364 WINDOVER AVENUE NW

VIENNA, VA

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CERTIFIED PROFESSIONAL BUILDING DESIGNER
NATIONAL COUNCIL OF BUILDING DESIGNER CERTIFICATION
MARC J. O'GRADY
47-167

DATE:	ISSUE:
10.18.19	DESIGN REVIEW
10.21.19	CLIENT REVISIONS
10.30.19	BID SET
03.30.20	DESIGN REVIEW
05.01.20	FOR PERMIT

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COVER

GENERAL NOTES

DIVISION 1 - GENERAL REQUIREMENTS

1. Work performed shall comply with the following:
   A. These general notes unless otherwise noted on plans or specifications.
   B. International Residential Code (IRC), latest edition.
   C. All applicable local and state codes, ordinances and regulations. In areas where the drawings do not address methodology, the contractor shall be bound to perform in strict compliance with the manufacturer's specifications and/or recommendations.

2. On-site verification of all dimensions and conditions shall be the responsibility of the general contractor and his/her subcontractors. Noted dimensions take precedence over scale. DO NOT SCALE DRAWINGS.

3. The general notes and typical details apply throughout the job unless otherwise noted or shown.

4. Discrepancies: The contractor shall compare and coordinate all drawings; when in the opinion of the contractor, a discrepancy exists he/she shall promptly report it to the Architect and/or Designer for proper adjustment before proceeding with the work.

5. Omissions: In the event certain features of the construction are not fully shown on the drawings, their construction shall be of the same character as similar conditions that are shown or noted.

6. All work is to be performed in a professional manner and in accordance with standard practice and consistent with manufacturer's and supplier's recommended installation procedures.

7. Dimensions shall be read or calculated and never scaled. All dimensions are to be rough unless noted otherwise.

8. Before submitting proposals, bidders shall carefully examine the drawings, inspect the site and acquaint themselves with all governing ordinances, laws, etc. and otherwise familiarize themselves with all matters which may affect performance of the work.

9. The Architect and/or Designer will not be responsible for and will not have control over construction means, methods, techniques, sequences or procedures, or for safety precautions or programs in connection with the work and will not be responsible for the failure of the Client or his contractors, subcontractors or anyone performing any of the work, to carry out the work in accordance with the approved contract documents.

10. Any and all drawings and specifications for sitework, plumbing supply or waste, electrical circuitry, mechanical heating, cooling or ventilating, and fabricated trusses are not part of the professional services provided to the Client by the Architect and/or Designer unless specifically included under their agreement. Any discrepancies with these documents by any of the disciplines listed above should be provided in writing to the Architect and/or Designer immediately.

11. Prior to application for building permit, the Contractor shall provide two copies of the shop drawings of all fabricated components. Items requiring shop drawings include, but are not limited; roof & floor trusses, stairs, cabinets, etc. Should the design of configuration of any prefabricated component be modified during construction from previously approved shop drawings, the Architect and/or Designer shall be furnished, prior to fabrication, with revised shop drawings incorporating the revision. If the Architect and/or Designer is not provided with the above information, the Client shall defend, indemnify, and hold harmless the Architect and/or Designer from any claim or suit whatsoever, including but not limited to all payments, expenses or costs included or alleged to have risen from the prefabricated items.

12. The conditions and the assumptions stated in these specifications shall be verified by the Contractor prior to construction for conformance to local codes and conditions. In the event of a discrepancy between the specifications and local codes or conditions, the Contractor shall notify the Architect and/or Designer in writing of the discrepancy and special engineering requirements shall be applied to insure the building's structural integrity.

13. The requirements listed here may be superseded by more stringent information contained elsewhere within these drawings. The more conservative information shall be followed.

14. Soil conditions shall conform to or exceed the following conditions:

    Bearing Capacity: Min. 1500 psf, 60 psf lat earth pressure- field verify by a licensed soil engineer, under all footings and slabs on grade.

    Water Table: Min. 2'-0" below bottom of all concrete slabs and footings. Footing's, foundation walls, and slabs shall not be placed on or in Marine clays, Peat or other organic materials.

15. Reference Code Analysis on this sheet for design live and dead loads.

16. Bottom of all footings shall extend below the frost line of the locality and a minimum of 1'-0" into the original undisturbed soil compacted to 95% dry density having a load carrying capacity as specified in Note 14, as verified by a soils engineer licensed in the locality where the project is located.

17. All foundation wall backfill under slabs where the distance from edge of wall to edge of undisturbed soil exceeds 16", but less than 4'-0" shall consist of clean, porous soil compacted in 6" layers to 95% dry density or provide #4 rebars at 24" O.C., 1'-0" beyond the edge of the undisturbed soil and 1'-0" into the foundation wall.

18. Free draining granular backfill (SM or better) shall be used against all foundation walls consistent with the architectural plans and details. Equivalent fluid pressure of backfill is not to exceed 45 pcf. If backfill pressure exceeds 45 pcf, then the walls must be designed for actual pressure by a Professional Engineer licensed in the locality where the project is located.

19. Unbalanced fill is not to exceed 7'-0" unless otherwise noted and substantiated by the engineering calculations. Backfill shall not be placed against the walls until the slab-on-grade and framed floors are in place and have reached their design strengths. Proper precautions shall be taken to brace foundation walls when backfilling. Where backfill is required on both sides, backfill both sides simultaneously.

20. Attachment of mud sill - locate anchor bolts max. 6'-0" O.C. and within 12" of ends of wall. Imbed anchor bolts 7" minimum into the foundation wall or slab.

DIVISION 3 - CONCRETE

Concrete

1. The concrete properties shall be as follows (w/ min. compressive strength (f'c) @ 28 days

LOCATION OF CONCRETE	MIN. COMP. STRENGTH (f'c)	SLUMP (IN.)
Basement walls and foundation not exposed to weather	3000 PSI (a)	4 + 1
Basement slabs and interior slabs on grade	3000 PSI (a)	4 + 1
Basement walls, foundations, exterior walls and other vertical concrete work exposed to weather	3000 PSI (b)	4 + 1
Driveways, curbs, walks, patios, porches, steps, stairs and unheated garage floors exposed to weather	3500 PSI (b)	4 + 1

NOTES
a. Concrete in these locations which may be subject to freezing and thawing during construction shall be air-entrained.
b. Concrete shall be air-entrained.

2. All reinforced concrete to be in accordance with the American Concrete Institute ACI-99. All plain concrete to conform to ACI 318.1 and ACI 332R-84 guide to residential cast in place concrete.
3. All reinforcement, anchor bolts, pipe sleeves and other inserts shall be positively secured in place before concrete is placed.
4. Provide 95% backfill compaction at 8" layers at all slabs and footings. Backfill to be of approved material.
5. Reference foundation notes for reinforcement requirements.
6. Tool edge of control joints and at slab to wall joints.
7. Air-entrainment: All concrete subjected to severe weathering potential shall be air-entrained as follows:

Aggregate Size	Air-Entrainment %
3/8" - 1/2"	7.0
3/4" - 1"	6.0

8. Aggregate shall conform to ASTM C-33.
9. Slabs on grade shall be 4" thick concrete and reinforced with 6x6 W1.4xW1.4 WWF unless noted otherwise on plans. Lap mesh 8" in each direction. Place concrete over 6 mil. Polyethylene vapor retarder and 4" min. of coarse aggregate or as recommended by soils engineer. The aggregate layer shall be placed over firm natural subgrade or on compacted and controlled fill. Fill under slabs shall be compacted in 8" layers to 95% max. density. Use air-entrained at all exterior slabs. Pour slabs in alternate panels with a max. of 600 sf and provide control and construction joints at 30'-0" max. or as required to prevent uncontrolled cracking. Vapor retarder may be omitted in garages and utility buildings.
10. Provide 3' x 3' corner bars to match all horizontal reinforcing in walls and footings. All laps shall be a min. of 36 bar diameters. Provide dowels between all footings, walls, and piers to match size and spacing of vertical reinforcing.
11. CONCRETE BASEMENT WALLS: Walls designated as plain concrete shall be reinforced with #4 rebars @ 24" o.c. horizontal or per local codes, whichever is more stringent. Equivalent soil pressure equals 60 pcf. All window and door openings shall be reinforced with a min. of (2) #4 bars and shall extend at least 24 inches beyond the corners of the openings.
12. Concrete footings for the following wall sizes are the minimum required:

8" masonry or concrete wall:	16" wide x 8" deep w/ (2) #4 bars
10" masonry or concrete wall:	20" wide x 12" deep w/ (2) #4 bars
12" masonry or concrete wall:	24" wide x 12" deep w/ (3) #4 bars
3" DIA. Steel Pipe Column:	30" x 30" x 15" deep w/ (3) #4 bars E.W.
Masonry piers and chimneys:	Footings shall have 9" projections x 15" depth minimum w/ #4 bars @ 12" o.c. E.W.

Reinforcing Steel

1. Reinforcing steel shall be high strength new billet steel conforming to ASTM A-615 (Grade 60 - 60,000 PSI). Welded wire fabric shall conform to ASTM A-185.
2. Detailing, fabricating and placing of reinforcement shall be in accordance with ACI-315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures". Furnish support bars and all required accessories in accordance with CRSI standards.
3. All reinforcing bars which intercept perpendicular elements shall terminate in hooks, placed two (2) inches clear from outer face of element.
4. The contractor shall notify the building official or approved entity at least forty-eight (48) hours prior to each concrete pour. No concrete shall be placed until all reinforcing has been installed by the contractor and inspected by the building official.
5. Protective cover for reinforcing steel shall be as follows:
   A. Footings and other concrete poured against earth: 3"
   B. Slab on grade: Mid-depth of slab
   C. Walls:1" at interior face; 2" at exterior face
   D. Wire mesh to be placed at mid-depth of slab.

Foundation

1. Footing depths are shown on the sections unless otherwise noted, footings shall project a minimum of 12" into original undisturbed soil and a minimum of 24" below finished grade. Where required, step footings to ratio of 2 horizontal to 1 vertical.
2. Where conditions develop requiring changes in excavations, such changes shall be made as directed by the Geotechnical Engineer.
3. All footing excavations shall be inspected by the building official prior to the placing of any concrete. The building official shall be given notice for this observation.
4. Soil investigation and report: All earth work, compaction and supervision shall be done per recommendations of soil investigation report. Concrete slab and footing calculations are based on a soil bearing capacity of 1,500 psf. If the site test borings indicate lesser values, notify Architect and/or Designer so that necessary structural modifications may be made.

DIVISION 4 - MASONRY

1. Solid masonry walls to have approved truss ties at 16" o.c. vertically above grade and 8" o.c. vertically below grade where unbalanced fill occurs.
2. Brick veneer walls to have non-corrosive metal ties at 16" o.c. vertically and horizontally, and weep holes 24" o.c. at base flashing.
3. Provide at least 8" of solid masonry under concentrated loading conditions.
4. Mortar to conform to ASTM C270, Type N.
5. Locate flashing below first course of masonry above finished grade. See IRC sub-section R703.8 for additional locations.
6. Weep holes shall be located immediately above the flashing.

DIVISION 6 - WOOD & PLASTICS

Lumber Grade

1. All joists, rafters, and headers shall be, unless otherwise noted, SPF #2 with the following minimum allowable stresses and modulus elasticity:
   A. Extreme fiber stress: Fb=875 PSI (Repet. Member)
   B. Horizontal Shear: Fv=135 PSI
   C. Compression perpendicular to grain: Fc=425 PSI
   D. Modulus of elasticity: E=1,400,000 PSI
2. Spruce-Pine-Fir #2 may be substituted if substituted species meets or exceeds requirements as noted above.
3. Moisture content: All lumber 6" and deeper shall have a moisture content not greater than 19%, air dried lumber is desired but not necessary. Lumber may be kiln dried, however drying process must be slow and regulated to cause a minimum amount of checking, comparable with air dried stock.
4. All exterior lumber and lumber in contact with masonry or concrete shall be pressure preservative treated in accordance with AWPA standards.

6 x 6 Posts

All 6x6 posts designated #2 SYP shall have the following min. properties: Fb = 850 PSI, Fc per = 375 PSI, Fc par = 525 PSI, E = 1,200,000 PSI

Deck Lumber

Lumber for decks shall be a minimum #2 SYP, pressure treated to 0.40 lb. retention having the following properties: Fc per = 565 PSI, Fv = 90 PSI, E = 1,600,000 PSI, Fb = 1250, 1200, 1050, and 975 PSI for 2x6, 2x8, 2x10, and 2x12 respectively

Laminated Veneer Lumber

LVL's (Laminated Veneer Lumber) shall be 1-3/4" wide, of the depth specified on the plans, and shall be secured together as directed by the manufacturer. They shall have the following minimum properties: Fb = 2,600 PSI for 12" depth, for other multiply by [12/d]0.136, Fv = 285 PSI, Fc per = 700 PSI, E = 1,800,000 PSI, Fc par = 2,400 PSI. LVL's with a modulus of elasticity above 1,800,000 (1.8E) shall be used where noted on the framing plans.

Flitch Beams

1. Flitch beams shall have a minimum Fb = 850 PSI, E = 1,300,000 PSI with 2 rows 1/2" bolts, 16" o.c. top and 32" o.c. at bottom unless otherwise noted.

Joist Hangers

1. All purlins, joists and beams not framed over supporting members shall be supported by means of joist hangers.
2. Joist hangers shall be Simpson unless otherwise noted or an approved equal.

Bolts in Wood Framing

1. All bolts in wood framing shall be standard machine bolts with standard malleable iron washers or steel plate washers.
2. Steel plate washer sizes shall be as follows:
   A. 1/2" and 5/8" Diam. Bolts: 2-1/4" sq. x 5/16"
   B. 3/4" Diam. Bolts: 2-5/8" x 5/16"
3. Each bolt hole in wood shall be drilled 1/16" larger than diameter of bolt.
4. For sill bolts, see typical details.

Lag Bolts

1. Shall be square headed and of structural grade steel.
2. Washers shall be placed under the head of lag bolts bearing on wood.

Altering Structural Members

1. No structural member shall be omitted; notched, cut, blocking out or relocated without prior approval by Architect and/or Designer. Do not alter sizes of members noted without approval of Architect and/or Designer.

Built-Up Beams

1. Built-up beams or joists formed by a multiple of 3-ply or less 2x members shall be interconnected w/ 16d nails at 8" o.c.
2. Built-up beams formed by a multiple of LVL's shall be fastened w/ 3-rows 16d nails at 12" o.c. at each side w/ 3-ply or per manufacturer recommendation.

Cutting of Beams, Joists and Rafters

Cutting of wood beams, joists and rafters shall be limited to cuts and bored holes not deeper than one sixth (1/6) the depth of the member and shall not be located in the middle one-third (1/3) of the span. Notches at the end of the member shall not exceed one-fourth (1/4) the depth of the member. Holes bored or cut into the joist shall not be closer than two (2) inches to the top or bottom of the joist and the diameter of the hole shall not exceed one-third (1/3) the depth of the joist.

Pipes in Stud Bearing Walls or Shear Walls

Notches in studs of bearing walls shall not be more than 25% the width of the stud. Bored or drilled holes may not exceed 40% the stud and the edge of the hole is to be 5/8" min. from the edge of the stud.

Bridging and Blocking

There shall be not less than one line of bridging in every (8) feet of span in floor, attic and roof framing. The bridging shall consist of not less than one by three inch lumber double nailed at each end or of equivalent metal bracing of equal rigidity. Midspan bridging is not required for floor, attic or roof framing where joist depth does not exceed twelve inches normal. Block solid at all bearing supports where adequate lateral support is not otherwise provided.

Lintel Schedule

Lintels for brick veneer walls:	Provide minimum 4" bearing at each end.
Openings to 4'-0":	3 1/2" x 3 1/2" x 1/4" LLV
4'-0" to 5'-6":	4" x 3 1/2" x 5/16" LLV
5'-6" to 7'-6":	5" x 3 1/2" x 5/16" LLV
7'-6" to 9'-6":	6" x 3 1/2" x 5/16" LLV

Wall Sheathing & Subflooring

1. All plywood shall be 1/2" pine, 7/16" OSB or equal and shall be manufactured and graded in accordance with "Product Standard P-1-66" for soft plywood construction and industrial.
2. Each plywood sheet shall bear the "APA" grade trademark.
3. All end joints shall be staggered and shall butt along the center lines of framing members.
4. The face grain of the plywood shall be laid at right angles to the joists and trusses and parallel to the studs.
5. Nails shall be placed 3/8" minimum from the edge of the sheets. The minimum nail penetration into framing members shall be 1-1/2" for 8d nails and 1-3/8" for 10d nails.
6. All floor decks shall be 5/8" min. T & G PLYWOOD (Sturdi-Floor) glued/screwed with #12 wood screws at 6" o.c. on direct edges and at 10" o.c. at intermediate.

Corner Bracing

Unless otherwise noted, brace exterior corners of building with 4 x 8 sheets of OSB or plywood sheathing in thickness to match that of the remaining sheathing, or with metal strap devices installed in accordance with manufacturer instructions or comparable approved structural sheathing installed per manufacturer specifications.

Nailing

1. All nailing shall comply with the IRC, latest edition and all state and local building codes.

Fire Stopping

1. Fire stopping shall be provided to cutoff all concealed draft openings (both vertical and horizontal) in the following locations:
   A. In all stud walls and partitions including furred spaces at floor and ceiling levels and not more than 10'-0" apart.
   B. Between stair stringers at top and bottom and between studs in line with stair run.
2. Firestops, when of wood, shall be 2" nominal thickness and may be made of gypsum board, cement asbestos, mineral wool or other noncombustible material.
3. Spaces between chimneys and wood framing shall be filled with loose noncombustible material (2" minimum thickness).

Alignment

1. All rafters and joists framing from opposite sides shall lap at least three (3) inches and be spiked together.
2. When framing end to end joists shall be secured together by metal straps.
3. Provide additional studs at point load location to match number of studs above, extend to foundation.

Partitions

1. Lap top plates at corners and intersections.
2. All top plates to be minimum double 2 x 4 (SPF #2). Stagger splice and locate over wall studs.
3. All interior non-bearing walls to be minimum 2 x 4 (SPF Stud Grade) @ 16" o.c.

Wood Roof Trusses

Wood trusses shall be designed in accordance with N.Fo.P.A. standards and for live load deflection of L/360. Calculations, joint strength information (allowable load per square inch or per nail, allowable edge distance, allowable end distances) load test date and other information as necessary shall be submitted to local authorities for approval prior to fabrication. Each truss shall be secured at bearing as required by truss manufacturer and able to withstand lateral and uplift load indicated on truss shop drawings. Truss design shall be certified by a Professional Engineer registered in the governing jurisdiction. Truss diagrams show design intent only. Truss manufacturer to verify all spans, dimensions, pitches, etc. and submit shop drawings to Architect and/or Designer prior to fabrication. Wood roof trusses to be installed per manufacturer's instructions. Truss manufacturer to provide all required hangers, hold-down clips, shear panels and other special hardware. Wood roof trusses to be braced in accordance with TPI/HIB.

Wood Floor Framed Systems

I-Joists

1. "I" Joists: pre-engineered joists. Floor joist manufacturer to supply shop drawings and erection drawings and must be sealed by a Professional Engineer registered in the governing jurisdiction. Floor joist manufacturer to supply connection and bearing details, bridging and bracing details, nominal dimensions and joist layout configurations.
2. 1-1/4" timberstrand band board or equivalent at all end conditions and 2 x 4 cripples at all interior bearing conditions.
3. Floor joists shall be designed to limit deflection to L/480 live load. Total load deflection of L/360. I-Joists supporting marble or ceramic tile shall be limited to L/720 live load deflection.
4. Provide solid blocking on all joists parallel to exterior walls.

DIVISION 7 - THERMAL & MOISTURE CONTROL

Roofing

1. Shingles shall be as noted on the exterior elevations. Install over 1 layer of 15# asphalt saturated felt underlayment.
2. Moisture guard underlayment shall be used at the eaves to a point measured 24" horizontal from the interior face of all exterior insulated walls.

Flashing

1. All flashing to be of the approved corrosion-resistive type and shall be provided where exterior porches, decks or stairs attach to a wall or floor assembly or wood-framed construction. Flash and caulk wood beams and other projections through exterior walls or roof surfaces.
2. All flashing, counter flashing, and coping when of metal shall be of not less than no. 26 U.S. gauge approved corrosions-resistant metal.
3. Provide metal flashing above all windows, doors and capitals.

DIVISION 8 - DOORS AND WINDOWS

Windows

1. All windows shall have insulating glass. Reference floor plans.
2. Sizes indicated on plans are nominal only. Builder to consult with window manufacturer to determine exact sizes, rough openings, etc.
3. Every sleeping room shall have at least one operable window or exterior door approved for emergency egress or rescue.
4. Where windows are provided as a means of egress or rescue they shall have a sill height of not more than 44 inches above the floor.
5. All egress or rescue windows from sleeping rooms must have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.

Safety and Tempered Glass

Glazing in doors and fixed glazed panels immediately adjacent to doors shall be tempered as per local building code ordinances.

Locations requiring safety or tempered glass shall include but not be limited to the following:

1. Glazing in ingress and means of egress doors except jalousies.
2. Glazing in fixed and sliding panels of sliding (patio) door assemblies and panels in swinging doors.
3. Glazing in storm doors.
4. Glazing in doors and enclosures for bath tubs or showers and glazing in any part of a building wall enclosing these compartments where the bottom edge is less than 60 inches above the drain outlet.
5. Glazing in an individual fixed or operable panel, other than those locations described in items 5 and 6 above, that meets all of the following conditions:
   A. Exposed area of an individual pane greater than 9 sq. ft.
   B. Bottom edge less than 18 inches above the floor.
   C. To edge greater than 36" above the floor.
   D. One or more walking surfaces within 36 inches horizontally of the glazing.

DIVISION 9 - FINISHES

Gypsum Wallboard

1. All gypsum wallboard shall be installed in accordance with the provisions of the IRS, latest edition, state and local codes.
2. Gypsum wallboard shall not be installed until weather protection for the installation is provided.
3. All edges and ends of the gypsum wallboard shall occur on the framing members except those edges which are perpendicular to the framing members. All edges of gypsum wallboard shall be in contact with adjoining sheets except in concealed spaces where fire resistant construction is not required.
4. The sizes and spacing of fasteners shall comply with the IRC, latest edition, all state and local codes, and manufacturer recommendations.
5. Provide water resistant drywall at all new tubs and showers. Do not install water resistant drywall over a vapor retarder at tubs and showers.

Attic Ventilation

Enclosed attic truss spaces and enclosed roof rafters shall have cross ventilation for each separate space with screened vented openings protected against the entrance of moisture and rain in accordance with the IRC, latest edition, all state and local codes.

DIVISION 15 - MECHANICAL

Heating, Ventilating and Air Conditioning

1. All work shall be in full accordance with all codes, rules and regulations of the governing agencies.
2. Prefabricated fireplaces and chimneys shall conform to the IRC, latest edition, their listing and shall be installed per the manufacturer's instructions.
3. All work shall be done in a neat and workmanlike manner so as to not needlessly hamper that portion of the work performed by others.
4. Mechanical subcontractor to submit shop drawings indicating duct layouts, condenser location, duct sizes, etc. to the Architect and/or Designer prior to installation. Mechanical subcontractor to review structural shop drawings and notify the Architect and/or Designer of any mechanical and structural conflicts prior to construction.

Installation

1. Mechanical ventilation for bathrooms, water closet compartments and similar rooms shall have a min. of 50 CFM and exhausted directly to the outside.
2. Ducts in a garage shall be a min. of 26 gauge sheet steel or approved material and shall have no openings in the garage.

Plumbing

1. All work shall be in full accordance with all codes, rules and regulations of the governing agencies.
2. All work shall be done in a neat and workmanlike manner so as to not needlessly hamper that portion of the work performed by others.
3. Plumbing subcontractor to review structural shop drawings and notify the Architect and/or Designer of any plumbing, mechanical and structural conflicts prior to construction.

Installation

1. All equipment installed outdoors and exposed to weather shall be weather-proof.
2. Receptacles in kitchen and bathrooms shall be installed above work top unless otherwise noted on drawings.
3. Receptacles shall be installed 12" vertically above finished floor and a maximum of 12'-0" o.c. horizontally. All receptacles within 6'-0" horizontal of a sink lavatory, tub or shower shall be wired to a ground fault interrupter circuit.
4. Wall switches to be at 48" above finished floor.
5. All smoke detectors to be wired in a manner that the activation of one will activate all smoke alarms within the dwelling unit.
6. All electrical outlets in bedrooms shall be protected by arc-fault circuit interrupter per section E3802.9 of the IRC.

CODE ANALYSIS

ZONING	**RS-12.5** (TOWN OF VIENNA)
USE GROUP	R-5
CONSTRUCTION TYPE	5B
SPRINKLERS	NO
MAX BUILDING HEIGHT	35 FT
MIN SETBACKS	
FRONT YARD	35 FT
SIDE YARD	15 FT
REAR YARD	35 FT
CODE	**2015 IRC** **2015 VA CONSTRUCTION CODE** **2015 VECC**
DESIGN CRITERIA	**FAIRFAX COUNTY, VA**

SOIL BEARING PRESSURE
1500 psf

SOIL LATERAL PRESSURE
60 psf

DESIGN LOADS	LIVE	DEAD
LIVING AREA	40 psf	10 psf
BEDROOM AREA	30 psf	10 psf
ROOF	30 psf	10 psf
DECKS	40 psf	10 psf
BALCONY	60 psf	10 psf

GROUND SNOW LOAD
30 psf

WIND SPEED
BASIC: 90 mph
ULTIMATE: 115 mph

FROST LINE DEPTH = 24"

ENERGY COMPLIANCE

WINDOW / DOOR U-FACTOR	.35
SKYLIGHT U-FACTOR	.35
ROOF / CEILING R-VALUE	38
EXTERIOR WALL R-VALUE	15
FLOOR OVER EXTERIOR R-VALUE	19
SLAB PERIMETER R-VALUE	10

PROJECT SCOPE

- NEW CUSTOM HOME
- 2 STORY ABOVE GRADE WITH FULL BASEMENT

SQ. FOOT CALCULATIONS

NOTE: SQUARE FOOT CALCULATIONS ARE FROM EXTERIOR SIDE OF FRAMING / FOUNDATION UNLESS NOTED OTHERWISE.

TOTAL AREA

• BASEMENT:	1,488 SF
• BASEMENT CONC. SLAB:	1,380 SF
• FIRST FLOOR:	1,488 SF
• SECOND FLOOR:	2,045 SF
• GARAGE:	565 SF
• GARAGE CONC. SLAB:	530 SF
• FRONT PORCH + STEPS:	80 SF
• DECK + STAIRS:	357 SF
• PATIO:	546 SF
TOTAL FINISHED AREA:	**5,021 SF**

(BASEMENT + 1ST FLR + 2ND FLR)

CONDITIONED FLOOR AREA
(CALCULATED AT INTERIOR OF FRAMED WALLS)

• BASEMENT:	1,334 SF	(11,673 cu. ft.)
• FIRST FLOOR:	1,413 SF	(12,717 cu. ft.)
• SECOND FLOOR:	1.956 SF	(17,604 cu. ft.)
TOTAL CONDITIONED AREA:	**4,703 SF**	**(41,994 cu. ft.)**

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S5	STRUCTURAL DETAILS

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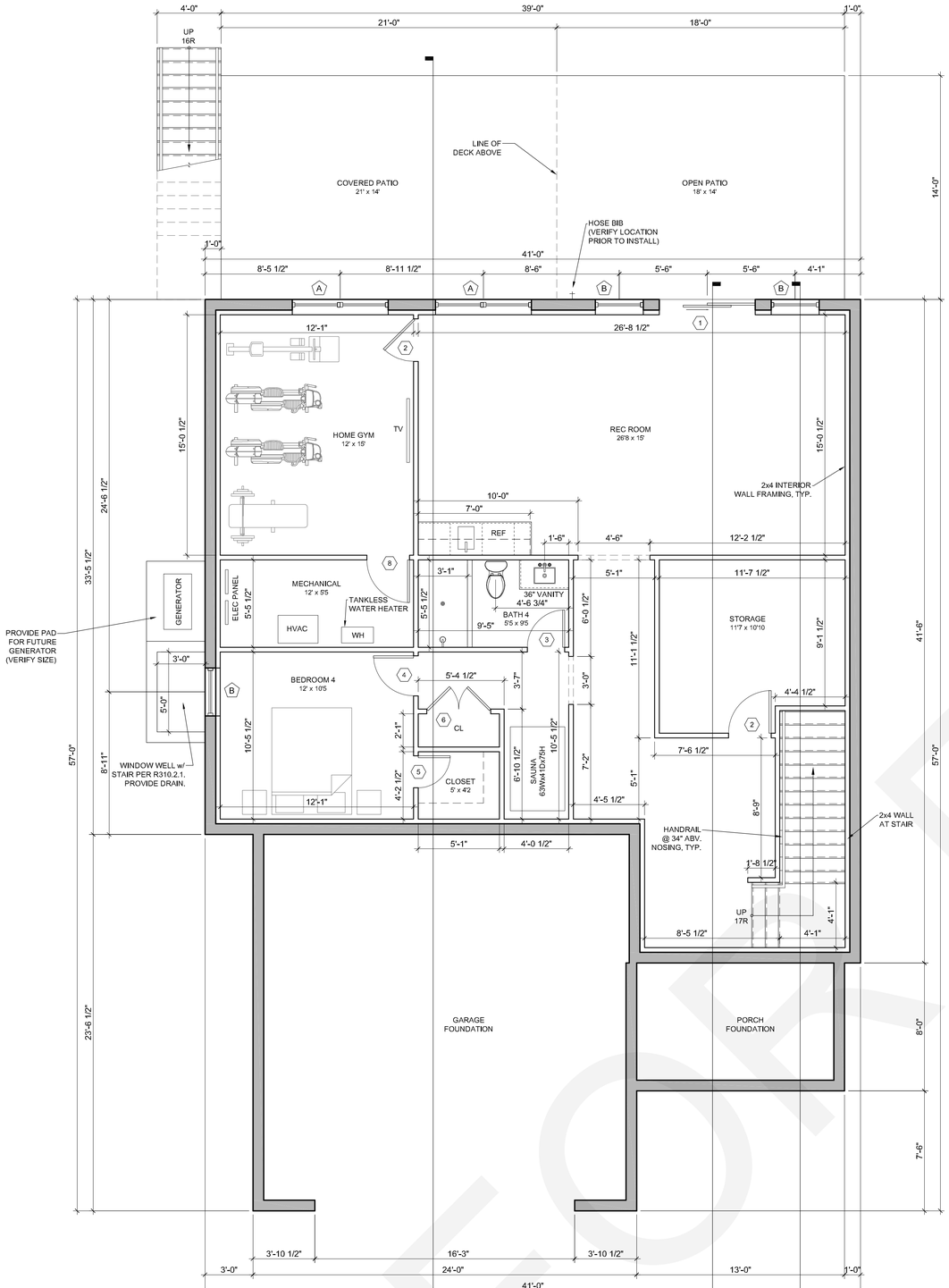
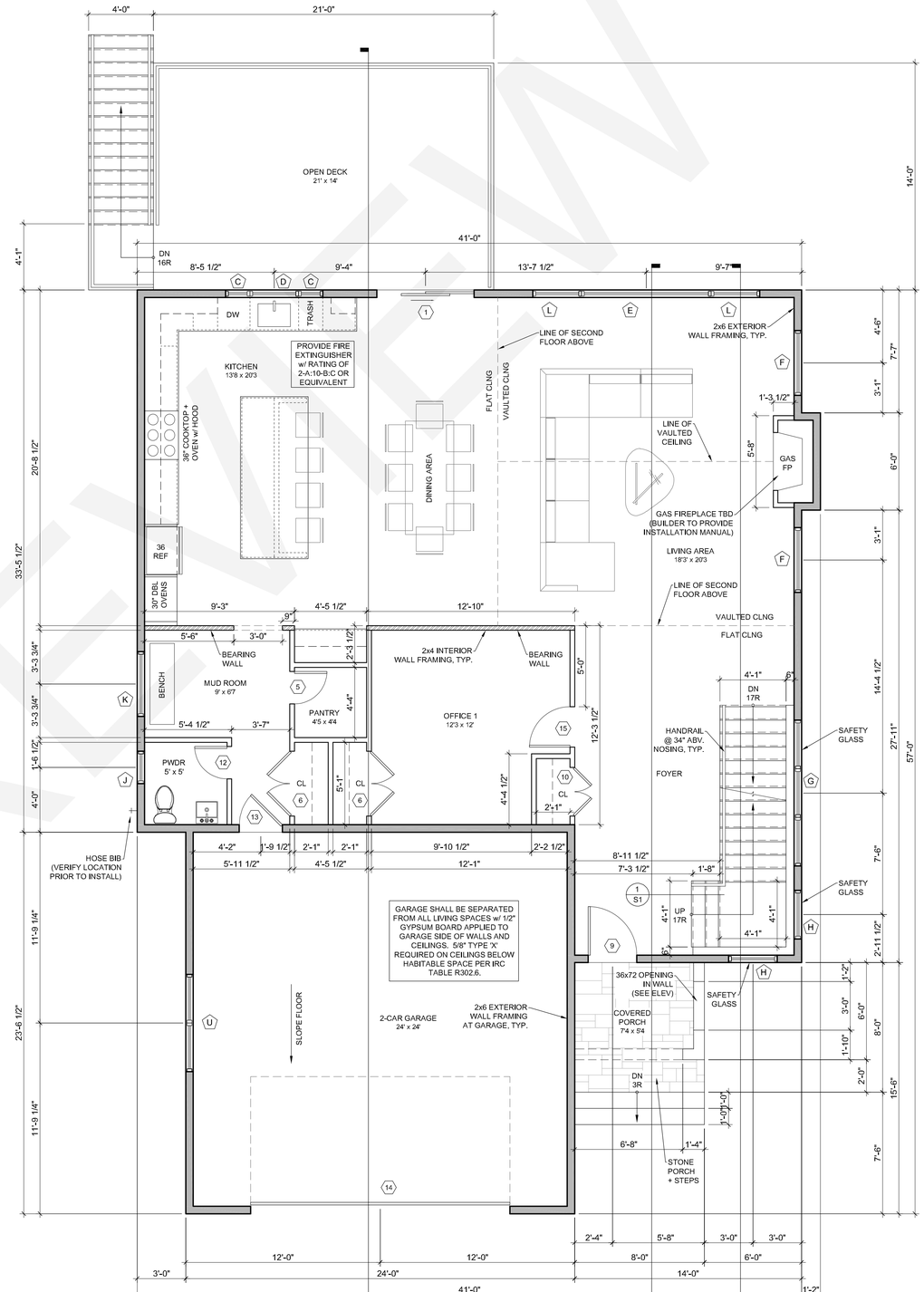


01

BASEMENT FLOOR PLAN - PROPOSED

1/4" = 1'-0"

1,488 SF



02

FIRST FLOOR PLAN - PROPOSED

1/4" = 1'-0"

1,488 SF

2,136 SF = FOOTPRINT

MINIMUM 50% OF LIGHT FIXTURES TO BE HIGH EFFICIENT TYPE

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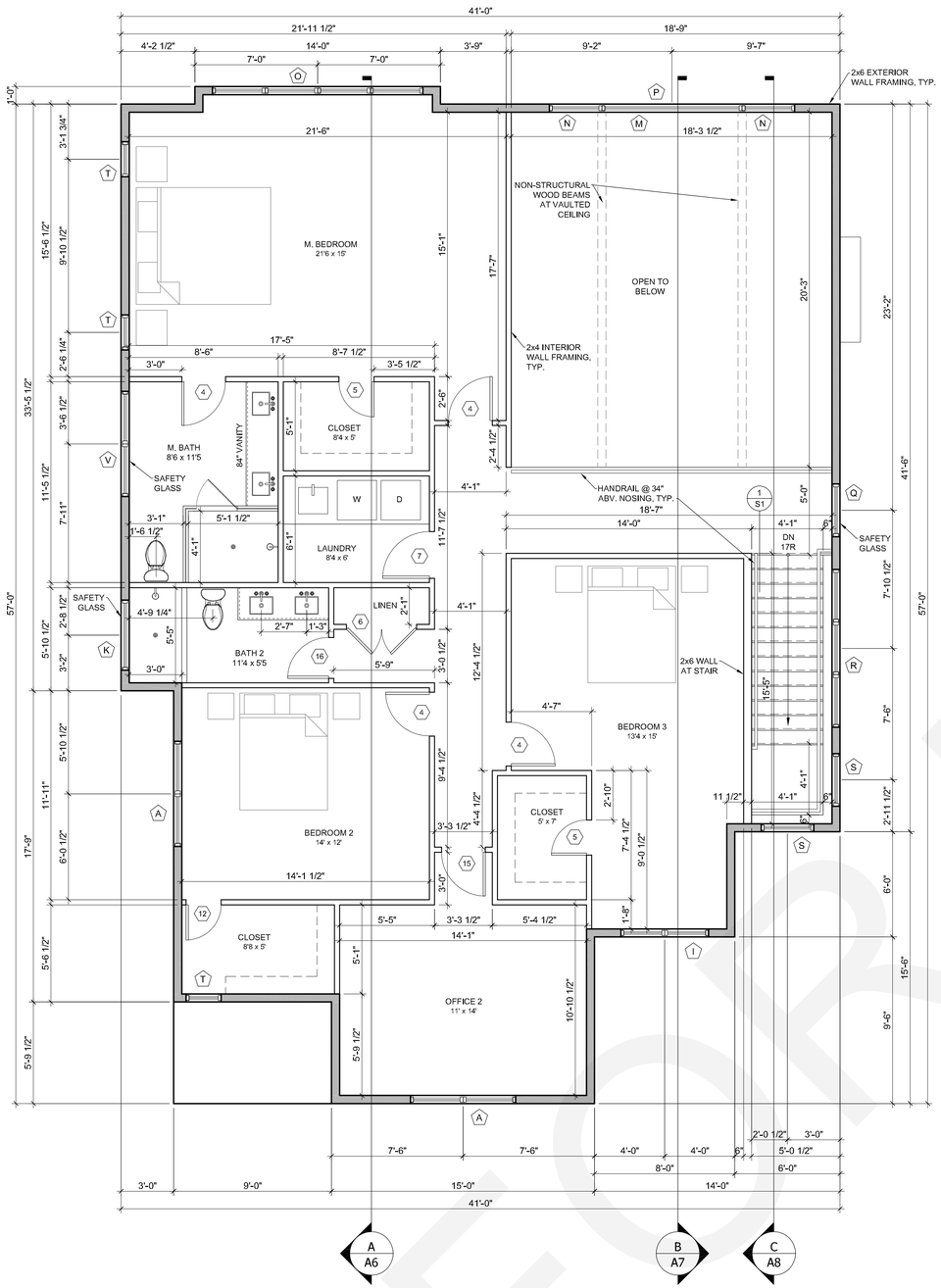
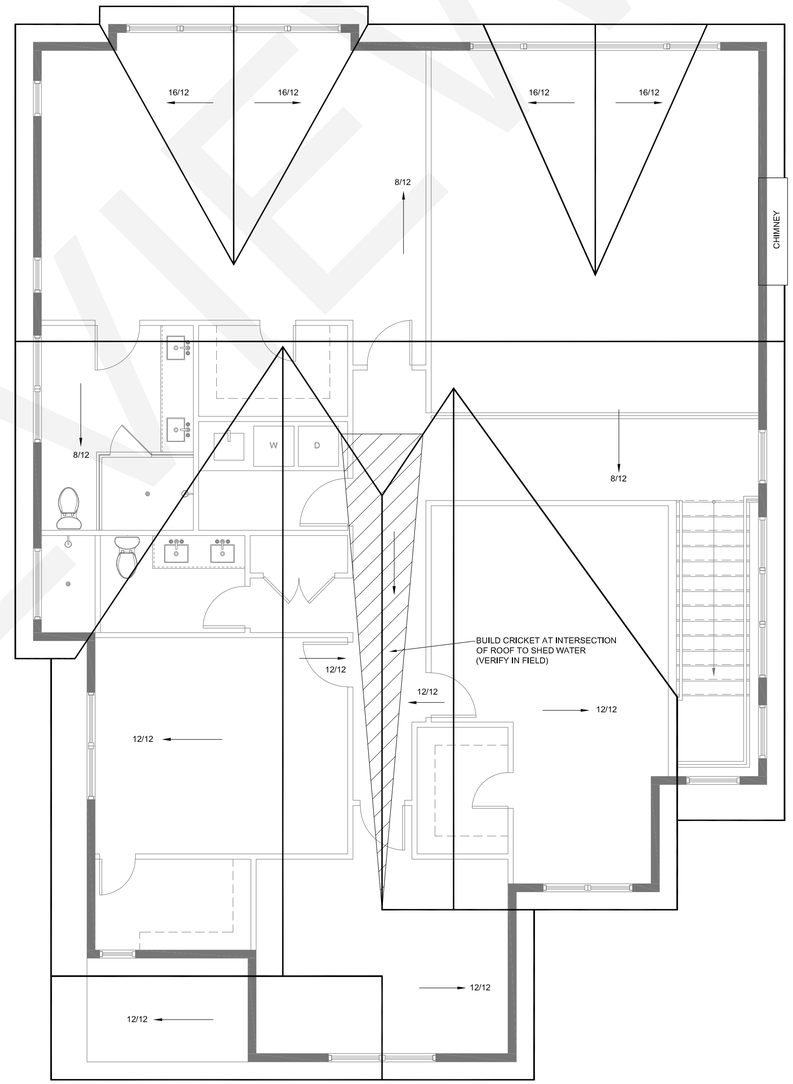


01

SECOND FLOOR PLAN - PROPOSED

1/4" = 1'-0"

1,556 SF



02

ROOF PLAN - PROPOSED

1/4" = 1'-0"

MINIMUM 50% OF LIGHT FIXTURES TO BE HIGH EFFICIENT TYPE

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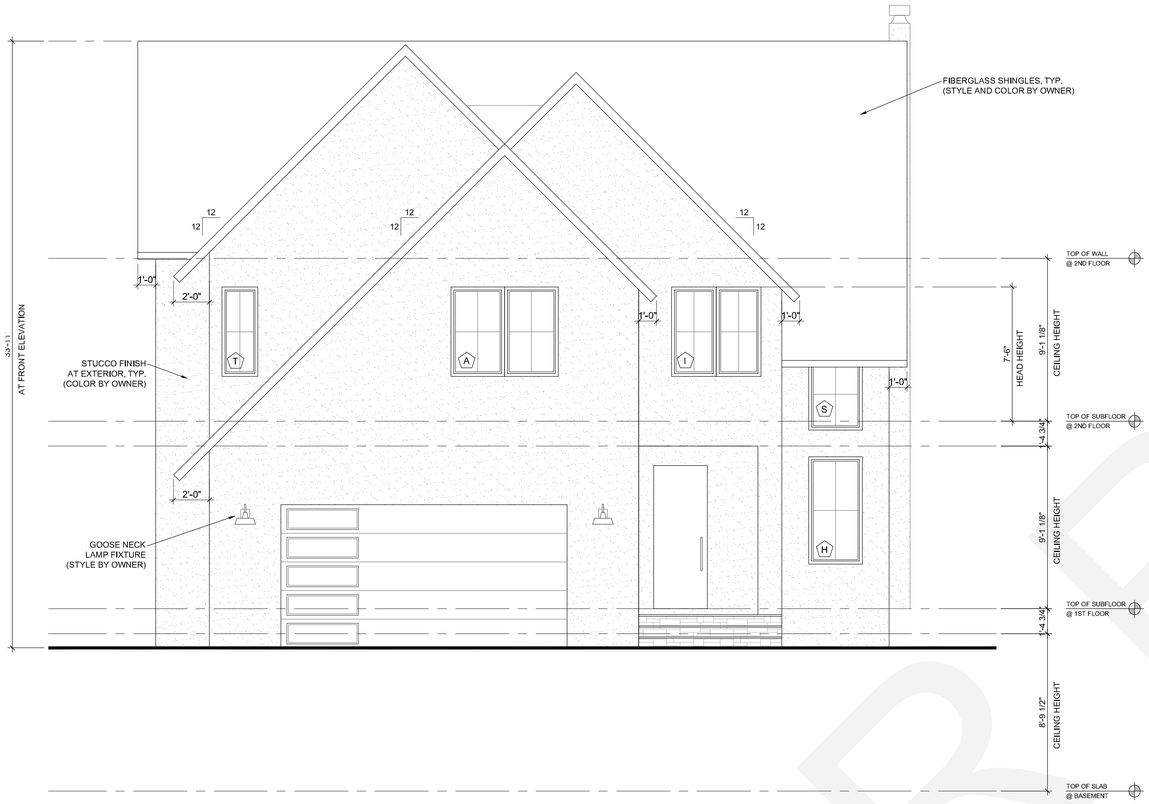

01

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

02

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

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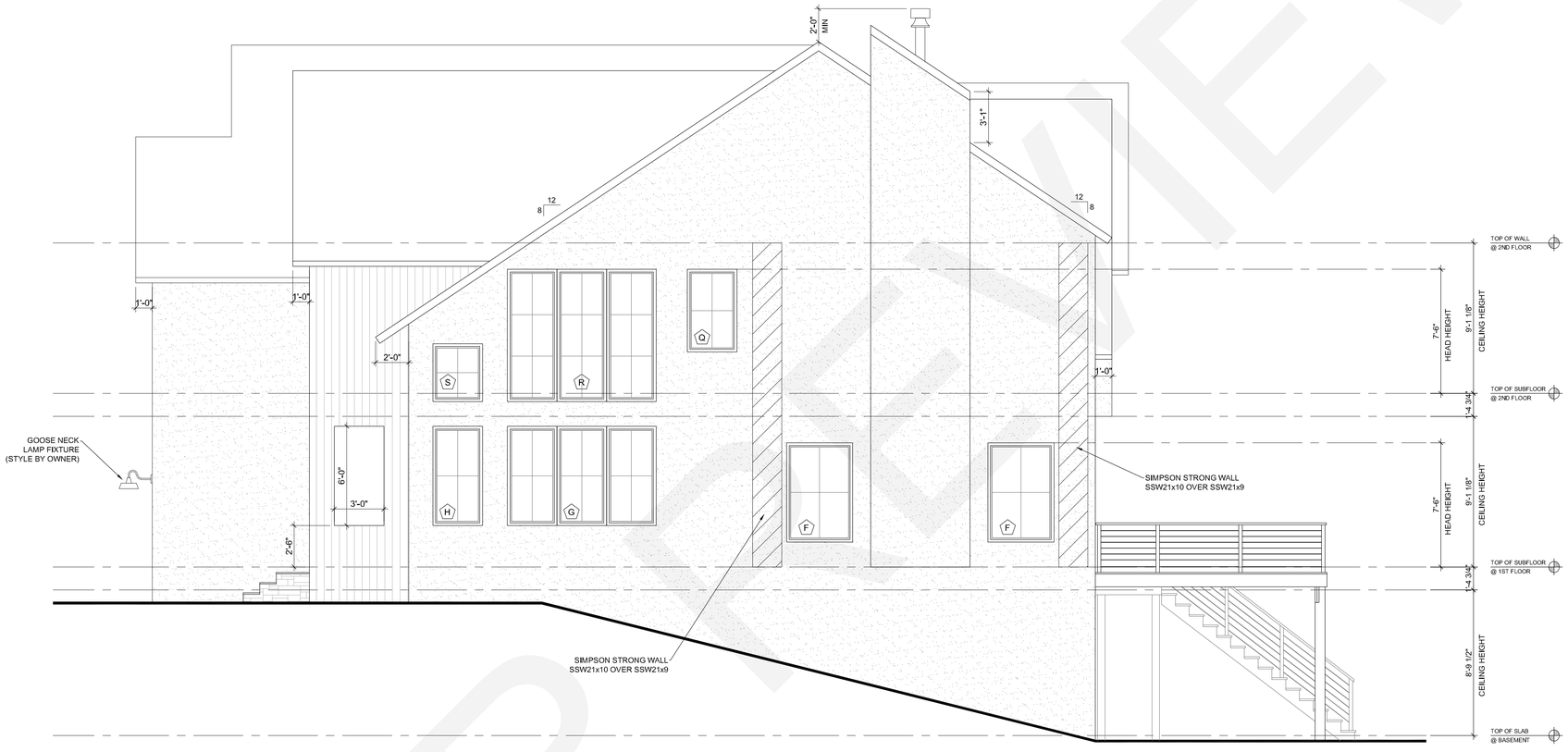

01

R. SIDE ELEVATION - PROPOSED
1/4" = 1'-0"

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01

L. SIDE ELEVATION - PROPOSED

1/4" = 1'-0"

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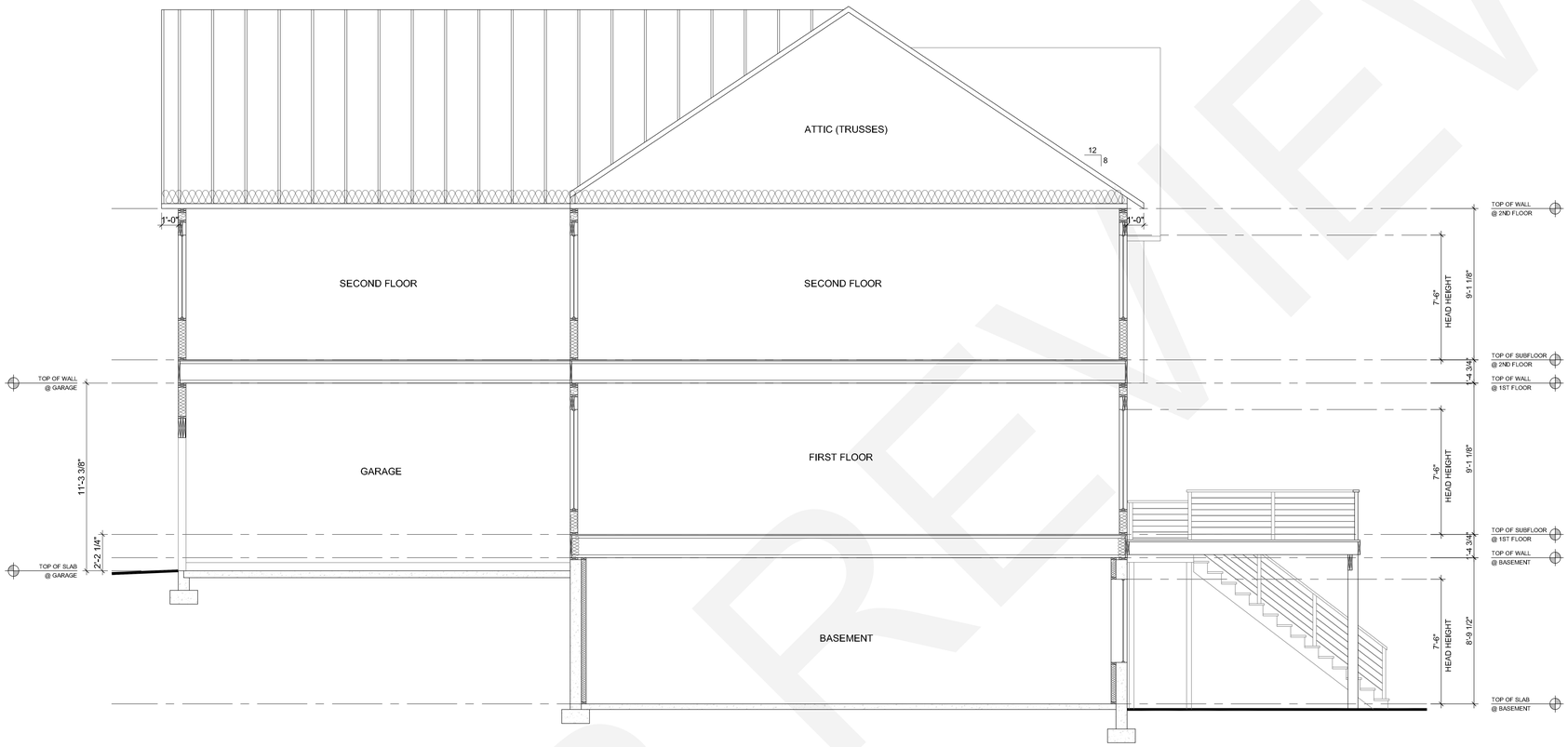

A

BUILDING SECTION

1/4" = 1'-0"

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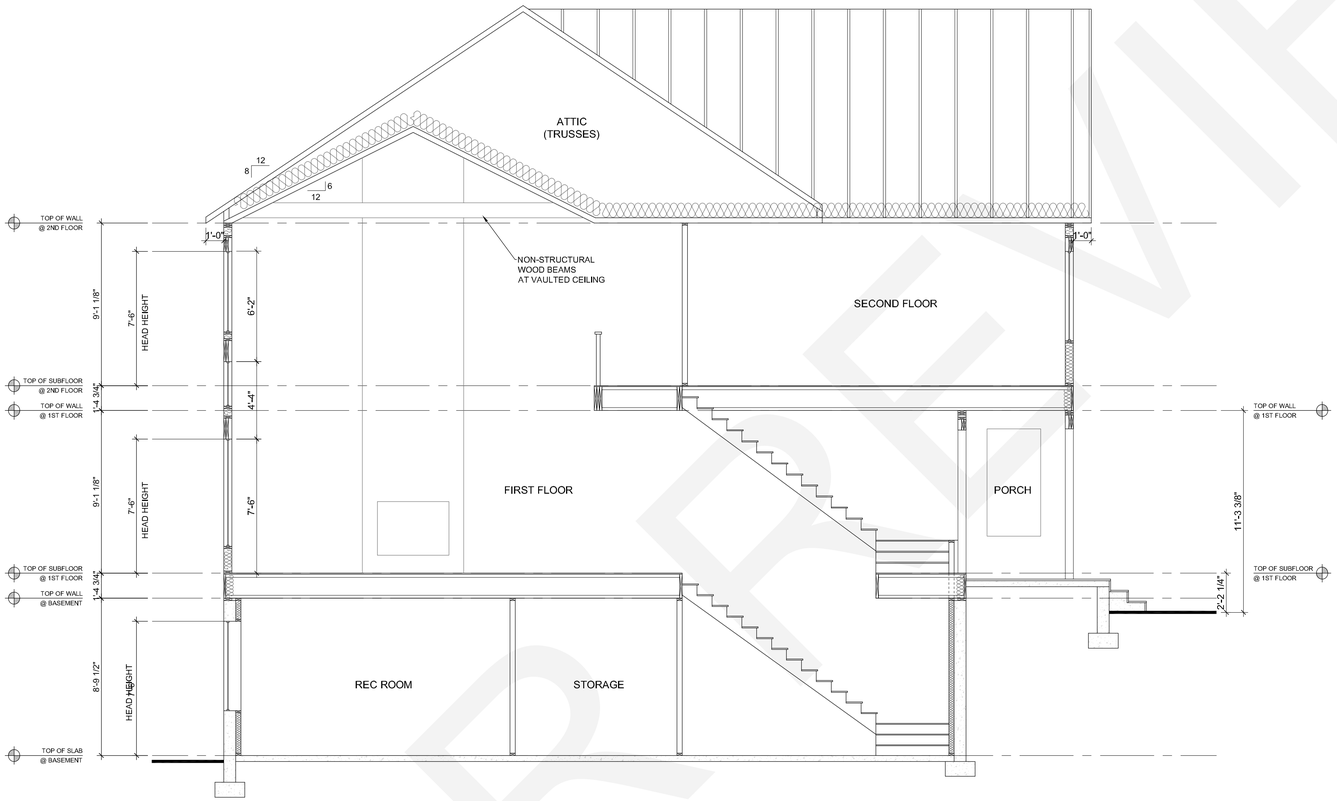

B

BUILDING SECTION

1/4" = 1'-0"

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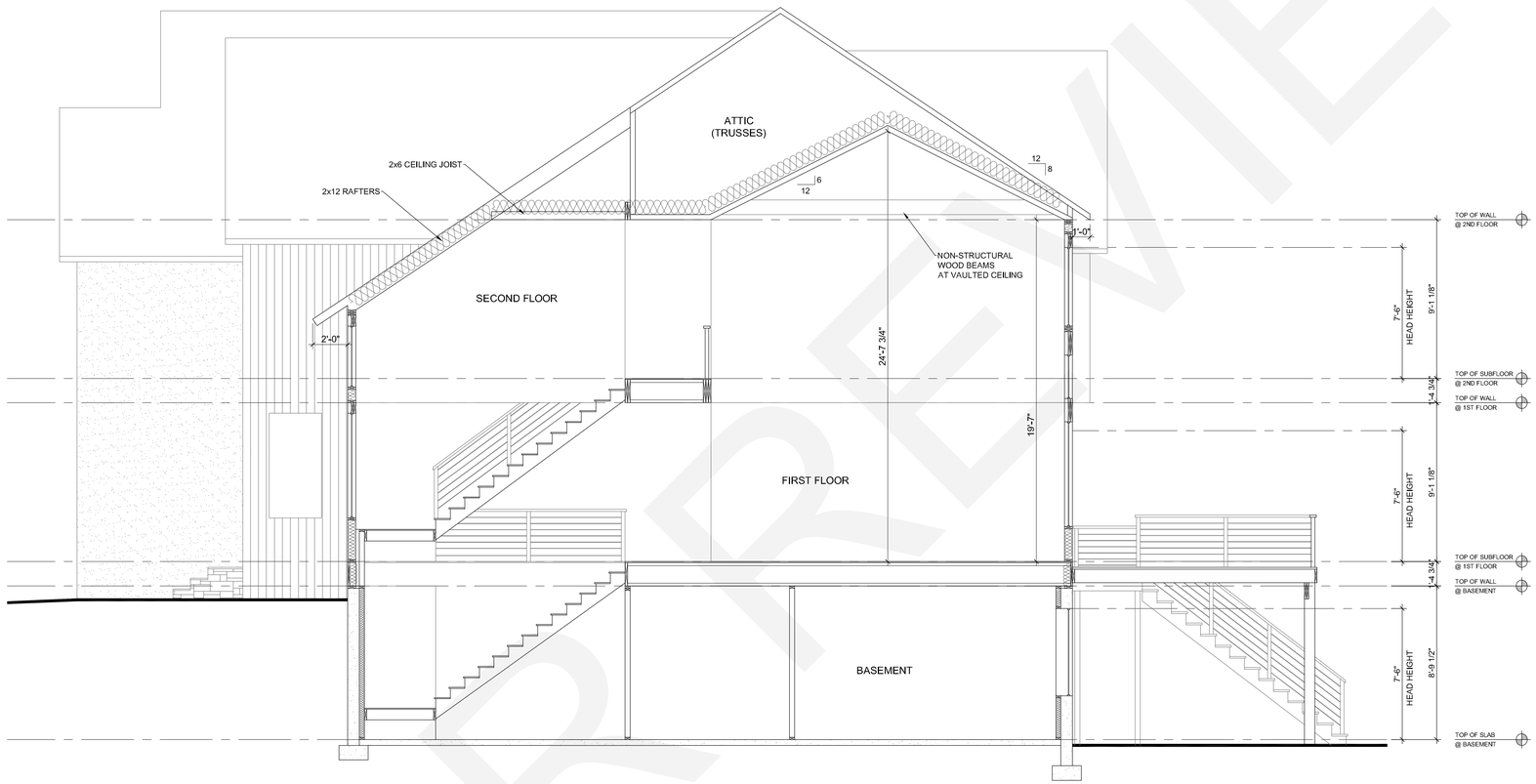

C

BUILDING SECTION
1/4" = 1'-0"

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A8

WINDOW SCHEDULE

MARK	QTY	BRAND / MODEL	UNIT SIZE / TYPE	R.O. SIZE	MULLED	EXT/INT COLOR	MATERIAL	NOTES	LOCATION
A	4	TBD	3' 0" x 5' 0" (2) CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	BASEMENT 2ND FLOOR
B	3	TBD	3' 0" x 5' 0" CASEMENT	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	BASEMENT
C	2	TBD	1' 6" x 3' 6" CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	1ST FLOOR
D	1	TBD	3' 0" x 3' 6" PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
E	1	TBD	8' 0" x 6' 0" PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
F	2	TBD	4' 0" x 6' 0" PICTURE (FIXED)	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
G	1	TBD	3' 0" x 6' 0" (3) PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
H	2	TBD	3' 0" x 6' 0" PICTURE (FIXED)	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
I	1	TBD	2' 6" x 5' 0" (2) CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	2ND FLOOR
J	1	TBD	2' 0" x 2' 0" PICTURE (FIXED)	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
K	2	TBD	4' 0" x 2' 0" PICTURE (FIXED)	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
L	2	TBD	3' 0" x 6' 0" CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	1ST FLOOR
M	1	TBD	8' 0" x 2' 6" PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
N	2	TBD	3' 0" x 2' 6" PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	1ST FLOOR
O	1	TBD	3' 0" x 5' 0" (4) CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	2ND FLOOR
P	1	TBD	3' 0" x 4' 6" (2) PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	2ND FLOOR
Q	1	TBD	3' 0" x 5' 0" CASEMENT	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	2ND FLOOR
R	1	TBD	3' 0" x 8' 0" (3) PICTURE (FIXED)	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS	2ND FLOOR
S	2	TBD	3' 0" x 3' 6" PICTURE (FIXED)	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS	2ND FLOOR
T	3	TBD	2' 0" x 5' 0" CASEMENT	PER MFR.	NO	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	2ND FLOOR
U	1	TBD	3' 0" x 6' 0" CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	GARAGE
V	1	TBD	3' 0" x 3' 0" (2) CASEMENT	PER MFR.	YES	TBD	TBD	LowE INSULATED GLASS INSECT SCREEN	2ND FLOOR

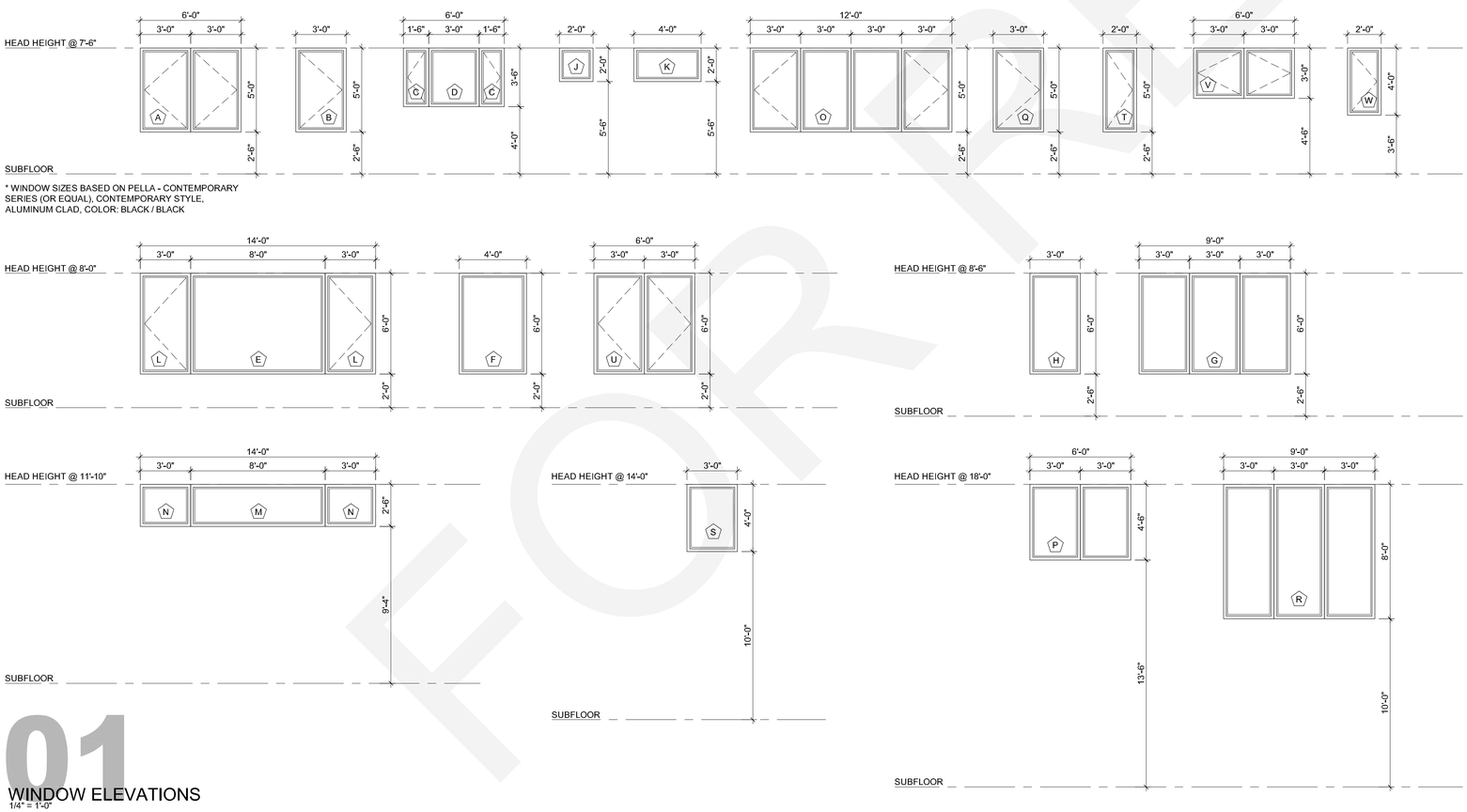
NOTE: FINAL WINDOW SELECTIONS TO BE APPROVED BY HOMEOWNER

DOOR SCHEDULE

MARK	QTY	BRAND / MODEL	UNIT SIZE / TYPE	R.O. SIZE	SWING	EXT/INT COLOR	MATERIAL	NOTES	LOCATION
1	2	EXTERIOR / TBD	6' 0" x 7' 0" PATIO SLIDER	75" x 87"	BYPASS (SEE DRAWING)	BLACK	TBD		BASEMENT
2	2	INTERIOR / TBD	2' 8" x 6' 8" INTERIOR	35" x 83"	RIGHT HAND (SEE DRAWING)	WHITE	TBD		BASEMENT
3	1	INTERIOR / TBD	2' 4" x 6' 8" INTERIOR	31" x 83"	RIGHT HAND (SEE DRAWING)	WHITE	TBD		BASEMENT
4	5	INTERIOR / TBD	2' 6" x 6' 8" INTERIOR	33" x 83"	RIGHT HAND (SEE DRAWING)	WHITE	TBD		BASEMENT
5	4	INTERIOR / TBD	2' 0" x 6' 8" INTERIOR	27" x 83"	LEFT HAND (SEE DRAWING)	WHITE	TBD		BASEMENT 1ST + 2ND FLOOR
6	4	INTERIOR / TBD	4' 0" x 6' 8" DOUBLE CLOSET	51" x 83"	DOUBLE (SEE DRAWING)	WHITE	TBD		BASEMENT 2ND FLOOR
7	1	INTERIOR / TBD	2' 8" x 6' 8" INTERIOR	35" x 83"	LEFT HAND (SEE DRAWING)	WHITE	TBD		2ND FLOOR
8	1	INTERIOR / TBD	2' 8" x 6' 8" INTERIOR	35" x 83"	LEFT HAND (SEE DRAWING)	WHITE	TBD	LOUVERED DOOR	BASEMENT MECH ROOM
9	1	EXTERIOR / TBD	3' 0" x 8' 0" EXTERIOR	75" x 99"	LEFT HAND (SEE DRAWING)	TBD	TBD	FRONT ENTRY DOOR	1ST FLOOR
10	1	INTERIOR / TBD	3' 0" x 6' 8" DOUBLE CLOSET	39" x 83"	DOUBLE (SEE DRAWING)	TBD	TBD		1ST FLOOR
11		NOT USED							
12	2	INTERIOR / TBD	2' 0" x 6' 8" INTERIOR	27" x 83"	RIGHT HAND (SEE DRAWING)	WHITE	TBD		1ST FLOOR
13	1	EXTERIOR / TBD	2' 8" x 6' 8" EXTERIOR	35" x 83"	RIGHT HAND (SEE DRAWING)	WHITE	TBD	20 MINUTE FIRE RATED	1ST FLOOR
14	1	INTERIOR / TBD	16' 0" x 8' 0" OVERHEAD GARAGE	PER MFR	OVERHEAD (SEE DRAWING)	TBD	TBD	OVERHEAD GARAGE DOOR	GARAGE
15	2	INTERIOR / TBD	2' 6" x 6' 8" INTERIOR	33" x 83"	LEFT HAND (SEE DRAWING)	WHITE	TBD		2ND FLOOR
16	1	INTERIOR / TBD	2' 4" x 6' 8" INTERIOR	31" x 83"	LEFT HAND (SEE DRAWING)	WHITE	TBD		2ND FLOOR

NOTE: FINAL DOOR SELECTIONS TO BE APPROVED BY HOMEOWNER

NOTE: ALL INTERIOR DOORS TO BE SOLID CORE



* WINDOW SIZES BASED ON PELLA - CONTEMPORARY SERIES (OR EQUAL), CONTEMPORARY STYLE, ALUMINUM CLAD, COLOR: BLACK / BLACK

01
WINDOW ELEVATIONS
1/4" = 1'-0"

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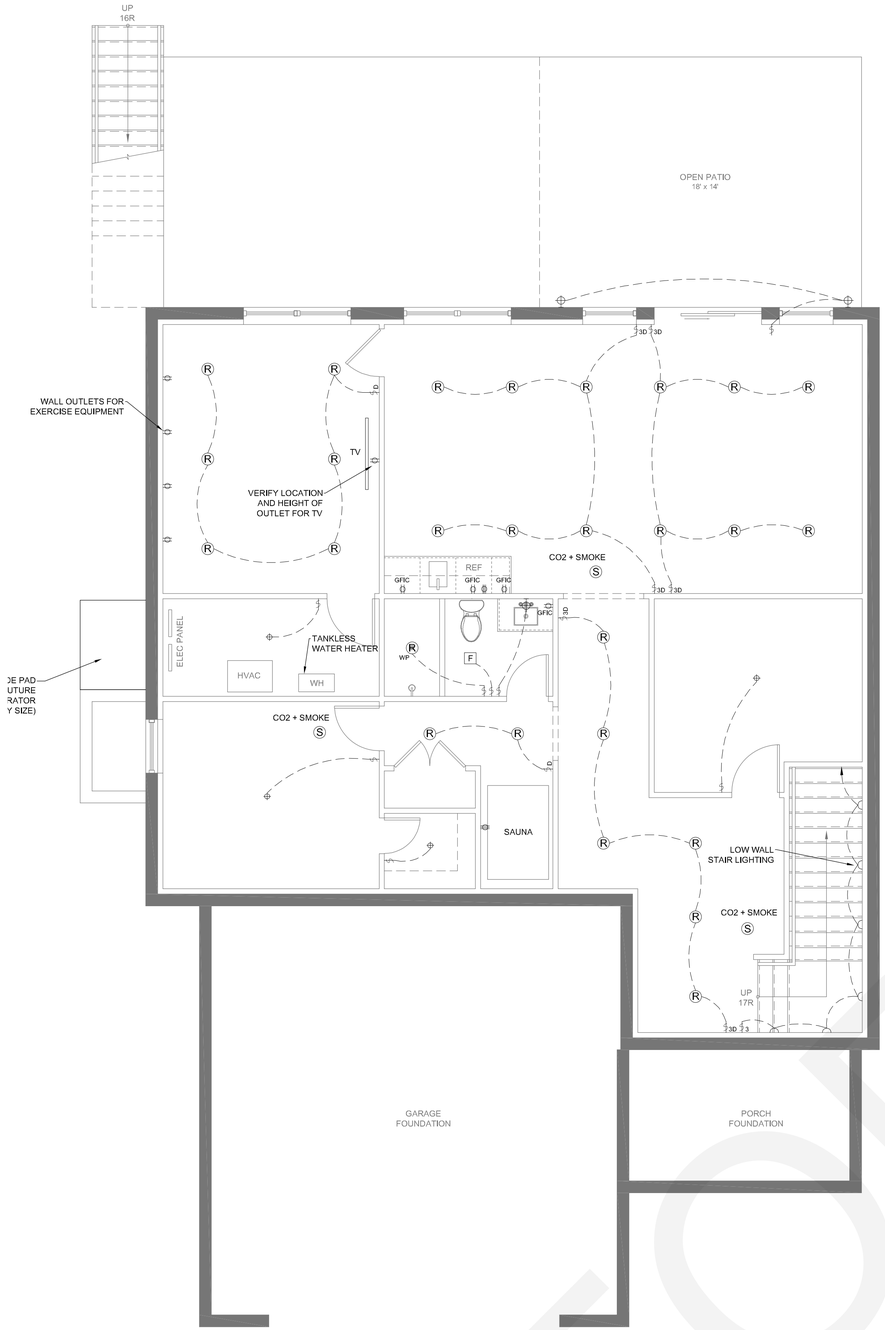


ELECTRICAL NOTES:

1. PROVIDE MAKE-UP AIR FOR RANGE HOOD OVER 400 CFM

2. VENT BATHROOM EXHAUST FANS TO EXTERIOR

3. OUTLETS TO CODE

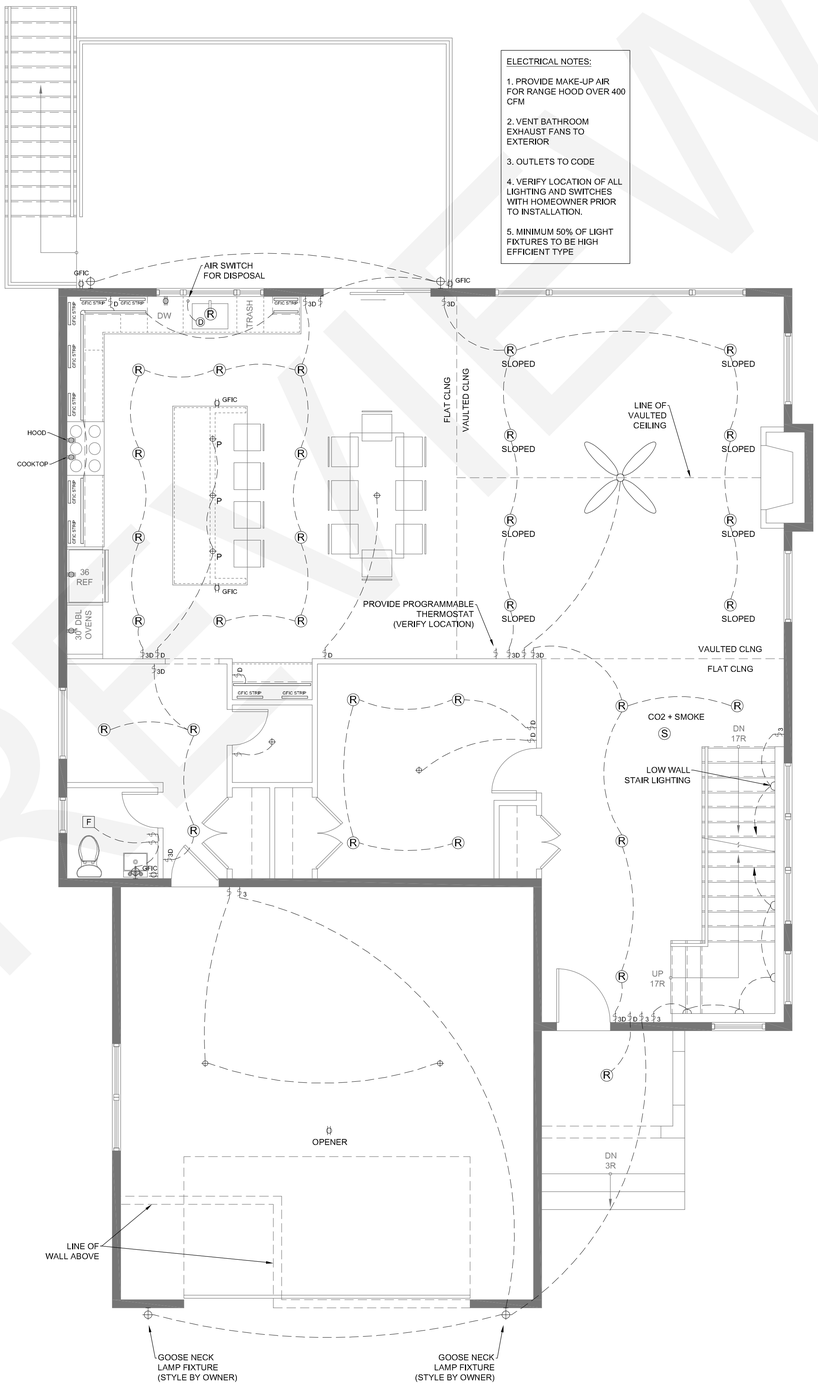
4. VERIFY LOCATION OF ALL LIGHTING AND SWITCHES WITH HOMEOWNER PRIOR TO INSTALLATION.

5. MINIMUM 50% OF LIGHT FIXTURES TO BE HIGH EFFICIENT TYPE

01

BASEMENT ELECTRICAL PLAN

1/4" = 1'-0"



ELECTRICAL NOTES:

1. PROVIDE MAKE-UP AIR FOR RANGE HOOD OVER 400 CFM

2. VENT BATHROOM EXHAUST FANS TO EXTERIOR

3. OUTLETS TO CODE

4. VERIFY LOCATION OF ALL LIGHTING AND SWITCHES WITH HOMEOWNER PRIOR TO INSTALLATION.

5. MINIMUM 50% OF LIGHT FIXTURES TO BE HIGH EFFICIENT TYPE

02

FIRST FLOOR ELECTRICAL PLAN

1/4" = 1'-0"

NOTE:
WHEN IN CONSTRUCTION PHASE VERIFY ALL LIGHTING/ELECTRICAL LOCATIONS PRIOR TO INSTALLATION. IF FIXTURES CAN NOT BE INSTALLED ACCORDING TO DRAWINGS, REVIEW NEW LOCATIONS WITH CONTRACTOR AND HOMEOWNER FOR FINAL APPROVAL.

ELECTRICAL SYMBOL KEY:

ALL ITEMS ARE CONTRACTOR PROVIDED UNLESS NOTED OTHERWISE

- SINGLE POLE SWITCH
- SINGLE POLE DIMMER SWITCH
- 3-WAY SWITCH
- STANDARD DUPLEX OUTLET
- GROUND FAULT INTERUPTER CIRCUIT
- DEDICATED CIRCUIT
- 5" RECESSED LIGHT
- WATER-PROOF RECESSED LIGHT
- DIRECTIONAL RECESSED LIGHT
- SURFACE MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- CEILING FAN
- UNDERCABINET LIGHT
- INCANDESCENT LIGHT
- CAT-5 DATA OUTLET
- CABLE TV OUTLET
- TELEPHONE OUTLET
- EXHAUST FAN
- SMOKE DETECTOR: HARDWIRED, INTERCONNECTED + BATTERY BACK-UP
- GARBAGE DISPOSAL

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E1

ELECTRICAL NOTES:

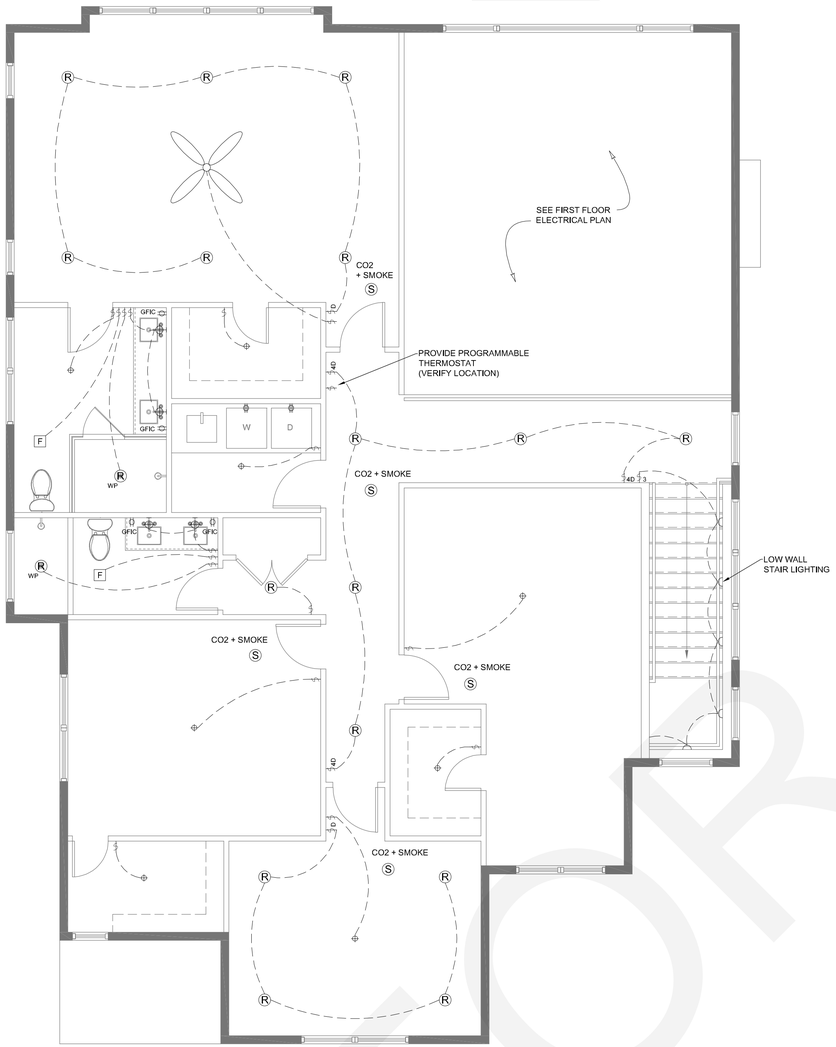
1. PROVIDE MAKE-UP AIR FOR RANGE HOOD OVER 400 CFM

2. VENT BATHROOM EXHAUST FANS TO EXTERIOR

3. OUTLETS TO CODE

4. VERIFY LOCATION OF ALL LIGHTING AND SWITCHES WITH HOMEOWNER PRIOR TO INSTALLATION.

5. MINIMUM 50% OF LIGHT FIXTURES TO BE HIGH EFFICIENT TYPE



01
BASEMENT ELECTRICAL PLAN
1/4" = 1'-0"

NOTE:
WHEN IN CONSTRUCTION PHASE VERIFY ALL LIGHTING/ELECTRICAL LOCATIONS PRIOR TO INSTALLATION. IF FIXTURES CAN NOT BE INSTALLED ACCORDING TO DRAWINGS, REVIEW NEW LOCATIONS WITH CONTRACTOR AND HOMEOWNER FOR FINAL APPROVAL.

ELECTRICAL SYMBOL KEY:

ALL ITEMS ARE CONTRACTOR PROVIDED UNLESS NOTED OTHERWISE

- SINGLE POLE SWITCH
- SINGLE POLE DIMMER SWITCH
- 3-WAY SWITCH
- STANDARD DUPLEX OUTLET
- GROUND FAULT INTERUPTER CIRCUIT
- DEDICATED CIRCUIT
- 5" RECESSED LIGHT
- WATER-PROOF RECESSED LIGHT
- DIRECTIONAL RECESSED LIGHT
- SURFACE MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- CEILING FAN
- UNDERCABINET LIGHT
- INCANDESCENT LIGHT
- CAT-5 DATA OUTLET
- CABLE TV OUTLET
- TELEPHONE OUTLET
- EXHAUST FAN
- SMOKE DETECTOR: HARDWIRED, INTERCONNECTED + BATTERY BACK-UP
- GARBAGE DISPOSAL

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27-167

DATE:	ISSUE:
10.18.19	DESIGN REVIEW
10.21.19	CLIENT REVISIONS
10.30.19	BID SET
03.30.20	DESIGN REVIEW
05.01.20	FOR PERMIT

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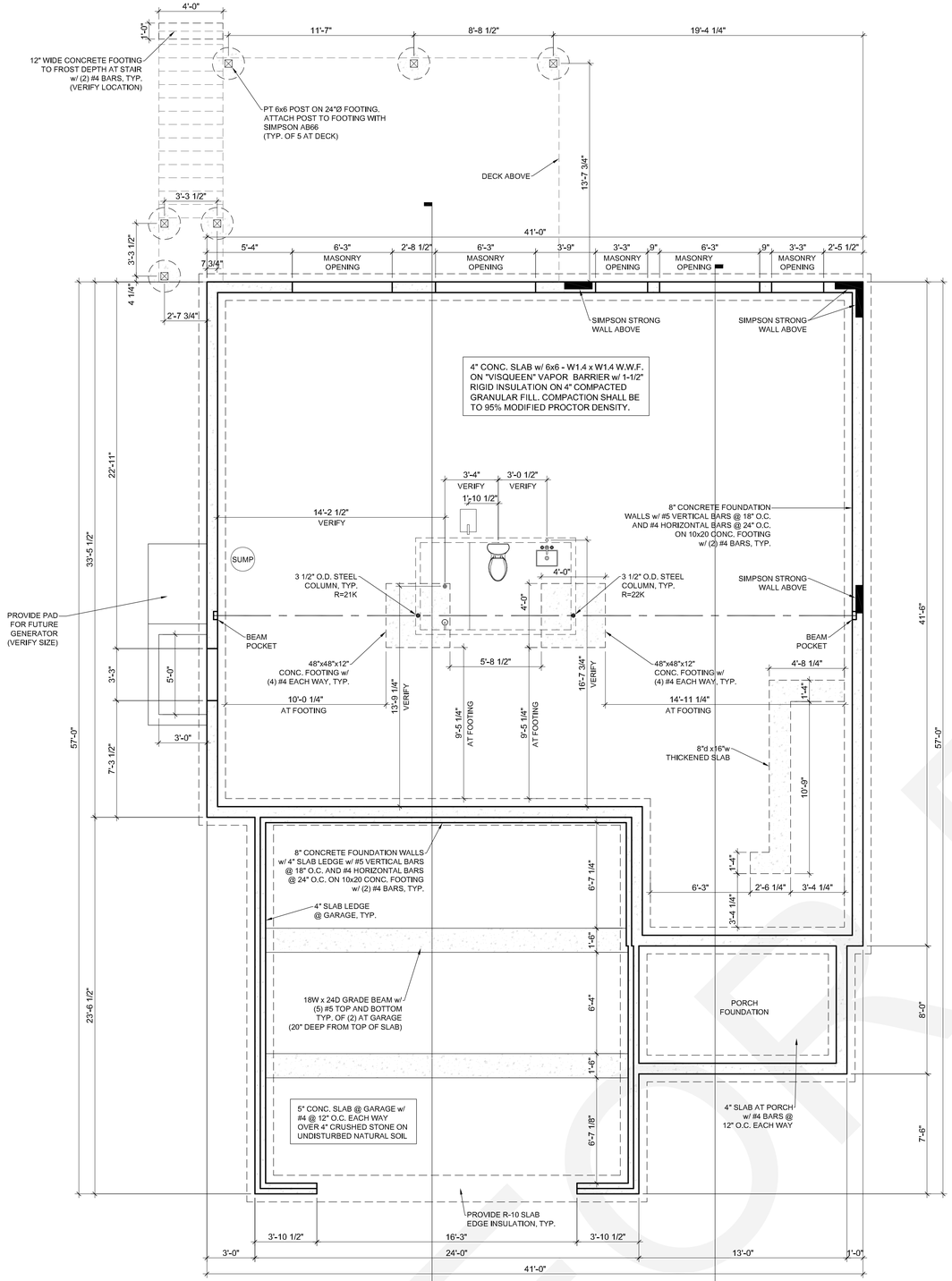
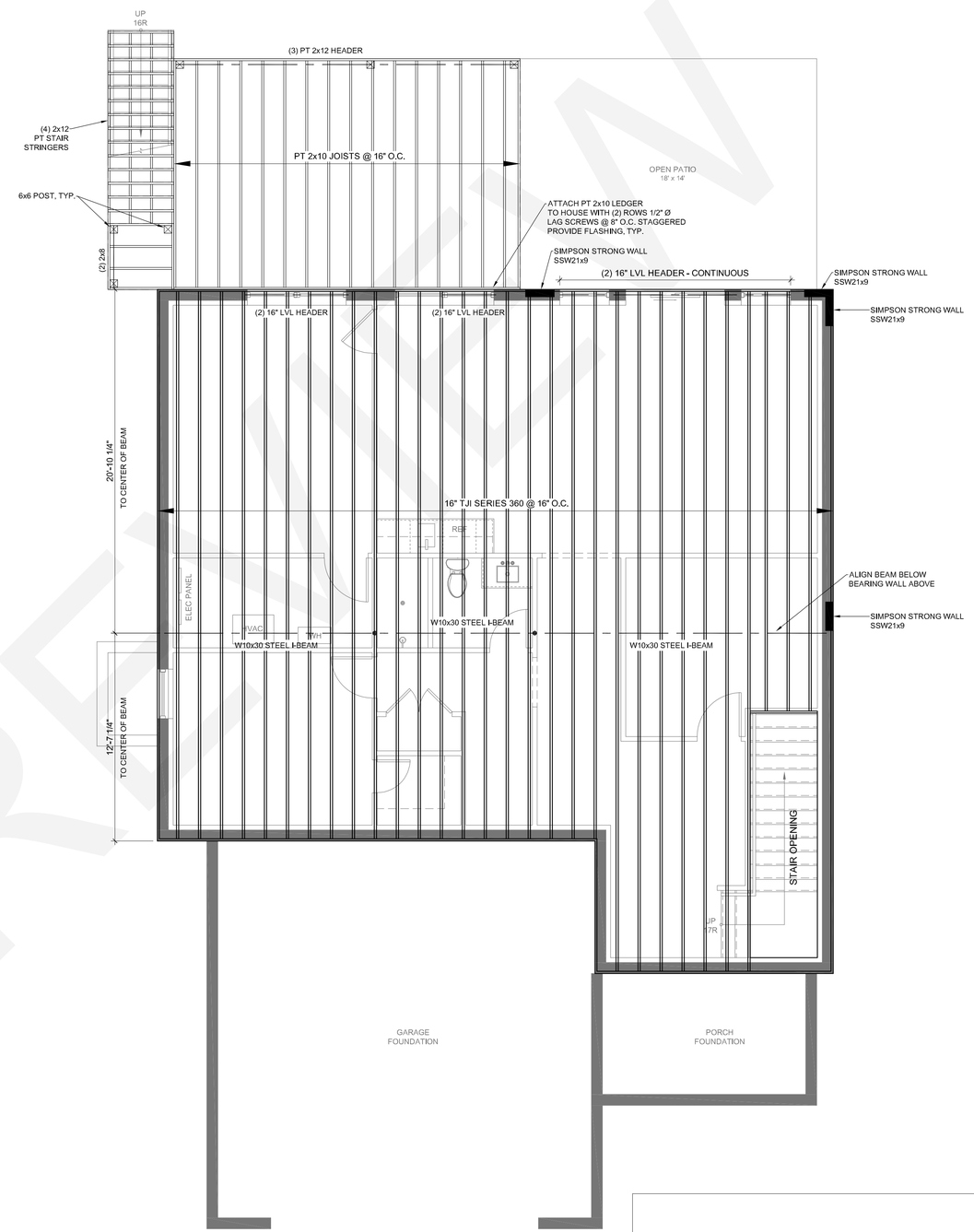
E2



01

FOUNDATION PLAN

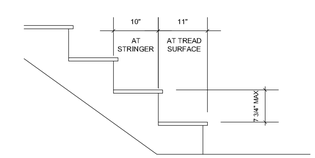
1/4" = 1'-0"



02

FIRST FLOOR FRAMING PLAN

1/4" = 1'-0"



1 S1 TYP. INTERIOR STAIR DETAIL

SCALE: N.T.S.

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S1

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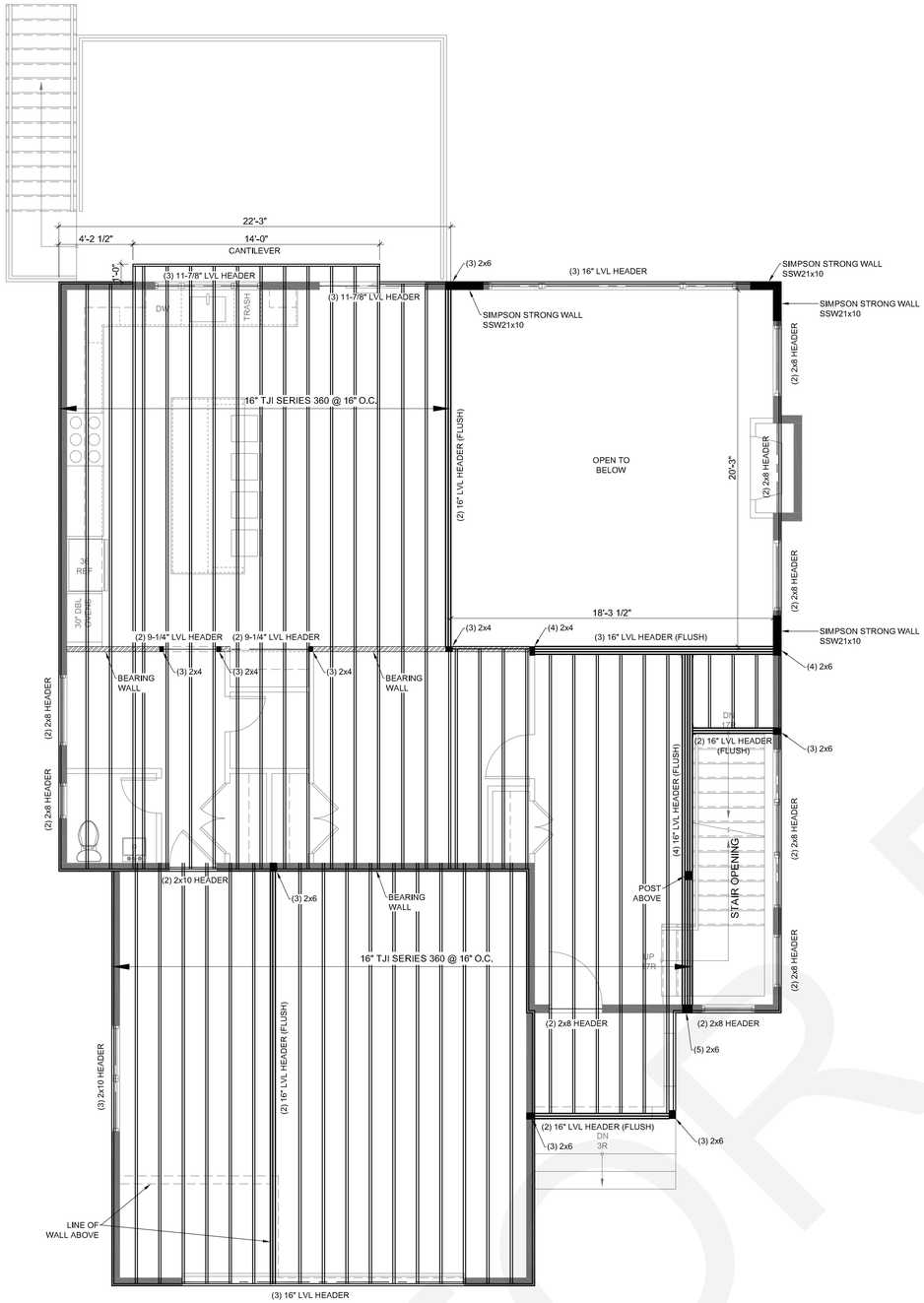
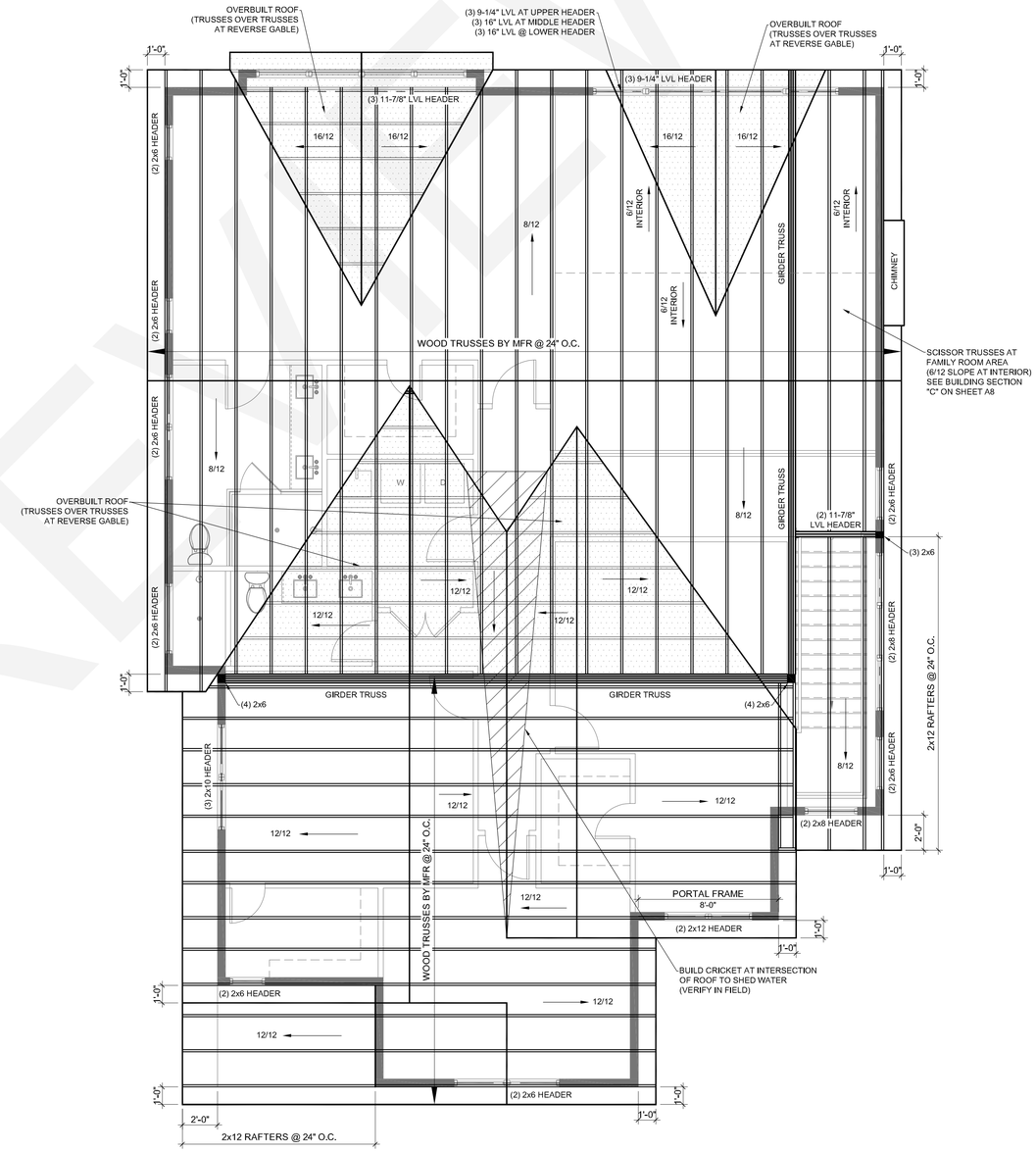


01

SECOND FLOOR FRAMING PLAN

1/4" = 1'-0"



02

ROOF FRAMING PLAN

1/4" = 1'-0"

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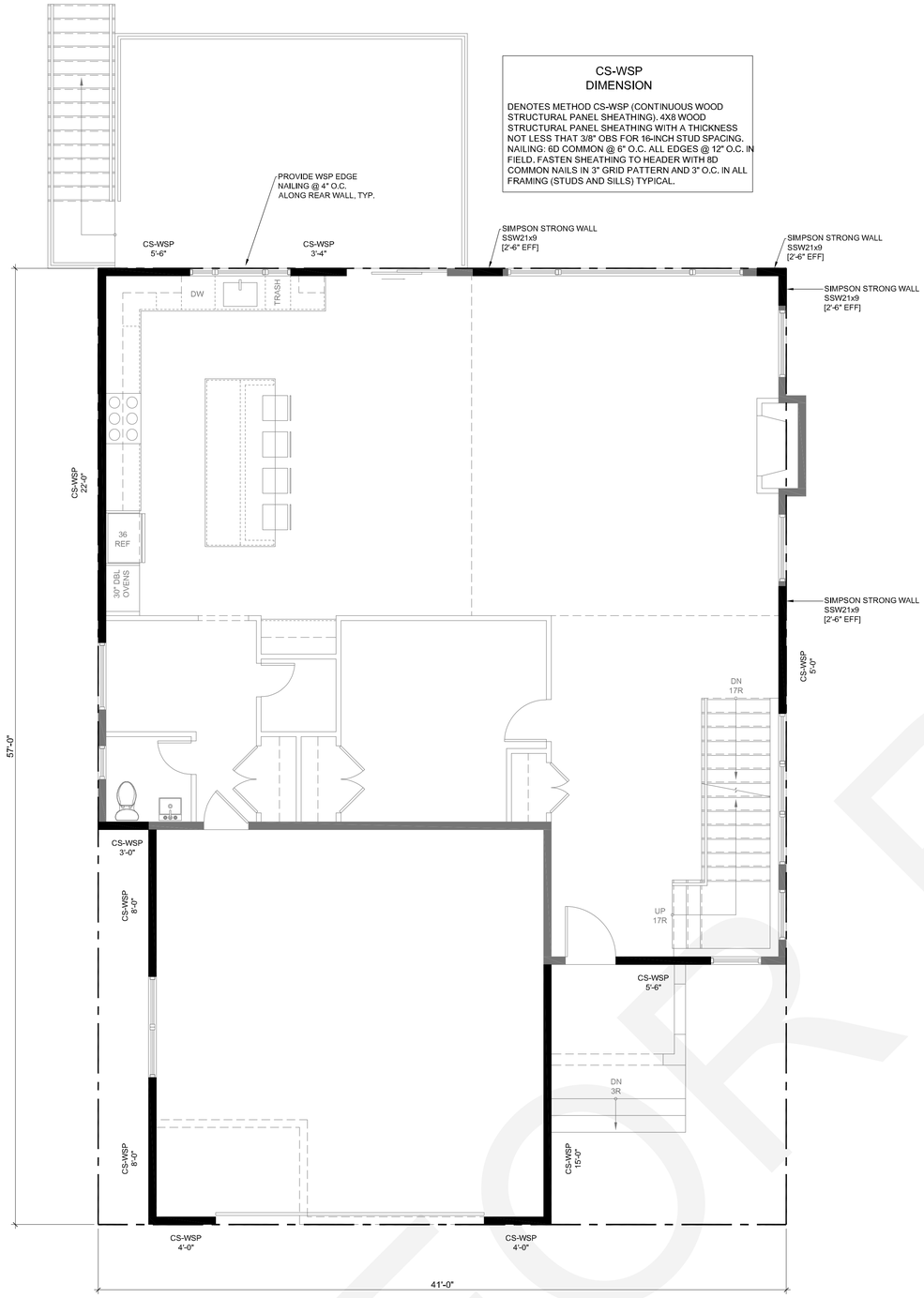
S2



01

FIRST FLOOR WALL BRACING PLAN

1/4" = 1'-0"

Virginia Practical Wall Bracing Worksheet

per 2015 Virginia Residential Code R602.12

Ultimate Wind Speed (mph)		115 (90)						
Rectangle Size (ft)		Front/Rear:	41	Left/Right:	57	Aspect Ratio:	PASS	
Rectangle Side		Front		Rear		Left		Right	
Number of Floors Above		1		1		1		1	
Eave-to-Ridge Height (ft)		12		12		12		12	
Exterior BWP Material		Wood Structural Panels		Wood Structural Panels		Wood Structural Panels		Wood Structural Panels	
Tabular Requirement (ft)		17.24		17.24		12.99		12.99	
Adjustments	Exposure	B	1.00	B	1.00	B	1.00	B	1.00
	Wall Ht. (ft)	9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95
	Omit Interior Finish?	No	1.00	No	1.00	No	1.00	No	1.00
	Fasteners @ 4" o.c.?	No	1.00	Yes	0.83	No	1.00	No	1.00
Required BWP Length (ft)		16.38		13.60		12.34		12.34	
Required BWP Length from Common Rectangle Side									
Total Required BWP Length (ft)		16.38		13.60		12.34		12.34	
Actual BWPs	BWP	Location	Length	Location	Length	Location	Length	Location	Length
Contributing Length (ft) CS-PF=1.5xactual PFG=1.5xactual PFH=4' ABW=4'	1	Exterior	3.00	Exterior	5.50	Exterior	22.00	Exterior	15.00
	2	Exterior	4.00	Exterior	3.33	Exterior	8.00	Exterior	5.00
	3	Exterior	4.00	Exterior	2.50	Exterior	8.00	Exterior	2.50
	4	Exterior	5.50	Exterior	2.50			Exterior	2.50
	5								
	6								
	7								
Actual BWP Length (ft)		16.50		13.83		38.00		25.00	
Actual ≥ Required?		Pass		Pass		Pass		Pass	
BWPs ≤ 20' Apart?		Yes		Yes		Yes		Yes	
BWP within 12' of Corners?		Yes		Yes		Yes		Yes	
Compliant Number of BWPs		Yes		Yes		Yes		Yes	
BWL Compliance		Pass		Pass		Pass		Pass	

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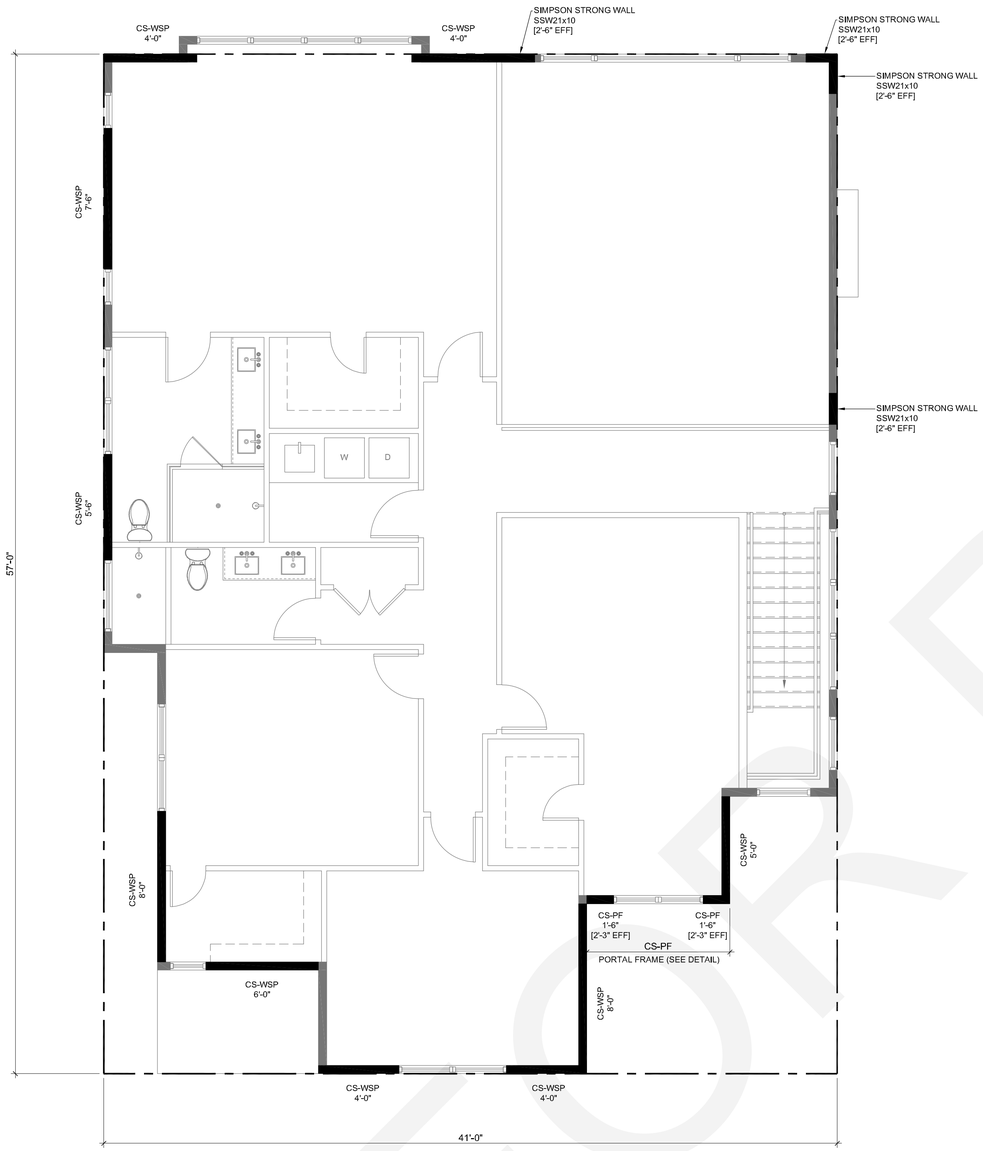
S3

CS-WSP
DIMENSION

DENOTES METHOD CS-WSP (CONTINUOUS WOOD STRUCTURAL PANEL SHEATHING). 4X8 WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAT 3/8" OBS FOR 16-INCH STUD SPACING. NAILING: 6D COMMON @ 6" O.C. ALL EDGES @ 12" O.C. IN FIELD. FASTEN SHEATHING TO HEADER WITH 8D COMMON NAILS IN 3" GRID PATTERN AND 3" O.C. IN ALL FRAMING (STUDS AND SILLS) TYPICAL.



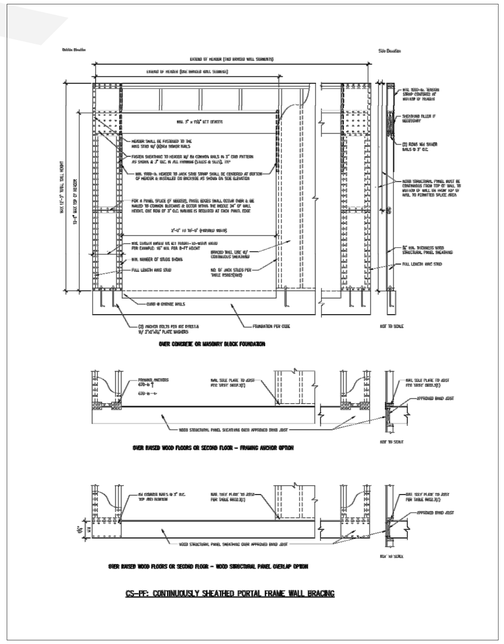
01
SECOND FLOOR WALL BRACING PLAN
1/4" = 1'-0"

Virginia Practical Wall Bracing Worksheet

per 2015 Virginia Residential Code R602.12

Ultimate Wind Speed (mph)		115 (90)						
Rectangle Size (ft)		Front/Rear:	41	Left/Right:	57	Aspect Ratio:	PASS	
Rectangle Side		Front		Rear		Left		Right	
Number of Floors Above		0		0		0		0	
Eave-to-Ridge Height (ft)		12		12		12		12	
Exterior BWP Material		Wood Structural Panels		Wood Structural Panels		Wood Structural Panels		Wood Structural Panels	
Tabular Requirement (ft)		9.58		9.58		6.89		6.89	
Adjustments	Exposure	B	1.00	B	1.00	B	1.00	B	1.00
	Wall Ht. (ft)	9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95
	Omit Interior Finish?	No	1.00	No	1.00	No	1.00	No	1.00
	Fasteners @ 4" o.c.?	No	1.00	Yes	0.83	No	1.00	No	1.00
Required BWP Length (ft)		9.10		7.56		6.55		6.55	
Required BWP Length from Common Rectangle Side									
Total Required BWP Length (ft)		9.10		7.56		6.55		6.55	
Actual BWPs	Contributing Length (ft) CS-PF=1.5xactual PFG=1.5xactual PFH=4' ABW=4' — BWP	Location	Length	Location	Length	Location	Length	Location	Length
	1	Exterior	6.00	Exterior	4.00	Exterior	7.50	Exterior	8.00
	2	Exterior	4.00	Exterior	4.00	Exterior	5.50	Exterior	5.00
	3	Exterior	4.00	Exterior	2.50	Exterior	8.00	Exterior	2.50
	4	Exterior	2.25	Exterior	2.50			Exterior	2.50
	5	Exterior	2.25						
	6								
	7								
Actual BWP Length (ft)		18.50		13.00		21.00		18.00	
Actual ≥ Required?		Pass		Pass		Pass		Pass	
BWPs ≤ 20' Apart?		Yes		Yes		Yes		Yes	
BWP within 12' of Corners?		Yes		Yes		Yes		Yes	
Compliant Number of BWPs		Yes		Yes		Yes		Yes	
BWL Compliance		Pass		Pass		Pass		Pass	

To report an error or bug, call 703-324-1842, TTY 711 — A Fairfax County, Virginia Publication — Practial VRC2015 - 8/6/2018



1
S3
PORTAL FRAME DETAIL (CS-PF)
SCALE: N.T.S.

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S4

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STRUCTURAL NOTES

General Notes

1. All work and materials to comply with the requirements of the IRC 2015 Edition as amended by TOWN OF VIENNA and FAIRFAX COUNTY, VA.
2. Codes: the following design standards are applicable by reference:
   ACI 530-99/ASCE 5-99 Building Code Requirements for Masonry Structures.
   AITC - Timber Construction Manual - fifth Ed.
   ACI 318-95 Building Code Requirements for Reinforced Concrete
   AISC - Manuel of Steel Construction Ninth Ed.
3. Foundations: footings, underpinning and slab on grades are designed to bear on native soil with an allowable bearing pressure of 1500 psf A qualified soil-bearing inspector prior to placement of concrete shall verify all bearing values.
4. Structural:
   A. All structural steel, including detail material shall conform to ASTM A572 fY = 50ksi, U.N.O.
   B. All structural tubing shall conform to ASTM A500, grd. B
   C. All steel pipe shall be ASTM A53, type E or S, grade B.
   D. All welders shop and field, shall be certified. Use E70xx electrodes only.
   E. All steel exposed to weather and exterior masonry support shall receive one shop coat of corrision-inhibting primer.
   F. Detailing, fabrication and erection shall be in accordance with AISC.
   G. All exterior structural steel shall receive rust preventative paint.
   H. Connections; All beam connections shall be simple shear connections, U.N.O. Where no reaction is provided, the beam shall be assumed to carry 120% of the allowable uniform load in kips for beams laterally supported, as given in the AISC steel construction manual. Except as noted, all fasteners shall be 3/4" diameter ASTM A325 bolts, designed to act in bearing type connections with threads included.
5. Lumber:
   A. Lumber shall be SPF #2 with a min. Fb = 875psi Min. Fv = 135psi and min. E = 1,400,000psi.
   B. LVL and PSL shall have a min. Fb = 2850psi; Fv = 285psi; E = 2,000,000psi.
   C. Floor decking shall be 3/4" APA rated decking. Roof decking shall be 5/8" APA rated decking. Wall sheathing shall be 7/16" APA rated sheathing. Glue and nail roof and floor decking to joists and rafters.
   D. Provide double joists joist under all walls that run parallel to floor framing.
   E. Nail all multiple members together per the manufacturer's recommendations and at a minimum use 2-10d nails at 6" O.C. staggered. Glue all multiple studs together and stagger sides that nails are driven from.
   F. Provide bridging at center of all joist spans exceeding 8'-0" and at 1/3 points of all joist spans exceeding 16'-0".
   G. Provide solid blocking at all bearing points on top of walls or beams.
   H. Provide solid blocking below all wood posts.
   I. All posts shall have Simpson Cap an Base plates typ.
   J. All joists shall have Simpson Hangers where applicable.
   K. All lumber in contact with masonry or concrete or within 8" of soil shall be reassure treated. All lumber to conform to IRC R319 for protection against corrosion and termite damage.
   L. Wood lintels shall be as follows;
      Opening <3'-6" - 2-2x6
      3"-6" < opening <5'-6" - 2-2x8
      5'-6" < opening <7'-0" - 2-2x10
      Greater than 7'-0" - See plans
6. Fasteners:
   A. All prefabricated angles, bearing plates, and joist hangers shall be installed per the manufacturers recommendations.
   B. Epoxy Bolts shall be Simpson SET. Follow the manufacturers recommendations for setting epoxy bolts.
   C. Expansion bolts shall be rawl power studs.
7. Masonry:
   A. Masonry construction shall be in conformance with the applicable sections of aci 530-99/ASCE5-99, "Specifications for Masonry Structures."
   B. Concrete masonry units shall be hollow load bearing units (ASTM C90) grade n-1 with a net strength of 2000psi and F'm -1500psi.
   C. All joints to be filled solid with mortar.
   D. Mortar to comply with ASTM C270 (type M or S).
8. Cast in place concrete:
   A. Concrete construction shall be in conformance with the applicable sections of ACI 318-95, "Part 3 - Construction Requirements."
   B. Concrete shall have a minimum compressive strength at 28 days of 4,000psi, UNO (unless noted otherwise).
   C. All concrete shall be placed with a slump of 4" (± 1/2")
   D. All concrete shall be normal weight, UNO.
   E. Concrete cover for reinforcement shall be:

Columns and beams	11/2"
Slabs	3/4"
Footings	3"

9. Reinforcement:
   A. Reinforcing bars shall be deformed bars conforming to ASTM A615, grade 60 (fy = 60ksi)
   B. Welded wire fabric (wwf) shall conform to ASTM a185. Lap edges of wire fabric at least 6" in each direction.
10. Dimensions: The contractor shall field verify all dimensions prior to fabrication of structural components.
11. Coordination: The contractor shall coordinate all sleeves, duct openings and holes between trades. Any conduits or pipes embedded in concrete must be in accordance with ACI 318-95, chapter 6. Where sleeves are closely spaced in a group, the group shall be treated as an opening and reinforced accordingly. Submit drawings showing all opening sizes and locations for the approval by the structural engineer.

LOADS:

LIVE LOADS	
FLOOR:	40PSF
DECK:	40PSF
BEDROOM	30PSF
ROOF:	30PSF
ATTIC:	20PSF
BALCONY:	60PSF

WIND LOADS

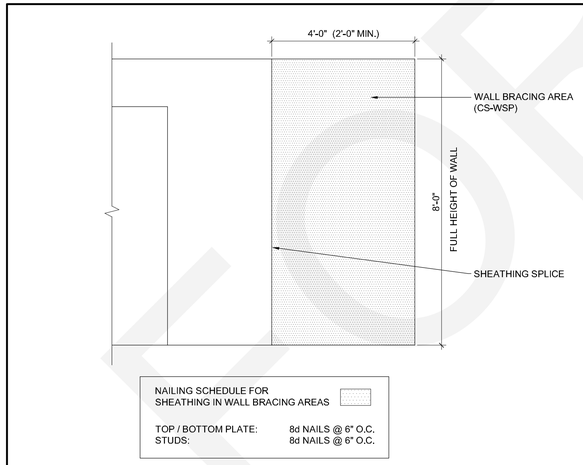
BASIC WIND SPEED:	115 MPH
WIND LOAD IMPORTANCE FACTOR:	1.0
WIND EXPOSURE FACTOR:	B

SNOW LOADS:

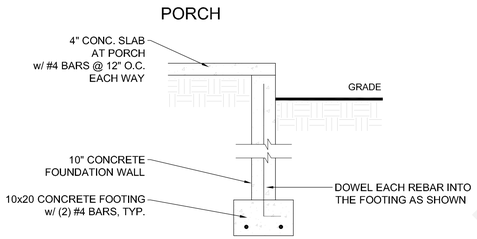
GROUND SNOW LOAD (PG):	30PSF
FLAT ROOF SNOW LOAD(PF):	20PSF
SNOW EXPOSURE FACTOR (CE):	0.9
SNOW IMPORTANCE FACTOR (I):	1.0

SEISMIC DESIGN DATA

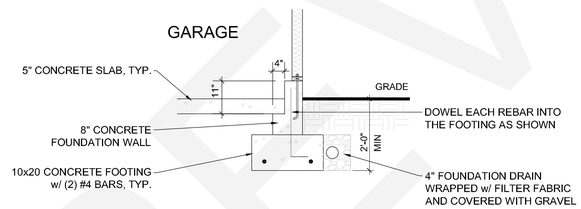
SEISMIC IMPORTANCE FACTOR:	0.05
SPECTRAL RESPONSE ACCELERATIONS:	18.7%
(Ss):	20.0%
(S1):	8.0
SPECTRAL RESPONSE COEFFICIENTS:	1.25
(Sds):	33%
(Sd1):	18.7%
SEISMIC DESIGN CATEGORY:	B



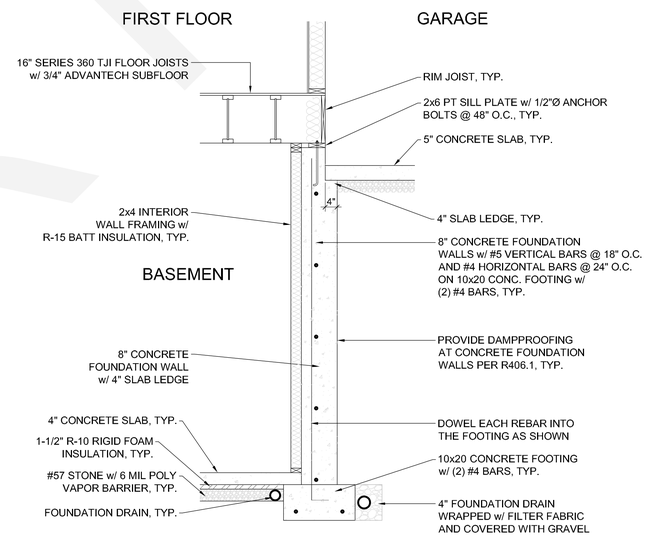
5 / S5 TYP. WIND BRACING ELEVATION
SCALE: N.T.S.



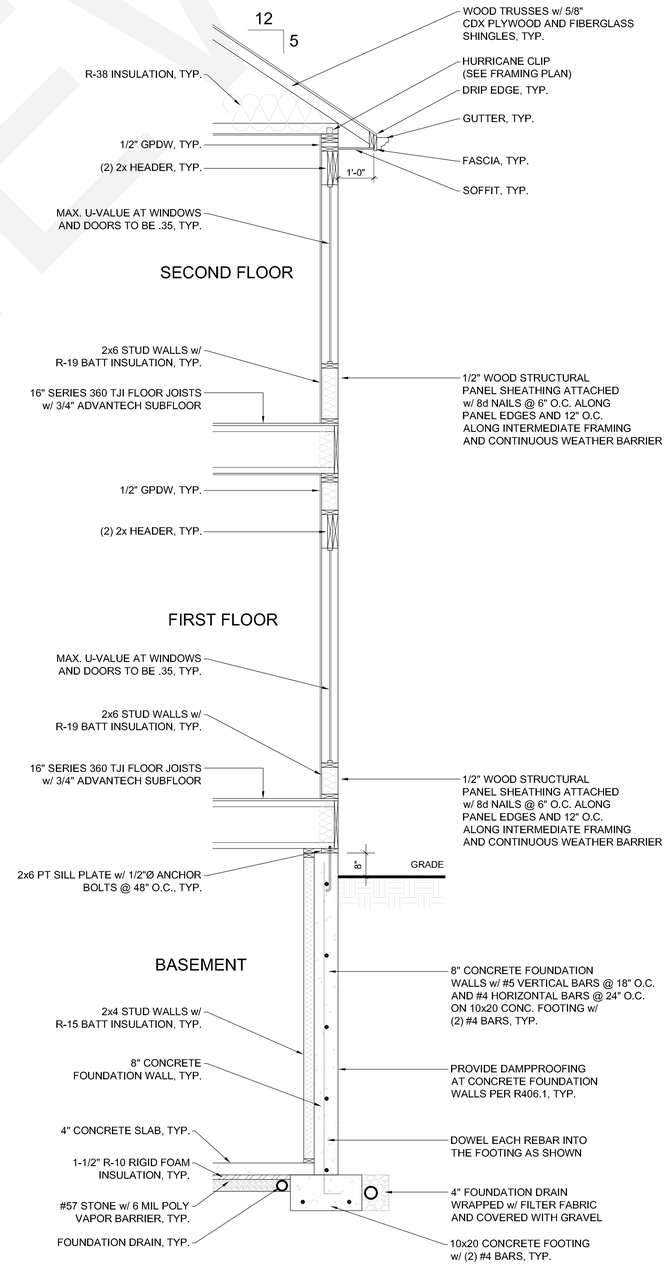
4 / S5 WALL SECTION @ PORCH
SCALE: N.T.S.



3 / S5 WALL SECTION @ GARAGE
SCALE: 1/2" = 1'-0"



2 / S5 WALL SECTION @ GARAGE / HOUSE
SCALE: 1/2" = 1'-0"



1 / S5 TYP. WALL SECTION
SCALE: 1/2" = 1'-0"

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S5

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