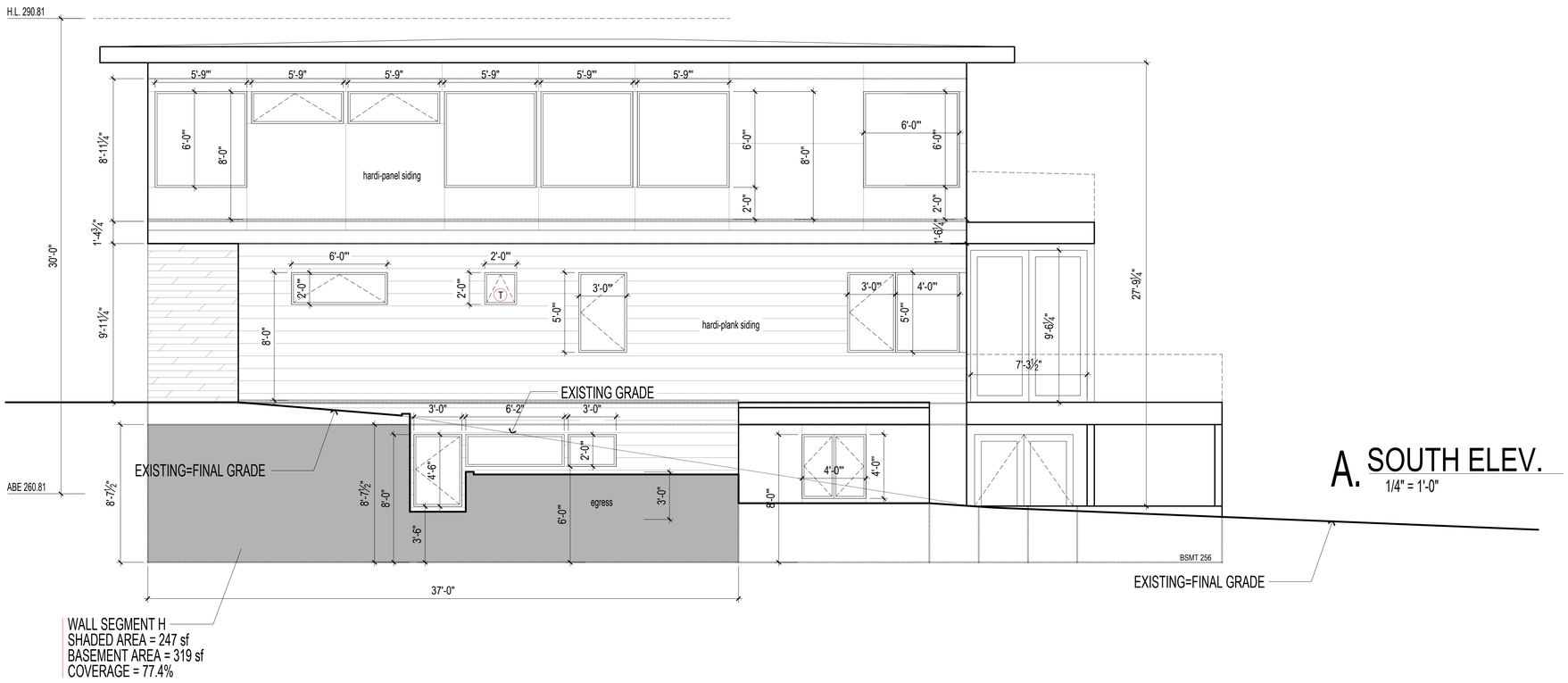


B. WEST ELEV.

1/4" = 1'-0"



A. SOUTH ELEV.

1/4" = 1'-0"

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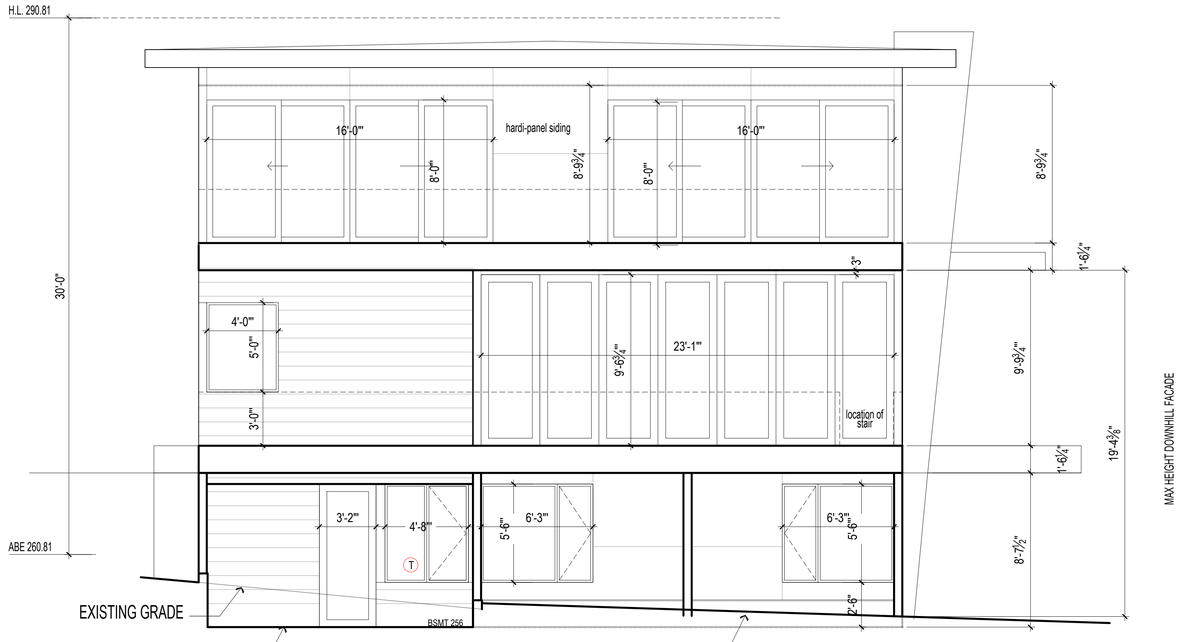
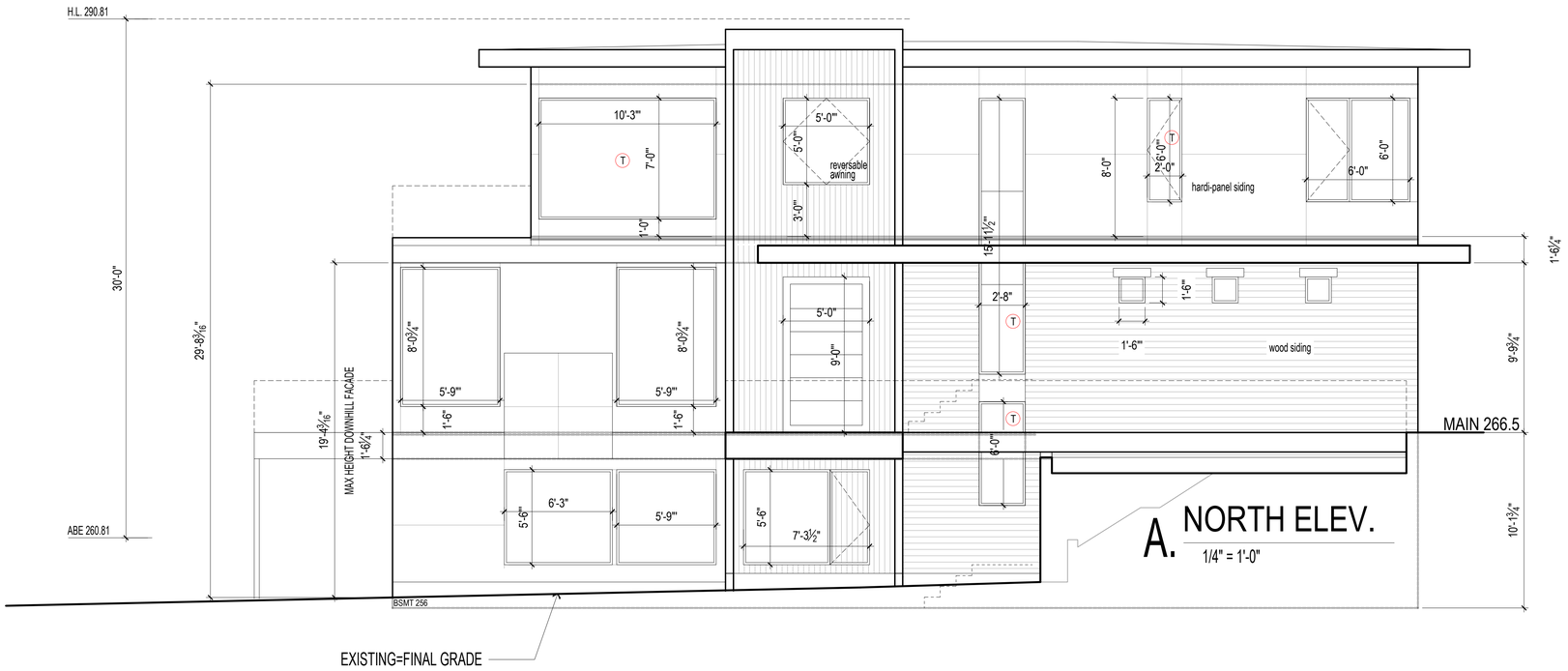


B. EAST ELEV.

1/4" = 1'-0"



A. NORTH ELEV.

1/4" = 1'-0"

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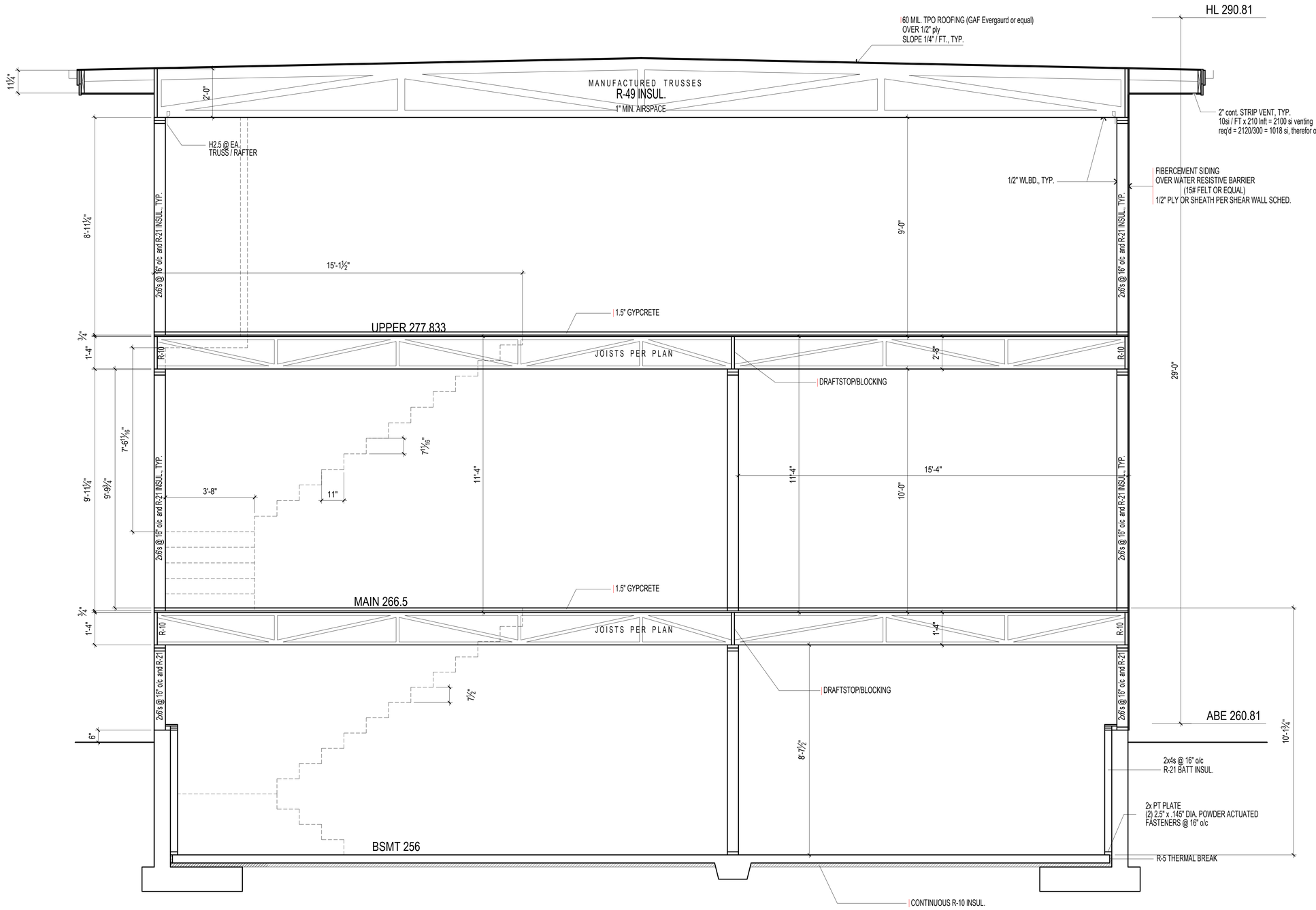

A. TYP. BUILDING SECTION

1/2" = 1'-0"

4

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CHRIS LUTHI
STATE OF WASHINGTON

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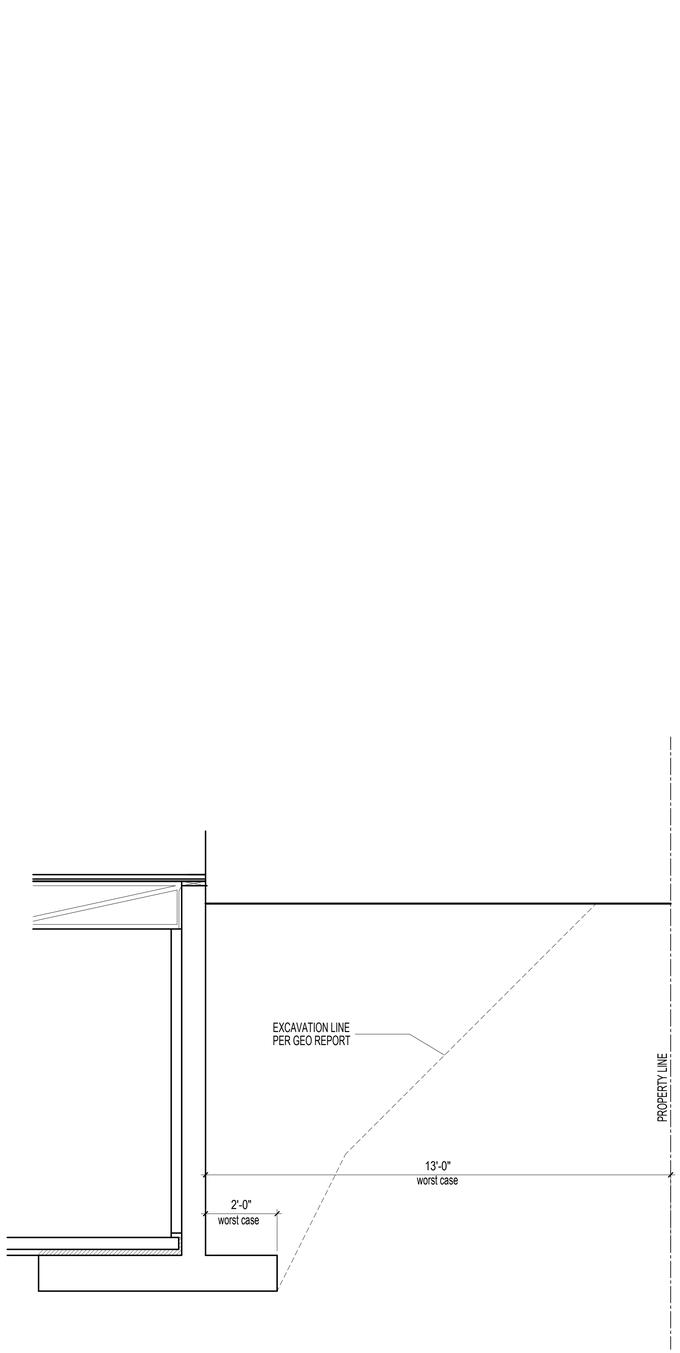
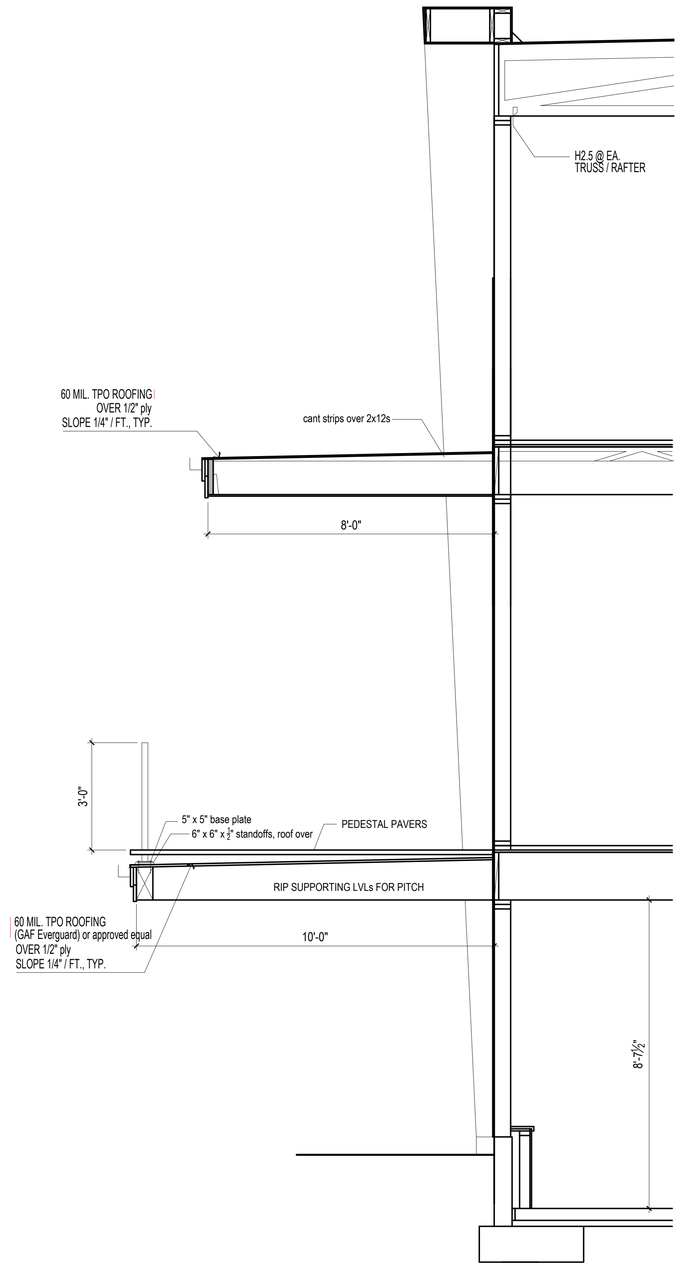


B. EXCAVATION AT SIDE YARD

1/2" = 1'-0"



A. ENTRY SECTION

1/2" = 1'-0"

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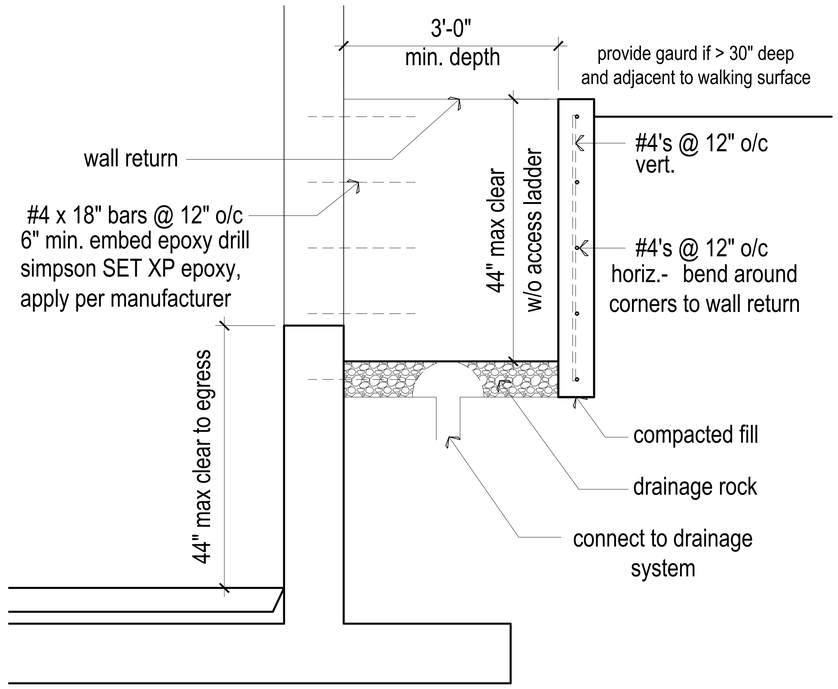
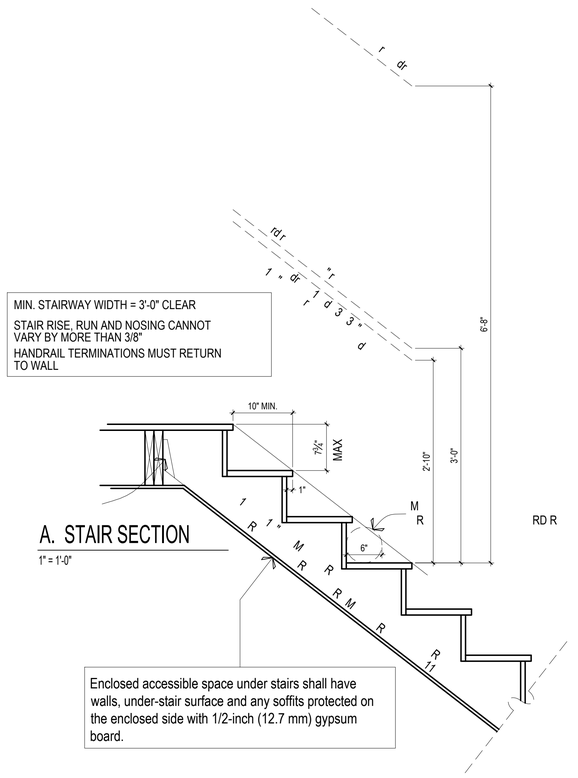
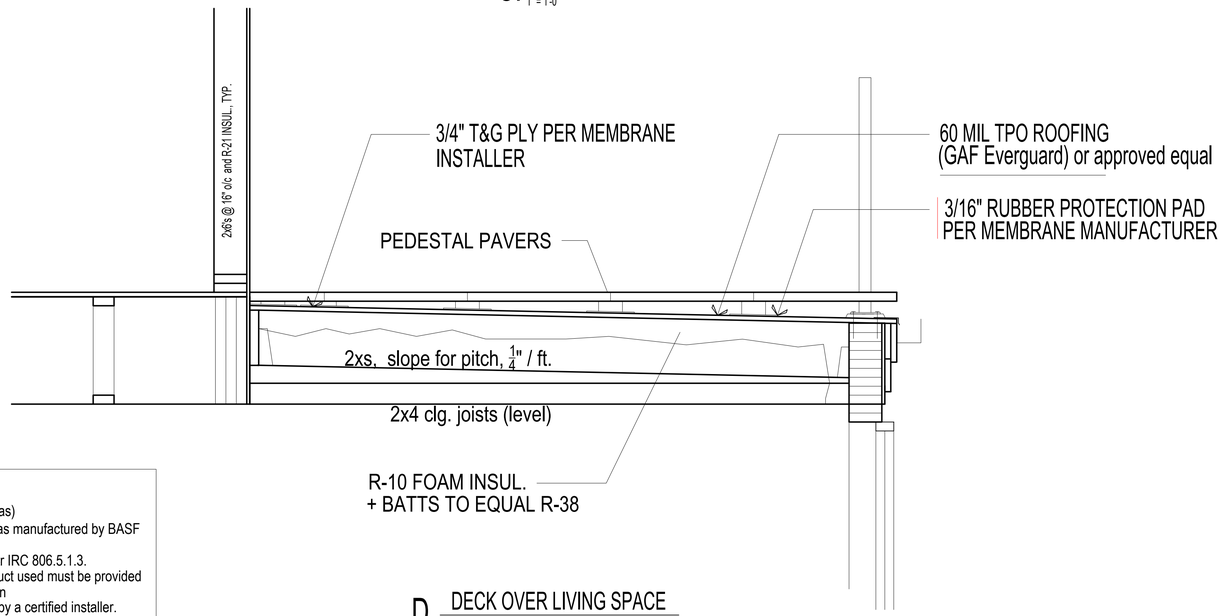
7.5





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

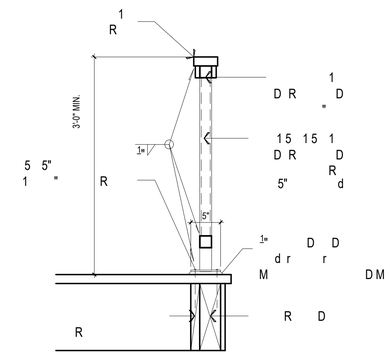
C. WINDOW WELL DETAIL
1" = 1'-0"



FOAM INSULATION NOTES

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

D. DECK OVER LIVING SPACE
1" = 1'-0"



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

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r d r r

2018 WA STATE PRESCRIPTIVE PATH
OVER 5000 SF HEATED SPACE - 7 CREDITS REQ.

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

total credits 7

PRIMARY RESIDENCE HVAC NOTES

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

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

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

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

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

r d D

2018 WA STATE PRESCRIPTIVE PATH
LESS THAN 1500 SF HEATED SPACE - 3 CREDITS REQ.

energy credit option	credit value	summary
2	1	heat pump
3.6	2	mini-split

total credits 3

AADU RESIDENCE HVAC NOTES

MINI-SPLIT HEAT PUMP (HSPF>10.0)
HEAT RECOVERY VENTILATION (separate from house HRV system)
REQUIRED VENTING = CONTINUOUS 120CFM
SET TO OPERATE AT 240 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%)
PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX .35 WATTS/CFM)
CONTOLLED TO OPERATE AT LOW SPEED IN VENTILATION
MODE ONLY.

ENERGY CREDIT DESCRIPTIONS

1.7

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

2.2

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

3.5

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

4.1

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

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

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

5.5

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

7.1

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

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

Window, Skylight and Door Schedule

Project Information: MITHILA PRIMARY
Contact Information:

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

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
ENTRY		0.28	1	5	0	9	0	45.0	12.60
LR		0.28	2	6	0	8	0	109.4	30.63
LR		0.28	1	9	0	23		225.1	63.02
LR		0.28	1	9	0	8	1/4	80.8	22.64
KITCHEN		0.28	2	4	0	5	0	40.0	11.20
KITCHEN		0.28	1	8	0	5	0	40.0	11.20
MUD		0.28	1	3	0	5	0	15.0	4.20
G BATH		0.28	1	2	0	2	0	4.0	1.12
G BED		0.28	1	6	0	2	0	12.0	3.36
G BED		0.28	1	8	0	8	0	64.0	17.92
GAR DOOR		0.28	1	3	0	8	0	25.3	7.09
STAIR		0.28	1	2	8	15	10	42.2	11.82
BATH 2		0.28	1	2	0	6	0	12.0	3.36
BED 1		0.28	1	6	0	6	0	36.0	10.08
BED 1		0.28	1	10	0	6	0	60.0	16.80
LAUNDRY		0.28	1	2	0	6	0	12.0	3.36
M BED		0.28	1	12	0	6	0	72.0	20.16
M BED		0.28	1	6	0	6	0	36.0	10.08
M BATH		0.28	5	6	0	2	0	60.0	16.80
OFFICE		0.28	1	6	0	7	0	42.0	11.76
OFFICE		0.28	1	16	0	8	0	128.0	35.84
MEDIA		0.28	1	16	0	8	0	128.0	35.84
MEDIA		0.28	1	10	0	7	0	71.8	20.09
BED2		0.28	1	5	0	5	0	25.0	7.00
STAIR		0.28	1	2	8	5	0	14.4	4.04
FLEX		0.28	1	7	3/8	5	0	39.0	10.91
FLEX		0.28	1	6	0	5	0	30.0	8.40
FLEX		0.28	3	6	0	5	0	93.8	26.25
FLEX		0.28	1	6	0	8	0	49.3	13.81
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

Sum of Vertical Fenestration Area and UA	1612.1	451.38
Vertical Fenestration Area Weighted U = UA/Area		0.28

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
M BATH		0.50	1	4	0	4	0	16.0	8.00
M CLO		0.50	1	2	0	4	0	8.0	4.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

Sum of Overhead Glazing Area and UA	24.0	12.00
Overhead Glazing Area Weighted U = UA/Area		0.50
Total Sum of Fenestration Area and UA *(for heating system sizing calculations)*	1636.1	463.38

Window, Skylight and Door Schedule

Project Information: MITHILA AADU
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
LIVING		0.30	1	5	4	5	0	26.7	8.00
LIVING		0.30	1	3	2	8	0	25.3	7.60
KITCHEN		0.30	1	4	0	3	0	12.0	3.60
BED		0.30	2	3	0	4	0	26.0	7.80
								0.0	0.00
								0.0	0.00
								0.0	0.00

TOTAL = 90sf 27UA

9317 REGISTERED ARCHITECT CHRISLOTHE STATE OF WASHINGTON

Mithila
3632 90th Ave SE Mercer Island Wa

CONTENTS
Energy Info

DRAWN BY
CRL
DATE
10.21.21
4.28.23

09

General Structural Notes (GSN's)

CRITERIA:

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS, 2018 EDITION.

2. DESIGN LOADING CRITERIA
   RISK CATEGORY SBC TABLE 1604.5 II
   ROOF SNOW LOAD . . . . 25 PSF (I_S = 1.0)
   + 5 PSF RAIN ON SNOW SURCHARGE
   ROOF DEAD LOAD . . . . 15 PSF+10 PSF PV SYSTEM
   LIVE LOAD . . . . 40 PSF
   DECK LIVE LOAD . . . . 60 PSF
   FLOOR DEAD LOAD . . . . 40 PSF (INCLUDES 1½" GYPCRETE)

   EARTHQUAKE . . . . SEISMIC DESIGN CATEGORY D
   S_S = 1.408, S_1 = 0.490, S_{DS} = 0.939, S_{D1} = 0.591
   EQUIVALENT LATERAL FORCE PROCEDURE
   LIGHT FRAME (WOOD) WALLS AND ROOFS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
   R = 6.5, Ω_0 = 2½, I_E = 1.0, C_d = 4, C_s = 0.144
   BASE SHEAR V = 46.7 K – LRFD
   WIND . . . . 110 MPH, EXPOSURE "B", Kzt = 1.6
   COMPONENTS & CLADDING . . . . –35.5/–21.3 PSF MAX. AT WALLS (LRFD/ASD)
   –60.0/–36.0 GROSS UPLIFT AT ROOF (LRFD/ASD)
   WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIBUTARY AREAS NEAR WALL CORNERS OR ROOF EDGES (EXCLUDING CORNER ZONES AT ROOF). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7–16 CHAPTER 30.

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

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

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

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

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

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

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

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

GEOTECHNICAL:

11. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT REFERENCED BELOW, THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON COMPETENT UNDISTURBED NATIVE SOILS OR STRUCTURAL FILL THAT IS PLACED ON COMPETENT NATIVE SOILS. EXTERIOR FOOTINGS AND FOOTINGS IN UNHEATED AREAS SHALL BEAR AT LEAST 18" BELOW ADJACENT EXTERIOR GRADE; AND AT LEAST 12" BELOW TOP OF FLOOR SLAB AT INTERIOR FOOTINGS. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE GEOTECHNICAL REPORT REFERENCED BELOW, THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER
    ALLOWABLE SOIL PRESSURE . . . . 2,000 PSF
    LATERAL EARTH PRESSURE (UNRESTRAINED, LEVEL) . . . . 35 PCF
    (RESTRAINED, LEVEL) . . . . 45 PCF
    SEISMIC SURCHARGE PRESSURE . . . . 8H, UNIFORM
    PASSIVE EARTH PRESSURE . . . . 350 PCF
    BASE COEFFICIENT OF FRICTION 0.35
    GEOTECHNICAL REFERENCE: "Geotechnical Engineering Investigation; 3626 90th Ave SE; Mercer Island, WA; GEO Group Northwest, Inc.; Project No. G–5861; April 18, 2023"

12. NOT USED

ANCHORAGE:

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

CONCRETE:

14. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318–14 CHAPTER 26 AND ACI 301. CONCRETE SHALL ATTAIN A 28–DAY STRENGTH OF f'c = 2,500 PSI. THE CONTRACTOR SHALL USE 5–1/2 SACK 2500 PSI CONCRETE MIXES PER CODE ALTERNATE R402.2 IN THE SEATTLE RESIDENTIAL CODE. IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE SECTION 1904.2, 5–1/2 SACK 2500 PSI CONCRETE MIXES ARE EQUIVALENT TO 3000 PSI CONCRETE FOR WEATHERING POTENTIAL. IN ADDITION, AIR–ENTRAINMENT IS NOT REQUIRED TO ADDRESS WEATHERING.

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

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

17. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
    FOOTINGS AND OTHER UNFORMED SURFACES
    CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . 3"
    FORMED SURFACES EXPOSED TO EARTH
    (i.e. WALLS BELOW GROUND)OR WEATHER (#5 BARS OR SMALLER). . . . . 1½"

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

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

IBC TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

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

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

WOOD:

20. FRAMING LUMBER SHALL BE KILN DRIED OR MC–19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17 OR W.W.P.A. WESTERN LUMBER GRADING RULES. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:
    PLATES, LEDGERS & MISC. — DOUGLAS FIR NO. 3 OR STUD GRADE
    LIGHT FRAMING: — MIN. BASIC DESIGN STRESS, F_b = 525 PSI, E = 1400 KSI; F_c = 775 PSI, F_t = 325 PSI
    JOISTS & RAFTERS: — DOUGLAS FIR NO. 2
    MIN. BASIC DESIGN STRESS, F_b = 900 PSI, E = 1600 KSI; F_c = 1350 PSI, F_t = 575 PSI
    BEAMS: — DOUGLAS FIR NO. 1
    4x_ — MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI; F_c = 1500 PSI, F_t = 675 PSI
    6x_ — MIN. BASIC DESIGN STRESS, F_b = 1350 PSI, E = 1600 KSI; F_c = 925 PSI, F_t = 675 PSI
    COLUMNS: — DOUGLAS FIR NO. 1
    4x_ — MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI; F_c = 1500 PSI, F_t = 675 PSI
    6x_ — MIN. BASIC DESIGN STRESS, F_b = 1200 PSI, E = 1600 KSI; F_c = 1000 PSI, F_t = 825 PSI

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

21. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND A.I.T.C. STANDARDS IN ACCORDANCE WITH SBC SECTION 2303.1.3. EACH MEMBER SHALL BEAR AN A.I.T.C. IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN A.I.T.C. CERTIFICATE OF CONFORMANCE. HORIZONTAL MEMBERS AND INCLINED MEMBERS OF LESS THAN 1:1 SLOPE SHALL HAVE A RADIUSED CAMBER OF 3,500 FT. UNLESS OTHERWISE NOTED.
    SIMPLE SPAN BEAMS — DOUGLAS FIR COMBINATION 24F–V4; F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI
    CONTINUOUS OR CANTILEVERED BEAMS — DOUGLAS FIR COMBINATION 24F–V8; F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI
    THESE MEMBERS ARE NOTED AS '*' IN PLAN
    GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON–CORROSIVE, APPROVED PRESERVATIVE.

ACCORDANCE WITH ANSI/TPI I–2007 AND IBC SECTION 2303.4 FOR THE SPANS AND CONDITIONS SHOWN ON THE DRAWINGS. DESIGN LOADS SHALL BE AS FOLLOWS:

ROOF TRUSSES
- TOP CHORD LIVE LOAD — 25 PSF, SNOW + 5 PSF, RAIN ON SNOW SURCHARGE
- BOTTOM CHORD LIVE LOAD — 0 PSF
- TOP CHORD DEAD LOAD — 15 PSF
- BOTTOM CHORD DEAD LOAD — 5 PSF
- WIND UPLIFT (TOP CHORD) — SEE NOTE#2 COMPONENTS & CLADDING ROOF LOADS

FLOOR TRUSSES
- TOP CHORD LIVE LOAD — 40 PSF
- BOTTOM CHORD LIVE LOAD — 0 PSF
- TOP CHORD DEAD LOAD — 20 PSF
- BOTTOM CHORD DEAD LOAD — 5 PSF

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

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

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

25. AT NON–SHEAR WALL EXTERIOR WALLS, UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE ½" (NOMINAL) WITH SPAN RATING OF 24/16; WITH 8d @ 6" oc PANEL NAILING (APPLIES TO ALL SHEATHING PANEL EDGES); AND 8d @ 12" oc TO INTERMEDIATE FRAMING.

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

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

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

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

    B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE INSTALLED AT THE ENDS OF ALL WALLS, UNLESS NOTED OTHERWISE NOTED. INSTALL SOLID BLOCKING FOR WOOD COLUMN THROUGH FLOOR SPACES TO SUPPORTS BELOW.
    ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS @ 12" oc STAGGERED OR BOLTED TO CONCRETE WITH 5/8"ø ANCHOR BOLTS @ 4'–0" oc PER SBC SECTION 2308.6 (EMBED 7"), UNLESS OTHERWISE NOTED. 3" x 3" x 0.229" PLATE WASHERS SHALL BE USED WITH ALL SILL PLATE ANCHOR BOLTS AND INSTALLED PER AF&PA SDPWS–2008 SECTION 4.3.6.4.3. INDIVIDUAL MEMBERS OF BUILT–UP STUD POSTS SHALL BE NAILED TO EACH OTHER WITH 16d @ 12" oc STAGGERED.

    C. FLOOR AND ROOF FRAMING: INSTALL SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH (2)16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI–JOIST BEAMS TOGETHER WITH 16d@12"oc STAGGERED.
    ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AS SHOWN ON THE DRAWINGS. INSTALL APPROVED PANEL EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE–AND–GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING ALLOW ⅛" SPACING AT ALL PANEL EDGES AND ENDS OF LOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d@12"oc. IN ACCORDANCE WITH SBC SECTION 1604.8.3, DECKS SHALL BE POSITIVELY ANCHORED TO THE STRUCTURE BY MEANS OTHER THAN NAILS SUBJECT TO WITHDRAWAL. ANCHOR WITH MINIMUM (1) CS16 STRAP AT EACH END ATTACHED TO DECK JOISTS AND TO A SOLID BLOCKING MEMBER WITHIN THE BUILDING.

    D. NAILING: A MINIMUM NAIL DIAMETER AND LENGTH SHALL BE AS FOLLOWS:

	NAIL SIZE ON DRAWINGS	DIAMETER x LENGTH
SHEATHING NAILS	8d	0.131" x 2¼"
	10d	0.148" x 2½"
FRAMING NAILS	10d	0.148" x 3"
	16d	0.148" x 3¼"

Minimum Connectors and Fasteners for Wood Members per IBC 2018

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

DESCRIPTION OF BLDG. ELEMENT	NUMBER AND TYPE OF FASTENERS	SPACING & LOCATION
WALL (CONTINUED)		
18. TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2–16d COMMON (3½" x 0.162"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
19. 1" BRACE TO EACH STUD AND PLATE	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or 2–3" x 0.131" NAILS; or 2–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
20. 1" x 6" SHEATHING TO EACH BEARING	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or	FACE NAIL
21. 1" x 8" AND WIDER SHEATHING TO EACH BEARING	3–8d COMMON (2½" x 0.131"); or 3–10d BOX (3" x 0.128"); or	FACE NAIL
FLOOR		
22. JOIST TO SILL, TOP PLATE, OR GIRDER	3–8d COMMON (2½" x 0.131"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
23. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL, OR OTHER FRAMING BELOW	8d COMMON (2½" x 0.131"); or 10d BOX (3" x 0.128"); or 3" x .131" NAILS; r 3" x 14 GAGE STAPLES, 7/16" CROWN	6" o.c., TOENAIL
24. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128")	FACE NAIL
25. 2" SUBFLOOR TO JOIST OR GIRDER	2–16d COMMON (3½" x 0.162")	FACE NAIL
26. 2" PLANKS (PLANK & BEAM – FLOOR & ROOF)	2–16d COMMON (3½" x 0.162")"	EA. BEARING, FACE NAIL
27. BUILT–UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4" x 0.192")	32" o.c., FACE NAIL TOP & BOT. STAGGERED ON OPPOSITE SIDES
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	24" o.c., FACE NAIL AT TOP & BOT. STAGGERED ON OPP. SIDES
	AND: 2–20d COMMON (4" x 0.192"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
28. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3–16d COMMON (3½" x 0.162"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST OR RAFTER, FACE NAIL
29. JOIST TO BAND JOIST OR RIM JOIST	3–16d COMMON (3½" x 0.162"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL
30. BRIDGING OR BLOCKING TO JOIST, RAFTER, OR TRUSS	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or 2–3" x 0.131" NAILS; or 2–3" x 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL

MULTIPLE LVL MEMBER FASTENING PER WEYERHAUSER

PIECE WIDTH	NUMBER OF PLIES	FASTENER TYPE(1)	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1¾"	2	10d NAILS	3"	$3^{(2)}$	12"	ONE SIDE
		12d – 16d NAILS	3¼"	$2^{(2)}$		
		SCREWS	3⅜" or 3½"	2	24"	
	3	10d NAILS	3"	$3^{(2)}$	12"	BOTH SIDES
		12d – 16d NAILS	3¼"	$2^{(2)}$		
		SCREWS	3⅜" or 3½"	2	24"	BOTH SIDES
			5"			ONE SIDE
	4	10d NAILS	3"	$3^{(2)}$	12"	ONE SIDE (PER PLY)
		12d – 16d NAILS	3¼"	$2^{(2)}$		
		SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
3½"	2	SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
		½"ø BOLTS	8"	2	24"	–

(1) 10d NAILS ARE 0.128" DIAMETER; 12d – 16d NAILS ARE 0.148" – 0.162" DIAMETER; SCREWS ARE SDS, USP WP, TrussLOK, OR SDW
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER
(3) WHEN CONNECTING 4–PLY MEMBERS, NAIL EACH PLAY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM ROWS IN THE PLY BELOW

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CONTENTS
General Strucural Notes

DRAWN BY
JDA

DATE
10.18.22
06.09.23

S1.1

LEGEND

- CONCRETE FOOTING
- CONCRETE WALL
- STEP IN FOOTING PER 9/S3.1
- XX'-XX" — DENOTES TOP OF FOOTING ELEVATION
- STRUCTURAL WOOD STUDWALL BELOW
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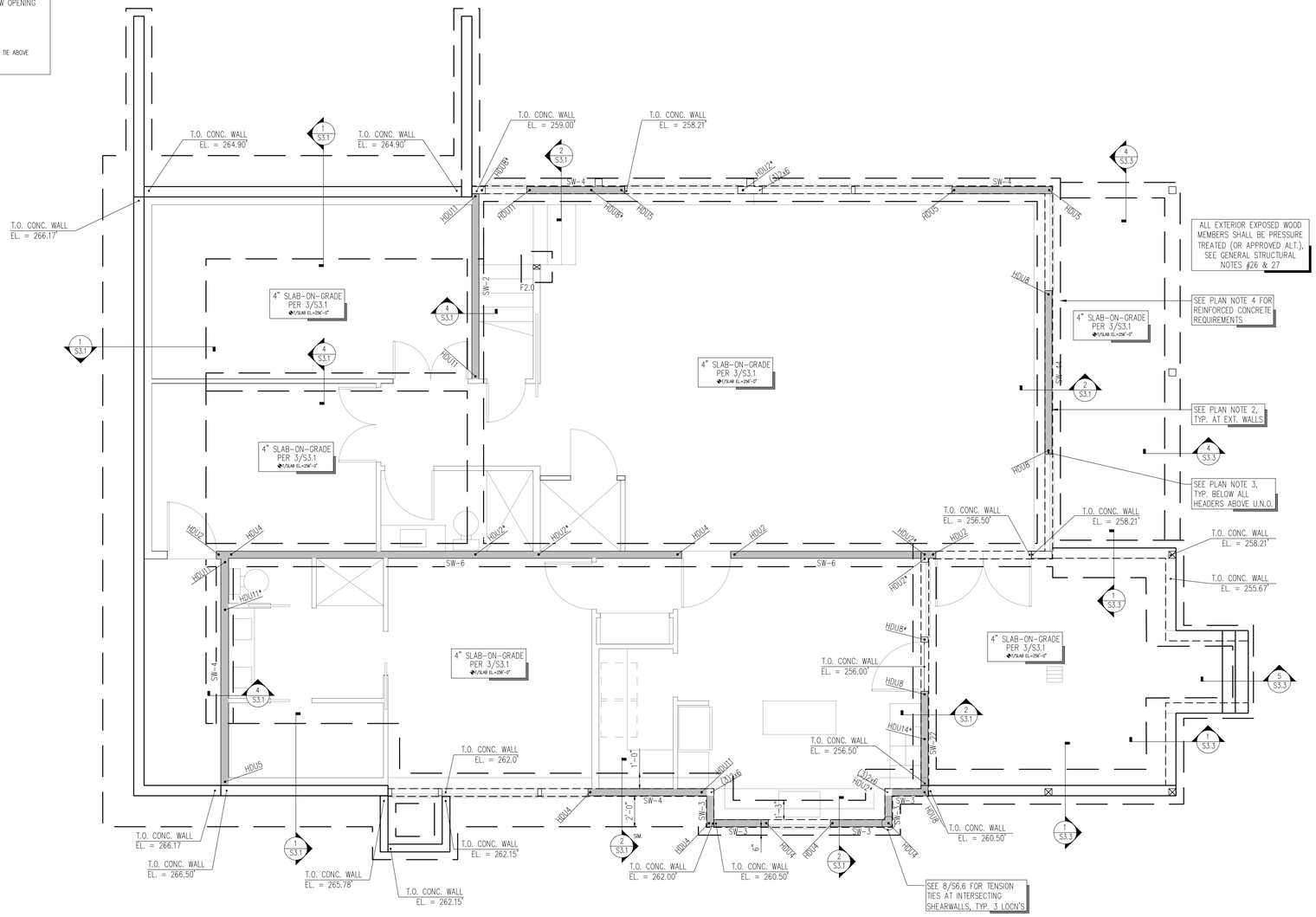
- FX.X — DENOTES SPREAD FOOTING PER 5/S3.1
- ⊠ POST ABOVE
- SW-_ — DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* — DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ○ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC — DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  * = DENOTES TRANSFER TIE FROM TIE ABOVE



FOUNDATION & FIRST FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FIRST FLOOR LEVEL (FROM FIRST FLOOR TO SECOND FLOOR).
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.02, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. ALL HEADERS ABOVE (SEE 1/S2.2) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
4. SEE STRUCTURAL GENERAL NOTES #13 – 18 FOR CONCRETE AND CONCRETE REINFORCING REQUIREMENTS.

1/S2.1 FOUNDATION AND FIRST FLOOR PLAN
1/4" = 1'-0"

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CONTENTS
Foundation and Lower Floor Plan

DRAWN BY
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DATE
10.18.22
06.09.23 ⚠1

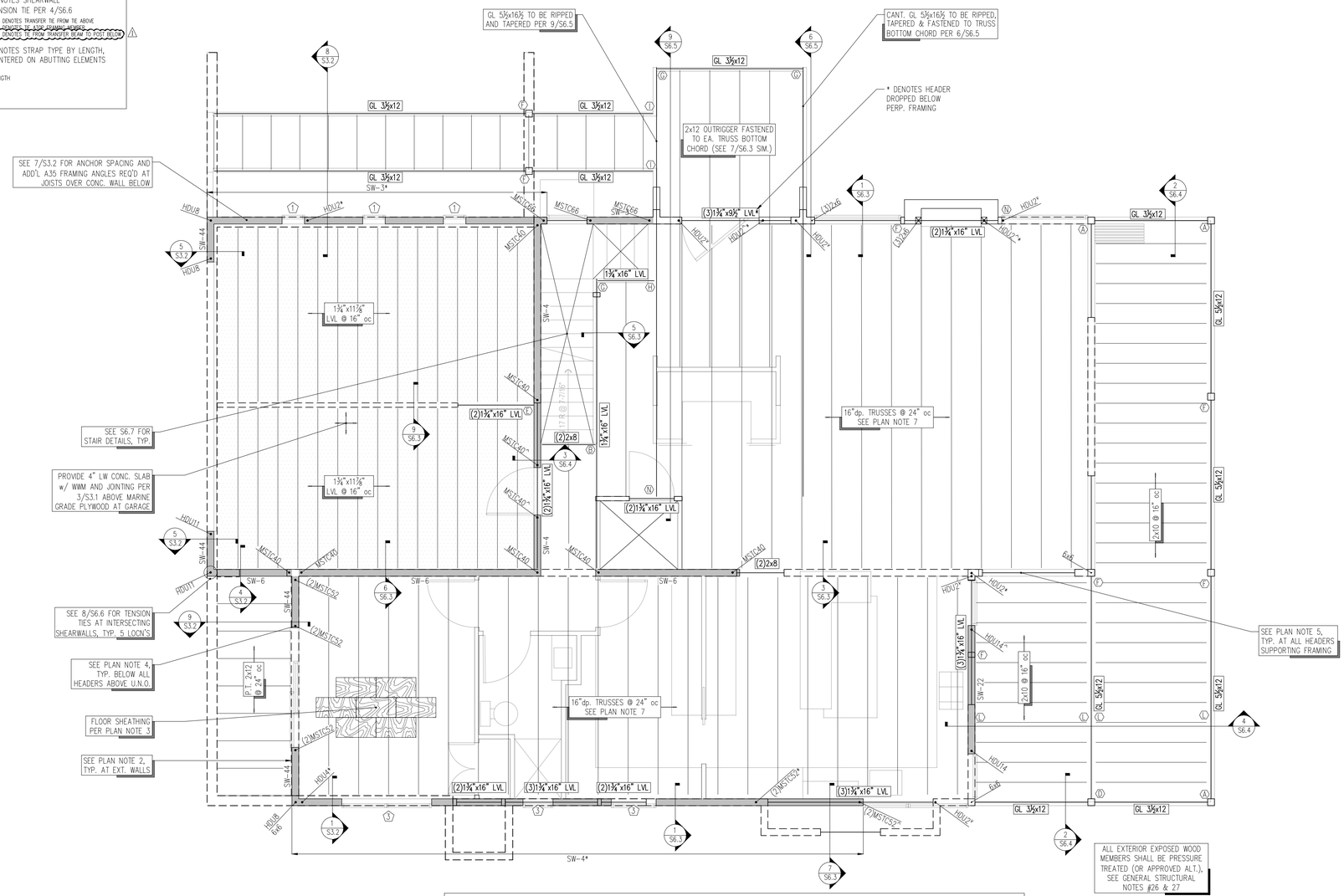
S2.1

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- STRUCTURAL WOOD STUDWALL ABOVE
- POST BELOW
- POST ABOVE
- WOOD JOIST
- WOOD BEAM or HEADER
- WOOD RAFTER
- SW-_ — DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* — DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ☐ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC_ — DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  - * - DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ - DENOTES TIE FROM FRAMING ABOVE
  - ^* - DENOTES TIE FROM TRANSFER BEAM TO POST BELOW
- STRAP x LENGTH — DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
A	ECCLQ, ECCRQ	L-POST CAP
B	HUS ~or~ BU	HANGER
C	HGU ~or~ EGQ	HANGER
D	CCT	T-POST CAP
E	IUS ~or~ ITS	HANGER
F	CCQ	COLUMN CAP
G	HUCQ	CONCEALED FLANGE HANGER
H	IUS ~or~ MIT	HANGER
I	LUS ~or~ HWPH	HANGER
J	HHUS	HANGER



MAIN FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FRAMING LEVEL. DASHED WALLS SHOWN IN PLAN ARE BELOW FRAMING LEVEL.
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.3) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS SHALL BE PER DETAIL 6/S6.1 U.N.O. IN PLAN.
6. AT AREA(S) INDICATED AS BLOCKED DIAPHRAGM, INSTALL 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING PER PLAN NOTE 3.
7. SEE GENERAL STRUCTURAL NOTE #23 FOR FLOOR TRUSS REQUIREMENTS.

1 / S2.2 — MAIN FLOOR FRAMING PLAN

1/4" = 1'-0"

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CONTENTS

Main Floor Framing Plan

DRAWN BY
JDA

DATE
10.18.22
06.09.23 ⚠

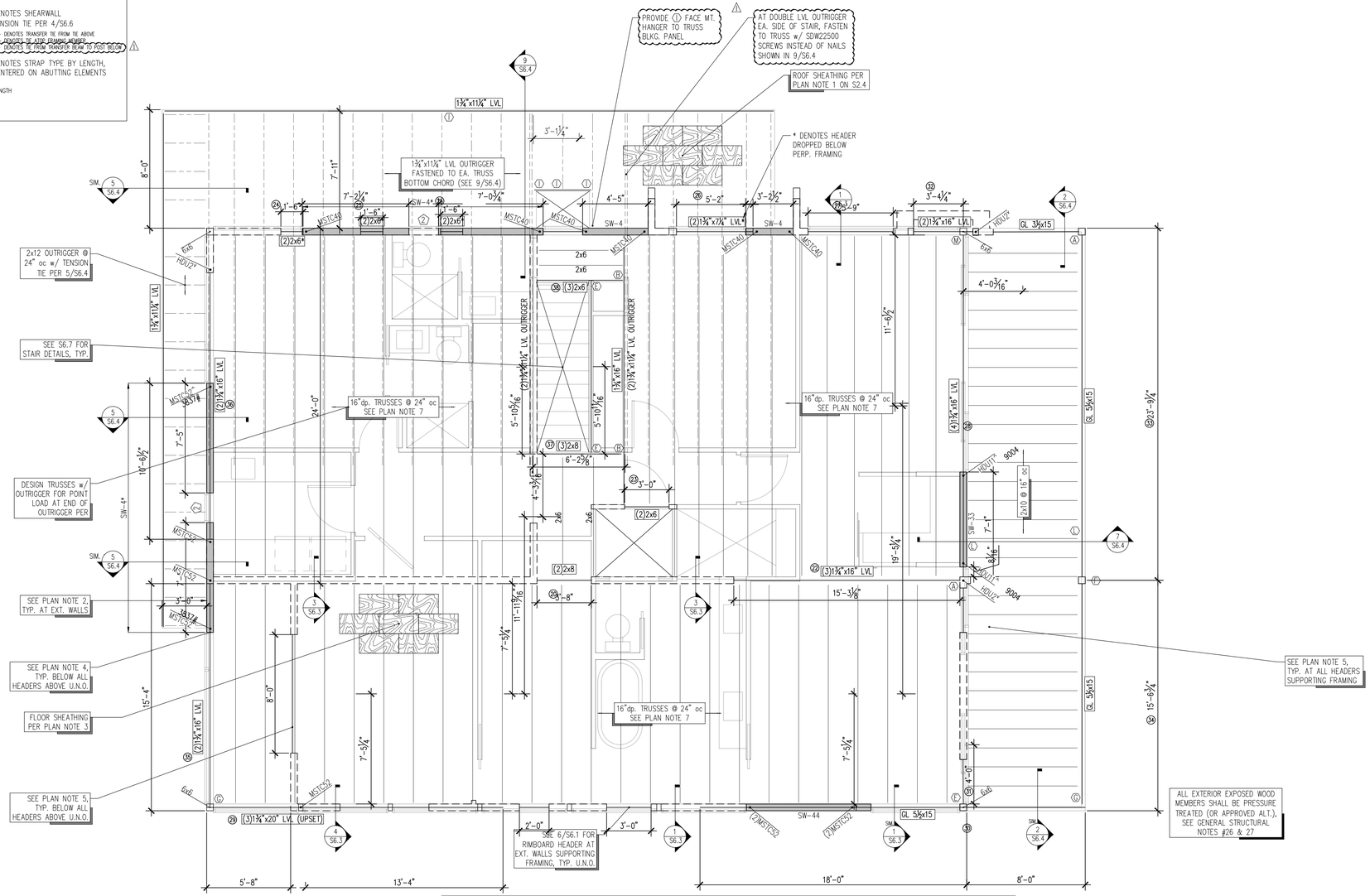
S2.2

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- STRUCTURAL WOOD STUDWALL ABOVE
- POST BELOW
- POST ABOVE
- WOOD JOIST
- WOOD BEAM or HEADER
- WOOD RAFTER
- SW-_ : DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* : DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ⌂ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC_ : DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  - * – DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ – DENOTES TIE ABOVE FRAMING MEMBER
  - ~ – DENOTES TIE FROM TRANSFER BEAM TO POST BELOW
- DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS (STRAP x LENGTH)

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
(A)	ECCLQ, ECCRQ	L-POST CAP
(B)	HUS ~or~ BU	HANGER
(C)	HGU ~or~ EGQ	HANGER
(D)	CCT	T-POST CAP
(E)	IUS ~or~ ITS	HANGER
(F)	CCQ	COLUMN CAP
(G)	HUCQ	CONCEALED FLANGE HANGER
(H)	IUS ~or~ MIT	HANGER
(I)	LUS ~or~ HWPH	HANGER
(J)	HHUS	HANGER



UPPER FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FRAMING LEVEL. DASHED WALLS SHOWN IN PLAN ARE BELOW FRAMING LEVEL.
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.4) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.
6. AT AREA(S) INDICATED AS BLOCKED DIAPHRAGM, INSTALL 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING PER PLAN NOTE 3.
7. SEE GENERAL STRUCTURAL NOTE #23 FOR FLOOR TRUSS REQUIREMENTS.

1/S2.3 UPPER FLOOR FRAMING PLAN
1/4" = 1'-0"

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Upper Floor Framing Plan

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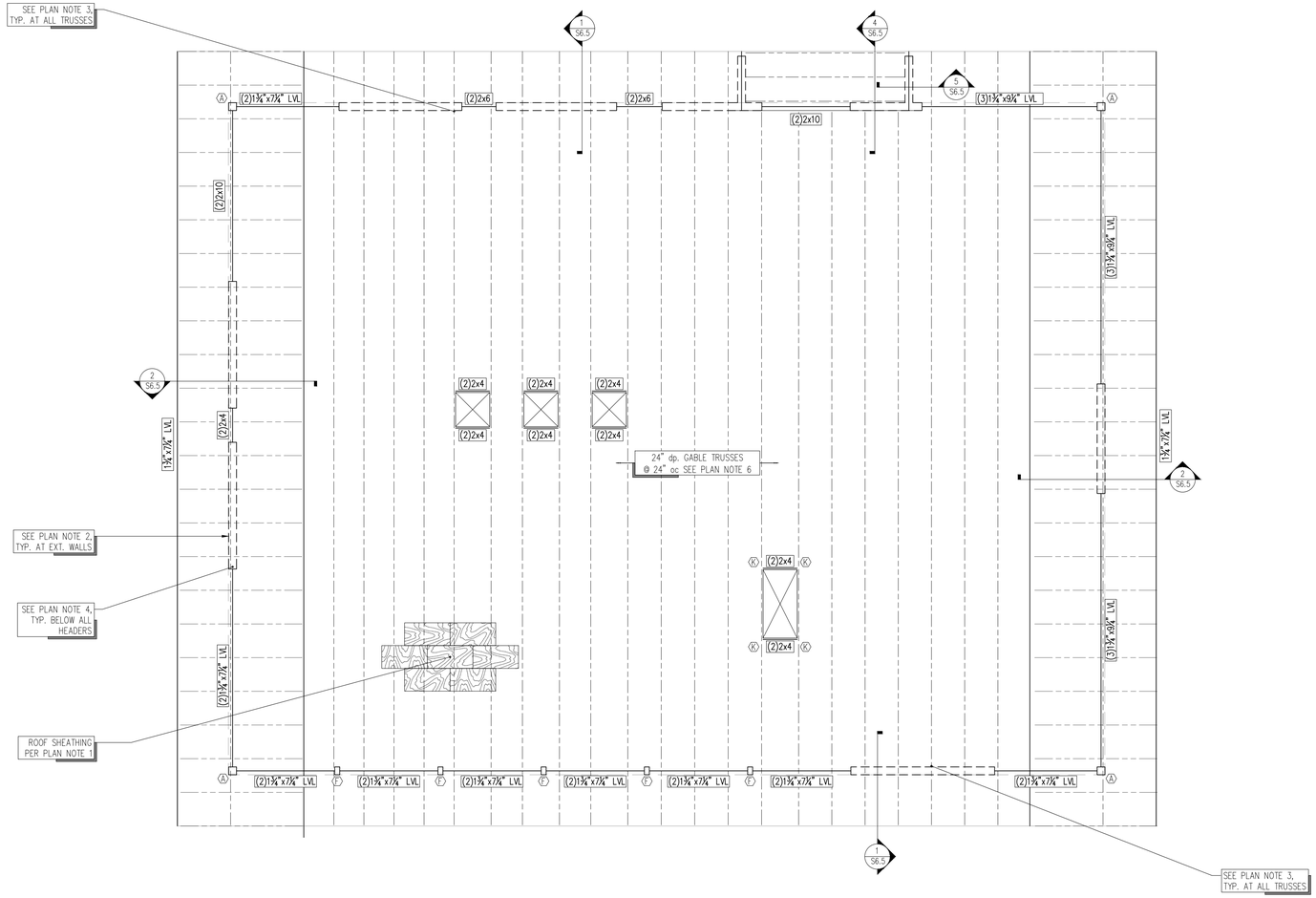
DATE
10.18.22
06.09.23 (1)

S2.3

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- POST BELOW
- WOOD RAFTER
- WOOD BEAM or HEADER
- DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS
  - STRAP x LENGTH

CONNECTOR TABLE		
	SIMPSON DESIGNATION	NOTES
Ⓐ	ECCLQ, ECCRQ	L-POST CAP
Ⓑ	HUS ~or~ BU	HANGER
Ⓒ	HGU ~or~ EGQ	HANGER
Ⓓ	CCT	T-POST CAP
Ⓔ	IUS ~or~ ITS	HANGER
Ⓕ	CCQ	COLUMN CAP
Ⓖ	HUCQ	CONCEALED FLANGE HANGER
Ⓗ	IUS ~or~ MIT	HANGER
Ⓘ	LUS ~or~ HWPH	HANGER
Ⓙ	HHUS	HANGER



ROOF PLAN NOTES

1. ROOF SHEATHING SHALL CONSIST OF ⅝" SHEATHING (PANEL SPAN RATING 32/16) NAILED AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2).
2. DASHED WALLS AND SHEARWALLS SHOWN IN PLAN ARE BELOW ROOF FRAMING ELEVATION (i.e. FROM THIRD FLOOR TO UNDERSIDE OF ROOF).
3. PROVIDE H2.5A HURRICANE TIES AT END OF ALL EXISTING RAFTERS.
4. ALL HEADERS SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.
6. SEE GENERAL STRUCTURAL NOTE #23 FOR ROOF TRUSS REQUIREMENTS.

1 / S2.4 ROOF FRAMING PLAN

1/4" = 1'-0"

NORTH

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Roof
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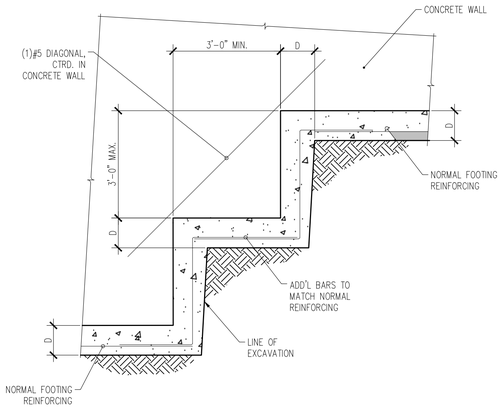
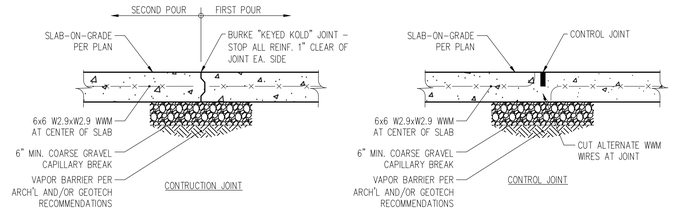
S2.4

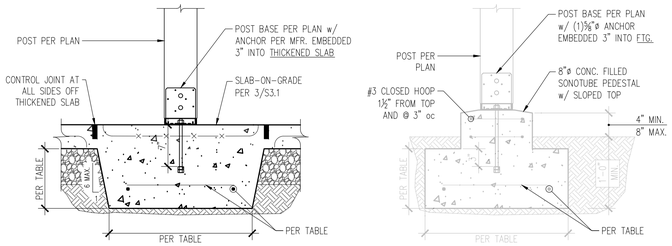


6 S3.1 TYPICAL STEPPED FOOTING
N.T.S.

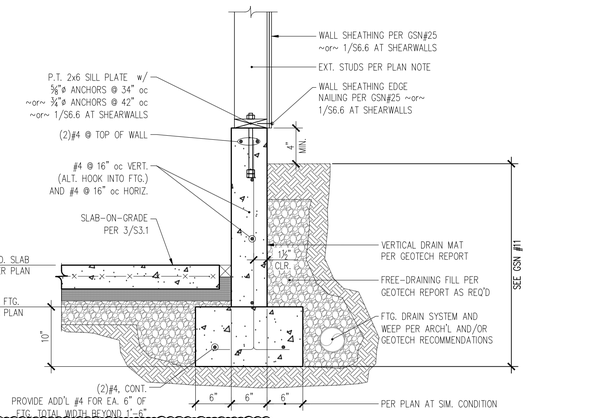


3 S3.1 TYPICAL SLAB-ON-GRADE JOINTING
1" = 1'-0"

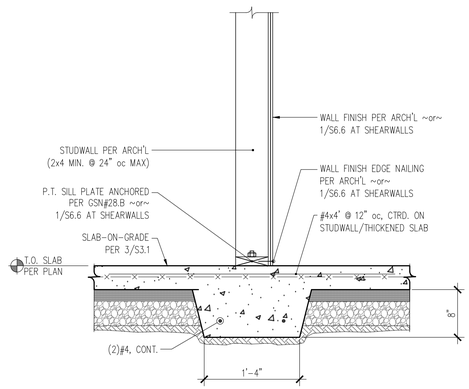
FTG. MARK	DIMENSIONS			REINFORCING DIRECTION	
	LENGTH	WIDTH	DEPTH	SHORT	LONG
F2.0	2'-0"	2'-0"	10"	(3)#4	(3)#4
F2.5	2'-6"	2'-6"	10"	(4)#4	(4)#4
F3.0	3'-0"	3'-0"	10"	(4)#4	(4)#4
F3.6	3'-6"	3'-6"	12"	(5)#4	(5)#4
F4.0	4'-0"	4'-0"	12"	(6)#4	(6)#4



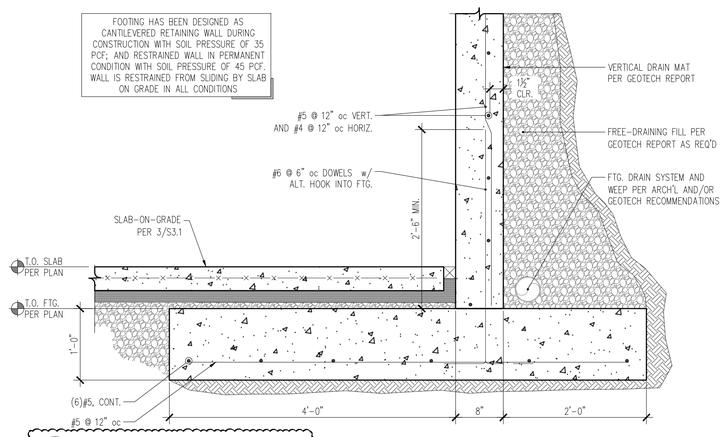
5 S3.1 SPREAD FOOTING
1" = 1'-0"



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



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



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

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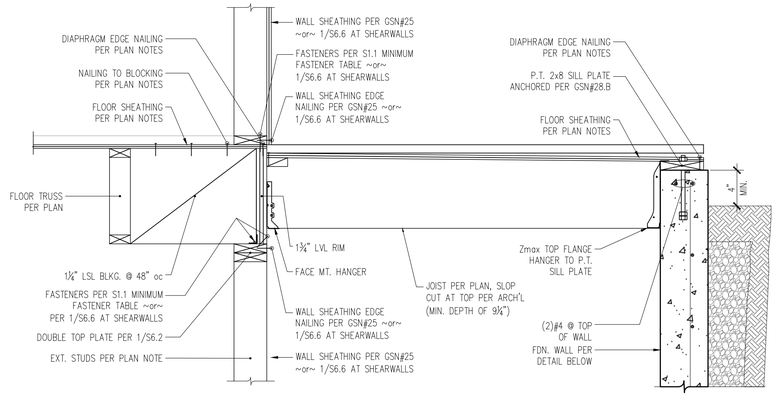
S3.1



9 S3.2 SECTION THROUGH GUEST PATIO PERPENDICULAR JOISTS
1" = 1'-0"

MIN. STRAIGHT DEVELOPMENT LENGTH		
BAR SIZE	TOP BARS	OTHER BARS
#4	25"	19"
#5	31"	24"

MIN. LAP SPLICE LENGTH (CLASS B)		
BAR SIZE	TOP BARS	OTHER BARS
#4	33"	25"
#5	41"	31"

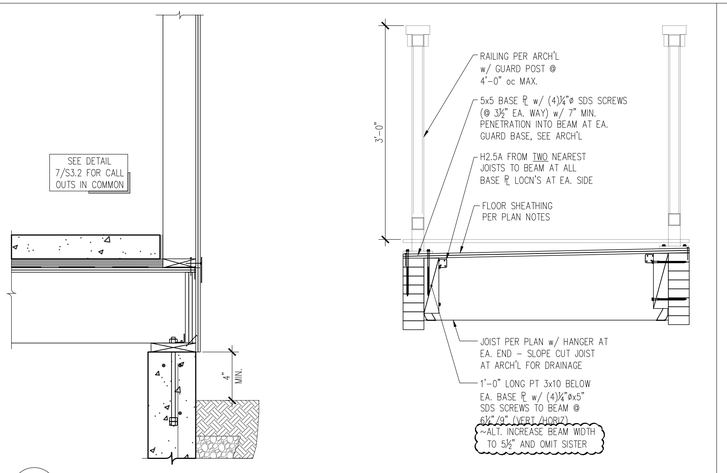
"TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM

IF CLEAR CONCRETE COVER IS LESS THAN 1x THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS LESS THAN (3) BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 50%

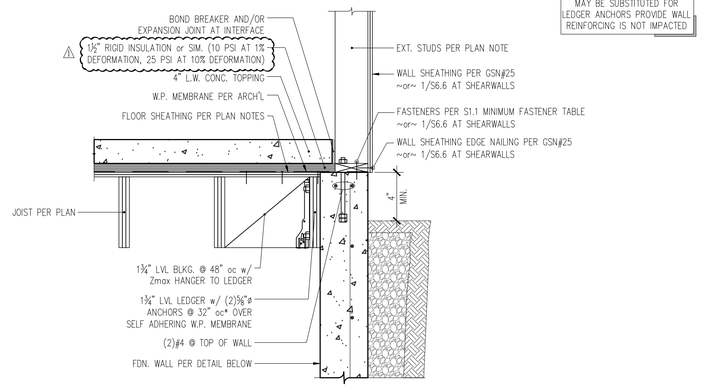
MIN. EMBEDMENT LENGTH FOR STANDARD END HOOKS	
BAR SIZE	LENGTH
#4	7"
#5	9"

1. SIDE COVER MUST BE EQUAL TO OR GREATER THAN 2½"
2. END COVER FOR 90° HOOKS MUST BE EQUAL TO OR GREATER THAN 2"

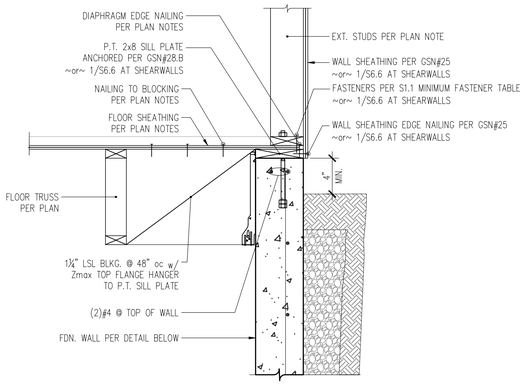
3 S3.2 CONCRETE REINFORCING DEVELOPMENT AND SPLICE LENGTH TABLES
N/A



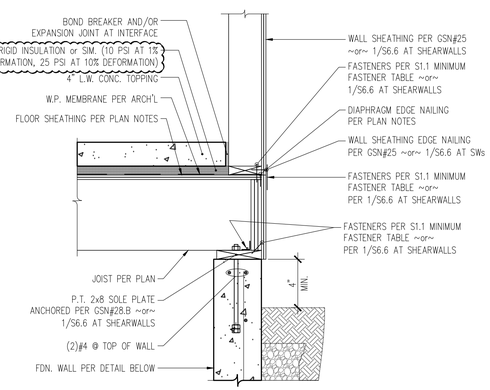
8 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



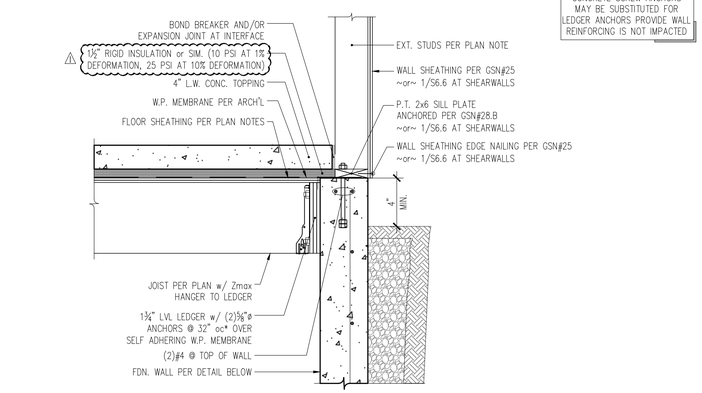
5 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



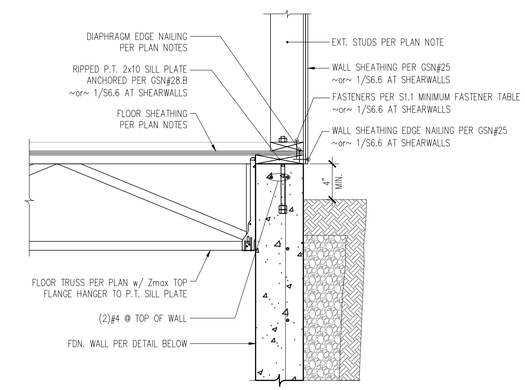
2 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR FLOOR TRUSS
1" = 1'-0"



7 S3.2 SECTION THROUGH HIGH FOUNDATION WALL
1" = 1'-0"



4 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



1 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR FLOOR TRUSS
1" = 1'-0"

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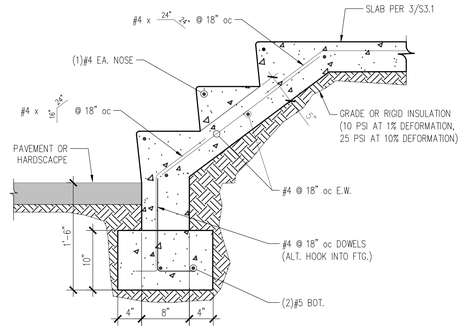
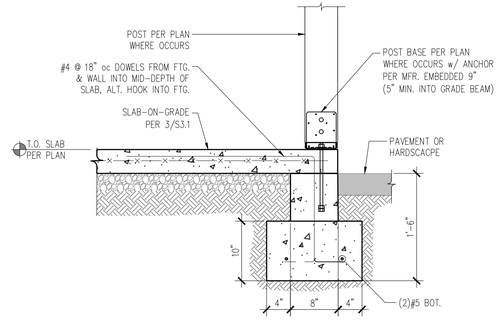
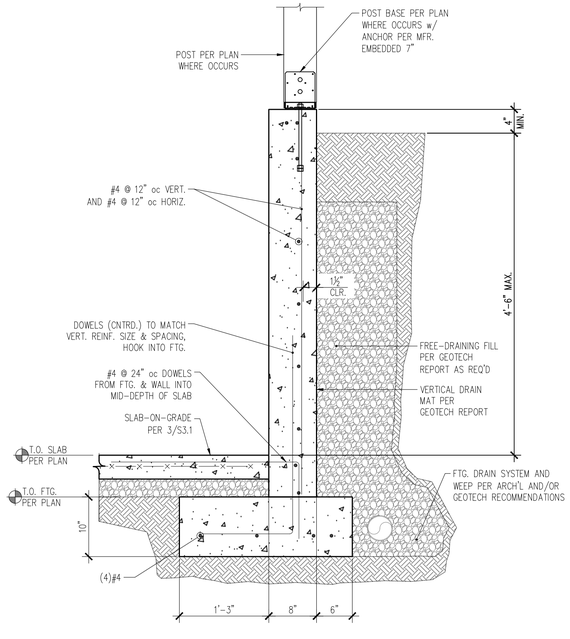
S3.2



5 S3.3 CAST-IN-PLACE STAIR
1" = 1'-0"



4 S3.3 EXTERIOR SLAB
1" = 1'-0"



1 S3.3 SECTION THROUGH SOUTH RETAINING WALL
1" = 1'-0"

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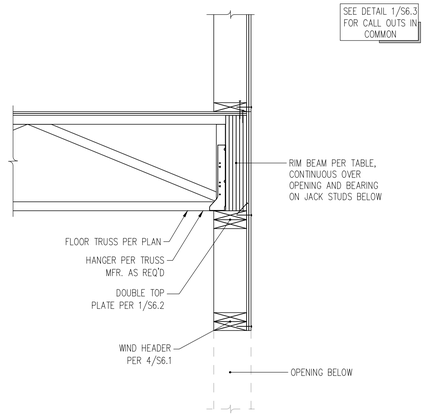
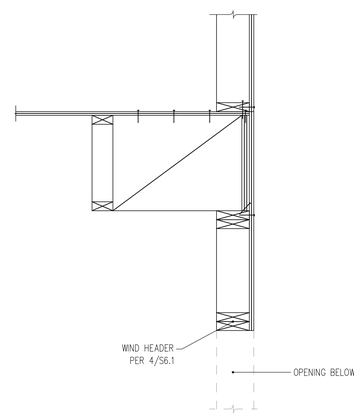
S3.3

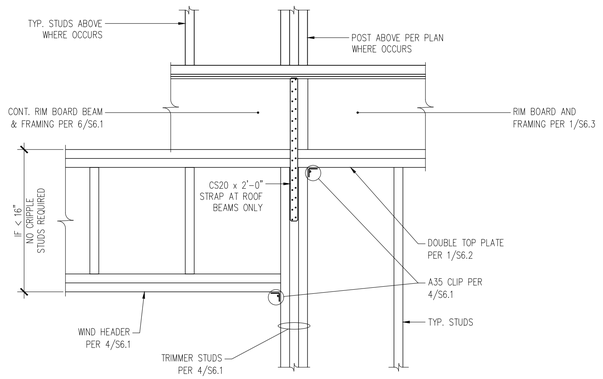
UPPER FLOOR		
OPENING WIDTH, L	RIM/HEADER SIZE	MINIMUM No. OF STUD
L ≤ 3'-6"	1¾"x16" LVL	(1)2x6
L ≤ 6'-6"	1¾"x16" LVL	(2)2x6
MAIN FLOOR		
L ≤ 3'-6"	1¾"x16" LVL	(1)2x6
L ≤ 6'-6"	1¾"x16" LVL	(2)2x6



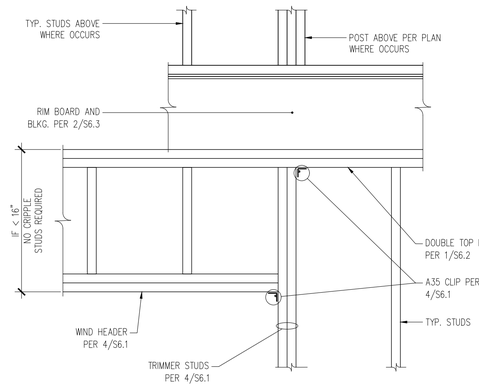
6 S6.1 TYPICAL RIMBOARD HEADER & WIND HEADER IN LOAD BEARING EXTERIOR WALL
NTS



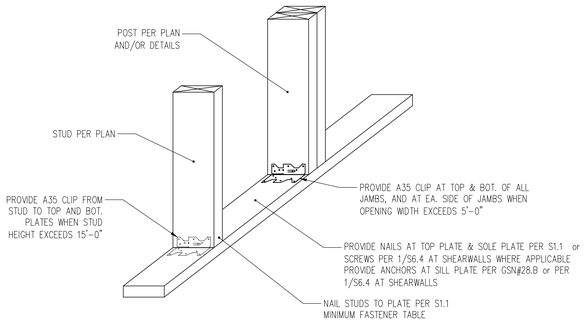
3 S6.1 TYPICAL WIND HEADER IN NON-LOAD BEARING EXTERIOR WALL
NTS



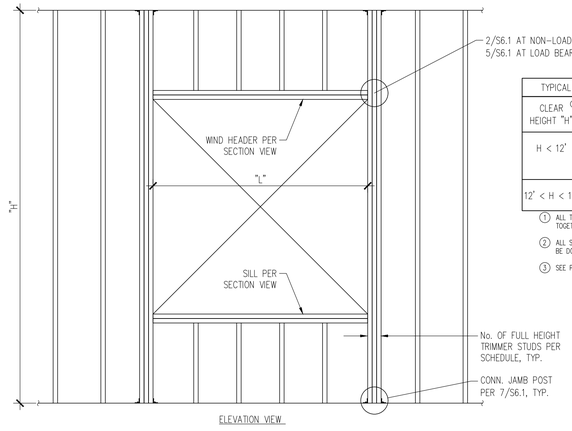
5 S6.1 TYPICAL FLUSH BEAM/HEADER IN EXTERIOR WALL
NTS



2 S6.1 TYPICAL WIND HEADER DETAIL
NTS



7 S6.1 CONNECTION OF EXTERIOR STUDS AT TOP & BOTTOM PLATES
NTS



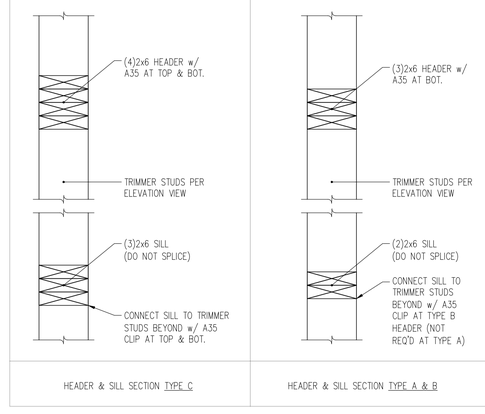
TYPICAL EXTERIOR WALL OPENING FRAMING SCHEDULE ②			
CLEAR ③ HEIGHT "H"	OPENING WIDTH "L"	HDR./SILL TYPE PER SECTION AT RIGHT	No. OF FULL HEIGHT TRIMMER STUDS ①
H < 12'	L ≤ 6'-0"	A	2
	6' < L < 10'	B	2
	10' ≤ L ≤ 15'	C	3
12' < H < 16'	L ≤ 10'	B	3
	10' ≤ L ≤ 15'	C	6x8

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

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

③ SEE PLANS FOR LVL STUD WALL LOCATIONS, WHERE APPLICABLE

4 S6.1 TYPICAL WIND HEADER
NTS



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Typical Wood Details

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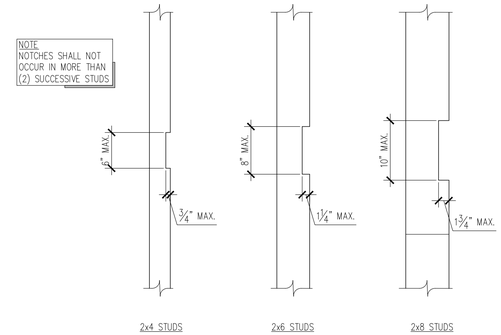
S6.1

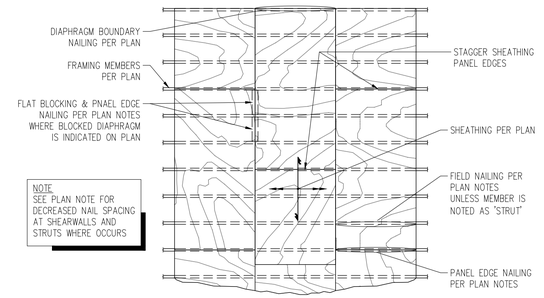
PIECE WIDTH	NUMBER OF PLIES	FASTENER TYPE[1]	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1¾"	2	10d NAILS	3"	3[2]	12"	ONE SIDE
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	3⅜" or 3½"	2	24"	
	3	10d NAILS	3"	3[2]	12"	BOTH SIDES
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	3⅜" or 3½"	2	24"	BOTH SIDES
			5"			ONE SIDE
	4	10d NAILS	3"	3[2]	12"	ONE SIDE (PER PLY)
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
3½"	2	SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
		½"ø BOLTS	8"	2	24"	–

(1) 10d NAILS ARE 0.128" DIAMETER; 12d – 16d NAILS ARE 0.148" – 0.162" DIAMETER; SCREWS ARE SDS, USP WP, TrussLOK, OR SDW.
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER
(3) WHEN CONNECTING 4-PLY MEMBERS, NAIL EACH PLAY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM ROWS IN THE PLY BELOW

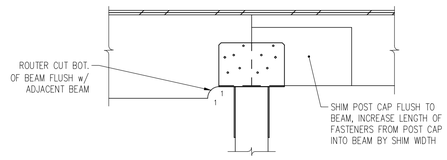
9 S6.2 MULTIPLE LVL MEMBER FASTENING FOR TOP-LOADED BEAM PER WEYERHAUSER
NTS

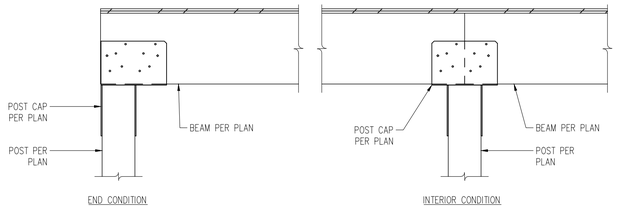


6 S6.2 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

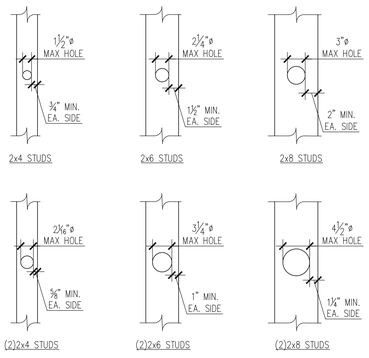


3 S6.2 TYPICAL DIAPHRAGM NAILING
NTS





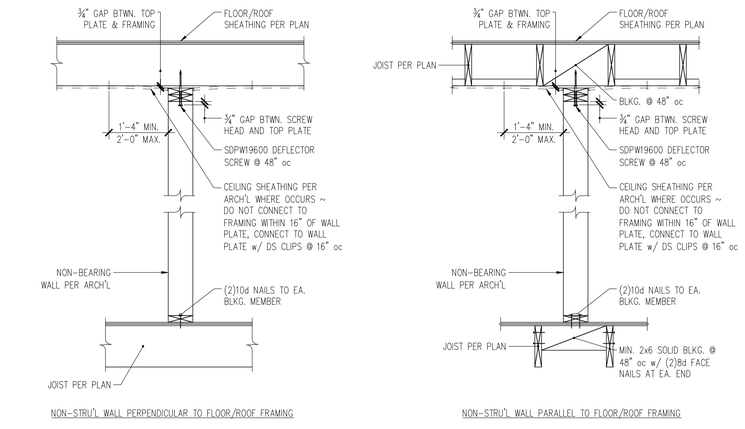
8 S6.2 TYPICAL POST CAP INSTALLATION
NTS



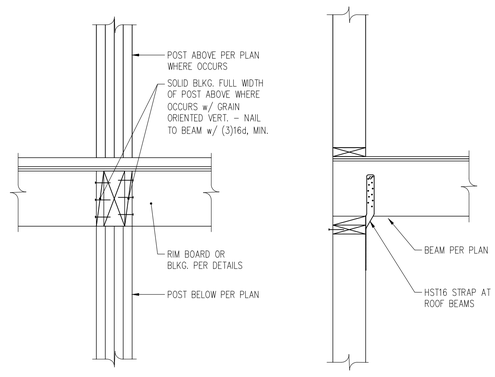
5 S6.2 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

	NO REINF. REQUIRED	STRAP REINF. REQUIRED
2x4 PLATES	1½"ø MAX. HOLE ¾" MIN. EA. SIDE	2⅝"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ⅜" MIN. EA. SIDE
2x6 PLATES	2¼"ø MAX. HOLE 1⅜" MIN. EA. SIDE	3¾"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ¾" MIN. EA. SIDE
2x8 PLATES	3¼"ø MAX. HOLE 2" MIN. EA. SIDE	5"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 1¾" MIN. EA. SIDE

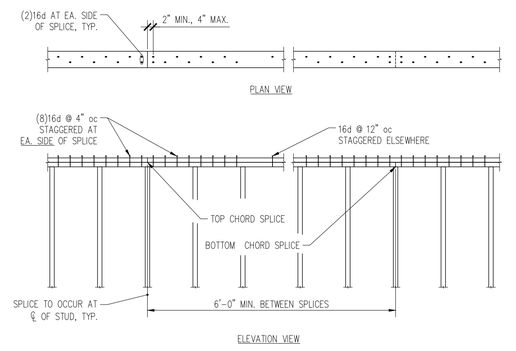
2 S6.2 ALLOWABLE HOLES THROUGH TOP PLATES
NTS



7 S6.2 CONNECTION OF NON-STRUC'L PARTITION WALL TO STRUCTURE
NTS



4 S6.2 TYPICAL BEAM PERPENDICULAR TO WALL
NTS



1 S6.2 TOP PLATE SPLICE
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Typical Wood Details

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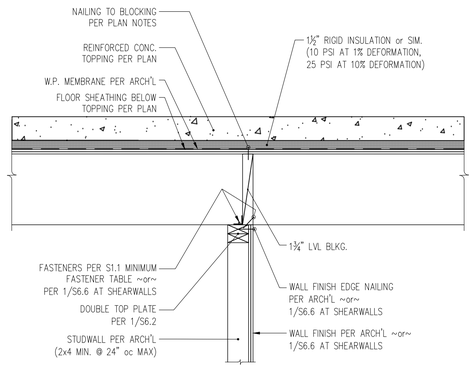
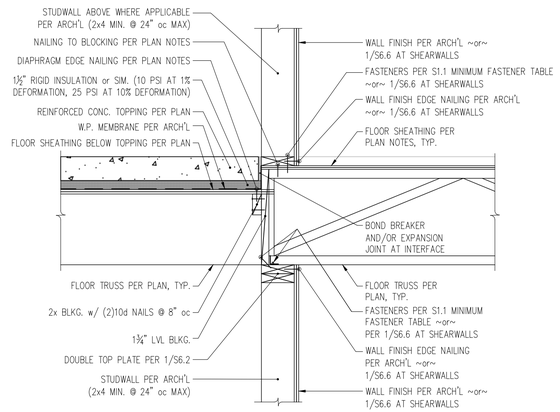
S6.2



9 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR GARAGE JOISTS AT EA. SIDE
1" = 1'-0"



6 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR TRUSS AND JOIST AT OPP. SIDE
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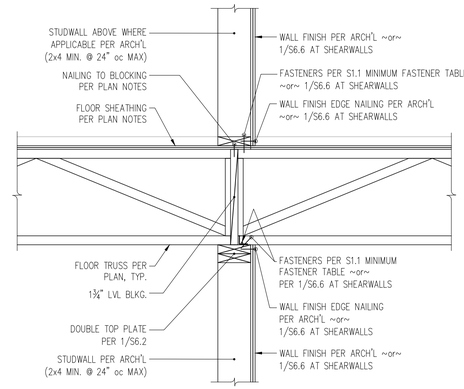

3 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR TRUSSES AT EA. SIDE
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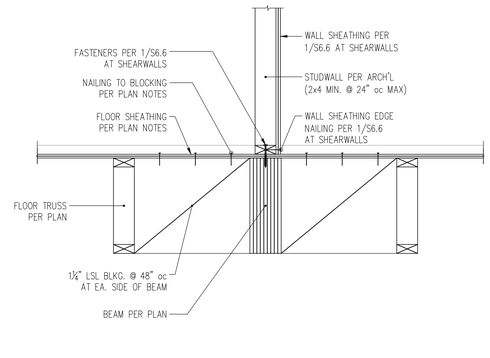

8 S6.3 SECTION THROUGH FLUSH FRAMED BEAM w/ JOIST AT EACH SIDE
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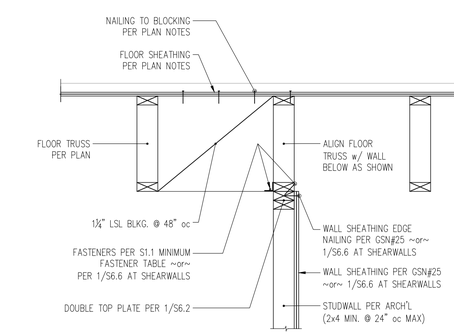

5 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PARALLEL TRUSSES AT EA. SIDE
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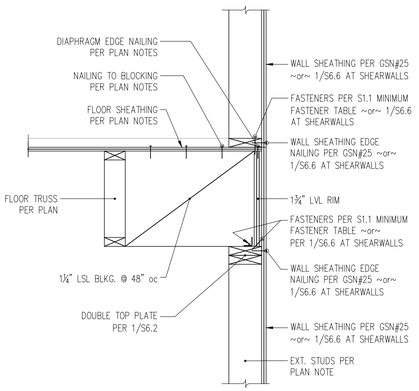

2 S6.3 SECTION THROUGH EXTERIOR WALL AT PARALLEL FLOOR JOISTS
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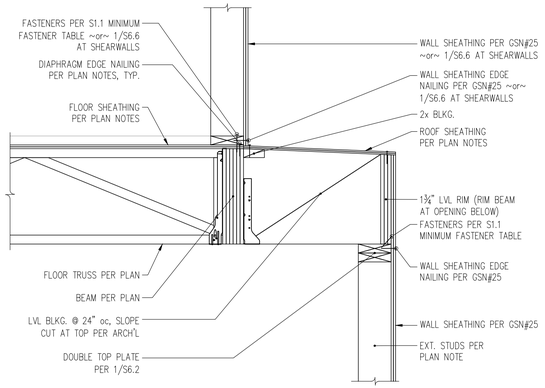

7 S6.3 SECTION
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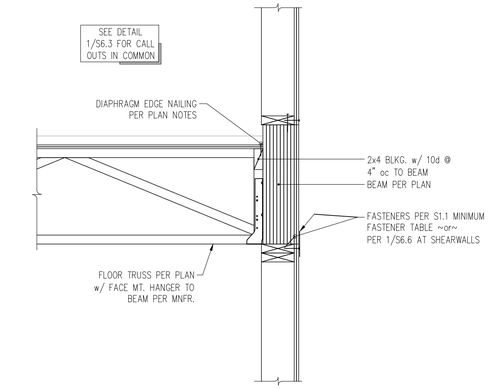

4 S6.3 SECTION THROUGH UPSET BEAM IN EXTERIOR WALL AT PERPENDICULAR FLOOR TRUSS
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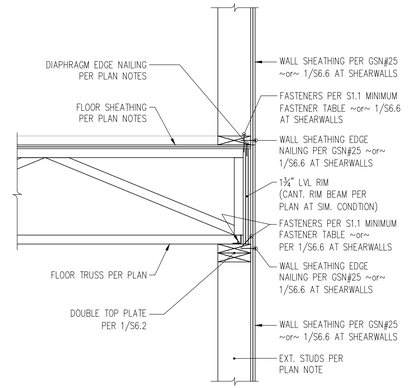

1 S6.3 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR FLOOR TRUSS
1" = 1'-0"

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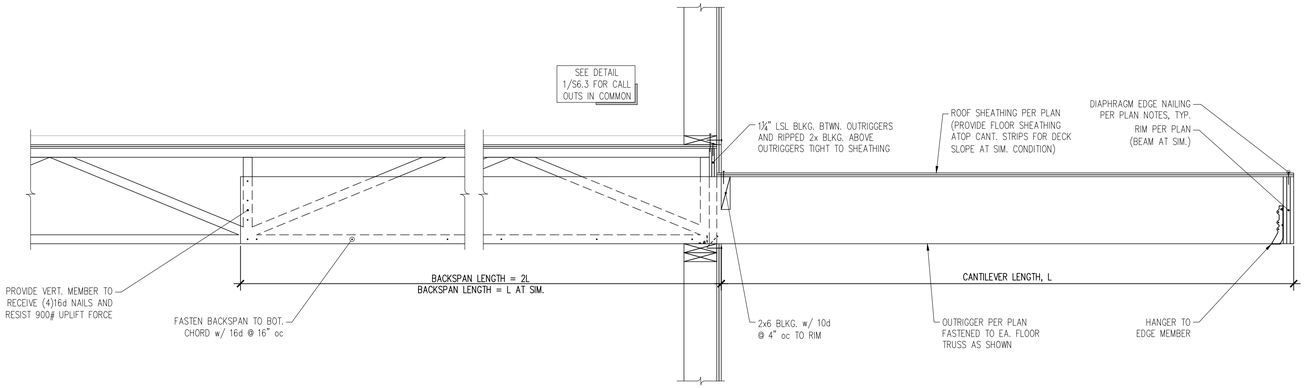
S6.3



9 / S6.4 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
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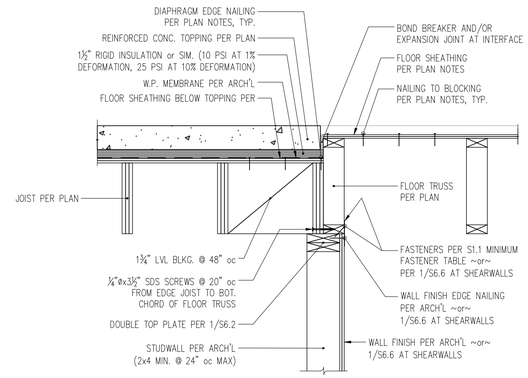

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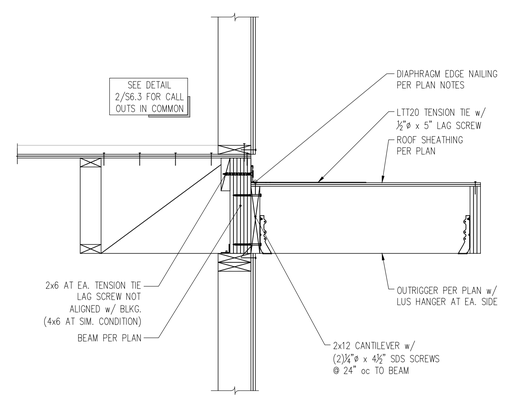
1" = 1'-0"



5 / S6.4 SECTION AT CANTILEVERED LOW ROOF AND UPPER FLOOR PARALLEL FRAMING
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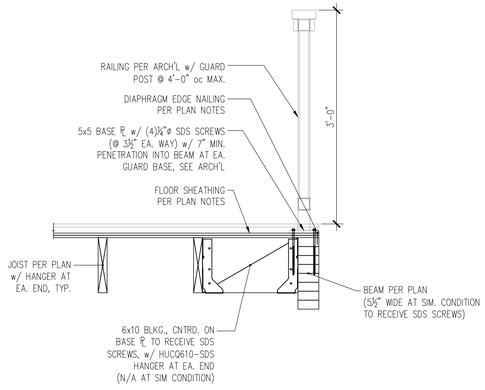

2 / S6.4 SECTION AT RAILING ABOVE PARALLEL FRAMING
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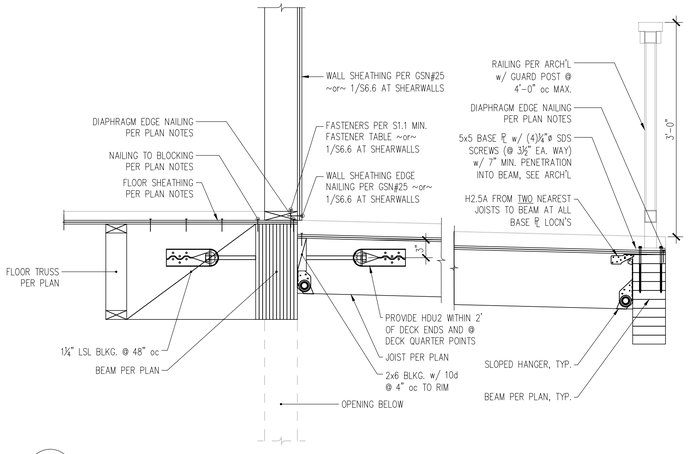
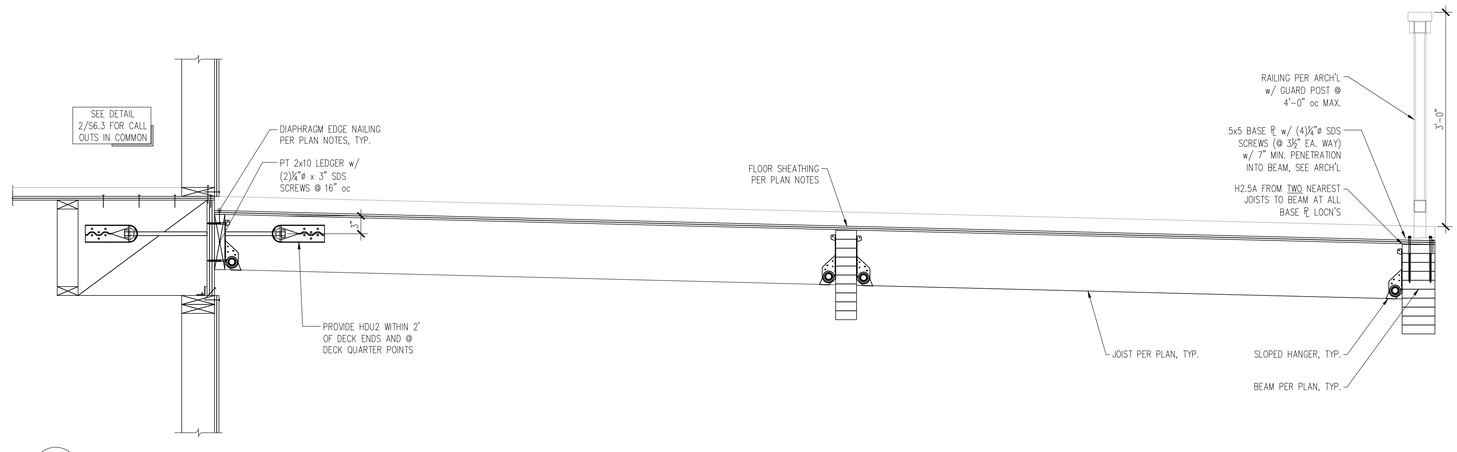


7 / S6.4 SECTION AT UPPER FLOOR DECK PERPENDICULAR JOISTS
1" = 1'-0"



4 / S6.4 SECTION AT MAIN FLOOR DECK PERPENDICULAR JOISTS
1" = 1'-0"

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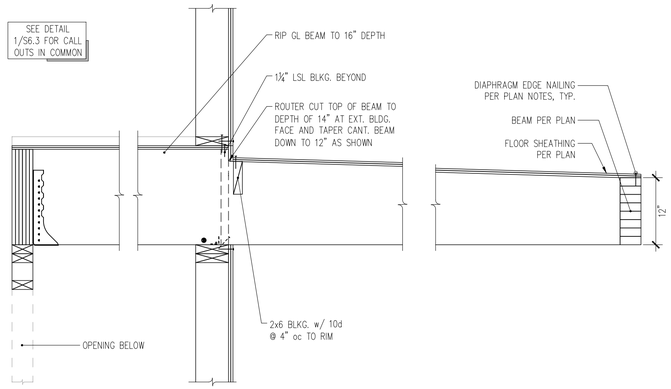
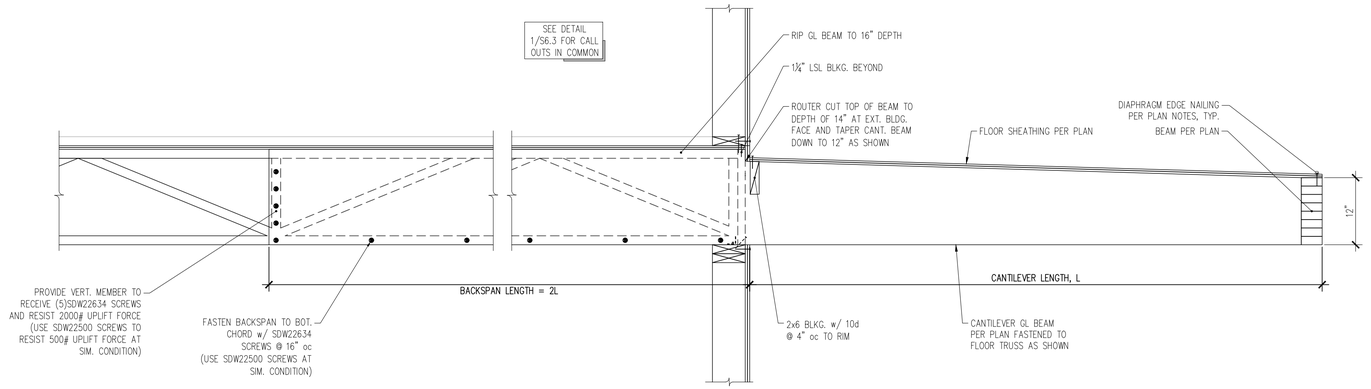
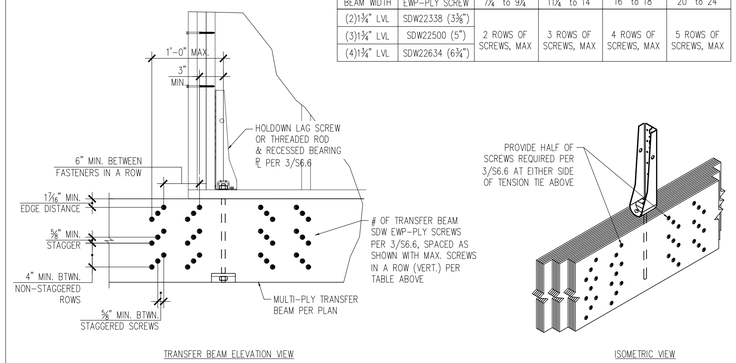


9 S6.5 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"

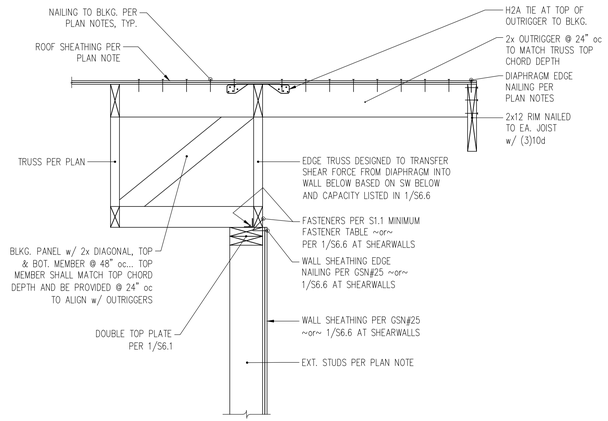


6 S6.5 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"

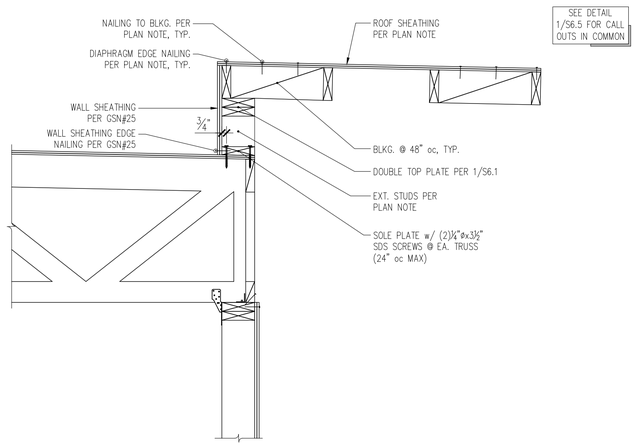
TRANSFER BEAM WIDTH	SIMPSON SDW EWP-PLY SCREW	TRANSFER BEAM DEPTH			
		7¼" to 9¼"	11¼" to 14"	16" to 18"	20" to 24"
(2)1¾" LVL	SDW22338 (3⅜")	2 ROWS OF SCREWS, MAX	3 ROWS OF SCREWS, MAX	4 ROWS OF SCREWS, MAX	5 ROWS OF SCREWS, MAX
(3)1¾" LVL	SDW22500 (5")				
(4)1¾" LVL	SDW22634 (6¾")				



5 S6.5 MULTI-PLY TRANSFER BEAM CONNECTION DETAILS
1" = 1'-0"



2 S6.5 SECTION THROUGH EXTERIOR WALL AT PARALLEL ROOF TRUSSES
1" = 1'-0"



4 S6.5 SECTION THROUGH RAISED ROOF AT PERPENDICULAR ROOF TRUSSES
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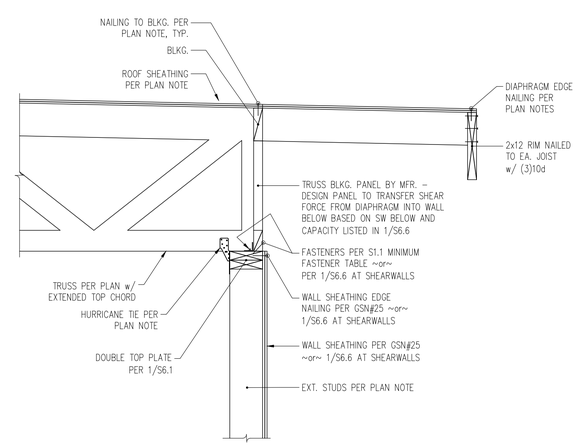

1 S6.5 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR ROOF TRUSSES
1" = 1'-0"

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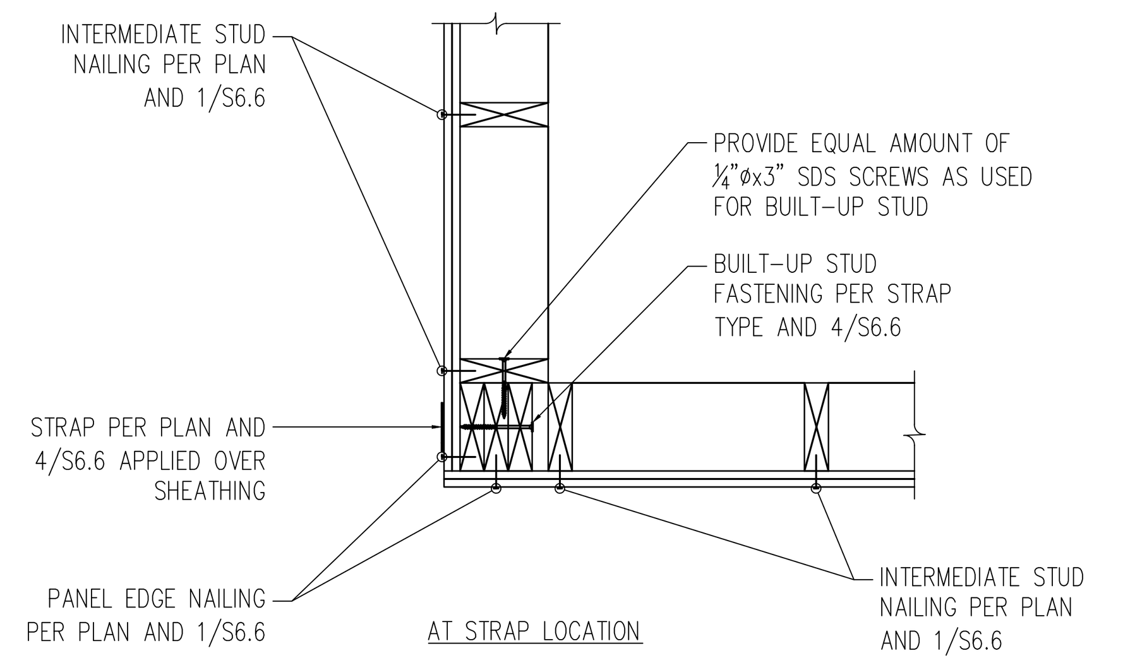
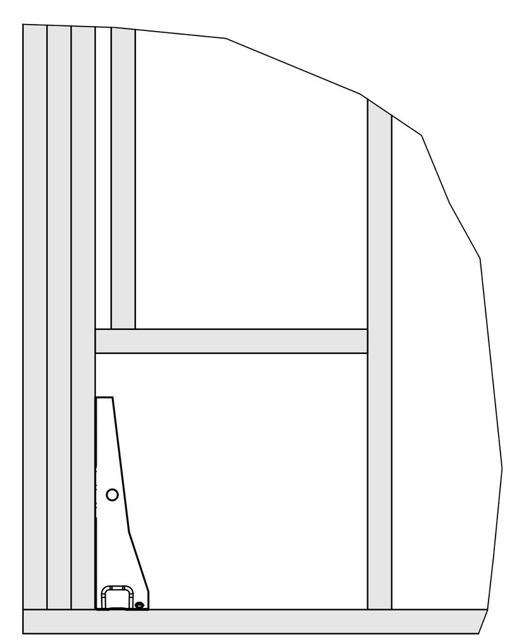
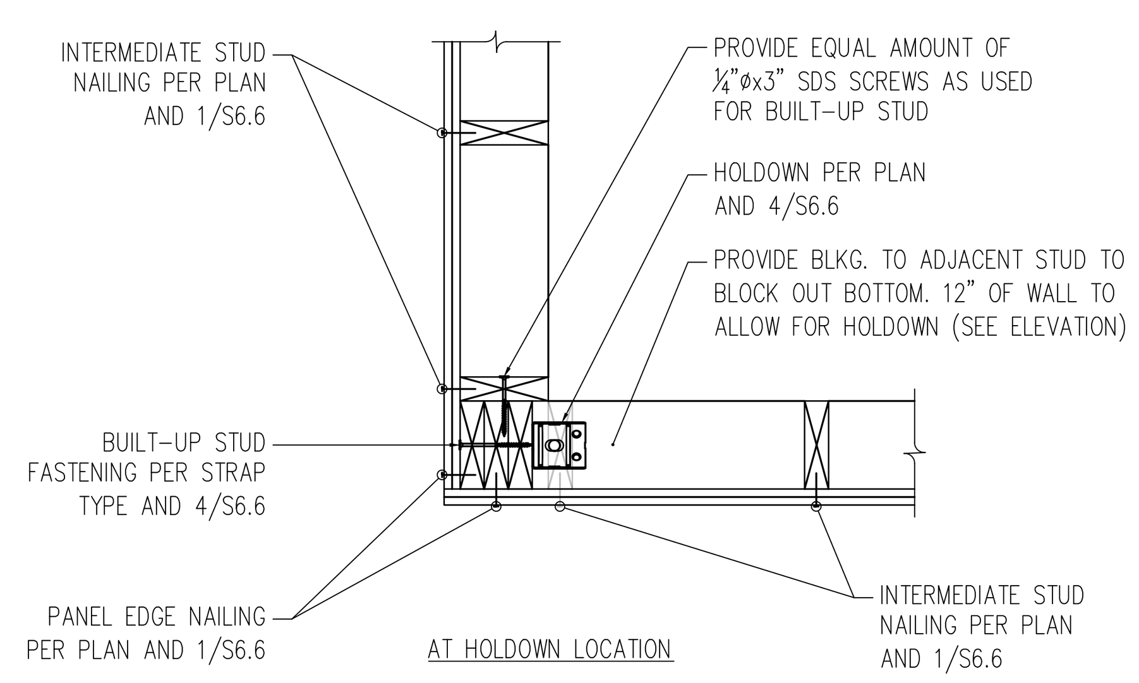
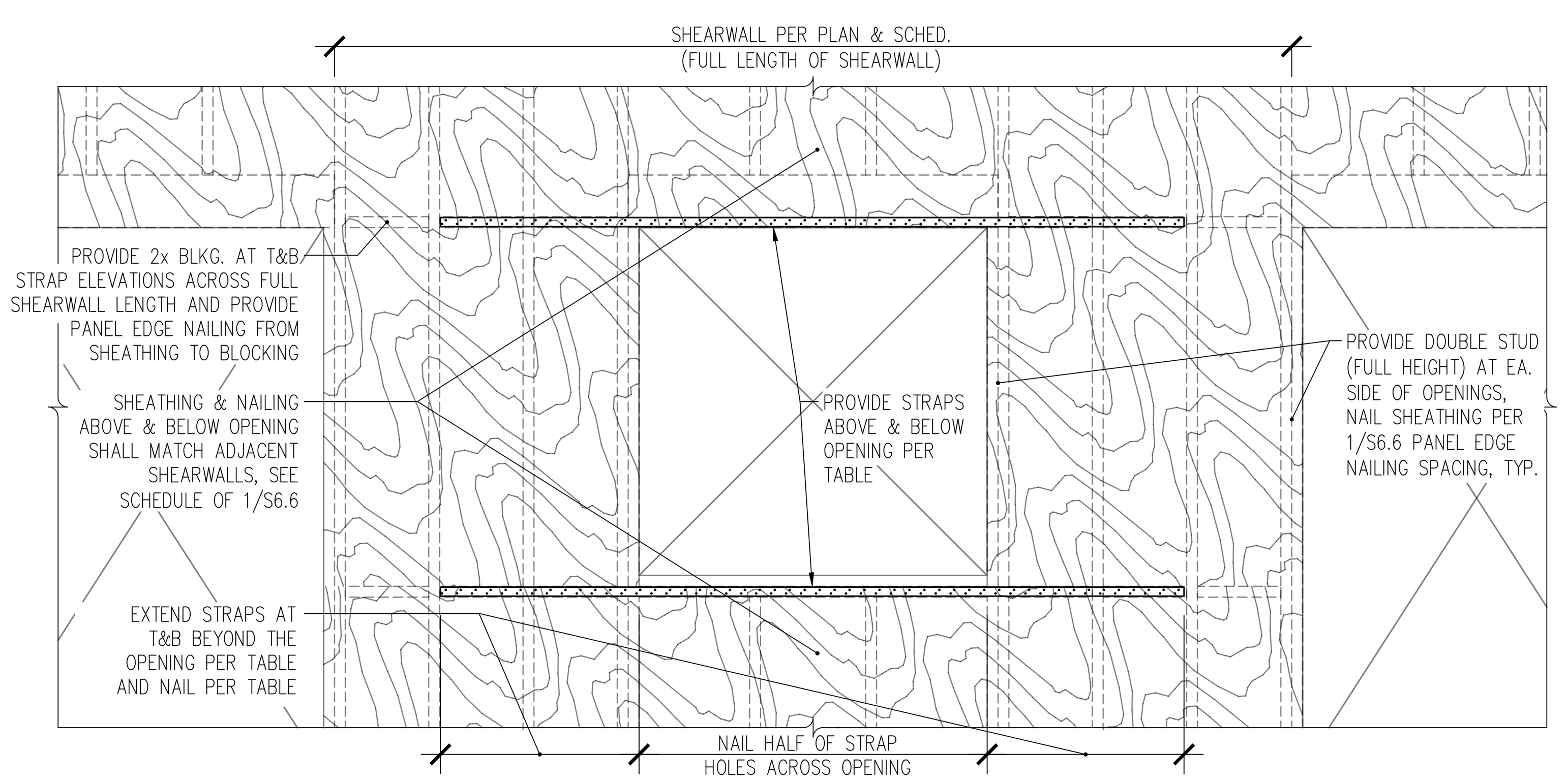






8 SHEAR WALL INTERSECTION AND TENSION TIE POSITIONING
S6.6 N.T.S.

TYPE	STRAP	END LENGTH	NAILS
1	CS20	8"	(12)0.148"x2½"
2	CS20	18"	(12)0.148"x2½"
3	CS14	45"	(26)0.148"x2½"



7 STRAPPED SHEARWALL DETAIL
S6.6 N.T.S.

STRAP TENSION TIE SCHEDULE

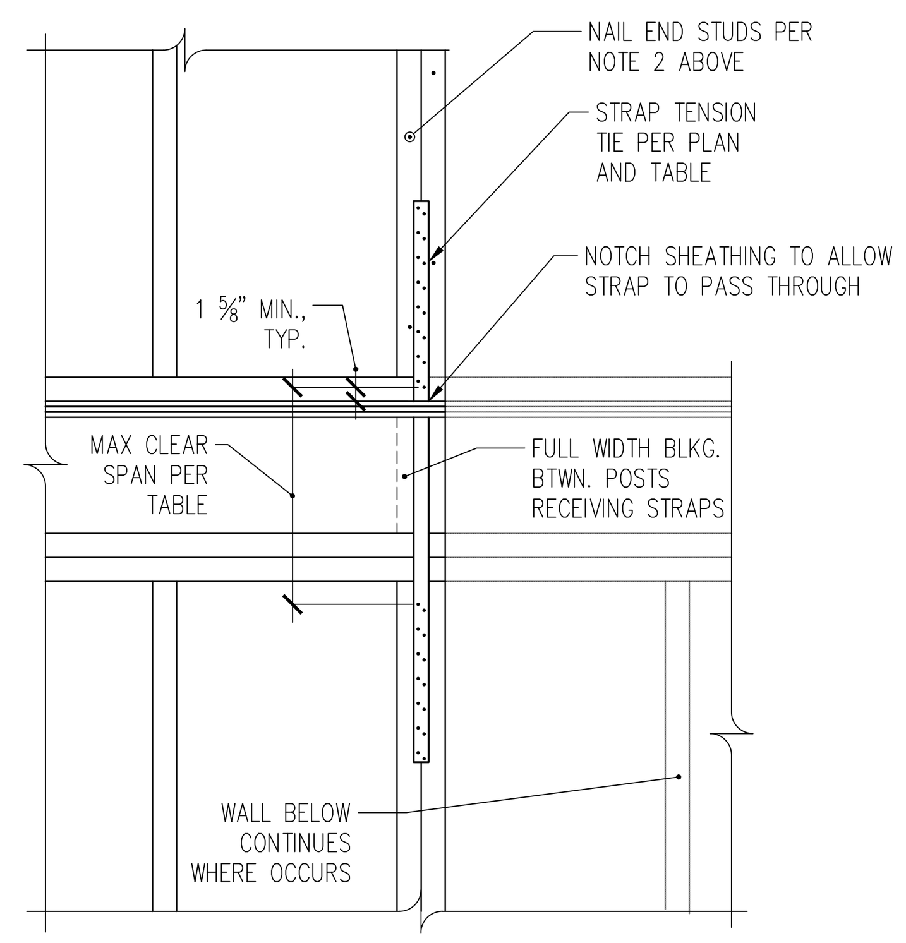
TIE ① MARK	Min. # of studs	CLEAR SPAN AND TOTAL FASTENERS ②	ASD ③ CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS ④
MSTC28	(2)2x	18" – (12)0.148"ø x 3¼"	1,150#	10d @ 6" oc
MSTC40	(2)2x	18" – (28)0.148"ø x 3¼"	2,690#	10d @ 4" oc
MSTC52	(3)2x	18" – (44)0.148"ø x 3¼"	4,225#	(8)¼"øx4½" SDS
MSTC66	(3)2x	18" – (64)0.148"ø x 3¼"	5,850#	(12)¼"øx6" SDS
(2)MSTC52	(4)2x	18" – (44)0.148"ø x 3¼"	7,750#	(14)¼"øx6" SDS
(2)MSTC66	6x8	18" – (64)0.148"ø x 3¼"	9,800#	(12)¼"øx6" SDS

TENSION TIE ABOVE BEAM

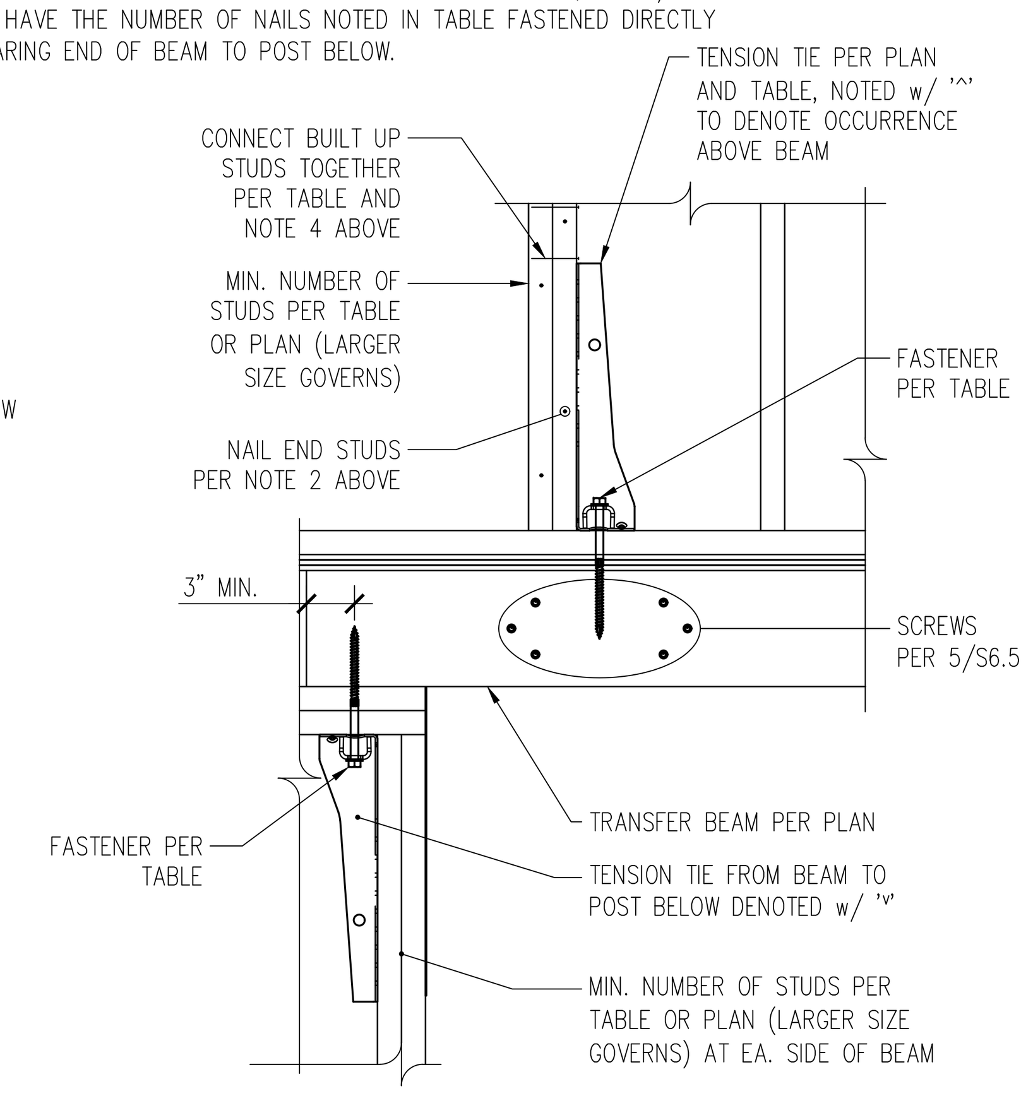
TIE ① MARK	Min. # of studs	FASTENERS ②	ASD ③ CAPACITY	BUILT-UP STUD ④ FACE NAILS or SCREWS
HDU2^	(2)2x	(6)¼"ø x 2½" SDS	2,750#	10d @ 4" oc
HDU4^	(3)2x	(10)¼"ø x 2½" SDS	3,750#	(10)¼"øx4½" SDS
HDU8^	(4)2x	(20)¼"ø x 2½" SDS	7,750#	(15)¼"øx6" SDS
HDU11^	6x6	(30)¼"ø x 2½" SDS	9,800#	N/A
HDU14^	6x6	(36)¼"ø x 2½" SDS	12,000#	N/A
MSTC40^	(2)2x	(28)0.148"ø x 3¼"	2,690#	10d @ 4" oc
MSTC52^	(3)2x	(44)0.148"ø x 3¼"	4,225#	(8)¼"øx4½" SDS
(2)MSTC52^	(4)2x	(44)0.148"ø x 3¼"	7,750#	(14)¼"øx6" SDS

1. TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.
2. NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.
3. FASTENERS NOTED IN TABLE ABOVE REPRESENT THE TOTAL AMOUNT. FOR STRAPS, HALF OF THE FASTENERS SHALL BE PROVIDED INTO EACH STUD.
4. SCREWS SHALL BE SPACED EQUALLY ALONG FULL HEIGHT OF STUD ABOVE TENSION TIE. PROVIDE SCREWS AS NOTED IN TABLE AT ONE FACE OF BUILT-UP STUD, AND 10d @ 6" oc NAILS AT OPPOSITE FACE OF BUILT UP STUD.

^ DENOTES TENSION TIE THAT OCCURS ATOP OF A FRAMING MEMBER BELOW. FOR:
HDU2^ – ⅝"ø LAG SCREW WITH 7" MINIMUM PENETRATION INTO BEAM – 6 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU4^ – ⅝"ø LAG SCREW WITH 10" MINIMUM PENETRATION INTO BEAM – 6 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU8^ – ⅞"ø LAG SCREW WITH 14" MINIMUM PENETRATION INTO BEAM – 14 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU11^ – 1"ø ROD w/ BEARING PL ½"x5"x0'-5" AND RECESSED NUT & WASHER – 16 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU14^ – 1"ø ROD w/ BEARING PL ½"x5"x0'-5" AND RECESSED NUT & WASHER – 22 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
MSTC40^, MSTC52^, AND (2)MSTC52^ THE STRAP SHALL BE SET TO HAVE THE NUMBER OF NAILS NOTED IN TABLE FASTENED DIRECTLY TO BEAM AND DIRECTLY TO THE POST ABOVE; REPLICATE AT BEARING END OF BEAM TO POST BELOW.



ELEVATION VIEW – TYPICAL CONDITION

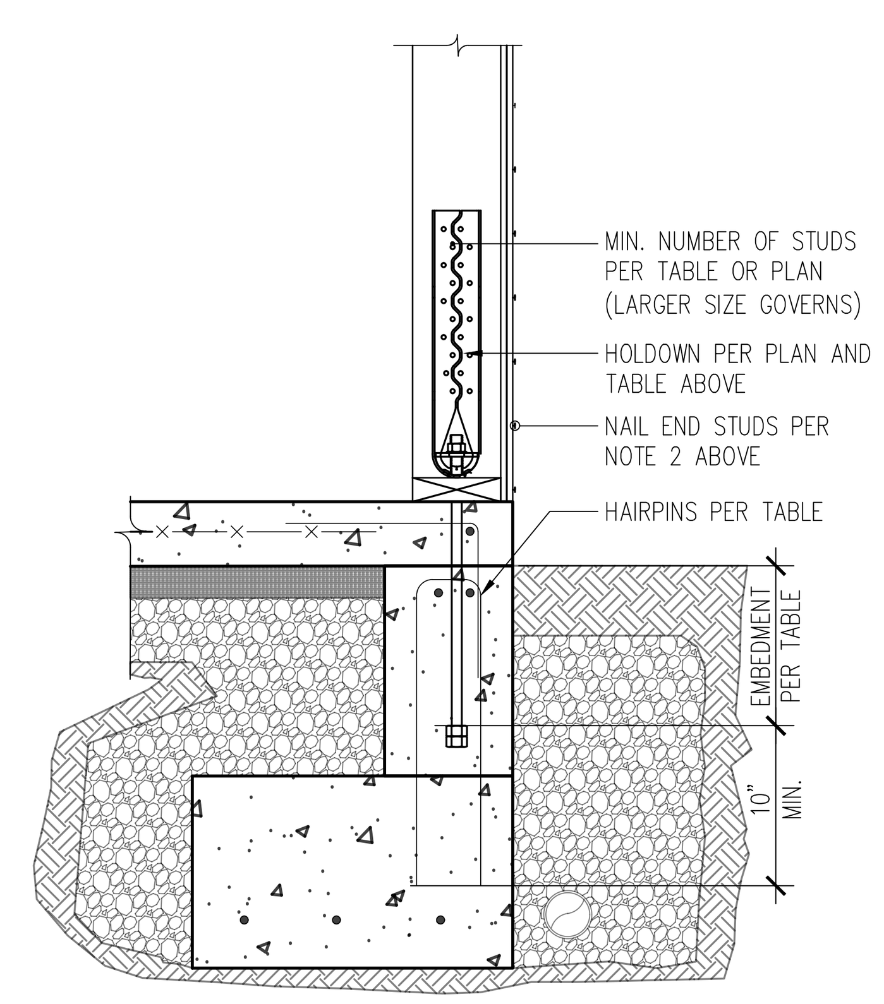


ELEVATION VIEW – TENSION TIE ABOVE BEAM

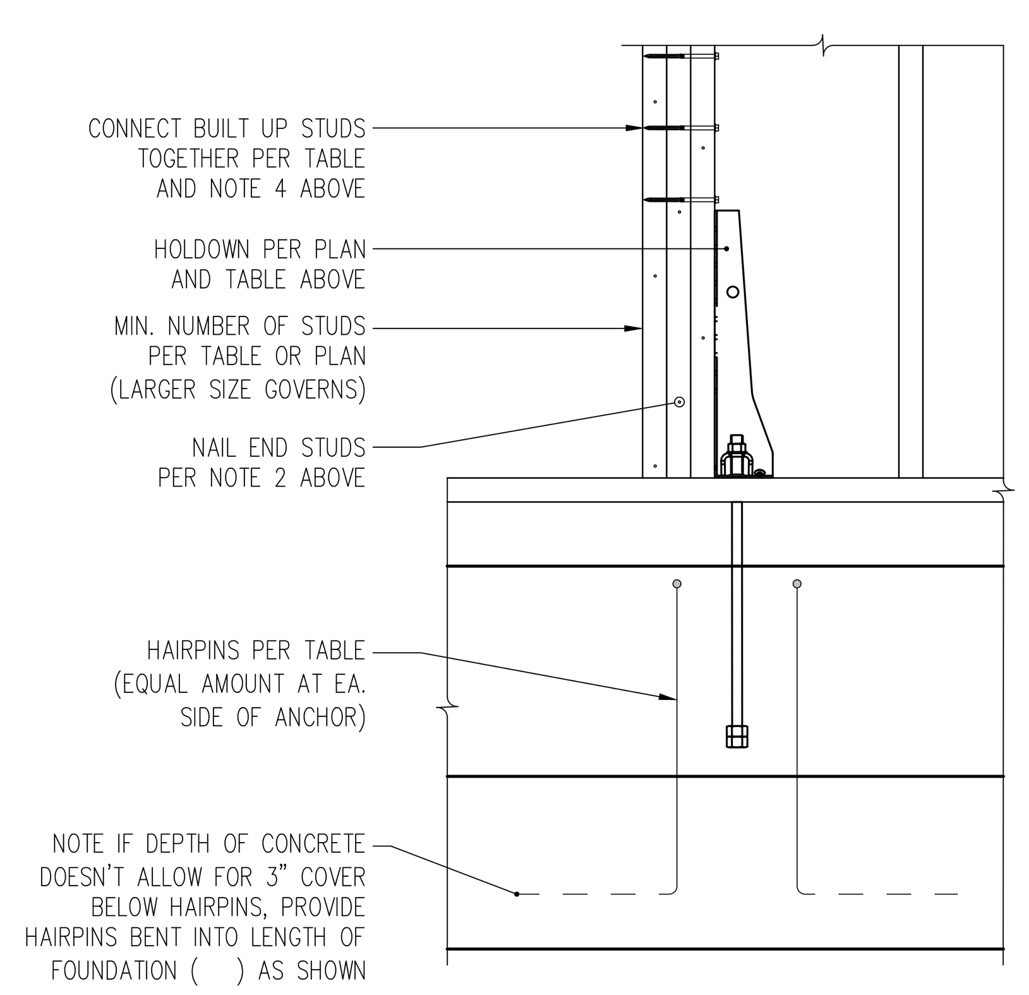
HOLDOWN TENSION TIE SCHEDULE

TIE ① MARK	MIN. NUMBER ② OF STUDS	ANCHOR (ø x EMBEDMENT) ③ and No. OF HAIRPIN DOWELS	FASTENERS FROM TIE TO STUD	ASD CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS ④
HDU2	(2)2x	⅝"ø x 10" – (2)#4 HAIRPIN	(6)¼"ø x 2½" SDS SCREWS	3,075#	10d @ 4" oc
HDU4	(3)2x	⅝"ø x 10" – (2)#4 HAIRPIN	(10)¼"ø x 2½" SDS SCREWS	4,565#	(9)¼"øx4½" SDS
HDU5	(3)2x	⅞"ø x 10" – (2)#4 HAIRPIN	(14)¼"ø x 2½" SDS SCREWS	5,645#	(10)¼"øx4½" SDS
HDU8	(4)2x	⅞"ø x 10" – (4)#4 HAIRPIN	(20)¼"ø x 2½" SDS SCREWS	7,870#	(15)¼"øx6" SDS
HDU11	6x6	1"ø x 10" – (4)#4 HAIRPIN	(30)¼"ø x 2½" SDS SCREWS	11,175#	N/A
HDU14	6x6	1"ø x 10" – (6)#4 HAIRPIN	(36)¼"ø x 2½" SDS SCREWS	14,445#	N/A

1. TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.
2. NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.
3. ANCHORS SHALL BE HEAVY HEX HEAD WITH DOUBLE NUT CAST INTO CONCRETE.
   ASTM F 1554 Gr. 36 FOR ⅝"ø ANCHOR
   ASTM F 1554 Gr. 55 FOR ⅞"ø AND 1"ø ANCHORS
4. SCREWS SHALL BE SPACED EQUALLY ALONG FULL HEIGHT OF STUD ABOVE TENSION TIE. PROVIDE SCREWS AS NOTED IN TABLE AT ONE FACE OF BUILT-UP STUD, AND 10d @ 6" oc NAILS AT OPPOSITE FACE OF BUILT UP STUD.



SECTION VIEW

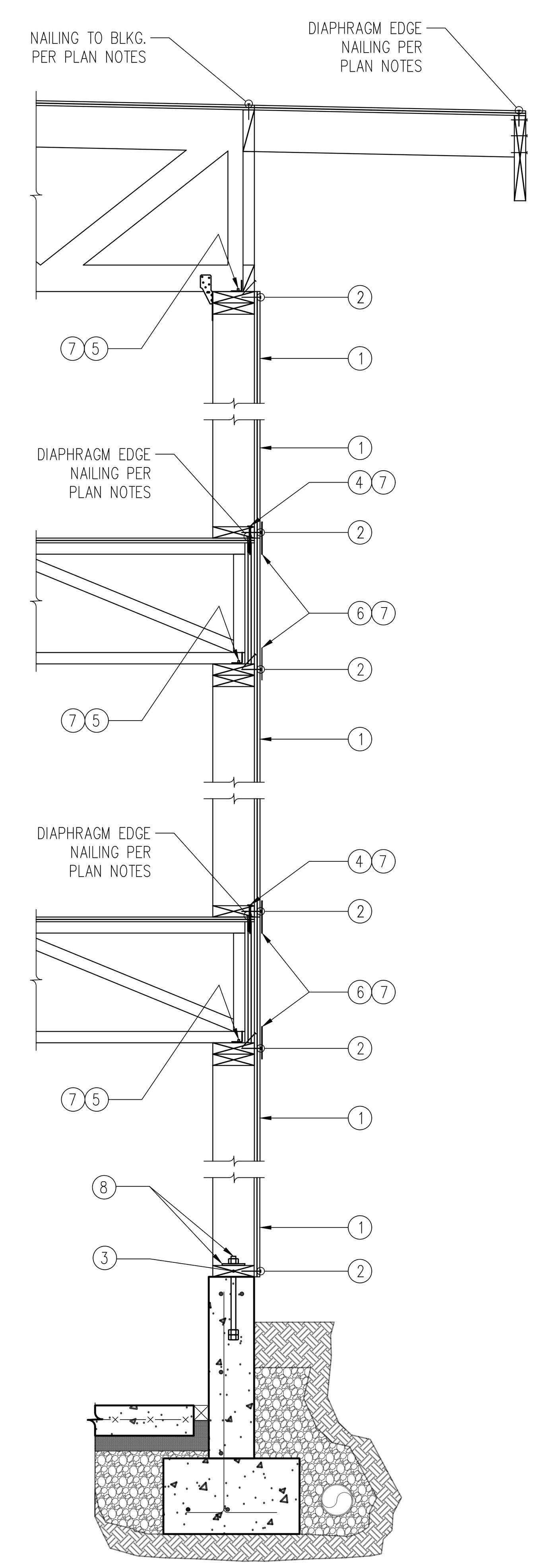


ELEVATION VIEW

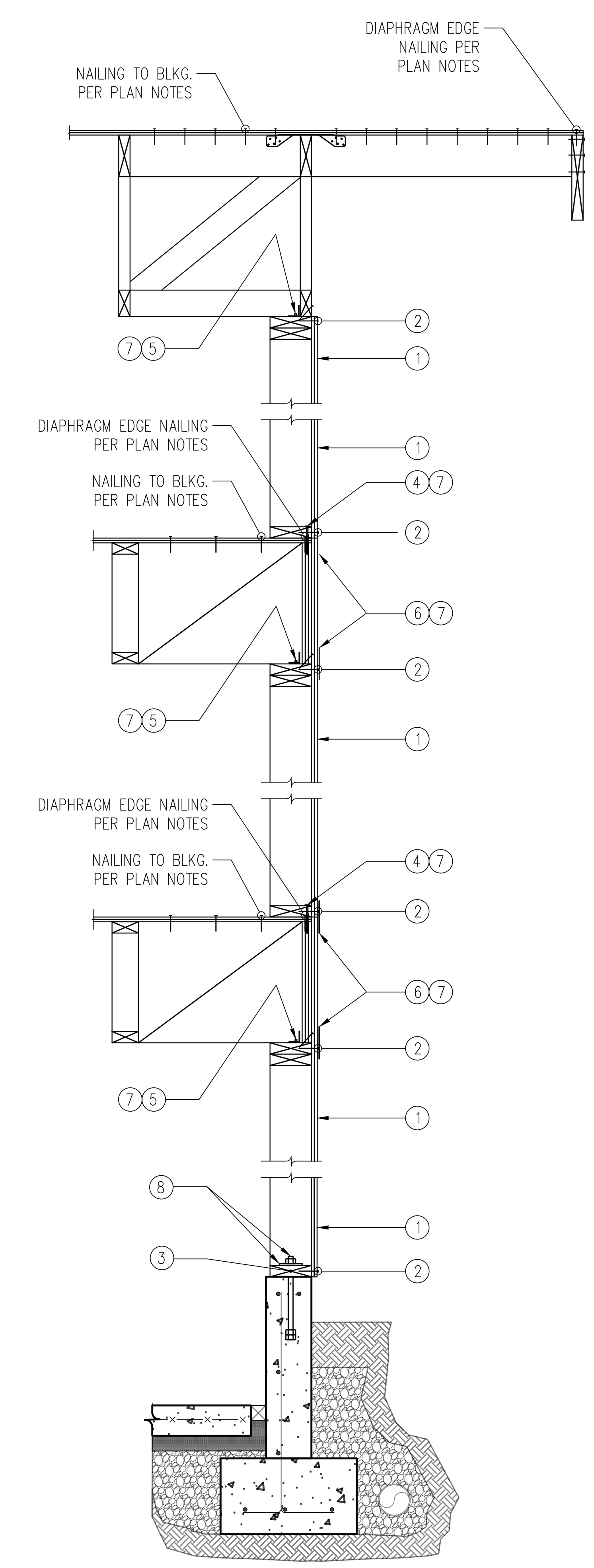
4 HOLDOWN DETAIL AND SCHEDULE
S6.6 1" = 1'-0"

SHEARWALL PANEL TYPE	① SHEATHING THICKNESS	② 0.148" x 2½" PANEL NAILING	③ STUD/BLKG. AT ABUTTING PANEL EDGES & SILL PLATE THICKNESS	⑦ CONN. OF BLKG. OR FRAMING to TOP PLATE; AND SOLE PLATE TO SILL PLATE: ④ ¼"ø x 3½" SDS SCREWS	⑤ A35 CLIPS	⑥ LTP4 PLATES	⑧ ⑨ ANCHOR BOLTS TO CONC.: ⅝"ø	¾"ø	ASD CAPACITY, PLF
SW-6	½"	6" oc	2x	15" oc	25" oc	24" oc	48" oc	48" oc	310
SW-4	½"	4" oc	3x	10" oc	16" oc	16" oc	38" oc	48" oc	460
SW-3	½"	3" oc	3x	8" oc	13" oc	12" oc	29" oc	40" oc	600
SW-2	½"	2" oc	3x	6" oc	10" oc	9" oc	23" oc	31" oc	770
SW-44	½"	4" oc EA. SIDE	3x	5" oc	8" oc	8" oc	19" oc	26" oc	920
SW-33	½"	3" oc EA. SIDE	3x	4" oc	6" oc	6" oc	14" oc	20" oc	1200
SW-22	½"	2" oc EA. SIDE	3x	3" oc	5" oc	4" oc	11" oc	15" oc	1540

1. SHEATHING SHALL CONSIST OF ½" PLYWOOD AND HAVE A MINIMUM SPAN RATING OF 24/0. AT INTERIOR SHEARWALLS ONLY, 15/32" OSB MAY BE USED
2. PANEL NAILING APPLIES TO ALL SHEATHING PANEL EDGES. INSTALL BLOCKING AT ALL UNFRAMED PANEL EDGES. ENSURE SHEATHING IS NAILED TO ALL INTERMEDIATE STUDS/BLOCKING WITH PANEL NAILS AT 12"oc
3. DOUBLE 2x MEMBERS MAY BE SUBSTITUTED FOR 3x MEMBERS AT WALLS WITH ONLY ONE LAYER OF SHEATHING. 2x MEMBERS SHALL BE NAILED TOGETHER WITH 8d FACE: @ 4" oc FOR SW-6, @ 3" oc FOR SW-4, @ 2" oc FOR SW-3, AND (2)@ 3" oc FOR SW-2 (116#/NAIL)
4. ROWS OF NAILS AND SDS SCREWS SHALL BE OFFSET AT LEAST ½" AND STAGGERED. MINIMUM EDGE DISTANCE FOR NAILS AND SDS SCREWS INTO EDGE OF MEMBERS SHALL BE ⅝" (400#/SCREW)
5. A35 CLIPS SHALL BE INSTALLED w/ (12)0.131 x 1½ " NAILS (650#/CLIP)
6. LTP4 LATERAL TIE PLATES MAY BE INSTALLED OVER SHEATHING w/ (12)0.131 x 2½" NAILS (625#/CLIP)
7. CONTRACTOR SHALL USE A35 CLIPS TO CONNECT ROOF TRUSS TO DOUBLE TOP PLATE
   SDS SCREWS or LTP4 CLIPS TO CONNECT SOLE PLATE TO FLOOR TRUSS RIM BOARD
   A35 or LT4P CLIPS TO CONNECT FLOOR TRUSS TIM BOARD TO DOUBLE TOP PLATE
8. PLATE WASHERS IN 2x4 STUD WALLS AND ALL SINGLE SIDED SHEAR WALLS SHALL BE 3"x3"x0.229". DOUBLE SIDED 2x6 SHEAR WALLS SHALL HAVE 4½"x3"0.229" PLATE WASHERS. THE EDGE OF PLATE WASHERS SHALL BE LOCATED WITHIN ½" OF THE EDGE OF BOTTOM PLATE ON THE SIDE WITH SHEATHING.
9. CAST ANCHORS A MINIMUM OF 7" INTO CONCRETE. INSTALL ADDITIONAL ANCHOR BOLTS AT EACH SIDE OF PLATE BREAKS AND PENETRATIONS EXCEEDING THE "NO REINFORCING" HOLE SIZE PER 2/S6.1.



SHEARWALL SECTION AT PERPENDICULAR FRAMING



SHEARWALL SECTION AT PARALLEL FRAMING

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

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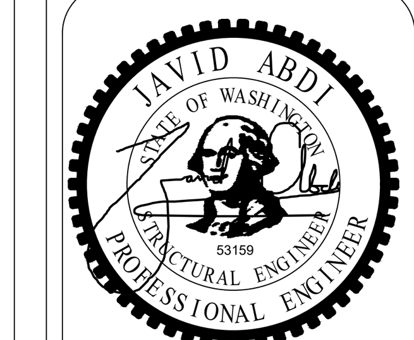

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Lateral Force Resisting System Schedules & Details

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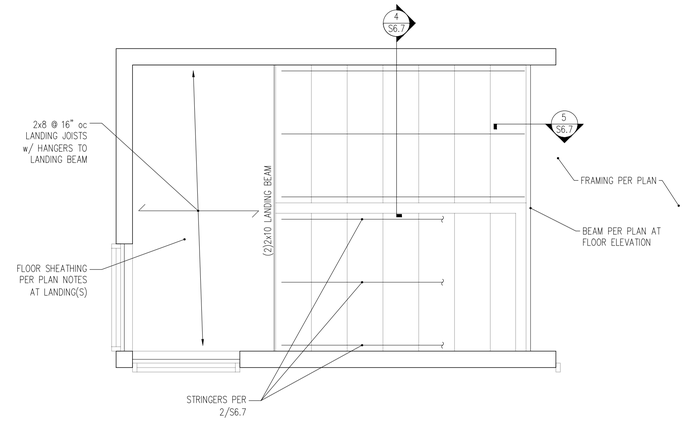
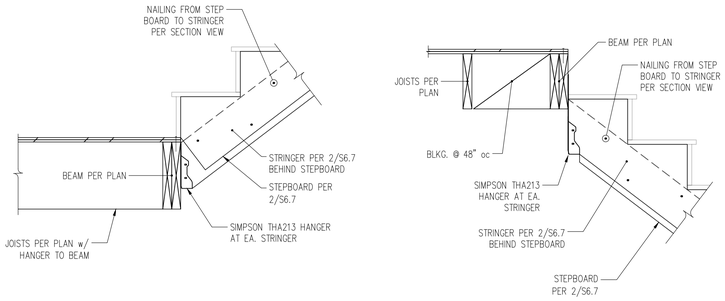
06.09.23

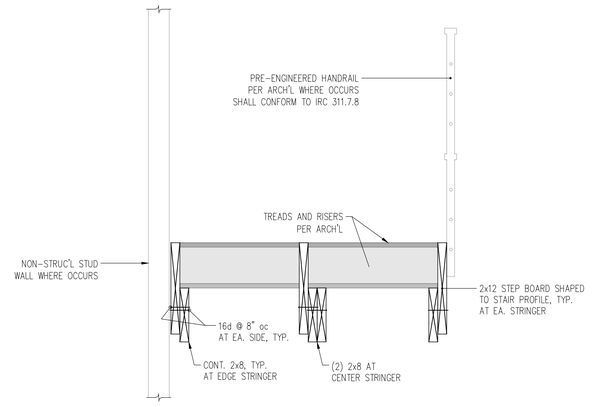
S6.6



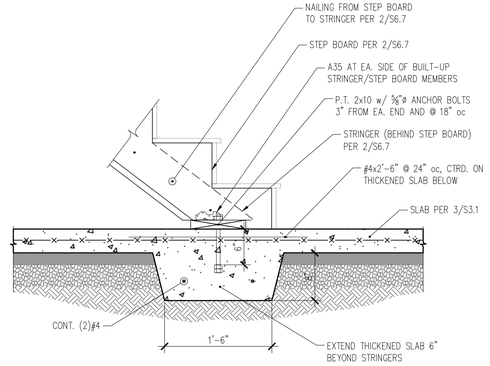
3 S6.7 TYPICAL STAIR FRAMING/LANDING PLAN VIEW
1" = 1'-0"



5 S6.7 SECTION THROUGH ROOF BREAK AT INTERIOR WALL
1" = 1'-0"



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



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

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CONTENTS

Typical Stair
Framing Details

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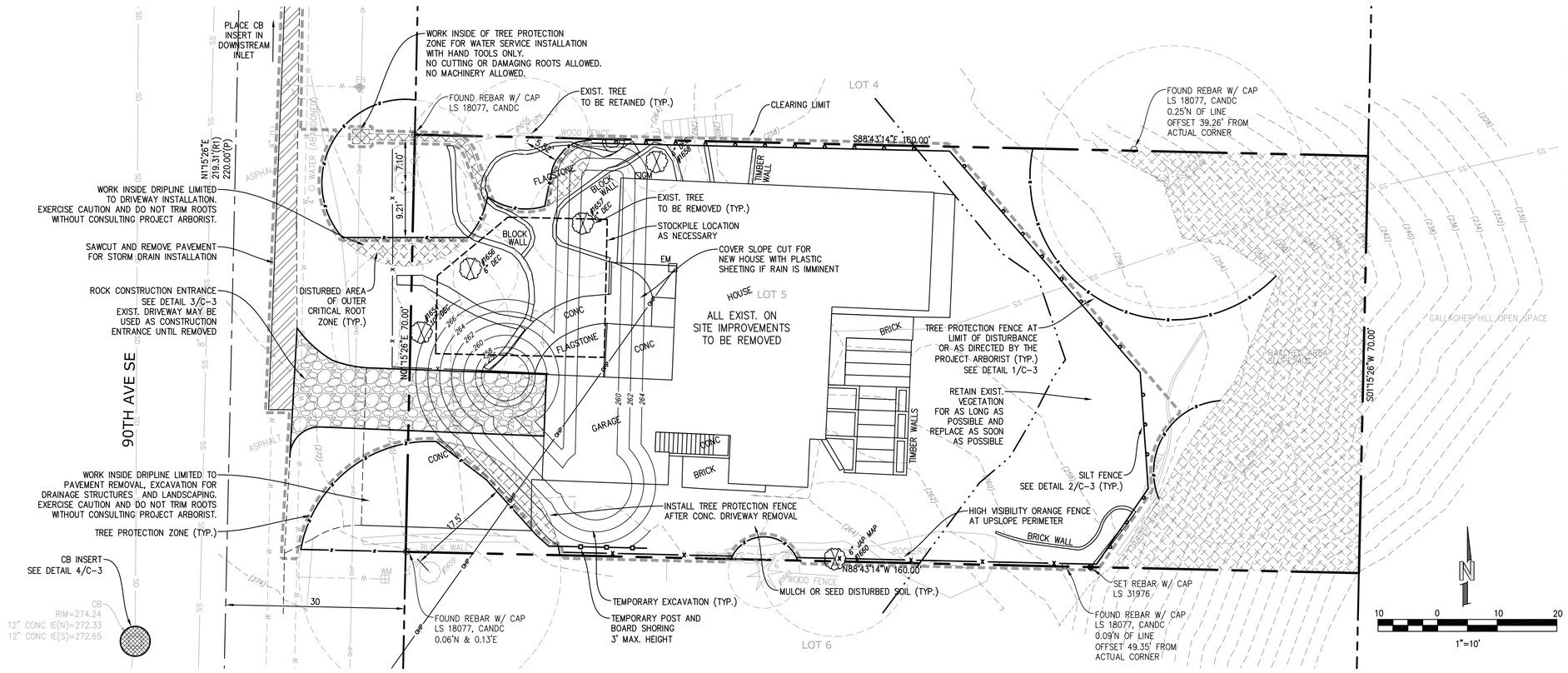
SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.



BASIS OF BEARINGS

BEARINGS AND COORDINATES USED FOR THIS SURVEY ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) WASHINGTON NORTH ZONE AND WERE ESTABLISHED USING RTK GPS WITH SMARTNET REFERENCE NETWORK.

LEGAL DESCRIPTION

LOT 5, BLOCK 4 OF MADRONA CREST ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 42 OF PLATS, PAGES 12–14, RECORDS OF KING COUNTY WASHINGTON.
SITUATE IN COUNTY OF KING, STATE OF WASHINGTON.

VERTICAL DATUM

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

EROSION AND SEDIMENT CONTROL NOTES

1. APPROVAL OF THIS EROSION AND SEDIMENT CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY A CONTINUOUS LENGTH OF SURVEY TAPE (OR FENCING, IF REQUIRED) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES DURING THE WET SEASON (OCT. 1 TO APRIL 30) AND OF MONTHLY REVIEWS DURING THE DRY SEASON (MAY 1 TO SEPT. 30).
7. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
8. ANY AREA NEEDING ESC MEASURES NOT REQUIRING IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
9. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY–EIGHT (48) HOURS FOLLOWING A STORM EVENT.
10. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT–LADEN WATER INTO THE DOWNSTREAM SYSTEM.
11. STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. ANY PERMANENT FLOW CONTROL FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.
13. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2 TO 3 INCHES.
14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DDES INSPECTOR. THE DDES INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

POLLUTION PREVENTION AND SPILL CONTROL

STORAGE AND HANDLING OF LIQUIDS
1. MINIMIZE AMOUNT OF LIQUIDS STORED ON SITE.
2. STORE AND CONTAIN LIQUID MATERIALS IN SUCH A MANNER THAT IF A VESSEL IS RUPTURED OR LEAKS, THE CONTENTS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORM DRAINAGE SYSTEM, SURFACE WATERS, OR GROUNDWATER. TYPICALLY THIS MEANS INSTALLING SECONDARY CONTAINMENT, SUCH AS A LINED EXCAVATION, LARGER CONTAINER, OR USING A DOUBLE–WALLED TANK OR SIMILAR COMMERCIALLY AVAILABLE CONTAINMENT FACILITY.
3. PLACE TIGHT–FITTING LIDS ON ALL CONTAINERS.
4. ENCLOSE OR COVER THE CONTAINERS WHERE THEY ARE STORED TO PROTECT FROM RAIN. THE LOCAL FIRE DISTRICT MUST BE CONSULTED FOR LIMITATIONS ON CLEARANCE OF ROOF COVERS OVER CONTAINERS USED TO STORE FLAMMABLE MATERIALS.
5. RAISE THE CONTAINERS OFF THE GROUND BY USING A SPILL CONTAINMENT PALLET OR SIMILAR METHOD THAT HAS PROVISIONS FOR SPILL CONTROL.
6. PLACE DRIP PANS OR ABSORBENT MATERIALS BENEATH ALL MOUNTED CONTAINER TAPS, AND AT ALL POTENTIAL DRIP AND SPILL LOCATIONS DURING FILLING AND UNLOADING OF CONTAINERS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.
7. STORE AND MAINTAIN ABSORBENT PADS OR APPROPRIATE SPILL CLEANUP MATERIALS NEAR THE CONTAINER STORAGE AREA, IN A LOCATION KNOWN TO ALL. ENSURE THAT EMPLOYEES ARE FAMILIAR WITH THE SITE'S SPILL PLAN AND/OR PROPER SPILL CLEANUP PROCEDURES.
8. CHECK CONTAINERS (AND ANY CONTAINMENT SUMPS) DAILY FOR LEAKS AND SPILLS. REPLACE CONTAINERS THAT ARE LEAKING, CORRODED, OR OTHERWISE DETERIORATING. IF THE LIQUID CHEMICALS ARE CORROSIVE, CONTAINERS MADE OF COMPATIBLE MATERIALS MUST BE USED INSTEAD OF METAL DRUMS. NEW OR SECONDARY CONTAINERS MUST BE LABELED WITH THE PRODUCT NAME AND HAZARDS.
9. PLACE DRIP PANS OR ABSORBENT MATERIALS BENEATH A CONTAINER THAT IS FOUND TO BE LEAKING. REMOVE THE DAMAGED CONTAINER AS SOON AS POSSIBLE. MOP UP THE SPILLED LIQUID WITH ABSORBENT PADS OR RAGS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.

FUELING
1. LOCATE THE FUELING OPERATION TO ENSURE LEAKS OR SPILLS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORM DRAINAGE SYSTEM, SURFACE WATER, OR GROUNDWATER.
2. USE DRIP PANS OR ABSORBENT PADS TO CAPTURE DRIPS OR SPILLS DURING FUELING OPERATIONS.
3. IF FUELING IS DONE DURING EVENING HOURS, LIGHTING MUST BE PROVIDED.
4. STORE AND MAINTAIN APPROPRIATE SPILL CLEANUP MATERIALS IN THE MOBILE FUELING VEHICLE. ENSURE THAT EMPLOYEES ARE FAMILIAR WITH PROPER SPILL CONTROL AND CLEANUP PROCEDURES.
5. IMMEDIATELY MOP UP ANY SPILLED FUEL WITH ABSORBENT PADS OR RAGS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.

CONCRETE SAW CUTTING, SLURRY, AND WASHWATER DISPOSAL
1. SLURRY FROM SAW CUTTING THE SIDEWALK SHALL BE VACUUMED SO THAT IT DOES NOT ENTER NEARBY STORM DRAINS.
2. CONCRETE TRUCK CHUTES, PUMPS, AND INTERNALS SHALL BE WASHED OUT ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE.
3. UNUSED CONCRETE REMAINING IN THE TRUCK AND PUMP SHALL BE RETURNED TO THE ORIGINATING BATCH PLANT FOR RECYCLING.
4. HAND TOOLS INCLUDING, BUT NOT LIMITED, SCREEDS, SHOVELS, RAKES, FLOATS, AND TROWELS SHALL BE WASHED OFF ONLY INTO FORMED INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR IMPERMEABLE ASPHALT.
5. EQUIPMENT THAT CANNOT BE EASILY MOVED, SUCH AS CONCRETE PAVERS, SHALL ONLY BE WASHED IN AREAS THAT DO NOT DIRECTLY DRAIN TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.
6. WASHDOWN FROM AREAS SUCH AS CONCRETE AGGREGATE DRIVEWAY SHALL NOT DRAIN DIRECTLY TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.
7. WHEN NO FORMED AREAS ARE AVAILABLE, WASHWATER AND LEFTOVER PRODUCT SHALL BE CONTAINED IN A LINED CONTAINER. CONTAINED CONCRETE SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
8. CONTAINERS SHALL BE CHECKED FOR HOLES IN THE LINER DAILY DURING CONCRETE POURS AND REPLACED THE SAME DAY.

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NICHOLAS E. BOSSOFF 29631 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON
EXPIRES 7/2/25

NO.	DATE	REVISION
	08/1/22	PERMIT SUBMITTAL
1	04/10/23	CITY REVISIONS
2	07/11/23	CITY REVISIONS
3	07/14/23	CITY REVISIONS

PROJECT MANAGER: N. BOSSOFF, P.E.
DESIGNED: NB
DRAWN: TKB
JOB NUMBER: GUDI–2201
FILE NAME: GUDI–2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: T.E.S.C. PLAN

SHEET: C-1

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

POST-CONSTRUCTION SOIL QUALITY AND DEPTH NOTES

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

A. SOIL RETENTION. RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.

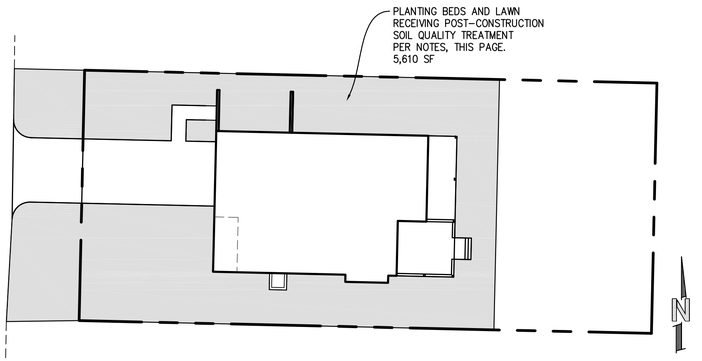
B. SOIL QUALITY. ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:
   1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
   2. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL
   3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
      A. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE DEFINITION OF "COMPOSTED MATERIALS" IN WAC 173-350-220, WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
      B. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (A.) ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173- 350-220.

   THE RESULTING SOIL SHOULD BE CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

C. IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW:
   1. LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
   2. AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PREAPPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT.
   3. STOCKPILE EXISTING TOPSOIL DURING GRADING AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE.
   4. IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS. MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

ADDITIONAL NOTES:

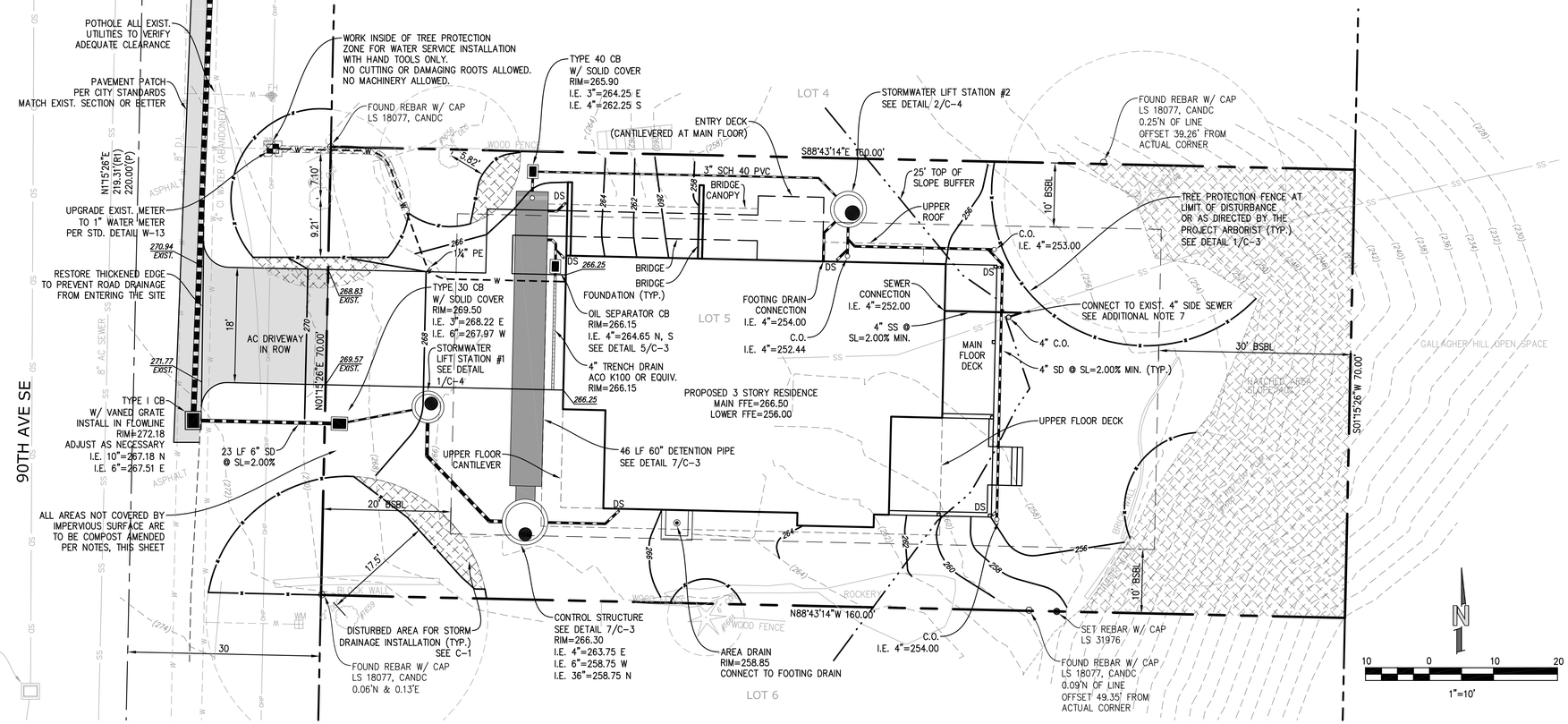
1. ALL CONSTRUCTION MATERIALS AND PRACTICE SHALL CONFORM TO THE CITY OF MERCER ISLAND STANDARDS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS.
2. EXISTING UTILITIES AS SHOWN ARE FROM CITY RECORDS AND ARE APPROXIMATE. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO IDENTIFY, LOCATE AND PROTECT ABOVE AND BELOW GRADE UTILITIES. CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT EXISTS BETWEEN EXISTING UTILITIES AND THE PROPOSED IMPROVEMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL AND SHALL MAINTAIN THE NECESSARY SAFEGUARDS AND MANAGE THE CONSTRUCTION SO AS TO PREVENT WATERBORNE SEDIMENTS FROM LEAVING THE SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR.
5. ON-SITE PRIVATE STORM AND SEWER PIPE SHALL BE SOLVENT WELDED SCHEDULE 40 PVC OR PVC ASTM D3034 SDR35 UNLESS SHOWN OTHERWISE. PVC PIPE LAID AT A SLOPE IN EXCESS OF 20% SHALL BE SOLVENT WELDED SCHEDULE 40 PVC. STORM PIPE IN THE RIGHT-OF-WAY SHALL BE HIGH-DENSITY POLYETHYLENE DOUBLE-WALLED SMOOTH INTERIOR PIPE SUCH AS ADS N-12 OR EQUIVALENT.
6. FOOTING DRAINS SHALL BE INSTALLED AROUND THE BASE OF ALL FOUNDATION FOOTINGS THAT ENCLOSE A CRAWL SPACE, CELLAR, BASEMENT, GARAGE OR OTHER BUILDING SPACE. FOOTING DRAINS SHALL BE PERFORATED 4-INCH DIAMETER PVC CONFORMING TO D2729, PERFORATIONS DOWN. GRANULAR BACKFILL SHALL BE PLACED AROUND AND ABOVE THE DRAIN TO A DEPTH OF 2/3 OF THE WALL HEIGHT. FILTER FABRIC (MIRAFI 140N OR EQUIVALENT) SHALL BE PLACED BETWEEN THE GRANULAR BACKFILL AND NATIVE SOILS. TIE THE FOOTING DRAIN INTO THE STORM LINE AT A LOCATION WHERE THE FOOTING DRAIN ELEVATION IS AT LEAST 12-INCHES ABOVE THE STORM LINE.
7. EXISTING SIDE SEWER AND STORM DRAIN DEPTH AND LOCATION SHALL BE DETERMINED PRIOR TO ANY CONSTRUCTION, INCLUDING BUILDING CONSTRUCTION. REPORT CONFLICTS WITH PROPOSED CONSTRUCTION TO ENGINEER. NEW SIDE SEWER CONNECTION TO MAIN OR SEWER EJECTOR PUMP MAY BE NECESSARY FOR BASEMENT.
8. PROPOSED METER LOCATION, IF SHOWN, IS APPROXIMATE. CONTRACTOR TO COORDINATE EXACT LOCATION OF NEW SERVICE/METER/ SUPPLY LINE WITH CITY WATER DEPARTMENT DURING CONSTRUCTION.
9. EACH DOWNSPOUT SHALL CONNECT TO A RIGID NON-PERFORATED PIPE AT THE BUILDING PERIMETER. UNDER NO CIRCUMSTANCES SHALL DOWNSPOUTS CONNECT DIRECTLY TO THE PERFORATED FOOTING DRAIN.
10. USE SAND COLLARS FOR PVC PIPE CONNECTIONS TO MANHOLES.
11. VERTICAL BENDS ON THE STORM DRAINS MAY BE NECESSARY TO MAINTAIN MIN. 1.5' SOIL COVER OVER PIPE. MAX. PIPE BENDS TO BE 45°.
12. DOWNSPOUT LOCATIONS SHOWN ARE PRELIMINARY. REFER TO ARCHITECTURAL PLANS FOR FINAL DOWNSPOUT LOCATIONS.
13. AN UNDERSLAB DRAINAGE SYSTEM MAY BE NECESSARY DEPENDENT ON GEOTECHNICAL EVALUATION BY OTHERS.
14. WINDOW WELLS SHALL BE DESIGNED FOR PROPER DRAINAGE BY CONNECTING TO THE BUILDING'S FOUNDATION DRAINAGE SYSTEM REQUIRED PER SECTION R310.2.3.2 OF THE INTERNATIONAL RESIDENTIAL CODE. A DRAINAGE SYSTEM FOR WINDOW WELLS IS NOT REQUIRED WHERE THE FOUNDATION IS ON WELL-DRAINED SOIL OR SAND-GRAVEL MIXTURE SOILS IN ACCORDANCE WITH THE UNITED SOIL CLASSIFICATION SYSTEM, GROUP I SOILS, AS DETAILED IN TABLE R405.1 OF THE IRC



POST-CONSTRUCTION SOIL QUALITY

SCALE: 1"=20'

1



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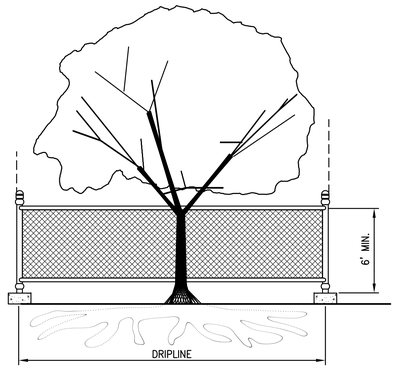
DESIGNED: NB
DRAWN: TKB
JOB NUMBER: GUDI-2201
FILE NAME: GUDI-2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DRAINAGE PLAN

SHEET: C-2

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

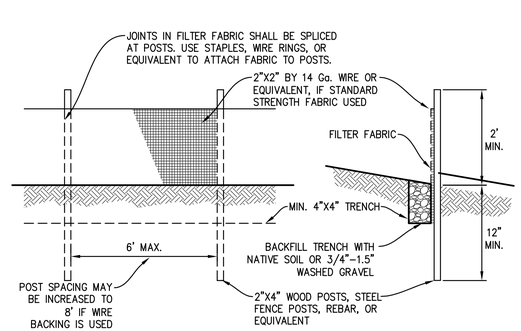


TREE PROTECTION DURING CONSTRUCTION

1. 6–FT. HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE DRIPLINE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE THE TREE(S). INSTALL FENCE POSTS USING PIER BLOCKS ONLY. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
2. FOR ROOTS OVER 1–IN DIA. THAT ARE DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE THE DAMAGED PORTION. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE.
3. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.

TREE PROTECTION

SCALE: NTS — 1



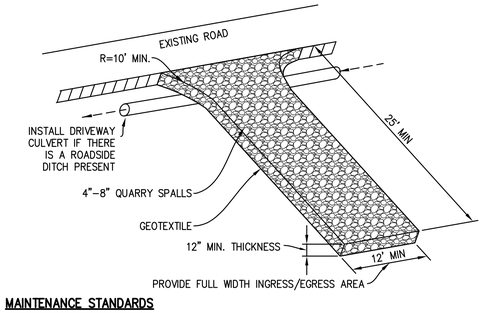
NOTE: FILTER FABRIC FENCE SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.

MAINTENANCE STANDARDS

1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGN OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCUR, REPLACE THE FENCE AND/OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6" HIGH.
5. IF THE FILTER FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

SILT FENCE

SCALE: NTS — 2

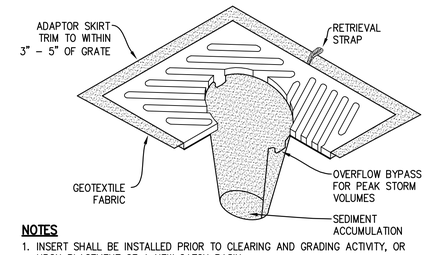


MAINTENANCE STANDARDS

1. QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. 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 STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH. IF WASHING IS USED, IT SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT TRAP OR POND.
3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY 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 SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREET, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
4. ANY ROCK SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING (SECTION 5.4.1) SHALL BE INSTALLED TO CONTROL TRAFFIC.

ROCK CONSTRUCTION ENTRANCE

SCALE: NTS — 3

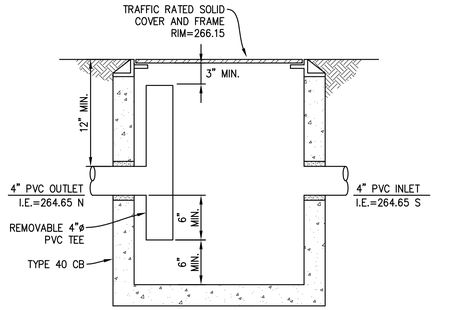


NOTES

1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE–INSERTING IT INTO THE CATCH BASIN.

CB INSERT

SCALE: NTS — 4



OIL SEPARATOR CB

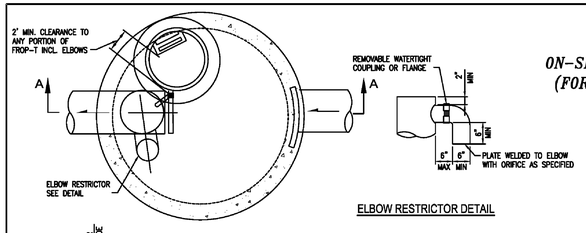
SCALE: NTS — 5

ATTACHMENT 1
CITY OF MERCER ISLAND
ON–SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

OWNER: GUDIPATY
PERMIT #: _____
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 4,796
SOIL TYPE: B

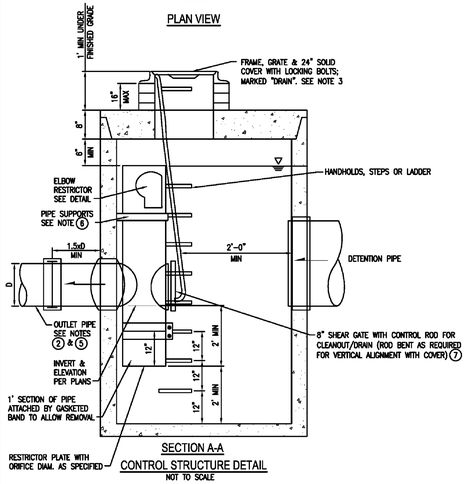
ADDRESS: 3632 90TH AVE SE
MERCER ISLAND
DETENTION PIPE DIA (INCH): 60"
PIPE MATERIAL: ADS N–12
DETENTION PIPE LENGTH (FT): 46

PREPARED BY: NICK BOSSOFF ENG
PHONE: (425) 881–5904
DATE: _____
ORIFICE #1 DIA 0.5 INCH, ELEV 256.75
ORIFICE #2 DIA 1.6 INCH, ELEV 263.35

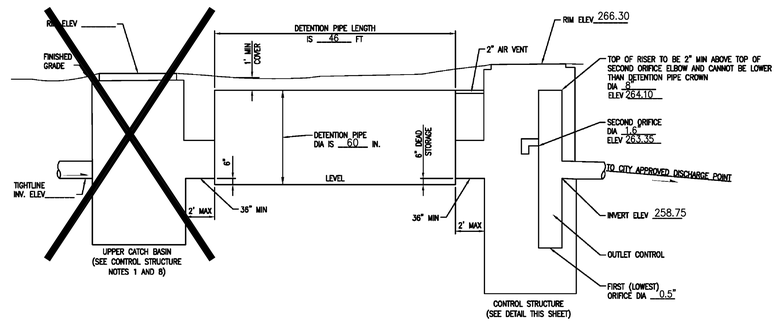


ELBOW RESTRICTOR DETAIL

PLAN VIEW



CONTROL STRUCTURE DETAIL
NOT TO SCALE



ON–SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON–GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB–DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'–0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZIC304; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL–LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON–SITE DETENTION SYSTEM NOTES:

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

DETENTION PIPE AND CONTROL STRUCTURE

SCALE: NTS — 7

Nick Bossoff Engineering, Inc.
191 NE Tarl Lane
Stevenson, WA 98648-4201
Phone: (425) 881-5904

BOSSOFF — STATE OF WASHINGTON — 29631 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 7/2/25

NO.	DATE	REVISION
	08/1/22	PERMIT SUBMITTAL
1	04/10/23	CITY REVISIONS
2	07/1/23	CITY REVISIONS
3	07/14/23	CITY REVISIONS

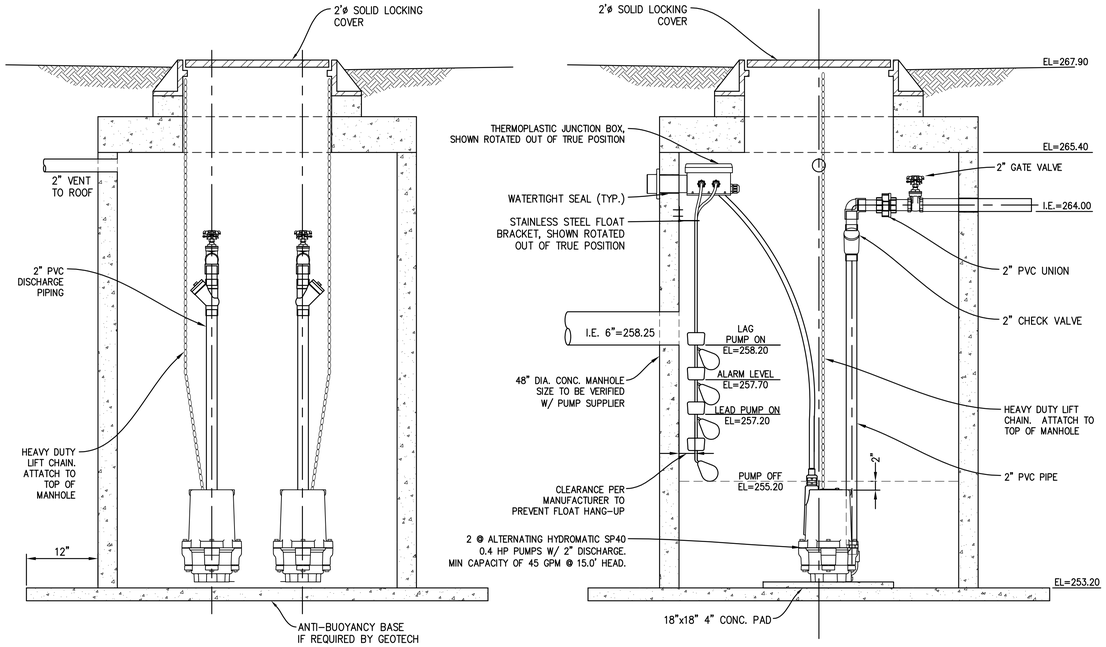
N. BOSSOFF, P.E.
PROJECT MANAGER: NB
DESIGNED: TKB
DRAWN: GUDI–2201
JOB NUMBER: GUDI–2201pln.dwg
FILE NAME:

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DETAILS

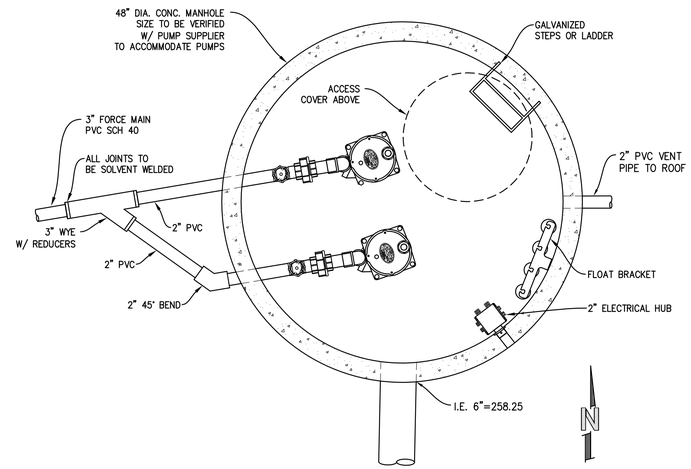
SHEET: C-3

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

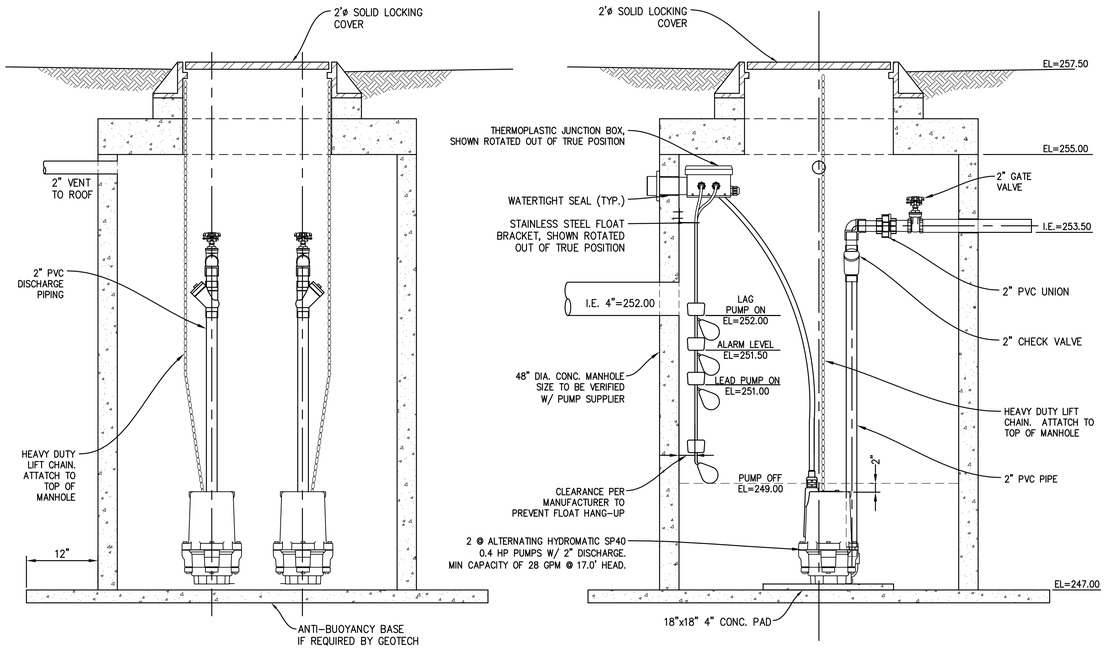


STORMWATER LIFT STATION #1

SCALE: NTS (1)

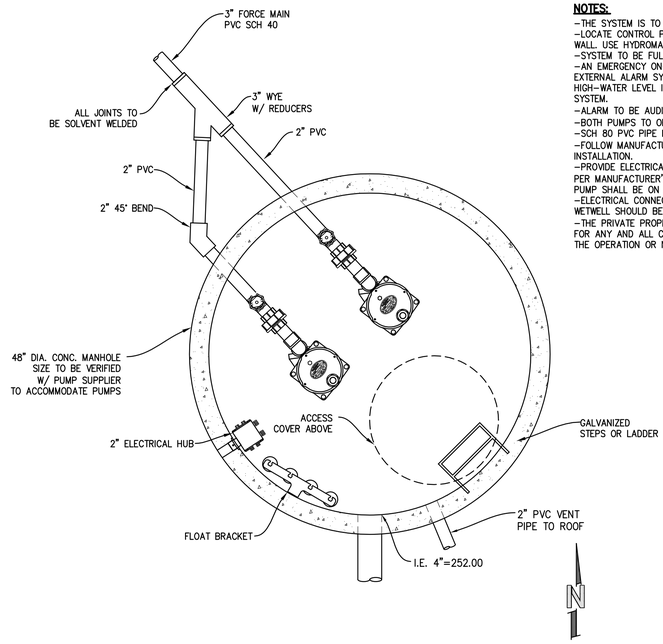


NOTES:
-THE SYSTEM IS TO BE AN ALTERNATING DUPLEX SYSTEM.
-LOCATE CONTROL PANEL AND ALARM ON EXTERIOR BUILDING WALL. USE HYDROMATIC PANEL OR APPROVED EQUIVALENT.
-SYSTEM TO BE FULLY AUTOMATIC WITH MANUAL OVERRIDE.
-AN EMERGENCY ON-SITE, BACK-UP POWER SUPPLY AND AN EXTERNAL ALARM SYSTEM FOR SYSTEM FAILURE AND HIGH-WATER LEVEL INDICATOR ARE REQUIRED FOR THE PUMP SYSTEM.
-ALARM TO BE AUDIO (BELL) AND VISUAL (LIGHT).
-BOTH PUMPS TO OPERATE AT "LAG PUMP ON" FLOAT LEVEL.
-SCH 80 PVC PIPE INSIDE MANHOLE.
-FOLLOW MANUFACTURER'S INSTRUCTIONS FOR ALL INSTALLATION.
-PROVIDE ELECTRICAL SUPPLY TO PANEL AND LIFT STATION PER MANUFACTURER'S SPECIFICATIONS. POWER TO PANEL AND PUMP SHALL BE ON A DEDICATED CIRCUIT.
-ELECTRICAL CONNECTIONS AND SERVICES WITHIN THE PUMP WETWELL SHOULD BE WATERTIGHT.
-THE PRIVATE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM.



STORMWATER LIFT STATION #2

SCALE: NTS (2)



NOTES:
-THE SYSTEM IS TO BE AN ALTERNATING DUPLEX SYSTEM.
-LOCATE CONTROL PANEL AND ALARM ON EXTERIOR BUILDING WALL. USE HYDROMATIC PANEL OR APPROVED EQUIVALENT.
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Nick Bossoff Engineering, Inc.
191 NE Tarl Lane
Stevenson, WA 98648-4201
Phone: (425) 881-5904

NICHOLAS A. BOSSOFF 29631 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON
EXPIRES 7/2/25

NO.	DATE	REVISION
1	08/1/22	PERMIT SUBMITTAL
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PROJECT MANAGER: N. BOSSOFF, P.E.
DESIGNED: NB
DRAWN: TKB
JOB NUMBER: GUDI-2201
FILE NAME: GUDI-2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DETAILS

SHEET: C-4

TOPOGRAPHIC SURVEY NOTES

1. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS, UTILITY LOCATES BY THIRD PARTIES, AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
2. CONTOURS SHOWN ARE BASED ON A FIELD SURVEY.
3. TREE IDENTIFICATION WAS PERFORMED BY SURVEY FIELD PERSONNEL AND SHOULD BE CONSIDERED A BEST GUESS. AN ARBORIST SHOULD BE RELIED UPON FOR MORE ACCURATE AND DETAILED IDENTIFICATION OF TREE SPECIES AND HEALTH.
4. MERCER ISLAND LOT SLOPE IS CALCULATED FROM THE HIGH POINT OF THE LOT AT THE SW CORNER (EL=272.12) TO THE LOW POINT OF THE LOT AT THE SE CORNER (EL=224.55) OVER A DISTANCE OF 160.00'. THE RESULTING SLOPE = 29.7%

BOUNDARY SURVEY NOTES

1. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND LEICA VIVA TS15 SMART POLE TOTAL STATION/RTK GPS.
2. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090. SURVEY WAS COMPLETED BY A FIELD TRAVERSE.
3. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.
4. ENCROACHMENTS NOTED AS "IN" OR "OUT" ARE RELATIVE TO THE SUBJECT PROPERTY
5. FENCE DIMENSIONS ARE GENERALLY TO THE CENTERLINE OF THE FENCE UNLESS OTHERWISE NOTED.
6. STRUCTURE LOCATIONS ARE MEASURED TO THE FINISHED FASCIA UNLESS OTHERWISE NOTED.
7. TREE LOCATIONS ARE MEASURED TO THE ESTIMATED CENTER OF THE TREE.
8. ALL DIMENSIONS ARE IN DECIMAL FEET.

VERTICAL DATUM & CONTOUR INTERVAL

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

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

LEGAL DESCRIPTION

LOT 5, BLOCK 4 OF MADRONA CREST ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 42 OF PLATS, PAGES 12–14, RECORDS OF KING COUNTY WASHINGTON.

SITUATE IN COUNTY OF KING, STATE OF WASHINGTON.

HORIZONTAL DATUM & BASIS OF BEARINGS

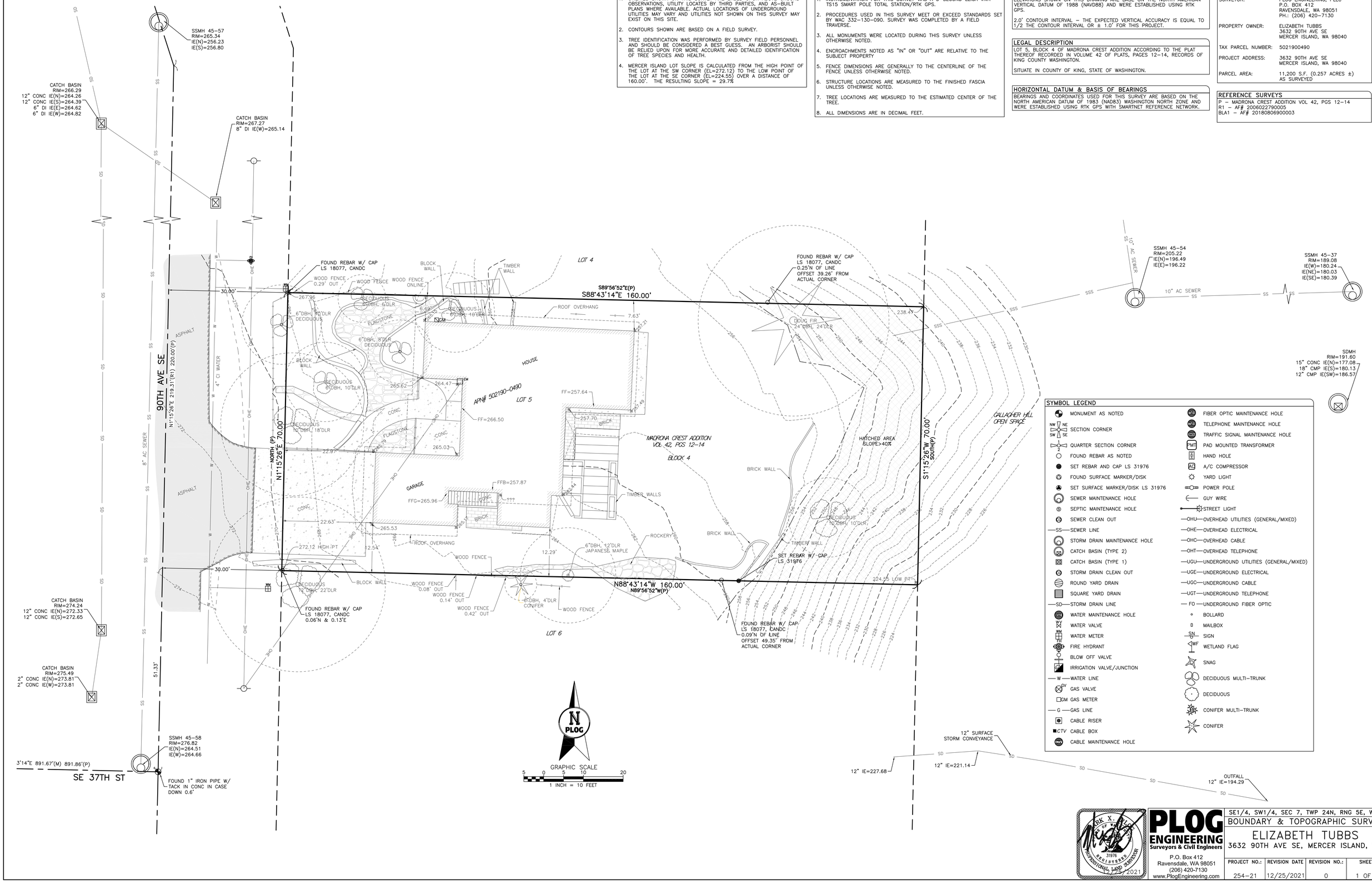
BEARINGS AND COORDINATES USED FOR THIS SURVEY ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) WASHINGTON NORTH ZONE AND WERE ESTABLISHED USING RTK GPS WITH SMARTNET REFERENCE NETWORK.

PROJECT INFORMATION

SURVEYOR:	PLOG ENGINEERING, PLLC P.O. BOX 412 RAVENSDALE, WA 98051 PH.: (206) 420-7130
PROPERTY OWNER:	ELIZABETH TUBBS 3632 90TH AVE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	5021900490
PROJECT ADDRESS:	3632 90TH AVE SE MERCER ISLAND, WA 98040
PARCEL AREA:	11,200 S.F. (0.257 ACRES ±) AS SURVEYED

REFERENCE SURVEYS

P – MADRONA CREST ADDITION VOL 42, PGS 12–14
R1 – AF# 20060227900005
BLA1 – AF# 20180806900003



SYMBOL LEGEND

- MONUMENT AS NOTED
- SECTION CORNER
- QUARTER SECTION CORNER
- FOUND REBAR AS NOTED
- SET REBAR AND CAP LS 31976
- FOUND SURFACE MARKER/DISK
- SET SURFACE MARKER/DISK LS 31976
- SEWER MAINTENANCE HOLE
- SEPTIC MAINTENANCE HOLE
- SEWER CLEAN OUT
- SS — SEWER LINE
- STORM DRAIN MAINTENANCE HOLE
- CATCH BASIN (TYPE 2)
- CATCH BASIN (TYPE 1)
- STORM DRAIN CLEAN OUT
- ROUND YARD DRAIN
- SQUARE YARD DRAIN
- SD — STORM DRAIN LINE
- WATER MAINTENANCE HOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOW OFF VALVE
- IRRIGATION VALVE/JUNCTION
- W — WATER LINE
- GAS VALVE
- GM GAS METER
- G — GAS LINE
- CABLE RISER
- CTV CABLE BOX
- CABLE MAINTENANCE HOLE
- FIBER OPTIC MAINTENANCE HOLE
- TELEPHONE MAINTENANCE HOLE
- TRAFFIC SIGNAL MAINTENANCE HOLE
- PAD MOUNTED TRANSFORMER
- HAND HOLE
- A/C COMPRESSOR
- YARD LIGHT
- POWER POLE
- GUY WIRE
- STREET LIGHT
- OHU — OVERHEAD UTILITIES (GENERAL/MIXED)
- OHE — OVERHEAD ELECTRICAL
- OHC — OVERHEAD CABLE
- OHT — OVERHEAD TELEPHONE
- UGU — UNDERGROUND UTILITIES (GENERAL/MIXED)
- UGE — UNDERGROUND ELECTRICAL
- UGC — UNDERGROUND CABLE
- UGT — UNDERGROUND TELEPHONE
- FO — UNDERGROUND FIBER OPTIC
- BOLLARD
- MAILBOX
- SIGN
- WETLAND FLAG
- SNAG
- DECIDUOUS MULTI-TRUNK
- DECIDUOUS
- CONIFER MULTI-TRUNK
- CONIFER

PLOG ENGINEERING
Surveyors & Civil Engineers
P.O. Box 412
Ravensdale, WA 98051
(206) 420-7130
www.PlogEngineering.com

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

BOUNDARY & TOPOGRAPHIC SURVEY

ELIZABETH TUBBS

3632 90TH AVE SE, MERCER ISLAND, WA

PROJECT NO.:	REVISION DATE	REVISION NO.:	SHEET
254-21	12/25/2021	0	1 OF 1

Rear Elevation

Side Elevation

Side Elevation

DRAWING INDEX

SQUARE FOOTAGE

MAIN FLOOR	2447 SF
UPPER FLOOR	1327 SF
LOWER	1312 SF
TOTAL	5086 SF
GARAGE	897 SF
PORCH/DECK	1409 SF

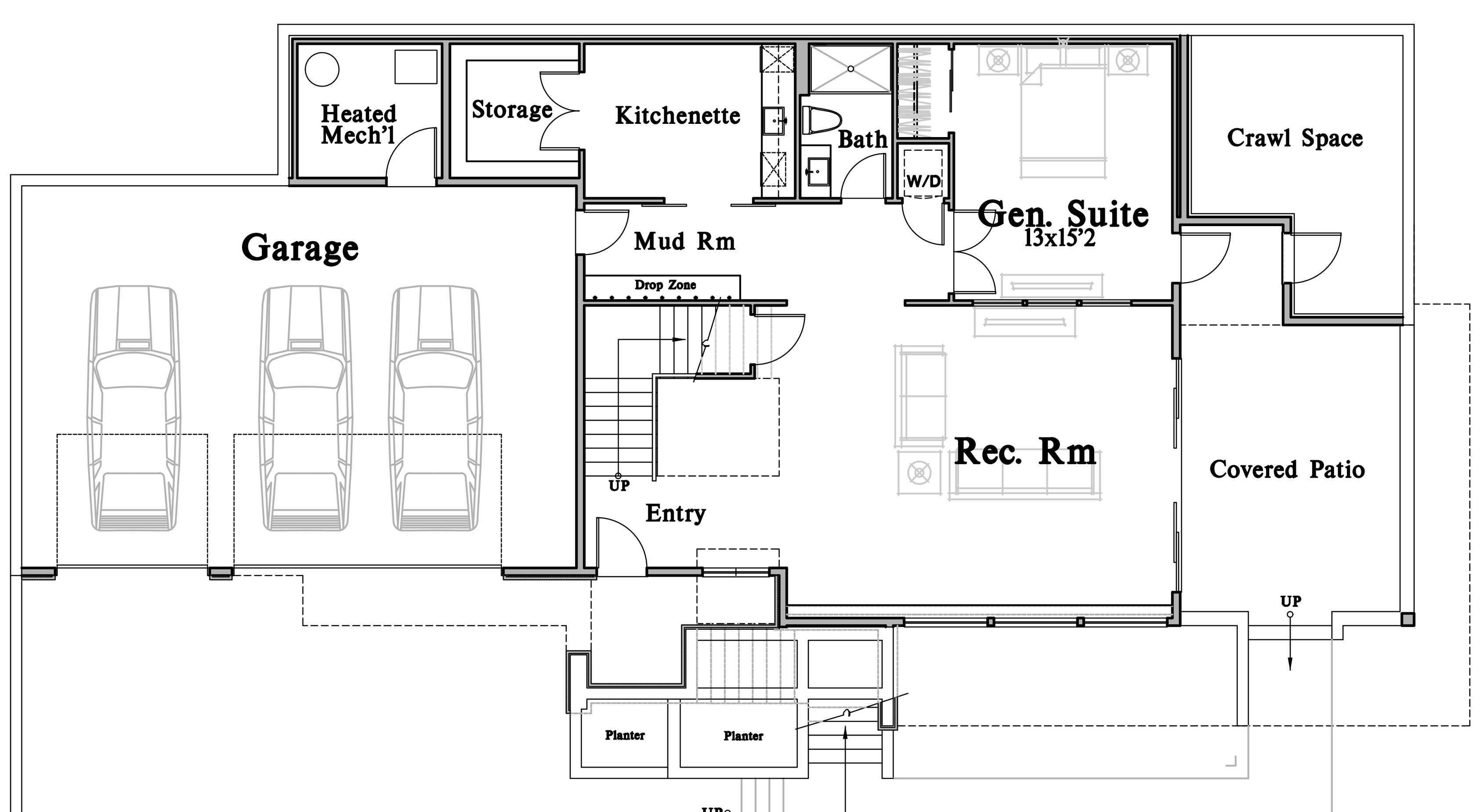
Buchan Homes

Westview Plan

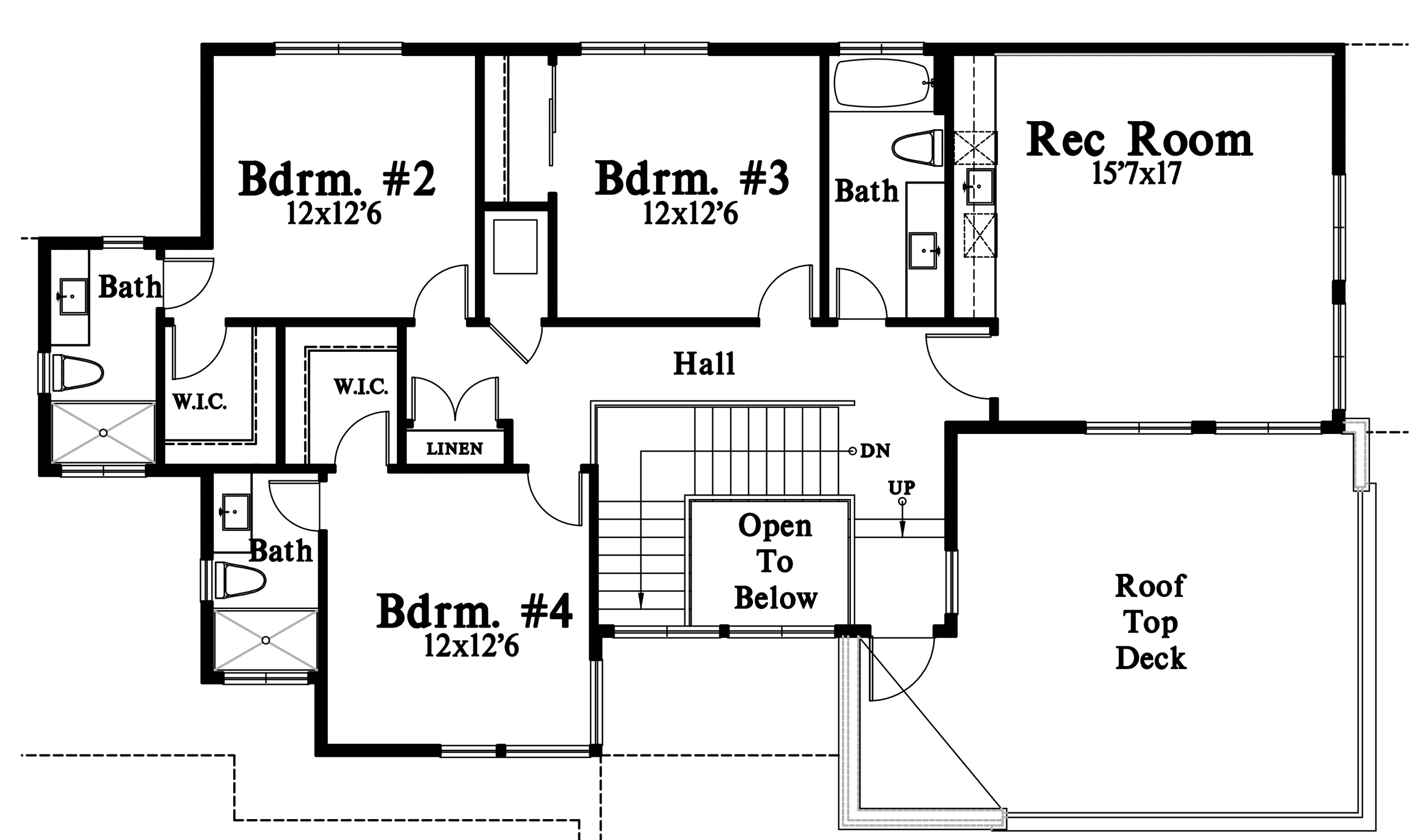
Permit no. 2210-120

3036 67th Ave SE Mercer Island , WA

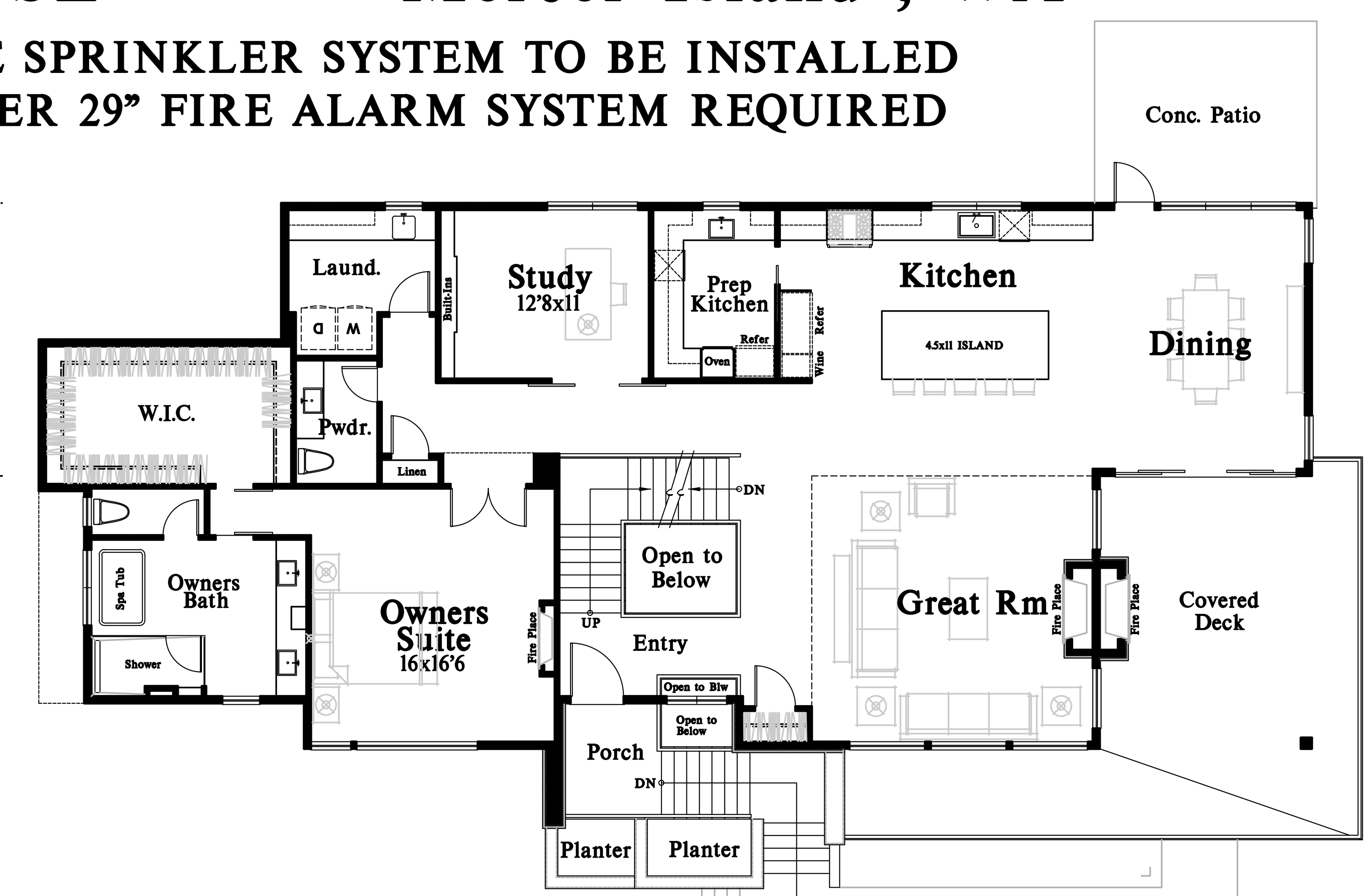
NFPA 13D FIRE SPRINKLER SYSTEM TO BE INSTALLED
NFPA "CHAPTER 29" FIRE ALARM SYSTEM REQUIRED



Lower Floor Plan



Upper Floor Plan



Main Floor Plan

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

ORIGINAL SIGNATURE REQUIRED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kapplerhomeplans.com

TITLE

JOB NO.: 21076.21
STARTING NO.: 21076.05

SHEET

COVER SHEET

Division 1
GENERAL REQUIREMENTS

__01000 GENERAL__

1. This coversheet has been prepared in a generic outline form following the standards set by the Construction Standards Institute (CSI). It is for the convenience of the Contractor/Owner. This outline is intended to work with a material selection list following the (CSI) format. Not all items are necessarily required to complete this specific project. Coordinate with Contractor/Owner for complete listing of specifications. Within this coversheet it will state, 'Coordinate with materials finish selection schedule'.

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7. Do not scale these drawings for critical dimensions. Verify all dimensions and datum's before commencing work and be responsible for their accuracy. Report discrepancies and/or omissions to the architect immediately.

8. The Contractor/Owner is responsible for coordinating work with all trades to ensure proper and adequate interface of all trade works. The contractor shall be responsible for all required safety precautions and procedures required to do this work.

9. Except as specifically defined otherwise, interpretation for all definitions, abbreviations, and supplemental definitions shall follow accepted referenced standards.

10. All work within this contract shall represent that of industry standards for the respective trades in the location in which the project is built.

__All references to I.R.C, I.B.C., and W.S.E.C are references to the 2018 code updates & WA state Amendments.__

__01002 MISCELLANEOUS ASSEMBLY REQUIREMENTS__

1. Provide crawl space access, minimum 18" x 24" unobstructed access through the floor, 16" x 24" through perimeter walls and below grade access, per I.R.C. section R408.4. Insulate and weather-strip per W.S.E.C R402.2.4. Allow 18" minimum space under wood joists and 12" minimum space under wood girders.
2. Provide attic access, minimum 22" x 30" with 30" minimum headroom, at unobstructed readily accessible opening, per I.R.C. section R807.1. Insulate and weather-strip per WSEC R402.2.4. requirements.
3. Provide ventilation per I.R.C. as follows:
A) Crawl space ventilation: Minimum net area shall be not less than 1 s.f. per 300 s.f. under floor area. Required openings shall be evenly placed to provide cross ventilation of the space except one side of the building shall be permitted to have no ventilation openings per section R408.2.
B) Attic ventilation: Minimum net area shall be not less than 1 s.f. per 150 s.f. of attic area or 1 s.f. per 300 s.f. of attic area if at least 40 percent, and not more than 50 percent, of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated, and is no more than 3 feet below the ridge or highest point of the space. The balance of required ventilation to be provided by eave or cornice vents per I.R.C. section R806.2 and W.S.E.C. requirements.
4. Slope all decks, walks, driveways, exterior door landings, and patios away from building. Minimum 1/4" per foot.
5. Provide approved numbers or addresses in such a position as to be plainly visible and legible from the street or road fronting the property per I.R.C. section R319.1.
6. Garage/House separation:
A) Garage ceilings separating attic spaces shall be protected with 1/2" G.W.B. When garages are beneath habitable rooms, the ceilings shall be covered with 5/8" type 'x' GWB on the garage side. Where the separation is a floor/ceiling assembly, the structure shall be protected with 1/2" G.W.B. per I.R.C. table R302.6.
B) Door between garage and house shall be a self closing solid wood core, honeycomb core steel, or 20-minute fire rated door having a minimum thickness of 1-3/8" per I.R.C. section R302.5.1.
C) Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall have not openings into the garage per I.R.C. R302.5.2.
D) Garage floor shall slope to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.
7. Stair assembly:
A) Minimum headroom height 6'-8" per I.R.C. section R311.7.2.
B) Minimum stair tread depth 10" with a 36" minimum width, measured above handrail height. Maximum riser height 7-3/4" per I.R.C. sections R311.7.5
C) Top of handrail shall be 34" minimum and 38" maximum above tread nosing and not less than 1-1/2" from the wall. Return rail ends to wall per I.R.C. section R311.7.8.
D) Install fire blocking between stringers at the top and bottom of each run per I.R.C. section R302.11.
E) Cover usable space under stairs with 1/2" GWB per I.R.C. section R302.7.
8. Laundry Chutes & Dumbwaiter Shafts - provide 5/8" type 'x' GWB or 26 gage sheet metal with lock joints on all openings to shaft surfaces shall be self closing solid core door 1-3/8".
9. Fireblocking shall be provided in wood-frame construction in the following locations:
A) In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
1. Vertically at the ceiling and floor levels.
2. Horizontally at intervals not exceeding 10 feet.
B) At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
C) In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.
D) At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with and approved material to resist the free passage of flame and products of combustion.
E) For the fireblocking of chimneys and fireplaces, see Section R1003.19.
F) Fireblocking of cornices of a two-family dwelling is required at the line of swelling unit separation.
10. Fireblocking shall consist of the following materials per I.R.C. R302.11.1.
A) 2" nominal lumber.
B) Two thickness of 1" nominal lumber with broken lap joints.
C) One thickness of 23/32" wood structural panels with joints backed by 23/32" wood structural panels.
D) One thickness of 3/4" particleboard with joints backed by 3/4" particleboard.
E) One 1/2" gypsum board.
F) One 1/4" cement-based millboard.
G) Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.
11. Structural design criteria: These notes are provided for convenience only and do not imply that complete structural analysis has been done on this structure.
A) Truss Loading: (U.N.O.)
Top chord live load: 25psf
Top chord dead load: 7psf
(15 psf, if tile)
Bottom chord live load: 10psf without storage
20psf if limited storage
30psf if sleeping room
TOTAL LOAD: 42psf
or 52psf
or 62psf
B) Roof live load: 25 psf (U.N.O.)
C) Floor live load: 40 psf (U.N.O.) Deck Live Load 60 psf U.N.O.
D) Stair and corridor live load: 40 psf
E) Mechanical units: weights provided by manufacturer
F) Wind: 110 mph (U.N.O.)
G) Seismic Design Category: D(2) (U.N.O.)
H) Allowable soil pressure: Unless a soils report by a qualified engineer is provided, all footings and foundations shall be on assumed 1,500 psf bearing capacity unless otherwise noted on drawing.
J) Equivalent fluid pressure 35 pcf. (U.N.O.)
K) All footings to be located below the frost line depth: 18" (U.N.O.)

__01002 MISCELLANEOUS ASSEMBLY REQUIREMENTS CONT.__

12. Prefabricated Fireplaces and Solid Fuel Burning Appliances per I.M.C. and I.R.C. Chapter 101:
A) Solid fuel burning appliances include airtight stoves, fireplace stoves, room heaters/fireplace stoves, factory built fireplaces, and fireplace inserts, and all shall comply with the provisions of I.M.C.
B) Metal Chimneys shall be enclosed above the story in which the appliance served is located, in walls having one hour fire resistance rating, and with a space on all sides between chimney and enclosing walls sufficient for examination and repair for entire chimney. Walls shall be without openings per I.M.C.
C) Provide fireblocking at chimney per I.R.C. section R302.11.
D) Install metal fireplace with hearth and surrounds per manufacturers specifications.
E) Prefabricated fireplaces, chimneys, and related components to bear U.L. or ICBO seal of approval and be installed per manufacturers requirements.
13. Fireblocking per I.R.C. sections R302.11.

__01060 REGULATORY REQUIREMENTS__

1. All construction shall conform to the 2018 International Residential Code (I.R.C.), 2018 International Building Code (I.B.C.), 2018 International Fire Code (I.F.C.), 2018 International Mechanical Code (I.M.C.), 2018 Uniform Plumbing Code (U.P.C.), 2018 Washington State Energy Code (W.S.E.C.) and be in accordance with all State Laws and Regulations and various codes imposed by jurisdictional requirements and local authorities.
2. Arrange inspections that are mandatory due to jurisdictional requirements.

__01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS__

1. Provide Temporary Facilities - including electricity, water, and temporary toilet, per jurisdictional requirements.
2. Provide Contemporary Controls - including erosion sediment and surface water control and entrapment during construction per jurisdictional requirements.

END DIVISION 1

Division 2
SITE WORK

__02200 EARTHWORK__
Part 3 - Execution
1. Rough grading: 4" below finish grading unless otherwise specified.
2. Finish grading: Landscaping division 02900.
3. Excavation, backfilling, and compacting for structures as needed.
4. Excavation, backfilling, and compacting for pavement as needed.
5. Hauling and disposal of excavated material as needed.
6. Importing of material as needed.
7. Rock removal as needed.

__02500 PAVING AND SURFACING__

Part 2 - Product
1. Walk, road, and parking paving:
A. Asphalt 2", class B, over 3" crushed rock or 2" ATB.
B. Crushed rock 5/8" minus.
C. Concrete per Division 3:
1. Finish and color:
Coordinate with materials finish selection schedule.
2. Unit Pavers: 1. Coordinate with materials finish selection schedule.
3. Pavement marking: 1. Coordinate with materials finish selection schedule.

__02700 SEWAGE AND DRAINAGE__

Part 2 - Product
1. Subdrainage systems:
A. Foundation drainage 4" SDR 35 or sched. 40 rigid PVC perforated pipe embedded in pea gravel or clean crushed rock and wrapped in filter fabric.
2. Storm sewage systems:
A. Exterior catch basins, grates, and frames:
1. Coordinate with materials finish selection schedule.
B. Culverts:
1. Coordinate with materials finish selection schedule.
C. Drain pipe: 4" ADS non-perforated tight line.
3. Sanitary sewage systems:
A. Sewage collection lines 8" PVC unless cast iron is noted.
B. Septic system: Per drawings of bidders designer.
Part 3 - Execution
1. Subdrainage system:
A. Slope to drain and surround in well draining material per details.
2. Surface drainage per I.R.C. section R401.3.

__02800 SITE IMPROVEMENTS__

Part 2 - Product
1. Irrigation system: Bidder design
1. Coordinate with materials finish selection schedule.
2. Fences and gates:
1. Coordinate with materials finish selection schedule.

__02900 LANDSCAPING__

Part 2 - Product
Bidder Design

END DIVISION 2

Division 3
CONCRETE

__03100 CONCRETE FORMWORK__

Part 3 - Execution
1. Formwork and bracing for structural cast-in place concrete shall be by subcontractor and meet the requirements of the drawings and industry standards.
2. All formwork shall be placed in such a manner as to allow cast-in place concrete to be placed on solid substrate and to allow structural support members to sit below the frost line.

__03200 CONCRETE REINFORCING__

Part 2 - Product
1. Reinforcing steel: Deformed bar sizes and locations per plans and details. Grade 60, Fy' = 60ksi per I.R.C. section R404.1.3.3.7.1. Unless otherwise noted per Engineer.
2. Welded wire fabric: at locations per plans and details: 6x6, W1.4x1.4WWF.
Part 3 - Execution
1. A minimum lap for all bars shall be 40 diameters taken from the smallest bar. Provide corner bars to match horizontal reinforcement. Minimum coverage per details and I.R.C. section R404.1.3.3.7.4.

__03250 CONCRETE ACCESSORIES__

Part 2 - Product
1. Anchor bolts: 1/2"ø triple zinc ZMAX (G185 per ASTM A653) hot dipped galvanized steel (ASTM 153 for Anchors), with a minimum 7" embedment, per I.R.C. section R403.1.6., unless otherwise noted per Engineer.
2. Washers: 3"x3"x1/4" sq. triple zinc ZMAX (G185 per ASTM A653) hot dipped galv. steel (ASTM 153 for Anchors), plate washers per I.R.C. section R602.11.1. Unless otherwise noted per Engineer.
Part 3 - Execution
1. Anchor bolts at 6'-0" o.c. max. for one story & 4'-0" o.c. for buildings over two stories in height, 12" from corners and joints, with a minimum embedment of 7". Provide a minimum of (2) bolts per plate section per I.R.C. section R403.1.6.

__03300 CAST-IN-PLACE CONCRETE__

Part 2 - Product
1. Structural concrete: Design f'c = 2500 psi min 5-1/2 sacks of cement per cubic yard of concrete and a maximum of 6.0 gallons of water per 94lb sack of cement at 28 days. Max slump is 4". segregation of materials to be prevented. Use f'c = 3000 psi concrete at 28 days with air entrainment only for concrete exposed to weather, in accordance with I.R.C. Table R402.2. Special inspection not required unless noted otherwise per Engineer.
2. Architectural concrete: for exposed aggregate finish (washed), f'c = 2000 psi at 28 days, with 3/8" round aggregate.

__03300 CAST-IN-PLACE CONCRETE__ (cont.)

3. Admixtures:
A. All concrete shall have water reducing admixtures except for footings.
B. Air entrainment shall be 5-7% in all concrete exposed to weather, I.R.C. Table R402.2
C. Coloring agent:
1. Coordinate with materials finish selection schedule.
Part 3 - Execution

END DIVISION 3

Division 4
MASONRY

__04100 MORTAR__
Part 2 - Product
1. Type 'M' or 'S' mortar with integral waterproofing agent per I.R.C. section R606.2.7
Part 3 - Execution
1. Per I.R.C. section R606.2

__04150 MASONRY ACCESSORIES__
Part 2 - Product
1. Anchors and Ties: To be corrosion-resistant metal ties per I.R.C. section R703.8.4.
2. Joint reinforcement: Standard strand no. 9 U.S. gage wire per I.R.C. section R703.8.
Part 3 - Execution
1. Per I.R.C. Chapter 7.

__04200 UNIT MASONRY__
Part 2 - Product
1. Brick masonry:
A. Exterior locations: name/mfg:
1. Coordinate with materials finish selection schedule (by others).
B. Interior locations: name/mfg:
1. Coordinate with materials finish selection schedule (by others).
C. Pavers/planters: name/mfg:
1. Coordinate with materials finish selection schedule (by others).
2. Concrete masonry units: grade N-1 CMU, unless otherwise indicated sizes per drawings.
A. Special units:
1. Coordinate with materials finish selection schedule (by others).
3. Glass masonry units: (glass block) Per I.R.C. section R607.
A. Exterior locations: name/mfg:
1. Coordinate with materials finish selection schedule (by others).
B. Interior locations: name/mfg:
1. Coordinate with materials finish selection schedule (by others).

Part 3 Execution
1. Brick and Veneer:
A. Brick veneer shall be supported on footings, foundation, or other non-combustible supports. It shall have 15# felt backing and No. 9 gauge, non corrosive ties at 1 per each 2 s.f. of veneer. Provide 1" minimum air space between veneer and backing. Provide approved flashing at base of veneer with 3/16" min. round weepholes at 33" o.c. max., located immediately above the flashing, extending from the air space to the exterior. Veneer shall support no load other than its own weight and the vertical dead lead of veneer above. Provide angle iron support at doors, windows, and other openings per R606.10.
2. Concrete masonry unit (CMU)
A. Concrete masonry unit walls shall be constructed to conform to ASTM C90. It shall be laid up, reinforced, and anchored as shown on drawings.

__04400 STONE__

Part 2 - Product
1. As shown on drawings.
A. Exterior locations: name/mfg:
1. Coordinate with materials finish selection schedule (by others).
B. Interior locations: name/mfg:
1. Coordinate with materials finish selection schedule (by others).

Part 3 Execution
1. Stone Veneer:Adhered per manufacturer's installation instructions and in accordance with I.R.C. R703.12.1
A. On exterior stud walls, adhered masonry veneer shall be installed:
1. Minimum of 4 inches above the earth.
2. Minimum of 2 inches above paved areas. or
3. Minimum of 1/2 inch above exterior walking surfaces which are supported by the same foundation that supports the exterior wall.
B. Flashing at foundation:
1. A corrosion-risistant screed or flashing of a minimum 0.019-inch or 26-gage galvanized or plastic with a minimum vertical attachment flange of 3½ inches shall be installed.

END DIVISION 4

DIVISION 5
METALS

__05050 METAL FASTENINGS__

Part 2 - Product
1. Bolts: Use sizes and shapes per dwgs, or as needed for intended purposes. Bolts, nuts and cut washers in contact with treated wood to be triple zinc ZMAX (G185 per ASTM A653) hot dipped galvanized steel (ASTM 153 for Anchors).

__05500 METAL FABRICATION__
Part 2 - Product
1. Handrails and guardrails: Provide in sizes and locations as shown per dwg.

END DIVISION 5

Division 6
WOOD AND PLASTICS

__06100 ROUGH CARPENTRY__

Part 2 - Product
1. Framing Lumber: Framing lumber shall be marked in conformance with the United States Dept. of Commerce, Standard Reference No. PS 20 (DOC PS 20) standards. All Kiln dried minimum 19%.
A. Joist and rafters: (2x6 and larger) Hem-Fir #2 or better.
B. Beams and stringers: (4x and larger) Doug-Fir #2 or better.
C. Post and timbers: Doug-Fir #1.
D. Studs, plates, and misc. light framing: Hem-Fir #2 or better.
E. ' I ' Joists and Engineered beams: Per manufacturer.
F. Glue laminated timber:
1. Simple span: 24F V4 DF/N3WN
2. Continuous or cantilever: 24F V8 DF/DF
G. All other lumber: Hem-Fir Standard or better.
H. Plywood/oriented strand board (O.S.B.): APA graded.
I. Wall sheathing: see 'TYPICAL BUILDING MATERIALS' list on the dwgs.
J. Floor sheathing: see 'TYPICAL BUILDING MATERIALS LIST'on the dwg.
K. Other: As noted on drawings.
L. All wood members in contact with exposed concrete to be pressure treated members.
2. Particle Board: A.P.A. graded
A. Underlayment
1. Floors: 5/8" (U.N.O.)
2. Sheet vinyl: 1/4" (U.N.O.) see division 9
3. Cabinet surfaces 3/4" (U.N.O.)
3. Trusses:
A. Prefabricated connector plate wood roof trusses shall be designed and stamped by the manufacturer in accordance with the 'design specification for metal plate connected wood trusses'. Design drawings and details to be available upon request.
B. See 'Roof Framing Notes' on drawings.
C. Roof design, layout, loading, and bracing shall be by manufacturer.
D. Field alterations of truss must be designed by manufacturer.
4. Fasteners and adhesives: All nails shall be common wire of sizes for intended purpose per I.R.C. table R602.3(1). Attach timber joists to flush headers and beams with Simpson 'U' hanger series or equal to suit intended purpose. Simpson connectors at other locations as outlined per drawings. Bolt heads, nuts, and cut washers per Division 5. Connectors and fasteners in contact with treated wood to be triple zinc ZMAX (G185 per ASTM A653) hot dipped galv. steel (ASTM 153 for Fasteners), stainless steel, silicone bronze, or copper as required per dwgs.
5. Post to mat footing connection. Provide pressure treated post and positive connection to footing per I.R.C. section 502.9.
6. All exposed glue laminated wood, if not protected by a roof or eave, must be preservative-treated.

Part 3 - Execution
1. The following will apply unless shown on drawings. All wood framing details shall be constructed to the minimum standards in the I.R.C. All framing shall conform to the requirements of Chapters 5,6, and 8 of the I.R.C. Minimum nailing shall conform to table R602.3(1) of the I.R.C. Height and spacing of studs shall conform to table R602.3(5) of the I.R.C.

__06200 FINISH CARPENTRY__
Part 2 - Product
1. Cabinets:
A. Coordinate with materials finish selection schedule (by others).
2. Millwork and casing:
A. Coordinate with materials finish selection schedule (by others).
3. Paneling:
A. Coordinate with materials finish selection schedule (by others).
4. Stair and handrail by:
A. Coordinate with materials finish selection schedule (by others).
B. See division 01002.7 misc. assembly requirements.
5. Bookcases and built-in shelves:
A. Coordinate with materials finish selection schedule (by others).
6. Plastic laminate and solid surface material:
A. Coordinate with materials finish selection schedule (by others).

END DIVISION 6

Division 7
THERMAL AND MOISTURE PROTECTION

__07150 WATER PROOFING & DAMP PROOFING__
Part 2 - Product
1. Per I.R.C. section R406.
Part 3 - Execution
1. Per I.R.C. section R406.

__07190 VAPOR AND AIR RETARDER__

Part 2 - Product
1. Ground cover: 6 mil polyethylene: black, with 12" minimum lap.
2. Building wrap: see the 'TYPICAL BUILDING MATERIALS' list on the drawings.

Part 3 - Execution
1. See Division 17, Energy Requirements.

__07200 INSULATION__
Part 2 - Product
1. Fiberglass or mineral wood batts, bloom mineral wool, and extruded polystyrene:
A. Walls: 1. See the 'TYPICAL BUILDING MATERIALS' list on the dwgs.
B. Ceiling: 1. See the 'TYPICAL BUILDING MATERIALS' list on the dwgs.
C. Floor: 1. See the 'TYPICAL BUILDING MATERIALS' list on the dwgs.
D. Slab on Grade: R-10 (per W.S.E.C. Table R402.1.1).
2. Insulating foam: A. Standard sealant foam.

Part 3 - Execution
1. See division 17: energy requirements
2. Provide insulation markers for blown-in or sprayed insulation every 300 sq ft. Markers shall face the attic access per IECC Sec 303.1.1.1
3. Crawl Space/Cantilevered floors: Insulation shall be installed to maintain permanent contact with the underside of the sub-floor decking. Insulation supports shall be installed so spacing is no more than 24" on center. Cantilevered floor vents shall be placed below the lower surface of the floor insulation.

__07300 ROOFING MATERIAL__

Part 2 - Product
1. Shingles and roofing tiles:
A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings
2. Membrane roofing: A. 3-ply hot mopped.

Part 3 - Execution
1. Install per manufacturer's recommendation and Chapter 9 of the I.R.C.

__07460 SIDING MATERIAL__
Part 2 - Product
1. Siding: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
2. Trim: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
3. Soffits: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
4. Other: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.

Part 3 - Execution
1. Install per manufacturer's recommendation and Chapter 7 of the I.R.C.

__07600 FLASHING AND SHEET METAL__
Part 2 - Product
1. Min. 26 Gauge galvanized, prefinished.

Part 3 - Execution
1. Install per Chapter 7 and 9 of the I.R.C.
A) Flashing against a vertical sidewall shall be by the step-flashing method. The flashing shall be a minimum of 4" high and 4" wide. At the end of the vertical sidewall the step flashing shall be turned out in a manner that directs water away from the wall and onto the roof and/or gutter, Per I.R.C. R903.2.1

__07700 ROOFING SPECIALTIES__
Part 2 - Product
1. Vents:
A. Ridge vent: manufactured by:
1. Coordinate with materials finish selection schedule (by others).
B. Mushroom vent: manufactured by:
1. Coordinate with materials finish selection schedule (by others).
2. Gutters:
A. Continuous alum. precoated:
1. Style: K profile
2. Color: Match fascia
3. Downspouts:
A. 2x3 rectangular aluminum precoated:
1. Color: Match fascia & trim
B. Tie to 1 drain system.

__07800 SKYLIGHTS__
Part 2 - Product
1. Skylights to conform with I.R.C. section R308.6.
2. Manufacturer: A. Coordinate with materials finish selection schedule (by others).

__07900 SEALANTS AND CAULKING__
Part 2 - Product
1. Caulking A. Styrene butadene caulking (SBR) 1. Color: Match siding

END DIVISION 7

Division 8
DOORS AND WINDOWS

__08200 WOOD DOORS__ (Lower Level, Main Level, Upper Level)

Part 2 - Product
1. Panel wood doors: A. Coordinate with materials finish selection schedule (by others).
2. Flush wood doors: A. Coordinate with materials finish selection schedule (by others).
3. Stile and rail(store door): A. Coordinate w/materials finish selection schedule (by others).
4. Patio door: A. Coordinate with materials finish selection schedule (by others).
5. Other: A. Coordinate with materials finish selection schedule (by others).

__08300 SPECIALTY DOORS__
Part 2 - Product
1. Sliding glass door:
A. Coordinate with materials finish selection schedule (by others).
2. Garage door: (make/style): (see division 11450)
A. Coordinate with materials finish selection schedule (by others).

__08600 WOOD/VINYL WINDOWS__
Part 2 - Product
1. Note: Egress -
A. Every sleeping room shall have at least one operable window with a net clear opening of 5.7 s.f. The net clear opening height shall be a minimum of 24", with a minimum net clear width of 20", and a finished sill height of not more than 44" above the floor, per I.R.C. section R310.
B. Safety glaze per I.R.C. section R308.
C. See plans for egress and operation.
2. Manufactured by:
A. Color: 1. Coordinate with materials finish selection schedule (by others).
B. Style: 1. Coordinate with materials finish selection schedule (by others).

__08700 HARDWARE__
Part 2 - Product
1. Type: A. Coordinate with materials finish selection schedule (by others).
2. Weather Stripping: A. Coordinate with materials finish selection schedule (by others).
3. Thresholds: A. Coordinate with materials finish selection schedule (by others).

__08800 GLAZING__
Part 2 - Product
1. Glass thickness to be determined by size and wind loading per I.R.C. section R308.
2. Safety glaze per I.R.C. section R308.
3. Mirrors to be silvered 1/4" float plate glass.

END DIVISION 8

Division 9
FINISHES

__09250 GYPSUM WALLBOARD__
Part 2 - Product
1. Walls: See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
A. Finish: 1. Coordinate with Contractor/Owner material selections.
2. Ceiling: See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
A. Finish: 1. Coordinate with materials finish selection schedule.
3. Wall and ceiling finishes shall have a flame spread index of not greater than 200, and a smoke-developed index of not greater than 450 per I.R.C. R302.9.
4. Code required areas:
A. Type 'X: GWB as required.
1. See division 01002 misc. assembly requirements.
B. Waterproof GWB as req'd at wet or damp locations per I.R.C. section R702.4.2.
5. Wonderboard or duroc at all tile locations (U.N.O.)
6. Metal corner bead profile:
1. Coordinate with materials finish selection schedule.

Part 3 - Execution
1. Apply as required in I.R.C. Chapter 7 and Table R702.1(3). Nail or screw in place per table.

__09300 TILE__
Part 2 - Product
1. Ceramic, quarry, and marble tiles:
A. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. Refer to manufacturer's recommendations.

__09550 WOOD FLOORING__
Part 2 - Products 1. Type:
A. Coordinate with materials finish selection schedule (by others).

__09650 RESILIENT FLOORING__
Part 2 - Products 1. Type:
A. Coordinate with materials finish selection schedule (by others).

__09680 CARPETING__
Part 2 - Products 1. Carpet and Pad:
A. Coordinate with materials finish selection schedule (by others).

__09900 PAINTING__
Part 2 - Products
1. Painting over prepared surface per manufacturer's recommendations
A. Coordinate with materials finish selection schedule (by others).
__09950 WALL COVERINGS__
Part 2 - Products
1. Type: A. Coordinate with materials finish selection schedule (by others).

END DIVISION 9

Division 10
SPECIALTIES

__10200 LOUVERS AND VENTS__
Part 2 - Products
1. Hardware cloth screen 1/4" x 1/4" on soffit vents as detailed.
2. Continuous 2" performed metal soffit vent as detailed.
3. Roof vent (See Division 07700)
4. Other vents as noted per plans.

__10300 PREFABRICATED FIREPLACES__
Part 2 - Products
1. Location/Model/Accessories:
A. Coordinate with materials finish selection schedule (by others).
Part 3 - Execution
1. See division 01002.12 for misc. assembly requirements for fireplaces.

__10400 IDENTIFYING DEVICES__
Part 2 - Products
1. Building numbers:
A. Coordinate with materials finish selection schedule (by others).
Part 3 - Execution
1. Install in location per jurisdictional requirements.

__10800 TOILET AND BATH ACCESSORIES__
Part 2 - Products
1. Toilet and bath accessories:
A. Coordinate with materials finish selection schedule (by others).

__10900 WARDROBE AND CLOSET SPECIALTIES__
Part 2 - Products
1. Storage Closet:
A. Coordinate with materials finish selection schedule (by others).
2. Clothes Closets:
A. Coordinate with materials finish selection schedule (by others).
3. Pantry.

END DIVISION 10

Division 11
EQUIPMENT

__11010 MAINTENANCE EQUIPMENT__
Part 2 - Products
1. Vacuum cleaning system:
A. Coordinate with materials finish selection schedule (by others).

__11450 RESIDENTIAL EQUIPMENT__
Part 2 - Products
1. Garage door opener(s).
A. Coordinate with materials finish selection schedule (by others).
2. Ironing board cabinet (or drawer).
A. Coordinate with materials finish selection schedule (by others).
3. Free-standing appliances:
A. Coordinate with materials finish selection schedule (by others).

END DIVISION 11

Division 12
FURNISHINGS

__12500 WINDOW TREATMENT__
Part 2 - Products
1. Window treatment: A. Coordinate with materials finish selection schedule (by others).

END DIVISION 12

Division 13
SPECIAL CONSTRUCTION

__13150 POOLS__
Part 2 - Products 1. Bidder design

__13156 HOT TUB__
Part 2 - Products
1. By:
A. Coordinate with materials finish selection schedule (by others).

END DIVISION 13

Division 14
CONVEYING SYSTEMS

__14100 DUMBWAITER__
Part 2 - Products
1. Dumbwaiter: A. Manufacturer/model number:
1. Coordinate with materials finish selection schedule (by others).

END DIVISION 14

Division 15
MECHANICAL

__15000 GENERAL__
Part 1 - General
1. Mechanical system to be bidder design.
2. Regulatory requirements:
A. Refer to Division 1 General Requirements.
B. See plans for total maximum Btu.
C. Heating and cooling equipment shall be sized based on building loads calculated in accordance with ACCA manual J or other approved heating and cooling calculation methodologies. Per M1401.3
3. Contractor work out plumbing and HVAC diagram layout.
A. Coordinate with other trades.

__15400 PLUMBING__
Part 2 - Product
1. Pipes and Fittings:
A. Waste & soil: ABS plastic of sizes req'd for the intended purpose.
1. Provide cast iron with compression neoprene joints per locations shown on the drawings.
2. Provide clean-outs at bends.
B. Vents: ABS
C. Gas: Per code, verify location of appliances.
1. Provide an approved earthquake shutoff valve installed in the building supply line immediately after the gas meter. The valve shall be located outside of the structure and be accessible.
D. Water Line:
1. Below Grade: 1 1/4" type K with/hard solder
2. Above Grade: Type L w/soft solder
2. Plumbing equipment:
A. Hot water heater: (Duals in tandem)
1. Size per U.P.C. 501 and Table 501.1 and jurisdictional amendments.
2. Coordinate with owner's material selection (by others).
B. Hose bib, frost proof type: Mansfield units
C. Main shut-off valve in garage.
D. Plumbing fixtures 1. Coordinate with owners material selection (by others).
3. Irrigation: (bidder design)
A. Provide 'T' connection in main line in garage by main shut-off valve with separate shut-off and drain valve.

__15400 PLUMBING__ (cont.)
4. Automatic Sprinkler System: (bidder design)

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with industry standards. Refer to general requirements.

__15500 HVAC__
Part 2 - Product
1. Forced Air:
A. Furnace system:
1. Coordinate with materials finish selection schedule (by others).
B. Duct work and insulation:
1. Coordinate with materials finish selection schedule (by others).
C. Air cleaner:
1. Coordinate with materials finish selection schedule (by others).
D. Controls:
1. Coordinate with materials finish selection schedule (by others).
E. Registers with adjustable supply:
1. Coordinate with materials finish selection schedule (by others).
F. Provide firestopping at 'B' vent location per I.R.C. sections R302.11.
2. Fans: see division 17 energy requirements.
3. See floor plans for Whole House Ventilation requirements.
4. Vents:
1. Coordinate with materials finish selection schedule (by others).
5. Exhaust Ducts:
A. Terminate outside building and equip with backdraft dampers per I.R.C. section M1507.3.3.
6. Dryer Ducts:
A. Cloths Dryers shall be exhausted in accordance with manufactures instructions & I.R.C. M1502.
B. Protective shield plates shall be placed per I.R.C. M1502.5.

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with industry standards. Refer to general requirements.

END DIVISION 15

Division 16
ELECTRICAL

__16000 GENERAL__
Part 1 - General
1. Electrical systems to be bidder designed.
2. Regulatory requirements: refer to Division 1 - General Requirements.
3. Contractor to provide electrical diagramming layouts, design circuitry: follow lighting plan if provided.
A. Coordinate with other trades.

__16200 POWER__
Part 2 - Product
1. Wire and Boxes.
A. Volt: 12 6A (3) Wire
1. GFI @ Damp Locations
B. Low voltage: standard type
2. Panels: Circuit breaker box fully labeled
A. Capacity: Bidder Design
B. Circuitry: Bidder Design
3. Grounding:
A. Provide (1) 2 1/2" schedule 80 PVC conduit at concrete stem wall for electrical service and (1) 5/8" diameter x 8'0" long galvanized rod (& Ufer ground) for electrical grounding.
4. Smoke Detectors:
A. Provide and install per I.R.C. section R314.
5. Fire alarm:
A. Provide and install per N.E.C. and as required by governing fire marshal.

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with the industry standards. Refer to general requirements and I.R.C.
__16200 COMMUNICATIONS__
Part 2 - Product
1. Intrusion alarm and security detection systems:
A. Coordinate with materials finish selection schedule (by others).
2. Phone system:
A. Coordinate with materials finish selection schedule (by others).
3. Intercommunication systems:
A. Coordinate with materials finish selection schedule (by others).
4. Stereo system:
A. Coordinate with materials finish selection schedule (by others).

__16500__
__LIGHTING__

Part 2 - Product
1. Fixtures: 1. Coordinate with materials finish selection schedule (by others).
Note: A minimum of 90% of all luminaries shall be high efficiency per W.S.E.C. R404.1.
2. Control: A. Switches:1. Coordinate with materials finish selection schedule.
3. Dimmers: 1. Coordinate with materials finish selection schedule (by others).
4. Boxes: 1. Coordinate with materials finish selection schedule (by others).
5. Other: 1. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with the industry standards. Refer to general requirements.

END DIVISION 16

Division 17
ENERGY REQUIREMENTS

__WASHINGTON STATE ENERGY CODE:__
General Notes:
1. Per WSEC R402.4. The building Envelope shall be constructed to limit the air leakage rate not to exceed 5 air changes per hour. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2).
2. Per WSEC R403.1.1. at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule.
3. Per WSEC R403.3.2. ducts, air handlers, and filter boxes shall be sealed.

REGISTERED ARCHITECT
5879
JOHN KAPPLER
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island, WA

ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
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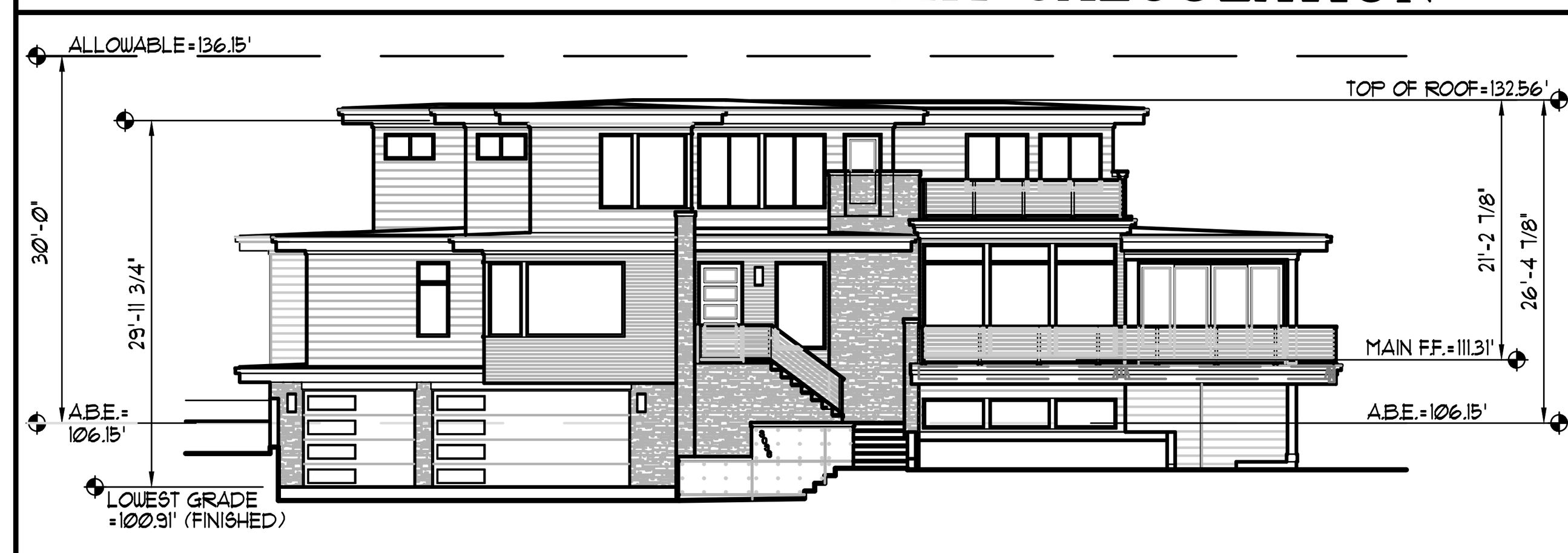
TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A1

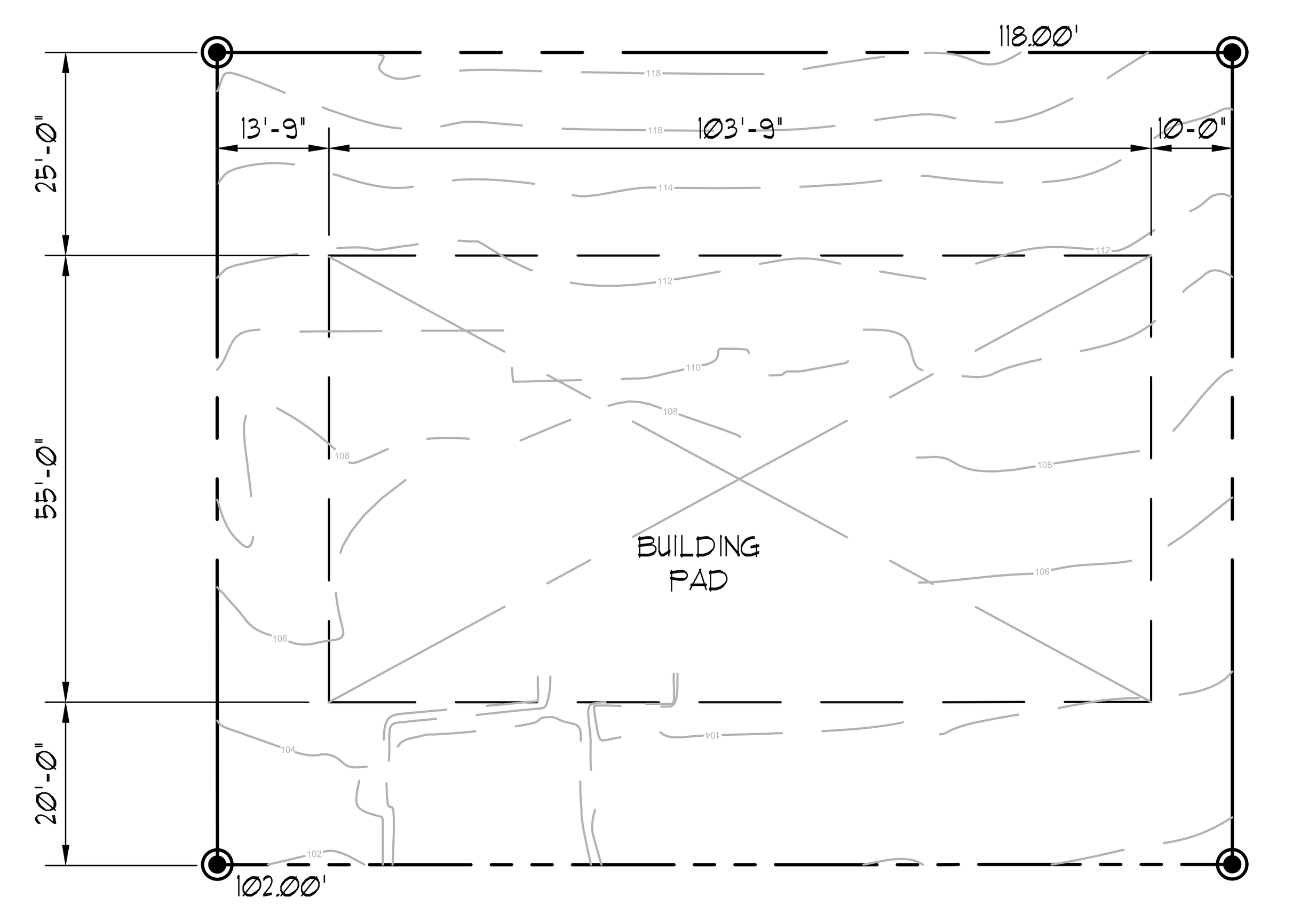
HEIGHT CALCULATION



City of Mercer Island Avg. Grade Calculations

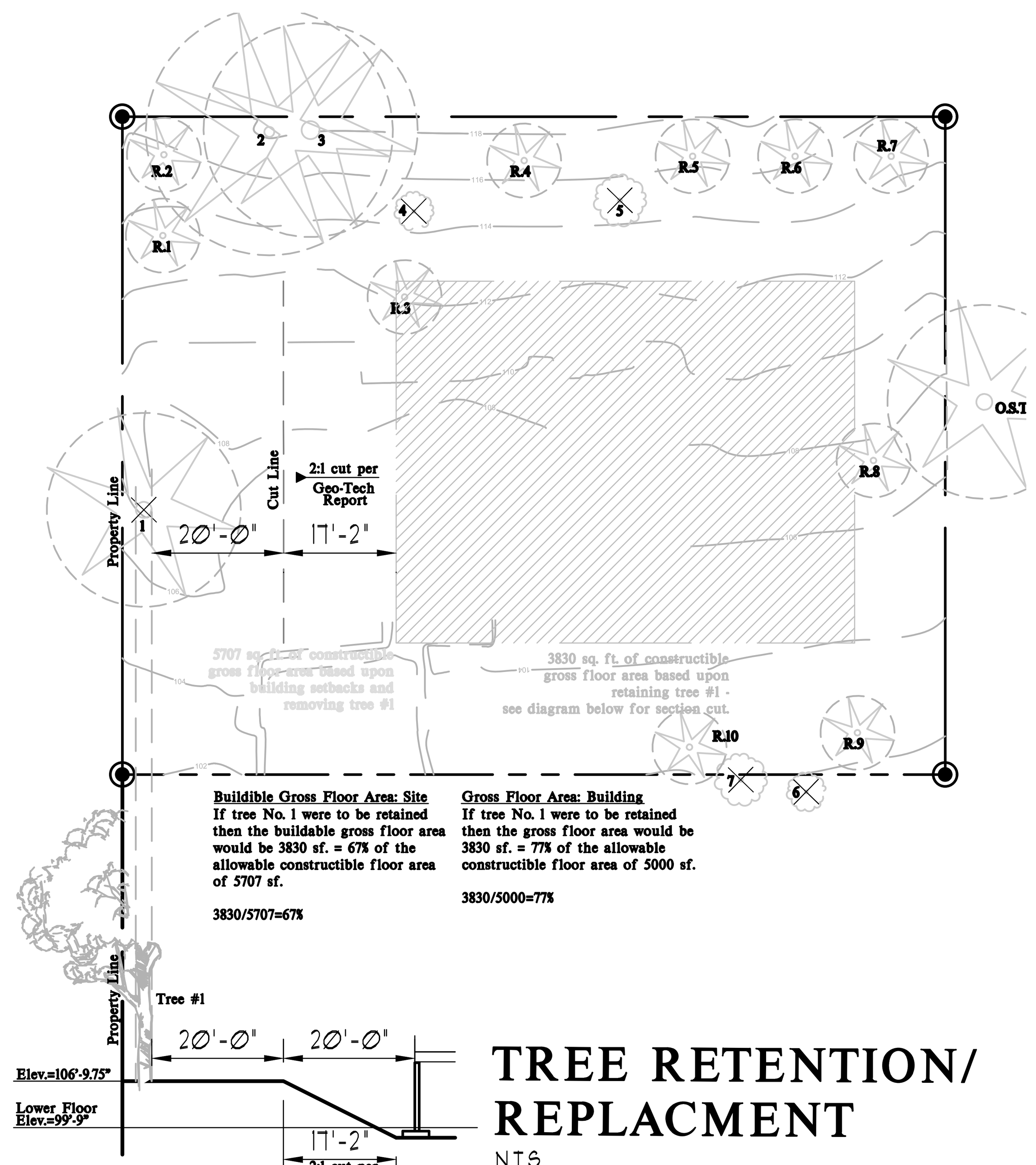
Midpoint Datum Elevation			F or E	Wall Segment Length					
A	=	107.20	E	a	=	24.00	A*a	=	2572.80
B	=	108.00	E	b	=	16.00	B*b	=	1728.00
C	=	109.36	E	c	=	9.00	C*c	=	984.24
D	=	110.00	E	d	=	68.00	D*d	=	7480.00
E	=	107.80	E	e	=	36.00	E*e	=	3880.80
F	=	104.71	F	f	=	38.00	F*f	=	3978.98
G	=	99.00	F	g	=	3.00	G*g	=	297.00
H	=	99.00	F	h	=	46.00	H*h	=	4554.00
		845.07				240.00			25475.82
Address	3038 61st Ave SE						106.15		AVG. GRADE

LOT SLOPE CALCULATION



118'-100'=18'/100'=.18x100=18%

N.T.S.



Buildible Gross Floor Area: Site
If tree No. 1 were to be retained then the buildable gross floor area would be 3830 sf. = 67% of the allowable constructible floor area of 5707 sf.

3830/5707=67%

Gross Floor Area: Building
If tree No. 1 were to be retained then the gross floor area would be 3830 sf. = 77% of the allowable constructible floor area of 5000 sf.

3830/5000=77%

TREE RETENTION/ REPLACMENT

N.T.S.

TREE IDENTIFICATION

TAG	TREE/SPECIES	SIZE (DBH)	RETAINED
1.	CEDRUS DOEDORA, DEODAR CEDAR	35.4	NO
2.	PSEUDOTSUGA MENZIESII, DOUGLAS FIR	29"	YES
3.	PSEUDOTSUGA MENZIESII, DOUGLAS FIR	35"	YES
4.	APPLE SPECIES	9.2"	NO
5.	APPLE SPECIES	12.9"	NO
6.	PRUNUS, CHERRY	6.4"	NO
7.	PRUNUS, PLUM	10.5"	NO
O.S.T.	CEDRUS ATLANTICA, ATLAS CEDAR	est. 30"	YES

TOTAL DBH = 138.4"

TOTAL RETAINED = 100.4"/46%

NOTE: DBH DOES NOT INCLUDE OFF SITE TREE

- Tree protection fencing (TPF) shall consist of chain link fencing, or other fencing as may be required or approved by the City of Mercer Island, installed at the dripline radius of Tree #2 and Tree #3 and shall be staked into place, as required by the City. Plan Sheet A1.1 details the location of the Tree Protection Fencing.
- Signage shall be installed at intervals of 20' or less along the fence line declaring the fenced area as a "TREE PROTECTION ZONE - NO TOOLS, EQUIPMENT, OR CONSTRUCTION RELATED MATERIALS MAY BE PLACED WITHIN THE TREE PROTECTION ZONE". Signage shall be a minimum of 8.5" by 11.0" and shall be resistant to weather conditions.
- An ISA certified arborist shall verify the location of the fencing. The fencing shall be installed prior to any site clearing or grading and shall remain in place until the construction phase is completed.
- An ISA certified arborist shall be on-site for any excavation in the backyard area or anywhere near these protected trees.
- Any roots that are encountered and in need of removal shall be assessed by the Project Arborist. Severing of encountered roots shall be undertaken as detailed in ANSI Standard A300 (Part 8)-2013, Root Management.
- Any roots that are encountered and severed shall be covered with moist compost or mulch material as soon as is reasonable following the root exposure and severance.
- Protected trees shall be re-assessed after completion of the construction activity.
- The Ivy in Tree #2 and #3 should be removed, as much as possible.

REPLACEMENT TREE IDENT.

TAG	TREE/SPECIES	NATIVE
R.1	JAPANESE MAPLE	
R.2	THUJA PLICATA	YES
R.3	VINE MAPLE	YES
R.4	THUJA PLICATA	YES
R.5	THUJA PLICATA	YES
R.6	THUJA PLICATA	YES
R.7	THUJA PLICATA	YES
R.8	DOGWOOD	
R.9	RED MAPLE	

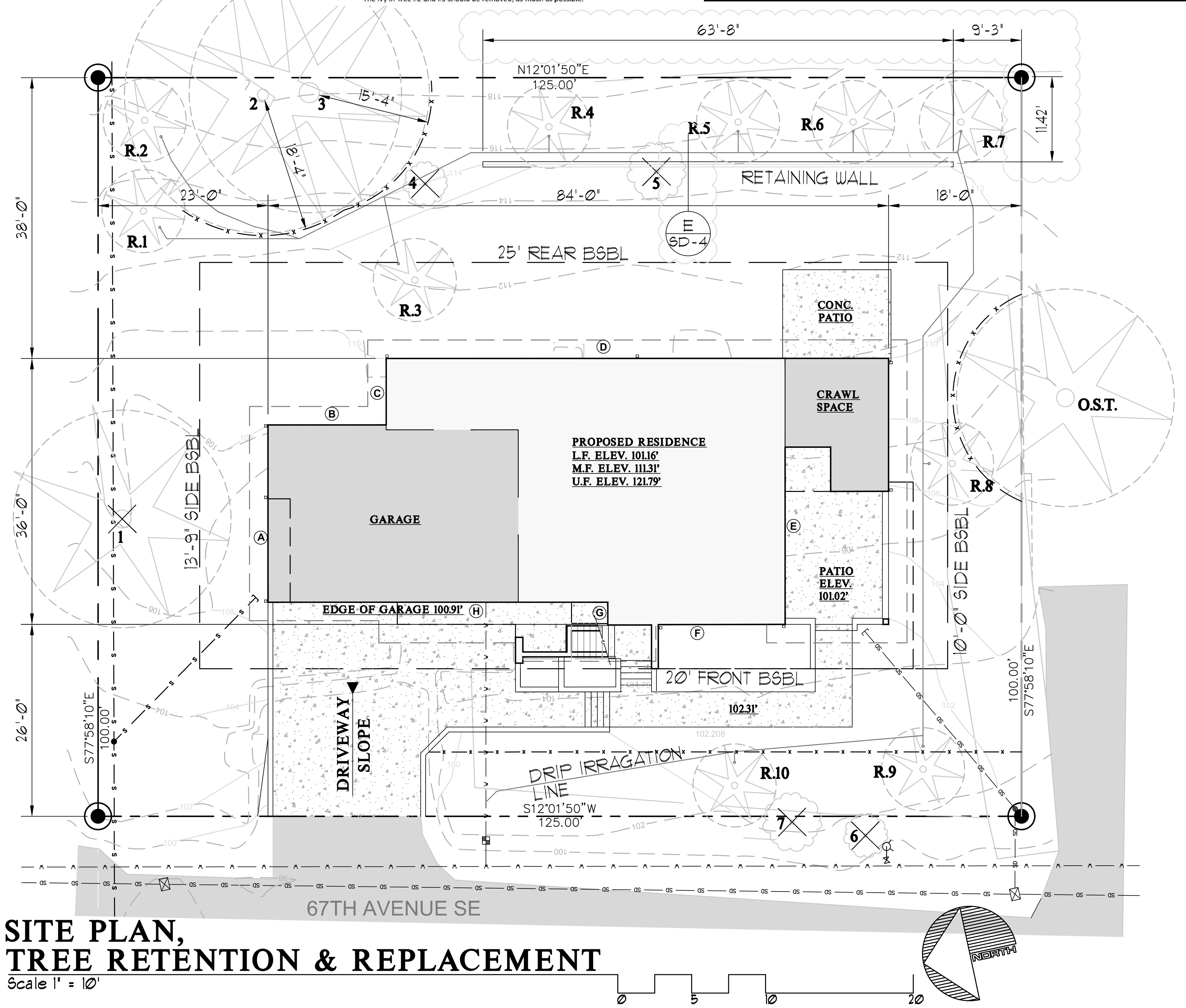
6/9 NATIVE : 66% NATIVE

City of Mercer Island GFA Calculations

Lower Level Area Calculation

Wall	Length	Percentage	Finish or Existing	Result
A	24	77.0%	E/F	18.5
B	16	96.0%	F	15.4
C	9	100.0%	E/F	9.0
D	54	100.0%	E	54.0
E	36	26.0%	F	9.4
F	24	59.0%	E/F	14.2
G	3	0.0%	E/F	0.0
H	46	0.0%	F	0.0
	212			120.5
	Total Average Result			0.6
Flr	Sq Ft	Result		Excluded Area
	2443	0.5683962		1388.591981

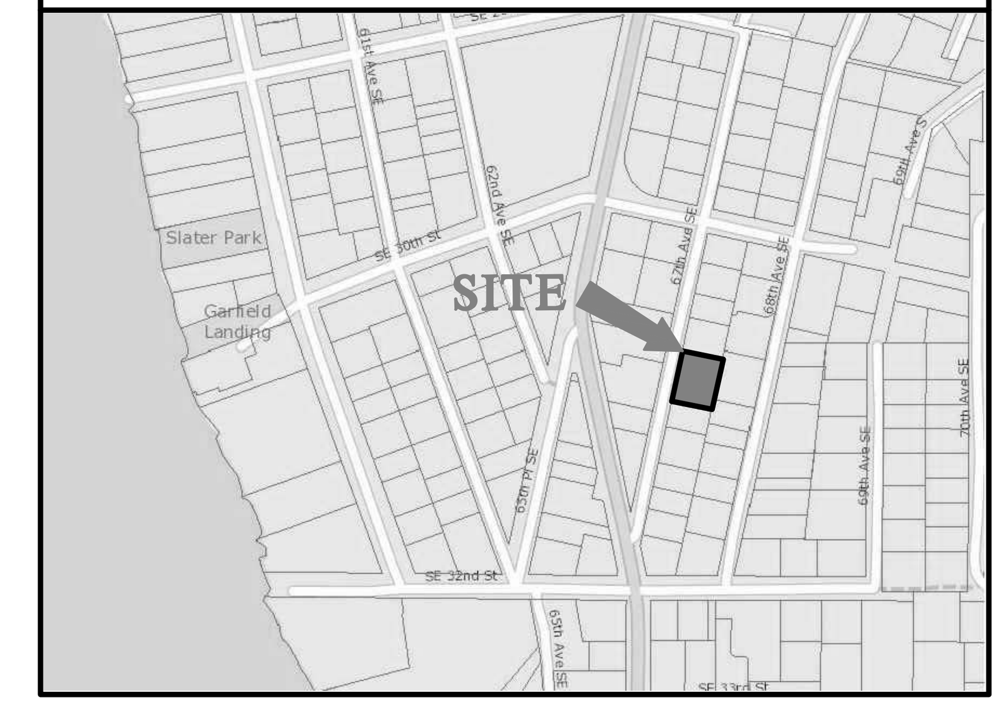
Lot Size =	12,500	x 40% =	5,000 S.F.
Main Floor	2548	(2504+44)	AREA >16'
Upper Floor	1333	(1407-74)	STAIRS
Lower Floor	1087	(2443-1356)	EXCLUDED
Total G.F.A.	4968	/39.7%	



SITE PLAN, TREE RETENTION & REPLACEMENT

Scale 1" = 10'

VICINITY MAP



SITE INFO

STREET ADDRESSES:
3036 67th AVE SE

PARCEL #:
2174501025

LEGAL DESCRIPTION:
EAST SEATTLE ADD LOTS 15 THRU 18 TGW SLY 5 FT OF LOT 19
PLAT BLOCK: 6
PLAT LOT: 15 THRU 19

ZONING

ZONING: R-8.4

SINGLE FAMILY RESIDENTIAL SETBACKS.
FRONT YARD - 20'-0"
REAR YARD - 25'
TOTAL SIDE YARD(S) - 17% OF 120'-0" = 20.4' COMBINED
INTERIOR SIDE YARD - 33% OF 20.4'= 6.73' MIN.

HEIGHT LIMIT
30' ABOVE AVERAGE BUILDING ELEVATION
35' DOWNHILL HIGHEST PLATE FROM EXISTING GRADE

LOT COVERAGE
35% MAX OF GROSS LOT AREA

G.F.A.
40% MAX. OF NET LOT AREA

SITE CALCULATIONS

LOT AREA
12,500 SF GROSS LOT AREA

G.F.A. CALCULATION
12,500 SF GROSS LOT AREA
x 40%
5,000 SF ALLOWABLE G.F.A.

2,548 SF MAIN FLOOR (see G.F.A. calculations below)
1,333 SF UPPER FLOOR (see G.F.A. calculations below)
1,087 SF LOWER FLOOR/GARAGE (see G.F.A. calculations below)
4,968 SF/39.7% TOTAL G.F.A.

LOT COVERAGE CALCULATION
12,500 SF GROSS LOT AREA
x 35%
4,375 SF ALLOWABLE LOT COVERAGE

3,023 SF STRUCTURE (including eaves)
344 SF COVERED PATIO/DECKS (including eaves)
666 SF DRIVEWAY (excluding portion under eaves)
4,033 SF/32% TOTAL LOT COVERAGE

HARDSCAPE SURFACE CALCULATION
12,500 SF GROSS LOT AREA
x .09%
1,125 SF ALLOWABLE HARDSCAPE COVERAGE

419 SF FRONT WALKWAY AND STEPS(excluding portion under deck)
139 SF REAR PATIO (excluding portion u/ eaves)
175 SF MAIN FLOOR DECK(excluding portion under eaves)
35 SF REAR RETAINING WALL
41 SF FRONT RETAINING WALLS
809 SF/6.5% TOTAL HARDSCAPE SURFACE AREA

LEGEND

- W — W — DESIGNATES WATER
- S — S — DESIGNATES SEWER
- SD — SD — DESIGNATES STORM
- DESIGNATES EXISTING GRADE
- DESIGNATES FINISHED GRADE
- DESIGNATES TREE DRIPLINE
- X — X — DESIGNATES TREE FENCING
- DESIGNATES EXISTING WOOD FENCE
- EXISTING FENCE TO BE REMOVED

DEMO EXISTING STRUCTURES AND HARDSCAPE

SEE ADDITIONAL STORM & UTILITY PLAN

REGISTERED ARCHITECT
6879
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
9/26/22	REY	UPDATED SITE PLAN
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
3036 67th AveSE
Mercer Island , WA

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www.kapplerhomeplans.com

TITLE

JOB NO. : 21076.03
STARTING NO. : START

SHEET

A1.1

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

3036 67TH AVE SE MERCER ISLAND SITE PLAN

LEGAL DESCRIPTION

LOTS 15, 16, 17, 18 AND THE SOUTHERLY 5 FEET OF LOT 19, BLOCK 6, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGES 22 AND 23, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THAT PORTION THEREOF LYING WITHIN MERCER ISLAND ROAD (67TH AVENUE SE)

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

BASIS OF BEARING

RECORD OF SURVEY BY TERRANE FOR JAYMARC HOMES, RECORDED ON JULY 26, 2021, IN VOLUME 451 OF SURVEYS, PAGE 259, UNDER RECORDING NO. 20210726900027, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM & CONTROL INTERVAL

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE CITY OF MERCER ISLAND.

THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF 68TH AVENUE SE W AND SE 32ND STREET.

POINT ID NO. 47746;
ELEVATION: 112.571 FEET – NAVD 88

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

SURVEY NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3–SECOND SPECTRAPRECISION FOCUS 35 TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332–130–090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN AUGUST 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS–BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

SITE DATA

HIGHEST ELEVATION OF LOT:	118.25	
LOWEST ELEVATION OF LOT:	98.66	
LOT SLOPE:	19.3%	
TOTAL SITE AREA:	12,500	SF
ALLOWED LOT COVERAGE:	40%	
PROPOSED LOT COVERAGE *	3,899	SF (31.2%)
PROPOSED HARDSCAPE	581	SF (4.6%)
PROJECT IMPERVIOUS AREA:	4,480	SF (35.8%)

* LOT COVERAGE INCLUDES THE COMBINATION OF BUILDINGS, INCLUDING EAVES AND ROOF OVERHANGS, AND VEHICULAR DRIVING SURFACES AS DEFINED PER MIMC 19.16.010

OWNER / ARCHITECT

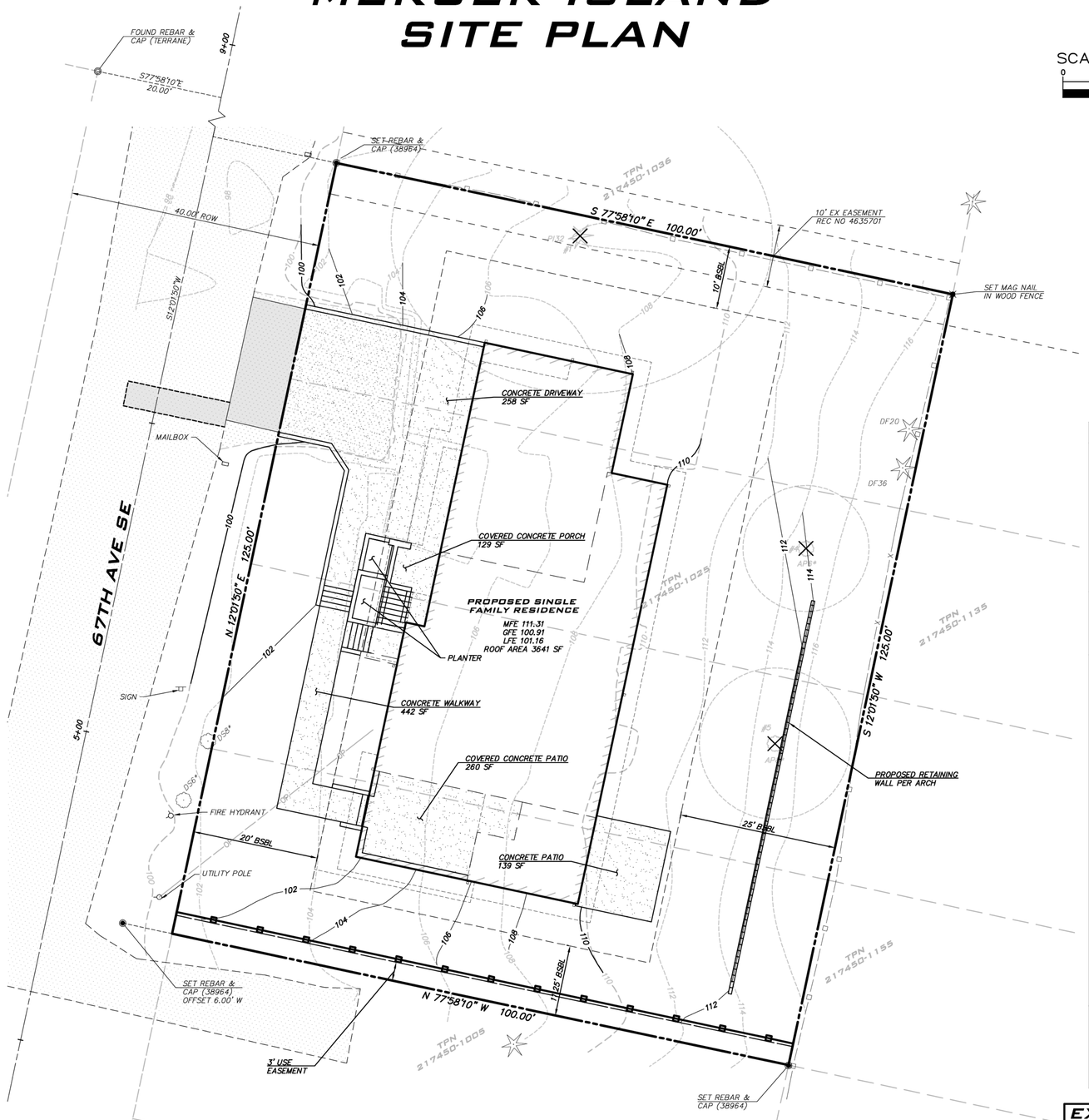
WILLIAM E. BUCHAN INC.
2630 116 AVE NE #100
BELLEVUE, WA 98004
(425) 831–5503
CONTACT: DAVID STAVE

ENGINEER

THE BLUELINE GROUP
25 CENTRAL WAY, SUITE 400
KIRKLAND, WA 98033
(425) 250–7262
CONTACT: YANNICK METS, PE

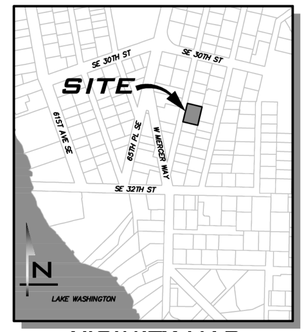
GEOTECH ENGINEER

TERRA ASSOCIATES, INC
12220 113TH AVE NE, SUITE 130
KIRKLAND, WA 98034
(425) 821–7777
CONTACT: CAROLYN S. DECKER, PE



N

SCALE: 1" = 10'
0 5 10 20



VICINITY MAP
NOT TO SCALE

LEGEND

PROPOSED FEATURES

- BOUNDARY
- RIGHT–OF–WAY
- LOT LINE
- SIDEWALK
- CENTER LINE
- SAWCUT
- BUILDING FOOTPRINT
- BUILDING OVERHANG
- BUILDING ROOFLINE
- BUILDING SETBACK (BSBL)
- 190 10' PROPOSED CONTOURS
- 192 2' PROPOSED CONTOURS
- MAILBOX
- ASPHALT PAVEMENT
- CONCRETE

PROPOSED STORM DRAINAGE

- STORM DRAIN PIPE
- ROOF & FOOTING DRAIN
- SWALE OR DITCH
- SURFACE FLOW
- TYPE I CB – STANDARD GRATE
- TYPE I CB – LOCKING LID
- STORM CLEANOUT
- YARD DRAIN

EXISTING FEATURES

- ADJACENT PLAT/PARCEL LINE
- ADJACENT RIGHT–OF–WAY
- CENTERLINE
- EASEMENT
- SURFACE FEATURES
- BUILDING FOOTPRINT
- 190 10' CONTOURS
- 192 2' CONTOURS
- SD STORM DRAIN PIPE
- SS SEWER MAIN
- W WATER MAIN
- OHP AERIAL POWER LINE
- G GAS MAIN
- X WIRE FENCE
- BOARD FENCE
- RETAINING WALL
- ROCKERY
- CATCH BASIN, TYPE I
- CATCH BASIN, TYPE II
- SD PIPE FLOW
- SEWER MANHOLE
- SS PIPE FLOW
- FIRE HYDRANT
- WATER METER
- GATE VALVE
- POWER POLE
- GUY ANCHOR
- STREET LIGHT
- P POWER VAULT
- POWER METER
- MAIL BOX
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- DRIP LINE
- CONIFEROUS TREE TO BE SAVED
- DECIDUOUS TREE TO BE SAVED
- EXISTING CONIFEROUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE REMOVED
- ASPHALT
- CONCRETE
- GRAVEL

TESC FEATURES

- FILTER FENCE
- CONSTRUCTION FENCE
- CLEARED AREA
- LIMITS OF CLEARING
- PIPE FLOW
- INTERIM CATCH BASIN PROTECTION (INSERT)

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8–1–1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

BUILDING CALCULATIONS

SEE ARCHITECTURAL SITE PLAN FOR TREE RETENTION, BUILDING HEIGHTS AND FAR CALCULATIONS.

SHEET INDEX

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

COVER SHEET
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 38964 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: CV-01
SHT 1 OF 9

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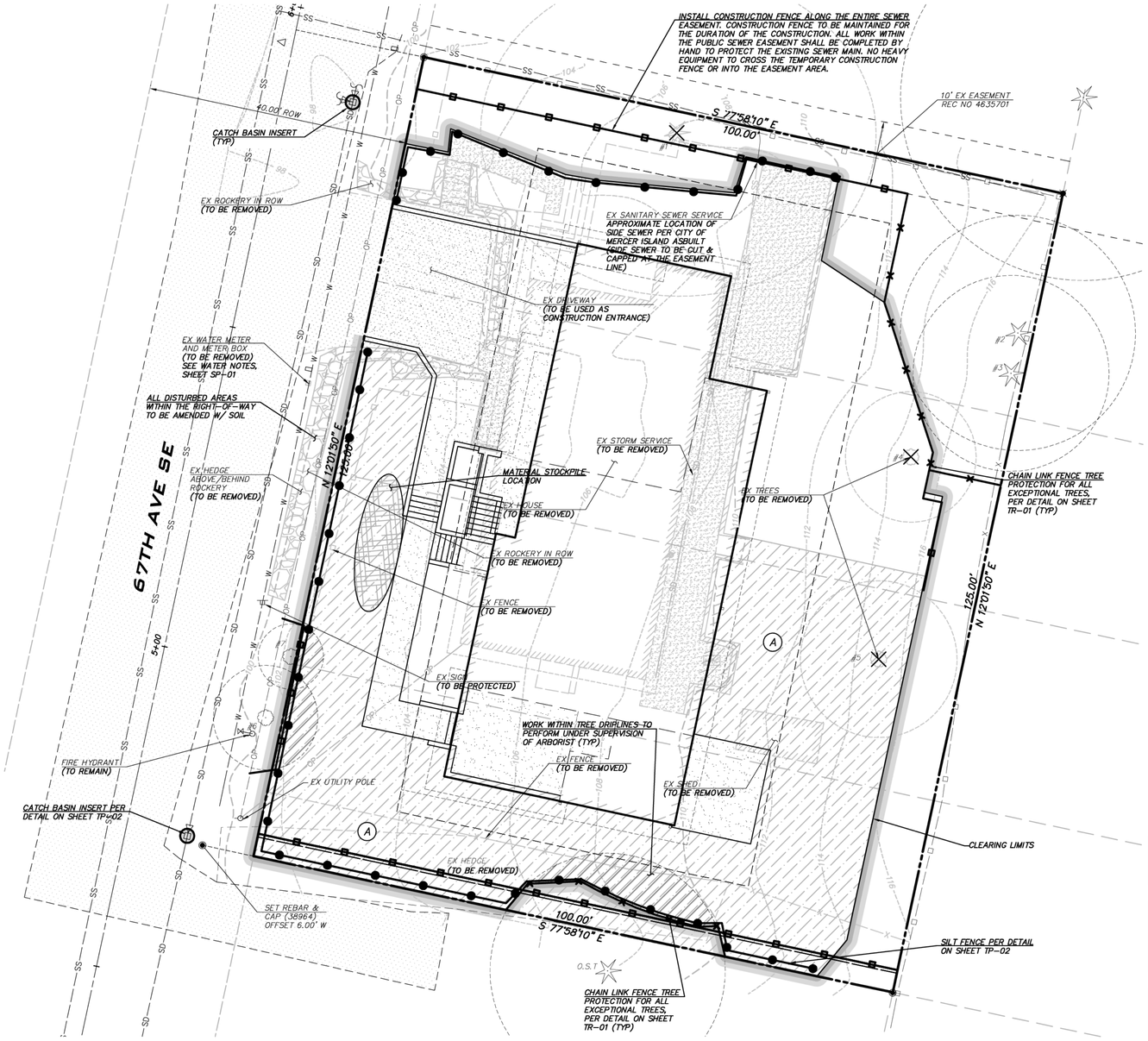

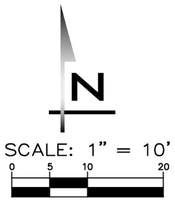

NOTE

CATCH BASIN INLET PROTECTION TO BE INSTALLED UP TO 250' DOWNSTREAM OF THE PROJECT SITE.

SOIL AMENDMENT LEGEND

A NEW TURF AREA REQUIRING AMENDMENT (3,602 SF)

POST-CONSTRUCTION SOIL MANAGEMENT NOTES

AMEND SOILS WITH COMPOST PER PRE-APPROVED AMENDMENT METHOD

SCARIFY EXISTING SOILS TO DEPTH OF 8 INCHES

REFER TO CITY OF MERCER ISLAND SECTION D: POST-CONSTRUCTION SOIL MANAGEMENT FORM UNDER SEPARATE COVER FOR CALCULATED AMENDMENT QUANTITIES.

NOTE

EXISTING WATER METER TO BE ABANDONED.

EXISTING UTILITY NOTE

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YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

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SHT 2 OF 9

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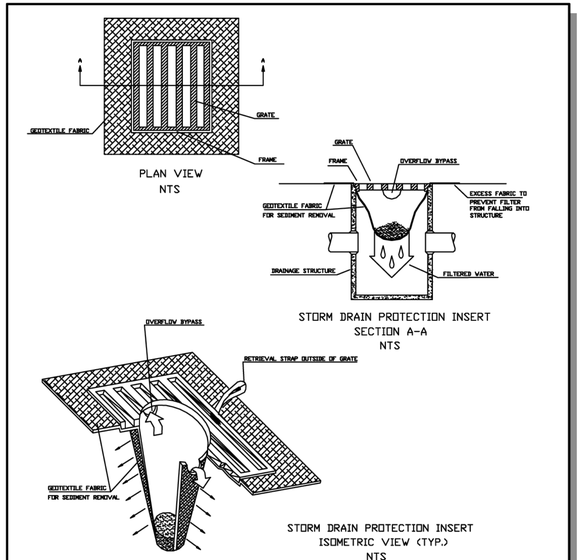
TESC - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
   A. CONDUCT PRE-CONSTRUCTION MEETING.
   B. FLAG OR FENCE CLEARING LIMITS.
   C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
   D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
   E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
   F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
   G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
   H. GRADE AND STABILIZE CONSTRUCTION ROADS.
   I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
   J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
   K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY TESC MINIMUM REQUIREMENTS.
   L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
   M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
   N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
   O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.
2. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
3. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
4. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
5. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE TESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
7. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.
8. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
9. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
   APRIL 1 TO OCTOBER 31 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
   NOVEMBER 1 TO MARCH 31 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
10. AT NO TIME SHALL MORE THAN 1" OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
11. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
13. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
14. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
15. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.
16. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
17. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF MERCER ISLAND INSPECTOR.
18. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
19. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 4' HIGH TEMPORARY CONSTRUCTION FENCE (CYCLONE OR PLASTIC MESH) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL A DWELLING IS CONSTRUCTED AND OWNERSHIP TRANSFERRED TO THE FIRST OWNER/OCCUPANT.
20. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
21. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
22. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "FILTER FABRIC SOCK" OR EQUIVALENT.
23. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF MERCER ISLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.
24. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40 %-70 % PASSING; 2"-4" ROCK/30 %-40 % PASSING; AND 1"-2" ROCK/10 %-20 % PASSING.
25. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
26. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
27. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.
28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

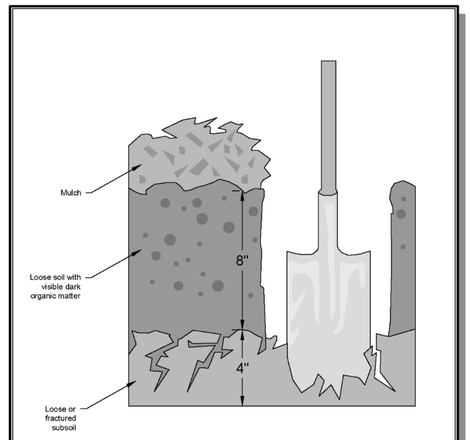


NOTES

1. SEE ECOLOGY STORMWATER MANAGEMENT MANUAL FOR W. WA, BMP C220 FOR ADDITIONAL DESIGN INFORMATION.

INLET PROTECTION

NOT TO SCALE



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

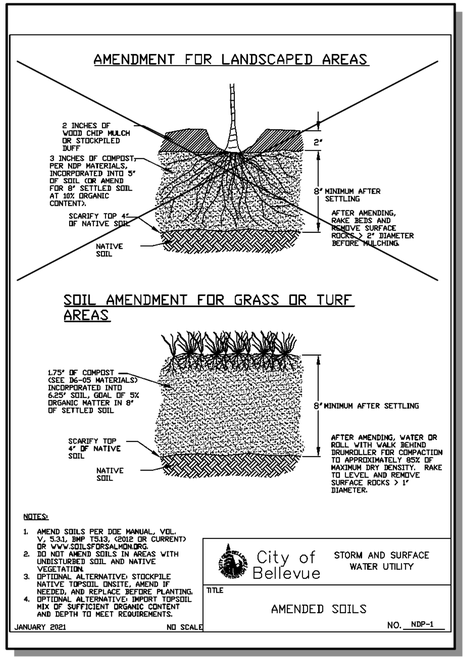
NOT TO SCALE

DEPARTMENT OF ECOLOGY State of Washington

Figure V-5.3.3
Planting Bed Cross-Section
Revised January 2016

AMENDED SOILS - BMP T5.13

NOT TO SCALE



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

City of Bellevue — STORM AND SURFACE WATER UTILITY

TITLE: AMENDED SOILS

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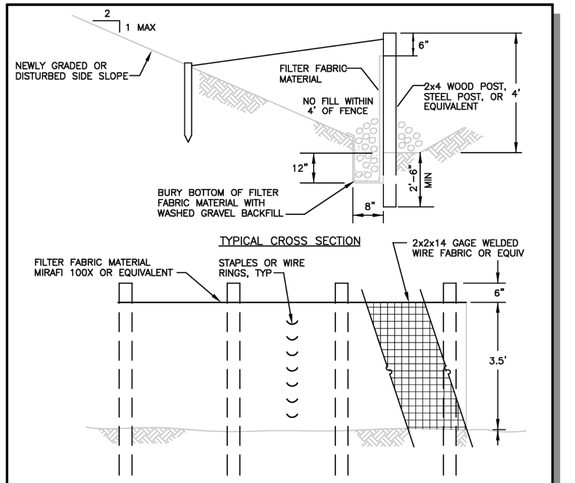

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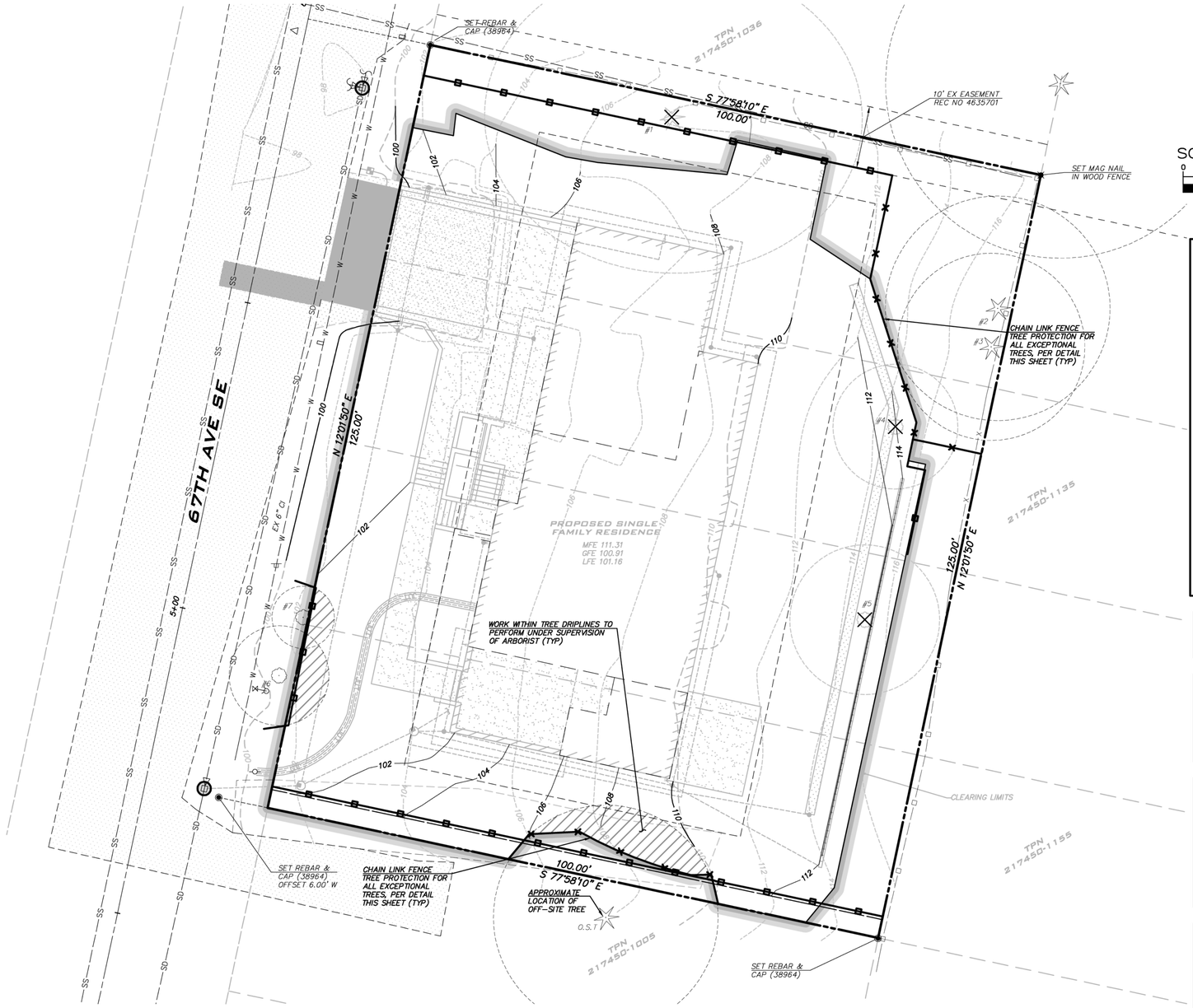

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SCALE: 1" = 10'

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TREE LEGEND

- INNER CRITICAL ROOT ZONE
- EXISTING TREE TO REMAIN
- AVERAGE DRIP LINE
- EXISTING TREE TO BE REMOVED
- NON-VIABLE/EXISTING TREE IN POOR CONDITION

TREE PROTECTION AREA (TPZ)

KEEP OUT!

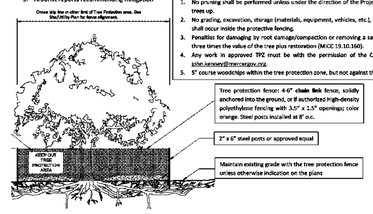
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kennev@mercergov.org
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Any Work in the protected area must be with the permission of the City Arborist john.kennev@mercergov.org

TREE PROTECTION FENCING

NTS

STORM NOTES

STORM SERVICES TO BE 4" PVC AT 2% MIN SLOPE UNLESS OTHERWISE NOTED. SERVICES DESIGNED TO HAVE AT LEAST 1.5' COVER.

AMENDED SOILS

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

WATER NOTES

1. IF EXISTING METER MEETS CURRENT CITY STANDARDS IT CAN BE RE-USED OTHERWISE CUT AND CAP SERVICE AT MAIN PER CURRENT PUBLIC WORKS SPECIFICATIONS AND INSTALL NEW SERVICES.
2. NEW 1" WATER SERVICE AND 3/4" METER SHOWN IS TYPICAL SIZE FOR A NEW SINGLE FAMILY HOME. SIZE MAY VARY, BASED ON UPC SIZING CRITERIA, AND SHALL BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
3. IF NEW WATER SERVICE IS REQUIRED, INSTALL PER MERCER ISLAND SDT DTL W-13.

SANITARY SEWER NOTES

1. EXISTING LOCATION OF SANITARY SEWER PER CITY OF MERCER ISLAND ASBUILT. CONTRACTOR TO VERIFY POINT OF CONNECTION WITHIN THE EASEMENT.
2. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT POINT OF CONNECTION TO THE SIDE SEWER. THE EXISTING SS LINE WITHIN THE EASE,EMT SHALL BE CLEANED, LOCATED AND INSPECTED BY CAMERA TO VERIFY SUITABILITY FOR RE-USE AND NEED FOR RE-LINING.
3. PROPOSED SEWER SERVICE LINE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-18.
4. SANITARY SEWER CLEANOUT TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-19.
5. REFER TO CITY OF MERCER ISLAND STANDARD DETAIL S-22 FOR DISCONNECTION AND RECONNECTION NOTES AND SPECIFICATIONS

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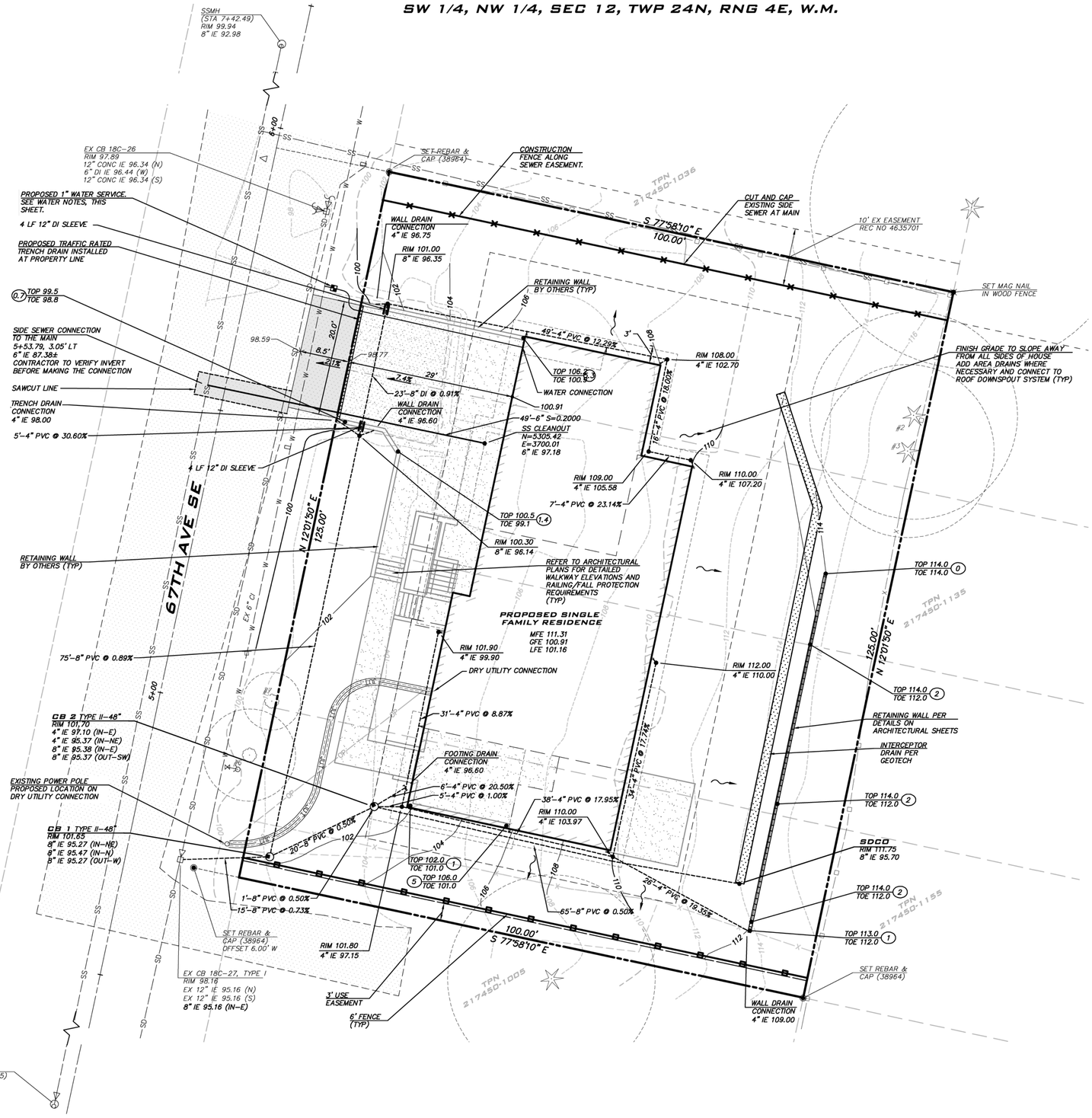

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SCALE: 1" = 10'
0 5 10 20

STORM NOTES

1. STORM SERVICES TO BE 4" PVC AT 2% MIN SLOPE UNLESS OTHERWISE NOTED. SERVICES DESIGNED TO HAVE AT LEAST 1.5' COVER.
2. TYPE II CATCH BASINS TO BE INSTALLED PER COB STD DTL D-4.
3. STORM DRAIN CLEANOUTS TO BE INSTALLED PER COB STD DTL D-52.

AMENDED SOILS

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

WATER NOTES

1. IF EXISTING METER MEETS CURRENT CITY STANDARDS IT CAN BE RE-USED OTHERWISE CUT AND CAP SERVICE AT MAIN PER CURRENT PUBLIC WORKS SPECIFICATIONS AND INSTALL NEW SERVICES.
2. NEW 1" WATER SERVICE AND 3/4" METER SHOWN IS TYPICAL SIZE FOR A NEW SINGLE FAMILY HOME. SIZE MAY VARY, BASED ON UPC SIZING CRITERIA, AND SHALL BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
3. IF NEW WATER SERVICE IS REQUIRED, INSTALL PER MERCER ISLAND SDT DTL W-13.

SANITARY SEWER NOTES

1. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT THE EASEMENT LINE.
2. PROPOSED SEWER SERVICE LINE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-18 & S-17.
3. SANITARY SEWER CLEANOUT TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-19.
4. REFER TO CITY OF MERCER ISLAND STANDARD DETAIL S-22 FOR DISCONNECTION AND RECONNECTION NOTES AND SPECIFICATIONS
5. MAINTAIN MINIMUM 18" BETWEEN NEW SIDE SEWER AND OTHER UTILITIES.

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P. 425.216.4051 F. 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

SITE PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: SP-01
SHT 5 OF 9

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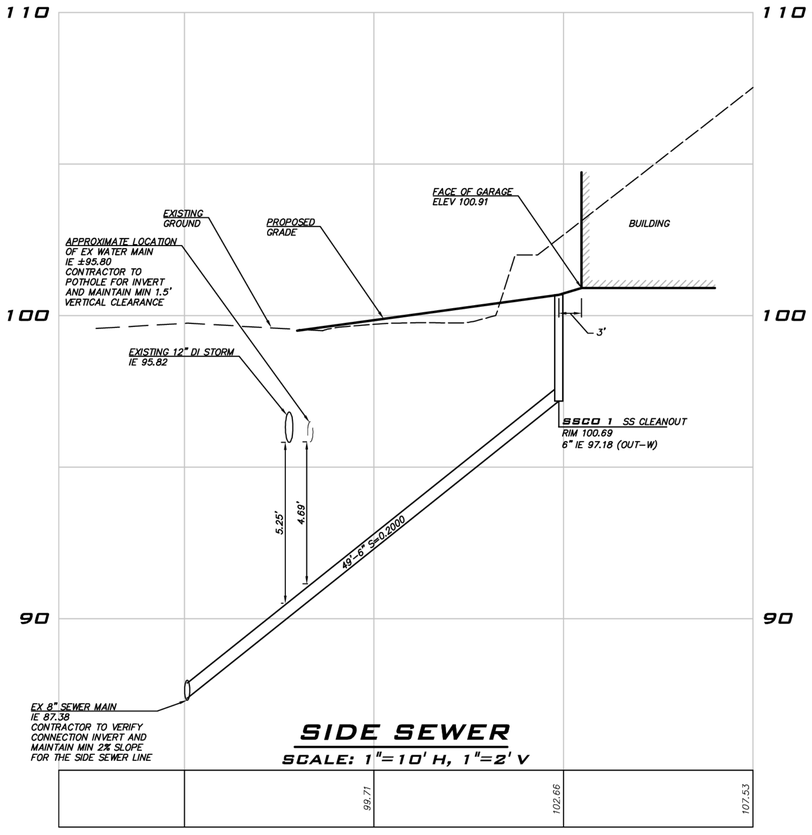

SIDE SEWER

SCALE: 1"=10' H, 1"=2' V

SANITARY SEWER NOTES

1. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT THE EASEMENT LINE.
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SCALE:
AS NOTED
PROJECT MANAGER:
YANNICK METS, PE
PROJECT ENGINEER:
ALI RAMEZANI, PE
DESIGNER:
CHRISTOPHER WSCOMB
ISSUE DATE:
11/20/2023

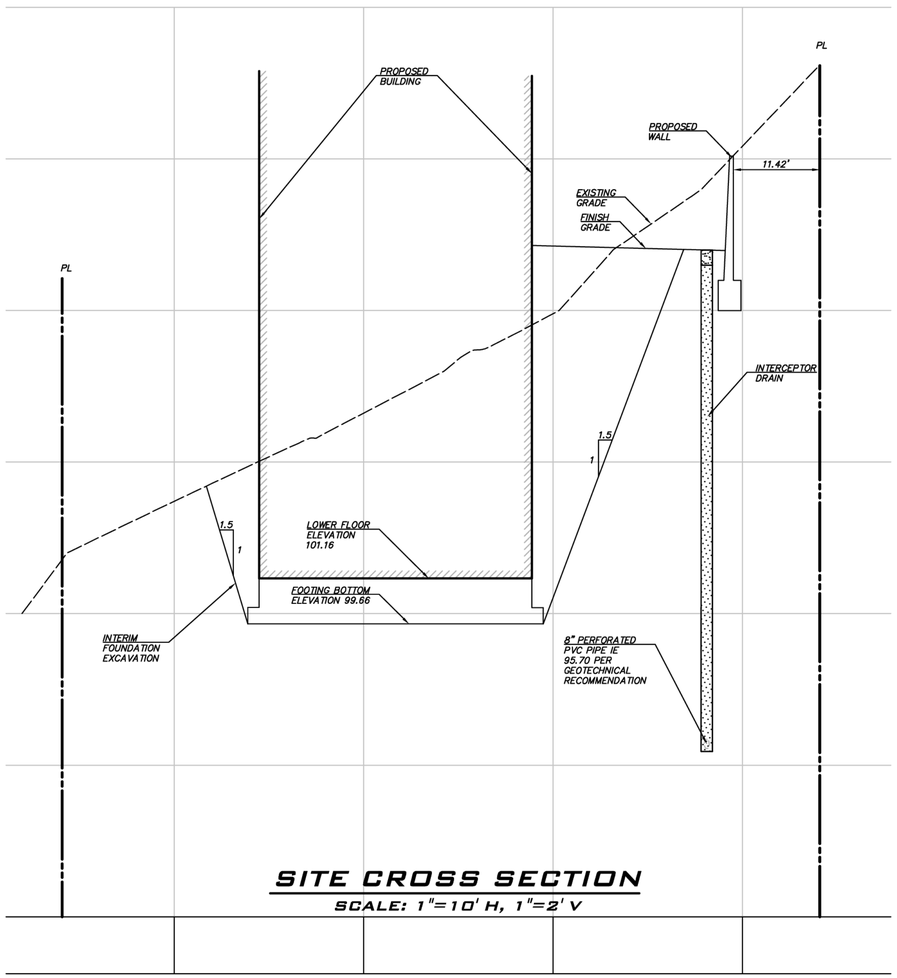
NO	DATE	BY	REVISIONS

SIDE SEWER PROFILE
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

11/20/23

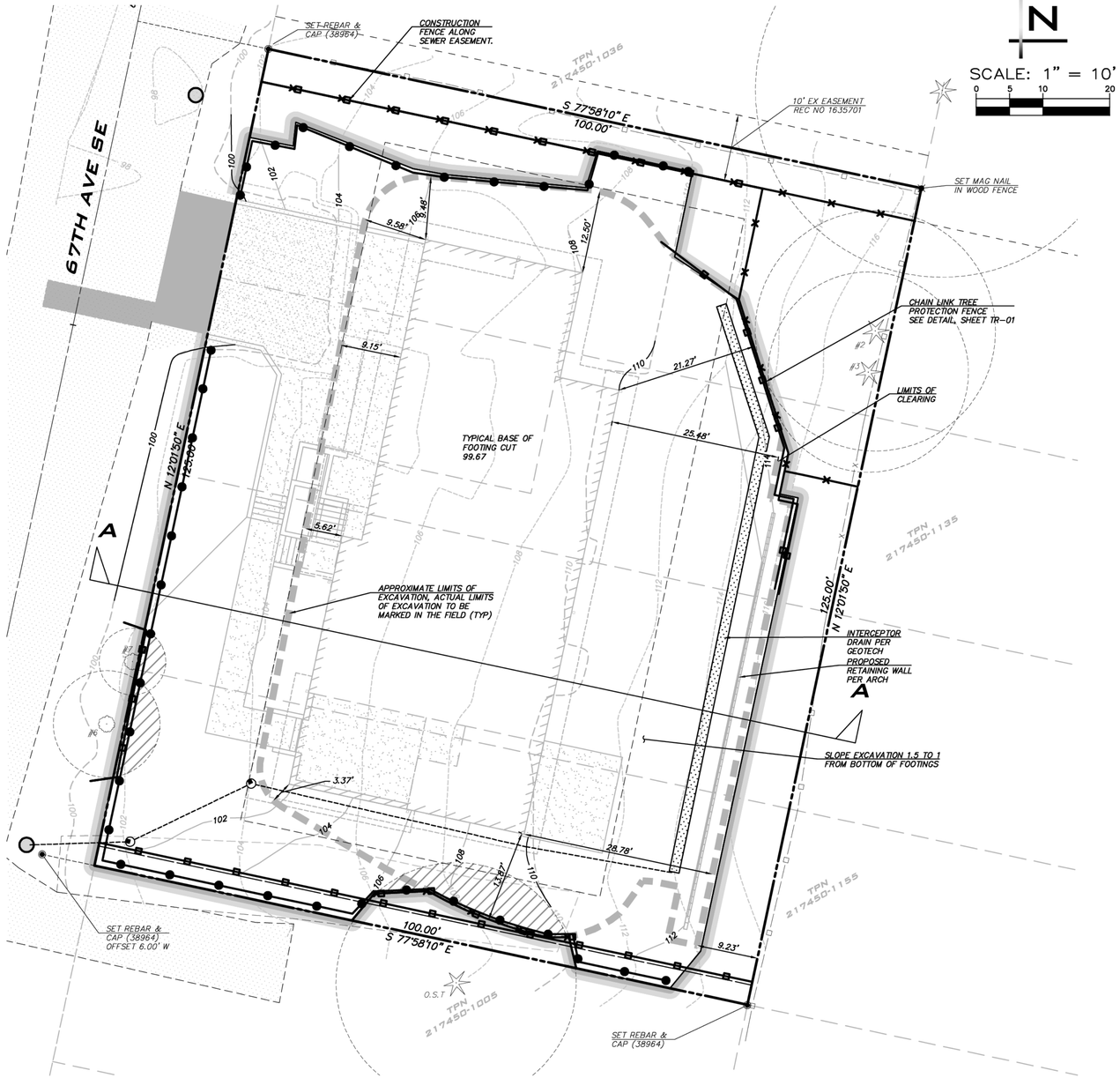
JOB NUMBER:
22-042
SHEET NAME:
SS-01
SHT 6 OF 9

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.



SITE CROSS SECTION

SCALE: 1"=10' H, 1"=2' V



SCALE: 1" = 10'
0 5 10 20

EXISTING UTILITY NOTE

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SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

TEMPORARY GRADING PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: TG-01
SHT 7 OF 9

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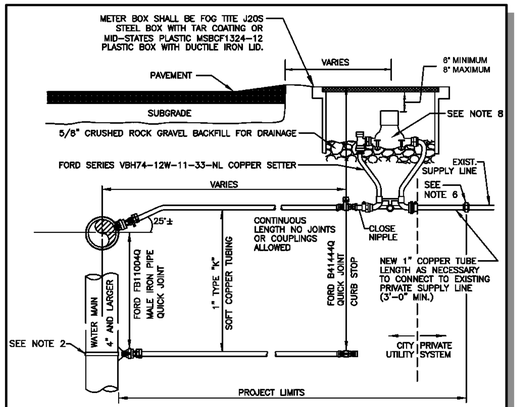


NOTES

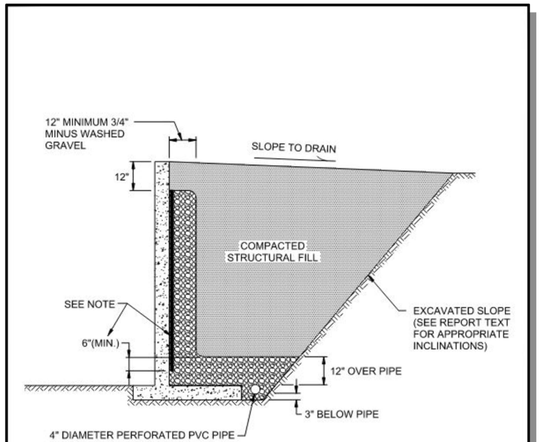
1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. ON EXISTING WATER MAINS USE NYLON COATED D.I. SADDLE WITH STAINLESS STEEL DOUBLE STRAPS, ROMAC 202NS, OR APPROVED EQUAL.
3. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18" MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24". ALL HORIZONALLY STAGGERED.
4. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
5. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
6. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
7. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
8. WATER METER SUPPLIED BY CITY.
9. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
10. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

1" WATER METER INSTALLATION

02-05-2021	NO SCALE	W-13

REV DATE | APPROVED



NOT TO SCALE

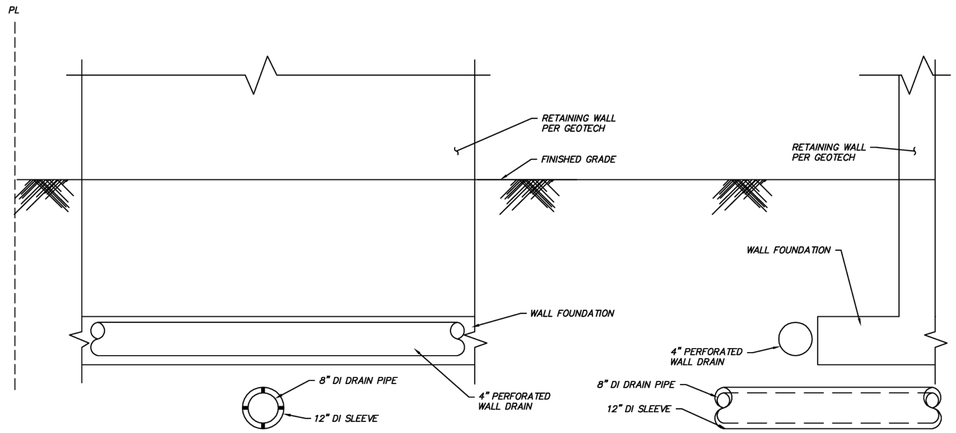
NOTE:

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.

Terra Associates, Inc.
Consultants in Geotechnical Engineering Geology and Environmental Earth Sciences

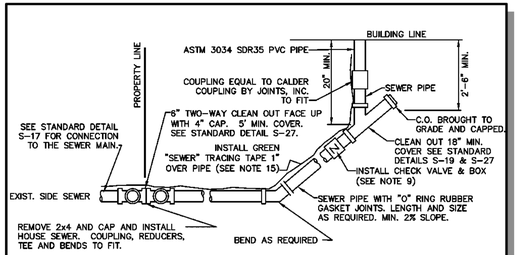
TYPICAL WALL DRAINAGE DETAIL
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date APR 2023	Figure 5



SKEMATIC WALL DRAIN & ENCASED DRAINAGE PIPE SECTION

NOT TO SCALE



BUILDING CONNECTION

NOTES

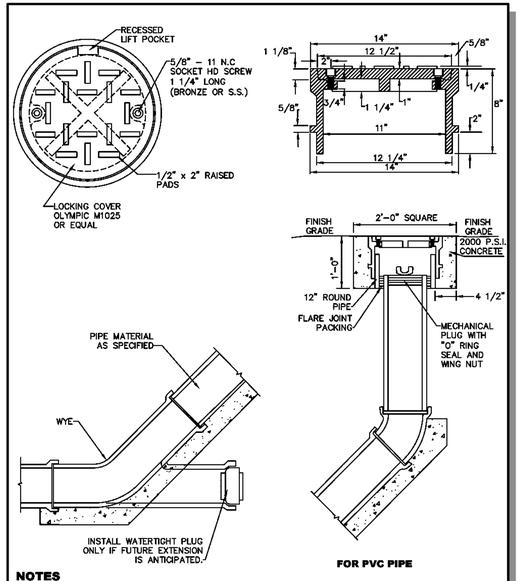
1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ⅛ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT"
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

HOUSE SEWER CONNECTION

6-5-2009	NO SCALE	S-18

REV DATE | APPROVED



NOTES

1. SEE S-27 FOR INSTALLATION DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

CLEAN OUT DETAIL

6-5-2009	NO SCALE	S-19

REV DATE | APPROVED

DISCONNECTION

WHEN DEMOLISHING AN EXISTING BUILDING, THE BUILDING SIDE SEWER SHALL BE DISCONNECTED PRIOR TO REMOVAL OF BUILDING FOUNDATIONS. THE CONTRACTOR SHALL INSTALL A MECHANICAL PLUG WITH NON-SHRINK GROUT AT THE END OF THE SIDE SEWER TO REMAIN IN PLACE. DISCONNECTION'S SHALL BE PERFORMED IN THE PRESENCE OF THE CITY'S UTILITY INSPECTOR. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT DRAWING DEPICTING THE DISCONNECTED SIDE SEWER UPON COMPLETION OF THE WORK.

RECONNECTION

WHEN RECONNECTING TO AN EXISTING SIDE SEWER, THE POINT OF RECONNECTION WILL BE DETERMINED BASED ON THE MAGNITUDE OF THE CONSTRUCTION ON THE PROPERTY.

1. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION – NO SIDE SEWER REPLACEMENT REQUIRED UNLESS A KNOWN PROBLEM EXISTS IN THE SIDE SEWER.
2. COMPLETE INTERIOR REMODEL OF RESIDENCE – ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED. IF EXISTING SIDE SEWER IS ASBESTOS CEMENT OR CONCRETE, SIDE SEWER SHALL BE REPLACED FROM BUILDING TO PROPERTY LINE, UNLESS THE APPLICANT PROVES, TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE SIDE SEWER IS WATER TIGHT AND IN SOUND CONDITION.*
3. COMPLETE INTERIOR REMODEL AND BUILDING ADDITION – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
4. CONSTRUCTION OF A NEW SINGLE FAMILY RESIDENCE – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
5. BACK WATER VALVE INSTALLATION PER CITY ENGINEER, IF SCENARIO 2, 3 OR 4 IS DIRECTLY ATTACHED TO THE LAKE LINE.

VIDEO INSPECTION OF THE EXISTING SIDE SEWER, BETWEEN THE PROPERTY LINE AND THE SEWER MAIN SHALL BE PERFORMED FOR SCENARIOS NUMBER 3 AND 4.

PROVIDE A COPY OF THE VIDEO DOCUMENTATION TO THE CITY ENGINEER.

REPLACEMENT OR REPAIR OF THAT PORTION OF THE SIDE SEWER BETWEEN THE PROPERTY LINE AND THE SEWER MAIN, WILL BE DETERMINED BY THE CITY ENGINEER, BASED ON THE VIDEO INSPECTION.

*IF THE EXISTING SIDE SEWER IS PVC AND IS LESS THAN TEN YEARS OLD, THE SIDE SEWER DOES NOT HAVE TO BE REPLACED IF A VIDEO INSPECTION AND HYDROSTATIC PRESSURE TEST CONFIRMS THAT THE SIDE SEWER IS IN PROPER WORKING CONDITION. THESE TESTS SHALL BE PERFORMED AFTER ALL HEAVY EQUIPMENT THAT COULD DAMAGE THE SIDE SEWER IS OFF OF THE SITE.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

RESIDENTIAL SIDE SEWER DISCONNECTION & RECONNECTION

6-5-2009	NO SCALE	S-22

REV DATE | APPROVED

EXISTING UTILITY NOTE

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DETAILS

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SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56006 REGISTERED PROFESSIONAL ENGINEER

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JOB NUMBER: 22-042
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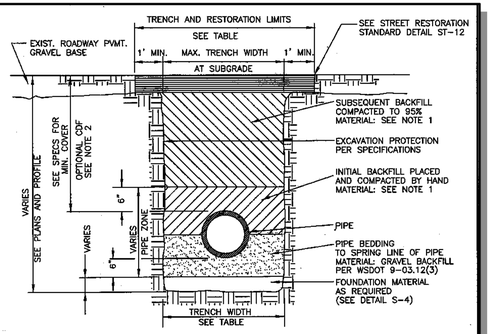
Nov 20, 2023 – 8:39am – User couch
E:\Projects\22042\Dwg\Stefan\220420T.dwg



NOTES

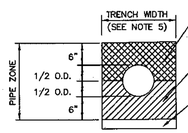
1. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS.
2. CDF FOR BACKFILL MAY BE REQUIRED BY CITY ENGINEER WHEN PROPER COMPACTION AROUND EXISTING UTILITIES MAY NOT BE POSSIBLE. CDF SHALL BE PER WSDOT 2-09.3(1)E.
3. SEE S-4 FOR PIPE BEDDING DETAILS.

TRENCH WIDTH

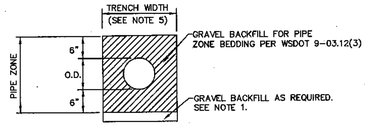
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
SIDE SEWER	2'-0"	2'-0"	6'-0"
4" OR 6"	2'-2"	3'-0"	8'-0"
8"	2'-4"	4'-0"	8'-0"
10"	2'-6"	4'-0"	8'-0"
12"	2'-8"	4'-6"	8'-8"

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SEWER TRENCH DETAIL
6-5-2009 | NO SCALE | **S-3**
REV DATE | APPROVED

BEDDING FOR RIGID PIPE MATERIAL



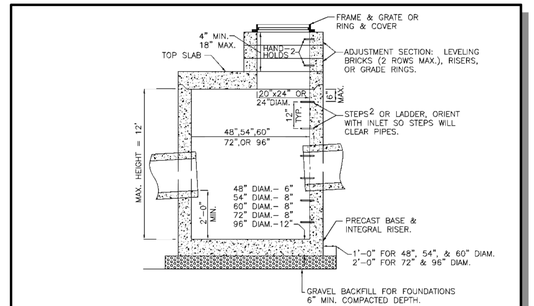
BEDDING FOR FLEXIBLE PIPE MATERIAL



NOTES

1. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL. REPLACE WITH GRAVEL BACKFILL PER WSDOT 9-03.12(3) AS DIRECTED BY THE CITY ENGINEER.
2. PROVIDE UNIFORM SUPPORT UNDER BARREL.
3. HAND TAMP UNDER HAUNCHES.
4. COMPACT BEDDING AND BACKFILL MATERIAL TO 95% MAX. DENSITY EXCEPT DIRECTLY OVER PIPE. HAND TAMP ONLY UNTIL MINIMUM 6" ABOVE TOP OF PIPE.
5. 30" MAXIMUM TRENCH WIDTH FOR PIPE UP TO AND INCLUDING 12", FOR PIPE LARGER THAN 12", USE O.D. PLUS 18".

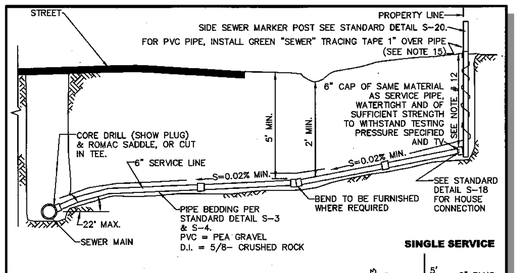
CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
PIPE BEDDING
6-5-2009 | NO SCALE | **S-4**
REV DATE | APPROVED



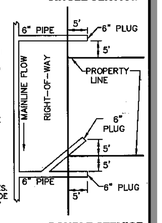
NOTES:

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M199) AND ASTM C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT STANDARD SPECIFICATIONS.
2. HANDHOLDS IN ADJUSTMENT SECTION SHALL HAVE 3" MIN. CLEARANCE. STEPS IN CATCH BASIN SHALL HAVE 6" MIN. CLEARANCE. SEE STD. DTL. NO D-5, CATCH BASIN DETAILS. HANDHOLDS SHALL BE PLACED IN ALTERNATING GRADE RINGS OR LEVELING BRICK COURSE WITH A MIN. OF ONE HANDHOLD BETWEEN THE LAST STEP AND TOP OF THE FINISHED GRADE.
3. APPLY NON-SHRINK GROUT TO INSIDE AND OUTSIDE OF ALL JOINTS, RINGS, RISERS AND FRAMES. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS. MAX. HOLE SIZE SHALL BE 36" FOR 48" CATCH BASIN, 42" FOR 54" C.B., 48" FOR 60" C.B., 60" FOR 72" C.B., 84" FOR 96" C.B. MIN. DISTANCE BETWEEN HOLES SHALL BE 8" FOR 48", 54", AND 60" C.B.; 12" FOR 72" AND 96" C.B.
6. CATCH BASIN FRAMES AND GRATES OR COVERS SHALL BE IN ACCORDANCE WITH SEC. 7.05 OF THE STANDARD SPECIFICATIONS. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
7. FOR HEIGHTS OF 12' OR LESS, MINIMUM SOIL BEARING VALUE SHALL EQUAL 3,300 POUNDS PER SQUARE FOOT. FOR HEIGHTS OVER 12', MIN. SOIL BEARING VALUE SHALL EQUAL 3,800 POUNDS PER SQUARE FOOT.
8. SEE THE STANDARD SPECIFICATIONS SEC. 7-05.3 FOR JOINT REQUIREMENTS.

City of Bellevue — STORM AND SURFACE WATER UTILITY
TITLE
CATCH BASIN TYPE 2
48", 54", 60", 72", & 96"
JANUARY 2021 | NO SCALE | NO. D-4



SINGLE SERVICE

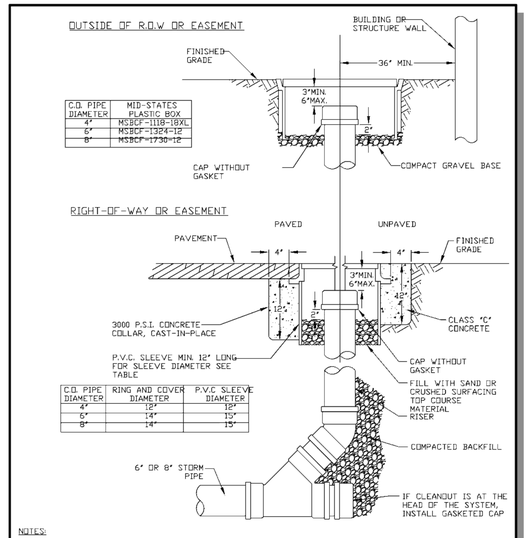


DOUBLE SERVICE

NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-82-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER CONNECTION AND STUB
6-5-2009 | NO SCALE | **S-17**
REV DATE | APPROVED



NOTES:

1. BOLT-LOCKING CAST IRON RING AND COVER SHALL BE USED IN RIGHT-OF-WAY AND EASEMENTS AND MUST BE RATED HS-20 IF USED IN PAVED AREAS. SEE TABLE FOR SIZES.
2. MID-STATES PLASTIC BOX OR EQUAL MAY BE USED IF C.O. IS OUTSIDE OF RIGHT-OF-WAY OR EASEMENT. SEE TABLE FOR SIZES. THE COVER FOR THE PLASTIC BOX SHALL BE DUCTILE IRON AND READ "DRAIN" OR BE BLANK (NO LABEL).
3. CAST IRON COVER SHALL READ "DRAIN"
4. LOCKING BOLTS SHALL BE 5/8"-11 N.C. 304 STAINLESS STEEL SOCKET (ALLEN) HEAD, 2" LONG.
5. 14" BOLT-LOCKING CAST IRON COVER SHALL BE EQUAL TO INLAND FOUNDRY NUMBER 209, OR 210.
6. SPECIAL "DECORATIVE" CASTING MAY BE USED IF PREAPPROVED BY CITY.

City of Bellevue — STORM AND SURFACE WATER UTILITY
TITLE
CLEANOUT TO GRADE
JANUARY 2021 | NO SCALE | NO. D-52

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

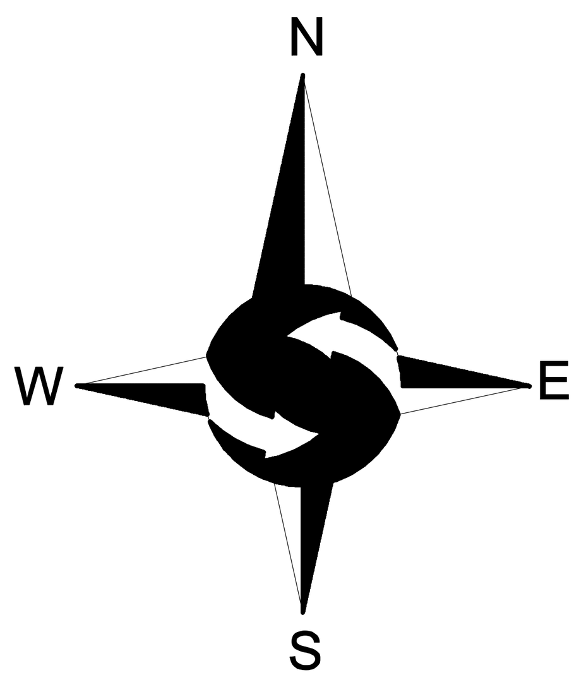
NO	DATE	BY	REVISIONS

DETAILS
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS — STATE OF WASHINGTON — 56006 — REGISTERED PROFESSIONAL ENGINEER
11/20/23

JOB NUMBER: 22-042
SHEET NAME: DT-02
SHT 9 OF 9

22x34
Nov 20, 2023 - 8:39am - User ccouch
E:\Projects\22042\Dwg\Stefan\22042DT.dwg



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

LEGEND

○	FOUND REBAR AS DESCRIBED	OHP	OVERHEAD POWER
	SET MAG NAIL AS DESCRIBED	OHU	OVERHEAD UTILITIES
●	SET 5/8" X 24" IRON ROD W/1" YELLOW PLASTIC CAP		WOOD FENCE
	POWER METER		CONCRETE WALL
	UTILITY POLE		WIRE FENCE
	CATCH BASIN		TIMBER WALL
	MAILBOX		ROCKERY
	SANITARY SEWER MANHOLE		ASPHALT SURFACE
	WATER VALVE		CONCRETE SURFACE
	FIRE HYDRANT	AP	APPLE
	WATER METER	DF	DOUGLAS FIR
	SIGN	DS	DECIDUOUS
SS	APPROXIMATE LOCATION SANITARY SEWER LINE	PI	PINE
SD	APPROXIMATE LOCATION STORM DRAIN LINE		* INDICATES MULTI-TRUNK
W	APPROXIMATE LOCATION UNDERGROUND WATER LINE		

LEGAL DESCRIPTION

LOTS 15, 16, 17, 18 AND THE SOUTHERLY 5 FEET OF LOT 19, BLOCK 6, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGES 22 AND 23, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THAT PORTION THEREOF LYING WITHIN MERCER ISLAND ROAD (67TH AVENUE SE)

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

BASIS OF BEARINGS

RECORD OF SURVEY BY TERRANE FOR JAYMARC HOMES, RECORDED ON JULY 26, 2021, IN VOLUME 451 OF SURVEYS, PAGE 259, UNDER RECORDING NO. 20210726900027, RECORDS OF KING COUNTY, WASHINGTON.

PROJECT INFORMATION

SURVEYOR:	SITE SURVEYING, INC. 21923 NE 11TH ST SAMMAMISH, WA 98074 PHONE: 425.298.4412
PROPERTY OWNER:	WILLIAM E. BUCHAN, INC 3036 67TH AVENUE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	217450-1025
PROJECT ADDRESS:	3036 67TH AVENUE SE MERCER ISLAND, WA 98040
ZONING:	R-8.4
JURISDICTION:	CITY OF MERCER ISLAND
PARCEL ACREAGE:	12,500 S.F. (0.286 ACRES) AS SURVEYED

GENERAL NOTES

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

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

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

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

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

VERTICAL DATUM & CONTOUR INTERVAL

DATUM

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE CITY OF MERCER ISLAND.

THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF 68TH AVENUE SE W AND SE 32ND STREET.

POINT ID NO. 47746;
ELEVATION: 112.571 FEET - NAVD 88

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

VICINITY MAP

NTS

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

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

THOMAS N. WOLDENDORP
STATE OF WASHINGTON
38964
REGISTERED PROFESSIONAL LAND SURVEYOR

DATE	REVISION	DRN

TOPOGRAPHIC SURVEY

WILLIAM E. BUCHAN, INC
3036 67TH AVENUE SE
MERCER ISLAND, WA 98040

PROJECT NO. 21-461

DRAWN BY: EFJ
CHECKED BY: TNW
DATE: 8/17/21
SHEET 1 OF 1

SYMBOLS AND LEGEND

[F] FAN- DIRECT VENT TO OUTSIDE
-BATHROOMS/LAUNDRY 50 CFM MIN.
-KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.

[WF] WHOLE-HOUSE FAN ON TIMER, SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.

(HD) 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 PER SECTION R314.2.3

[T] THERMOSTAT @ 50" ABOVE FLOOR

110v SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

P-1 OCCUPANCY SEPARATION: APPLY (1) LAYER OF ½" G.W.B. TO GARAGE SIDE OF RESIDENCE, ATTIC SPACES, & TO ALL BEAMS & POSTS SUPPORTING A FLOOR-CEILING ASSEMBLY. APPLY (1) LAYER OF " TYPE 'X' G.W.B. TO GARAGE CEILING WHEN UNDER HABITABLE ROOMS. DUCTS THROUGH WALL OR CEILING COMMON TO HOUSE SHALL HAVE MINIMUM 26 GAUGE STEEL
SEE DIV. 01002.6.A. SHEET A-1.

P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
SEE DIV. 01002.6.B. SHEET A-1

P-3 SAFETY GLAZING PER I.R.C., SECTION R308
A. WINDOWS WITHIN 18" OF FLOOR
B. WINDOWS WITHIN A 24" ARC OF DOORS
C. WINDOWS AT TUBS AND SHOWERS
D. GLAZING IN DOORS
E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
SEE DIV. 08800 SHEET A-1

FLOOR PLAN KEY NOTES

P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0".
B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. 01002.6 SHEET A-1.

FLOOR PLAN KEY NOTES

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08600 SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN, ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09250 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01002.7 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01002.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01002.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

FLOOR PLAN KEY NOTES

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R1003.13.

P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS

P-17 3" DIAMETER STEEL POST

FLOOR PLAN KEY NOTES

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 'B' VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1005.3. SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

FOUNDATION KEYNOTES

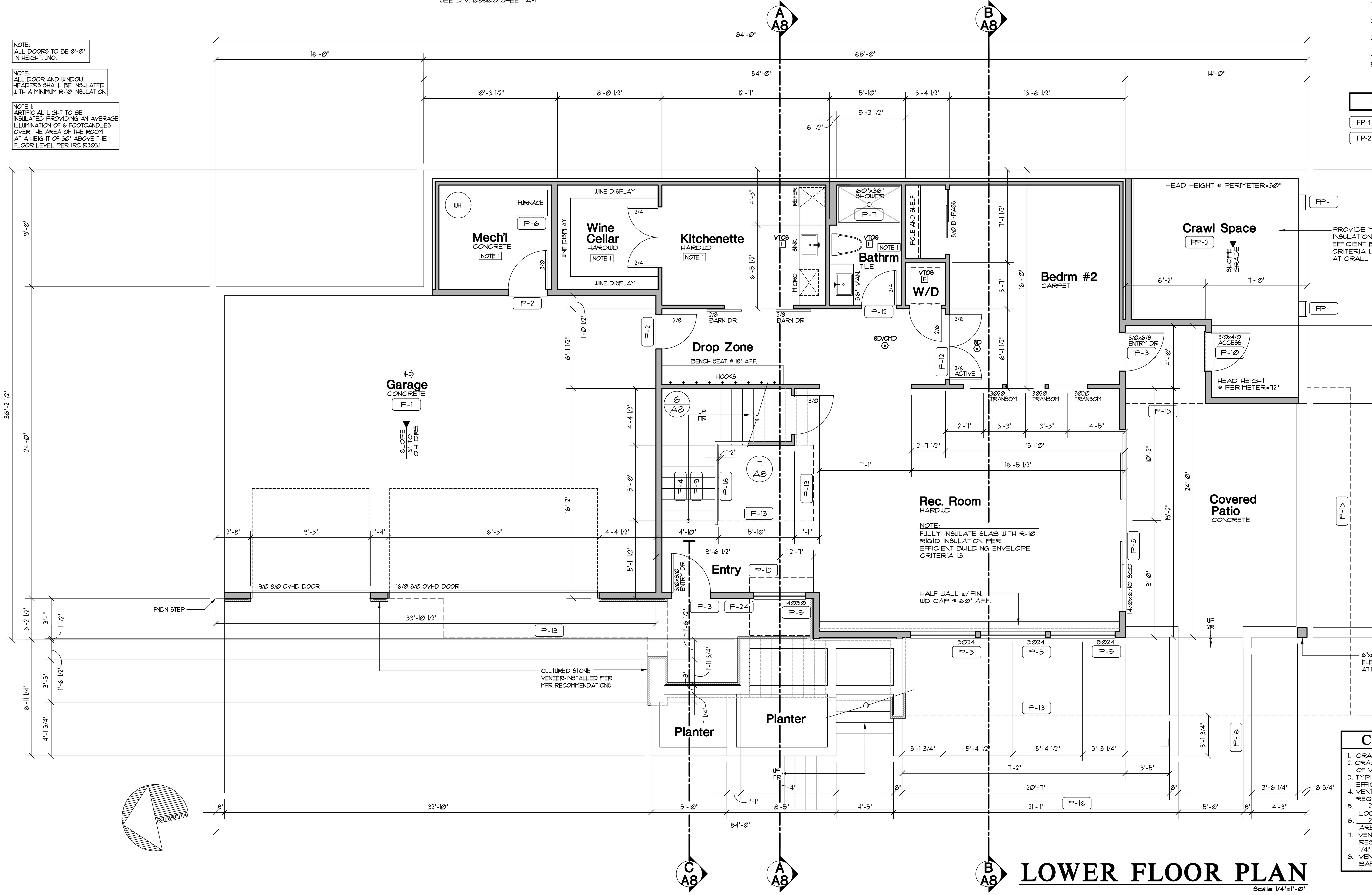
FP-1 CRAWL SPACE VENT. SEE CALCULATION. SEE DIV. 1 SHEET A-1

FP-2 6 MIL BLACK POLYETHYLENE GROUND COVER ON GRADE. SEE DIV. 7 SHEET A-1

NOTE: ALL DOORS TO BE 8'-0" IN HEIGHT, UNO.

NOTE: ALL DOOR AND WINDOW HEADERS SHALL BE INSULATED WITH A MINIMUM R-10 INSULATION

NOTE 1: ARTIFICIAL LIGHT TO BE INSULATED PROVIDING AN AVERAGE ILLUMINATION OF 6 FOOTCANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30" ABOVE THE FLOOR LEVEL PER IRC R303.1



LOWER FLOOR PLAN

Scale 1/4"=1'-0"

CRAWL SPACE VENTS

1. CRAWL SPACE AREA 215 SF
2. CRAWL SPACE AREA / 300 = .72 SF OF VENT AREA REQUIRED
3. TYPICAL VENT SIZE = 14"x8"x.75 (75% EFFICIENCY) = .58 SF PER VENT NET FREE AREA
4. VENT AREA / .58 = 1.23 VENTS REQUIRED.
5. 2 VENTS SHOWN (SEE PLAN FOR LOCATION)
6. 2 VENTS x .58 = 1.16 SF OF VENT AREA PROVIDED.
7. VENTS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH OPENINGS OF 1/4" MAX.
8. VENTS LOCATED IN RIM JOIST MUST BE PERMANENTLY BAFFLED. WSEC 502.1.4.7

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

ORIGINAL SIGNATURE REQUIRED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island, WA

ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kapplerhomeplans.com

TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A2

SYMBOLS AND LEGEND

[F] FAN- DIRECT VENT TO OUTSIDE
-BATHROOMS/LAUNDRY 50 CFM MIN.
-KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.

[WF] WHOLE-HOUSE FAN ON TIMER, SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.

(HD) 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 PER SECTION R314.2.3

[T] THERMOSTAT @ 50" ABOVE FLOOR

110v SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

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SEE DIV. 01002.6.A. SHEET A-1.

P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
SEE DIV. 01002.6.B. SHEET A-1

P-3 SAFETY GLAZING PER I.R.C., SECTION R308
A. WINDOWS WITHIN 18" OF FLOOR
B. WINDOWS WITHIN A 24" ARC OF DOORS
C. WINDOWS AT TUBS AND SHOWERS
D. GLAZING IN DOORS
E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
SEE DIV. 08800 SHEET A-1

P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
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B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. 01002.6 SHEET A-1.

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08600 SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN, ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09250 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01002.7 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01002.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01002.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R1003.13.

P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS

P-17 3" DIAMETER STEEL POST

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 'B' VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1005.3. SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

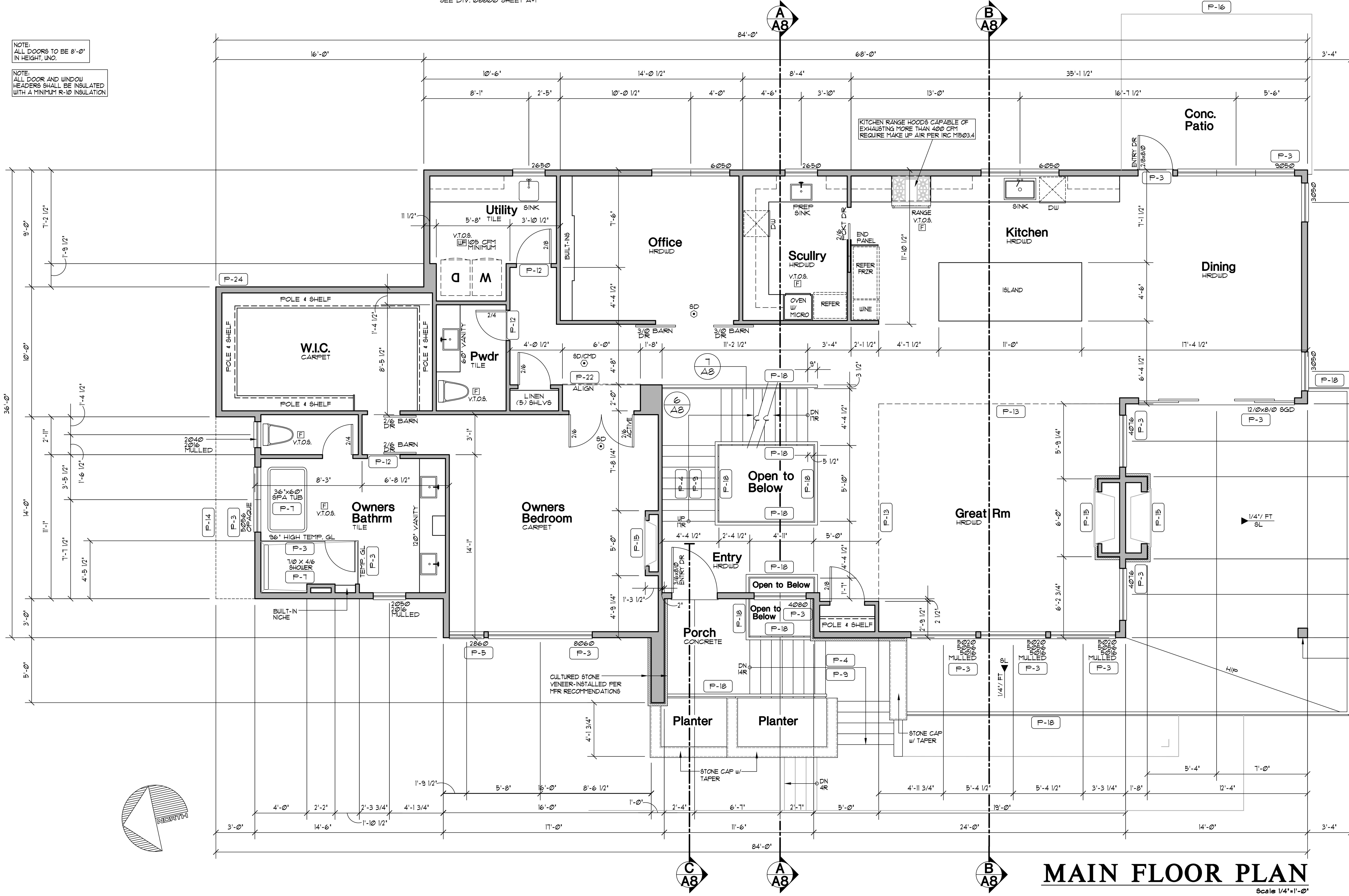
P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.



MAIN FLOOR PLAN

Scale 1/4"=1'-0"

SQUARE FOOTAGE

MAIN FLOOR	2447	SF
UPPER FLOOR	1327	SF
LOWER	1312	SF
TOTAL	5086	SF
GARAGE	897	SF
PORCH/DECK	1409	SF

SQUARE FOOTAGE IS MEASURED TO THE OUTSIDE FACE OF WALLS. STAIRS ARE COUNTED ONCE IN CALCULATIONS. OPEN TO BELOW SPACES AND GARAGES ARE NOT INCLUDED IN CALCULATIONS.

ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
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STARTING NO. : 21076.05

SHEET
A3

SYMBOLS AND LEGEND

[F] FAN- DIRECT VENT TO OUTSIDE
-BATHROOMS/LAUNDRY 50 CFM MIN.
-KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.

[WF] WHOLE-HOUSE FAN ON TIMER, SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.

(HD) 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 PER SECTION R314.2.3

[T] THERMOSTAT @ 50" ABOVE FLOOR

110V SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

P-1 OCCUPANCY SEPARATION: APPLY (1) LAYER OF ½" G.W.B. TO GARAGE SIDE OF RESIDENCE, ATTIC SPACES, & TO ALL BEAMS & POSTS SUPPORTING A FLOOR-CEILING ASSEMBLY. APPLY (1) LAYER OF " TYPE 'X' G.W.B. TO GARAGE CEILING WHEN UNDER HABITABLE ROOMS. DUCTS THROUGH WALL OR CEILING COMMON TO HOUSE SHALL HAVE MINIMUM 26 GAUGE STEEL
SEE DIV. 01002.6.A. SHEET A-1.

P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
SEE DIV. 01002.6.B. SHEET A-1

P-3 SAFETY GLAZING PER I.R.C., SECTION R308
A. WINDOWS WITHIN 18" OF FLOOR
B. WINDOWS WITHIN A 24" ARC OF DOORS
C. WINDOWS AT TUBS AND SHOWERS
D. GLAZING IN DOORS
E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
SEE DIV. 08800 SHEET A-1

FLOOR PLAN KEY NOTES

P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0".
B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. 01002.6 SHEET A-1.

FLOOR PLAN KEY NOTES

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08600 SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN, ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09250 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01002.7 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01002.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01002.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

FLOOR PLAN KEY NOTES

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R1003.13.

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P-17 3" DIAMETER STEEL POST

FLOOR PLAN KEY NOTES

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 'B' VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1005.3. SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
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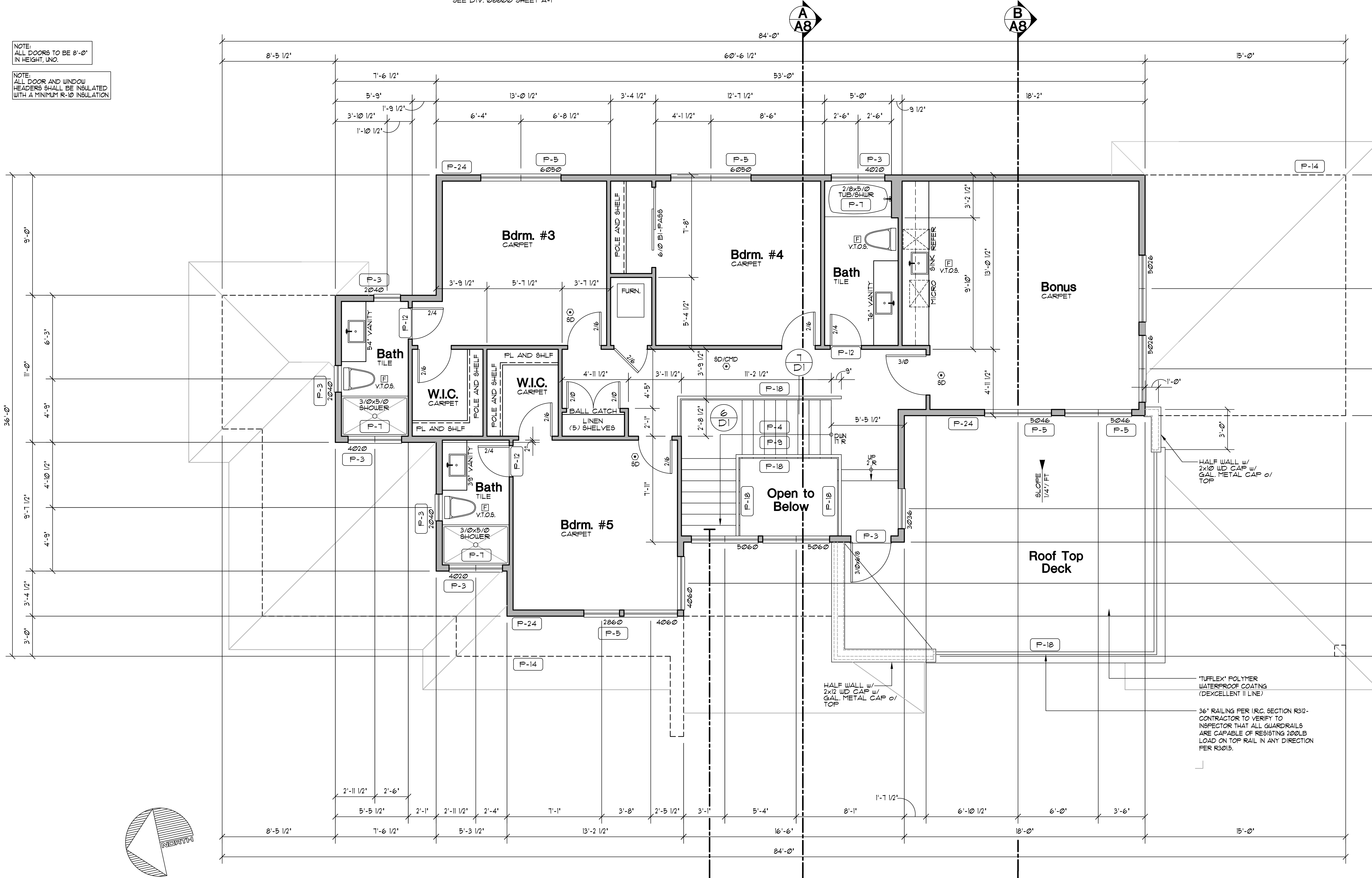

UPPER FLOOR PLAN

Scale 1/4"=1'-0"

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10/12/22	REY	PERMIT SET
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11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

REGISTERED ARCHITECT 5079 JOHN KAPPLER STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

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STARTING NO.: 21076.05

SHEET
A4

(A) ROOF VENT CALCULATION

TOTAL ROOF AREA 1453 SF/ 150 = 9.69 SF OF VENT AREA REQ.

4 ROOF JACKS AT 38 SQ. IN. EACH= 152 SQ. IN.= 1.05 SF

197 L.F. OF EAVE VENTS AT 6.6*SQ. IN./LF= 1300 SQ. IN.= 9 SF

TOTAL SF OF VENTILATION PROVIDED = 1.31 SF

(B) ROOF VENT CALCULATION

TOTAL ROOF AREA 325 SF/ 150 = 2.16 SF OF VENT AREA REQ.

0.00 ROOF JACKS AT 38 SQ. IN. EACH= 0.00 SQ. IN.= 0.00 SF

74 L.F. OF EAVE VENTS AT 6.6*SQ. IN./LF= 488 SQ. IN.= 3.39 SF

TOTAL SF OF VENTILATION PROVIDED = 3.39 SF

(C) ROOF VENT CALCULATION

TOTAL ROOF AREA 540 SF/ 150 = 3.6 SF OF VENT AREA REQ.

2 ROOF JACKS AT 38 SQ. IN. EACH= 76 SQ. IN.= .53 SF

72 L.F. OF EAVE VENTS AT 6.6*SQ. IN./LF= 475 SQ. IN.= 3.3 SF

TOTAL SF OF VENTILATION PROVIDED = 3.83 SF

(D) ROOF VENT CALCULATION

TOTAL ROOF AREA 83 SF/ 150 = .55 SF OF VENT AREA REQ.

0.00 ROOF JACKS AT 38 SQ. IN. EACH= 0.00 SQ. IN.= 0.00 SF

33 L.F. OF EAVE VENTS AT 3.3*SQ. IN./LF= 108 SQ. IN.= .76 SF

TOTAL SF OF VENTILATION PROVIDED = 1.31 SF

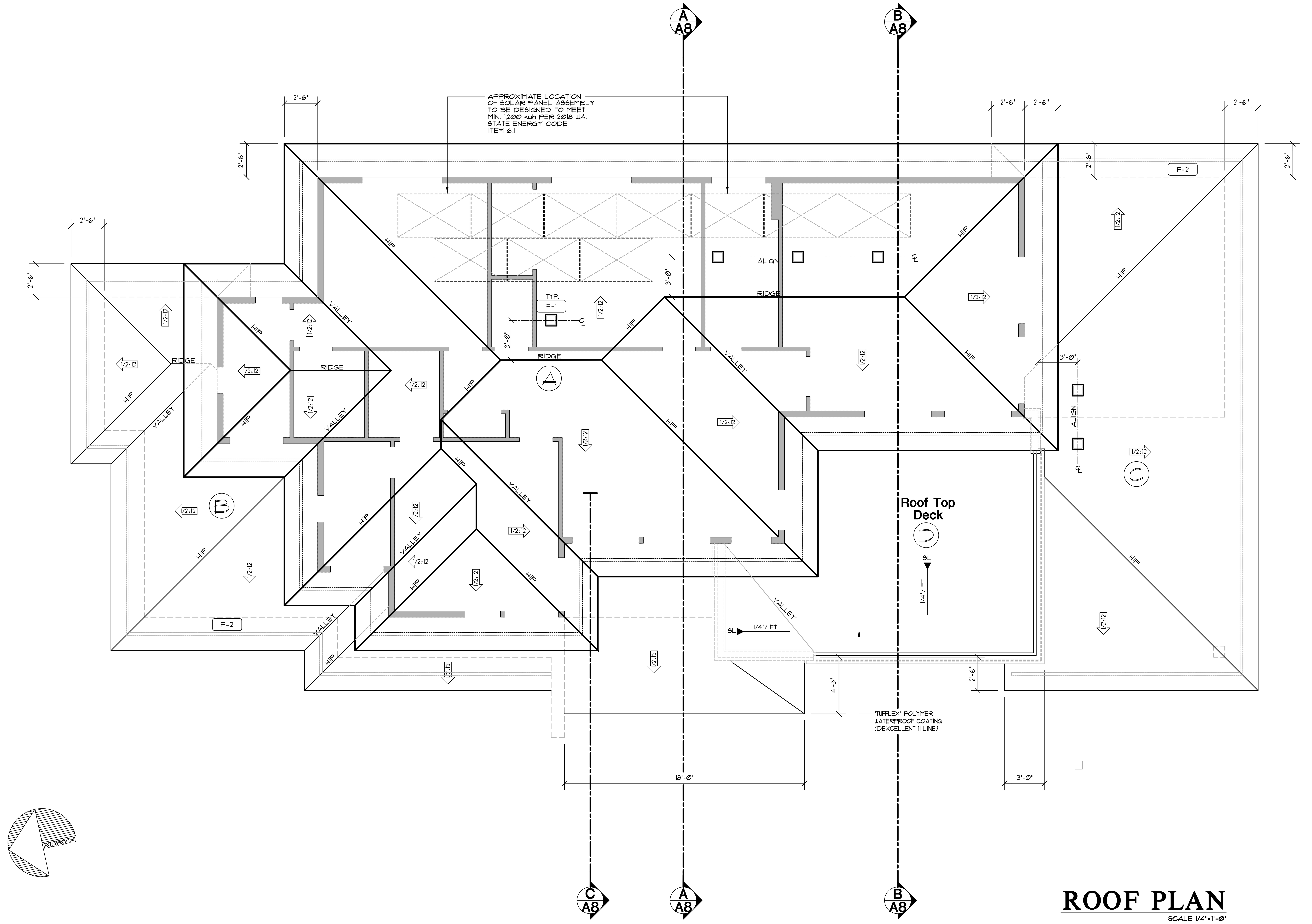
GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

ROOF PLAN KEY NOTES

F-1 ATTIC SPACE VENT
SEE CALCULATION
SEE DIV. 01002.3.B SHEET A-1

F-2 WALL LINE BELOW



ROOF PLAN

SCALE 1/4"=1'-0"

REGISTERED ARCHITECT
5079
JOHN KAPPLER
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

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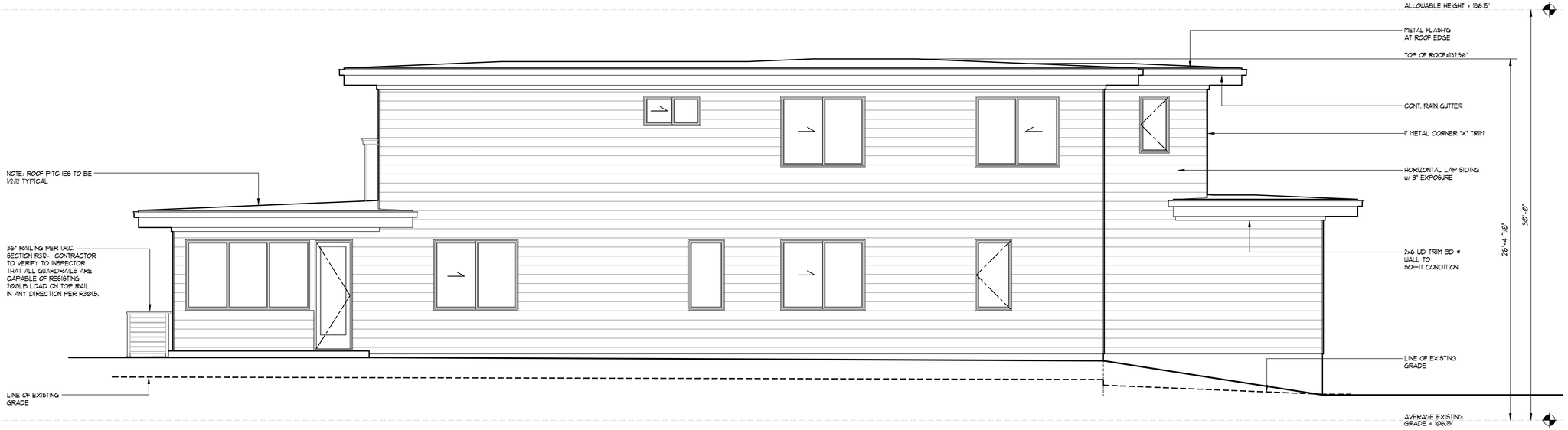
SHEET

A5

FRONT ELEVATION

Scale 1/4"=1'-0"



REAR ELEVATION

Scale 1/4"=1'-0"

TYPICAL BUILDING MATERIALS

ROOF CONSTRUCTION

ROOFING: (DIV. 7) — SHINGLES (DIV. 01000.5)
BUILDING PAPER: (DIV. 7) — 30# BUILDING PAPER
SHEATHING: (DIV. 6) — 7/16" O.S.B. OR EQUAL

FRAMING: (DIV. 6) — PER PLAN
INSULATION: (DIV. 7) — R-49 BLOWN-IN
SOFFIT: (DIV. 7) — 1/2" RE-SAWN PLYWOOD
GWB: (DIV. 9) — 5/8" GWB

EXTERIOR WALL CONSTRUCTION

SIDING MATERIAL: (DIV. 7) — WOOD SIDING (DIV. 0100.5)
BUILDING WRAP: (DIV. 7) — 15# BUILDING PAPER
SHEATHING: (DIV. 6) — 1/2" CDX PLYWOOD OR EQUAL
FRAMING: (DIV. 6) — 2 X 6 STUDS AT 16" OC
INSULATION: (DIV. 7) — R-21 BATT W/ INTEGRAL VAPOR BARRIER

GWB: (DIV. 9) — 1/2" GWB

FLOOR CONSTRUCTION

FLOORING: (DIV. 9) — FINISH PER PLANS (DIV. 0100.5)
SUBFLOOR: (DIV. 6) — 3/4" T&G (PLYWD, COMPLY, OR EQ.)
FRAMING: (DIV. 6) — PER PLANS
INSULATION: (DIV. 7) — R-30 BATT
SOFFIT: (DIV. 7) — 1/2" RE-SAWN PLYWOOD

TRIM:(DIV. 6)

WINDOW: (WITH NO BRICK MOLD) — HEAD: N/A; JAMB: N/A; SILL: N/A
CORNER BOARDS: — INSIDE: 2x2; OUTSIDE: METAL "X"
FASCIA: — 2x8 UNO

REGISTERED ARCHITECT — STATE OF WASHINGTON — ORIGINAL SIGNATURE REQUIRED

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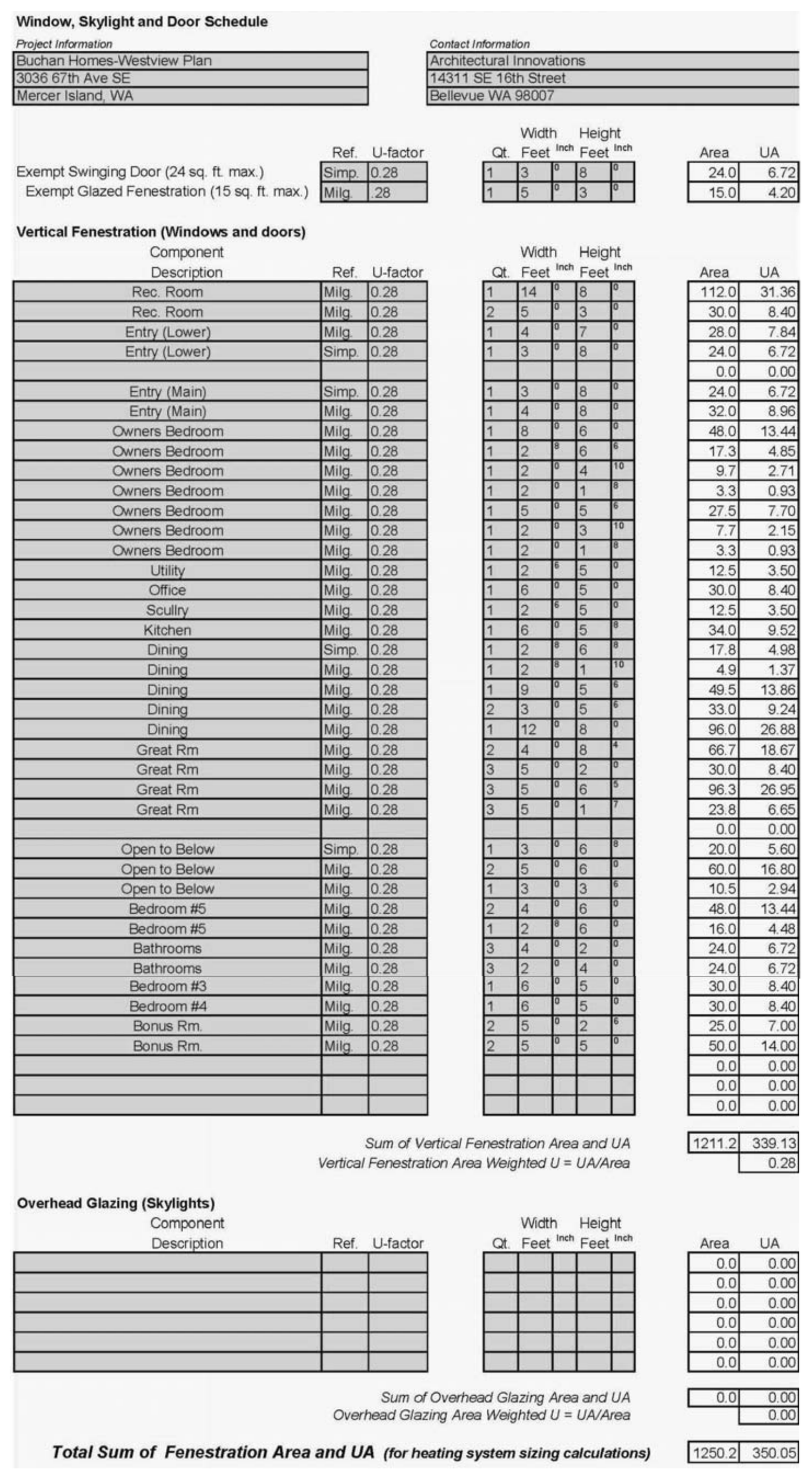
SHEET

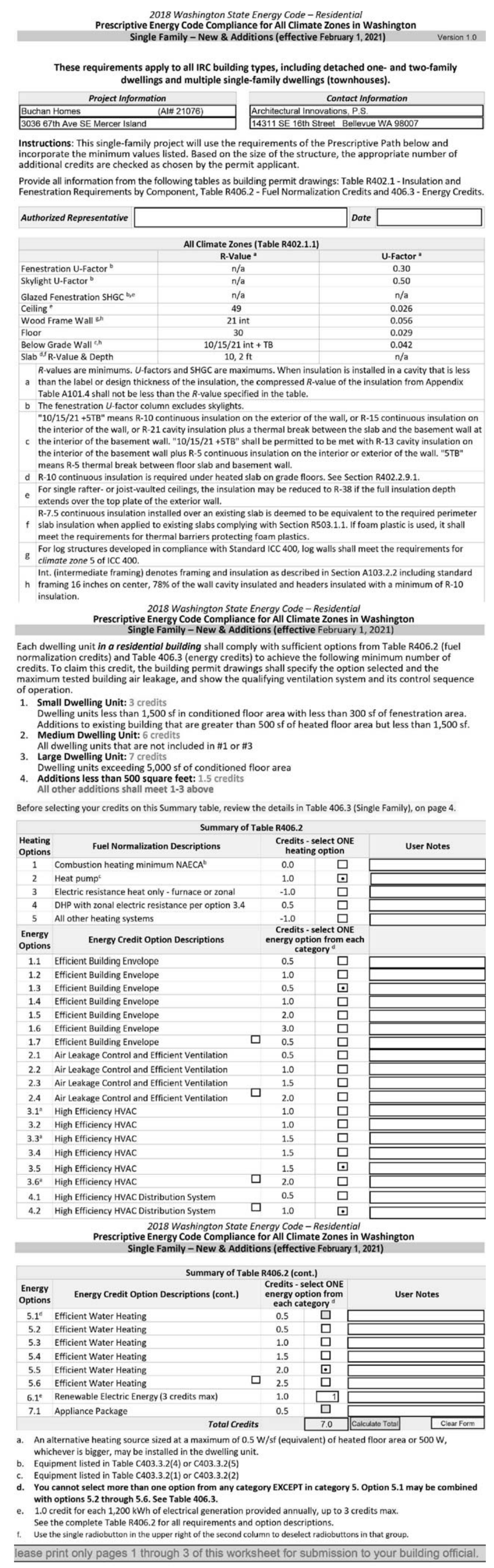
A6

2018 Energy Credits

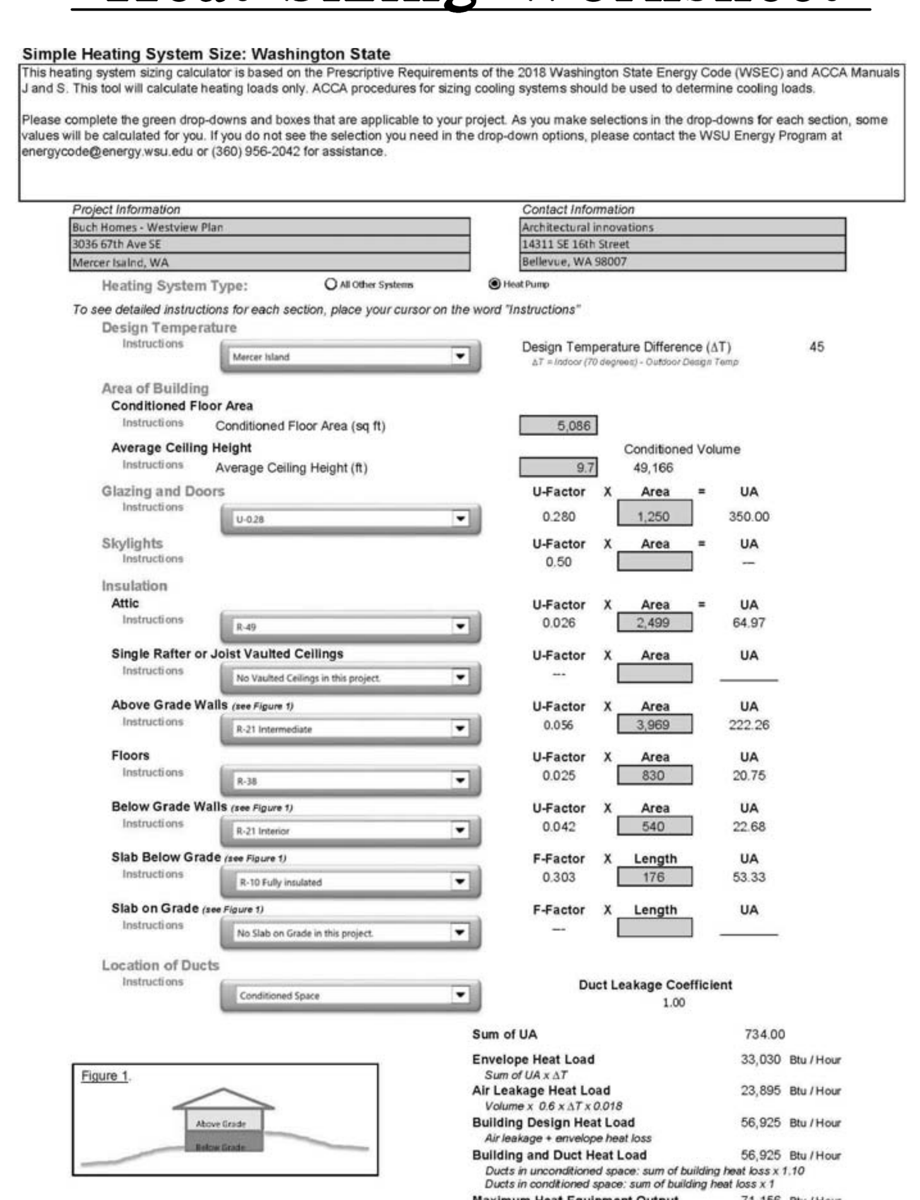
Glazing Schedule



Prescriptive Compliance



Heat Sizing Worksheet



2 HEAT PUMP 1.0 credits
EQUIPMENT LISTED IN TABLE C403.3.2(1) OR C403.3.2(2)

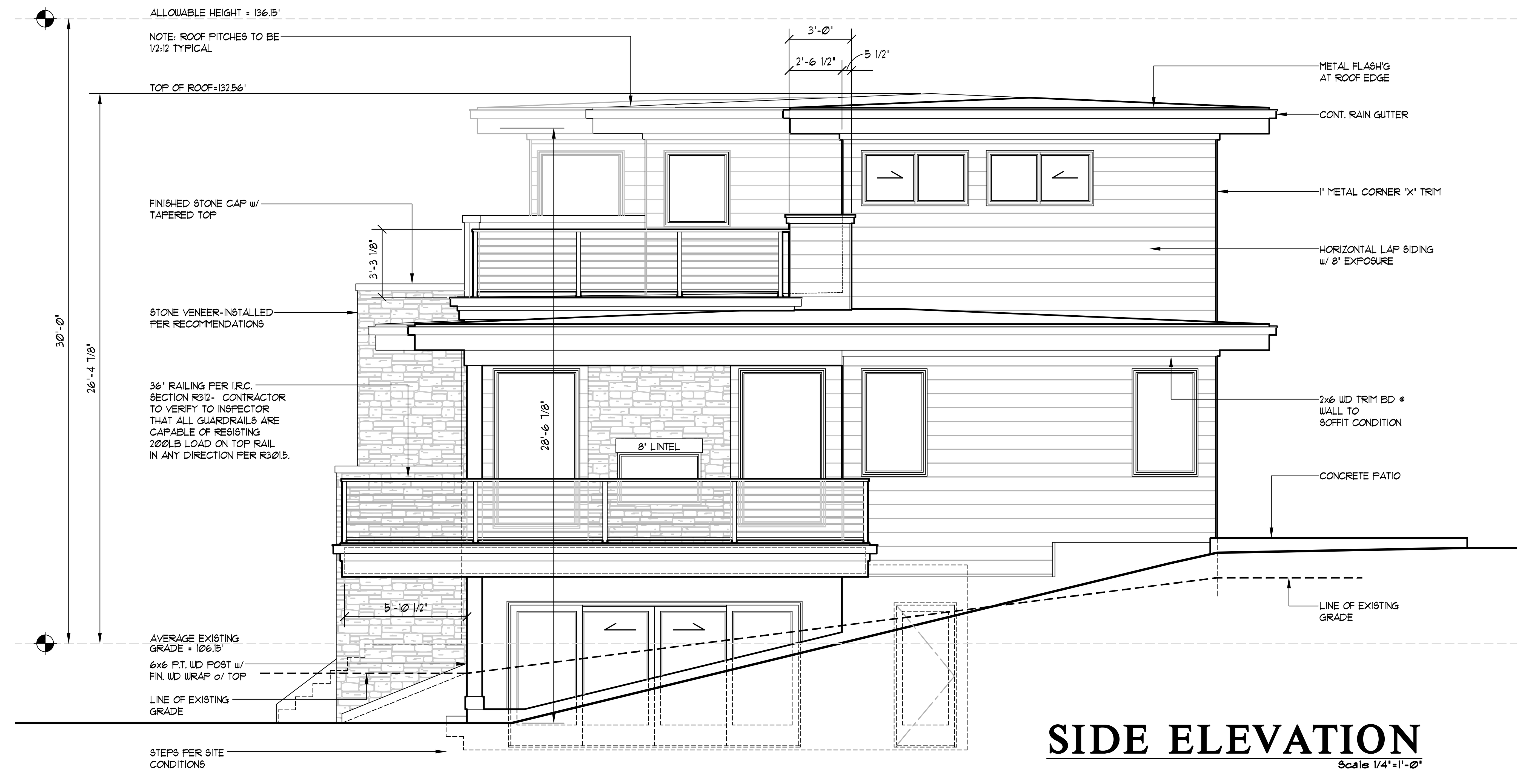
1.3 EFFICIENT BUILDING ENVELOPE .5 credits
VERTICAL FENESTRATION MIN U=.28
FLOOR R-38
SLAB ON GRADE R-10 UNDER ENTIRE SLAB

3.5 HIGH EFFICIENCY HVAC EQUIPMENT 1.5 credits
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0

4.2 HIGH EFFICIENCY HVAC DISTRIBUTION 1.0 credits
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R403.3.7
LOCATED SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION.
ELECTRICAL RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.
DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

5.5 EFFICIENT WATER HEATING 2.0 credit
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING:
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER 3 OF NEEA's ADVANCED WATER HEATING SPECIFICATION.
OR
FOR R-2 OCCUPANCY, ELECTRIC HEAT PUMP WATER HEATER(S) MEETING THE STANDARDS FOR TIER 3 OF NEEA's ADVANCED WATER HEATING SPECIFICATION, SHALL SUPPLY DOMESTIC HOT WATER TO ALL UNITS. IF ONE WATER HEATER IS SERVING MORE THAN ON DWELLING UNIT, ALL HOT WATER SUPPLY AND RETICULATION PIPING SHALL BE INSULATE WITH MIN R-8 MINIMUM PIPE INSULATION

6.1 RENEWABLE ELECTRIC ENERGY OPTION 1.0 credit
SOLAR ENERGY PANELS TO BE INSTALLED ON EXISTING ROOF. Documentation showing photovoltaic shall be submitted indicating minimum annual energy power production.



SIDE ELEVATION

Scale 1/4"=1'-0"

SIDE ELEVATION

Scale 1/4"=1'-0"

REGISTERED ARCHITECT
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JOHN KAPPLER
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

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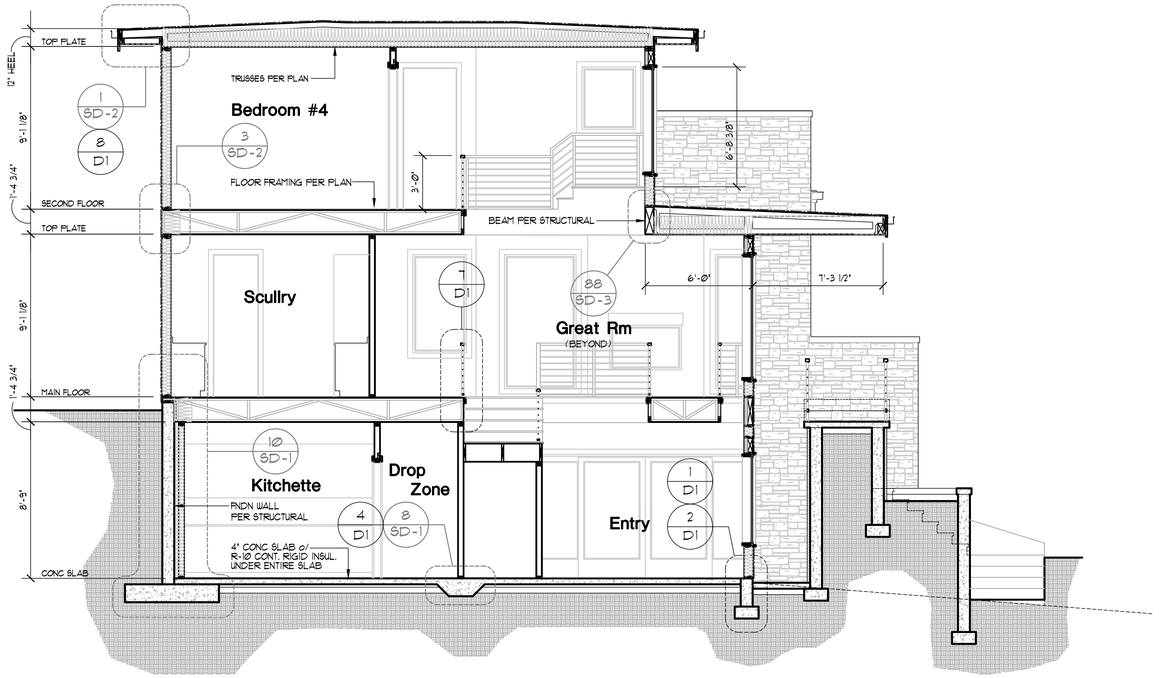
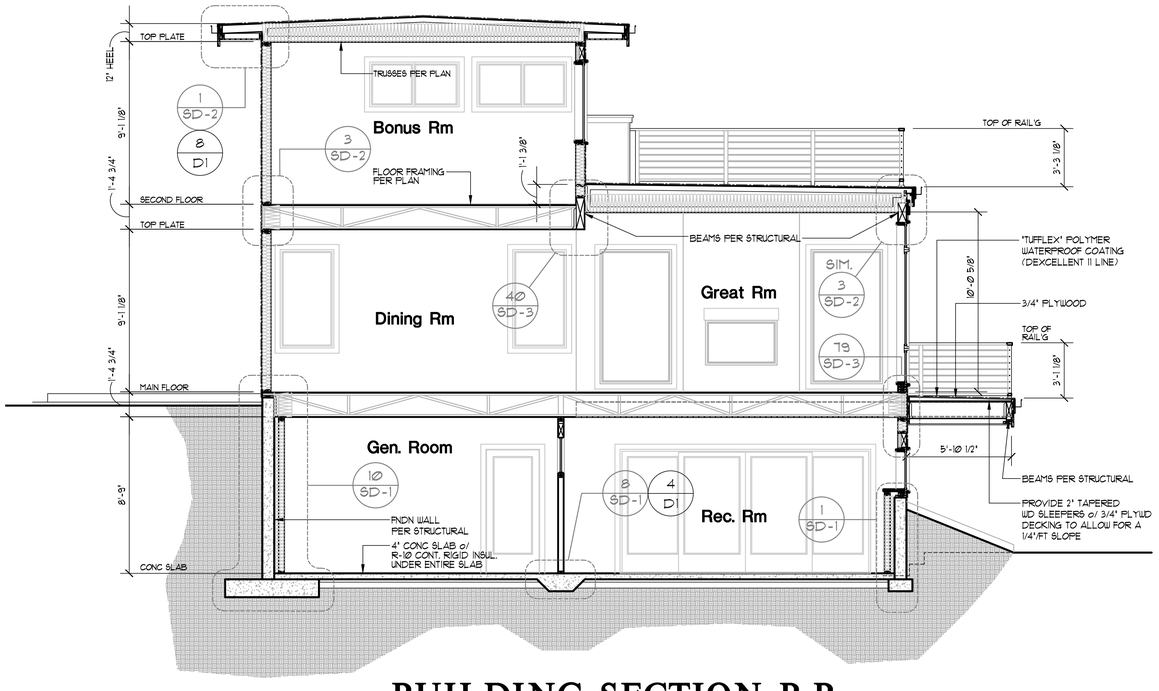
SHEET
A7



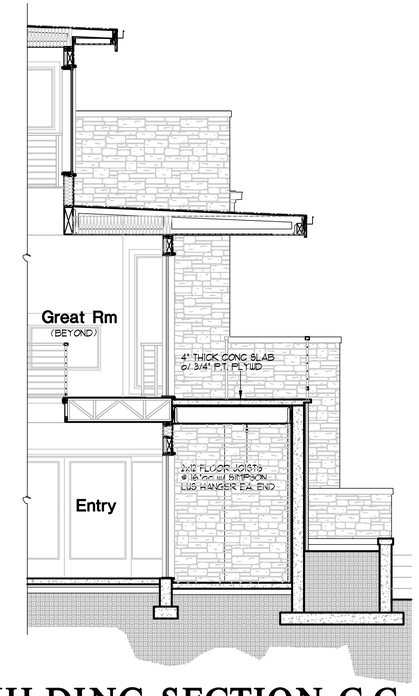
BUILDING SECTION A-A

Scale 1/4"=1'-0"



BUILDING SECTION B-B

Scale 1/4"=1'-0"



BUILDING SECTION C-C

Scale 1/4"=1'-0"

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11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

REGISTERED ARCHITECT STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

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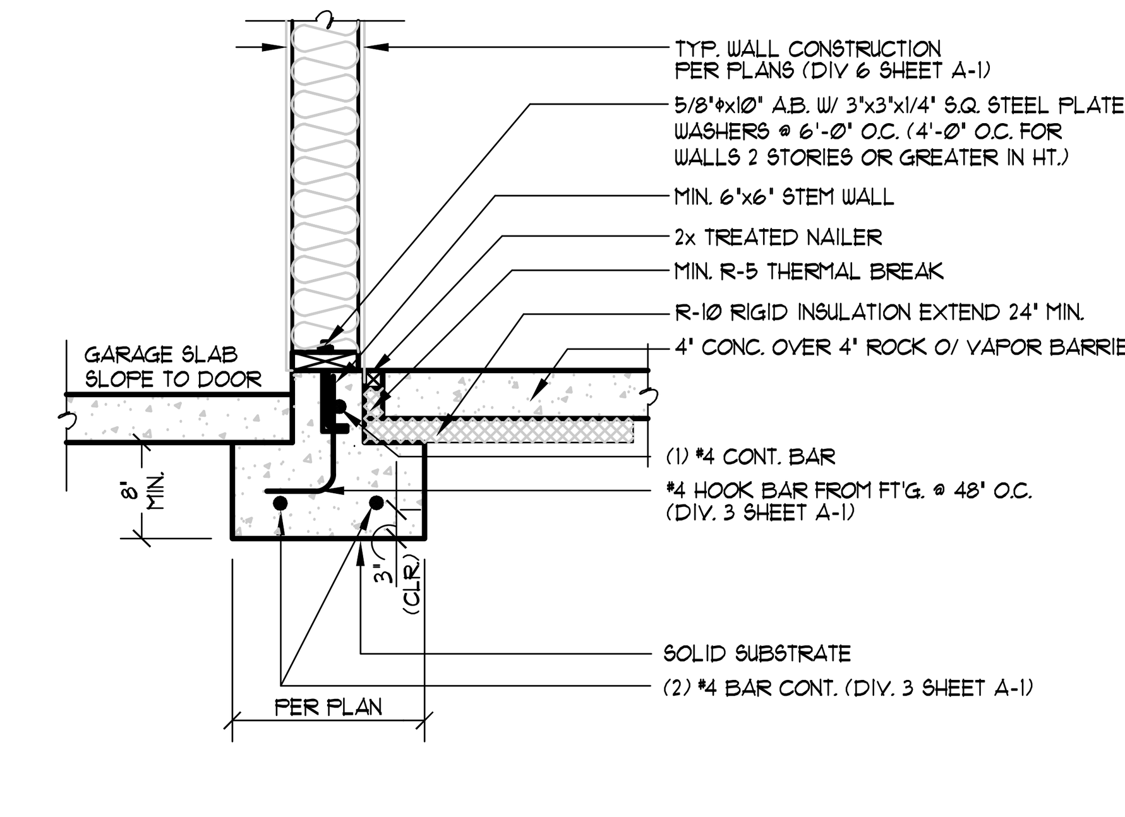
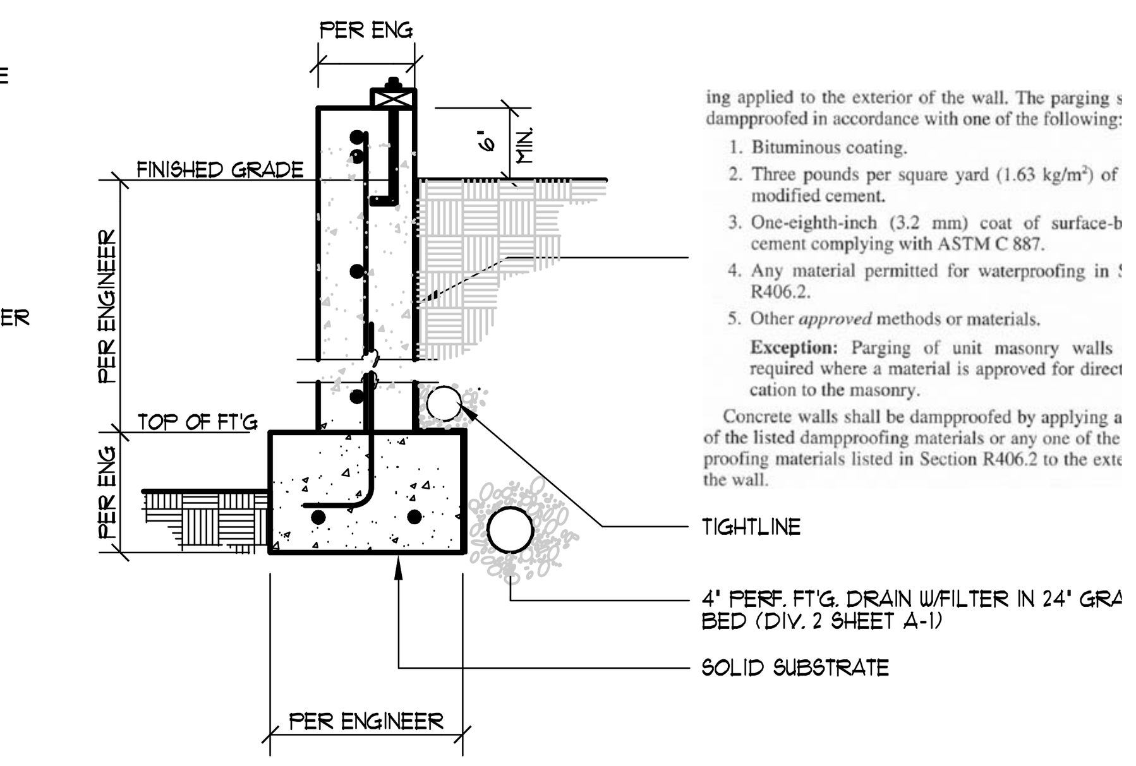
SHEET

A8



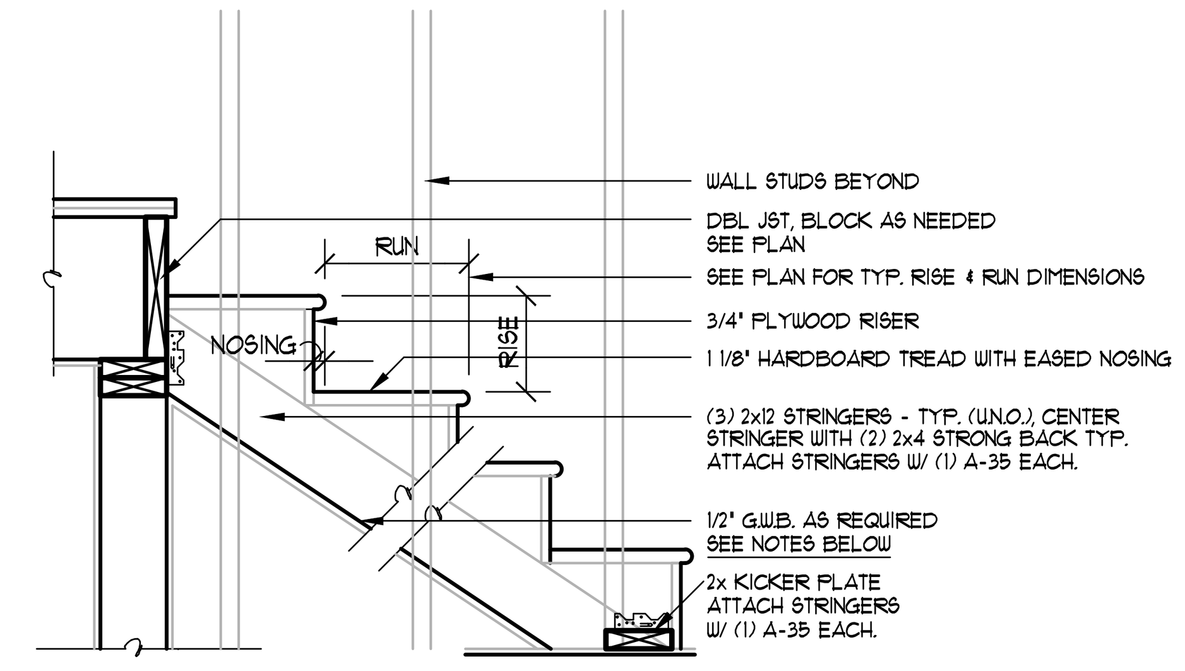
5 FOUNDATION DETAIL
3/4"=1'-0"

03300-00000-78



1 DAMP PROOFING DETAIL
3/4"=1'-0"

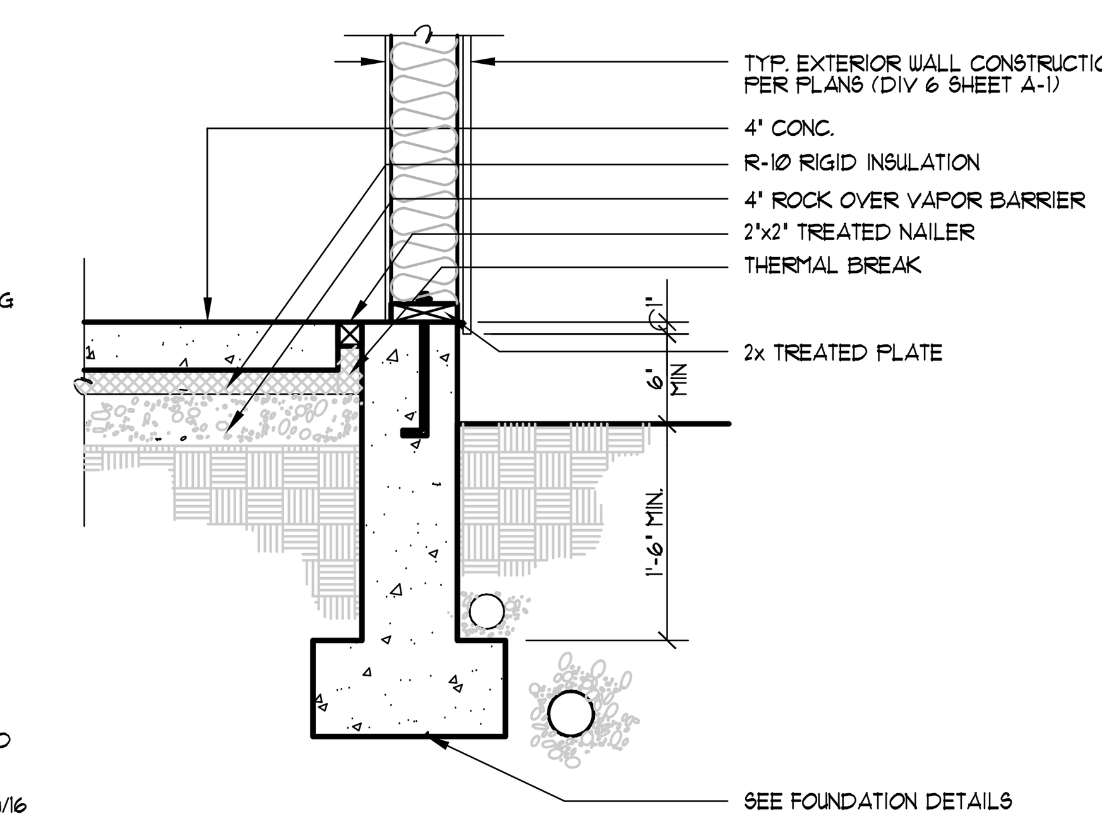
03300-0710



1. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0" PER I.R.C. SECTION R311.7.
2. TREADS 10" MIN. DEPTH FROM LEADING EDGES OF NOSING TO NOSING AND RISERS 7¾" MAX. HEIGHT PER I.R.C. SECTION R311.7.5.
3. HANDRAIL MIN. 34" TO MAX. 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1 1/4" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200 POUND POINT LOAD IN ANY DIRECTION PER I.R.C. TABLE R301.5
4. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R602.8.
5. COVER USABLE SPACE UNDER STAIR WITH 1/2" G.W.B., PER I.R.C. SECTION R302.7.
6. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS PER I.R.C. SECTION R312.2.
7. TREAD NOSING TO HAVE A MAX. RADIUS OF 9/16 PROJECT A MIN. 3/4" AND A MAX. OF 1 1/4" ON STAIRS W/ SOLID RISERS. BEVELING OF NOSING NOT TO EXCEED 1/2", PER I.R.C. SECTION R311.5.3.3

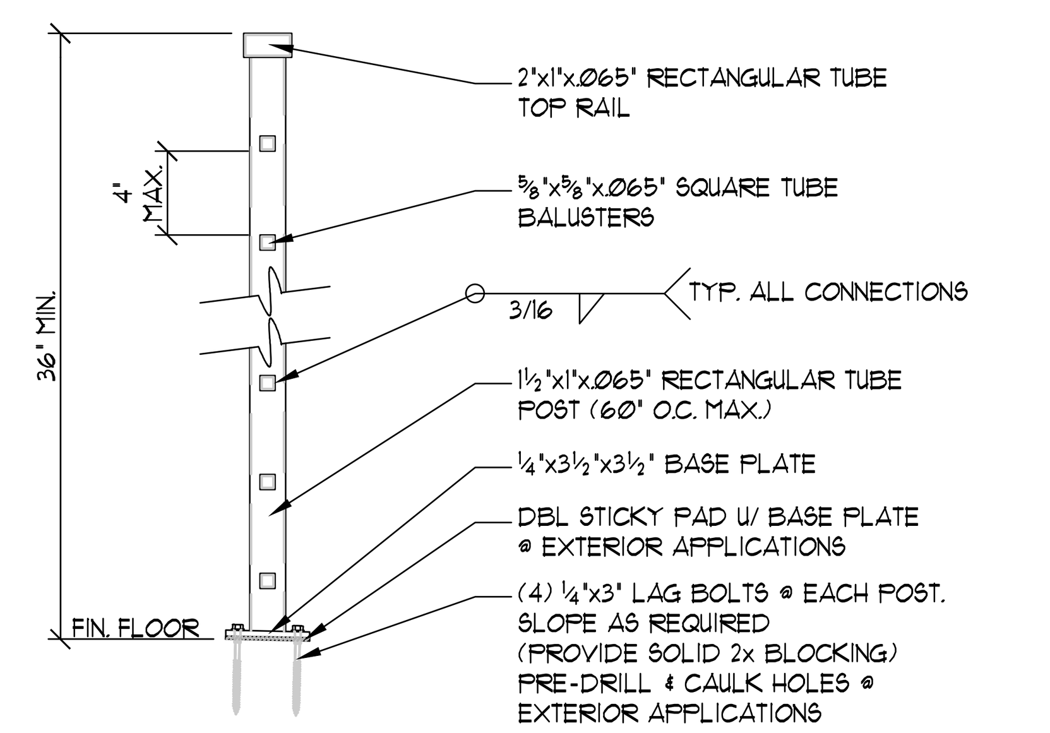
6 STAIR SECTION DETAIL
3/4"=1'-0"

06200-06100-01

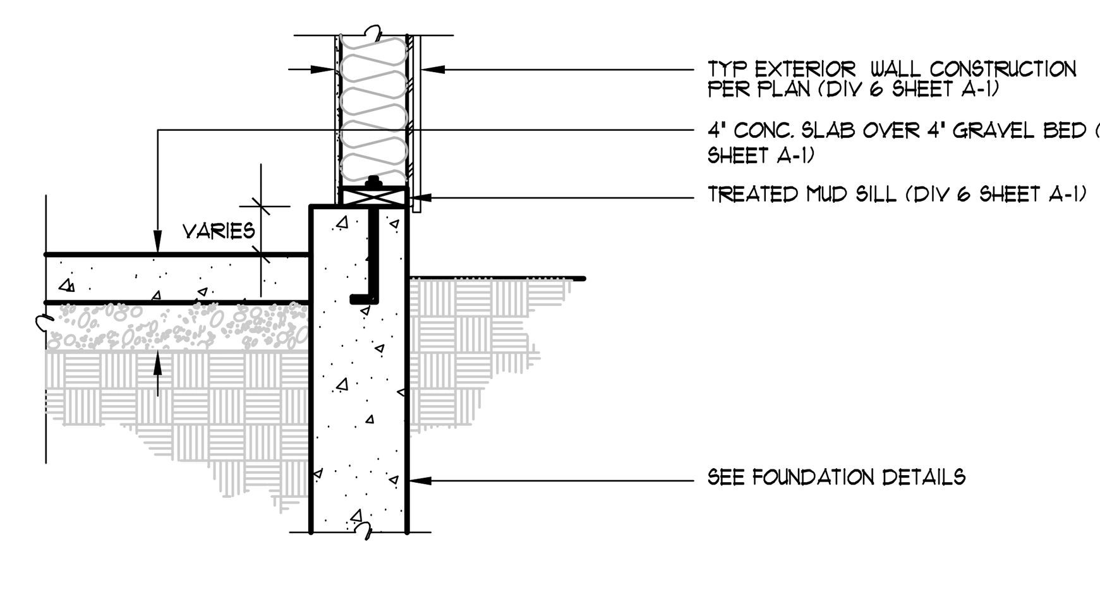


2 FOUNDATION DETAIL
3/4"=1'-0"

03300-0000

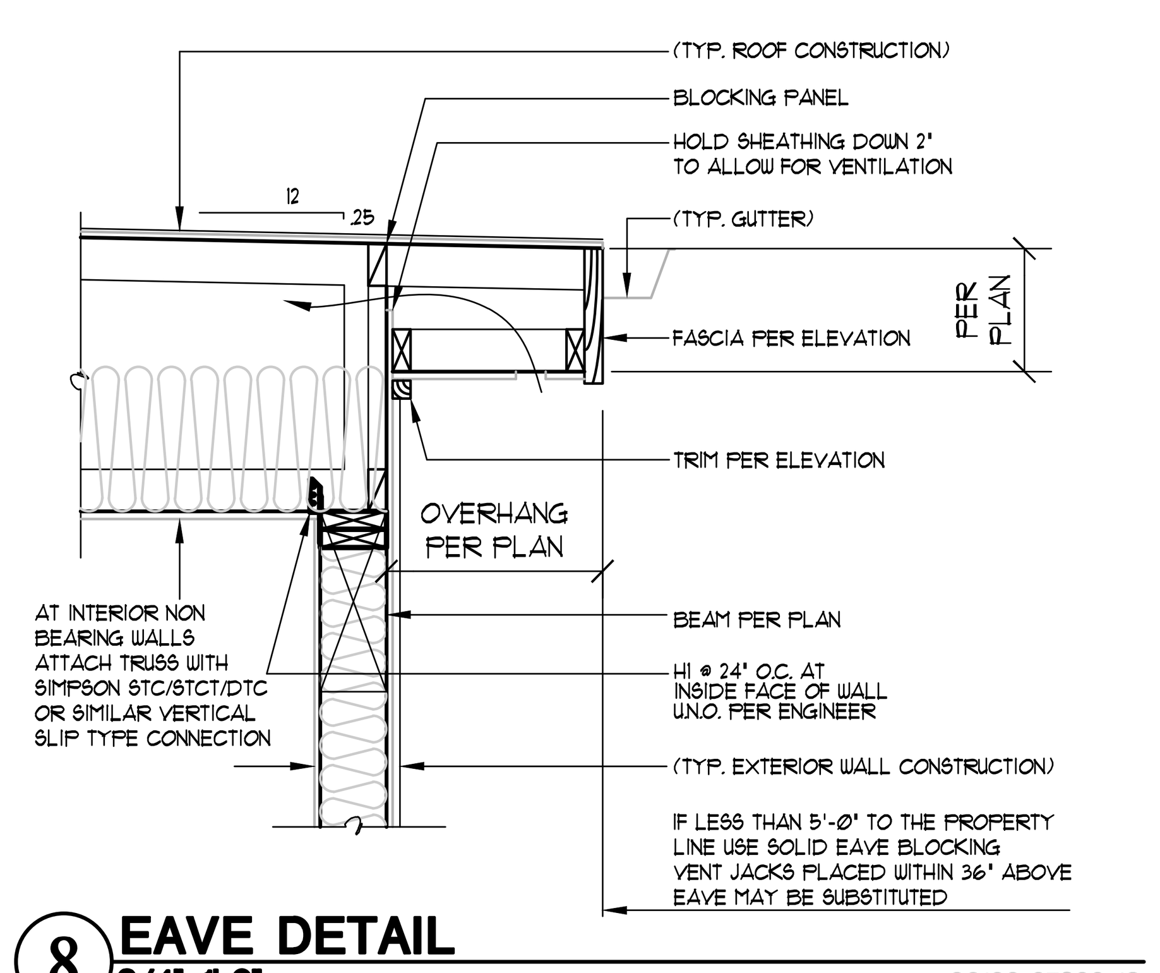


7 STANDARD RAIL DETAIL
1 1/2"=1'-0"



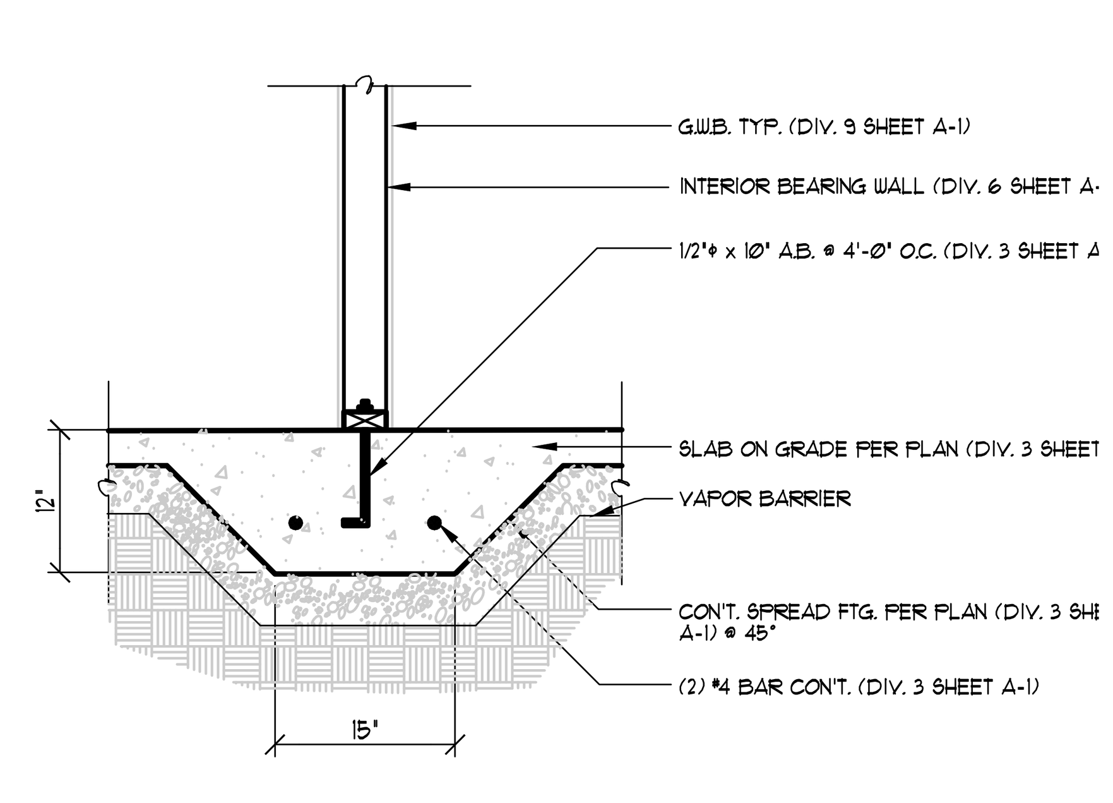
3 SLAB @ STEM WALL
3/4"=1'-0"

06100-0330



8 EAVE DETAIL
3/4"=1'-0"

06100-07300-18



4 FOUNDATION/FRAMING CONNECTION
3/4"=1'-0"

03300-0610

REGISTERED ARCHITECT
5079
JOHN KAPPLER
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes

Westview Plan

Permit no. 2210-120

3036 67th Ave SE Mercer Island , WA

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TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET

D1

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 6 TONS/PILE MINIMUM FOR 3" DIA. PILES AND 10 TONS/PILE MINIMUM FOR 4" DIA. PILES (SAFE LOAD).
- PILING CONTRACTOR SHALL DETERMINE BY TEST PILE, THE LENGTH AND DIMENSIONS OF THE PILINGS REQUIRED TO REACH DESIGN LOAD CAPACITY IN ACCORDANCE WITH ASTM D1143-81.
  - 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILES SHALL BE DRIVEN TO REFUSAL (10' MINIMUM DEPTH) WITH A TRACTOR-MOUNTED HYDRAULIC HAMMER WITH AN ENERGY RATING OF 650 LB AND TO REFUSAL OF LESS THAN ONE INCH DURING 12 SECONDS OF CONTINUOUS DRIVING. GEOTECH TO COORDINATE DRIVING CRITERIA IF ALTERNATIVE HAMMER SIZE IS SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.
- PER ASTM 1143-81, 3% OF EACH PILE DIAMETER SIZE SHALL BE LOAD TESTED. A MAXIMUM OF 5 PILES (1 MINIMUM) WILL BE REQUIRED FOR EACH PILE DIAMETER SIZE.

PORCH SLAB

4" CONC. SLAB ON GRADE ON 8 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GARAGE SLAB

4" CONC. SLAB ON GRADE ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

BASEMENT SLAB

4" CONC. SLAB ON GRADE ON 8 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GENERAL STRUCTURAL NOTES

FOUNDATION

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- FOUNDATIONS HAS BEEN DESIGNED BASED ON GEOTECH REPORT PROVIDED BY TERRA ASSOCIATES, INC., DATED AUGUST 18, 2022, REVISED NOVEMBER 27, 2023.
- DESIGN LOADS:
  SOIL 2,000 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  f'c = 2,500 psi: .... FOUNDATION WALLS*
  2,500 psi: .... FOOTINGS*
  2,500 psi: .... INTERIOR SLABS ON GRADE
  3,500 psi: .... EXT. SLABS ON GRADE
  fy = 60,000 psi
  * UTILIZE 5½" SACK 2500 PSI CONCRETE MIXES THAT ARE EQUIVALENT TO 3,000 PSI CONCRETE FOR WEATHERING POTENTIAL
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN.; BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH 5/8" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x 1/4" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN 1/2" OF EXTERIOR EDGE OF SILL PLATE) & NUTS @ 6'-0" O.C. @ 2-STORY & 4'-0" O.C. @ 3-STORY CONDITIONS w/ 7" MIN. EMBEDMENT INTO CONC. PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT w/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

" 2018 IRC" - OCT 2020

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (RJ) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

MEANS & METHODS NOTES

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN, DETAIL, AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW, UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO M&K FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION.

TRUSSES SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES OR GIRDER TRUSSES DOES NOT EXCEED THE FOLLOWING:

A. ROOF TRUSSES:
   1/4" DEAD LOAD
B. FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS:
   1/8" DEAD LOAD
C. FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS:
   LIMIT ABSOLUTE TRUSS DEFLECTION TO 3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)

LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):	
ROOF TRUSS TOP CHORD	10
ROOF TRUSS BOTTOM CHORD	7
FLOOR TRUSSES:	15
FLOOR (SOLID SAWN):	10
LIVE LOAD (PSF):	
ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
BALCONY LIVE:	60
SNOW LOAD:	
GROUND SNOW LOAD (P_g) (PSF) :	25
FLAT ROOF SNOW LOAD (P_f) (PSF) :	25
SNOW EXPOSURE FACTOR (C_e) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C_t) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD: (IBC 1609)	
SPEED (V_{ult}) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I_W) :	1.0
EXPOSURE CATEGORY :	C
INTERNAL PRESSURE COEFF. (GC_{pi}) :	±0.18
TOPOGRAPHIC FACTOR (K_{zt}) :	1.0
SEISMIC LOAD: (IBC 1613)	
SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I_e) :	1.0
MAPPED SPECTRAL RESPONSE : S_S: 1.407 S_1: 0.490	
SITE CLASS :	D
SPECTRAL RESPONSE COEFF. : S_{DS}: 0.938 S_{D1}: 0.591	
SEISMIC DESIGN CATEGORY:	D
BASIC SEISMIC-FORCE-RESISTING SYS : LIGHT FRAMED WALLS W/WOOD STRUCTURAL PANELS	
DESIGN BASE SHEAR (ULT.): TRANS: 23k LONG: 23k	
SEISMIC RESPONSE COEFF. (C_s) (ADDITION) : TRANS: 0.144 LONG: 0.144	
RESPONSE MODIFICATION FACTOR (R) : TRANS: 6.5 LONG: 6.5	
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE	

LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM:
100 MPH WIND SPEED, EXP. C
(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1)
RISK CAT. 2 & SEISMIC CAT. D2.

110 MPH WIND IN 2018 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2018 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2018 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS

(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:
  FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

3" o.c. EDGE NAILING

(WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:
  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

1. LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c.
2. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)3½"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF JOINT (TYP. U.N.O)
3. ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
4. ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

GENERAL STRUCTURAL NOTES

DESIGN PARAMETERS

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x 'STUD' GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) HEM FIR (HF) #2 GRADE LUMBER, OR BETTER.
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
  - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 DOUGLAS FIR (DF) "STUD" GRADE LUMBER, OR BETTER, U.N.O. & SOLID WOOD COLUMNS SHALL BE HEM FIR (HF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUGLAS FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - LSL MEMBERS - Fb=2325 PSI; Fv=310 PSI; E=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.O)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc||=2500 PSI; E=1.8x10^6 PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- ALL MEMBERS SPECIFIED AS MULTI-PLY 1¾" SHALL BE FASTENED TOGETHER PER MANUFACTURER. EQUIVALENT WIDTH SOLID MATERIAL MAY BE USED AS EQUAL.
- FASTEN 2x WOOD PLATES TO TOP FLANGE OF STEEL BEAMS w/P.A.F.s ('HILTI' X-U PINS OR EQUAL (0.157" DIA. x 2" LONG MIN.)) @ 16" O.C. STAGGERED, OR 1/2" DIA. BOLTS @ 48" O.C., STAGGERED.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.

FLOOR FRAMING

- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, U.N.O. (EXCLUDES STONE/MARBLE OR WET BED CONSTRUCTED FLOORS - CONTACT M&K FOR EXCLUDED DESIGNS).
- ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- I-JOIST/TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- 2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2x JOIST HANGERS (U.N.O. ON PLANS):
  SINGLE PLY: SIMPSON LUS210
  DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED 'STURD-I-FLOOR' 24" O.C, EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 ½" x 0.131" NAILS @ 6"o.c. @ PANEL EDGES & @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE. U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS w/ 1½" LONG NAILS.

ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (3) 3"x0.131" TOENAILS (MIN.) & (1) 'SIMPSON' H2.5T CLIP @ ALL BEARING POINTS. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT 2-PLY GIRDER TRUSSES & 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) 'SIMPSON' H2.5T CLIP. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" x 0.131" NAILS @ 6"o.c. AT PANEL EDGES & @ 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- WITHIN 48" OF ALL ROOF EDGES, RIDGES, & HIPS FASTEN ROOF SHEATHING FIELDS PER EDGE NAILING SPEC.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE PREPARED BY A WASHINGTON STATE LICENSED ENGINEER AND SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW w/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- SUPPORT PORCH & SHORT SPAN ROOF TRUSSES (UP TO 6' TRIB.) w/2x6 LEDGER FASTENED TO FRAMING w/(3) 3"x0.131" NAILS @ 16" o.c.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" o.c. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

" 2018 IRC" - OCT 2020

seal:

MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
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p 619-650-0010 ▸ mulhernkulp.com

M&K project number: 203-22010

project mgr: NJM
drawn by: LGH
issue date: 05-04-22

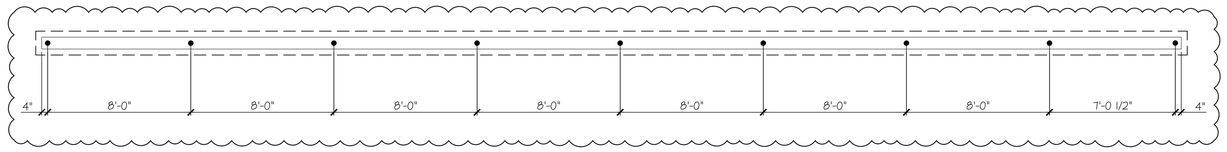
REVISIONS:

date:	initial:
04/28/2023 ARCH REVISIONS	LGH
06/21/2023 PLAN REVIEW COMMENTS	LGH
10/05/2023 PIPE PILE REVISION	LGH
11/27/2023 ADD'L PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

STRUCTURAL NOTES
3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: S-0.0



REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

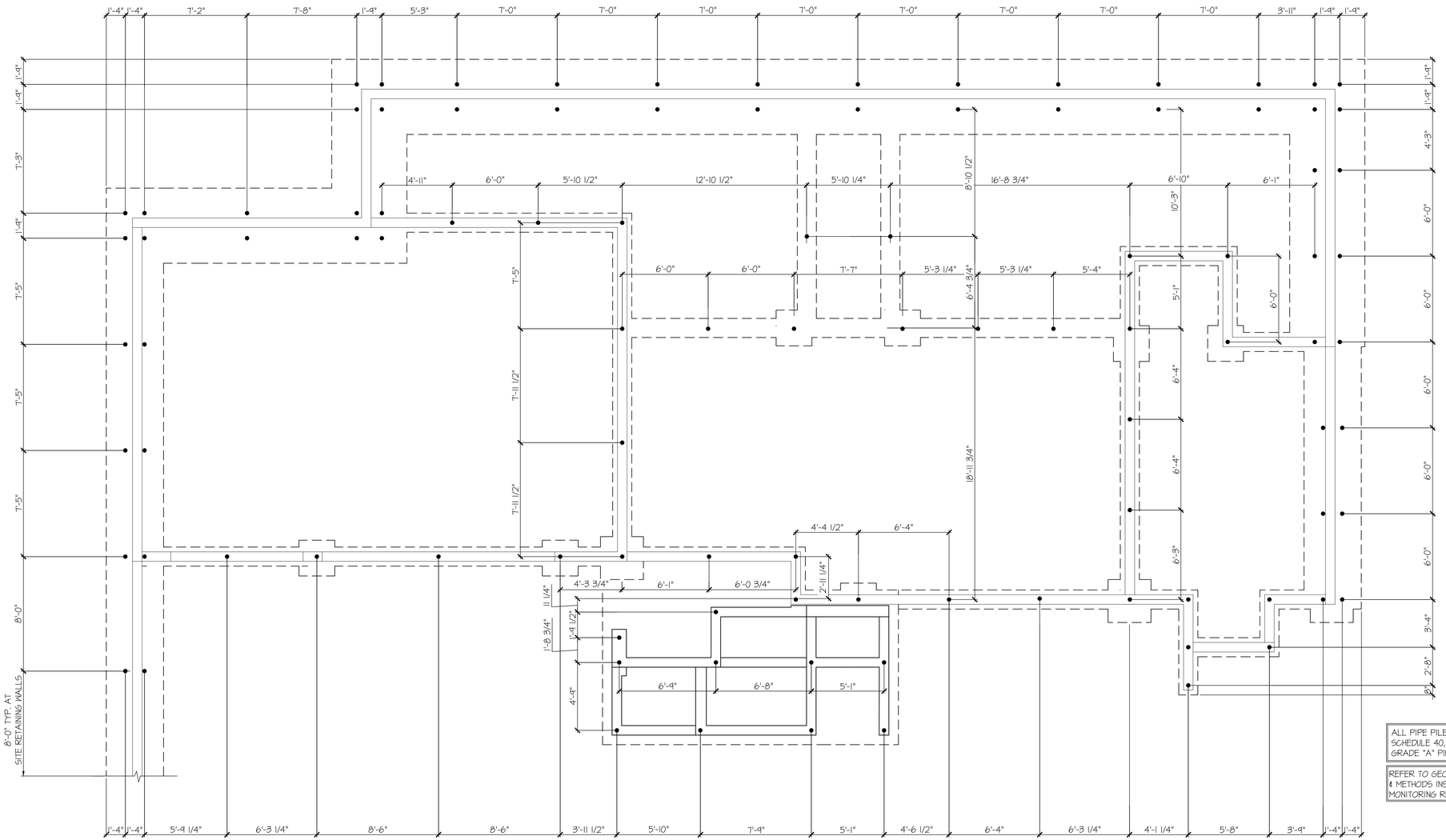
LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 6 TONS/PILE MINIMUM FOR 3" DIA. PILES AND 10 TONS/PILE MINIMUM FOR 4" DIA. PILES (SAFE LOAD).
- PILING CONTRACTOR SHALL DETERMINE BY TEST PILE, THE LENGTH AND DIMENSIONS OF THE PILINGS REQUIRED TO REACH DESIGN LOAD CAPACITY IN ACCORDANCE WITH ASTM D1143-81.
  - 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILES SHALL BE DRIVEN TO REFUSAL (10' MINIMUM DEPTH) WITH A TRACTOR-MOUNTED HYDRAULIC HAMMER WITH AN ENERGY RATING OF 650 LB AND TO REFUSAL OF LESS THAN ONE INCH DURING 12 SECONDS OF CONTINUOUS DRIVING. GEOTECH TO COORDINATE DRIVING CRITERIA IF ALTERNATIVE HAMMER SIZE IS SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.
- PER ASTM 1143-81, 3% OF EACH PILE DIAMETER SIZE SHALL BE LOAD TESTED. A MAXIMUM OF 5 PILES (1 MINIMUM) WILL BE REQUIRED FOR EACH PILE DIAMETER SIZE.

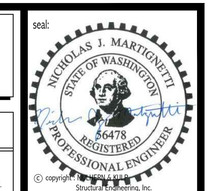


ALL PIPE PILES ARE TO BE 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES U.N.O.

REFER TO GEOTECH REPORT FOR MEANS & METHODS INSTRUCTIONS AS WELL AS MONITORING REQUIREMENTS

1 PIPE PILE PLAN
SCALE: 1/4"=1'-0"

seal:



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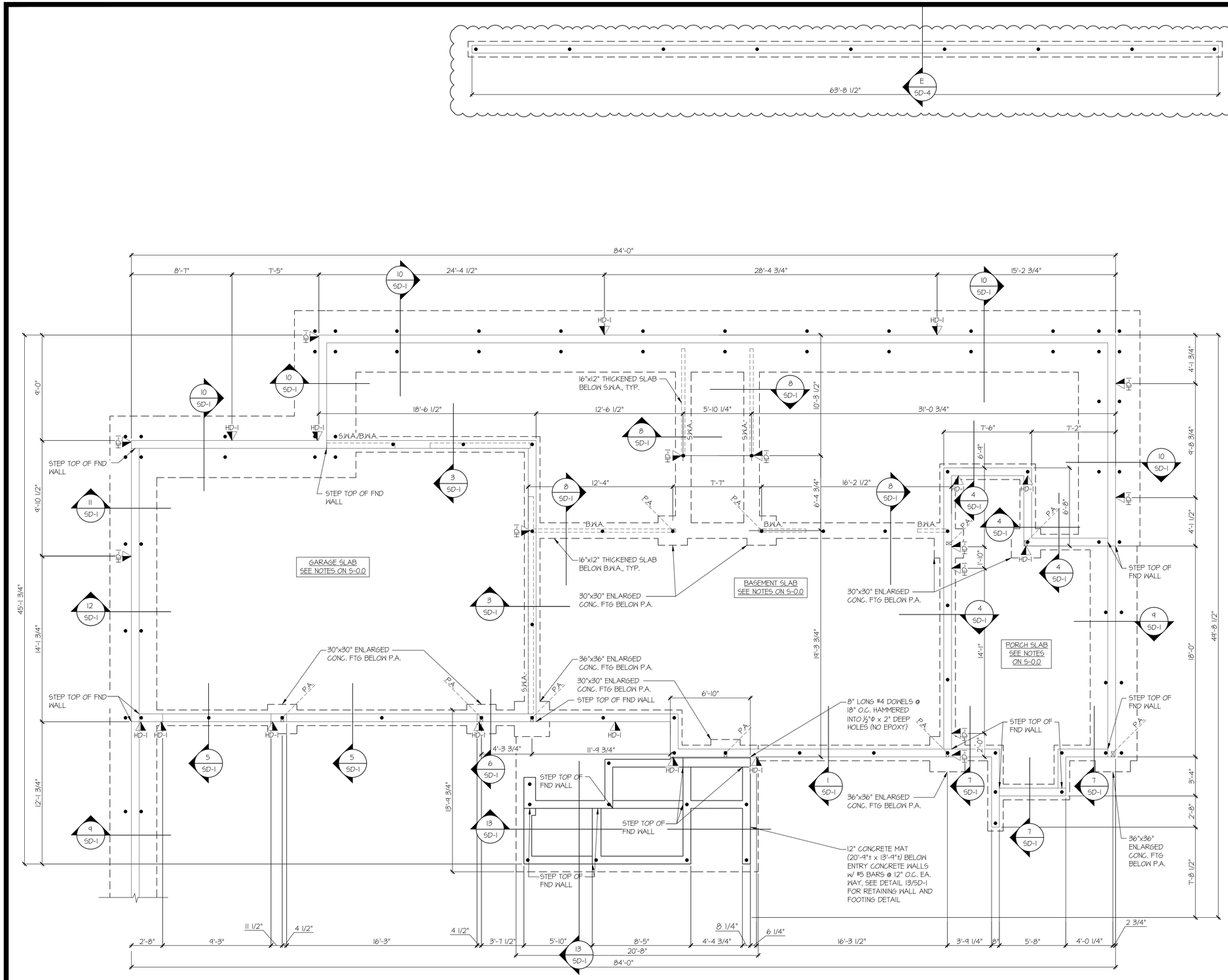
ARCHITECTURAL INNOVATIONS

PIPE PILE PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-0.1



1 FOUNDATION PLAN
SCALE: 1/4"=1'-0"

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

seal:

NICHOLAS J. MARTIGNETTI
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ARCHITECTURAL INNOVATIONS

FOUNDATION PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-1.0

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

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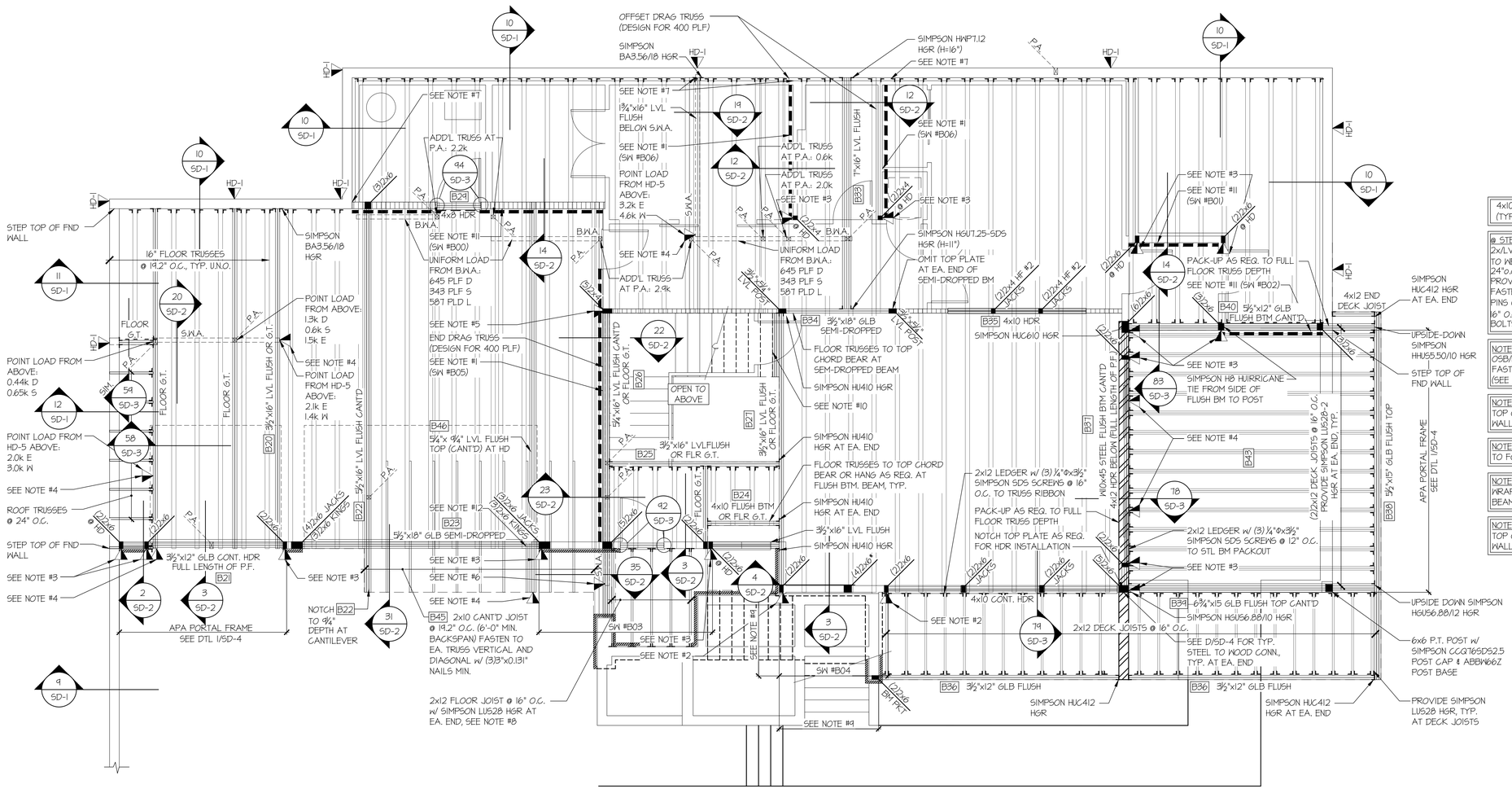

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B28

@ STEEL BEAMS: PROVIDE SOLID 2x/LVL WEB PACKOUT FASTENED TO WEB w/ ½" DIA. THRU BOLTS @ 24"o.c. STAGGERED. ALSO, PROVIDE 2x TOP PLATE FASTENED w/ P.A.F.'s (HILTI X-U PINS OR EQUAL) @ 16" O.C. STAGGERED, OR ½" DIA. BOLTS @ 48" O.C., STAGGERED.

NOTE #1: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN 3" O.C. EDGE NAILING (SEE NOTES ON S-0.0)

NOTE #2: HD-5 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #3: HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #4: HD-5 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #5: HD-6 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #6: HD-6 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #7: FASTEN END STUDS TO FND WALL w/ ¼"ø x 6" SIMPSON TITEN HD's @ 24" O.C.

NOTE #8: PROVIDE 2x12 P.T. LEDGER w/ (3) ¼"ø x 3½" SIMPSON SDS SCREWS @ 16" O.C. TO RIM & (2)¼"ø x 6" SIMPSON TITEN HD's @ 24" O.C. TO FND WALL

NOTE #9: 2x6 B.F. H.F. #2 STUDS @ 16" O.C.

NOTE #10: FASTEN 6x6 TO EA. TRUSS VERTICAL/DIAGONAL w/ (2)3"x0.131" NAILS

NOTE #11: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN 6" O.C. EDGE NAILING (SEE NOTES ON S-0.0)

NOTE #12: PROVIDE SIMPSON H8 HURRICANE TIE FROM FLUSH TOP BEAM TO SEMI-DROPPED BEAM

1 MAIN FLOOR FRAMING PLAN

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

seal:

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ARCHITECTURAL INNOVATIONS

MAIN FLOOR FRAMING PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: S-1.1

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

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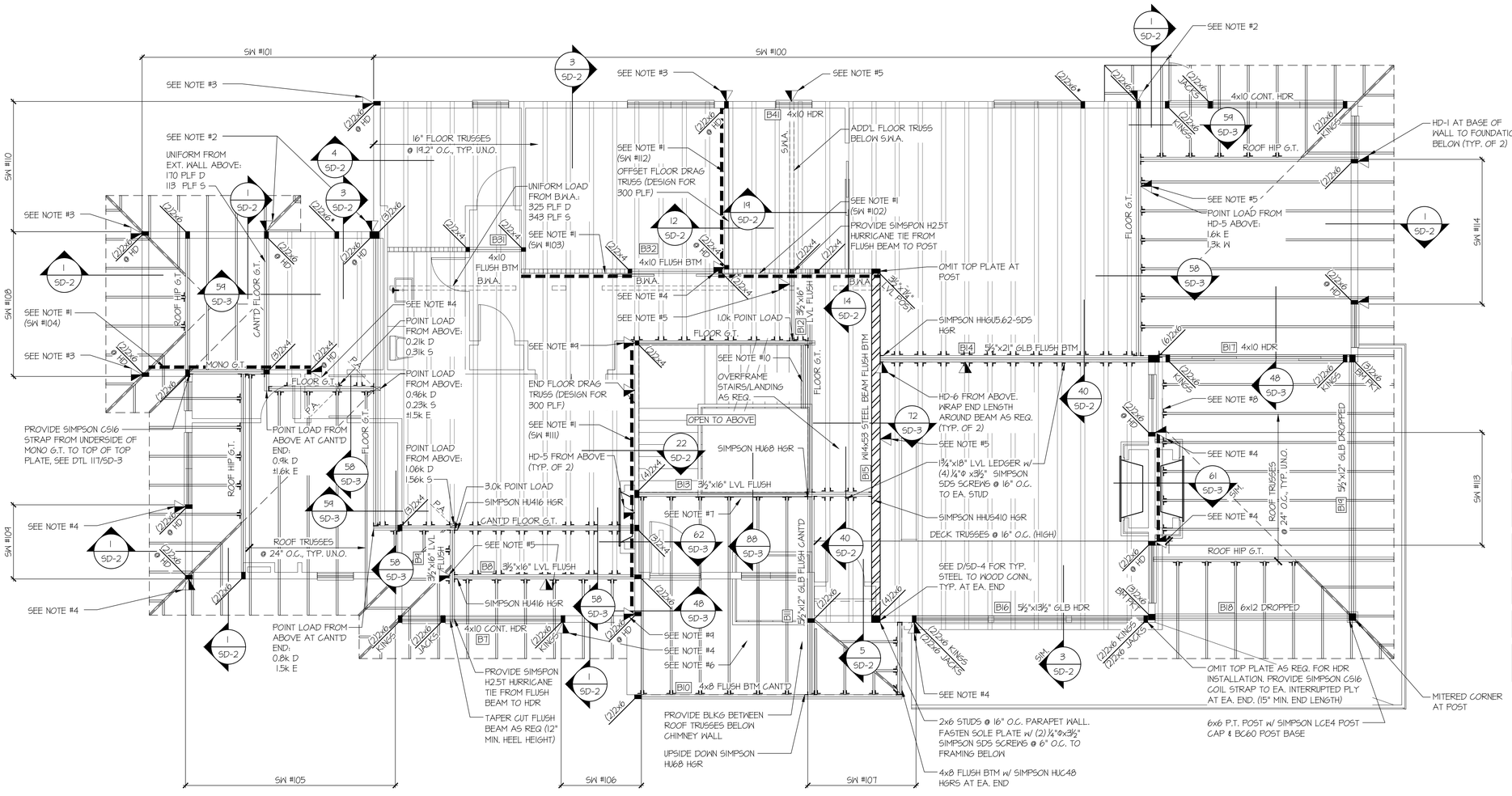

UPPER FLOOR FRAMING PLAN

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

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B30

@ STEEL BEAMS: PROVIDE SOLID 2x/LVL WEB PACKOUT FASTENED TO WEB W/ ½" DIA. THRU BOLTS @ 24"O.C., STAGGERED. ALSO, PROVIDE 2x TOP PLATE FASTENED W/ P.A.F.'s (HILTI X-U PINS OR EQUAL) @ 16" O.C. STAGGERED, OR ½" DIA. BOLTS @ 48" O.C., STAGGERED.

NOTE #1: PROVIDE ⅞" OSB/PLYWOOD SHEATHING AND FASTEN PER TYP. EXT. SHTG SPECS (SEE NOTES ON S-0.0)

NOTE #2: HD-5 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #3: HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #4: HD-5 AT BASE OF WALL TO FRAMING BELOW.

NOTE #5: HD-5 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #6: PROVIDE 2x6 STUDS @ 16" O.C. FROM TOP OF ROOF SHEATHING TO TOP OF CHIMNEY WALL. FASTEN SOLE PLATE W/ (2)¼"Ø x 3½" SIMPSON SDS SCREWS @ 6" O.C. TO ROOF TRUSSES/ BLKG, TYP. AT CHIMNEY WALLS.

NOTE #7: 2x6 LEDGER W/ (3) 3"x0.131" NAILS @ 16" O.C. TO GIRDER TRUSS/FLUSH BEAM

NOTE #8: 2x6 LEDGER W/ (4) 3"x0.131" NAILS @ 16" O.C. TO EA. STUD

NOTE #9: HD-6 AT BASE OF WALL TO FRAMING BELOW.

NOTE #10: FASTEN 6x6 TO EA. TRUSS VERTICAL/DIAGONAL W/ (2)3"x0.131" NAILS

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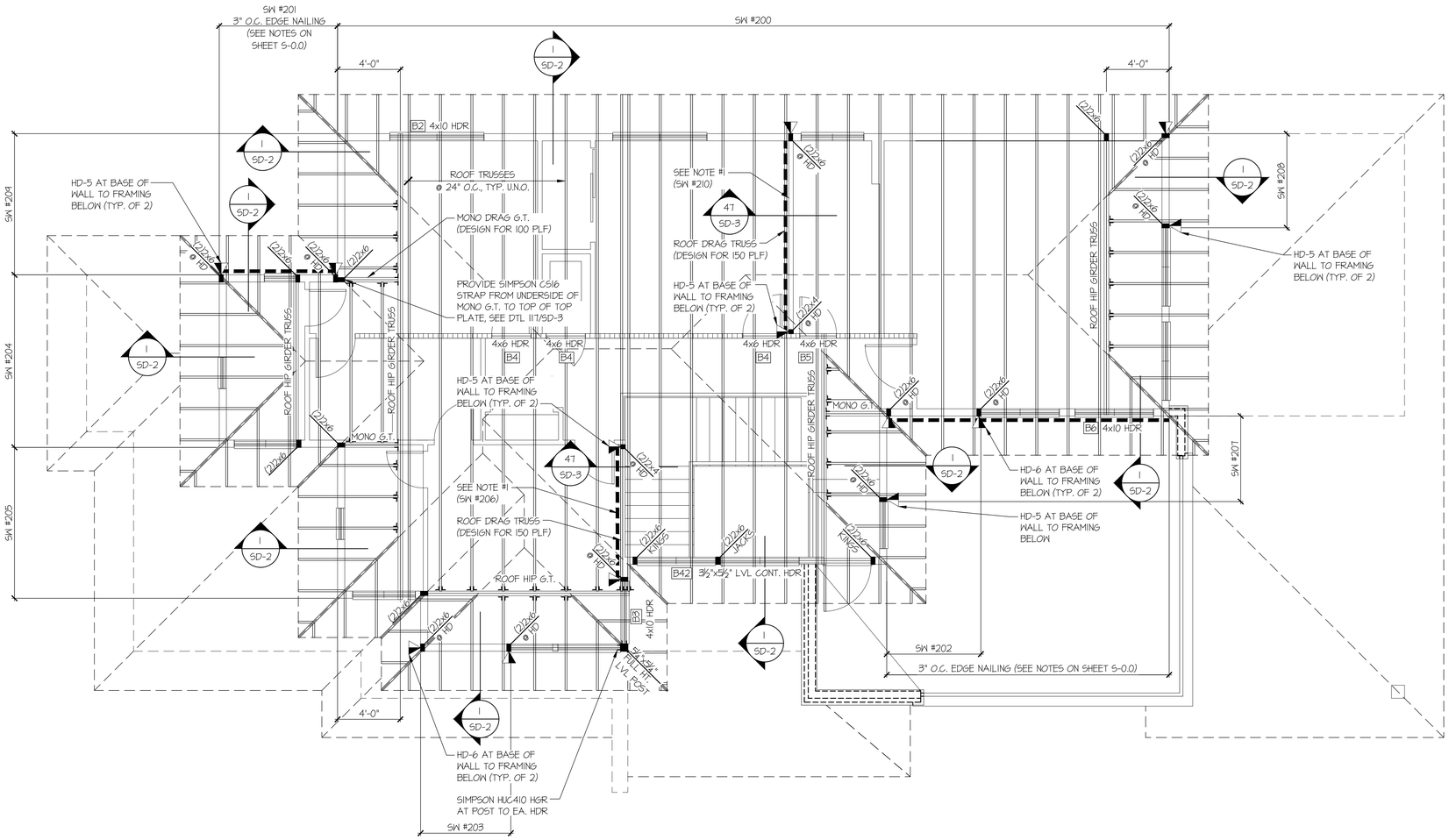
ARCHITECTURAL INNOVATIONS

UPPER FLOOR FRMG PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-2.0



1 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B1

NOTE #1: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN PER TYP. EXT. SHTG SPECS (SEE NOTES ON S-0.0)

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
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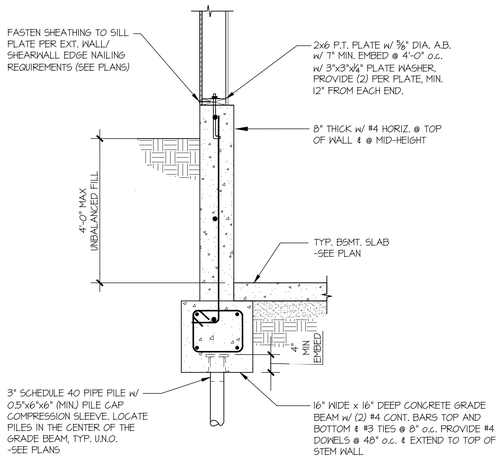
ARCHITECTURAL INNOVATIONS

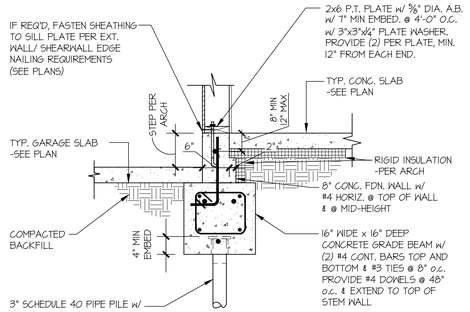
ROOF FRAMING PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

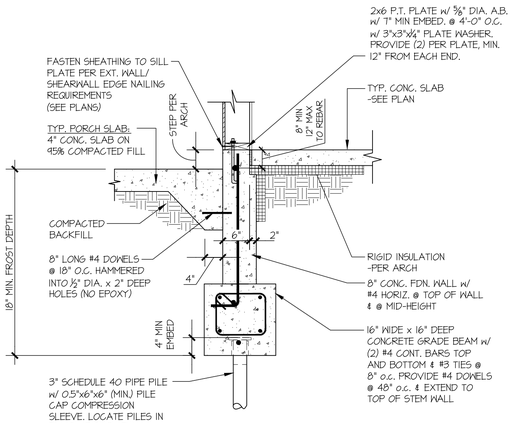
sheet: S-3.0



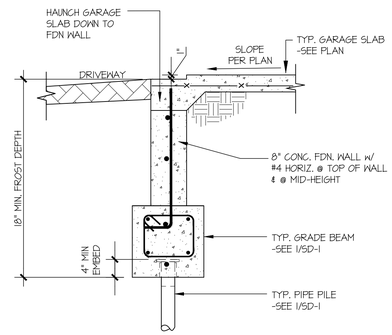
1 SECTION
SCALE: 3/4"=1'-0"



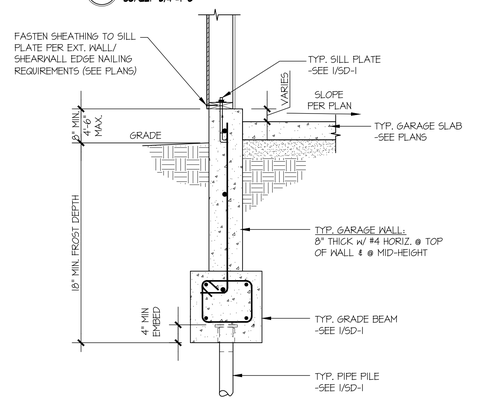
3 TYPICAL SLAB ON GRADE FOOTING @ GARAGE
SCALE: 3/4"=1'-0"



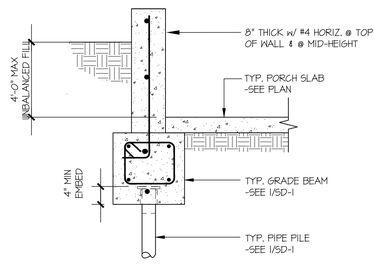
4 TYPICAL SLAB ON GRADE PERIMETER FOOTING
SCALE: 3/4"=1'-0" @ PORCH SLAB



5 TYPICAL CONCRETE FOOTING @ GARAGE DOOR OPENING
SCALE: 3/4"=1'-0"



6 TYPICAL EXT. GARAGE FOUNDATION
SCALE: 3/4"=1'-0"



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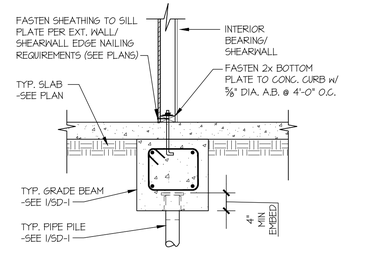
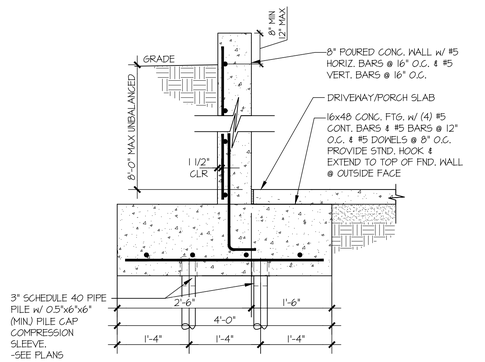
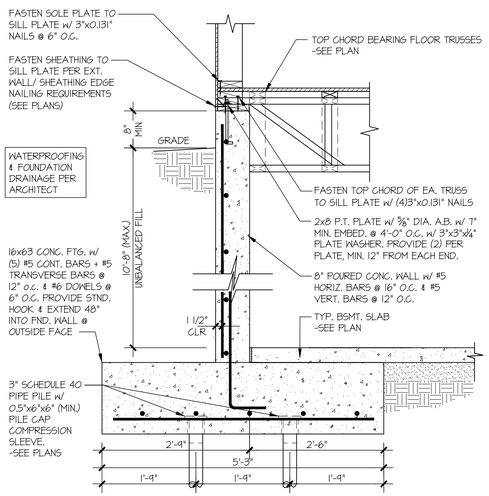
SCALE: 3/4"=1'-0"



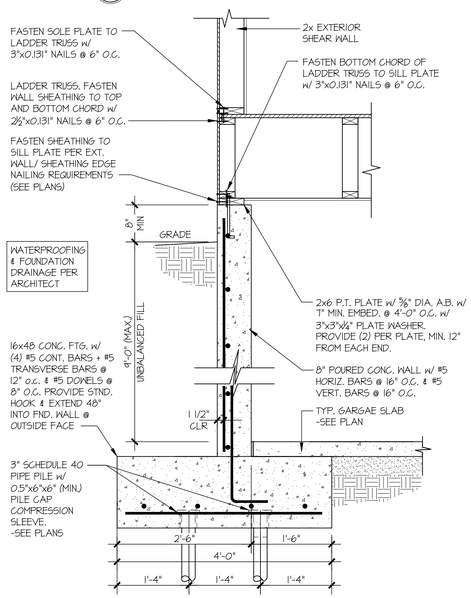
8 TYPICAL THICKENED SLAB @ INTERIOR BEARING WALL
SCALE: 3/4"=1'-0"



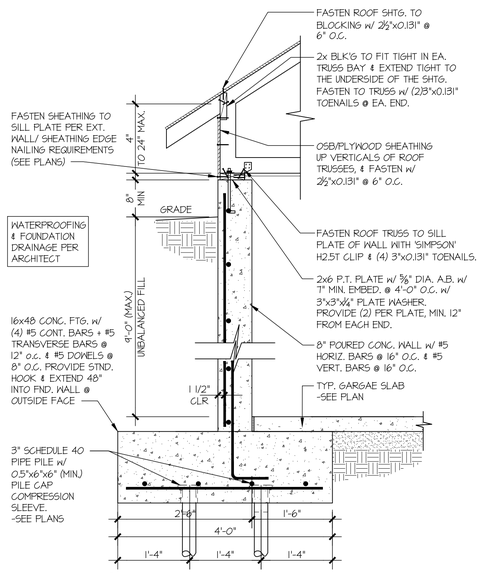
9 SITE RETAINING WALL
SCALE: 3/4"=1'-0"



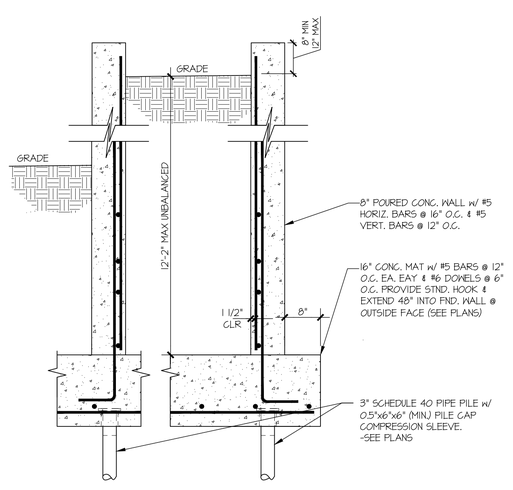
10 BASEMENT FOUNDATION WALL
SCALE: 3/4"=1'-0"



11 GARAGE FOUNDATION WALL
SCALE: 3/4"=1'-0"



12 GARAGE FOUNDATION WALL
SCALE: 3/4"=1'-0"



13 ENTRY RETAINING WALL
SCALE: 3/4"=1'-0"

seal:

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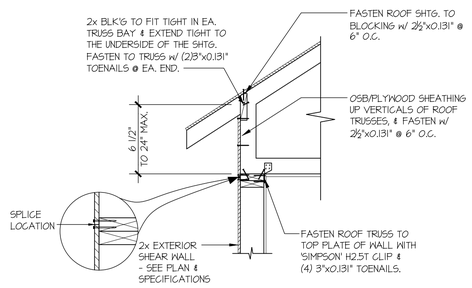
ARCHITECTURAL INNOVATIONS

FOUNDATION DETAILS

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

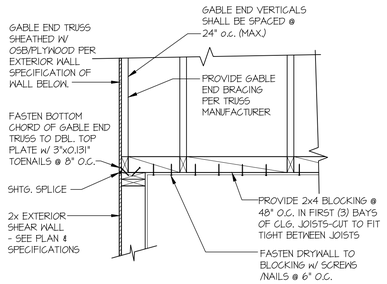
sheet:

SD-1



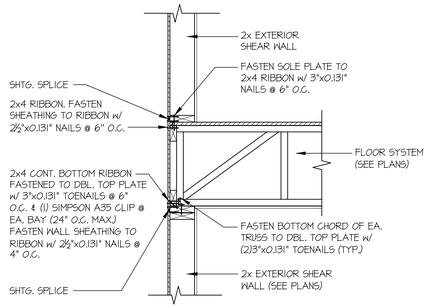
1 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS

SCALE: 3/4"=1'-0" HEEL HEIGHT UP TO 24" MAX.



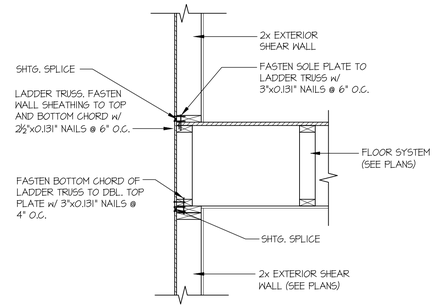
2 TYPICAL GABLE END DETAIL

SCALE: 3/4"=1'-0"



3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PARALLEL FRAMING

5 TYPICAL SHEAR TRANSFER DETAIL BETWEEN DECK @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING

12 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

SCALE: 3/4"=1'-0"

14 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

SCALE: 3/4"=1'-0"

19 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0" PARALLEL FRAMING

20 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING

22 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL

SCALE: 3/4"=1'-0"

23 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0"

31 SHEAR TRANSFER DETAIL BETWEEN FLOORS @ CANT'D EXT. WALL

SCALE: 3/4"=1'-0"

40 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0"

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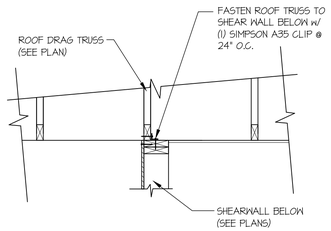

47 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW

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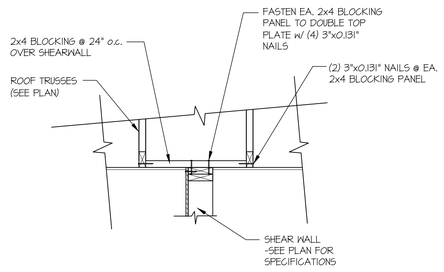

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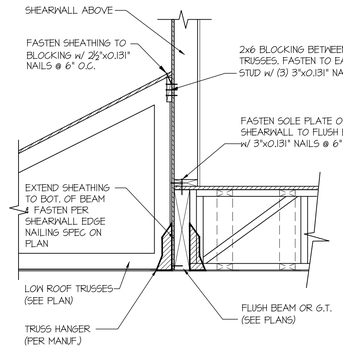

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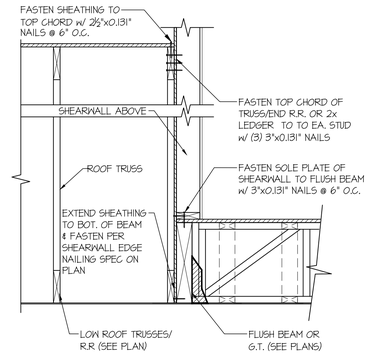

59 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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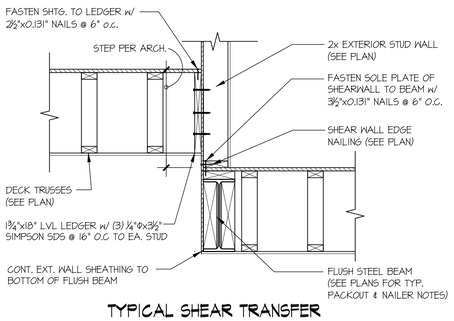

72 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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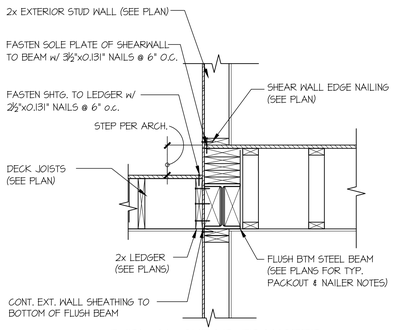

78 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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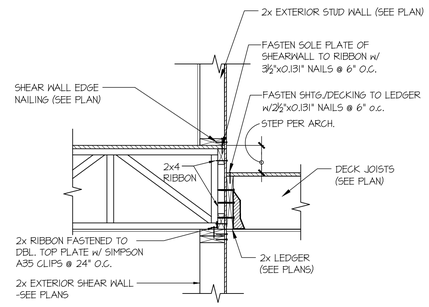

79 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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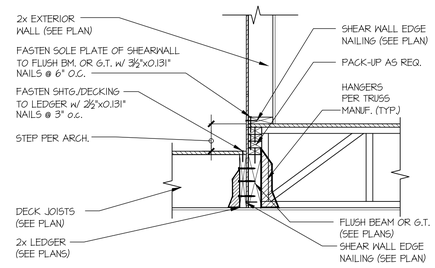

83 SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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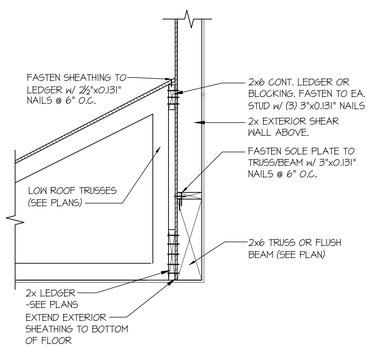
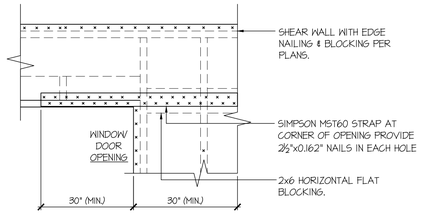


88 SECTION

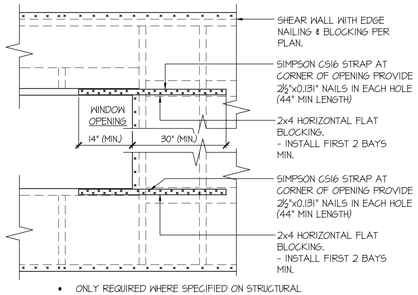
SCALE: 3/4"=1'-0"



- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

92 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

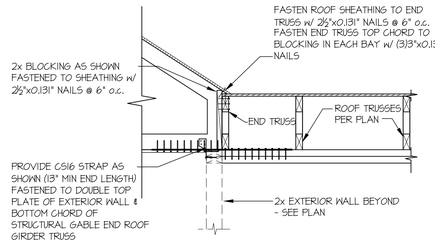
SCALE: NTS



- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

94 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

SCALE: NTS



117 STRAP DETAIL

SCALE: 3/4"=1'-0"

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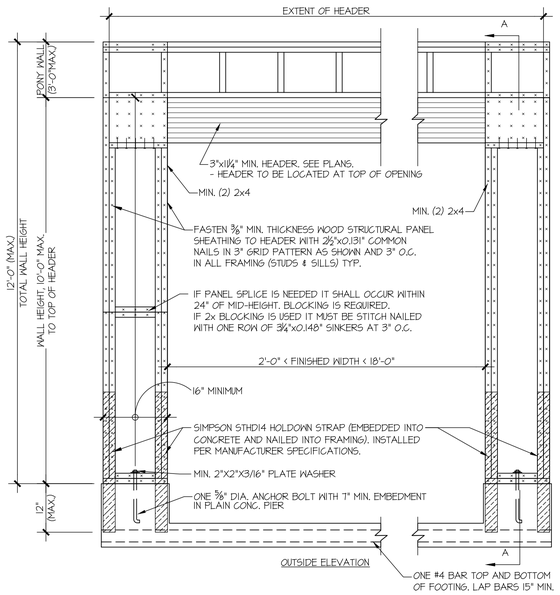
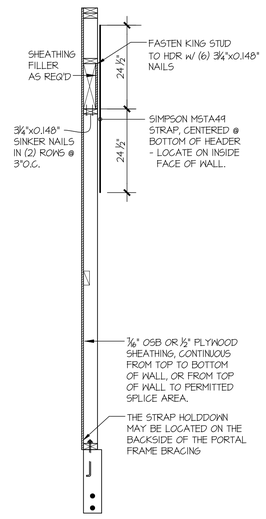
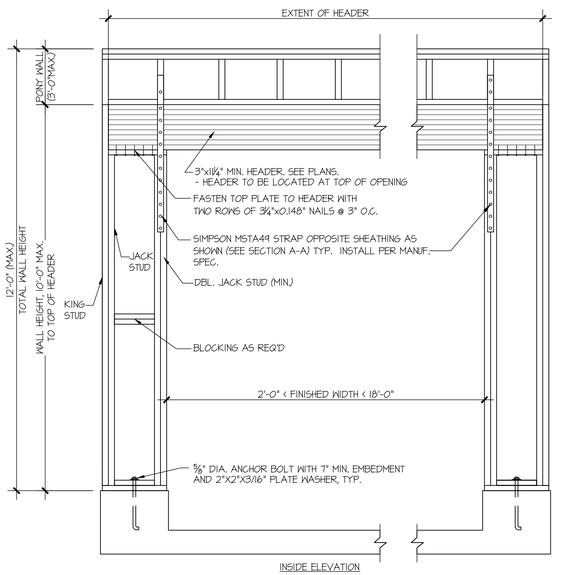


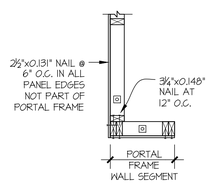
OUTSIDE ELEVATION



SECTION A-A THROUGH PIER



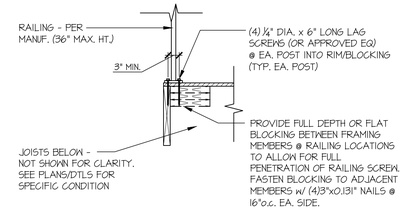
INSIDE ELEVATION



PLAN VIEW OF CORNER DETAIL

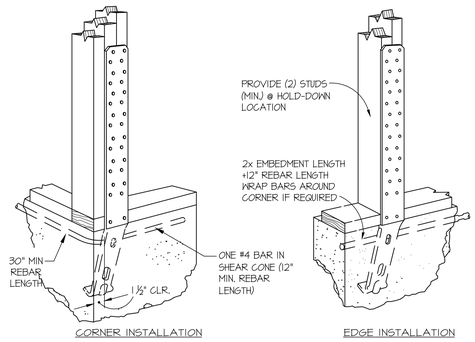
1 APA PORTAL FRAME DETAIL WITH HOLDOWNS

SCALE: N.T.S.



A TYP. RAILING CONNECTION

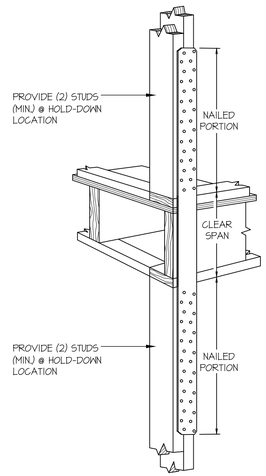
SCALE: 3/4"=1'-0" — WOOD FRMG BELOW



CORNER INSTALLATION — EDGE INSTALLATION

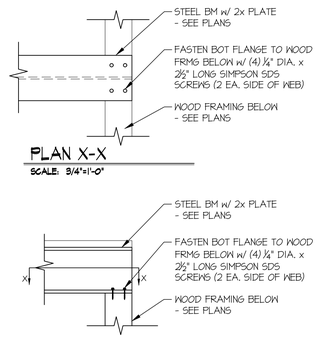
B TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE — SIMPSON STHD HD @ FOUNDATION



C TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE — SIMPSON STRAP HD @ FLOOR FRAMING

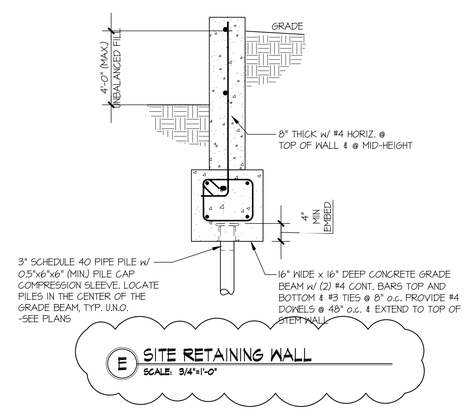


PLAN X-X

SCALE: 3/4"=1'-0"

D STL BM TO WOOD FRMG CONNECTION

SCALE: 3/4"=1'-0"



E SITE RETAINING WALL

SCALE: 3/4"=1'-0"

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ARCHITECTURAL INNOVATIONS

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3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: SD-4

BEFORE THE HEARING EXAMINER OF THE CITY OF MERCER ISLAND

IN RE: NOTICE OF DECISION: FILE NO. 2207-019 DANIEL GROVE, Appellant, v. CITY OF MERCER ISLAND, Respondent.	Case No. APL24-002 APPELLANT DANIEL GROVE'S CLOSING ARGUMENT

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I. INTRODUCTION

Mr. Daniel Grove appeals Building Permit 2207-019 (the "Project"), an illegal construction project that, as shown in the record evidence and testimony presented at the May 9, 2024 hearing, grossly violates both the text and the goals of the Mercer Island City Code ("Code"). Mr. Grove respectfully asks the Hearing Examiner to remand this matter to the City of Mercer Island (the "City") so that those errors can be corrected before the Project is allowed to proceed.

In 2017, the City of Mercer Island pursued several code amendments to address its residents' concerns about limits on housing sizes and bulk. These changes were in direct response to fears "about the rapidly changing character of Mercer Island's Neighborhoods" and the City's permitting of projects that exceeded set code limits. Ex. 1001; Grove Testimony, TR at 7.[1] To address these concerns, the Code updates set new standards to reduce the allowed gross floor area, reduce maximum house sizes, reduce height limits, and increase side yard setbacks, and ensure the City was doing its job in enforcing these standards. *Id.*

Not long after the City implemented those amendments (which became effective on November 1, 2017), Ms. Dorothy Strand submitted her first application for a building and demolition permit for the subject Project that proposed a structure that *vastly* exceeded the standards set forth in the amended Code.[2] Ms. Strand sought to shoehorn this project which would enable her to build the largest and highest structure that she possibly could—which, as Ms. Strand argues, was her legal "right" to do. Strand Testimony, TR at 84.[3] Unfortunately, Ms. Strand got her way when, on February 20, 2024, the City approved the most recent permit application that forms the basis of this appeal. Ex. 4. Despite the review process that Ms. Strand's permit went

[1] Citations to "Ex." and "Exs." refer to exhibits admitted by the Hearing Examiner at hearing. Perkins Coie, LLP transcribed the video recording of the May 9, 2024 open record hearing, and attaches that transcription as Appendix A to this submission. Citations to the transcript are designated as "TR" and, for ease of reference, identify the witness who is providing the cited testimony and the specific pages on which the testimony appears.

[2] As detailed below the initial application calculated the basement exclusion area at 100% making the house much larger than permitted. Ms. Strand also attempted to leave in place an unsafe retained fill slope.

[3] While applicants may have a legal right to build to the maximum allowable limits, they do not have a right to build the largest structure they can build in disregard of the nuanced limits contained in the Code.

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through, the City's approval of the most recent permit application was in substantial error in at least five ways: (1) by relying on an erroneous calculation of existing grade and use of finished grade, the Gross Floor Area is much larger than permitted, resulting in a home that is substantially larger than allowed; (2) by incorrectly calculating basement exclusion area the allowable building square footage is impermissibly large; (3) the required side yard depth is less than the 10 feet required on the east side of the proposed home; (4) the City has allowed rooftop railings that exceed the height limits as part of a downhill facade; and (5) the proposed retaining wall/rockeries exceed code height limits.

Through this appeal, Mr. Grove seeks to correct those errors and asks the Hearing Examiner to enforce the City's code as recently amended in response to resident feedback. The burden of establishing those errors is to show that there has been a substantial error, that the City's decision was unsupported by at least some evidence in the record, or that the decision is in conflict with the standards of review. Mr. Grove is not required to rationalize or justify the City's reasons for approving the permit, as the City seems to suggest—in fact, such considerations are immaterial to the burden of proof at issue in this appeal. It makes no difference whether the City *believed* its approval of the subject permit was correct. If errors exist or the decision is unsupported or conflicts with the governing standards, it is the Hearing Examiner's role to serve as a gatekeeper, enforce the code as written, and remand any errors to the City for correction before any project proceeds. And that is precisely what Mr. Grove is seeking here—that Building Permit 2207-019 be remanded to correct the errors that Mr. Grove unquestionably established through documentary evidence and testimony at the hearing.

By remanding this matter, the Hearing Examiner will ensure that the applicant and future applicants will closely adhere to the updated code as written when seeking to proceed with residential construction projects on Mercer Island. But approving this project in its current form may set a dangerous precedent for future developers seeking to skirt the important limitations that the City has imposed through the legislative process. In sum, there is no basis for allowing this

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project to continue on its current course without first correcting the errors that Mr. Grove has met his burden on, and identified through this appeal.

II. TESTIMONY AND EVIDENCE PRESENTED

At the May 9, 2024, open record hearing, the Hearing Examiner heard testimony and saw evidence presented by the principal parties in this case: (a) Mr. Daniel Grove, Appellant, (b) the Project Architect, Jefferey Almeter on behalf of the Project Proponent, Ms. Dorothy Strand and (c) the City's Planner, Ms. Molly McGuire. The testimony and evidence at hearing demonstrated the substantial errors the City made in approving Building Permit 2207-019. The permit should be remanded to the City for further review, consideration, and correction.

A. Overview of Testimony from Appellant, Daniel Grove

Mr. Grove is a 20-year resident of Mercer Island and computer engineer who lives directly next door to the subject property. Mr. Grove is intimately familiar with the project at issue in this appeal and has spent countless hours reviewing Ms. Strand's submissions to the City and all publicly available data concerning the subject property. It is undisputed that Mr. Grove is the most knowledgeable witness of the various individuals who testified at the hearing—including Ms. Strand herself. Mr. Grove testified in support of the code violations raised in this appeal and the supporting exhibits, all of which were admitted into testimony. Mr. Grove also testified as to his extensive history and experience with the Mercer Island City Code through his involvement in the 2017 Code updates. Grove Testimony, TR at 7. As Mr. Grove demonstrated, Building Permit 2207-019 violates many of the same standards the 2017 updates were attempting to enforce.

The City appears to reject Mr. Grove's analyses on the basis that he is not "an architect, a planner, or a surveyor." City's Closing at 2. Putting aside the City's failure to timely assert this baseless objection,[4] Mr. Grove is not required to qualify as an expert witness for purposes of

[4] In conformance with RoP 224, Mr. Grove timely submitted his witness disclosure on May 2, 2024. At no point before or during the hearing did the City move to exclude any portion of Mr. Grove's testimony, and any objection along these lines is waived. Likewise, the City did nothing to discredit Mr. Grove's extensive knowledge of the subject property and applicable code provisions during cross examination, and there is absolutely no legitimate basis to discount or otherwise call into question Mr. Grove's credibility.

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eliciting testimony that is rationally based on his personal perception. *See* ER 701. Mr. Grove's testimony concerning the factual errors in Ms. Strand's project application and the City's errors in approving that application are not based on scientific, technical, or other specialized knowledge as contemplated in ER 702. To the contrary, application of the plain code language to the undisputed facts does not require one to be a surveyor, or architect.[5] *See also* ER 704 ("Testimony in the form of an opinion otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact."). Mr. Grove testified to his personal knowledge of the site and, based on his site visit and familiarity with the documentary evidence in the record, provided the most credible testimony that identified the specific areas where, and reasons why, both the City and the Applicant have deviated from the clearly established Code procedure.

B. Overview of Testimony from Ms. Strand's Architect, Jeffrey Almeter

Further confirming the credibility of Mr. Grove's testimony, Ms. Strand's own witness, Mr. Jeffrey Almeter, the Project Architect, ultimately *agreed* with most, if not all, of Mr. Grove's dispositive conclusions. Mr. Almeter testified as to his preparations of the designs, plan set and specifications for the illegally large home. He also testified to revisions and iterations of plan sets. Mr. Almeter, the only semi-neutral witness to testify, confirmed that from the beginning, Ms. Strand intended to start out with a building that was at the very maximum size the code could allow. He also confirmed that errors were made at the outset putting the Project over the maximum allowed by the code from its inception. Almeter Testimony, TR at 103. Very few errors were in fact corrected despite three iterations of the plans.

C. Overview of Testimony from Ms. Strand, Project Applicant

Ms. Strand testified as owner of the property, and proponent of the project at issue. Ms. Strand admitted to relying on Mr. Almeter exclusively as it related to the project's plans, and otherwise did not provide relevant testimony on the underlying legal or factual issues. Ms. Strand's

[5] The irony with the City's argument is that, even if the Hearing Examiner is inclined to give Mr. Grove's testimony less weight (and it should not), Mr. Grove should and can still prevail by looking at Mr. Almeter's and Ms. McGuire's testimony as discussed in greater detail below.

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testimony and closing both contain several misrepresentations of the record and facts in this case. To the extent the Hearing Examiner is inclined to consider any of Ms. Strand's testimony, it should be given very little weight in light of these serial mischaracterizations made. *See* Appendix B (summarizing the key mischaracterizations that Ms. Strand has made in the record).

D. Overview of Testimony from the City

Ms. Molly McGuire, Senior Planner for the City, testified as to her approach in reviewing and approving the building permit application. Ms. McGuire testified to being a Planner with the City for roughly two and a half years. Ms. McGuire claims to process about fifty applications per year. McGuire Testimony, TR at 61. Yet her testimony failed to recall basic facts about the project, parroted yes or no to various leading questions proffered by the City's attorney, and recounted internally inconsistent testimony on dispositive issues. For example, Ms. McGuire could not explain why Condition D, which requires a separate permit for a rockery or retaining wall, was included in the permit. Ex. 4 at 1; McGuire Testimony, TR at 5. She also stated she did not know what the non-final project plan exhibits were in the file, nor could she recall how many revisions the plans went through. McGuire Testimony, TR at 44. Ms. McGuire also failed to identify various permit requirements until the Appellant or other neighbors pointed them out, the need for a Critical Area Review 2 permit being one of them.[6] Ms. McGuire has never conducted a site visit of this property, and therefore has no on the ground knowledge. McGuire Testimony, TR at 61. Instead, she has relied solely on submittals by Ms. Strand who, in turn, has relied on exclusively on Mr. Almeter. McGuire Testimony, TR at 48; Strand Testimony, TR at 79.

Regardless of credibility, none of these witnesses actually dispute the key underlying facts in this case. Each witness during testimony relied on the Final Plan Set to identify relevant measurements and elevations. Ex. 6. The Hearing Examiner can look to that document alone to

[6] As Mr. Almeter confirmed in his testimony, this is general identified early on in the permitting process. Almeter Testimony, TR at 102. Here, the permit process was not initiated until about 10 months, and only after Mr. Grove pointed it out several times.

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identify the errors made and remand those errors to the City.[7]

III. ANALYSIS

A. Testimony and Evidence Supports Mr. Grove's Assignments of Error and the Need for Remand

The balance of the evidence and testimony presented at hearing confirmed the five main assignments of error Mr. Grove raised in in his appeal. Mr. Grove carried his burden to show that the City: (1) erroneously calculated existing grade and erroneously applied finished grade to the Project, (2) applied those incorrect calculations to a basement exclusion area and gross floor area calculation that exceeds code limits and results in a proposed home that is substantially larger than allowed, (3) incorrectly approved a side yard setback that is less than the 10 feet as required on the east side of the proposed home, (4) erroneously approved rooftop railings as part of the downhill facade that exceed code height limits, and (5) allowed proposed retaining walls/rockeries that exceed height limits. Each of these issues is addressed in turn below.

1. Issue 1: The City Incorrectly Calculated "Existing Grade" and Incorrectly Applied "Finished Grade"

a. Interpolation was Erroneously Used to Establish Existing Grade

Mr. Grove clearly established that the City allowed Ms. Strand to interpolate to establish existing grade contrary to the City's previous determination that interpolation could not be used for this site. *See, e.g.*, Grove Testimony, TR at 9. Neither the City nor Ms. Strand deny using interpolation, and Mr. Almeter in fact confirmed he used interpolation. Almeter Testimony, TR at 91, 105. Ms. McGuire further testified that existing grade was based on "the survey data and interpolations of existing grade." McGuire Testimony, TR at 62. But the City took the exact opposite position in Grove I, and rejected interpolation for this site based on the opinion of its own expert, Mr. James Harper.[8] Ex. 82; Ex. 1002 at 6.[9] The question becomes then, can the City change

[7] At hearing, the witnesses referred to both Ex. 6, the final stamped plan set submitted by the City, and Ex. 2007, the final plan set submitted by Ms. Strand. Other than the City's stamp, these two documents are identical.
[8] The Hearing Examiner also rejected this approach in his ruling in APL 23-009 ("Grove I").
[9] There is a direct contradiction between the City's statement in APL23-009 that "the existing grade is the current

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course now and apply an interpretation it previously rejected? The answer should be no.

At hearing, Ms. McGuire testified that the City allowed interpolation based on review of Administrative Interpretation 12-004's Conclusions 1 through 3 and application of Conclusion 3. Ex. 90 at 2. Specifically, Ms. McGuire explained that:

> The city reviewed the materials provided by the applicant and the qualified professional that prepared them and reviewed that against the administrative interpretation, which allows for interpolation across the footprint of the proposed residence.

McGuire Testimony, TR at 48. Mr. Harper's report specifically rejected the use of interpolation at this site. Ex. 82. Mr. Harper was hired by the City as an expert to review surveys applicable to the property, and to review the application of Administrative Interpretation 12-004, Conclusion 3, to determine when interpolation could be used at the site. (Ex. 83, Scope of Work):

> The City of Mercer Island Community Planning and Development Department requests Bush, Roed, & Hitchings services as an independent third party to review the information in the scope of work below: Attachment F - ***Administrative Interpretation for Existing Grade, Conclusion 3 for when a current survey is available to establish existing grade by interpolating elevations*** within the proposed footprint from existing elevations outside of the proposed footprint.

(emphasis added). Mr. Harper reviewed three surveys to analyze this question: (1) the Terrane Survey dated August 28, 2022, (2) the D.R. Strong survey dated May 1989, and the (3) W.M. Marshall survey dated August 21, 2005. (Ex. 82). He concluded that *none* of the surveys allow for interpolation. He stated: "**These surveys** do not serve as a 'snapshot' of original grade conditions and **cannot be relied on for interpolation**[10] or other such formulaic determinations of any *past, original grade*." Ex. 82 at 1 (bold emphasis added). Harper went on to conclude that the existing grade should be the surface elevation immediately adjacent to or touching a point on the exterior wall of the structure. Ex. 82 at 2. He therefore applied Conclusion 2 and expressly rejected the current survey for the purposes of using Conclusion 3's method of interpolation. Mr. Almeter's

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grade on the site" while at the same time still using interpolation (Ex. 1002 at 9).

[10] Note, the City erroneous use of the term "interpretation" in place of the term "interpolation." City's Closing at 4.

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testimony ultimately agreed with this reading, Almeter Testimony, TR at 105, and neither Ms. McGuire nor Ms. Strand provided any relevant or credible testimony to rebut his agreement.

Conclusion 1 of Administrative Interpretation 12-004 sets out the baseline. If no concrete evidence or verification from a previous survey document exists, the existing grade "***underlying the existing structure***" will be used as the elevation for the proposed development. Ex. 90 at 2. (emphasis added). Conclusion 2 then builds on Conclusion 1 as to the existing grade for the purpose of calculating basement exclusion area.[11] Conclusion 3 applies as a catch all when a current survey document is available, and can be used. But again, the Conclusion 3 approach was specifically rejected by Harper for this site. And the City rejected interpolation in Grove I. Only Conclusion 1 and Conclusion 2 could thus apply here.

Further, in applying Conclusion 1, the City cannot simply ignore the plain language of the same Administrative Interpretation they otherwise claim to rely on. "Underlying" is the term the City uses in the Administrative Interpretation. And "potential damage" to a structure that is already going to be demolished is an odd reason to ignore it. *See* City's Closing at 4. The City points to Mr. Almeter's testimony on this subject, but what Mr. Almeter said was that he couldn't think of another way to get a precise measurement than damaging the structure. Almeter Testimony, TR at 90. His conclusion did not account for the ability to use the undisclosed basement floor measurement within the existing structure, and ground penetrating radar, both of which are easily achievable. It also did not account for the City's obligation to apply its own Code as is written. Further, there is an existing basement clearly visible in the plans at 228.7' extending the full east-west width of the northeast portion of the existing structure. Ex. 6 at 9.[12]

[11] Conclusion 2 reads "Existing grade, for the purpose of calculating basement area exclusion without a survey of the pre-development conditions, shall be interpreted as the elevation of a point on the surface of the earth immediately adjacent to or touching a point on the exterior wall of a proposed structure." "Immediately" is defined as without any intervening time or space, while adjacent is defined as next to or very near something else; neighboring; bordering, contiguous; adjoining. Therefore, immediately adjacent is "next to or very near something else, and without any intervening space." *See* Oxford English Dictionary (Third Edition, March 2024).

[12] *See* Ex. 6 at 4 (finished floor level of 228.7'), Ex. 6 at 5 (temporary shoring plan shows existing basement at 228.7' on east side of same portion of the house).

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The Hearing Examiner should reject the City's argument that the existing grade is what the City says it is, when it says it is (*i.e.*,"[t]he final determination for existing grade on a lot shall be the decision of the Code Official" and therefore the final say is subject to City discretion). Not only did the City fail to mention this in its analysis at hearing,[13] the City *already* decided what the existing grade would be for this site in Grove I based on its expert's conclusions and Administrative Interpretations 04-04 and 12-04. Further, "the Code Official" is specifically defined as the director of the community planning and development department for the city of Mercer Island or a duly authorized designee. MICC 19.16.010(C). This language in the Administrative Interpretation is in no way meant to allow the City to flip flop its determination ***on the same project*****,** or whenever is convenient.

Mr. Grove has carried his burden to show that the use of interpolation to establish existing grade here was erroneous.

b. Finished Grade Cannot Be "Whatever the Applicant Picks" and then "Fixed" After the Fact

The City admitted under oath that it made minimal efforts to "check for code consistency" when it came to finished grade. McGuire Testimony, TR at 49. Ms. McGuire testified that she "relies on the fact that the Applicant's proposal should be accurate depending on what they propose the finished grade to be" and she'd "look at the elevation number" but "all in all, it's on the applicant to pick that." *Id.*

Mr. Grove established that "finished grade" is determined at each spot across a wall segment. Ex. 1014 at 2. This is consistent with the Code definition of finished grade which is defined as the "surface level at any point on the lot at the conclusion of development." MICC 19.16.010(F). However, the Plan Set shows that the finished grade in this case is a nearly straight line across the west elevation, despite much of the wall being exposed below that line for stairs

[13] McGuire Testimony, TR at 48 ("so we looked at the materials provided by the applicant and where existing grade hits the walls of the proposed residence and we took into consideration *conclusions one through three* of that administrative interpretation"). (emphasis added).

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and the door well. Ex. 6 at 16, "West Elevation"; McGuire Testimony, TR at 49.

The City's approval of the application, and failure to correct this error, is unsupported by the evidence and requires correction. Yet the City seems intent on ignoring it, or pushing that off until after the building has already been built. Ms. McGuire testified that if the City did err, and the building ended up being built too tall or outside of the plan set, "that would be a case for code enforcement." The time is now to enforce the code and remand this matter so that the error can be corrected.

2. Issue 2: The City Incorrectly Calculated "Basement Exclusion Area," Resulting in an Allowable Building Square Footage Maximum That Is Impermissibly Large

a. Mid-Point Finished Grade Elevation was Erroneously Used to Determine Wall Segment Coverage

Mr. Grove provided undisputed evidence that the City incorrectly calculated the "Basement Exclusion Area" in violation of Title 19, Appendix B by allowing Ms. Strand to use a midpoint elevation to determine wall segment coverage. Grove Testimony, TR at 12. In response, the City argues that Title 19 Appendix B does "authorize the utilization of midpoints" by relying on a simplified diagrammatic example rather than the language in the code. City's Closing at 5. This argument fails. First, it defies reason and logic to suggest that a simplified, exemplary diagram should override the language of the Code. It cannot. Second, the code language *does not allow* for use of a midpoint elevation as doing so does not provide a percentage below the lower of finished or existing grade as required.

Appendix B clarifies: "The Mercer Island Development Code excludes that portion of the basement floor area from the gross floor area which is below the existing or finished grade, whichever is lower. That portion of the basement which will be excluded is calculated as shown:"

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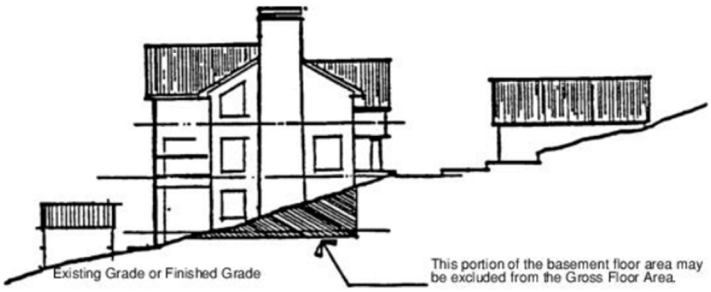
Figure 1: Snip from Title 19, Appendix B

TOTAL BASEMENT AREA is the total amount of all basement floor area.

WALL SEGMENT COVERAGE is the portion of an exterior wall below existing or finished grade, whichever is lower. It is expressed as a percentage. (Refer to example.)

WALL SEGMENT LENGTH is the horizontal length of each exterior wall in feet.



The Appendix B goes on to provide an example of how to calculate Basement Floor Area:

- **Step 1**: Determine the number and lengths of the Wall Segments;
- **Step 2**: Determine the Wall Segment Coverage (**in %**) for each Wall Segment. In most cases this will be readily apparent, for example a downhill elevation which is entirely above existing grade or will be entirely above finished grade. In other cases where the existing or finished grade contours are complex, an averaging system shall be used;
- **Step 3**: Multiply each Wall Segment Length **by the percentage** of each Wall Segment Coverage and add these results together. Divide that number by the sum of all Wall Segment Lengths. This calculation will result in a percentage of basement wall which is below grade;
- **Step 4**: Multiply the Total Basement Floor Area by the above percentage to determine the Excluded Basement Floor Area. (emphasis added).

The City points solely to the example in Appendix B, and appears to be confused by that illustration, relying on it as the end all be all when it merely shows a case where a midpoint matches the output of an averaging system. The example does not eliminate the operative, plain language

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requirement to use an averaging system in the first place. Further, contrary to the City's argument that the Applicant "correctly followed the methodology set forth in Appendix B", Mr. Almeter confirmed in his testimony that he did not in fact follow the correct approach and instead used a midpoint, which he confirmed does not give you a percentage. City Closing at 5. Almeter Testimony, TR at 105).[14]

> Davison: And isn't it true that the section, the language that you referred to, requires the calculation to look at the percentage below grade?
>
> Almeter: Right. It does mention that in Appendix B, yes.
>
> Davison: Okay. Okay. You said, or I believe you testified earlier that you looked at the midpoint, correct?
>
> Almeter: That is correct.
>
> Davison: Okay. And by looking at the midpoint doesn't give you a percentage, does it?
>
> Almeter: Not by looking solely at the midpoint, no.

Additionally, the City already addressed this issue in a nearly identical project, in which it concluded that midpoints could not be used on a wall segment with complex contours. *See* Ex. 1013. That prior instance—and the precedent the City created—cannot and should not be ignored. At hearing, Ms. McGuire stated she could not recall this project or the email despite being the planner on it (Project 2205-096).[15] McGuire Testimony, TR at 53. Regardless, the guidance she provided in the email speaks for itself and provides compelling evidence that discredits the City's self-serving (and plainly incorrect) analysis here.

Mr. Grove's use of wall segments or portions for the western basement wall is also consistent with this guidance, and consistent with the code. Mr. Grove identified the finished grade along the exterior stairs outside the wall. *See* Ex. 1005. The City provides no justification for why

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[14] *See also* Ex. 1013.

[15] This project can be accessed at https://mieplan.mercergov.org/public/2205-096/SUB2/helix%206922_plan%20set%2010-20-22_sub2.pdf.

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the finished grade should not follow the exterior stairs next to the western basement wall. City's Closing at 6; Ex. 1013.

Further, the use of midpoints makes a significant impact, especially given that the Project has already been designed to the absolute maximum constraints (and actually, beyond them). Grove Testimony, TR at 13. When wall segment coverage is calculated using the correct averaging system and finished and existing grades, the basement exclusion area ends up close to 38%, not 59.37% as shown in the Plan Set. Ex. 1012 at 8; Ex. 6 at 2. This results in an exceedance of roughly 300 to 350 square feet—200 to 250 feet for existing grade, and roughly 100 square feet for the finished grade errors, or 8 to 9% of the Project's square footage. Grove Testimony, TR at 9. Using a correct calculation for basement exclusion area would result in a gross floor area for this house of approximately 4,240 to 4,290 square feet, which is larger than the permitted 3,937.5 square feet. Ex. 1012 at 8.[16]

Mr. Grove has easily carried his burden to show that the use of a midpoint grade elevation was erroneous, resulting in a home larger than allowed under the Code.

3. Issue 3: The City Allowed an East Side Setback Less than the Required 10 Feet by the Code

a. The City Erroneously Allowed the Applicant to Cherry Pick Facade Heights

Mr. Grove established that the City has allowed an east side setback less than 10 feet in violation of MICC 19.02.020.C.1.c.iii.b by using an incorrect determination of the height of the east facade of the proposed residence. Grove Testimony, TR at 16. The City argues that the height of the eastern facade of the proposed residence is only 24 feet, 11.5 inches, requiring the side yard setback be 7.5 feet. City's Closing at 7. But this argument fails because the City relies solely on

[16] Gross Floor Area ("GFA") is defined as "the total square footage of floor area bounded by the exterior faces of the building." MICC 19.16.010.G. GFA is important because it essentially sets out the limits of the size of the home in relation to the size of the lot. A correct GFA calculation relies on a correct calculation of "existing grade" and "finished grade." See MICC Title 19, Appendix B.

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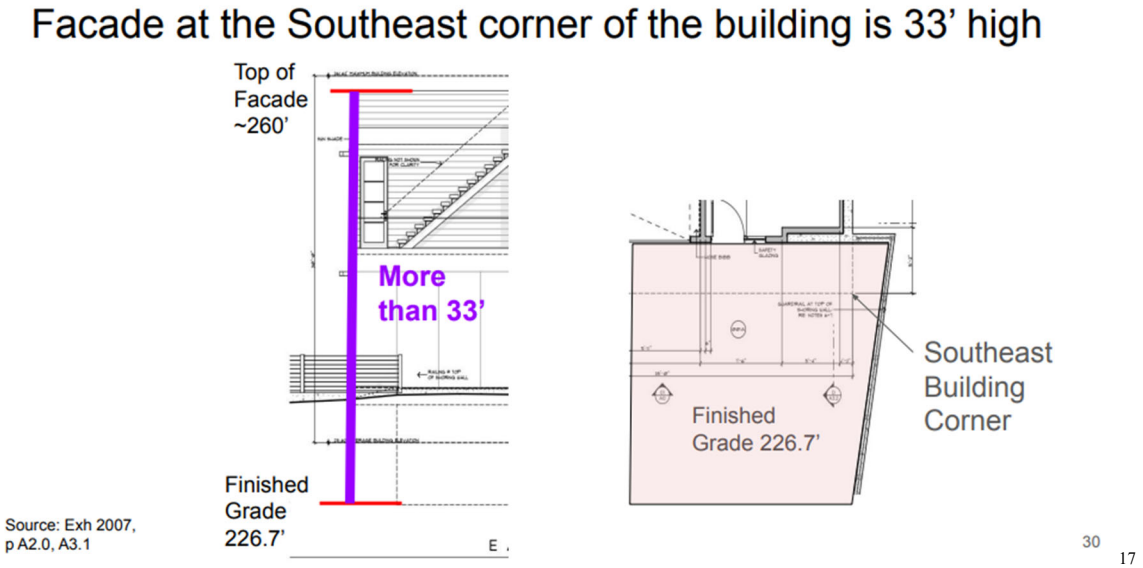
Ms. Strand's measurement on the eastern side without requiring Ms. Strand to measure from the top of the building to the finished grade immediately below the south end of the eastern facade.

The City agrees with Mr. Grove that single-family dwellings with a height of more than 25 feet measured from the existing or finished grade, whichever is lower, to the top of the exterior wall facade adjoining the side yard must provide a minimum side yard depth of 10 feet. MICC 19.02.020.C.1.c.iii.b; McGuire Testimony, TR at 53; Grove Testimony, TR at 16. The 2017 Code reforms specifically added this concept of a variable side yard setback depending on the height of a facade that adjoins the side yard. Ex. 1001. As shown at hearing, the top of the eastern facade is approximately 260.4'. Ex. 6 at 16 (South Elevation shows 235.43' + 24.96'). And the finished grade immediately beneath the southern end of the eastern facade is located at 226.7'. Ex. 6 at 16 (Figure 2). The distance from the finished grade below the southern end of the eastern facade to the top of the facade is thus more than 33'.

Figure 2: Snip from Ex 1014



[17] Ex. 1014 at 4.

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As shown on the right-hand side of Figure 2, the building's cantilever is above a 226.7' grade on *both* the south and east sides of the cantilever. Yet, the City relies on only the south side of the cantilever, ignoring the east side completely. City Closing at 7. The east side of the cantilever adjoins the east side yard. Ms. Strand attempted to wiggle out of this by arguing that the sightlines of building were relevant to this determination. But Ms. McGuire agreed that the building is cantilevered and Mr. Almeter agreed that taking into account visibility from different vantage points was not codified and not found anywhere in the Code. Almeter Testimony, TR at 107-108. Mr. Almeter also agreed that the finished grade right below the cantilevered portion of the proposed residence was 226.47 feet. *Id.*

Mr. Grove clearly carried his burden to show that the east side yard setback must be at least 10 feet consistent with MICC 19.02.020.C.1.c.iii.b.

4. <u>Issue 4: The City Incorrectly Calculated Building Height and Approved a Rooftop Railing System that Exceeds Height Limits</u>

a. The City's Applied the Wrong Code Section Related to Rooftop Railings

Mr. Grove clearly established that the City incorrectly approved a rooftop railing system that exceeds the 30 foot height limit set by MICC 19.02.020(E). The City argues, based on a flawed and strained reading of the Code, that certain appurtenances will "naturally exceed" the maximum building height by being placed on top of the building. City Closing at 9. This reads out of the Code an entire section that specifically requires rooftop railings not exceed the maximum building facade height on the downhill side on a sloping lot. Here, despite the lot sloping, the City stopped measuring at the top of the roof structure, and failed to measure to the top of the railings on the downhill side of the proposed residence as required by MICC 19.02.020(E)(2). As a result, the City erroneously approved rooftop railings that exceed the 30 foot limit.

MICC 19.02.020(E) governs building height limits generally and sets forth two methods of measuring building height. The first applies to the maximum building height of a structure above the structure's *average building elevation*. MICC 19.02.020(E)(1) ("no building shall exceed 30

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feet in height above *the average building elevation* to the highest point of the roof.") (emphasis added). The second applies to the maximum building height on downhill building facades for sloping lots, such as this one. MICC 19.02.020(E)(2). In these cases, "the maximum building facade height on the downhill side of a sloping lot shall not exceed 30 feet in height" "measured from *the existing grade or finished grade*, whichever is lower." *Id.* (emphasis added). Here, (E)(2) applies and the maximum building facade height on the downhill side of a sloping lot shall not exceed 30 feet in height.

Certain appurtenances, like antennas, flagpoles or solar panels, may extend a maximum of five feet above either of those heights, depending on which applies, **but rooftop railings may not in either scenario**:

> Antennas, lightning rods, plumbing stacks, flagpoles, electrical service leads, chimneys and fireplaces, solar panels, and other similar appurtenances may extend to a maximum of five feet above the height allowed ***for the main structure in subsections (E)(1) and (2) of this section***; provided: ***Rooftop railings may not*** extend above the maximum allowed height for the main structure. MICC 19.02.020(E)(3)-(3)(b). (emphasis added).

The City initially argued at hearing that only MICC 19.02.020(E)(1) applied – meaning the rooftop railings could not extend beyond the maximum allowed height for the main structure based on the average building elevation. McGuire Testimony, TR at 57. But on cross examination the City ultimately admitted that the measurement must be different on sloping lots and because MICC 19.02.020(E)(3) references both MICC 19.02.020(E)(1) and (2), it applies equally (meaning one must measure to the top of the railings themselves and the railings cannot exceed the maximum building facade height on the downhill side of the sloping lot (30 feet)). McGuire Testimony, TR at 62, 64. The City thus ultimately agreed that (E)(2) applied but in the end still claimed that (E)(2) ended at the rafters. They therefore just stopped measuring at the top of the rooftop structure regardless of what is above it. The City argues that they can disregard the railings here because "rooftop railings will always sit above the roof structure." City Closing at 9.[18] But this ignores the

[18] Although the City's argument is not entirely clear, Appellant must note the absurd result if the City's approach were

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language of MICC 19.02.020(E)(1)-(3) read together and reads out of the code an entire section. (E)(3)(b) must be read to apply to both (E)(1) and (E)(2) equally—here with (E)(2) being the applicable provision.

This also appears to be yet another attempt to justify the City's improper approval of the Project. This new argument should be rejected—the language and intent of the Code is clear that although some appurtenances may exceed the applicable height limit by five feet in limited circumstances, Mercer Island specifically chose to exclude rooftop railings from that list. *In re Det. of Williams,* 147 Wn.2d 476, 491, 55 P.3d 597, 604 (2002) ("Under expressio unius est exclusio alterius, a canon of statutory construction, to express one thing in a statute implies the exclusion of the other. Omissions are deemed to be exclusions.").

Rooftop railings ***may not*** extend the maximum allowed height of the structure, here measured from the existing or finished grade, whichever is lower. Further, the railings are, by definition, part of the facade. MICC 19.16.010(F) (Facade is "Any exterior wall of a structure, including projections from and attachments to the wall."). Here, Mr. Almeter confirmed Mr. Grove's testimony that the railings on the southern facade sit at 260.4' above finished grade. Almeter Testimony, TR at 107. This places the railings at approximately 33.9' above finished grade, higher than the 30-foot limit and, therefore, in exceedance of the code.

Mr. Grove easily carried his burden with respect to the height of the rooftop railings.

5. Issue 5: The City Improperly Approved a Proposed Soldier Pile Retaining Wall that Exceeds the MICC's Maximum 6-Foot (72") Height Allowance

Mr. Grove established that the City allowed Ms. Strand to avoid a full measurement of the soldier pile walls, resulting in a retaining wall system that exceeds the applicable code limits set by MICC19.02.050.D.5.b. Grove Testimony, TR at 24. There is no dispute that the soldier piles are an aspect of this project proposal and must conform to current code requirements, including a

applied. There would be essentially no limit to the height of the wall on the downhill facade other than E1. On very steep lots, this could result in walls well over 40 feet, contrary to the text and intent of the Code.

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height limit of no more than 72".[19] Almeter Testimony, TR at 101; McGuire Testimony, at 58. There also can be no dispute that the rocks on the existing slope must have been converted into a rockery to satisfy the building code. Grove Testimony, TR at 24; *See Woldson v. Woodhead,* 159 Wn.2d 215, 217, 149 P.3d 361, 362 (2006) (where a rubble masonry wall became a retaining wall for the extra dirt on Woodhead's land, a use not contemplated by its original design). The nature of the rocks clearly changed by virtue of the alterations that will need to be made to accommodate the rest of the Project. Because the soldier pile wall is so close to the property line (about 6 feet from the western property line and 12 to 13 feet above grade) the building code requires the soil to the west of the retaining wall be retained all the way from the top of that wall to the bottom.[20] *Id.* This results in a steep structure to avoid overly loose ground.[21]

The City argues that the maximum exposed portion of the proposed new shoring wall will be less than 6 feet in height, and any attempt to add height for the rocks there is contrary to the Hearing Examiner's holding in Grove I. City's Closing at 9. But the Hearing Examiner previously ruled in Grove I that the existing rocks are "not a wall", therefore not "retaining walls/rockeries" under the Code. The City's argument fails because the slope immediately west of the soldier piles (which have to be treated as new retaining walls/rockeries) relies on the rocks on the existing slope to function. Grove Testimony, TR at 24. In such cases, height must be measured from the top of the retaining wall or rockery to the existing grade or finished grade below it, whichever is lower.

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[19] Note, as Mr. Grove testified, City comments on Submittal 3 to the Project Plans (Ex. 60, SUB 3) specifically requested that the applicant to meet the requirements in MICC 19.02.050.E requires a 42" height limit in the front yard (MICC 19.02.050.E.1.a.ii). Ms. McGuire stated: "Provide top and bottom elevations of the shoring wall within the side and front yards. Fences atop walls count toward maximum heights per MICC 19.02.050(D) & (E)". (E) specifically limits front yard to 42". Ms. McGuire never followed up and never required the Applicant to correct the exceedance in the front yard as well. Appellant raised this at hearing but was unable to testify on the subject. Grove Testimony, TR at 23.

[20] Mercer Island has adopted the Washington State Building Code at MICC 17.01.010. See J107.6 of the Washington State Building Code. The standard limit for fill slopes is 1 vertical: 2 horizontal.

[21] *See* Ex. 6 at 9. "West Shoring Wall Profile" shows the bottom of the exposed portion of the shoring wall along the western edge of the lot is at approximately 226'. The shoring wall is approximately 6' west of the property line (Ex 6 at 8), and the elevation along the west property line is approximately 216' (Ex. 6 at 3). As a result, the slope west of the rockery in the required front yard is approximately 10 vertical to 6 horizontal (226' – 216'' vertical, and 6' horizontal), or a slope of 1.67 vertical to 1 horizontal.

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1201 Third Avenue, Suite 4900
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Fax: +1.206.359.9000

See MICC 19.02.050.C.2. And, the measurement must be taken from the bottom of the rockery (~216') to the top of the retaining. This places the wall at closer to 8 to 15 feet, well in exceedance of the 6-foot limit, which is not code compliant. This error should also be remanded for correction.

IV. CONCLUSION

Mr. Grove has more than sufficiently carried his burden to show substantial error in this case and respectfully requests the Hearing Examiner remand Building Permit 2207-019 to the City for further consideration. To clarify, Mr. Grove is not asking the Hearing Examiner cancel or deny this permit. Instead, Mr. Grove asks that the City correct the violations established in these proceedings and enforce the Code that has been adopted and amended through the legislative process.

Respectfully submitted: May 31, 2024

PERKINS COIE LLP

By: */s/Zachary E. Davison*

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Facsimile: +1.425.635.2400

Attorneys for Appellant Daniel Grove

CERTIFICATE OF SERVICE

I hereby certify that I served the foregoing APPELLANT DANIEL GROVE'S CLOSING ARGUMENT on the following:

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10900 NE 4th Street, Suite 1500
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Attorneys for Applicant Dorothy Strand

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9611 SE 36th St
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City of Mercer Island

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Attorneys for the City of Mercer Island

John Galt
Hearing Examiner
City of Mercer Island
927 Grand Ave.
Everett, WA 98201
Jegalt755@gmail.com
Hearing Examiner

to be sent by the following indicated method or methods, on the date set forth below:

[ ] by **sending via the court's electronic filing system**
[x] by **email**
[ ] by **mail**
[ ] by **hand delivery**

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DATED: May 31, 2024

PERKINS COIE LLP

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From:	Molly McGuire
Sent time:	2023/06/12 03:51:10 PM
To:	Ryan Harriman
Subject:	RE: RE: CPD Manager's Meeting Agenda - June 14

Hi Ryan,

Here is what we are discussing tomorrow in the format requested:

- Case/owner name: Jeffrey Almeter & Dorothy Strand (2207-019; Demo/Rebuild SFR in geologically hazardous area)
- Site address: 6950 SE Maker St
- Executive summary of the problem: The applicant has been asked to provide the City with the existing grade on the property to determine maximum building height on a sloping lot and the percentage of basement floor area exempt from GFA based on the percentage below existing or finished grade, whichever is lower. The definition of existing grade as determined in the code is “The surface level at any point on the lot prior to alteration of the ground surface” (for reference, alteration is defined as “Any human-induced action which impacts the existing condition of the area, including but not limited to grading, filling, dredging, draining, channeling and paving (including construction and application of gravel). "Alteration" does not include walking, passive recreation, fishing, or similar activities”). The applicant has claimed that the “existing grade” is the grade that currently exists on the property today, however several neighbors of the proposed development have brought the City information that determines that the existing grade on the property was altered when the current house was constructed around 1950. The neighbors believe that the applicant is not showing existing grade correctly on the plans, and that the proposed height and GFA are over the maximum allowed based on existing grade. The City has requested that the applicant give permission for a third party reviewer to determine if the existing grade can be extrapolated using historical surveys to which the applicant has denied.

  Additionally, the neighbors have expressed concerns that the Critical Area Type 2 Review was not processed correctly by the City. Per MICC 19.07.090(B))2)(b)(ii) the applicant can request consolidation of the review of the geologically hazardous areas together with construction permit review. The neighbors believe that there must be a separate permit and noticing period for the CAR2 review, instead of this review being consolidated with the building permit since the building permit’s application materials do not make it clear that consolidated review was requested or processed.
- Next steps: The application is currently under review for SUB3 by most review disciplines with a target review date of June 16. The applicant has not provided information to sufficiently determine existing grade as required to determine GFA basement exemptions and maximum downhill facade height.
- Desired solution for the City: Per MICC 19.15.110(D) The code official may issue a decision when three or more requests for the same information have remained unaddressed by materials submitted by the applicant. The official or entity shall provide written notification to the applicant, informing them that a decision will be issued and providing the opportunity for one set of information to be submitted before the decision is issued. The intent of this provision is to allow the code official to issue a decision when the content of submittal materials demonstrates an inability or unwillingness to meet applicable code requirements after repeated requests by the city. It is not the intent of this section to limit good faith efforts to meet code requirements by submitting new information in pursuit of approval.

Molly McGuire
Planner
City of Mercer Island – Community Planning & Development
City Hall Operating Hours: Tuesday – Wednesday – Thursday, 9AM to 4PM
206-275-7712 | www.mercerisland.gov

*****City Hall Closed Until Further Notice.*****

The City of Mercer Island utilizes a hybrid working environment. Please see the City’s Facility and Program Information page for City Hall and City service hours of operation.

From: Ryan Harriman <ryan.harriman@mercerisland.gov>
Sent: Monday, June 12, 2023 3:26 PM
To: Molly McGuire <molly.mcguire@mercerisland.gov>
Subject: FW: RE: CPD Manager's Meeting Agenda - June 14
Importance: High

Molly,

Please see the email below. Can you give me a write up for the case we’re discussing tomorrow in the form that Jeff lists below?

Thanks!

Ryan Harriman, EMPA, AICP
Planning Manager
Community Planning & Development | City of Mercer Island
City Hall Operating Hours: Tuesday – Wednesday – Thursday, 9 AM to 4 PM
206.275.7717 | mercerisland.gov/cpd
*****City Hall Closed Until Further Notice.*****

From: Jeff Thomas <jeff.thomas@mercerisland.gov>
Sent: Monday, June 12, 2023 2:02 PM
To: Ryan Harriman <ryan.harriman@mercerisland.gov>; Holly Mercier <holly.mercier@mercergov.org>; Alison Van Gorp <alison.vangorp@mercergov.org>; Don Cole <Don.Cole@mercergov.org>
Subject: RE: CPD Manager's Meeting Agenda - June 14
Importance: High

All,

For our June 14 CPD Manager's Meeting, I'd like to spend the bulk of our time taking inventory of the ongoing problem situations related to permitting.

Examples include Yak, Taylor, East Seattle Plat and current CE actions including APL 23-002.

Please come prepared to discuss with the:

- Case/owner name
- Site address
- Executive summary of the problem
- Next steps
- Desired solution for the City

Thanks, Jeff

Exhibit A

SITE INFO

OWNER:	- HELIX DESIGN BUILD
ADDRESS:	- 6922 SE 33rd ST. MERCER ISLAND, WA 98040
PARCEL NUMBER:	- 9359100160
JURISDICTION:	- KING COUNTY
ZONE:	- R-8.4
LOT SIZE:	- 10,000# (.23 ACRES)
LOT COVERAGE:	- MAX. 40% (4,000#)
FRONT SETBACK:	- 20' FROM PROPERTY LINE
REAR SETBACK:	- 25' FROM PROPERTY LINE
SIDE SETBACK:	- 11% OF LOT WIDTH (100'x11% = 11')
HEIGHT LIMIT:	- 20' FROM HIGHEST POINT OF LOT PER COVENANT

LOT COVERAGE CALCULATIONS

MAIN STRUCTURE W/ O.H.	- 3,450#
DRIVEWAY	- 450#
TOTAL LOT COVERAGE	- 3,900#
LOT AREA PROPOSED	- 10,000#
LOT COVERAGE	- 3,900/10,000 = 39%
MAXIMUM LOT COVERAGE	- 40% (4,000#)
UNUSED LOT COVERAGE	- 1% (100#)

HARDSCAPE CALCULATIONS

RETAINING/LANDSCAPE WALLS	- 51#
HVAC CONCRETE PAD	- 7#
OUTDOOR LIVING STEPS	- 22#
TOTAL HARDSCAPE	- 80#
LOT AREA	- 10,000#
PROPOSED HARDSCAPE	- 80/10,000 = 0.08%
MAXIMUM HARDSCAPE	- 1% + 9% = 10%

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000#	= 40% OR 8,000# = MAX. 4,000#
LOWER FLOOR W/ GARAGE & STORAGE	= 792#
MAIN FLOOR	= 2,861#
UPPER FLOOR	= 324#
TOTAL FLOOR AREA	= 3,983#
PROPOSED G.F.A.	= 3,983#

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

PROVIDE STRAW OR PLASTIC COVER TO ANY EXPOSED SOILS THROUGH OUT THE CONSTRUCTION CYCLE.

LOT SLOPE:
HIGHEST ELEVATION POINT OF LOT (NORTHWEST CORNER): 270.5'
LOWEST ELEVATION POINT OF LOT (SOUTHHEAST CORNER): 255.5'
ELEVATION DIFFERENCE: 15.0'
HORIZONTAL DIFFERENCE BETWEEN HIGH & LOW POINTS: 141.1'
LOT SLOPE: 10.6%

24 HOUR EROSION CONTROL CONTACT INFO:
ERIN JACOBSEN - 206.910.8758

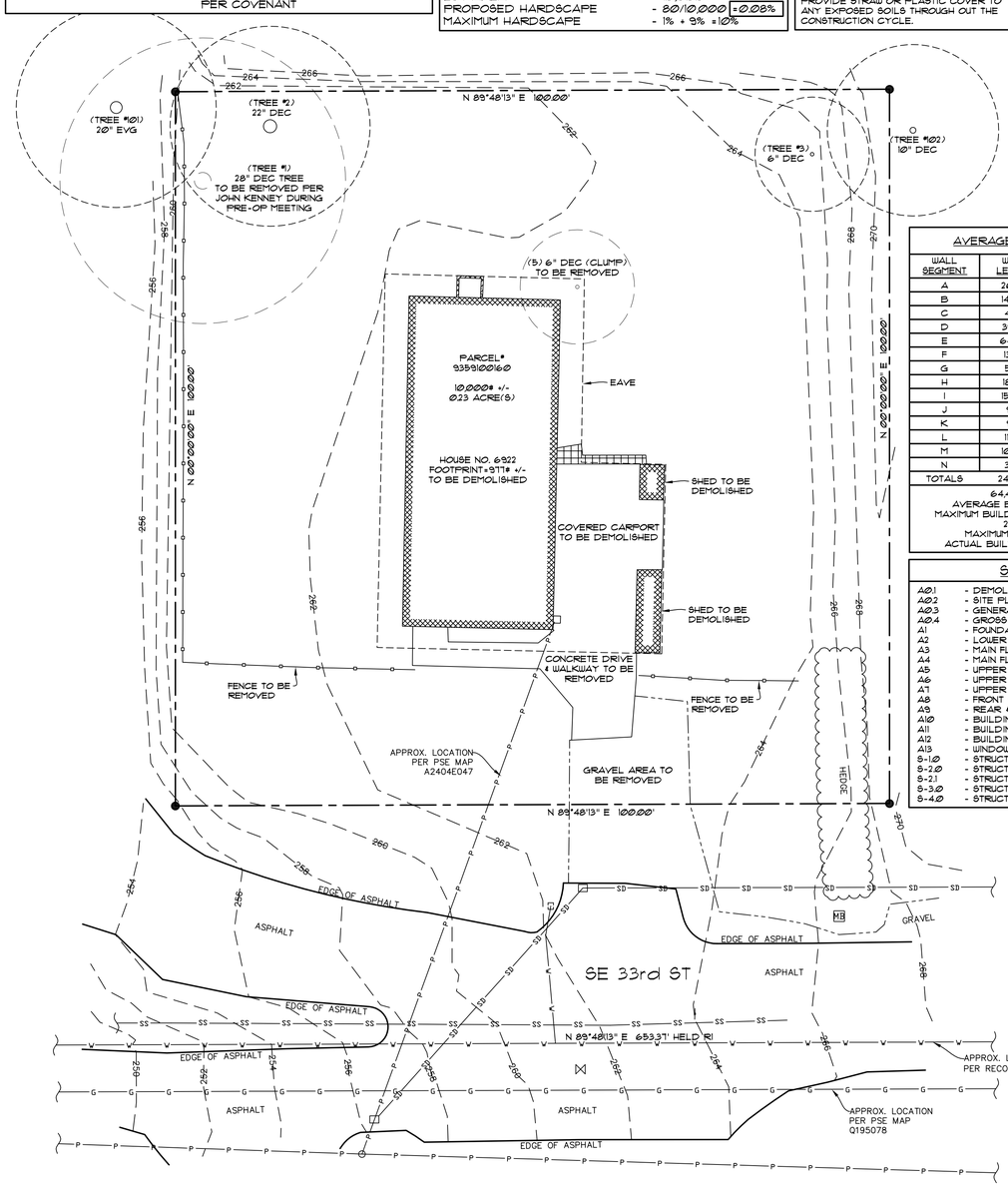
PER MICC 19.07.020(FX3.XD.):
DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (FX3.XA.) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION

AVERAGE BUILDING ELEVATION

WALL SEGMENT	WALL LENGTH	MIDPOINT ELEVATION	RESULT
A	26.83'	262.3	7,037.51
B	14.00'	261.8	3,665.2
C	4.42'	261.8	1,157.16
D	39.25'	261.9	10,279.6
E	64.46'	262.2	16,901.4
F	13.25'	262.8	3,482.1
G	5.29'	262.8	1,390.21
H	18.67'	262.9	4,908.34
I	15.00'	262.9	3,943.5
J	9.71'	262.8	2,551.79
K	9.21'	262.7	2,419.47
L	11.67'	262.9	3,068.04
M	10.50'	262.8	2,759.4
N	3.38'	262.7	887.93
TOTALS	245.64'	N/A	64,451.6

64,451.6 / 245.64 = 262.4
AVERAGE BUILDING ELEVATION = 262.4'
MAXIMUM BUILDING HEIGHT = 30' ABOVE A.B.E.
262.4' + 30' = 292.4'
MAXIMUM BUILDING HEIGHT = 292.4'
ACTUAL BUILDING HEIGHT = 26.43' (288.83')

SHEET INDEX

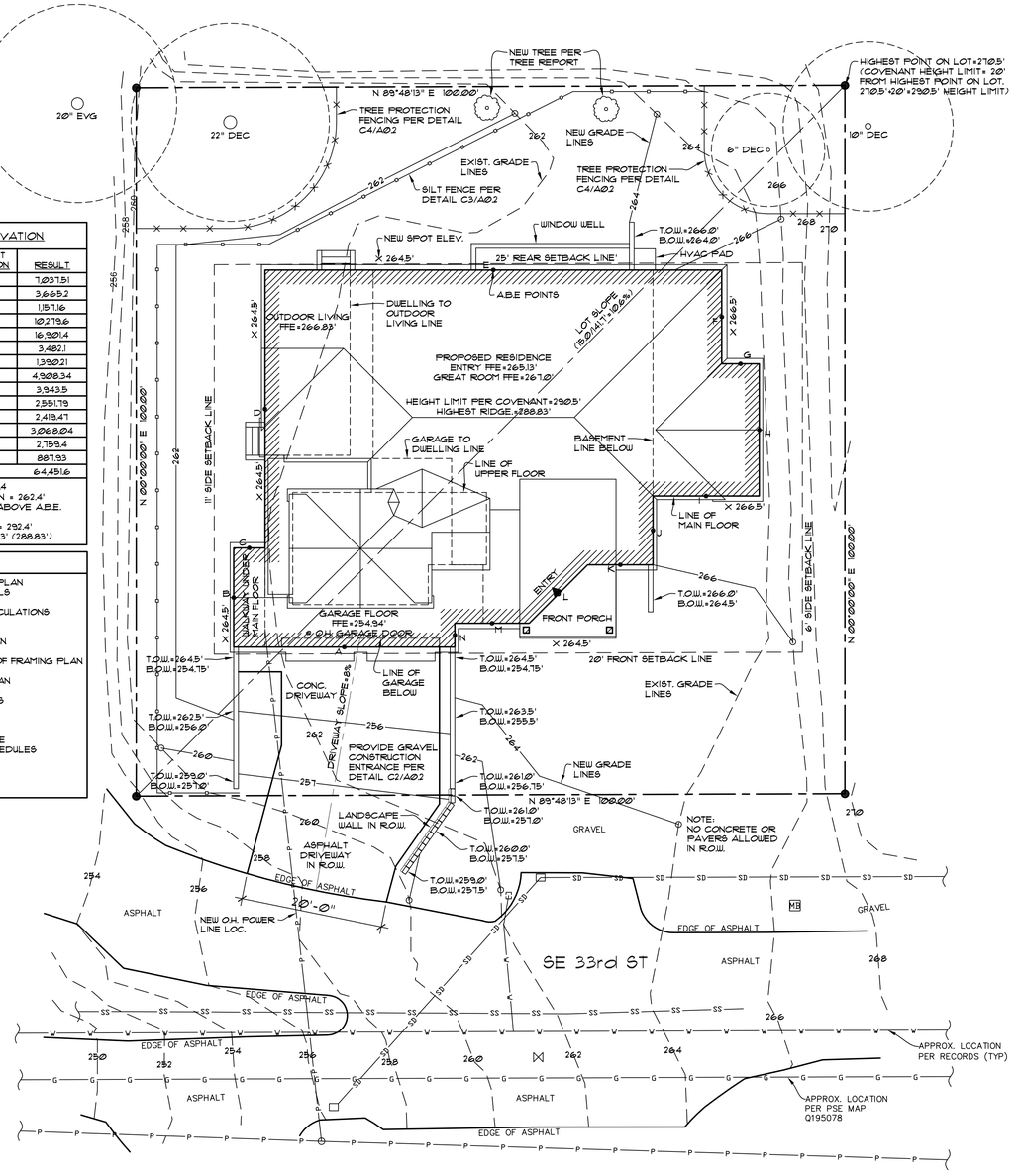


DEMOLITION PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

NORTH



SITE PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

NORTH

matthew mawer
residential design
matt@mmrd.net
425.417.7817

helix
DESIGN + BUILD
www.helixdesignbuild.com
206.910.8758

HELIX DESIGN BUILD
6922 SE 33rd ST.
MERCER ISLAND, WA 98040

JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED:

SHEET NO.
A0.1

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING# 20211210000582)

LOTS 32, 33, 34 AND 35 IN BLOCK 1 OF WHITE & NOBLES FIRST ADDITION TO EAST SEATTLE, AS PER PLAT RECORDED IN VOLUME 3 OF PLATS, PAGE 104, RECORDS OF KING COUNTY;

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

BASIS OF BEARINGS

N 89°48'13" E BETWEEN SURVEY MONUMENTS FOUND ON CENTERLINE OF SE 32ND ST, PER R1.

REFERENCES

R1. RECORD OF SURVEY, VOL. 210, PG. 079, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER GPS OBSERVATIONS

SURVEYOR'S NOTES

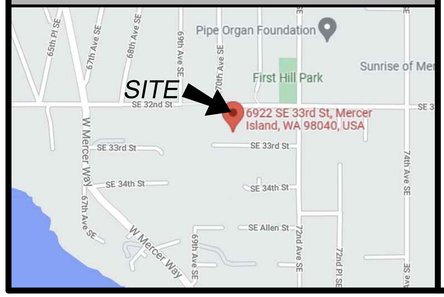
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN FEBRUARY OF 2022. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 9359100160.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,000± S.F. (0.23 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

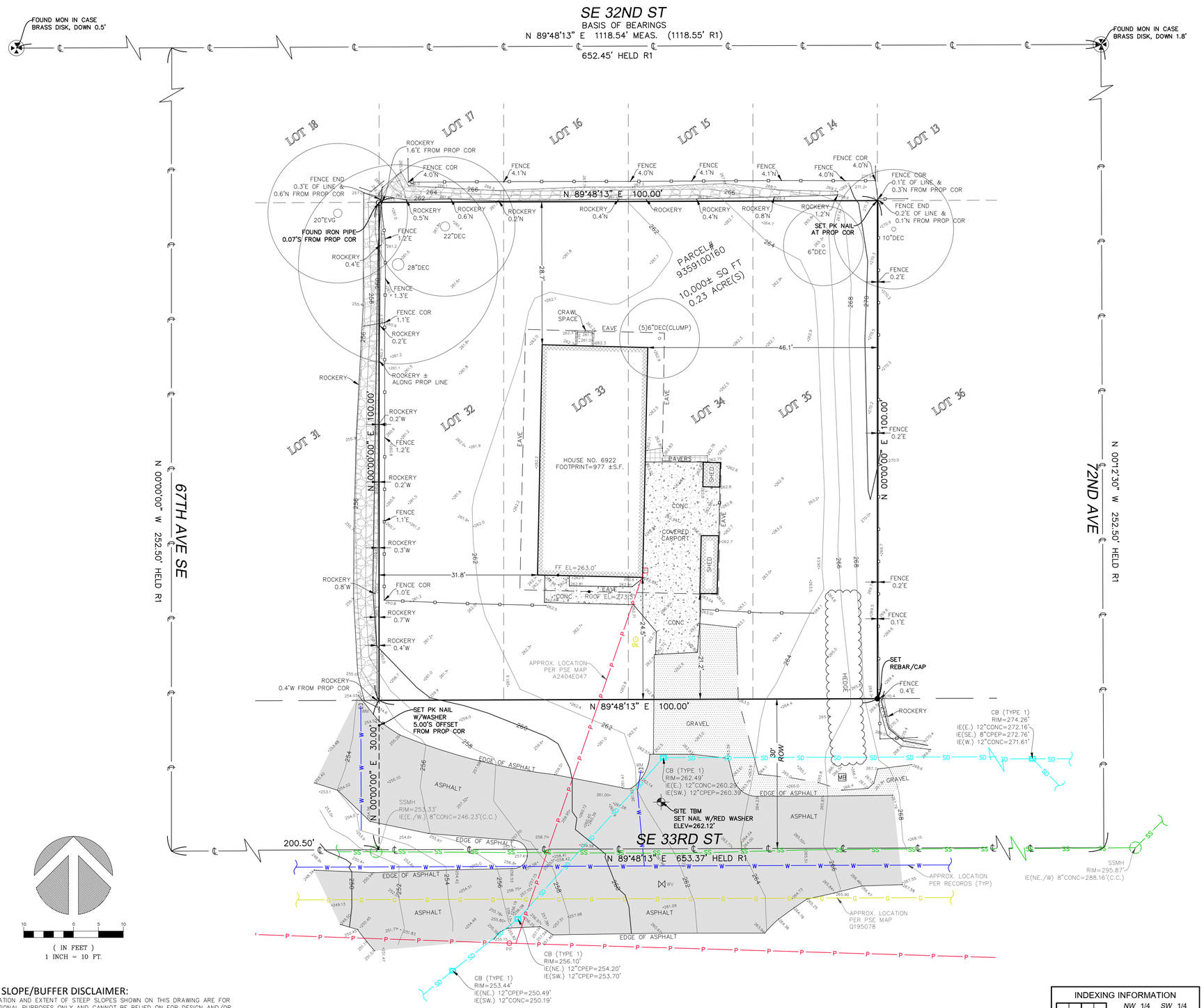
LEGEND

- ASPHALT SURFACE
- BENCHMARK
- BUILDING
- CENTERLINE ROW
- CONCRETE SURFACE
- FENCE LINE (WOOD)
- GAS LINE
- GRAVEL SURFACE
- HEDGE FOLIAGE LINE
- INLET (TYPE 1)
- IP IRON PIPE (FOUND)
- MB MAILBOX (RESIDENTIAL)
- MONUMENT IN CASE (FOUND)
- NAIL AS NOTED
- OIL OIL FILL CAP
- PAVER SURFACE
- P POWER METER
- P POWER (OVERHEAD)
- PP POWER POLE
- RETAINING WALL
- REBAR & CAP (SET)
- ROCKERY
- SS SEWER LINE
- SEWER MAINHOLE
- SD STORM DRAIN LINE
- SIZE TYPE TREE (AS NOTED)
- W WATER LINE
- WM WATER METER
- WV WATER VALVE

VICINITY MAP

N.T.S.





STEEP SLOPE/BUFFER DISCLAIMER:

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

INDEXING INFORMATION

NW 1/4 SW 1/4
SECTION: 12
TOWNSHIP: 24N
RANGE: 04E, W.M.
COUNTY: KING

We are the measure | terrane.net

TOPOGRAPHIC & BOUNDARY SURVEY
PARCEL NO. 9359100160

JACOBSEN RESIDENCE
6922 SE 33RD ST
MERCER ISLAND, WA 98040

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

JOB NUMBER:	212666
DATE:	02/09/2022
DRAFTED BY:	JAK
CHECKED BY:	JGM/DRT
SCALE:	1" = 10'

REVISION HISTORY

SHEET NUMBER
1 OF 1

EROSION/SEDIMENTATION CONTROL - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
A. CONDUCT PRE-CONSTRUCTION MEETING.
B. FLAG OR FENCE CLEARING LIMITS.
C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
H. GRADE AND STABILIZE CONSTRUCTION ROADS.
I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY/COUNTY TESC MINIMUM REQUIREMENTS.
L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

2. CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS CLEAN AND FREE OF CONTAMINANTS AT ALL TIMES AND FOR PREVENTING AN ILLICIT DISCHARGE INTO THE MUNICIPAL STORM DRAIN SYSTEM. IF YOUR CONSTRUCTION PROJECT CAUSES AN ILLICIT DISCHARGE TO THE MUNICIPAL STORM DRAIN SYSTEM, THE CITY/COUNTY STORM MAINTENANCE DIVISION WILL BE CALLED TO CLEAN THE PUBLIC STORM SYSTEM, AND OTHER AFFECTED PUBLIC INFRASTRUCTURE. THE CONTRACTOR(S), PROPERTY OWNER, AND ANY OTHER RESPONSIBLE PARTY MAY BE CHARGED ALL COSTS ASSOCIATED WITH THE CLEAN-UP AND MAY ALSO BE ASSESSED MONETARY PENALTIES. THE MINIMUM PENALTY IS $500. A FINE FOR A REPEAT VIOLATION SHALL BE A MULTIPLIED BY THE NUMBER OF VIOLATIONS. A FINE MAY BE REDUCED OR WAIVED FOR PERSONS WHO IMMEDIATELY SELF-REPORT VIOLATION TO THE CITY/COUNTY. A FINAL INSPECTION OF YOUR PROJECT WILL NOT BE GRANTED UNTIL ALL COSTS ASSOCIATED WITH THE CLEAN-UP, AND PENALTIES, ARE PAID TO THE CITY/COUNTY.

3. CONSTRUCTION DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN GSK POLICY E-1 SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25 NTU, AND NOT CONSIDERED AN ILLICIT DISCHARGE. TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR.

4. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND SPECIFICATIONS.

5. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

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

7. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

8. A COPY OF THE APPROVED ESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.

10. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY/COUNTY INSPECTOR.

11. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.

12. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.

13. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

14. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

15. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
- MAY 1 TO SEPTEMBER 30 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
- OCTOBER 1 TO APRIL 30 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
- STABILIZE SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.

16. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

17. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".

18. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 6' HIGH TEMPORARY CONSTRUCTION FENCE (CHAIN LINK WITH PIER BLOCKS) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL THE PLANNING DEPARTMENT AUTHORIZES REMOVAL.

19. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.

20. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.

21. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON THE SITE.

22. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.

23. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.

24. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED IMMEDIATELY FOLLOWING REMOVAL OF EROSION CONTROL BMPS. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

25. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.

26. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.

27. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.

28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

29. ANY AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT (INCLUDING A 5-FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.

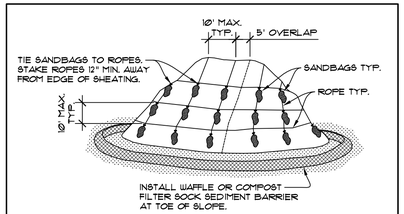
30. IF THE TEMPORARY CONSTRUCTION ENTRANCE OR ANY OTHER AREA WITH HEAVY VEHICLE LOADING IS LOCATED IN THE SAME AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT, 6" OF SEDIMENT BELOW THE GRAVEL SHALL BE REMOVED PRIOR TO INSTALLATION OF THE INFILTRATION FACILITY OR PERVIOUS PAVEMENT (TO REMOVE FINES ACCUMULATED DURING CONSTRUCTION).

31. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE ADEQUATE PROTECTION FROM SEDIMENT. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "STORM DRAIN PROTECTION INSERT" OR EQUIVALENT.

32. IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.

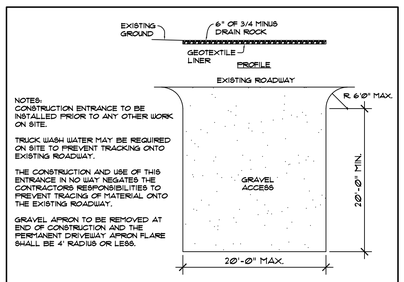
33. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.

34. RECYCLED CONCRETE SHALL NOT BE STOCKPILED ON SITE, UNLESS FULLY COVERED WITH NO POTENTIAL FOR RELEASE OF RUNOFF.



NOTES:
1. INSTALL PLASTIC SHEATING VERTICALLY DOWN SLOPE.
2. INSTALL PLASTIC SHEATING SO EDGES OVERLAP AND ARE SHINGLED AWAY FROM FREEVAILING WINDS.
3. PLASTIC SHEATING SHALL BE BLACK, MIN. 6 MIL.

C1 TEMPORARY STOCK PILE DETAIL N.T.S.



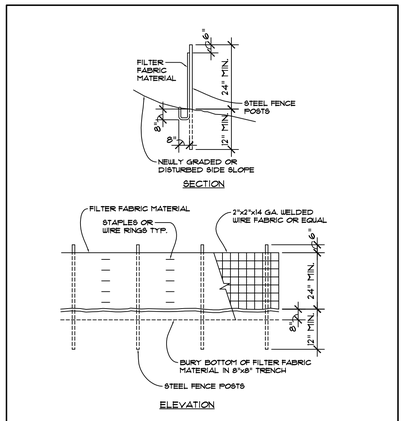
NOTES:
CONSTRUCTION ENTRANCE TO BE INSTALLED PRIOR TO ANY OTHER WORK ON SITE.

TRUCK WASH WATER MAY BE REQUIRED ON SITE TO PREVENT TRACKING ONTO EXISTING ROADWAY.

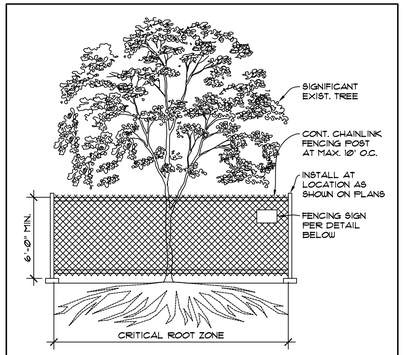
THE CONSTRUCTION AND USE OF THIS ENTRANCE IN NO WAY NEGATES THE CONTRACTORS RESPONSIBILITIES TO PREVENT TRACING OF MATERIAL ONTO THE EXISTING ROADWAY.

GRAVEL APRON TO BE REMOVED AT END OF CONSTRUCTION AND THE PERMANENT DRIVEWAY APRON FLARE SHALL BE 4' RADIUS OR LESS.

C2 GRAVEL CONSTRUCTION ENTRANCE N.T.S.



C3 SILT FENCE DETAIL



NOTES:

1. MINIMUM SIX (6') FOOT HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.

2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.

4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE. SIGN TO BE MINIMUM 11"x11", AND MADE OF WEATHERPROOF MATERIAL.

C4 TREE PROTECTION DETAIL N.T.S.

SITE PLAN NOTES & DETAILS

SCALE: N.T.S.

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JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED:

SHEET NO.
A0.2

GENERAL NOTES:

1. ALL FLOOR JOISTS PER PLAN. REFER TO MFG. LAYOUT FOR ALL FRAMING DETAILS AND BLOCKING. REVIEW MFG. LAYOUT PRIOR TO FRAMING. DOUBLE UNDER BEARING PARTITIONS. PROVIDE SOLID BLOCKING OVER BEARING MEMBERS.

2. ALL PRE-MANUFACTURED TRUSSES TO BE IDENTIFIED BY MFG'S STAMP.

3. FACTORY BUILT FIREPLACE & CHIMNEY TO BE UL LABELED INSTALL PER MANUFACTURERS SPECS O/SIDE COMBUSTION AIR REQ'D (MIN 6 SQ IN) DUCTED TO F/BOX W/ OPERABLE O/SIDE DAMPER, TIGHTLY FITTING FLUE DAMPER, AND TIGHT FITTING GLASS OR METAL DOORS OR FLUE DRAFT INDUCTION FAN. MINIMUM FIREPLACE EFFICIENCY OF 50% OR GREATER PER WSEC R402.4.2.1. PILOT LIGHT SHALL NOT BE CONTINUOUSLY BURNING PER WSEC R403.1.3.

4. LIMIT SHOWER FLOW TO 2.5 GALLON/MIN.

5. H.W.T. TO BE LABELED PER ASHRAE STD. NO. 90A-80, AND MEET THE REQUIREMENTS. PER 1981 NATIONAL APPLIANCE ENERGY CONSERVATION ACT.

6. FURNACE AND H.W. TANK, PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES TO BE A MIN. OF 18" ABOVE FINISHED FLOOR.

7. ALL SKYLITES TO COMPLY WITH I.R.C. SECTION 2409.1 & 2603.7

8. ALL SIDELITES, SLIDING GLASS DOORS AND TUB/SHOWER ENCLOSURES TO COMPLY WITH I.B.C. SECTION 2406.

9. HEAT REGISTERS TO BE PER LEGEND, LOCATE APPROXIMATELY AS SHOWN, 6" IN FROM EXTERIOR WALLS, 3" IN FROM INTERIOR WALLS.

10. VENT DRYER, OVEN/RANGE & EXHAUST FANS TO O/SIDE. DRYER EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMB HORIZ. AND VERT. LENGTH OF 14'-0", INCL. 2 90Ø. ELBOWS. DEDUCT 2'-0" FOR EA. 90Ø. ELBOW EXCEEDING 2. SEE DRYER DUCT DTL. FOR ALT. SOLUTIONS. ALL EXHAUST DUCTS INSULATED (MIN. OF R-4)

11. ALL NAILING PER IRC TABLE R602.3(1) AND/OR IBC TABLE 2304.9.1, COLUMN, POST & BEAM CONNECTIONS TO COMPLY WITH I.B.C. SECTION 2316.

12. ---

13. SOLID SHT'G REQ'D ON LOWER STORY OF 2 STORY BUILDING PER I.B.C. DRYWALL NAILED PER SHEAR NAILING SCHEDULES OR IBC 2018 EDITION.

14. TUB/SHOWER SURROUND WALLS TO HAVE WATER RESISTANT GYP BOARD AND A SMOOTH HARD SURFACE TO A MINIMUM HEIGHT OF 70" ABOVE DRAIN INLET

15. PROVIDE SMOKE DETECTOR IN COMPLIANCE WITH I.B.C. AND I.R.C. STD. *43.6. ALL SMOKE DETECTORS W/BAT BACKUP. SMOKE DETECTORS WILL SOUND AN AUDIBLE ALARM IN ALL SLEEPING ROOMS.

16. DWELLING TO COMPLY W/ 2018 WSEC-R.

17. SEAL, CAULK, GASKET, OR WEATHERSTRIP TO LIMIT AIR LEAKAGE: AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALL AND ROOF AND WALL PANELS, OPENINGS AT UTILITY PENETRATIONS THROUGH WALLS, FLOORS, AND ROOFS, ALL OTHER OPENINGS IN BUILDING ENVELOPE.

18. ALL EXTERIOR DOORS OR ACCESS HATCHES TO ENCLOSED UNHEATED AREAS MUST BE WEATHERSTRIPPED.

19. MINIMUM SOIL BEARING PRESSURE = 1500 PSF.

20. FOOTINGS TO BE PLACED ON FIRM, UNDISTURBED NATIVE SOIL.

21. DWELLING TO COMPLY WITH INTERNATIONAL BUILDING CODE (I.B.C.) 2018

22. FIRE STOPS SHALL BE PROVIDED TO CUT OFF ALL CONCL'D DRAFT OPENINGS FROM VERT. TO HORIZ. SPACES, INCLUDING THE STAIR, TUB, SHOWER, FIREPLACE, ETC.

ALL WINDOWS TO HAVE INDIVIDUAL OUTDOOR AIR INLET PORTS PER IMC 402.2 & 402.1

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE. THE RESULTS OF THE TEST SHALL BE BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL (R402.4.1.2).

AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE.

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. A MINIMUM OF 75% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

R317.1.3 GEOGRAPHICAL AREAS. APPROVED NATURALLY DURABLE OR PRESSURE-PRESERVATIVE-TREATED WOOD SHALL BE USED FOR THOSE PORTIONS OF WOOD MEMBERS THAT FORM THE STRUCTURAL SUPPORTS OF BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES WHEN THOSE MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING THAT WOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS. DEPENDING ON LOCAL EXPERIENCE, SUCH MEMBERS MAY INCLUDE:

1. HORIZONTAL MEMBERS SUCH AS GIRDERS, JOISTS AND DECKING.
2. VERTICAL MEMBERS SUCH AS POSTS, POLES AND COLUMNS.
3. BOTH HORIZONTAL AND VERTICAL MEMBERS.

R303.7 STAIRWAY ILLUMINATION.
ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIRS, INCLUDING THE LANDINGS AND TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF EACH LANDING OF THE STAIRWAY. FOR INTERIOR STAIRS THE ARTIFICIAL LIGHT SOURCES SHALL BE CAPABLE OF ILLUMINATING TREADS AND LANDINGS TO LEVELS NOT LESS THAN 1 FOOT-CANDLE (11 LUX) MEASURED AT THE CENTER OF TREADS AND LANDINGS. EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF THE STAIRWAY. EXTERIOR STAIRWAYS PROVIDING ACCESS TO A BASEMENT FROM THE OUTSIDE GRADE LEVEL SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE BOTTOM LANDING OF THE STAIRWAY.

SOURCE SPECIFIC VENTILATION REQUIREMENTS:

BATHROOMS, LAUNDRY ROOMS AND POWDER ROOM FANS TO BE 50 CFM.
KITCHEN EXHAUST FANS TO BE 100 CFM U.N.O.
EXHAUST FANS SHALL BE FLOW RATED AT .25 W.G. STATIC PRESSURE

EXHAUST DUCTS SHALL:
BE INSULATED TO R-4 IN UNCONDITIONED SPACE
BE EQUIPPED WITH A BACKDRAFT DAMPER
TERMINATE OUTSIDE THE BUILDING PER SRC M1501.1
COMPLY WITH BELOW:

FAN CFM	MAX. FLEX DIA.	MAX. FT.	MAX. SMOOTH DIA.	MAX. FT.
50	4"	25'	4"	70'
50	5"	90'	5"	100'
50	6"	OVER 100'	6"	OVER 100'
80	4"	N/A	4"	20'
80	5"	15'	5"	100'
80	6"	90'	6"	OVER 100'
100	5"	N/A	5"	50'
100	6"	45'	6"	OVER 100'
125	6"	15'	6"	OVER 100'
125	7"	70'	7"	OVER 100'

WHOLE HOUSE VENTILATION REQUIREMENTS:

A 6" DIAMETER FRESH AIR INLET SHALL BE DUCTED FROM THE EXTERIOR TO THE FRESH AIR RETURN PLENUM.
THE FRESH AIR DUCT SHALL BE PROTECTED FROM THE ENTRY OF INSECTS, LEAVES, OR OTHER DEBRIS AND LOCATED SO AS NOT TO TAKE AIR FROM:
- HAZARDOUS OR UNSANITARY LOCATIONS.
- WHERE IT WILL PICK UP OBJECTIONABLE ODORS, FUMES OR FLMMBL. VPRS.
- A ROOM OR SPACE HAVING FUEL BURNING APPLIANCES THERIN.
- ATTIC, CRAWL SPACE, OR GARAGE.
- CLOSER THAN 10' FROM AN APPLNC OR PLMBG VENT OUTLET, UNLESS THE DUCT VENT OUTLET IS AT LEAST 3' ABOVE THE FRESH AIR INLET.
- DUCT SHALL BE INSLT'D TO R-4 WHEN PASSING THROUGH A COND'D SPACE.

INLET DUCT SHALL BE EQUIPPED WITH A MOTORIZED DMPR THAT WILL OPEN WHEN THE VNTLTN FAN RELAY IS ACTIVATED, AND REMAIN CLOSED AT ALL OTHER TIMES. IN ADD'N TO THE MOTORIZED DMPR, A MANUAL DMPR SET TO .35-.5 AIR CHANGES PER HOUR IS ALSO REQUIRED.

A WHOLE HOUSE EXHAUST FAN SHALL BE LCT'D IN THE CEILING. SIZE PER THE CALCS BELOW. THE AIR INTAKE DUCT DMPR SHALL BE SET W/N THIS RNG

WHOLE HOUSE VENTILATION:
THIS SECTION ESTABLISHES MINIMUM PRESCRIPTIVE DESIGN REQUIREMENTS FOR WHOLE HOUSE VENTILATION SYSTEMS. EACH DWELLING UNIT OR GUEST ROOM SHALL BE EQUIPPED WITH A VENTILATION SYSTEM COMPLYING WITH OPTION I, II, III OR IV. COMPLIANCE IS ALSO PERMITTED TO BE DEMONSTRATED THROUGH COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE.

- ☐ OPTION I: WHOLE-HOUSE VENTILATION USING EXHAUST FANS. (IRC M1507.3.4)
- ☐ OPTION II: WHOLE-HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM. (IRC M1507.3.5.)
- ☒ OPTION III: WHOLE-HOUSE VENTILATION USING A SUPPLY FAN. (IRC M1507.3.6)
- ☐ OPTION IV: WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM. (IRC M1507.3.7)

MECHANICAL VENTILATION RATE:
THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR TO EACH HABITABLE SPACE AT A CONTINUOUS RATE NOT LESS THAN THAT DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(1).

EXCEPTION:
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS PERMITTED TO OPERATE INTERMITTENTLY WHERE THE SYSTEM HAS CONTROLS THAT ENABLE OPERATION FOR NOT LESS THAN 25 PERCENT OF EACH 4-HOUR SEGMENT AND THE VENTILATION RATE PRESCRIBED IN TABLE M1507.3.3(1) IS MULTIPLIED BY THE FACTOR DETERMINED IN TABLE M1507.3.3(2).

TABLE M1507.3.3(1) CONTINUOUS WHOLE HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (SQUARE FEET)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
	AIRFLOW IN CFM				
< 1,500	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	90	105	120	135	150
>7,500	105	120	135	150	165

TABLE M1507.3.3(2) INTERMITTENT WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS a,b,c

RUN TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
FACTOR	4	3	2	1.5	1.3	1

a. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
b. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

EXHAUST FANS MUST BE FLOW RATED AT .25 W.G. AND MAX. 1.5 SONE RATING. READILY ACCSSBLE 24 HR CLCK TMR OR DEHUMIDISTAT & RELAY SHALL BE INSTLL'D AND WIRED TO REGULATE THE FURN FAN, RELAY AND WHOLE HOUSE EXHAUST FAN.

INTERIOR DOORS SHALL BE INSTLL'D SO AS NOT TO IMPEDE THE MVMNT OF FRESH AIR TO ALL HABITABLE ROOMS.

VNTLTN SYSTEM MUST BE PERFORMANCE TESTED JUST PRIOR TO THE FINAL INSPECTION BY THE INSTALLER OR A GLF'D THIRD PARTY. THE INLET DUCT SHALL BE LABELED WITH THE ACTUAL CFMS MSRD & A LETTER OF COMPLNC SHALL BE AVAILABLE ON SITE FOR THE INSPCTR BEFORE A CERT OF OCCUPANCY WILL BE ISSUED.

STAIRWAYS - 2018 IRC SECTION 311.7

R311.7.1 WIDTH - STAIRWAYS SHALL BE NOT LESS THAN 36" IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. THE CLEAR WIDTH OF STAIRWAYS AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL BE NOT LESS THAN 31-1/2" WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 27" WHERE HANDRAILS ARE PROVIDED ON BOTH SIDES.
EXCEPTION: THE WIDTH OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.2 HEADROOM - THE HEADROOM IN STAIRWAYS SHALL BE NOT LESS THAN 6'-8" 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.
EXCEPTIONS: 1. WHERE THE NOSINGS OF TREADS AT THE SIDE OF A FLIGHT EXTEND UNDER THE EDGE OF A FLOOR OPENING THROUGH WHICH THE STAIR PASSES, THE FLOOR OPENING SHALL BE ALLOWED TO PROJECT HORIZONTALLY INTO THE REQUIRED HEADROOM NOT MORE THAN 4-3/4".
2. THE HEADROOM FOR SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.3 VERTICAL RISE - A FLIGHT OF STAIRS SHALL NOT HAVE A VERTICAL RISE LARGER THAN 151" BETWEEN FLOOR LEVELS OR LANDINGS.

R311.7.5 STAIR TREADS AND RISERS - STAIR TREADS AND RISERS SHALL MEET THE REQUIREMENTS OF THIS SECTION. FOR THE PURPOSES OF THIS SECTION, DIMENSIONS AND DIMENSIONED SURFACES SHALL BE EXCLUSIVE OF CARPETS, RUGS OR RUNNERS.

R311.7.5.1 RISERS - THE RISER HEIGHT SHALL BE NOT MORE THAN 7-3/4". THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE NOSING OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED PROVIDED THAT THE OPENING LOCATED MORE THAN 30", AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE.
EXCEPTIONS: 1. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON SPIRAL STAIRWAYS.
2. THE RISER HEIGHT OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.5.2 TREADS - THE TREAD DEPTH SHALL BE NOT LESS THAN 10". THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8".

R311.7.5.3 NOSINGS - NOSINGS AT TREADS, LANDINGS, AND FLOORS OF STAIRWAYS SHALL HAVE A RADIUS OF CURVATURE AT THE NOSINGS NOT GREATER 9/16" OR A BEVEL NOT GREATER THAN 1/2". A NOSING PROJECTION NOT LESS THAN 3/4" AND NOT MORE THAN 1-1/4" SHALL BE PROVIDED ON STAIRWAYS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8" WITHIN A STAIRWAY.
EXCEPTION: A NOSING PROJECTION IS NOT REQUIRED WHERE THE TREAD DEPTH IS NOT LESS THAN 11".

R311.7.6 LANDINGS FOR STAIRWAYS - THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED. LANDINGS OF SHAPES OTHER THAN SQUARE OR RECTANGULAR SHALL BE PERMITTED PROVIDED THAT THE DEPTH AT THE WALK LINE AND THE TOTAL AREA IS NOT LESS THAN THAT OF A QUARTER CIRCLE WITH A RADIUS EQUAL TO THE REQUIRED LANDING WIDTH. WHERE THE STAIRWAY HAS A STRAIGHT RUN, THE DEPTH IN THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN 36".

R311.7.7 STAIRWAY WALKING SURFACE - THE WALKING SURFACE OF TREADS AND LANDINGS OF STAIRWAYS SHALL BE SLOPED NOT STEEPER THAN ONE UNIT VERTICAL IN 48" HORIZONTAL.

R311.7.8 HANDRAILS - HANDRAILS SHALL BE PROVIDED ON NOT LESS THAN ONE SIDE OF EACH FLIGHT OF STAIRS WITH FOUR OR MORE RISERS.

R311.7.8.1 HEIGHT - HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34" AND NOT MORE THAN 38".

R311.7.8.2 HANDRAIL PROJECTION - HANDRAILS SHALL NOT PROJECT MORE THAN 4-1/2" ON EITHER SIDE OF THE STAIRWAY
EXCEPTION: WHERE NOSINGS OF LANDINGS, FLOORS OR PASSING FLIGHTS PROJECT INTO THE STAIRWAY REDUCING THE CLEARANCE AT PASSING HANDRAILS, HANDRAILS SHALL PROJECT NOT MORE THAN 6-1/2" INTO THE STAIRWAY, PROVIDED THAT THE STAIR WIDTH AND HANDRAIL CLEARANCE ARE NOT REDUCED TO LESS THAN REQUIRED.

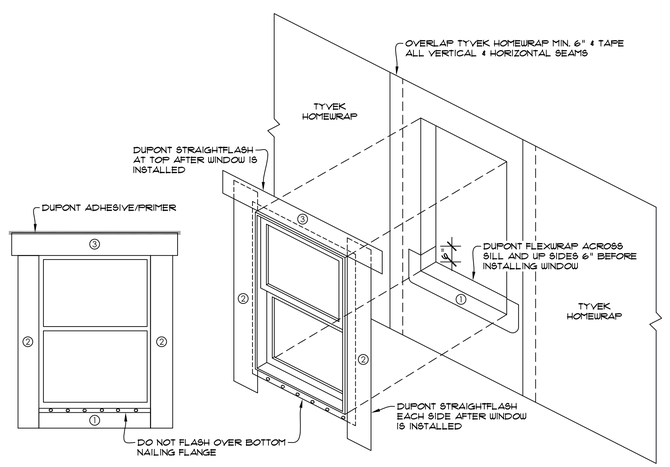
R311.7.8.3 HANDRAIL CLEARANCE - HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAILS.

R311.7.8.4 CONTINUITY - HANDRAILS 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 SAFETY TERMINALS.
EXCEPTIONS: 1. HANDRAIL CONTINUITY SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT A TURN IN A FLIGHT WITH WINDERS, AT A LANDING, OR OVER THE LOWEST TREAD.
2. A VOLUTE, TURNOUT OR STARTING EASING SHALL BE ALLOWED TO TERMINATE OVER THE LOWEST TREAD

R311.7.8.5 GRIP SIZE - REQUIRED HANDRAILS SHALL BE OF ONE OF THE FOLLOWING TYPES OR PROVIDE EQUIVALENT GRASPABILITY.
1. TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF NOT LESS THAN 1-1/4" AND NOT GREATER THAN 2". IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER DIMENSION OF NOT LESS THAN 4" AND NOT GREATER THAN 6-1/4" WITH A CROSS SECTION OF DIMENSION OF NOT MORE THAN 2-1/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".
2. TYPE II. HANDRAILS WITH A PERIMETER GREATER THAN 6-1/4" SHALL HAVE A GRASPABLE FINGER RECESS AREA ON BOTH SIDES OF THE PROFILE. THE FINGER RECESS SHALL BEGIN WITHIN A DISTANCE OF 3/4" MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND ACHIEVE A DEPTH OF NOT LESS THAN 5/16" WITHIN 7/8" BELOW THE WIDEST PORTION OF THE PROFILE. THIS REQUIRED DEPTH SHALL CONTINUE FOR NOT LESS THAN 3/8" TO A LEVEL THAT IS NOT LESS THAN 1-3/4" BELOW THE TALLEST PORTION OF THE PROFILE. THE WIDTH OF THE HANDRAIL ABOVE THE RECESS SHALL BE NOT LESS THAN 1-1/4" AND NOT MORE THAN 2-3/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".

EXHAUST VENT CLEARANCES:
PER SRC M1501 EXHAUST FAN VENTS SHALL TERMINATE OUTDOORS AND NOT IN ATTICS, SOFFITS, RIDGE VENTS, OR CRAWL SPACES. KITCHEN, BATHROOMS, AND LAUNDRY EXHAUST TERMINATIONS TO EXIT THE STRUCTURE WITH CLEARANCES MEETING SRC M1506.3, NOT LESS THAN 3 FEET FROM PROPERTY LINES, 3 FEET FROM OPERABLE OPENINGS IN THE BUILDING AND 10 FEET FROM MECHANICAL AIR INTAKES.

FLANGED WINDOW FLASHING INSTALLATION AFTER TYVEK HOMEWRAP (OR EQUIVALENT)



NOTE:
INSTALL DUPONT FLASHING IN ORDER SHOWN BY NUMBERS.
INSTALL WINDOW PER MANUFACTURERS INSTRUCTIONS.

PRESCRIPTIVE ENERGY CODE COMPLIANCE FOR ALL CLIMATE ZONES IN WASHINGTON PER 2018 WSEC:

MEDIUM DWELLING UNIT: 6 CREDITS

HEATING OPTION 2 - HEAT PUMP (1.0 CREDIT)

ENERGY OPTIONS:

1.3 - EFFICIANT BUILDING ENVELOPE (0.5 CREDITS):
VERTICAL FENESTRATION U = 0.28
FLOOR R-38
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

2.3 - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION (1.5 CREDITS):
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

3.2 - HIGH EFFICIANCY HVAC EQUIPMENT (1.0 CRDITS):
AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5

5.5 - EFFICIANT WATER HEATING (2.0 CREDITS):
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION

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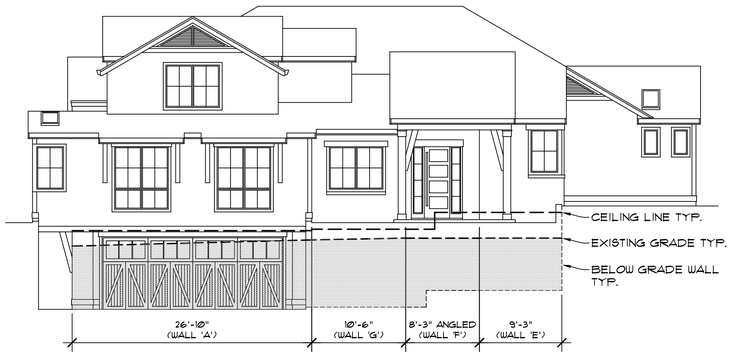
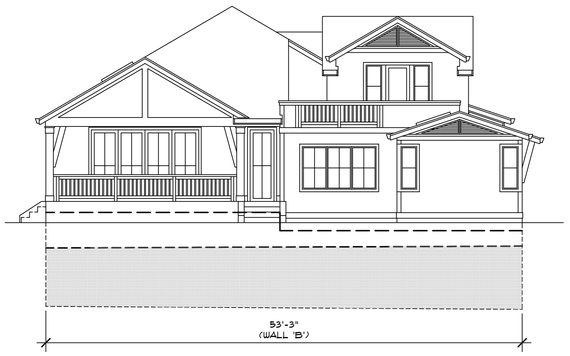
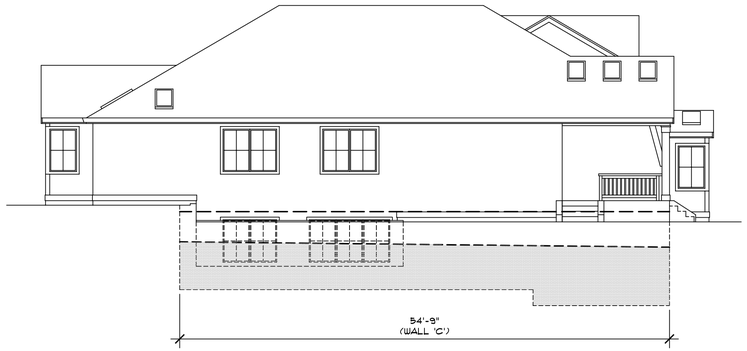


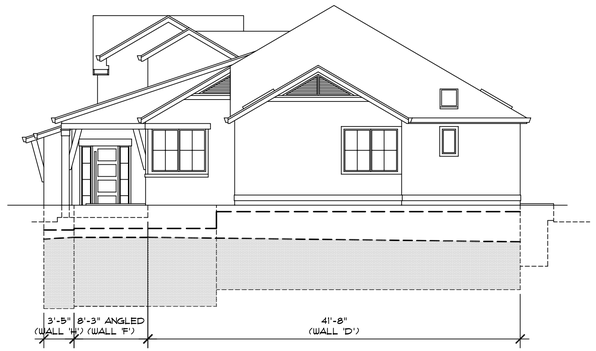
FRONT ELEVATION



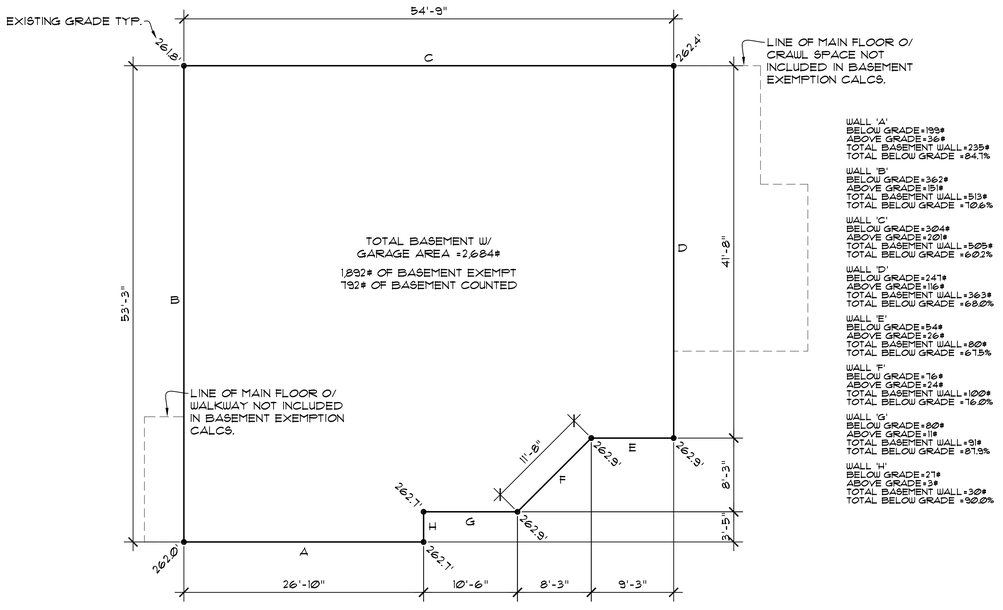
LEFT ELEVATION



REAR ELEVATION



RIGHT ELEVATION



BASEMENT FLOOR PERIMETER

WALL 'A'
BELOW GRADE =198#
ABOVE GRADE =36#
TOTAL BASEMENT WALL =235#
TOTAL BELOW GRADE =84.1%

WALL 'B'
BELOW GRADE =362#
ABOVE GRADE =151#
TOTAL BASEMENT WALL =513#
TOTAL BELOW GRADE =70.6%

WALL 'C'
BELOW GRADE =304#
ABOVE GRADE =201#
TOTAL BASEMENT WALL =505#
TOTAL BELOW GRADE =60.2%

WALL 'D'
BELOW GRADE =241#
ABOVE GRADE =116#
TOTAL BASEMENT WALL =363#
TOTAL BELOW GRADE =66.0%

WALL 'E'
BELOW GRADE =54#
ABOVE GRADE =26#
TOTAL BASEMENT WALL =80#
TOTAL BELOW GRADE =67.5%

WALL 'F'
BELOW GRADE =76#
ABOVE GRADE =24#
TOTAL BASEMENT WALL =100#
TOTAL BELOW GRADE =76.0%

WALL 'G'
BELOW GRADE =80#
ABOVE GRADE =11#
TOTAL BASEMENT WALL =91#
TOTAL BELOW GRADE =87.9%

WALL 'H'
BELOW GRADE =27#
ABOVE GRADE =3#
TOTAL BASEMENT WALL =30#
TOTAL BELOW GRADE =90.0%

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

TABLE OF WALL LENGTHS & COVERAGE

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	26.83'	84.1%	22.73
B	53.25'	70.6%	37.60
C	54.75'	60.2%	32.96
D	41.67'	68.0%	28.34
E	9.25'	67.5%	6.24
F	11.67'	76.0%	8.87
G	10.5'	87.9%	9.23
H	3.42'	90.0%	3.08
TOTALS	211.34'	N/A	149.05

149.05 / 211.34 = 70.5%

2,684 x 70.5% = 1,892# EXEMPT FROM GROSS FLOOR AREA

2,684 - 1,892 = 792# OF BASEMENT COUNTED

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000#	= 40% OR 8,000# = MAX. 4,000#
LOWER FLOOR W/ GARAGE & STORAGE	= 792#
MAIN FLOOR	= 2,867#
UPPER FLOOR	= 324#
TOTAL FLOOR AREA	= 3,983#
PROPOSED G.F.A.	= 3,983#

NORTH

GROSS FLOOR AREA CALCULATIONS

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

SUBJECT PROPERTY TAX PARCEL NO. 9359100160
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FOOTING SCHEDULE:

18" SQUARE x 10" DEEP W/ (2) #4 EA. WAY

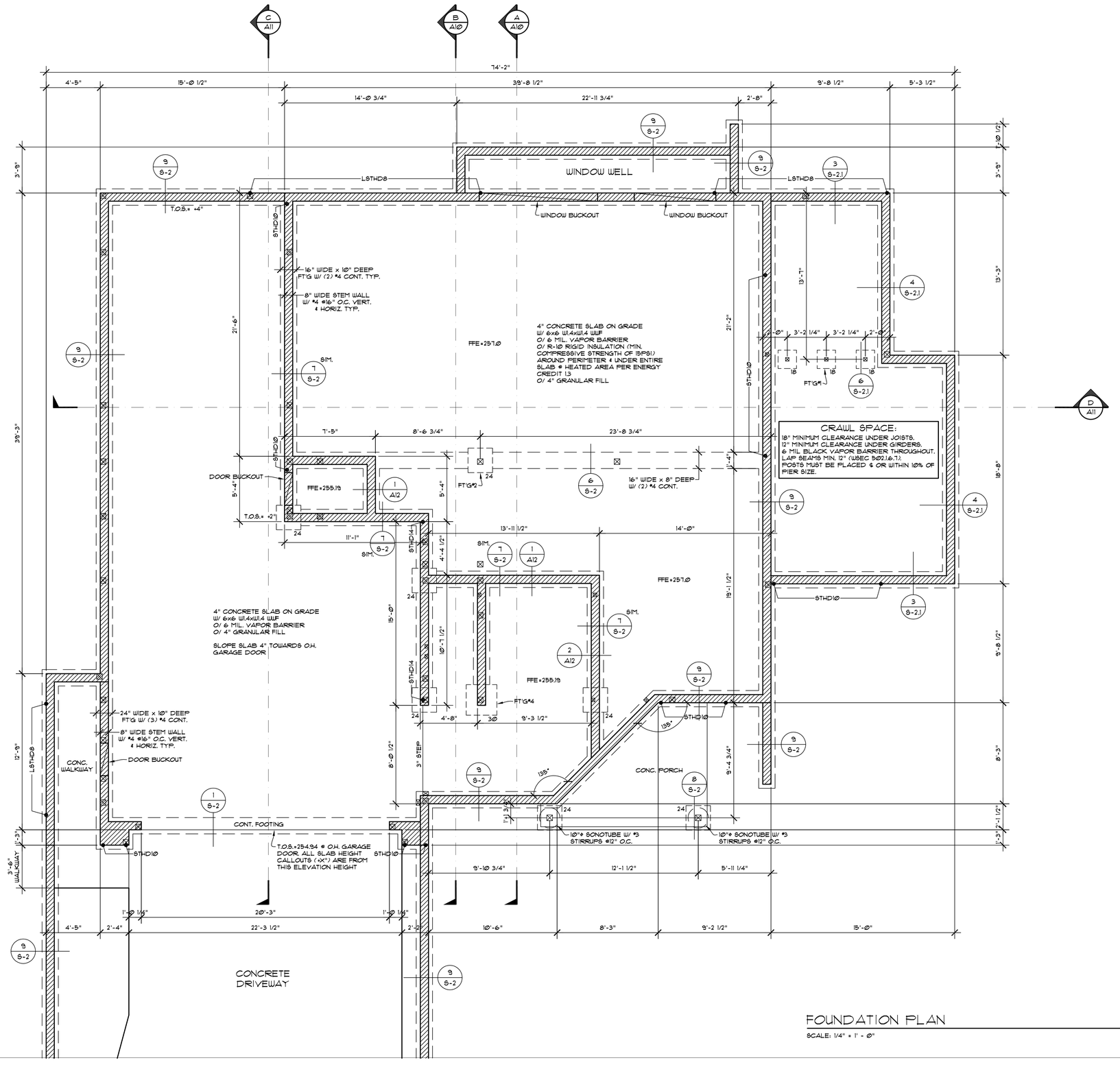
24" SQUARE x 10" DEEP W/ (3) #4 EA. WAY

30" SQUARE x 10" DEEP W/ (3) #4 EA. WAY

NOTE:
ALL UNDERGROUND PLUMBING LOCATIONS TO BE FIELD VERIFIED PRIOR TO FOUNDATION INSTALLATION.

CRAWL VENTILATION CALCULATION

CRAWL SPACE UNDER FLOOR AREA TO REQUIRE VENTING = 403 SF.
PROVIDE 1Ø CFM PER 50 SF. OF MECHANICAL VENTILATION
403 / 50 = 8.2
PROVIDE MINIMUM 9 CFM CONTINUOUS MECHANICAL VENTING



FOUNDATION PLAN

SCALE: 1/4" = 1' - Ø"

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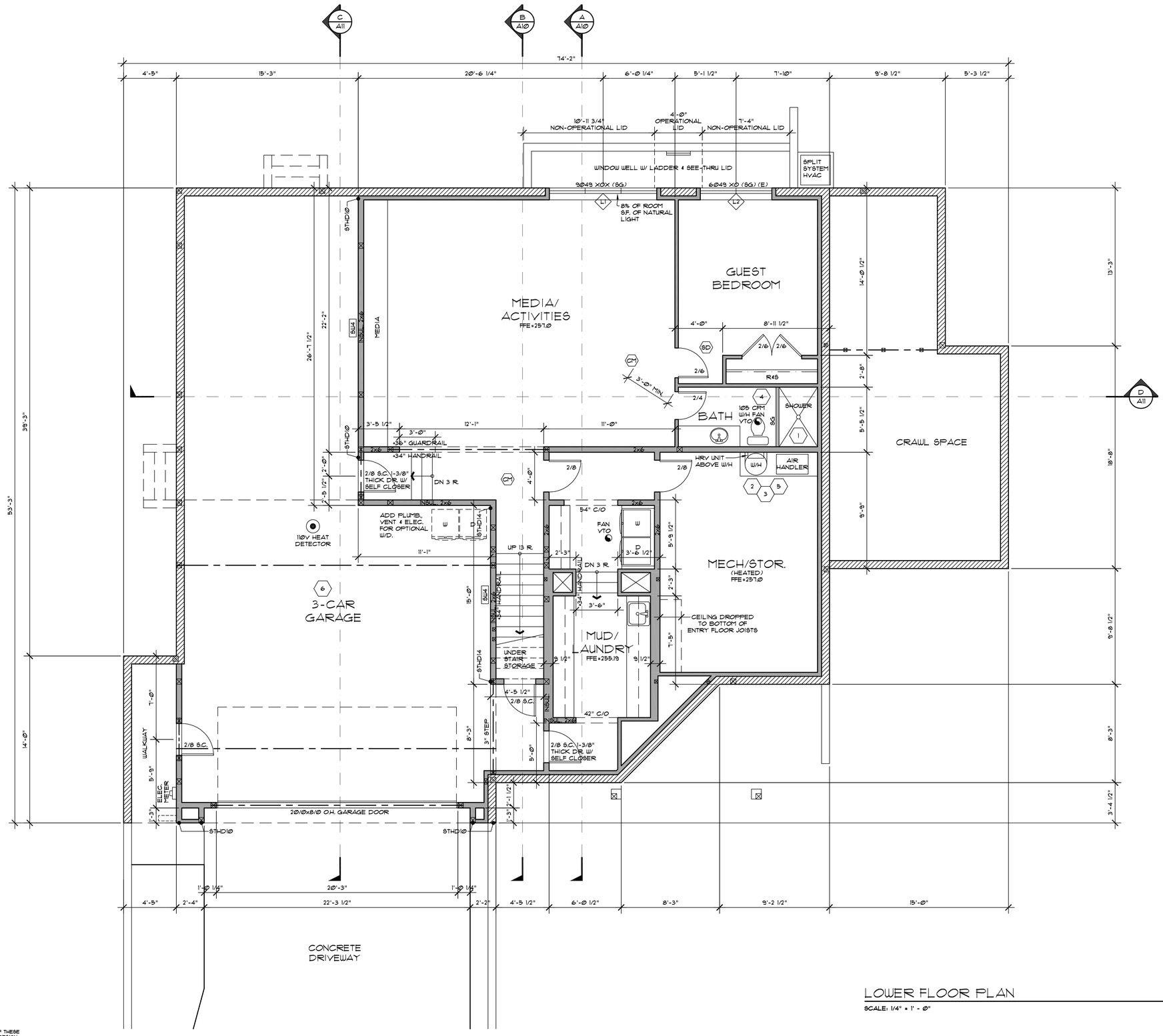
A1

1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6" ABOVE DRAIN
2	PILOTS & BURNERS OR HTG. ELEMENTS & SWITCHES TO BE AT LEAST 18" ABOVE FLOOR. MIN. 6" DIA. FRESH AIR DUCT TO CONNECT TO RETURN AIR PLENUM
3	WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT CAUSED BY EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF THE APPLIANCE'S VERTICAL DIMENSIONS. AT THE LOWER POINT, THE STRAPPING SHALL MAINTAIN A MINIMUM DISTANCE OF 4 INCHES ABOVE THE CONTROLS
4	WHOLE HOUSE VENTILATION SYSTEM PER M1507.13.3 OF THE I.R.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAX. @.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED. WHOLE HOUSE VENTILATION RATE PER TABLE M1507.13.3(2) AND SET TO RUN @ (2) 4 HOUR SEGEMENTS
5	PER ENERGY CREDIT 5.5: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION
6	5/8" TYPE "X" GWB OVER ALL WARM WALLS AND SECOND FLOOR FRAMING & SUPPORT MEMBERS, GARAGE CEILING PROTECTION TO BE CONTINUOUS ABOVE GARAGE.
7	PER ENERGY CREDIT 3.2: AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP



LOWER FLOOR PLAN

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

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A2

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

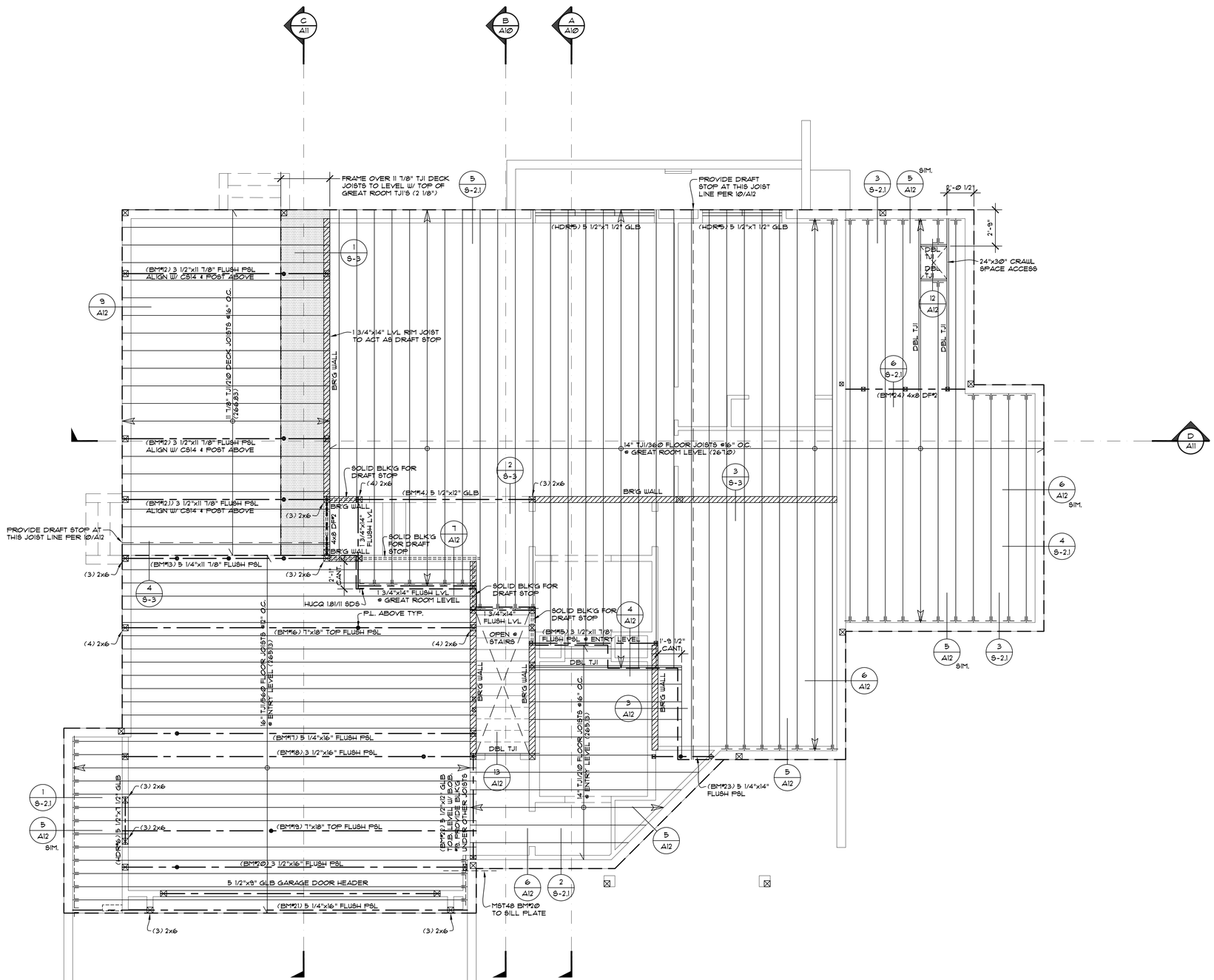
ALL ROOF PITCHES AS NOTED. X:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM



MAIN FLOOR FRAMING PLAN

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

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PER PERSCRIPTIVE REQUIREMENTS 2018 W.S.E.C.
*(MODIFIED FOR ENERGY CREDIT 1.3)

CLIMATE ZONE 5B
MAX. GLAZING U-FACTOR: VERT. U=.28*, OVERHEAD U=.50
MAX. DOOR U-FACTOR: U=.28
INSULATION @ CONDITIONED AREA:
TRUSSED CEILING: R-49
VAULTED & SINGLE RAFTER CEILING: R-38 (R40.22)
ABOVE GRADE WALLS: R-21
BELOW GRADE WALLS: R-21
FLOOR OVER VENTED CRAWL SPACE: R-38*
SLAB ON GRADE: R-10 @ PERIMETER
& UNDER ENTIRE SLAB*

PERCENT GLAZING CALCULATIONS: 6666 (S.F. GLAZING AREA) / 4,758 (S.F. FLOOR AREA) =14.0%

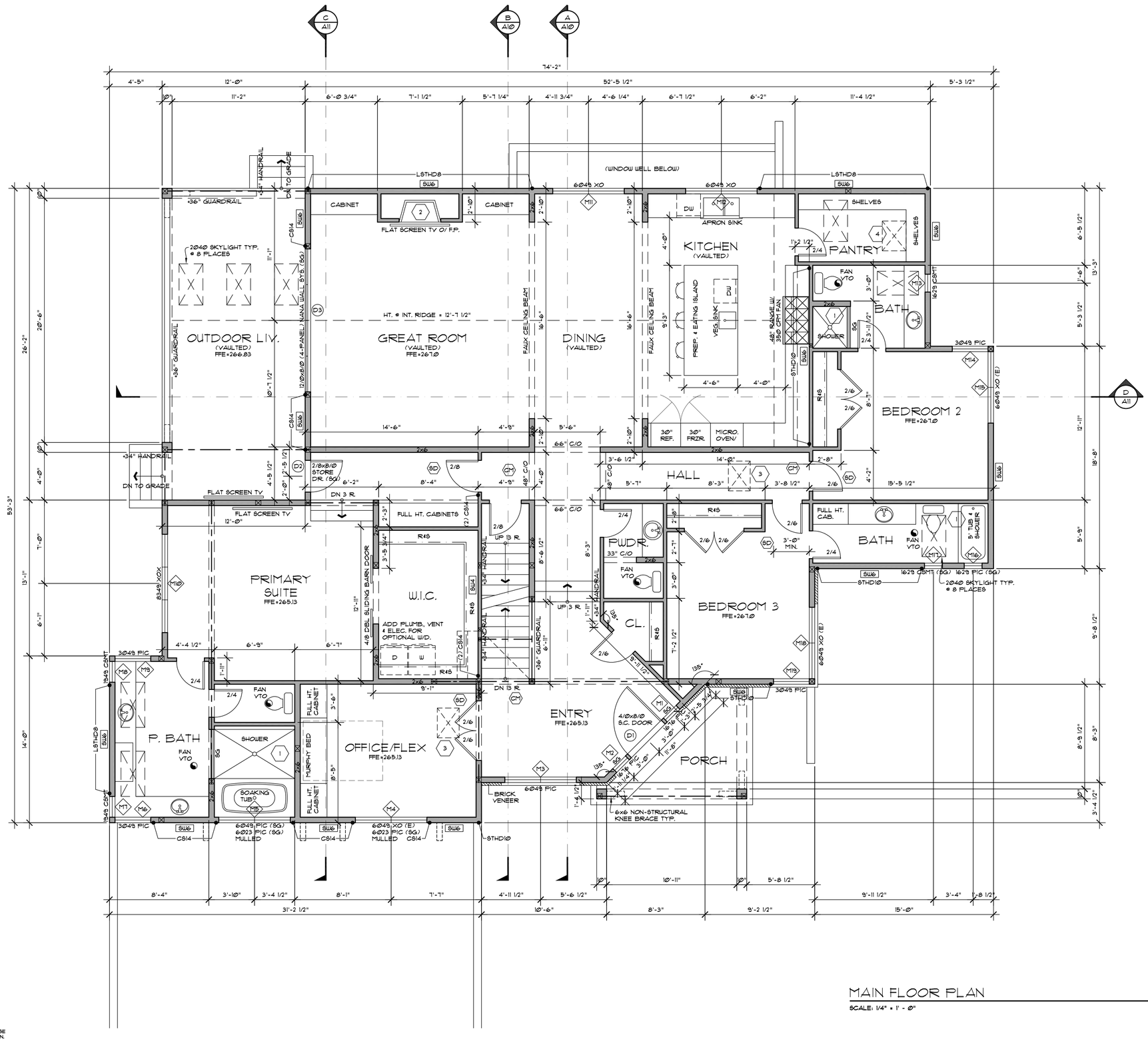
1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6' ABOVE DRAIN
2	DIRECT VENT FIREPLACE. INSTALL PER MANUFACTURERS SPECIFICATIONS
3	22"x30" ATTIC ACCESS. WEATHERSTRIP & INSULATE OVER TO EQUAL CEILING INSULATION. PROVIDE WOOD SURROUND TO PREVENT LOOSE INSULATION SPILLAGE TO LIVING SPACE.
4	24"x30" CRAWL SPACE ACCESS. WEATHERSTRIP & INSULATE TO LEVEL EQUAL TO SURROUNDING SURFACES.
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP

SQUARE FOOTAGE SUMMARY

UPPER FLOOR	324#
MAIN FLOOR	2,867#
LOWER FLOOR	1,566#
TOTAL HEATED	4,757#
GARAGE	1,118#
UPPER FLOOR DECK	131#
M.F. OUTDOOR LIVING	314#
M.F. FRONT PORCH	93#

PER ENERGY CREDIT 2.3:
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

NOTE:
CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL ACTING IN ANY DIRECTION AS REQUIRED BY IRC TABLE R301.5.



MAIN FLOOR PLAN

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

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A4

R807.1 ATTIC ACCESS:
BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC ACCESS OPENING TO ATTIC AREAS THAT HAVE A VERTICAL HEIGHT OF 30 INCHES OR GREATER OVER AN AREA OF NOT LESS THAN 30 SQUARE FEET. THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION TO THE UNDERSIDE OF THE ROOF FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION.

ALL TRUSSES:
-SHALL CARRY MANUFACTURERS STAMP
-SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS
-WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS
-SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

ALL ROOF PITCHES AS NOTED. X:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

A ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 368 SF. / 300 = 1.23 SF. NET FREE
EAVE VENTILATION = 46 L.F. x 3.3 SQ. IN./L.F. = 1Ø5 SF.
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 1.23 x Ø.5 = Ø.62 SF.
ROOF-TO-WALL VENTILATION PROVIDED = 31 L.F. x 9.Ø SQ. IN./L.F. = 1.9 SF.

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = 1Ø5 SF.
ROOF-TO-WALL ABOVE EAVE VENTILATION = 1.9 SF.
TOTAL VENTILATION REQUIRED = 1.23 SF.
TOTAL VENTILATION PROVIDED = 2.95 SF.

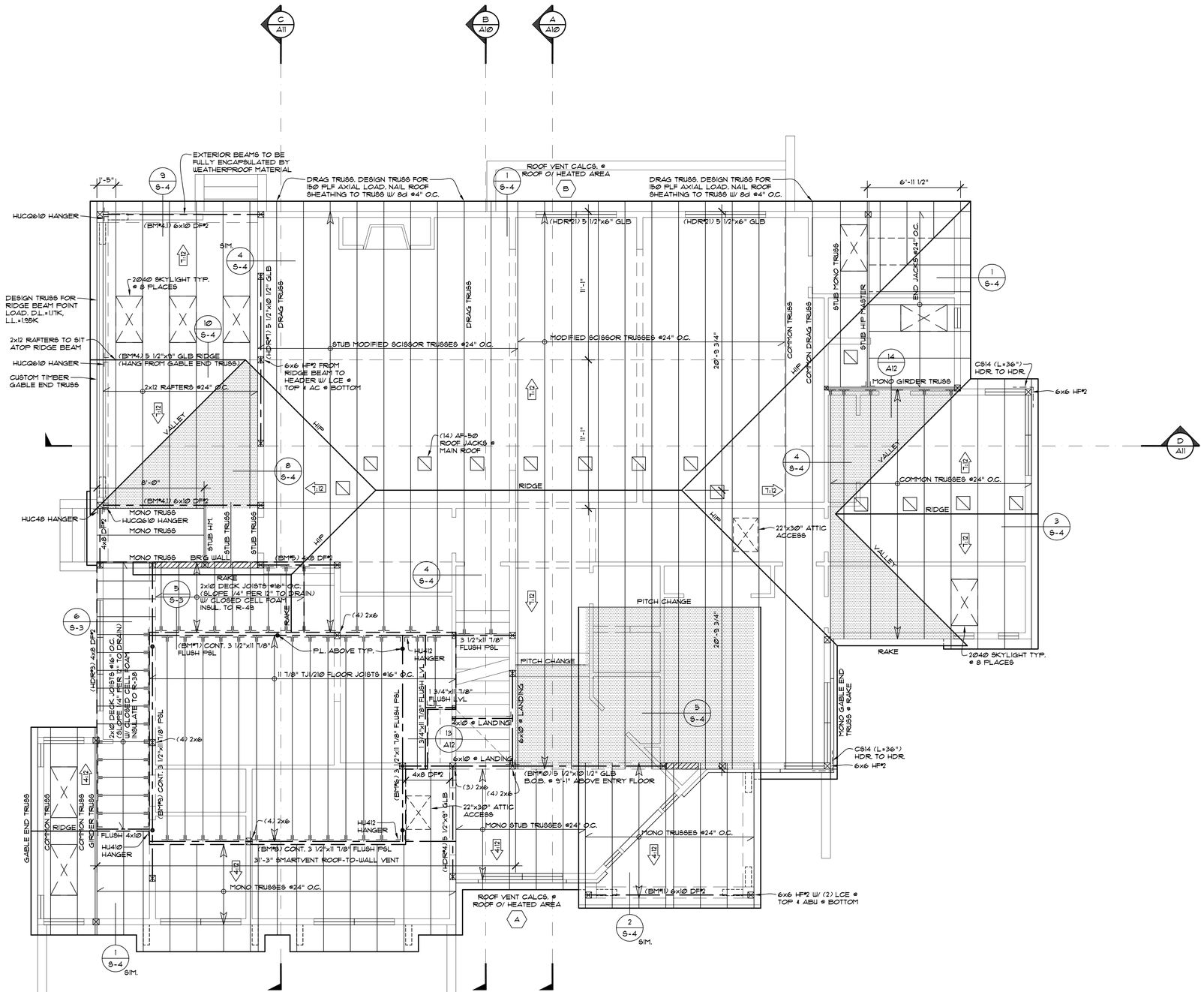
NOTE:
USE SMARTVENT ROOF-TO-WALL VENT OR EQUIV.

B ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 2Ø23 SF. / 3ØØ = 6.8 SF. NET FREE
EAVE VENTILATION = 91 L.F. x 3.3 SQ. IN./L.F. = 2Ø8 SF.
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 6.8 x 3.4 = 2.15 SF.
(14) AF-5Ø ROOF JACK YIELD 4.9 SF. (Ø.35 SF. NET FREE EACH)

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = 2.Ø8 SF.
ROOF JACK ABOVE EAVE VENTILATION = 4.9 SF.
TOTAL VENTILATION REQUIRED = 6.8 SF.
TOTAL VENTILATION PROVIDED = 6.98 SF.

HATCHING DENOTES 2x OVERFRAMING



UPPER FLOOR & MAIN ROOF FRAMING PLAN

SCALE: 1/4" = 1' - Ø"

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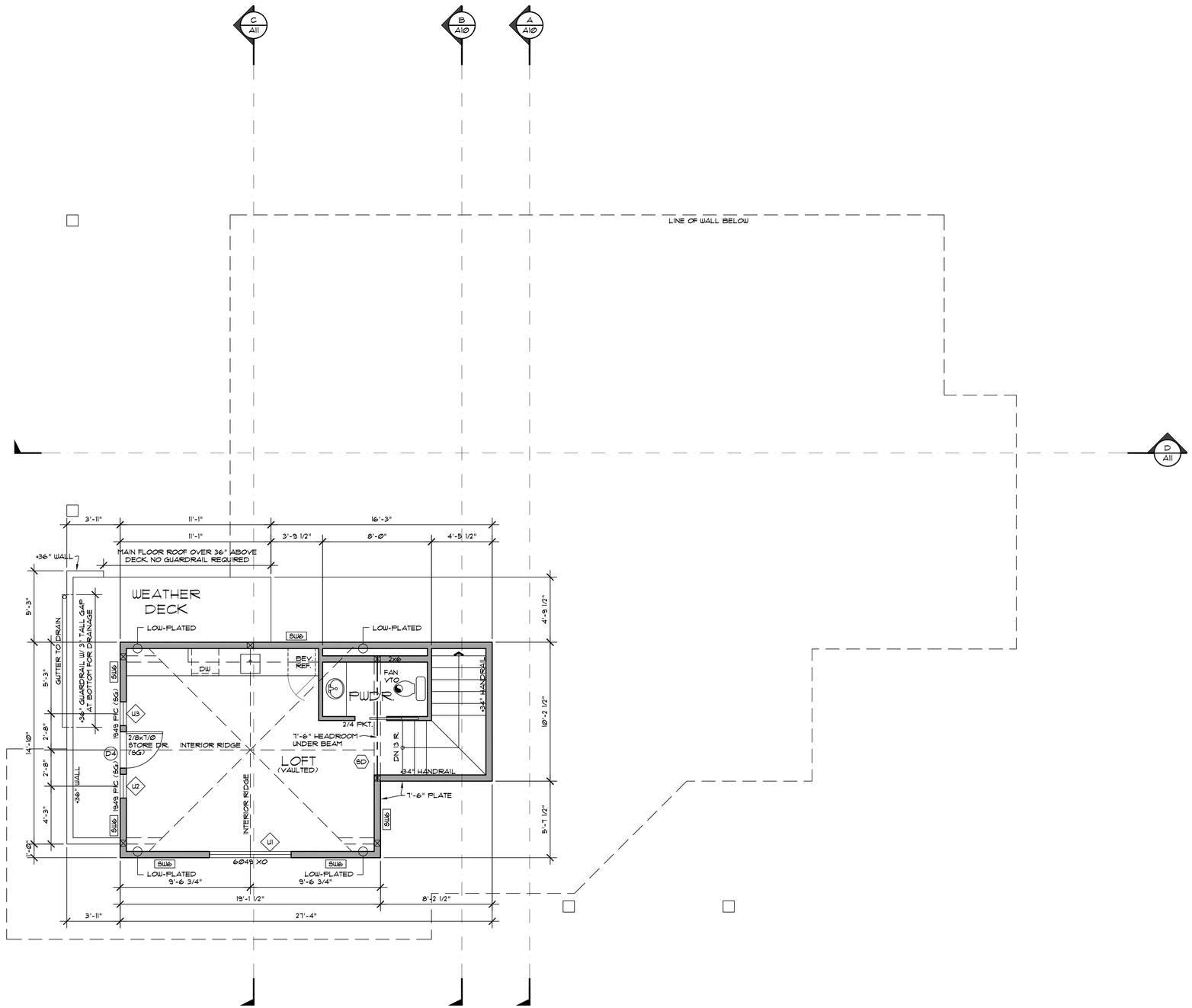
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP



UPPER FLOOR PLAN

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

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A6

ALL TRUSSES:
- SHALL CARRY MANUFACTURERS STAMP
- SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS
- WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS
- SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

ALL ROOF PITCHES AS NOTED. 4:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

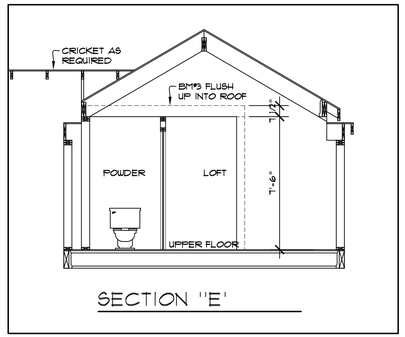
(C) ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 84 S.F. / 300 = Ø.28 S.F. NET FREE

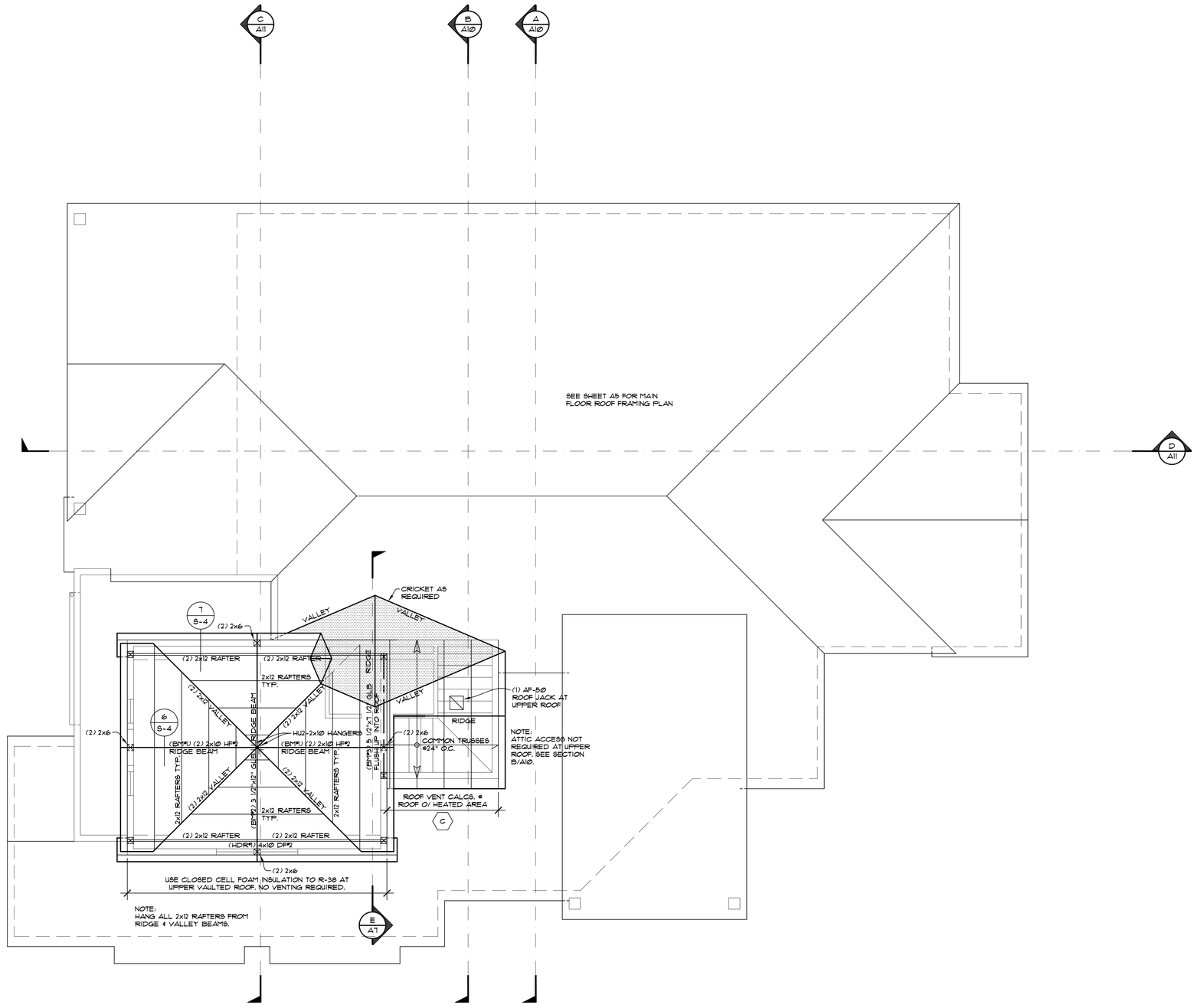
EAVE VENTILATION = 8 L.F. x 3.3 SQ. IN./L.F. = Ø.18 S.F.
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 6.8 x 3.4 = 2.15 S.F.
(1) AF-30 ROOF JACK YIELD Ø.35 S.F. (Ø.35 S.F. NET FREE EACH)

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = Ø.18 S.F.
ROOF JACK ABOVE EAVE VENTILATION = Ø.35 S.F.
TOTAL VENTILATION REQUIRED = Ø.28 S.F.
TOTAL VENTILATION PROVIDED = Ø.53 S.F.

HATCHING DENOTES 2x OVERFRAMING



SECTION "E"



UPPER ROOF FRAMING PLAN

SCALE: 1/4" = 1' - Ø"

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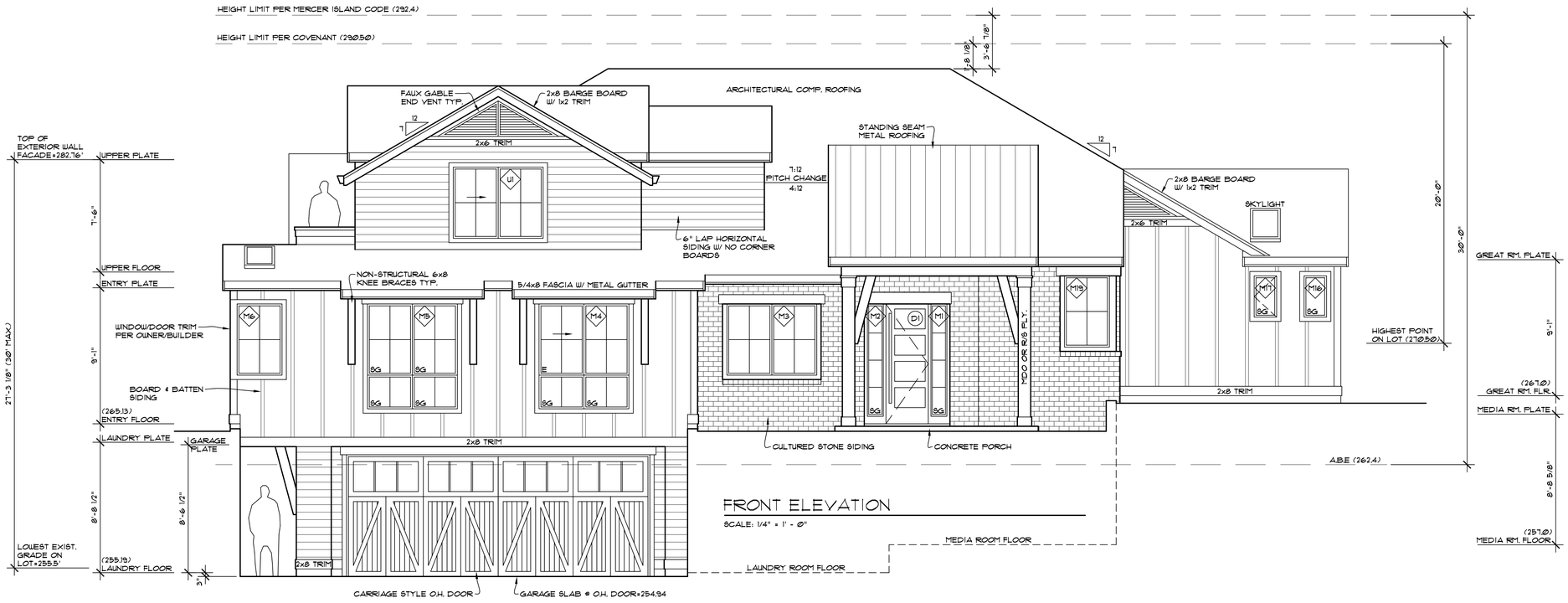

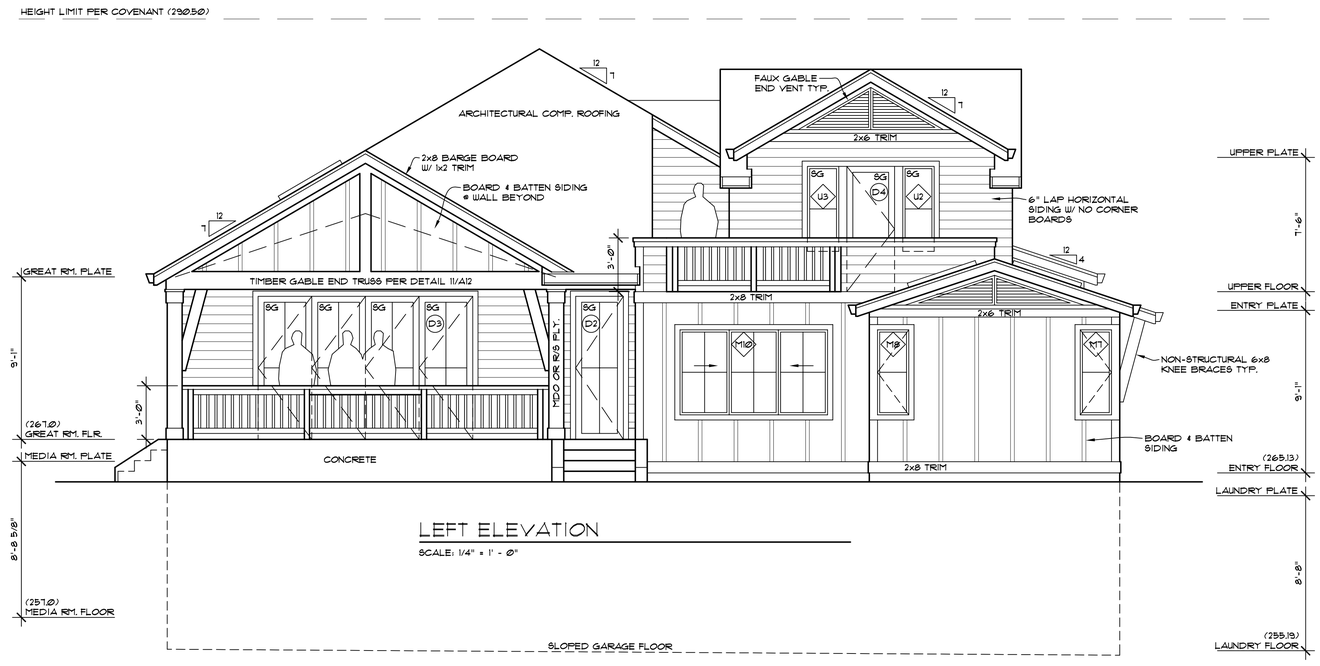

FRONT ELEVATION

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

LEFT ELEVATION

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

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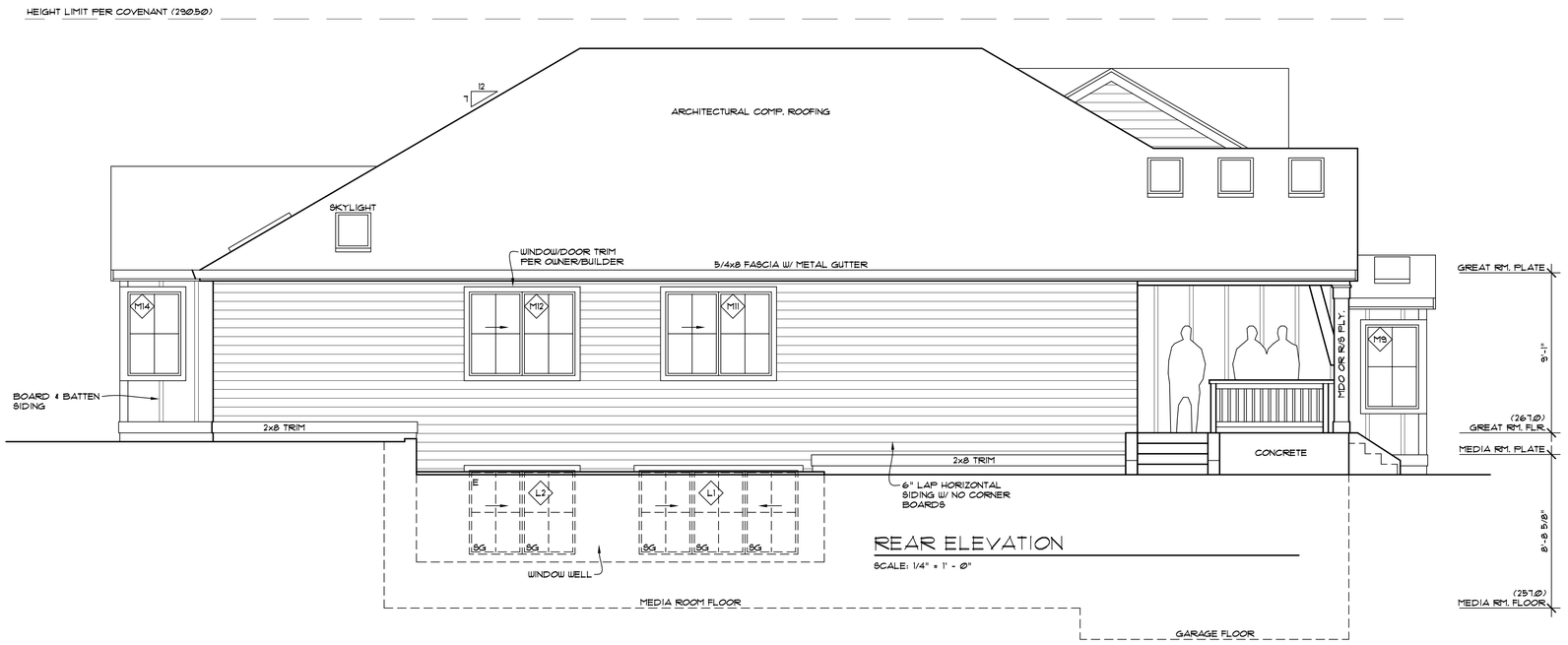
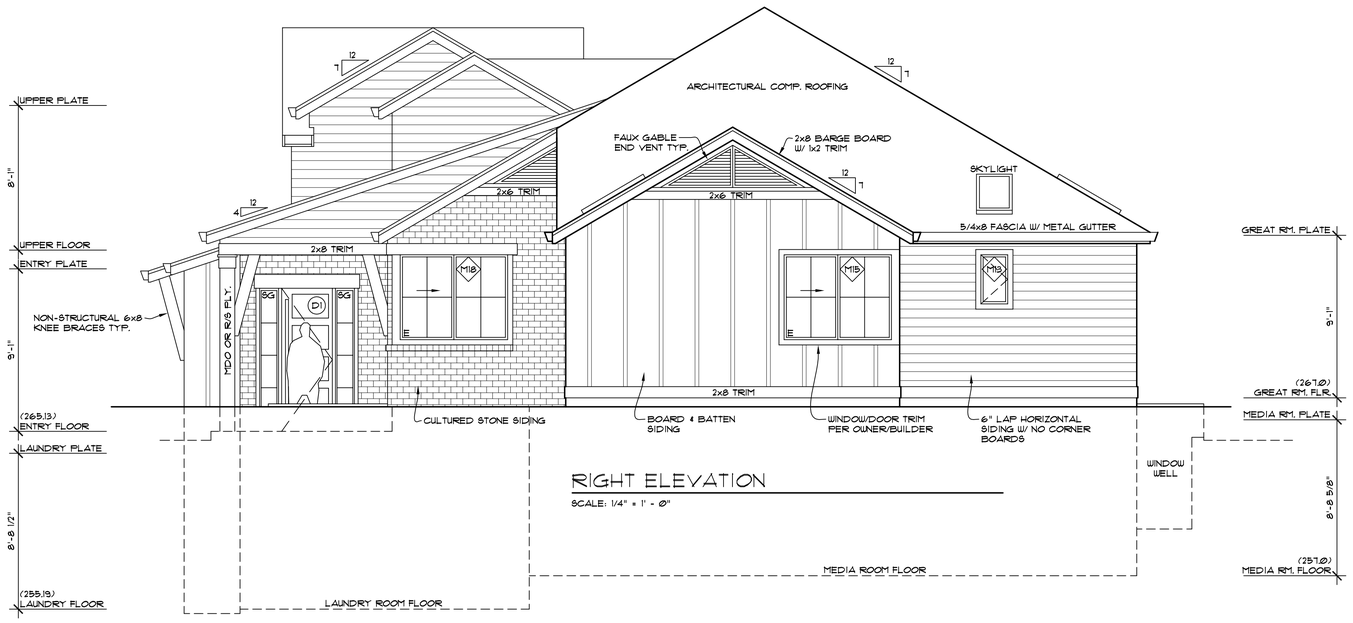


REAR ELEVATION

SCALE: 1/4" = 1' - Ø"



RIGHT ELEVATION

SCALE: 1/4" = 1' - Ø"

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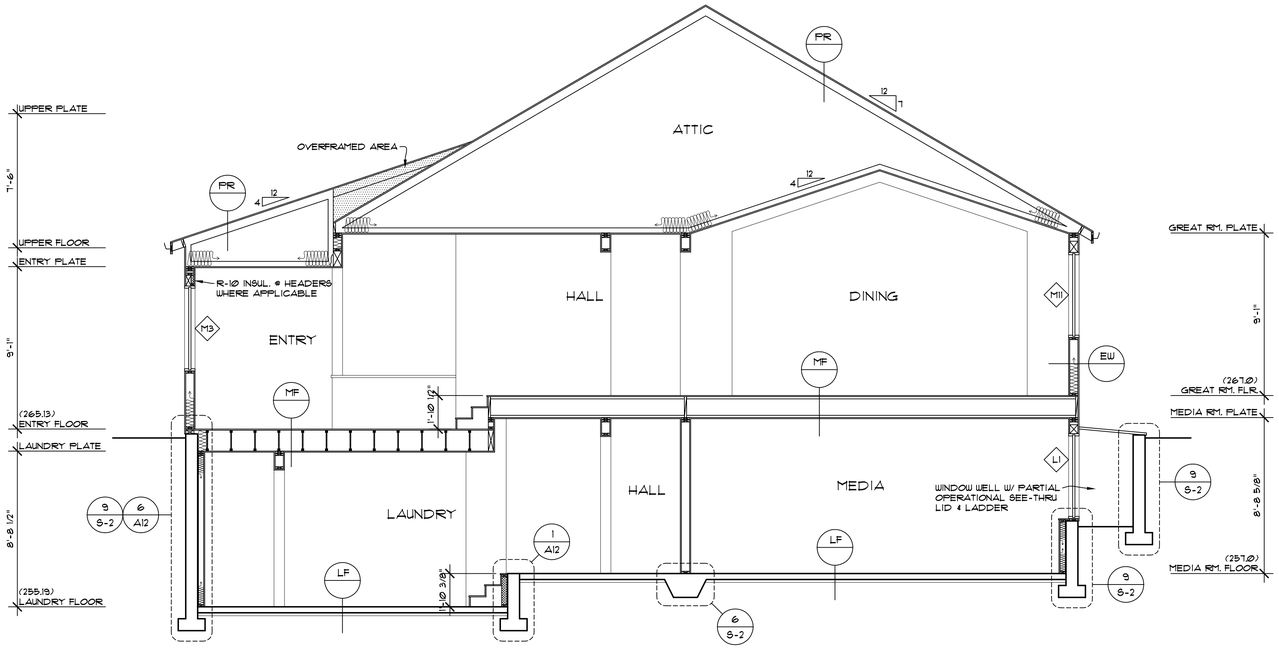
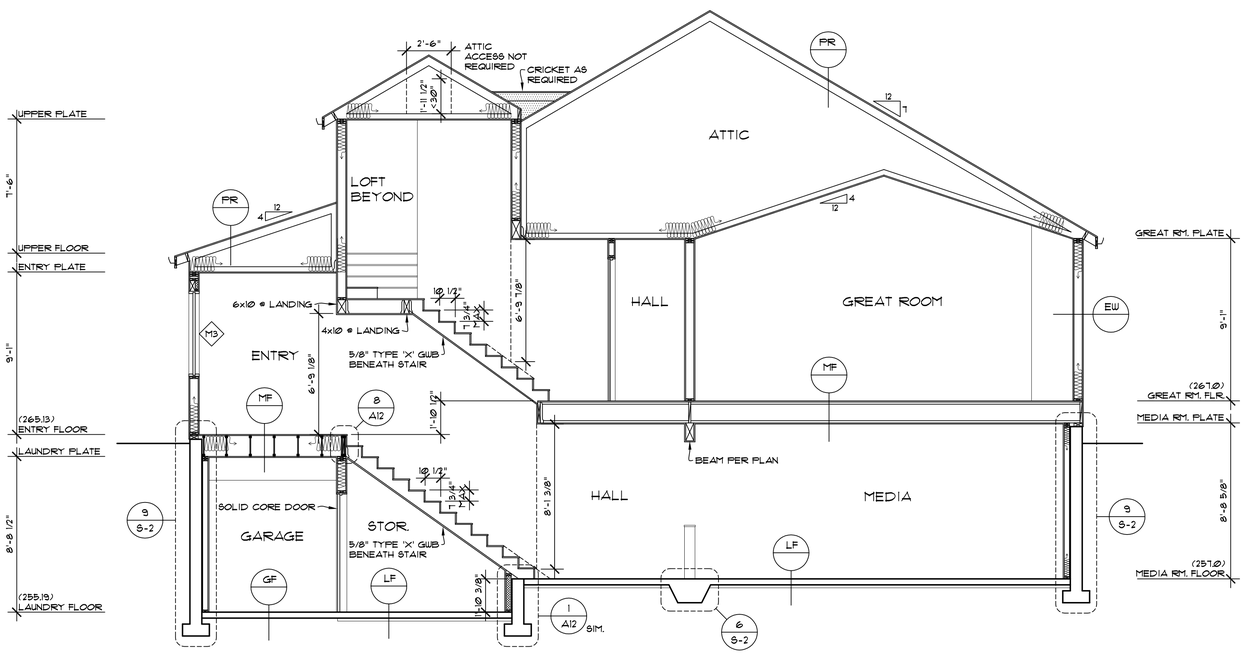
A9



BUILDING SECTION 'A'

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



BUILDING SECTION 'B'

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

LR	LOFT ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER 2x RAFTERS PER PLAN CLOSED CELL FOAM INSULATION TO R-38 @ SINGLE RAFTER ROOF 4 MIL. U.V. POLY. 5/8" GWB
PR	PITCHED ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER TRUSSES OR 2x RAFTERS PER PLAN R-49 INSULATION @ TRUSSED ROOF R-38 INSULATION @ SINGLE RAFTER ROOF W/ VENT BAFFLE AS NEEDED 4 MIL. U.V. POLY. 5/8" GWB
EW	EXTERIOR CONDITIONED WALL 1/2" GWB. R-21 BATT INSULATION 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
GW	EXTERIOR GARAGE WALL 1/2" GWB. 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
DG	DWELLING TO GARAGE WALL 1/2" GWB 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. R-21 BATT INSULATION 1/2" GWB
UF	UPPER FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) 11 7/8" TJI/210 FLOOR JOISTS @16" O.C. R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
MF	MAIN FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) TJI FLOOR JOISTS PER PLAN R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
LF	LOWER FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL R-10 RIGID INSULATION (MIN. COMPRESSIVE STRENGTH OF 15 PSI) UNDER ENTIRE SLAB @ HEATED AREA
GF	GARAGE FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL
WD	WEATHER DECK @ UPPER FLOOR WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 2x10 DECK JOISTS @16" O.C. SLOPED 1/4" PER 12" TO DRAIN CLOSED CELL FOAM INSUL. TO R-49
OL	OUTDOOR LIVING COVERED DECK WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 11 7/8" TJI/210 DECK JOISTS @16" O.C.

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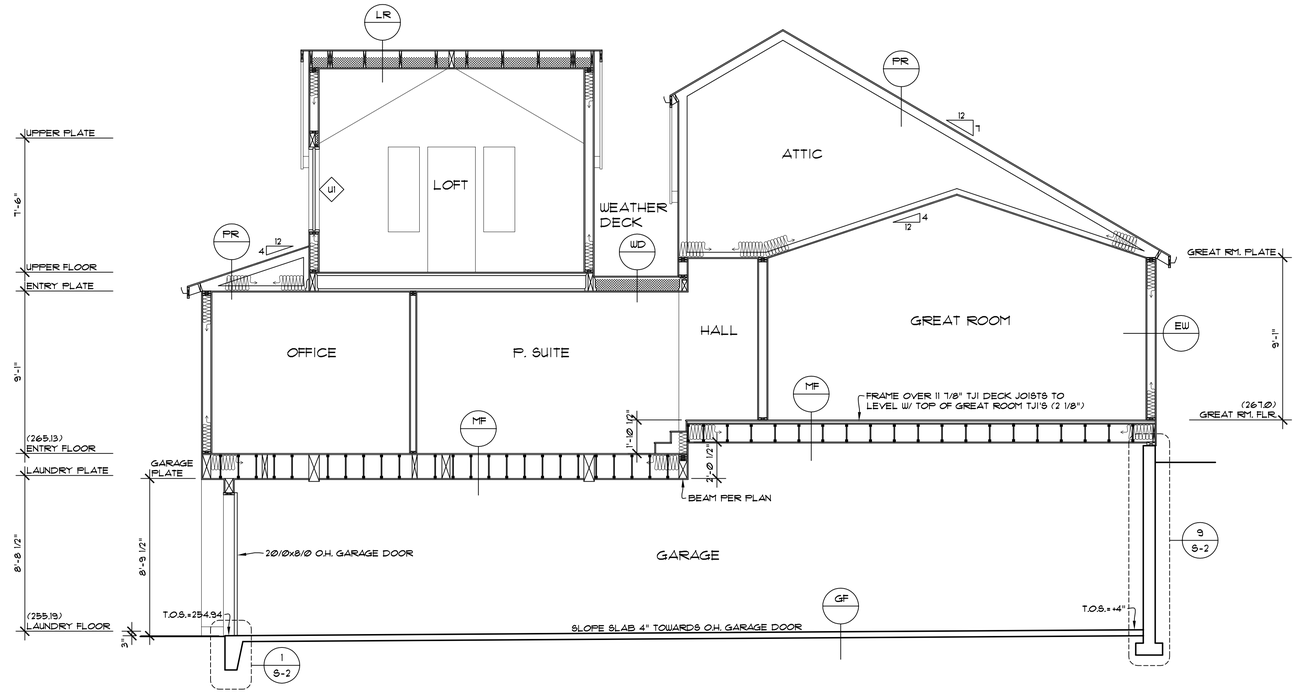
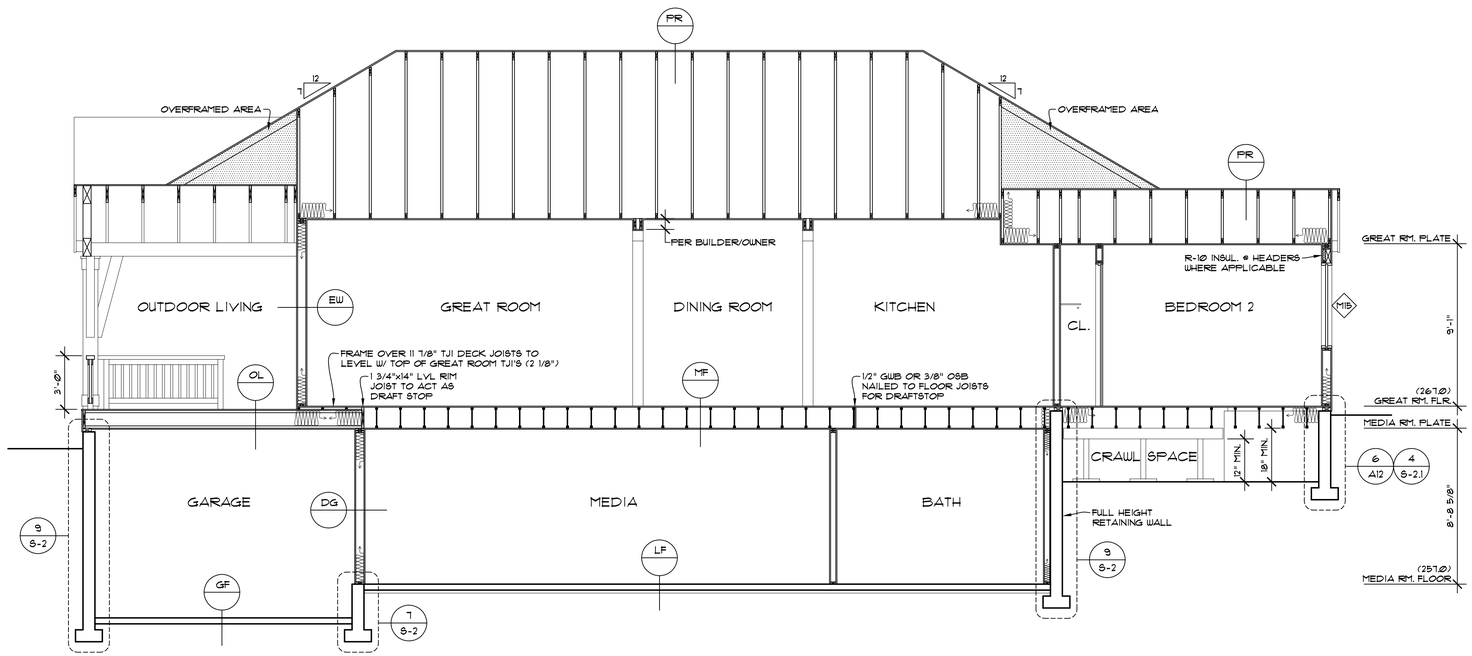


BUILDING SECTION 'C'

SCALE: 1/4" = 1' - Ø"



BUILDING SECTION 'D'

SCALE: 1/4" = 1' - Ø"

LR	LOFT ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER 2x RAFTERS PER PLAN CLOSED CELL FOAM INSULATION TO R-38 @ SINGLE RAFTER ROOF 4 MIL. U.V. POLY. 5/8" GWB
FR	PITCHED ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER TRUSSES OR 2x RAFTERS PER PLAN R-49 INSULATION @ TRUSSED ROOF R-38 INSULATION @ SINGLE RAFTER ROOF W/ VENT BAFFLE AS NEEDED 4 MIL U.V. POLY. 5/8" GWB
EW	EXTERIOR CONDITIONED WALL 1/2" G.W.B. R-21 BATT INSULATION 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
GW	EXTERIOR GARAGE WALL 1/2" G.W.B. 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
DG	DWELLING TO GARAGE WALL 1/2" GWB 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. R-21 BATT INSULATION 1/2" GWB
UF	UPPER FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) 11 7/8" TJI/21Ø FLOOR JOISTS @16" O.C. R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
MF	MAIN FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) TJI FLOOR JOISTS PER PLAN R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
LF	LOWER FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL R-1Ø RIGID INSULATION (MIN. COMPRESSIVE STRENGTH OF 15 PSI) UNDER ENTIRE SLAB @ HEATED AREA
GF	GARAGE FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL
WD	WEATHER DECK @ UPPER FLOOR WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 2x1Ø DECK JOISTS @16" O.C. SLOPED 1/4" PER 12" TO DRAIN CLOSED CELL FOAM INSUL. TO R-49
OL	OUTDOOR LIVING COVERED DECK WEATHERPROOF MEMBRANE 3/4" T&G PLYWOOD SUB-FLOOR 11 7/8" TJI/21Ø DECK JOISTS @16" O.C.

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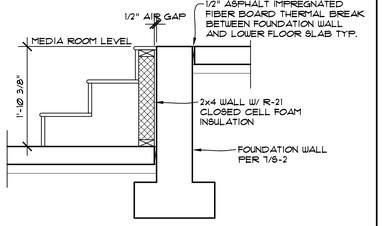
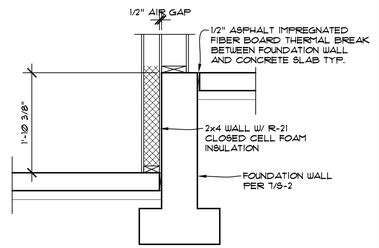


1 STEPPED FLOOR @ STAIR DETAIL
N.T.S.



2 STEPPED FLOOR DETAIL
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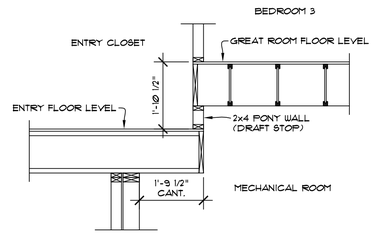

3 STEPPED FLOOR DETAIL
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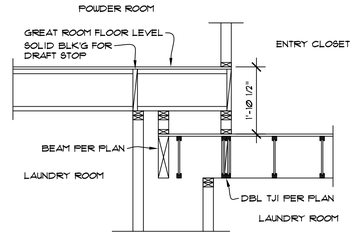
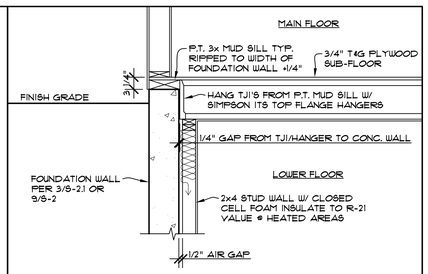
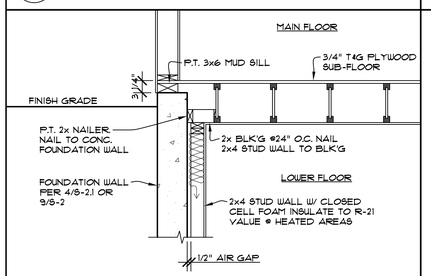


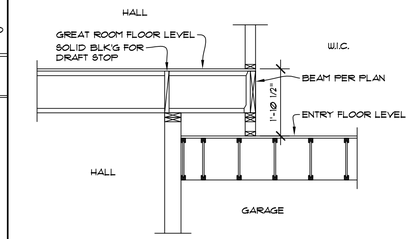
4 STEPPED FLOOR DETAIL
N.T.S.



5 DROPPED JOIST DETAIL
N.T.S.



6 DROPPED JOIST DETAIL
N.T.S.



7 STEPPED FLOOR DETAIL
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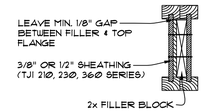
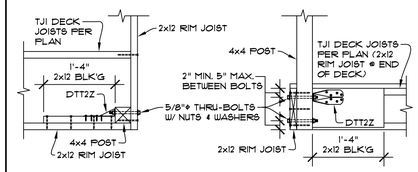


NOTE:
PROVIDE TJI WEB STIFFENER AT ALL DOUBLE TJI'S

8 TJI WEB STIFFENER DETAIL
N.T.S.



NOTE:
TYP. @ ALL GUARDRAIL POSTS

9 GUARDRAIL CONNECTION DETAIL
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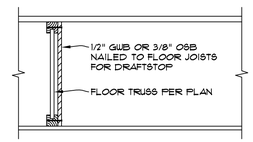
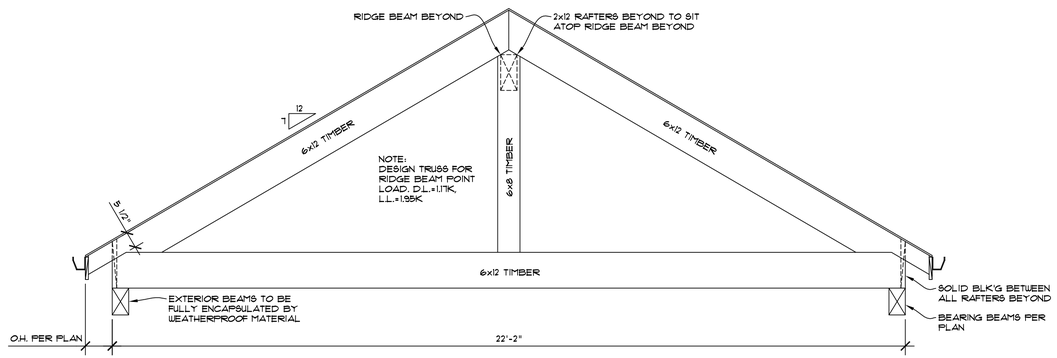
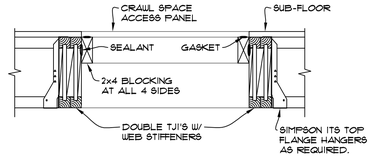


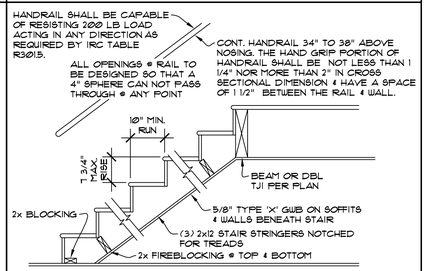
10 DRAFTSTOP DETAIL
N.T.S.



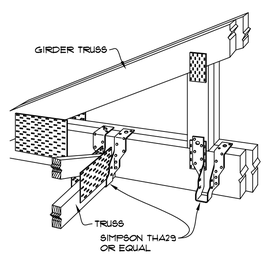
11 CUSTOM TIMBER GABLE END TRUSS @ OUTDOOR LIVING
N.T.S.



12 CRAWL SPACE ACCESS DETAIL
N.T.S.



13 STAIR SECTION DETAIL
N.T.S.



14 GIRDER TRUSS DETAIL
N.T.S.

NOT USED

15
N.T.S.

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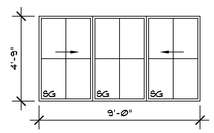
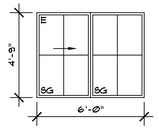
WINDOW SCHEDULE

LOWER FLOOR WINDOWS

U1 — MEDIA — HDR. HT. 7'-10"

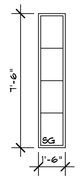


U2 — MEDIA — HDR. HT. 7'-10"

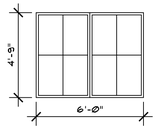


MAIN FLOOR WINDOWS

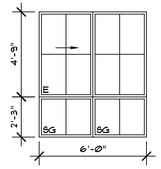
M1 M2 — ENTRY — HDR. HT. 8'-0"



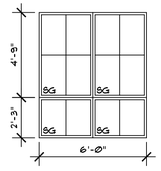
M3 — ENTRY — HDR. HT. 8'-0"



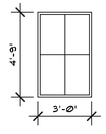
M4 — OFFICE — HDR. HT. 8'-0"



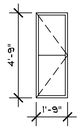
M5 — P. BATH — HDR. HT. 8'-0"



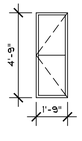
M16 M19 — P. BATH — HDR. HT. 8'-0"



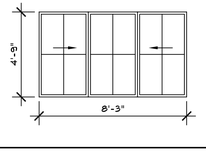
M17 — P. BATH — HDR. HT. 8'-0"



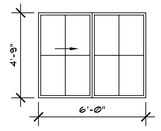
M18 — P. BATH — HDR. HT. 8'-0"



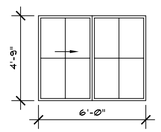
M10 — P. SUITE — HDR. HT. 8'-0"



M11 — DINING — HDR. HT. 8'-0"

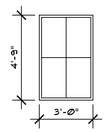


M12 — KITCHEN — HDR. HT. 8'-0"

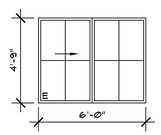


M13 — BATH — HDR. HT. 8'-0"

M14 — BEDROOM 2 — HDR. HT. 8'-0"

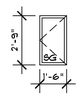


M15 — BEDROOM 2 — HDR. HT. 8'-0"

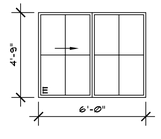


M16 — BATH — HDR. HT. 8'-0"

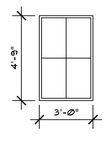
M17 — BATH — HDR. HT. 8'-0"



M18 — BEDROOM 3 — HDR. HT. 8'-0"

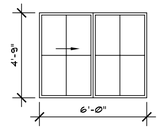


M19 — BEDROOM 3 — HDR. HT. 8'-0"

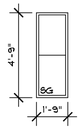


UPPER FLOOR WINDOWS

U1 — LOFT — HDR. HT. 7'-0"



U2 U3 — LOFT — HDR. HT. 7'-0"



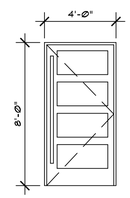
SG = SAFETY GLASS
E = EGRESS WINDOW

U-FACTOR FOR ALL WINDOWS = .028
U-FACTOR FOR DOORS = .020

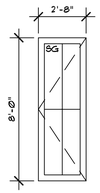
DOOR SCHEDULE

EXTERIOR DOORS

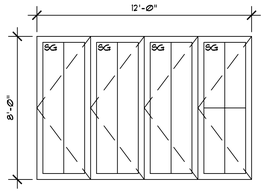
D1 — ENTRY



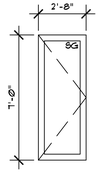
D2 — P. SUITE



D3 — GREAT ROOM



D4 — LOFT



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JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED:

SHEET NO.
A13

STRUCTURAL NOTES

GENERAL REQUIREMENTS & DESIGN CRITERIA

BUILDING CODE & REFERENCE STANDARDS: THE "INTERNATIONAL BUILDING CODE", 2018 EDITION, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

ARCHITECTURAL DRAWINGS: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES: THE PE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

WIND DESIGN: BASIC WIND SPEED (3-SECOND GUST), V = 85 MPH(ASD); WIND IMPORTANCE FACTOR, IW = 1.0; OCCUPANCY CATEGORY = II; EXPOSURE CATEGORY = C;

SEISMIC DESIGN: SEISMIC IMPORTANCE FACTOR IE = 1.0; OCCUPANCY CATEGORY = II; SS = 1.409G; S1 = 0.490G; SITE CLASS = D; SDS = 1.127G; SD1 = 0.490G; SEISMIC DESIGN CATEGORY = D; BASIC SEISMIC FORCE RESISTING SYSTEM = A-13 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE; CS = 0.121; R = 6.5; ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7, SEC 12.8.

SNOW LOAD: GROUND SNOW LOAD, PG = 20 PSF; FLAT ROOF SNOW LOAD, PF = 25 PSF (DRIFT LOADS CONSIDERED PER ASCE 7 WHERE APPLICABLE); SNOW EXPOSURE FACTOR, CE = 1.0; SNOW IMPORTANCE FACTOR, IS = 1.0; THERMAL FACTOR, CT = 1.0.

LIVE LOADS:

ROOF (LIVE)	20 PSF
ROOF (SNOW)	25 PSF
RESIDENTIAL FLOOR	40 PSF
RESIDENTIAL DECK	60 PSF

DESIGN-BY-OTHERS (DEFERRED SUBMITTALS) LOADS: ALL PRE-ENGINEERED/FABRICATED/MANUFACTURED OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT AND CLADDING LOADS WHEN APPLICABLE. DESIGN SHALL CONFORM TO THE PROJECT DRAWINGS AND SPECIFICATIONS, REFERENCE STANDARDS, AND GOVERNING CODE.

ROOF DEAD LOAD	15 PSF
TOP CHORD DEAD LOAD	8 PSF
BOTTOM CHORD DEAD LOAD	7 PSF
TRUSS UPLIFT LOAD (GROSS)	10 PSF

DEFERRED SUBMITTALS: ITEMS DESIGNED BY OTHERS SHALL INCLUDE CALCULATIONS, SHOP DRAWINGS AND PRODUCT DATA. DESIGN SHALL BE PREPARED BY THE SSE AND SUBMITTED TO THE ARCHITECT AND SER FOR REVIEW PRIOR TO SUBMISSION TO THE JURISDICTION FOR APPROVAL. THE SSE SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALCULATIONS AND SHOP DRAWINGS THAT ARE STAMPED AND SIGNED BY THE SSE. REVIEW OF THE SSE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE SSE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE SSE'S DESIGN DRAWINGS AND CALCULATIONS.

INSPECTIONS: ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 109. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO IBC SEC 1703.6.

GEOTECHNICAL INSPECTION: THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL SHALL INSPECT ALL PREPARED SOIL BEARING SURFACES PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL AND PROVIDE A LETTER TO THE OWNER STATING THAT SOILS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION PRESSURE" SHOWN BELOW. SOIL VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

GEOTECHNICAL REPORT: RECOMMENDATIONS CONTAINED IN "GEOTECHNICAL EVALUATION" BY COBALT GEOSCIENCES, LLC., DATED MARCH 12, 2022 WERE USED FOR FOOTING DESIGN.

DESIGN SOIL VALUES:

ALLOWABLE BEARING PRESSURE	3000 PSF
PASSIVE LATERAL PRESSURE	275 PSF/FT
ACTIVE LATERAL PRESSURE (UNRESTRAINED)	35 PSF/FT
AT-REST LATERAL PRESSURE (RESTRAINED)	50 PSF/FT
COEFFICIENT OF SLIDING FRICTION	0.40

SLABS-ON-GRADE & FOUNDATIONS: ALL FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL SLABS-ON-GRADE SHALL BE FOUNDED ON APPROPRIATE SUB-GRADE PREPARATION AS NOTED IN THE GEOTECHNICAL REPORT. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.

COMPACTION: UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER, FOOTINGS SHALL BE PLACED ON COMPACTED MATERIAL AND SHALL BE WELL-GRADED GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING A #2 SIEVE. FILLS PLACED SHALL BE IN MAXIMUM 8" LIFTS AND ALL BEARING SOILS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT USING THE MODIFIED PROCTOR TEST.

CAST-IN-PLACE CONCRETE & REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:
(1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".
(2) IBC CHAPTER 19.
(3) ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SEC 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 318 CHAPTER 5 "CONCRETE QUALITY, MIXING, AND PLACING."

MATERIALS: CONFORM TO ACI 318 CHAPTER 3 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

REINFORCING BARS	ASTM A615, GRADE 60, DEFORMED BARS.
DEFORMED WELDED WIRE FABRIC	ASTM A497
BAR SUPPORTS	CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS."
TIE WIRE	16.5 GAGE OR HEAVIER, BLACK ANNEALED.

MIX DESIGNS: PROVIDE A 5-SACK MINIMUM, 28-DAY COMPRESSIVE STRENGTH F'C = 2,500 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO FOR ALL ISOLATED POST AND CONTINUOUS WALL FOOTINGS, SLABS-ON-GRADE, AND BASEMENT WALLS EXTENDING NO MORE THAN 8" ABOVE FINISH GRADE ELEVATION. FOR BASEMENT WALLS EXTENDING MORE THAN 8" ABOVE FINISH GRADE AND ALL SITE WALLS, PROVIDE A 5-1/2 SACK MINIMUM F'C = 3,000 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO.

MIX DESIGN NOTES:
(1) W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS.
(2) CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.B. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY SER.
(3) AIR CONTENT: CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
(4) SLUMP: CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
(5) NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK: CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'C.

MEASURING, MIXING, AND DELIVERY: CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SEC 5.

REBAR FABRICATION & PLACING: CONFORM TO ACI 301, SEC 3.2.2 "FABRICATION", AND ACI SP-66 "ACI DETAILING MANUAL." CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

SPLICES: CONFORM TO ACI 301, SEC 3.3.2.7. REFER TO PLANS FOR TYPICAL SPLICES.

FIELD BENDING: CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS.

CORNERS BARS: PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

CONCRETE COVER: CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3:

CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER)	1-1/2"
BARS IN SLABS AND WALLS	3/4"

CONSTRUCTION JOINTS: CONFORM TO ACI 301 SEC 2.2.2.5, 5.1.2.3A, 5.2.2.1, AND 5.3.2.6. CONSTRUCTION JOINTS SHALL BE LOCATED AND DETAILED AS ON THE CONSTRUCTION DRAWINGS. USE OF AN ACCEPTABLE ADHESIVE, SURFACE RETARDER, PORTLAND CEMENT GROUT, OR ROUGHENING THE SURFACE IS NOT REQUIRED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. WHERE SHEAR BOND IS REQUIRED, ROUGHEN SURFACES TO 1/4" AMPLITUDE.

WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO:
(1) IBC CHAPTER 23 "WOOD",
(2) NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION",
(3) ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION",

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE SSE IN THE STATE OF WASHINGTON FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER DESIGN LOADS SECTION.

IDENTIFICATION: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:
- SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB OR NLGA. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.

MEMBER USE	SIZE	SPECIES	GRADE
STUDS & POSTS	2x, 4x	HEM-FIR	NO. 2
RAFTERS	2x4 - 2x10	HEM-FIR	NO. 2
BEAMS	4x8 - 4x12	HEM-FIR	NO. 2
BEAMS	6x8 - 6x12	HEM-FIR	NO. 2
POSTS & TIMBERS	6x, 8x	DOUG-FIR	NO. 2

- GLUED LAMINATED TIMBER: CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE-LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED MEMBERS BEAMS TO 2000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

MEMBER USE	SIZES	SPECIES	STRESS CLASS	USES
BEAMS	ALL	DF/DF	24F-1.8E	SIMPLE SPANS
	ALL	DF/DF	24F-1.8E [(-FB)=(+FB)]	CANTILEVER SPANS

- METAL PLATE CONNECTED WOOD ROOF TRUSSES: CONFORM TO IBC SEC 2303.4 "TRUSSES."
- WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1 AND PS-2 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA).

	MINIMUM APA RATING			
LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE	EXPOSURE
ROOF	15/32"	32/16	C-D	1
FLOOR	23/32" T&G	24 OC	STURD-I-FLOOR	1
WALLS	15/32"	32/16	C-D	1
WALLS(ALT)	7/16" OSB	24/16	C-D	1

- JOIST HANGERS AND CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY OR USP EQUIVALENT AS SPECIFIED IN THEIR LATEST CATALOGS. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.
- NAILS AND STAPLES: CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.9.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED ON THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
8d	2-1/2"	0.131"
10d	3"	0.148"
(8d & 10d ALTERNATIVE) PASLODE TETRAGRIP NAILS	2-3/8"	0.113"
12d (16d SINKER)	3-1/4"	0.148"
16d	3-1/2"	0.162"

- LAG BOLTS/BOLTS: CONFORM TO ASTM A307.

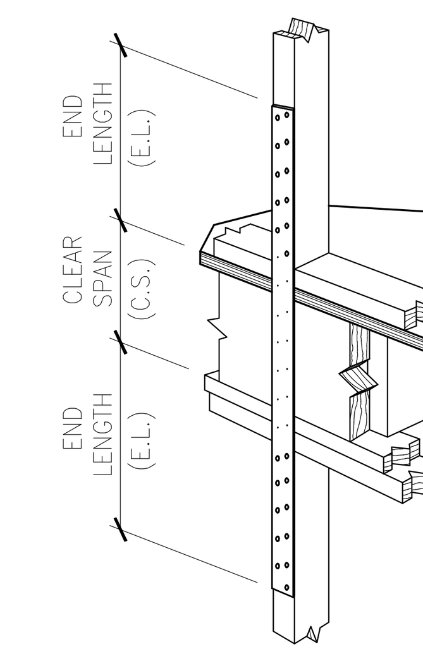
NAILING REQUIREMENTS: PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."
(1) WALL FRAMING: UNLESS OTHERWISE NOTED, ALL INTERIOR WALLS SHALL BE 2X4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2X6 @ 16"OC. PROVIDE (2)BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. UNO, ALL SOLID SAWN LUMBER HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1)TRIM AND (1)KING STUD AND ALL GLULAM OR ENGINEERED WOOD HEADERS BY (2)TRIM AND (2)KING STUDS. AT FRAMED WALLS, UNO, ALL SOLID SAWN LUMBER BEAMS SHALL BE SUPPORTED ON A MINIMUM OF (2) BUNDLED 2X STUDS AND ALL GLULAM OR ENGINEERED WOOD BEAMS ON A MINIMUM OF (3) BUNDLED 2X STUDS. STITCH-NAIL BUNDLED STUDS WITH (2)10D @ 12"OC. UNO, ALL INTERIOR AND EXTERIOR HEADERS SHALL BE 4X6. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. UNO, ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8"-DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. UNO, PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.
(2) ROOF/FLOOR FRAMING: UNLESS OTHERWISE NOTED, PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. UNO, MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNBLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

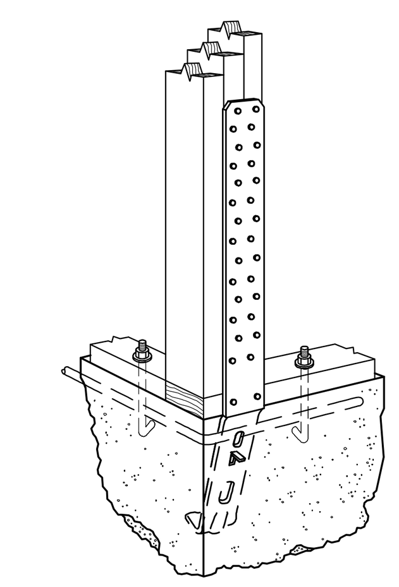
MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE.

PRESERVATIVE TREATMENT: WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.11 "PROTECTION AGAINST DECAY AND TERMITES". CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK.

METAL CONNECTORS/PT WOOD: CK ENGINEERING LLC RECOMMENDS THAT ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ/SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE WOOD.



DETAIL A



DETAIL C

MODEL # (1)	ANCHORAGE TYPE (4,5,6)	FASTENERS	END STUD REQUIRED (2,3)	CAPACITY (LBS)	
				DOUG-FIR	HEM-FIR
CS14	FLR-TO-FLR STRAP (E.L.=19")	(30) 10d COMMON	2x STUD	2,490	2,490
LSTHD8/RJ	CAST-IN-PLACE	(16) 16d SINKERS	(2) 2x STUDS[7]	1,975	1,975
STHD10/RJ	CAST-IN-PLACE	(18) 16d SINKERS	(2) 2x STUDS[7]	2,640	2,640
STHD14/RJ	CAST-IN-PLACE	(22) 16d SINKERS	(2) 2x STUDS[7]	3,695	3,695

NOTES:
1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON ANCHOR TIE DOWN CO., INC; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH SER APPROVAL.
2. LOCATE ALL HOLDOWNS AT ENDS OF ALL SHEAR WALLS & FASTEN TO BUNDLED END STUDS.
3. BUNDLED END STUDS SHOULD BE STITCH-NAILED TOGETHER USING MINIMUM (2) 16d @ 10"OC, UNO.
4. LOCATE "HDU#", "LSTHD#" & "STHD#" HOLDOWNS AT CONCRETE FOUNDATION LEVEL. (DETAIL B & C) LOCATE "CS#", "MST", "MSTC#" & "CMST#" STRAPS AT FLOOR-TO-FLOOR CONNECTIONS. (DETAIL A)
5. ALL HOLDOWN ANCHOR BOLTS SHALL BE MIN 5" FROM CONCRETE WALL ENDS.
6. USE "SSTB" FOR 2x SILL PLATES & "SSTBL" FOR 3x SILL PLATES.
7. ADDITIONAL END STUD REQUIRED TO MEET MINIMUM $1\frac{1}{2}$" EDGE DISTANCE FROM CONCRETE CORNER TO "STHD" STRAP. USE "RJ" STYLE WITH "STHD" WHERE RIM JOIST IS PRESENT.
8. INSTALL ALL HOLDOWN HARDWARE PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.

HOLDOWN SCHEDULE

SCALE: N.T.S.

8

WOOD-FRAMED SHEAR WALL SCHEDULE FOR HEM-FIR/DOUG-FIR STUD FRAMING								
SW TYPE	SW SHEATHING APA-RATED [1, 2, 12]	NAIL SIZE & SPACING @ PANEL EDGES [4, 5, 6]	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW [8, 9]	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS [3, 7, 13]		SILL PLATE REQUIREMENTS		SHEAR LOAD CAPACITY (PLF)
				SHEAR NAILING TO WOOD FRAMING BELOW	BOTTOM ⅊ AT FRAMING	ANCHOR BOLT TO CONCRETE FOUNDATION [10]	SILL ⅊ AT FOUNDATION [11]	
SW-6	15/32" CD-EXT	0.131"ø x $2\frac{1}{2}$" @ 6"OC	CLIP @ 18"OC	0.148"ø x $3\frac{1}{4}$" @ 6"OC	2x	$\frac{5}{8}$"ø @ 48"OC	P.T. 2x	242
SW-4	15/32" CD-EXT	0.131"ø x $2\frac{1}{2}$" @ 4"OC	CLIP @ 14"OC	0.148"ø x $3\frac{1}{4}$" @ 4"OC	3x [15]	$\frac{5}{8}$"ø @ 32"OC	P.T. 2x	353
						$\frac{5}{8}$"ø @ 48"OC	P.T. 3x [15]	

NOTES:
1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY
2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUDS.
3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.
4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.
5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
6. SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
7. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148"Ø x $2\frac{1}{2}$" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"Ø x $2\frac{1}{2}$" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
8. BASED ON 0.131"Ø x $1\frac{1}{2}$" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131"Ø x $2\frac{1}{2}$" NAILS WHERE INSTALLED OVER SHEATHING.
9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED $\frac{13}{16}$"x$1\frac{3}{4}$" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN $\frac{1}{2}$" OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR (4) 0.131"Øx$2\frac{1}{2}$" TOENAILS.

WOOD-FRAMED SHEAR WALL SCHEDULE

SCALE: N.T.S.

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4/27/2022

HELIX HOMES
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MERCER ISLAND, WA 98040

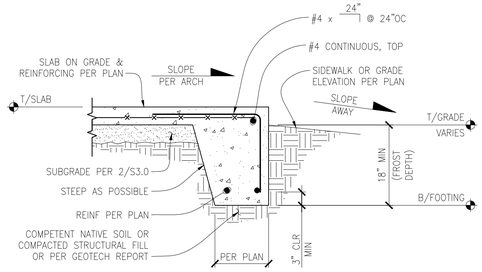
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 04-27-2022

CK JOB NO.
22-021

STRUCTURAL NOTES/SCHED.

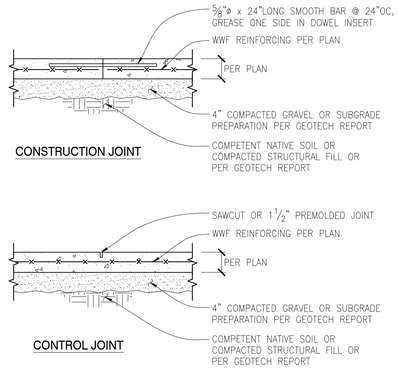
S-1.0



TYPICAL THICKENED SLAB EDGE FOOTING

SCALE: 3/4" = 1'-0"

1



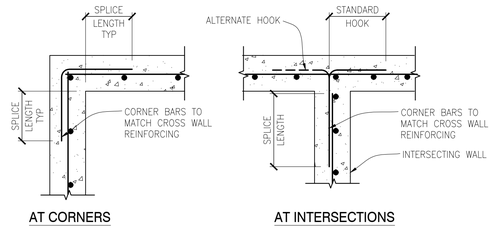
NOTES:

1. FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FOUNDATION/SLAB PLAN
2. USE "SOFTCUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST
3. PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX

TYPICAL SLAB ON GRADE JOINT DETAILS

SCALE: N.T.S.

2



NOTES:

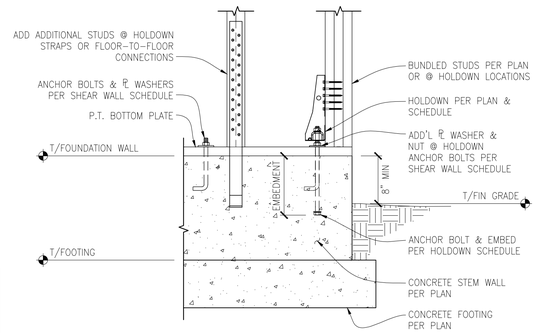
1. WALL SIZE & REINFORCING PER PLAN.
2. CORNER BARS SIZE & SPACING TO MATCH HORIZONTAL REINFORCING.

SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"

TYPICAL CORNER BARS AT CONCRETE WALLS - SINGLE MAT

SCALE: N.T.S.

3

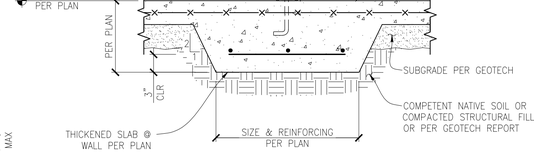


TYPICAL SHEAR WALL HOLDOWN CONNECTIONS AT FOUNDATION CONCRETE WALL

SCALE: N.T.S.

4

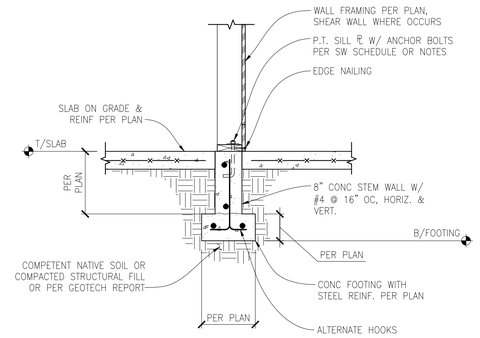
SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"



TYPICAL INTERIOR THICKENED SLAB FOOTING AT BEARING / SHEAR WALL

SCALE: 1" = 1'-0"

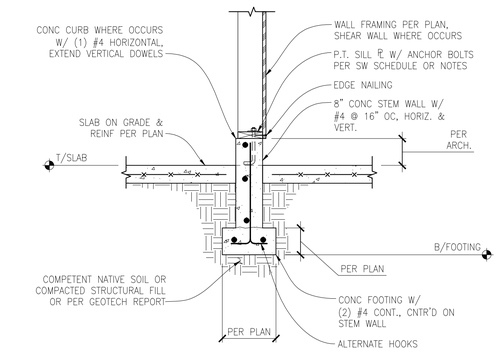
6



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE

SCALE: 3/4" = 1'-0"

7

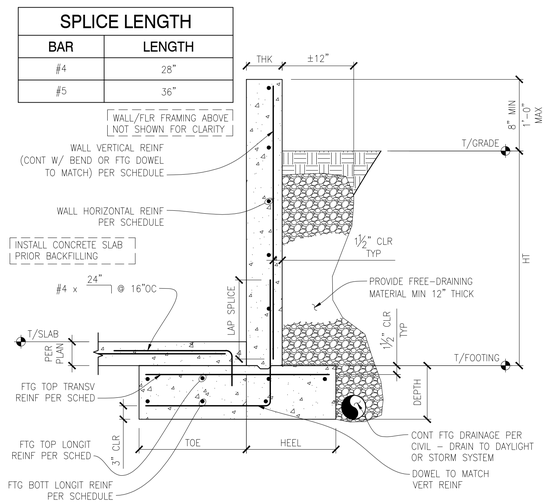


TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE

SCALE: 3/4" = 1'-0"

8

SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"

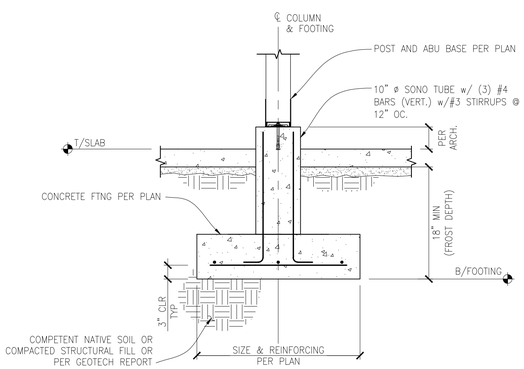


RETAINING WALL/FOOTING SCHEDULE									
WALL				FOOTING					
SIZE		REINFORCEMENT		SIZE			REINFORCEMENT		
HT (MAX)	THK	VERTICAL	HORIZONTAL	TOE	HEEL	DEPTH	TOP/TRANSV	TOP/LONGIT	BOTTOM/LONGIT
4'-0"	8"	#4 @ 12"OC	#4 @ 12"OC	1'-0"	1'-6"	10"	#4 @ 10"OC	(3) #4	(2) #4
6'-0"	8"	#4 @ 8"OC	#4 @ 12"OC	2'-6"	1'-6"	10"	#4 @ 10"OC	(4) #4	(3) #4
8'-0"	8"	#5 @ 10"OC	#4 @ 12"OC	4'-0"	1'-6"	14"	#5 @ 10"OC	(5) #5	(3) #5
10'-0"	10"	#6 @ 9"OC	#4 @ 10"OC	5'-0"	2'-0"	16"	#6 @ 10"OC	(7) #5	(6) #5

RETAINING WALL SCHEDULE

SCALE: N.T.S.

9



NEW FOOTING/POST CONNECTION

SCALE: 3/4" = 1'-0"

10

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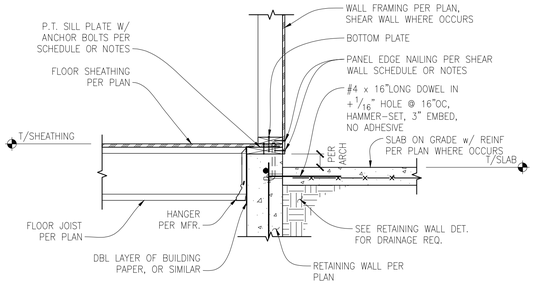
STRUCTURAL DETAILS

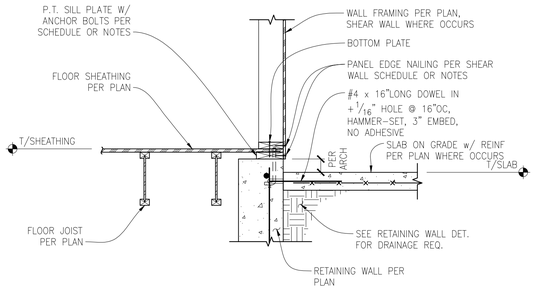
S-2.0



EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RETAINING WALL

1

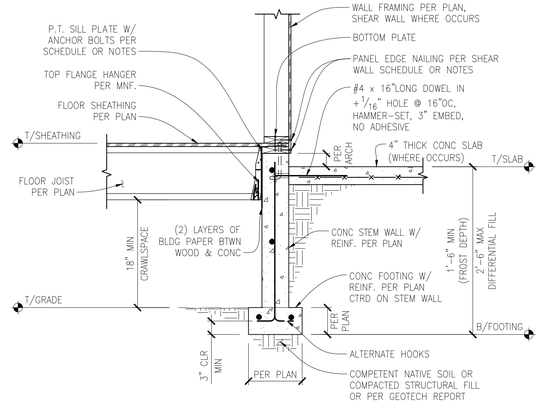
SCALE: 3/4" = 1'-0"



EXTERIOR SHEAR WALL WITH JOISTS PERARALLEL TO RETAINING WALL

2

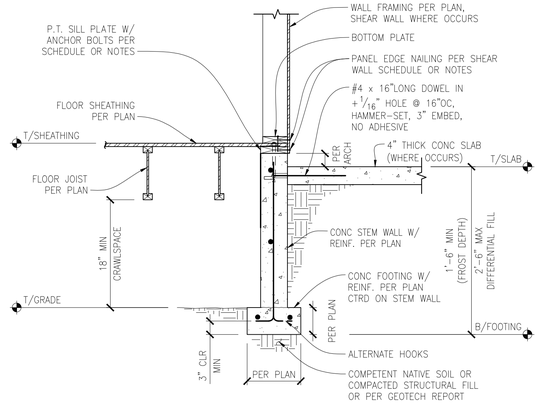
SCALE: 3/4" = 1'-0"



CRAWL SPACE EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RAISED STEM WALL

3

SCALE: 3/4" = 1'-0"



SHEAR WALL WITH JOISTS PARALLEL TO RAISED STEM WALL

4

SCALE: 3/4" = 1'-0"

MAIN FLOOR SHEAR WALL TO FOUNDATION CONN. (JOISTS PERPENDICULAR)

5

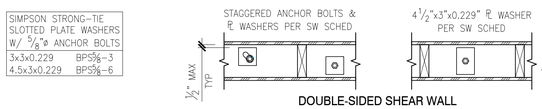
SCALE: 3/4" = 1'-0"

POST AND BEAM AT CRAWLSPACE

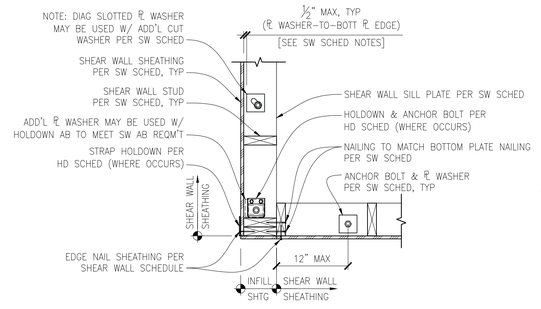
6

SCALE: 3/4" = 1'-0"

SIMPSON STRONG-TIE SLOTTED PLATE WASHERS W/ 5/8"ø ANCHOR BOLTS	
3x3x0.229	BPS5/8-3
4.5x3x0.229	BPS5/8-6



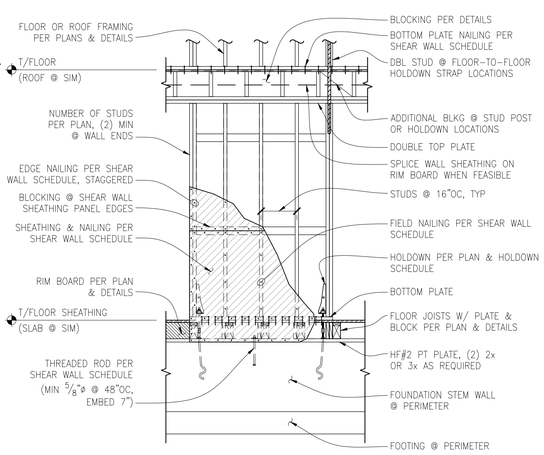
DOUBLE-SIDED SHEAR WALL ANCHOR BOLT OPTIONS



TYPICAL PLAN VIEW - SHEAR WALL HOLDOWNS & ANCHOR BOLTS

7

SCALE: 1" = 1'-0"



TYPICAL SHEAR WALL ELEVATION

8

SCALE: N.T.S.

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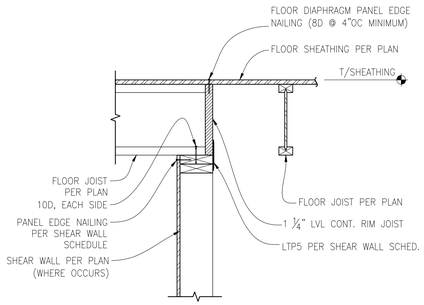
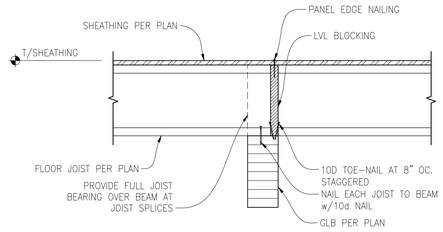
STRUCTURAL DETAILS

S-2.1



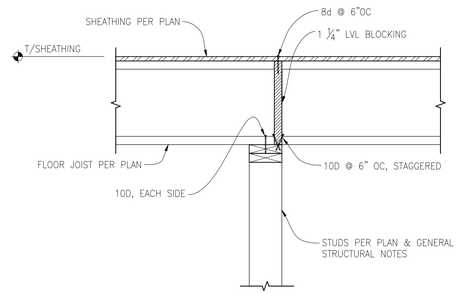
FLOOR JOIST TO SHEAR WALL CONNECTION 1

SCALE: 1" = 1'-0"



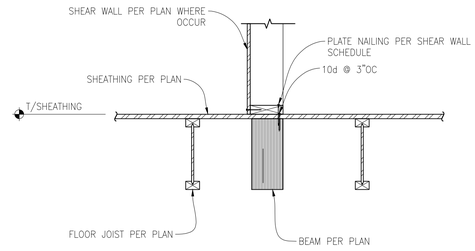
FLOOR JOIST/DROPPED BEAM CONNECTION 2

SCALE: 1" = 1'-0"



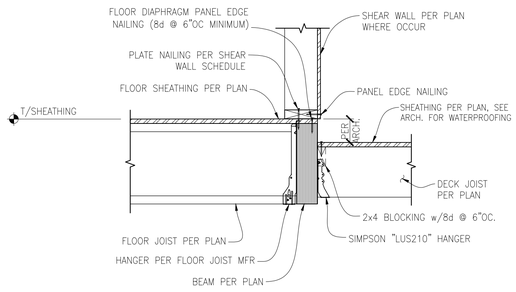
FLOOR JOIST PERP. AT INTERIOR BEARING WALL 3

SCALE: 1" = 1'-0"



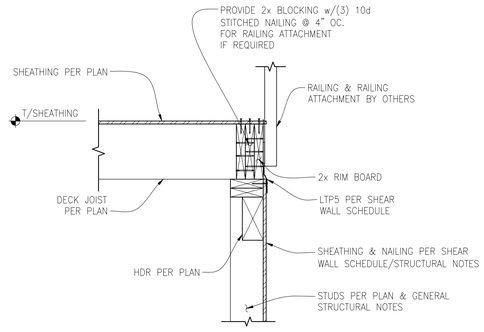
FLOOR BEAM AT BEARING/SHEAR WALL CON. 4

SCALE: 1" = 1'-0"



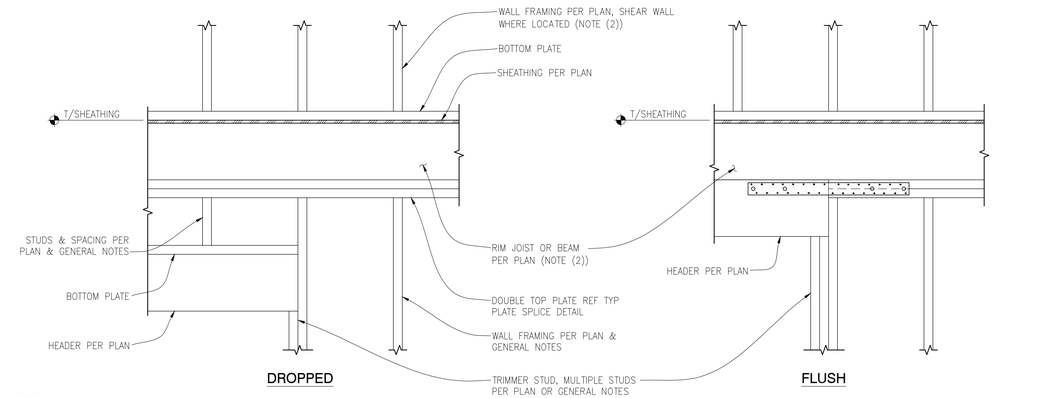
FLOOR JOIST/FLUSH BEAM/DECK JOIST CON. 5

SCALE: 1" = 1'-0"



EXTERIOR WALL PERPENDICULAR TO DECK JOISTS 6

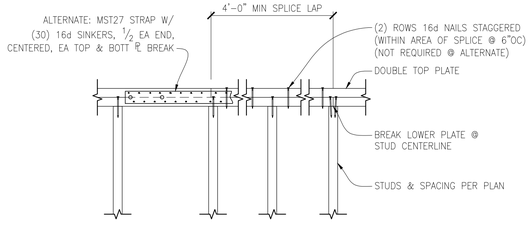
SCALE: 1" = 1'-0"



NOTES:
1. WALL SHEATHING NOT SHOWN FOR CLARITY
2. WHERE ROOF ABOVE, RAFTERS OR PRE-MANUFACTURED TRUSSES PER PLAN REPLACES RIM JOIST

TYPICAL HEADER FRAMING 8

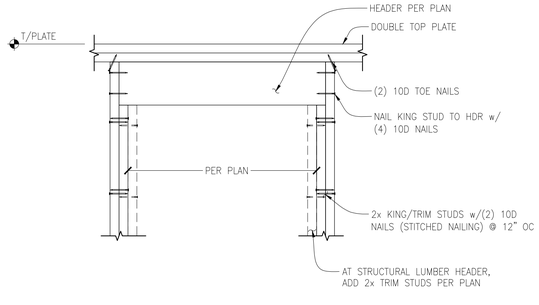
SCALE: 1" = 1'-0"



NOTE:
FLOOR JOISTS NOT SHOWN FOR CLARITY.

TYPICAL PLATE SPLICE DETAIL 9

SCALE: N.T.S.



NOTE:
FLOOR/ROOF FRAMING NOT SHOWN FOR CLARITY.

TYPICAL HEADER CONNECTION 10

SCALE: N.T.S.

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4/27/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

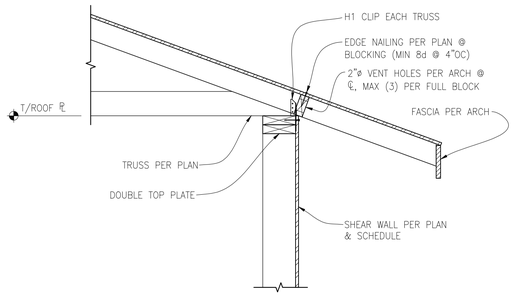
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 04-27-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

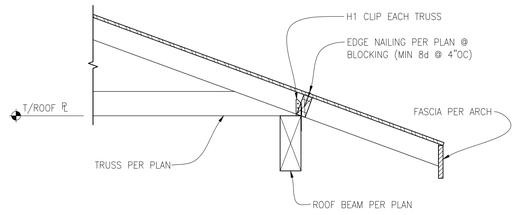
S-3.0



EXTERIOR SHEAR WALL PERPENDICULAR TO ROOF TRUSS

1

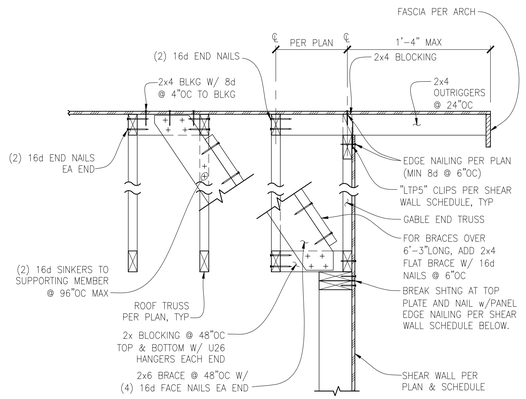
SCALE: 1" = 1'-0"



EXTERIOR ROOF TRUSS BEAM CONNECTION

2

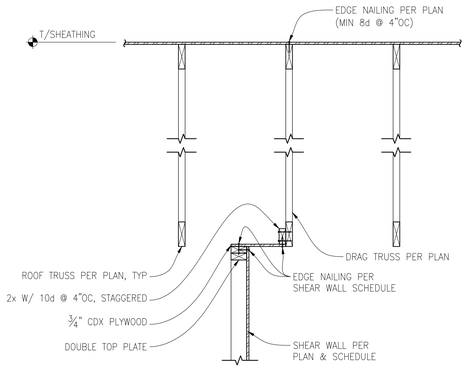
SCALE: 1" = 1'-0"



EXTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS

3

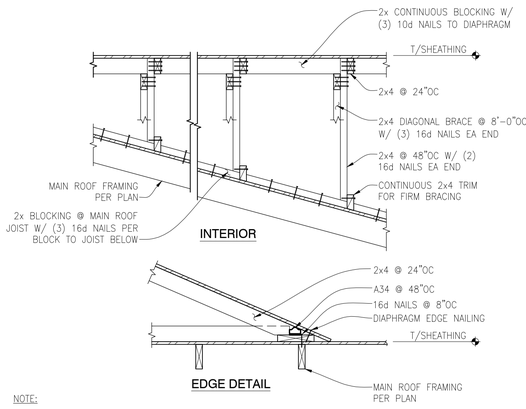
SCALE: N.T.S.



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

4

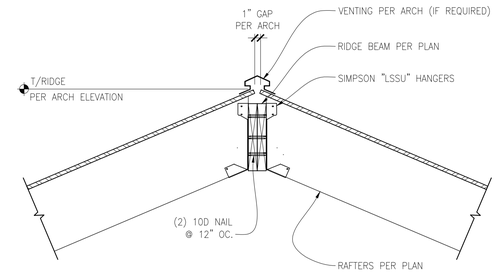
SCALE: ¾" = 1'-0"



TYPICAL ROOF OVERFRAMING DETAIL

5

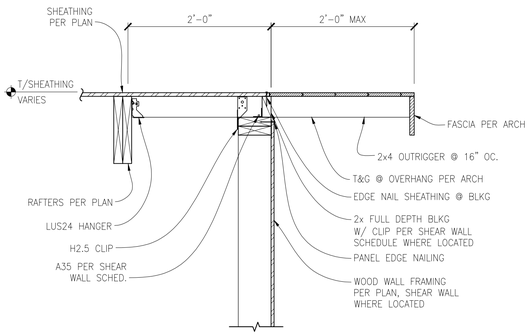
SCALE: N.T.S.



TYPICAL SECTION AT RIDGE BEAM

6

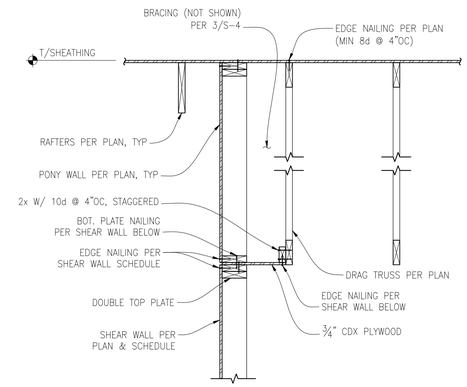
SCALE: 1" = 1'-0"



TYPICAL OUTRIGGER AT GABLE END

7

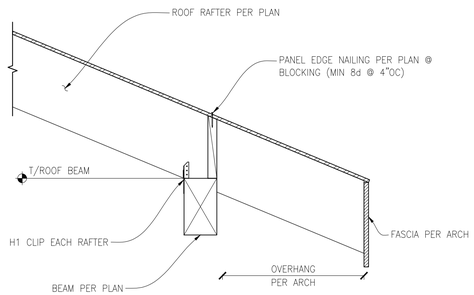
SCALE: 1" = 1'-0"



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

8

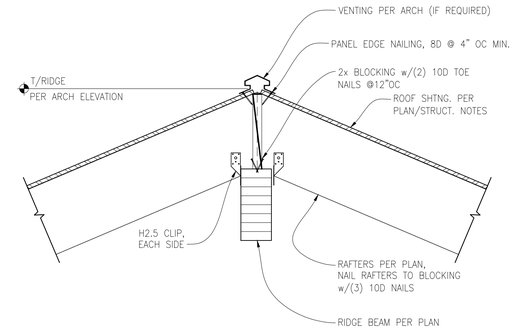
SCALE: ¾" = 1'-0"



EXTERIOR ROOF RAFTERS TO ROOF BEAM CONNECTION

9

SCALE: 1" = 1'-0"



RIDGE BEAM TO RAFTERS CON.

10

SCALE: 1" = 1'-0"

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4/27/2022

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REVISION #	DATE	DESCRIPTION:

Drawn By: PK
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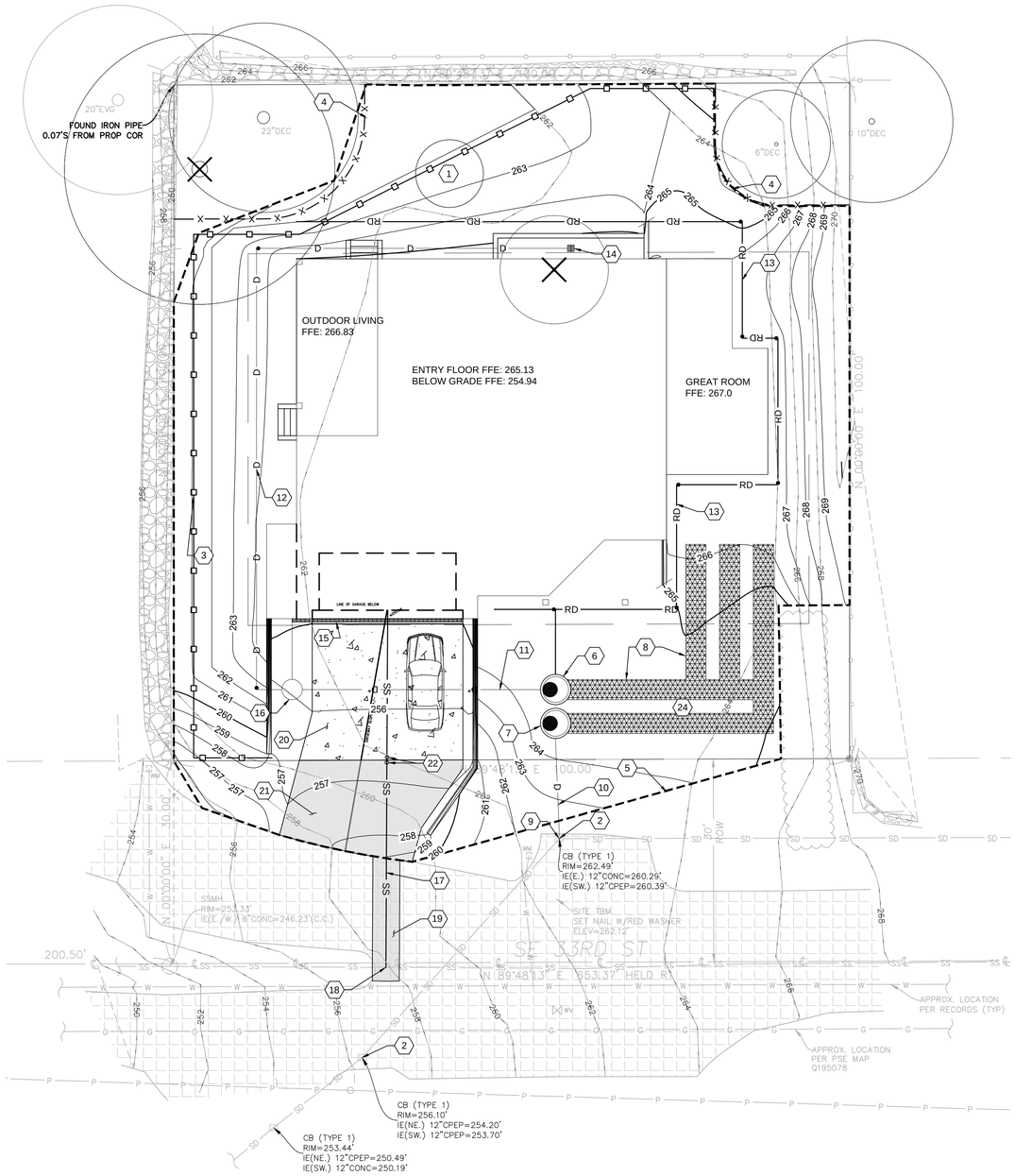
Date: 04-27-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

S-4.0



10 5 0 10

SCALE: 1"=10'

SHEET NOTES

1. TEMPORARY STOCK PILE (10/C-003)
2. PROVIDE INLET PROTECTION (6/C-002)
3. SILT FENCE
4. TEMPORARY TREE PROTECTION FENCE
5. LIMITS OF DISTURBANCE. ANY NON-HARD SURFACE IN THIS AREA WILL RECEIVE SOIL AMENDMENTS
6. 54" TYPE 2 CATCH BASIN (SEE DETENTION SIZING SHEET) (8/C-003)
   RIM:264.63
7. 54" TYPE 2 CATCH BASIN WITH CONTROL STRUCTURE (SEE DETENTION SIZING SHEET) (8/C-003)
   RIM: 264.53
8. TOTAL OF 120' OF 36" DETENTION PIPE
   TOP OF PIPE: 263.42, ENSURE 1' MIN COVER
   (SEE ATTACHED DETENTION SIZING SHEET)
9. TIE INTO EXISTING CATCH BASIN, IE IN: 260.29
10. 8" PVC PIPE @ 1% MIN
11. 2" PVC (SCHEDULE 40 OR STRONGER) FORCE STORM LINE. ENSURE 1 FOOT MIN COVER, 2 FEET AT DRIVEWAY.
12. 6" PVC STORM LINE @ 1% MIN
13. 6" PVC TIGHTLINED ROOF AND FOOTING DRAIN @ 1% MIN
14. AREA DRAIN
    RIM: 259.68
    IE OUT: 258.18
15. TRENCH DRAIN
    RIM: 254.94
    IE OUT: 253.44
16. DUPLEX PUMP SYSTEM, COMPOSED OF TWO ZOELLER 50 SERIES PUMPS, ZOELLER DUPLEX ELECTRICAL ALTERNATOR CONTROL PANEL/ALARM, APAK Z CONTROL ALARM, AND A ZOELLER BASIN (7/C-002)
    RIM: 256.65 +/-
    IE IN: 253.24
    IE OUT: 254.50
17. 6" PVC SDR-35 SEWER LINE @ 2% MIN
18. SADDLE CONNECTION TO EXISTING SEWER MAIN
    IE IN: 205.09 +/-
19. SAWCUT AND RESTORE (9/C-003)
20. CONCRETE DRIVEWAY (5/C-002)
21. ASPHALT DRIVEWAY
22. SEWER CONNECTION (1/C-002) (2/C-002)
23. STORM CLEANOUT (11/C-003)
24. ELEVATION OVER DETENTION FACILITY MUST BE 264.5 OR GREATER TO MEET COVER REQUIRMENTS

GENERAL NOTES

-PROVIDE STRAW OR PLASTIC COVER TO ANY EXPOSED SOILS THROUGHOUT THE CONSTRUCTION CYCLE

-AVOID SENDING ROOF AND FOOTING DRAINS TO PUMPS UNLESS ABSOLUTELY NECESSARY

-ENSURE 1 FOOT MINIMUM COVER ON ALL ROOF DRAINS AND FORCE STORM LINES, 2 FEET OF COVER ON ALL OTHER PIPES

-SOIL ON ENTIRE SITE CONSISTS OF ARENTS, ALDERWOOD MATERIAL (HSG B/D)

-INFORMATION IS TAKEN FROM TOPO & BOUNDARY SURVEY DATED 02/09/2022 BY TERRANE

-PERVIOUS AREAS WITHIN LIMITS OF DISTURBANCE WILL RECEIVE SOIL AMENDMENT (7/C-003)

Know what's Call below. before you dig.

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PROFESSIONAL ENGINEER

05/04/2022

PROJECT
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HELIX MI
6922 33RD ST
MERCER ISLAND, WA 98040

REVISIONS

DATE
05.03.2022

BCRA NO.
22022

DRAWN BY: BS DESIGNED BY: BS

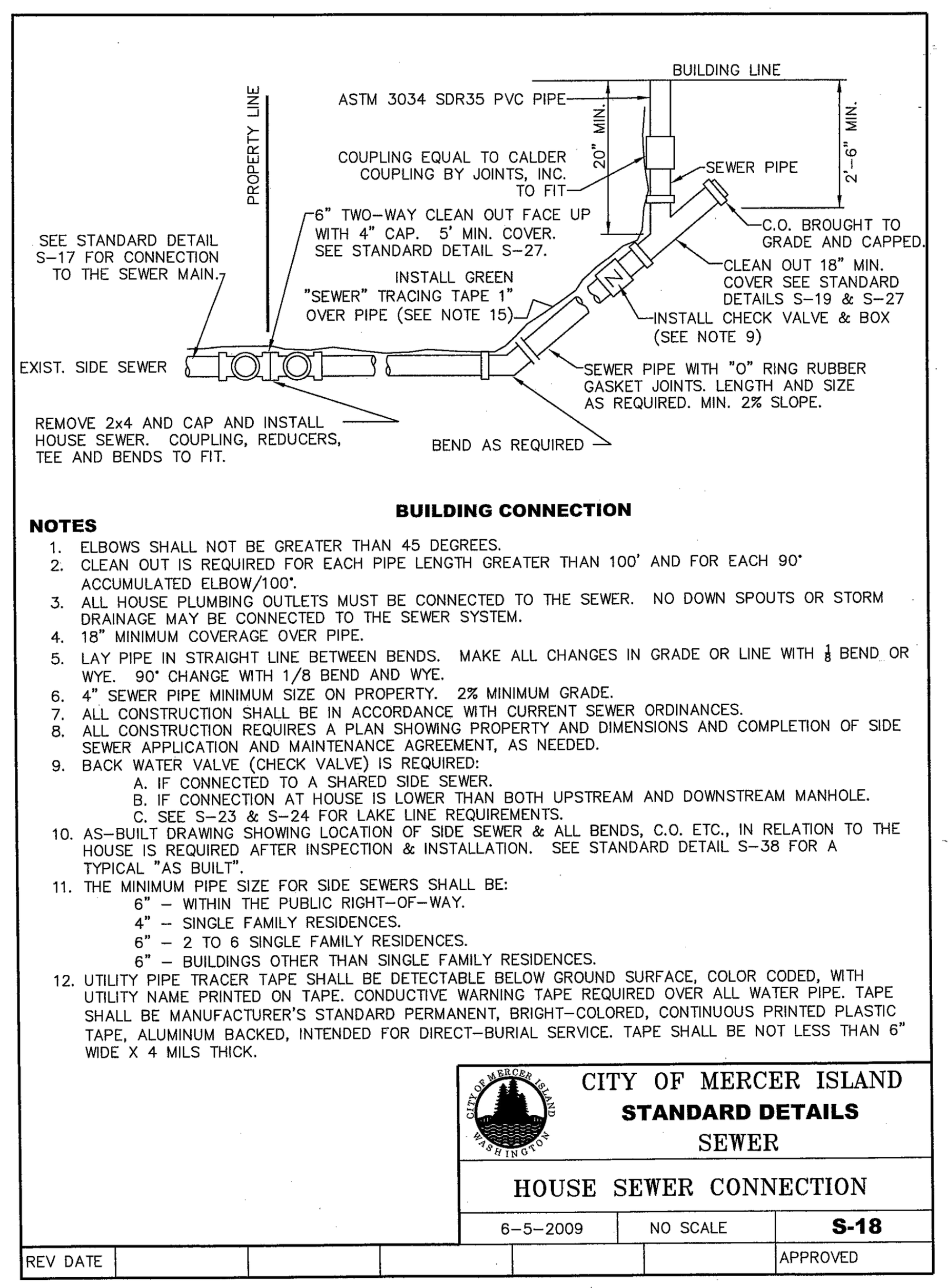
REVIEWED BY: JG

SHEET TITLE
DRAINAGE AND EROSION CONTROL PLAN

SHEET
C-001
STORM DESIGN

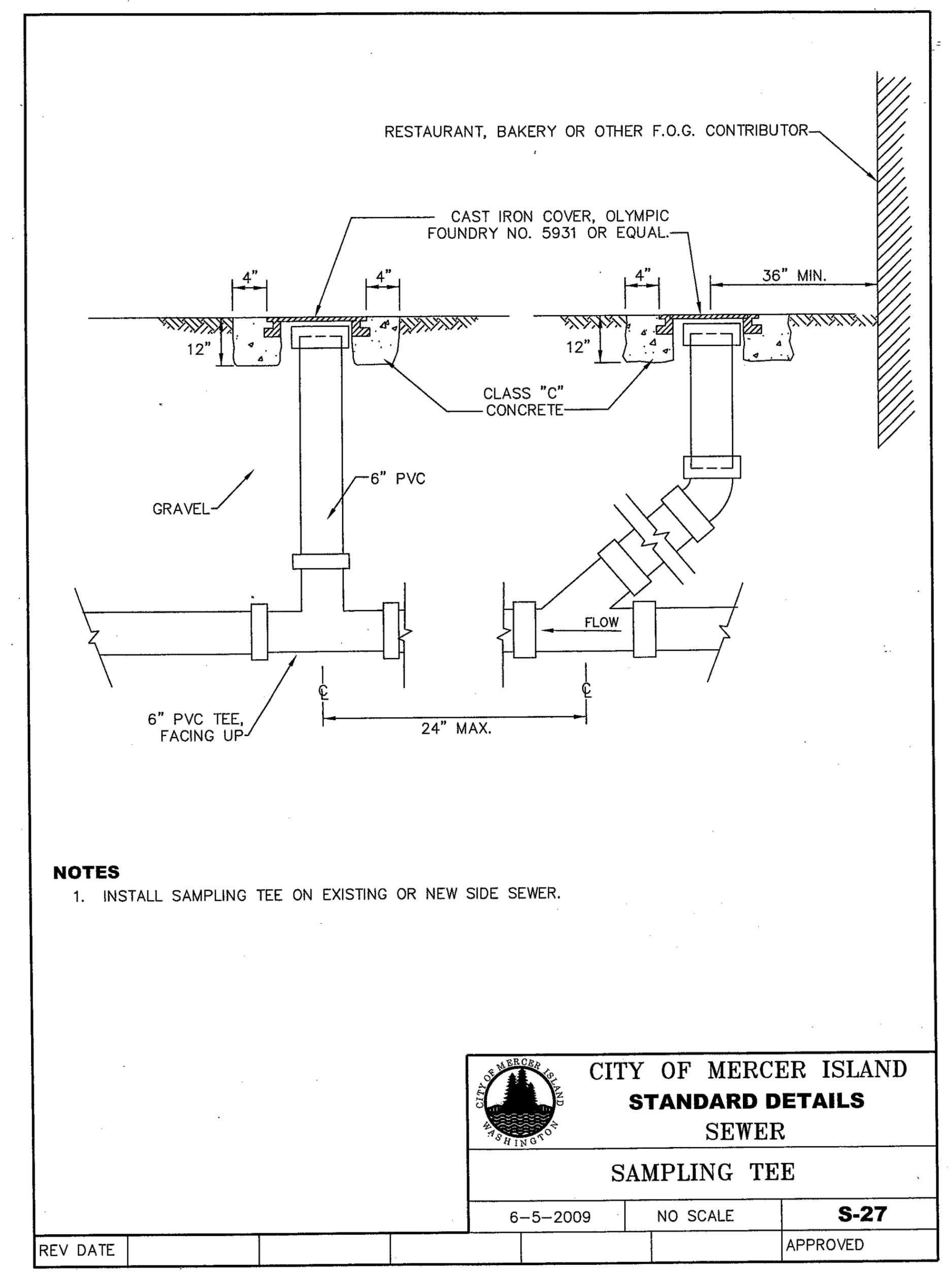
IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

DATE PLOTTED: 5/4/2022 4:15:49 PM FILENAME: 22022C-SITE.DWG BY:—



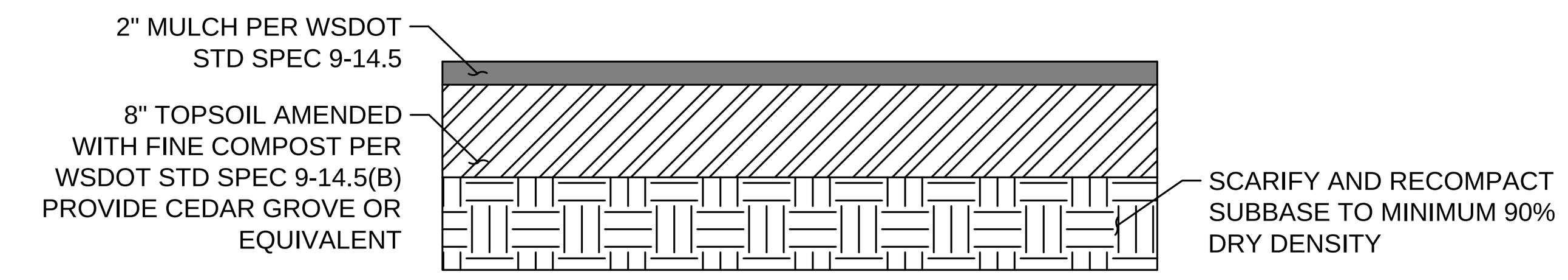
HOUSE SEWER CONNECTION (1)

SCALE: NTS



SAMPLING TEE (2)

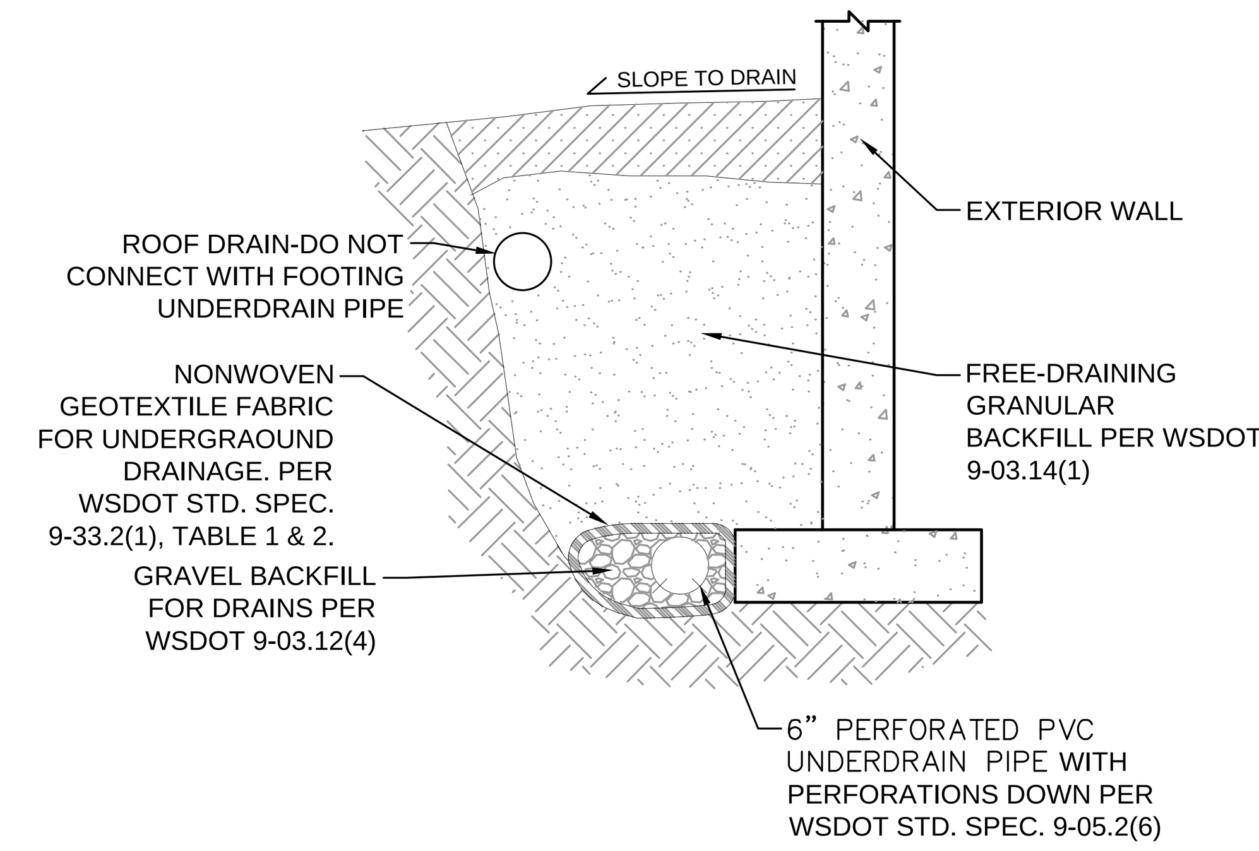
SCALE: NTS



NOTE: CONTRACTOR SHALL AMEND STOCKPILED TOP SOILS WITH COMPOST PER DETAIL AND PLACE IN ALL DISTURBED LANDSCAPE AREAS.

POST CONSTRUCTION SOIL QUALITY & DEPTH SECTION (3)

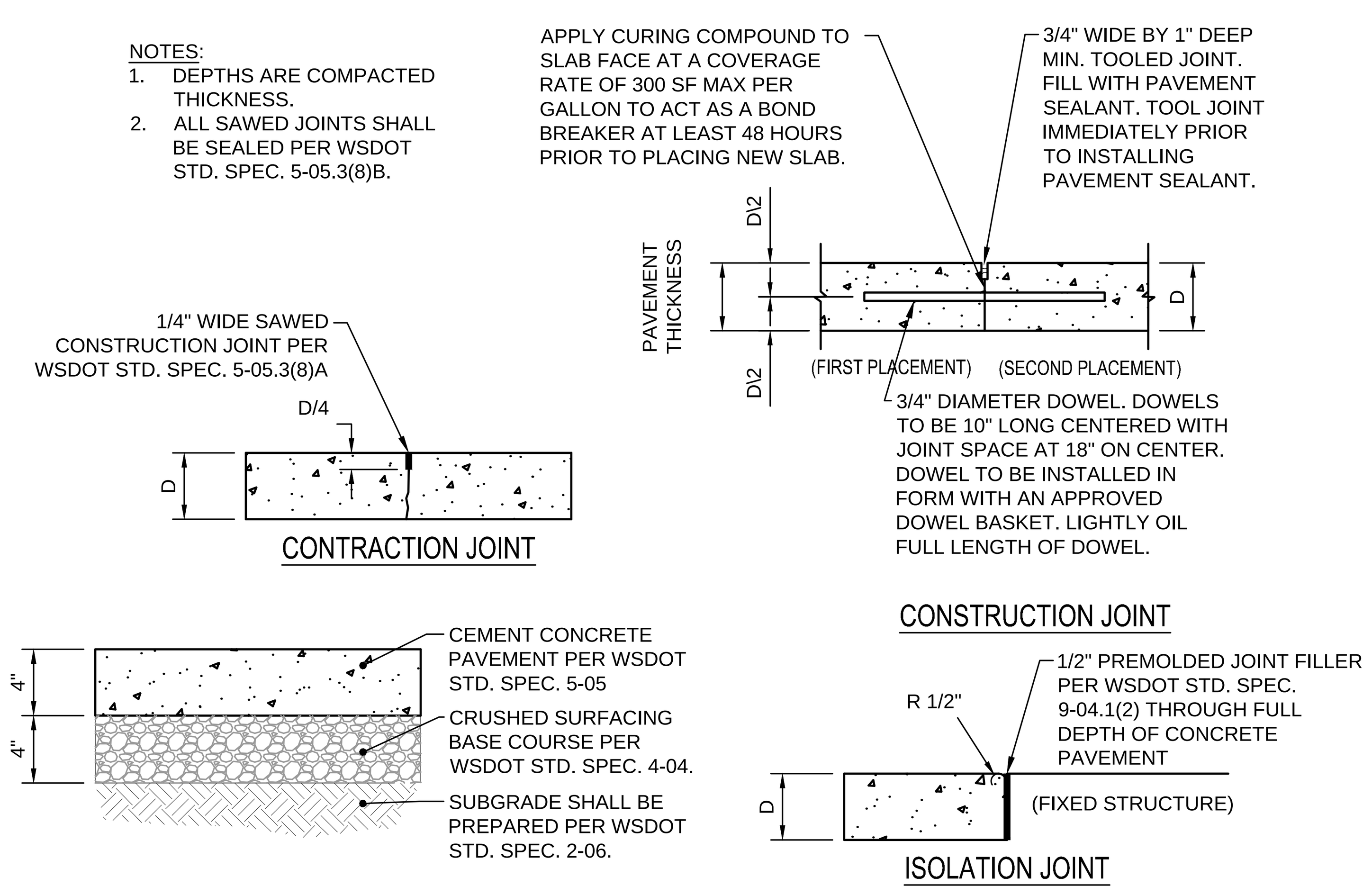
SCALE: NTS



FOOTING AND ROOF DRAIN SECTION (4)

SCALE: NTS

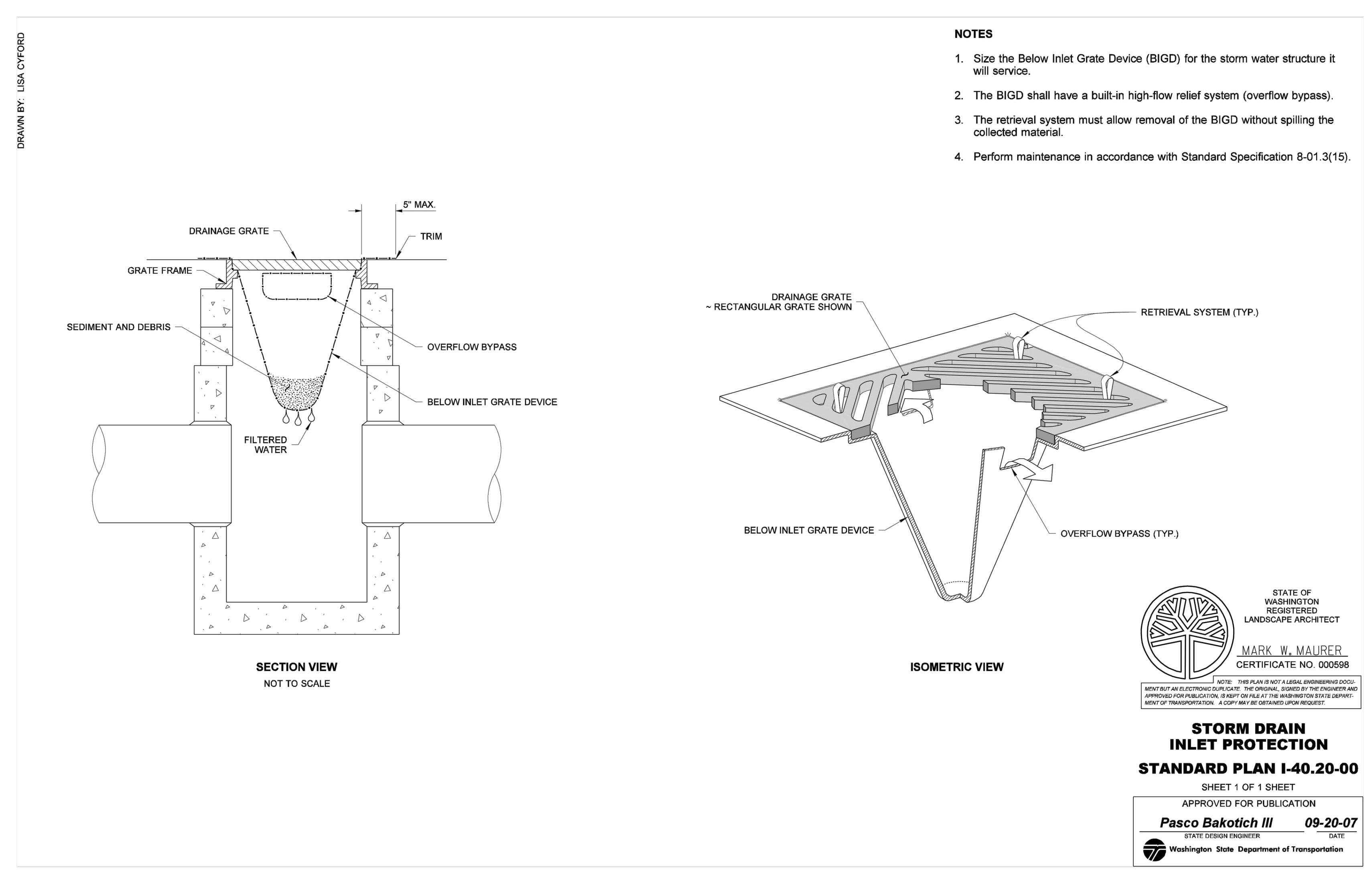
NOTES:
1. DEPTHS ARE COMPACTED THICKNESS.
2. ALL SAWED JOINTS SHALL BE SEALED PER WSDOT STD. SPEC. 5-05.3(8)B.



NOTE: CEMENT CONCRETE JOINTING TO BE DETERMINED BY CONTRACTOR.

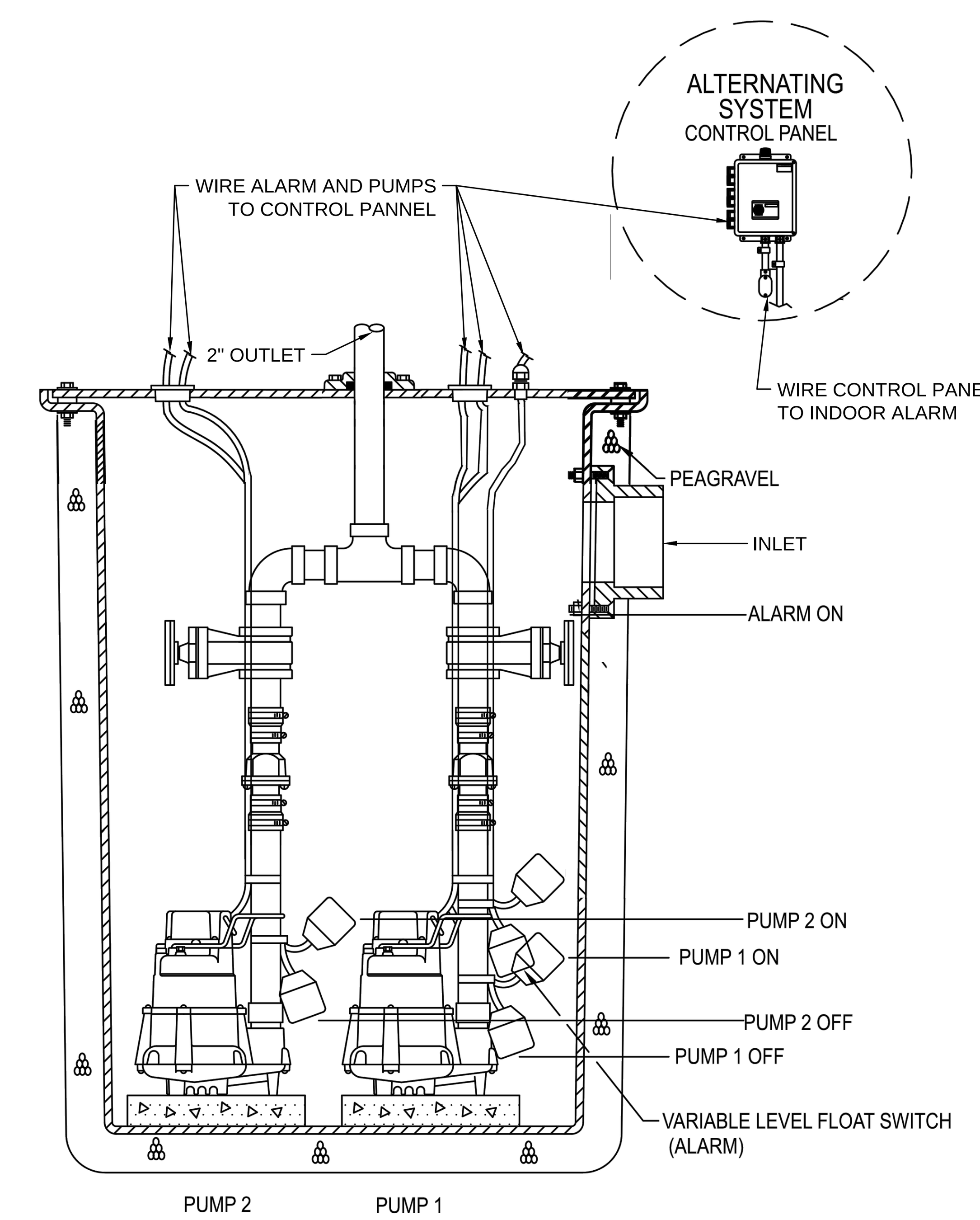
CEMENT CONCRETE PAVEMENT (5)

SCALE: NTS



STORM DRAIN INLET PROTECTION (6)

SCALE: NTS



DUPLEX PUMP SYSTEM (7)

SCALE: NTS

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REVISIONS

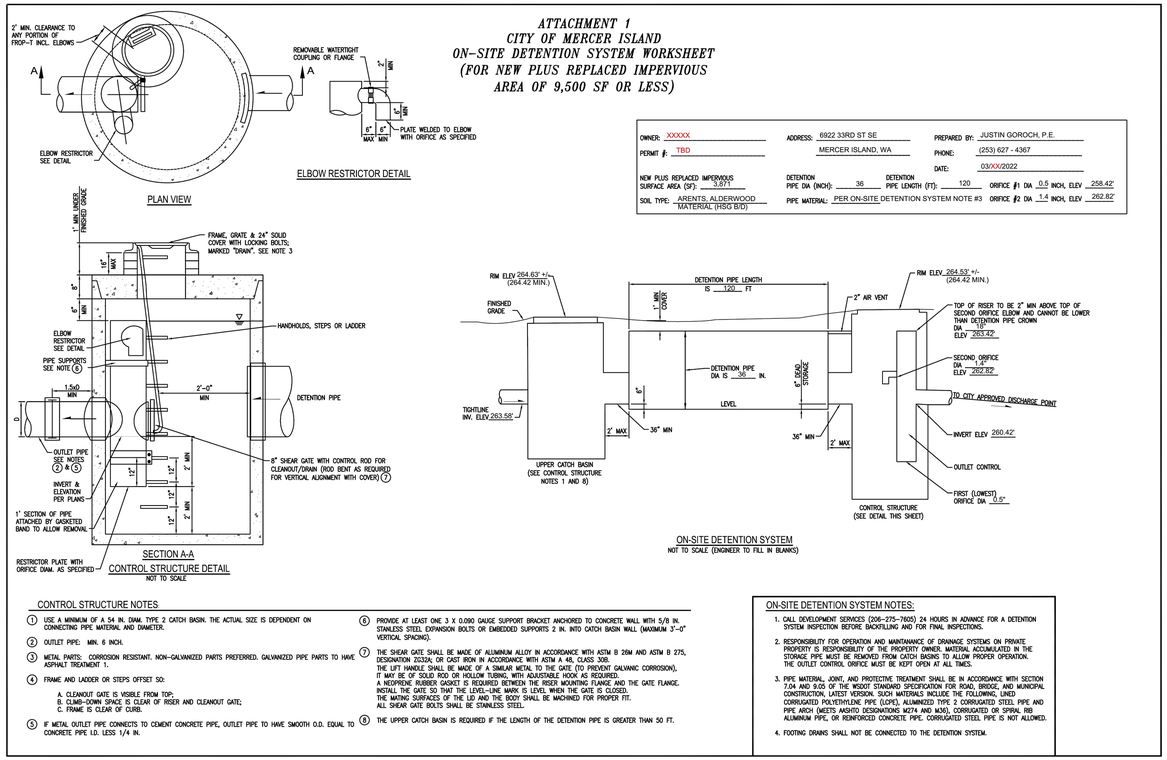
DATE 03.21.2022
BCRA NO. 22022
DRAWN BY: BS DESIGNED BY: BS
REVIEWED BY: JG
SHEET TITLE
DETAILS

bcra

SHEET
C-002
STORM DESIGN

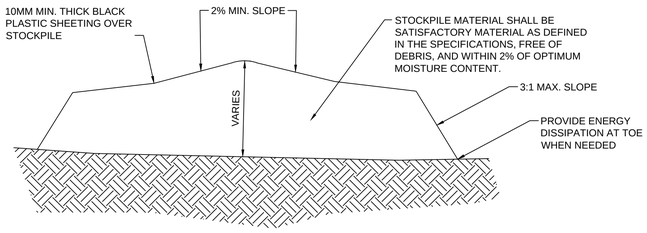
DATE PLOTTED: 5/4/2022 4:15:49 PM FILENAME: 22022C-SITE.DWG BY: ---

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY



ON-SITE DETENTION SYSTEM DETAIL

SCALE: NTS (8)



PLASTIC COVER INSTALLATION NOTES:
1. RUN PLASTIC UP AND DOWN SIDE SLOPES SLOPE, NOT ACROSS THE SIDE SLOPE.
2. PROVIDE MINIMUM OF 3-FOOT OVERLAP AT SEAMS. PLACE UPSLOPE SHEETS TO OVERLAP DOWNSLOPE SHEETS.
3. ON LONG OR WIDE SLOPES, OR SLOPES SUBJECT TO WIND, ALL SEAMS SHALL BE TAPED.
4. 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.
5. PLACE SAND FILLED BURLAP OR GEOTEXTILE BAGS EVERY 3 TO 6 FEET ALONG SEAMS/EDGES AND POUND A WOODEN STAKE THROUGH EACH TO HOLD THEM IN PLACE.
6. ROPE TOGETHER AND PLACE SAND FILLED BURLAP OR GEOTEXTILE BAGS EVERY 3 TO 6 FEET CENTERED BETWEEN ALL SEAMS.

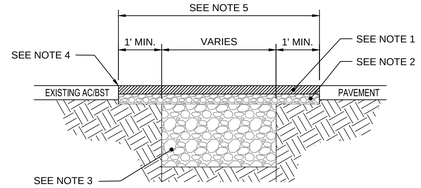
MAINTENANCE REQUIREMENTS:
1. INSPECT PLASTIC FOR RIPS, TEARS, AND OPEN SEAMS REGULARLY AND REPAIR IMMEDIATELY. THIS PREVENTS HIGH VELOCITY RUNOFF FROM CONTACTING BARE SOIL WHICH CAUSES EXTREME EROSION.
2. TORN SHEETS MUST BE REPLACED AND OPEN SEAMS REPAIRED.
3. IF THE PLASTIC BEGINS TO DETERIORATE DUE TO ULTRAVIOLET RADIATION, IT MUST BE COMPLETELY REMOVED AND REPLACED.

TOPSOIL STOCKPILE NOTES:
1. STOCKPILES SHALL BE STABILIZED (WITH PLASTIC SHEETING OR OTHER APPROVED DEVICE) DAILY BETWEEN NOVEMBER 1 AND MARCH 31.
2. IN ANY SEASON, SEDIMENT LEACHING FROM STOCK PILES MUST BE PREVENTED.
3. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR WHEN CONDITIONS EXIST THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
4. PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE APPROVED PLAN.

PLASTIC COVERING NOTES:
1. PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MILS AND SHALL MEET THE REQUIREMENTS OF THE STATE STANDARD SPECIFICATION SECTION 9-14.5.
2. COVERING SHALL BE INSTALLED AND MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10-FOOT GRID SPACING IN ALL DIRECTIONS. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH AND THERE SHALL BE AT LEAST A 12-INCH OVERLAP OF ALL SEAMS.
3. CLEAR PLASTIC COVERING SHALL BE INSTALLED IMMEDIATELY ON AREAS SEEDED BETWEEN NOVEMBER 1 AND MARCH 31 AND REMAIN UNTIL VEGETATION IS FIRMLY ESTABLISHED.
4. WHEN THE COVERING IS USED ON UN-SEEDED SLOPES, IT SHALL BE KEPT IN PLACE UNTIL THE NEXT SEEDING PERIOD.
5. PLASTIC COVERING SHEETS SHALL BE BURIED TWO FEET AT THE TOP OF SLOPES IN ORDER TO PREVENT SURFACE WATER FLOW BENEATH SHEETS.
6. PROPER MAINTENANCE INCLUDES REGULAR CHECKS FOR RIPS AND DISLODGED ENDS.

TEMPORARY STOCK PILE

SCALE: NTS (10)

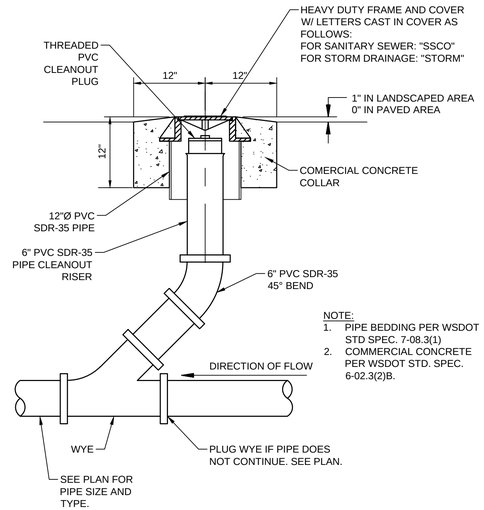


NOTES:

1. ASPHALT CONCRETE PAVEMENT CONFORMING TO PG 58-22 PER WSDOT 5-04. AGGREGATE GRADATION CONFORMING TO THE CONTROL POINTS FOR 1/2-INCH MIX AS PRESENTED UNDER HMA PROPORTIONS OF MATERIALS PER WSDOT 9-03.8(6). HMA 1/2", WITH A MINIMUM COMPACTED DEPTH PER PAVEMENT SECTION SPECIFICATION ON PAVING PLAN PLUS 1". PLACE IN LIFTS WITH A MAXIMUM COMPACTED DEPTH OF 3" AND MACHINE ROLL FLUSH WITH EXISTING PAVEMENT.
2. CRUSHED SURFACING TOP COURSE CONFORMING TO WSDOT 9-03.9(3).
3. BACKFILL MATERIAL SHALL BE PLACED IN 4" MAXIMUM LOOSE LIFTS IF COMPACTED WITH HAND OPERATED EQUIPMENT OR 10" MAXIMUM LOOSE LIFTS IF COMPACTED WITH HEAVY EQUIPMENT AND COMPACTED TO 95% MAXIMUM DRY DENSITY PER MODIFIED PROCTOR TEST (ASTM D-1557). REFER TO TRENCH SECTIONS AND SPECIFICATIONS FOR BACKFILL MATERIAL.
4. NEAT, UNIFORM VERTICAL CUT (TYPICAL BOTH SIDES). CLEAN AND NEAT EDGES AND TACK WITH EMULSIFIED ASPHALT. SEAL JOINT WITH HOT ASPHALT CEMENT.
5. ALL PERMANENT FINAL PATCHES SHALL BE RECTANGULAR OR CIRCULAR IN SHAPE.

HMA RESTORATION

SCALE: NTS (9)



NOTE:
1. PIPE BEDDING PER WSDOT STD SPEC. 7-08.3(1)
2. COMMERCIAL CONCRETE PER WSDOT STD. SPEC. 6-02.3(2)B.

STORM CLEANOUT

SCALE: NTS (11)

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HELIX MI
6922 33RD ST
MERCER ISLAND, WA 98040

REVISIONS

DATE
03.21.2022
BCRA NO.
22022
DRAWN BY: BS DESIGNED BY: BS
REVIEWED BY: JG
SHEET TITLE
DETAILS

SHEET
C-003
STORM DESIGN

DATE PLOTTED: 5/4/2022 4:15:51 PM FILENAME: 22022C-SITE.DWG BY:—

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

Exhibit B

SITE INFO

OWNER:	- HELIX DESIGN BUILD
ADDRESS:	- 6922 SE 33rd ST. MERCER ISLAND, WA 98040
PARCEL NUMBER:	- 9359100160
JURISDICTION:	- KING COUNTY
ZONE:	- R-8.4
LOT SIZE:	- 10,000# (0.23 ACRES)
LOT COVERAGE:	- MAX. 40% (4,000#)
FRONT SETBACK:	- 20' FROM PROPERTY LINE
REAR SETBACK:	- 25' FROM PROPERTY LINE
SIDE SETBACK:	- 11% OF LOT WIDTH (100'x11% = 11')
HEIGHT LIMIT:	- 20' FROM HIGHEST POINT OF LOT PER COVENANT

LOT COVERAGE CALCULATIONS

MAIN STRUCTURE W/ O.H.	- 3,440#
DRIVEWAY	- 479#
TOTAL LOT COVERAGE	- 3,919#
LOT AREA PROPOSED	- 10,000#
LOT COVERAGE	- 3,919/10,000 = 39.2%
MAXIMUM LOT COVERAGE	- 40% (4,000#)
UNUSED LOT COVERAGE	- 0.8% (81#)

HARDSCAPE CALCULATIONS

RETAINING/LANDSCAPE WALLS	- 54#
HVAC & GEN. CONCRETE PADS	- 33#
OUTDOOR LIVING STEPS	- 25#
CONCRETE WALKWAY	- 108#
FRONT PORCH	- 43#
TOTAL HARDSCAPE	- 263#
LOT AREA	- 10,000#
PROPOSED HARDSCAPE	- 263/10,000 = 2.6%
MAXIMUM HARDSCAPE	- 0.8% + 9% = 9.8%

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000# MAIN FLOOR	= 40% OR 5,000# = MAX. 4,000#
BASEMENT FLOOR W/ GARAGE	= 2,414#
MAIN FLOOR	= 2,846#
TOTAL FLOOR AREA	= 5,260#
BASEMENT EXCLUSION	= (1,272#)
PROPOSED G.F.A.	= 3,988#

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

PROVIDE STRAW OR PLASTIC COVER TO ANY EXPOSED SOILS THROUGH OUT THE CONSTRUCTION CYCLE.

LOT SLOPE:
HIGHEST ELEVATION POINT OF LOT (NORTHWEST CORNER): 270.5'
LOWEST ELEVATION POINT OF LOT (SOUTHHEAST CORNER): 255.5'
ELEVATION DIFFERENCE: 15.0'
HORIZONTAL DIFFERENCE BETWEEN HIGH & LOW POINTS: 141.1'
LOT SLOPE: 10.6%

24 HOUR EROSION CONTROL CONTACT INFO:
ERIN JACOBSEN - 206.910.8758

FIRE SPRINKLER NOTE:

A NFPA 13R FIRE SPRINKLER SYSTEM AND A NFPA 72 "CHAPTER 29" MONITORED FIRE ALARM SYSTEM TO BE INSTALLED. (SEPARATE PERMIT REQUIRED)

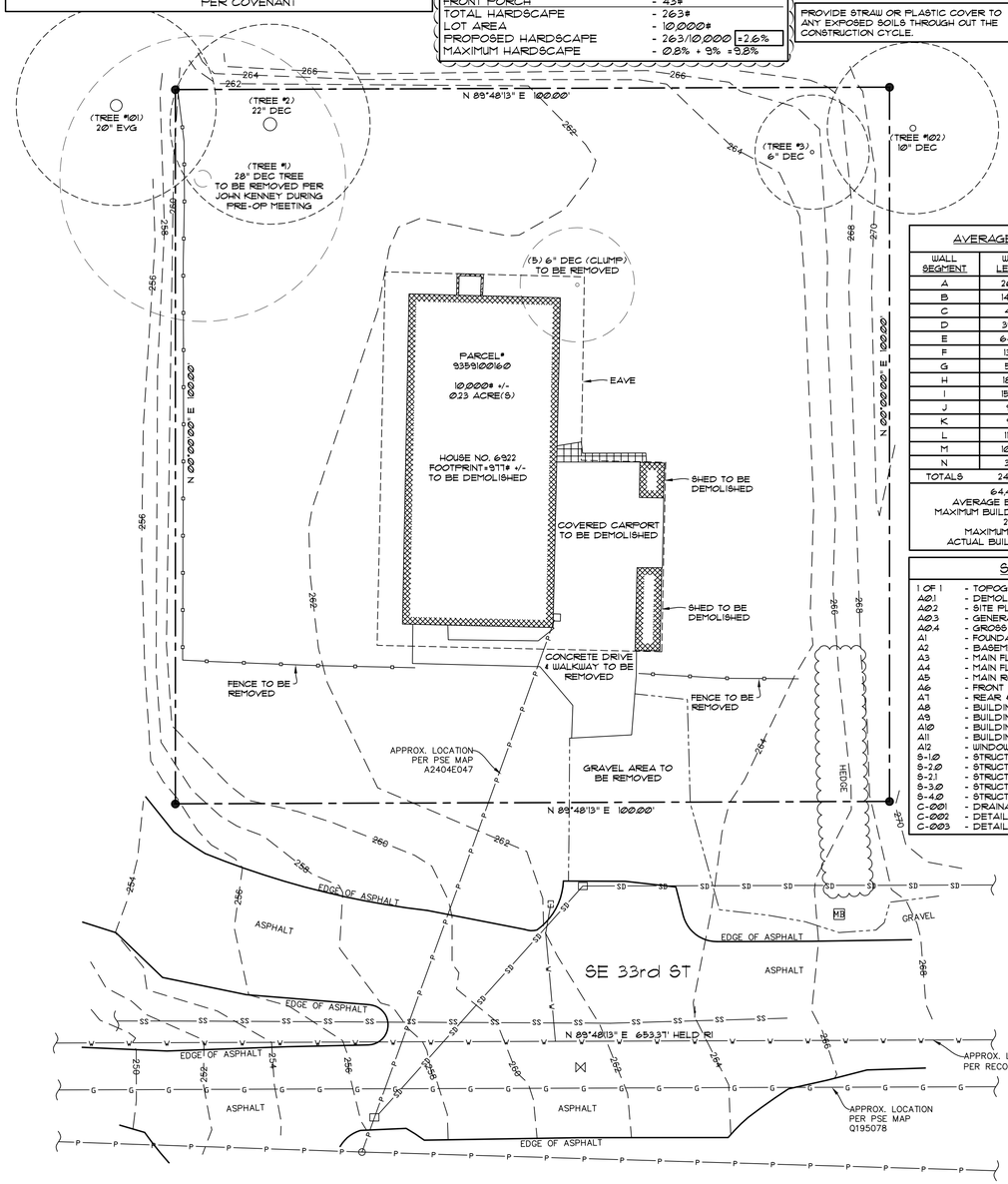
PER MICC 19.07.020(F)(3)(D):
DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION

AVERAGE BUILDING ELEVATION

WALL SEGMENT	WALL LENGTH	MIDPOINT ELEVATION	RESULT
A	26.83'	262.3	7,037.51
B	14.00'	261.8	3,665.2
C	4.42'	261.8	1,157.16
D	39.25'	261.9	10,279.6
E	64.46'	262.2	16,901.4
F	13.25'	262.8	3,482.1
G	5.29'	262.8	1,390.21
H	18.67'	262.9	4,908.34
I	15.00'	262.9	3,943.5
J	9.71'	262.8	2,551.79
K	9.21'	262.7	2,419.47
L	11.67'	262.9	3,068.04
M	10.50'	262.8	2,759.4
N	3.38'	262.7	887.93
TOTALS	245.64'	N/A	64,451.6

64,451.6 / 245.64 = 262.4
AVERAGE BUILDING ELEVATION = 262.4'
MAXIMUM BUILDING HEIGHT = 30' ABOVE A.B.E.
262.4' + 30' = 292.4'
MAXIMUM BUILDING HEIGHT = 292.4'
ACTUAL BUILDING HEIGHT = 26.43' (288.6')

SHEET INDEX

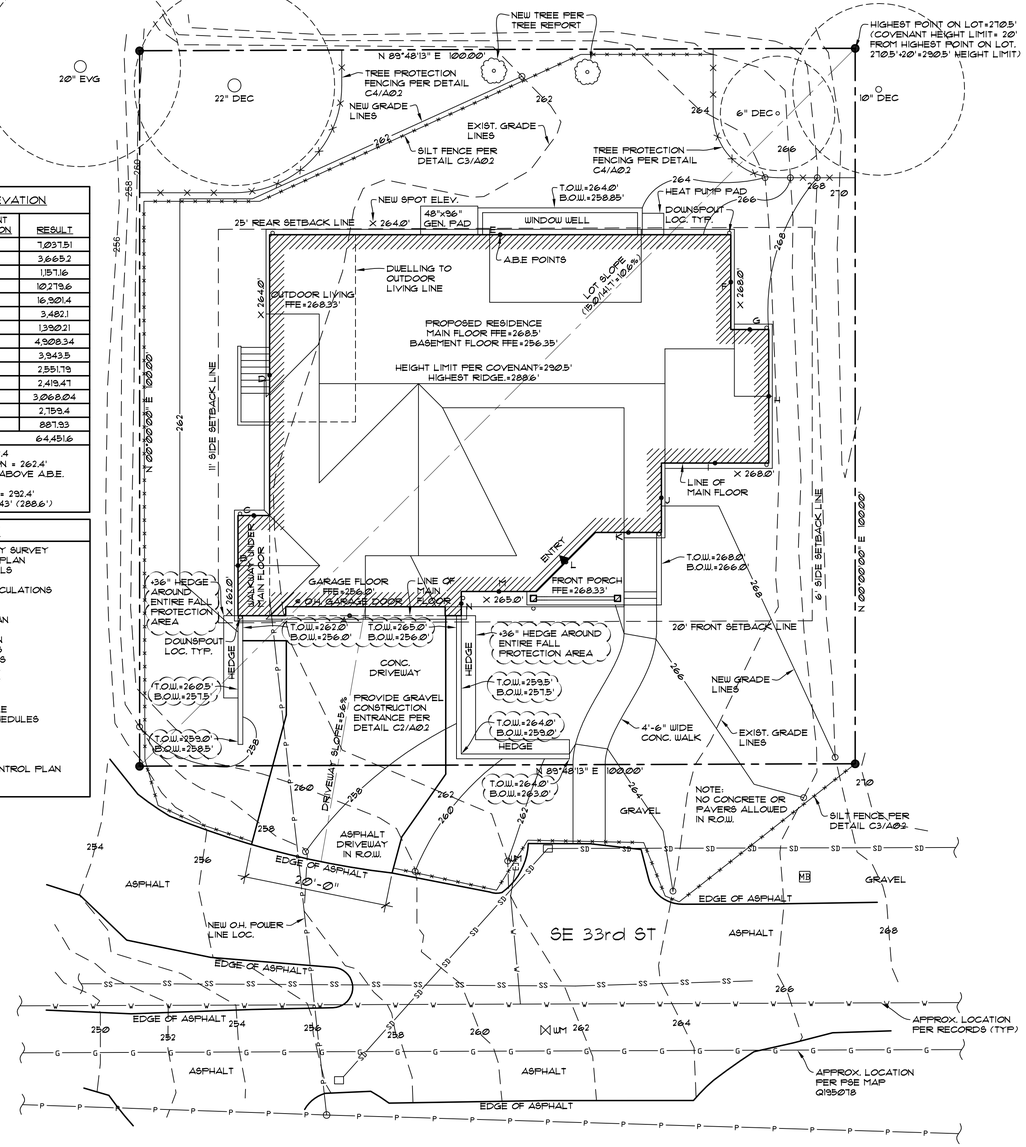


DEMOLITION PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

NORTH



SITE PLAN

SCALE: 1" = 10'

6922 SE 33rd ST.
MERCER ISLAND, WA 98040

NORTH

matthew mawer
residential design
matt@mmrd.net
425.417.7817

helix
DESIGN + BUILD
www.helixdesignbuild.com
206.910.8758

HELIX DESIGN BUILD
6922 SE 33rd ST.
MERCER ISLAND, WA 98040

JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A0.1

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING# 20211210000582)

LOTS 32, 33, 34 AND 35 IN BLOCK 1 OF WHITE & NOBLES FIRST ADDITION TO EAST SEATTLE, AS PER PLAT RECORDED IN VOLUME 3 OF PLATS, PAGE 104, RECORDS OF KING COUNTY;

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

BASIS OF BEARINGS

N 89°48'13" E BETWEEN SURVEY MONUMENTS FOUND ON CENTERLINE OF SE 32ND ST, PER R1.

REFERENCES

R1. RECORD OF SURVEY, VOL. 210, PG. 079, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER GPS OBSERVATIONS

SURVEYOR'S NOTES

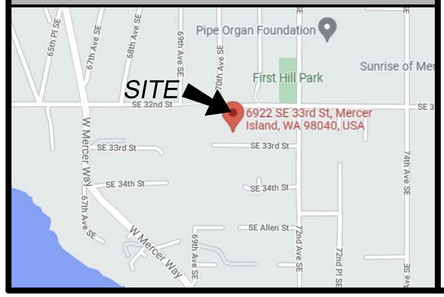
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN FEBRUARY OF 2022. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 9359100160.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,000± S.F. (0.23 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

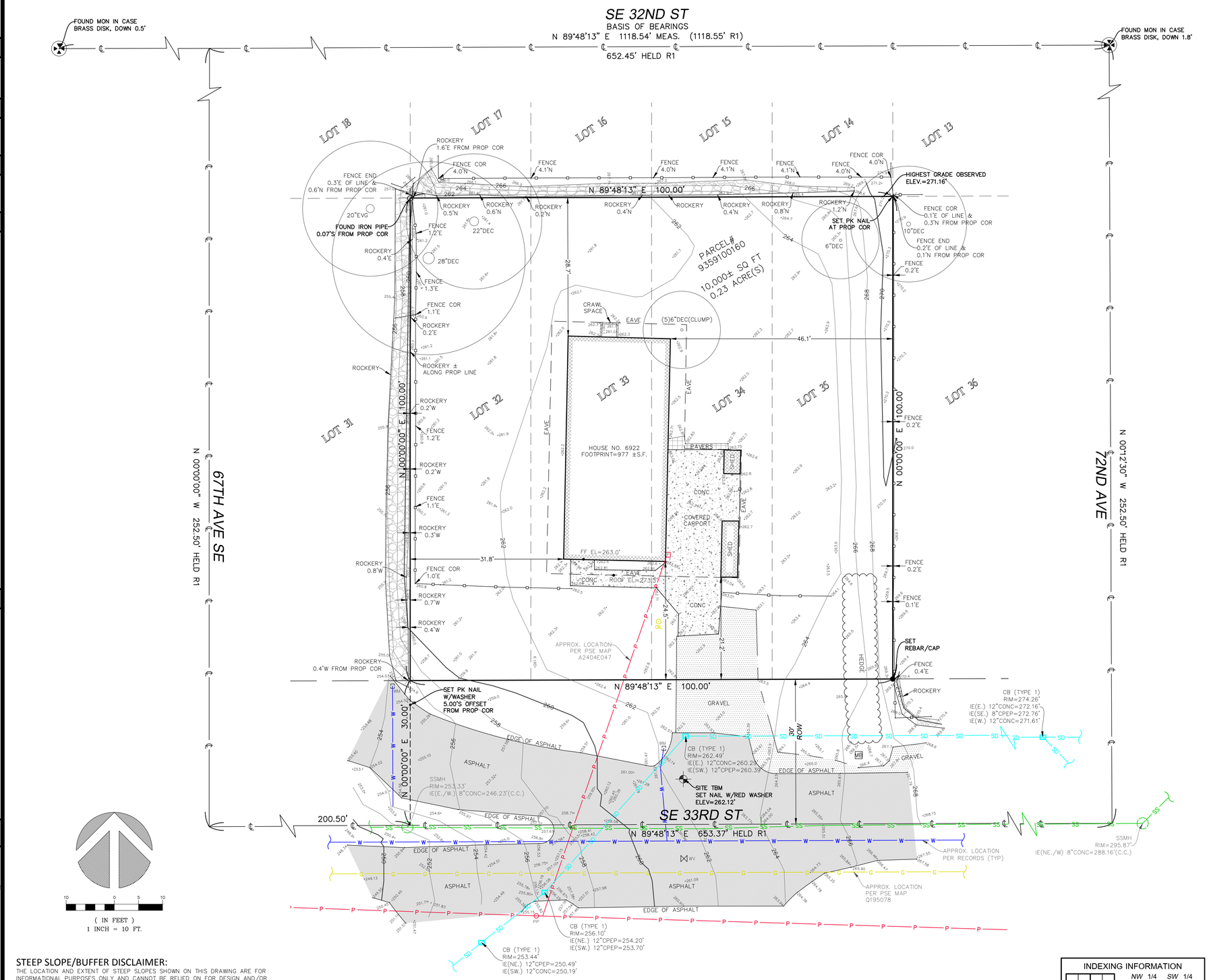
LEGEND

- ASPHALT SURFACE
- BENCHMARK
- BUILDING
- CENTERLINE ROW
- CONCRETE SURFACE
- FENCE LINE (WOOD)
- GAS LINE
- GRAVEL SURFACE
- HEDGE FOLIAGE LINE
- INLET (TYPE 1)
- IRON PIPE (FOUND)
- MAILBOX (RESIDENTIAL)
- MONUMENT IN CASE (FOUND)
- NAIL AS NOTED
- OIL FILL CAP
- PAVER SURFACE
- POWER METER
- POWER (OVERHEAD)
- POWER POLE
- RETAINING WALL
- REBAR & CAP (SET)
- ROCKERY
- SEWER LINE
- SEWER MAINHOLE
- STORM DRAIN LINE
- TREE (AS NOTED)
- WATER LINE
- WATER METER
- WATER VALVE

VICINITY MAP

N.T.S.





(IN FEET)
1 INCH = 10 FT.

STEEP SLOPE/BUFFER DISCLAIMER:

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

INDEXING INFORMATION

NW 1/4 SW 1/4
SECTION: 12
TOWNSHIP: 24N
RANGE: 04E, W.M.
COUNTY: KING

terrane.net
We are the measure

TOPOGRAPHIC & BOUNDARY SURVEY
PARCEL NO. 9359100160

JACOBSEN RESIDENCE
6922 SE 33RD ST
MERCER ISLAND, WA 98040

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

JOB NUMBER:	212666
DATE:	02/09/2022
DRAFTED BY:	JAK
CHECKED BY:	JGM/DRT
SCALE:	1" = 10'

REVISION HISTORY

10/19/22	ADD HIGHEST GRADE

SHEET NUMBER
1 OF 1

EROSION/SEDIMENTATION CONTROL - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
A. CONDUCT PRE-CONSTRUCTION MEETING.
B. FLAG OR FENCE CLEARING LIMITS.
C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
H. GRADE AND STABILIZE CONSTRUCTION ROADS.
I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY/COUNTY TESC MINIMUM REQUIREMENTS.
L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

2. CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS CLEAN AND FREE OF CONTAMINANTS AT ALL TIMES AND FOR PREVENTING AN ILLICIT DISCHARGE INTO THE MUNICIPAL STORM DRAIN SYSTEM. IF YOUR CONSTRUCTION PROJECT CAUSES AN ILLICIT DISCHARGE TO THE MUNICIPAL STORM DRAIN SYSTEM, THE CITY/COUNTY STORM MAINTENANCE DIVISION WILL BE CALLED TO CLEAN THE PUBLIC STORM SYSTEM AND OTHER AFFECTED PUBLIC INFRASTRUCTURE. THE CONTRACTOR(S), PROPERTY OWNER, AND ANY OTHER RESPONSIBLE PARTY MAY BE CHARGED ALL COSTS ASSOCIATED WITH THE CLEAN-UP AND MAY ALSO BE ASSESSED MONETARY PENALTIES. THE MINIMUM PENALTY IS $500. A FINE FOR A REPEAT VIOLATION SHALL BE A MULTIPLIED BY THE NUMBER OF VIOLATIONS. A FINE MAY BE REDUCED OR WAIVED FOR PERSONS WHO IMMEDIATELY SELF-REPORT VIOLATION TO THE CITY/COUNTY. A FINAL INSPECTION OF YOUR PROJECT WILL NOT BE GRANTED UNTIL ALL COSTS ASSOCIATED WITH THE CLEAN-UP, AND PENALTIES, ARE PAID TO THE CITY/COUNTY.

3. CONSTRUCTION DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN CGK POLICY E-1 SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25 NTU, AND NOT CONSIDERED AN ILLICIT DISCHARGE. TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR.

4. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND SPECIFICATIONS.

5. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

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

7. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

8. A COPY OF THE APPROVED ESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.

10. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY/COUNTY INSPECTOR.

11. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.

12. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.

13. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

14. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

15. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
- MAY 1 TO SEPTEMBER 30 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
- OCTOBER 1 TO APRIL 30 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
- STABILIZE SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.

16. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

17. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".

18. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 6' HIGH TEMPORARY CONSTRUCTION FENCE (CHAIN LINK WITH PIER BLOCKS) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL THE PLANNING DEPARTMENT AUTHORIZES REMOVAL.

19. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.

20. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.

21. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON THE SITE.

22. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.

23. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.

24. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED IMMEDIATELY FOLLOWING REMOVAL OF EROSION CONTROL BMPS. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

25. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.

26. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.

27. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.

28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

29. ANY AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT (INCLUDING A 5-FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.

30. IF THE TEMPORARY CONSTRUCTION ENTRANCE OR ANY OTHER AREA WITH HEAVY VEHICLE LOADING IS LOCATED IN THE SAME AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT, 6" OF SEDIMENT BELOW THE GRAVEL SHALL BE REMOVED PRIOR TO INSTALLATION OF THE INFILTRATION FACILITY OR PERVIOUS PAVEMENT (TO REMOVE FINES ACCUMULATED DURING CONSTRUCTION).

31. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE ADEQUATE PROTECTION FROM SEDIMENT. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "STORM DRAIN PROTECTION INSERT" OR EQUIVALENT.

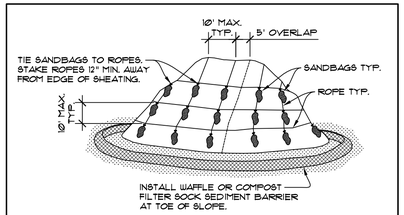
32. IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.

33. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.

34. RECYCLED CONCRETE SHALL NOT BE STOCKPILED ON SITE, UNLESS FULLY COVERED WITH NO POTENTIAL FOR RELEASE OF RUNOFF.

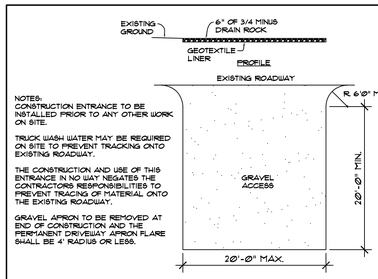
EFFECTIVE FEBRUARY 1, 2021 WASHINGTON STATUTES MANDATE ALL JURISDICTIONS IN THE STATE TO ADOPT AND ENFORCE THE FOLLOWING UPDATED CONSTRUCTION CODE EDITIONS AS THEY WERE ADOPTED AND AMENDED BY THE STATE OF WASHINGTON:

2018 INTERNATIONAL BUILDING CODE (IBC)
2018 INTERNATIONAL RESIDENTIAL CODE (IRC)
2018 INTERNATIONAL MECHANICAL CODE (IMC)
2018 INTERNATIONAL FUEL GAS CODE (IFGC)
2018 UNIFORM PLUMBING CODE (UPC)
2018 INTERNATIONAL FIRE CODE (IFC)
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL SWIMMING POOL AND SPA CODE
WASHINGTON STATE ENERGY CODE (WSEC)
ICC/ANSI A117.1-09, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, WITH STATEWIDE AND CITY AMENDMENTS



NOTES:
1. INSTALL PLASTIC SHEATING VERTICALLY DOWN SLOPE.
2. INSTALL PLASTIC SHEATING SO EDGES OVERLAP AND ARE SHINGLED AWAY FROM PREVAILING WINDS.
3. PLASTIC SHEATING SHALL BE BLACK, MIN. 6 MIL.

C1 TEMPORARY STOCK PILE DETAIL N.T.S.



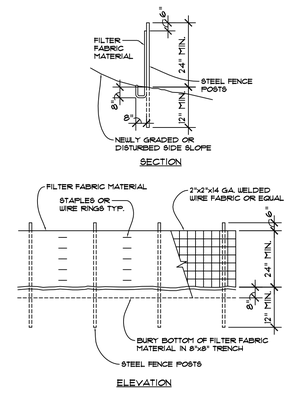
NOTES:
CONSTRUCTION ENTRANCE TO BE INSTALLED PRIOR TO ANY OTHER WORK ON SITE.

TRUCK WASH WATER MAY BE REQUIRED ON SITE TO PREVENT TRACKING ONTO EXISTING ROADWAY.

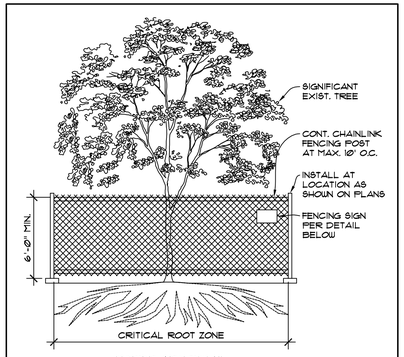
THE CONSTRUCTION AND USE OF THIS ENTRANCE IN NO WAY NEGATES THE CONTRACTORS RESPONSIBILITIES TO PREVENT TRACING OF MATERIAL ONTO THE EXISTING ROADWAY.

GRAVEL APRON TO BE REMOVED AT END OF CONSTRUCTION AND THE PERMANENT DRIVEWAY APRON FLARE SHALL BE 4' RADIUS OR LESS.

C2 GRAVEL CONSTRUCTION ENTRANCE N.T.S.



C3 SILT FENCE DETAIL



NOTES:

1. MINIMUM SIX (6') FOOT HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.

2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.

4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE. SIGN TO BE MINIMUM 11"x11", AND MADE OF WEATHERPROOF MATERIAL.

C4 TREE PROTECTION DETAIL N.T.S.

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helix
DESIGN + BUILD
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HELIX DESIGN BUILD
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MERCER ISLAND, WA 98040

JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A0.2

SITE PLAN NOTES & DETAILS

SCALE: N.T.S.

GENERAL NOTES:

1. ALL FLOOR JOISTS PER PLAN. REFER TO MFG. LAYOUT FOR ALL FRAMING DETAILS AND BLOCKING. REVIEW MFG. LAYOUT PRIOR TO FRAMING. DOUBLE UNDER BEARING PARTITIONS. PROVIDE SOLID BLOCKING OVER BEARING MEMBERS.

2. ALL PRE-MANUFACTURED TRUSSES TO BE IDENTIFIED BY MFG'S STAMP.

3. FACTORY BUILT FIREPLACE & CHIMNEY TO BE UL LABELED INSTALL PER MANUFACTURERS SPECS O/SIDE COMBUSTION AIR REQ'D (MIN 6 SQ IN) DUCTED TO F/BOX W/ OPERABLE O/SIDE DAMPER, TIGHTLY FITTING FLUE DAMPER, AND TIGHT FITTING GLASS OR METAL DOORS OR FLUE DRAFT INDUCTION FAN. MINIMUM FIREPLACE EFFICIENCY OF 50% OR GREATER PER WSEC R402.4.2.1. PILOT LIGHT SHALL NOT BE CONTINUOUSLY BURNING PER WSEC R403.1.3.

4. LIMIT SHOWER FLOW TO 2.5 GALLON/MIN.

5. H.W.T. TO BE LABELED PER ASHRAE STD. NO. 90A-80, AND MEET THE REQUIREMENTS. PER 1981 NATIONAL APPLIANCE ENERGY CONSERVATION ACT.

6. FURNACE AND H.W. TANK, PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES TO BE A MIN. OF 18" ABOVE FINISHED FLOOR.

7. ALL SKYLITES TO COMPLY WITH I.R.C. SECTION 2409.1 & 2603.7

8. ALL SIDELITES, SLIDING GLASS DOORS AND TUB/SHOWER ENCLOSURES TO COMPLY WITH I.B.C. SECTION 2406.

9. HEAT REGISTERS TO BE PER LEGEND, LOCATE APPROXIMATELY AS SHOWN, 6" IN FROM EXTERIOR WALLS, 3" IN FROM INTERIOR WALLS.

10. VENT DRYER, OVEN/RANGE & EXHAUST FANS TO O/SIDE. DRYER EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMB HORIZ. AND VERT. LENGTH OF 14'-0", INCL. 2 90Ø. ELBOWS, DEDUCT 2'-0" FOR EA. 90Ø. ELBOW EXCEEDING 2. SEE DRYER DUCT DTL. FOR ALT. SOLUTIONS. ALL EXHAUST DUCTS INSULATED (MIN. OF R-4)

11. ALL NAILING PER IRC TABLE R602.3(1) AND/OR IBC TABLE 2304.9.1, COLUMN, POST & BEAM CONNECTIONS TO COMPLY WITH I.B.C. SECTION 2316.

12. ---

13. SOLID SHT'G REQ'D ON LOWER STORY OF 2 STORY BUILDING PER I.B.C. DRYWALL NAILED PER SHEAR NAILING SCHEDULES OR IBC 2018 EDITION.

14. TUB/SHOWER SURROUND WALLS TO HAVE WATER RESISTANT GYP BOARD AND A SMOOTH HARD SURFACE TO A MINIMUM HEIGHT OF 70" ABOVE DRAIN INLET

15. PROVIDE SMOKE DETECTOR IN COMPLIANCE WITH I.B.C. AND I.R.C. STD. #43.6. ALL SMOKE DETECTORS W/BAT BACKUP. SMOKE DETECTORS WILL SOUND AN AUDIBLE ALARM IN ALL SLEEPING ROOMS.

16. DWELLING TO COMPLY W/ 2018 WSEC-R.

17. SEAL, CAULK, GASKET, OR WEATHERSTRIP TO LIMIT AIR LEAKAGE: AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALL AND ROOF AND WALL PANELS, OPENINGS AT UTILITY PENETRATIONS THROUGH WALLS, FLOORS, AND ROOFS, ALL OTHER OPENINGS IN BUILDING ENVELOPE.

18. ALL EXTERIOR DOORS OR ACCESS HATCHES TO ENCLOSED UNHEATED AREAS MUST BE WEATHERSTRIPPED.

19. MINIMUM SOIL BEARING PRESSURE = 1500 PSF.

20. FOOTINGS TO BE PLACED ON FIRM, UNDISTURBED NATIVE SOIL.

21. DWELLING TO COMPLY WITH INTERNATIONAL BUILDING CODE (I.B.C.) 2018

22. FIRE STOPS SHALL BE PROVIDED TO CUT OFF ALL CONCL'D DRAFT OPENINGS FROM VERT. TO HORIZ. SPACES, INCLUDING THE STAIR, TUB, SHOWER, FIREPLACE, ETC.

ALL WINDOWS TO HAVE INDIVIDUAL OUTDOOR AIR INLET PORTS PER IMC 402.2 & 402.1

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE. THE RESULTS OF THE TEST SHALL BE BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL (R402.4.1.2).

AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE.

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. A MINIMUM OF 75% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

R317.1.3 GEOGRAPHICAL AREAS. APPROVED NATURALLY DURABLE OR PRESSURE-PRESERVATIVE-TREATED WOOD SHALL BE USED FOR THOSE PORTIONS OF WOOD MEMBERS THAT FORM THE STRUCTURAL SUPPORTS OF BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES WHEN THOSE MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING THAT WOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS. DEPENDING ON LOCAL EXPERIENCE, SUCH MEMBERS MAY INCLUDE:

1. HORIZONTAL MEMBERS SUCH AS GIRDERS, JOISTS AND DECKING.
2. VERTICAL MEMBERS SUCH AS POSTS, POLES AND COLUMNS.
3. BOTH HORIZONTAL AND VERTICAL MEMBERS.

R303.7 STAIRWAY ILLUMINATION.
ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIRS, INCLUDING THE LANDINGS AND TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF EACH LANDING OF THE STAIRWAY. FOR INTERIOR STAIRS THE ARTIFICIAL LIGHT SOURCES SHALL BE CAPABLE OF ILLUMINATING TREADS AND LANDINGS TO LEVELS NOT LESS THAN 1 FOOT-CANDLE (11 LUX) MEASURED AT THE CENTER OF TREADS AND LANDINGS. EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF THE STAIRWAY. EXTERIOR STAIRWAYS PROVIDING ACCESS TO A BASEMENT FROM THE OUTSIDE GRADE LEVEL SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE BOTTOM LANDING OF THE STAIRWAY.

SOURCE SPECIFIC VENTILATION REQUIREMENTS:

BATHROOMS, LAUNDRY ROOMS AND POWDER ROOM FANS TO BE 50 CFM.
KITCHEN EXHAUST FANS TO BE 100 CFM U.N.O.
EXHAUST FANS SHALL BE FLOW RATED AT .25 W.G. STATIC PRESSURE

EXHAUST DUCTS SHALL:
BE INSULATED TO R-4 IN UNCONDITIONED SPACE
BE EQUIPPED WITH A BACKDRAFT DAMPER
TERMINATE OUTSIDE THE BUILDING PER SRC M1501.1
COMPLY WITH BELOW:

FAN CFM	MAX. FLEX DIA.	MAX. FT.	MAX. SMOOTH DIA.	MAX. FT.
50	4"	25'	4"	70'
50	5"	90'	5"	100'
50	6"	OVER 100'	6"	OVER 100'
80	4"	N/A	4"	70'
80	5"	15'	5"	100'
80	6"	90'	6"	OVER 100'
100	5"	N/A	5"	90'
100	6"	45'	6"	OVER 100'
125	6"	15'	6"	OVER 100'
125	7"	70'	7"	OVER 100'

WHOLE HOUSE VENTILATION REQUIREMENTS:

A 6" DIAMETER FRESH AIR INLET SHALL BE DUCTED FROM THE EXTERIOR TO THE FRESH AIR RETURN PLENUM.
THE FRESH AIR DUCT SHALL BE PROTECTED FROM THE ENTRY OF INSECTS, LEAVES, OR OTHER DEBRIS AND LOCATED SO AS NOT TO TAKE AIR FROM:
- HAZARDOUS OR UNSANITARY LOCATIONS.
- WHERE IT WILL PICK UP OBJECTIONABLE ODORS, FUMES OR FLMMBL. VPRS.
- A ROOM OR SPACE HAVING FUEL BURNING APPLIANCES THERIN.
- ATTIC, CRAWL SPACE, OR GARAGE.
- CLOSER THAN 10' FROM AN APPLNC OR PLMBG VENT OUTLET, UNLESS THE DUCT VENT OUTLET IS AT LEAST 3' ABOVE THE FRESH AIR INLET.
- DUCT SHALL BE INSLT'D TO R-4 WHEN PASSING THROUGH A COND'D SPACE.

INLET DUCT SHALL BE EQUIPPED WITH A MOTORIZED DMPR THAT WILL OPEN WHEN THE VNTLTN FAN RELAY IS ACTIVATED, AND REMAIN CLOSED AT ALL OTHER TIMES. IN ADD'N TO THE MOTORIZED DMPR, A MANUAL DMPR SET TO .35-.5 AIR CHANGES PER HOUR IS ALSO REQUIRED.

A WHOLE HOUSE EXHAUST FAN SHALL BE LCT'D IN THE CEILING. SIZE PER THE CALCS BELOW. THE AIR INTAKE DUCT DMPR SHALL BE SET W/N THIS RNG

WHOLE HOUSE VENTILATION:
THIS SECTION ESTABLISHES MINIMUM PRESCRIPTIVE DESIGN REQUIREMENTS FOR WHOLE HOUSE VENTILATION SYSTEMS. EACH DWELLING UNIT OR GUEST ROOM SHALL BE EQUIPPED WITH A VENTILATION SYSTEM COMPLYING WITH OPTION I, II, III OR IV. COMPLIANCE IS ALSO PERMITTED TO BE DEMONSTRATED THROUGH COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE.

- ☐ OPTION I: WHOLE-HOUSE VENTILATION USING EXHAUST FANS. (IRC M1507.3.4)
- ☐ OPTION II: WHOLE-HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM. (IRC M1507.3.5.)
- ☒ OPTION III: WHOLE-HOUSE VENTILATION USING A SUPPLY FAN. (IRC M1507.3.6)
- ☐ OPTION IV: WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM. (IRC M1507.3.7)

MECHANICAL VENTILATION RATE:
THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR TO EACH HABITABLE SPACE AT A CONTINUOUS RATE NOT LESS THAN THAT DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(1).

EXCEPTION:
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS PERMITTED TO OPERATE INTERMITTENTLY WHERE THE SYSTEM HAS CONTROLS THAT ENABLE OPERATION FOR NOT LESS THAN 25 PERCENT OF EACH 4-HOUR SEGMENT AND THE VENTILATION RATE PRESCRIBED IN TABLE M1507.3.3(1) IS MULTIPLIED BY THE FACTOR DETERMINED IN TABLE M1507.3.3(2).

TABLE M1507.3.3(1) CONTINUOUS WHOLE HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (SQUARE FEET)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
	AIRFLOW IN CFM				
< 1,500	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	90	105	120	135	150
>7,500	105	120	135	150	165

TABLE M1507.3.3(2) INTERMITTENT WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS a,b,c

RUN TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
FACTOR	4	3	2	1.5	1.3	1

a. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
b. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

EXHAUST FANS MUST BE FLOW RATED AT .25 W.G. AND MAX. 1.5 SONE RATING. READILY ACCSSBLE 24 HR CLCK TMR OR DEHUMIDISTAT & RELAY SHALL BE INSTLL'D AND WIRED TO REGULATE THE FURN FAN, RELAY AND WHOLE HOUSE EXHAUST FAN.

INTERIOR DOORS SHALL BE INSTLL'D SO AS NOT TO IMPEDE THE MVMNT OF FRESH AIR TO ALL HABITABLE ROOMS.

VNTLTN SYSTEM MUST BE PERFORMANCE TESTED JUST PRIOR TO THE FINAL INSPECTION BY THE INSTALLER OR A QLF'D THIRD PARTY. THE INLET DUCT SHALL BE LABELED WITH THE ACTUAL CFMS MSRD & A LETTER OF CMPLNC SHALL BE AVAILABLE ON SITE FOR THE INSPCTR BEFORE A CERT OF OCCUPANCY WILL BE ISSUED.

STAIRWAYS - 2018 IRC SECTION 311.7

R311.7.1 WIDTH - STAIRWAYS SHALL BE NOT LESS THAN 36" IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. THE CLEAR WIDTH OF STAIRWAYS AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL BE NOT LESS THAN 31-1/2" WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 27" WHERE HANDRAILS ARE PROVIDED ON BOTH SIDES.
EXCEPTION: THE WIDTH OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.2 HEADROOM - THE HEADROOM IN STAIRWAYS SHALL BE NOT LESS THAN 6'-8" 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.
EXCEPTIONS: 1. WHERE THE NOSINGS OF TREADS AT THE SIDE OF A FLIGHT EXTEND UNDER THE EDGE OF A FLOOR OPENING THROUGH WHICH THE STAIR PASSES, THE FLOOR OPENING SHALL BE ALLOWED TO PROJECT HORIZONTALLY INTO THE REQUIRED HEADROOM NOT MORE THAN 4-3/4".
2. THE HEADROOM FOR SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.3 VERTICAL RISE - A FLIGHT OF STAIRS SHALL NOT HAVE A VERTICAL RISE LARGER THAN 151" BETWEEN FLOOR LEVELS OR LANDINGS.

R311.7.5 STAIR TREADS AND RISERS - STAIR TREADS AND RISERS SHALL MEET THE REQUIREMENTS OF THIS SECTION. FOR THE PURPOSES OF THIS SECTION, DIMENSIONS AND DIMENSIONED SURFACES SHALL BE EXCLUSIVE OF CARPETS, RUGS OR RUNNERS.

R311.7.5.1 RISERS - THE RISER HEIGHT SHALL BE NOT MORE THAN 7-3/4". THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE NOSING OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED PROVIDED THAT THE OPENING NOT LOCATED MORE THAN 30", AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE.
EXCEPTIONS: 1. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON SPIRAL STAIRWAYS.
2. THE RISER HEIGHT OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

R311.7.5.2 TREADS - THE TREAD DEPTH SHALL BE NOT LESS THAN 10". THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8".

R311.7.5.3 NOSINGS - NOSINGS AT TREADS, LANDINGS, AND FLOORS OF STAIRWAYS SHALL HAVE A RADIUS OF CURVATURE AT THE NOSINGS NOT GREATER 9/16" OR A BEVEL NOT GREATER THAN 1/2". A NOSING PROJECTION NOT LESS THAN 3/4" AND NOT MORE THAN 1-1/4" SHALL BE PROVIDED ON STAIRWAYS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8" WITHIN A STAIRWAY.
EXCEPTION: A NOSING PROJECTION IS NOT REQUIRED WHERE THE TREAD DEPTH IS NOT LESS THAN 11".

R311.7.6 LANDINGS FOR STAIRWAYS - THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED. LANDINGS OF SHAPES OTHER THAN SQUARE OR RECTANGULAR SHALL BE PERMITTED PROVIDED THAT THE DEPTH AT THE WALK LINE AND THE TOTAL AREA IS NOT LESS THAN THAT OF A QUARTER CIRCLE WITH A RADIUS EQUAL TO THE REQUIRED LANDING WIDTH. WHERE THE STAIRWAY HAS A STRAIGHT RUN, THE DEPTH IN THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN 36".

R311.7.7 STAIRWAY WALKING SURFACE - THE WALKING SURFACE OF TREADS AND LANDINGS OF STAIRWAYS SHALL BE SLOPED NOT STEEPER THAN ONE UNIT VERTICAL IN 48" HORIZONTAL.

R311.7.8 HANDRAILS - HANDRAILS SHALL BE PROVIDED ON NOT LESS THAN ONE SIDE OF EACH FLIGHT OF STAIRS WITH FOUR OR MORE RISERS.

R311.7.8.1 HEIGHT - HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34" AND NOT MORE THAN 38".

R311.7.8.2 HANDRAIL PROJECTION - HANDRAILS SHALL NOT PROJECT MORE THAN 4-1/2" ON EITHER SIDE OF THE STAIRWAY
EXCEPTION: WHERE NOSINGS OF LANDINGS, FLOORS OR PASSING FLIGHTS PROJECT INTO THE STAIRWAY REDUCING THE CLEARANCE AT PASSING HANDRAILS, HANDRAILS SHALL PROJECT NOT MORE THAN 6-1/2" INTO THE STAIRWAY, PROVIDED THAT THE STAIR WIDTH AND HANDRAIL CLEARANCE ARE NOT REDUCED TO LESS THAN REQUIRED.

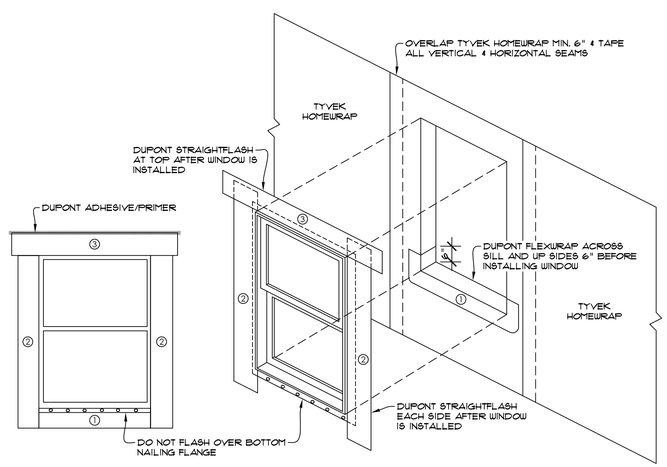
R311.7.8.3 HANDRAIL CLEARANCE - HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAILS.

R311.7.8.4 CONTINUITY - HANDRAILS 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 SAFETY TERMINALS.
EXCEPTIONS: 1. HANDRAIL CONTINUITY SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT A TURN IN A FLIGHT WITH WINDERS, AT A LANDING, OR OVER THE LOWEST TREAD.
2. A VOLUTE, TURNOUT OR STARTING EASING SHALL BE ALLOWED TO TERMINATE OVER THE LOWEST TREAD

R311.7.8.5 GRIP SIZE - REQUIRED HANDRAILS SHALL BE OF ONE OF THE FOLLOWING TYPES OR PROVIDE EQUIVALENT GRASPABILITY.
1. TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF NOT LESS THAN 1-1/4" AND NOT GREATER THAN 2". IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER DIMENSION OF NOT LESS THAN 4" AND NOT GREATER THAN 6-1/4" WITH A CROSS SECTION OF DIMENSION OF NOT MORE THAN 2-1/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".
2. TYPE II. HANDRAILS WITH A PERIMETER GREATER THAN 6-1/4" SHALL HAVE A GRASPABLE FINGER RECESS AREA ON BOTH SIDES OF THE PROFILE. THE FINGER RECESS SHALL BEGIN WITHIN A DISTANCE OF 3/4" MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND ACHIEVE A DEPTH OF NOT LESS THAN 5/16" WITHIN 7/8" BELOW THE WIDEST PORTION OF THE PROFILE. THIS REQUIRED DEPTH SHALL CONTINUE FOR NOT LESS THAN 3/8" TO A LEVEL THAT IS NOT LESS THAN 1-3/4" BELOW THE TALLEST PORTION OF THE PROFILE. THE WIDTH OF THE HANDRAIL ABOVE THE RECESS SHALL BE NOT LESS THAN 1-1/4" AND NOT MORE THAN 2-3/4". EDGES SHALL HAVE A RADIUS OF NOT LESS THAN Ø.01".

EXHAUST VENT CLEARANCES:
PER SRC M1501 EXHAUST FAN VENTS SHALL TERMINATE OUTDOORS AND NOT IN ATTICS, SOFFITS, RIDGE VENTS, OR CRAWL SPACES. KITCHEN, BATHROOMS, AND LAUNDRY EXHAUST TERMINATIONS TO EXIT THE STRUCTURE WITH CLEARANCES MEETING SRC M1506.3, NOT LESS THAN 3 FEET FROM PROPERTY LINES, 3 FEET FROM OPERABLE OPENINGS IN THE BUILDING AND 10 FEET FROM MECHANICAL AIR INTAKES.

FLANGED WINDOW FLASHING INSTALLATION AFTER TYVEK HOMEWRAP (OR EQUIVALENT)



NOTE:
INSTALL DUPONT FLASHING IN ORDER SHOWN BY NUMBERS.
INSTALL WINDOW PER MANUFACTURERS INSTRUCTIONS.

PRESCRIPTIVE ENERGY CODE COMPLIANCE FOR ALL CLIMATE ZONES IN WASHINGTON PER 2018 WSEC:

MEDIUM DWELLING UNIT: 6 CREDITS

HEATING OPTION 2 - HEAT PUMP (1.0 CREDIT)

ENERGY OPTIONS:

1.3 - EFFICIANT BUILDING ENVELOPE (0.5 CREDITS):
VERTICAL FENESTRATION U = 0.28
FLOOR R-38
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

2.3 - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION (1.5 CREDITS):
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

3.2 - HIGH EFFICIANCY HVAC EQUIPMENT (1.0 CRDITS):
AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5

5.5 - EFFICIANT WATER HEATING (2.0 CREDITS):
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION

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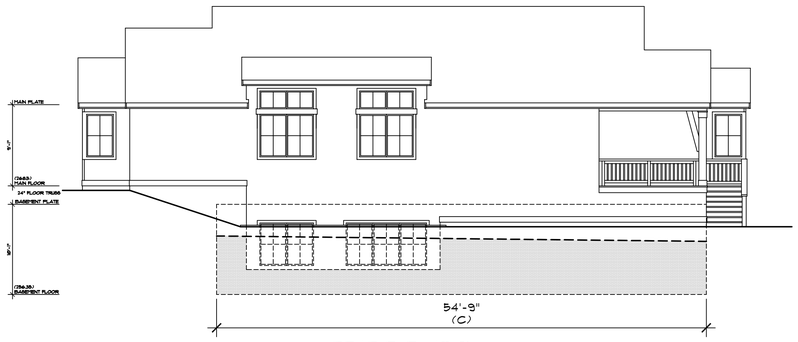
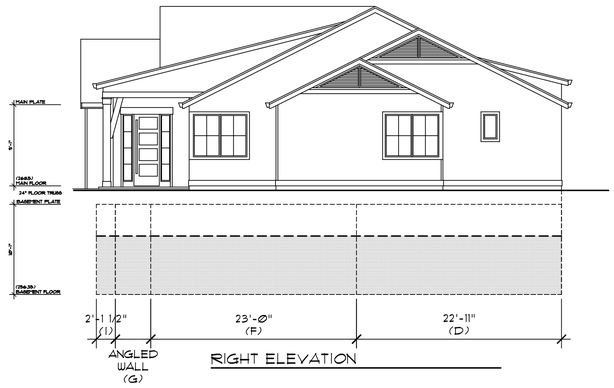
SHEET NO.
A0.3

FRONT ELEVATION

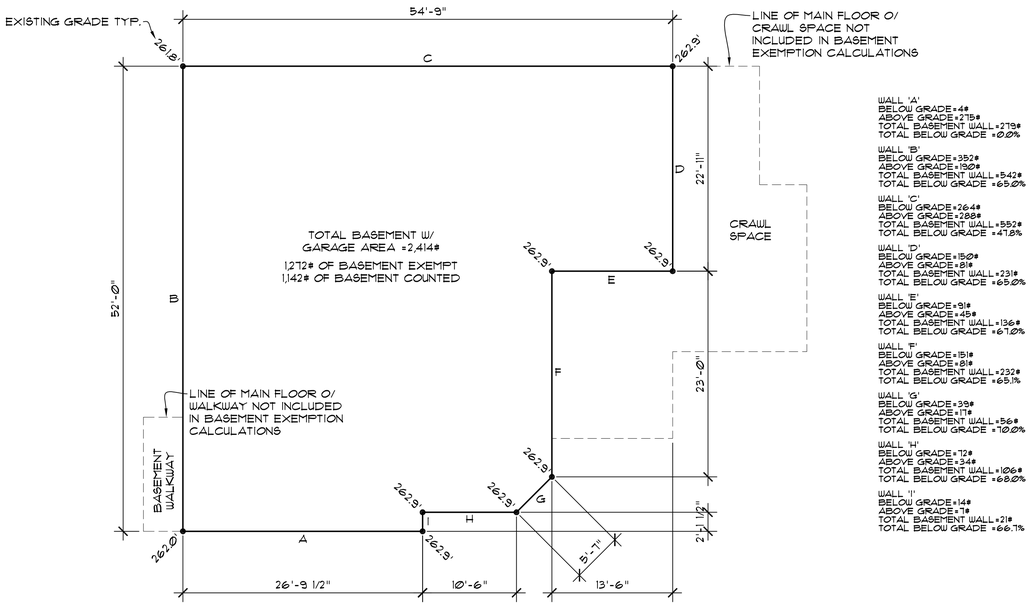
LEFT ELEVATION



REAR ELEVATION



RIGHT ELEVATION



BASEMENT FLOOR PERIMETER

WALL 'A'
BELOW GRADE = 4#
ABOVE GRADE = 275#
TOTAL BASEMENT WALL = 279#
TOTAL BELOW GRADE = 0.0%

WALL 'B'
BELOW GRADE = 352#
ABOVE GRADE = 190#
TOTAL BASEMENT WALL = 542#
TOTAL BELOW GRADE = 65.0%

WALL 'C'
BELOW GRADE = 264#
ABOVE GRADE = 288#
TOTAL BASEMENT WALL = 552#
TOTAL BELOW GRADE = 47.8%

WALL 'D'
BELOW GRADE = 150#
ABOVE GRADE = 81#
TOTAL BASEMENT WALL = 231#
TOTAL BELOW GRADE = 65.0%

WALL 'E'
BELOW GRADE = 91#
ABOVE GRADE = 45#
TOTAL BASEMENT WALL = 136#
TOTAL BELOW GRADE = 67.0%

WALL 'F'
BELOW GRADE = 151#
ABOVE GRADE = 81#
TOTAL BASEMENT WALL = 232#
TOTAL BELOW GRADE = 65.1%

WALL 'G'
BELOW GRADE = 39#
ABOVE GRADE = 17#
TOTAL BASEMENT WALL = 56#
TOTAL BELOW GRADE = 70.0%

WALL 'H'
BELOW GRADE = 72#
ABOVE GRADE = 34#
TOTAL BASEMENT WALL = 106#
TOTAL BELOW GRADE = 68.0%

WALL 'I'
BELOW GRADE = 14#
ABOVE GRADE = 7#
TOTAL BASEMENT WALL = 21#
TOTAL BELOW GRADE = 66.7%

INFORMATION TAKEN FROM TOPOGRAPHIC & BOUNDARY SURVEY DATED 2/09/2022 BY TERRANE (JOB #212666)

TABLE OF WALL LENGTHS & COVERAGE

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	26.79'	0.0%	0.0
B	52.0'	65.0%	33.8
C	54.75'	47.8%	26.17
D	22.92'	65.0%	14.90
E	13.5'	67.0%	9.05
F	23.0'	65.1%	15.0
G	5.58'	70.0%	3.91
H	10.5'	68.0%	7.14
I	2.13'	66.7%	1.42
TOTALS	211.17'	N/A	111.39

111.39 / 211.17 = 52.7%

2,414 x 52.7% = 1,272# EXEMPT FROM GROSS FLOOR AREA

2,414 - 1,272 = 1,142# OF BASEMENT COUNTED

GROSS FLOOR AREA CALCULATIONS

SITE AREA	= 10,000#
ALLOWABLE F.A.R. (LESSER OF) 40% = 4,000#	= 40% OR 5,000# = MAX. 4,000#
BASEMENT FLOOR W/ GARAGE	= 2,414#
MAIN FLOOR	= 2,846#
TOTAL FLOOR AREA	= 5,260#
BASEMENT EXCLUSION	= (1,272#)
PROPOSED G.F.A.	= 3,988#

RESULT: WITHIN CODE PARAMETERS

NORTH

GROSS FLOOR AREA CALCULATIONS

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

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A0.4

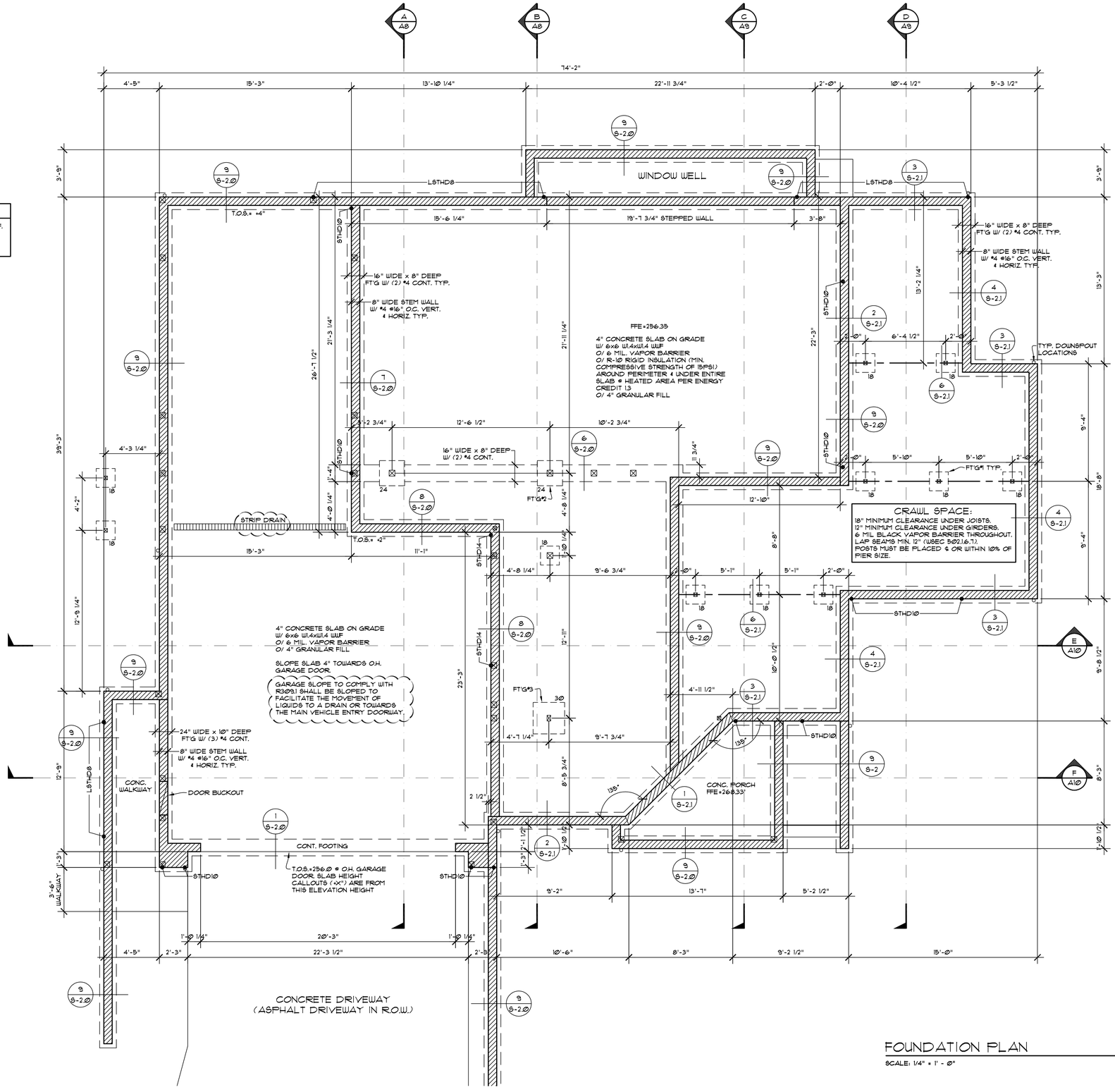
FOOTING SCHEDULE:

- 18" SQUARE x 10" DEEP W/ (2) #4 EA. WAY
- 24" SQUARE x 10" DEEP W/ (3) #4 EA. WAY
- 30" SQUARE x 10" DEEP W/ (3) #4 EA. WAY

NOTE:
ALL UNDERGROUND PLUMBING LOCATIONS TO BE FIELD VERIFIED PRIOR TO FOUNDATION INSTALLATION.

CRAWL VENTILATION CALCULATION

CRAWL SPACE UNDER FLOOR AREA TO REQUIRE VENTING = 670 SF.
PROVIDE 1Ø CFM PER 50 SF. OF MECHANICAL VENTILATION
670 / 50 = 13.4
PROVIDE MINIMUM 14 CFM CONTINUOUS MECHANICAL VENTING



CONCRETE DRIVEWAY
(ASPHALT DRIVEWAY IN R.O.W.)

FOUNDATION PLAN

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

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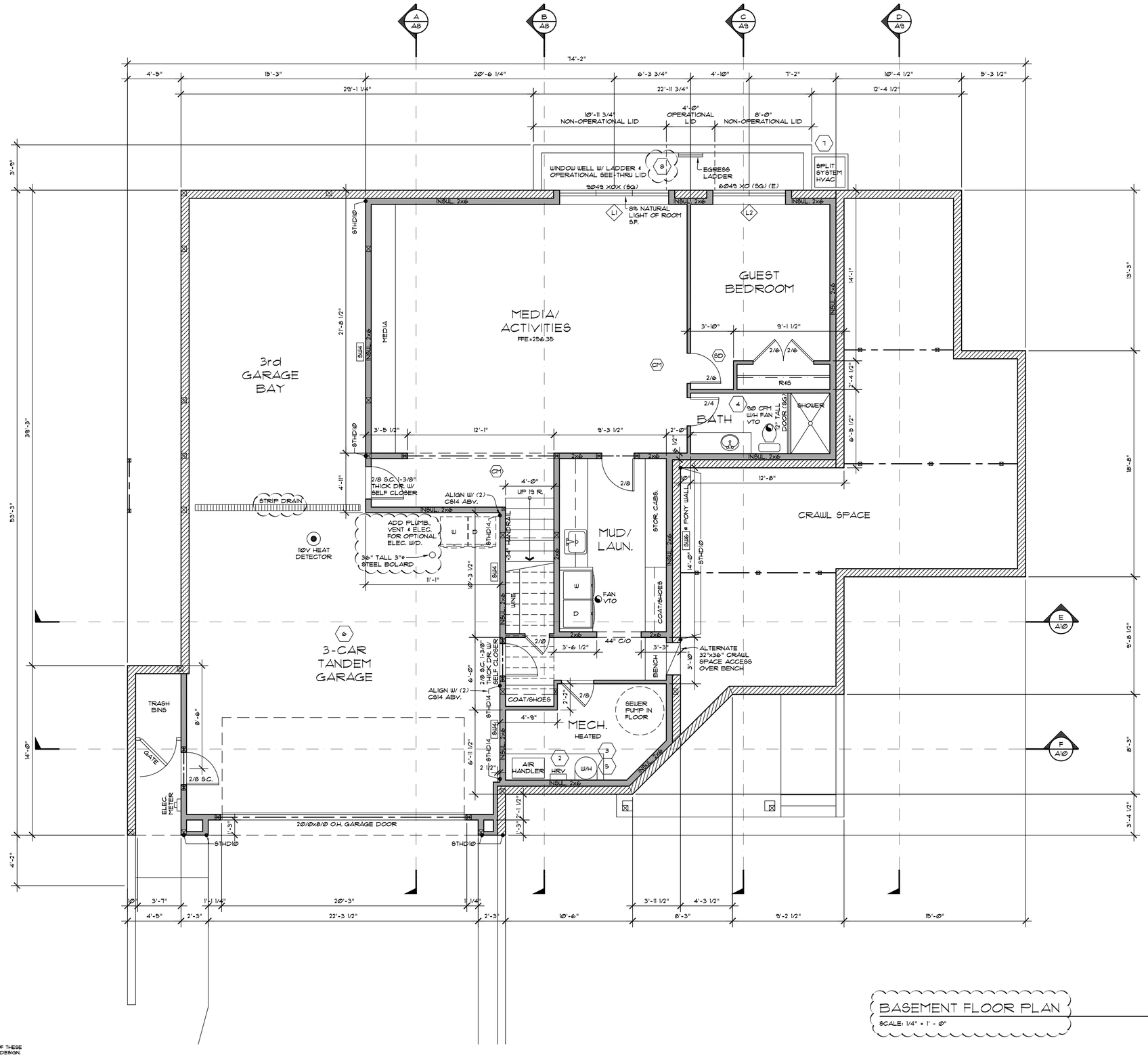
SHEET NO.
A1

1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6" ABOVE DRAIN
2	PILOTS & BURNERS OR HTG. ELEMENTS & SWITCHES TO BE AT LEAST 18" ABOVE FLOOR. MIN. 6" DIA. FRESH AIR DUCT TO CONNECT TO RETURN AIR PLENUM
3	WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT CAUSED BY EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF THE APPLIANCE'S VERTICAL DIMENSIONS. AT THE LOWER POINT, THE STRAPPING SHALL MAINTAIN A MINIMUM DISTANCE OF 4 INCHES ABOVE THE CONTROLS
4	WHOLE HOUSE VENTILATION SYSTEM PER M1507.3.3 OF THE I.R.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAX. 0.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED. WHOLE HOUSE VENTILATION RATE PER TABLE M1507.3.3(2) AND SET TO RUN @ (2) 4 HOUR SEGEMENTS
5	PER ENERGY CREDIT 5.5: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEAA'S ADVANCED WATER HEATING SPECIFICATION
6	5/8" TYPE "X" GWB OVER ALL WARM WALLS AND SECOND FLOOR FRAMING & SUPPORT MEMBERS, GARAGE CEILING PROTECTION TO BE CONTINUOUS ABOVE GARAGE.
7	PER ENERGY CREDIT 3.2: AIR-SOURCED CENTRALLY DUCTED HEAT PUMP WITH A MINIMUM HSPF OF 9.5
8	WINDOW WELL W/ OPERATIONAL SEE-THRU LID & LADDER. LID TO COMPLY W/ R310.4.4 DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL, OR FORCE GREATER THAN THAT REQUIRED FOR THE NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP



BASEMENT FLOOR PLAN

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

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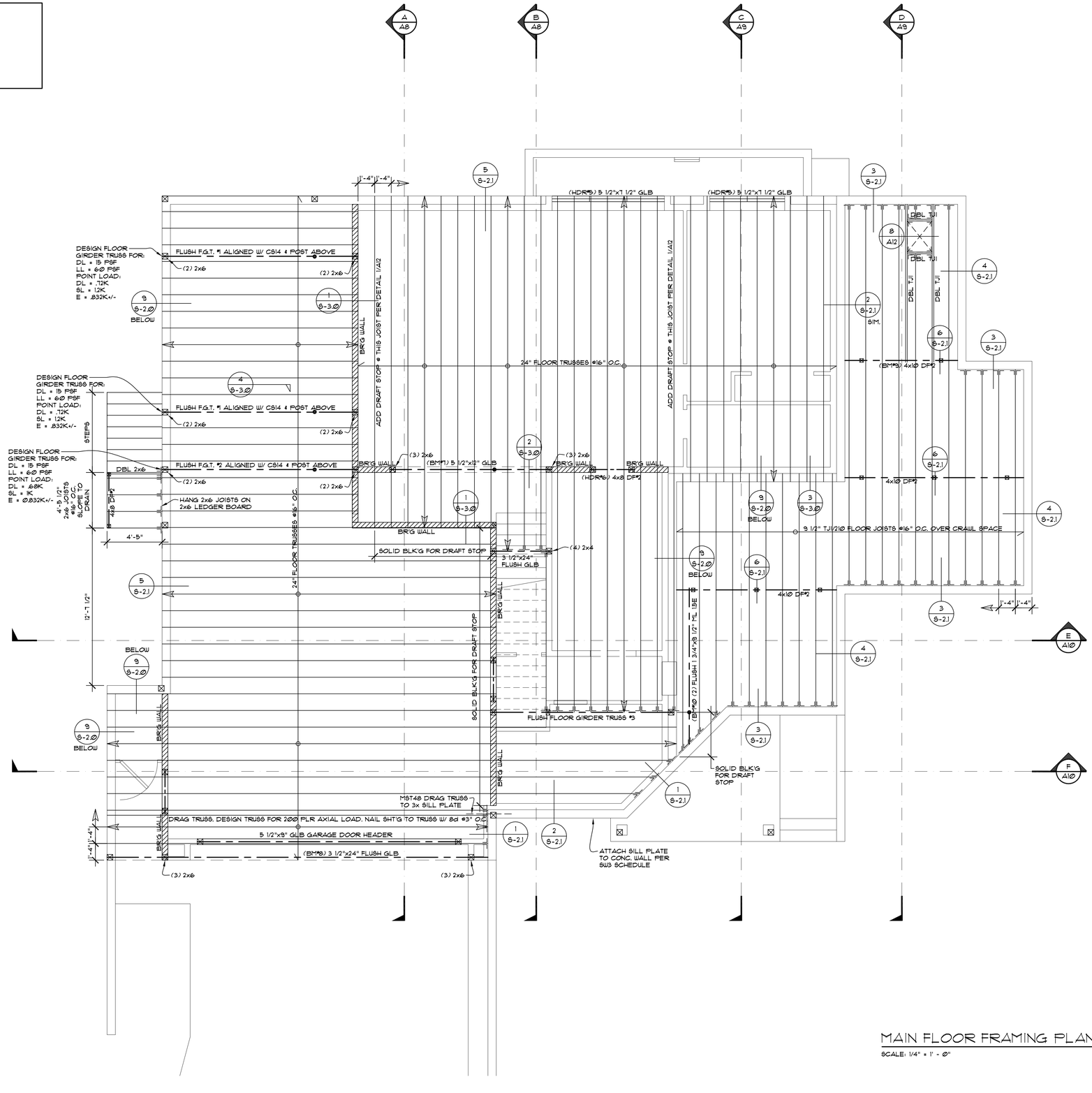
SHEET NO.
A2

ALL HEADERS TO BE 4x8 DF#2 U.N.O.
ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.
A.M.F. = ABOVE MAIN FLOOR
A.U.F. = ABOVE UPPER FLOOR
T.O.B. = TOP OF BEAM
B.O.B. = BOTTOM OF BEAM



MAIN FLOOR FRAMING PLAN

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

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SHEET NO.
A3

PER PERSCRIPTIVE REQUIREMENTS 2018 W.S.E.C.
*(MODIFIED FOR ENERGY CREDIT 1.3)

CLIMATE ZONE 5B
MAX. GLAZING U-FACTOR: VERT. U=.28*, OVERHEAD U=.50
MAX. DOOR U-FACTOR: U=.20
INSULATION @ CONDITIONED AREA:
TRUSSED CEILING: R-49
VAULTED & SINGLE RAFTER CEILING: R-38 (R40.22)
ABOVE GRADE WALLS: R-21
BELOW GRADE WALLS: R-21
FLOOR OVER VENTED CRAWL SPACE: R-38*
SLAB ON GRADE: R-10 @ PERIMETER
& UNDER ENTIRE SLAB*

PERCENT GLAZING CALCULATIONS: 626.8 (S.F. GLAZING AREA) / 4,186 (S.F. FLOOR AREA) = 15.0%

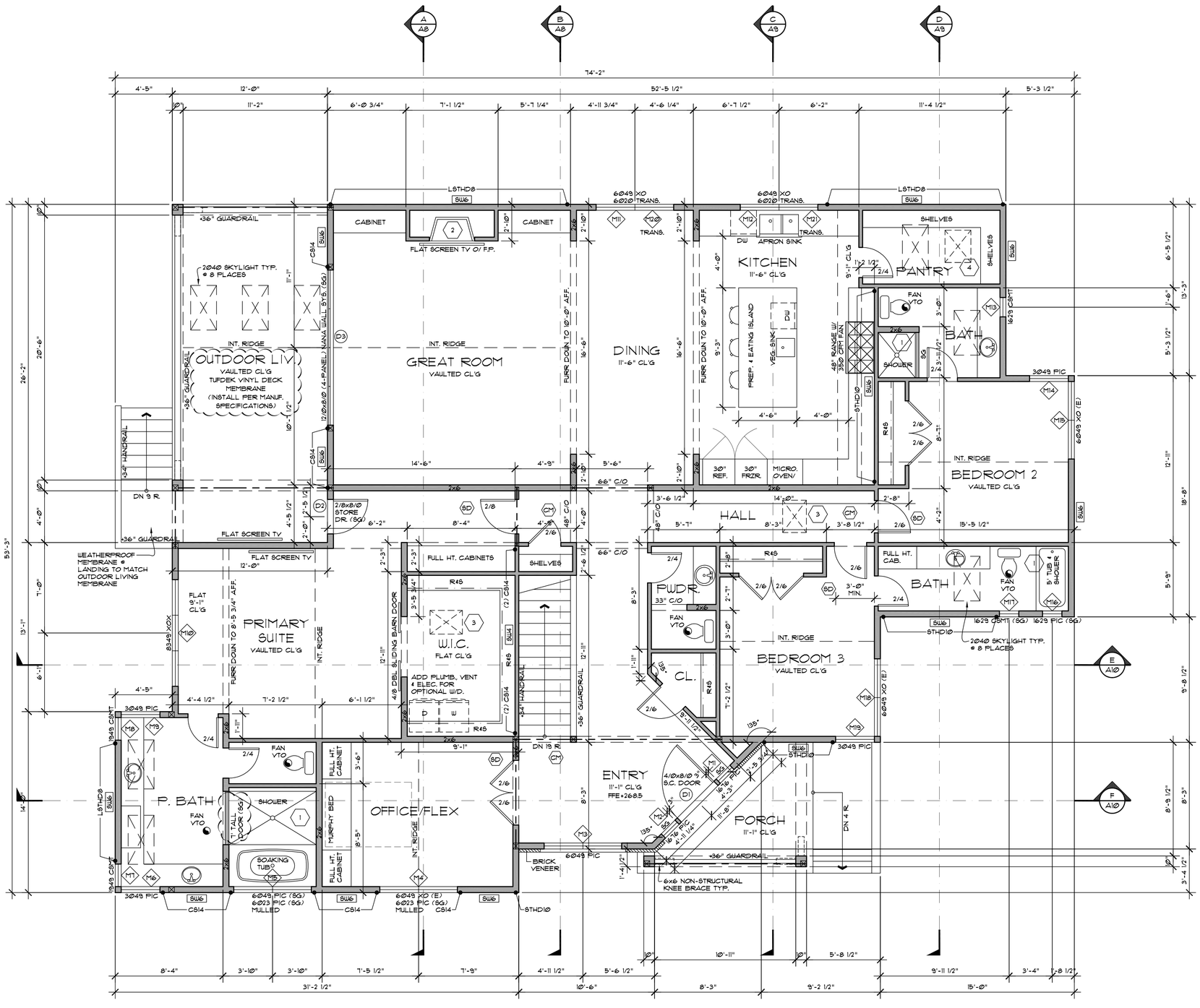
1	CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6' ABOVE DRAIN
2	DIRECT VENT FIREPLACE. INSTALL PER MANUFACTURERS SPECIFICATIONS
3	22"x30" ATTIC ACCESS. WEATHERSTRIP & INSULATE OVER TO EQUAL CEILING INSULATION. PROVIDE WOOD SURROUND TO PREVENT LOOSE INSULATION SPILLAGE TO LIVING SPACE.
4	24"x30" CRAWL SPACE ACCESS. WEATHERSTRIP & INSULATE TO LEVEL EQUAL TO SURROUNDING SURFACES.
XX	EXTERIOR DOOR TAG. SEE DOOR SCHEDULE ON SHEET A12
XX	EXTERIOR WINDOW TAG. SEE WINDOW SCHEDULE ON SHEET A12
SD	INDICATES 110V HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP
CM	INDICATES 110V HARD WIRED SMOKE & CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP

SQUARE FOOTAGE SUMMARY

MAIN FLOOR	2,846#
BASEMENT FLOOR	1,340#
TOTAL HEATED	4,186#
GARAGE	1,074#
M.F. OUTDOOR LIVING	331#
M.F. FRONT PORCH	138#

PER ENERGY CREDIT 2.3:
REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.75

NOTE:
CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL ACTING IN ANY DIRECTION AS REQUIRED BY IRC TABLE R301.5.



MAIN FLOOR PLAN

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

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SHEET NO.
A4

R807.1 ATTIC ACCESS:
BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC ACCESS OPENING TO ATTIC AREAS THAT HAVE A VERTICAL HEIGHT OF 30 INCHES OR GREATER OVER AN AREA OF NOT LESS THAN 30 SQUARE FEET. THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION TO THE UNDERSIDE OF THE ROOF FRAMING MEMBERS OR ANY PERMANENT OBSTRUCTION.

ALL TRUSSES:
- SHALL CARRY MANUFACTURERS STAMP
- SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS
- WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS
- SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

NOTE:
ROOF SHEATHING IS CONTINUOUS ON ROOF TRUSSES/RAFTERS EXTENDING UNDER OVERFRAMED AREAS THAT ARE SHADED U.N.O. CUT 12"x12" HOLES IN SHEATHING @ EVERY OTHER BAY TO ALLOW FOR CROSS VENTILATION INTO OVERFRAMED AREAS.

ALL HEADERS TO BE 4x8 DF#2 U.N.O.

ALL POSTS TO BE (2) 2x6 HF#2 U.N.O.

ALL ROOF PITCHES TO BE 6:12 U.N.O. X:12 INDICATES DOWN SLOPE

A.M.F. = ABOVE MAIN FLOOR

A.U.F. = ABOVE UPPER FLOOR

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

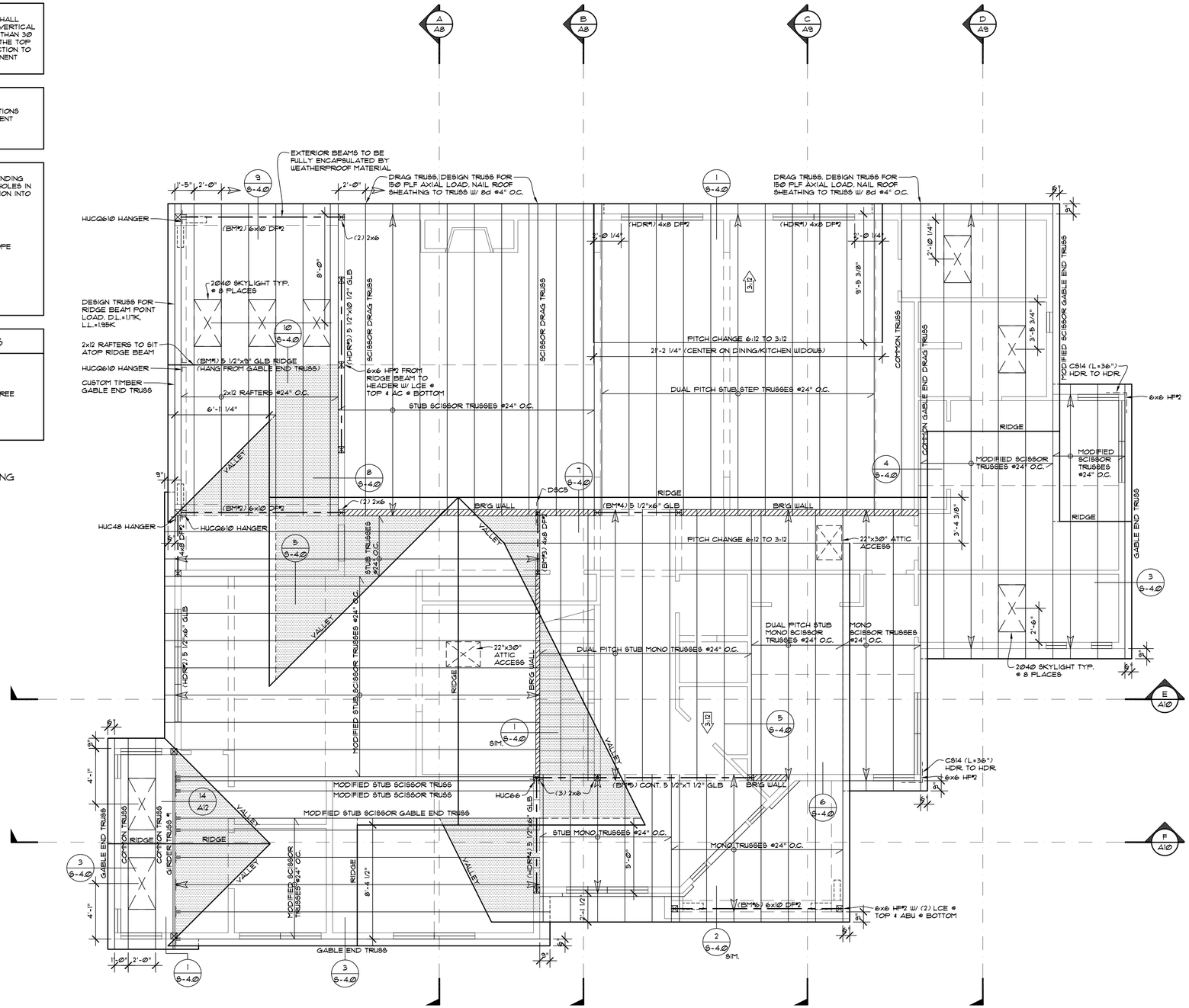
ROOF VENTILATION CALCULATIONS

TOTAL VENTILATION REQUIRED: 2,846# / 300 = 9.5 SF. NET FREE

EAVE VENTILATION = 124 L.F. x 3.3 SQ. IN./L.F. = 2.84#
(PROVIDE EAVE VENT BLOCKING @ EVERY BAY)
MIN. 50% BY VENTILATION ABOVE EAVE = 9.5 x Ø.5 = 4.75#
GABLE END VENTILATION ABOVE EAVE = (5) 18"x24" = 15.Ø# NET FREE

TOTAL VENTILATION PROVIDED:
EAVE VENTILATION = 2.84#
GABLE END ABOVE EAVE VENTILATION = 15.Ø#
TOTAL VENTILATION REQUIRED = 9.5#
TOTAL VENTILATION PROVIDED = 17.84#

HATCHING DENOTES 2x OVERFRAMING



MAIN ROOF FRAMING PLAN

SCALE: 1/4" = 1' - Ø"

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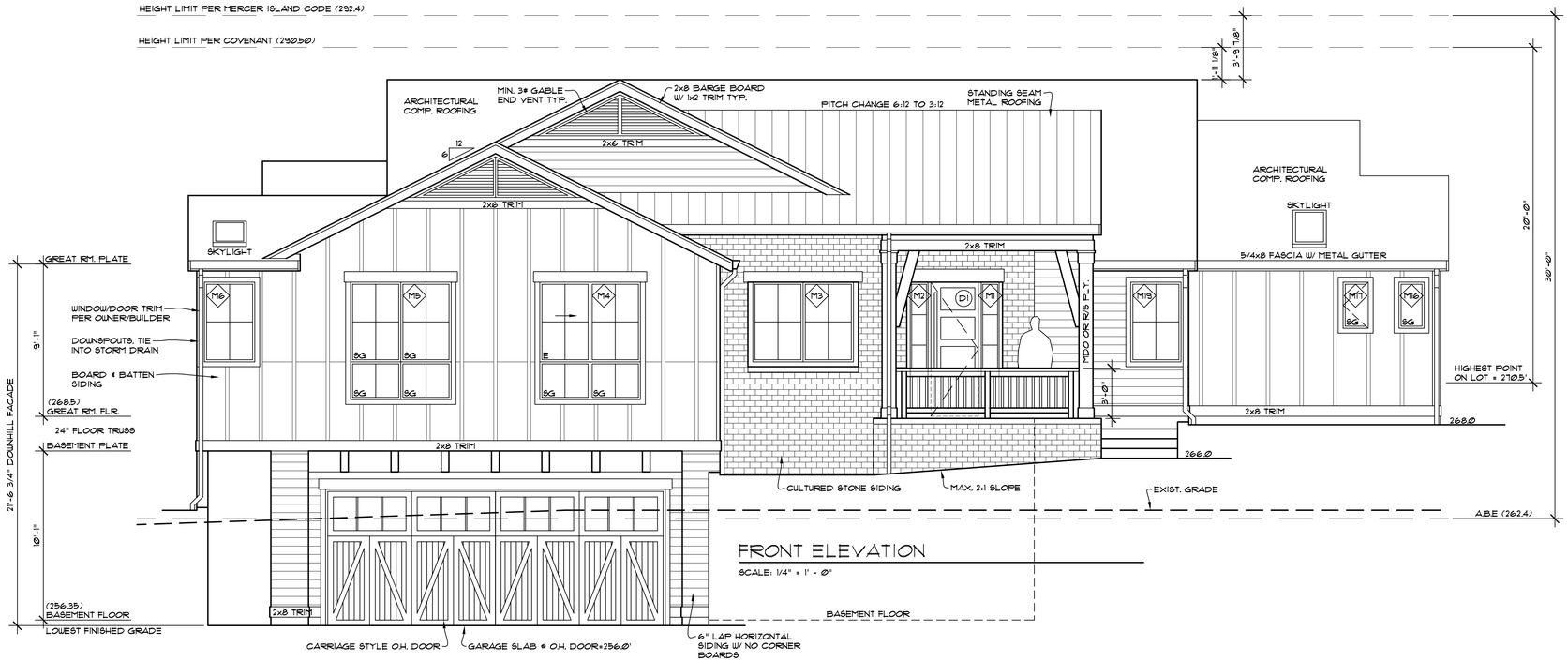
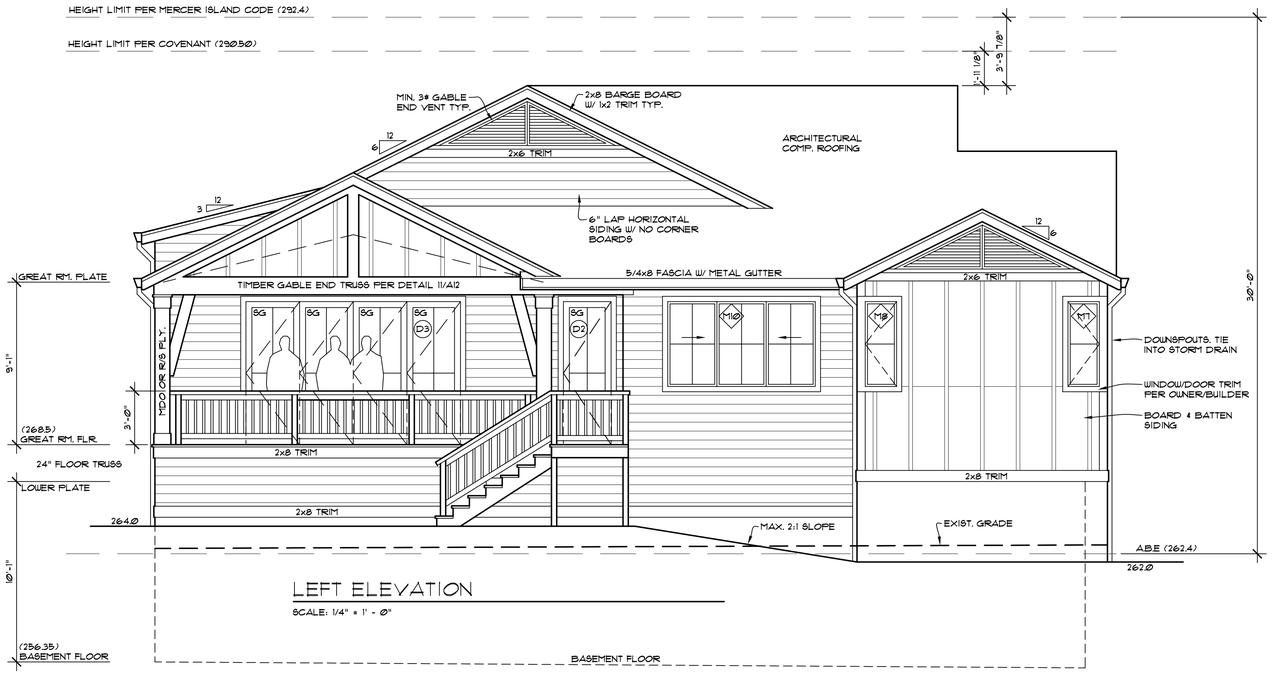
SHEET NO.
A5



FRONT ELEVATION

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



LEFT ELEVATION

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

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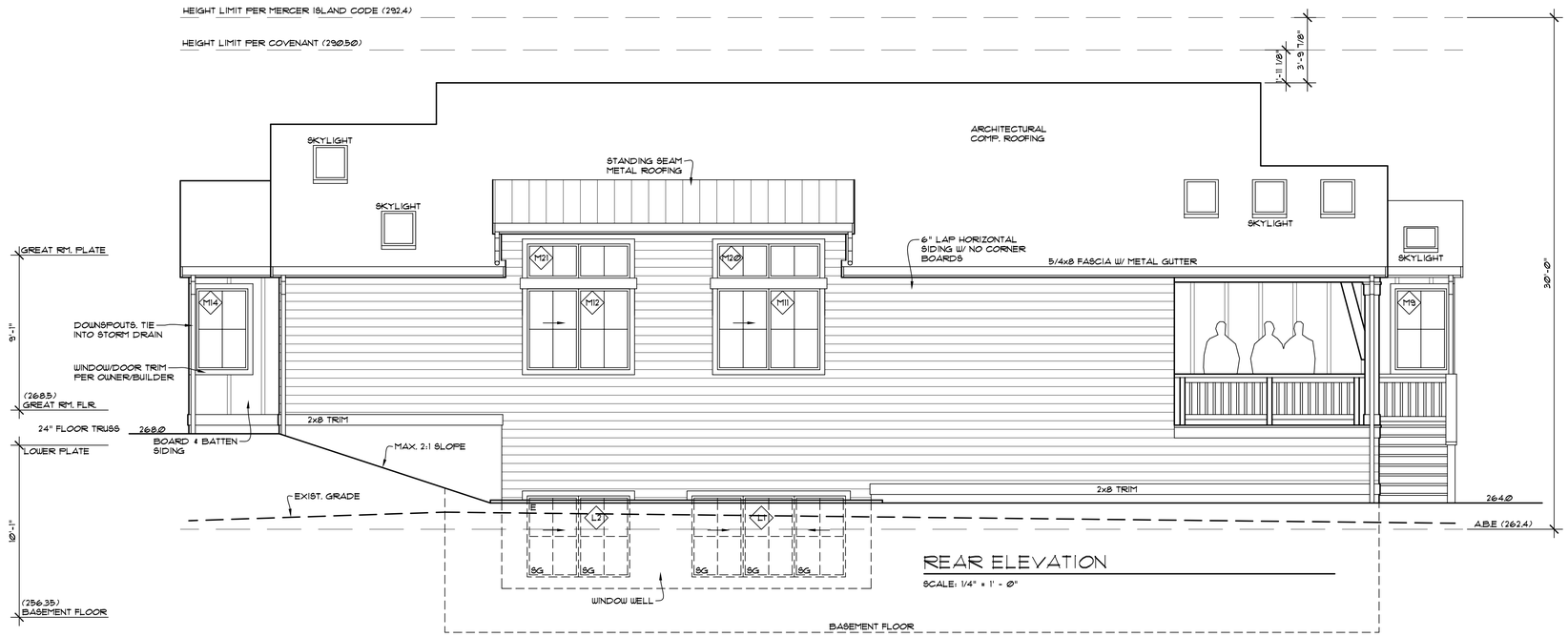
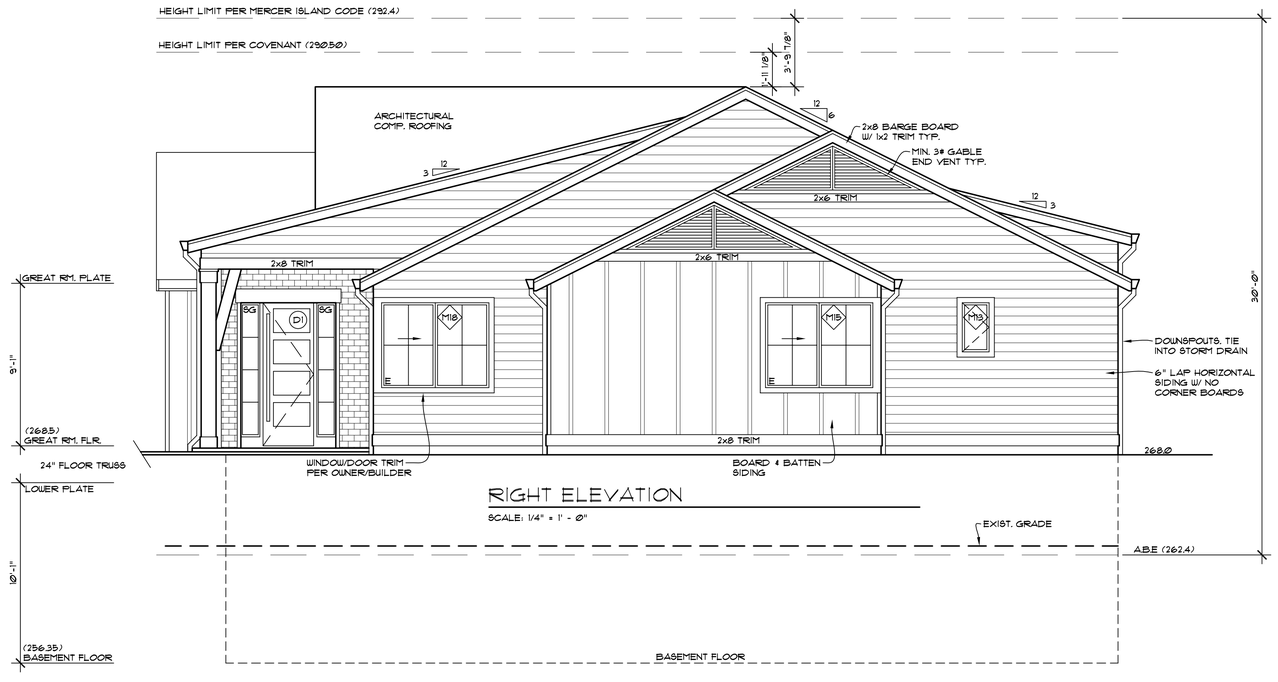
SHEET NO.
A6



REAR ELEVATION

SCALE: 1/4" = 1' - Ø"



RIGHT ELEVATION

SCALE: 1/4" = 1' - Ø"

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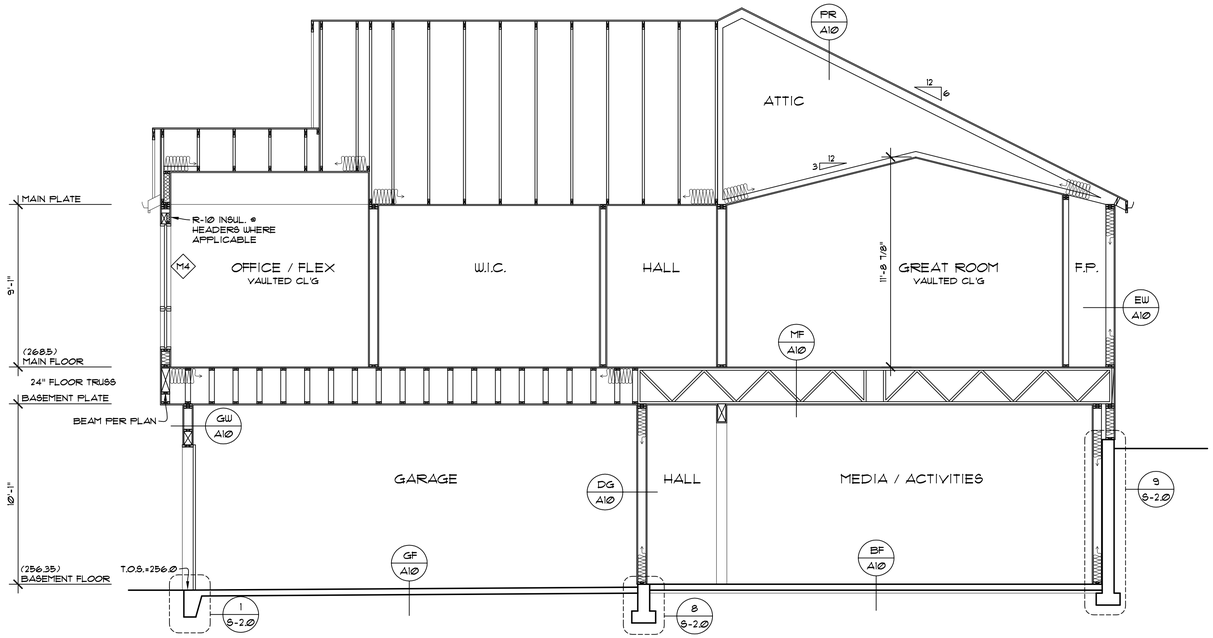
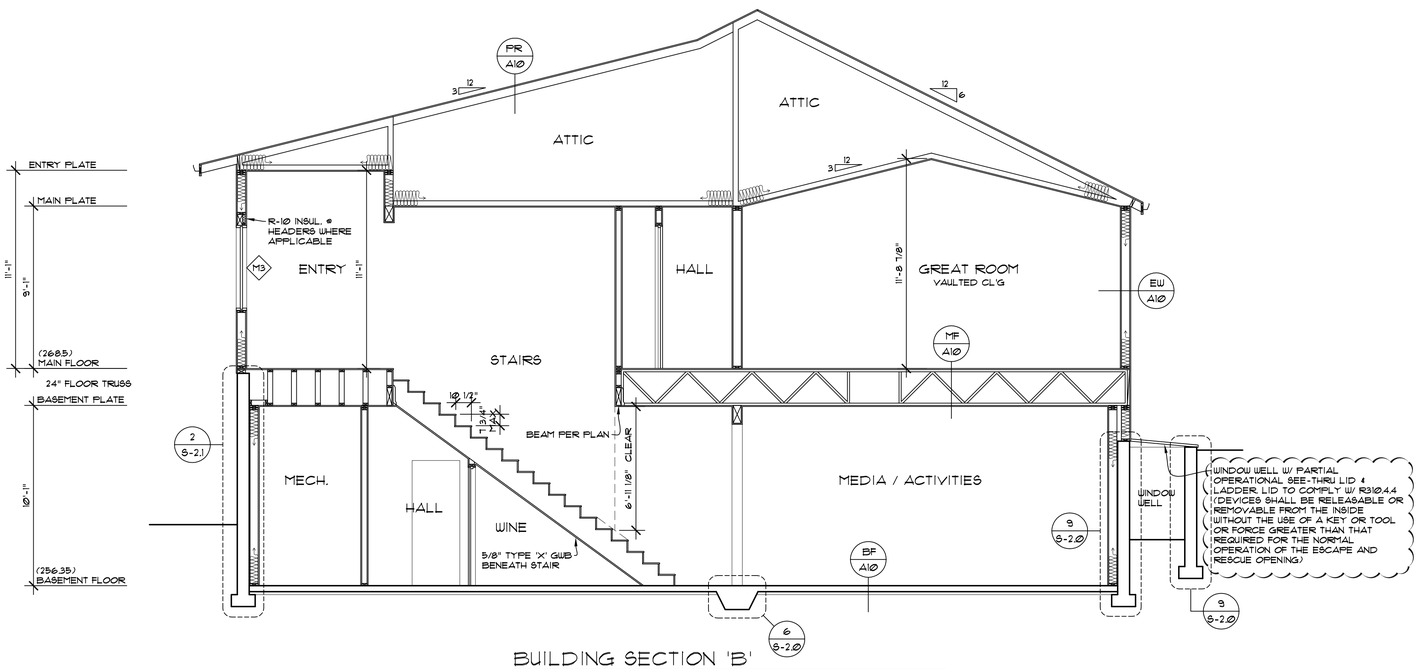
SHEET NO.
A7



BUILDING SECTION 'A'

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



BUILDING SECTION 'B'

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

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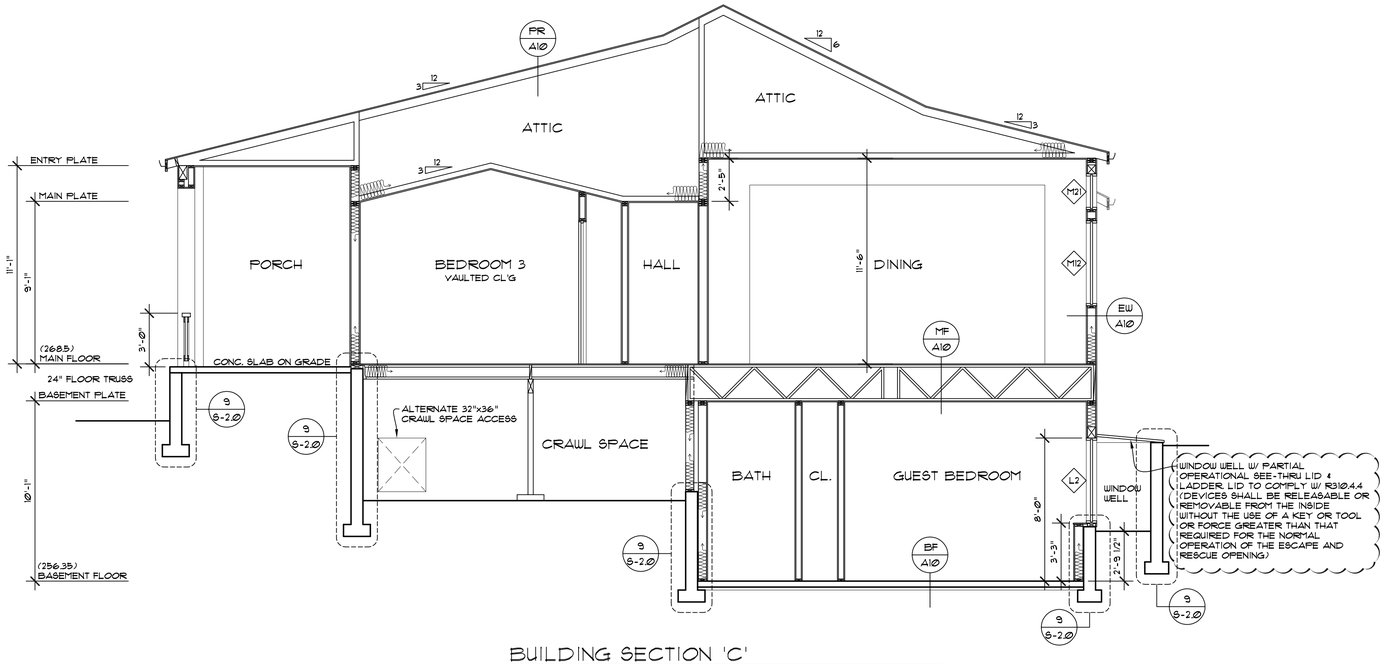
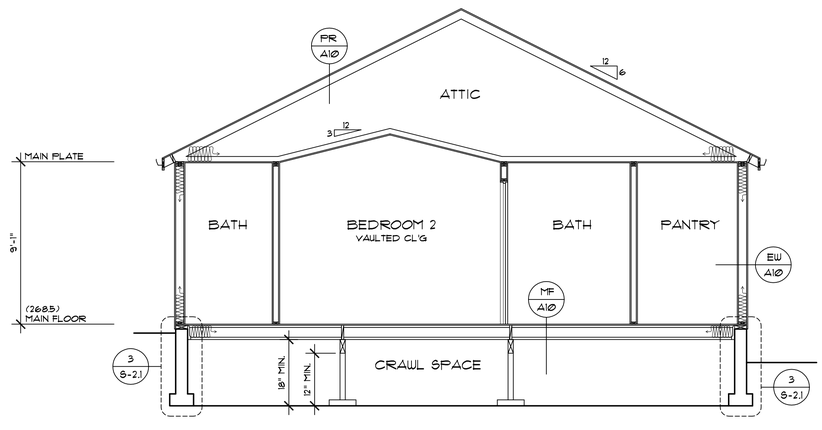
SHEET NO.

A8



BUILDING SECTION 'C'

SCALE: 1/4" = 1' - Ø"



BUILDING SECTION 'D'

SCALE: 1/4" = 1' - Ø"

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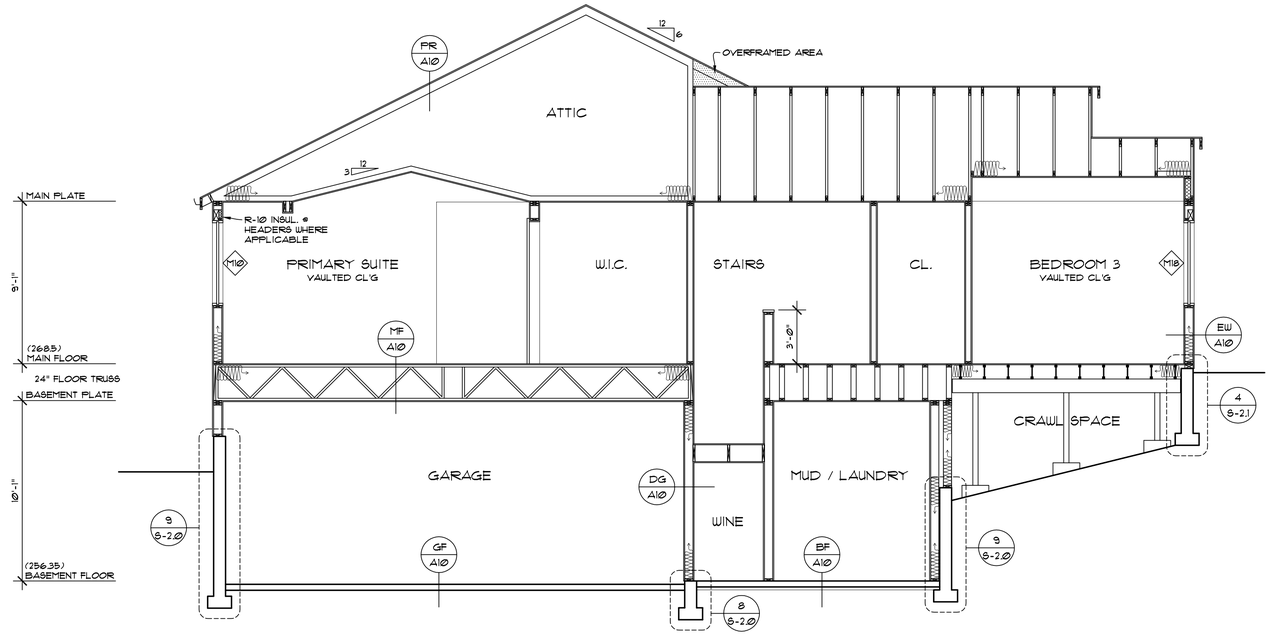
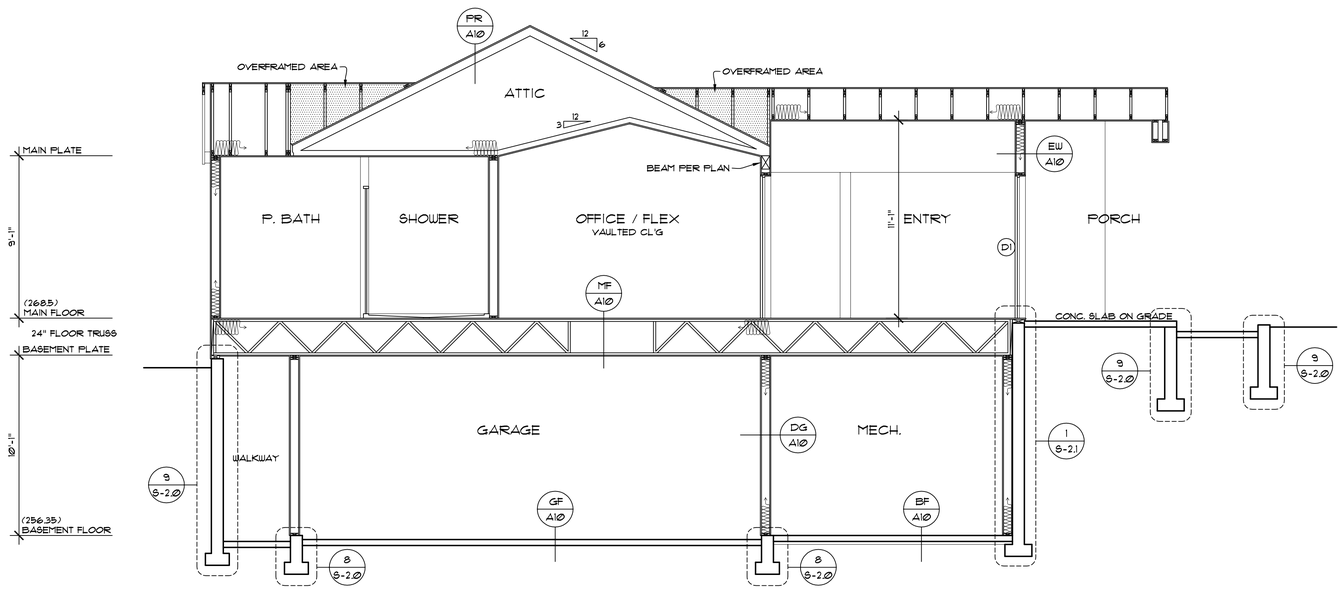
SHEET NO.

A9



BUILDING SECTION 'E'

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



BUILDING SECTION 'F'

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

FR A10	PITCHED ROOF ROOFING PER ELEVATIONS 30# BUILDING PAPER SHEATHING PER STUCTURAL ENGINEER TRUSSES OR 2x RAFTERS PER PLAN R-49 INSULATION @ TRUSSED ROOF R-38 INSULATION @ SINGLE RAFTER ROOF W/ VENT BAFFLE AS NEEDED 4 MIL U.V. POLY. 5/8" GWB
EW A10	EXTERIOR CONDITIONED WALL 1/2" GWB. R-21 BATT INSULATION 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
GW A10	EXTERIOR GARAGE WALL 1/2" GWB. 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. SHEATHING PER SHEAR WALL SCHED. BUILDING PAPER SIDING PER ELEVATIONS
DG A10	DWELLING TO GARAGE WALL 1/2" GWB 4 MIL UV RES. POLY 2x6 STUDS @ 16" O.C. R-21 BATT INSULATION 1/2" GWB
UF A10	UPPER FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) FLOOR JOISTS PER PLAN R-38 BATT INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
MF A10	MAIN FLOOR FINISH FLOOR 1/2" U.L. FLY @ VINYL 5/8" U.L. FLY @ VINYL TO HARDWOOD 3/4" T&G PLYWOOD SUB-FLOOR (GLUE & NAIL) FLOOR JOISTS PER PLAN R-38 BATT. INSULATION @ AREAS OVER UNHEATED SPACE PER ENERGY CREDIT 1.3 5/8" GWB
BF A10	BASEMENT FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL R-10 RIGID INSULATION (MIN. COMPRESSIVE STRENGTH OF 15 PSI) UNDER ENTIRE SLAB @ HEATED AREA
GF A10	GARAGE FLOOR 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWF 6 MIL. VAPOR BARRIER 4" GRANULAR FILL

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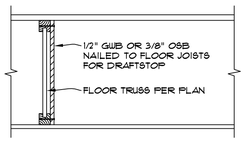
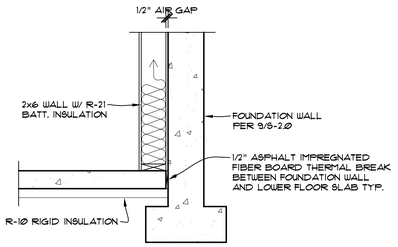
JOB NO: 21-031
DATE: 5/04/22
DRWN. BY: MM
REVISED: 10/19/22

SHEET NO.
A10

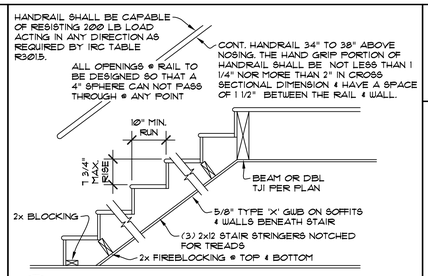


1 DRAFTSTOP DETAIL
N.T.S.

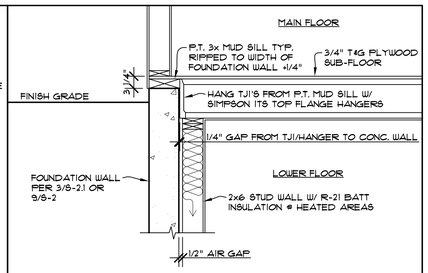


2 BASEMENT FLOOR/WALL DETAIL
N.T.S.

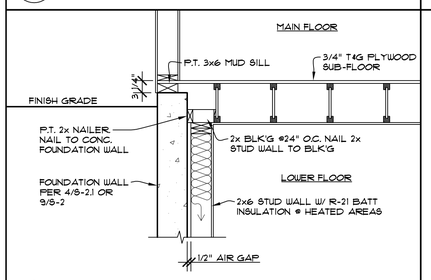
3 TYP. TJI WEB STIFFENER DETAIL
N.T.S.



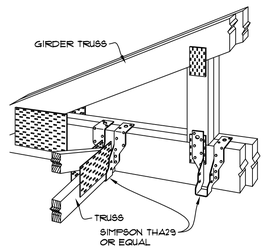
4 STAIR SECTION DETAIL
N.T.S.



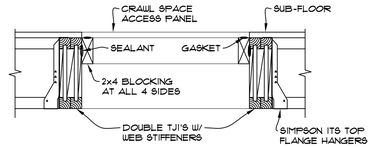
5 DROPPED JOIST DETAIL
N.T.S.



6 DROPPED JOIST DETAIL
N.T.S.



7 GIRDER TRUSS DETAIL
N.T.S.



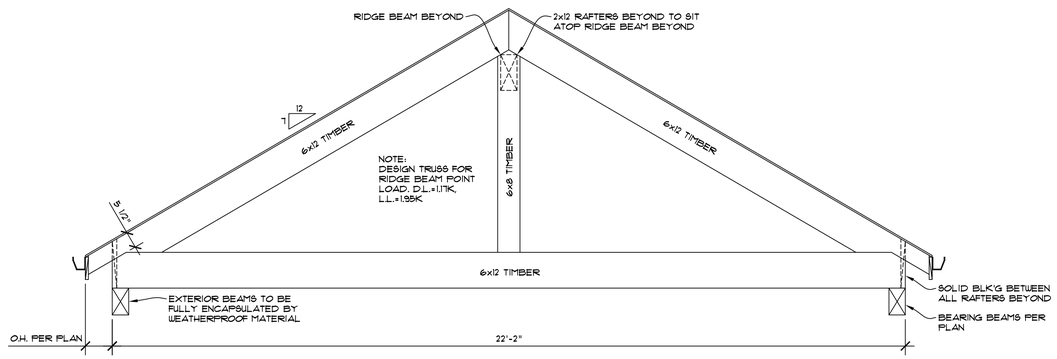
8 CRAWL SPACE ACCESS DETAIL
N.T.S.

NOT USED

9
N.T.S.

NOT USED

10
N.T.S.



11 CUSTOM TIMBER GABLE END TRUSS @ OUTDOOR LIVING
N.T.S.

NOT USED

12
N.T.S.

NOT USED

13
N.T.S.

NOT USED

14
N.T.S.

NOT USED

15
N.T.S.

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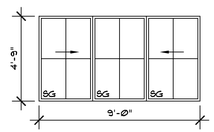
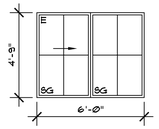
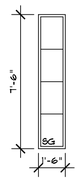
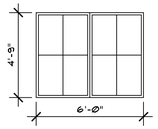
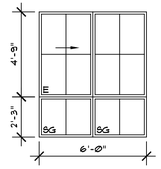
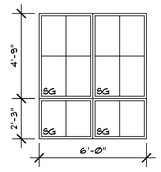
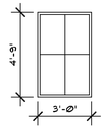
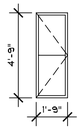
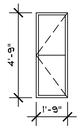
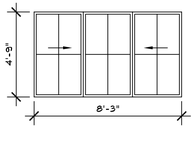
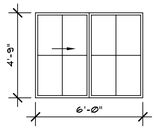
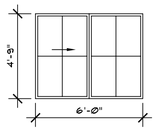
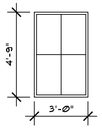
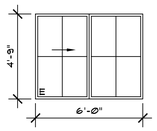
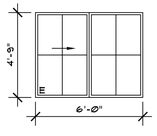
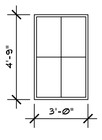
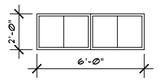
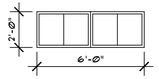
WINDOW SCHEDULE

LOWER FLOOR WINDOWS

L1	MEDIA HDR. HT. 7'-10"	
L2	MEDIA HDR. HT. 7'-10"	

MAIN FLOOR WINDOWS

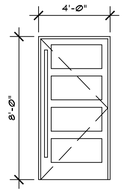
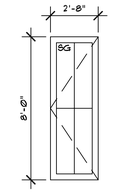
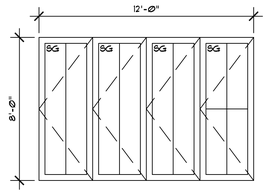
M1 M2	ENTRY HDR. HT. 8'-0"	
M3	ENTRY HDR. HT. 8'-0"	
M4	OFFICE HDR. HT. 8'-0"	
M5	P. BATH HDR. HT. 8'-0"	
M6 M9	P. BATH HDR. HT. 8'-0"	
M7	P. BATH HDR. HT. 8'-0"	
M8	P. BATH HDR. HT. 8'-0"	
M10	P. SUITE HDR. HT. 8'-0"	
M11	DINING HDR. HT. 8'-0"	
M12	KITCHEN HDR. HT. 8'-0"	
M13	BATH HDR. HT. 8'-0"	
M14	BEDROOM 2 HDR. HT. 8'-0"	
M15	BEDROOM 2 HDR. HT. 8'-0"	
M16	BATH HDR. HT. 8'-0"	
M17	BATH HDR. HT. 8'-0"	
M18	BEDROOM 3 HDR. HT. 8'-0"	
M19	BEDROOM 3 HDR. HT. 8'-0"	
M20	DINING HDR. HT. 9'-8 7/8"	
M21	KITCHEN HDR. HT. 9'-8 7/8"	

SG = SAFETY GLASS
E = EGRESS WINDOW

U-FACTOR FOR ALL WINDOWS = .28
U-FACTOR FOR DOORS = .20

DOOR SCHEDULE

EXTERIOR DOORS

D1	ENTRY	
D2	P. SUITE	
D3	GREAT ROOM	

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STRUCTURAL NOTES

GENERAL REQUIREMENTS & DESIGN CRITERIA

BUILDING CODE & REFERENCE STANDARDS: THE "INTERNATIONAL BUILDING CODE", 2018 EDITION, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

ARCHITECTURAL DRAWINGS: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES: THE PE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

WIND DESIGN: BASIC WIND SPEED (3-SECOND GUST), V = 85 MPH(ASD); WIND IMPORTANCE FACTOR, IW = 1.0; OCCUPANCY CATEGORY = II; EXPOSURE CATEGORY = C;

SEISMIC DESIGN: SEISMIC IMPORTANCE FACTOR IE = 1.0; OCCUPANCY CATEGORY = II; SS = 1.409G; S1 = 0.490G; SITE CLASS = D; SDS = 1.127G; SD1 = 0.490G; SEISMIC DESIGN CATEGORY = D; BASIC SEISMIC FORCE RESISTING SYSTEM = A-13 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE; CS = 0.121; R = 6.5; ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7, SEC 12.8.

SNOW LOAD: GROUND SNOW LOAD, PG = 20 PSF; FLAT ROOF SNOW LOAD, PF = 25 PSF (DRIFT LOADS CONSIDERED PER ASCE 7 WHERE APPLICABLE); SNOW EXPOSURE FACTOR, CE = 1.0; SNOW IMPORTANCE FACTOR, IS = 1.0; THERMAL FACTOR, CT = 1.0.

LIVE LOADS:

ROOF (LIVE)	20 PSF
ROOF (SNOW)	25 PSF
RESIDENTIAL FLOOR	40 PSF
RESIDENTIAL DECK	60 PSF

DESIGN-BY-OTHERS (DEFERRED SUBMITTALS) LOADS: ALL PRE-ENGINEERED/FABRICATED/MANUFACTURED OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT AND CLADDING LOADS WHEN APPLICABLE. DESIGN SHALL CONFORM TO THE PROJECT DRAWINGS AND SPECIFICATIONS, REFERENCE STANDARDS, AND GOVERNING CODE.

ROOF DEAD LOAD	15 PSF
TOP CHORD DEAD LOAD	8 PSF
BOTTOM CHORD DEAD LOAD	7 PSF
TRUSS UPLIFT LOAD (GROSS)	10 PSF

DEFERRED SUBMITTALS: ITEMS DESIGNED BY OTHERS SHALL INCLUDE CALCULATIONS, SHOP DRAWINGS AND PRODUCT DATA. DESIGN SHALL BE PREPARED BY THE SSE AND SUBMITTED TO THE ARCHITECT AND SER FOR REVIEW PRIOR TO SUBMISSION TO THE JURISDICTION FOR APPROVAL. THE SSE SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALCULATIONS AND SHOP DRAWINGS THAT ARE STAMPED AND SIGNED BY THE SSE. REVIEW OF THE SSE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE SSE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE SSE'S DESIGN DRAWINGS AND CALCULATIONS.

INSPECTIONS: ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 109. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO IBC SEC 1703.6.

GEOTECHNICAL INSPECTION: THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL SHALL INSPECT ALL PREPARED SOIL BEARING SURFACES PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL AND PROVIDE A LETTER TO THE OWNER STATING THAT SOILS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION PRESSURE" SHOWN BELOW. SOIL VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

GEOTECHNICAL REPORT: RECOMMENDATIONS CONTAINED IN "GEOTECHNICAL EVALUATION" BY COBALT GEOSCIENCES, LLC., DATED MARCH 12, 2022 WERE USED FOR FOOTING DESIGN.

DESIGN SOIL VALUES:

ALLOWABLE BEARING PRESSURE	3000 PSF
PASSIVE LATERAL PRESSURE	275 PSF/FT
ACTIVE LATERAL PRESSURE (UNRESTRAINED)	35 PSF/FT
AT-REST LATERAL PRESSURE (RESTRAINED)	50 PSF/FT
COEFFICIENT OF SLIDING FRICTION	0.40

SLABS-ON-GRADE & FOUNDATIONS: ALL FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL SLABS-ON-GRADE SHALL BE FOUNDED ON APPROPRIATE SUB-GRADE PREPARATION AS NOTED IN THE GEOTECHNICAL REPORT. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.

COMPACTION: UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER, FOOTINGS SHALL BE PLACED ON COMPACTED MATERIAL AND SHALL BE WELL-GRADED GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING A #2 SIEVE. FILLS PLACED SHALL BE IN MAXIMUM 8" LIFTS AND ALL BEARING SOILS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT USING THE MODIFIED PROCTOR TEST.

CAST-IN-PLACE CONCRETE & REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:
(1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".
(2) IBC CHAPTER 19.
(3) ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SEC 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 318 CHAPTER 5 "CONCRETE QUALITY, MIXING, AND PLACING."

MATERIALS: CONFORM TO ACI 318 CHAPTER 3 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

REINFORCING BARS	ASTM A615, GRADE 60, DEFORMED BARS.
DEFORMED WELDED WIRE FABRIC	ASTM A497
BAR SUPPORTS	CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS."
TIE WIRE	16.5 GAGE OR HEAVIER, BLACK ANNEALED.

MIX DESIGNS: PROVIDE A 5-SACK MINIMUM, 28-DAY COMPRESSIVE STRENGTH F'C = 2,500 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO FOR ALL ISOLATED POST AND CONTINUOUS WALL FOOTINGS, SLABS-ON-GRADE, AND BASEMENT WALLS EXTENDING NO MORE THAN 8" ABOVE FINISH GRADE ELEVATION. FOR BASEMENT WALLS EXTENDING MORE THAN 8" ABOVE FINISH GRADE AND ALL SITE WALLS, PROVIDE A 5-1/2 SACK MINIMUM F'C = 3,000 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO.

MIX DESIGN NOTES:
(1) W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS.
(2) CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.B. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY SER.
(3) AIR CONTENT: CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
(4) SLUMP: CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
(5) NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK: CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'C.

MEASURING, MIXING, AND DELIVERY: CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SEC 5.

REBAR FABRICATION & PLACING: CONFORM TO ACI 301, SEC 3.2.2 "FABRICATION", AND ACI SP-66 "ACI DETAILING MANUAL." CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

SPLICES: CONFORM TO ACI 301, SEC 3.3.2.7. REFER TO PLANS FOR TYPICAL SPLICES.

FIELD BENDING: CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS.

CORNERS BARS: PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

CONCRETE COVER: CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3:

CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER)	1-1/2"
BARS IN SLABS AND WALLS	3/4"

CONSTRUCTION JOINTS: CONFORM TO ACI 301 SEC 2.2.2.5, 5.1.2.3A, 5.2.2.1, AND 5.3.2.6. CONSTRUCTION JOINTS SHALL BE LOCATED AND DETAILED AS ON THE CONSTRUCTION DRAWINGS. USE OF AN ACCEPTABLE ADHESIVE, SURFACE RETARDER, PORTLAND CEMENT GROUT, OR ROUGHENING THE SURFACE IS NOT REQUIRED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. WHERE SHEAR BOND IS REQUIRED, ROUGHEN SURFACES TO 1/4" AMPLITUDE.

WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO:
(1) IBC CHAPTER 23 "WOOD",
(2) NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION",
(3) ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION",

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE SSE IN THE STATE OF WASHINGTON FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER DESIGN LOADS SECTION.

IDENTIFICATION: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:
- SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB OR NLGA. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.

MEMBER USE	SIZE	SPECIES	GRADE
STUDS & POSTS	2x, 4x	HEM-FIR	NO. 2
RAFTERS	2x4 - 2x10	HEM-FIR	NO. 2
BEAMS	4x8 - 4x12	HEM-FIR	NO. 2
BEAMS	6x8 - 6x12	HEM-FIR	NO. 2
POSTS & TIMBERS	6x, 8x	DOUG-FIR	NO. 2

- GLUED LAMINATED TIMBER: CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE-LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED MEMBERS BEAMS TO 2000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

MEMBER USE	SIZES	SPECIES	STRESS CLASS	USES
BEAMS	ALL	DF/DF	24F-1.8E	SIMPLE SPANS
	ALL	DF/DF	24F-1.8E [(-FB)=(+FB)]	CANTILEVER SPANS

- METAL PLATE CONNECTED WOOD ROOF TRUSSES: CONFORM TO IBC SEC 2303.4 "TRUSSES."
- WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1 AND PS-2 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA).

	MINIMUM APA RATING			
LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE	EXPOSURE
ROOF	15/32"	32/16	C-D	1
FLOOR	23/32" T&G	24 OC	STURD-I-FLOOR	1
WALLS	15/32"	32/16	C-D	1
WALLS(ALT)	7/16" OSB	24/16	C-D	1

- JOIST HANGERS AND CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY OR USP EQUIVALENT AS SPECIFIED IN THEIR LATEST CATALOGS. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.
- NAILS AND STAPLES: CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.9.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED ON THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
8d	2-1/2"	0.131"
10d	3"	0.148"
(8d & 10d ALTERNATIVE) PASLODE TETRAGRIP NAILS	2-3/8"	0.113"
12d (16d SINKER)	3-1/4"	0.148"
16d	3-1/2"	0.162"

- LAG BOLTS/BOLTS: CONFORM TO ASTM A307.

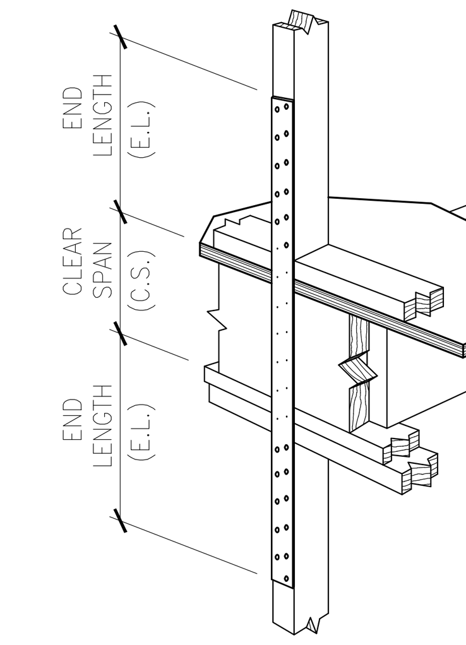
NAILING REQUIREMENTS: PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."
(1) WALL FRAMING: UNLESS OTHERWISE NOTED, ALL INTERIOR WALLS SHALL BE 2X4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2X6 @ 16"OC. PROVIDE (2)BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. UNO, ALL SOLID SAWN LUMBER HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1)TRIM AND (1)KING STUD AND ALL GLULAM OR ENGINEERED WOOD HEADERS BY (2)TRIM AND (2)KING STUDS. AT FRAMED WALLS, UNO, ALL SOLID SAWN LUMBER BEAMS SHALL BE SUPPORTED ON A MINIMUM OF (2) BUNDLED 2X STUDS AND ALL GLULAM OR ENGINEERED WOOD BEAMS ON A MINIMUM OF (3) BUNDLED 2X STUDS. STITCH-NAIL BUNDLED STUDS WITH (2)10D @ 12"OC. UNO, ALL INTERIOR AND EXTERIOR HEADERS SHALL BE 4X6. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. UNO, ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8"-DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. UNO, PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.
(2) ROOF/FLOOR FRAMING: UNLESS OTHERWISE NOTED, PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. UNO, MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNBLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

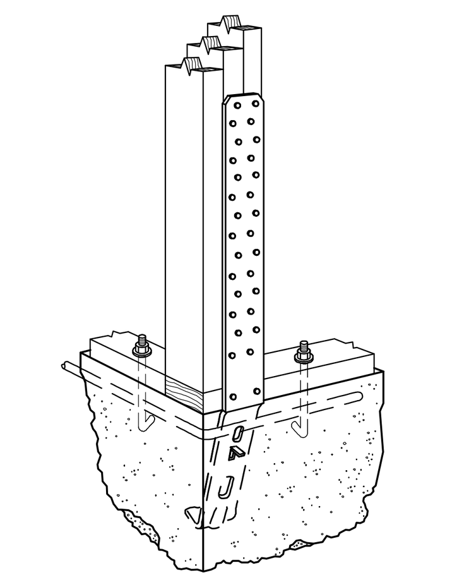
MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE.

PRESERVATIVE TREATMENT: WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.11 "PROTECTION AGAINST DECAY AND TERMITES". CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK.

METAL CONNECTORS/PT WOOD: CK ENGINEERING LLC RECOMMENDS THAT ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ/SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE WOOD.



DETAIL A



DETAIL C

MODEL # (1)	ANCHORAGE TYPE (4,5,6)	FASTENERS	END STUD REQUIRED (2,3)	CAPACITY (LBS)	
				DOUG-FIR	HEM-FIR
CS14	FLR-TO-FLR STRAP (E.L.=19")	(30) 10d COMMON	2x STUD	2,490	2,490
LSTHD8/RJ	CAST-IN-PLACE	(16) 16d SINKERS	(2) 2x STUDS[7]	1,975	1,975
STHD10/RJ	CAST-IN-PLACE	(18) 16d SINKERS	(2) 2x STUDS[7]	2,640	2,640
STHD14/RJ	CAST-IN-PLACE	(22) 16d SINKERS	(2) 2x STUDS[7]	3,695	3,695

NOTES:
1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON ANCHOR TIE DOWN CO., INC; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH SER APPROVAL.
2. LOCATE ALL HOLDOWNS AT ENDS OF ALL SHEAR WALLS & FASTEN TO BUNDLED END STUDS.
3. BUNDLED END STUDS SHOULD BE STITCH-NAILED TOGETHER USING MINIMUM (2) 16d @ 10"OC, UNO.
4. LOCATE "HDU#", "LSTHD#" & "STHD#" HOLDOWNS AT CONCRETE FOUNDATION LEVEL. (DETAIL B & C) LOCATE "CS#", "MST", "MSTC#" & "CMST#" STRAPS AT FLOOR-TO-FLOOR CONNECTIONS. (DETAIL A)
5. ALL HOLDOWN ANCHOR BOLTS SHALL BE MIN 5" FROM CONCRETE WALL ENDS.
6. USE "SSTB" FOR 2x SILL PLATES & "SSTBL" FOR 3x SILL PLATES.
7. ADDITIONAL END STUD REQUIRED TO MEET MINIMUM $1\frac{1}{2}$" EDGE DISTANCE FROM CONCRETE CORNER TO "STHD" STRAP. USE "RJ" STYLE WITH "STHD" WHERE RIM JOIST IS PRESENT.
8. INSTALL ALL HOLDOWN HARDWARE PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.

HOLDOWN SCHEDULE

SCALE: N.T.S.

8

WOOD-FRAMED SHEAR WALL SCHEDULE

FOR HEM-FIR/DOUG-FIR STUD FRAMING

SW TYPE	SW SHEATHING APA-RATED [1, 2, 12]	NAIL SIZE & SPACING @ PANEL EDGES [4, 5, 6]	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW [8, 9]	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS [3, 7, 13]		SILL PLATE REQUIREMENTS		SHEAR LOAD CAPACITY (PLF)
				SHEAR NAILING TO WOOD FRAMING BELOW	BOTTOM PL AT FRAMING	ANCHOR BOLT TO CONCRETE FOUNDATION [10]	SILL PL AT FOUNDATION [11]	
SW-6	15/32" CD-EXT	0.131"ø x $2\frac{1}{2}$" @ 6"OC	CLIP @ 18"OC	0.148"ø x $3\frac{1}{4}$" @ 6"OC	2x	$\frac{5}{8}$"ø @ 48"OC	P.T. 2x	242
SW-4	15/32" CD-EXT	0.131"ø x $2\frac{1}{2}$" @ 4"OC	CLIP @ 14"OC	0.148"ø x $3\frac{1}{4}$" @ 4"OC	3x [15]	$\frac{5}{8}$"ø @ 32"OC	P.T. 2x	353
						$\frac{5}{8}$"ø @ 48"OC	P.T. 3x [15]	

NOTES:
1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY
2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUDS.
3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.
4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.
5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
6. SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
7. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148"Ø x $2\frac{1}{2}$" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"Ø x $2\frac{1}{2}$" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
8. BASED ON 0.131"Ø x $1\frac{1}{2}$" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131"Ø x $2\frac{1}{2}$" NAILS WHERE INSTALLED OVER SHEATHING.
9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED $\frac{13}{16}$"x$1\frac{3}{4}$" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN $\frac{1}{2}$" OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR (4) 0.131"Øx$2\frac{1}{2}$" TOENAILS.

WOOD-FRAMED SHEAR WALL SCHEDULE

SCALE: N.T.S.

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Phone: (206) 417-0670

STEVEN COOKE
STATE OF WASHINGTON
44213
REGISTERED PROFESSIONAL ENGINEER
10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

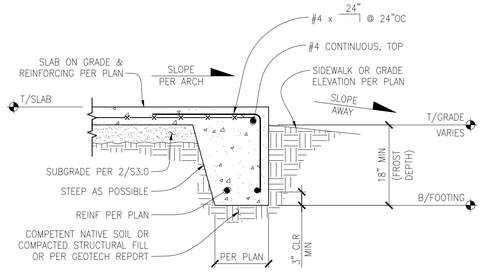
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 10-15-2022

CK JOB NO.
22-021

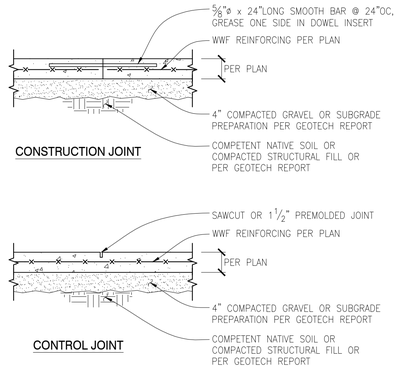
STRUCTURAL NOTES/SCHED.

S-1.0



TYPICAL THICKENED SLAB EDGE FOOTING — 1

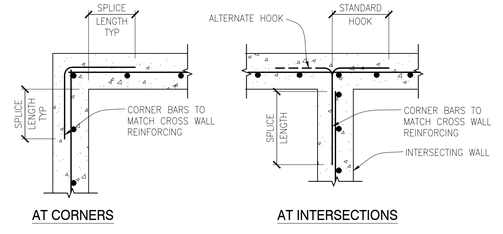
SCALE: 3/4" = 1'-0"



NOTES:
1. FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FOUNDATION/SLAB PLAN
2. USE "SOFTCUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST
3. PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX

TYPICAL SLAB ON GRADE JOINT DETAILS — 2

SCALE: N.T.S.

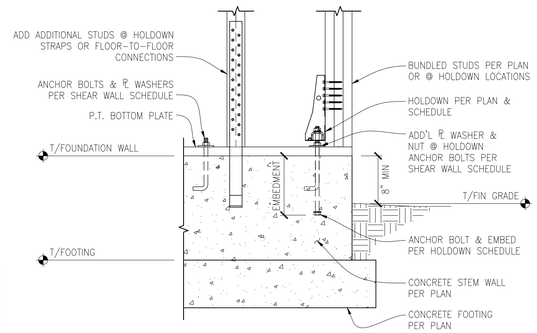


NOTES:
1. WALL SIZE & REINFORCING PER PLAN.
2. CORNER BARS SIZE & SPACING TO MATCH HORIZONTAL REINFORCING.

SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"

TYPICAL CORNER BARS AT CONCRETE WALLS - SINGLE MAT — 3

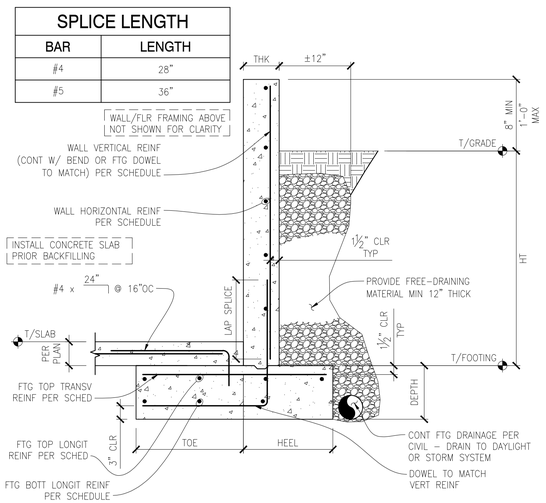
SCALE: N.T.S.



TYPICAL SHEAR WALL HOLDOWN CONNECTIONS AT FOUNDATION CONCRETE WALL — 4

SCALE: N.T.S.

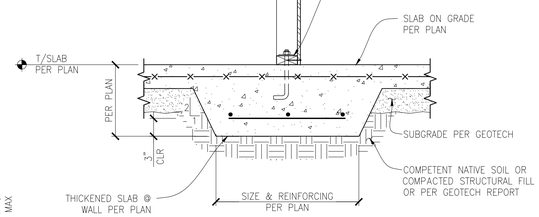
SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"



RETAINING WALL/FOOTING SCHEDULE									
WALL				FOOTING					
SIZE		REINFORCEMENT		SIZE			REINFORCEMENT		
HT (MAX)	THK	VERTICAL	HORIZONTAL	TOE	HEEL	DEPTH	TOP/TRANSV	TOP/LONGIT	BOTTOM/LONGIT
4'-0"	8"	#4 @ 12"OC	#4 @ 12"OC	1'-0"	1'-6"	10"	#4 @ 10"OC	(3) #4	(2) #4
6'-0"	8"	#4 @ 8"OC	#4 @ 12"OC	2'-6"	1'-6"	10"	#4 @ 10"OC	(4) #4	(3) #4
8'-0"	8"	#5 @ 10"OC	#4 @ 12"OC	4'-0"	1'-6"	14"	#5 @ 10"OC	(5) #5	(3) #5
10'-0"	10"	#6 @ 9"OC	#4 @ 10"OC	5'-0"	2'-0"	16"	#6 @ 10"OC	(7) #5	(6) #5

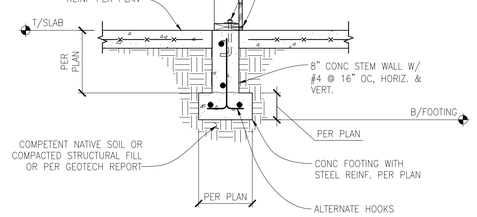
RETAINING WALL SCHEDULE — 9

SCALE: N.T.S.



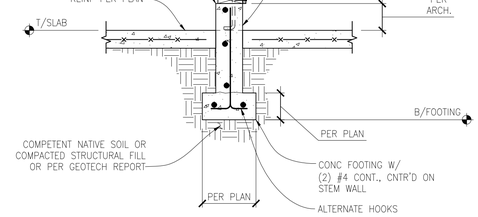
TYPICAL INTERIOR THICKENED SLAB FOOTING AT BEARING / SHEAR WALL — 6

SCALE: 1" = 1'-0"



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE — 7

SCALE: 3/4" = 1'-0"



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE — 8

SCALE: 3/4" = 1'-0"

CK ENGINEERING LLC
PROFESSIONAL STRUCTURAL ENGINEERING SERVICES
19229 38th Pl. NE
Lake Forest Park, WA 98155
Phone: (206) 417-0670

STEVEN COOKE — STATE OF WASHINGTON — 44217 — REGISTERED PROFESSIONAL ENGINEER

10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

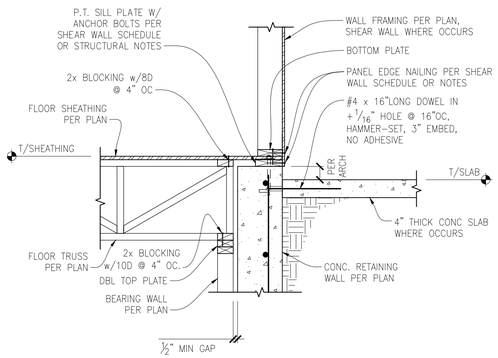
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 10-15-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

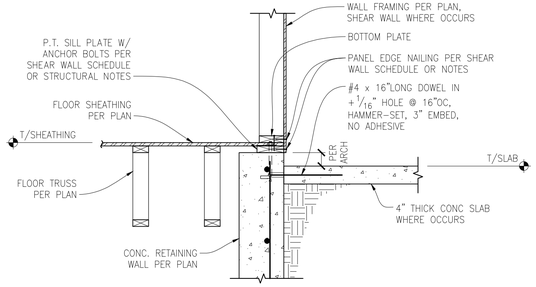
S-2.0



EXTERIOR WALL/SHEAR WALL (WHERE OCCURS)/ TRUSSES PARALLEL TO RETAINING WALL CON.

1

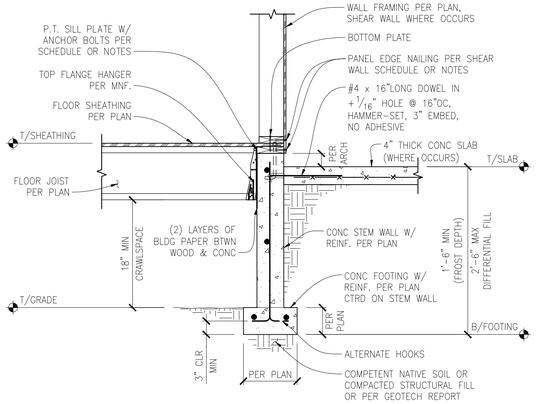
SCALE: 3/4" = 1'-0"



EXTERIOR SHEAR WALL WITH TRUSSES PARALLEL TO RETAINING WALL CON.

2

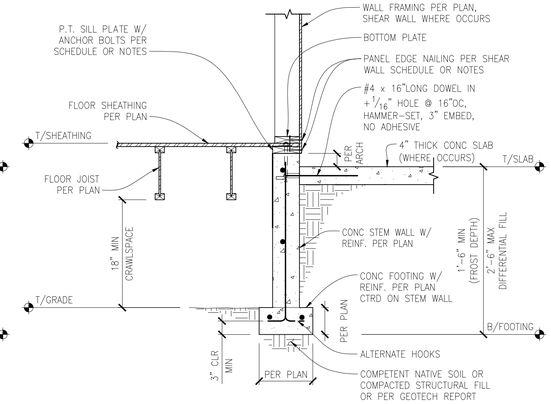
SCALE: 3/4" = 1'-0"



CRAWL SPACE EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RAISED STEM WALL

3

SCALE: 3/4" = 1'-0"



SHEAR WALL WITH JOISTS PARALLEL TO RAISED STEM WALL

4

SCALE: 3/4" = 1'-0"

EXTERIOR SHEAR WALL WITH TRUSSES PERPENDICULAR TO RET. WALL CON.

5

SCALE: 3/4" = 1'-0"

POST AND BEAM AT CRAWLSPACE

6

SCALE: 3/4" = 1'-0"

SIMPSON STRONG-TIE SLOTTED PLATE WASHERS W/ 5/8"ø ANCHOR BOLTS	
3x3x0.229	BPS5/8-3
4.5x3x0.229	BPS5/8-6

TYPICAL PLAN VIEW - SHEAR WALL HOLDOWNS & ANCHOR BOLTS

7

SCALE: 1" = 1'-0"

TYPICAL SHEAR WALL ELEVATION

8

SCALE: N.T.S.

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10/15/2022

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6922 SE 33RD ST.
MERCER ISLAND, WA 98040

REVISION #	DATE	DESCRIPTION:

Drawn By: PK
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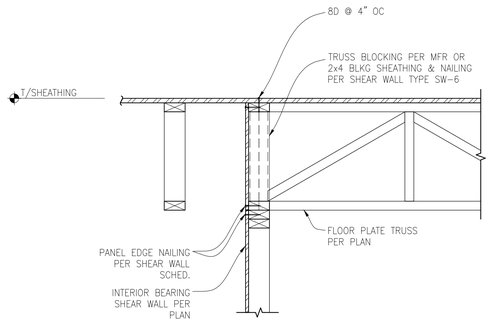
22-021

STRUCTURAL DETAILS

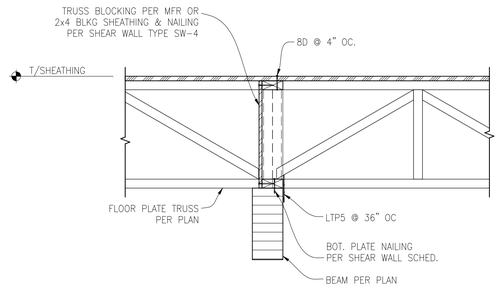
S-2.1



FLOOR TRUSS AT INTERIOR SHEAR WALL

SCALE: 1" = 1'-0"

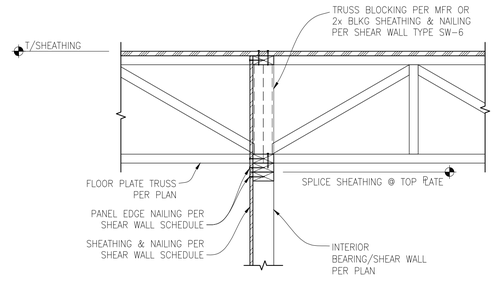
1



FLOOR TRUSS 'DROPPED' BEAM CONNECTION

SCALE: 1" = 1'-0"

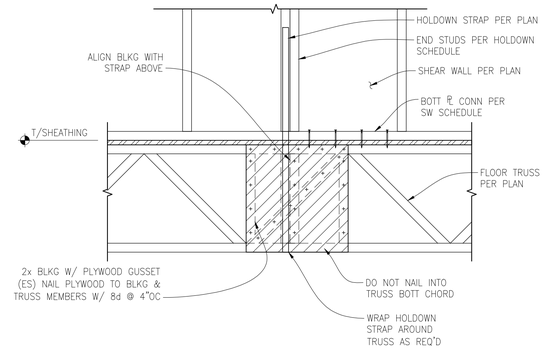
2



FLOOR TRUSS AT INTERIOR BEARING/SHEAR WALL

SCALE: 1" = 1'-0"

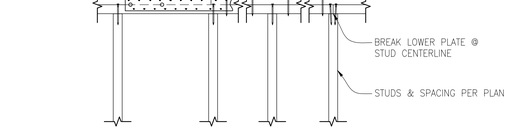
3



HOLDOWN STRAP ABOVE FLOOR TRUSS

SCALE: 1" = 1'-0"

4

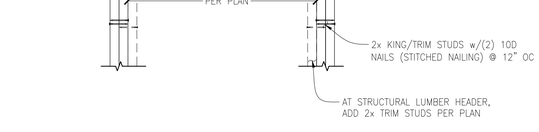


NOTE:
FLOOR JOISTS NOT SHOWN FOR CLARITY.

TYPICAL PLATE SPLICE DETAIL

SCALE: N.T.S.

5

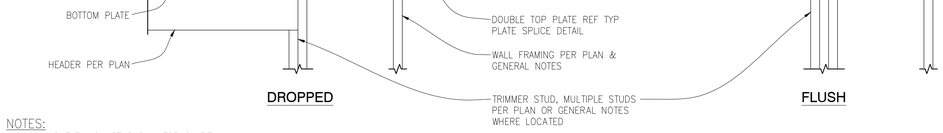


NOTE:
FLOOR/ROOF FRAMING NOT SHOWN FOR CLARITY.

TYPICAL HEADER CONNECTION

SCALE: N.T.S.

6



NOTES:
1. WALL SHEATHING NOT SHOWN FOR CLARITY
2. WHERE ROOF ABOVE, RAFTERS OR PRE-MANUFACTURED TRUSSES PER PLAN REPLACES RIM JOIST

TYPICAL HEADER FRAMING

SCALE: 1" = 1'-0"

8

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REGISTERED PROFESSIONAL ENGINEER

10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

REVISION #	DATE	DESCRIPTION:

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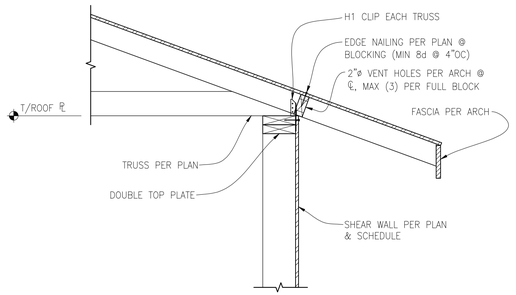
CK JOB NO.
22-021

STRUCTURAL DETAILS

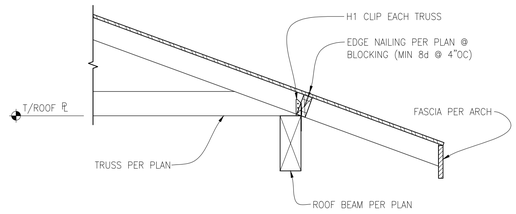
S-3.0



EXTERIOR SHEAR WALL PERPENDICULAR TO ROOF TRUSS

SCALE: 1" = 1'-0"

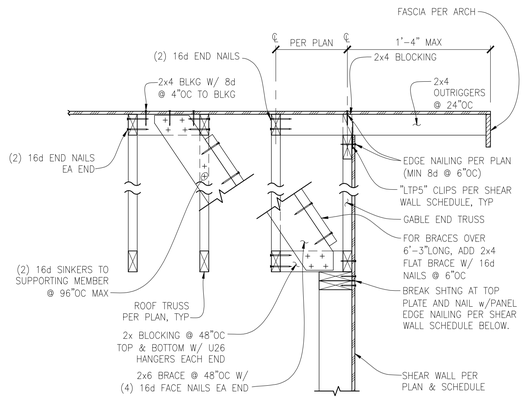
1



EXTERIOR ROOF TRUSS BEAM CONNECTION

SCALE: 1" = 1'-0"

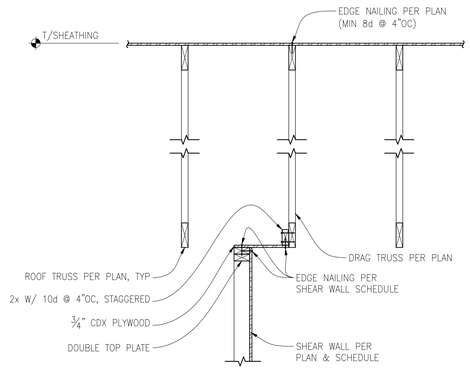
2



EXTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS

SCALE: N.T.S.

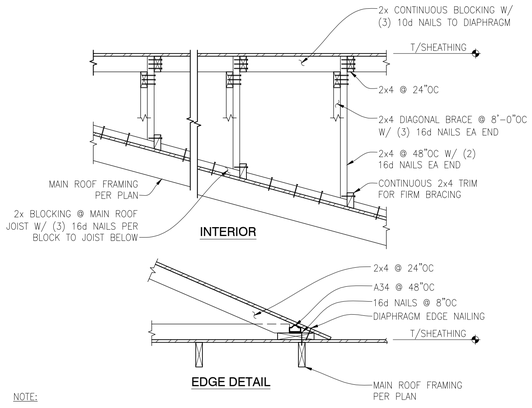
3



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

SCALE: ¾" = 1'-0"

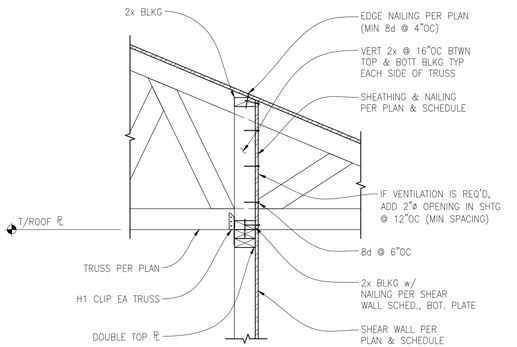
4



TYPICAL ROOF OVERFRAMING DETAIL

SCALE: N.T.S.

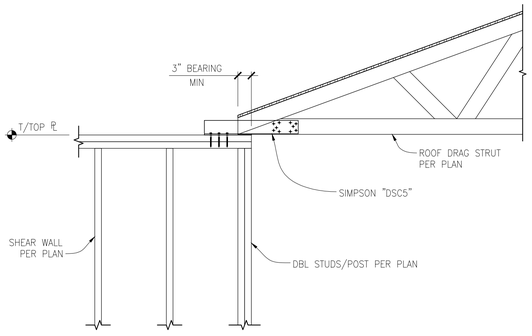
5



SHEAR WALL PERPENDICULAR TO ROOF TRUSS

SCALE: 1" = 1'-0"

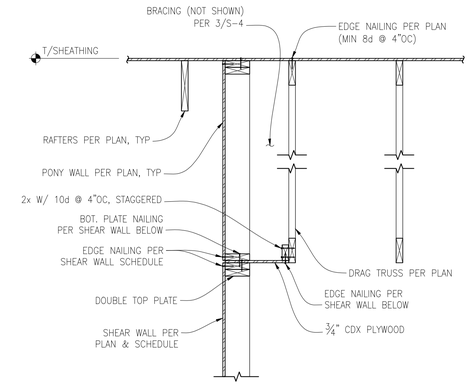
6



ROOF DRAG STRUT TO SHEAR WALL CONNECTION

SCALE: ¾" = 1'-0"

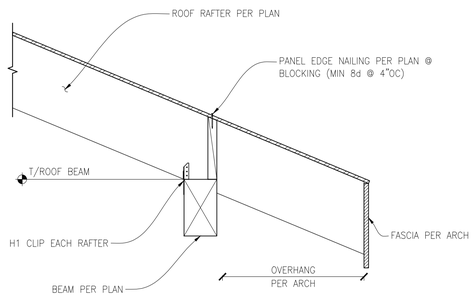
7



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

SCALE: ¾" = 1'-0"

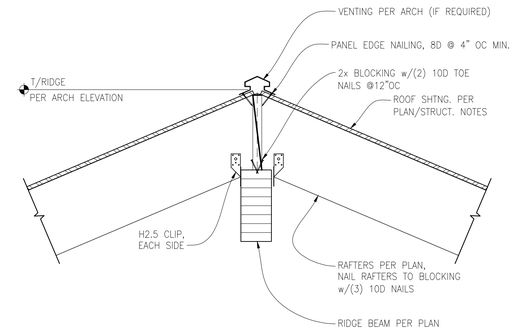
8



EXTERIOR ROOF RAFTERS TO ROOF BEAM CONNECTION

SCALE: 1" = 1'-0"

9



RIDGE BEAM TO RAFTERS CON.

SCALE: 1" = 1'-0"

10

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STEVEN COOKE
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21213
REGISTERED PROFESSIONAL ENGINEER

10/15/2022

HELIX HOMES
6922 SE 33RD ST.
MERCER ISLAND, WA 98040

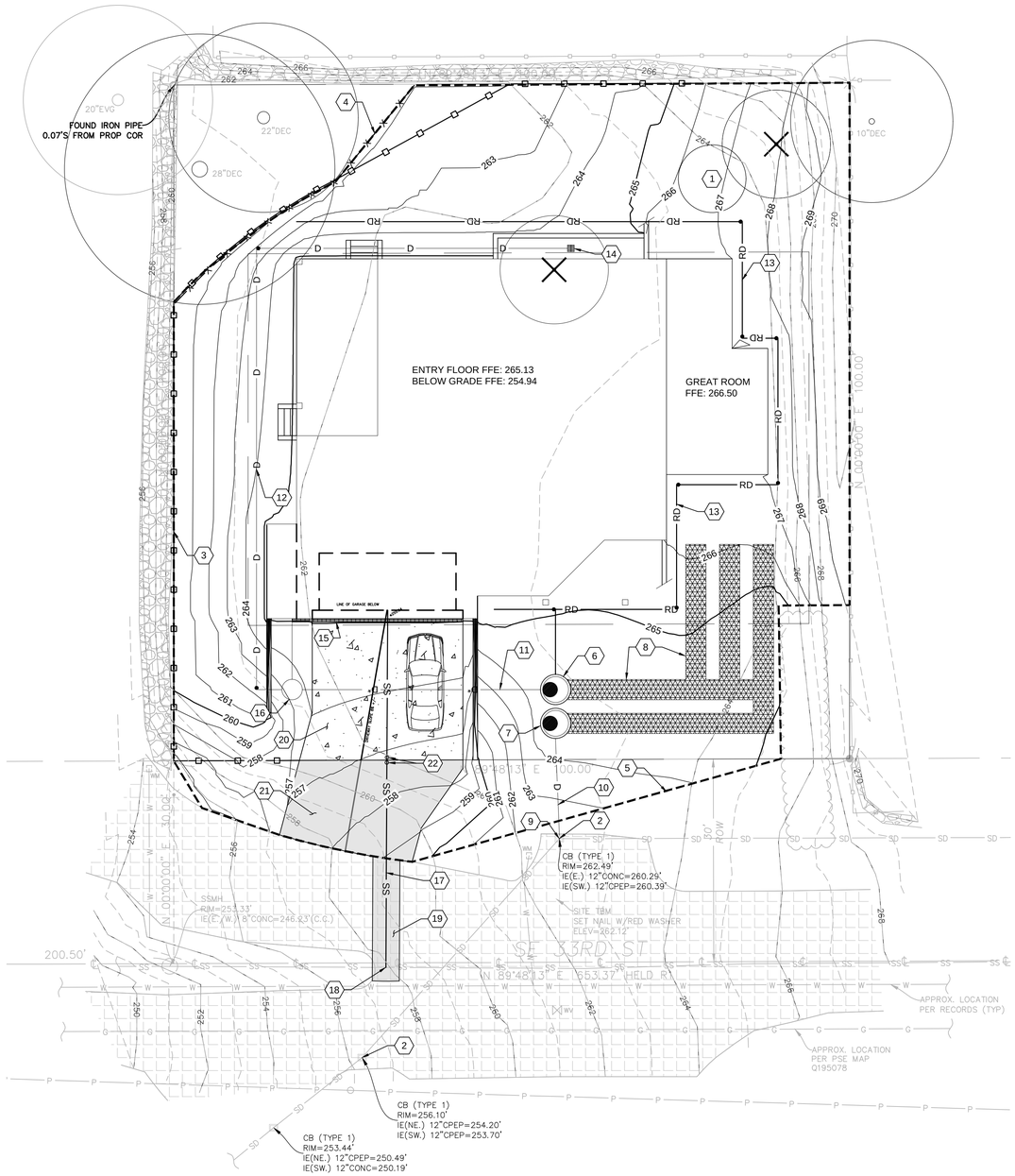
REVISION #	DATE	DESCRIPTION:

Drawn By: PK
Checked By: SC
Date: 10-15-2022

CK JOB NO.
22-021

STRUCTURAL DETAILS

S-4.0



10 5 0 10

SCALE: 1"=10'

SHEET NOTES

1. TEMPORARY STOCK PILE (10/C-003)
2. PROVIDE INLET PROTECTION (6/C-002)
3. SILT FENCE
4. TEMPORARY TREE PROTECTION FENCE
5. LIMITS OF DISTURBANCE. ANY NON-HARD SURFACE IN THIS AREA WILL RECEIVE SOIL AMENDMENTS
6. 54" TYPE 2 CATCH BASIN (SEE DETENTION SIZING SHEET) (8/C-003)
   RIM:264.63
7. 54" TYPE 2 CATCH BASIN WITH CONTROL STRUCTURE (SEE DETENTION SIZING SHEET) (8/C-003)
   RIM: 264.53
8. TOTAL OF 120' OF 36" DETENTION PIPE
   TOP OF PIPE: 263.42, ENSURE 1' MIN COVER
   (SEE ATTACHED DETENTION SIZING SHEET)
9. TIE INTO EXISTING CATCH BASIN, IE IN: 260.29
10. 8" PVC PIPE @ 1% MIN
11. 2" PVC (SCHEDULE 40 OR STRONGER) FORCE STORM LINE. ENSURE 1 FOOT MIN COVER, 2 FEET AT DRIVEWAY.
12. 6" PVC STORM LINE @ 1% MIN
13. 6" PVC TIGHTLINED ROOF AND FOOTING DRAIN @ 1% MIN
14. AREA DRAIN
    RIM: 259.68
    IE OUT: 258.18
15. TRENCH DRAIN
    RIM: 254.94
    IE OUT: 253.44
16. DUPLEX PUMP SYSTEM, COMPOSED OF TWO ZOELLER 50 SERIES PUMPS, ZOELLER DUPLEX ELECTRICAL ALTERNATOR CONTROL PANEL/ALARM, APAK Z CONTROL ALARM, AND A ZOELLER BASIN (7/C-002)
    RIM: 256.65 +/-
    IE IN: 253.24
    IE OUT: 254.50
17. 6" PVC SDR-35 SEWER LINE @ 2% MIN
18. SADDLE CONNECTION TO EXISTING SEWER MAIN
    IE IN: 205.09 +/-
19. SAWCUT AND RESTORE (9/C-003)
20. CONCRETE DRIVEWAY (5/C-002)
21. ASPHALT DRIVEWAY
22. SEWER CONNECTION (1/C-002) (2/C-002)
23. STORM CLEANOUT (11/C-003)

GENERAL NOTES

-PROVIDE STRAW OR PLASTIC COVER TO ANY EXPOSED SOILS THROUGHOUT THE CONSTRUCTION CYCLE

-AVOID SENDING ROOF AND FOOTING DRAINS TO PUMPS UNLESS ABSOLUTELY NECESSARY

-ENSURE 1 FOOT MINIMUM COVER ON ALL ROOF DRAINS AND FORCE STORM LINES, 2 FEET OF COVER ON ALL OTHER PIPES

-SOIL ON ENTIRE SITE CONSISTS OF ARENTS, ALDERWOOD MATERIAL (HSG B/D)

-INFORMATION IS TAKEN FROM TOPO & BOUNDARY SURVEY DATED 02/09/2022 BY TERRANE

-PERVIOUS AREAS WITHIN LIMITS OF DISTURBANCE WILL RECEIVE SOIL AMENDMENT (7/C-002)

Know what's Call below. before you dig.

bcra
T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET SUITE 200, SEATTLE, WA 98101

SEAL

JUSTIN JAN COMER
STATE OF WASHINGTON
45432
REGISTERED
PROFESSIONAL ENGINEER

03/31/2022

PROJECT
HELIX DESIGN BUILD
HELIX MI
6922 33RD ST
MERCER ISLAND, WA 98040

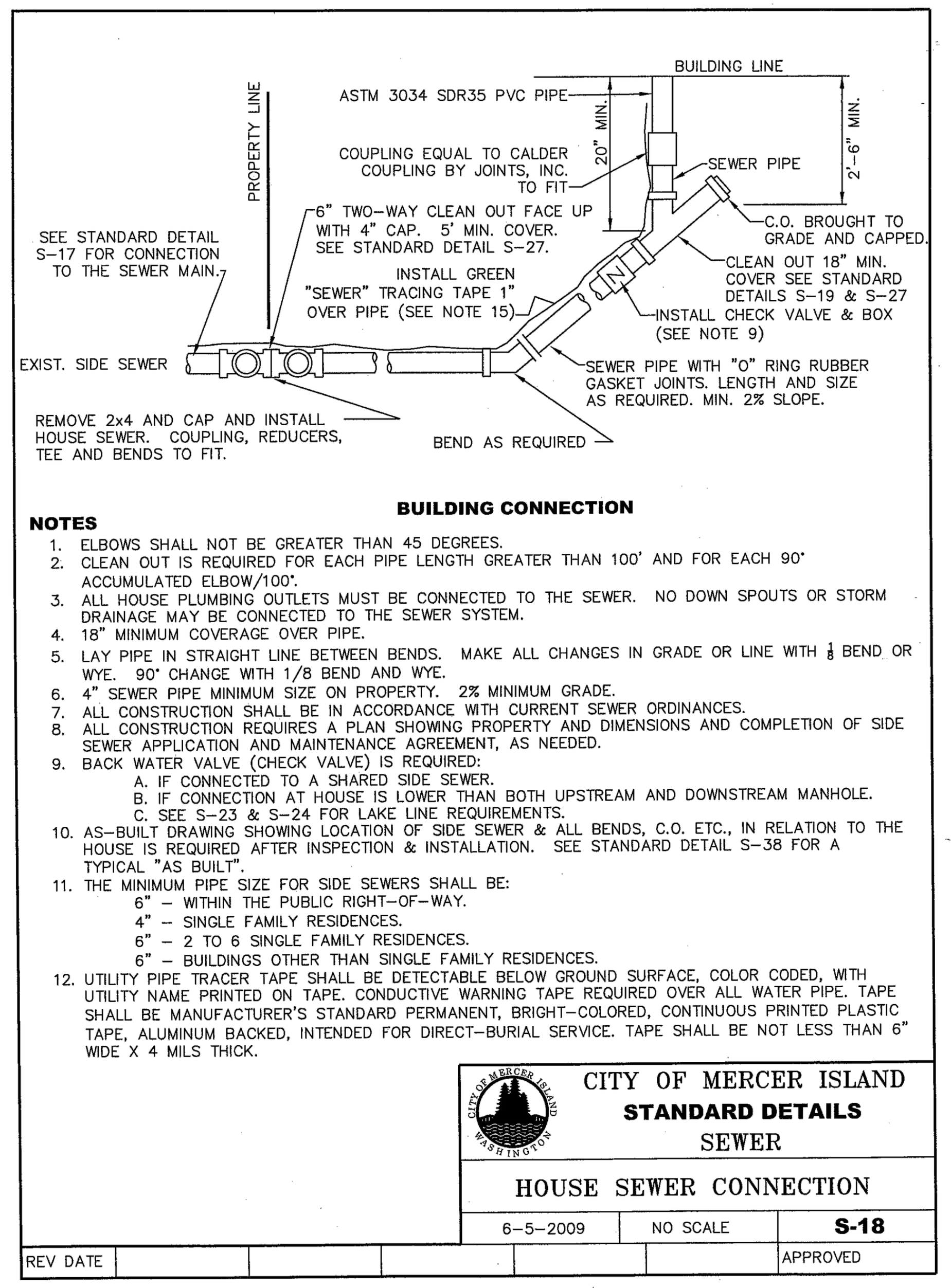
REVISIONS

DATE
03.21.2022
BCRA NO.
22022
DRAWN BY: BS DESIGNED BY: BS
REVIEWED BY: JG
SHEET TITLE
DRAINAGE AND EROSION CONTROL PLAN

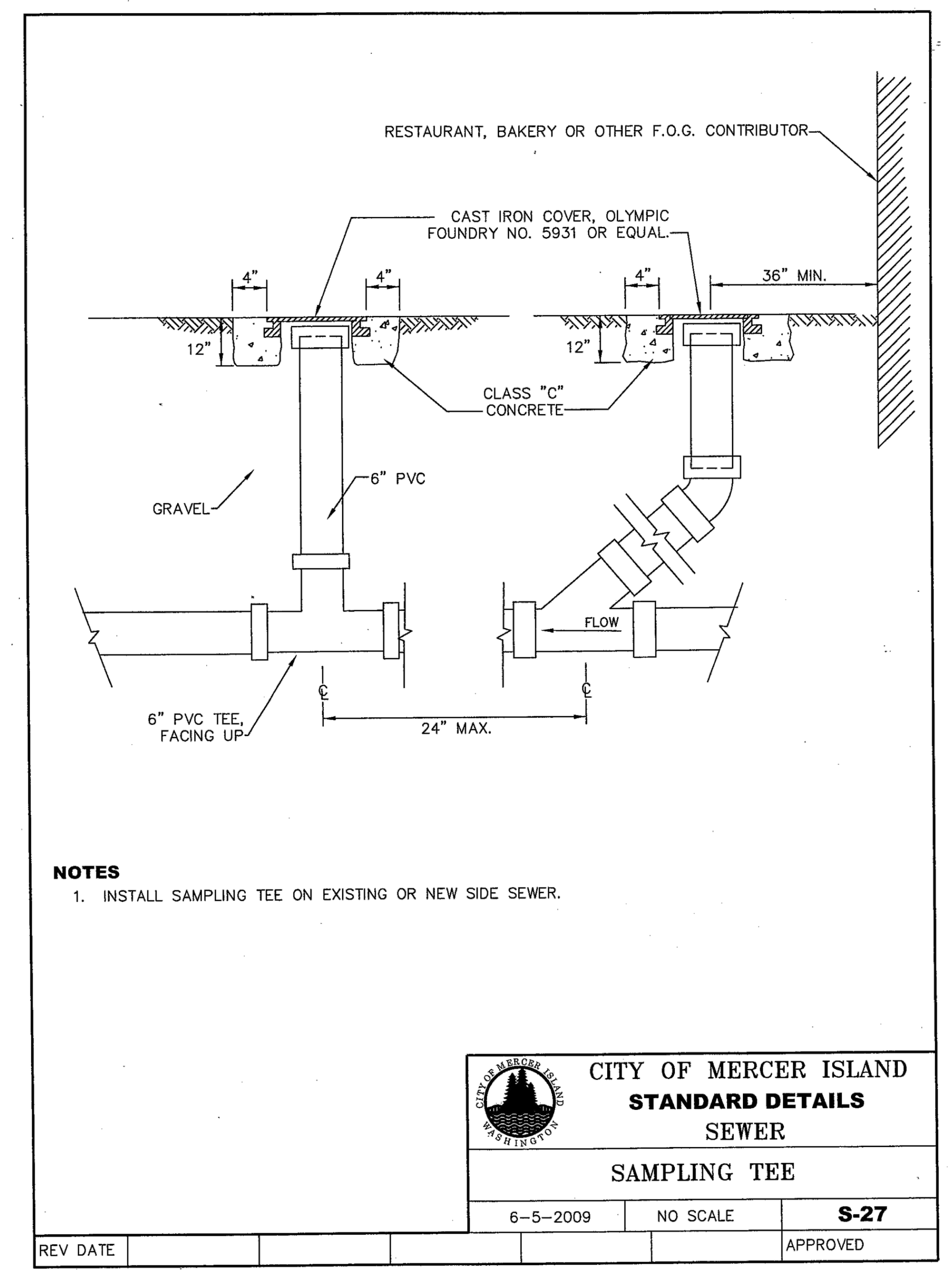
SHEET
C-001
STORM DESIGN

DATE PLOTTED: 3/30/2022 7:53:20 AM FILENAME: 22020C-SITE.DWG BY: —

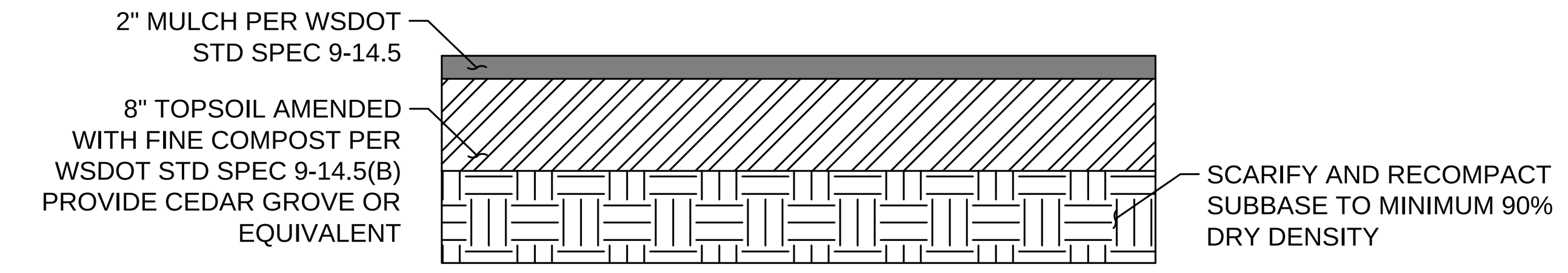
IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY



HOUSE SEWER CONNECTION (1)
SCALE: NTS

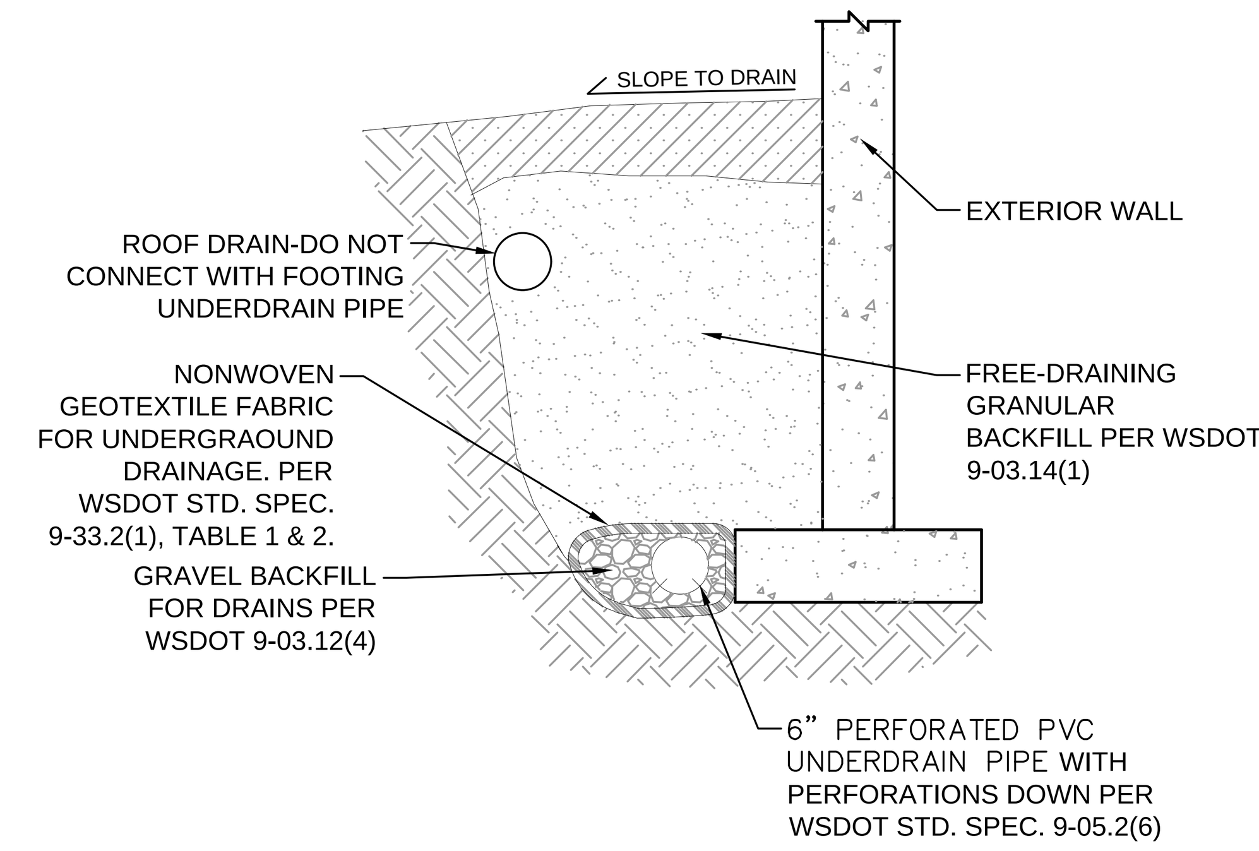


SAMPLING TEE (2)
SCALE: NTS



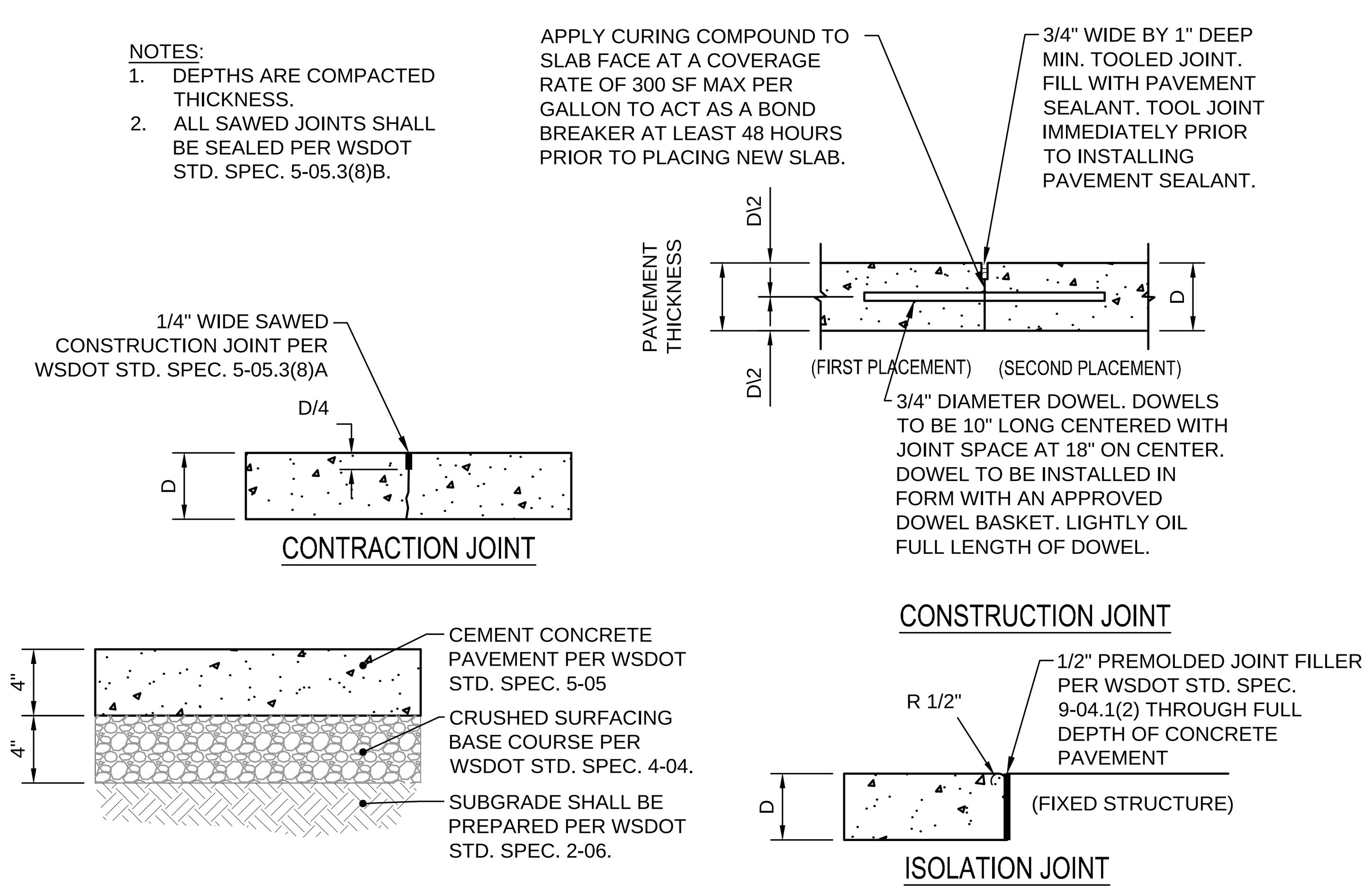
NOTE: CONTRACTOR SHALL AMEND STOCKPILED TOP SOILS WITH COMPOST PER DETAIL AND PLACE IN ALL DISTURBED LANDSCAPE AREAS.

POST CONSTRUCTION SOIL QUALITY & DEPTH SECTION (3)
SCALE: NTS



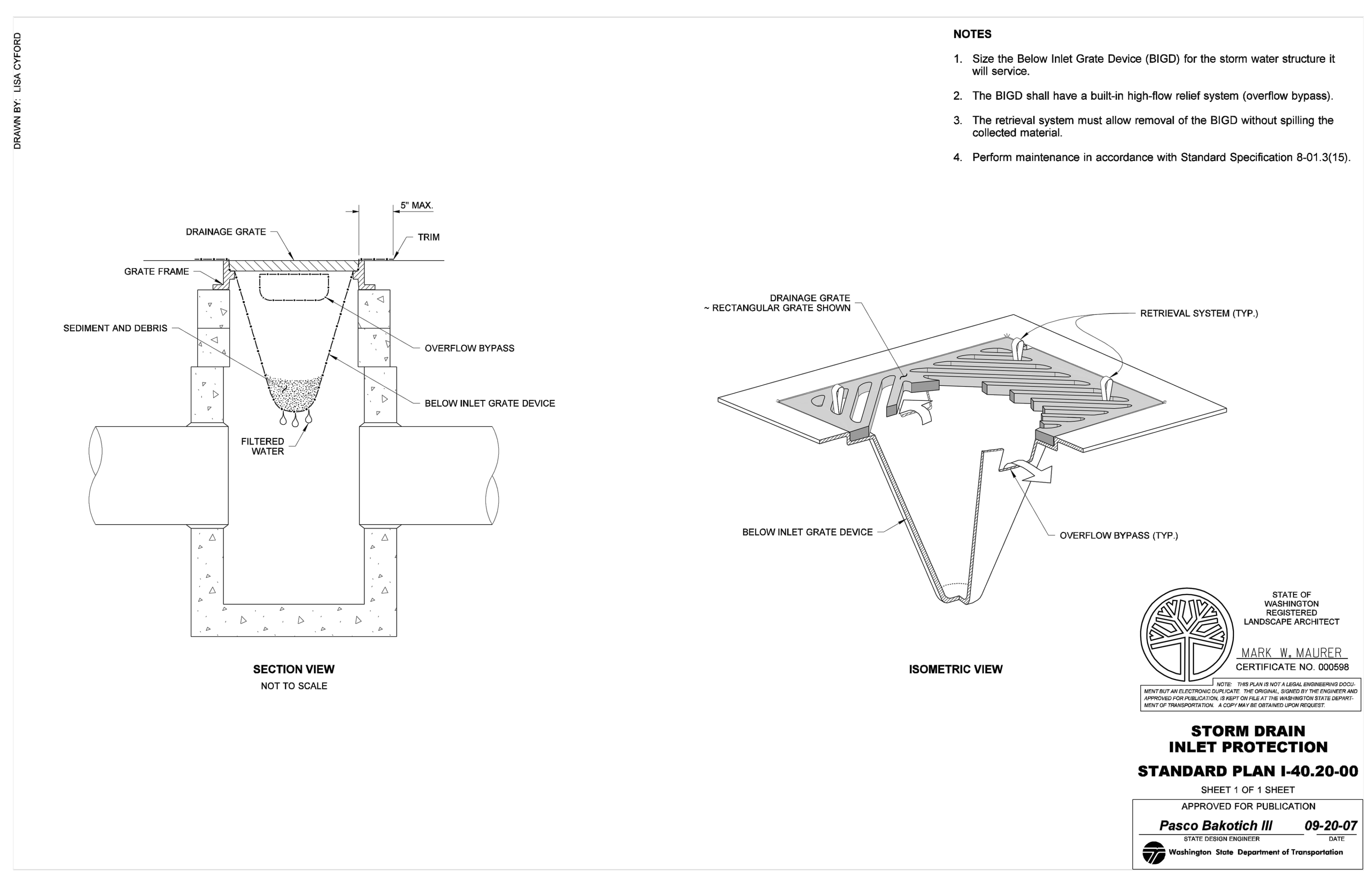
FOOTING AND ROOF DRAIN SECTION (4)
SCALE: NTS

NOTES:
1. DEPTHS ARE COMPACTED THICKNESS.
2. ALL SAWED JOINTS SHALL BE SEALED PER WSDOT STD. SPEC. 5-05.3(8)B.

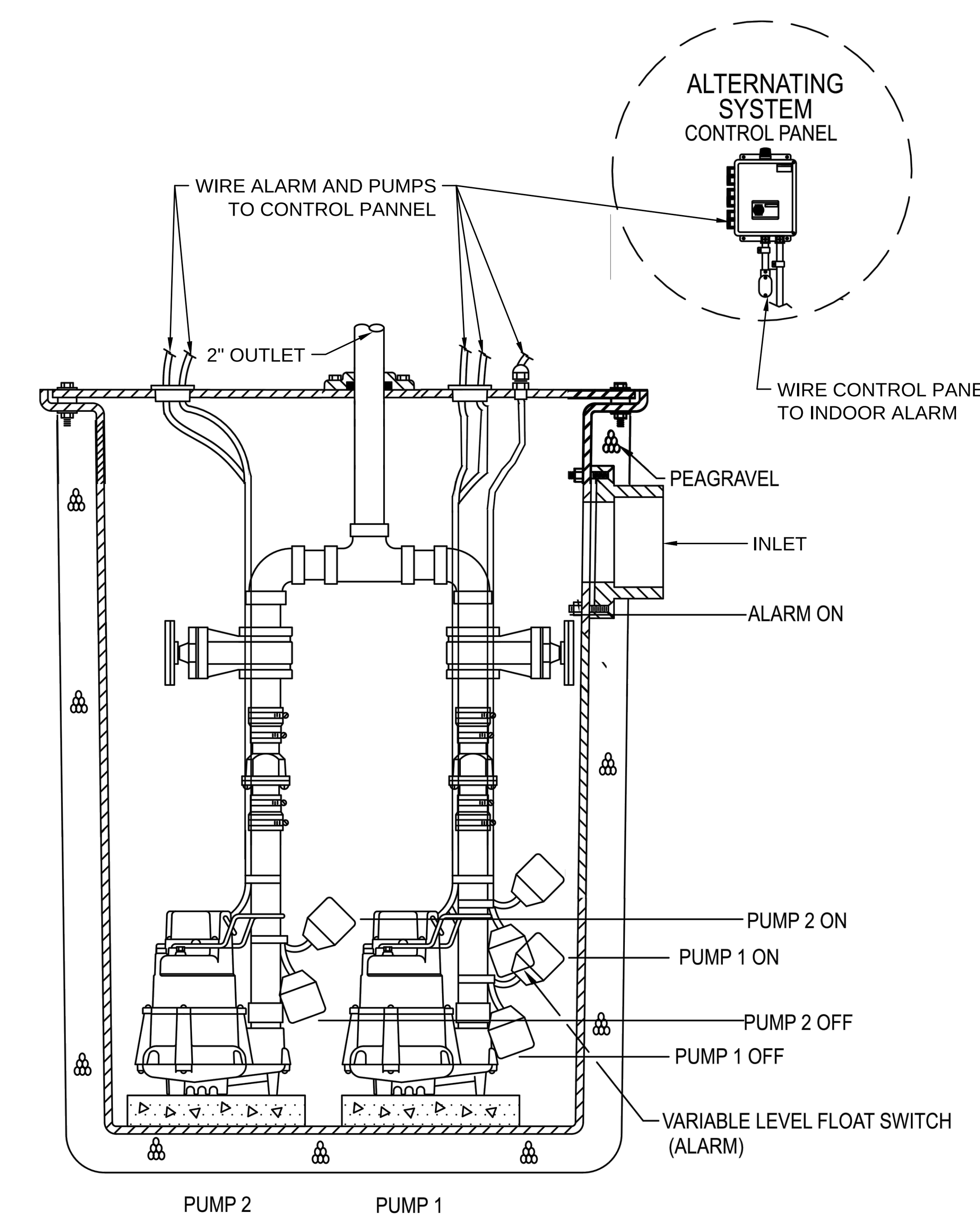


NOTE: CEMENT CONCRETE JOINTING TO BE DETERMINED BY CONTRACTOR.

CEMENT CONCRETE PAVEMENT (5)
SCALE: NTS



STORM DRAIN INLET PROTECTION (6)
SCALE: NTS



DUPLEX PUMP SYSTEM (7)
SCALE: NTS

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T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET, SUITE 200, SEATTLE, WA 98101

SEAL

03/31/2022

PROJECT
HELIX DESIGN BUILD
HELIX MI
6922 33RD ST
MERCER ISLAND, WA 98040

REVISIONS

DATE
03.21.2022
BCRA NO.
22022
DRAWN BY: BS DESIGNED BY: BS
REVIEWED BY: JG
SHEET TITLE
DETAILS

bcra

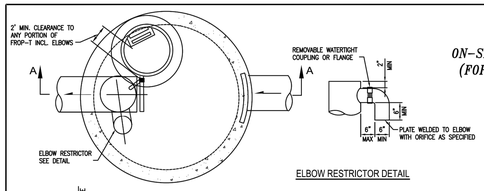
SHEET
C-002
STORM DESIGN

DATE PLOTTED: 3/30/2022 7:53:21 AM FILENAME: 22022C-SITE.DWG BY: ---

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

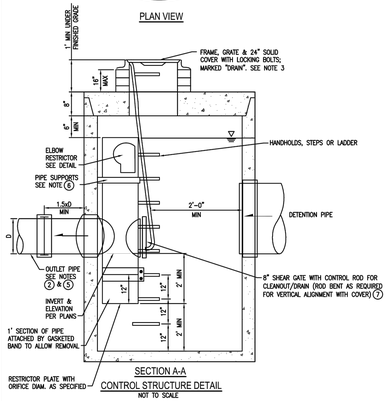
ATTACHMENT 1
CITY OF MERCER ISLAND
ON–SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

OWNER: XXXXX	ADDRESS: 6922 33RD ST SE	PREPARED BY: JUSTIN GOROCH, P.E.	
PERMIT #: TBD	MERCER ISLAND, WA	PHONE: (253) 627 - 4367	
		DATE: 03/XX/2022	
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 3,871	DETENTION PIPE DIA (INCH): 36	DETENTION PIPE LENGTH (FT): 120	ORIFICE #1 DIA 0.5 INCH, ELEV 258.42'
SOIL TYPE: ARENTS, ALDERWOOD MATERIAL (HSG B/D)	PIPE MATERIAL: PER ON-SITE DETENTION SYSTEM NOTE #3		ORIFICE #2 DIA 1.4 INCH, ELEV 262.82'



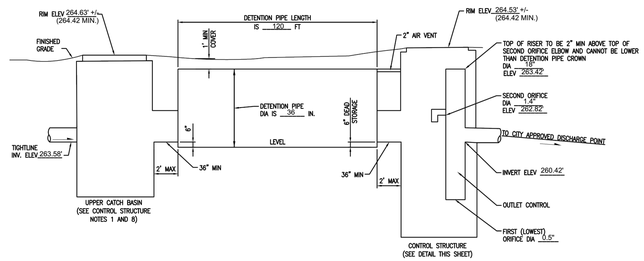
PLAN VIEW

ELBOW RESTRICTOR DETAIL



SECTION A-A

CONTROL STRUCTURE DETAIL
NOT TO SCALE



ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES

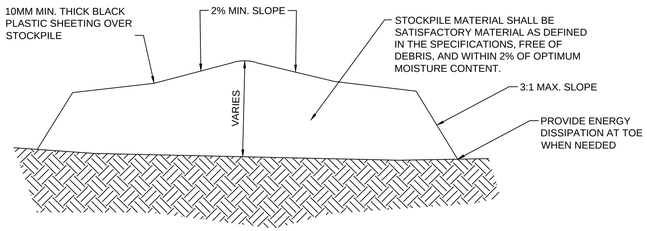
1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION 213A, OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

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

ON-SITE DETENTION SYSTEM DETAIL

SCALE: NTS (8)



PLASTIC COVER INSTALLATION NOTES:

1. RUN PLASTIC UP AND DOWN SIDE SLOPES SLOPE, NOT ACROSS THE SIDE SLOPE.
2. PROVIDE MINIMUM OF 3-FOOT OVERLAP AT SEAMS. PLACE UPSLOPE SHEETS TO OVERLAP DOWNSLOPE SHEETS.
3. ON LONG OR WIDE SLOPES, OR SLOPES SUBJECT TO WIND, ALL SEAMS SHALL BE TAPED.
4. 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.
5. PLACE SAND FILLED BURLAP OR GEOTEXTILE BAGS EVERY 3 TO 6 FEET ALONG SEAMS/EDGES AND POUND A WOODEN STAKE THROUGH EACH TO HOLD THEM IN PLACE.
6. ROPE TOGETHER AND PLACE SAND FILLED BURLAP OR GEOTEXTILE BAGS EVERY 3 TO 6 FEET CENTERED BETWEEN ALL SEAMS.

MAINTENANCE REQUIREMENTS:

1. 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.
2. TORN SHEETS MUST BE REPLACED AND OPEN SEAMS REPAIRED.
3. IF THE PLASTIC BEGINS TO DETERIORATE DUE TO ULTRAVIOLET RADIATION, IT MUST BE COMPLETELY REMOVED AND REPLACED.

TOPSOIL STOCKPILE NOTES:

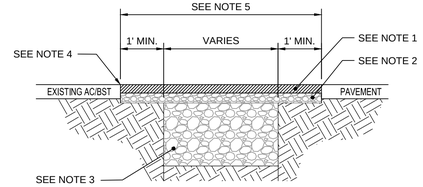
1. STOCKPILES SHALL BE STABILIZED (WITH PLASTIC SHEETING OR OTHER APPROVED DEVICE) DAILY BETWEEN NOVEMBER 1 AND MARCH 31.
2. IN ANY SEASON, SEDIMENT LEACHING FROM STOCK PILES MUST BE PREVENTED.
3. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR WHEN CONDITIONS EXIST THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
4. PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE APPROVED PLAN.

PLASTIC COVERING NOTES:

1. PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MILS AND SHALL MEET THE REQUIREMENTS OF THE STATE STANDARD SPECIFICATION SECTION 9-14.5.
2. COVERING SHALL BE INSTALLED AND MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10-FOOT GRID SPACING IN ALL DIRECTIONS. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH AND THERE SHALL BE AT LEAST A 12-INCH OVERLAP OF ALL SEAMS.
3. CLEAR PLASTIC COVERING SHALL BE INSTALLED IMMEDIATELY ON AREAS SEEDED BETWEEN NOVEMBER 1 AND MARCH 31 AND REMAIN UNTIL VEGETATION IS FIRMLY ESTABLISHED.
4. WHEN THE COVERING IS USED ON UN-SEEDED SLOPES, IT SHALL BE KEPT IN PLACE UNTIL THE NEXT SEEDING PERIOD.
5. PLASTIC COVERING SHEETS SHALL BE BURIED TWO FEET AT THE TOP OF SLOPES IN ORDER TO PREVENT SURFACE WATER FLOW BENEATH SHEETS.
6. PROPER MAINTENANCE INCLUDES REGULAR CHECKS FOR RIPS AND DISLODGED ENDS.

TEMPORARY STOCK PILE

SCALE: NTS (10)

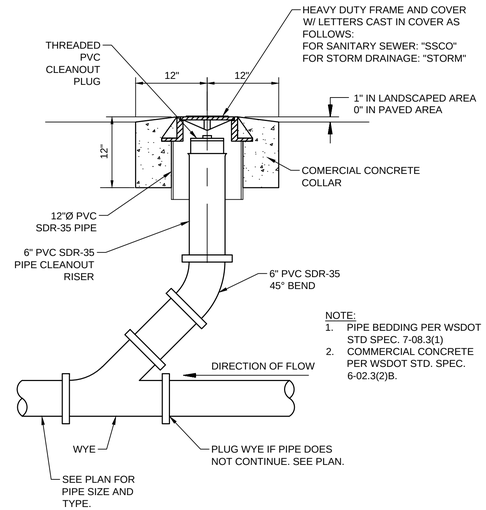


NOTES:

1. ASPHALT CONCRETE PAVEMENT CONFORMING TO PG 58-22 PER WSDOT 5-04. AGGREGATE GRADATION CONFORMING TO THE CONTROL POINTS FOR 1/2-INCH MIX AS PRESENTED UNDER HMA PROPORTIONS OF MATERIALS PER WSDOT 9-03.8(6). HMA 1/2", WITH A MINIMUM COMPACTED DEPTH PER PAVEMENT SECTION SPECIFICATION ON PAVING PLAN PLUS 1". PLACE IN LIFTS WITH A MAXIMUM COMPACTED DEPTH OF 3" AND MACHINE ROLL FLUSH WITH EXISTING PAVEMENT.
2. CRUSHED SURFACING TOP COURSE CONFORMING TO WSDOT 9-03.9(3).
3. BACKFILL MATERIAL SHALL BE PLACED IN 4" MAXIMUM LOOSE LIFTS IF COMPACTED WITH HAND OPERATED EQUIPMENT OR 10" MAXIMUM LOOSE LIFTS IF COMPACTED WITH HEAVY EQUIPMENT AND COMPACTED TO 95% MAXIMUM DRY DENSITY PER MODIFIED PROCTOR TEST (ASTM D-1557). REFER TO TRENCH SECTIONS AND SPECIFICATIONS FOR BACKFILL MATERIAL.
4. NEAT, UNIFORM VERTICAL CUT (TYPICAL BOTH SIDES). CLEAN AND NEAT EDGES AND TACK WITH EMULSIFIED ASPHALT. SEAL JOINT WITH HOT ASPHALT CEMENT.
5. ALL PERMANENT FINAL PATCHES SHALL BE RECTANGULAR OR CIRCULAR IN SHAPE.

HMA RESTORATION

SCALE: NTS (9)



NOTE:

1. PIPE BEDDING PER WSDOT STD SPEC. 7-08.3(1)
2. COMMERCIAL CONCRETE PER WSDOT STD. SPEC. 6-02.3(2)B.

STORM CLEANOUT

SCALE: NTS (11)

bcra
T 253.627.4367 F 253.627.4395 WWW.BCRADESIGN.COM
414 STEWART STREET SUITE 200, SEATTLE, WA 98101

SEAL

03/31/2022

PROJECT
HELIX DESIGN BUILD
HELIX MI
6922 33RD ST
MERCER ISLAND, WA 98040

REVISIONS

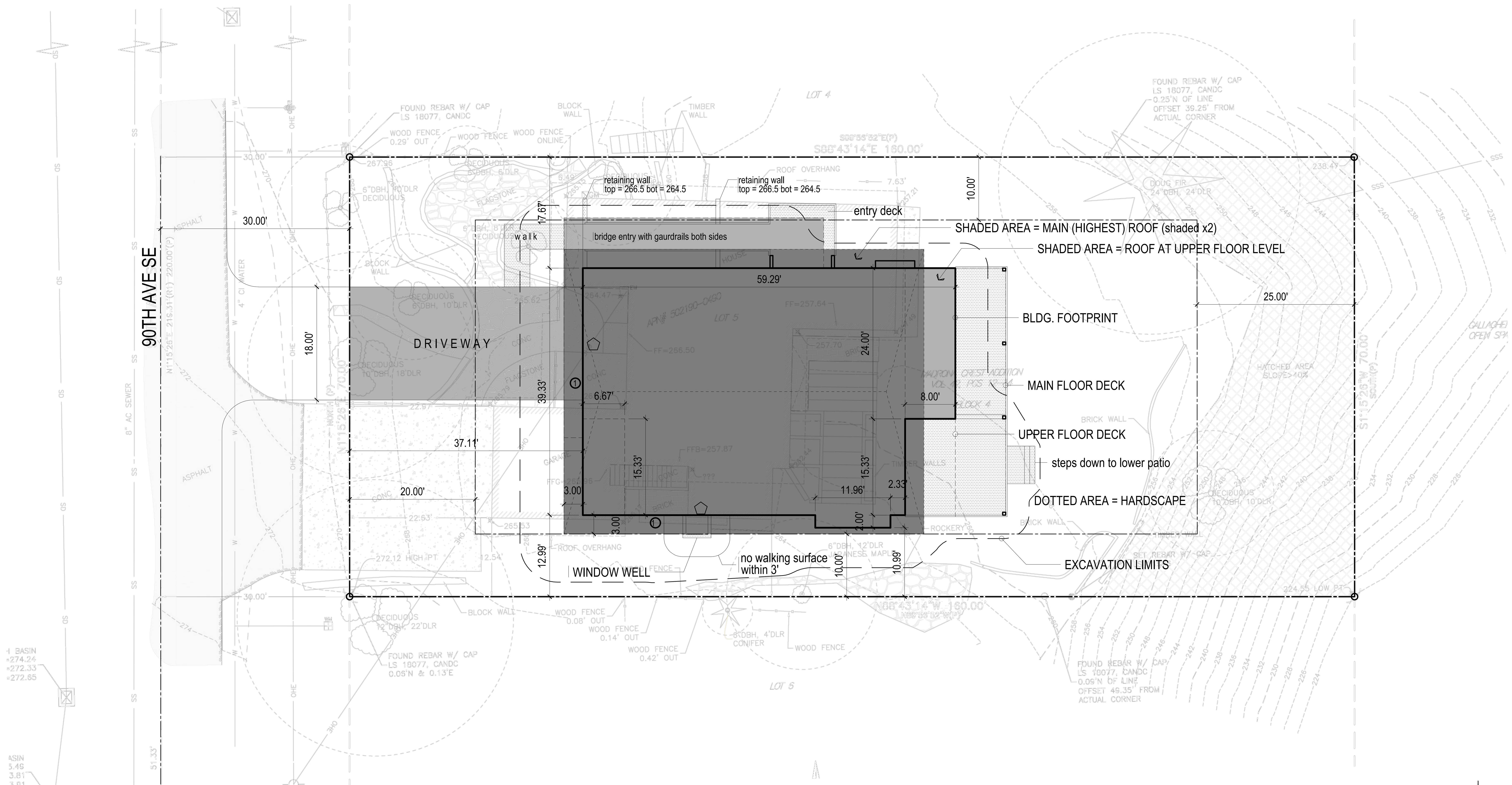
DATE 03.21.2022
BCRA NO. 22022
DRAWN BY: BS DESIGNED BY: BS
REVIEWED BY: JG
SHEET TITLE
DETAILS

SHEET
C-003
STORM DESIGN

DATE PLOTTED: 3/30/2022 7:53:24 AM FILENAME: 22022C-SITE.DWG BY: —

IF SHEET MEASURES LESS THAN 24"X36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

Exhibit C



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

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

r

Nick Bossoff
191 NE Tari Lane
Stevenson WA 98648
425.881.5904

r

Keith Johnson
Geo Group NW Inc.
Bel-Red Road, Bellevue, Washington 9800
(425) 649-8757 / E-mail: info@geogroupnw.com

r r r

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

r r

Mike Yeganeh
Aspen Homes NW
(206) 799-3016

r D r

Demolish existing and build new single family residence with attached accessory dwelling unit.

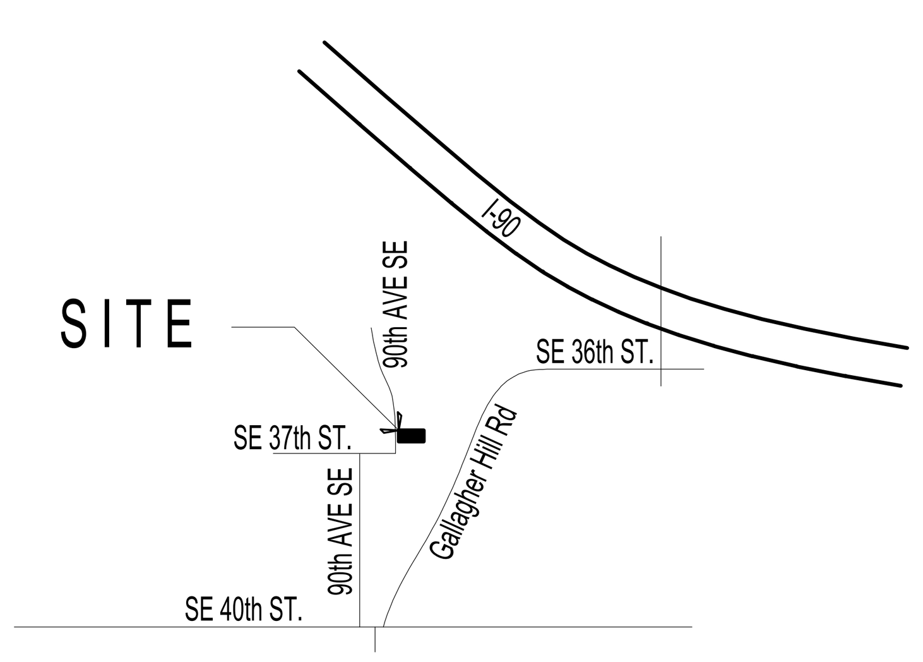
r r

Parcel # = 502190-0490
D r
M DR R DD
5
ZONING = R-8.4
lot size = 11,200 sf

r

ANANTA & SATYA GUDIPATY
3737 77TH AVE SE
MERCER ISLAND WA 98040

Geotechnical recommendations do not support wet weather foundation construction.



VICINITY MAP
NTS

R M R R R M

1. Installation of an NFPA 72 "Chapter 29" Monitored Fire Alarm System – Separate FIRE permit required
2. Installation of an NFPA 13R Fire Sprinkler System – Separate FIRE permit required.

1
55
5 1 9 3
R 35

R
M r 1 5 r
D r r r 3
r r r r 1 39
r r 1
9 5
d 1 55
r 1
r 9
d 5
9 11 1

d D

2018 International Building Code (IBC) - struct.
2018 International Residential Code (IRC)
2018 International Mechanical Code (IMC)
2018 International Fuel Gas Code (IFGC)
2018 Uniform Plumbing Code (UPC)
2018 International Fire Code (IFC)
2018 International Existing Building Code
2018 International Swimming Pool and Spa Code
Washington State Energy Code (WCEC)
ICC/ANSI A117.1-09, Accessible and Usable Buildings and Facilities, with statewide and City amendments

R D D R
R 1
r d r d
dr d d 1
353
11 35 3 9
r rd 3 1

A. SITE PLAN

1/10" = 1'-0"
327 = SPOT ELEVATION, FINAL
= EAVE/ROOF LINE
= EXTENT OF LIVING AREA
= BUILDING FOOTPRINT (FOUNDATION EXTENTS)
SHADED AREA = BLDG EXTENTS TO EAVE
EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED
= EXISTING TOPOGRAPHY

NORTH

RD D D R
D 3
R
51 9
11 9 1
r 3 1
13 9

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STATE OF WASHINGTON

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Mithila
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CONTENTS
Site Plan

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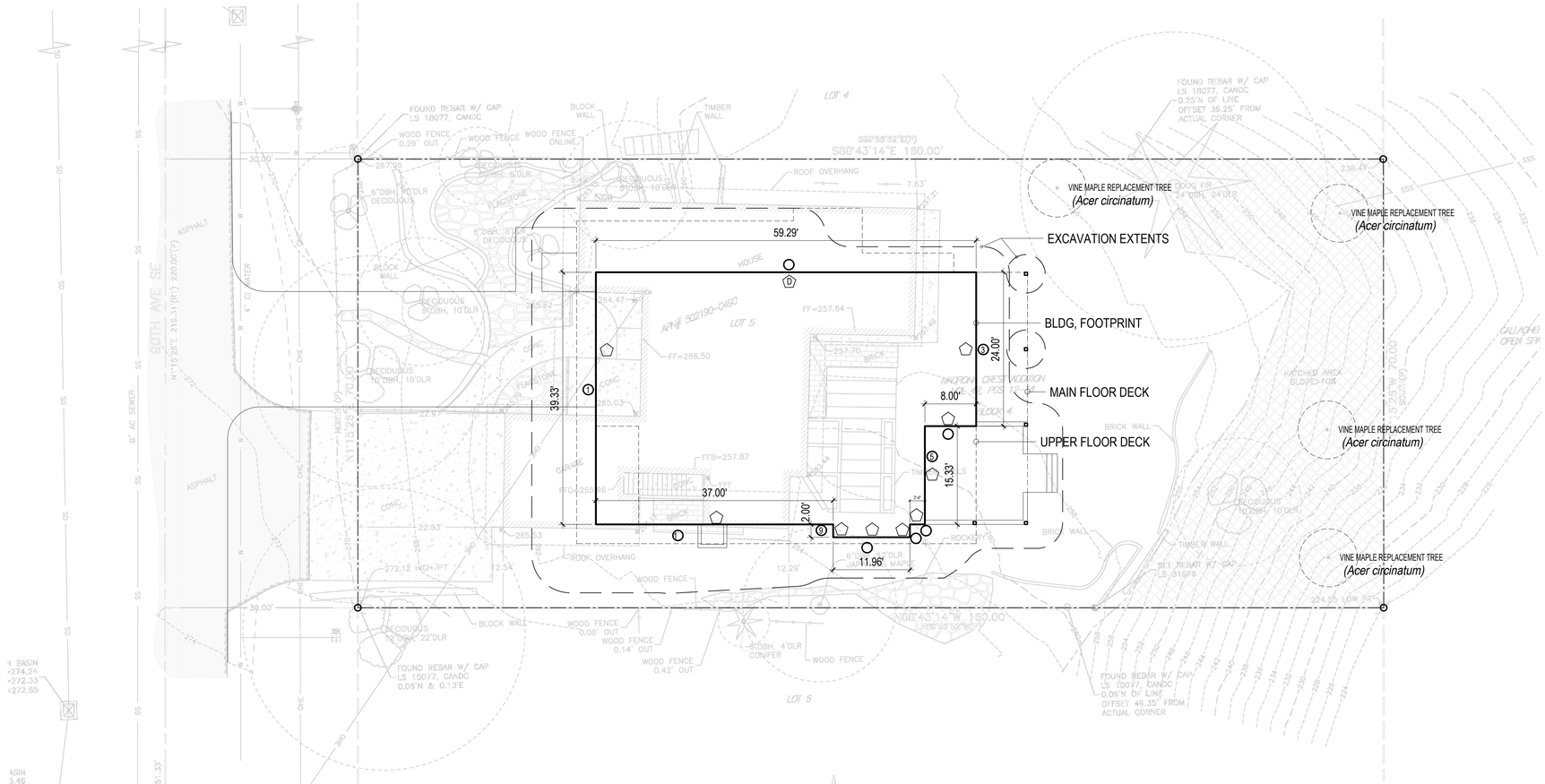
DATE
11.17.22
4.28.23
7.21.23

1a



BASEMENT AREA F.A. EXCEPTION CALCULATION

segment	length	beginning elev.	end elev.	begin cov	end cover	avg cover	%cover	wtd
a	15.33	262	**256**	6.00	0.00	3	39.0%	5.97
b	8	**256**	258.7	0.00	2.70	1.35	17.5%	1.40
c	24	258.7	257.5	2.70	1.50	2.1	27.3%	6.55
d	59.29	257.5	265.5	1.50	9.50	5.5	71.4%	42.35
e	39.33	265.5	265.5	9.50	9.50	9.5	100.0%	48.52
h	37	**percentage determined graphically, see A-05**					77.4%	32.63
i	2	263.5	263.5	7.50	7.50	7.5	88.2%	1.76
j	11.96	263.5	262	7.50	6.00	6.75	87.7%	10.48
k	2	262	262	6.00	6.00	6	77.9%	1.56
l	2.33	262	262	6.00	6.00	6	77.9%	1.82
perim=	201.24							153.05
						avg.	76.1%	

raw FAR 2177

basement slab elev = 256
full cover = 8.5 ft (fin. clg.)

excepted area = 1655.697
BOLD elevations are lower than existing grade
segment is footprint on the ground or projected overhanging living space

ELEVATION CALC.

	EL @ MIDPOINT	segment (ft)	wtd sgmnt
1	265.50	39.33	10442.12
2	257.70	59.29	15279.03
3	257.50	24	6180.00
4	**256.00**	8	2048.00
5	**256.00**	15.33	3924.48
6	262.00	2.33	610.46
7	262.00	2	524.00
8	263.00	11.96	3145.48
9	263.00	2	526.00
10	265.00	37	9805.00
		201.24	52484.57

AVG. EL = 260.8058
BOLD = NEW EL LOWER THAN EXIST
all others exist = final

A. SUPPLEMENTAL SITE PLAN

1/10" = 1'-0"

NORTH

⬠ = WALL SEGMENT TAG FOR BASEMENT FAR EXCEPTION
① = WALL SEGMENT TAG FOR HEIGHT CALCULATION
– – – – – = EAVE/ROOF LINE
——— = BUILDING FOOTPRINT (FOUNDATION EXTENTS)

R M R R

1. NEW TREES WILL BE AT LEAST 6 FEET TALL FOR CONIFERS AND 1.5 INCHES IN CALIPER FOR DECIDUOUS SPECIES
2. NEW TREES WILL BE PLANTED BETWEEN OCTOBER AND MARCH
3. MINIMUM SPACING BETWEEN TREES AND DISTANCES FROM BUILDINGS OR INFRASTRUCTURE WILL BE 10 FEET
4. EACH NEW TREE WILL BE WATERED FOR THE FIRST 2 YEARS ON THE FOLLOWING SCHEDULE:
5. MINIMUM OF 5 GALLONS OF WATER PER WEEK FOR THE FIRST 4 WEEKS AFTER PLANTING
6. EVERY 2 WEEKS WHEN WEEKLY DAYTIME MAXIMUM TEMPERATURES ARE BELOW 70°
7. ONCE A WEEK WHEN WEEKLY DAYTIME MAXIMUM TEMPERATURES ARE OVER 70° (E.G. MAY THROUGH SEPTEMBER)

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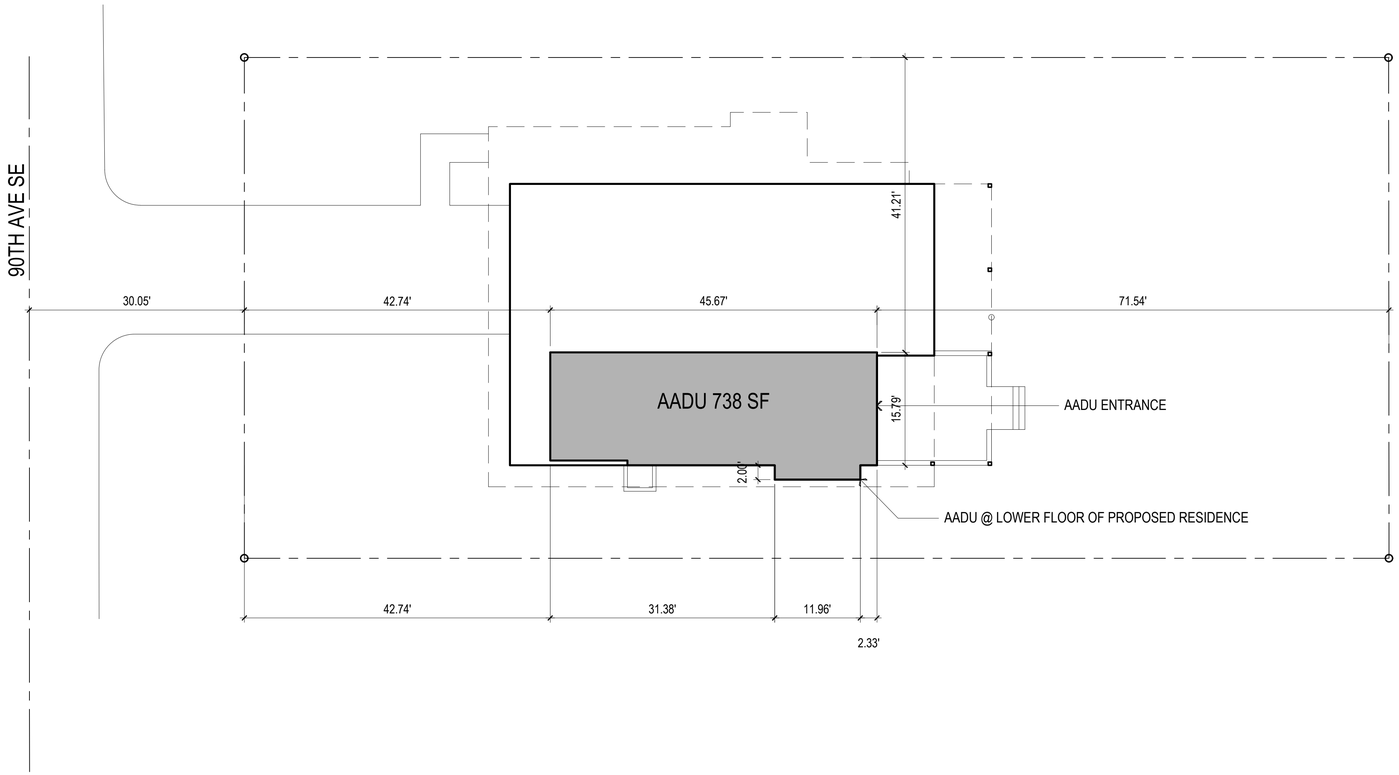
1b



A. AADU LOCATION DIAGRAM

NORTH

1/10" = 1'-0"

= EAVE/ROOF LINE

= BUILDING FOOTPRINT (FOUNDATION EXTENTS)

D r rr

An ADU attached to a new SFR as part of the new construction project (permit 2210-198) will include 738.0 sq. ft of living space, it will include a full kitchen with its own dishwasher, sink, oven, refrigerator, microwave and washer and dryer. There will be a separate entrance that connects by walkway to 90th ave SE. The ADU will include a living room and bedroom with an attached full bathroom. Heating control will be separate from the main house.

The ADU is within the size limits of 19.02.030 B4.
The location meets 19.02.030 B5.
The entrance of the ADU meets 19.02.030 B6
Parking for the ADU meets 19.02.030 B9

The ADU will be recorded as such with the King County Department of records and elections which runs with the land and identifies the address of the property, states the owner resides in either principle dwelling unit or the accessory dwelling unit, includes a statement that the owners will notify any prospective purchasers of the limitations of this section, and provides for the removal of the accessory dwelling unit if any of the requirements of this chapter are violated.

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ADU Site Plan

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4.28.23

lc

NOTES

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

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

= FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

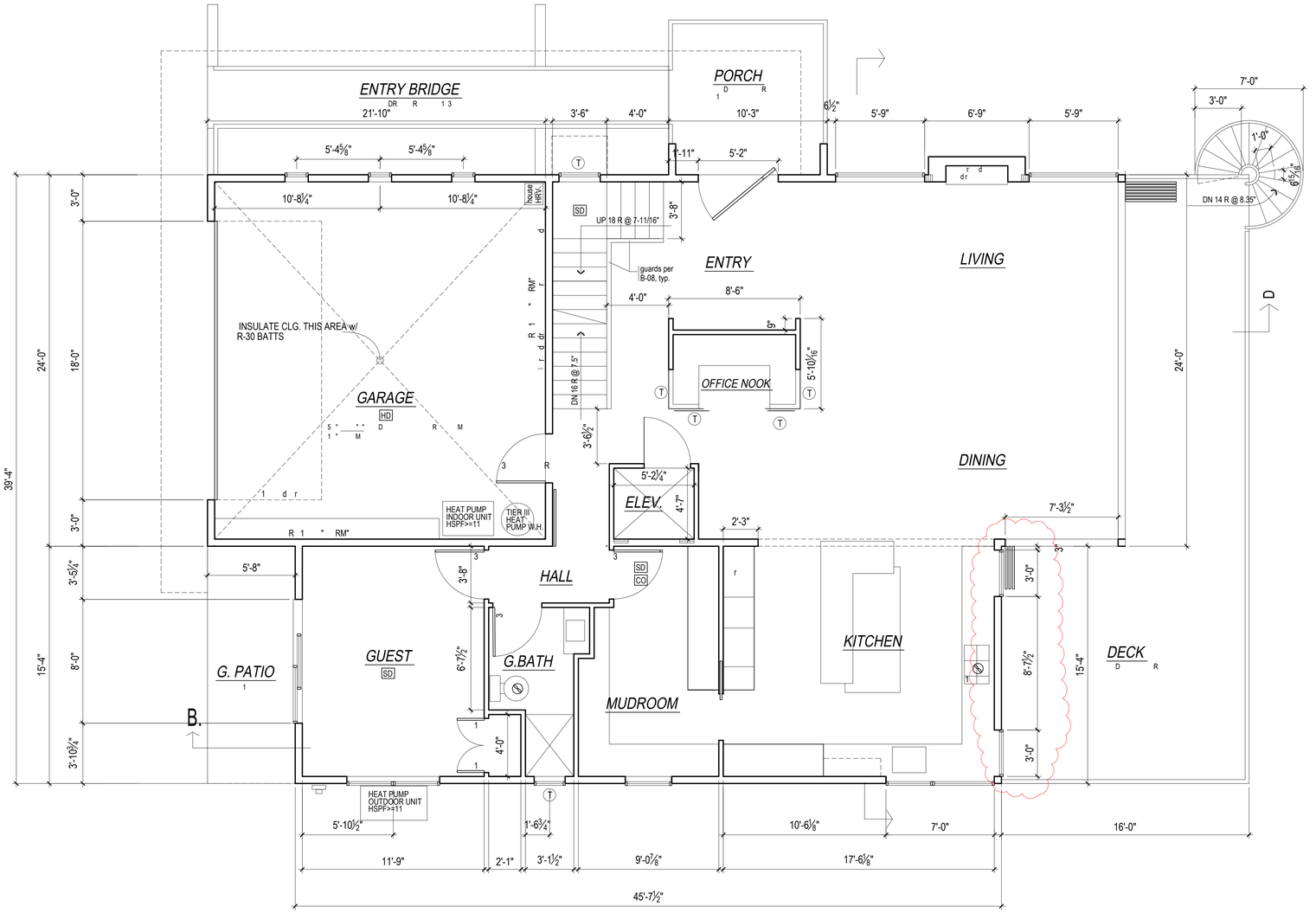
(E) =EGRESS WINDOWS

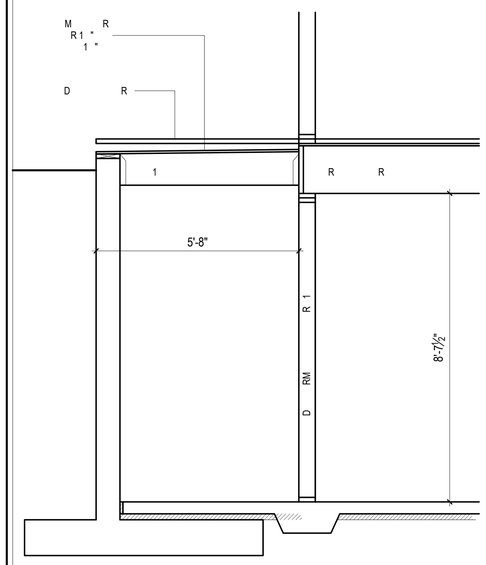
r r r r rd dr
r d r dr r rd R
R3 1 5

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT





B. SECTION AT GUEST PATIO
1/2" = 1'-0" see also 9-S3.2

A. MAIN FLOOR PLAN
1/4" = 1'-0"

LIVING SPACE (TO O.S. WALLS) = 1598.5 sf
GARAGE (TO O.S. WALLS) = 506 sf
TOTAL F.A. THIS FLOOR = 2104.5 sf
STAIR AREA = 74 SF

NORTH

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CONTENTS
Main Floor

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02

NOTES

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

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

⦸ = FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

(E) =EGRESS WINDOWS

r r r r rd dr
r d r dr r rd R
R3 1 5

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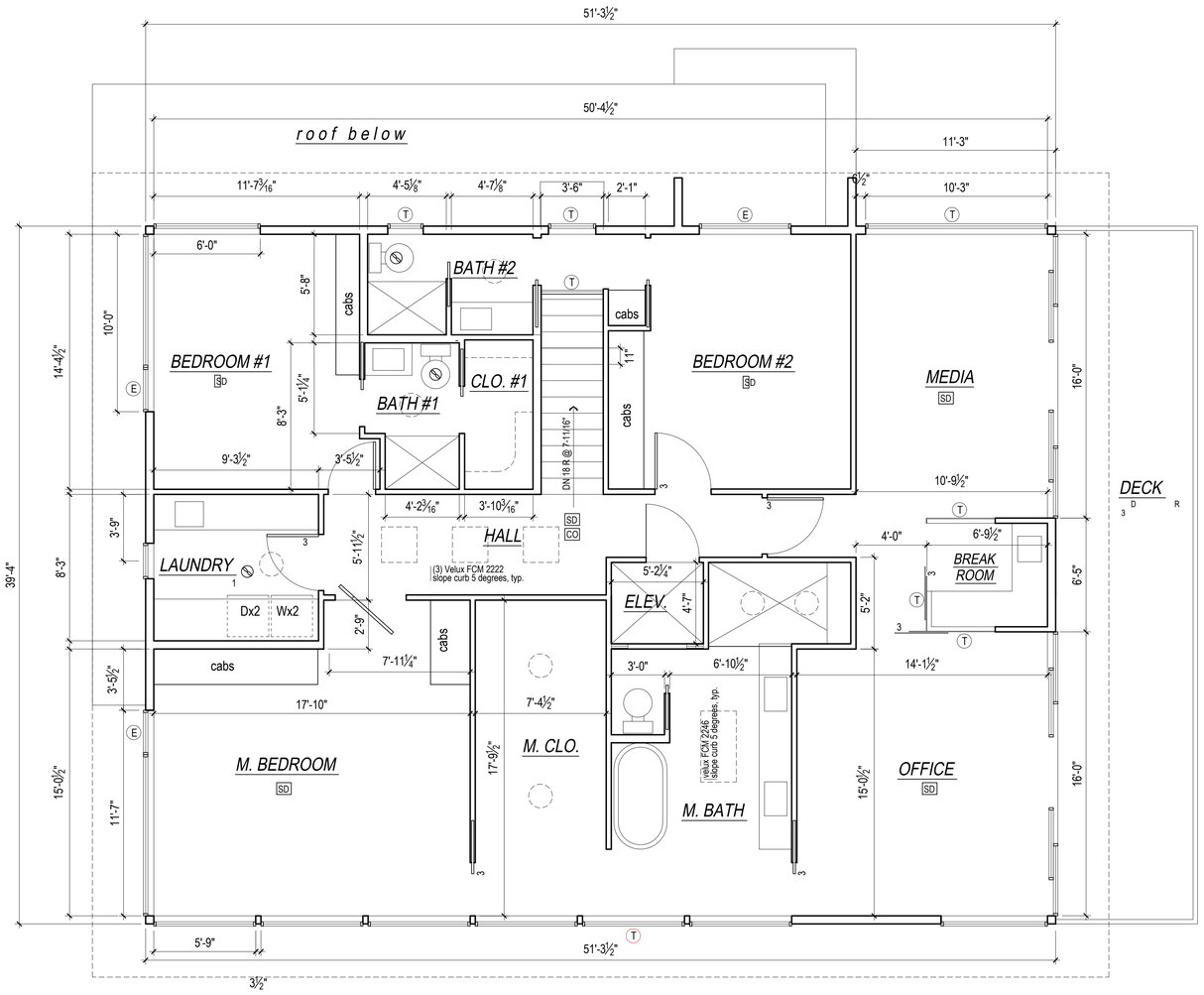
ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. UPPER FLOOR PLAN
1/4" = 1'-0"

FLOOR AREA (TO O.S. WALLS) = 2017 sf

⦸ = SOLAR TUBE LOCATION

NORTH

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CONTENTS
Upper Floor

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4.28.23
7.21.23

03

NOTES

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

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

= FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

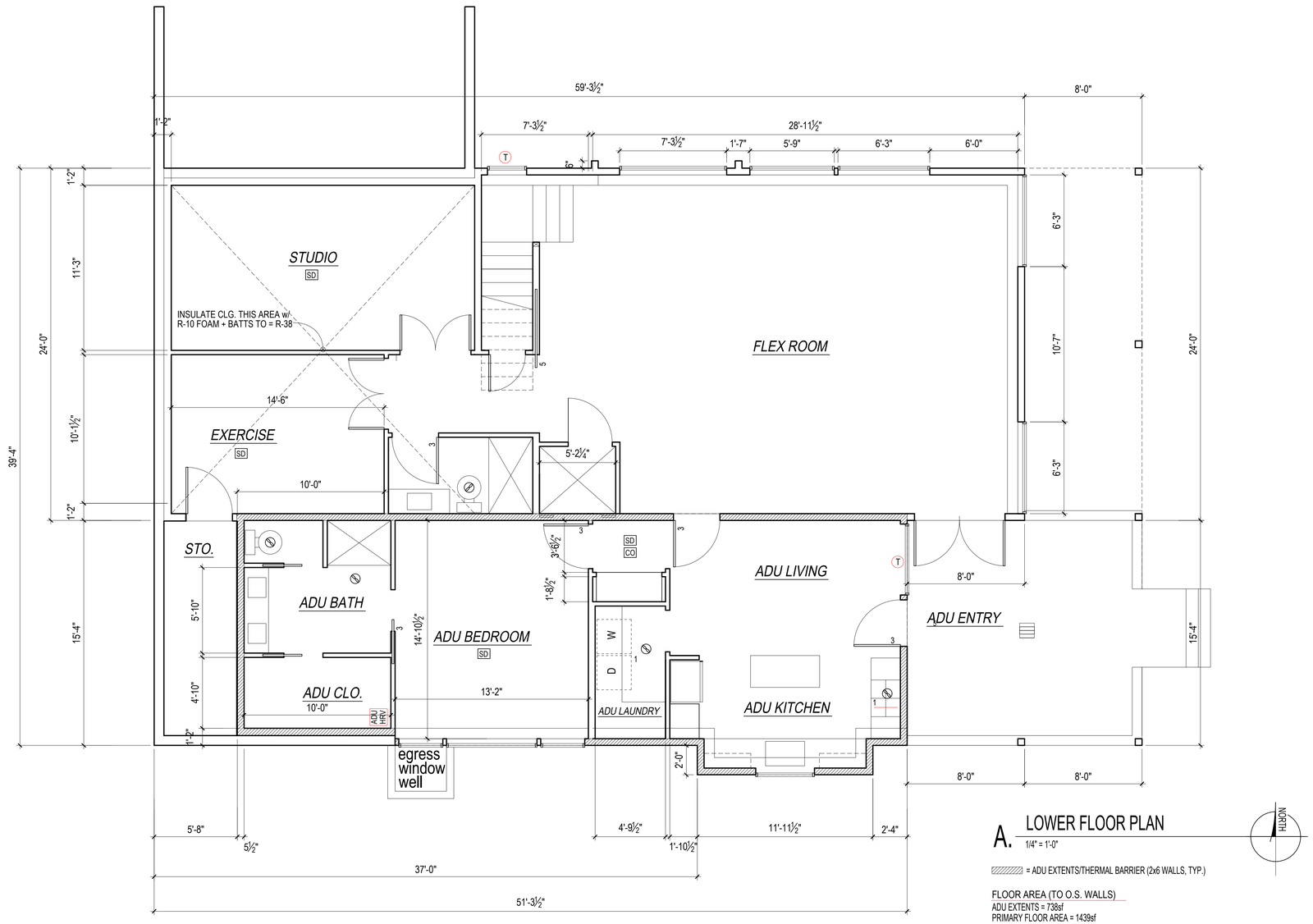
(E) =EGRESS WINDOWS

r r r r rd dr
r d r dr r r d R
R3 1 5

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. LOWER FLOOR PLAN
1/4" = 1'-0"

NORTH

= ADU EXTENTS/THERMAL BARRIER (2x6 WALLS, TYP.)

FLOOR AREA (TO O.S. WALLS)
ADU EXTENTS = 738sf
PRIMARY FLOOR AREA = 1439sf
TOTAL FLOOR AREA = 2177sf

FOAM INSULATION NOTES

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

ADU CLG. SOUND/FIRE REQUIREMENTS

Provide sound insulation (STC rating of at least 45 & ICC rating of at least 50) and 1 hr fire resistance in the entire ADU ceiling (including under stairs) . See ESR-1153 Assembly B.
Requirements:
1. 48/24 tongue-and-groove span rated sheathing (Exposure 1).
1. Two layers of 1/2 inch thick Type X gypsum board.
2. TJI Joist.
3. Optional minimum 3-1/2 inch thick glass fiber insulation or non-combustible insulation that is rated R-30 or less, with resilient channels

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CONTENTS
Lower Floor

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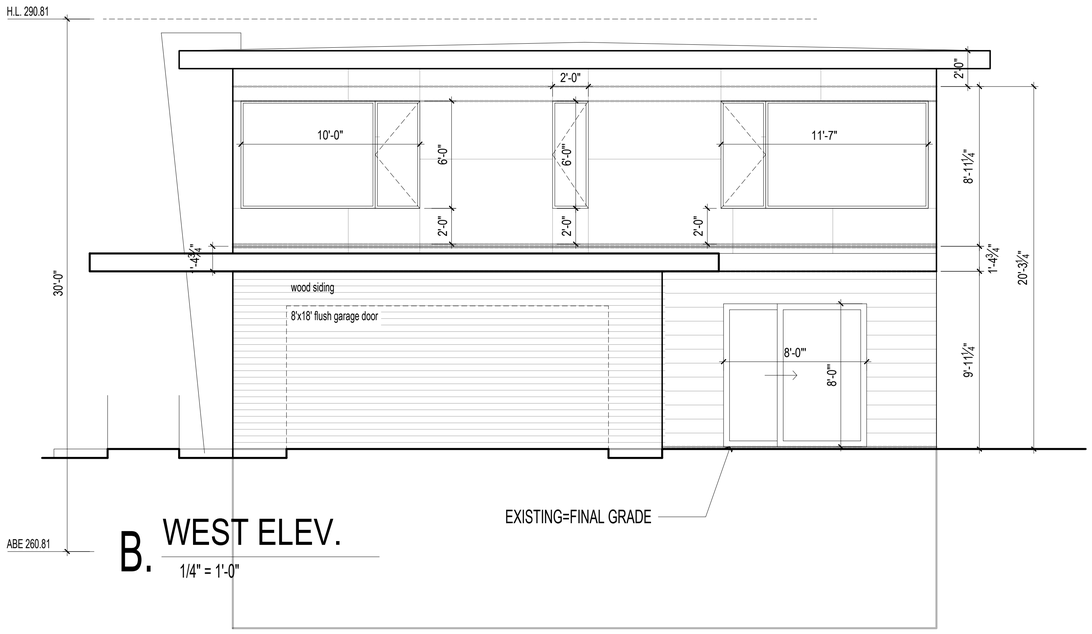
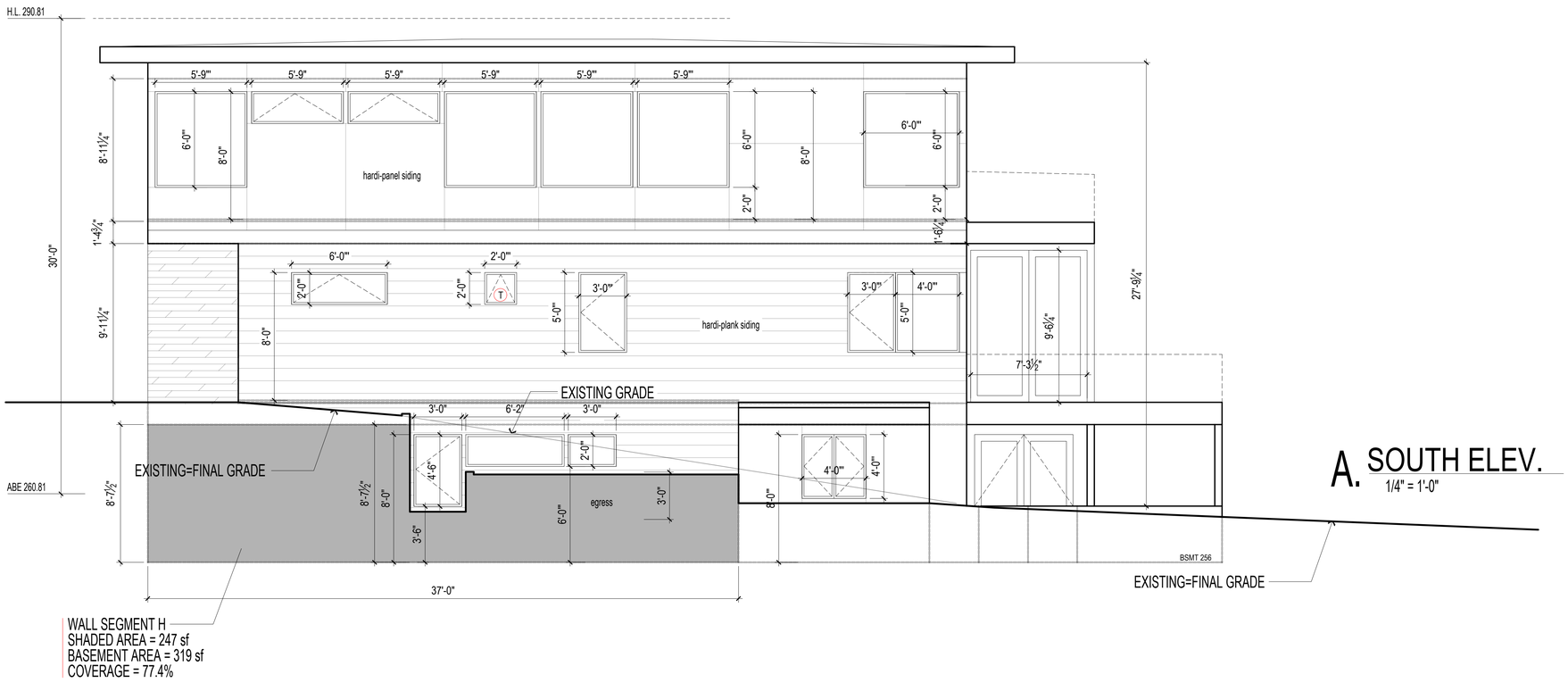
10.20.22
4.28.23

04



B. WEST ELEV.

1/4" = 1'-0"



A. SOUTH ELEV.

1/4" = 1'-0"

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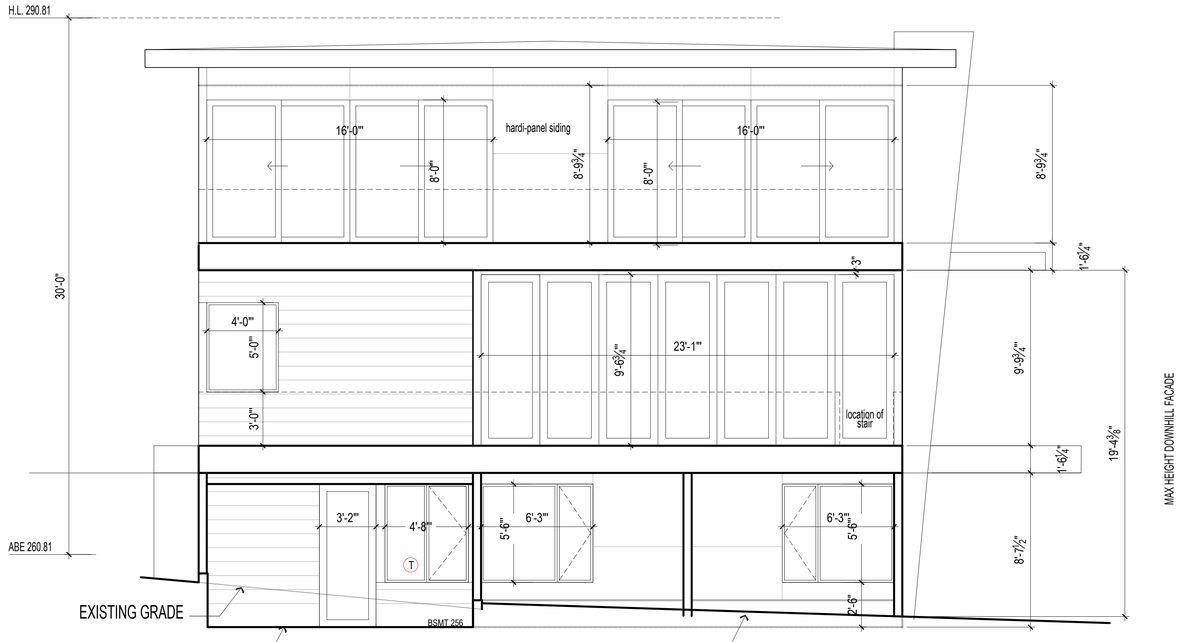
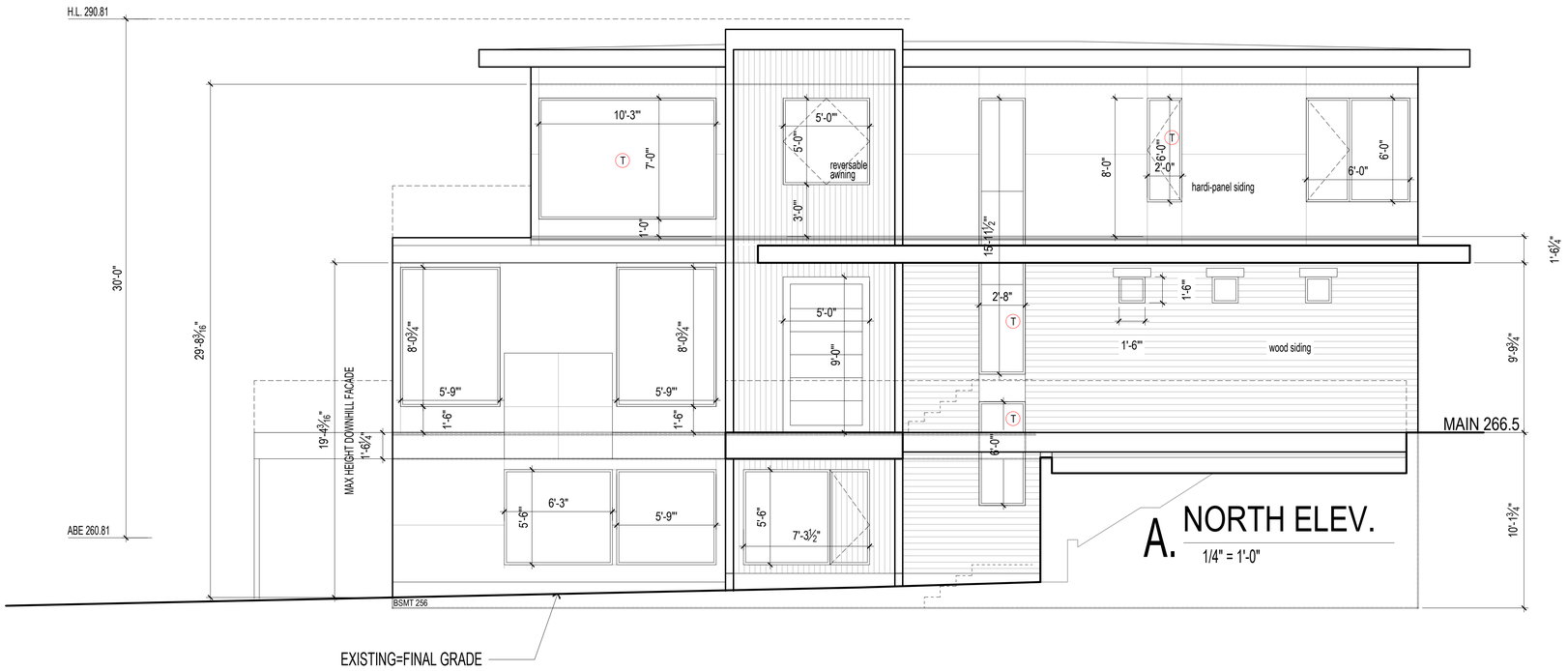


B. EAST ELEV.

1/4" = 1'-0"



A. NORTH ELEV.

1/4" = 1'-0"

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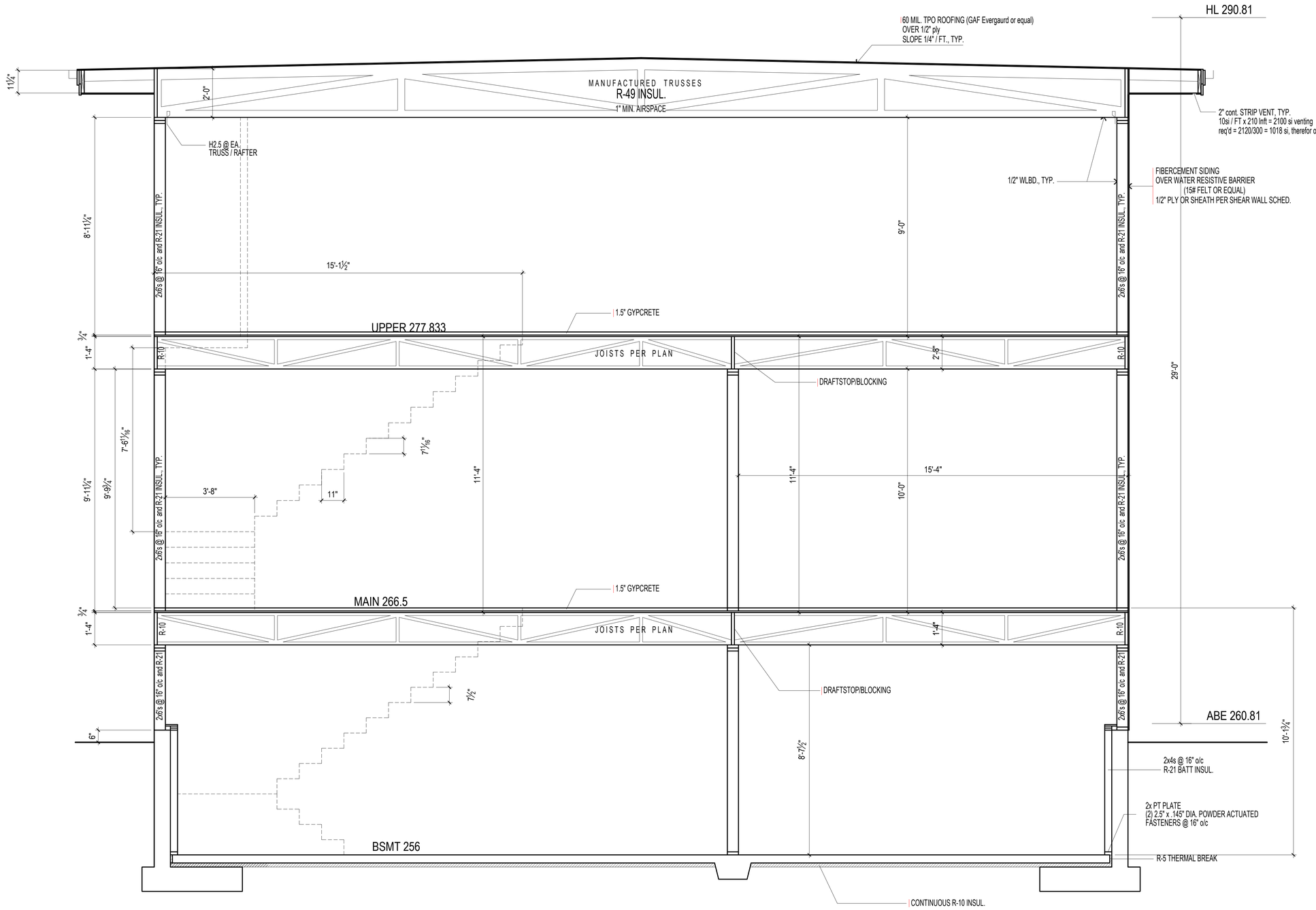

A. TYP. BUILDING SECTION

1/2" = 1'-0"

4

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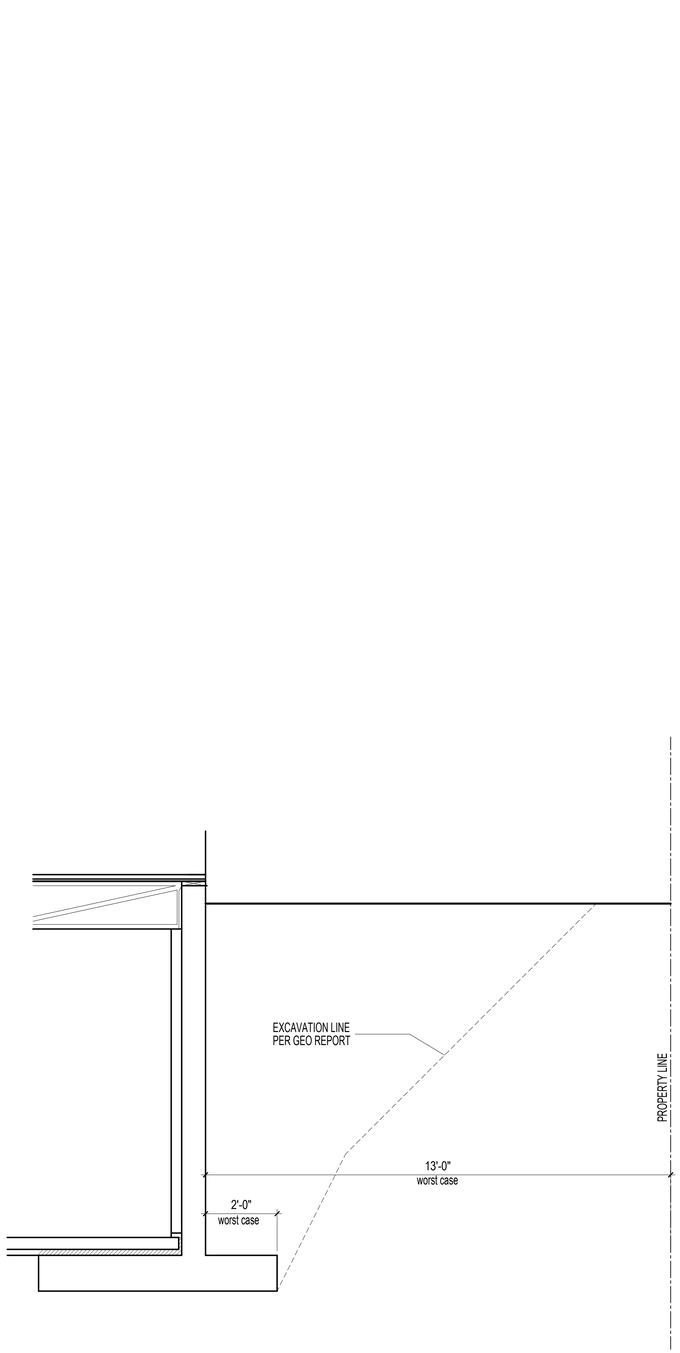
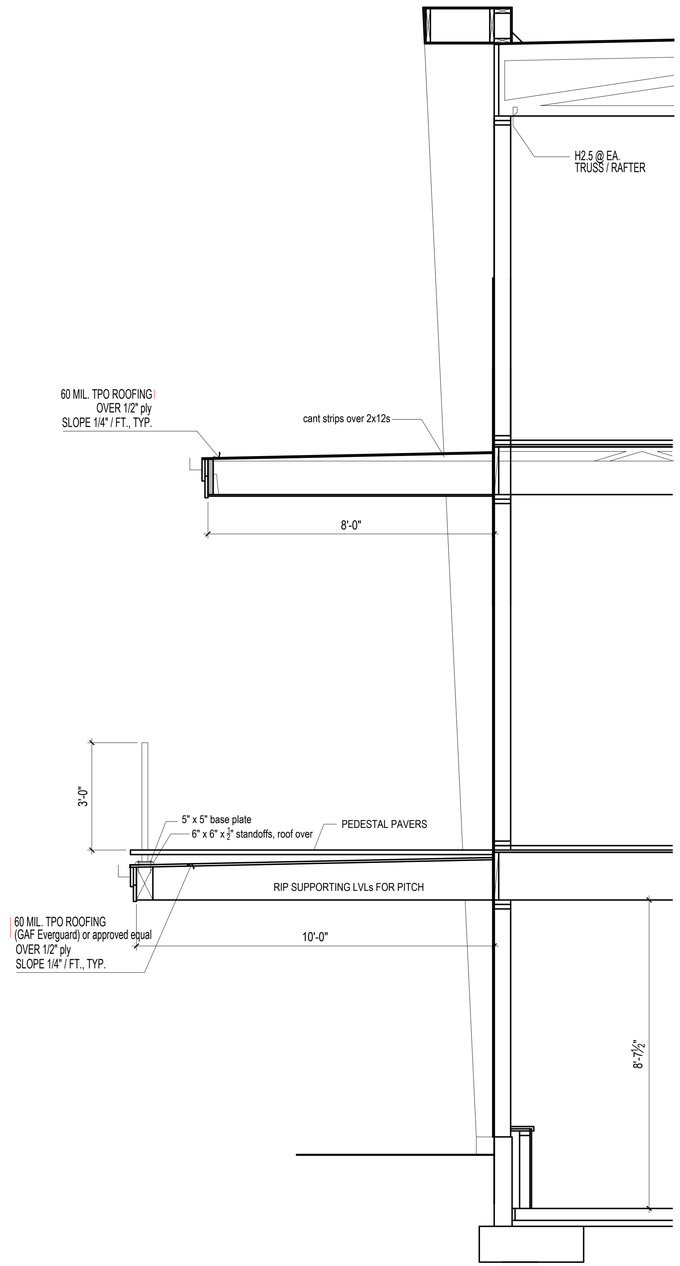


B. EXCAVATION AT SIDE YARD

1/2" = 1'-0"



A. ENTRY SECTION

1/2" = 1'-0"

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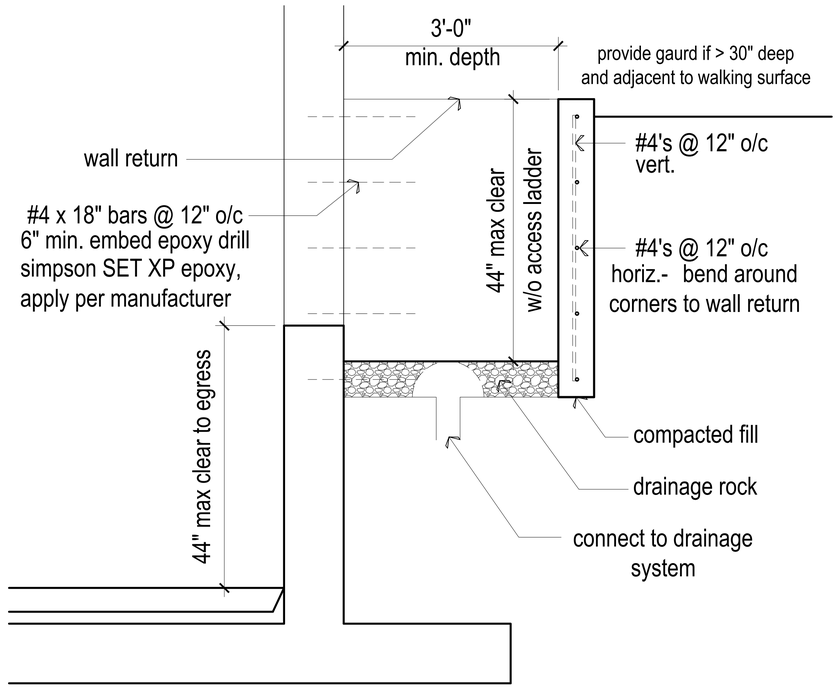
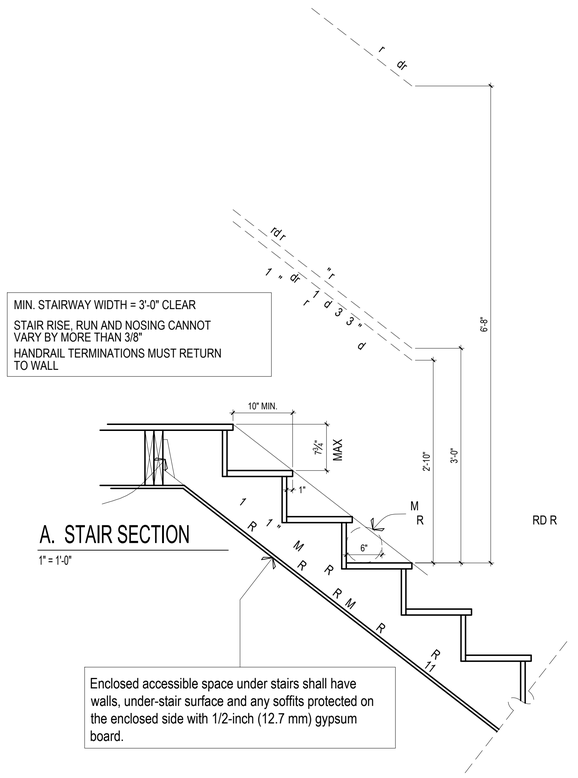
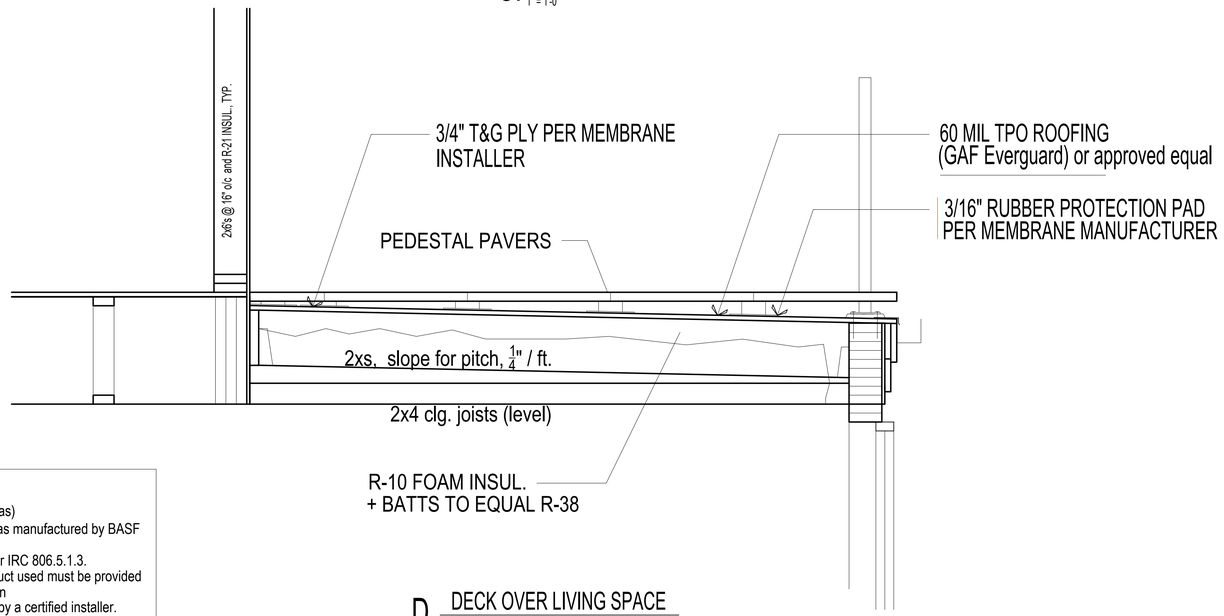




A. STAIR SECTION
1" = 1'-0"

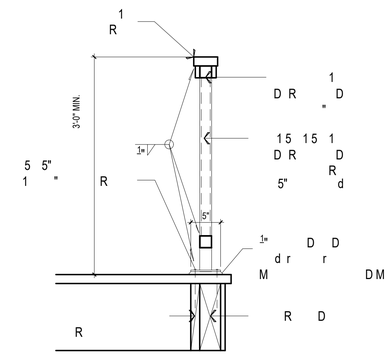
C. WINDOW WELL DETAIL
1" = 1'-0"



FOAM INSULATION NOTES

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

D. DECK OVER LIVING SPACE
1" = 1'-0"



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

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r d r r

2018 WA STATE PRESCRIPTIVE PATH
OVER 5000 SF HEATED SPACE - 7 CREDITS REQ.

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

total credits 7

PRIMARY RESIDENCE HVAC NOTES

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

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

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

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

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

r d D

2018 WA STATE PRESCRIPTIVE PATH
LESS THAN 1500 SF HEATED SPACE - 3 CREDITS REQ.

energy credit option	credit value	summary
2	1	heat pump
3.6	2	mini-split

total credits 3

AADU RESIDENCE HVAC NOTES

MINI-SPLIT HEAT PUMP (HSPF>10.0)
HEAT RECOVERY VENTILATION (separate from house HRV system)
REQUIRED VENTING = CONTINUOUS 120CFM
SET TO OPERATE AT 240 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%)
PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX .35 WATTS/CFM)
CONTOLLED TO OPERATE AT LOW SPEED IN VENTILATION
MODE ONLY.

ENERGY CREDIT DESCRIPTIONS

1.7

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

2.2

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

3.5

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

4.1

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

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

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

5.5

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

7.1

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

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

Window, Skylight and Door Schedule

Project Information: MITHILA PRIMARY
Contact Information:

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

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
ENTRY		0.28	1	5	0	9	0	45.0	12.60
LR		0.28	2	6	0	8	0	109.4	30.63
LR		0.28	1	9	0	23		225.1	63.02
LR		0.28	1	9	0	8	1/4	80.8	22.64
KITCHEN		0.28	2	4	0	5	0	40.0	11.20
KITCHEN		0.28	1	8	0	5	0	40.0	11.20
MUD		0.28	1	3	0	5	0	15.0	4.20
G BATH		0.28	1	2	0	2	0	4.0	1.12
G BED		0.28	1	6	0	2	0	12.0	3.36
G BED		0.28	1	8	0	8	0	64.0	17.92
GAR DOOR		0.28	1	3	0	8	0	25.3	7.09
STAIR		0.28	1	2	8	15	10	42.2	11.82
BATH 2		0.28	1	2	0	6	0	12.0	3.36
BED 1		0.28	1	6	0	6	0	36.0	10.08
BED 1		0.28	1	10	0	6	0	60.0	16.80
LAUNDRY		0.28	1	2	0	6	0	12.0	3.36
M BED		0.28	1	12	0	6	0	72.0	20.16
M BED		0.28	1	6	0	6	0	36.0	10.08
M BATH		0.28	5	6	0	2	0	60.0	16.80
OFFICE		0.28	1	6	0	7	0	42.0	11.76
OFFICE		0.28	1	16	0	8	0	128.0	35.84
MEDIA		0.28	1	16	0	8	0	128.0	35.84
MEDIA		0.28	1	10	0	7	0	71.8	20.09
BED2		0.28	1	5	0	5	0	25.0	7.00
STAIR		0.28	1	2	8	5	0	14.4	4.04
FLEX		0.28	1	7	3/8	5	0	39.0	10.91
FLEX		0.28	1	6	0	5	0	30.0	8.40
FLEX		0.28	3	6	0	5	0	93.8	26.25
FLEX		0.28	1	6	0	8	0	49.3	13.81
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

Sum of Vertical Fenestration Area and UA	1612.1	451.38
Vertical Fenestration Area Weighted U = UA/Area		0.28

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
M BATH		0.50	1	4	0	4	0	16.0	8.00
M CLO		0.50	1	2	0	4	0	8.0	4.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

Sum of Overhead Glazing Area and UA	24.0	12.00
Overhead Glazing Area Weighted U = UA/Area		0.50
Total Sum of Fenestration Area and UA *(for heating system sizing calculations)*	1636.1	463.38

Window, Skylight and Door Schedule

Project Information: MITHILA AADU
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
LIVING		0.30	1	5	4	5	0	26.7	8.00
LIVING		0.30	1	3	2	8	0	25.3	7.60
KITCHEN		0.30	1	4	0	3	0	12.0	3.60
BED		0.30	2	3	0	4	0	26.0	7.80
								0.0	0.00
								0.0	0.00
								0.0	0.00

TOTAL = 90sf 27UA

9317 REGISTERED ARCHITECT CHRISLOTHE STATE OF WASHINGTON

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General Structural Notes (GSN's)

CRITERIA:

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS, 2018 EDITION.

2. DESIGN LOADING CRITERIA
   - RISK CATEGORY SBC TABLE 1604.5 II
   - ROOF SNOW LOAD . . . . 25 PSF (I_S = 1.0) + 5 PSF RAIN ON SNOW SURCHARGE
   - ROOF DEAD LOAD . . . . 15 PSF+10 PSF PV SYSTEM
   - LIVE LOAD . . . . 40 PSF
   - DECK LIVE LOAD . . . . 60 PSF
   - FLOOR DEAD LOAD . . . . 40 PSF (INCLUDES 1½" GYPCRETE)
   - EARTHQUAKE . . . . SEISMIC DESIGN CATEGORY D
S_S = 1.408, S_1 = 0.490, S_{DS} = 0.939, S_{D1} = 0.591
EQUIVALENT LATERAL FORCE PROCEDURE
LIGHT FRAME (WOOD) WALLS AND ROOFS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
R = 6.5, Ω_0 = 2½, I_E = 1.0, C_d = 4, C_s = 0.144
BASE SHEAR V = 46.7 K – LRFD
   - WIND . . . . 110 MPH, EXPOSURE "B", Kzt = 1.6
     - COMPONENTS & CLADDING . . . . –35.5/–21.3 PSF MAX. AT WALLS (LRFD/ASD)
–60.0/–36.0 GROSS UPLIFT AT ROOF (LRFD/ASD)

   WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIBUTARY AREAS NEAR WALL CORNERS OR ROOF EDGES (EXCLUDING CORNER ZONES AT ROOF). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7–16 CHAPTER 30.

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

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

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

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

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

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

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

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

GEOTECHNICAL:

11. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT REFERENCED BELOW, THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON COMPETENT UNDISTURBED NATIVE SOILS OR STRUCTURAL FILL THAT IS PLACED ON COMPETENT NATIVE SOILS. EXTERIOR FOOTINGS AND FOOTINGS IN UNHEATED AREAS SHALL BEAR AT LEAST 18" BELOW ADJACENT EXTERIOR GRADE; AND AT LEAST 12" BELOW TOP OF FLOOR SLAB AT INTERIOR FOOTINGS. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE GEOTECHNICAL REPORT REFERENCED BELOW, THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER
    - ALLOWABLE SOIL PRESSURE . . . . 2,000 PSF
    - LATERAL EARTH PRESSURE (UNRESTRAINED, LEVEL) . . . . 35 PCF
    - (RESTRAINED, LEVEL) . . . . 45 PCF
    - SEISMIC SURCHARGE PRESSURE . . . . 8H, UNIFORM
    - PASSIVE EARTH PRESSURE . . . . 350 PCF
    - BASE COEFFICIENT OF FRICTION 0.35
    - GEOTECHNICAL REFERENCE: "Geotechnical Engineering Investigation; 3626 90th Ave SE; Mercer Island, WA; GEO Group Northwest, Inc.; Project No. G-5861; April 18, 2023"

12. NOT USED

ANCHORAGE:

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

CONCRETE:

14. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318–14 CHAPTER 26 AND ACI 301. CONCRETE SHALL ATTAIN A 28–DAY STRENGTH OF f'c = 2,500 PSI. THE CONTRACTOR SHALL USE 5–1/2 SACK 2500 PSI CONCRETE MIXES PER CODE ALTERNATE R402.2 IN THE SEATTLE RESIDENTIAL CODE. IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE SECTION 1904.2, 5–1/2 SACK 2500 PSI CONCRETE MIXES ARE EQUIVALENT TO 3000 PSI CONCRETE FOR WEATHERING POTENTIAL. IN ADDITION, AIR–ENTRAINMENT IS NOT REQUIRED TO ADDRESS WEATHERING.

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

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

17. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
    - FOOTINGS AND OTHER UNFORMED SURFACES
    - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . 3"
    - FORMED SURFACES EXPOSED TO EARTH
    - (i.e. WALLS BELOW GROUND)OR WEATHER (#5 BARS OR SMALLER). . . . . 1½"

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

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

IBC TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

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

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

WOOD:

20. FRAMING LUMBER SHALL BE KILN DRIED OR MC–19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17 OR W.W.P.A. WESTERN LUMBER GRADING RULES. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:
    - PLATES, LEDGERS & MISC. — DOUGLAS FIR NO. 3 OR STUD GRADE
    - LIGHT FRAMING: — MIN. BASIC DESIGN STRESS, F_b = 525 PSI, E = 1400 KSI; F_c = 775 PSI, F_t = 325 PSI
    - JOISTS & RAFTERS: — DOUGLAS FIR NO. 2; MIN. BASIC DESIGN STRESS, F_b = 900 PSI, E = 1600 KSI; F_c = 1350 PSI, F_t = 575 PSI
    - BEAMS: — DOUGLAS FIR NO. 1
      - 4x_ — MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI; F_c = 1500 PSI, F_t = 675 PSI
      - 6x_ — MIN. BASIC DESIGN STRESS, F_b = 1350 PSI, E = 1600 KSI; F_c = 925 PSI, F_t = 675 PSI
    - COLUMNS: — DOUGLAS FIR NO. 1
      - 4x_ — MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI; F_c = 1500 PSI, F_t = 675 PSI
      - 6x_ — MIN. BASIC DESIGN STRESS, F_b = 1200 PSI, E = 1600 KSI; F_c = 1000 PSI, F_t = 825 PSI

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

21. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND A.I.T.C. STANDARDS IN ACCORDANCE WITH SBC SECTION 2303.1.3. EACH MEMBER SHALL BEAR AN A.I.T.C. IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN A.I.T.C. CERTIFICATE OF CONFORMANCE. HORIZONTAL MEMBERS AND INCLINED MEMBERS OF LESS THAN 1:1 SLOPE SHALL HAVE A RADIUSED CAMBER OF 3,500 FT. UNLESS OTHERWISE NOTED.
    - SIMPLE SPAN BEAMS — DOUGLAS FIR COMBINATION 24F–V4; F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI
    - CONTINUOUS OR CANTILEVERED BEAMS — DOUGLAS FIR COMBINATION 24F–V8; F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI; THESE MEMBERS ARE NOTED AS '*' IN PLAN

    GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON–CORROSIVE, APPROVED PRESERVATIVE.

ACCORDANCE WITH ANSI/TPI I–2007 AND IBC SECTION 2303.4 FOR THE SPANS AND CONDITIONS SHOWN ON THE DRAWINGS. DESIGN LOADS SHALL BE AS FOLLOWS:

ROOF TRUSSES
- TOP CHORD LIVE LOAD — 25 PSF, SNOW + 5 PSF, RAIN ON SNOW SURCHARGE
- BOTTOM CHORD LIVE LOAD — 0 PSF
- TOP CHORD DEAD LOAD — 15 PSF
- BOTTOM CHORD DEAD LOAD — 5 PSF
- WIND UPLIFT (TOP CHORD) — SEE NOTE#2 COMPONENTS & CLADDING ROOF LOADS

FLOOR TRUSSES
- TOP CHORD LIVE LOAD — 40 PSF
- BOTTOM CHORD LIVE LOAD — 0 PSF
- TOP CHORD DEAD LOAD — 20 PSF
- BOTTOM CHORD DEAD LOAD — 5 PSF

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

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

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

25. AT NON–SHEAR WALL EXTERIOR WALLS, UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE ½" (NOMINAL) WITH SPAN RATING OF 24/16; WITH 8d @ 6" oc PANEL NAILING (APPLIES TO ALL SHEATHING PANEL EDGES); AND 8d @ 12" oc TO INTERMEDIATE FRAMING.

26. ALL PRESSURE–TREATED (P.T.) WOOD MEMBERS SPECIFIED ON THE DRAWINGS THAT OCCUR ABOVE GROUND AND CONTINUOUSLY PROTECTED FROM MOISTURE (INTERIOR LOCATIONS) SHALL BE PRESSURE–TREATED WITH DOT SODIUM BORATE (SBX) WITHOUT $NaSIO_2$. AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, WOOD MEMBERS SHALL BE PRESSURE–TREATED WITH ALKALINE COPPER QUAT (ACQ–C FOR DOUGLAS–FIR) PRESERVATIVE UNLESS OTHERWISE NOTED. AMMONIACAL COPPER ZINC ARSENATE (ACZA) PRESERVATIVE OR OTHER PRESERVATIVES WITH AMMONIA CARRIERS, SHALL NOT BE USED.
    GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON–CORROSIVE, APPROVED PRESERVATIVE.
    SEE NOTE #27 FOR MATERIAL REQUIREMENTS OF CONNECTORS AND FASTENERS IN CONTACT WITH PRESSURE–TREATED MEMBERS.

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

    ALL TIMBER CONNECTORS IN CONTACT WITH PRESSURE–TREATED WOOD THAT USED PRESERVATIVE CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSIO_2$ SHALL BE MANUFACTURED FROM Z_{MAX} STEEL BY SIMPSON (G185 STEEL PER ASTM A653), OR TYPE 304 OR 316 STAINLESS STEEL. ALTERNATIVELY, CONNECTORS CAN BE POST HOT DIP GALVANIZED PER ASTM A123 OR MECHANICALLY GALVANIZED PER ASTM B695, CLASS 55 OR GREATER. STAINLESS STEEL FASTENERS SHALL BE USED WITH STAINLESS STEEL CONNECTORS, AND HOT DIP GALVANIZED FASTENERS PER ASTM A153 SHALL BE USED WITH GALVANIZED CONNECTORS.

28. WOOD FRAMING NOTES: THE FOLLOWING SHALL APPLY UNLESS OTHERWISE NOTED ON THE DRAWINGS:
    - A. ALL WOOD FRAMING DETAILS SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE SBC. MINIMUM NAILING SHALL CONFORM TO SBC TABLE 2304.9.1 OR CURRENT ICC–ES REPORT NER–272. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO 2012 NDS SECTION 11.1.4, AND INSTALLATION OF BOLTS SHALL CONFORM TO 2012 NDS SECTION 11.1.3.
    - B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE INSTALLED AT THE ENDS OF ALL WALLS, UNLESS NOTED OTHERWISE NOTED. INSTALL SOLID BLOCKING FOR WOOD COLUMN THROUGH FLOOR SPACES TO SUPPORTS BELOW.
ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS @ 12" oc STAGGERED OR BOLTED TO CONCRETE WITH ⅝"ø ANCHOR BOLTS @ 4'–0" oc PER SBC SECTION 2308.6 (EMBED 7"), UNLESS OTHERWISE NOTED. 3" x 3" x 0.229" PLATE WASHERS SHALL BE USED WITH ALL SILL PLATE ANCHOR BOLTS AND INSTALLED PER AF&PA SDPWS–2008 SECTION 4.3.6.4.3. INDIVIDUAL MEMBERS OF BUILT–UP STUD POSTS SHALL BE NAILED TO EACH OTHER WITH 16d @ 12" oc STAGGERED.
    - C. FLOOR AND ROOF FRAMING: INSTALL SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH (2)16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI–JOIST BEAMS TOGETHER WITH 16d@12"oc STAGGERED.
ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AS SHOWN ON THE DRAWINGS. INSTALL APPROVED PANEL EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE–AND–GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING ALLOW ⅛" SPACING AT ALL PANEL EDGES AND ENDS OF LOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d@12"oc. IN ACCORDANCE WITH SBC SECTION 1604.8.3, DECKS SHALL BE POSITIVELY ANCHORED TO THE STRUCTURE BY MEANS OTHER THAN NAILS SUBJECT TO WITHDRAWAL. ANCHOR WITH MINIMUM (1) CS16 STRAP AT EACH END ATTACHED TO DECK JOISTS AND TO A SOLID BLOCKING MEMBER WITHIN THE BUILDING.
    - D. NAILING: A MINIMUM NAIL DIAMETER AND LENGTH SHALL BE AS FOLLOWS:

	NAIL SIZE ON DRAWINGS	DIAMETER x LENGTH
SHEATHING NAILS	8d	0.131" x 2¼"
	10d	0.148" x 2½"
FRAMING NAILS	10d	0.148" x 3"
	16d	0.148" x 3¼"

Minimum Connectors and Fasteners for Wood Members per IBC 2018

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

DESCRIPTION OF BLDG. ELEMENT	NUMBER AND TYPE OF FASTENERS	SPACING & LOCATION
WALL (CONTINUED)		
18. TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2–16d COMMON (3½" x 0.162"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
19. 1" BRACE TO EACH STUD AND PLATE	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or 2–3" x 0.131" NAILS; or 2–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
20. 1" x 6" SHEATHING TO EACH BEARING	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or	FACE NAIL
21. 1" x 8" AND WIDER SHEATHING TO EACH BEARING	3–8d COMMON (2½" x 0.131"); or 3–10d BOX (3" x 0.128"); or	FACE NAIL
FLOOR		
22. JOIST TO SILL, TOP PLATE, OR GIRDER	3–8d COMMON (2½" x 0.131"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
23. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL, OR OTHER FRAMING BELOW	8d COMMON (2½" x 0.131"); or 10d BOX (3" x 0.128"); or 3" x .131" NAILS; r 3" x 14 GAGE STAPLES, 7/16" CROWN	6" o.c., TOENAIL
24. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128")	FACE NAIL
25. 2" SUBFLOOR TO JOIST OR GIRDER	2–16d COMMON (3½" x 0.162")	FACE NAIL
26. 2" PLANKS (PLANK & BEAM – FLOOR & ROOF)	2–16d COMMON (3½" x 0.162")"	EA. BEARING, FACE NAIL
27. BUILT–UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4" x 0.192")	32" o.c., FACE NAIL TOP & BOT. STAGGERED ON OPPOSITE SIDES
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	24" o.c., FACE NAIL AT TOP & BOT. STAGGERED ON OPP. SIDES
	AND: 2–20d COMMON (4" x 0.192"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
28. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3–16d COMMON (3½" x 0.162"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST OR RAFTER, FACE NAIL
29. JOIST TO BAND JOIST OR RIM JOIST	3–16d COMMON (3½" x 0.162"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL
30. BRIDGING OR BLOCKING TO JOIST, RAFTER, OR TRUSS	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or 2–3" x 0.131" NAILS; or 2–3" x 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL

MULTIPLE LVL MEMBER FASTENING PER WEYERHAUSER

PIECE WIDTH	NUMBER OF PLIES	FASTENER TYPE(1)	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1¾"	2	10d NAILS	3"	3(2)	12"	ONE SIDE
		12d – 16d NAILS	3¼"	2(2)		
		SCREWS	3⅜" or 3½"	2	24"	
	3	10d NAILS	3"	3(2)	12"	BOTH SIDES
		12d – 16d NAILS	3¼"	2(2)		
		SCREWS	3⅜" or 3½"	2	24"	BOTH SIDES
			5"			ONE SIDE
	4	10d NAILS	3"	3(2)	12"	ONE SIDE (PER PLY)
		12d – 16d NAILS	3¼"	2(2)		
		SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
3½"	2	SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
		½"ø BOLTS	8"	2	24"	–

(1) 10d NAILS ARE 0.128" DIAMETER; 12d – 16d NAILS ARE 0.148" – 0.162" DIAMETER; SCREWS ARE SDS, USP WP, TrussLOK, OR SDW
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER
(3) WHEN CONNECTING 4–PLY MEMBERS, NAIL EACH PLAY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM ROWS IN THE PLY BELOW

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General Strucural Notes

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DATE
10.18.22
06.09.23

S1.1

LEGEND

- CONCRETE FOOTING
- CONCRETE WALL
- STEP IN FOOTING PER 9/S3.1
- XX'-XX" — DENOTES TOP OF FOOTING ELEVATION
- STRUCTURAL WOOD STUDWALL BELOW
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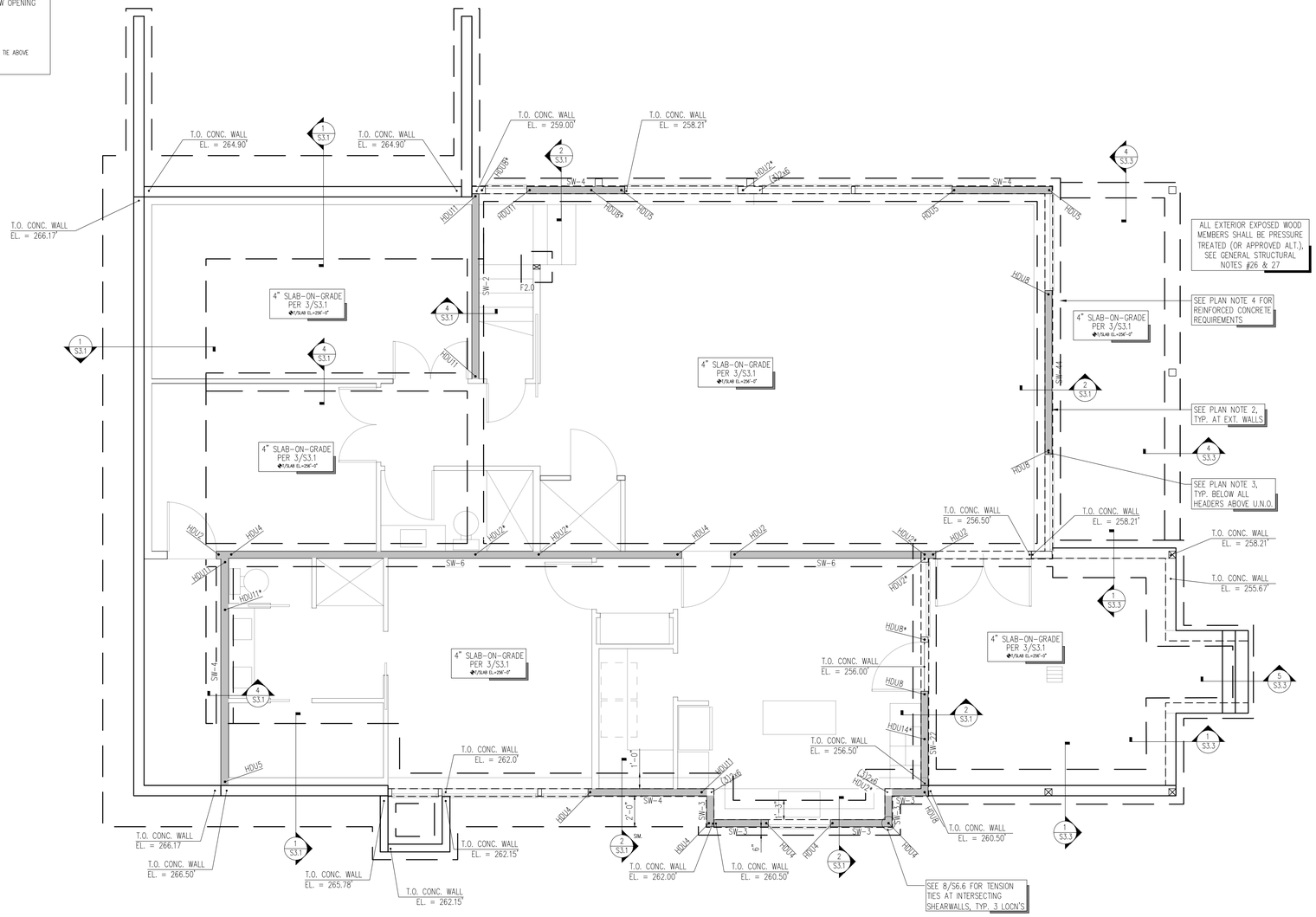
- FX.X — DENOTES SPREAD FOOTING PER 5/S3.1
- ⊠ POST ABOVE
- SW-_ — DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* — DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ○ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC — DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  * = DENOTES TRANSFER TIE FROM TIE ABOVE



FOUNDATION & FIRST FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FIRST FLOOR LEVEL (FROM FIRST FLOOR TO SECOND FLOOR).
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.02, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. ALL HEADERS ABOVE (SEE 1/S2.2) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
4. SEE STRUCTURAL GENERAL NOTES #13 – 18 FOR CONCRETE AND CONCRETE REINFORCING REQUIREMENTS.

1/S2.1 FOUNDATION AND FIRST FLOOR PLAN
1/4" = 1'-0"

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CONTENTS
Foundation and Lower Floor Plan

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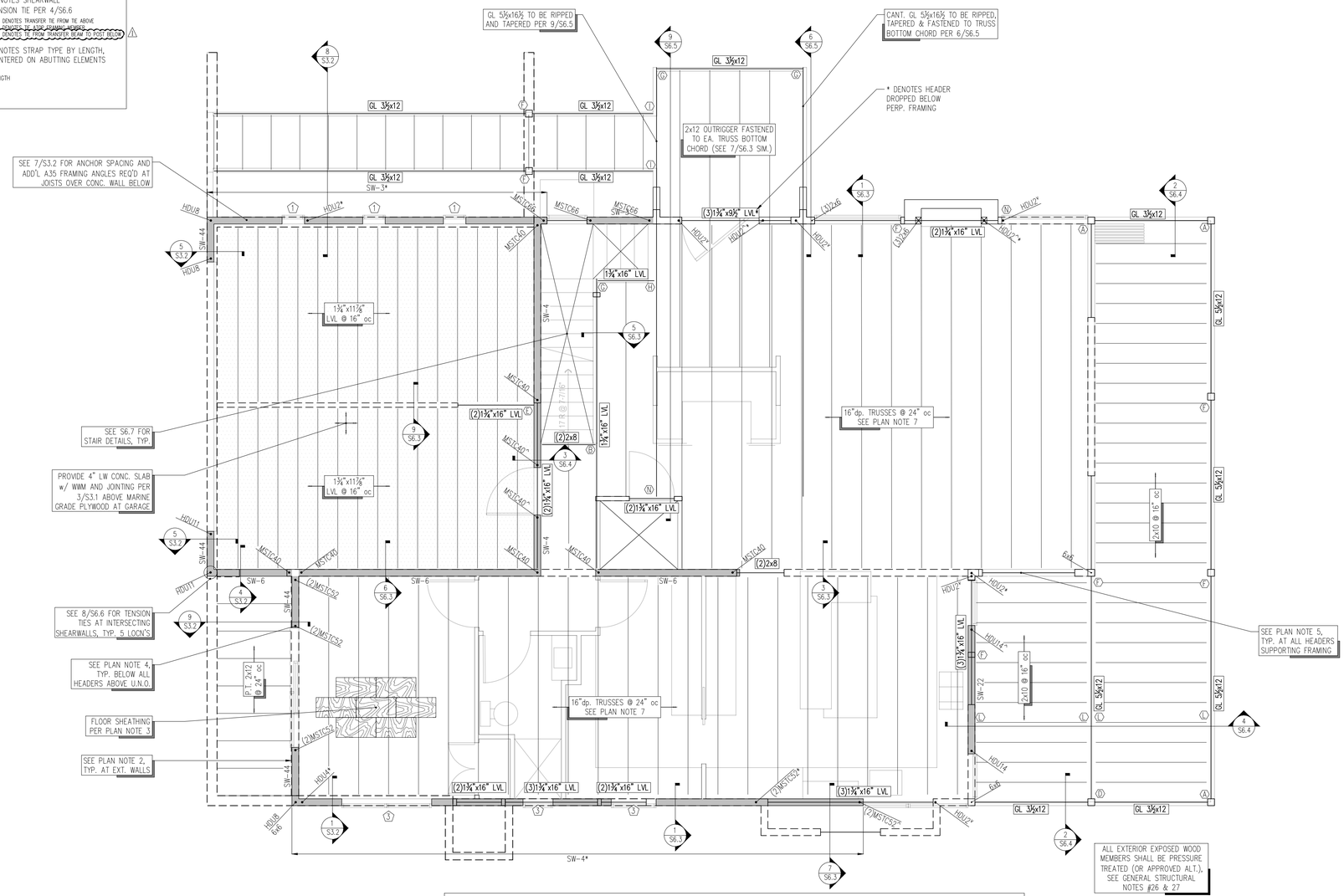
S2.1

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- STRUCTURAL WOOD STUDWALL ABOVE
- POST BELOW
- POST ABOVE
- WOOD JOIST
- WOOD BEAM or HEADER
- WOOD RAFTER
- SW-_ — DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* — DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ☐ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC_ — DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  - * - DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ - DENOTES TIE FROM FRAMING ABOVE
  - ^* - DENOTES TIE FROM TRANSFER BEAM TO POST BELOW
- STRAP x LENGTH — DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
A	ECCLQ, ECCRQ	L-POST CAP
B	HUS ~or~ BU	HANGER
C	HGU ~or~ EGQ	HANGER
D	CCT	T-POST CAP
E	IUS ~or~ ITS	HANGER
F	CCQ	COLUMN CAP
G	HUCQ	CONCEALED FLANGE HANGER
H	IUS ~or~ MIT	HANGER
I	LUS ~or~ HWPH	HANGER
J	HHUS	HANGER



MAIN FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FRAMING LEVEL. DASHED WALLS SHOWN IN PLAN ARE BELOW FRAMING LEVEL.
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.3) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS SHALL BE PER DETAIL 6/S6.1 U.N.O. IN PLAN.
6. AT AREA(S) INDICATED AS BLOCKED DIAPHRAGM, INSTALL 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING PER PLAN NOTE 3.
7. SEE GENERAL STRUCTURAL NOTE #23 FOR FLOOR TRUSS REQUIREMENTS.

1 / S2.2 — MAIN FLOOR FRAMING PLAN

1/4" = 1'-0"

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Main Floor Framing Plan

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06.09.23 ⚠

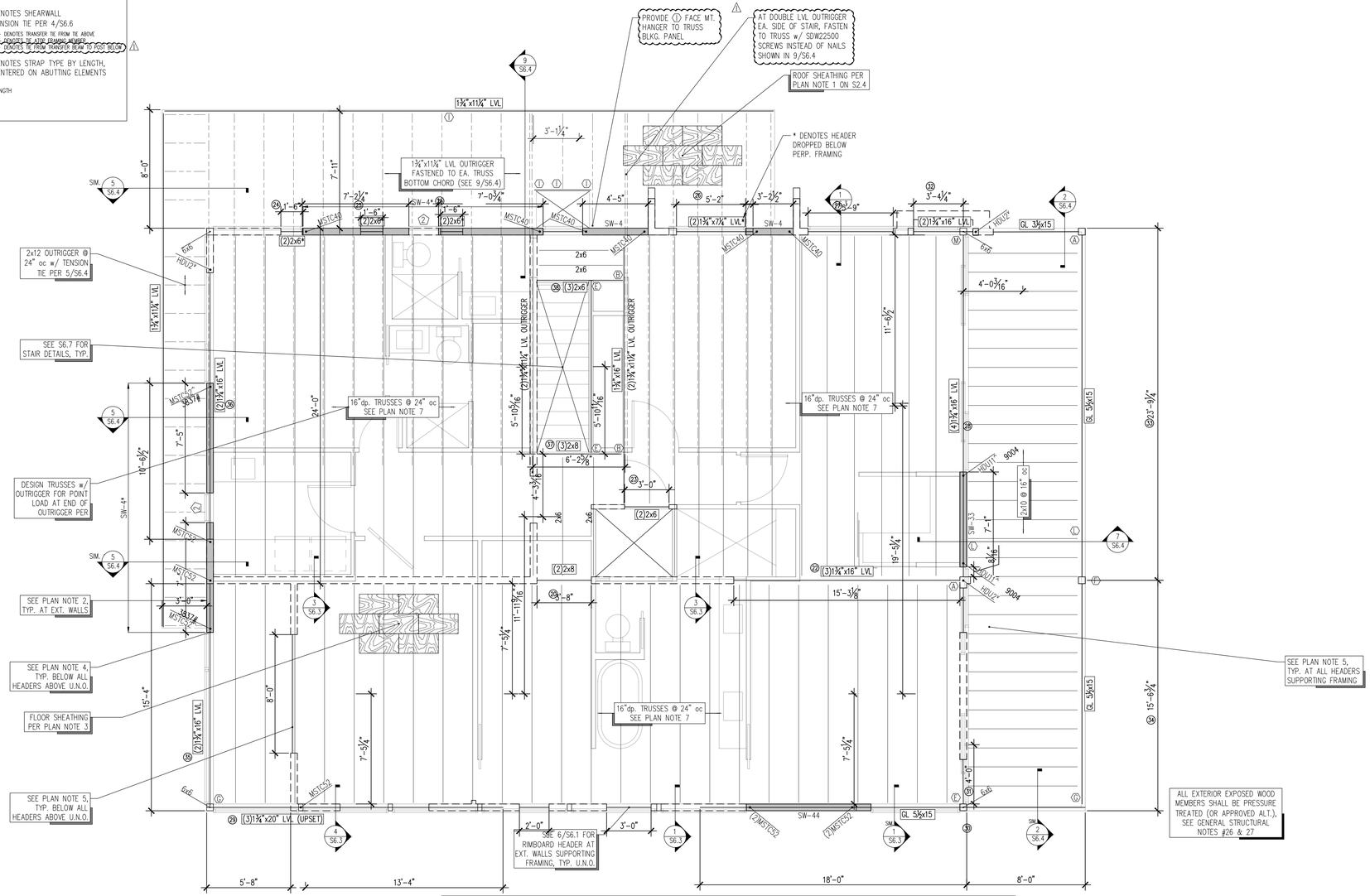
S2.2

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- STRUCTURAL WOOD STUDWALL ABOVE
- POST BELOW
- POST ABOVE
- WOOD JOIST
- WOOD BEAM or HEADER
- WOOD RAFTER
- SW-_ : DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* : DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ⌂ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC_ : DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  - * – DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ – DENOTES TIE ABOVE FRAMING MEMBER
  - ~ – DENOTES TIE FROM TRANSFER BEAM TO POST BELOW
- DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS (STRAP x LENGTH)

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
(A)	ECCLQ, ECCRQ	L-POST CAP
(B)	HUS ~or~ BU	HANGER
(C)	HGU ~or~ EGQ	HANGER
(D)	CCT	T-POST CAP
(E)	IUS ~or~ ITS	HANGER
(F)	CCQ	COLUMN CAP
(G)	HUCQ	CONCEALED FLANGE HANGER
(H)	IUS ~or~ MIT	HANGER
(I)	LUS ~or~ HWPH	HANGER
(J)	HHUS	HANGER



UPPER FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FRAMING LEVEL. DASHED WALLS SHOWN IN PLAN ARE BELOW FRAMING LEVEL.
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.4) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.
6. AT AREA(S) INDICATED AS BLOCKED DIAPHRAGM, INSTALL 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING PER PLAN NOTE 3.
7. SEE GENERAL STRUCTURAL NOTE #23 FOR FLOOR TRUSS REQUIREMENTS.

1/S2.3 UPPER FLOOR FRAMING PLAN
1/4" = 1'-0"

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Upper Floor Framing Plan

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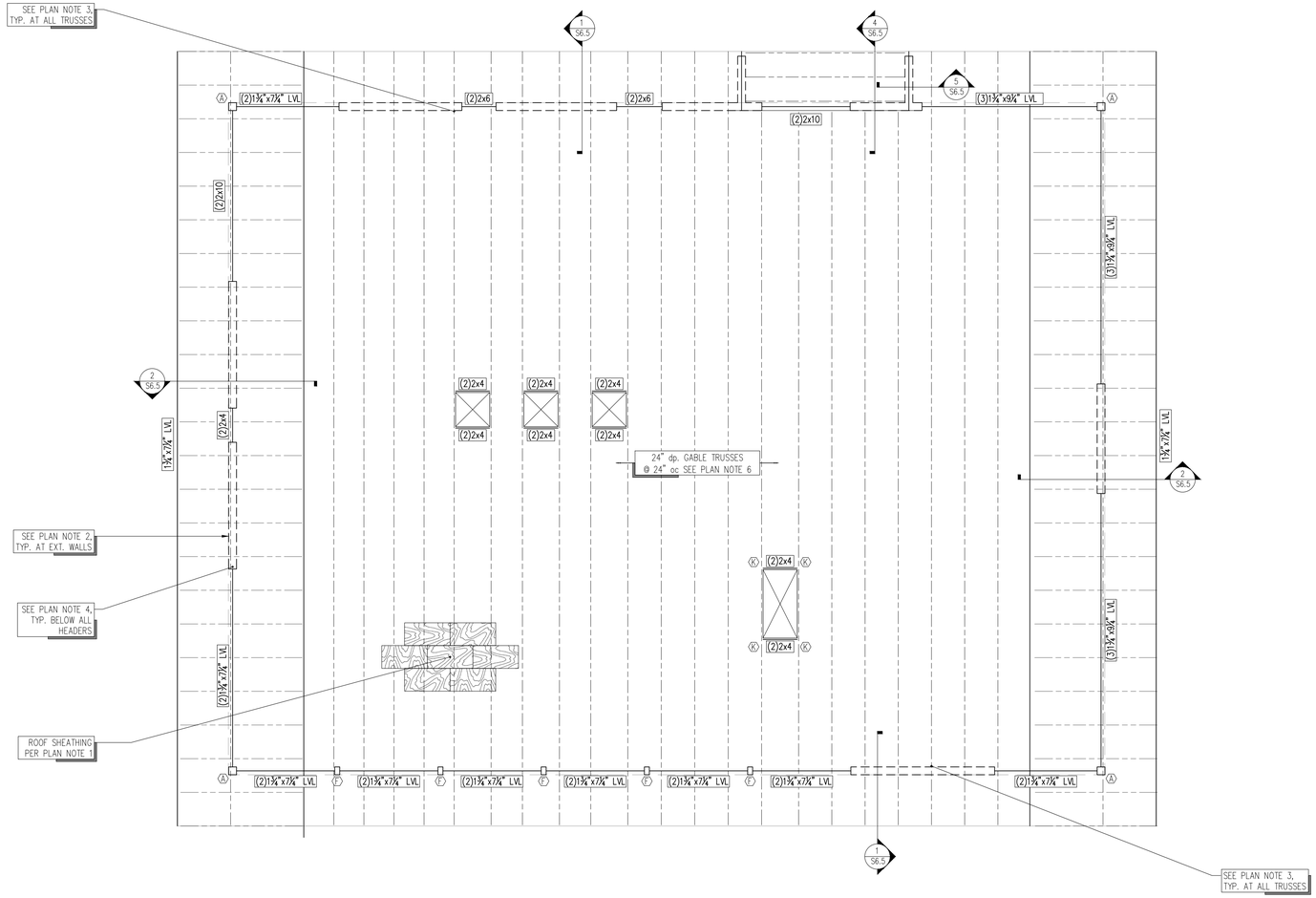
06.09.23 (1)

S2.3

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- POST BELOW
- WOOD RAFTER
- WOOD BEAM or HEADER
- DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS
  - STRAP x LENGTH

CONNECTOR TABLE		
	SIMPSON DESIGNATION	NOTES
Ⓐ	ECCLQ, ECCRQ	L-POST CAP
Ⓑ	HUS ~or~ BU	HANGER
Ⓒ	HGU ~or~ EGQ	HANGER
Ⓓ	CCT	T-POST CAP
Ⓔ	IUS ~or~ ITS	HANGER
Ⓕ	CCQ	COLUMN CAP
Ⓖ	HUCQ	CONCEALED FLANGE HANGER
Ⓗ	IUS ~or~ MIT	HANGER
Ⓘ	LUS ~or~ HWPH	HANGER
Ⓙ	HHUS	HANGER



ROOF PLAN NOTES

1. ROOF SHEATHING SHALL CONSIST OF ⅝" SHEATHING (PANEL SPAN RATING 32/16) NAILED AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2).
2. DASHED WALLS AND SHEARWALLS SHOWN IN PLAN ARE BELOW ROOF FRAMING ELEVATION (i.e. FROM THIRD FLOOR TO UNDERSIDE OF ROOF).
3. PROVIDE H2.5A HURRICANE TIES AT END OF ALL EXISTING RAFTERS.
4. ALL HEADERS SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS
5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.
6. SEE GENERAL STRUCTURAL NOTE #23 FOR ROOF TRUSS REQUIREMENTS.

1 / S2.4 ROOF FRAMING PLAN

1/4" = 1'-0"

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Roof
Framing Plan

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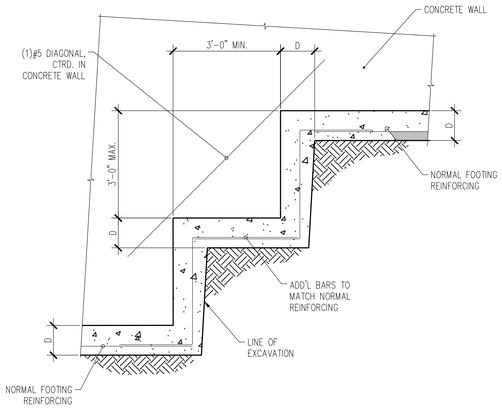
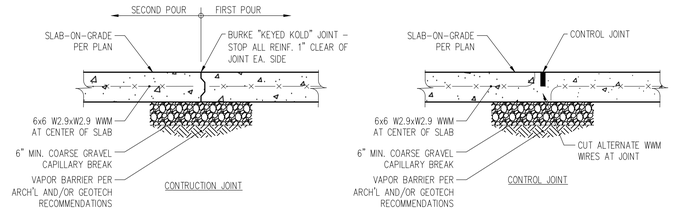
06.09.23 ⚠

S2.4

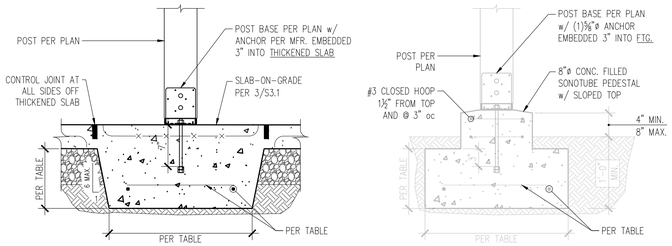


6 S3.1 TYPICAL STEPPED FOOTING
N.T.S.

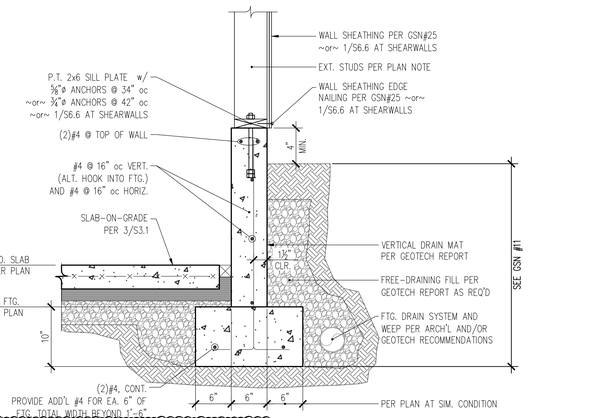


3 S3.1 TYPICAL SLAB-ON-GRADE JOINTING
1" = 1'-0"

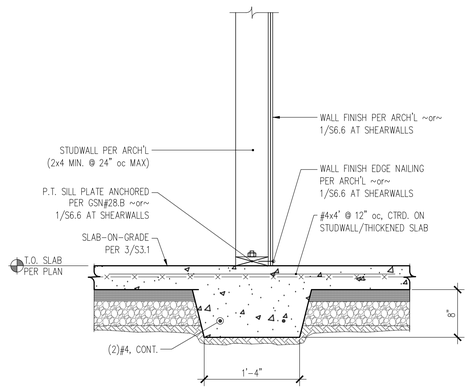
FTG. MARK	DIMENSIONS			REINFORCING DIRECTION	
	LENGTH	WIDTH	DEPTH	SHORT	LONG
F2.0	2'-0"	2'-0"	10"	(3)#4	(3)#4
F2.5	2'-6"	2'-6"	10"	(4)#4	(4)#4
F3.0	3'-0"	3'-0"	10"	(4)#4	(4)#4
F3.6	3'-6"	3'-6"	12"	(5)#4	(5)#4
F4.0	4'-0"	4'-0"	12"	(6)#4	(6)#4



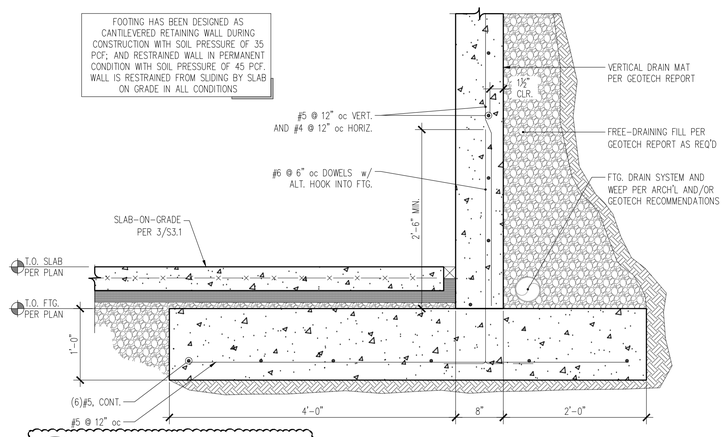
5 S3.1 SPREAD FOOTING
1" = 1'-0"



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



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



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

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STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

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CONTENTS
Concrete Details

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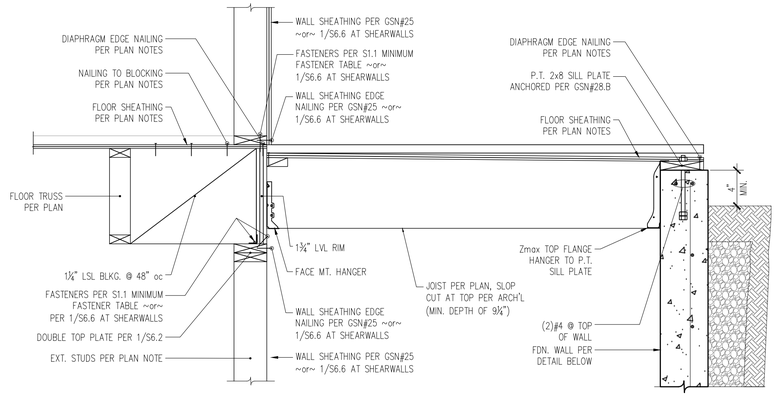
S3.1



9 S3.2 SECTION THROUGH GUEST PATIO PERPENDICULAR JOISTS
1" = 1'-0"

MIN. STRAIGHT DEVELOPMENT LENGTH		
BAR SIZE	TOP BARS	OTHER BARS
#4	25"	19"
#5	31"	24"

MIN. LAP SPLICE LENGTH (CLASS B)		
BAR SIZE	TOP BARS	OTHER BARS
#4	33"	25"
#5	41"	31"

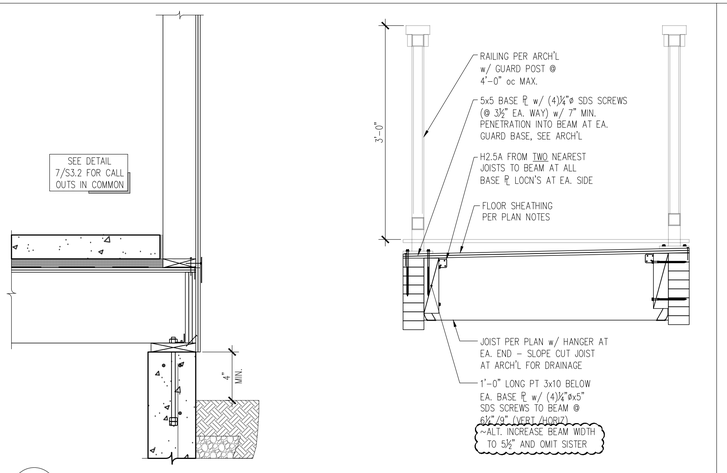
"TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM

IF CLEAR CONCRETE COVER IS LESS THAN 1x THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS LESS THAN (3) BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 50%

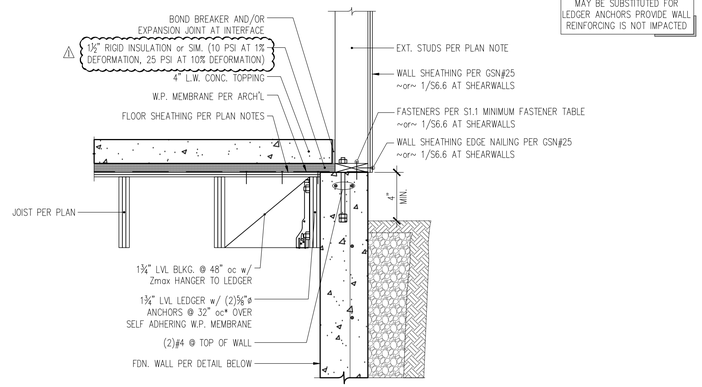
MIN. EMBEDMENT LENGTH FOR STANDARD END HOOKS	
BAR SIZE	LENGTH
#4	7"
#5	9"

1. SIDE COVER MUST BE EQUAL TO OR GREATER THAN 2½"
2. END COVER FOR 90° HOOKS MUST BE EQUAL TO OR GREATER THAN 2"

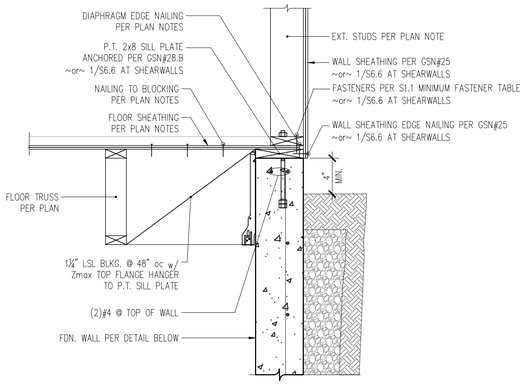
3 S3.2 CONCRETE REINFORCING DEVELOPMENT AND SPLICE LENGTH TABLES
N/A



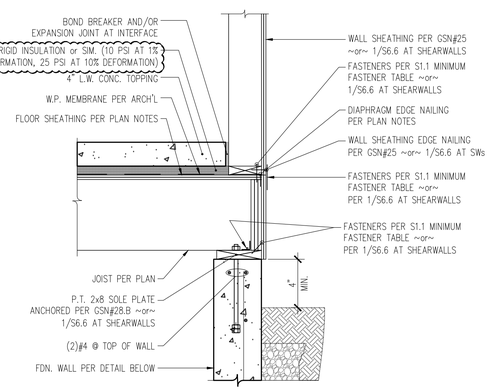
8 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



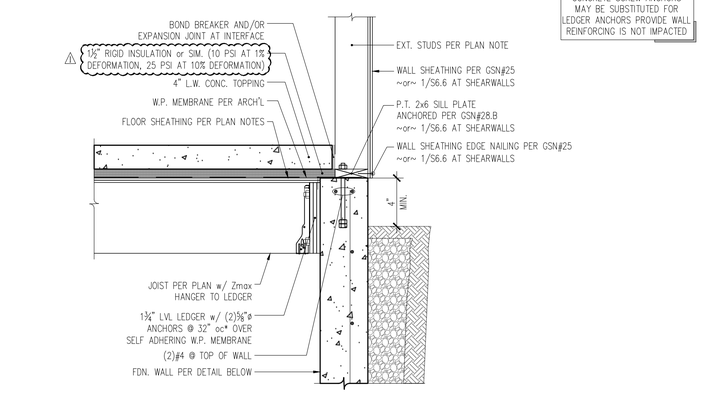
5 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



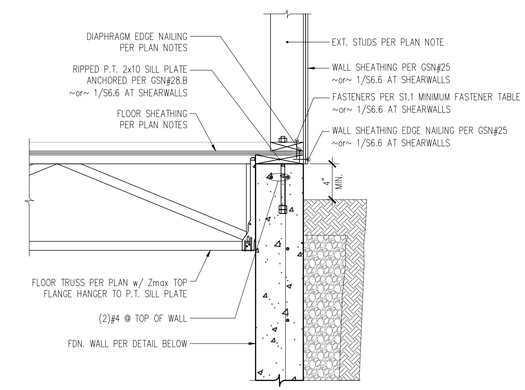
2 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR FLOOR TRUSS
1" = 1'-0"



7 S3.2 SECTION THROUGH HIGH FOUNDATION WALL
1" = 1'-0"



4 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



1 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR FLOOR TRUSS
1" = 1'-0"

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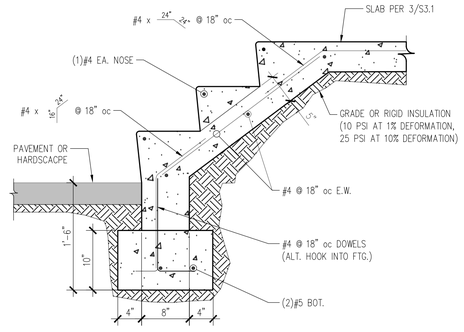
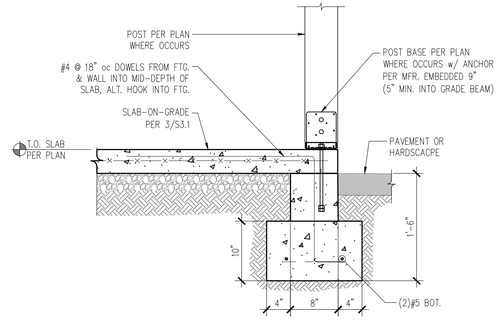
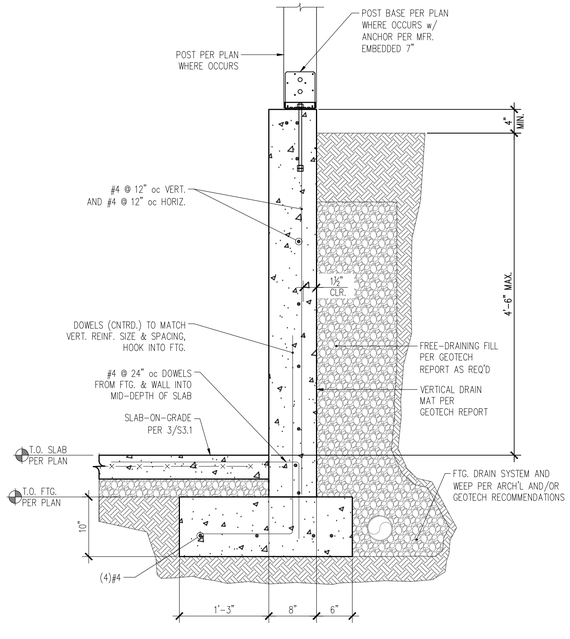
S3.2



5 S3.3 CAST-IN-PLACE STAIR
1" = 1'-0"



4 S3.3 EXTERIOR SLAB
1" = 1'-0"



1 S3.3 SECTION THROUGH SOUTH RETAINING WALL
1" = 1'-0"

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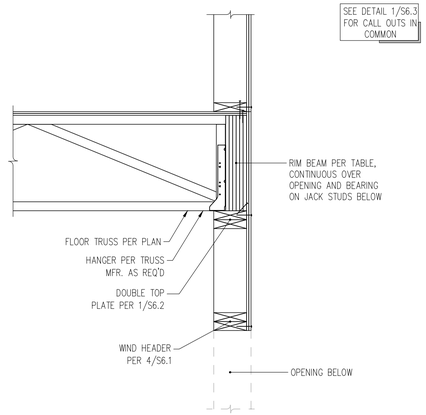
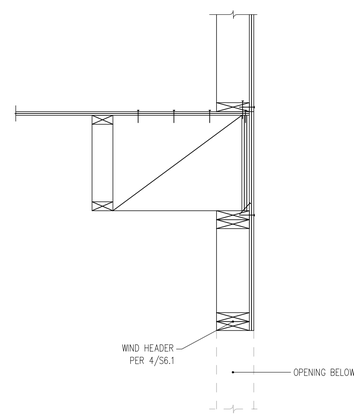
S3.3

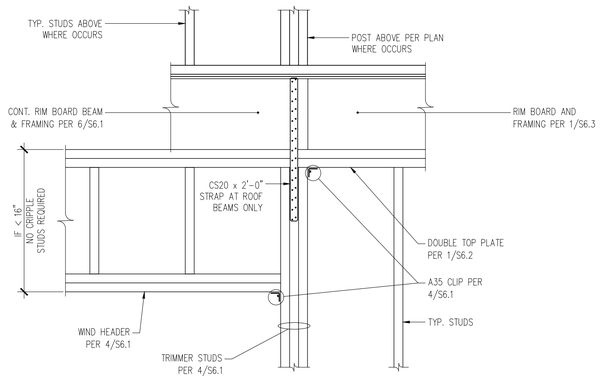
UPPER FLOOR		
OPENING WIDTH, L	RIM/HEADER SIZE	MINIMUM No. OF STUD
L ≤ 3'-6"	1¾"x16" LVL	(1)2x6
L ≤ 6'-6"	1¾"x16" LVL	(2)2x6
MAIN FLOOR		
L ≤ 3'-6"	1¾"x16" LVL	(1)2x6
L ≤ 6'-6"	1¾"x16" LVL	(2)2x6



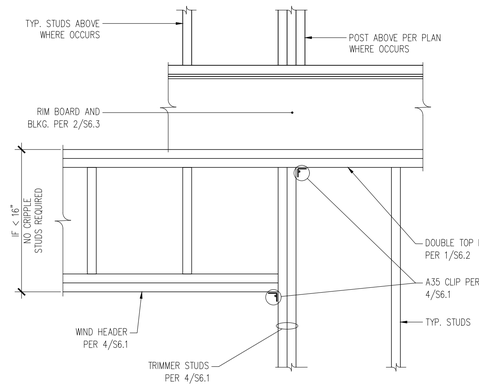
6 S6.1 TYPICAL RIMBOARD HEADER & WIND HEADER IN LOAD BEARING EXTERIOR WALL
NTS



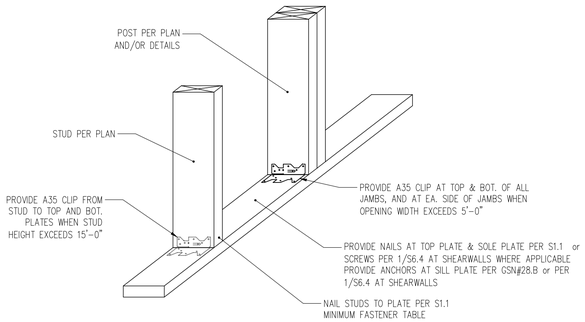
3 S6.1 TYPICAL WIND HEADER IN NON-LOAD BEARING EXTERIOR WALL
NTS



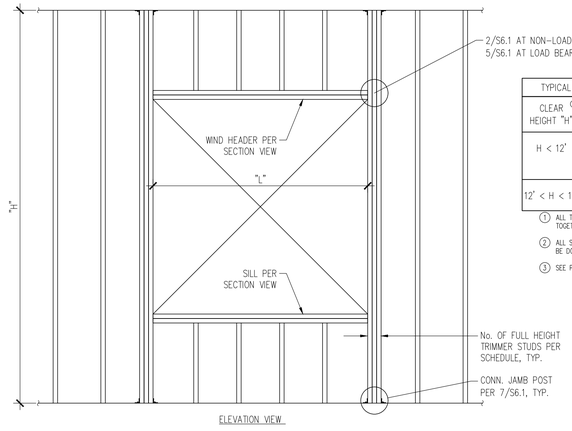
5 S6.1 TYPICAL FLUSH BEAM/HEADER IN EXTERIOR WALL
NTS



2 S6.1 TYPICAL WIND HEADER DETAIL
NTS



7 S6.1 CONNECTION OF EXTERIOR STUDS AT TOP & BOTTOM PLATES
NTS



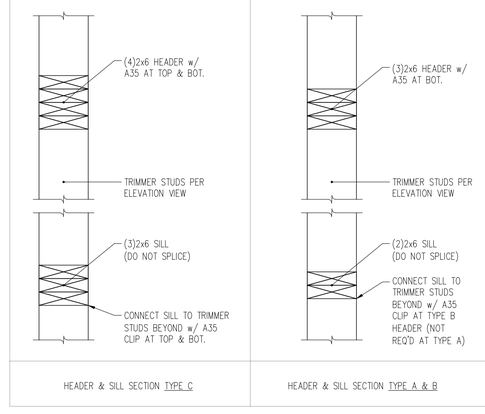
TYPICAL EXTERIOR WALL OPENING FRAMING SCHEDULE ②			
CLEAR ③ HEIGHT "H"	OPENING WIDTH "L"	HDR./SILL TYPE PER SECTION AT RIGHT	No. OF FULL HEIGHT TRIMMER STUDS ①
H < 12'	L ≤ 6'-0"	A	2
	6' < L < 10'	B	2
	10' ≤ L ≤ 15'	C	3
12' < H < 16'	L ≤ 10'	B	3
	10' ≤ L ≤ 15'	C	6x8

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

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

③ SEE PLANS FOR LVL STUD WALL LOCATIONS, WHERE APPLICABLE

4 S6.1 TYPICAL WIND HEADER
NTS



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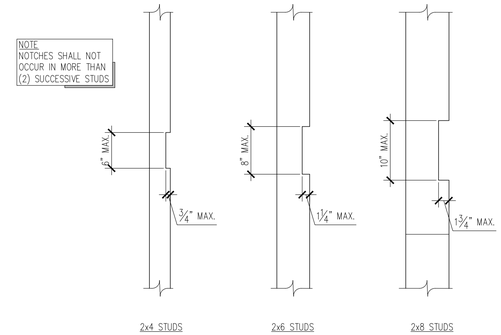
S6.1

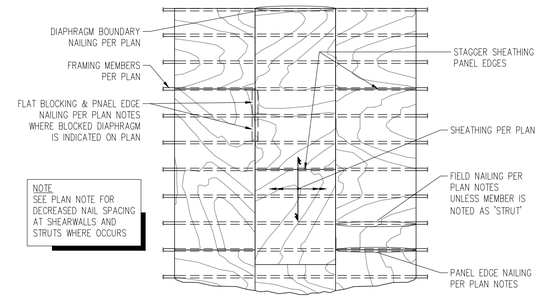
PIECE WIDTH	NUMBER OF PLIES	FASTENER TYPE[1]	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1¾"	2	10d NAILS	3"	3[2]	12"	ONE SIDE
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	3⅜" or 3½"	2	24"	
	3	10d NAILS	3"	3[2]	12"	BOTH SIDES
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	3⅜" or 3½"	2	24"	BOTH SIDES
			5"			ONE SIDE
	4	10d NAILS	3"	3[2]	12"	ONE SIDE (PER PLY)
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
3½"	2	SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
		½"ø BOLTS	8"	2	24"	–

(1) 10d NAILS ARE 0.128" DIAMETER; 12d – 16d NAILS ARE 0.148" – 0.162" DIAMETER; SCREWS ARE SDS, USP WP, TrussLOK, OR SDW.
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER
(3) WHEN CONNECTING 4-PLY MEMBERS, NAIL EACH PLAY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM ROWS IN THE PLY BELOW

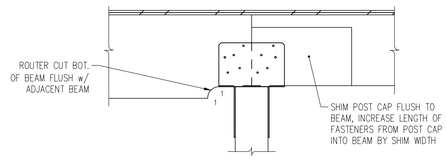
9 S6.2 MULTIPLE LVL MEMBER FASTENING FOR TOP-LOADED BEAM PER WEYERHAUSER
NTS

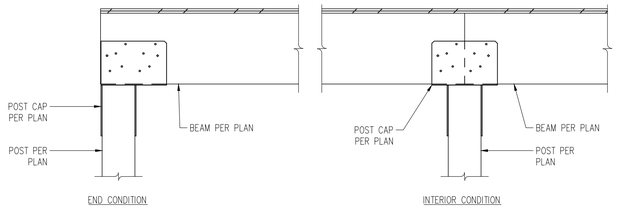


6 S6.2 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

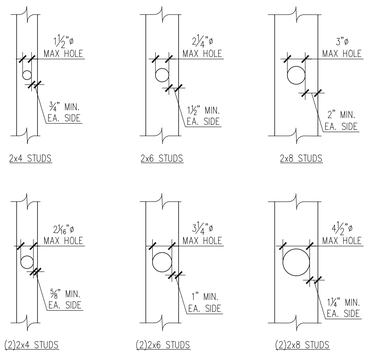


3 S6.2 TYPICAL DIAPHRAGM NAILING
NTS





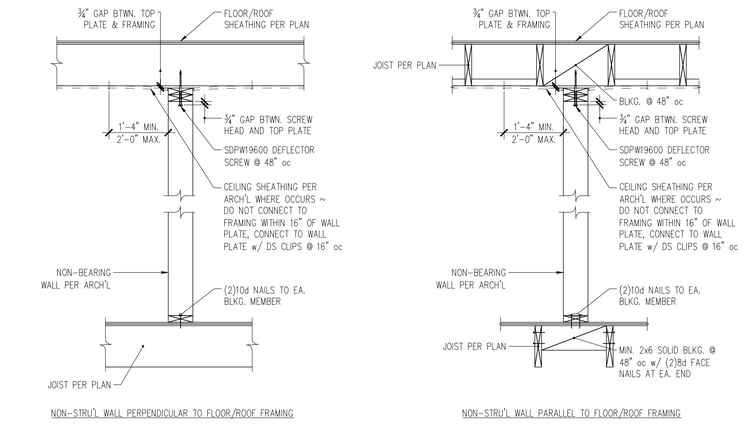
8 S6.2 TYPICAL POST CAP INSTALLATION
NTS



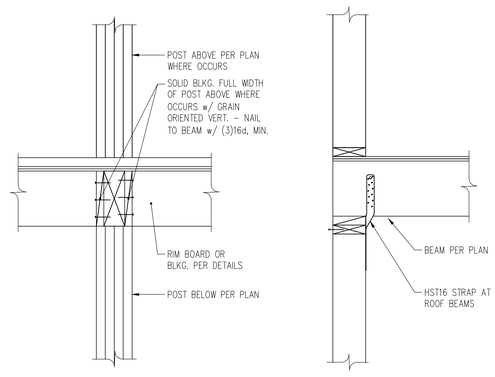
5 S6.2 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

	NO REINF. REQUIRED	STRAP REINF. REQUIRED
2x4 PLATES	1½"ø MAX. HOLE ¾" MIN. EA. SIDE	2⅝"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ⅜" MIN. EA. SIDE
2x6 PLATES	2¼"ø MAX. HOLE 1⅜" MIN. EA. SIDE	3¾"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ¾" MIN. EA. SIDE
2x8 PLATES	3¼"ø MAX. HOLE 2" MIN. EA. SIDE	5"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 1¾" MIN. EA. SIDE

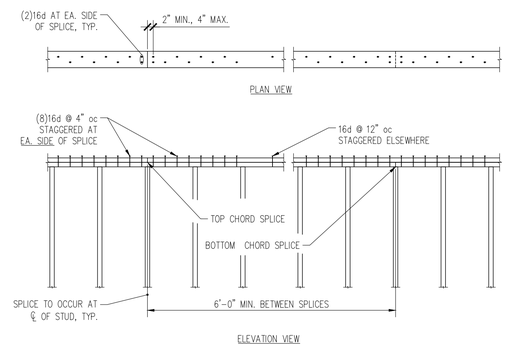
2 S6.2 ALLOWABLE HOLES THROUGH TOP PLATES
NTS



7 S6.2 CONNECTION OF NON-STRUC'L PARTITION WALL TO STRUCTURE
NTS



4 S6.2 TYPICAL BEAM PERPENDICULAR TO WALL
NTS



1 S6.2 TOP PLATE SPLICE
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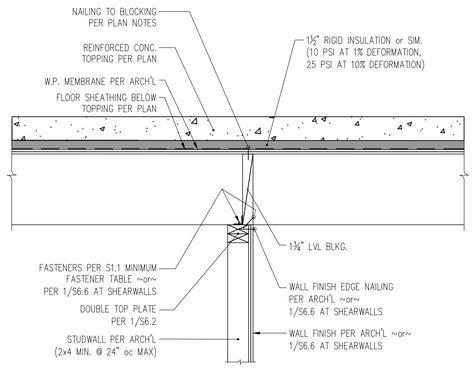
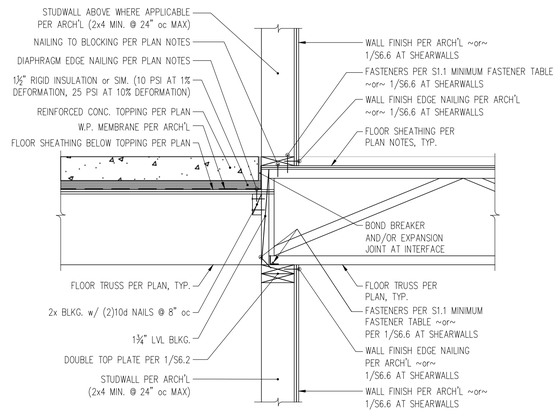
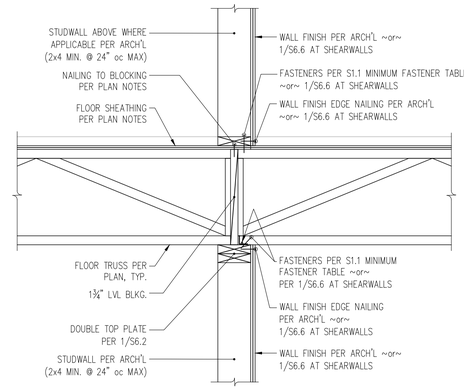


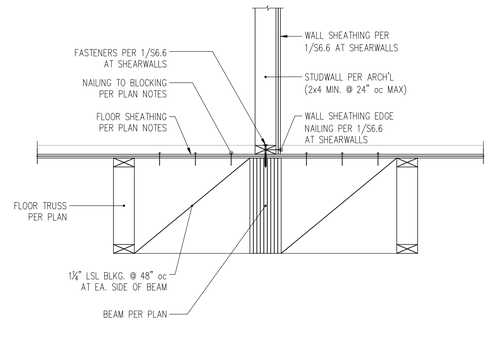
9 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR GARAGE JOISTS AT EA. SIDE
1" = 1'-0"



6 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR TRUSS AND JOIST AT OPP. SIDE
1" = 1'-0"



3 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR TRUSSES AT EA. SIDE
1" = 1'-0"



8 S6.3 SECTION THROUGH FLUSH FRAMED BEAM w/ JOIST AT EACH SIDE
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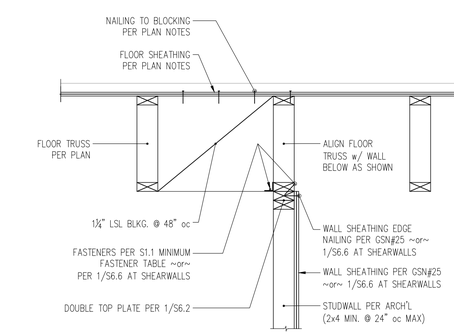
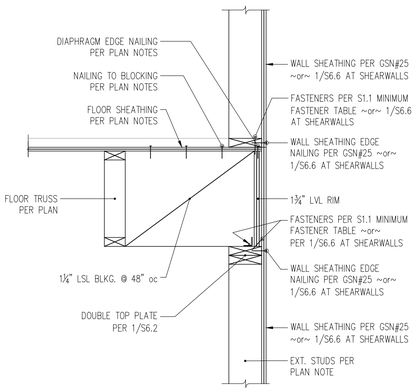
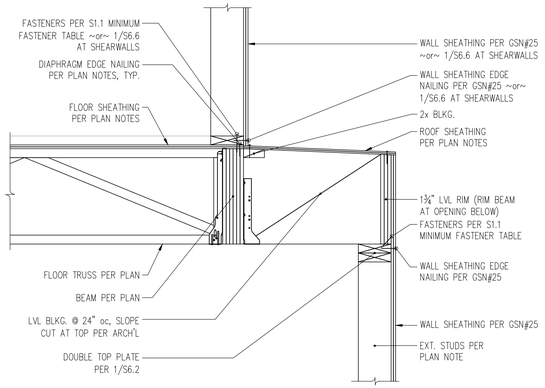


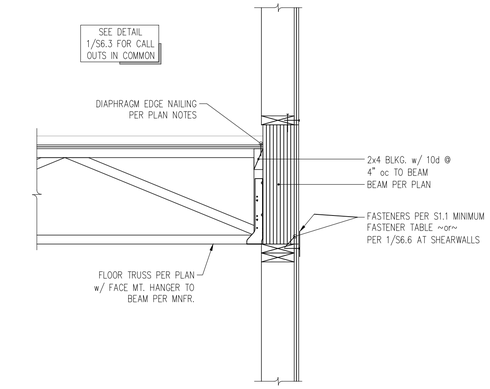
5 S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PARALLEL TRUSSES AT EA. SIDE
1" = 1'-0"



2 S6.3 SECTION THROUGH EXTERIOR WALL AT PARALLEL FLOOR JOISTS
1" = 1'-0"



7 S6.3 SECTION
1" = 1'-0"



4 S6.3 SECTION THROUGH UPSET BEAM IN EXTERIOR WALL AT PERPENDICULAR FLOOR TRUSS
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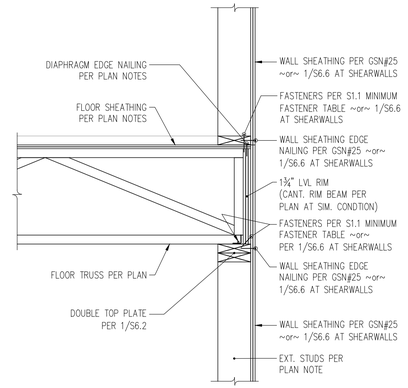

1 S6.3 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR FLOOR TRUSS
1" = 1'-0"

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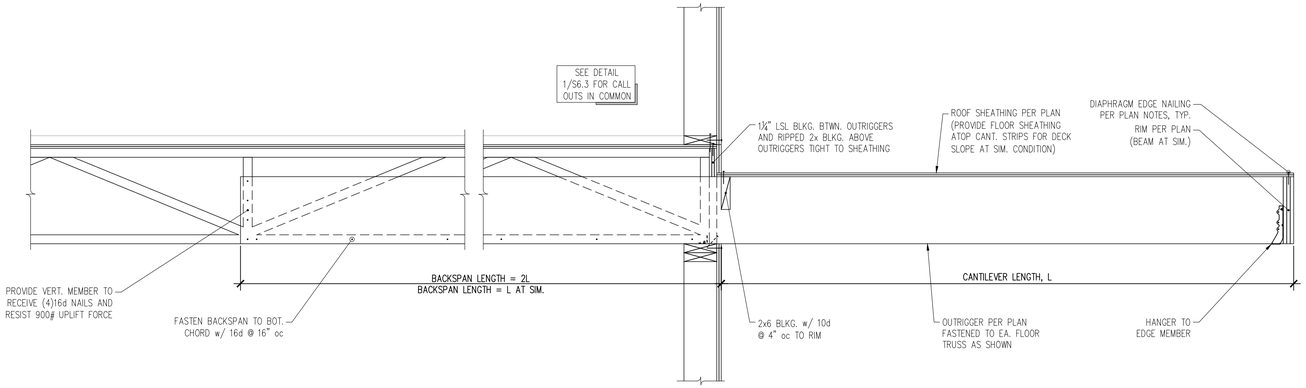
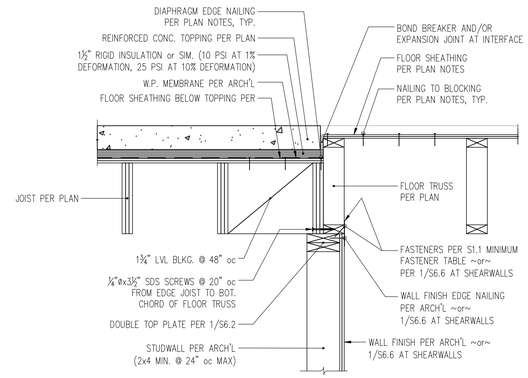
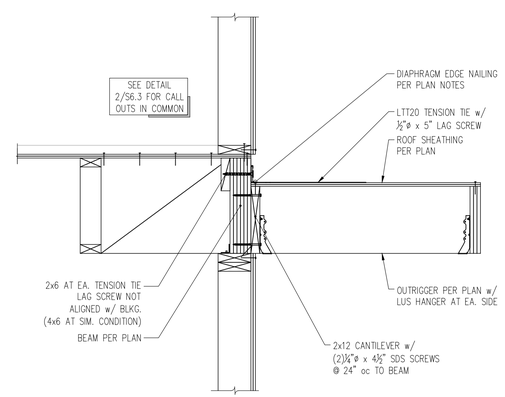
S6.3



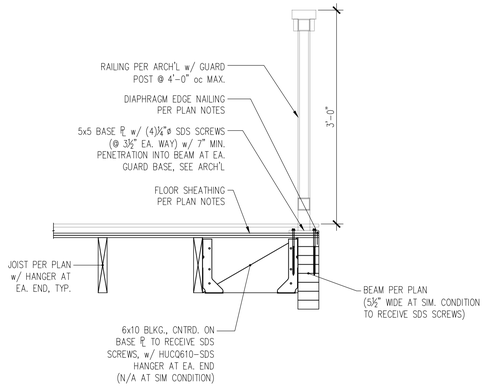
9 / S6.4 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"



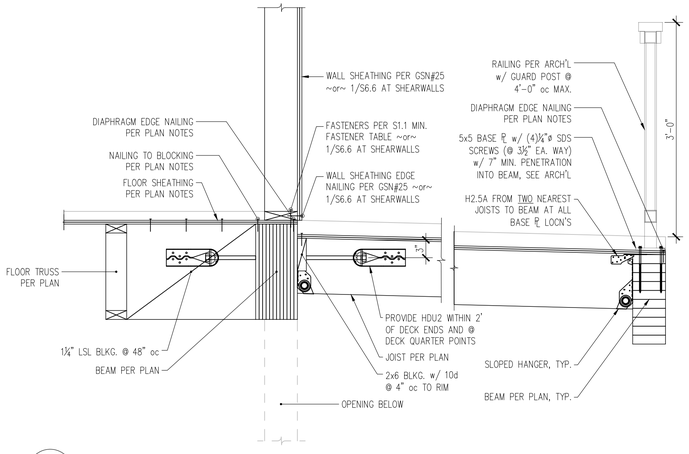
3 / S6.4 SECTION THROUGH INTERIOR STRUC'L WALL w/ PARALLEL TRUSS AND JOIST AT OPP. SIDE
1" = 1'-0"



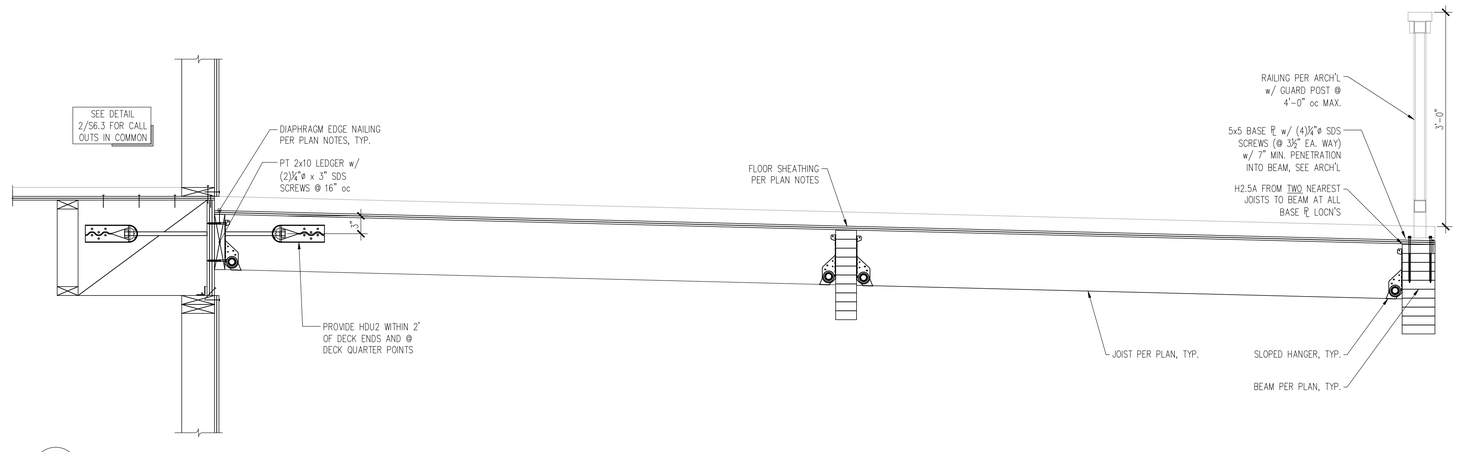
5 / S6.4 SECTION AT CANTILEVERED LOW ROOF AND UPPER FLOOR PARALLEL FRAMING
1" = 1'-0"



2 / S6.4 SECTION AT RAILING ABOVE PARALLEL FRAMING
1" = 1'-0"



7 / S6.4 SECTION AT UPPER FLOOR DECK PERPENDICULAR JOISTS
1" = 1'-0"



4 / S6.4 SECTION AT MAIN FLOOR DECK PERPENDICULAR JOISTS
1" = 1'-0"

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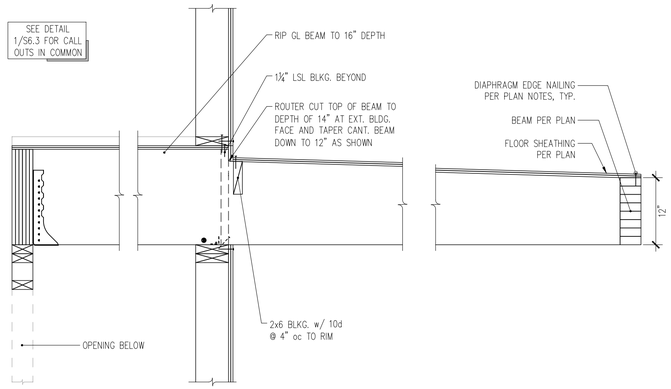
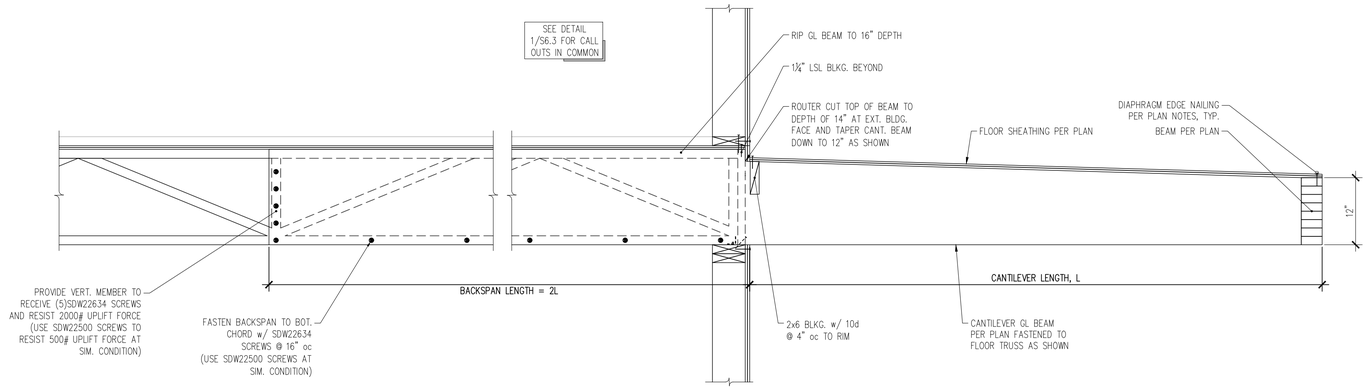
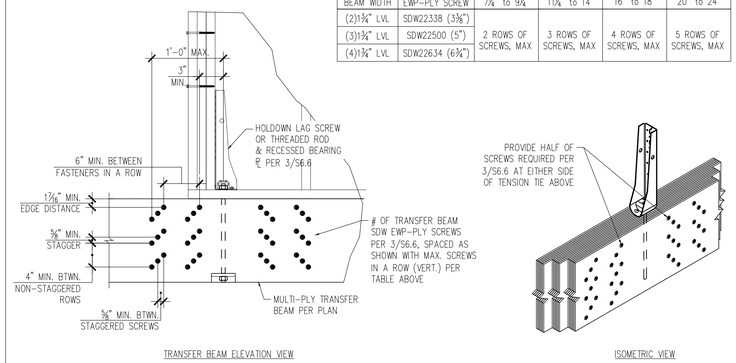


9 S6.5 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"

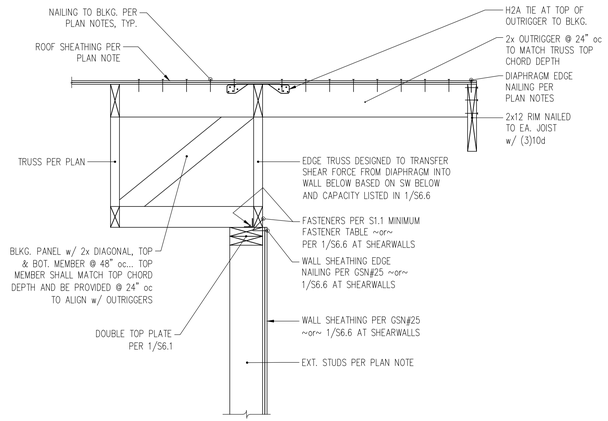


6 S6.5 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"

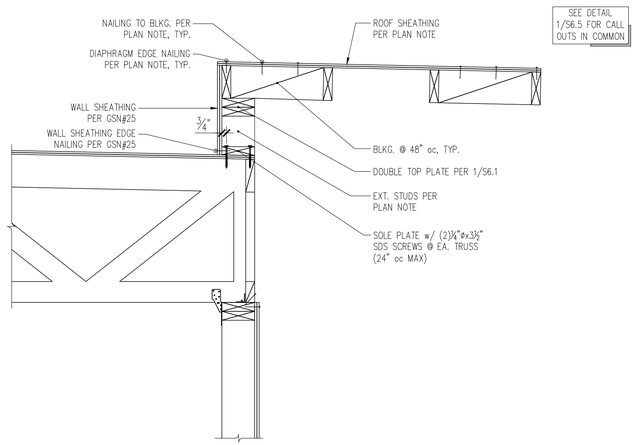
TRANSFER BEAM WIDTH	SIMPSON SDW EWP-PLY SCREW	TRANSFER BEAM DEPTH			
		7¼" to 9¼"	11¼" to 14"	16" to 18"	20" to 24"
(2)1¾" LVL	SDW22338 (3⅜")	2 ROWS OF SCREWS, MAX	3 ROWS OF SCREWS, MAX	4 ROWS OF SCREWS, MAX	5 ROWS OF SCREWS, MAX
(3)1¾" LVL	SDW22500 (5")				
(4)1¾" LVL	SDW22634 (6¾")				



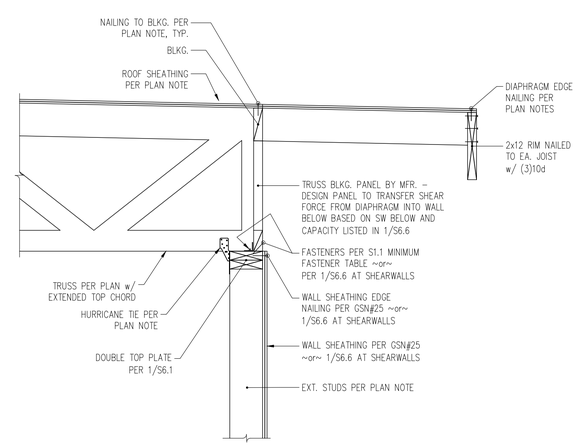
5 S6.5 MULTI-PLY TRANSFER BEAM CONNECTION DETAILS
1" = 1'-0"



2 S6.5 SECTION THROUGH EXTERIOR WALL AT PARALLEL ROOF TRUSSES
1" = 1'-0"



4 S6.5 SECTION THROUGH RAISED ROOF AT PERPENDICULAR ROOF TRUSSES
1" = 1'-0"



1 S6.5 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR ROOF TRUSSES
1" = 1'-0"

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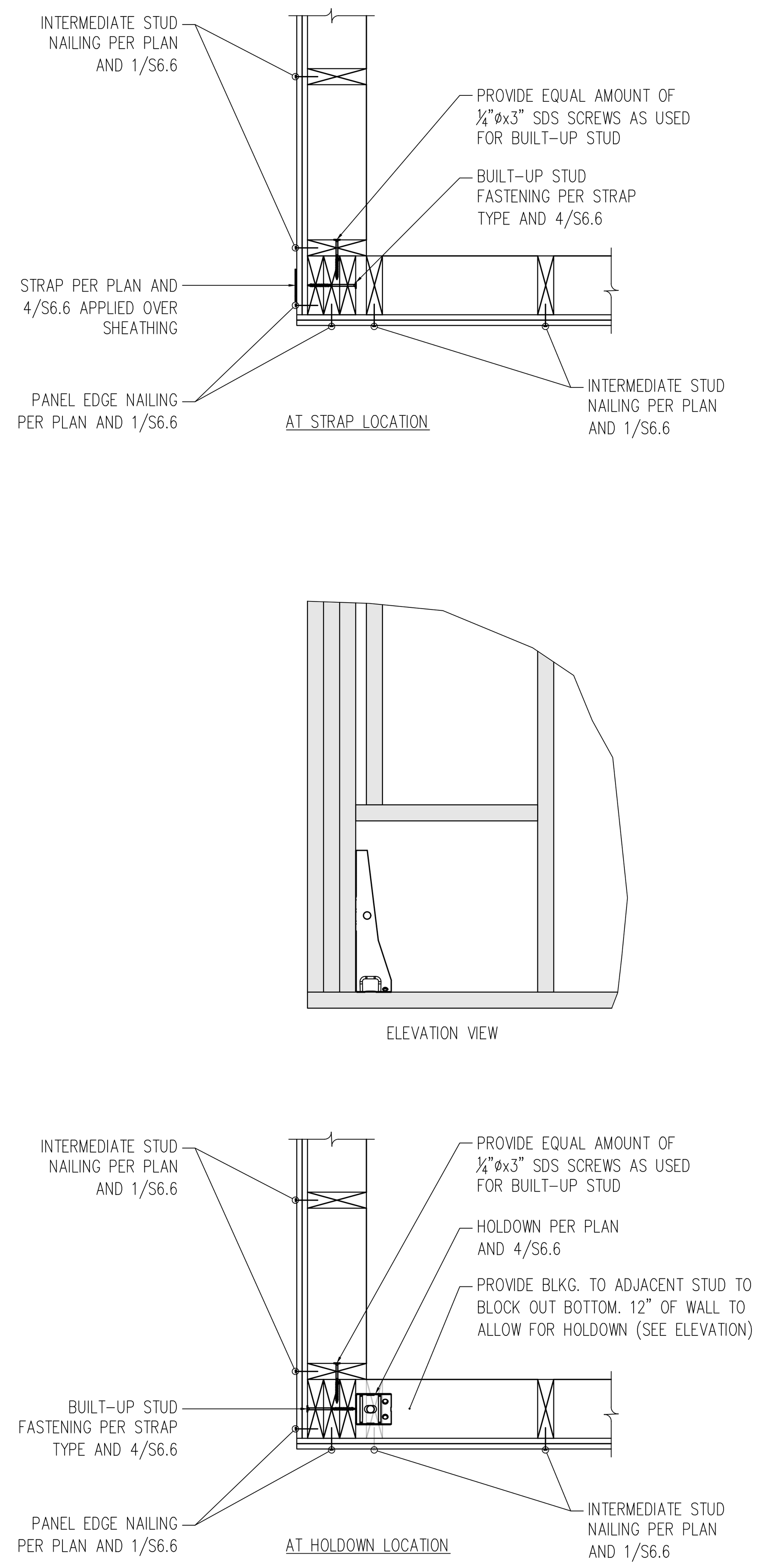
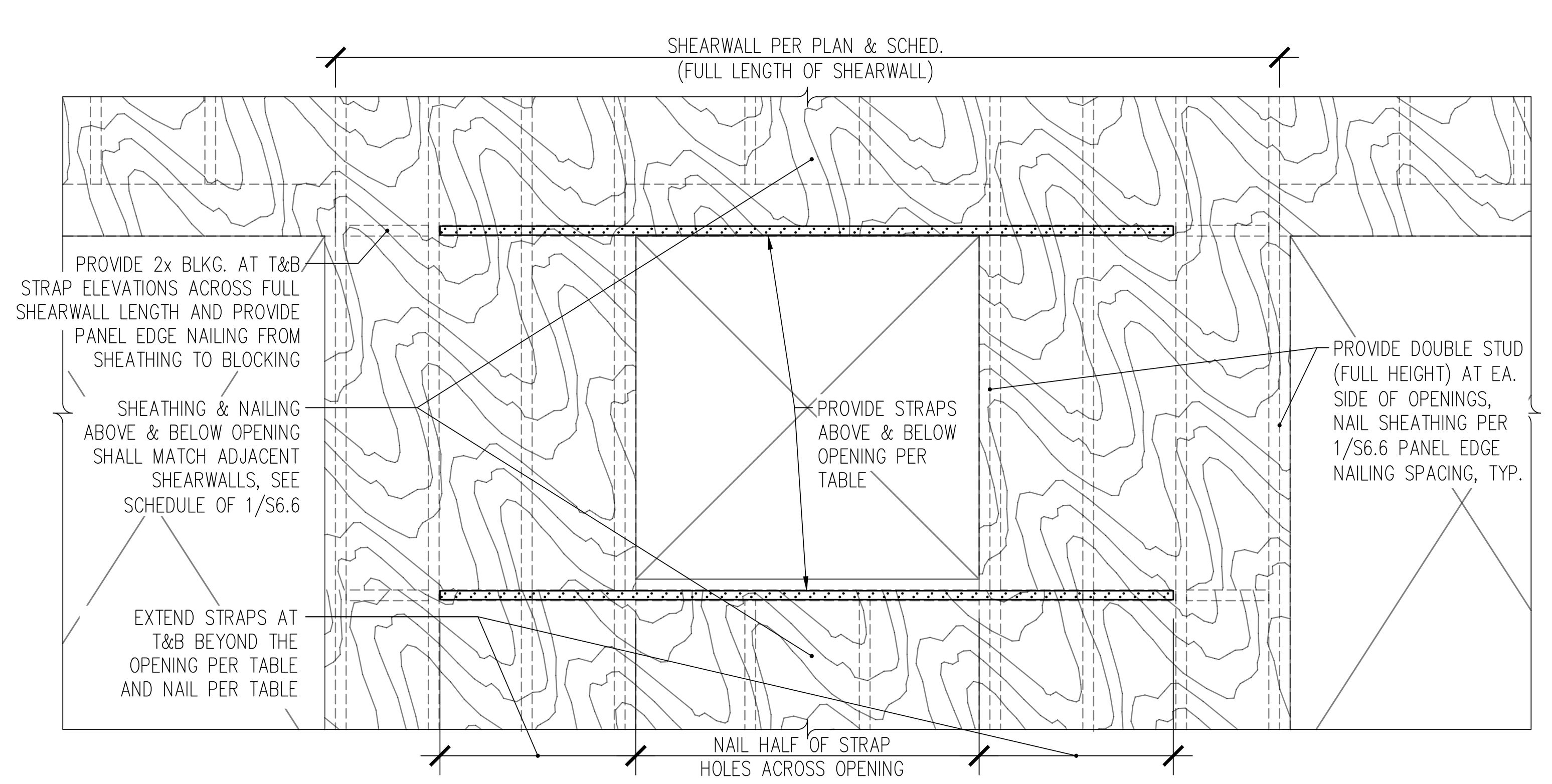


8 / S6.6 SHEAR WALL INTERSECTION AND TENSION TIE POSITIONING
N.T.S.

TYPE	STRAP	END LENGTH	NAILS
1	CS20	8"	(12)0.148"x2½"
2	CS20	18"	(12)0.148"x2½"
3	CS14	45"	(26)0.148"x2½"



7 / S6.6 STRAPPED SHEARWALL DETAIL
N.T.S.

STRAP TENSION TIE SCHEDULE

TIE (1) MARK	Min. # of studs	CLEAR SPAN AND TOTAL FASTENERS (2)	ASD (3) CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS (4)
MSTC28	(2)2x	18" – (12)0.148"ø x 3¼"	1,150#	10d @ 6" oc
MSTC40	(2)2x	18" – (28)0.148"ø x 3¼"	2,690#	10d @ 4" oc
MSTC52	(3)2x	18" – (44)0.148"ø x 3¼"	4,225#	(8)¼"øx4½" SDS
MSTC66	(3)2x	18" – (64)0.148"ø x 3¼"	5,850#	(12)¼"øx6" SDS
(2)MSTC52	(4)2x	18" – (44)0.148"ø x 3¼"	7,750#	(14)¼"øx6" SDS
(2)MSTC66	6x8	18" – (64)0.148"ø x 3¼"	9,800#	(12)¼"øx6" SDS

TENSION TIE ABOVE BEAM

TIE (1) MARK	Min. # of studs	FASTENERS (2)	ASD (3) CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS (4)
HDU2^	(2)2x	(6)¼"ø x 2½" SDS	2,750#	10d @ 4" oc
HDU4^	(3)2x	(10)¼"ø x 2½" SDS	3,750#	(10)¼"øx4½" SDS
HDU8^	(4)2x	(20)¼"ø x 2½" SDS	7,750#	(15)¼"øx6" SDS
HDU11^	6x6	(30)¼"ø x 2½" SDS	9,800#	N/A
HDU14^	6x6	(36)¼"ø x 2½" SDS	12,000#	N/A
MSTC40^	(2)2x	(28)0.148"ø x 3¼"	2,690#	10d @ 4" oc
MSTC52^	(3)2x	(44)0.148"ø x 3¼"	4,225#	(8)¼"øx4½" SDS
(2)MSTC52^	(4)2x	(44)0.148"ø x 3¼"	7,750#	(14)¼"øx6" SDS

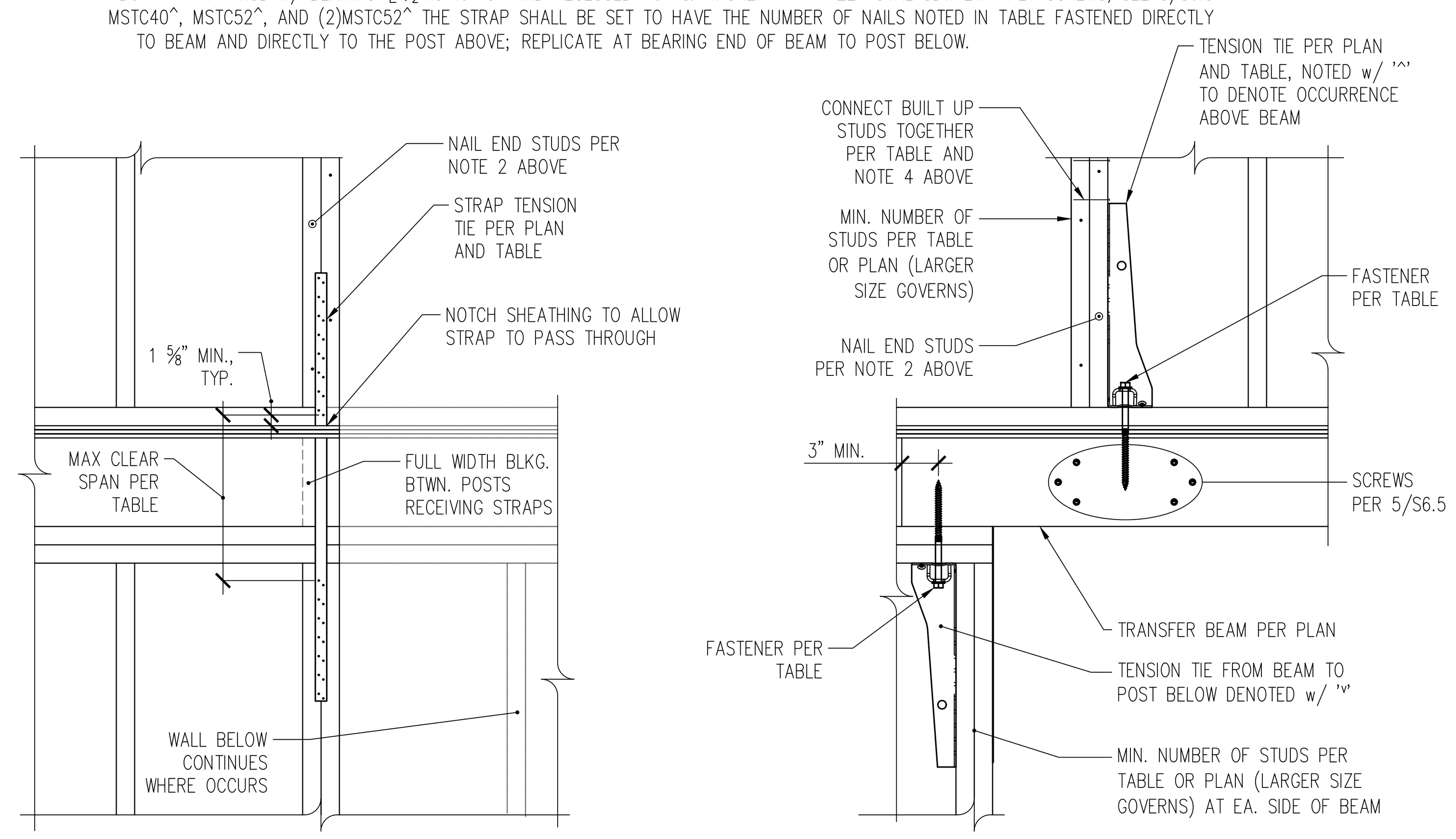
(1) TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.

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

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

(4) SCREWS SHALL BE SPACED EQUALLY ALONG FULL HEIGHT OF STUD ABOVE TENSION TIE. PROVIDE SCREWS AS NOTED IN TABLE AT ONE FACE OF BUILT-UP STUD, AND 10d @ 6" oc NAILS AT OPPOSITE FACE OF BUILT UP STUD.

^ DENOTES TENSION TIE THAT OCCURS ATOP OF A FRAMING MEMBER BELOW. FOR:
HDU2^ – ⅝"ø LAG SCREW WITH 7" MINIMUM PENETRATION INTO BEAM – 6 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU4^ – ⅝"ø LAG SCREW WITH 10" MINIMUM PENETRATION INTO BEAM – 6 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU8^ – ⅞"ø LAG SCREW WITH 14" MINIMUM PENETRATION INTO BEAM – 14 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU11^ – 1"ø ROD w/ BEARING PL ½"x5"x0'-5" AND RECESSED NUT & WASHER – 16 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
HDU14^ – 1"ø ROD w/ BEARING PL ½"x5"x0'-5" AND RECESSED NUT & WASHER – 22 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
MSTC40^, MSTC52^, AND (2)MSTC52^ THE STRAP SHALL BE SET TO HAVE THE NUMBER OF NAILS NOTED IN TABLE FASTENED DIRECTLY TO BEAM AND DIRECTLY TO THE POST ABOVE; REPLICATE AT BEARING END OF BEAM TO POST BELOW.



HOLDOWN TENSION TIE SCHEDULE

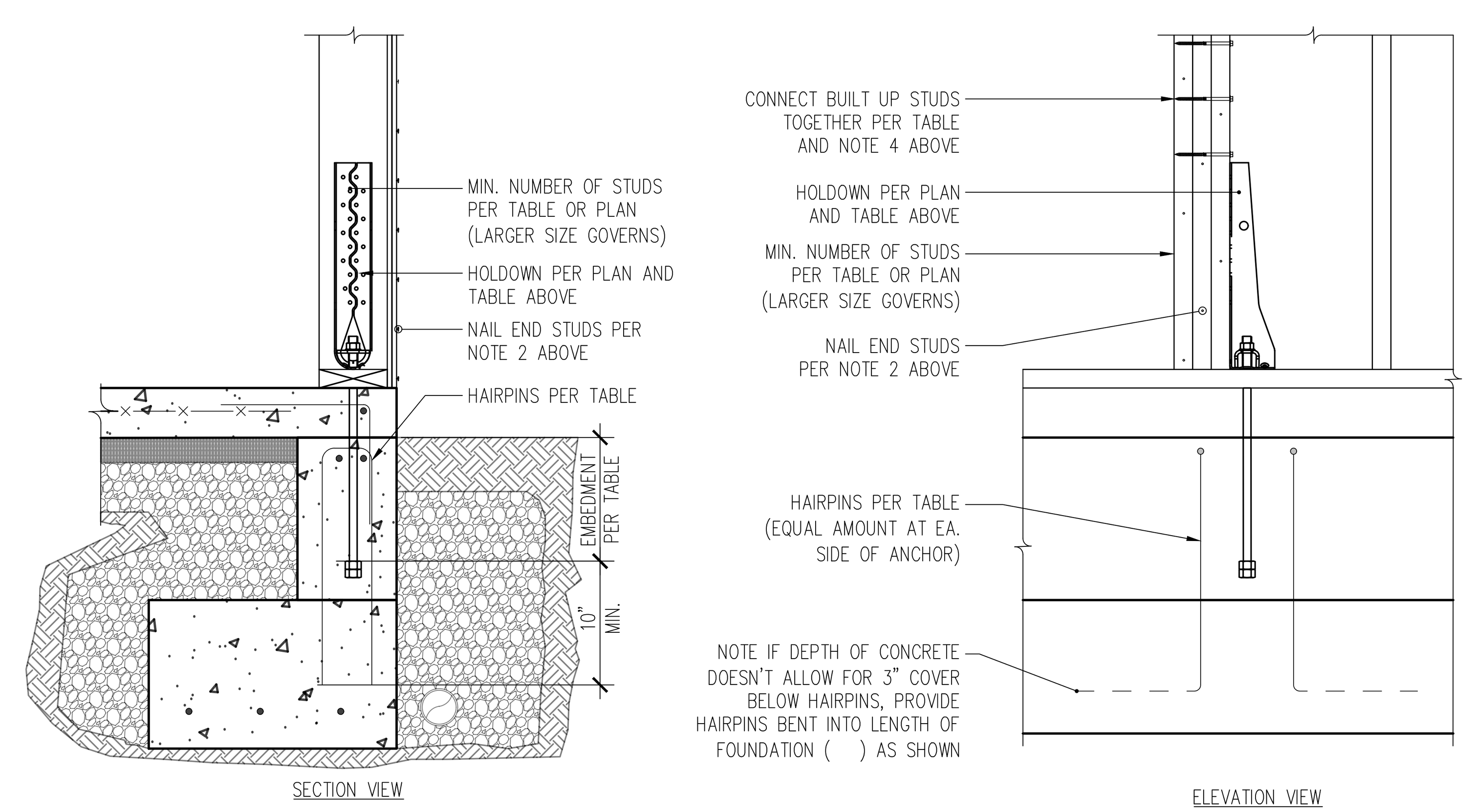
TIE (1) MARK	MIN. NUMBER (2) OF STUDS	ANCHOR (ø x EMBEDMENT) and No. OF HAIRPIN DOWELS (3)	FASTENERS FROM TIE TO STUD	ASD CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS (4)
HDU2	(2)2x	⅝"ø x 10" – (2)#4 HAIRPIN	(6)¼"ø x 2½" SDS SCREWS	3,075#	10d @ 4" oc
HDU4	(3)2x	⅝"ø x 10" – (2)#4 HAIRPIN	(10)¼"ø x 2½" SDS SCREWS	4,565#	(9)¼"øx4½" SDS
HDU5	(3)2x	⅞"ø x 10" – (2)#4 HAIRPIN	(14)¼"ø x 2½" SDS SCREWS	5,645#	(10)¼"øx4½" SDS
HDU8	(4)2x	⅞"ø x 10" – (4)#4 HAIRPIN	(20)¼"ø x 2½" SDS SCREWS	7,870#	(15)¼"øx6" SDS
HDU11	6x6	1"ø x 10" – (4)#4 HAIRPIN	(30)¼"ø x 2½" SDS SCREWS	11,175#	N/A
HDU14	6x6	1"ø x 10" – (6)#4 HAIRPIN	(36)¼"ø x 2½" SDS SCREWS	14,445#	N/A

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

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

(3) ANCHORS SHALL BE HEAVY HEX HEAD WITH DOUBLE NUT CAST INTO CONCRETE.
ASTM F 1554 Gr. 36 FOR ⅝"ø ANCHOR
ASTM F 1554 Gr. 55 FOR ⅞"ø AND 1"ø ANCHORS

(4) SCREWS SHALL BE SPACED EQUALLY ALONG FULL HEIGHT OF STUD ABOVE TENSION TIE. PROVIDE SCREWS AS NOTED IN TABLE AT ONE FACE OF BUILT-UP STUD, AND 10d @ 6" oc NAILS AT OPPOSITE FACE OF BUILT UP STUD.



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

SHEARWALL PANEL TYPE	(1) SHEATHING THICKNESS	(2) 0.148" x 2½" PANEL NAILING	(3) STUD/BLKG. AT ABUTTING PANEL EDGES & SILL PLATE THICKNESS	(7) CONN. OF BLKG. OR FRAMING to TOP PLATE; AND SOLE PLATE TO SILL PLATE: (4) ¼"ø x 3½" SDS SCREWS	(5) A35 CLIPS	(6) LTP4 PLATES	(8) (9) ANCHOR BOLTS TO CONC.: ⅝"ø	¾"ø	ASD CAPACITY, PLF
SW-6	½"	6" oc	2x	15" oc	25" oc	24" oc	48" oc	48" oc	310
SW-4	½"	4" oc	3x	10" oc	16" oc	16" oc	38" oc	48" oc	460
SW-3	½"	3" oc	3x	8" oc	13" oc	12" oc	29" oc	40" oc	600
SW-2	½"	2" oc	3x	6" oc	10" oc	9" oc	23" oc	31" oc	770
SW-44	½"	4" oc EA. SIDE	3x	5" oc	8" oc	8" oc	19" oc	26" oc	920
SW-33	½"	3" oc EA. SIDE	3x	4" oc	6" oc	6" oc	14" oc	20" oc	1200
SW-22	½"	2" oc EA. SIDE	3x	3" oc	5" oc	4" oc	11" oc	15" oc	1540

(1) SHEATHING SHALL CONSIST OF ½" PLYWOOD AND HAVE A MINIMUM SPAN RATING OF 24/0. AT INTERIOR SHEARWALLS ONLY, 15/32" OSB MAY BE USED

(2) PANEL NAILING APPLIES TO ALL SHEATHING PANEL EDGES. INSTALL BLOCKING AT ALL UNFRAMED PANEL EDGES. ENSURE SHEATHING IS NAILED TO ALL INTERMEDIATE STUDS/BLOCKING WITH PANEL NAILS AT 12"oc

(3) DOUBLE 2x MEMBERS MAY BE SUBSTITUTED FOR 3x MEMBERS AT WALLS WITH ONLY ONE LAYER OF SHEATHING. 2x MEMBERS SHALL BE NAILED TOGETHER WITH 8d FACE: @ 4" oc FOR SW-6, @ 3" oc FOR SW-4, @ 2" oc FOR SW-3, AND (2)@ 3" oc FOR SW-2 (116#/NAIL)

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

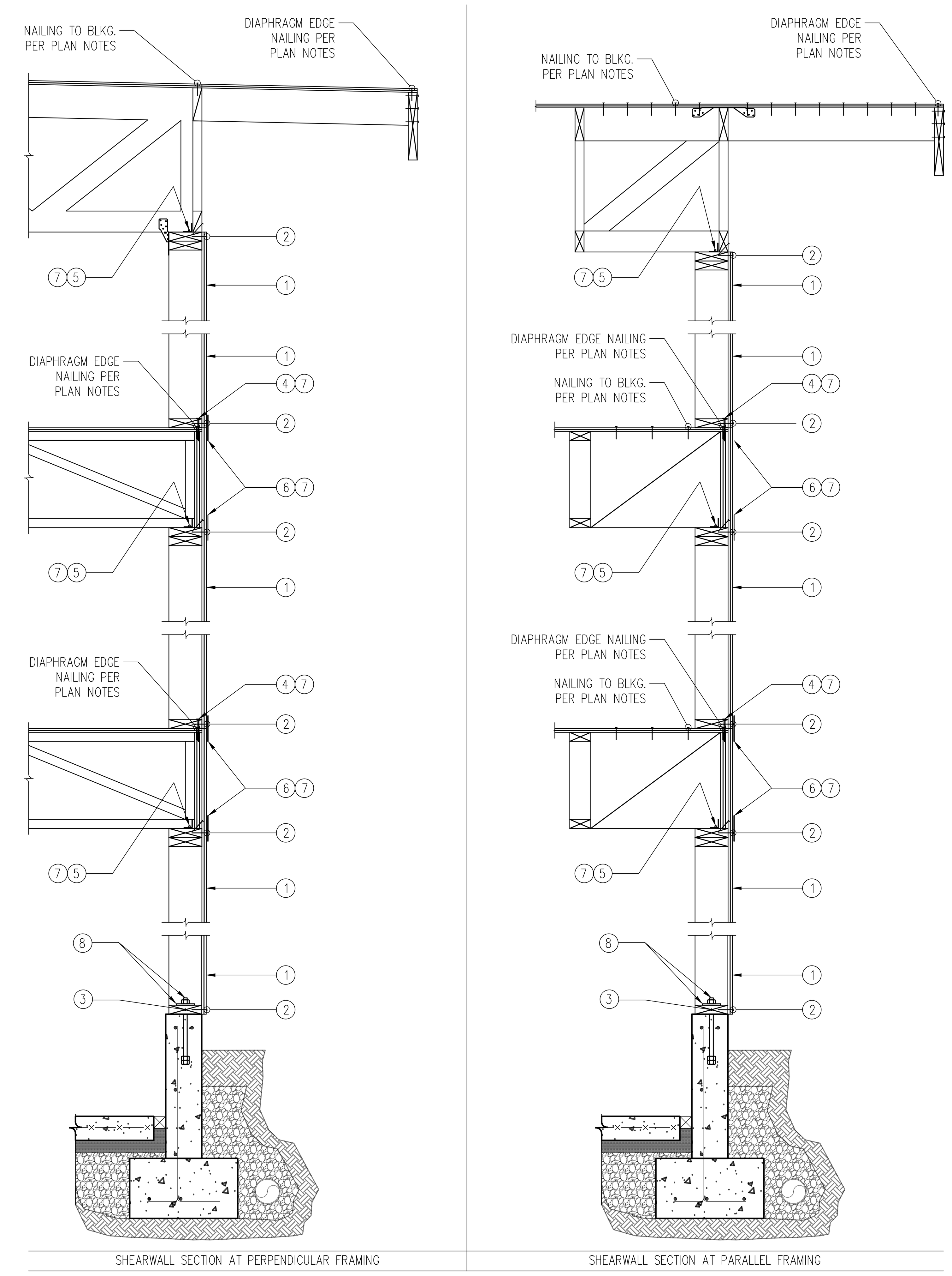
(5) A35 CLIPS SHALL BE INSTALLED w/ (12)0.131 x 1½ " NAILS (650#/CLIP)

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

(7) CONTRACTOR SHALL USE A35 CLIPS TO CONNECT ROOF TRUSS TO DOUBLE TOP PLATE
SDS SCREWS or LTP4 CLIPS TO CONNECT SOLE PLATE TO FLOOR TRUSS RIM BOARD
A35 or LT4P CLIPS TO CONNECT FLOOR TRUSS TIM BOARD TO DOUBLE TOP PLATE

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

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



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

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Lateral Force Resisting System Schedules & Details

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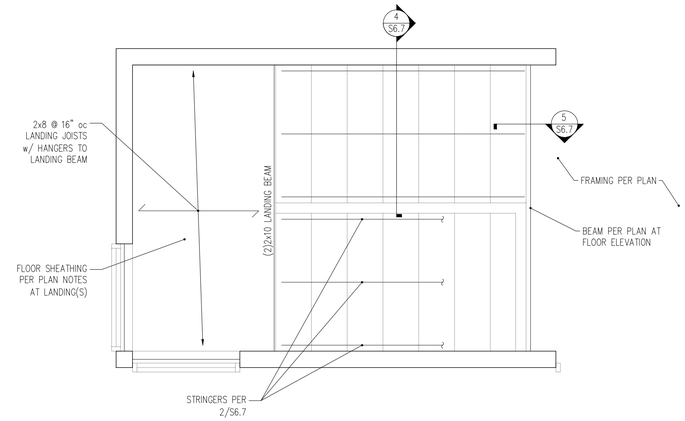
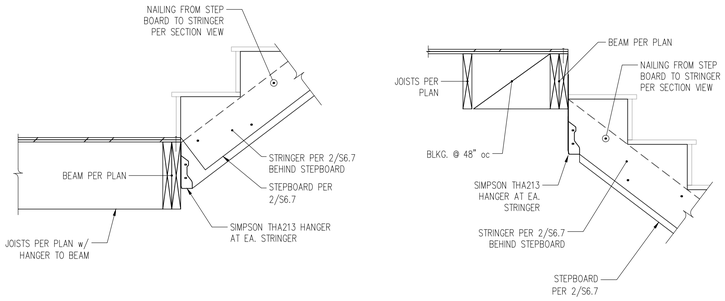
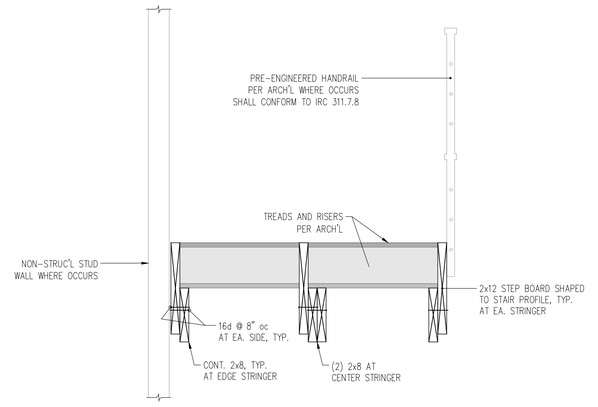


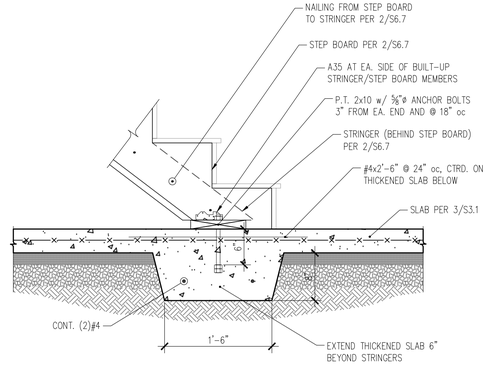
3 S6.7 TYPICAL STAIR FRAMING/LANDING PLAN VIEW
1" = 1'-0"



5 S6.7 SECTION THROUGH ROOF BREAK AT INTERIOR WALL
1" = 1'-0"



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



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

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Typical Stair
Framing Details

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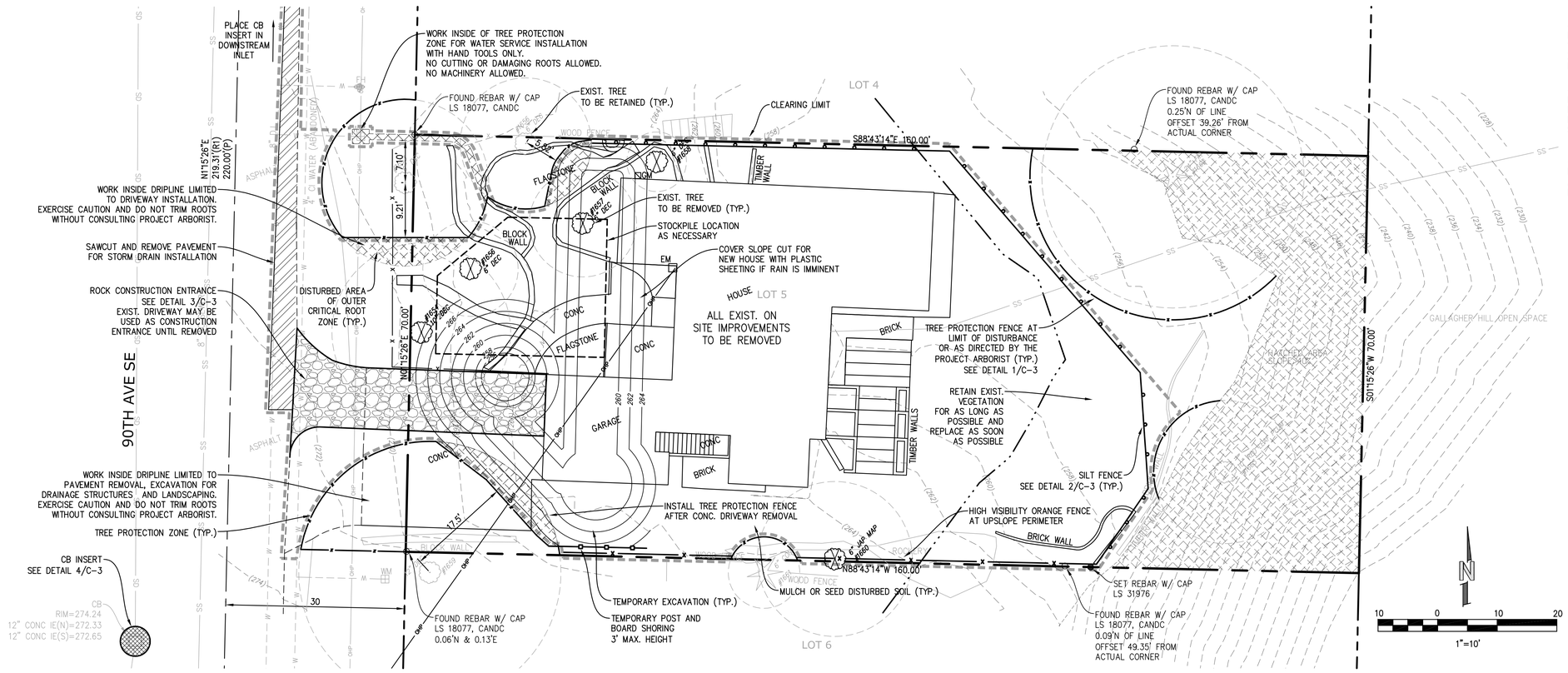
SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.



BASIS OF BEARINGS

BEARINGS AND COORDINATES USED FOR THIS SURVEY ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) WASHINGTON NORTH ZONE AND WERE ESTABLISHED USING RTK GPS WITH SMARTNET REFERENCE NETWORK.

LEGAL DESCRIPTION

LOT 5, BLOCK 4 OF MADRONA CREST ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 42 OF PLATS, PAGES 12–14, RECORDS OF KING COUNTY WASHINGTON.
SITUATE IN COUNTY OF KING, STATE OF WASHINGTON.

VERTICAL DATUM

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

EROSION AND SEDIMENT CONTROL NOTES

1. APPROVAL OF THIS EROSION AND SEDIMENT CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY A CONTINUOUS LENGTH OF SURVEY TAPE (OR FENCING, IF REQUIRED) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES DURING THE WET SEASON (OCT. 1 TO APRIL 30) AND OF MONTHLY REVIEWS DURING THE DRY SEASON (MAY 1 TO SEPT. 30).
7. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
8. ANY AREA NEEDING ESC MEASURES NOT REQUIRING IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
9. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY–EIGHT (48) HOURS FOLLOWING A STORM EVENT.
10. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT–LADEN WATER INTO THE DOWNSTREAM SYSTEM.
11. STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. ANY PERMANENT FLOW CONTROL FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.
13. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2 TO 3 INCHES.
14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DDES INSPECTOR. THE DDES INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

POLLUTION PREVENTION AND SPILL CONTROL

STORAGE AND HANDLING OF LIQUIDS
1. MINIMIZE AMOUNT OF LIQUIDS STORED ON SITE.
2. STORE AND CONTAIN LIQUID MATERIALS IN SUCH A MANNER THAT IF A VESSEL IS RUPTURED OR LEAKS, THE CONTENTS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORM DRAINAGE SYSTEM, SURFACE WATERS, OR GROUNDWATER. TYPICALLY THIS MEANS INSTALLING SECONDARY CONTAINMENT, SUCH AS A LINED EXCAVATION, LARGER CONTAINER, OR USING A DOUBLE–WALLED TANK OR SIMILAR COMMERCIALLY AVAILABLE CONTAINMENT FACILITY.
3. PLACE TIGHT–FITTING LIDS ON ALL CONTAINERS.
4. ENCLOSE OR COVER THE CONTAINERS WHERE THEY ARE STORED TO PROTECT FROM RAIN. THE LOCAL FIRE DISTRICT MUST BE CONSULTED FOR LIMITATIONS ON CLEARANCE OF ROOF COVERS OVER CONTAINERS USED TO STORE FLAMMABLE MATERIALS.
5. RAISE THE CONTAINERS OFF THE GROUND BY USING A SPILL CONTAINMENT PALLET OR SIMILAR METHOD THAT HAS PROVISIONS FOR SPILL CONTROL.
6. PLACE DRIP PANS OR ABSORBENT MATERIALS BENEATH ALL MOUNTED CONTAINER TAPS, AND AT ALL POTENTIAL DRIP AND SPILL LOCATIONS DURING FILLING AND UNLOADING OF CONTAINERS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.
7. STORE AND MAINTAIN ABSORBENT PADS OR APPROPRIATE SPILL CLEANUP MATERIALS NEAR THE CONTAINER STORAGE AREA, IN A LOCATION KNOWN TO ALL. ENSURE THAT EMPLOYEES ARE FAMILIAR WITH THE SITE'S SPILL PLAN AND/OR PROPER SPILL CLEANUP PROCEDURES.
8. CHECK CONTAINERS (AND ANY CONTAINMENT SUMPS) DAILY FOR LEAKS AND SPILLS. REPLACE CONTAINERS THAT ARE LEAKING, CORRODED, OR OTHERWISE DETERIORATING. IF THE LIQUID CHEMICALS ARE CORROSIVE, CONTAINERS MADE OF COMPATIBLE MATERIALS MUST BE USED INSTEAD OF METAL DRUMS. NEW OR SECONDARY CONTAINERS MUST BE LABELED WITH THE PRODUCT NAME AND HAZARDS.
9. PLACE DRIP PANS OR ABSORBENT MATERIALS BENEATH A CONTAINER THAT IS FOUND TO BE LEAKING. REMOVE THE DAMAGED CONTAINER AS SOON AS POSSIBLE. MOP UP THE SPILLED LIQUID WITH ABSORBENT PADS OR RAGS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.

FUELING
1. LOCATE THE FUELING OPERATION TO ENSURE LEAKS OR SPILLS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORM DRAINAGE SYSTEM, SURFACE WATER, OR GROUNDWATER.
2. USE DRIP PANS OR ABSORBENT PADS TO CAPTURE DRIPS OR SPILLS DURING FUELING OPERATIONS.
3. IF FUELING IS DONE DURING EVENING HOURS, LIGHTING MUST BE PROVIDED.
4. STORE AND MAINTAIN APPROPRIATE SPILL CLEANUP MATERIALS IN THE MOBILE FUELING VEHICLE. ENSURE THAT EMPLOYEES ARE FAMILIAR WITH PROPER SPILL CONTROL AND CLEANUP PROCEDURES.
5. IMMEDIATELY MOP UP ANY SPILLED FUEL WITH ABSORBENT PADS OR RAGS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.

CONCRETE SAW CUTTING, SLURRY, AND WASHWATER DISPOSAL
1. SLURRY FROM SAW CUTTING THE SIDEWALK SHALL BE VACUUMED SO THAT IT DOES NOT ENTER NEARBY STORM DRAINS.
2. CONCRETE TRUCK CHUTES, PUMPS, AND INTERNALS SHALL BE WASHED OUT ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE.
3. UNUSED CONCRETE REMAINING IN THE TRUCK AND PUMP SHALL BE RETURNED TO THE ORIGINATING BATCH PLANT FOR RECYCLING.
4. HAND TOOLS INCLUDING, BUT NOT LIMITED, SCREEDS, SHOVELS, RAKES, FLOATS, AND TROWELS SHALL BE WASHED OFF ONLY INTO FORMED INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR IMPERMEABLE ASPHALT.
5. EQUIPMENT THAT CANNOT BE EASILY MOVED, SUCH AS CONCRETE PAVERS, SHALL ONLY BE WASHED IN AREAS THAT DO NOT DIRECTLY DRAIN TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.
6. WASHDOWN FROM AREAS SUCH AS CONCRETE AGGREGATE DRIVEWAY SHALL NOT DRAIN DIRECTLY TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.
7. WHEN NO FORMED AREAS ARE AVAILABLE, WASHWATER AND LEFTOVER PRODUCT SHALL BE CONTAINED IN A LINED CONTAINER. CONTAINED CONCRETE SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
8. CONTAINERS SHALL BE CHECKED FOR HOLES IN THE LINER DAILY DURING CONCRETE POURS AND REPLACED THE SAME DAY.

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

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NICHOLAS E. BOSSOFF 29631 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON
EXPIRES 7/2/25

NO.	DATE	REVISION
	08/1/22	PERMIT SUBMITTAL
1	04/10/23	CITY REVISIONS
2	07/11/23	CITY REVISIONS
3	07/14/23	CITY REVISIONS

PROJECT MANAGER: N. BOSSOFF, P.E.
DESIGNED: NB
DRAWN: TKB
JOB NUMBER: GUDI–2201
FILE NAME: GUDI–2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: T.E.S.C. PLAN

SHEET: C-1

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

POST-CONSTRUCTION SOIL QUALITY AND DEPTH NOTES

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

A. SOIL RETENTION. RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.

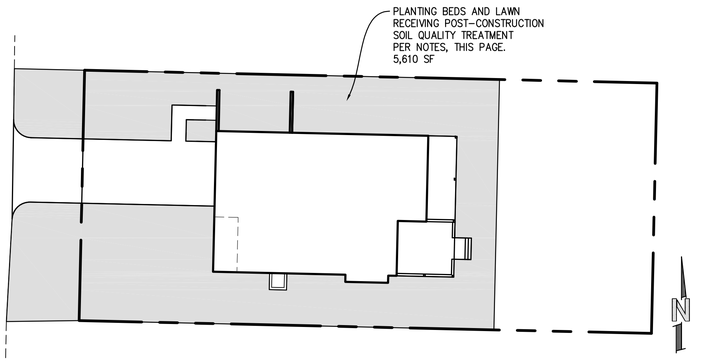
B. SOIL QUALITY. ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:
   1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
   2. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL
   3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
      A. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE DEFINITION OF "COMPOSTED MATERIALS" IN WAC 173-350-220, WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
      B. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (A.) ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173- 350-220.

   THE RESULTING SOIL SHOULD BE CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

C. IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW:
   1. LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
   2. AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PREAPPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT.
   3. STOCKPILE EXISTING TOPSOIL DURING GRADING AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE.
   4. IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS. MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

ADDITIONAL NOTES:

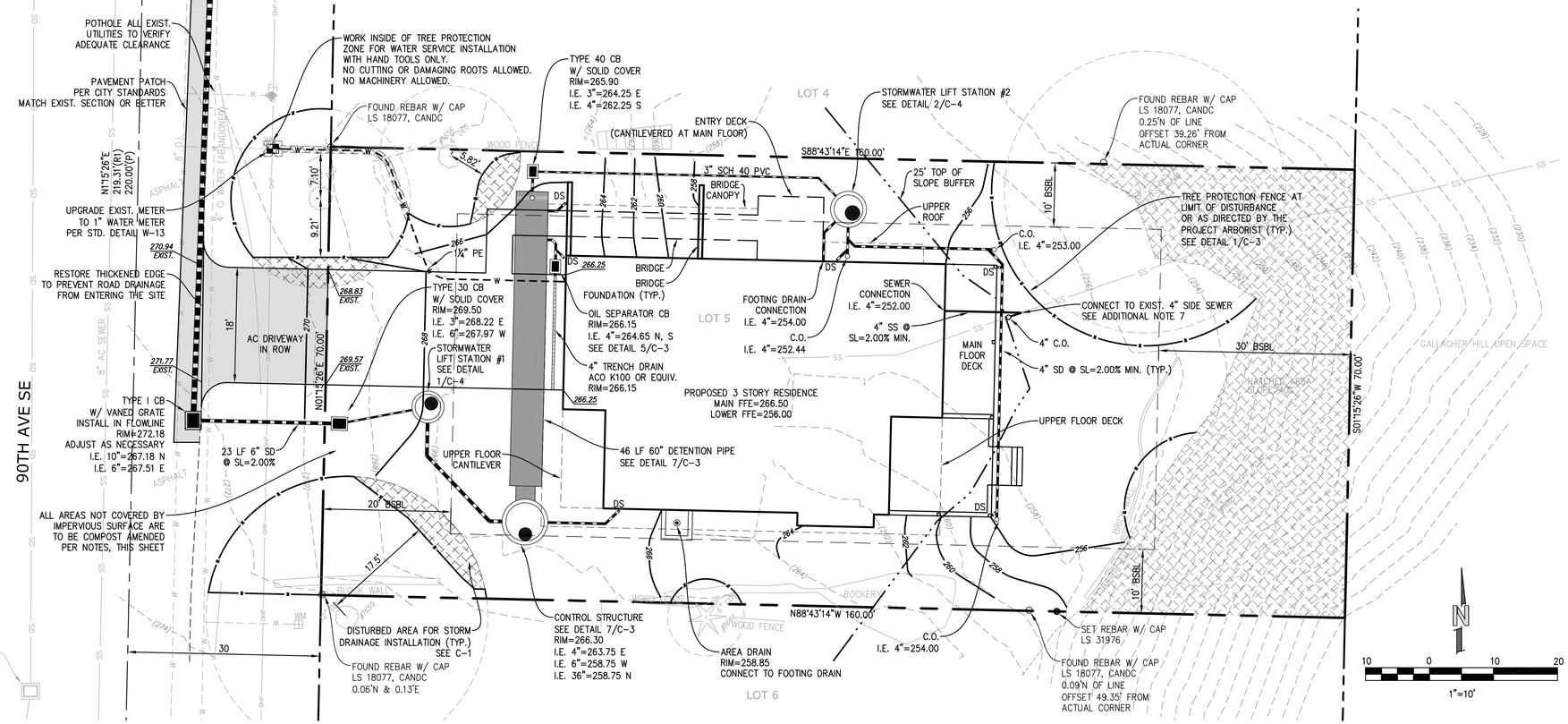
1. ALL CONSTRUCTION MATERIALS AND PRACTICE SHALL CONFORM TO THE CITY OF MERCER ISLAND STANDARDS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS.
2. EXISTING UTILITIES AS SHOWN ARE FROM CITY RECORDS AND ARE APPROXIMATE. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO IDENTIFY, LOCATE AND PROTECT ABOVE AND BELOW GRADE UTILITIES. CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT EXISTS BETWEEN EXISTING UTILITIES AND THE PROPOSED IMPROVEMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL AND SHALL MAINTAIN THE NECESSARY SAFEGUARDS AND MANAGE THE CONSTRUCTION SO AS TO PREVENT WATERBORNE SEDIMENTS FROM LEAVING THE SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR.
5. ON-SITE PRIVATE STORM AND SEWER PIPE SHALL BE SOLVENT WELDED SCHEDULE 40 PVC OR PVC ASTM D3034 SDR35 UNLESS SHOWN OTHERWISE. PVC PIPE LAID AT A SLOPE IN EXCESS OF 20% SHALL BE SOLVENT WELDED SCHEDULE 40 PVC. STORM PIPE IN THE RIGHT-OF-WAY SHALL BE HIGH-DENSITY POLYETHYLENE DOUBLE-WALLED SMOOTH INTERIOR PIPE SUCH AS ADS N-12 OR EQUIVALENT.
6. FOOTING DRAINS SHALL BE INSTALLED AROUND THE BASE OF ALL FOUNDATION FOOTINGS THAT ENCLOSE A CRAWL SPACE, CELLAR, BASEMENT, GARAGE OR OTHER BUILDING SPACE. FOOTING DRAINS SHALL BE PERFORATED 4-INCH DIAMETER PVC CONFORMING TO D2729, PERFORATIONS DOWN. GRANULAR BACKFILL SHALL BE PLACED AROUND AND ABOVE THE DRAIN TO A DEPTH OF 2/3 OF THE WALL HEIGHT. FILTER FABRIC (MIRAFI 140N OR EQUIVALENT) SHALL BE PLACED BETWEEN THE GRANULAR BACKFILL AND NATIVE SOILS. TIE THE FOOTING DRAIN INTO THE STORM LINE AT A LOCATION WHERE THE FOOTING DRAIN ELEVATION IS AT LEAST 12-INCHES ABOVE THE STORM LINE.
7. EXISTING SIDE SEWER AND STORM DRAIN DEPTH AND LOCATION SHALL BE DETERMINED PRIOR TO ANY CONSTRUCTION, INCLUDING BUILDING CONSTRUCTION. REPORT CONFLICTS WITH PROPOSED CONSTRUCTION TO ENGINEER. NEW SIDE SEWER CONNECTION TO MAIN OR SEWER EJECTOR PUMP MAY BE NECESSARY FOR BASEMENT.
8. PROPOSED METER LOCATION, IF SHOWN, IS APPROXIMATE. CONTRACTOR TO COORDINATE EXACT LOCATION OF NEW SERVICE/METER/ SUPPLY LINE WITH CITY WATER DEPARTMENT DURING CONSTRUCTION.
9. EACH DOWNSPOUT SHALL CONNECT TO A RIGID NON-PERFORATED PIPE AT THE BUILDING PERIMETER. UNDER NO CIRCUMSTANCES SHALL DOWNSPOUTS CONNECT DIRECTLY TO THE PERFORATED FOOTING DRAIN.
10. USE SAND COLLARS FOR PVC PIPE CONNECTIONS TO MANHOLES.
11. VERTICAL BENDS ON THE STORM DRAINS MAY BE NECESSARY TO MAINTAIN MIN. 1.5' SOIL COVER OVER PIPE. MAX. PIPE BENDS TO BE 45°.
12. DOWNSPOUT LOCATIONS SHOWN ARE PRELIMINARY. REFER TO ARCHITECTURAL PLANS FOR FINAL DOWNSPOUT LOCATIONS.
13. AN UNDERSLAB DRAINAGE SYSTEM MAY BE NECESSARY DEPENDENT ON GEOTECHNICAL EVALUATION BY OTHERS.
14. WINDOW WELLS SHALL BE DESIGNED FOR PROPER DRAINAGE BY CONNECTING TO THE BUILDING'S FOUNDATION DRAINAGE SYSTEM REQUIRED PER SECTION R310.2.3.2 OF THE INTERNATIONAL RESIDENTIAL CODE. A DRAINAGE SYSTEM FOR WINDOW WELLS IS NOT REQUIRED WHERE THE FOUNDATION IS ON WELL-DRAINED SOIL OR SAND-GRAVEL MIXTURE SOILS IN ACCORDANCE WITH THE UNITED SOIL CLASSIFICATION SYSTEM, GROUP I SOILS, AS DETAILED IN TABLE R405.1 OF THE IRC



POST-CONSTRUCTION SOIL QUALITY

SCALE: 1"=20'

1



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EXPIRES 7/2/25

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4	07/14/23	CITY REVISIONS

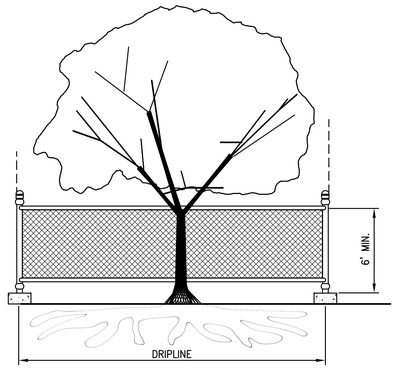
PROJECT MANAGER: N. BOSSOFF, P.E.
DESIGNED: NB
DRAWN: TKB
JOB NUMBER: GUDI-2201
FILE NAME: GUDI-2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DRAINAGE PLAN

SHEET: C-2

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

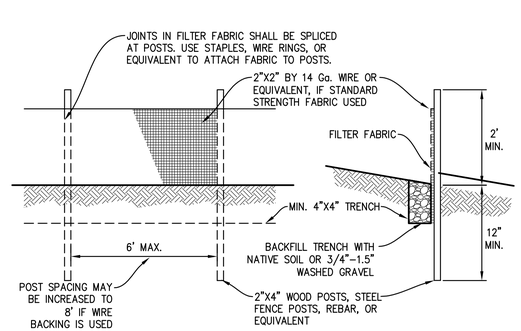


TREE PROTECTION DURING CONSTRUCTION

1. 6–FT. HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE DRIPLINE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE THE TREE(S). INSTALL FENCE POSTS USING PIER BLOCKS ONLY. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
2. FOR ROOTS OVER 1–IN DIA. THAT ARE DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE THE DAMAGED PORTION. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE.
3. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.

TREE PROTECTION

SCALE: NTS — 1



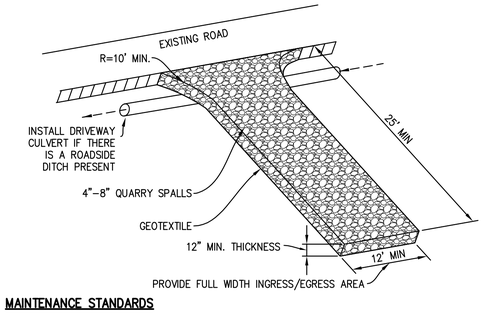
NOTE: FILTER FABRIC FENCE SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.

MAINTENANCE STANDARDS

1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGN OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCUR, REPLACE THE FENCE AND/OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6" HIGH.
5. IF THE FILTER FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

SILT FENCE

SCALE: NTS — 2

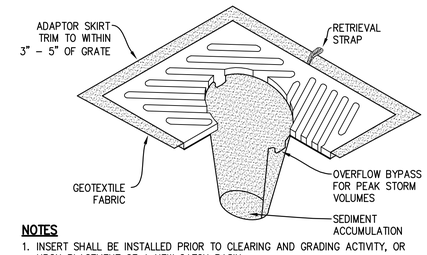


MAINTENANCE STANDARDS

1. QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. 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 STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH. IF WASHING IS USED, IT SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT TRAP OR POND.
3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY 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 SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREET, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
4. ANY ROCK SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING (SECTION 5.4.1) SHALL BE INSTALLED TO CONTROL TRAFFIC.

ROCK CONSTRUCTION ENTRANCE

SCALE: NTS — 3

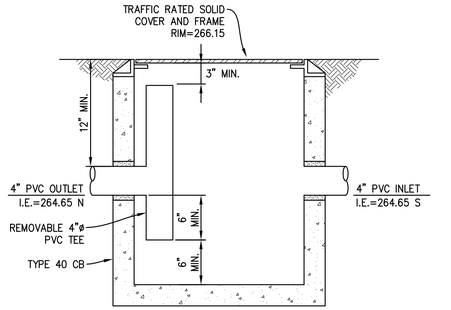


NOTES

1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE–INSERTING IT INTO THE CATCH BASIN.

CB INSERT

SCALE: NTS — 4



OIL SEPARATOR CB

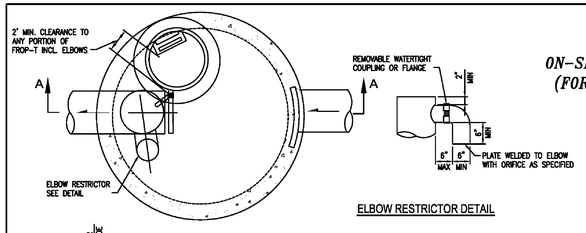
SCALE: NTS — 5

ATTACHMENT 1
CITY OF MERCER ISLAND
ON–SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

OWNER: GUDIPATY
PERMIT #: _____
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 4,796
SOIL TYPE: B

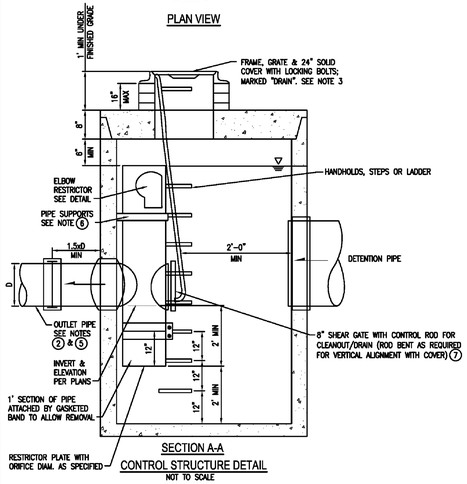
ADDRESS: 3632 90TH AVE SE
MERCER ISLAND
DETENTION PIPE DIA (INCH): 60"
PIPE MATERIAL: ADS N–12
DETENTION PIPE LENGTH (FT): 46

PREPARED BY: NICK BOSSOFF ENG
PHONE: (425) 881–5904
DATE: _____
ORIFICE #1 DIA 0.5 INCH, ELEV 256.75
ORIFICE #2 DIA 1.6 INCH, ELEV 263.35

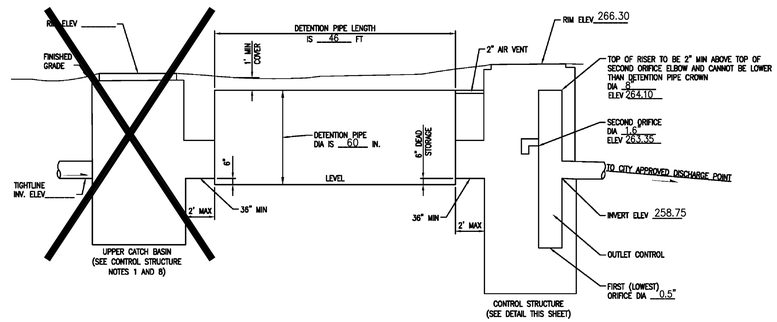


ELBOW RESTRICTOR DETAIL

PLAN VIEW



CONTROL STRUCTURE DETAIL
NOT TO SCALE



ON–SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON–GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB–DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'–0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZIC304; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL–LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON–SITE DETENTION SYSTEM NOTES:

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

DETENTION PIPE AND CONTROL STRUCTURE

SCALE: NTS — 7

Nick Bossoff Engineering, Inc.
191 NE Tarl Lane
Stevenson, WA 98648-4201
Phone: (425) 881-5904

BOSSOFF — STATE OF WASHINGTON — 29631 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 7/2/25

NO.	DATE	REVISION
	08/1/22	PERMIT SUBMITTAL
1	04/10/23	CITY REVISIONS
2	07/1/23	CITY REVISIONS
3	07/14/23	CITY REVISIONS

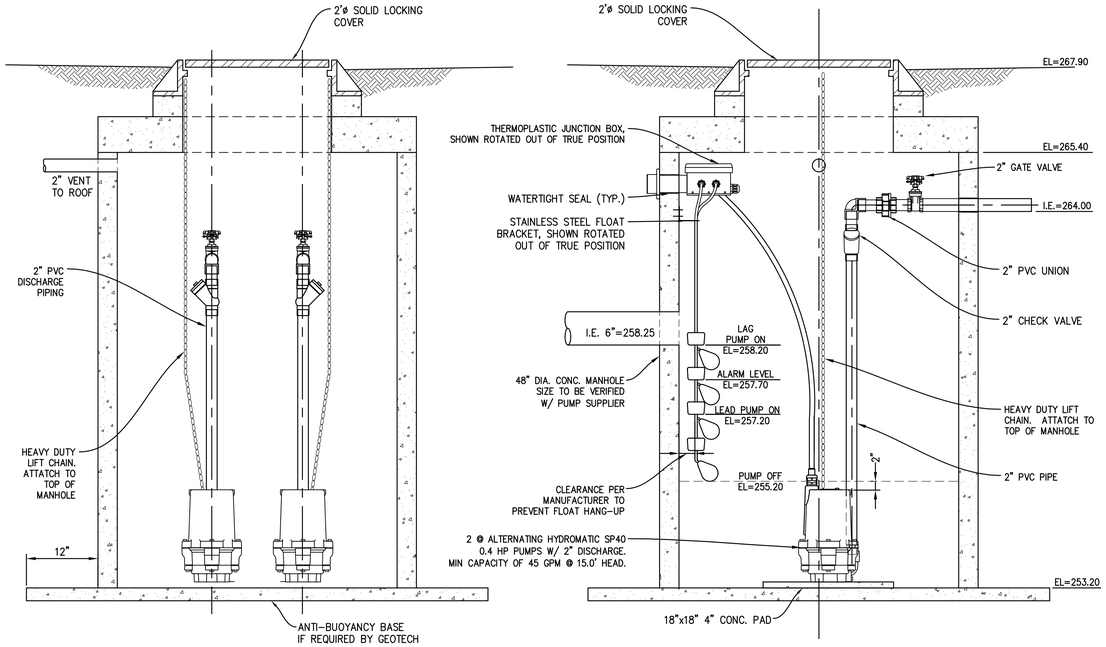
N. BOSSOFF, P.E.
PROJECT MANAGER: NB
DESIGNED: TKB
DRAWN: GUDI–2201
JOB NUMBER: GUDI–2201pln.dwg
FILE NAME:

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DETAILS

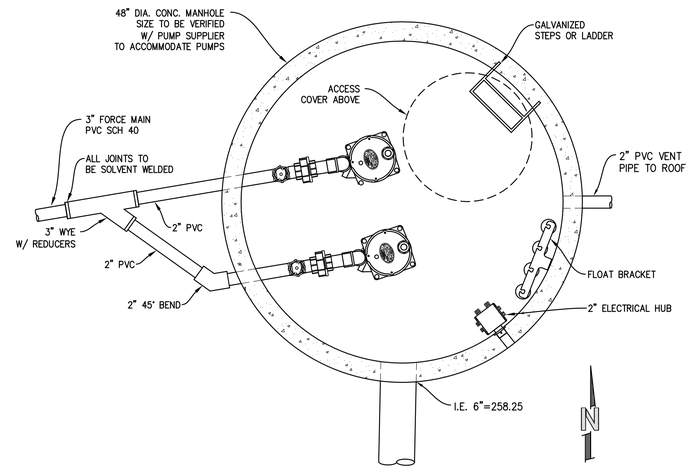
SHEET: C-3

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

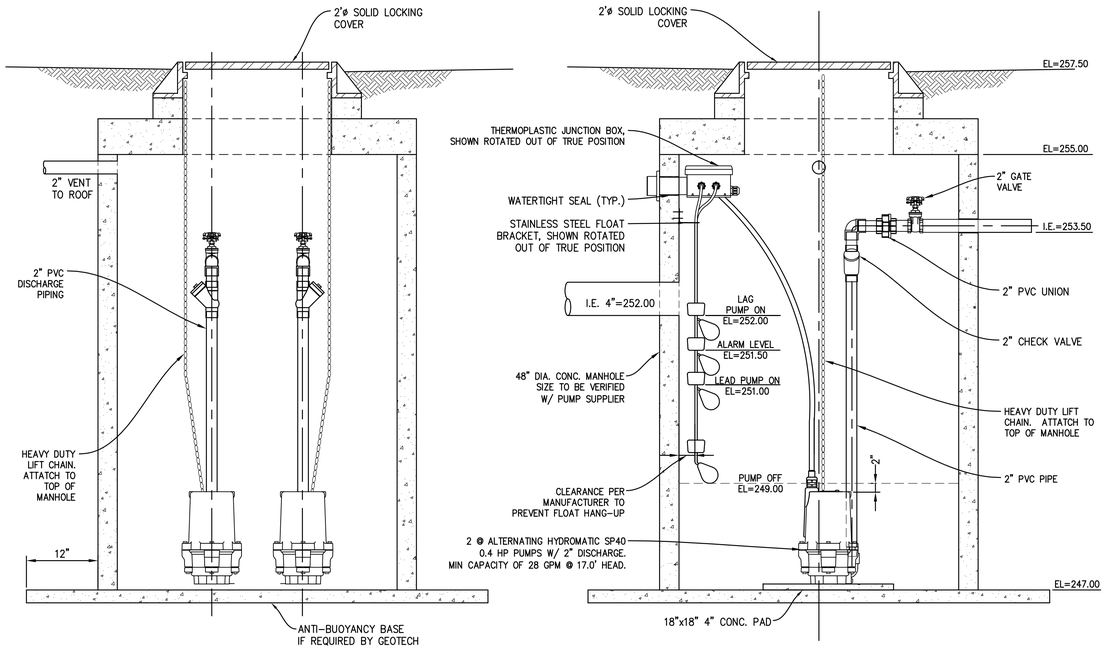


STORMWATER LIFT STATION #1

SCALE: NTS (1)

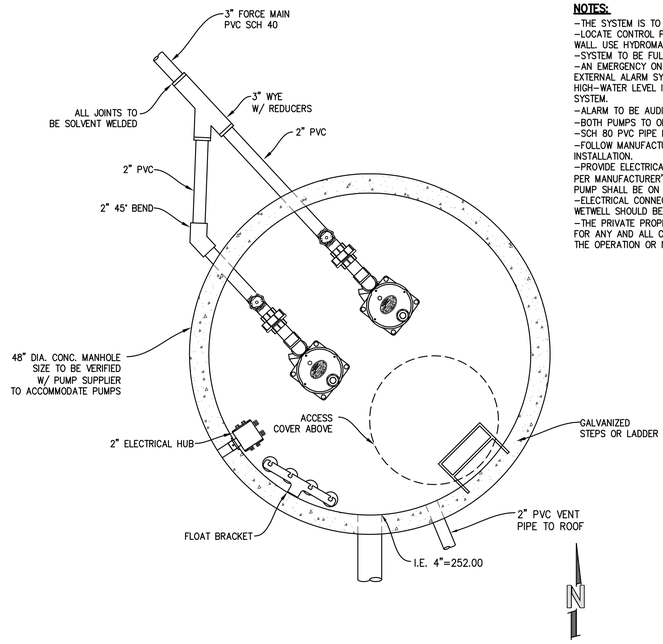


NOTES:
-THE SYSTEM IS TO BE AN ALTERNATING DUPLEX SYSTEM.
-LOCATE CONTROL PANEL AND ALARM ON EXTERIOR BUILDING WALL. USE HYDROMATIC PANEL OR APPROVED EQUIVALENT.
-SYSTEM TO BE FULLY AUTOMATIC WITH MANUAL OVERRIDE.
-AN EMERGENCY ON-SITE, BACK-UP POWER SUPPLY AND AN EXTERNAL ALARM SYSTEM FOR SYSTEM FAILURE AND HIGH-WATER LEVEL INDICATOR ARE REQUIRED FOR THE PUMP SYSTEM.
-ALARM TO BE AUDIO (BELL) AND VISUAL (LIGHT).
-BOTH PUMPS TO OPERATE AT "LAG PUMP ON" FLOAT LEVEL.
-SCH 80 PVC PIPE INSIDE MANHOLE.
-FOLLOW MANUFACTURER'S INSTRUCTIONS FOR ALL INSTALLATION.
-PROVIDE ELECTRICAL SUPPLY TO PANEL AND LIFT STATION PER MANUFACTURER'S SPECIFICATIONS. POWER TO PANEL AND PUMP SHALL BE ON A DEDICATED CIRCUIT.
-ELECTRICAL CONNECTIONS AND SERVICES WITHIN THE PUMP WETWELL SHOULD BE WATERTIGHT.
-THE PRIVATE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM.



STORMWATER LIFT STATION #2

SCALE: NTS (2)



NOTES:
-THE SYSTEM IS TO BE AN ALTERNATING DUPLEX SYSTEM.
-LOCATE CONTROL PANEL AND ALARM ON EXTERIOR BUILDING WALL. USE HYDROMATIC PANEL OR APPROVED EQUIVALENT.
-SYSTEM TO BE FULLY AUTOMATIC WITH MANUAL OVERRIDE.
-AN EMERGENCY ON-SITE, BACK-UP POWER SUPPLY AND AN EXTERNAL ALARM SYSTEM FOR SYSTEM FAILURE AND HIGH-WATER LEVEL INDICATOR ARE REQUIRED FOR THE PUMP SYSTEM.
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Phone: (425) 881-5904

NICHOLAS A. BOSSOFF 29631 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON
EXPIRES 7/2/25

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PROJECT MANAGER: N. BOSSOFF, P.E.
DESIGNED: NB
DRAWN: TKB
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FILE NAME: GUDI-2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DETAILS

SHEET: C-4

TOPOGRAPHIC SURVEY NOTES

1. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS, UTILITY LOCATES BY THIRD PARTIES, AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
2. CONTOURS SHOWN ARE BASED ON A FIELD SURVEY.
3. TREE IDENTIFICATION WAS PERFORMED BY SURVEY FIELD PERSONNEL AND SHOULD BE CONSIDERED A BEST GUESS. AN ARBORIST SHOULD BE RELIED UPON FOR MORE ACCURATE AND DETAILED IDENTIFICATION OF TREE SPECIES AND HEALTH.
4. MERCER ISLAND LOT SLOPE IS CALCULATED FROM THE HIGH POINT OF THE LOT AT THE SW CORNER (EL=272.12) TO THE LOW POINT OF THE LOT AT THE SE CORNER (EL=224.55) OVER A DISTANCE OF 160.00'. THE RESULTING SLOPE = 29.7%

BOUNDARY SURVEY NOTES

1. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND LEICA VIVA TS15 SMART POLE TOTAL STATION/RTK GPS.
2. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090. SURVEY WAS COMPLETED BY A FIELD TRAVERSE.
3. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.
4. ENCROACHMENTS NOTED AS "IN" OR "OUT" ARE RELATIVE TO THE SUBJECT PROPERTY
5. FENCE DIMENSIONS ARE GENERALLY TO THE CENTERLINE OF THE FENCE UNLESS OTHERWISE NOTED.
6. STRUCTURE LOCATIONS ARE MEASURED TO THE FINISHED FASCIA UNLESS OTHERWISE NOTED.
7. TREE LOCATIONS ARE MEASURED TO THE ESTIMATED CENTER OF THE TREE.
8. ALL DIMENSIONS ARE IN DECIMAL FEET.

VERTICAL DATUM & CONTOUR INTERVAL

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

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

LEGAL DESCRIPTION

LOT 5, BLOCK 4 OF MADRONA CREST ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 42 OF PLATS, PAGES 12–14, RECORDS OF KING COUNTY WASHINGTON.

SITUATE IN COUNTY OF KING, STATE OF WASHINGTON.

HORIZONTAL DATUM & BASIS OF BEARINGS

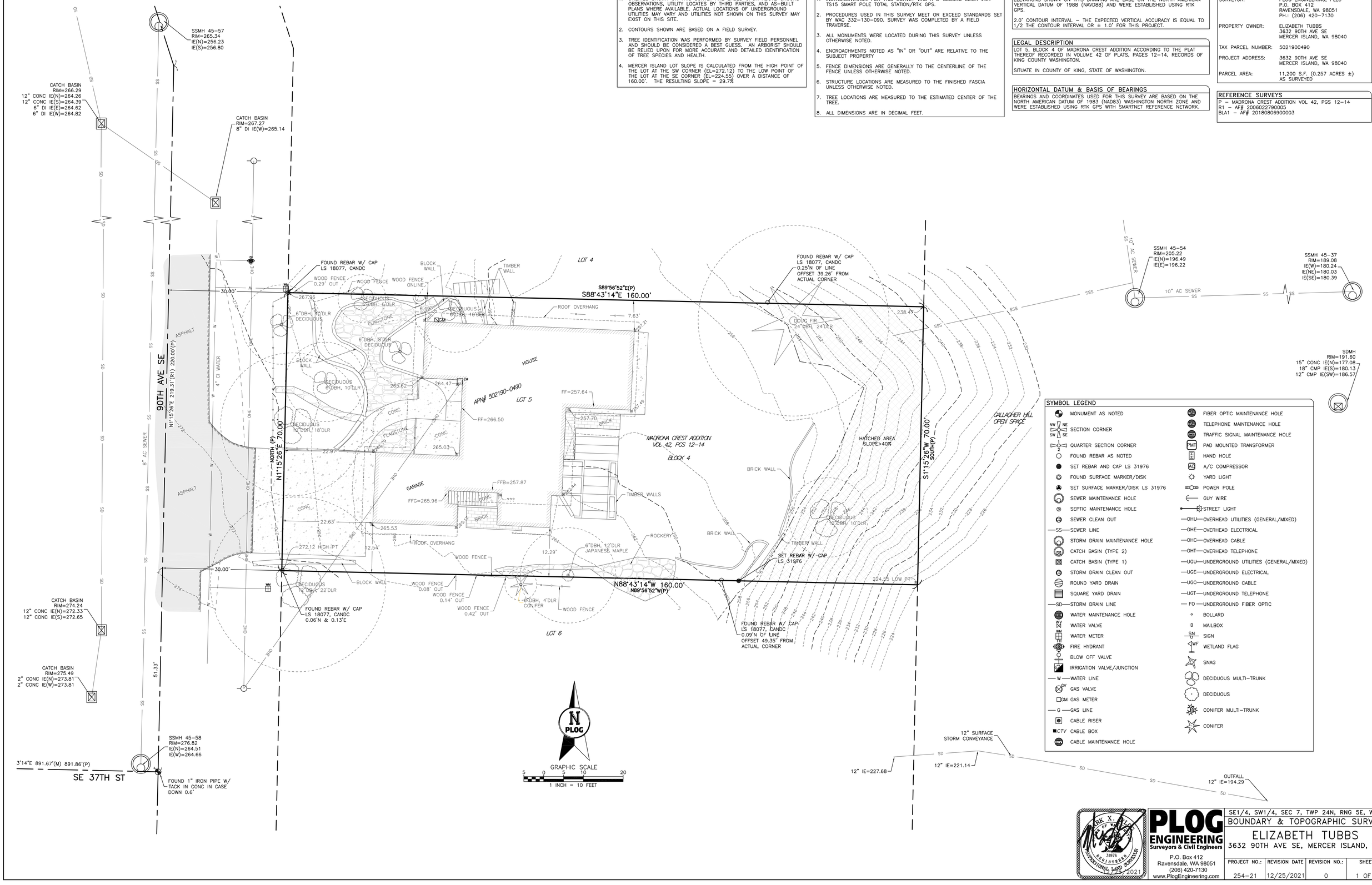
BEARINGS AND COORDINATES USED FOR THIS SURVEY ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) WASHINGTON NORTH ZONE AND WERE ESTABLISHED USING RTK GPS WITH SMARTNET REFERENCE NETWORK.

PROJECT INFORMATION

SURVEYOR:	PLOG ENGINEERING, PLLC P.O. BOX 412 RAVENSDALE, WA 98051 PH.: (206) 420-7130
PROPERTY OWNER:	ELIZABETH TUBBS 3632 90TH AVE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	5021900490
PROJECT ADDRESS:	3632 90TH AVE SE MERCER ISLAND, WA 98040
PARCEL AREA:	11,200 S.F. (0.257 ACRES ±) AS SURVEYED

REFERENCE SURVEYS

P – MADRONA CREST ADDITION VOL 42, PGS 12–14
R1 – AF# 20060227900005
BLA1 – AF# 20180806900003



SYMBOL LEGEND

- MONUMENT AS NOTED
- SECTION CORNER
- QUARTER SECTION CORNER
- FOUND REBAR AS NOTED
- SET REBAR AND CAP LS 31976
- FOUND SURFACE MARKER/DISK
- SET SURFACE MARKER/DISK LS 31976
- SEWER MAINTENANCE HOLE
- SEPTIC MAINTENANCE HOLE
- SEWER CLEAN OUT
- SS — SEWER LINE
- STORM DRAIN MAINTENANCE HOLE
- CATCH BASIN (TYPE 2)
- CATCH BASIN (TYPE 1)
- STORM DRAIN CLEAN OUT
- ROUND YARD DRAIN
- SQUARE YARD DRAIN
- SD — STORM DRAIN LINE
- WATER MAINTENANCE HOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOW OFF VALVE
- IRRIGATION VALVE/JUNCTION
- W — WATER LINE
- GAS VALVE
- GM GAS METER
- G — GAS LINE
- CABLE RISER
- CTV CABLE BOX
- CABLE MAINTENANCE HOLE
- FIBER OPTIC MAINTENANCE HOLE
- TELEPHONE MAINTENANCE HOLE
- TRAFFIC SIGNAL MAINTENANCE HOLE
- PAD MOUNTED TRANSFORMER
- HAND HOLE
- A/C COMPRESSOR
- YARD LIGHT
- POWER POLE
- GUY WIRE
- STREET LIGHT
- OHU — OVERHEAD UTILITIES (GENERAL/MIXED)
- OHE — OVERHEAD ELECTRICAL
- OHC — OVERHEAD CABLE
- OHT — OVERHEAD TELEPHONE
- UGU — UNDERGROUND UTILITIES (GENERAL/MIXED)
- UGE — UNDERGROUND ELECTRICAL
- UGC — UNDERGROUND CABLE
- UGT — UNDERGROUND TELEPHONE
- FO — UNDERGROUND FIBER OPTIC
- BOLLARD
- MAILBOX
- SIGN
- WETLAND FLAG
- SNAG
- DECIDUOUS MULTI-TRUNK
- DECIDUOUS
- CONIFER MULTI-TRUNK
- CONIFER

PLOG ENGINEERING
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P.O. Box 412
Ravensdale, WA 98051
(206) 420-7130
www.PlogEngineering.com

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

BOUNDARY & TOPOGRAPHIC SURVEY

ELIZABETH TUBBS

3632 90TH AVE SE, MERCER ISLAND, WA

PROJECT NO.:	REVISION DATE	REVISION NO.:	SHEET
254-21	12/25/2021	0	1 OF 1

Exhibit D

Rear Elevation

Side Elevation

Side Elevation

DRAWING INDEX

Buchan Homes

Westview Plan

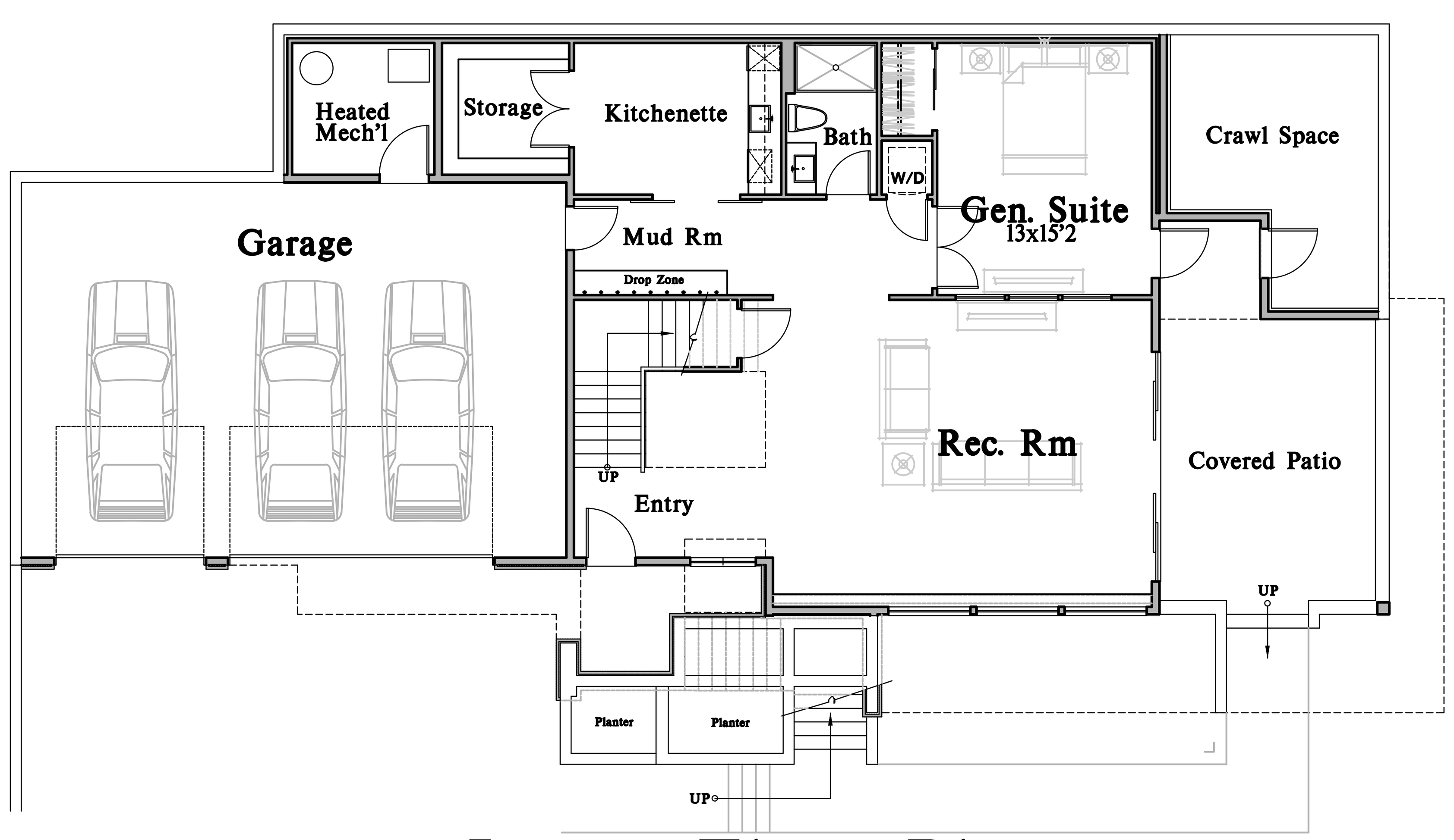
Permit no. 2210-120

3036 67th Ave SE Mercer Island , WA

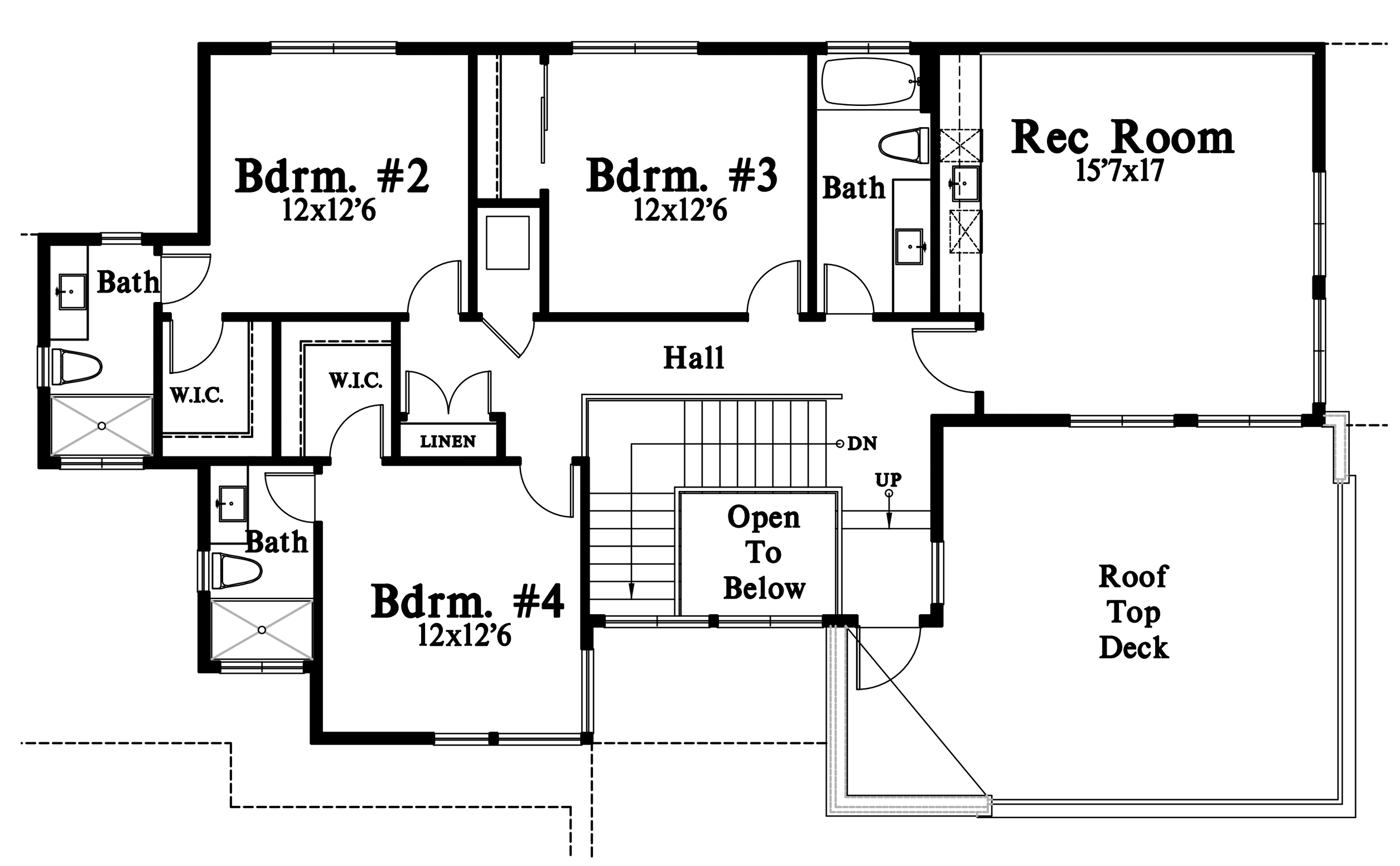
NFPA 13D FIRE SPRINKLER SYSTEM TO BE INSTALLED
NFPA "CHAPTER 29" FIRE ALARM SYSTEM REQUIRED

SQUARE FOOTAGE

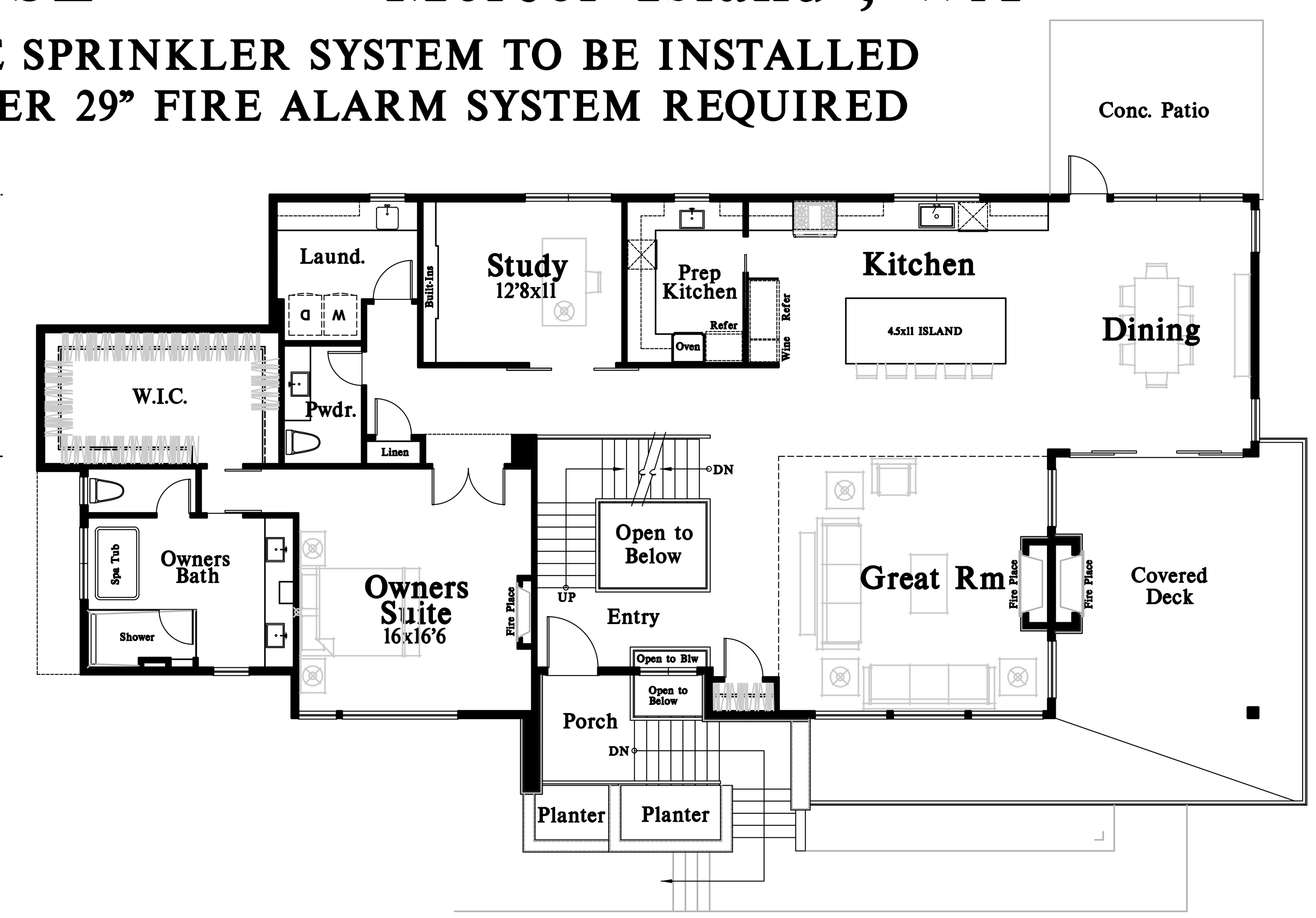
MAIN FLOOR	2447 SF
UPPER FLOOR	1327 SF
LOWER	1312 SF
TOTAL	5086 SF
GARAGE	897 SF
PORCH/DECK	1409 SF



Lower Floor Plan



Upper Floor Plan



Main Floor Plan

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

ORIGINAL SIGNATURE REQUIRED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kapplerhomeplans.com

TITLE

JOB NO.: 21076.21
STARTING NO.: 21076.05

SHEET

COVER SHEET

Division 1
GENERAL REQUIREMENTS

01000 GENERAL

1. This coversheet has been prepared in a generic outline form following the standards set by the Construction Standards Institute (CSI). It is for the convenience of the Contractor/Owner. This outline is intended to work with a material selection list following the (CSI) format. Not all items are necessarily required to complete this specific project. Coordinate with Contractor/Owner for complete listing of specifications. Within this coversheet it will state, 'Coordinate with materials finish selection schedule'.

2. These drawings are copyrighted. ARCHITECTURAL INNOVATIONS P.S. retains all rights, ownership and copyright of this design under the federal copyright act. Reproductions of illustrations or working drawings in any form is by authorization of ARCHITECTURAL INNOVATIONS P.S. only.

3. Authorized reproductions must bear the name of ARCHITECTURAL INNOVATIONS P.S.

4. Construction/working drawings by their very nature are diagrammatic and do not purport to show all details or conditions of construction. Questions generally arise to the architectural/design intent and to construction technical detailing within these drawings. As clarifications, interpretations, and revisions are all part of the construction process. ARCHITECTURAL INNOVATIONS P.S., therefore shall not be liable for any direct, indirect, or consequential damages as a result of not participating in the construction process.

5. Do not vary or modify the work shown, except with written instruction from ARCHITECTURAL INNOVATIONS P.S. Report discrepancies and/or omissions to the architect immediately.

6. Due to the nature of construction and the building process there will be bidder design and Contractor/Owner selection of the building products, components, and assemblies. This set of working drawings is considered a "builder set" and does not include specifications or building materials list. Therefore it is the Contractor/Owners responsibility to provide and coordinate specifications, including product selection and installation or assembly. ARCHITECTURAL INNOVATIONS P.S. assumes no liability or responsibility for discrepancies or conflicts which occur through Contractor/Owner specified materials and their respective installation. ARCHITECTURAL INNOVATIONS P.S. assumes no liability or responsibility for any items, which may be called out or referred to by manufacturer as brand name. Items called out are done so for convenience only.

7. Do not scale these drawings for critical dimensions. Verify all dimensions and datum's before commencing work and be responsible for their accuracy. Report discrepancies and/or omissions to the architect immediately.

8. The Contractor/Owner is responsible for coordinating work with all trades to ensure proper and adequate interface of all trade works. The contractor shall be responsible for all required safety precautions and procedures required to do this work.

9. Except as specifically defined otherwise, interpretation for all definitions, abbreviations, and supplemental definitions shall follow accepted referenced standards.

10. All work within this contract shall represent that of industry standards for the respective trades in the location in which the project is built.

<u>All references to I.R.C, I.B.C., and W.S.E.C are references to the 2018 code updates & WA state Amendments.</u>

01002 MISCELLANEOUS ASSEMBLY REQUIREMENTS

1. Provide crawl space access, minimum 18" x 24" unobstructed access through the floor, 16" x 24" through perimeter walls and below grade access, per I.R.C. section R408.4. Insulate and weather-strip per W.S.E.C R402.2.4. Allow 18" minimum space under wood joists and 12" minimum space under wood girders.
2. Provide attic access, minimum 22" x 30" with 30" minimum headroom, at unobstructed readily accessible opening, per I.R.C. section R807.1. Insulate and weather-strip per WSEC R402.2.4. requirements.
3. Provide ventilation per I.R.C. as follows:
   A) Crawl space ventilation: Minimum net area shall be not less than 1 s.f. per 300 s.f. under floor area. Required openings shall be evenly placed to provide cross ventilation of the space except one side of the building shall be permitted to have no ventilation openings per section R408.2.
   B) Attic ventilation: Minimum net area shall be not less than 1 s.f. per 150 s.f. of attic area or 1 s.f. per 300 s.f. of attic area if at least 40 percent, and not more than 50 percent, of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated, and is no more than 3 feet below the ridge or highest point of the space. The balance of required ventilation to be provided by eave or cornice vents per I.R.C. section R806.2 and W.S.E.C. requirements.
4. Slope all decks, walks, driveways, exterior door landings, and patios away from building. Minimum 1/4" per foot.
5. Provide approved numbers or addresses in such a position as to be plainly visible and legible from the street or road fronting the property per I.R.C. section R319.1.
6. Garage/House separation:
   A) Garage ceilings separating attic spaces shall be protected with 1/2" G.W.B. When garages are beneath habitable rooms, the ceilings shall be covered with 5/8" type 'x' GWB on the garage side. Where the separation is a floor/ceiling assembly, the structure shall be protected with 1/2" G.W.B. per I.R.C. table R302.6.
   B) Door between garage and house shall be a self closing solid wood core, honeycomb core steel, or 20-minute fire rated door having a minimum thickness of 1-3/8" per I.R.C. section R302.5.1.
   C) Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall have not openings into the garage per I.R.C. R302.5.2.
   D) Garage floor shall slope to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.
7. Stair assembly:
   A) Minimum headroom height 6'-8" per I.R.C. section R311.7.2.
   B) Minimum stair tread depth 10" with a 36" minimum width, measured above handrail height. Maximum riser height 7-3/4" per I.R.C. sections R311.7.5
   C) Top of handrail shall be 34" minimum and 38" maximum above tread nosing and not less than 1-1/2" from the wall. Return rail ends to wall per I.R.C. section R311.7.8.
   D) Install fire blocking between stringers at the top and bottom of each run per I.R.C. section R302.11.
   E) Cover usable space under stairs with 1/2" GWB per I.R.C. section R302.7.
8. Laundry Chutes & Dumbwaiter Shafts - provide 5/8" type 'x' GWB or 26 gage sheet metal with lock joints on all openings to shaft surfaces shall be self closing solid core door 1-3/8".
9. Fireblocking shall be provided in wood-frame construction in the following locations:
   A) In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
      1. Vertically at the ceiling and floor levels.
      2. Horizontally at intervals not exceeding 10 feet.
   B) At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
   C) In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.
   D) At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with and approved material to resist the free passage of flame and products of combustion.
   E) For the fireblocking of chimneys and fireplaces, see Section R1003.19.
   F) Fireblocking of cornices of a two-family dwelling is required at the line of swelling unit separation.
10. Fireblocking shall consist of the following materials per I.R.C. R302.11.1.
   A) 2" nominal lumber.
   B) Two thickness of 1" nominal lumber with broken lap joints.
   C) One thickness of 23/32" wood structural panels with joints backed by 23/32" wood structural panels.
   D) One thickness of 3/4" particleboard with joints backed by 3/4" particleboard.
   E) One 1/2" gypsum board.
   F) One 1/4" cement-based millboard.
   G) Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.
11. Structural design criteria: These notes are provided for convenience only and do not imply that complete structural analysis has been done on this structure.
   A) Truss Loading: (U.N.O.)
      Top chord live load: 25psf
      Top chord dead load: 7psf
      (15 psf, if tile)
      Bottom chord live load: 10psf without storage
      20psf if limited storage
      30psf if sleeping room
      TOTAL LOAD: 42psf
      or 52psf
      or 62psf
   B) Roof live load: 25 psf (U.N.O.)
   C) Floor live load: 40 psf (U.N.O.) Deck Live Load 60 psf U.N.O.
   D) Stair and corridor live load: 40 psf
   E) Mechanical units: weights provided by manufacturer
   F) Wind: 110 mph (U.N.O.)
   G) Seismic Design Category: D(2) (U.N.O.)
   H) Allowable soil pressure: Unless a soils report by a qualified engineer is provided, all footings and foundations shall be on assumed 1,500 psf bearing capacity unless otherwise noted on drawing.
   J) Equivalent fluid pressure 35 pcf. (U.N.O.)
   K) All footings to be located below the frost line depth: 18" (U.N.O.)

01002 MISCELLANEOUS ASSEMBLY REQUIREMENTS CONT.

12. Prefabricated Fireplaces and Solid Fuel Burning Appliances per I.M.C. and I.R.C. Chapter 10:
   A) Solid fuel burning appliances include airtight stoves, fireplace stoves, room heaters/fireplace stoves, factory built fireplaces, and fireplace inserts, and all shall comply with the provisions of I.M.C.
   B) Metal Chimneys shall be enclosed above the story in which the appliance served is located, in walls having one hour fire resistance rating, and with a space on all sides between chimney and enclosing walls sufficient for examination and repair for entire chimney. Walls shall be without openings per I.M.C.
   C) Provide fireblocking at chimney per I.R.C. section R302.11.
   D) Install metal fireplace with hearth and surrounds per manufacturers specifications.
   E) Prefabricated fireplaces, chimneys, and related components to bear U.L. or ICBO seal of approval and be installed per manufacturers requirements.
13. Fireblocking per I.R.C. sections R302.11.

01060 REGULATORY REQUIREMENTS

1. All construction shall conform to the 2018 International Residential Code (I.R.C.), 2018 International Building Code (I.B.C.), 2018 International Fire Code (I.F.C.), 2018 International Mechanical Code (I.M.C.), 2018 Uniform Plumbing Code (U.P.C.), 2018 Washington State Energy Code (W.S.E.C.) and be in accordance with all State Laws and Regulations and various codes imposed by jurisdictional requirements and local authorities.
2. Arrange inspections that are mandatory due to jurisdictional requirements.

01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1. Provide Temporary Facilities - including electricity, water, and temporary toilet, per jurisdictional requirements.
2. Provide Contemporary Controls - including erosion sediment and surface water control and entrapment during construction per jurisdictional requirements.

END DIVISION 1

Division 2
SITE WORK

02200 EARTHWORK
Part 3 - Execution
1. Rough grading: 4" below finish grading unless otherwise specified.
2. Finish grading: Landscaping division 02900.
3. Excavation, backfilling, and compacting for structures as needed.
4. Excavation, backfilling, and compacting for pavement as needed.
5. Hauling and disposal of excavated material as needed.
6. Importing of material as needed.
7. Rock removal as needed.

02500 PAVING AND SURFACING

Part 2 - Product
1. Walk, road, and parking paving:
   A. Asphalt 2", class B, over 3" crushed rock or 2" ATB.
   B. Crushed rock 5/8" minus.
   C. Concrete per Division 3:
      1. Finish and color:
         Coordinate with materials finish selection schedule.
2. Unit Pavers: 1. Coordinate with materials finish selection schedule.
3. Pavement marking: 1. Coordinate with materials finish selection schedule.

02700 SEWAGE AND DRAINAGE

Part 2 - Product
1. Subdrainage systems:
   A. Foundation drainage 4" SDR 35 or sched. 40 rigid PVC perforated pipe embedded in pea gravel or clean crushed rock and wrapped in filter fabric.
2. Storm sewage systems:
   A. Exterior catch basins, grates, and frames:
      1. Coordinate with materials finish selection schedule.
   B. Culverts:
      1. Coordinate with materials finish selection schedule.
   C. Drain pipe: 4" ADS non-perforated tight line.
3. Sanitary sewage systems:
   A. Sewage collection lines 8" PVC unless cast iron is noted.
   B. Septic system: Per drawings of bidders designer.

Part 3 - Execution
1. Subdrainage system:
   A. Slope to drain and surround in well draining material per details.
2. Surface drainage per I.R.C. section R401.3.

02800 SITE IMPROVEMENTS

Part 2 - Product
1. Irrigation system: Bidder design
   1. Coordinate with materials finish selection schedule.
2. Fences and gates:
   1. Coordinate with materials finish selection schedule.

02900 LANDSCAPING

Part 2 - Product
Bidder Design

END DIVISION 2

Division 3
CONCRETE

03100 CONCRETE FORMWORK

Part 3 - Execution
1. Formwork and bracing for structural cast-in place concrete shall be by subcontractor and meet the requirements of the drawings and industry standards.
2. All formwork shall be placed in such a manner as to allow cast-in place concrete to be placed on solid substrate and to allow structural support members to sit below the frost line.

03200 CONCRETE REINFORCING

Part 2 - Product
1. Reinforcing steel: Deformed bar sizes and locations per plans and details. Grade 60, Fy' = 60ksi per I.R.C. section R404.1.3.3.7.1. Unless otherwise noted per Engineer.
2. Welded wire fabric: at locations per plans and details: 6x6, W1.4xW1.4WWF.

Part 3 - Execution
1. A minimum lap for all bars shall be 40 diameters taken from the smallest bar. Provide corner bars to match horizontal reinforcement. Minimum coverage per details and I.R.C. section R404.1.3.3.7.4.

03250 CONCRETE ACCESSORIES

Part 2 - Product
1. Anchor bolts: 1/2"⌀ triple zinc ZMAX (G185 per ASTM A653) hot dipped galvanized steel (ASTM 153 for Anchors), with a minimum 7" embedment, per I.R.C. section R403.1.6., unless otherwise noted per Engineer.
2. Washers: 3"x3"x1/4" sq. triple zinc ZMAX (G185 per ASTM A653) hot dipped galv. steel (ASTM 153 for Anchors), plate washers per I.R.C. section R602.11.1. Unless otherwise noted per Engineer.

Part 3 - Execution
1. Anchor bolts at 6'-0" o.c. max. for one story & 4'-0" o.c. for buildings over two stories in height, 12" from corners and joints, with a minimum embedment of 7". Provide a minimum of (2) bolts per plate section per I.R.C. section R403.1.6.

03300 CAST-IN-PLACE CONCRETE

Part 2 - Product
1. Structural concrete: Design f'c = 2500 psi min 5-1/2 sacks of cement per cubic yard of concrete and a maximum of 6.0 gallons of water per 94lb sack of cement at 28 days. Max slump is 4". segregation of materials to be prevented. Use f'c = 3000 psi concrete at 28 days with air entrainment only for concrete exposed to weather, in accordance with I.R.C. Table R402.2. Special inspection not required unless noted otherwise per Engineer.
2. Architectural concrete: for exposed aggregate finish (washed), f'c = 2000 psi at 28 days, with 3/8" round aggregate.

03300 CAST-IN-PLACE CONCRETE (cont.)

3. Admixtures:
   A. All concrete shall have water reducing admixtures except for footings.
   B. Air entrainment shall be 5-7% in all concrete exposed to weather, I.R.C. Table R402.2
   C. Coloring agent:
      1. Coordinate with materials finish selection schedule.

Part 3 - Execution

END DIVISION 3

Division 4
MASONRY

04100 MORTAR
Part 2 - Product
1. Type 'M' or 'S' mortar with integral waterproofing agent per I.R.C. section R606.2.7
Part 3 - Execution
1. Per I.R.C. section R606.2

04150 MASONRY ACCESSORIES
Part 2 - Product
1. Anchors and Ties: To be corrosion-resistant metal ties per I.R.C. section R703.8.4.
2. Joint reinforcement: Standard strand no. 9 U.S. gage wire per I.R.C. section R703.8.
Part 3 - Execution
1. Per I.R.C. Chapter 7.

04200 UNIT MASONRY
Part 2 - Product
1. Brick masonry:
   A. Exterior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   B. Interior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   C. Pavers/planters: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
2. Concrete masonry units: grade N-1 CMU, unless otherwise indicated sizes per drawings.
   A. Special units:
      1. Coordinate with materials finish selection schedule (by others).
3. Glass masonry units: (glass block) Per I.R.C. section R607.
   A. Exterior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   B. Interior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).

Part 3 Execution
1. Brick and Veneer:
   A. Brick veneer shall be supported on footings, foundation, or other non-combustible supports. It shall have 15# felt backing and No. 9 gauge, non corrosive ties at 1 per each 2 s.f. of veneer. Provide 1" minimum air space between veneer and backing. Provide approved flashing at base of veneer with 3/16" min. round weepholes at 33" o.c. max., located immediately above the flashing, extending from the air space to the exterior. Veneer shall support no load other than its own weight and the vertical dead lead of veneer above. Provide angle iron support at doors, windows, and other openings per R606.10.
2. Concrete masonry unit (CMU)
   A. Concrete masonry unit walls shall be constructed to conform to ASTM C90. It shall be laid up, reinforced, and anchored as shown on drawings.

04400 STONE

Part 2 - Product
1. As shown on drawings.
   A. Exterior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   B. Interior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).

Part 3 Execution
1. Stone Veneer:Adhered per manufacturer's installation instructions and in accordance with I.R.C. R703.12.1
   A. On exterior stud walls, adhered masonry veneer shall be installed:
      1. Minimum of 4 inches above the earth.
      2. Minimum of 2 inches above paved areas. or
      3. Minimum of 1/2 inch above exterior walking surfaces which are supported by the same foundation that supports the exterior wall.
   B. Flashing at foundation:
      1. A corrosion-rsistant screed or flashing of a minimum 0.019-inch or 26-gage galvanized or plastic with a minimum vertical attachment flange of 3½ inches shall be installed.

END DIVISION 4

DIVISION 5
METALS

05050 METAL FASTENINGS

Part 2 - Product
1. Bolts: Use sizes and shapes per dwgs, or as needed for intended purposes. Bolts, nuts and cut washers in contact with treated wood to be triple zinc ZMAX (G185 per ASTM A653) hot dipped galvanized steel (ASTM 153 for Anchors).

05500 METAL FABRICATION

Part 2 - Product
1. Handrails and guardrails: Provide in sizes and locations as shown per dwg.

END DIVISION 5

Division 6
WOOD AND PLASTICS

06100 ROUGH CARPENTRY

Part 2 - Product
1. Framing Lumber: Framing lumber shall be marked in conformance with the United States Dept. of Commerce, Standard Reference No. PS 20 (DOC PS 20) standards. All Kiln dried minimum 19%.
   A. Joist and rafters: (2x6 and larger) Hem-Fir #2 or better.
   B. Beams and stringers: (4x and larger) Doug-Fir #2 or better.
   C. Post and timbers: Doug-Fir #1.
   D. Studs, plates, and misc. light framing: Hem-Fir #2 or better.
   E. " I " Joists and Engineered beams: Per manufacturer.
   F. Glue laminated timber:
      1. Simple span: 24F V4 DF/N3WN
      2. Continuous or cantilever: 24F V8 DF/DF
   G. All other lumber: Hem-Fir Standard or better.
   H. Plywood/oriented strand board (O.S.B.): APA graded.
   I. Wall sheathing: see "TYPICAL BUILDING MATERIALS" list on the dwgs.
   J. Floor sheathing: see "TYPICAL BUILDING MATERIALS LIST"on the dwg.
   K. Other: As noted on drawings.
   L. All wood members in contact with exposed concrete to be pressure treated members.
2. Particle Board: A.P.A. graded
   A. Underlayment
      1. Floors: 5/8" (U.N.O.)
      2. Sheet vinyl: 1/4" (U.N.O.) see division 9
      3. Cabinet surfaces 3/4" (U.N.O.)
3. Trusses:
   A. Prefabricated connector plate wood roof trusses shall be designed and stamped by the manufacturer in accordance with the "design specification for metal plate connected wood trusses". Design drawings and details to be available upon request.
   B. See "Roof Framing Notes" on drawings.
   C. Roof design, layout, loading, and bracing shall be by manufacturer.
   D. Field alterations of truss must be designed by manufacturer.
4. Fasteners and adhesives: All nails shall be common wire of sizes for intended purpose per I.R.C. table R602.3(1). Attach timber joists to flush headers and beams with Simpson 'U' hanger series or equal to suit intended purpose. Simpson connectors at other locations as outlined per drawings. Bolt heads, nuts, and cut washers per Division 5. Connectors and fasteners in contact with treated wood to be triple zinc ZMAX (G185 per ASTM A653) hot dipped galv. steel (ASTM 153 for Fasteners), stainless steel, silicone bronze, or copper as required per dwgs.
5. Post to mat footing connection. Provide pressure treated post and positive connection to footing per I.R.C. section 502.9.
6. All exposed glue laminated wood, if not protected by a roof or eave, must be preservative-treated.

Part 3 - Execution
1. The following will apply unless shown on drawings. All wood framing details shall be constructed to the minimum standards in the I.R.C. All framing shall conform to the requirements of Chapters 5,6, and 8 of the I.R.C. Minimum nailing shall conform to table R602.3(1) of the I.R.C. Height and spacing of studs shall conform to table R602.3(5) of the I.R.C.

06200 FINISH CARPENTRY
Part 2 - Product
1. Cabinets:
   A. Coordinate with materials finish selection schedule (by others).
2. Millwork and casing:
   A. Coordinate with materials finish selection schedule (by others).
3. Paneling:
   A. Coordinate with materials finish selection schedule (by others).
4. Stair and handrail by:
   A. Coordinate with materials finish selection schedule (by others).
   B. See division 01002.7 misc. assembly requirements.
5. Bookcases and built-in shelves:
   A. Coordinate with materials finish selection schedule (by others).
6. Plastic laminate and solid surface material:
   A. Coordinate with materials finish selection schedule (by others).

END DIVISION 6

Division 7
THERMAL AND MOISTURE PROTECTION

07150 WATER PROOFING & DAMP PROOFING
Part 2 - Product
1. Per I.R.C. section R406.
Part 3 - Execution
1. Per I.R.C. section R406.

07190 VAPOR AND AIR RETARDER

Part 2 - Product
1. Ground cover: 6 mil polyethylene: black, with 12" minimum lap.
2. Building wrap: see the "TYPICAL BUILDING MATERIALS" list on the drawings.

Part 3 - Execution
1. See Division 17, Energy Requirements.

07200 INSULATION
Part 2 - Product
1. Fiberglass or mineral wood batts, bloom mineral wool, and extruded polystyrene:
   A. Walls: 1. See the "TYPICAL BUILDING MATERIALS" list on the dwgs.
   B. Ceiling: 1. See the "TYPICAL BUILDING MATERIALS" list on the dwgs.
   C. Floor: 1. See the "TYPICAL BUILDING MATERIALS" list on the dwgs.
   D. Slab on Grade: R-10 (per W.S.E.C. Table R402.1.1).
2. Insulating foam: A. Standard sealant foam.

Part 3 - Execution
1. See division 17: energy requirements
2. Provide insulation markers for blown-in or sprayed insulation every 300 sq ft. Markers shall face the attic access per IECC Sec 303.1.1.1
3. Crawl Space/Cantilevered floors: Insulation shall be installed to maintain permanent contact with the underside of the sub-floor decking. Insulation supports shall be installed so spacing is no more than 24" on center. Cantilevered floor vents shall be placed below the lower surface of the floor insulation.

07300 ROOFING MATERIAL

Part 2 - Product
1. Shingles and roofing tiles:
   A. See the "TYPICAL BUILDING MATERIALS" list on the drawings
2. Membrane roofing: A. 3-ply hot mopped.

Part 3 - Execution
1. Install per manufacturer's recommendation and Chapter 9 of the I.R.C.

07460 SIDING MATERIAL
Part 2 - Product
1. Siding: A. See the "TYPICAL BUILDING MATERIALS" list on the drawings.
2. Trim: A. See the "TYPICAL BUILDING MATERIALS" list on the drawings.
3. Soffits: A. See the "TYPICAL BUILDING MATERIALS" list on the drawings.
4. Other: A. See the "TYPICAL BUILDING MATERIALS" list on the drawings.

Part 3 - Execution
1. Install per manufacturer's recommendation and Chapter 7 of the I.R.C.

07600 FLASHING AND SHEET METAL
Part 2 - Product
1. Min. 26 Gauge galvanized, prefinished.

Part 3 - Execution
1. Install per Chapter 7 and 9 of the I.R.C.
   A) Flashing against a vertical sidewall shall be by the step-flashing method. The flashing shall be a minimum of 4" high and 4" wide. At the end of the vertical sidewall the step flashing shall be turned out in a manner that directs water away from the wall and onto the roof and/or gutter, Per I.R.C. R903.2.1

07700 ROOFING SPECIALTIES
Part 2 - Product
1. Vents:
   A. Ridge vent: manufactured by:
      1. Coordinate with materials finish selection schedule (by others).
   B. Mushroom vent: manufactured by:
      1. Coordinate with materials finish selection schedule (by others).
2. Gutters:
   A. Continuous alum. precoated:
      1. Style: K profile
      2. Color: Match fascia
3. Downspouts:
   A. 2x3 rectangular aluminum precoated:
      1. Color: Match fascia & trim
   B. Tie to 1 drain system.

07800 SKYLIGHTS
Part 2 - Product
1. Skylights to conform with I.R.C. section R308.6.
2. Manufacturer: A. Coordinate with materials finish selection schedule (by others).

07900 SEALANTS AND CAULKING
Part 2 - Product
1. Caulking A. Styrene butadene caulking (SBR) 1. Color: Match siding

END DIVISION 7

Division 8
DOORS AND WINDOWS

08200 WOOD DOORS (Lower Level, Main Level, Upper Level)

Part 2 - Product
1. Panel wood doors: A. Coordinate with materials finish selection schedule (by others).
2. Flush wood doors: A. Coordinate with materials finish selection schedule (by others).
3. Stile and rail(store door): A. Coordinate w/materials finish selection schedule (by others).
4. Patio door: A. Coordinate with materials finish selection schedule (by others).
5. Other: A. Coordinate with materials finish selection schedule (by others).

08300 SPECIALTY DOORS
Part 2 - Product
1. Sliding glass door:
   A. Coordinate with materials finish selection schedule (by others).
2. Garage door: (make/style): (see division 11450)
   A. Coordinate with materials finish selection schedule (by others).

08600 WOOD/VINYL WINDOWS
Part 2 - Product
1. Note: Egress -
   A. Every sleeping room shall have at least one operable window with a net clear opening of 5.7 s.f. The net clear opening height shall be a minimum of 24", with a minimum net clear width of 20", and a finished sill height of not more than 44" above the floor, per I.R.C. section R310.
   B. Safety glaze per I.R.C. section R308.
   C. See plans for egress and operation.
2. Manufactured by:
   A. Color: 1. Coordinate with materials finish selection schedule (by others).
   B. Style: 1. Coordinate with materials finish selection schedule (by others).

08700 HARDWARE
Part 2 - Product
1. Type: A. Coordinate with materials finish selection schedule (by others).
2. Weather Stripping: A. Coordinate with materials finish selection schedule (by others).
3. Thresholds: A. Coordinate with materials finish selection schedule (by others).

08800 GLAZING
Part 2 - Product
1. Glass thickness to be determined by size and wind loading per I.R.C. section R308.
2. Safety glaze per I.R.C. section R308.
3. Mirrors to be silvered 1/4" float plate glass.

END DIVISION 8

Division 9
FINISHES

09250 GYPSUM WALLBOARD
Part 2 - Product
1. Walls: See the "TYPICAL BUILDING MATERIALS" list on the drawings.
   A. Finish: 1. Coordinate with Contractor/Owner material selections.
2. Ceiling: See the "TYPICAL BUILDING MATERIALS" list on the drawings.
   A. Finish: 1. Coordinate with materials finish selection schedule.
3. Wall and ceiling finishes shall have a flame spread index of not greater than 200, and a smoke-developed index of not greater than 450 per I.R.C. R302.9.
4. Code required areas:
   A. Type 'X: GWB as required.
      1. See division 01002 misc. assembly requirements.
   B. Waterproof GWB as req'd at wet or damp locations per I.R.C. section R702.4.2.
5. Wonderboard or duroc at all tile locations (U.N.O.)
6. Metal corner bead profile:
   1. Coordinate with materials finish selection schedule.

Part 3 - Execution
1. Apply as required in I.R.C. Chapter 7 and Table R702.1(3). Nail or screw in place per table.

09300 TILE
Part 2 - Product
1. Ceramic, quarry, and marble tiles:
   A. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. Refer to manufacturer's recommendations.

09550 WOOD FLOORING
Part 2 - Products 1. Type:
   A. Coordinate with materials finish selection schedule (by others).

09650 RESILIENT FLOORING
Part 2 - Products 1. Type:
   A. Coordinate with materials finish selection schedule (by others).

09680 CARPETING
Part 2 - Products 1. Carpet and Pad:
   A. Coordinate with materials finish selection schedule (by others).

09900 PAINTING
Part 2 - Products
1. Painting over prepared surface per manufacturer's recommendations
   A. Coordinate with materials finish selection schedule (by others).

09950 WALL COVERINGS
Part 2 - Products
1. Type: A. Coordinate with materials finish selection schedule (by others).

END DIVISION 9

Division 10
SPECIALTIES

10200 LOUVERS AND VENTS
Part 2 - Products
1. Hardware cloth screen 1/4" x 1/4" on soffit vents as detailed.
2. Continuous 2" performed metal soffit vent as detailed.
3. Roof vent (See Division 07700)
4. Other vents as noted per plans.

10300 PREFABRICATED FIREPLACES
Part 2 - Products
1. Location/Model/Accessories:
   A. Coordinate with materials finish selection schedule (by others).
Part 3 - Execution
1. See division 01002.12 for misc. assembly requirements for fireplaces.

10400 IDENTIFYING DEVICES
Part 2 - Products
1. Building numbers:
   A. Coordinate with materials finish selection schedule (by others).
Part 3 - Execution
1. Install in location per jurisdictional requirements.

10800 TOILET AND BATH ACCESSORIES
Part 2 - Products
1. Toilet and bath accessories:
   A. Coordinate with materials finish selection schedule (by others).

10900 WARDROBE AND CLOSET SPECIALTIES
Part 2 - Products
1. Storage Closet:
   A. Coordinate with materials finish selection schedule (by others).
2. Clothes Closets:
   A. Coordinate with materials finish selection schedule (by others).
3. Pantry.

END DIVISION 10

Division 11
EQUIPMENT

11010 MAINTENANCE EQUIPMENT
Part 2 - Products
1. Vacuum cleaning system:
   A. Coordinate with materials finish selection schedule (by others).

11450 RESIDENTIAL EQUIPMENT
Part 2 - Products
1. Garage door opener(s).
   A. Coordinate with materials finish selection schedule (by others).
2. Ironing board cabinet (or drawer).
   A. Coordinate with materials finish selection schedule (by others).
3. Free-standing appliances:
   A. Coordinate with materials finish selection schedule (by others).

END DIVISION 11

Division 12
FURNISHINGS

12500 WINDOW TREATMENT
Part 2 - Products
1. Window treatment: A. Coordinate with materials finish selection schedule (by others).

END DIVISION 12

Division 13
SPECIAL CONSTRUCTION

13150 POOLS
Part 2 - Products 1. Bidder design

13156 HOT TUB
Part 2 - Products
1. By:
   A. Coordinate with materials finish selection schedule (by others).

END DIVISION 13

Division 14
CONVEYING SYSTEMS

14100 DUMBWAITER
Part 2 - Products
1. Dumbwaiter: A. Manufacturer/model number:
   1. Coordinate with materials finish selection schedule (by others).

END DIVISION 14

Division 15
MECHANICAL

15000 GENERAL
Part 1 - General
1. Mechanical system to be bidder design.
2. Regulatory requirements:
   A. Refer to Division 1 General Requirements.
   B. See plans for total maximum Btu.
   C. Heating and cooling equipment shall be sized based on building loads calculated in accordance with ACCA manual J or other approved heating and cooling calculation methodologies. Per M1401.3
3. Contractor work out plumbing and HVAC diagram layout.
   A. Coordinate with other trades.

15400 PLUMBING
Part 2 - Product
1. Pipes and Fittings:
   A. Waste & soil: ABS plastic of sizes req'd for the intended purpose.
      1. Provide cast iron with compression neoprene joints per locations shown on the drawings.
      2. Provide clean-outs at bends.
   B. Vents: ABS
   C. Gas: Per code, verify location of appliances.
      1. Provide an approved earthquake shutoff valve installed in the building supply line immediately after the gas meter. The valve shall be located outside of the structure and be accessible.
   D. Water Line:
      1. Below Grade: 1 1/4" type K with/hard solder
      2. Above Grade: Type L w/soft solder
2. Plumbing equipment:
   A. Hot water heater: (Duals in tandem)
      1. Size per U.P.C. 501 and Table 501.1 and jurisdictional amendments.
      2. Coordinate with owner's material selection (by others).
   B. Hose bib, frost proof type: Mansfield units
   C. Main shut-off valve in garage.
   D. Plumbing fixtures 1. Coordinate with owners material selection (by others).
3. Irrigation: (bidder design)
   A. Provide 'T' connection in main line in garage by main shut-off valve with separate shut-off and drain valve.

15400 PLUMBING (cont.)
4. Automatic Sprinkler System: (bidder design)

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with industry standards. Refer to general requirements.

15500 HVAC
Part 2 - Product
1. Forced Air:
   A. Furnace system:
      1. Coordinate with materials finish selection schedule (by others).
   B. Duct work and insulation:
      1. Coordinate with materials finish selection schedule (by others).
   C. Air cleaner:
      1. Coordinate with materials finish selection schedule (by others).
   D. Controls:
      1. Coordinate with materials finish selection schedule (by others).
   E. Registers with adjustable supply:
      1. Coordinate with materials finish selection schedule (by others).
   F. Provide firestopping at 'B' vent location per I.R.C. sections R302.11.
2. Fans: see division 17 energy requirements.
3. See floor plans for Whole House Ventilation requirements.
4. Vents:
   1. Coordinate with materials finish selection schedule (by others).
5. Exhaust Ducts:
   A. Terminate outside building and equip with backdraft dampers per I.R.C. section M1507.3.3.
6. Dryer Ducts:
   A. Cloths Dryers shall be exhausted in accordance with manufactures instructions & I.R.C. M1502.
   B. Protective shield plates shall be placed per I.R.C. M1502.5.

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with industry standards. Refer to general requirements.

END DIVISION 15

Division 16
ELECTRICAL

16000 GENERAL
Part 1 - General
1. Electrical systems to be bidder designed.
2. Regulatory requirements: refer to Division 1 - General Requirements.
3. Contractor to provide electrical diagramming layouts, design circuitry: follow lighting plan if provided.
   A. Coordinate with other trades.

16200 POWER
Part 2 - Product
1. Wire and Boxes.
   A. Volt: 12 6A (3) Wire
      1. GFI @ Damp Locations
   B. Low voltage: standard type
2. Panels: Circuit breaker box fully labeled
   A. Capacity: Bidder Design
   B. Circuitry: Bidder Design
3. Grounding:
   A. Provide (1) 2 1/2" schedule 80 PVC conduit at concrete stem wall for electrical service and (1) 5/8" diameter x 8'0" long galvanized rod (& Ufer ground) for electrical grounding.
4. Smoke Detectors:
   A. Provide and install per I.R.C. section R314.
5. Fire alarm:
   A. Provide and install per N.E.C. and as required by governing fire marshal.

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with the industry standards. Refer to general requirements and I.R.C.

16200 COMMUNICATIONS
Part 2 - Product
1. Intrusion alarm and security detection systems:
   A. Coordinate with materials finish selection schedule (by others).
2. Phone system:
   A. Coordinate with materials finish selection schedule (by others).
3. Intercommunication systems:
   A. Coordinate with materials finish selection schedule (by others).
4. Stereo system:
   A. Coordinate with materials finish selection schedule (by others).

16500
LIGHTING

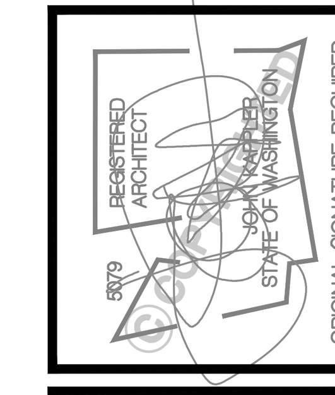
Part 2 - Product
1. Fixtures: 1. Coordinate with materials finish selection schedule (by others).
Note: A minimum of 90% of all luminaries shall be high efficiency per W.S.E.C. R404.1.
2. Control: A. Switches:1. Coordinate with materials finish selection schedule.
3. Dimmers: 1. Coordinate with materials finish selection schedule (by others).
4. Boxes: 1. Coordinate with materials finish selection schedule (by others).
5. Other: 1. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with the industry standards. Refer to general requirements.

END DIVISION 16

Division 17
ENERGY REQUIREMENTS

WASHINGTON STATE ENERGY CODE:
General Notes:
1. Per WSEC R402.4. The building Envelope shall be constructed to limit the air leakage rate not to exceed 5 air changes per hour. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2).
2. Per WSEC R403.1.1. at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule.
3. Per WSEC R403.3.2. ducts, air handlers, and filter boxes shall be sealed.



ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island, WA

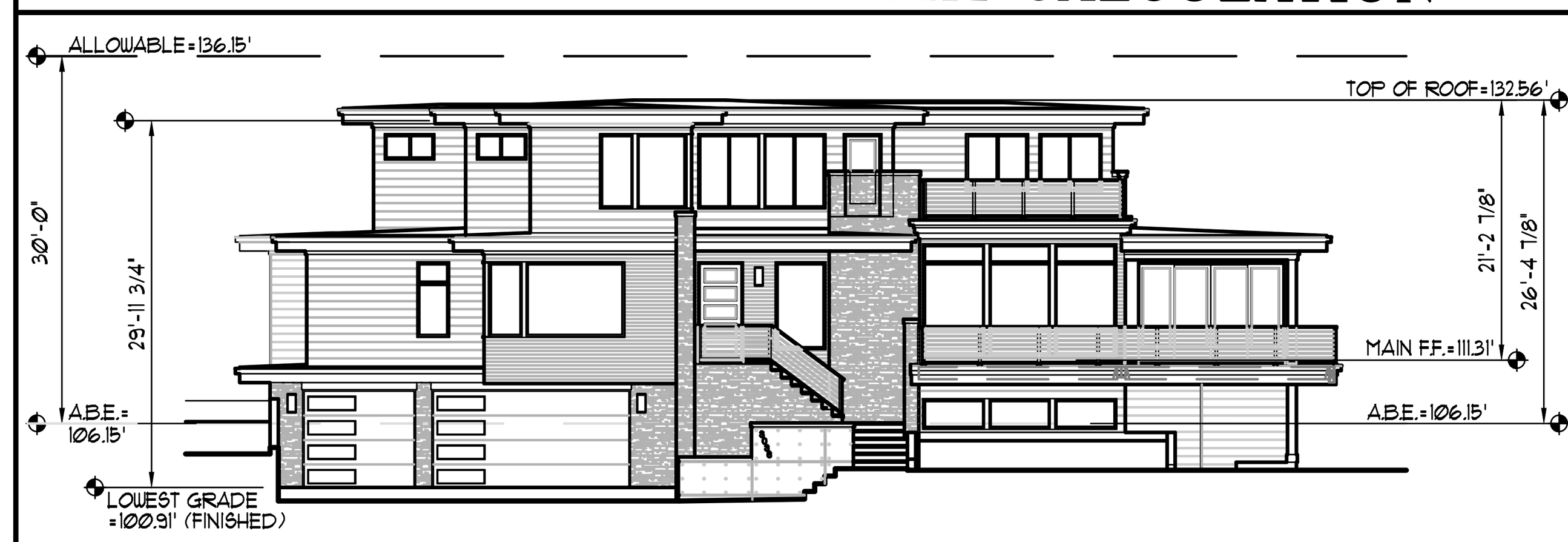
ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kapplerhomeplans.com

TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A1

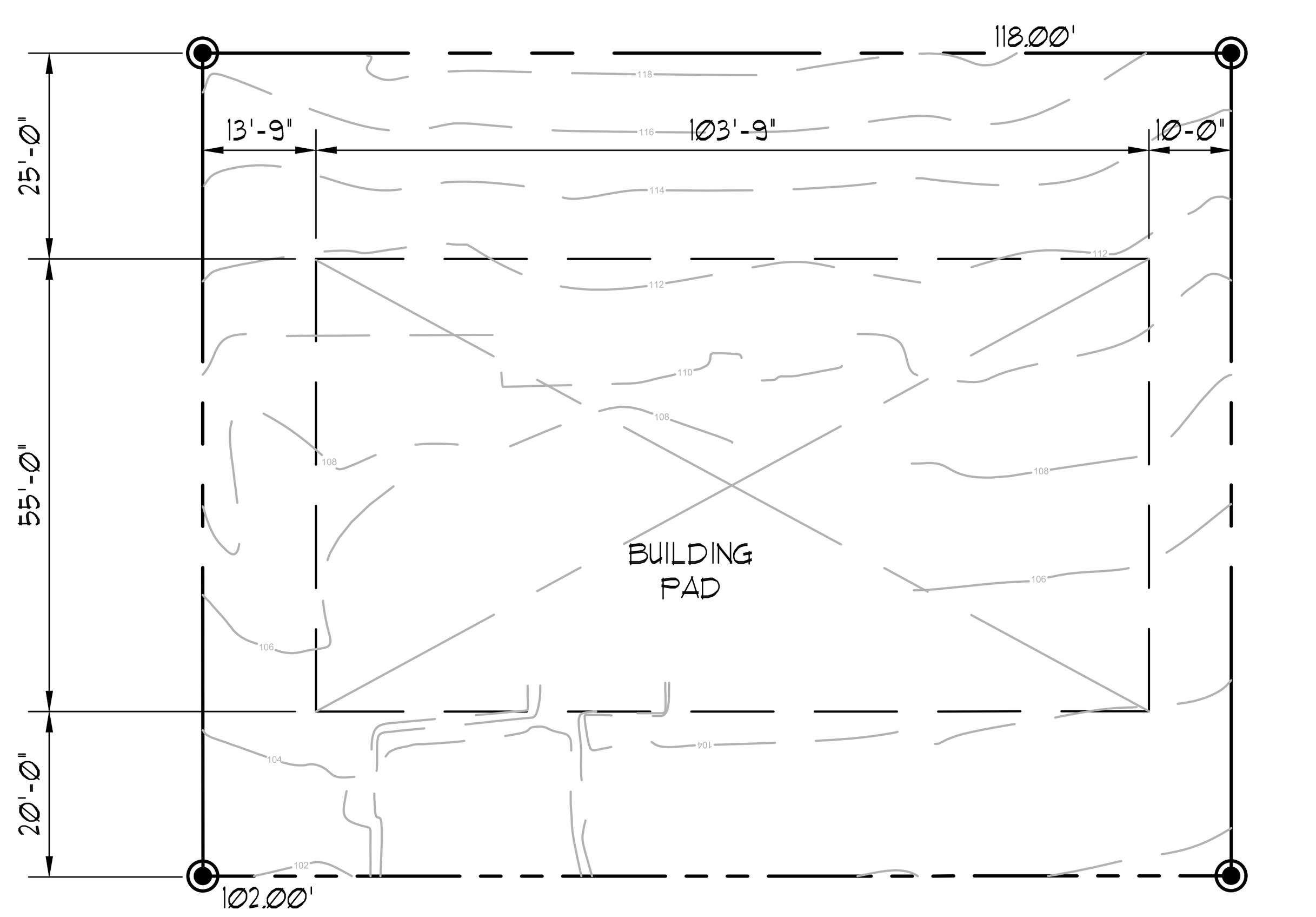
HEIGHT CALCULATION



City of Mercer Island Avg. Grade Calculations

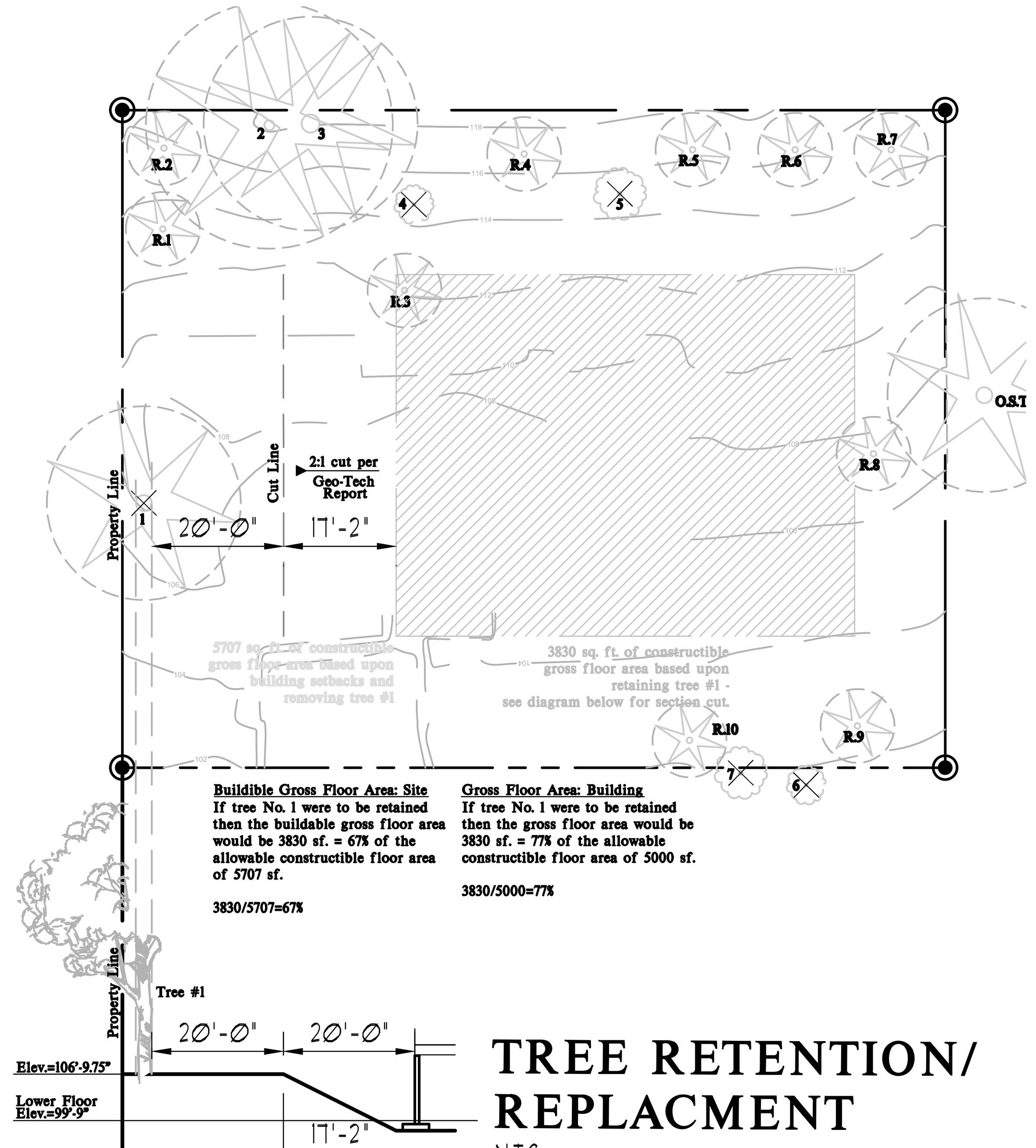
Midpoint Datum Elevation			F or E	Wall Segment Length					
A	=	107.20	E	a	=	24.00	A*a	=	2572.80
B	=	108.00	E	b	=	16.00	B*b	=	1728.00
C	=	109.36	E	c	=	9.00	C*c	=	984.24
D	=	110.00	E	d	=	68.00	D*d	=	7480.00
E	=	107.80	E	e	=	36.00	E*e	=	3880.80
F	=	104.71	F	f	=	38.00	F*f	=	3978.98
G	=	99.00	F	g	=	3.00	G*g	=	297.00
H	=	99.00	F	h	=	46.00	H*h	=	4554.00
		845.07				240.00			25475.82
Address	3038 61st Ave SE						106.15		AVG. GRADE

LOT SLOPE CALCULATION



118'-100'=18'/100'=.18x100=18%

N.T.S.



Buildible Gross Floor Area: Site
If tree No. 1 were to be retained then the buildable gross floor area would be 3830 sf. = 67% of the allowable constructible floor area of 5707 sf.

3830/5707=67%

Gross Floor Area: Building
If tree No. 1 were to be retained then the gross floor area would be 3830 sf. = 77% of the allowable constructible floor area of 5000 sf.

3830/5000=77%

TREE RETENTION/ REPLACMENT

N.T.S.

TREE IDENTIFICATION

TAG	TREE/SPECIES	SIZE (DBH)	RETAINED
1.	CEDRUS DOEDORA, DEODAR CEDAR	35.4	NO
2.	PSEUDOTSUGA MENZIESII, DOUGLAS FIR	29"	YES
3.	PSEUDOTSUGA MENZIESII, DOUGLAS FIR	35"	YES
4.	APPLE SPECIES	9.2"	NO
5.	APPLE SPECIES	12.9"	NO
6.	PRUNUS, CHERRY	6.4"	NO
7.	PRUNUS, PLUM	10.5"	NO
O.S.T.	CEDRUS ATLANTICA, ATLAS CEDAR	est. 30"	YES

TOTAL DBH = 138.4"

TOTAL RETAINED = 100.4"/46%

NOTE: DBH DOES NOT INCLUDE OFF SITE TREE

- Tree protection fencing (TPF) shall consist of chain link fencing, or other fencing as may be required or approved by the City of Mercer Island, installed at the dripline radius of Tree #2 and Tree #3 and shall be staked into place, as required by the City. Plan Sheet A1.1 details the location of the Tree Protection Fencing.
- Signage shall be installed at intervals of 20' or less along the fence line declaring the fenced area as a "TREE PROTECTION ZONE - NO TOOLS, EQUIPMENT, OR CONSTRUCTION RELATED MATERIALS MAY BE PLACED WITHIN THE TREE PROTECTION ZONE". Signage shall be a minimum of 8.5" by 11.0" and shall be resistant to weather conditions.
- An ISA certified arborist shall verify the location of the fencing. The fencing shall be installed prior to any site clearing or grading and shall remain in place until the construction phase is completed.
- An ISA certified arborist shall be on-site for any excavation in the backyard area or anywhere near these protected trees.
- Any roots that are encountered and in need of removal shall be assessed by the Project Arborist. Severing of encountered roots shall be undertaken as detailed in ANSI Standard A300 (Part 8)-2013, Root Management.
- Any roots that are encountered and severed shall be covered with moist compost or mulch material as soon as is reasonable following the root exposure and severance.
- Protected trees shall be re-assessed after completion of the construction activity.
- The Ivy in Tree #2 and #3 should be removed, as much as possible.

REPLACEMENT TREE IDENT.

TAG	TREE/SPECIES	NATIVE
R.1	JAPANESE MAPLE	
R.2	THUJA PLICATA	YES
R.3	VINE MAPLE	YES
R.4	THUJA PLICATA	YES
R.5	THUJA PLICATA	YES
R.6	THUJA PLICATA	YES
R.7	THUJA PLICATA	YES
R.8	DOGWOOD	
R.9	RED MAPLE	

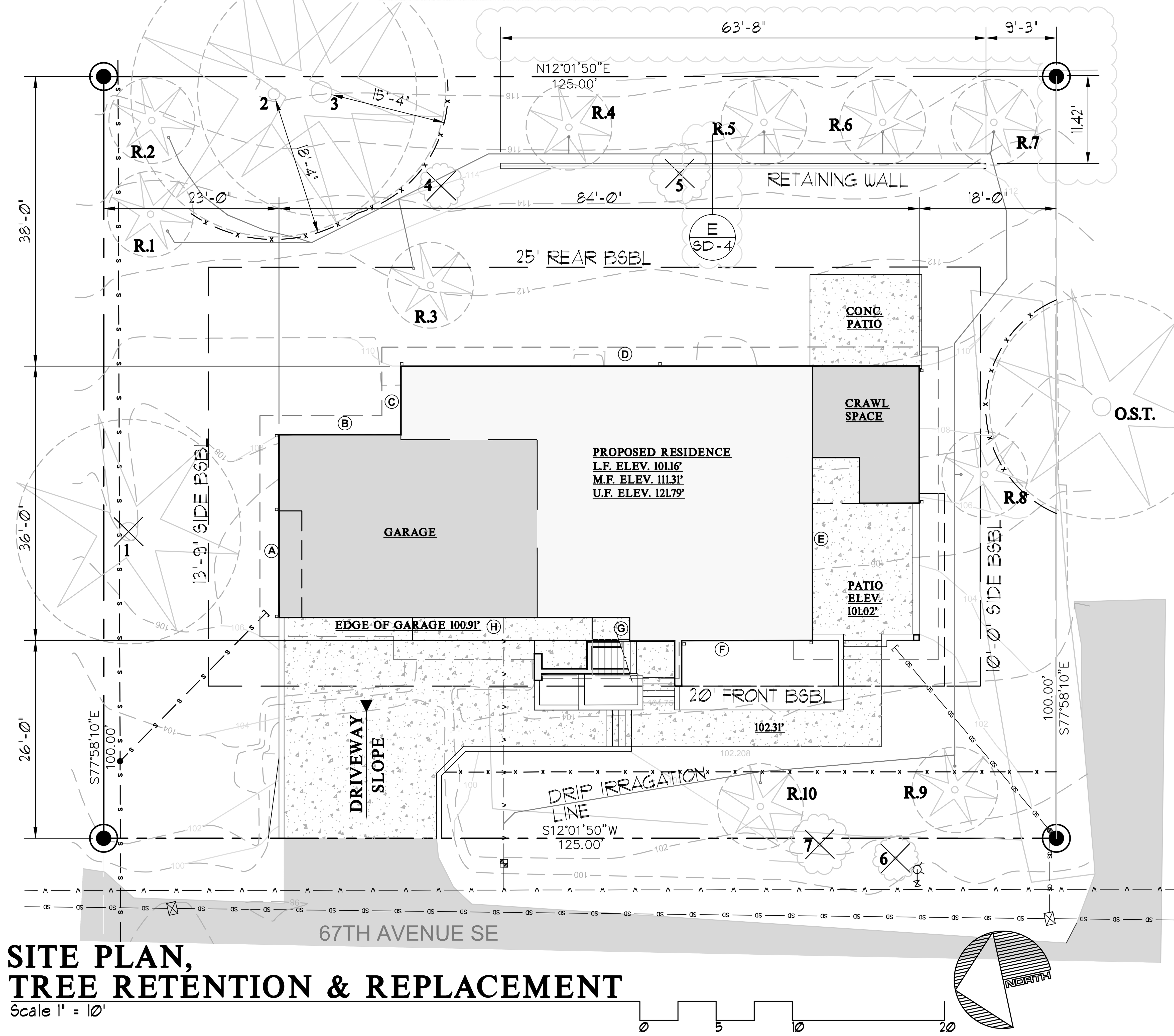
6/9 NATIVE : 66% NATIVE

City of Mercer Island GFA Calculations

Lower Level Area Calculation

Wall	Length	Percentage	Finish or Existing	Result
A	24	77.0%	E/F	18.5
B	16	96.0%	F	15.4
C	9	100.0%	E/F	9.0
D	54	100.0%	E	54.0
E	36	26.0%	F	9.4
F	24	59.0%	E/F	14.2
G	3	0.0%	E/F	0.0
H	46	0.0%	F	0.0
	212			120.5
	Total Average Result			0.6
Flr	Sq Ft	Result		Excluded Area
	2443	0.5683962		1388.591981

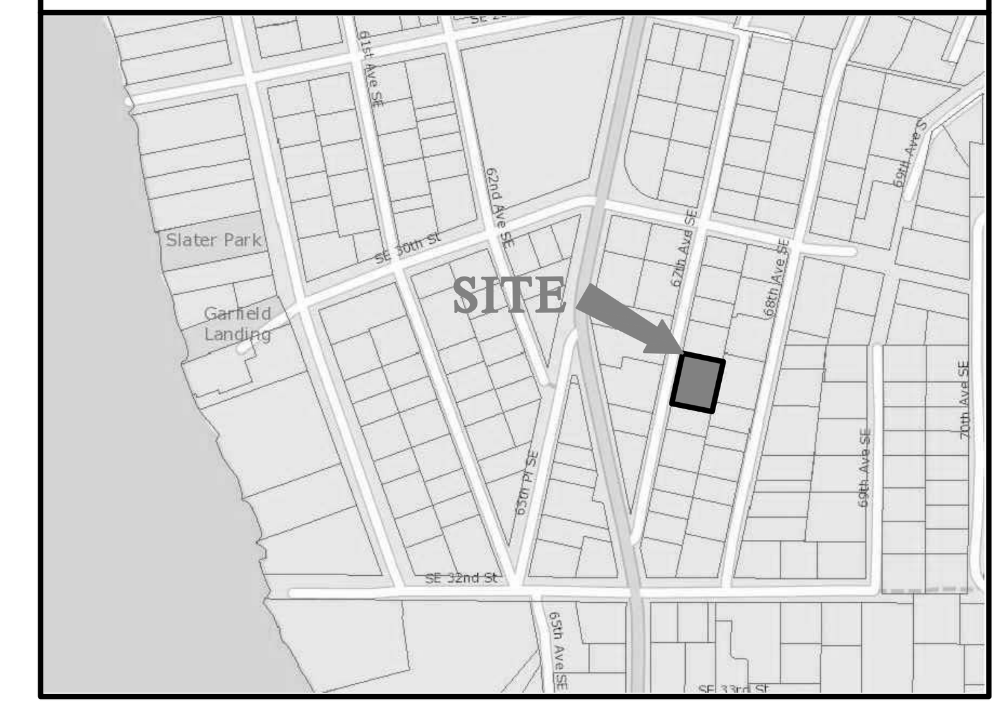
Lot Size =	12,500	x 40% =	5,000 S.F.
Main Floor	2548	(2504+44)	AREA >16'
Upper Floor	1333	(1407-74)	STAIRS
Lower Floor	1087	(2443-1356)	EXCLUDED
Total G.F.A.	4968	/39.7%	



SITE PLAN, TREE RETENTION & REPLACEMENT

Scale 1" = 10'

VICINITY MAP



SITE INFO

STREET ADDRESSES:
3036 67th AVE SE

PARCEL #:
2174501025

LEGAL DESCRIPTION:
EAST SEATTLE ADD LOTS 15 THRU 18 TGW SLY 5 FT OF LOT 19
PLAT BLOCK: 6
PLAT LOT: 15 THRU 19

ZONING

ZONING: R-8.4

SINGLE FAMILY RESIDENTIAL SETBACKS.
FRONT YARD - 20'-0"
REAR YARD - 25'
TOTAL SIDE YARD(S) - 17% OF 120'-0" = 20.4' COMBINED
INTERIOR SIDE YARD - 33% OF 20.4'= 6.73' MIN.

HEIGHT LIMIT
30' ABOVE AVERAGE BUILDING ELEVATION
35' DOWNHILL HIGHEST PLATE FROM EXISTING GRADE

LOT COVERAGE
35% MAX OF GROSS LOT AREA

G.F.A.
40% MAX. OF NET LOT AREA

SITE CALCULATIONS

LOT AREA
12,500 SF GROSS LOT AREA

G.F.A. CALCULATION
12,500 SF GROSS LOT AREA
x 40%
5,000 SF ALLOWABLE G.F.A.

2,548 SF MAIN FLOOR (see G.F.A. calculations below)
1,333 SF UPPER FLOOR (see G.F.A. calculations below)
1,087 SF LOWER FLOOR/GARAGE (see G.F.A. calculations below)
4,968 SF/39.7% TOTAL G.F.A.

LOT COVERAGE CALCULATION
12,500 SF GROSS LOT AREA
x 35%
4,375 SF ALLOWABLE LOT COVERAGE

3,023 SF STRUCTURE (including eaves)
344 SF COVERED PATIO/DECKS (including eaves)
666 SF DRIVEWAY (excluding portion under eaves)
4,033 SF/32% TOTAL LOT COVERAGE

HARDSCAPE SURFACE CALCULATION
12,500 SF GROSS LOT AREA
x .09%
1,125 SF ALLOWABLE HARDSCAPE COVERAGE

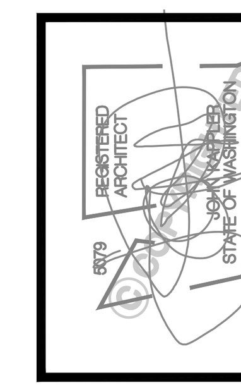
419 SF FRONT WALKWAY AND STEPS(excluding portion under deck)
139 SF REAR PATIO (excluding portion u/ eaves)
175 SF MAIN FLOOR DECK(excluding portion under eaves)
35 SF REAR RETAINING WALL
41 SF FRONT RETAINING WALLS
809 SF/6.5% TOTAL HARDSCAPE SURFACE AREA

LEGEND

- DESIGNATES WATER
- DESIGNATES SEWER
- DESIGNATES STORM
- DESIGNATES EXISTING GRADE
- DESIGNATES FINISHED GRADE
- DESIGNATES TREE DRIPLINE
- DESIGNATES TREE FENCING
- DESIGNATES EXISTING WOOD FENCE
- EXISTING FENCE TO BE REMOVED

DEMO EXISTING STRUCTURES AND HARDSCAPE

SEE ADDITIONAL STORM & UTILITY PLAN



ORIGINAL SIGNATURE REQUIRED

Date	By	Description
9/26/22	REY	UPDATED SITE PLAN
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
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Bellevue, WA 98007
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TITLE

JOB NO. : 21076.03
STARTING NO. : START

SHEET

A1.1

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

3036 67TH AVE SE MERCER ISLAND SITE PLAN

LEGAL DESCRIPTION

LOTS 15, 16, 17, 18 AND THE SOUTHERLY 5 FEET OF LOT 19, BLOCK 6, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGES 22 AND 23, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THAT PORTION THEREOF LYING WITHIN MERCER ISLAND ROAD (67TH AVENUE SE)

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

BASIS OF BEARING

RECORD OF SURVEY BY TERRANE FOR JAYMARC HOMES, RECORDED ON JULY 26, 2021, IN VOLUME 451 OF SURVEYS, PAGE 259, UNDER RECORDING NO. 20210726900027, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM & CONTROL INTERVAL

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE CITY OF MERCER ISLAND.

THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF 68TH AVENUE SE W AND SE 32ND STREET.

POINT ID NO. 47746;
ELEVATION: 112.571 FEET – NAVD 88

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

SURVEY NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3–SECOND SPECTRAPRECISION FOCUS 35 TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332–130–090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN AUGUST 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS–BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

SITE DATA

HIGHEST ELEVATION OF LOT:	118.25	
LOWEST ELEVATION OF LOT:	98.66	
LOT SLOPE:	19.3%	
TOTAL SITE AREA:	12,500	SF
ALLOWED LOT COVERAGE:	40%	
PROPOSED LOT COVERAGE *	3,899	SF (31.2%)
PROPOSED HARDSCAPE	581	SF (4.6%)
PROJECT IMPERVIOUS AREA:	4,480	SF (35.8%)

* LOT COVERAGE INCLUDES THE COMBINATION OF BUILDINGS, INCLUDING EAVES AND ROOF OVERHANGS, AND VEHICULAR DRIVING SURFACES AS DEFINED PER MIMC 19.16.010

OWNER / ARCHITECT

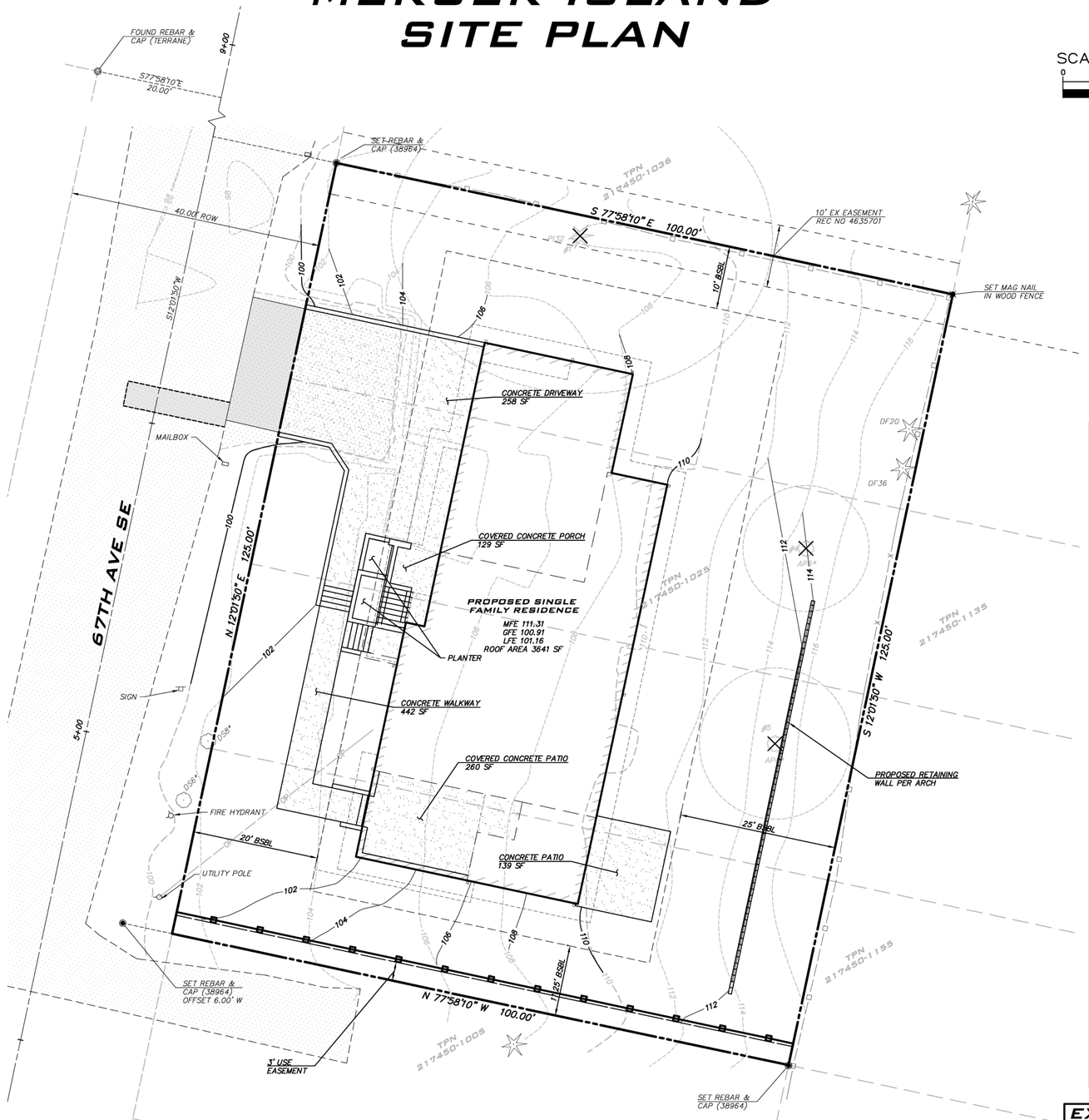
WILLIAM E. BUCHAN INC.
2630 116 AVE NE #100
BELLEVUE, WA 98004
(425) 831–5503
CONTACT: DAVID STAVE

ENGINEER

THE BLUELINE GROUP
25 CENTRAL WAY, SUITE 400
KIRKLAND, WA 98033
(425) 250–7262
CONTACT: YANNICK METS, PE

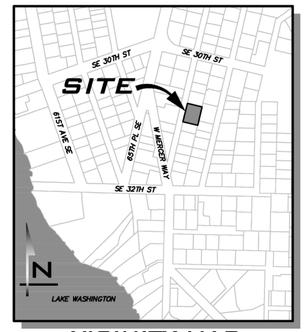
GEOTECH ENGINEER

TERRA ASSOCIATES, INC
12220 113TH AVE NE, SUITE 130
KIRKLAND, WA 98034
(425) 821–7777
CONTACT: CAROLYN S. DECKER, PE



N

SCALE: 1" = 10'
0 5 10 20



VICINITY MAP
NOT TO SCALE

LEGEND

PROPOSED FEATURES

- BOUNDARY
- RIGHT–OF–WAY
- LOT LINE
- SIDEWALK
- CENTER LINE
- SAWCUT
- BUILDING FOOTPRINT
- BUILDING OVERHANG
- BUILDING ROOFLINE
- BUILDING SETBACK (BSBL)
- 190 10' PROPOSED CONTOURS
- 192 2' PROPOSED CONTOURS
- MAILBOX
- ASPHALT PAVEMENT
- CONCRETE

PROPOSED STORM DRAINAGE

- STORM DRAIN PIPE
- ROOF & FOOTING DRAIN
- SWALE OR DITCH
- SURFACE FLOW
- TYPE I CB – STANDARD GRATE
- TYPE I CB – LOCKING LID
- STORM CLEANOUT
- YARD DRAIN

EXISTING FEATURES

- ADJACENT PLAT/PARCEL LINE
- ADJACENT RIGHT–OF–WAY
- CENTERLINE
- EASEMENT
- SURFACE FEATURES
- BUILDING FOOTPRINT
- 190 10' CONTOURS
- 192 2' CONTOURS
- SD STORM DRAIN PIPE
- SS SEWER MAIN
- W WATER MAIN
- OHP AERIAL POWER LINE
- G GAS MAIN
- X WIRE FENCE
- BOARD FENCE
- RETAINING WALL
- ROCKERY
- CATCH BASIN, TYPE I
- CATCH BASIN, TYPE II
- SD PIPE FLOW
- SEWER MANHOLE
- SS PIPE FLOW
- FIRE HYDRANT
- WATER METER
- GATE VALVE
- POWER POLE
- GUY ANCHOR
- STREET LIGHT
- P POWER VAULT
- POWER METER
- MAIL BOX
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- DRIP LINE
- CONIFEROUS TREE TO BE SAVED
- DECIDUOUS TREE TO BE SAVED
- EXISTING CONIFEROUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE REMOVED
- ASPHALT
- CONCRETE
- GRAVEL

TESC FEATURES

- FILTER FENCE
- CONSTRUCTION FENCE
- CLEARED AREA
- LIMITS OF CLEARING
- PIPE FLOW
- INTERIM CATCH BASIN PROTECTION (INSERT)

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8–1–1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

BUILDING CALCULATIONS

SEE ARCHITECTURAL SITE PLAN FOR TREE RETENTION, BUILDING HEIGHTS AND FAR CALCULATIONS.

SHEET INDEX

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

COVER SHEET
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 38964 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: CV-01
SHT 1 OF 9

22x34
Nov 20, 2023 – 8:38am – User ccouch
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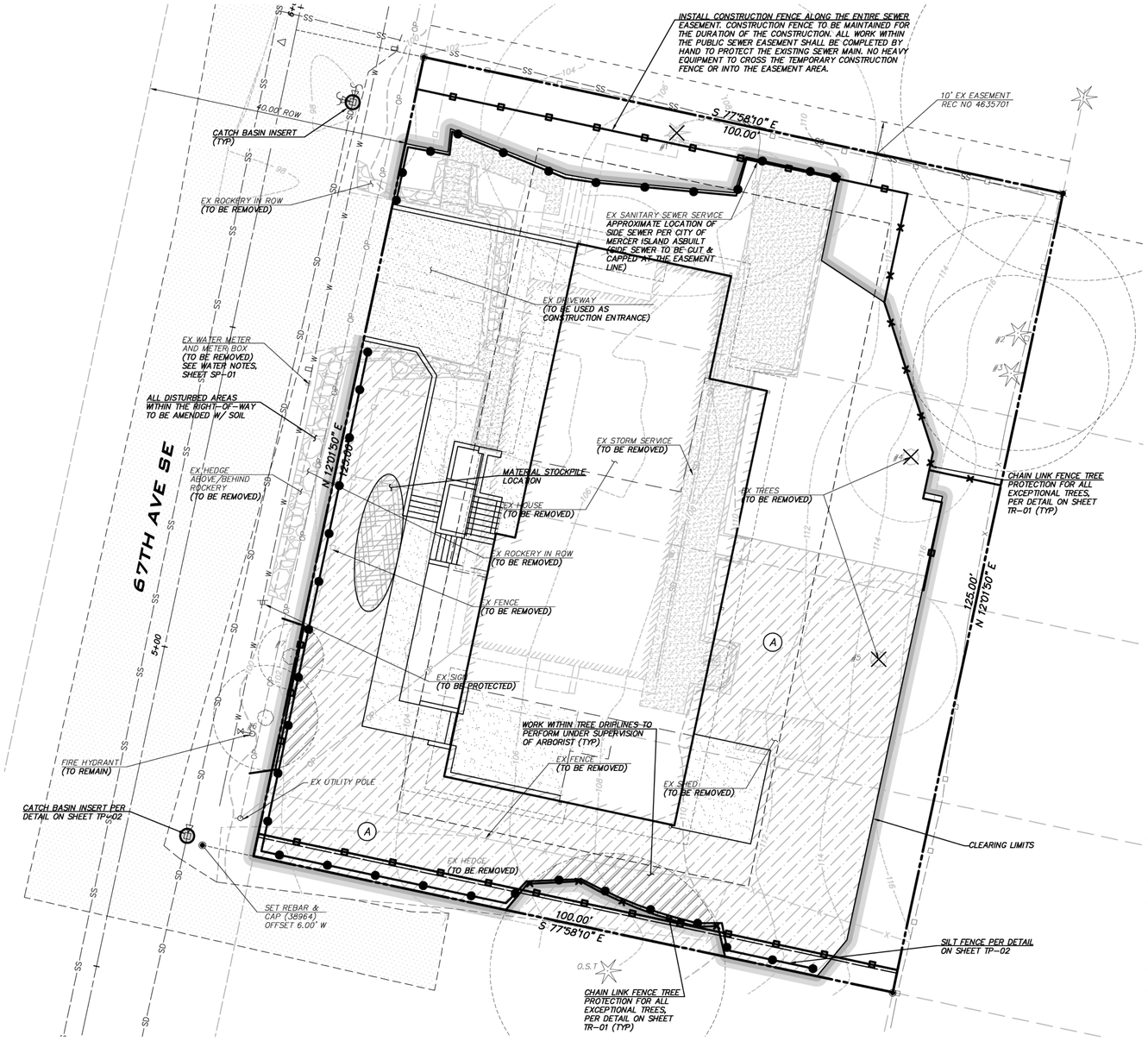
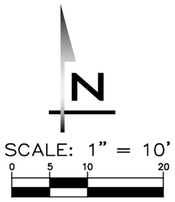
SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.





NOTE

CATCH BASIN INLET PROTECTION TO BE INSTALLED UP TO 250' DOWNSTREAM OF THE PROJECT SITE.

SOIL AMENDMENT LEGEND

A NEW TURF AREA REQUIRING AMENDMENT (3,602 SF)

POST-CONSTRUCTION SOIL MANAGEMENT NOTES

AMEND SOILS WITH COMPOST PER PRE-APPROVED AMENDMENT METHOD

SCARIFY EXISTING SOILS TO DEPTH OF 8 INCHES

REFER TO CITY OF MERCER ISLAND SECTION D: POST-CONSTRUCTION SOIL MANAGEMENT FORM UNDER SEPARATE COVER FOR CALCULATED AMENDMENT QUANTITIES.

NOTE

EXISTING WATER METER TO BE ABANDONED.

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

TESC PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: TP-01
SHT 2 OF 9

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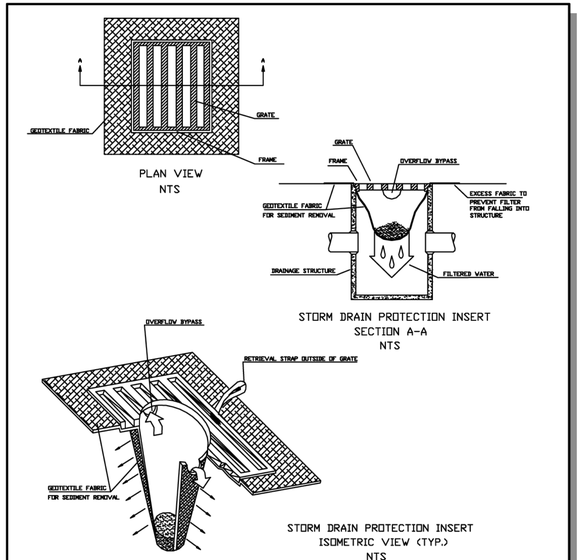
TESC - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
   A. CONDUCT PRE-CONSTRUCTION MEETING.
   B. FLAG OR FENCE CLEARING LIMITS.
   C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
   D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
   E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
   F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
   G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
   H. GRADE AND STABILIZE CONSTRUCTION ROADS.
   I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
   J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
   K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY TESC MINIMUM REQUIREMENTS.
   L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
   M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
   N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
   O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.
2. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
3. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
4. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
5. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE TESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
7. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.
8. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
9. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
   APRIL 1 TO OCTOBER 31 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
   NOVEMBER 1 TO MARCH 31 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
10. AT NO TIME SHALL MORE THAN 1" OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
11. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
13. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
14. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
15. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.
16. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
17. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF MERCER ISLAND INSPECTOR.
18. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
19. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 4' HIGH TEMPORARY CONSTRUCTION FENCE (CYCLONE OR PLASTIC MESH) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL A DWELLING IS CONSTRUCTED AND OWNERSHIP TRANSFERRED TO THE FIRST OWNER/OCCUPANT.
20. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
21. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
22. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "FILTER FABRIC SOCK" OR EQUIVALENT.
23. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF MERCER ISLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.
24. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40 %-70 % PASSING; 2"-4" ROCK/30 %-40 % PASSING; AND 1"-2" ROCK/10 %-20 % PASSING.
25. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
26. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
27. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.
28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

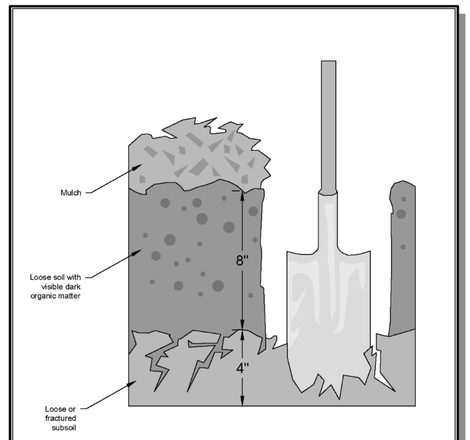


NOTES

1. SEE ECOLOGY STORMWATER MANAGEMENT MANUAL FOR W. WA, BMP C220 FOR ADDITIONAL DESIGN INFORMATION.

INLET PROTECTION

NOT TO SCALE



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

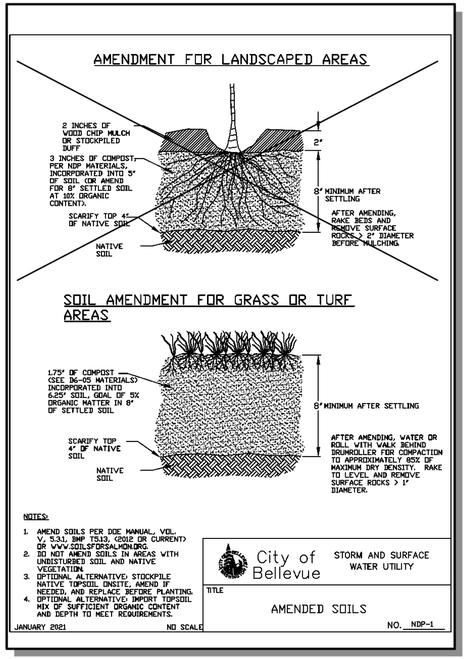
NOT TO SCALE

DEPARTMENT OF ECOLOGY State of Washington

Figure V-5.3.3
Planting Bed Cross-Section
Revised January 2016

AMENDED SOILS - BMP T5.13

NOT TO SCALE

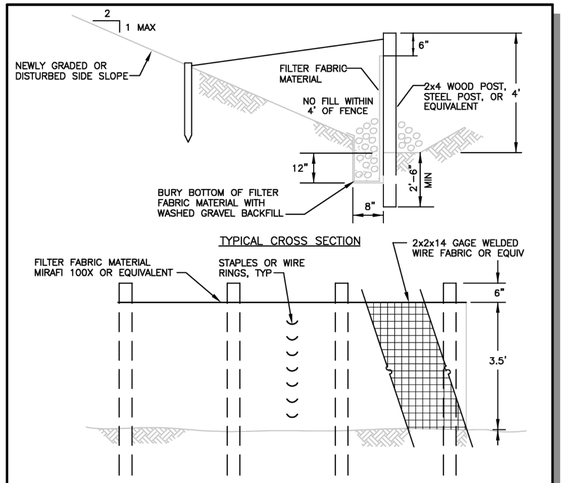


NOTES:
1. AMEND SOILS PER BDE MANUAL, VOL. V, 5.3.1, BMP T5.13, (2012 OR CURRENT) OR WWW.SOILSFORSALMON.ORG
2. DO NOT AMEND SOILS IN AREAS WITH UNDISTURBED SOIL AND NATIVE VEGETATION.
3. OPTIONAL ALTERNATIVE: STOCKPILE NATIVE TOPSOIL ONSITE, AMEND IF NEEDED, AND REPLACE BEFORE PLANTING.
4. OPTIONAL ALTERNATIVE: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

City of Bellevue — STORM AND SURFACE WATER UTILITY

TITLE: AMENDED SOILS

JANUARY 2021 — NO SCALE — NO. NDP-1



EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

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SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

TESC DETAILS
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS — STATE OF WASHINGTON — 56005 — REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: TP-02
SHT 3 OF 9

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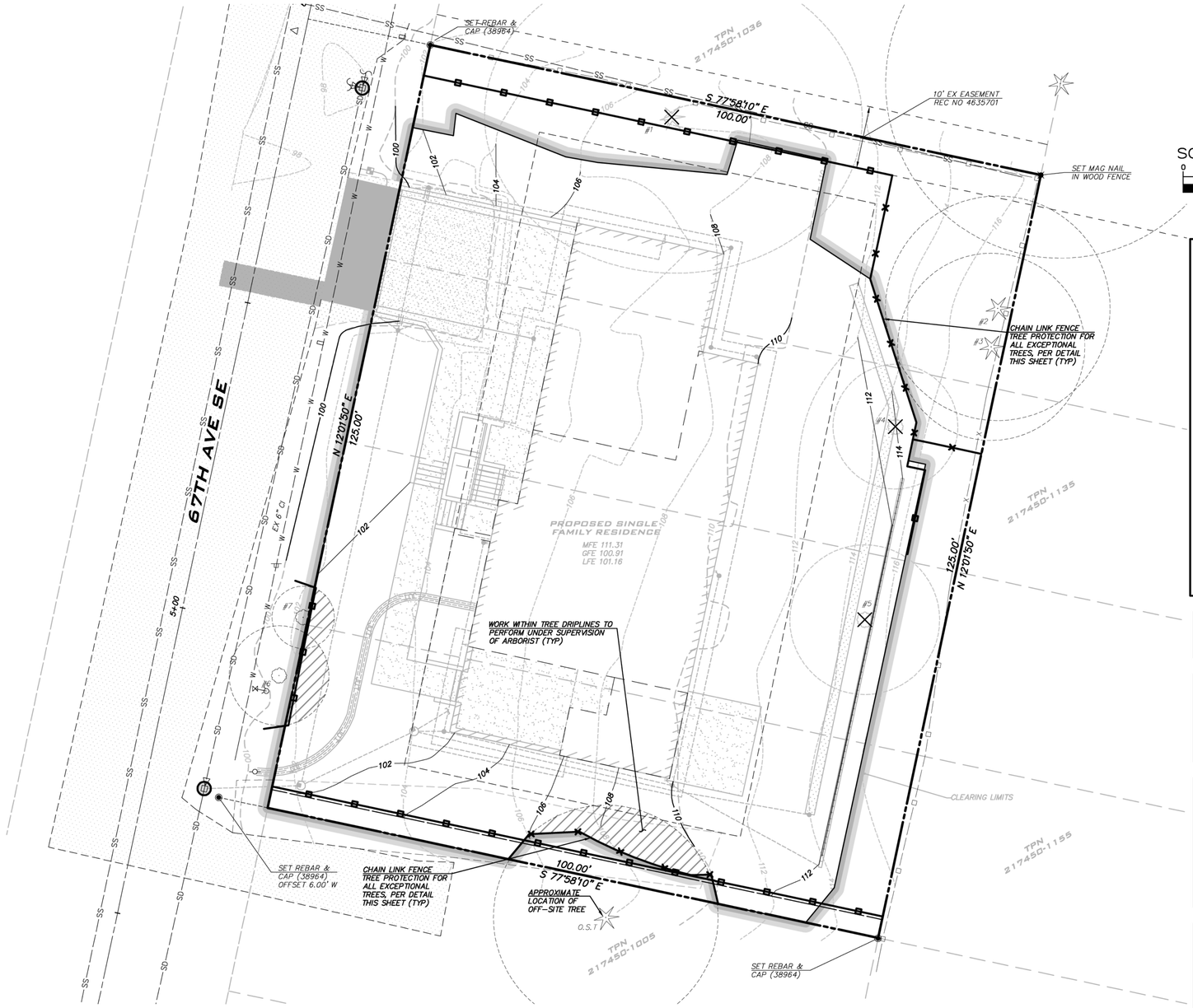

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SCALE: 1" = 10'

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TREE LEGEND

- INNER CRITICAL ROOT ZONE
- EXISTING TREE TO REMAIN
- AVERAGE DRIP LINE
- EXISTING TREE TO BE REMOVED
- NON-VIABLE/EXISTING TREE IN POOR CONDITION

TREE PROTECTION AREA (TPZ)

KEEP OUT!

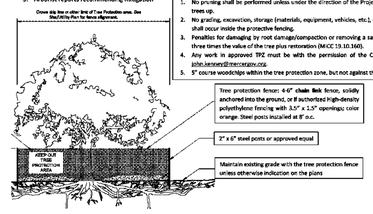
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kennev@mercergov.org
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Any Work in the protected area must be with the permission of the City Arborist john.kennev@mercergov.org

TREE PROTECTION FENCING

NTS

STORM NOTES

STORM SERVICES TO BE 4" PVC AT 2% MIN SLOPE UNLESS OTHERWISE NOTED. SERVICES DESIGNED TO HAVE AT LEAST 1.5' COVER.

AMENDED SOILS

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

WATER NOTES

1. IF EXISTING METER MEETS CURRENT CITY STANDARDS IT CAN BE RE-USED OTHERWISE CUT AND CAP SERVICE AT MAIN PER CURRENT PUBLIC WORKS SPECIFICATIONS AND INSTALL NEW SERVICES.
2. NEW 1" WATER SERVICE AND 3/4" METER SHOWN IS TYPICAL SIZE FOR A NEW SINGLE FAMILY HOME. SIZE MAY VARY, BASED ON UPC SIZING CRITERIA, AND SHALL BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
3. IF NEW WATER SERVICE IS REQUIRED, INSTALL PER MERCER ISLAND SDT DTL W-13.

SANITARY SEWER NOTES

1. EXISTING LOCATION OF SANITARY SEWER PER CITY OF MERCER ISLAND ASBUILT. CONTRACTOR TO VERIFY POINT OF CONNECTION WITHIN THE EASEMENT.
2. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT POINT OF CONNECTION TO THE SIDE SEWER. THE EXISTING SS LINE WITHIN THE EASE,EMT SHALL BE CLEANED, LOCATED AND INSPECTED BY CAMERA TO VERIFY SUITABILITY FOR RE-USE AND NEED FOR RE-LINING.
3. PROPOSED SEWER SERVICE LINE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-18.
4. SANITARY SEWER CLEANOUT TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-19.
5. REFER TO CITY OF MERCER ISLAND STANDARD DETAIL S-22 FOR DISCONNECTION AND RECONNECTION NOTES AND SPECIFICATIONS

EXISTING UTILITY NOTE

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ATWELL

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SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

TREE RETENTION PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS — STATE OF WASHINGTON — 56308 — REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: TR-01
SHT 4 OF 9

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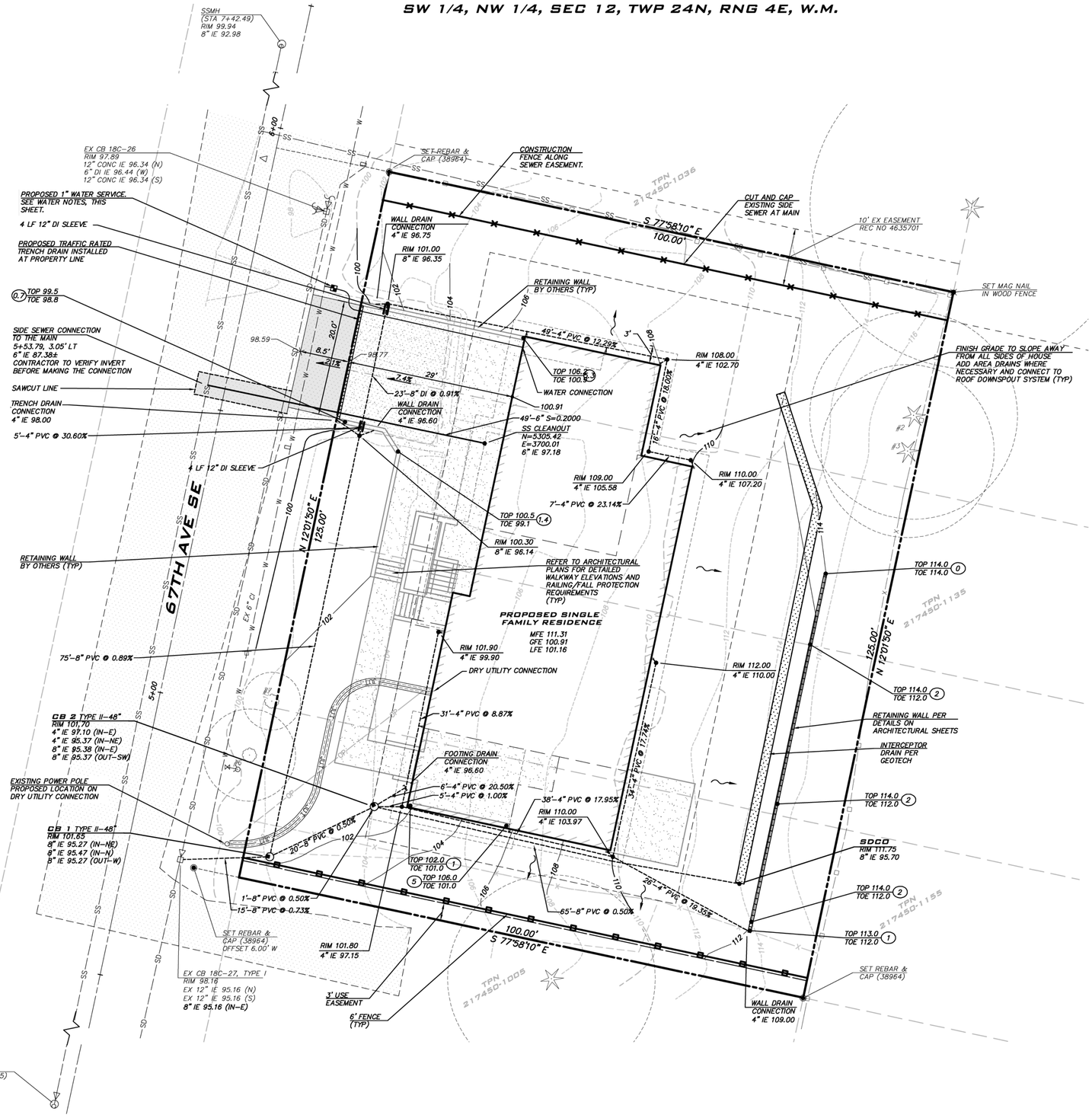

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SCALE: 1" = 10'
0 5 10 20

STORM NOTES

1. STORM SERVICES TO BE 4" PVC AT 2% MIN SLOPE UNLESS OTHERWISE NOTED. SERVICES DESIGNED TO HAVE AT LEAST 1.5' COVER.
2. TYPE II CATCH BASINS TO BE INSTALLED PER COB STD DTL D-4.
3. STORM DRAIN CLEANOUTS TO BE INSTALLED PER COB STD DTL D-52.

AMENDED SOILS

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5. MAINTAIN MINIMUM 18" BETWEEN NEW SIDE SEWER AND OTHER UTILITIES.

EXISTING UTILITY NOTE

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PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

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3036 67TH AVENUE SE
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CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: SP-01
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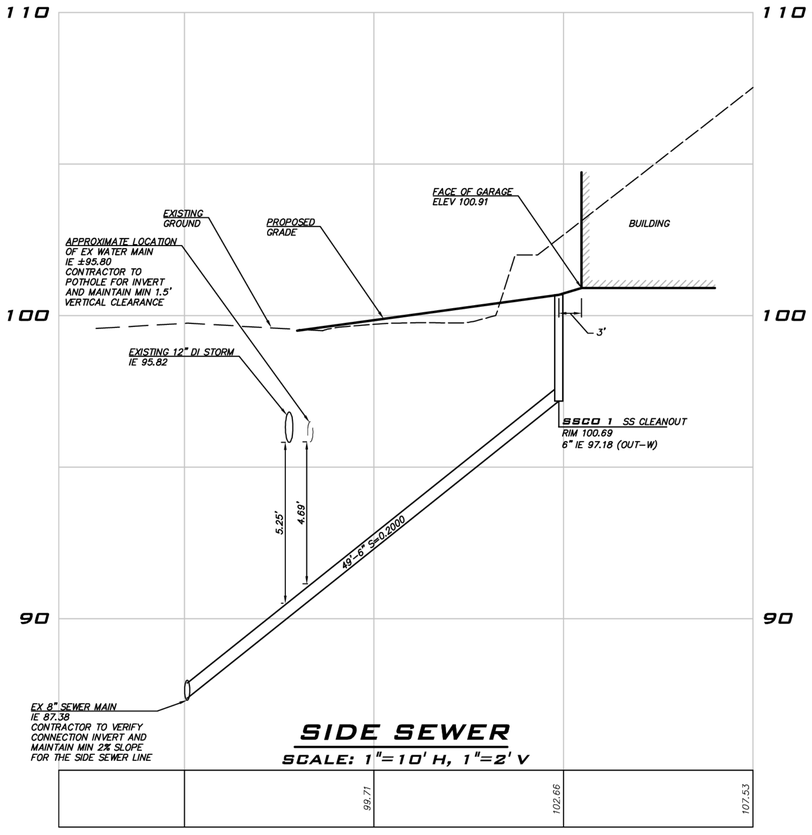

SIDE SEWER

SCALE: 1"=10' H, 1"=2' V

SANITARY SEWER NOTES

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11/20/2023

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SIDE SEWER PROFILE
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CITY OF MERCER ISLAND WASHINGTON

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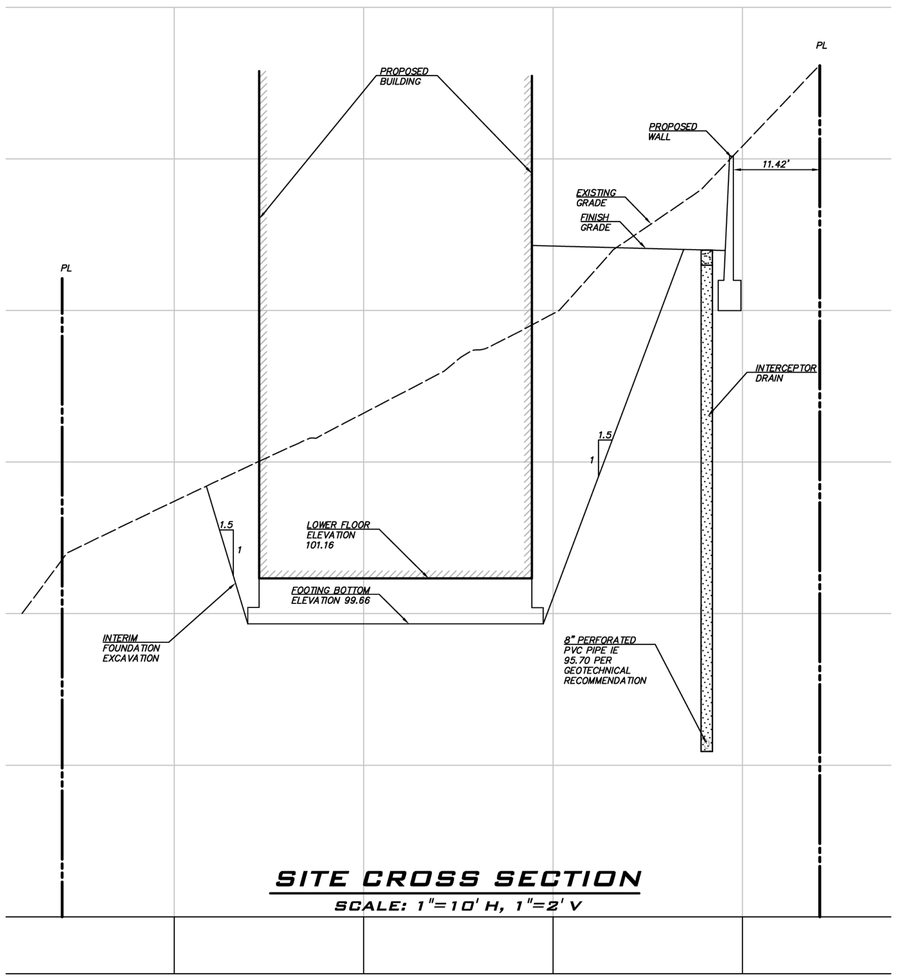
SHT 6 OF 9

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.



SITE CROSS SECTION

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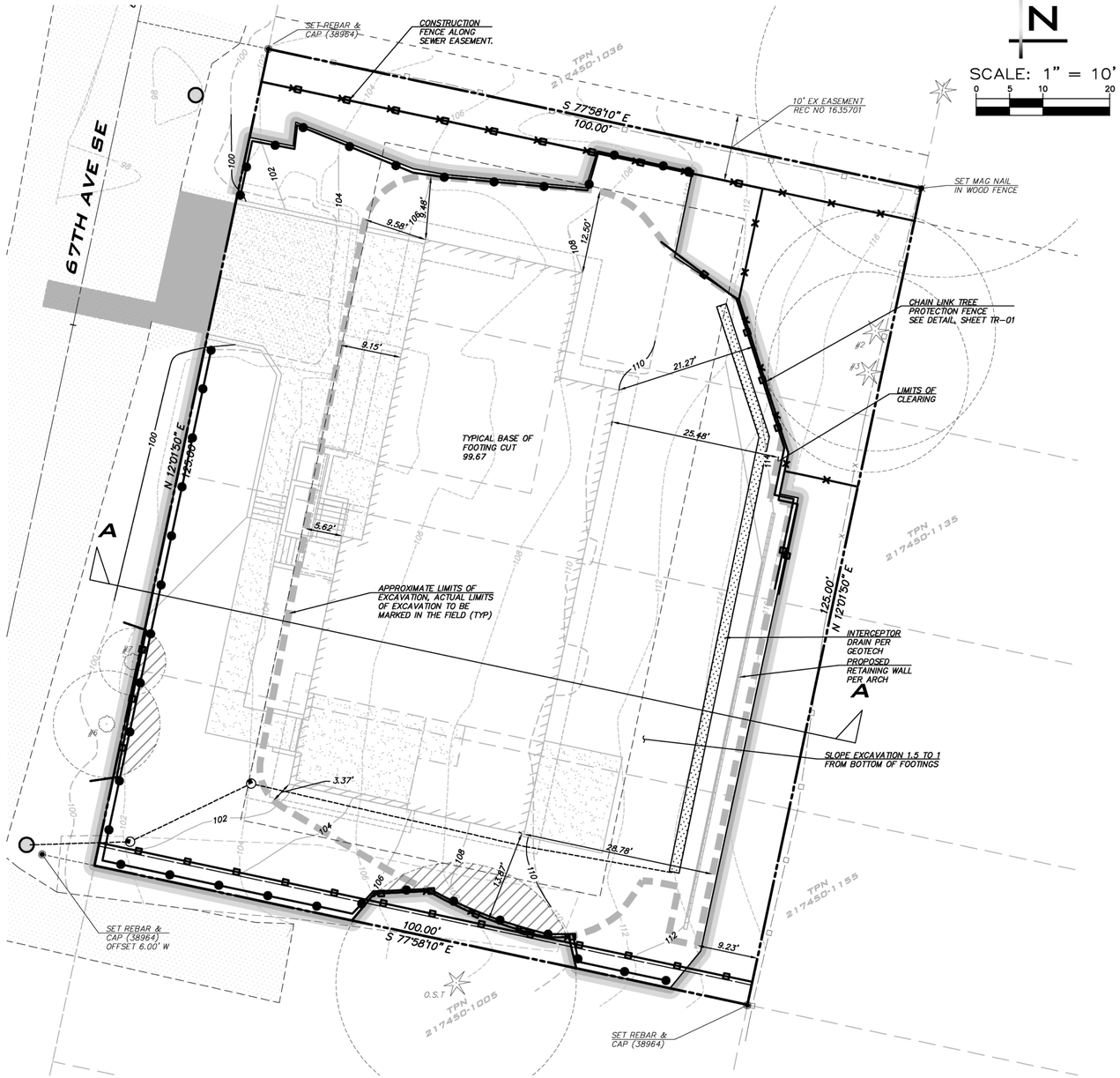

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EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P. 425.216.4051 F. 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

TEMPORARY GRADING PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

JOB NUMBER: 22-042
SHEET NAME: TG-01
SHT 7 OF 9

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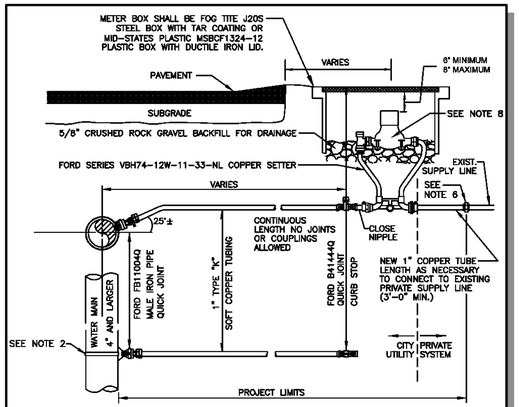


NOTES

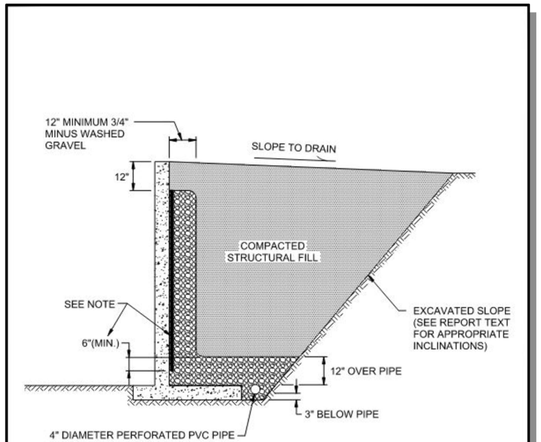
1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. ON EXISTING WATER MAINS USE NYLON COATED D.I. SADDLE WITH STAINLESS STEEL DOUBLE STRAPS, ROMAC 202NS, OR APPROVED EQUAL.
3. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18" MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24". ALL HORIZONALLY STAGGERED.
4. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
5. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
6. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
7. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
8. WATER METER SUPPLIED BY CITY.
9. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
10. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

1" WATER METER INSTALLATION

02-05-2021	NO SCALE	W-13

REV DATE | APPROVED



NOT TO SCALE

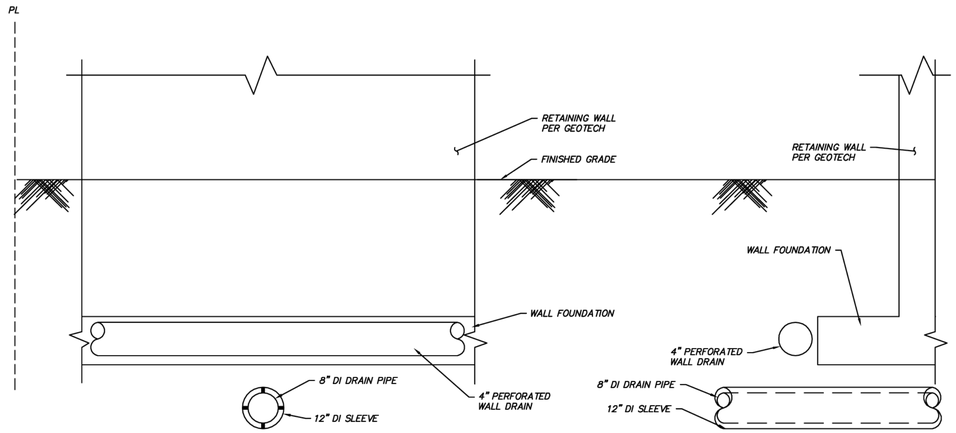
NOTE:

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.

Terra Associates, Inc.
Consultants in Geotechnical Engineering Geology and Environmental Earth Sciences

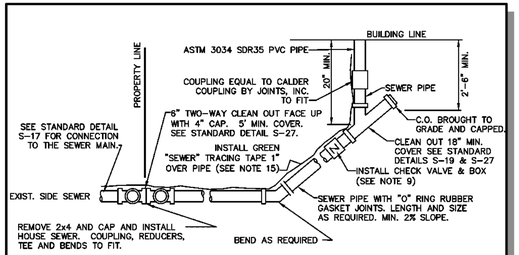
TYPICAL WALL DRAINAGE DETAIL
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date APR 2023	Figure 5



SKEMATIC WALL DRAIN & ENCASED DRAINAGE PIPE SECTION

NOT TO SCALE



BUILDING CONNECTION

NOTES

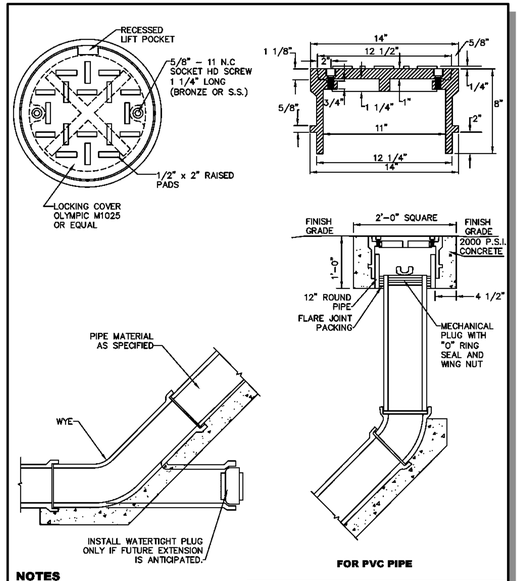
1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ⅛ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT"
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

HOUSE SEWER CONNECTION

6-5-2009	NO SCALE	S-18

REV DATE | APPROVED



NOTES

1. SEE S-27 FOR INSTALLATION DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

CLEAN OUT DETAIL

6-5-2009	NO SCALE	S-19

REV DATE | APPROVED

DISCONNECTION

WHEN DEMOLISHING AN EXISTING BUILDING, THE BUILDING SIDE SEWER SHALL BE DISCONNECTED PRIOR TO REMOVAL OF BUILDING FOUNDATIONS. THE CONTRACTOR SHALL INSTALL A MECHANICAL PLUG WITH NON-SHRINK GROUT AT THE END OF THE SIDE SEWER TO REMAIN IN PLACE. DISCONNECTION'S SHALL BE PERFORMED IN THE PRESENCE OF THE CITY'S UTILITY INSPECTOR. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT DRAWING DEPICTING THE DISCONNECTED SIDE SEWER UPON COMPLETION OF THE WORK.

RECONNECTION

WHEN RECONNECTING TO AN EXISTING SIDE SEWER, THE POINT OF RECONNECTION WILL BE DETERMINED BASED ON THE MAGNITUDE OF THE CONSTRUCTION ON THE PROPERTY.

1. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION – NO SIDE SEWER REPLACEMENT REQUIRED UNLESS A KNOWN PROBLEM EXISTS IN THE SIDE SEWER.
2. COMPLETE INTERIOR REMODEL OF RESIDENCE – ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED. IF EXISTING SIDE SEWER IS ASBESTOS CEMENT OR CONCRETE, SIDE SEWER SHALL BE REPLACED FROM BUILDING TO PROPERTY LINE, UNLESS THE APPLICANT PROVES, TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE SIDE SEWER IS WATER TIGHT AND IN SOUND CONDITION.*
3. COMPLETE INTERIOR REMODEL AND BUILDING ADDITION – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
4. CONSTRUCTION OF A NEW SINGLE FAMILY RESIDENCE – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
5. BACK WATER VALVE INSTALLATION PER CITY ENGINEER, IF SCENARIO 2, 3 OR 4 IS DIRECTLY ATTACHED TO THE LAKE LINE.

VIDEO INSPECTION OF THE EXISTING SIDE SEWER, BETWEEN THE PROPERTY LINE AND THE SEWER MAIN SHALL BE PERFORMED FOR SCENARIOS NUMBER 3 AND 4.

PROVIDE A COPY OF THE VIDEO DOCUMENTATION TO THE CITY ENGINEER.

REPLACEMENT OR REPAIR OF THAT PORTION OF THE SIDE SEWER BETWEEN THE PROPERTY LINE AND THE SEWER MAIN, WILL BE DETERMINED BY THE CITY ENGINEER, BASED ON THE VIDEO INSPECTION.

*IF THE EXISTING SIDE SEWER IS PVC AND IS LESS THAN TEN YEARS OLD, THE SIDE SEWER DOES NOT HAVE TO BE REPLACED IF A VIDEO INSPECTION AND HYDROSTATIC PRESSURE TEST CONFIRMS THAT THE SIDE SEWER IS IN PROPER WORKING CONDITION. THESE TESTS SHALL BE PERFORMED AFTER ALL HEAVY EQUIPMENT THAT COULD DAMAGE THE SIDE SEWER IS OFF OF THE SITE.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

RESIDENTIAL SIDE SEWER DISCONNECTION & RECONNECTION

6-5-2009	NO SCALE	S-22

REV DATE | APPROVED

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CITY OF MERCER ISLAND WASHINGTON

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11/20/23

JOB NUMBER: 22-042
SHEET NAME: DT-01
SHT 8 OF 9

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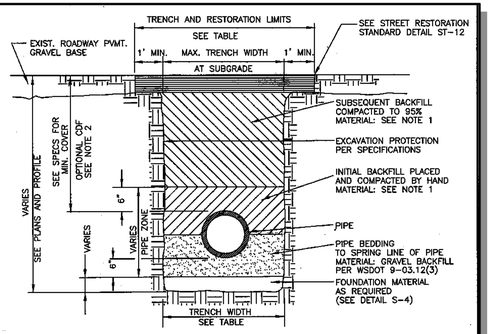


NOTES

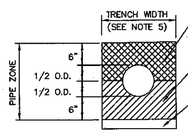
1. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS.
2. CDF FOR BACKFILL MAY BE REQUIRED BY CITY ENGINEER WHEN PROPER COMPACTION AROUND EXISTING UTILITIES MAY NOT BE POSSIBLE. CDF SHALL BE PER WSDOT 2-09.3(1)E.
3. SEE S-4 FOR PIPE BEDDING DETAILS.

TRENCH WIDTH

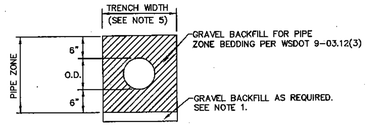
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
SIDE SEWER	2'-0"	2'-0"	6'-0"
4" OR 6"	2'-2"	3'-0"	8'-0"
8"	2'-4"	4'-0"	8'-0"
10"	2'-6"	4'-0"	8'-0"
12"	2'-8"	4'-6"	8'-8"

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SEWER TRENCH DETAIL
6-5-2009 | NO SCALE | **S-3**
REV DATE | APPROVED

BEDDING FOR RIGID PIPE MATERIAL



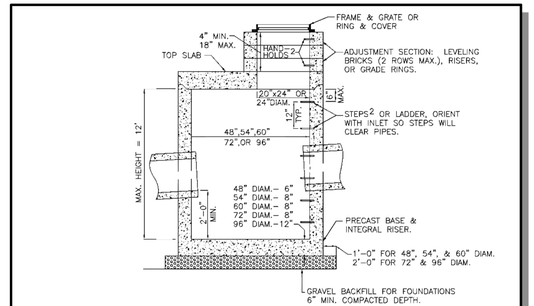
BEDDING FOR FLEXIBLE PIPE MATERIAL



NOTES

1. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL. REPLACE WITH GRAVEL BACKFILL PER WSDOT 9-03.12(3) AS DIRECTED BY THE CITY ENGINEER.
2. PROVIDE UNIFORM SUPPORT UNDER BARREL.
3. HAND TAMP UNDER HAUNCHES.
4. COMPACT BEDDING AND BACKFILL MATERIAL TO 95% MAX. DENSITY EXCEPT DIRECTLY OVER PIPE. HAND TAMP ONLY UNTIL MINIMUM 6" ABOVE TOP OF PIPE.
5. 30" MAXIMUM TRENCH WIDTH FOR PIPE UP TO AND INCLUDING 12", FOR PIPE LARGER THAN 12", USE O.D. PLUS 18".

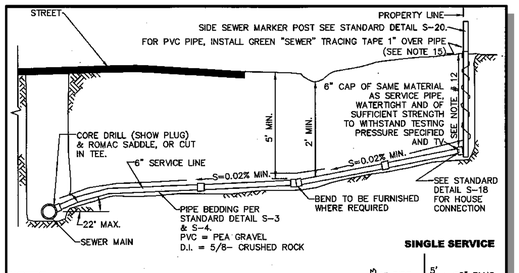
CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
PIPE BEDDING
6-5-2009 | NO SCALE | **S-4**
REV DATE | APPROVED



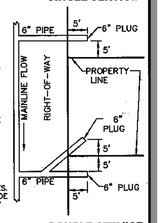
NOTES:

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M199) AND ASTM C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT STANDARD SPECIFICATIONS.
2. HANDHOLDS IN ADJUSTMENT SECTION SHALL HAVE 3" MIN. CLEARANCE. STEPS IN CATCH BASIN SHALL HAVE 6" MIN. CLEARANCE. SEE STD. DTL. NO D-5, CATCH BASIN DETAILS. HANDHOLDS SHALL BE PLACED IN ALTERNATING GRADE RINGS OR LEVELING BRICK COURSE WITH A MIN. OF ONE HANDHOLD BETWEEN THE LAST STEP AND TOP OF THE FINISHED GRADE.
3. APPLY NON-SHRINK GROUT TO INSIDE AND OUTSIDE OF ALL JOINTS, RINGS, RISERS AND FRAMES. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS. MAX. HOLE SIZE SHALL BE 36" FOR 48" CATCH BASIN, 42" FOR 54" C.B., 48" FOR 60" C.B., 60" FOR 72" C.B., 84" FOR 96" C.B. MIN. DISTANCE BETWEEN HOLES SHALL BE 8" FOR 48", 54", AND 60" C.B.; 12" FOR 72" AND 96" C.B.
6. CATCH BASIN FRAMES AND GRATES OR COVERS SHALL BE IN ACCORDANCE WITH SEC. 7.05 OF THE STANDARD SPECIFICATIONS. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
7. FOR HEIGHTS OF 12' OR LESS, MINIMUM SOIL BEARING VALUE SHALL EQUAL 3,300 POUNDS PER SQUARE FOOT. FOR HEIGHTS OVER 12', MIN. SOIL BEARING VALUE SHALL EQUAL 3,800 POUNDS PER SQUARE FOOT.
8. SEE THE STANDARD SPECIFICATIONS SEC. 7-05.3 FOR JOINT REQUIREMENTS.

City of Bellevue — STORM AND SURFACE WATER UTILITY
TITLE
CATCH BASIN TYPE 2
48", 54", 60", 72", & 96"
JANUARY 2021 | NO SCALE | NO. D-4



SINGLE SERVICE

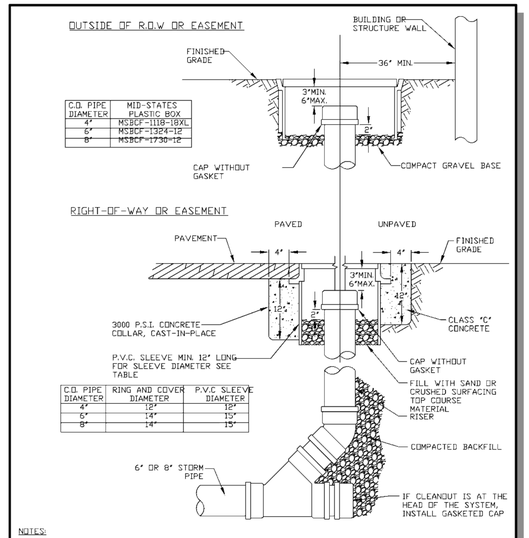


DOUBLE SERVICE

NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-82-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER CONNECTION AND STUB
6-5-2009 | NO SCALE | **S-17**
REV DATE | APPROVED



NOTES:

1. BOLT-LOCKING CAST IRON RING AND COVER SHALL BE USED IN RIGHT-OF-WAY AND EASEMENTS AND MUST BE RATED HS-20 IF USED IN PAVED AREAS. SEE TABLE FOR SIZES.
2. MID-STATES PLASTIC BOX OR EQUAL MAY BE USED IF C.O. IS OUTSIDE OF RIGHT-OF-WAY OR EASEMENT. SEE TABLE FOR SIZES. THE COVER FOR THE PLASTIC BOX SHALL BE DUCTILE IRON AND READ "DRAIN" OR BE BLANK (NO LABEL).
3. CAST IRON COVER SHALL READ "DRAIN"
4. LOCKING BOLTS SHALL BE 5/8"-11 N.C. 304 STAINLESS STEEL SOCKET (ALLEN) HEAD, 2" LONG.
5. 14" BOLT-LOCKING CAST IRON COVER SHALL BE EQUAL TO INLAND FOUNDRY NUMBER 209, OR 210.
6. SPECIAL "DECORATIVE" CASTING MAY BE USED IF PREAPPROVED BY CITY.

City of Bellevue — STORM AND SURFACE WATER UTILITY
TITLE
CLEANOUT TO GRADE
JANUARY 2021 | NO SCALE | NO. D-52

EXISTING UTILITY NOTE

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CITY OF MERCER ISLAND WASHINGTON

YANNICK METS — STATE OF WASHINGTON — 56006 — REGISTERED PROFESSIONAL ENGINEER
11/20/23

JOB NUMBER: 22-042
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SHT 9 OF 9

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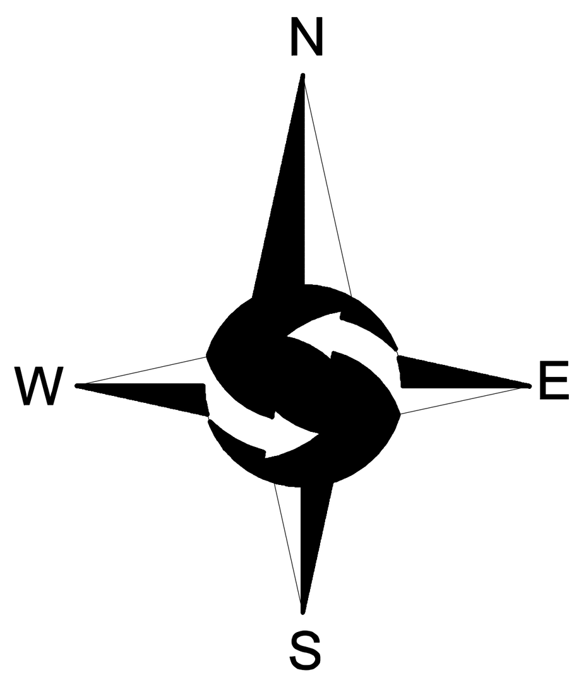


GRAPHIC SCALE

5 0 5 10 20

1 INCH = 10 FT.

LEGEND

○	FOUND REBAR AS DESCRIBED	—OHP—	OVERHEAD POWER
✕●	SET MAG NAIL AS DESCRIBED	—OHU—	OVERHEAD UTILITIES
●	SET 5/8" X 24" IRON ROD W/1" YELLOW PLASTIC CAP	—□—	WOOD FENCE
(P)	POWER METER		CONCRETE WALL
	UTILITY POLE		WIRE FENCE
⊠	CATCH BASIN		TIMBER WALL
	MAILBOX		ROCKERY
	SANITARY SEWER MANHOLE		ASPHALT SURFACE
	WATER VALVE		CONCRETE SURFACE
	FIRE HYDRANT	AP	APPLE
	WATER METER	DF	DOUGLAS FIR
	SIGN	DS	DECIDUOUS
—SS—	APPROXIMATE LOCATION SANITARY SEWER LINE	PI	PINE
—SD—	APPROXIMATE LOCATION STORM DRAIN LINE		* INDICATES MULTI-TRUNK
— W —	APPROXIMATE LOCATION UNDERGROUND WATER LINE		

LEGAL DESCRIPTION

LOTS 15, 16, 17, 18 AND THE SOUTHERLY 5 FEET OF LOT 19, BLOCK 6, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGES 22 AND 23, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THAT PORTION THEREOF LYING WITHIN MERCER ISLAND ROAD (67TH AVENUE SE)

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

BASIS OF BEARINGS

RECORD OF SURVEY BY TERRANE FOR JAYMARC HOMES, RECORDED ON JULY 26, 2021, IN VOLUME 451 OF SURVEYS, PAGE 259, UNDER RECORDING NO. 20210726900027, RECORDS OF KING COUNTY, WASHINGTON.

PROJECT INFORMATION

SURVEYOR:	SITE SURVEYING, INC. 21923 NE 11TH ST SAMMAMISH, WA 98074 PHONE: 425.298.4412
PROPERTY OWNER:	WILLIAM E. BUCHAN, INC 3036 67TH AVENUE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	217450-1025
PROJECT ADDRESS:	3036 67TH AVENUE SE MERCER ISLAND, WA 98040
ZONING:	R-8.4
JURISDICTION:	CITY OF MERCER ISLAND
PARCEL ACREAGE:	12,500 S.F. (0.286 ACRES) AS SURVEYED

GENERAL NOTES

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

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

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

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

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

VERTICAL DATUM & CONTOUR INTERVAL

DATUM

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE CITY OF MERCER ISLAND.

THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF 68TH AVENUE SE W AND SE 32ND STREET.

POINT ID NO. 47746;
ELEVATION: 112.571 FEET - NAVD 88

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

VICINITY MAP

NTS

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

Site Surveying, Inc.

21923 NE 11th Street Sammamish, WA 98074

Phone: 425.298.4412

www.sitesurveymapping.com

DRN | REVISION | DATE

TOPOGRAPHIC SURVEY

WILLIAM E. BUCHAN, INC
3036 67TH AVENUE SE
MERCER ISLAND, WA 98040

PROJECT NO. 21-461

DRAWN BY:	EFJ
CHECKED BY:	TNW
DATE:	8/17/21
SHEET 1	OF 1

SYMBOLS AND LEGEND

[F] FAN- DIRECT VENT TO OUTSIDE
-BATHROOMS/LAUNDRY 50 CFM MIN.
-KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.

[WF] WHOLE-HOUSE FAN ON TIMER, SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.

(HD) 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 PER SECTION R314.2.3

[T] THERMOSTAT @ 50" ABOVE FLOOR

110v SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

P-1 OCCUPANCY SEPARATION: APPLY (1) LAYER OF ½" G.W.B. TO GARAGE SIDE OF RESIDENCE, ATTIC SPACES, & TO ALL BEAMS & POSTS SUPPORTING A FLOOR-CEILING ASSEMBLY. APPLY (1) LAYER OF " TYPE 'X' G.W.B. TO GARAGE CEILING WHEN UNDER HABITABLE ROOMS. DUCTS THROUGH WALL OR CEILING COMMON TO HOUSE SHALL HAVE MINIMUM 26 GAUGE STEEL
SEE DIV. 01002.6.A. SHEET A-1.

P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
SEE DIV. 01002.6.B. SHEET A-1

P-3 SAFETY GLAZING PER I.R.C., SECTION R308
A. WINDOWS WITHIN 18" OF FLOOR
B. WINDOWS WITHIN A 24" ARC OF DOORS
C. WINDOWS AT TUBS AND SHOWERS
D. GLAZING IN DOORS
E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
SEE DIV. 08800 SHEET A-1

FLOOR PLAN KEY NOTES

P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0".
B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. 01002.6 SHEET A-1.

FLOOR PLAN KEY NOTES

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08600 SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN, ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09250 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01002.7 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01002.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01002.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

FLOOR PLAN KEY NOTES

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R1003.13.

P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS

P-17 3" DIAMETER STEEL POST

FLOOR PLAN KEY NOTES

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 'B' VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1005.3. SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

P-24 2x6 STUDS W/ R-21 INSUL. MIN.

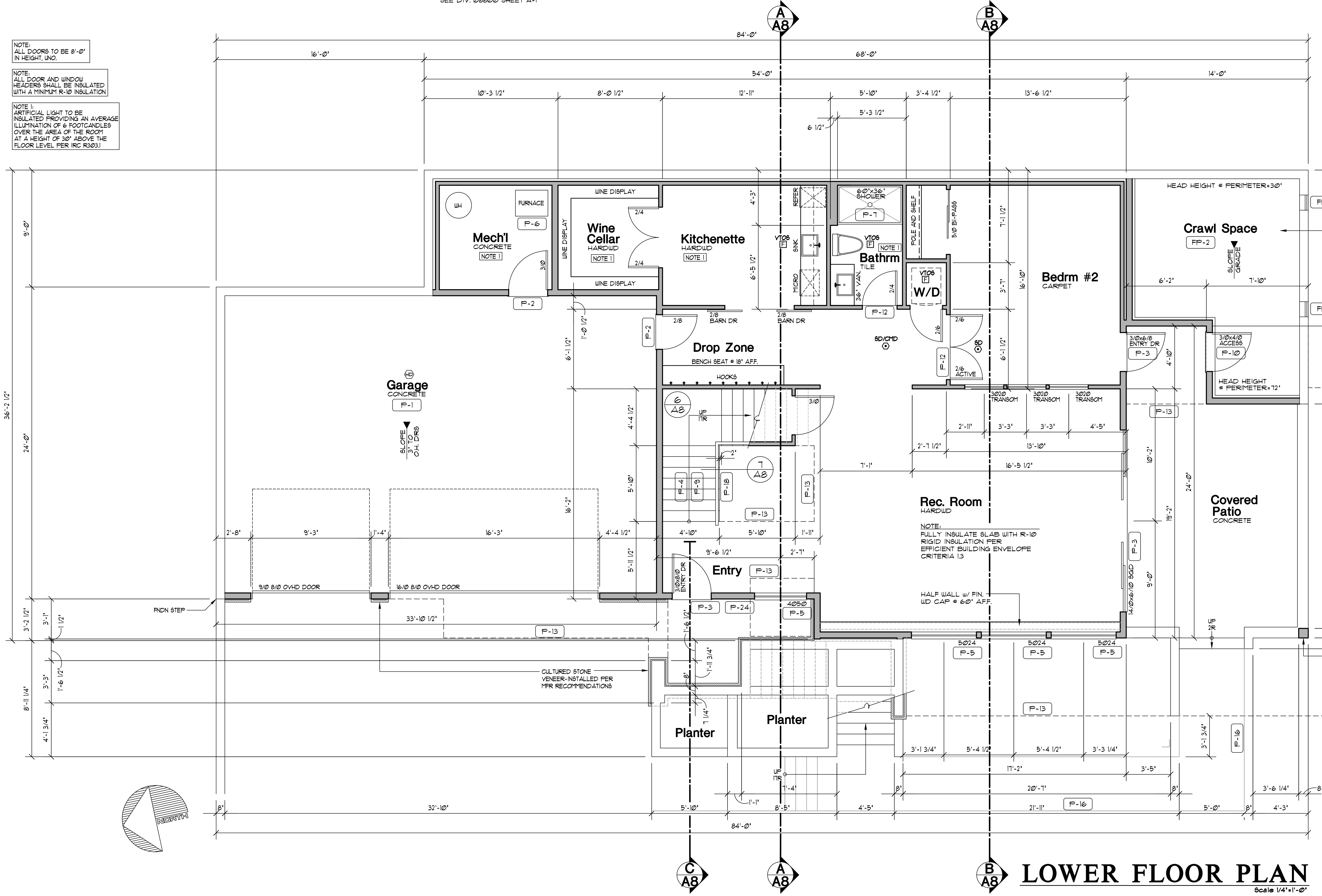
GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

FOUNDATION KEYNOTES

FP-1 CRAWL SPACE VENT. SEE CALCULATION. SEE DIV. 1 SHEET A-1

FP-2 6 MIL BLACK POLYETHYLENE GROUND COVER ON GRADE. SEE DIV. 7 SHEET A-1



LOWER FLOOR PLAN

Scale 1/4"=1'-0"

CRAWL SPACE VENTS

1. CRAWL SPACE AREA 215 SF
2. CRAWL SPACE AREA / 300 = .72 SF OF VENT AREA REQUIRED
3. TYPICAL VENT SIZE = 14"x8"x.75 (75% EFFICIENCY) = .58 SF PER VENT NET FREE AREA
4. VENT AREA / .58 = 1.23 VENTS REQUIRED.
5. 2 VENTS SHOWN (SEE PLAN FOR LOCATION)
6. 2 VENTS x .58 = 1.16 SF OF VENT AREA PROVIDED.
7. VENTS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH OPENINGS OF 1/4" MAX.
8. VENTS LOCATED IN RIM JOIST MUST BE PERMANENTLY BAFFLED. WSEC 502.1.4.7

REGISTERED ARCHITECT 5879 JOHN KAPPLER STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

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Westview Plan
Permit no. 2210-120
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TITLE
JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A2

SYMBOLS AND LEGEND

- [F] FAN- DIRECT VENT TO OUTSIDE
  - -BATHROOMS/LAUNDRY 50 CFM MIN.
  - -KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.
- [WF] WHOLE-HOUSE FAN ON TIMER, SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.
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E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
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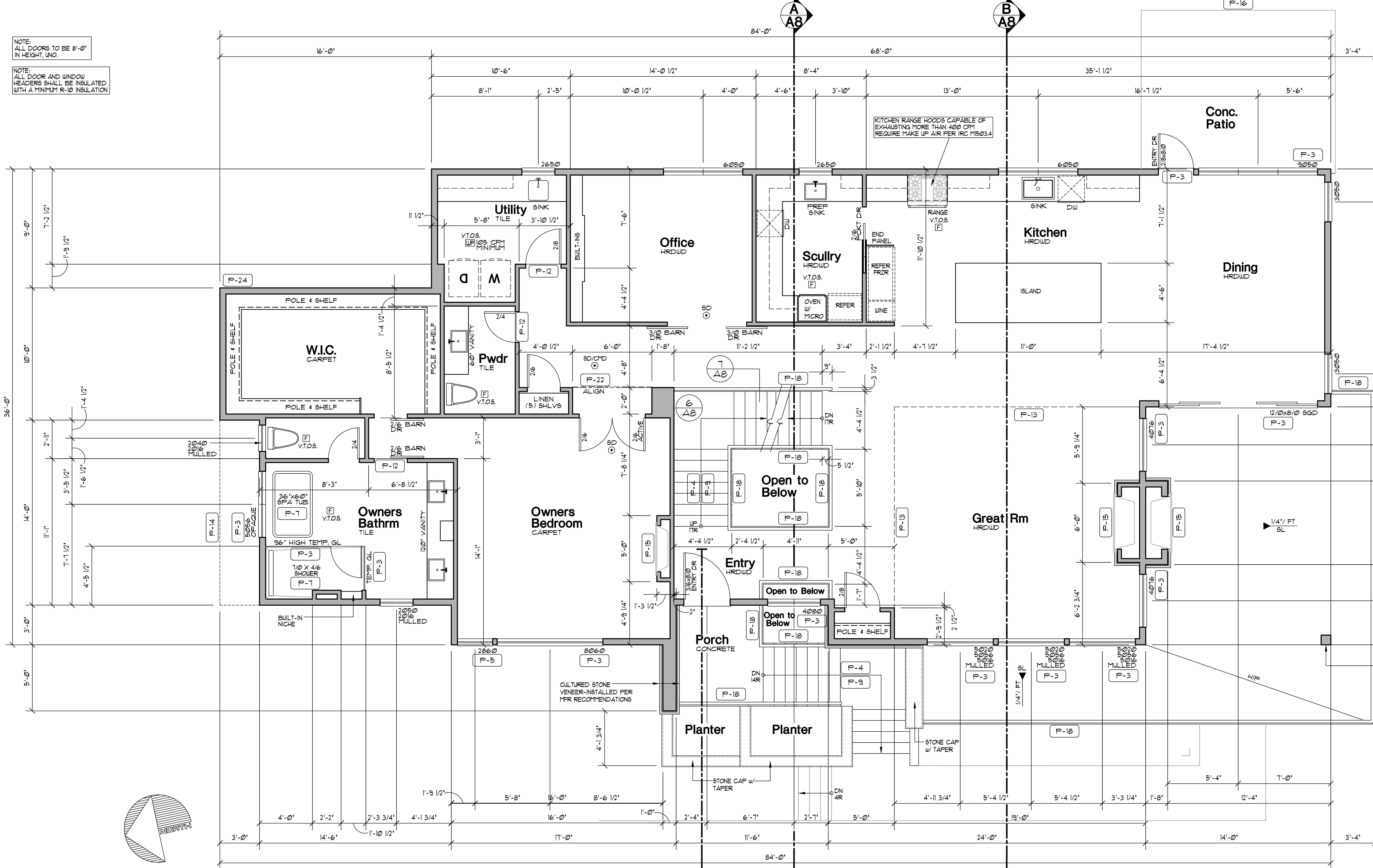
NOTE:
ALL DOORS TO BE 8'-0" IN HEIGHT, UNO.

NOTE:
ALL DOOR AND WINDOW HEADERS SHALL BE INSULATED WITH A MINIMUM R-10 INSULATION



MAIN FLOOR PLAN

Scale 1/4"=1'-0"

SQUARE FOOTAGE

MAIN FLOOR	2447 SF
UPPER FLOOR	1327 SF
LOWER	1312 SF
TOTAL	5086 SF
GARAGE	897 SF
PORCH/DECK	1409 SF

SQUARE FOOTAGE IS MEASURED TO THE OUTSIDE FACE OF WALLS. STAIRS ARE COUNTED ONCE IN CALCULATIONS. OPEN TO BELOW SPACES AND GARAGES ARE NOT INCLUDED IN CALCULATIONS.

REGISTERED ARCHITECT 5079 JOHN KAPPLER STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

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A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0".
B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. 01002.6 SHEET A-1.

FLOOR PLAN KEY NOTES

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08600 SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN, ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09250 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01002.7 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01002.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01002.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

FLOOR PLAN KEY NOTES

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 SHEET A-1
C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01002.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R1003.13.

P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS

P-17 3" DIAMETER STEEL POST

FLOOR PLAN KEY NOTES

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 'B' VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1005.3.
SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

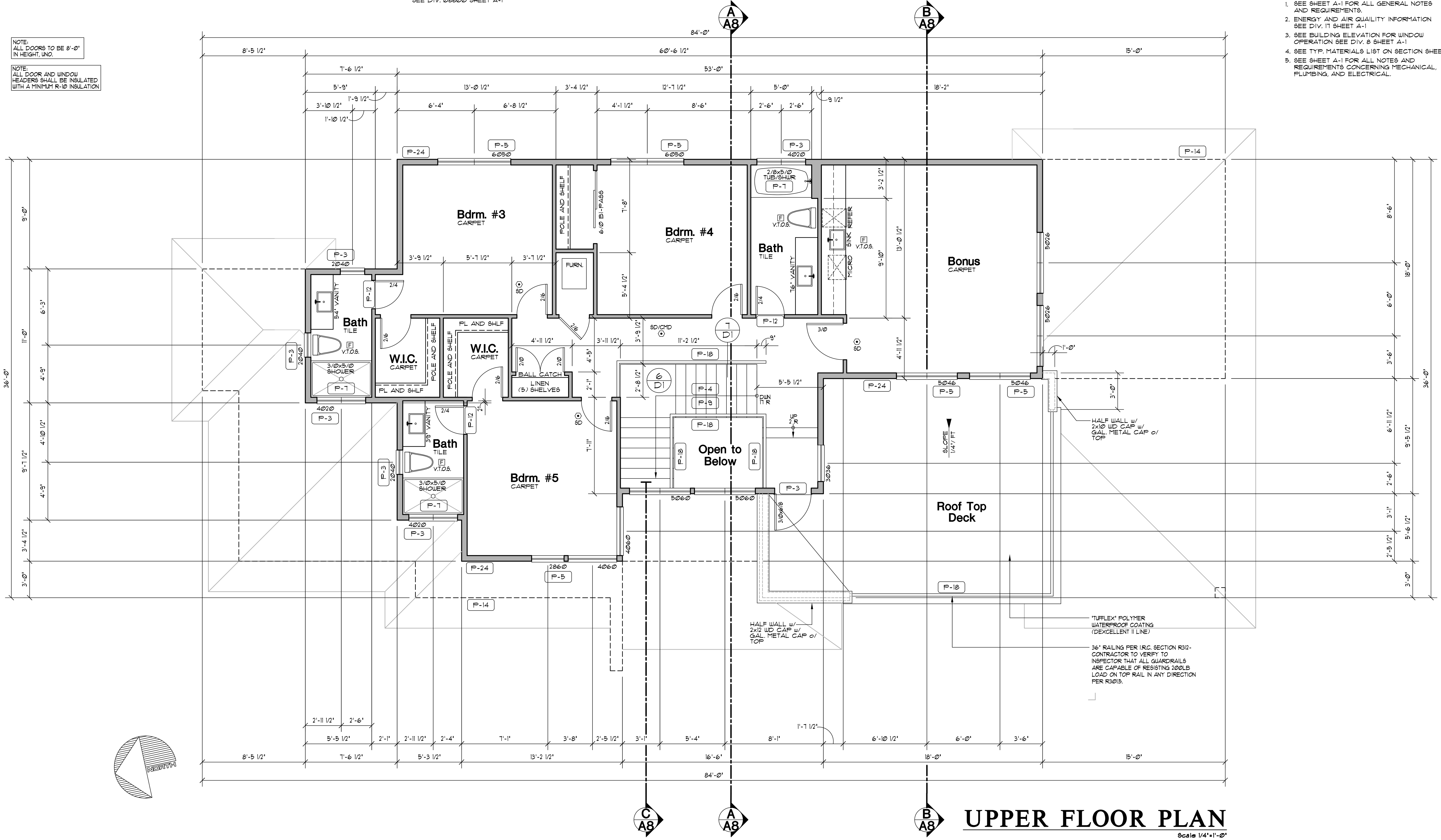
P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.



UPPER FLOOR PLAN

Scale 1/4"=1'-0"

ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kapplerhomeplans.com

TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A4

(A) ROOF VENT CALCULATION

TOTAL ROOF AREA 1453 SF/ 150 = 9.69 SF OF VENT AREA REQ.				
4	ROOF JACKS AT 38 SQ. IN. EACH=	152 SQ. IN.=	1.05	SF
197	L.F. OF EAVE VENTS AT 6.6*SQ. IN./LF=	1300 SQ. IN.=	9	SF
	TOTAL SF OF VENTILATION PROVIDED	=	1.31	SF

(B) ROOF VENT CALCULATION

TOTAL ROOF AREA 325 SF/ 150 = 2.16 SF OF VENT AREA REQ.				
0.00	ROOF JACKS AT 38 SQ. IN. EACH=	0.00 SQ. IN.=	0.00	SF
74	L.F. OF EAVE VENTS AT 6.6*SQ. IN./LF=	488 SQ. IN.=	3.39	SF
	TOTAL SF OF VENTILATION PROVIDED	=	3.39	SF

(C) ROOF VENT CALCULATION

TOTAL ROOF AREA 540 SF/ 150 = 3.6 SF OF VENT AREA REQ.				
2	ROOF JACKS AT 38 SQ. IN. EACH=	76 SQ. IN.=	.53	SF
72	L.F. OF EAVE VENTS AT 6.6*SQ. IN./LF=	475 SQ. IN.=	3.3	SF
	TOTAL SF OF VENTILATION PROVIDED	=	3.83	SF

(D) ROOF VENT CALCULATION

TOTAL ROOF AREA 83 SF/ 150 = .55 SF OF VENT AREA REQ.				
0.00	ROOF JACKS AT 38 SQ. IN. EACH=	0.00 SQ. IN.=	0.00	SF
33	L.F. OF EAVE VENTS AT 3.3*SQ. IN./LF=	108 SQ. IN.=	.76	SF
	TOTAL SF OF VENTILATION PROVIDED	=	1.31	SF

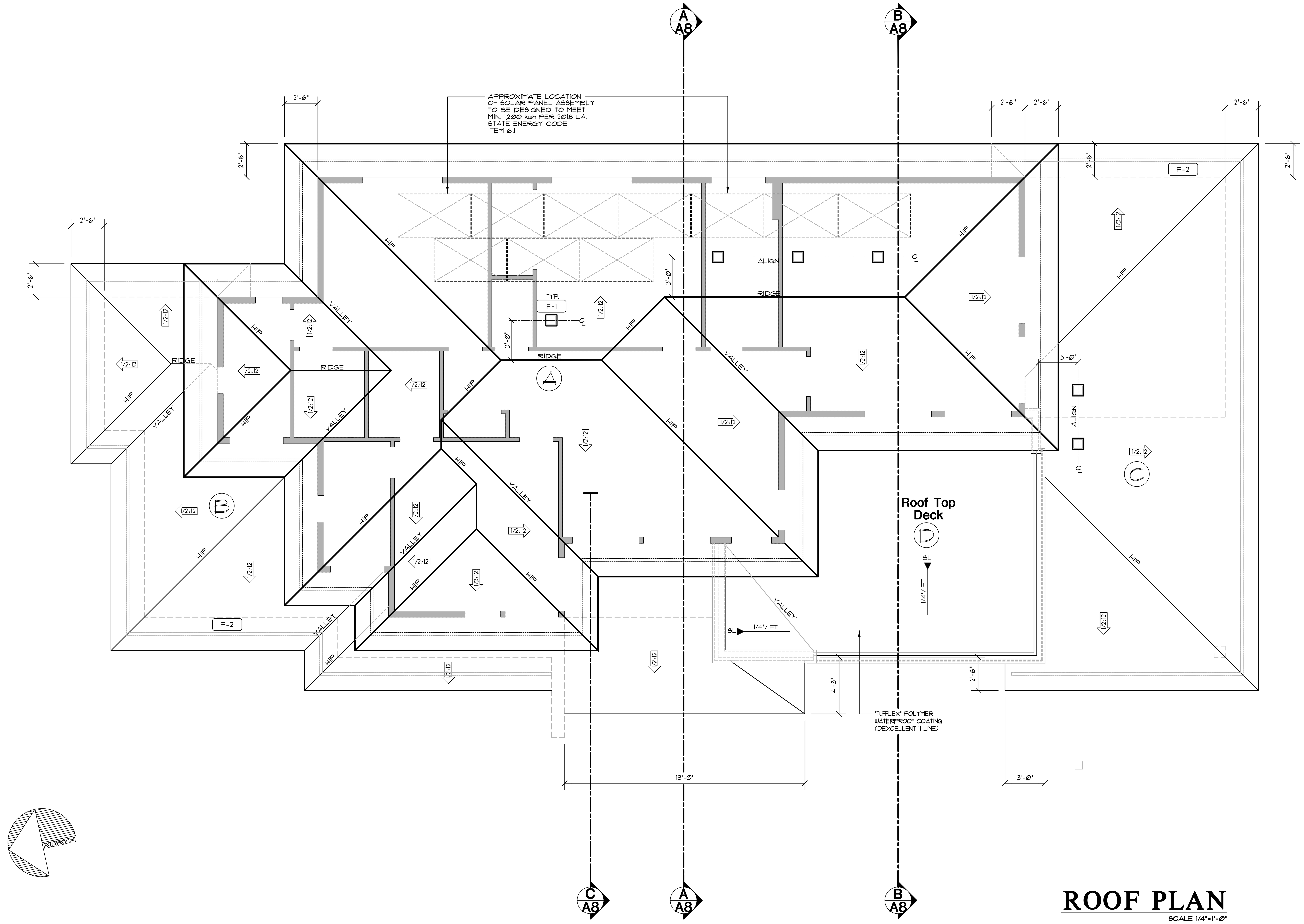
GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUAILITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

ROOF PLAN KEY NOTES

F-1 ATTIC SPACE VENT
SEE CALCULATION
SEE DIV. Ø1ØØ2.3.B SHEET A-1

F-2 WALL LINE BELOW



ROOF PLAN

SCALE 1/4"=1'-0"

REGISTERED ARCHITECT
5079
JOHN KAPPLER
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
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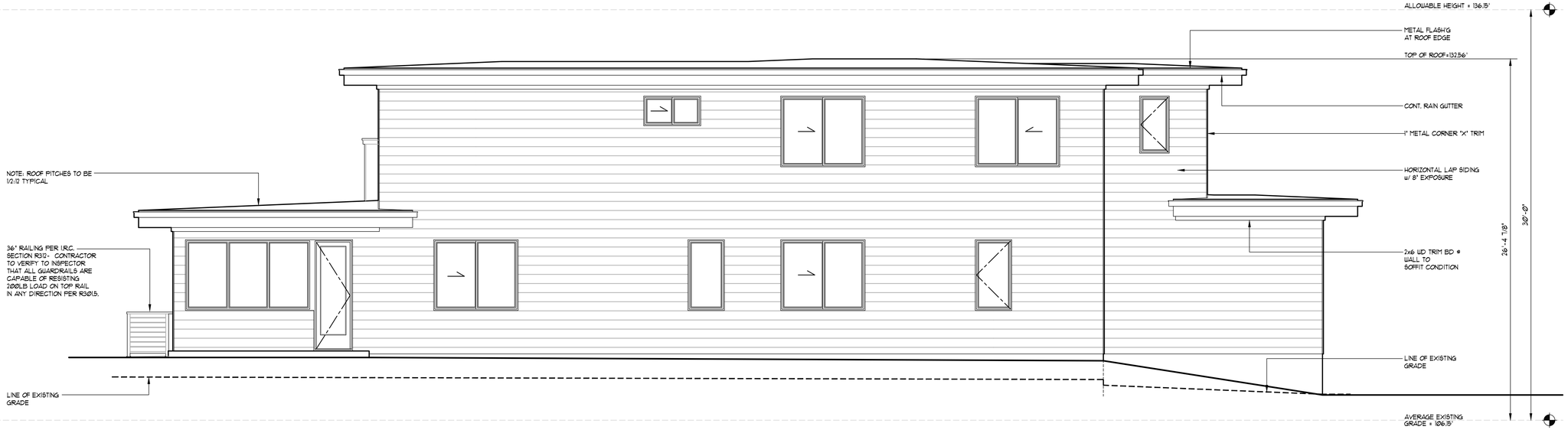
TITLE
JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A5

FRONT ELEVATION

Scale 1/4"=1'-0"



REAR ELEVATION

Scale 1/4"=1'-0"

TYPICAL BUILDING MATERIALS

ROOF CONSTRUCTION

ROOFING: (DIV. 7) — SHINGLES (DIV. 01000.5)
BUILDING PAPER: (DIV. 7) — 30# BUILDING PAPER
SHEATHING: (DIV. 6) — 7/16" O.S.B. OR EQUAL

FRAMING: (DIV. 6) — PER PLAN
INSULATION: (DIV. 7) — R-49 BLOWN-IN
SOFFIT: (DIV. 7) — 1/2" RE-SAWN PLYWOOD
GWB: (DIV. 9) — 5/8" GWB

EXTERIOR WALL CONSTRUCTION

SIDING MATERIAL: (DIV. 7) — WOOD SIDING (DIV. 0100.5)
BUILDING WRAP: (DIV. 7) — 15# BUILDING PAPER
SHEATHING: (DIV. 6) — 1/2" CDX PLYWOOD OR EQUAL
FRAMING: (DIV. 6) — 2 X 6 STUDS AT 16" OC
INSULATION: (DIV. 7) — R-21 BATT W/ INTEGRAL VAPOR BARRIER

GWB: (DIV. 9) — 1/2" GWB

FLOOR CONSTRUCTION

FLOORING: (DIV. 9) — FINISH PER PLANS (DIV. 0100.5)
SUBFLOOR: (DIV. 6) — 3/4" T&G (PLYWD, COMPLY, OR EQ.)
FRAMING: (DIV. 6) — PER PLANS
INSULATION: (DIV. 7) — R-30 BATT
SOFFIT: (DIV. 7) — 1/2" RE-SAWN PLYWOOD

TRIM:(DIV. 6)

WINDOW: (WITH NO BRICK MOLD) — HEAD: N/A; JAMB: N/A; SILL: N/A
CORNER BOARDS: — INSIDE: 2x2; OUTSIDE: METAL "X"
FASCIA: — 2x8 UNO

REGISTERED ARCHITECT — STATE OF WASHINGTON — ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes

Westview Plan

Permit no. 2210-120

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TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET

A6

2018 Energy Credits

Glazing Schedule

Window, Skylight and Door Schedule

Project Information	*Contact Information*
Buchan Homes-Westview Plan	Architectural Innovations
3036 67th Ave SE	14311 SE 16th Street
Mercer Island, WA	Bellevue WA 98007

	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)	Simp.	0.28	1	3	0	8	0	24.0	6.72
Exempt Glazed Fenestration (15 sq. ft. max.)	Milg.	.28	1	5	0	3	0	15.0	4.20

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
Rec. Room	Milg.	0.28	1	14	0	8	0	112.0	31.36
Rec. Room	Milg.	0.28	2	5	0	3	0	30.0	8.40
Entry (Lower)	Milg.	0.28	1	4	0	7	0	28.0	7.84
Entry (Lower)	Simp.	0.28	1	3	0	8	0	24.0	6.72
								0.0	0.00
Entry (Main)	Simp.	0.28	1	3	0	8	0	24.0	6.72
Entry (Main)	Milg.	0.28	1	4	0	8	0	32.0	8.96
Owners Bedroom	Milg.	0.28	1	8	0	6	0	48.0	13.44
Owners Bedroom	Milg.	0.28	1	2	8	6	6	17.3	4.85
Owners Bedroom	Milg.	0.28	1	2	0	4	10	9.7	2.71
Owners Bedroom	Milg.	0.28	1	2	0	1	8	3.3	0.93
Owners Bedroom	Milg.	0.28	1	5	0	5	6	27.5	7.70
Owners Bedroom	Milg.	0.28	1	2	0	3	10	7.7	2.15
Owners Bedroom	Milg.	0.28	1	2	0	1	8	3.3	0.93
Utility	Milg.	0.28	1	2	6	5	0	12.5	3.50
Office	Milg.	0.28	1	6	0	5	0	30.0	8.40
Scullry	Milg.	0.28	1	2	6	5	0	12.5	3.50
Kitchen	Milg.	0.28	1	6	0	5	8	34.0	9.52
Dining	Simp.	0.28	1	2	8	6	8	17.8	4.98
Dining	Milg.	0.28	1	2	8	1	10	4.9	1.37
Dining	Milg.	0.28	1	9	0	5	6	49.5	13.86
Dining	Milg.	0.28	2	3	0	5	6	33.0	9.24
Dining	Milg.	0.28	1	12	0	8	0	96.0	26.88
Great Rm	Milg.	0.28	2	4	0	8	4	66.7	18.67
Great Rm	Milg.	0.28	3	5	0	2	0	30.0	8.40
Great Rm	Milg.	0.28	3	5	0	6	5	96.3	26.95
Great Rm	Milg.	0.28	3	5	0	1	7	23.8	6.65
								0.0	0.00
Open to Below	Simp.	0.28	1	3	0	6	8	20.0	5.60
Open to Below	Milg.	0.28	2	5	0	6	0	60.0	16.80
Open to Below	Milg.	0.28	1	3	0	3	6	10.5	2.94
Bedroom #5	Milg.	0.28	2	4	0	6	0	48.0	13.44
Bedroom #5	Milg.	0.28	1	2	8	6	0	16.0	4.48
Bathrooms	Milg.	0.28	3	4	0	2	0	24.0	6.72
Bathrooms	Milg.	0.28	3	2	0	4	0	24.0	6.72
Bedroom #3	Milg.	0.28	1	6	0	5	0	30.0	8.40
Bedroom #4	Milg.	0.28	1	6	0	5	0	30.0	8.40
Bonus Rm.	Milg.	0.28	2	5	0	2	6	25.0	7.00
Bonus Rm.	Milg.	0.28	2	5	0	5	0	50.0	14.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Vertical Fenestration Area and UA								1211.2	339.13
Vertical Fenestration Area Weighted U = UA/Area									0.28

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Overhead Glazing Area and UA								0.0	0.00
Overhead Glazing Area Weighted U = UA/Area									0.00
Total Sum of Fenestration Area and UA *(for heating system sizing calculations)*								1250.2	350.05

Prescriptive Compliance

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021) Version 1.0

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

Project Information	*Contact Information*
Buchan Homes (AI# 21076)	Architectural Innovations, P.S.
3036 67th Ave SE Mercer Island	14311 SE 16th Street Bellevue WA 98007

Instructions: This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative		*Date*	

All Climate Zones (Table R402.1.1)	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Glazed Fenestration SHGC [b,e]	n/a	n/a
Ceiling [e]	49	0.026
Wood Frame Wall [g,h]	21 int	0.056
Floor	30	0.029
Below Grade Wall [c,h]	10/15/21 int + TB	0.042
Slab [d,f] R-Value & Depth	10, 2 ft	n/a

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

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

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:** 3 credits
   Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
2. **Medium Dwelling Unit:** 6 credits
   All dwelling units that are not included in #1 or #3
3. **Large Dwelling Unit:** 7 credits
   Dwelling units exceeding 5,000 sf of conditioned floor area
4. **Additions less than 500 square feet:** 1.5 credits
   All other additions shall meet 1-3 above

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

Summary of Table R406.2

Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option		User Notes
1	Combustion heating minimum NAECA[b]	0.0	☐	
2	Heat pump[c]	1.0	☒	
3	Electric resistance heat only - furnace or zonal	-1.0	☐	
4	DHP with zonal electric resistance per option 3.4	0.5	☐	
5	All other heating systems	-1.0	☐	
Energy Options	**Energy Credit Option Descriptions**	**Credits - select ONE energy option from each category [d]**		
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	0.5	☒	
1.4	Efficient Building Envelope	1.0	☐	
1.5	Efficient Building Envelope	2.0	☐	
1.6	Efficient Building Envelope	3.0	☐	
1.7	Efficient Building Envelope ☐	0.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	0.5	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.3	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.4	Air Leakage Control and Efficient Ventilation ☐	2.0	☐	
3.1[a]	High Efficiency HVAC	1.0	☐	
3.2	High Efficiency HVAC	1.0	☐	
3.3[a]	High Efficiency HVAC	1.5	☐	
3.4	High Efficiency HVAC	1.5	☐	
3.5	High Efficiency HVAC	1.5	☒	
3.6[a]	High Efficiency HVAC ☐	2.0	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
4.2	High Efficiency HVAC Distribution System ☐	1.0	☒	

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

Summary of Table R406.2 (cont.)

Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category [d]		User Notes
5.1[d]	Efficient Water Heating	0.5	☐	
5.2	Efficient Water Heating	0.5	☐	
5.3	Efficient Water Heating	1.0	☐	
5.4	Efficient Water Heating	1.5	☐	
5.5	Efficient Water Heating	2.0	☒	
5.6	Efficient Water Heating ☐	2.5	☐	
6.1[e]	Renewable Electric Energy (3 credits max)	1.0	1	
7.1	Appliance Package	0.5	☐	
	Total Credits		7.0	Calculate Total / Clear Form

a. An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
c. Equipment listed in Table C403.3.2(1) or C403.3.2(2)
d. **You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.**
e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max. See the complete Table R406.2 for all requirements and option descriptions.
f. Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

lease print only pages 1 through 3 of this worksheet for submission to your building official.

Heat Sizing Worksheet

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information	*Contact Information*
Buch Homes - Westview Plan	Architectural innovations
3036 67th Ave SE	14311 SE 16th Street
Mercer Isalnd, WA	Bellevue, WA 98007

Heating System Type: ○ All Other Systems ◉ Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

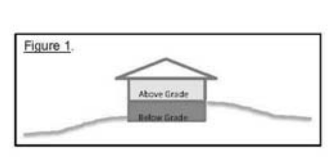
Design Temperature — Instructions: Mercer Island — Design Temperature Difference (ΔT) 45 (ΔT = Indoor (70 degrees) - Outdoor Design Temp)

Area of Building
- Conditioned Floor Area — Conditioned Floor Area (sq ft): 5,086
- Average Ceiling Height — Average Ceiling Height (ft): 9.7 — Conditioned Volume 49,166

Item	Selection	U-Factor / F-Factor	Area / Length	UA
Glazing and Doors	U-0.28	0.280	1,250	350.00
Skylights		0.50		---
Insulation – Attic	R-49	0.026	2,499	64.97
Single Rafter or Joist Vaulted Ceilings	No Vaulted Ceilings in this project	---		
Above Grade Walls *(see Figure 1)*	R-21 Intermediate	0.056	3,969	222.26
Floors	R-38	0.025	830	20.75
Below Grade Walls *(see Figure 1)*	R-21 Interior	0.042	540	22.68
Slab Below Grade *(see Figure 1)*	R-10 Fully insulated	0.303	176	53.33
Slab on Grade *(see Figure 1)*	No Slab on Grade in this project	---		

Location of Ducts — Conditioned Space — Duct Leakage Coefficient 1.00

Sum of UA	734.00	
Envelope Heat Load (*Sum of UA x ΔT*)	33,030	Btu / Hour
Air Leakage Heat Load (*Volume x 0.6 x ΔT x 0.018*)	23,895	Btu / Hour
Building Design Heat Load (*Air leakage + envelope heat loss*)	56,925	Btu / Hour
Building and Duct Heat Load (*Ducts in unconditioned space: sum of building heat loss x 1.10; Ducts in conditioned space: sum of building heat loss x 1*)	56,925	Btu / Hour
Maximum Heat Equipment Output (*Building and duct heat loss x 1.40 for forced air furnace; Building and duct heat loss x 1.25 for heat pump*)	71,156	Btu / Hour



2 HEAT PUMP 1.0 credits
EQUIPMENT LISTED IN TABLE C403.3.2(1) OR C403.3.2(2)

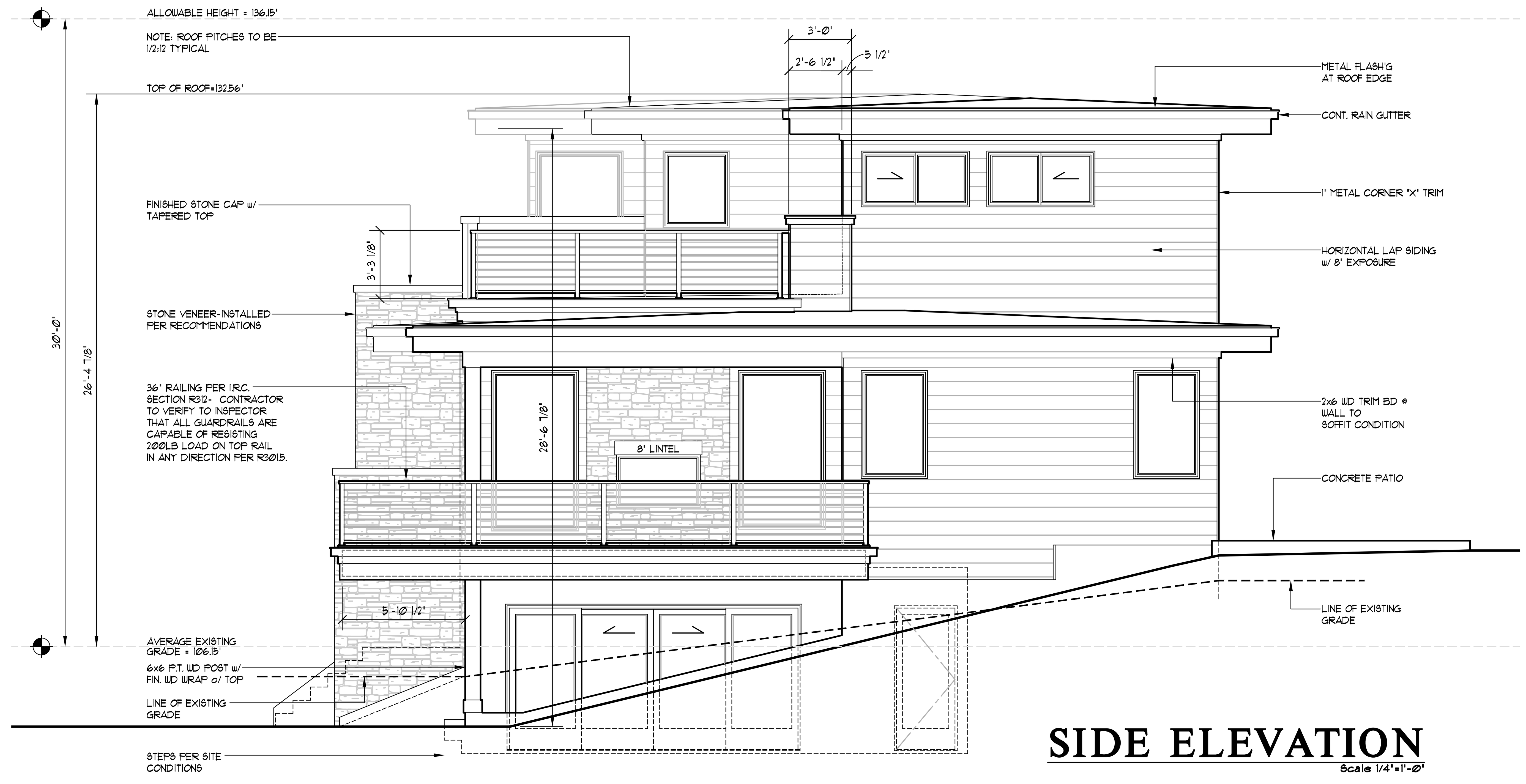
1.3 EFFICIENT BUILDING ENVELOPE .5 credits
VERTICAL FENESTRATION MIN U=.28
FLOOR R-38
SLAB ON GRADE R-10 UNDER ENTIRE SLAB

3.5 HIGH EFFICIENCY HVAC EQUIPMENT 1.5 credits
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0

4.2 HIGH EFFICIENCY HVAC DISTRIBUTION 1.0 credits
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R403.3.7
LOCATED SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION.
ELECTRICAL RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.
DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

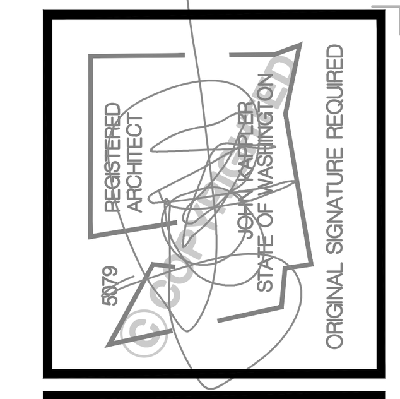
5.5 EFFICIENT WATER HEATING 2.0 credit
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING:
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER 3 OF NEEA's ADVANCED WATER HEATING SPECIFICATION.
OR
FOR R-2 OCCUPANCY, ELECTRIC HEAT PUMP WATER HEATER(S) MEETING THE STANDARDS FOR TIER 3 OF NEEA's ADVANCED WATER HEATING SPECIFICATION, SHALL SUPPLY DOMESTIC HOT WATER TO ALL UNITS. IF ONE WATER HEATER IS SERVING MORE THAN ON DWELLING UNIT, ALL HOT WATER SUPPLY AND RETICULATION PIPING SHALL BE INSULATE WITH MIN R-8 MINIMUM PIPE INSULATION

6.1 RENEWABLE ELECTRIC ENERGY OPTION 1.0 credit
SOLAR ENERGY PANELS TO BE INSTALLED ON EXISTING ROOF.
Documentation showing photovoltaic shall be submitted indicating minimum annual energy power production.



SIDE ELEVATION
Scale 1/4"=1'-0"

SIDE ELEVATION
Scale 1/4"=1'-0"



Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

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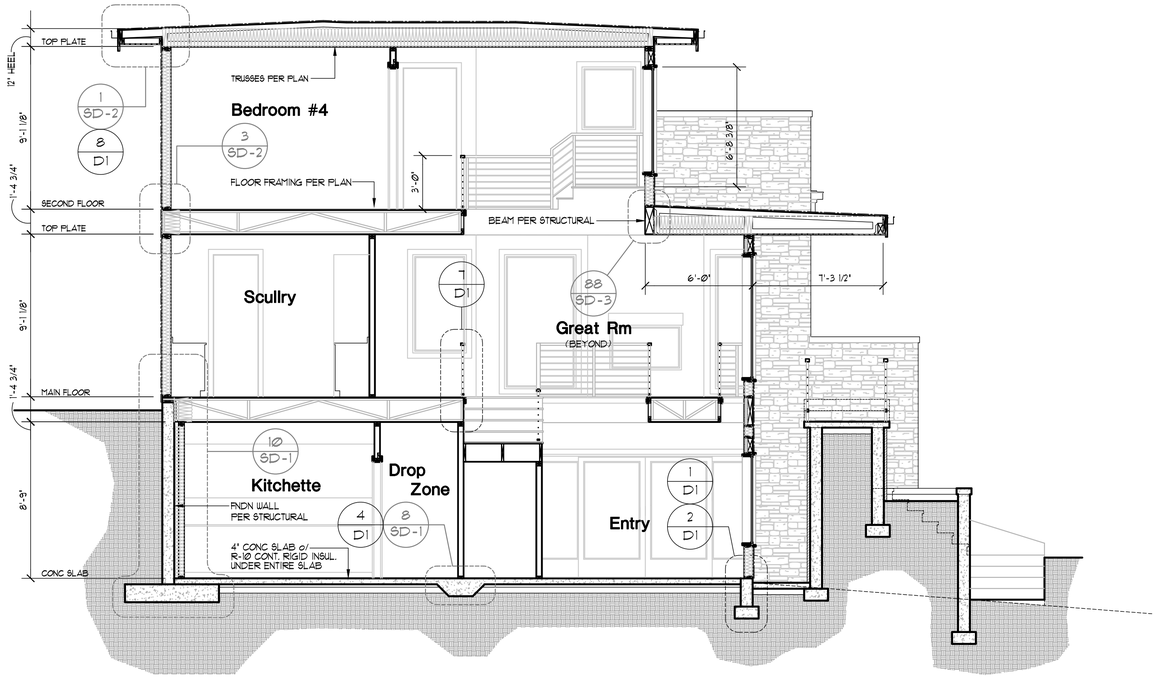
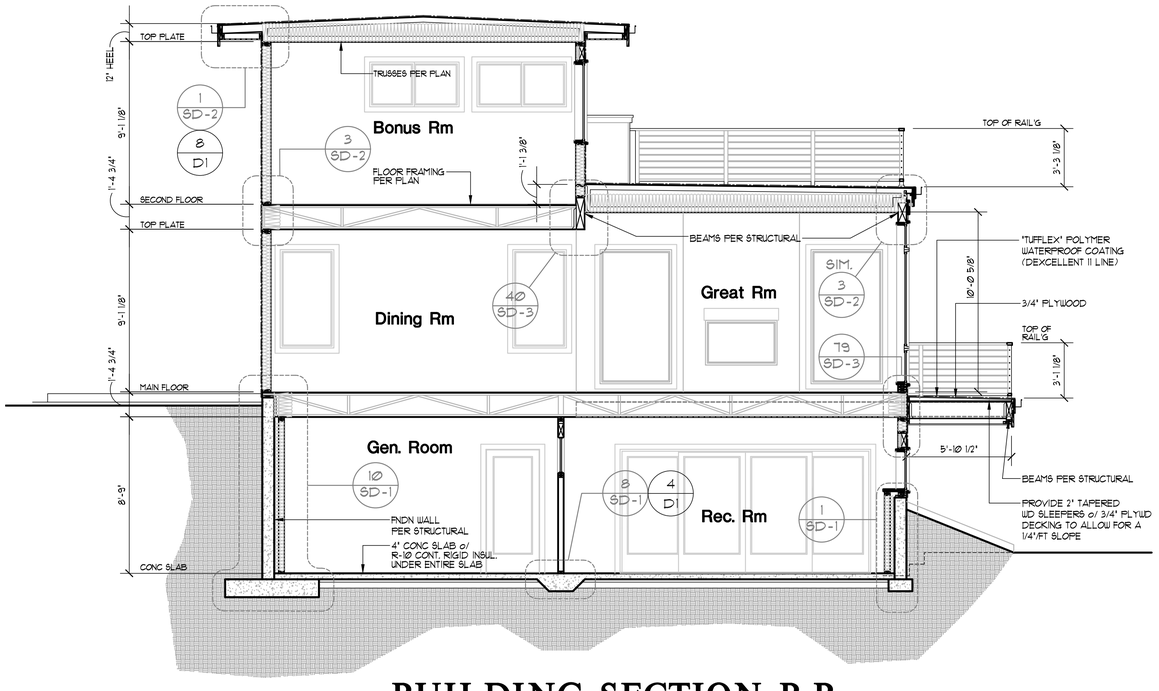
JOB NO.: 21076.21
STARTING NO.: 21076.05

SHEET
A7



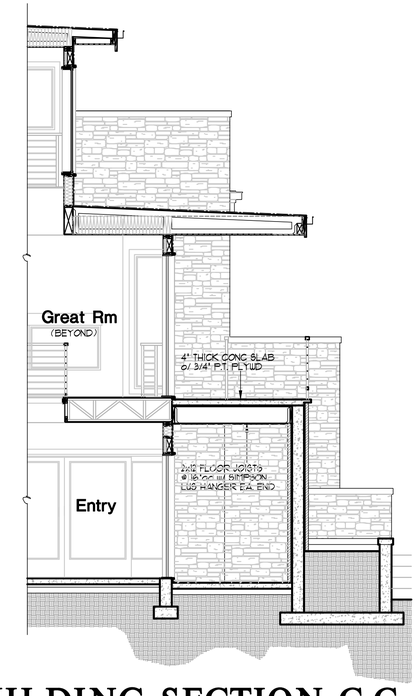
BUILDING SECTION A-A

Scale 1/4"=1'-0"



BUILDING SECTION B-B

Scale 1/4"=1'-0"



BUILDING SECTION C-C

Scale 1/4"=1'-0"

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10/12/22	REY	PERMIT SET
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8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

REGISTERED ARCHITECT STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Buchan Homes

Westview Plan

Permit no. 2210-120

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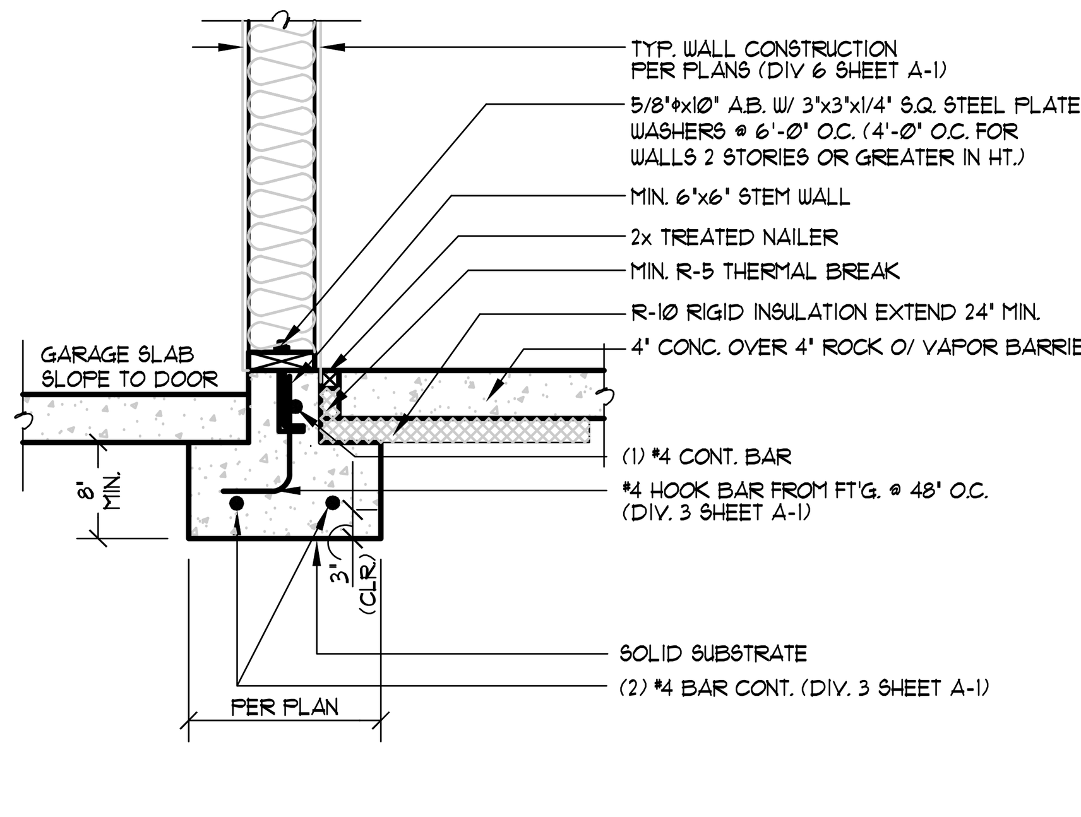
TITLE

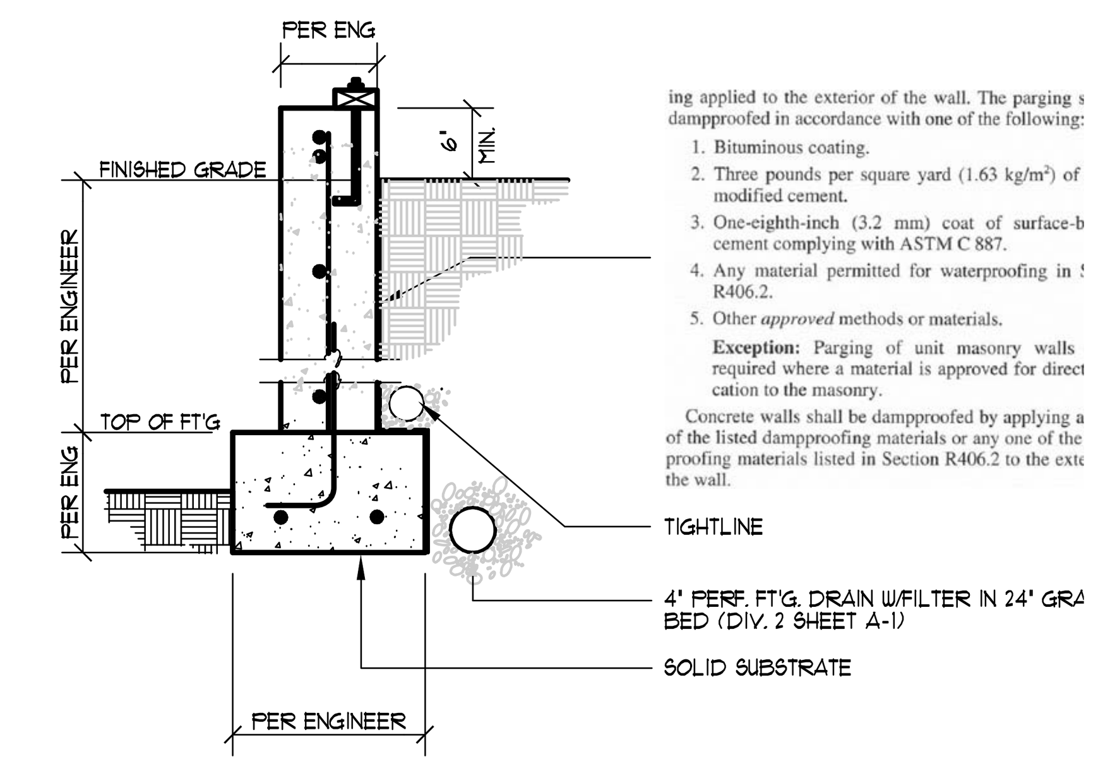
JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET

A8

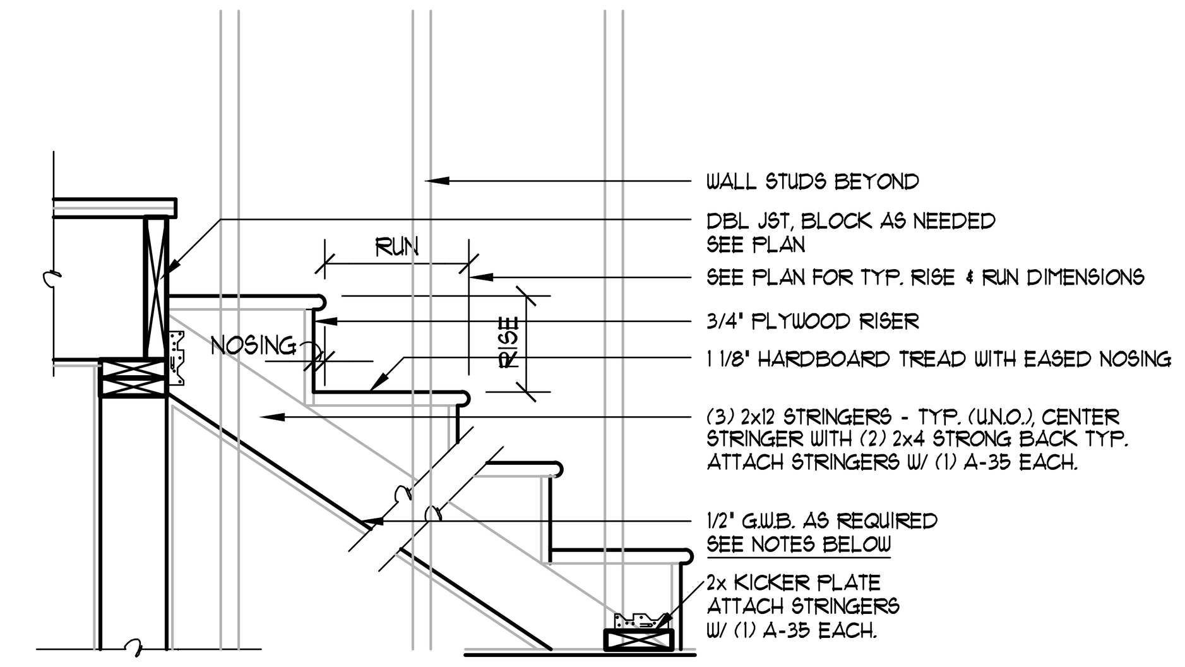


5 **FOUNDATION DETAIL**
3/4"=1'-0"
03300-00000-78



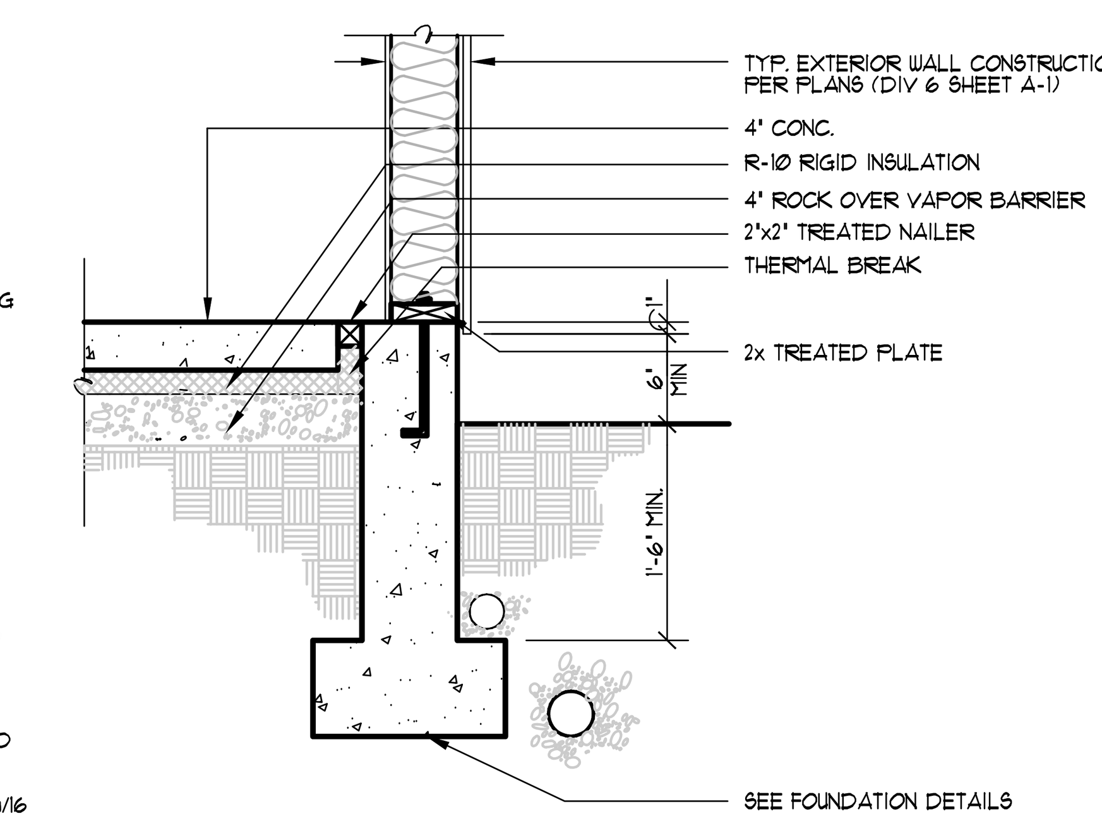
ing applied to the exterior of the wall. The parging s dampproofed in accordance with one of the following:
1. Bituminous coating.
2. Three pounds per square yard (1.63 kg/m²) of modified cement.
3. One-eighth-inch (3.2 mm) coat of surface-b cement complying with ASTM C 887.
4. Any material permitted for waterproofing in S R406.2.
5. Other *approved* methods or materials.
Exception: Parging of unit masonry walls required where a material is approved for direct cation to the masonry.
Concrete walls shall be dampproofed by applying a of the listed dampproofing materials or any one of the proofing materials listed in Section R406.2 to the ext the wall.

1 **DAMP PROOFING DETAIL**
3/4"=1'-0"
03300-0710

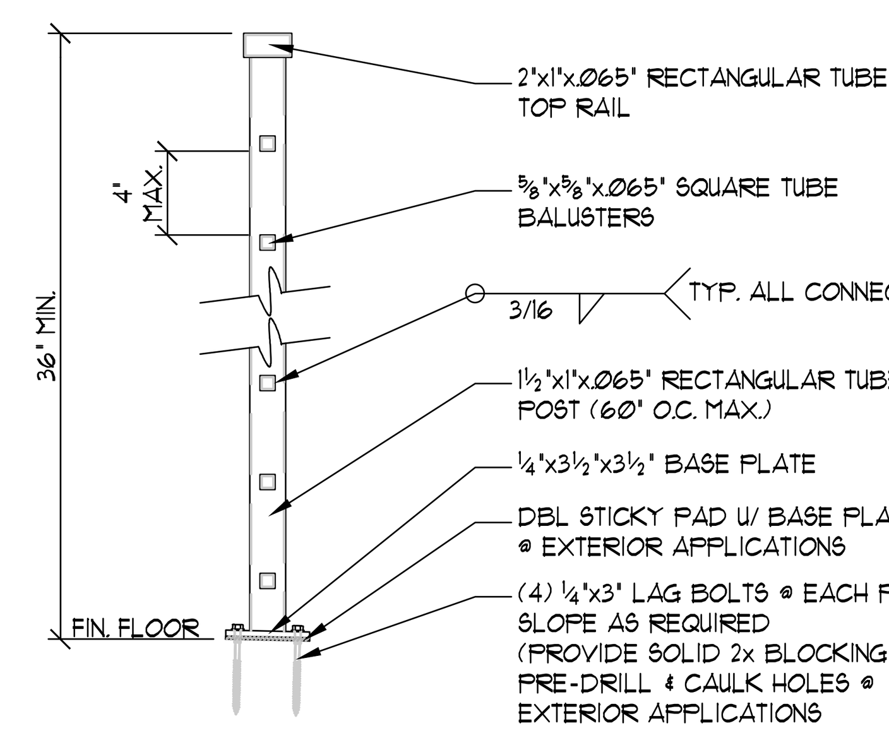


1. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0" PER I.R.C. SECTION R311.7.
2. TREADS 10" MIN. DEPTH FROM LEADING EDGES OF NOSING TO NOSING AND RISERS 7¾" MAX. HEIGHT PER I.R.C. SECTION R311.7.5.
3. HANDRAIL MIN. 34" TO MAX. 38" ABOVE TREAD NOSING. HANDRAIL TYPE I CIRCULAR TO HAVE 1 1/4" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL. RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200 POUND POINT LOAD IN ANY DIRECTION PER I.R.C. TABLE R301.5
4. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R602.8.
5. COVER USABLE SPACE UNDER STAIR WITH 1/2" G.W.B. PER I.R.C. SECTION R302.7.
6. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS PER I.R.C. SECTION R312.2.
7. TREAD NOSING TO HAVE A MAX. RADIUS OF 9/16 PROJECT A MIN. 3/4" AND A MAX. OF 1 1/4" ON STAIRS W/ SOLID RISERS. BEVELING OF NOSING NOT TO EXCEED 1/2", PER I.R.C. SECTION R311.7.5.3

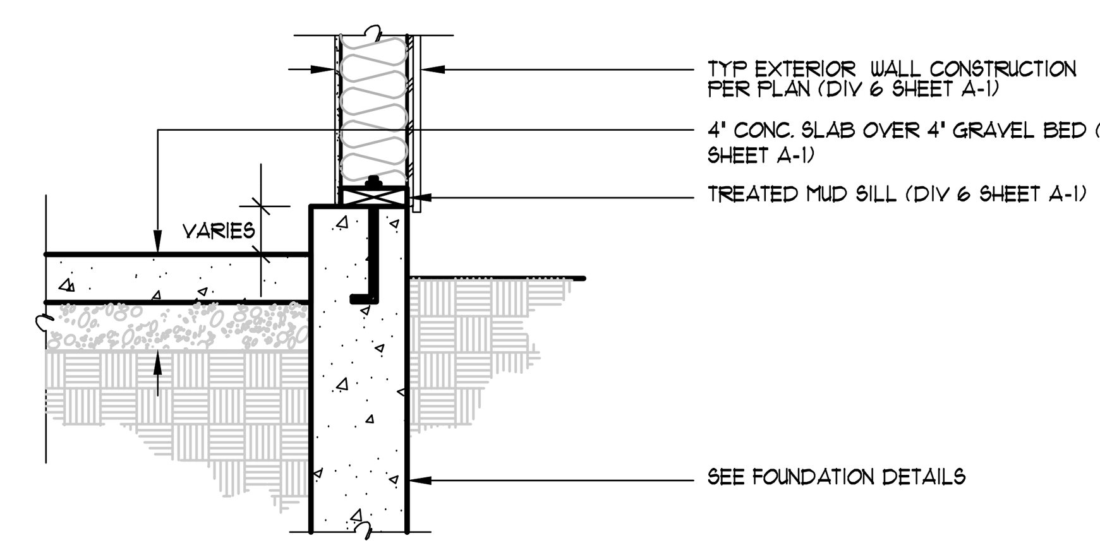
6 **STAIR SECTION DETAIL**
3/4"=1'-0"
06200-06100-01



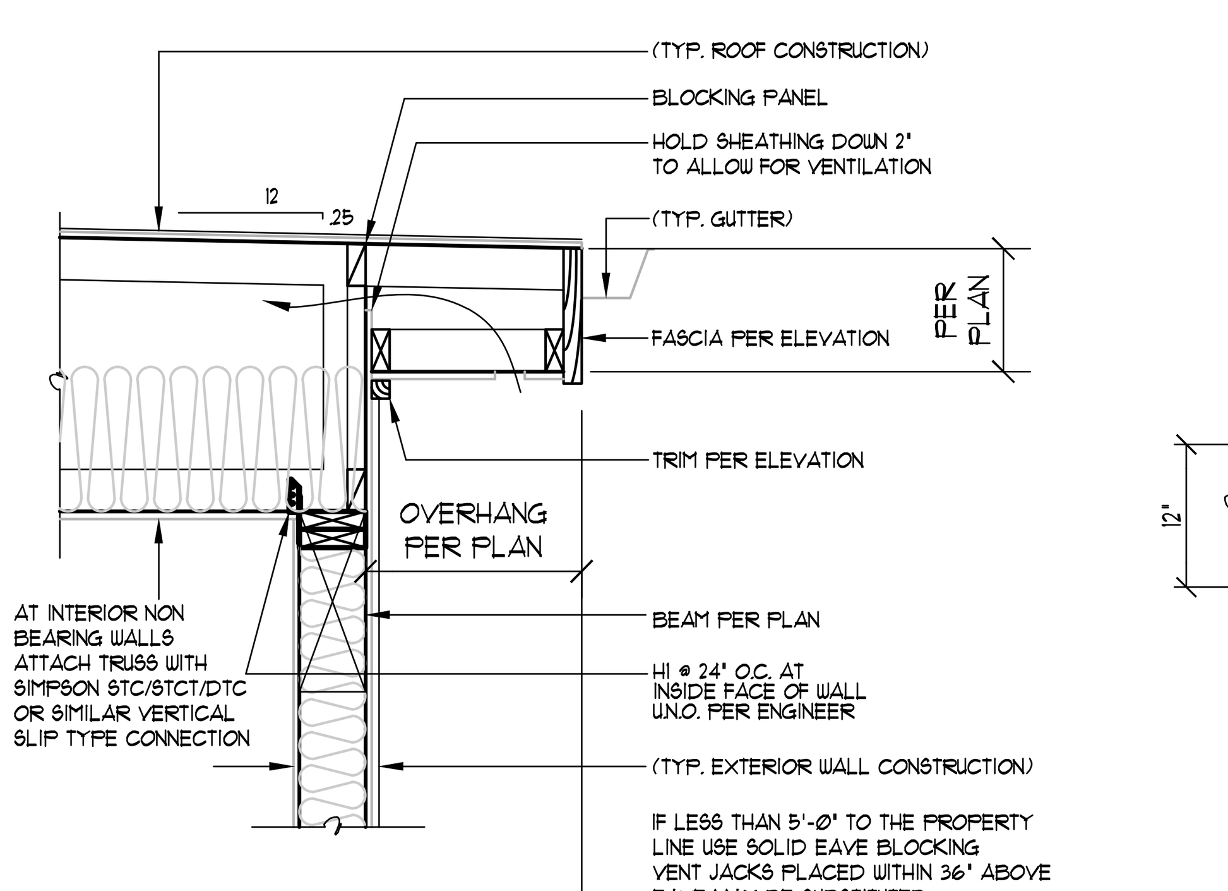
2 **FOUNDATION DETAIL**
3/4"=1'-0"
03300-0000



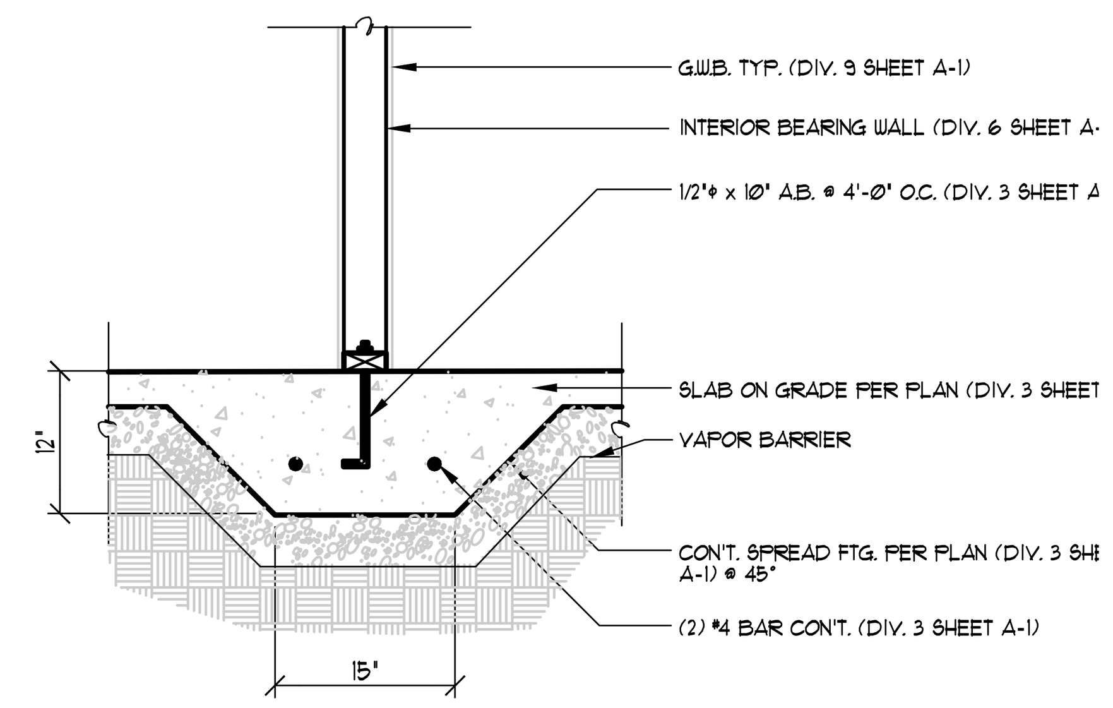
7 **STANDARD RAIL DETAIL**
1 1/2"=1'-0"



3 **SLAB @ STEM WALL**
3/4"=1'-0"
06100-03300



8 **EAVE DETAIL**
3/4"=1'-0"
06100-07300-18



4 **FOUNDATION/FRAMING CONNECTION**
3/4"=1'-0"
03300-0610

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
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STARTING NO. : 21076.05

SHEET
D1

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 6 TONS/PILE MINIMUM FOR 3" DIA. PILES AND 10 TONS/PILE MINIMUM FOR 4" DIA. PILES (SAFE LOAD).
- PILING CONTRACTOR SHALL DETERMINE BY TEST PILE, THE LENGTH AND DIMENSIONS OF THE PILINGS REQUIRED TO REACH DESIGN LOAD CAPACITY IN ACCORDANCE WITH ASTM D1143-81.
  - 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILES SHALL BE DRIVEN TO REFUSAL (10' MINIMUM DEPTH) WITH A TRACTOR-MOUNTED HYDRAULIC HAMMER WITH AN ENERGY RATING OF 650 LB AND TO REFUSAL OF LESS THAN ONE INCH DURING 12 SECONDS OF CONTINUOUS DRIVING. GEOTECH TO COORDINATE DRIVING CRITERIA IF ALTERNATIVE HAMMER SIZE IS SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.
- PER ASTM 1143-81, 3% OF EACH PILE DIAMETER SIZE SHALL BE LOAD TESTED. A MAXIMUM OF 5 PILES (1 MINIMUM) WILL BE REQUIRED FOR EACH PILE DIAMETER SIZE.

PORCH SLAB

4" CONC. SLAB ON GRADE ON 8 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GARAGE SLAB

4" CONC. SLAB ON GRADE ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

BASEMENT SLAB

4" CONC. SLAB ON GRADE ON 8 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GENERAL STRUCTURAL NOTES

FOUNDATION

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- FOUNDATIONS HAS BEEN DESIGNED BASED ON GEOTECH REPORT PROVIDED BY TERRA ASSOCIATES, INC., DATED AUGUST 18, 2022, REVISED NOVEMBER 27, 2023.
- DESIGN LOADS:
  SOIL 2,000 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  f'c = 2,500 psi: .... FOUNDATION WALLS*
  2,500 psi: .... FOOTINGS*
  2,500 psi: .... INTERIOR SLABS ON GRADE
  3,500 psi: .... EXT. SLABS ON GRADE
  fy = 60,000 psi
  * UTILIZE 5½" SACK 2500 PSI CONCRETE MIXES THAT ARE EQUIVALENT TO 3,000 PSI CONCRETE FOR WEATHERING POTENTIAL
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN.; BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH 5/8" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x 1/4" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN 1/2" OF EXTERIOR EDGE OF SILL PLATE) & NUTS @ 6'-0" O.C. @ 2-STORY & 4'-0" O.C. @ 3-STORY CONDITIONS w/ 7" MIN. EMBEDMENT INTO CONC. PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT w/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

" 2018 IRC" - OCT 2020

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (RJ) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

MEANS & METHODS NOTES

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN, DETAIL, AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW, UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO M&K FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION.

TRUSSES SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES OR GIRDER TRUSSES DOES NOT EXCEED THE FOLLOWING:

A. ROOF TRUSSES:
   1/4" DEAD LOAD
B. FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS:
   1/8" DEAD LOAD
C. FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS:
   LIMIT ABSOLUTE TRUSS DEFLECTION TO 3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)

LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):	
ROOF TRUSS TOP CHORD	10
ROOF TRUSS BOTTOM CHORD	7
FLOOR TRUSSES:	15
FLOOR (SOLID SAWN):	10
LIVE LOAD (PSF):	
ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
BALCONY LIVE:	60
SNOW LOAD:	
GROUND SNOW LOAD (P_g) (PSF) :	25
FLAT ROOF SNOW LOAD (P_f) (PSF) :	25
SNOW EXPOSURE FACTOR (C_e) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C_t) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD: (IBC 1609)	
SPEED (V_{ult}) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I_W) :	1.0
EXPOSURE CATEGORY :	C
INTERNAL PRESSURE COEFF. (GC_{pi}) :	±0.18
TOPOGRAPHIC FACTOR (K_{zt}) :	1.0
SEISMIC LOAD: (IBC 1613)	
SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I_e) :	1.0
MAPPED SPECTRAL RESPONSE : S_S: 1.407 S_1: 0.490	
SITE CLASS :	D
SPECTRAL RESPONSE COEFF. : S_{DS}: 0.938 S_{D1}: 0.591	
SEISMIC DESIGN CATEGORY:	D
BASIC SEISMIC-FORCE-RESISTING SYS : LIGHT FRAMED WALLS W/WOOD STRUCTURAL PANELS	
DESIGN BASE SHEAR (ULT.): TRANS: 23k LONG: 23k	
SEISMIC RESPONSE COEFF. (C_s) (ADDITION) : TRANS: 0.144 LONG: 0.144	
RESPONSE MODIFICATION FACTOR (R) : TRANS: 6.5 LONG: 6.5	
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE	

LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM:
100 MPH WIND SPEED, EXP. C
(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1)
RISK CAT. 2 & SEISMIC CAT. D2.

110 MPH WIND IN 2018 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2018 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2018 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS

(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:
  FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

3" o.c. EDGE NAILING

(WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:
  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

1. LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c.
2. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)3½"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF JOINT (TYP. U.N.O)
3. ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
4. ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

GENERAL STRUCTURAL NOTES

DESIGN PARAMETERS

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (W/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (W/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x 'STUD' GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) HEM FIR (HF) #2 GRADE LUMBER, OR BETTER.
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
  - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 DOUGLAS FIR (DF) "STUD" GRADE LUMBER, OR BETTER, U.N.O. & SOLID WOOD COLUMNS SHALL BE HEM FIR (HF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUGLAS FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - LSL MEMBERS - Fb=2325 PSI; Fv=310 PSI; E=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.O)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc‖=2500 PSI; E=1.8x10^6 PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- ALL MEMBERS SPECIFIED AS MULTI-PLY 1¾" SHALL BE FASTENED TOGETHER PER MANUFACTURER. EQUIVALENT WIDTH SOLID MATERIAL MAY BE USED AS EQUAL.
- FASTEN 2x WOOD PLATES TO TOP FLANGE OF STEEL BEAMS w/P.A.F.s ('HILTI' X-U PINS OR EQUAL (0.157" DIA. x 2" LONG MIN.)) @ 16" O.C. STAGGERED, OR 1/2" DIA. BOLTS @ 48" O.C., STAGGERED.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.

FLOOR FRAMING

- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, U.N.O. (EXCLUDES STONE/MARBLE OR WET BED CONSTRUCTED FLOORS - CONTACT M&K FOR EXCLUDED DESIGNS).
- ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- I-JOIST/TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- 2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2x JOIST HANGERS (U.N.O. ON PLANS):
  SINGLE PLY: SIMPSON LUS210
  DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED 'STURD-I-FLOOR' 24" O.C, EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 ½" x 0.131" NAILS @ 6"o.c. @ PANEL EDGES & @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE. U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS w/ 1½" LONG NAILS.

ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (3) 3"x0.131" TOENAILS (MIN.) & (1) 'SIMPSON' H2.5T CLIP @ ALL BEARING POINTS. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT 2-PLY GIRDER TRUSSES & 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) 'SIMPSON' H2.5T CLIP. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" x 0.131" NAILS @ 6"o.c. AT PANEL EDGES & @ 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- WITHIN 48" OF ALL ROOF EDGES, RIDGES, & HIPS FASTEN ROOF SHEATHING FIELDS PER EDGE NAILING SPEC.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE PREPARED BY A WASHINGTON STATE LICENSED ENGINEER AND SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW w/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- SUPPORT PORCH & SHORT SPAN ROOF TRUSSES (UP TO 6' TRIB.) w/2x6 LEDGER FASTENED TO FRAMING w/(3) 3"x0.131" NAILS @ 16" o.c.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" o.c. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

" 2018 IRC" - OCT 2020

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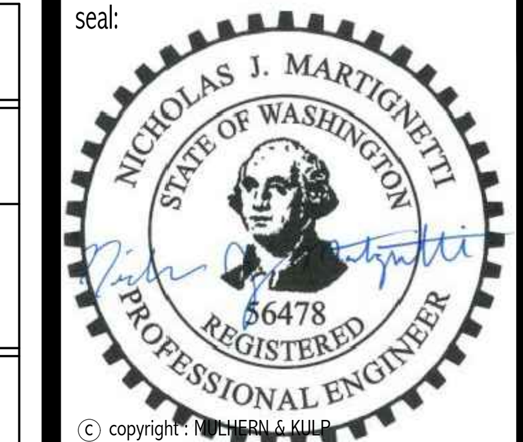

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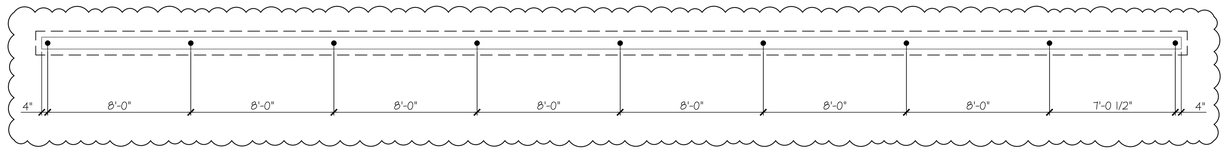
11/27/2023 ADD'L PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

STRUCTURAL NOTES

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: S-0.0



REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

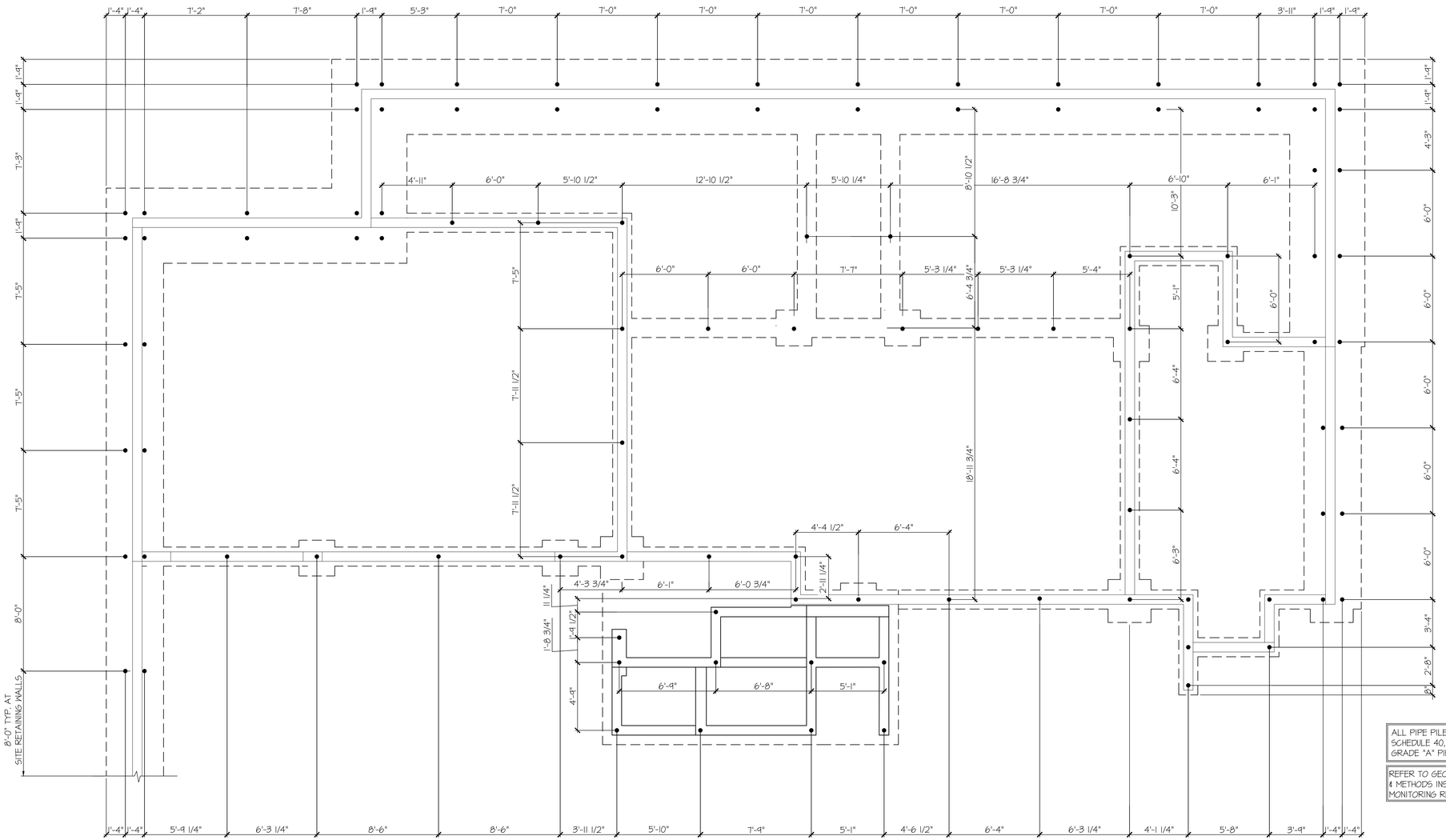
LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 6 TONS/PILE MINIMUM FOR 3" DIA. PILES AND 10 TONS/PILE MINIMUM FOR 4" DIA. PILES (SAFE LOAD).
- PILING CONTRACTOR SHALL DETERMINE BY TEST PILE, THE LENGTH AND DIMENSIONS OF THE PILINGS REQUIRED TO REACH DESIGN LOAD CAPACITY IN ACCORDANCE WITH ASTM D1143-81.
  - 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILES SHALL BE DRIVEN TO REFUSAL (10' MINIMUM DEPTH) WITH A TRACTOR-MOUNTED HYDRAULIC HAMMER WITH AN ENERGY RATING OF 650 LB AND TO REFUSAL OF LESS THAN ONE INCH DURING 12 SECONDS OF CONTINUOUS DRIVING. GEOTECH TO COORDINATE DRIVING CRITERIA IF ALTERNATIVE HAMMER SIZE IS SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.
- PER ASTM 1143-81, 3% OF EACH PILE DIAMETER SIZE SHALL BE LOAD TESTED. A MAXIMUM OF 5 PILES (1 MINIMUM) WILL BE REQUIRED FOR EACH PILE DIAMETER SIZE.



ALL PIPE PILES ARE TO BE 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES U.N.O.

REFER TO GEOTECH REPORT FOR MEANS & METHODS INSTRUCTIONS AS WELL AS MONITORING REQUIREMENTS

1 PIPE PILE PLAN
SCALE: 1/4"=1'-0"

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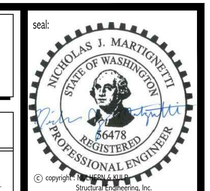

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ARCHITECTURAL INNOVATIONS

PIPE PILE PLAN

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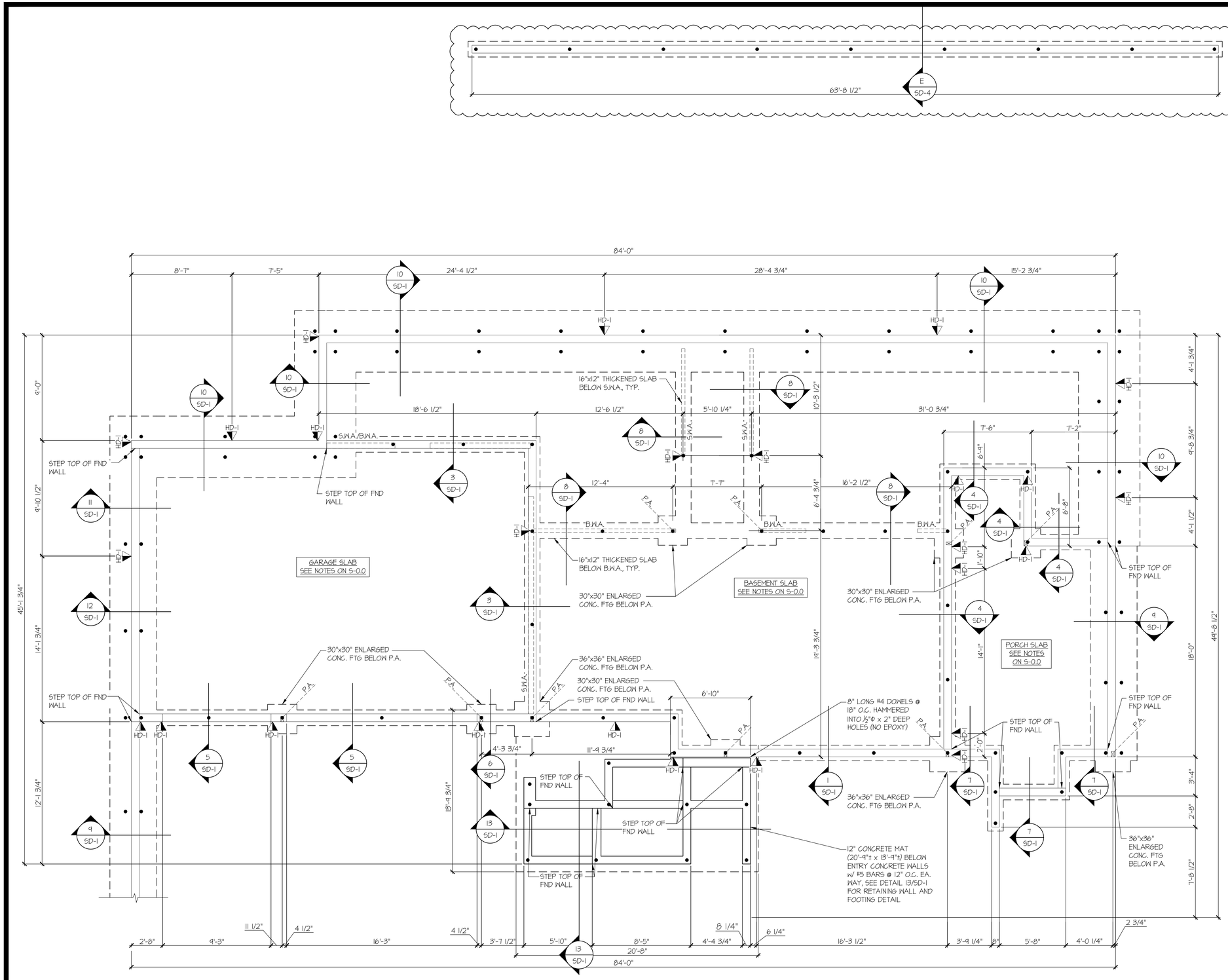
sheet:

S-0.1



1 FOUNDATION PLAN
SCALE: 1/4"=1'-0"

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

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11/27/2023 ADD'L PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

FOUNDATION PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-1.0

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
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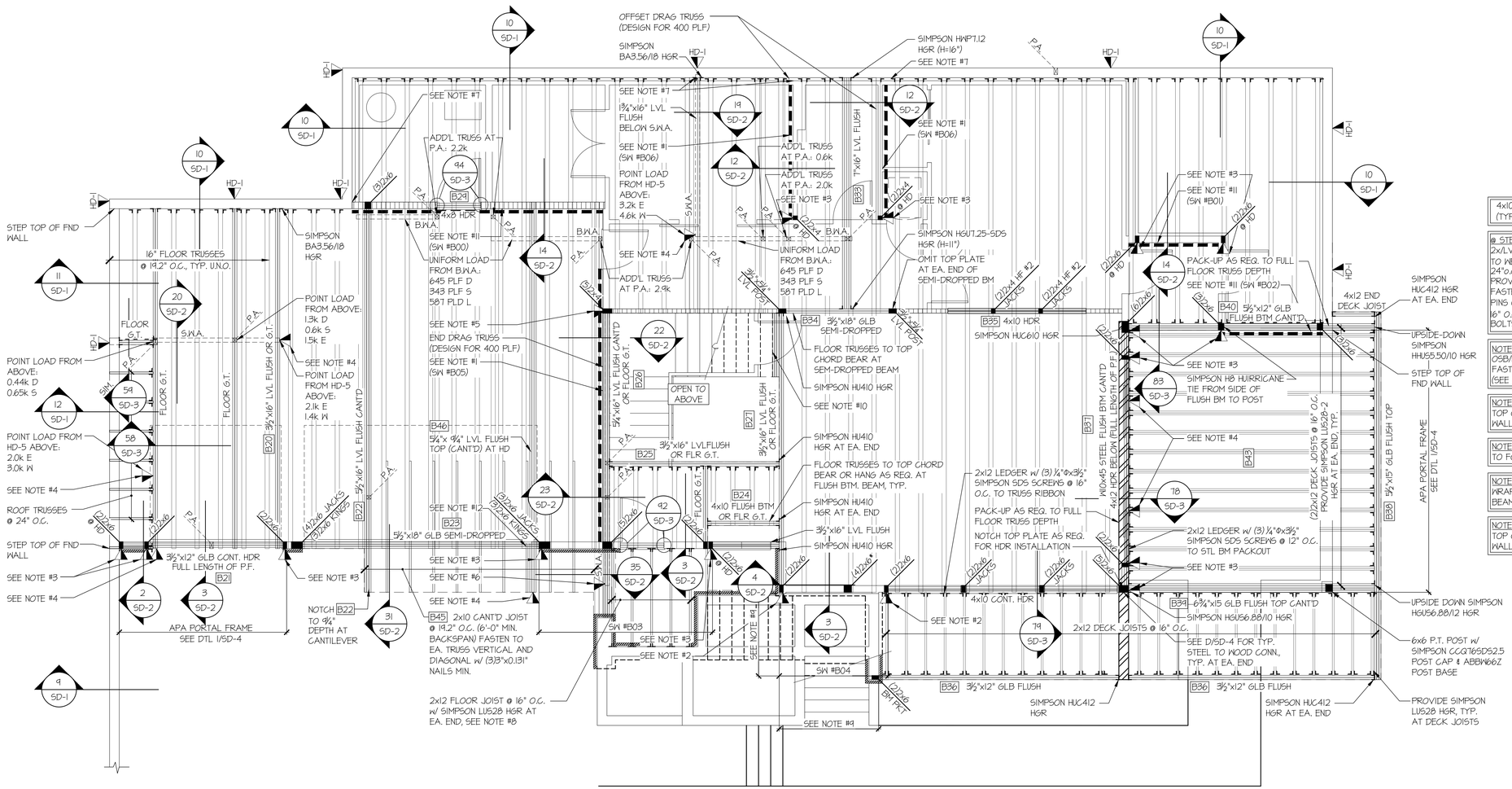

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B28

@ STEEL BEAMS: PROVIDE SOLID 2x/LVL WEB PACKOUT FASTENED TO WEB w/ ½" DIA. THRU BOLTS @ 24"o.c. STAGGERED. ALSO, PROVIDE 2x TOP PLATE FASTENED w/ P.A.F.'s (HILTI X-U PINS OR EQUAL) @ 16" O.C. STAGGERED, OR ½" DIA. BOLTS @ 48" O.C., STAGGERED.

NOTE #1: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN 3" O.C. EDGE NAILING (SEE NOTES ON S-0.0)

NOTE #2: HD-5 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #3: HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #4: HD-5 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #5: HD-6 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #6: HD-6 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #7: FASTEN END STUDS TO FND WALL w/ ¼"ø x 6" SIMPSON TITEN HD's @ 24" O.C.

NOTE #8: PROVIDE 2x12 P.T. LEDGER w/ (3) ¼"ø x 3½" SIMPSON SDS SCREWS @ 16" O.C. TO RIM & (2)¼"ø x 6" SIMPSON TITEN HD's @ 24" O.C. TO FND WALL

NOTE #9: 2x6 B.F. H.F. #2 STUDS @ 16" O.C.

NOTE #10: FASTEN 6x6 TO EA. TRUSS VERTICAL/DIAGONAL w/ (2)3"x0.131" NAILS

NOTE #11: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN 6" O.C. EDGE NAILING (SEE NOTES ON S-0.0)

NOTE #12: PROVIDE SIMPSON H8 HURRICANE TIE FROM FLUSH TOP BEAM TO SEMI-DROPPED BEAM

1 MAIN FLOOR FRAMING PLAN

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

seal:

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ARCHITECTURAL INNOVATIONS

MAIN FLOOR FRAMING PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: S-1.1

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
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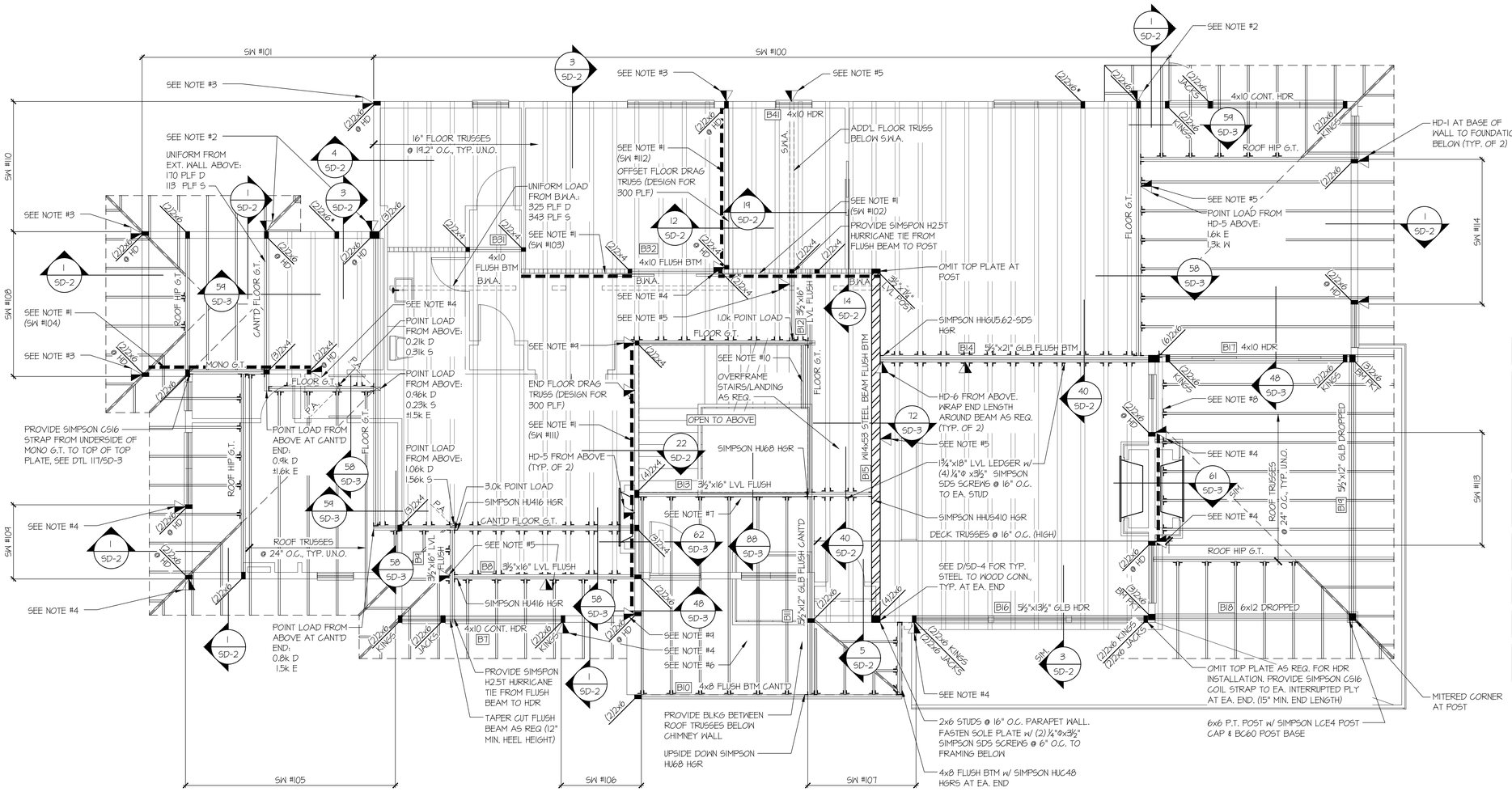
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)



UPPER FLOOR FRAMING PLAN

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

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B30

@ STEEL BEAMS: PROVIDE SOLID 2x/LVL WEB PACKOUT FASTENED TO WEB W/ ½" DIA. THRU BOLTS @ 24"O.C., STAGGERED. ALSO, PROVIDE 2x TOP PLATE FASTENED W/ P.A.F.'s (HILTI X-U PINS OR EQUAL) @ 16" O.C. STAGGERED, OR ½" DIA. BOLTS @ 48" O.C., STAGGERED.

NOTE #1: PROVIDE ⅞" OSB/PLYWOOD SHEATHING AND FASTEN PER TYP. EXT. SHTG SPECS (SEE NOTES ON S-0.0)

NOTE #2: HD-5 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #3: HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #4: HD-5 AT BASE OF WALL TO FRAMING BELOW.

NOTE #5: HD-5 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #6: PROVIDE 2x6 STUDS @ 16" O.C. FROM TOP OF ROOF SHEATHING TO TOP OF CHIMNEY WALL. FASTEN SOLE PLATE W/ (2)¼"Ø x 3½" SIMPSON SDS SCREWS @ 6" O.C. TO ROOF TRUSSES/ BLKG, TYP. AT CHIMNEY WALLS.

NOTE #7: 2x6 LEDGER W/ (3) 3"x0.131" NAILS @ 16" O.C. TO GIRDER TRUSS/FLUSH BEAM

NOTE #8: 2x6 LEDGER W/ (4) 3"x0.131" NAILS @ 16" O.C. TO EA. STUD

NOTE #9: HD-6 AT BASE OF WALL TO FRAMING BELOW.

NOTE #10: FASTEN 6x6 TO EA. TRUSS VERTICAL/DIAGONAL W/ (2)3"x0.131" NAILS

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ARCHITECTURAL INNOVATIONS

UPPER FLOOR FRMG PLAN

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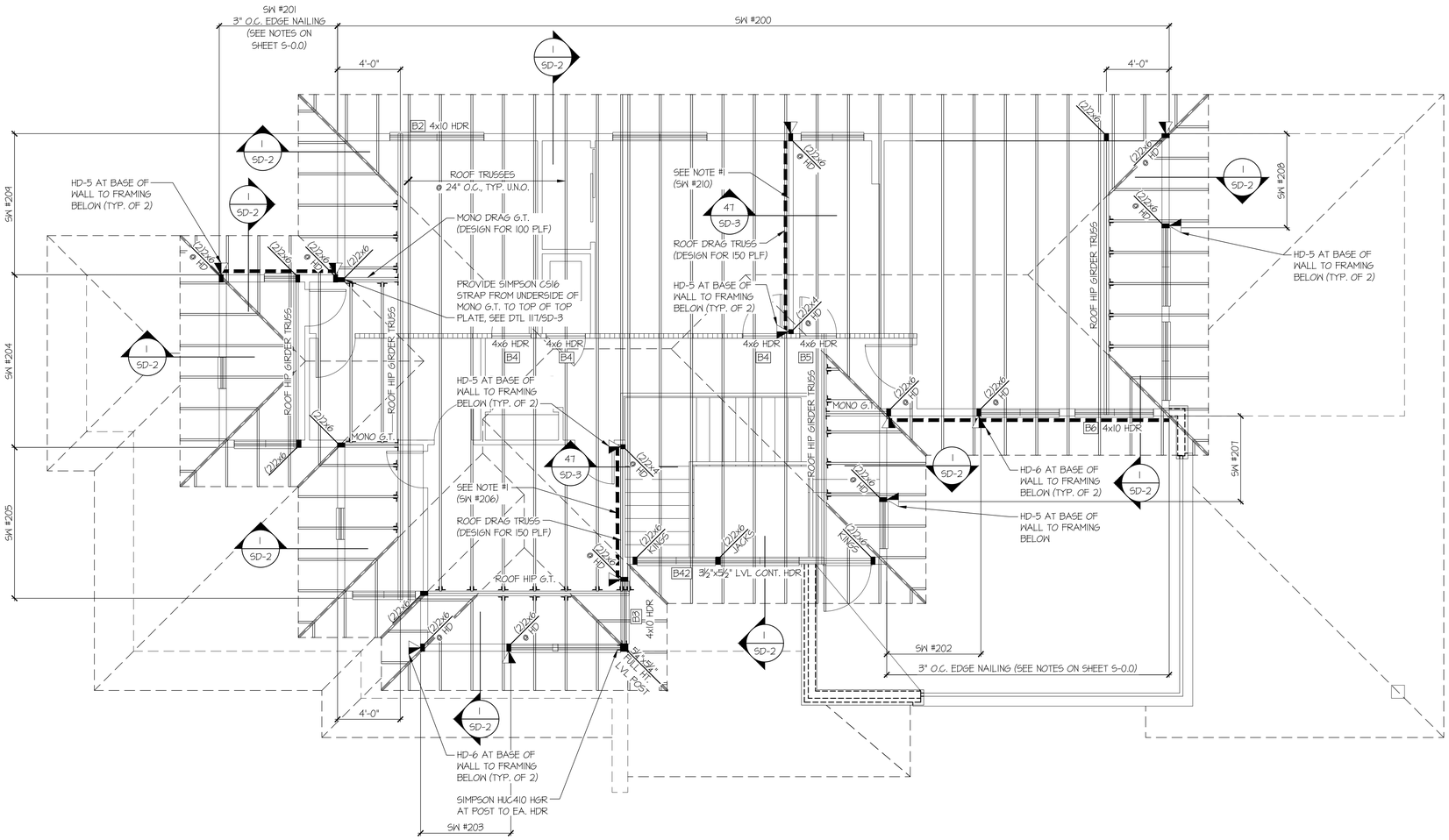
sheet:

S-2.0



1 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B1

NOTE #1: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN PER TYP. EXT. SHTG SPECS (SEE NOTES ON S-0.0)

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

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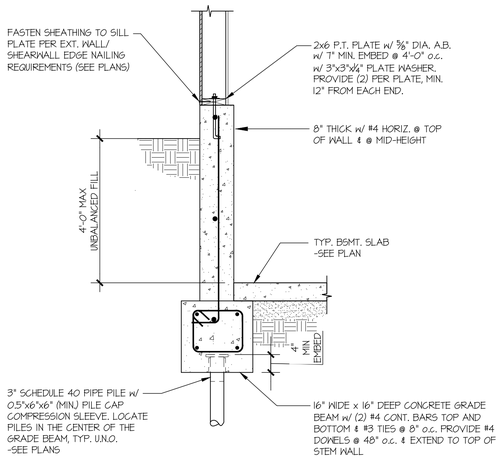
06/21/2023 PLAN REVIEW COMMENTS	LGH
10/05/2023 PIPE PILE REVISION	LGH
11/27/2023 ADDT. PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

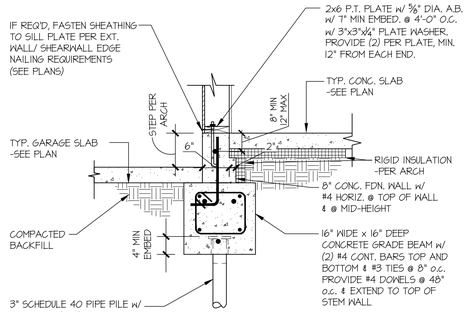
ROOF FRAMING PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

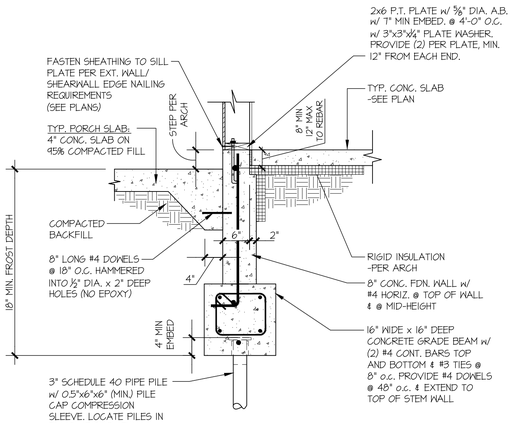
sheet: S-3.0



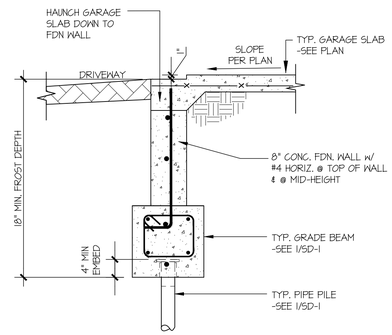
1 SECTION
SCALE: 3/4"=1'-0"



3 TYPICAL SLAB ON GRADE FOOTING @ GARAGE
SCALE: 3/4"=1'-0"



4 TYPICAL SLAB ON GRADE PERIMETER FOOTING
SCALE: 3/4"=1'-0" @ PORCH SLAB



5 TYPICAL CONCRETE FOOTING @ GARAGE DOOR OPENING
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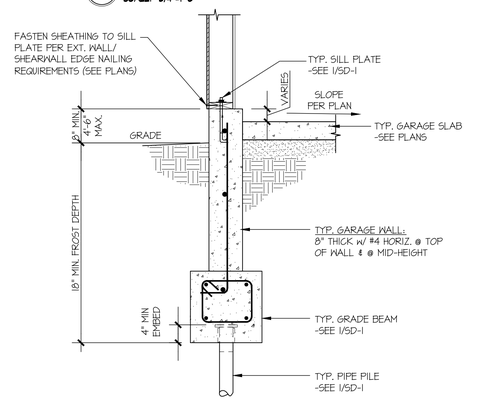
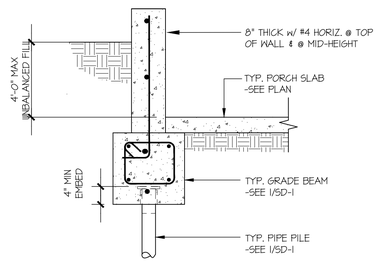
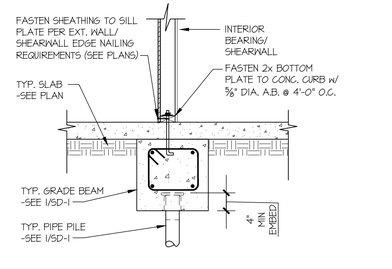


6 TYPICAL EXT. GARAGE FOUNDATION
SCALE: 3/4"=1'-0"



7 SECTION
SCALE: 3/4"=1'-0"



8 TYPICAL THICKENED SLAB @ INTERIOR BEARING WALL
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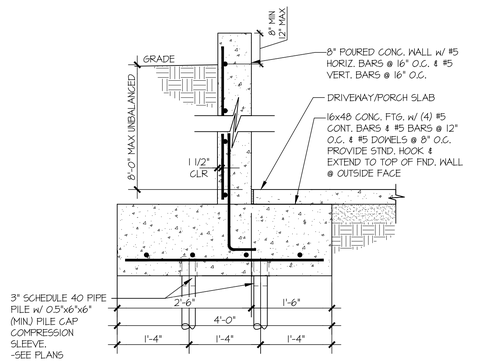
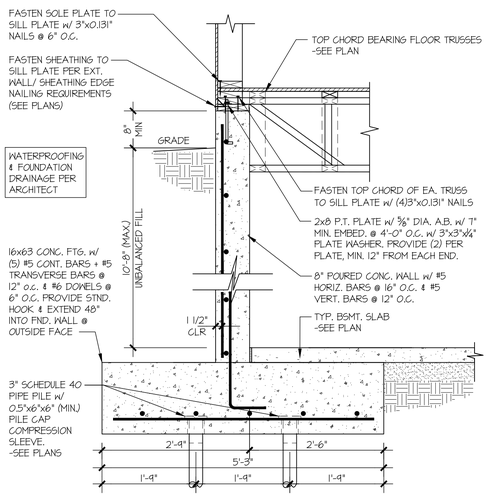


9 SITE RETAINING WALL
SCALE: 3/4"=1'-0"



10 BASEMENT FOUNDATION WALL
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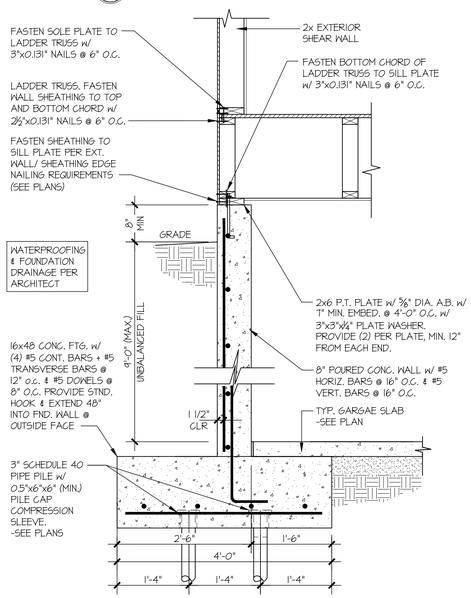

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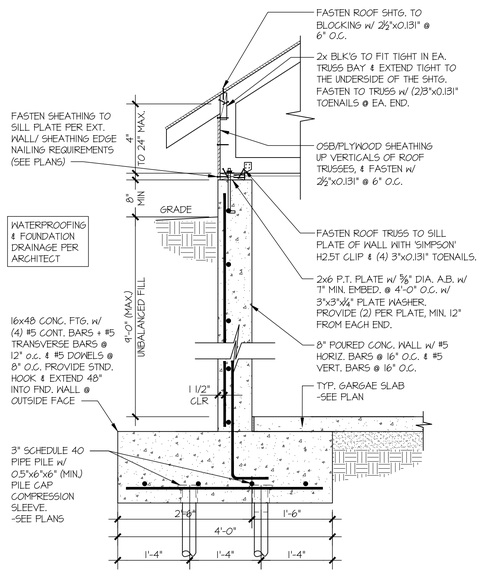

12 GARAGE FOUNDATION WALL
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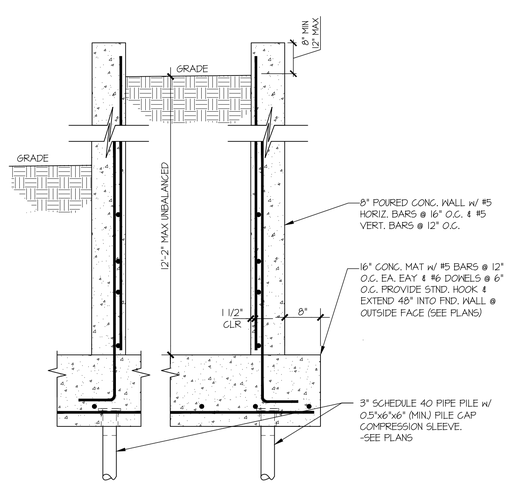

13 ENTRY RETAINING WALL
SCALE: 3/4"=1'-0"

seal:

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ARCHITECTURAL INNOVATIONS

FOUNDATION DETAILS

3036 67TH AVE. SE
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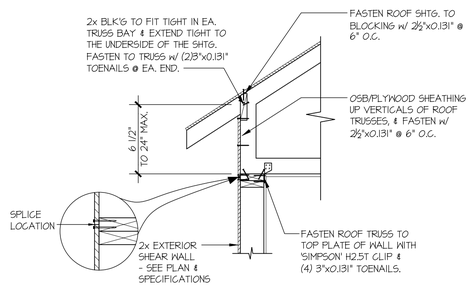
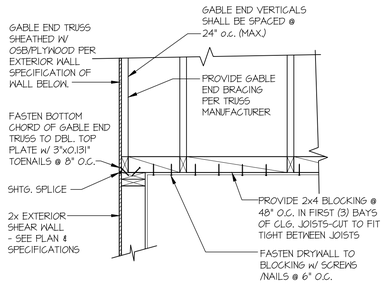
sheet:

SD-1



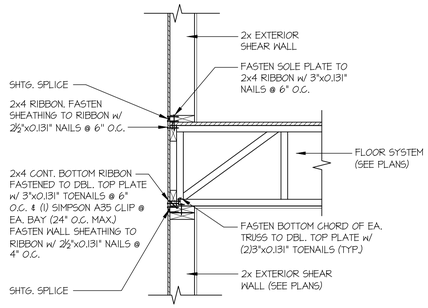
1 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS

SCALE: 3/4"=1'-0" HEEL HEIGHT UP TO 24" MAX.



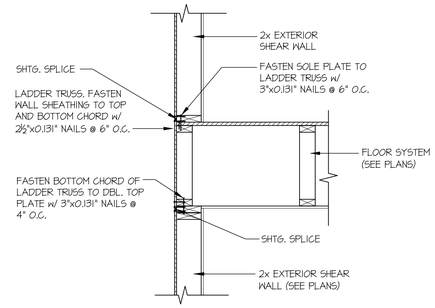
2 TYPICAL GABLE END DETAIL

SCALE: 3/4"=1'-0"



3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PARALLEL FRAMING

5 TYPICAL SHEAR TRANSFER DETAIL BETWEEN DECK @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING

12 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

SCALE: 3/4"=1'-0"

14 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

SCALE: 3/4"=1'-0"

19 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0" PARALLEL FRAMING

20 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING

22 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL

SCALE: 3/4"=1'-0"

23 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0"

31 SHEAR TRANSFER DETAIL BETWEEN FLOORS @ CANT'D EXT. WALL

SCALE: 3/4"=1'-0"

40 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0"

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ARCHITECTURAL INNOVATIONS

STRUCTURAL DETAILS

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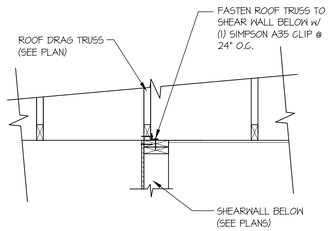
sheet: SD-2



47 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW

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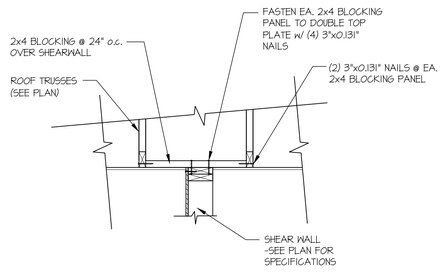

48 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW

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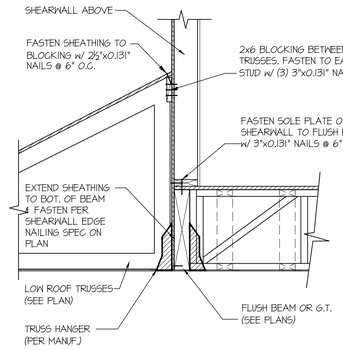

58 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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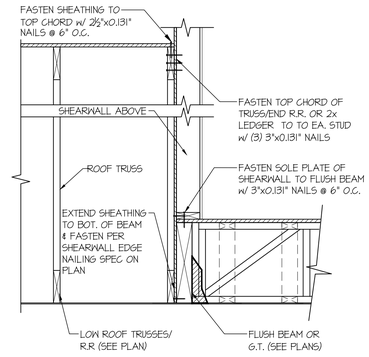

59 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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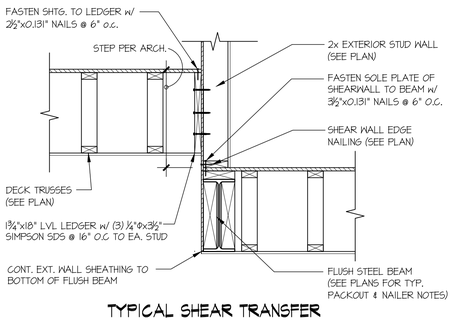

72 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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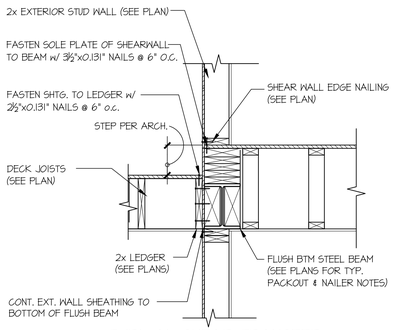

78 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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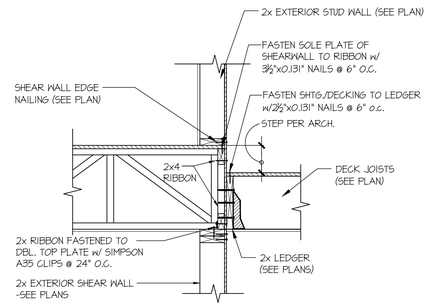

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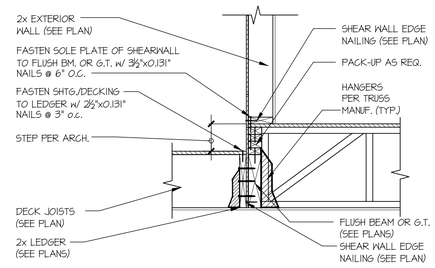

83 SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

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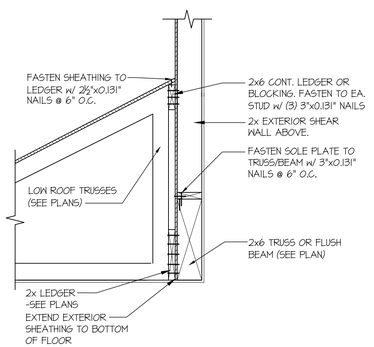
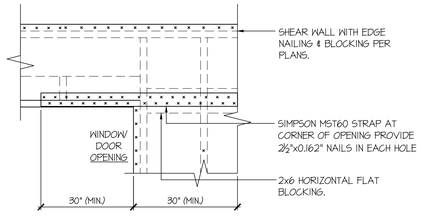


88 SECTION

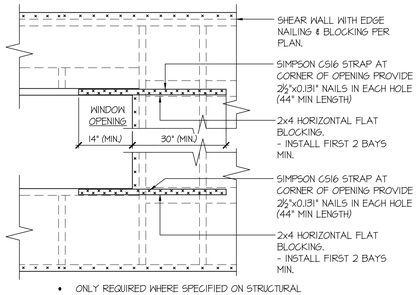
SCALE: 3/4"=1'-0"



- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

92 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

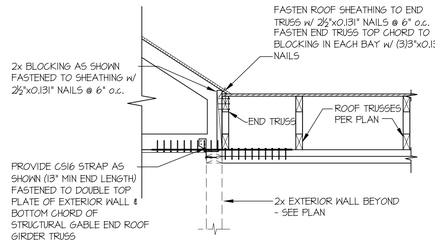
SCALE: NTS



- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

94 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

SCALE: NTS



117 STRAP DETAIL

SCALE: 3/4"=1'-0"

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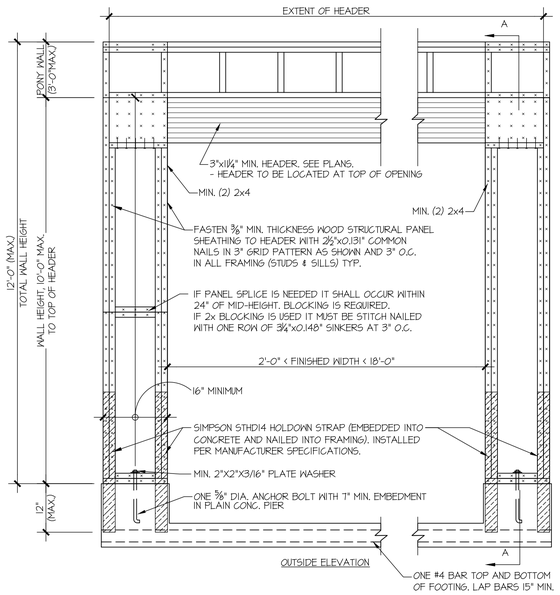
ARCHITECTURAL INNOVATIONS

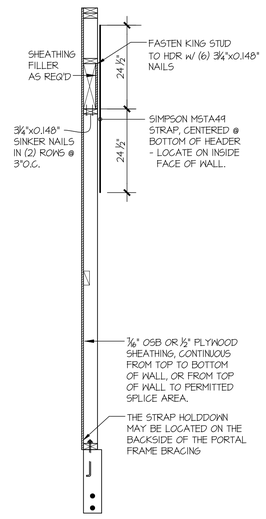
STRUCTURAL DETAILS

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

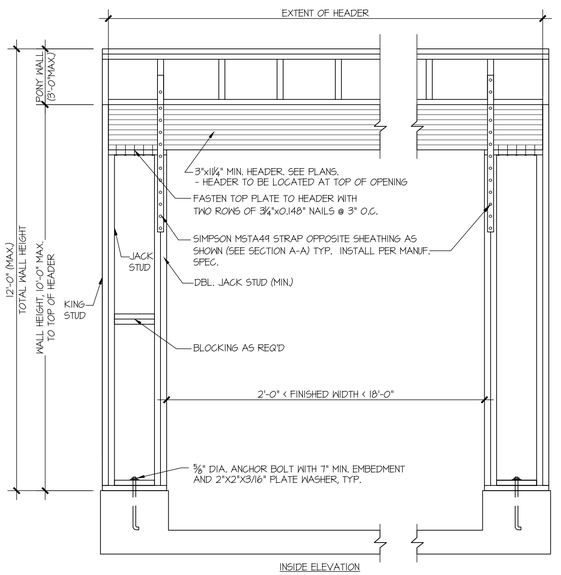
sheet: SD-3



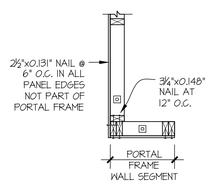
OUTSIDE ELEVATION



SECTION A-A THROUGH PIER



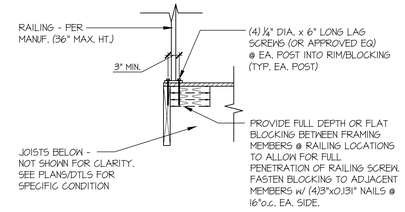
INSIDE ELEVATION



PLAN VIEW OF CORNER DETAIL

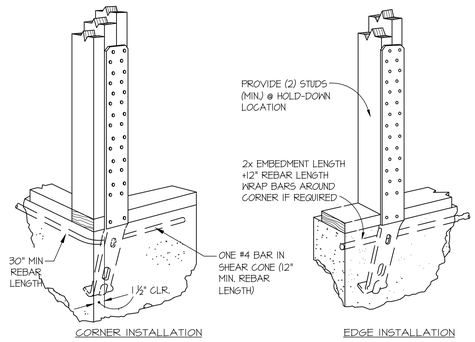
1 APA PORTAL FRAME DETAIL WITH HOLDOWNS

SCALE: N.T.S.



A TYP. RAILING CONNECTION

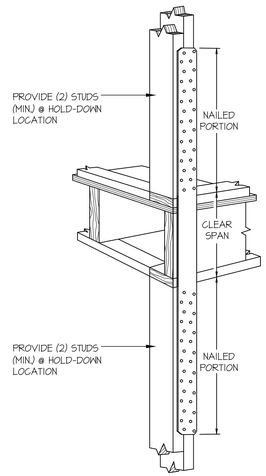
SCALE: 3/4"=1'-0" — WOOD FRMG BELOW



CORNER INSTALLATION — EDGE INSTALLATION

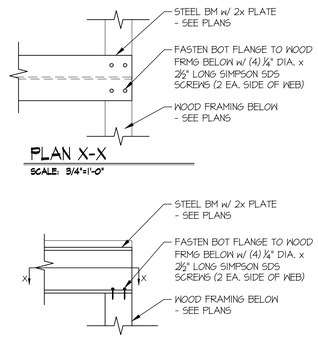
B TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE — SIMPSON STHD HD @ FOUNDATION



C TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE — SIMPSON STRAP HD @ FLOOR FRAMING

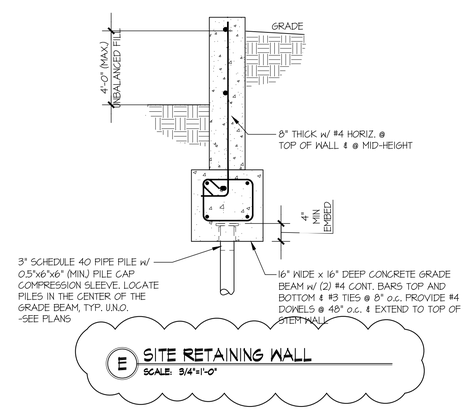


PLAN X-X

SCALE: 3/4"=1'-0"

D STL BM TO WOOD FRMG CONNECTION

SCALE: 3/4"=1'-0"



E SITE RETAINING WALL

SCALE: 3/4"=1'-0"

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ARCHITECTURAL INNOVATIONS

STRUCTURAL DETAILS

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: SD-4

Exhibit E

BEFORE THE HEARING EXAMINER OF THE CITY OF MERCER ISLAND

IN RE: NOTICE OF DECISION: FILE NO. 2207-019 DANIEL GROVE, Appellant, v. CITY OF MERCER ISLAND, Respondent.	Case No. APL24-002 APPELLANT DANIEL GROVE'S CLOSING ARGUMENT

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I. INTRODUCTION

Mr. Daniel Grove appeals Building Permit 2207-019 (the "Project"), an illegal construction project that, as shown in the record evidence and testimony presented at the May 9, 2024 hearing, grossly violates both the text and the goals of the Mercer Island City Code ("Code"). Mr. Grove respectfully asks the Hearing Examiner to remand this matter to the City of Mercer Island (the "City") so that those errors can be corrected before the Project is allowed to proceed.

In 2017, the City of Mercer Island pursued several code amendments to address its residents' concerns about limits on housing sizes and bulk. These changes were in direct response to fears "about the rapidly changing character of Mercer Island's Neighborhoods" and the City's permitting of projects that exceeded set code limits. Ex. 1001; Grove Testimony, TR at 7.[1] To address these concerns, the Code updates set new standards to reduce the allowed gross floor area, reduce maximum house sizes, reduce height limits, and increase side yard setbacks, and ensure the City was doing its job in enforcing these standards. *Id.*

Not long after the City implemented those amendments (which became effective on November 1, 2017), Ms. Dorothy Strand submitted her first application for a building and demolition permit for the subject Project that proposed a structure that *vastly* exceeded the standards set forth in the amended Code.[2] Ms. Strand sought to shoehorn this project which would enable her to build the largest and highest structure that she possibly could—which, as Ms. Strand argues, was her legal "right" to do. Strand Testimony, TR at 84.[3] Unfortunately, Ms. Strand got her way when, on February 20, 2024, the City approved the most recent permit application that forms the basis of this appeal. Ex. 4. Despite the review process that Ms. Strand's permit went

[1] Citations to "Ex." and "Exs." refer to exhibits admitted by the Hearing Examiner at hearing. Perkins Coie, LLP transcribed the video recording of the May 9, 2024 open record hearing, and attaches that transcription as Appendix A to this submission. Citations to the transcript are designated as "TR" and, for ease of reference, identify the witness who is providing the cited testimony and the specific pages on which the testimony appears.

[2] As detailed below the initial application calculated the basement exclusion area at 100% making the house much larger than permitted. Ms. Strand also attempted to leave in place an unsafe retained fill slope.

[3] While applicants may have a legal right to build to the maximum allowable limits, they do not have a right to build the largest structure they can build in disregard of the nuanced limits contained in the Code.

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through, the City's approval of the most recent permit application was in substantial error in at least five ways: (1) by relying on an erroneous calculation of existing grade and use of finished grade, the Gross Floor Area is much larger than permitted, resulting in a home that is substantially larger than allowed; (2) by incorrectly calculating basement exclusion area the allowable building square footage is impermissibly large; (3) the required side yard depth is less than the 10 feet required on the east side of the proposed home; (4) the City has allowed rooftop railings that exceed the height limits as part of a downhill facade; and (5) the proposed retaining wall/rockeries exceed code height limits.

Through this appeal, Mr. Grove seeks to correct those errors and asks the Hearing Examiner to enforce the City's code as recently amended in response to resident feedback. The burden of establishing those errors is to show that there has been a substantial error, that the City's decision was unsupported by at least some evidence in the record, or that the decision is in conflict with the standards of review. Mr. Grove is not required to rationalize or justify the City's reasons for approving the permit, as the City seems to suggest—in fact, such considerations are immaterial to the burden of proof at issue in this appeal. It makes no difference whether the City *believed* its approval of the subject permit was correct. If errors exist or the decision is unsupported or conflicts with the governing standards, it is the Hearing Examiner's role to serve as a gatekeeper, enforce the code as written, and remand any errors to the City for correction before any project proceeds. And that is precisely what Mr. Grove is seeking here—that Building Permit 2207-019 be remanded to correct the errors that Mr. Grove unquestionably established through documentary evidence and testimony at the hearing.

By remanding this matter, the Hearing Examiner will ensure that the applicant and future applicants will closely adhere to the updated code as written when seeking to proceed with residential construction projects on Mercer Island. But approving this project in its current form may set a dangerous precedent for future developers seeking to skirt the important limitations that the City has imposed through the legislative process. In sum, there is no basis for allowing this

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project to continue on its current course without first correcting the errors that Mr. Grove has met his burden on, and identified through this appeal.

II. TESTIMONY AND EVIDENCE PRESENTED

At the May 9, 2024, open record hearing, the Hearing Examiner heard testimony and saw evidence presented by the principal parties in this case: (a) Mr. Daniel Grove, Appellant, (b) the Project Architect, Jefferey Almeter on behalf of the Project Proponent, Ms. Dorothy Strand and (c) the City's Planner, Ms. Molly McGuire. The testimony and evidence at hearing demonstrated the substantial errors the City made in approving Building Permit 2207-019. The permit should be remanded to the City for further review, consideration, and correction.

A. Overview of Testimony from Appellant, Daniel Grove

Mr. Grove is a 20-year resident of Mercer Island and computer engineer who lives directly next door to the subject property. Mr. Grove is intimately familiar with the project at issue in this appeal and has spent countless hours reviewing Ms. Strand's submissions to the City and all publicly available data concerning the subject property. It is undisputed that Mr. Grove is the most knowledgeable witness of the various individuals who testified at the hearing—including Ms. Strand herself. Mr. Grove testified in support of the code violations raised in this appeal and the supporting exhibits, all of which were admitted into testimony. Mr. Grove also testified as to his extensive history and experience with the Mercer Island City Code through his involvement in the 2017 Code updates. Grove Testimony, TR at 7. As Mr. Grove demonstrated, Building Permit 2207-019 violates many of the same standards the 2017 updates were attempting to enforce.

The City appears to reject Mr. Grove's analyses on the basis that he is not "an architect, a planner, or a surveyor." City's Closing at 2. Putting aside the City's failure to timely assert this baseless objection,[4] Mr. Grove is not required to qualify as an expert witness for purposes of

[4] In conformance with RoP 224, Mr. Grove timely submitted his witness disclosure on May 2, 2024. At no point before or during the hearing did the City move to exclude any portion of Mr. Grove's testimony, and any objection along these lines is waived. Likewise, the City did nothing to discredit Mr. Grove's extensive knowledge of the subject property and applicable code provisions during cross examination, and there is absolutely no legitimate basis to discount or otherwise call into question Mr. Grove's credibility.

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eliciting testimony that is rationally based on his personal perception. *See* ER 701. Mr. Grove's testimony concerning the factual errors in Ms. Strand's project application and the City's errors in approving that application are not based on scientific, technical, or other specialized knowledge as contemplated in ER 702. To the contrary, application of the plain code language to the undisputed facts does not require one to be a surveyor, or architect.[5] *See also* ER 704 ("Testimony in the form of an opinion otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact."). Mr. Grove testified to his personal knowledge of the site and, based on his site visit and familiarity with the documentary evidence in the record, provided the most credible testimony that identified the specific areas where, and reasons why, both the City and the Applicant have deviated from the clearly established Code procedure.

B. Overview of Testimony from Ms. Strand's Architect, Jeffrey Almeter

Further confirming the credibility of Mr. Grove's testimony, Ms. Strand's own witness, Mr. Jeffrey Almeter, the Project Architect, ultimately *agreed* with most, if not all, of Mr. Grove's dispositive conclusions. Mr. Almeter testified as to his preparations of the designs, plan set and specifications for the illegally large home. He also testified to revisions and iterations of plan sets. Mr. Almeter, the only semi-neutral witness to testify, confirmed that from the beginning, Ms. Strand intended to start out with a building that was at the very maximum size the code could allow. He also confirmed that errors were made at the outset putting the Project over the maximum allowed by the code from its inception. Almeter Testimony, TR at 103. Very few errors were in fact corrected despite three iterations of the plans.

C. Overview of Testimony from Ms. Strand, Project Applicant

Ms. Strand testified as owner of the property, and proponent of the project at issue. Ms. Strand admitted to relying on Mr. Almeter exclusively as it related to the project's plans, and otherwise did not provide relevant testimony on the underlying legal or factual issues. Ms. Strand's

[5] The irony with the City's argument is that, even if the Hearing Examiner is inclined to give Mr. Grove's testimony less weight (and it should not), Mr. Grove should and can still prevail by looking at Mr. Almeter's and Ms. McGuire's testimony as discussed in greater detail below.

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testimony and closing both contain several misrepresentations of the record and facts in this case. To the extent the Hearing Examiner is inclined to consider any of Ms. Strand's testimony, it should be given very little weight in light of these serial mischaracterizations made. *See* Appendix B (summarizing the key mischaracterizations that Ms. Strand has made in the record).

D. Overview of Testimony from the City

Ms. Molly McGuire, Senior Planner for the City, testified as to her approach in reviewing and approving the building permit application. Ms. McGuire testified to being a Planner with the City for roughly two and a half years. Ms. McGuire claims to process about fifty applications per year. McGuire Testimony, TR at 61. Yet her testimony failed to recall basic facts about the project, parroted yes or no to various leading questions proffered by the City's attorney, and recounted internally inconsistent testimony on dispositive issues. For example, Ms. McGuire could not explain why Condition D, which requires a separate permit for a rockery or retaining wall, was included in the permit. Ex. 4 at 1; McGuire Testimony, TR at 5. She also stated she did not know what the non-final project plan exhibits were in the file, nor could she recall how many revisions the plans went through. McGuire Testimony, TR at 44. Ms. McGuire also failed to identify various permit requirements until the Appellant or other neighbors pointed them out, the need for a Critical Area Review 2 permit being one of them.[6] Ms. McGuire has never conducted a site visit of this property, and therefore has no on the ground knowledge. McGuire Testimony, TR at 61. Instead, she has relied solely on submittals by Ms. Strand who, in turn, has relied on exclusively on Mr. Almeter. McGuire Testimony, TR at 48; Strand Testimony, TR at 79.

Regardless of credibility, none of these witnesses actually dispute the key underlying facts in this case. Each witness during testimony relied on the Final Plan Set to identify relevant measurements and elevations. Ex. 6. The Hearing Examiner can look to that document alone to

[6] As Mr. Almeter confirmed in his testimony, this is general identified early on in the permitting process. Almeter Testimony, TR at 102. Here, the permit process was not initiated until about 10 months, and only after Mr. Grove pointed it out several times.

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identify the errors made and remand those errors to the City.[7]

III. ANALYSIS

A. Testimony and Evidence Supports Mr. Grove's Assignments of Error and the Need for Remand

The balance of the evidence and testimony presented at hearing confirmed the five main assignments of error Mr. Grove raised in in his appeal. Mr. Grove carried his burden to show that the City: (1) erroneously calculated existing grade and erroneously applied finished grade to the Project, (2) applied those incorrect calculations to a basement exclusion area and gross floor area calculation that exceeds code limits and results in a proposed home that is substantially larger than allowed, (3) incorrectly approved a side yard setback that is less than the 10 feet as required on the east side of the proposed home, (4) erroneously approved rooftop railings as part of the downhill facade that exceed code height limits, and (5) allowed proposed retaining walls/rockeries that exceed height limits. Each of these issues is addressed in turn below.

1. Issue 1: The City Incorrectly Calculated "Existing Grade" and Incorrectly Applied "Finished Grade"

a. Interpolation was Erroneously Used to Establish Existing Grade

Mr. Grove clearly established that the City allowed Ms. Strand to interpolate to establish existing grade contrary to the City's previous determination that interpolation could not be used for this site. *See, e.g.*, Grove Testimony, TR at 9. Neither the City nor Ms. Strand deny using interpolation, and Mr. Almeter in fact confirmed he used interpolation. Almeter Testimony, TR at 91, 105. Ms. McGuire further testified that existing grade was based on "the survey data and interpolations of existing grade." McGuire Testimony, TR at 62. But the City took the exact opposite position in Grove I, and rejected interpolation for this site based on the opinion of its own expert, Mr. James Harper.[8] Ex. 82; Ex. 1002 at 6.[9] The question becomes then, can the City change

[7] At hearing, the witnesses referred to both Ex. 6, the final stamped plan set submitted by the City, and Ex. 2007, the final plan set submitted by Ms. Strand. Other than the City's stamp, these two documents are identical.
[8] The Hearing Examiner also rejected this approach in his ruling in APL 23-009 ("Grove I").
[9] There is a direct contradiction between the City's statement in APL23-009 that "the existing grade is the current

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course now and apply an interpretation it previously rejected? The answer should be no.

At hearing, Ms. McGuire testified that the City allowed interpolation based on review of Administrative Interpretation 12-004's Conclusions 1 through 3 and application of Conclusion 3. Ex. 90 at 2. Specifically, Ms. McGuire explained that:

> The city reviewed the materials provided by the applicant and the qualified professional that prepared them and reviewed that against the administrative interpretation, which allows for interpolation across the footprint of the proposed residence.

McGuire Testimony, TR at 48. Mr. Harper's report specifically rejected the use of interpolation at this site. Ex. 82. Mr. Harper was hired by the City as an expert to review surveys applicable to the property, and to review the application of Administrative Interpretation 12-004, Conclusion 3, to determine when interpolation could be used at the site. (Ex. 83, Scope of Work):

> The City of Mercer Island Community Planning and Development Department requests Bush, Roed, & Hitchings services as an independent third party to review the information in the scope of work below: Attachment F - ***Administrative Interpretation for Existing Grade, Conclusion 3 for when a current survey is available to establish existing grade by interpolating elevations*** within the proposed footprint from existing elevations outside of the proposed footprint.

(emphasis added). Mr. Harper reviewed three surveys to analyze this question: (1) the Terrane Survey dated August 28, 2022, (2) the D.R. Strong survey dated May 1989, and the (3) W.M. Marshall survey dated August 21, 2005. (Ex. 82). He concluded that *none* of the surveys allow for interpolation. He stated: "**These surveys** do not serve as a 'snapshot' of original grade conditions and **cannot be relied on for interpolation**[10] or other such formulaic determinations of any *past, original grade*." Ex. 82 at 1 (bold emphasis added). Harper went on to conclude that the existing grade should be the surface elevation immediately adjacent to or touching a point on the exterior wall of the structure. Ex. 82 at 2. He therefore applied Conclusion 2 and expressly rejected the current survey for the purposes of using Conclusion 3's method of interpolation. Mr. Almeter's

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grade on the site" while at the same time still using interpolation (Ex. 1002 at 9).

[10] Note, the City erroneous use of the term "interpretation" in place of the term "interpolation." City's Closing at 4.

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testimony ultimately agreed with this reading, Almeter Testimony, TR at 105, and neither Ms. McGuire nor Ms. Strand provided any relevant or credible testimony to rebut his agreement.

Conclusion 1 of Administrative Interpretation 12-004 sets out the baseline. If no concrete evidence or verification from a previous survey document exists, the existing grade "***underlying the existing structure***" will be used as the elevation for the proposed development. Ex. 90 at 2. (emphasis added). Conclusion 2 then builds on Conclusion 1 as to the existing grade for the purpose of calculating basement exclusion area.[11] Conclusion 3 applies as a catch all when a current survey document is available, and can be used. But again, the Conclusion 3 approach was specifically rejected by Harper for this site. And the City rejected interpolation in Grove I. Only Conclusion 1 and Conclusion 2 could thus apply here.

Further, in applying Conclusion 1, the City cannot simply ignore the plain language of the same Administrative Interpretation they otherwise claim to rely on. "Underlying" is the term the City uses in the Administrative Interpretation. And "potential damage" to a structure that is already going to be demolished is an odd reason to ignore it. *See* City's Closing at 4. The City points to Mr. Almeter's testimony on this subject, but what Mr. Almeter said was that he couldn't think of another way to get a precise measurement than damaging the structure. Almeter Testimony, TR at 90. His conclusion did not account for the ability to use the undisclosed basement floor measurement within the existing structure, and ground penetrating radar, both of which are easily achievable. It also did not account for the City's obligation to apply its own Code as is written. Further, there is an existing basement clearly visible in the plans at 228.7' extending the full east-west width of the northeast portion of the existing structure. Ex. 6 at 9.[12]

[11] Conclusion 2 reads "Existing grade, for the purpose of calculating basement area exclusion without a survey of the pre-development conditions, shall be interpreted as the elevation of a point on the surface of the earth immediately adjacent to or touching a point on the exterior wall of a proposed structure." "Immediately" is defined as without any intervening time or space, while adjacent is defined as next to or very near something else; neighboring; bordering, contiguous; adjoining. Therefore, immediately adjacent is "next to or very near something else, and without any intervening space." *See* Oxford English Dictionary (Third Edition, March 2024).

[12] *See* Ex. 6 at 4 (finished floor level of 228.7'), Ex. 6 at 5 (temporary shoring plan shows existing basement at 228.7' on east side of same portion of the house).

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The Hearing Examiner should reject the City's argument that the existing grade is what the City says it is, when it says it is (*i.e.*,"[t]he final determination for existing grade on a lot shall be the decision of the Code Official" and therefore the final say is subject to City discretion). Not only did the City fail to mention this in its analysis at hearing,[13] the City *already* decided what the existing grade would be for this site in Grove I based on its expert's conclusions and Administrative Interpretations 04-04 and 12-04. Further, "the Code Official" is specifically defined as the director of the community planning and development department for the city of Mercer Island or a duly authorized designee. MICC 19.16.010(C). This language in the Administrative Interpretation is in no way meant to allow the City to flip flop its determination ***on the same project*****,** or whenever is convenient.

Mr. Grove has carried his burden to show that the use of interpolation to establish existing grade here was erroneous.

b. Finished Grade Cannot Be "Whatever the Applicant Picks" and then "Fixed" After the Fact

The City admitted under oath that it made minimal efforts to "check for code consistency" when it came to finished grade. McGuire Testimony, TR at 49. Ms. McGuire testified that she "relies on the fact that the Applicant's proposal should be accurate depending on what they propose the finished grade to be" and she'd "look at the elevation number" but "all in all, it's on the applicant to pick that." *Id.*

Mr. Grove established that "finished grade" is determined at each spot across a wall segment. Ex. 1014 at 2. This is consistent with the Code definition of finished grade which is defined as the "surface level at any point on the lot at the conclusion of development." MICC 19.16.010(F). However, the Plan Set shows that the finished grade in this case is a nearly straight line across the west elevation, despite much of the wall being exposed below that line for stairs

[13] McGuire Testimony, TR at 48 ("so we looked at the materials provided by the applicant and where existing grade hits the walls of the proposed residence and we took into consideration *conclusions one through three* of that administrative interpretation"). (emphasis added).

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and the door well. Ex. 6 at 16, "West Elevation"; McGuire Testimony, TR at 49.

The City's approval of the application, and failure to correct this error, is unsupported by the evidence and requires correction. Yet the City seems intent on ignoring it, or pushing that off until after the building has already been built. Ms. McGuire testified that if the City did err, and the building ended up being built too tall or outside of the plan set, "that would be a case for code enforcement." The time is now to enforce the code and remand this matter so that the error can be corrected.

2. Issue 2: The City Incorrectly Calculated "Basement Exclusion Area," Resulting in an Allowable Building Square Footage Maximum That Is Impermissibly Large

a. Mid-Point Finished Grade Elevation was Erroneously Used to Determine Wall Segment Coverage

Mr. Grove provided undisputed evidence that the City incorrectly calculated the "Basement Exclusion Area" in violation of Title 19, Appendix B by allowing Ms. Strand to use a midpoint elevation to determine wall segment coverage. Grove Testimony, TR at 12. In response, the City argues that Title 19 Appendix B does "authorize the utilization of midpoints" by relying on a simplified diagrammatic example rather than the language in the code. City's Closing at 5. This argument fails. First, it defies reason and logic to suggest that a simplified, exemplary diagram should override the language of the Code. It cannot. Second, the code language *does not allow* for use of a midpoint elevation as doing so does not provide a percentage below the lower of finished or existing grade as required.

Appendix B clarifies: "The Mercer Island Development Code excludes that portion of the basement floor area from the gross floor area which is below the existing or finished grade, whichever is lower. That portion of the basement which will be excluded is calculated as shown:"

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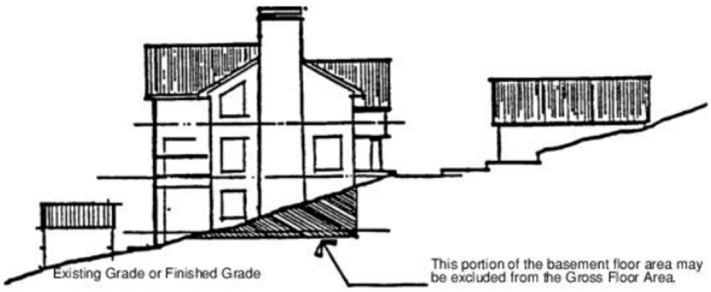
Figure 1: Snip from Title 19, Appendix B

TOTAL BASEMENT AREA is the total amount of all basement floor area.

WALL SEGMENT COVERAGE is the portion of an exterior wall below existing or finished grade, whichever is lower. It is expressed as a percentage. (Refer to example.)

WALL SEGMENT LENGTH is the horizontal length of each exterior wall in feet.



The Appendix B goes on to provide an example of how to calculate Basement Floor Area:

- **Step 1**: Determine the number and lengths of the Wall Segments;
- **Step 2**: Determine the Wall Segment Coverage (**in %**) for each Wall Segment. In most cases this will be readily apparent, for example a downhill elevation which is entirely above existing grade or will be entirely above finished grade. In other cases where the existing or finished grade contours are complex, an averaging system shall be used;
- **Step 3**: Multiply each Wall Segment Length **by the percentage** of each Wall Segment Coverage and add these results together. Divide that number by the sum of all Wall Segment Lengths. This calculation will result in a percentage of basement wall which is below grade;
- **Step 4**: Multiply the Total Basement Floor Area by the above percentage to determine the Excluded Basement Floor Area. (emphasis added).

The City points solely to the example in Appendix B, and appears to be confused by that illustration, relying on it as the end all be all when it merely shows a case where a midpoint matches the output of an averaging system. The example does not eliminate the operative, plain language

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requirement to use an averaging system in the first place. Further, contrary to the City's argument that the Applicant "correctly followed the methodology set forth in Appendix B", Mr. Almeter confirmed in his testimony that he did not in fact follow the correct approach and instead used a midpoint, which he confirmed does not give you a percentage. City Closing at 5. Almeter Testimony, TR at 105).[14]

> Davison: And isn't it true that the section, the language that you referred to, requires the calculation to look at the percentage below grade?
>
> Almeter: Right. It does mention that in Appendix B, yes.
>
> Davison: Okay. Okay. You said, or I believe you testified earlier that you looked at the midpoint, correct?
>
> Almeter: That is correct.
>
> Davison: Okay. And by looking at the midpoint doesn't give you a percentage, does it?
>
> Almeter: Not by looking solely at the midpoint, no.

Additionally, the City already addressed this issue in a nearly identical project, in which it concluded that midpoints could not be used on a wall segment with complex contours. *See* Ex. 1013. That prior instance—and the precedent the City created—cannot and should not be ignored. At hearing, Ms. McGuire stated she could not recall this project or the email despite being the planner on it (Project 2205-096).[15] McGuire Testimony, TR at 53. Regardless, the guidance she provided in the email speaks for itself and provides compelling evidence that discredits the City's self-serving (and plainly incorrect) analysis here.

Mr. Grove's use of wall segments or portions for the western basement wall is also consistent with this guidance, and consistent with the code. Mr. Grove identified the finished grade along the exterior stairs outside the wall. *See* Ex. 1005. The City provides no justification for why

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[14] *See also* Ex. 1013.

[15] This project can be accessed at https://mieplan.mercergov.org/public/2205-096/SUB2/helix%206922_plan%20set%2010-20-22_sub2.pdf.

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the finished grade should not follow the exterior stairs next to the western basement wall. City's Closing at 6; Ex. 1013.

Further, the use of midpoints makes a significant impact, especially given that the Project has already been designed to the absolute maximum constraints (and actually, beyond them). Grove Testimony, TR at 13. When wall segment coverage is calculated using the correct averaging system and finished and existing grades, the basement exclusion area ends up close to 38%, not 59.37% as shown in the Plan Set. Ex. 1012 at 8; Ex. 6 at 2. This results in an exceedance of roughly 300 to 350 square feet—200 to 250 feet for existing grade, and roughly 100 square feet for the finished grade errors, or 8 to 9% of the Project's square footage. Grove Testimony, TR at 9. Using a correct calculation for basement exclusion area would result in a gross floor area for this house of approximately 4,240 to 4,290 square feet, which is larger than the permitted 3,937.5 square feet. Ex. 1012 at 8.[16]

Mr. Grove has easily carried his burden to show that the use of a midpoint grade elevation was erroneous, resulting in a home larger than allowed under the Code.

3. Issue 3: The City Allowed an East Side Setback Less than the Required 10 Feet by the Code

a. The City Erroneously Allowed the Applicant to Cherry Pick Facade Heights

Mr. Grove established that the City has allowed an east side setback less than 10 feet in violation of MICC 19.02.020.C.1.c.iii.b by using an incorrect determination of the height of the east facade of the proposed residence. Grove Testimony, TR at 16. The City argues that the height of the eastern facade of the proposed residence is only 24 feet, 11.5 inches, requiring the side yard setback be 7.5 feet. City's Closing at 7. But this argument fails because the City relies solely on

[16] Gross Floor Area ("GFA") is defined as "the total square footage of floor area bounded by the exterior faces of the building." MICC 19.16.010.G. GFA is important because it essentially sets out the limits of the size of the home in relation to the size of the lot. A correct GFA calculation relies on a correct calculation of "existing grade" and "finished grade." See MICC Title 19, Appendix B.

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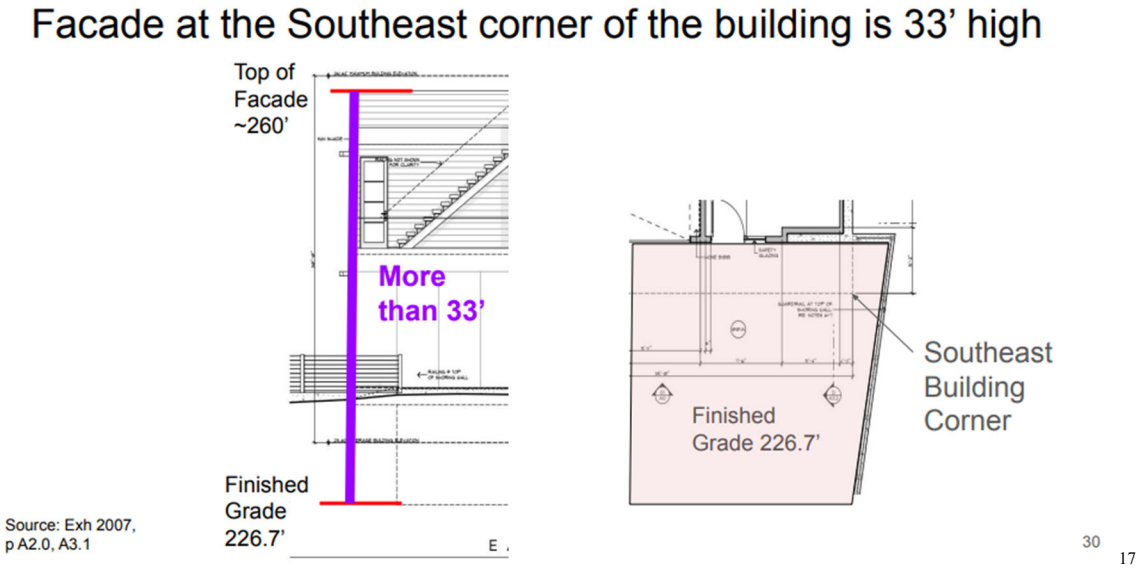
Ms. Strand's measurement on the eastern side without requiring Ms. Strand to measure from the top of the building to the finished grade immediately below the south end of the eastern facade.

The City agrees with Mr. Grove that single-family dwellings with a height of more than 25 feet measured from the existing or finished grade, whichever is lower, to the top of the exterior wall facade adjoining the side yard must provide a minimum side yard depth of 10 feet. MICC 19.02.020.C.1.c.iii.b; McGuire Testimony, TR at 53; Grove Testimony, TR at 16. The 2017 Code reforms specifically added this concept of a variable side yard setback depending on the height of a facade that adjoins the side yard. Ex. 1001. As shown at hearing, the top of the eastern facade is approximately 260.4'. Ex. 6 at 16 (South Elevation shows 235.43' + 24.96'). And the finished grade immediately beneath the southern end of the eastern facade is located at 226.7'. Ex. 6 at 16 (Figure 2). The distance from the finished grade below the southern end of the eastern facade to the top of the facade is thus more than 33'.

Figure 2: Snip from Ex 1014



[17] Ex. 1014 at 4.

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As shown on the right-hand side of Figure 2, the building's cantilever is above a 226.7' grade on *both* the south and east sides of the cantilever. Yet, the City relies on only the south side of the cantilever, ignoring the east side completely. City Closing at 7. The east side of the cantilever adjoins the east side yard. Ms. Strand attempted to wiggle out of this by arguing that the sightlines of building were relevant to this determination. But Ms. McGuire agreed that the building is cantilevered and Mr. Almeter agreed that taking into account visibility from different vantage points was not codified and not found anywhere in the Code. Almeter Testimony, TR at 107-108. Mr. Almeter also agreed that the finished grade right below the cantilevered portion of the proposed residence was 226.47 feet. *Id.*

Mr. Grove clearly carried his burden to show that the east side yard setback must be at least 10 feet consistent with MICC 19.02.020.C.1.c.iii.b.

4. <u>Issue 4: The City Incorrectly Calculated Building Height and Approved a Rooftop Railing System that Exceeds Height Limits</u>

a. The City's Applied the Wrong Code Section Related to Rooftop Railings

Mr. Grove clearly established that the City incorrectly approved a rooftop railing system that exceeds the 30 foot height limit set by MICC 19.02.020(E). The City argues, based on a flawed and strained reading of the Code, that certain appurtenances will "naturally exceed" the maximum building height by being placed on top of the building. City Closing at 9. This reads out of the Code an entire section that specifically requires rooftop railings not exceed the maximum building facade height on the downhill side on a sloping lot. Here, despite the lot sloping, the City stopped measuring at the top of the roof structure, and failed to measure to the top of the railings on the downhill side of the proposed residence as required by MICC 19.02.020(E)(2). As a result, the City erroneously approved rooftop railings that exceed the 30 foot limit.

MICC 19.02.020(E) governs building height limits generally and sets forth two methods of measuring building height. The first applies to the maximum building height of a structure above the structure's *average building elevation*. MICC 19.02.020(E)(1) ("no building shall exceed 30

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feet in height above *the average building elevation* to the highest point of the roof.") (emphasis added). The second applies to the maximum building height on downhill building facades for sloping lots, such as this one. MICC 19.02.020(E)(2). In these cases, "the maximum building facade height on the downhill side of a sloping lot shall not exceed 30 feet in height" "measured from *the existing grade or finished grade*, whichever is lower." *Id.* (emphasis added). Here, (E)(2) applies and the maximum building facade height on the downhill side of a sloping lot shall not exceed 30 feet in height.

Certain appurtenances, like antennas, flagpoles or solar panels, may extend a maximum of five feet above either of those heights, depending on which applies, **but rooftop railings may not in either scenario**:

> Antennas, lightning rods, plumbing stacks, flagpoles, electrical service leads, chimneys and fireplaces, solar panels, and other similar appurtenances may extend to a maximum of five feet above the height allowed ***for the main structure in subsections (E)(1) and (2) of this section***; provided: ***Rooftop railings may not*** extend above the maximum allowed height for the main structure. MICC 19.02.020(E)(3)-(3)(b). (emphasis added).

The City initially argued at hearing that only MICC 19.02.020(E)(1) applied – meaning the rooftop railings could not extend beyond the maximum allowed height for the main structure based on the average building elevation. McGuire Testimony, TR at 57. But on cross examination the City ultimately admitted that the measurement must be different on sloping lots and because MICC 19.02.020(E)(3) references both MICC 19.02.020(E)(1) and (2), it applies equally (meaning one must measure to the top of the railings themselves and the railings cannot exceed the maximum building facade height on the downhill side of the sloping lot (30 feet)). McGuire Testimony, TR at 62, 64. The City thus ultimately agreed that (E)(2) applied but in the end still claimed that (E)(2) ended at the rafters. They therefore just stopped measuring at the top of the rooftop structure regardless of what is above it. The City argues that they can disregard the railings here because "rooftop railings will always sit above the roof structure." City Closing at 9.[18] But this ignores the

[18] Although the City's argument is not entirely clear, Appellant must note the absurd result if the City's approach were

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language of MICC 19.02.020(E)(1)-(3) read together and reads out of the code an entire section. (E)(3)(b) must be read to apply to both (E)(1) and (E)(2) equally—here with (E)(2) being the applicable provision.

This also appears to be yet another attempt to justify the City's improper approval of the Project. This new argument should be rejected—the language and intent of the Code is clear that although some appurtenances may exceed the applicable height limit by five feet in limited circumstances, Mercer Island specifically chose to exclude rooftop railings from that list. *In re Det. of Williams,* 147 Wn.2d 476, 491, 55 P.3d 597, 604 (2002) ("Under expressio unius est exclusio alterius, a canon of statutory construction, to express one thing in a statute implies the exclusion of the other. Omissions are deemed to be exclusions.").

Rooftop railings ***may not*** extend the maximum allowed height of the structure, here measured from the existing or finished grade, whichever is lower. Further, the railings are, by definition, part of the facade. MICC 19.16.010(F) (Facade is "Any exterior wall of a structure, including projections from and attachments to the wall."). Here, Mr. Almeter confirmed Mr. Grove's testimony that the railings on the southern facade sit at 260.4' above finished grade. Almeter Testimony, TR at 107. This places the railings at approximately 33.9' above finished grade, higher than the 30-foot limit and, therefore, in exceedance of the code.

Mr. Grove easily carried his burden with respect to the height of the rooftop railings.

5. Issue 5: The City Improperly Approved a Proposed Soldier Pile Retaining Wall that Exceeds the MICC's Maximum 6-Foot (72") Height Allowance

Mr. Grove established that the City allowed Ms. Strand to avoid a full measurement of the soldier pile walls, resulting in a retaining wall system that exceeds the applicable code limits set by MICC19.02.050.D.5.b. Grove Testimony, TR at 24. There is no dispute that the soldier piles are an aspect of this project proposal and must conform to current code requirements, including a

applied. There would be essentially no limit to the height of the wall on the downhill facade other than E1. On very steep lots, this could result in walls well over 40 feet, contrary to the text and intent of the Code.

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height limit of no more than 72".[19] Almeter Testimony, TR at 101; McGuire Testimony, at 58. There also can be no dispute that the rocks on the existing slope must have been converted into a rockery to satisfy the building code. Grove Testimony, TR at 24; *See Woldson v. Woodhead,* 159 Wn.2d 215, 217, 149 P.3d 361, 362 (2006) (where a rubble masonry wall became a retaining wall for the extra dirt on Woodhead's land, a use not contemplated by its original design). The nature of the rocks clearly changed by virtue of the alterations that will need to be made to accommodate the rest of the Project. Because the soldier pile wall is so close to the property line (about 6 feet from the western property line and 12 to 13 feet above grade) the building code requires the soil to the west of the retaining wall be retained all the way from the top of that wall to the bottom.[20] *Id.* This results in a steep structure to avoid overly loose ground.[21]

The City argues that the maximum exposed portion of the proposed new shoring wall will be less than 6 feet in height, and any attempt to add height for the rocks there is contrary to the Hearing Examiner's holding in Grove I. City's Closing at 9. But the Hearing Examiner previously ruled in Grove I that the existing rocks are "not a wall", therefore not "retaining walls/rockeries" under the Code. The City's argument fails because the slope immediately west of the soldier piles (which have to be treated as new retaining walls/rockeries) relies on the rocks on the existing slope to function. Grove Testimony, TR at 24. In such cases, height must be measured from the top of the retaining wall or rockery to the existing grade or finished grade below it, whichever is lower.

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[19] Note, as Mr. Grove testified, City comments on Submittal 3 to the Project Plans (Ex. 60, SUB 3) specifically requested that the applicant to meet the requirements in MICC 19.02.050.E requires a 42" height limit in the front yard (MICC 19.02.050.E.1.a.ii). Ms. McGuire stated: "Provide top and bottom elevations of the shoring wall within the side and front yards. Fences atop walls count toward maximum heights per MICC 19.02.050(D) & (E)". (E) specifically limits front yard to 42". Ms. McGuire never followed up and never required the Applicant to correct the exceedance in the front yard as well. Appellant raised this at hearing but was unable to testify on the subject. Grove Testimony, TR at 23.

[20] Mercer Island has adopted the Washington State Building Code at MICC 17.01.010. See J107.6 of the Washington State Building Code. The standard limit for fill slopes is 1 vertical: 2 horizontal.

[21] *See* Ex. 6 at 9. "West Shoring Wall Profile" shows the bottom of the exposed portion of the shoring wall along the western edge of the lot is at approximately 226'. The shoring wall is approximately 6' west of the property line (Ex 6 at 8), and the elevation along the west property line is approximately 216' (Ex. 6 at 3). As a result, the slope west of the rockery in the required front yard is approximately 10 vertical to 6 horizontal (226' – 216'' vertical, and 6' horizontal), or a slope of 1.67 vertical to 1 horizontal.

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See MICC 19.02.050.C.2. And, the measurement must be taken from the bottom of the rockery (~216') to the top of the retaining. This places the wall at closer to 8 to 15 feet, well in exceedance of the 6-foot limit, which is not code compliant. This error should also be remanded for correction.

IV. CONCLUSION

Mr. Grove has more than sufficiently carried his burden to show substantial error in this case and respectfully requests the Hearing Examiner remand Building Permit 2207-019 to the City for further consideration. To clarify, Mr. Grove is not asking the Hearing Examiner cancel or deny this permit. Instead, Mr. Grove asks that the City correct the violations established in these proceedings and enforce the Code that has been adopted and amended through the legislative process.

Respectfully submitted: May 31, 2024

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CERTIFICATE OF SERVICE

I hereby certify that I served the foregoing APPELLANT DANIEL GROVE'S CLOSING ARGUMENT on the following:

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to be sent by the following indicated method or methods, on the date set forth below:

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DATED: May 31, 2024

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Exhibit F

From:	Molly McGuire
Sent time:	2023/06/12 03:51:10 PM
To:	Ryan Harriman
Subject:	RE: RE: CPD Manager's Meeting Agenda - June 14

Hi Ryan,

Here is what we are discussing tomorrow in the format requested:

- Case/owner name: Jeffrey Almeter & Dorothy Strand (2207-019; Demo/Rebuild SFR in geologically hazardous area)
- Site address: 6950 SE Maker St
- Executive summary of the problem: The applicant has been asked to provide the City with the existing grade on the property to determine maximum building height on a sloping lot and the percentage of basement floor area exempt from GFA based on the percentage below existing or finished grade, whichever is lower. The definition of existing grade as determined in the code is “The surface level at any point on the lot prior to alteration of the ground surface” (for reference, alteration is defined as “Any human-induced action which impacts the existing condition of the area, including but not limited to grading, filling, dredging, draining, channeling and paving (including construction and application of gravel). "Alteration" does not include walking, passive recreation, fishing, or similar activities”). The applicant has claimed that the “existing grade” is the grade that currently exists on the property today, however several neighbors of the proposed development have brought the City information that determines that the existing grade on the property was altered when the current house was constructed around 1950. The neighbors believe that the applicant is not showing existing grade correctly on the plans, and that the proposed height and GFA are over the maximum allowed based on existing grade. The City has requested that the applicant give permission for a third party reviewer to determine if the existing grade can be extrapolated using historical surveys to which the applicant has denied.

  Additionally, the neighbors have expressed concerns that the Critical Area Type 2 Review was not processed correctly by the City. Per MICC 19.07.090(B))2)(b)(ii) the applicant can request consolidation of the review of the geologically hazardous areas together with construction permit review. The neighbors believe that there must be a separate permit and noticing period for the CAR2 review, instead of this review being consolidated with the building permit since the building permit’s application materials do not make it clear that consolidated review was requested or processed.
- Next steps: The application is currently under review for SUB3 by most review disciplines with a target review date of June 16. The applicant has not provided information to sufficiently determine existing grade as required to determine GFA basement exemptions and maximum downhill facade height.
- Desired solution for the City: Per MICC 19.15.110(D) The code official may issue a decision when three or more requests for the same information have remained unaddressed by materials submitted by the applicant. The official or entity shall provide written notification to the applicant, informing them that a decision will be issued and providing the opportunity for one set of information to be submitted before the decision is issued. The intent of this provision is to allow the code official to issue a decision when the content of submittal materials demonstrates an inability or unwillingness to meet applicable code requirements after repeated requests by the city. It is not the intent of this section to limit good faith efforts to meet code requirements by submitting new information in pursuit of approval.

Molly McGuire
Planner
City of Mercer Island – Community Planning & Development
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From: Ryan Harriman <ryan.harriman@mercerisland.gov>
Sent: Monday, June 12, 2023 3:26 PM
To: Molly McGuire <molly.mcguire@mercerisland.gov>
Subject: FW: RE: CPD Manager's Meeting Agenda - June 14
Importance: High

Molly,

Please see the email below. Can you give me a write up for the case we’re discussing tomorrow in the form that Jeff lists below?

Thanks!

Ryan Harriman, EMPA, AICP
Planning Manager
Community Planning & Development | City of Mercer Island
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From: Jeff Thomas <jeff.thomas@mercerisland.gov>
Sent: Monday, June 12, 2023 2:02 PM
To: Ryan Harriman <ryan.harriman@mercerisland.gov>; Holly Mercier <holly.mercier@mercergov.org>; Alison Van Gorp <alison.vangorp@mercergov.org>; Don Cole <Don.Cole@mercergov.org>
Subject: RE: CPD Manager's Meeting Agenda - June 14
Importance: High

All,

For our June 14 CPD Manager's Meeting, I'd like to spend the bulk of our time taking inventory of the ongoing problem situations related to permitting.

Examples include Yak, Taylor, East Seattle Plat and current CE actions including APL 23-002.

Please come prepared to discuss with the:

- Case/owner name
- Site address
- Executive summary of the problem
- Next steps
- Desired solution for the City

Thanks, Jeff