

SINGH RESIDENCE

SACRA CUSTOM HOMES

4505 PARTLOW ROAD
PARTLOW, VA 22534

ENGINEER: DESIGNS UNLIMITED, INC.
6366 TENNIS COURT
BOSTON, VA 22713
(540)212-8330

ISSUED 2-24-21
REVISED

CONTRACTOR: SACRA CUSTOM HOMES
4505 PARTLOW ROAD
PARTLOW, VA 22534
(540)582-2397

DESIGN BY: CS
DRAWN BY: CS
CHECKED BY: TS

PROJECT: SINGH RESIDENCE
TITLE: DRAWING COVER SHEET

PROJ. NO. 21.056

DATE: 2-24-21

SHEET NO.

A1

CODE DATA

THIS BUILDING HAS BEEN DESIGNED UNDER THE 2015 VIRGINIA RESIDENTIAL BUILDING CODE.

BUILDING CODE DATA:

AREA TABULATION

| | |
|--------------------------------|------------------|
| FINISHED BASEMENT FLOOR AREA | 1800 S.F. |
| UNFINISHED BASEMENT FLOOR AREA | 282 S.F. |
| BREEZEWAY AREA | 98 S.F. |
| FLOOR AREA | 2082 S.F. |
| CONCRETE PATIO AREA | 648 S.F. |
| REAR SCREEN PORCH AREA | 255 S.F. |
| REAR COVERED PORCH AREA | 175 S.F. |
| REAR DECK AREA | 218 S.F. |
| FRONT COVERED PORCH AREA | 126 S.F. |
| COVERED PAVILION AREA | 936 S.F. |
| TOTAL AREA | 6620 S.F. |

PROJECT DESCRIPTION:
THIS PROJECT IS FOR THE CONSTRUCTION OF A NEW SINGLE FAMILY DWELLING UNDER THE 2015 VIRGINIA RESIDENTIAL CODE

DESIGN LOADS

| | |
|------------------------------|--------------|
| NOMINAL WIND SPEED | = 90 MPH |
| ULTIMATE WIND SPEED | = 115 MPH |
| ROOF LIVE & SNOW | = 30 PSF |
| ATTIC LIVE (BOTTOM CHORD) | = 20 PSF |
| ROOF DEAD (TOP CHORD) | = 7 PSF |
| FLOOR LIVE (U.N.O.) | = 40 PSF |
| SLEEPING ROOMS LIVE | = 30 PSF |
| SOIL BEARING VALUE (ASSUMED) | = 2,000 PSF |
| GROUND SNOW LOAD | = 30 PSF |
| EXPOSURE CATAGORY | = B |
| IMPORTANCE FACTOR | = CATAGORY I |
| SNOW EXPOSURE FACTOR | = 1.0 |
| SEISMIC USE GROUP | = B |
| FROST DEPTH | = 24" |

PROJECT DIRECTORY

CONTRACTOR:
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DRAWING LIST

- A1 - COVER SHEET
- A2 - SPECIFICATION SHEET
- A3 - FOUNDATION PLAN
- A4 - MAIN LEVEL FLOOR PLAN
- A5 - FRONT AND RIGHT ELEVATIONS
- A6 - REAR & LEFT ELEVATIONS
- A7 - BUILDING SECTION
- A8 - WALL BRACING PLAN
- A9 - NARROW WALL DETAILS

ABBREVIATIONS

| | | |
|--------------------------------|--------------------------------|-------------------------------|
| AB - ANCHOR BOLT | FLR - FLOOR | PL - PLATE |
| AFF - ABOVE FINISHED FLOOR | FLT - FLAT BAR | PLF - POUNDS PER LINEAR FOOT |
| APC - ARCH. PRECAST CONCRETE | FRT - FIRE RETARDANT TREATED | POJ - PLANE OF JOIST |
| ARCH - ARCHITECTURAL | FTG - FOOTING | PSF - POUNDS PER SQUARE FOOT |
| BLDG - BUILDING | GA - GAUGE | PSI - POUNDS PER SQUARE INCH |
| BM - BEAM | GALV - GALVANIZED | REF - REFERENCE |
| BOT - BOTTOM | GC - GENERAL CONTRACTOR | REINF - REINFORCING |
| BRG - BEARING | HK - HOOK | REQD - REQUIRED |
| CA - CANTILEVER | HORIZ - HORIZONTAL | SIM - SIMILAR |
| CIP - CAST IN PLACE | HS - HIGH STRENGTH | SOG - SLAB ON GRADE |
| CJ - CONTROL JOINT | HT - HEIGHT | SPA - SPACE |
| CLG - CEILING | INT - INTERIOR | STD - STANDARD |
| CLR - CLEAR | JBE - JOIST BEARING ELEVATION | STIFF - STIFFENER |
| CMU - CONCRETE MASONRY UNIT | JT - JOINT | TBE - TRUSS BEARING ELEVATION |
| COL - COLUMN | LBS - POUNDS | T&B - TOP AND BOTTOM |
| CONC - CONCRETE | LGST - LIGHT GAUGE STEEL TRUSS | T&G - TONGUE AND GROOVE |
| CONN - CONNECTION | LL - LIVE LOAD | TOS - TOP OF STEEL |
| CONT - CONTINUOUS | LLH - LONG LEG HORIZONTAL | TYP - TYPICAL |
| COORD - COORDINATE | LLV - LONG LEG VERTICAL | UNO - UNLESS NOTED OTHERWISE |
| DIA - DIAMETER | LSV - LONG SIDE VERTICAL | VERT - VERTICAL |
| DIAG - DIAGONAL | LVL - LAMINATED VENEER LUMBER | WCJ - WALL CONTROL JOINT |
| DIM - DIMENSION | LW - LIGHT WEIGHT | WT - WEIGHT |
| DL - DEAD LOAD | MAS - MASONRY | WWF - WELDED WIRE FABRIC |
| DN - DOWN | MAX - MAXIMUM | (H) - HIGH |
| DWGS - DRAWINGS | MECH - MECHANICAL | (L) - LOW |
| EA - EACH | MFR - MANUFACTURER | |
| EJ - EXPANSION JOINT | MISC - MISCELLANEOUS | |
| EL - ELEV | MIN - MINIMUM | |
| ELEV - ELEVATOR | NO - NUMBER | |
| EOS - EDGE OF SLAB | NIC - NOT IN CONTRACT | |
| EQ - EQUAL | NTS - NOT TO SCALE | |
| EQUIP - EQUIPMENT | NW - NORMAL WEIGHT | |
| EXIST - EXISTING | OC - ON CENTER | |
| EW - EACH WAY | OPP - OPPOSITE | |
| EXP - EXPANSION | OH - OPPOSITE HAND | |
| EXT - EXTERIOR | OWSJ - OPEN WEB STEEL JOIST | |
| FFE - FINISHED FLOOR ELEVATION | PDF - POWER DRIVEN FASTENER | |



Signed by: AkruCertificate
Date: 2021.04.29 13:37:55 -4

INSULATION & THERMAL EFFICIENCY DESIGN CRITERIA

| COMPONENT | R-VALUE | U-VALUE | SHGC |
|---------------------------------|--------------|---------|------|
| ROOF | R-38 BATT | N/A | N/A |
| SLOPED CEILINGS | R-38 BATT | N/A | N/A |
| 2ND FLOOR WALLS | N/A | N/A | N/A |
| 1ST FLOOR WALLS | R-15 BATT | N/A | N/A |
| BASEMENT WALLS | R-11 BLANKET | N/A | N/A |
| DRAM SPACE WALLS | N/A | N/A | N/A |
| CANTILEVERED FLOORS | N/A | N/A | N/A |
| FLOORS OVER UNCONDITIONED SPACE | N/A | N/A | N/A |
| UNDER SLAB | R-10 @ W.O. | N/A | N/A |
| WINDOWS | N/A | 0.35 | 0.30 |
| EXTERIOR DOORS | N/A | 0.35 | N/A |

GENERAL NOTES

ENGINEER / DESIGNER
CHUCK STEPHENSON, P.E.
6360 TENNIS COURT
BOSTON, VA 22713
(540)547-2682

APPROVED FOR CONSTRUCTION

Table with columns for ENGINEER, OWNER, BUILDING OFFICIAL, HEALTH DEPARTMENT, DATE, and SIGNATURE.

DESIGN CODE = IRC 2012

1.0 GENERAL CONDITIONS

- 1.01 THESE PLANS AND SPECIFICATIONS ARE THE SOLE PROPERTY OF THE ENGINEER. ANY UNAUTHORIZED USE OF THESE PLANS WITHOUT THE WRITTEN CONSENT OF THE ENGINEER IS PROHIBITED.
1.02 CONSTRUCTION SHALL COMPLY WITH THE LATEST ENFORCED EDITION OF IRC AND/OR IBC BASIC BUILDING CODE AS WELL AS ALL OTHER APPLICABLE LOCAL CODES AND ORDINANCES.
1.03 THE WORK SHALL BE IN ACCORDANCE WITH INTERPRETATIONS OF THE LOCAL BUILDING OFFICIAL...
1.04 THE ENGINEERING DEPARTMENT SHALL BE NOTIFIED PROMPTLY OF ANY DISCREPANCIES IN INFORMATION AND OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND INFORMATION ON THE DRAWINGS PRIOR TO CONSTRUCTION...
1.05 DO NOT SCALE DRAWINGS.
1.06 THE GENERAL NOTES AND TYPICAL DETAILS APPLY THROUGHOUT THE JOB UNLESS INDICATED OTHERWISE...
1.07 IN CASE OF ANY DISCREPANCIES BETWEEN THESE NOTES AND NOTES ON THE STRUCTURAL DRAWINGS, THE STRUCTURAL NOTES SHALL TAKE PRECEDENCE.
1.08 SUB-CONTRACTORS SHALL MAINTAIN THE PREMISES CLEAN AND FREE OF TRASH BY PLACING CONSTRUCTION DEBRIS IN THE AREA DESIGNATED BY THE BUILDER AND SHALL PROTECT ALL ADJACENT WORK FROM DAMAGE...
1.09 DESIGN LOADS ARE AS FOLLOWS
1.10 THE BASIC STABILITY OF THE STRUCTURE IS DEPENDANT UPON THE DIAPHRAGM ACTION OF THE FLOORS, WALLS & ROOF ACTING TOGETHER. SUB-CONTRACTORS TO PROVIDE ALL GUYS, BRACES, STRUTS, ETC. AS REQUIRED TO ACCOMMODATE ALL LIVE, DEAD, AND WIND LOADS UNTIL ALL FINAL CONNECTIONS BETWEEN THESE ELEMENTS ARE MADE.
1.11 IT IS THE RESPONSIBILITY OF THE SUB-CONTRACTORS TO VERIFY AND CONSTRUCT ALL RATED ASSEMBLIES TO COMPLY EXACTLY WITH THE REQUIREMENTS OF THE TEST REPORTS LISTED. ALL FIRE RATED ASSEMBLIES ARE CONTINUOUS UNLESS OTHERWISE NOTED. ASSEMBLY MATERIALS SHALL TAKE PRECEDENCE OVER MATERIALS SPECIFIED IN THESE DRAWINGS.
1.12 ALL SUB-CONTRACTORS SHALL BE REQUIRED TO SEAL HORIZONTAL AND VERTICAL PENETRATIONS IN THE EXTERIOR WALL CAUSED BY THEIR TRADE.
1.13 ALL SHEATHING PENETRATIONS CAUSED BY ERECTION SHALL BE PATCHED AND REPAIRED ACCORDING TO MANUFACTURERS SPECIFICATIONS.
1.14 CRAWL SPACE SHALL BE PROVIDED UNDER FLOOR JOISTS NOT LESS THAN 18" IN DEPTH AND SHALL BE VENTED WITH SCREENED OPENINGS HAVING A CLEAR AREA OF NOT LESS THAN ONE THIRD OF ONE PERCENT OF THE ENCLOSED BUILDING AREA (IF APPLICABLE).
1.15 BASEMENT AND FOUNDATION WALLS ARE DEPENDANT UPON THE COMPLETED INSTALLATION OF FLOORS FOR THEIR STABILITY. SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SHORING AND BRACING.
1.16 THE ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE STRUCTURE DUE TO FIELD MODIFICATIONS WITHOUT PRIOR APPROVAL OF THE ENGINEER. ITEMS WHICH ARE SHOWN AS NOT ADHERED TO, SHALL BE CONSIDERED AS VARIANCE FROM SEALED ROOF TRUSS OR FLOOR TRUSS LAYOUTS, VARIANCE OF ANY APPLICABLE CODE, OR FAILURE OF SUB-CONTRACTORS TO PRODUCE ACCEPTABLE WORK IN A WORKMANLIKE MANNER.

2.0 SITE WORK

- 2.01 THESE DRAWINGS DO NOT COVER SITE WORK, EXCAVATION, GRADING OR UNDERPINNING. REFER TO THE SITE DRAWINGS PREPARED BY THE CIVIL ENGINEER FOR THESE ITEMS. ALL SITE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BOSTON CONSTRUCTION, GEOLOGICAL REPORTS AND APPROVED SITE GRADING PLAN ACCEPTED BY THE ENGINEER AND THE BUILDING DEPARTMENT.
2.02 EXCAVATION SHALL BE SUFFICIENT TO PROVIDE FULL DESIGN DIMENSIONS OR TO ALLOW FORMING AS REQUIRED. NO FOOTINGS SHALL BE PLACED ON FROZEN EARTH. FOOTING SHALL BE SIZED FOR AND BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL CAPABLE OF SUPPORTING 2000 PSF.
2.03 BACKFILL AND COMPACTION - USE ONLY CLEAN WELL GRADED EARTH CONTAINING NO ORGANIC MATERIAL, TRASH, MUCK, ROOTS, LOGS, STUMPS, CONCRETE, ASPHALT OR OTHER DETERIOROUS SUBSTANCES. BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE ASTM D998 STANDARD PROCTOR TEST. DO NOT BACKFILL AGAINST MASONRY WALLS UNTIL SUPER STRUCTURE IS IN PLACE. PRIOR TO PLACING FILL, THE EXISTING SURFACE SHALL BE CLEARED OF ALL REFUSE OR ORGANIC MATERIALS. BACKFILL IN LAYERS OF 6" DEPTH.
2.04 STEPS ON DEPTH OF FOOTINGS/FOUNDATION WILL VARY ACCORDING TO LOCAL SITE OR Frost CONDITIONS.
3.0 CONCRETE
3.01 ALL PLAIN AND REINFORCED CONCRETE SHALL COMPLY WITH REQUIREMENTS IN ACI 318 & ALL LOCAL CODES.
3.02 CONCRETE USED FOR FOOTING, BASEMENT SLABS, AND INTERIOR SLABS ON GRADE SHALL BE 5 1/2" BAC MIX 3000 PSI MIN. POURED FLOOR WALLS SHALL BE 5 1/2" BAC MIX 3000 PSI MIN. ALL EXTERIOR CONCRETE WORK INCLUDING PORCHES AND GARAGE SLABS SHALL BE 4" MIN. 3500 PSI AIR ENRICHED CONCRETE WITH 6"x6" #10 W/M.
3.03 STEPS OR DEPTH OF FOOTING/FOUNDATION WILL VARY ACCORDING TO LOCAL SITE OR Frost CONDITIONS.
3.04 SLABS ON GRADE - 4" THICK WITH W/M PLACED MIDWAY IN SLAB THICKNESS. SLABS POURED ON 6 MIL POLY FILM VAPOR BARRIER ON MINIMUM GRAVEL OVERLAP JOINTS OF BARRIER 12", SEAL OR TAPE ALL PENETRATIONS.
3.05 FORM WORK TO BE WELL BRACED, TRUE TO DIMENSION, LEVEL AND PLUMB.
3.06 PERIMETER INSULATION ON GRADE SLAB CONDITION SHALL BE 1" x 24" RIGID R-5 MIN. INSTALLED BY CONCRETE SLAB CONTRACTOR.
3.07 FOUNDATION DRAINS SHALL BE INSTALLED BY CONCRETE SUB-CONTRACTOR BUT LOCATED AT BUILDER'S DISCRETION ACCORDING TO LOCAL SITE CONDITIONS. DRAIN DISCHARGE TO CONFORM WITH APPROVED SITE PLAN.
3.08 SUMP PUMP PIT SHALL BE INSTALLED BY CONCRETE SUB-CONTRACTOR, LOCATED AT BUILDER'S DISCRETION.
3.09 ANY PLUMBING PIPE PASSING UNDER A FOOTING OR THROUGH A FOUNDATION WALL SHALL BE PROVIDED WITH A RELIEVING ARCH OR BEEHIVE TWO PIECES GREATER THAN THE PIPE PASSING THROUGH THE WALL.
3.10 INSTALL STEEL REINFORCING IN SLABS AS REQUIRED BY LOCAL CODE AND SITE CONDITIONS AND THESE DRAWINGS.
3.11 RAILINGS OR HANDRAILS SHALL BE INSTALLED ON ANY EXTERIOR PORCH OR STAIR AT OR ABOVE 3 RISERS.
3.12 TOP COURSES OF C.M.U. FOUNDATION WALLS SHALL BE FILLED OR SOLID INCLUDING THE COURSES UNDER ANY STEEL BEAM.
3.13 GARAGE SLABS SHALL BE NOMINAL 4" CONCRETE OVER 4" OF WASHED GRAVEL ON COMPACTED OR UNDISTURBED EARTH LOCATED A MINIMUM OF 4" FROM ADJACENT DOOR SILL HEIGHT.
3.14 ALL WOOD FRAMING MEMBERS WHICH REST ON EXTERIOR FOUNDATION WALLS SHALL BE 8" ABOVE FINISH GRADE AND P.T.
3.15 BUILDING FOUNDATIONS HAVE BEEN DESIGNED BASED ON AN ASSUMED SOIL BEARING CAPACITY OF 2000 PSF. ADDITIONAL ENGINEERING IS REQUIRED IF SOIL BEARING CAPACITY IS LESS THAN 2000 PSF.

6.0 CARPENTRY AND WALL CONSTRUCTION CONTINUED

- 6.03 ALL EXTERIOR WALLS SHALL BE SHEATHED WITH STYROFOAM MANUFACTURERS TIMBER BRACING SYSTEMS SHALL NOT BE CUT OR DRILLED UNLESS SO AUTHORIZED BY THE MANUFACTURER. CORNER BRACING AND INTERMEDIATE BRACING WILL BE REQUIRED AND CONFORM TO CODE.
6.04 ALL BASEMENT INTERIOR BEARING WALLS SHALL BE SHEATHED WITH A MINIMUM OF 1/2" GYPSUM BOARD TO ONE SIDE. REFER TO WALL SECTION SHEET FOR STRUCTURAL INFORMATION. ALL WORK SHALL BE IN COMPLETE ACCORDANCE WITH ALL APPLICABLE CODES. REQUIREMENTS AND REGULATIONS OF ALL GOVERNING AUTHORITIES AND UTILITY COMPANIES HAVING JURISDICTION OVER THIS WORK.
6.05 ALL DIMENSIONS SHOWN ON PLANS ARE FRAMING DIMENSIONS UNLESS NOTED OTHERWISE. NOMINAL DIMENSIONS OF LUMBER ARE SHOWN ON THE PLANS AS FOLLOWS:
6.06 ALL BEARING PARTITIONS SHALL HAVE 2-2x4 TOP PLATE AND 1-2x4 BOTTOM PLATE WITH STUDS SPACED AT 16 INCHES ON CENTER. ALL NON-BEARING PARTITIONS SHALL HAVE 2-2x4 TOP PLATE AND 1-2x4 BOTTOM PLATE WITH STUDS SPACED AT 16 INCHES ON CENTER.
6.07 TOP OF ROUGH OPENING FOR WINDOWS SHALL BE 6" 11 1/4" ABOVE FINISHED FLOOR FOR ALL LEVELS UNLESS NOTED OTHERWISE.
6.08 INTERIOR STAIRWAYS SHALL HAVE A MINIMUM CLEAR WIDTH OF 36" WITH A MINIMUM OF 6"-8" HEADROOM. HANDRAILS SHALL HAVE A MINIMUM HEIGHT OF 30" AND A MINIMUM CLEARANCE OF 34" MEASURED VERTICALLY ABOVE THE NOSE OF THE TREAD. HANDRAILS SHALL HAVE DIAMETER BOLS UNLESS NOTED OTHERWISE. FASTENERS SHALL BE SPACED AT 24" MAXIMUM O.C. AND SHALL BE STAGGERED. FASTENERS SHALL HAVE A MINIMUM CLEARANCE OF 12" FROM THE EDGE OF THE TREAD OR RISE. THE MINIMUM WIDTH OF WINDERS WHERE REQUIRED IN STAIR UNITS SHALL BE 6" WITH A MINIMUM DEPTH OF 17" AT A POINT NOT MORE THAN 12" FROM THE NARROWEST SIDE. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 24" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDRAIL SYSTEMS. SHALL BE BUILT WITH A 4" MAXIMUM SPACING BETWEEN VERTICAL MEMBERS AND SUCH THAT A 4" SPHERE CANNOT PASS THROUGH ANY POINT.
6.09 SMOKE DETECTORS SHALL BE LOCATED IN EACH STORY OF THE DWELLING UNIT, INCLUDING BASEMENTS AND ALSO IN THE IMMEDIATE VICINITY OF BATHROOMS. EACH SMOKE DETECTOR SHALL OPERATE ON AN ALTERNATING CURRENT PRIMARY SOURCE OF ELECTRIC POWER WITH BATTERY BACK UP. THE DETECTORS SHALL BE WIRED IN SUCH A MANNER THAT THE ACTIVATION OF THE ALARM WILL ACTIVATE ALL OF THE ALARMS WITHIN THE DWELLING UNIT.
6.10 FIREPLACE CHIMNEY TO BE MINIMUM 2'-0" ABOVE NEAREST 10'-0" PORTION OF ROOF. FACTORY BUILT FIREPLACES SHALL BE INSTALLED PER MANUFACTURER'S PRINTED INSTRUCTIONS AND IN ACCORDANCE WITH NFPA 211 AND U.L.
6.11 UNFINISHED BASEMENTS SHALL HAVE A MINIMUM CEILING HEIGHT OF 7'-0" 1/2" MEASURED TO THE UNDERSIDE OF THE FLOOR JOISTS. THE MINIMUM HEIGHT BELOW BASEMENT BEAMS AND DUCTS SHALL BE 4'-10".
6.12 NATURAL LIGHT AND VENTILATION MINIMUM REQUIREMENTS: BASEMENT LIGHT/VENT AREA = 25% FLOOR AREA LIGHT AREA PER ROOM = 8% FLOOR AREA VENTILATION AREA PER ROOM = 4% FLOOR AREA.
6.13 FIRESTOPPING SHALL BE PROVIDED AT ALL INTERCONNECTIONS BETWEEN VERTICAL AND HORIZONTAL SPACES SUCH AS SOFFITS AND DROPPED CEILING. FIRESTOPPING SHALL ALSO BE PROVIDED IN CONCEALED SPACES BETWEEN SHOWER STAIRWAYS AT THE TOP AND BOTTOM OF THE RUN.
6.14 SHELVING - ALL SHELVING SHALL BE 5/8" FILLED FLAKEBOARD WITH TAPERED FRONT EDGE, STRAP AND METAL BRACKETS, 42" O.C. MAXIMUM.
6.15 PLYWOOD - ALL PLYWOOD USED STRUCTURALLY SHALL MEET THE PERFORMANCE STANDARDS AND ALL OTHER REQUIREMENTS OF APPLICABLE U.S. COMMERCIAL STANDARDS FOR THAT TYPE, GRADE AND SPECIES OF PLYWOOD AND SHALL BE SO IDENTIFIED BY AN APPROVED TESTING AGENCY.
6.16 JOISTS AND ORDERS - SEE FRAMING PLANS FOR SIZE AND SPACING. MINIMUM JOIST BENDING STRESS = 1,400,000 PSI. MODULUS OF ELASTICITY AND MAXIMUM 19% MOISTURE CONTENT UNLESS NOTED OTHERWISE.
6.17 DESIGN, FABRICATION AND INSTALLATION OF TRUSSES AND SHEET METAL CONNECTORS SHALL BE IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE - TR-200 (LATEST EDITION). SUB-CONTRACTORS SHALL BE IN ACCORDANCE WITH TRUSS PLATE INSTITUTE, INC. PUBLICATION: BRACING WOOD TRUSSES: COMMENTARY AND RECOMMENDATIONS. BCS. ALL EXTERIOR DOORS OF NOT LESS THAN 20" NET FREE CLEAR OPENING OR ATTIC STAIRWAY OF EQUAL OR GREATER DIMENSION SHALL BE INSTALLED FOR ACCESS TO ALL ATTIC AREAS. PROVIDE A CLEAR HEIGHT OVER 30". ATTIC SPACES CREATED BY KNEE WALLS LESS THAN 5" IN HEIGHT SHALL BE OPEN TO THE EXTERIOR. PROVIDE A CLEAR STRUCTURE AREA NOT REQUIRED TO HAVE ACCESS.
6.18 ALL TRUSSES ARE STAMPED AND CERTIFIED BY A REGISTERED ENGINEER AND MEET THE MANUFACTURER MINIMUM REQUIREMENTS. HEADERS SHALL BE PROVIDED OVER EACH OPENING IN EXTERIOR BEARING WALLS. HEADERS MAY BE TWO PIECES OF NOMINAL 2" FRAMING LUMBER OF EQUIVALENT SIZE. WALL STUDS SHALL BE AT EACH SIDE OF THE WINDINGS OF 2" OR LESS. EACH END OF EACH STUD SHALL REST ON A SINGLE HEADER STUD OR MAY BE SUPPORTED BY FRAMING ANCHORS ATTACHED TO THE WALL STUD. SPACINGS MORE THAN 6" WIDE EACH END OF MORE THAN 6" WIDE. EACH END OF THE HEADER SHALL REST ON A SINGLE HEADER STUD FOR SPACINGS MORE THAN 6" WIDE EACH END OF THE HEADER SHALL REST ON TWO HEADER STUDS.
6.19 MINIMUM WOOD HEADER SIZES FOR OPENINGS ARE:
6.20 INTERIOR GARAGE/DWELLING SEPARATION: WALLS - U/L DESIGN U305 W/ 1 3/4" SOLID CORE DOOR CEILING - 5/8" TYPE X GYPSUM DRYWALL

6.0 CARPENTRY AND WALL CONSTRUCTION CONTINUED

- F. PREFABRICATED TIMBER SHALL BE INSTALLED AND BRACED PER MANUFACTURERS TIMBER BRACING SYSTEMS SHALL NOT BE CUT OR DRILLED UNLESS SO AUTHORIZED BY THE MANUFACTURER. CORNER BRACING AND INTERMEDIATE BRACING WILL BE REQUIRED AND CONFORM TO CODE.
G. WHERE DOUBLE MEMBERS ARE INDICATED ON THE DRAWINGS, MECHANICALLY FASTEN TOGETHER IN A MANNER SUCH THAT BOTH MEMBERS SHARE THE SUPERIMPOSED LOADS, INCLUDING LOADS FROM HEADERS.
6.25 WOOD FLOOR AND ROOF TRUSSES SHALL BE DESIGNED AND FABRICATED BY THE TRUSS MANUFACTURER AND SHALL COMPLY WITH THE NATIONAL DESIGN SPECIFICATION FOR STRESS GRADE LUMBER AND ITS FASTENERS. SUBMIT SHOP DRAWINGS AND CALCULATION PREPARED BY A P.E. TO THE JURISDICTIONAL PLAN REVIEWER AS REQUIRED BY GOVERNMENT AUTHORITY.
6.26 WOOD JOISTS SHALL HAVE A MINIMUM BEARING OF 1 1/2" WOOD. FLOOR TRUSSES TO HAVE MINIMUM BEARING AS PER MANUFACTURERS RECOMMENDATIONS.
6.27 PREFAB JOISTS AND BEAM HANGERS SHALL BE SIZED AND ATTACHED PER MANUFACTURERS RECOMMENDATIONS. HOLES THROUGH WOOD JOISTS SHALL NOT EXCEED MANUFACTURERS RECOMMENDATIONS. NO CUTS OR HOLES ARE ALLOWED THROUGH TOP OR BOTTOM CHORD.
6.28 SUBFLOOR TO BE 3/4" 1 AND G OSB STANDARD UNLESS OTHERWISE NOTED. ROOF DECK TO BE 1/2" OSB WITH EXTERIOR GUE UNLESS NOTED OTHERWISE. DIRECT BEARING AT ALL EDGES, GUELD AND NAILED. ALL END JOINTS SHALL BE STAGGERED. THE LONG SIDE OF THE OSB SHALL BE LAD AT RIGHT ANGLES TO THE JOIST AND PARALLEL TO THE STUDS. USE METAL CLIPS WITH 1/2" ROOF SHEATHING, AS REQUIRED.
6.29 ALL WOOD BLOCK, NAILERS, ETC. SHALL BE ATTACHED TO STEEL OR CONCRETE FRAMING WITH POWER ACTUATED FASTENERS OR 3/8" DIAMETER BOLTS UNLESS NOTED OTHERWISE. FASTENERS SHALL BE SPACED AT 24" MAXIMUM O.C. AND SHALL BE STAGGERED. FASTENERS SHALL HAVE A MINIMUM CLEARANCE OF 12" FROM THE EDGE OF THE TREAD OR RISE. THE MINIMUM WIDTH OF WINDERS WHERE REQUIRED IN STAIR UNITS SHALL BE 6" WITH A MINIMUM DEPTH OF 17" AT A POINT NOT MORE THAN 12" FROM THE NARROWEST SIDE. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 24" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDRAIL SYSTEMS. SHALL BE BUILT WITH A 4" MAXIMUM SPACING BETWEEN VERTICAL MEMBERS AND SUCH THAT A 4" SPHERE CANNOT PASS THROUGH ANY POINT.
7.0 THERMAL AND MOISTURE PROTECTION
7.01 THE STRUCTURE SHALL BE EQUIPPED WITH A CONTROLLED METHOD OF WATER DISPOSAL THAT WILL COLLECT AND DISCHARGE ALL ROOF DRAINAGE TO THE GROUND SURFACE AT LEAST 5' FROM THE FOUNDATION IN THE FORM OF 2" ALUMINUM GUTTER WITH 3" BY 5" DOWNSPOUTS SPILLING ONTO CONCRETE SPLASH BLOCKS.
7.02 ALUMINUM FLASHING SHALL CONFORM TO ASTM A-525. DESIGNATION 60-90 HOT-DIP GALVANIZED ALUMINUM SHEET METAL. FLASHING SHALL BE INSTALLED AT ALL ROOF TO WALL CONDITIONS INCLUDING BUT NOT LIMITED TO PORCHES, DECKS AND TERRACES. FLASHING SHALL BE LIMITED TO PORCHES, DECKS AND TERRACES. FLASHING SHALL ALSO BE INSTALLED AT PROJECTIONS OF WOOD BEAMS THROUGH EXTERIOR WALLS. ALL EXTERIOR OPENINGS INCLUDING DOORS AND WINDOWS AND ALSO AS REQUIRED TO PROVIDE WATER/TIGHT/ WEATHERPROOF PERFORMANCE.
7.03 OPEN VALLEYS SHALL BE FLASHED WITH MIN. NO. 28 GAUGE GALVANIZED CORROSION-RESISTANT SHEET METAL AND SHALL EXTEND MIN. 8" FROM CENTER LINE - EACH WAY. CLOSED VALLEY FLASHING SHALL BE 2 LAYERS OF MINERAL WOOL INSULATION WITH BOTTOM LAYER MINIMUM 1 1/2" WIDE AND TOP LAYER 2 1/2" WIDE. CEMENTED TOGETHER. CLOSED VALLEYS MAY ALSO BE OF 38" WIDE FOL ROOFING MATERIAL NOT LESS THAN 1/2" VALVE OVER THE UNDERLAYER.
7.04 PROVIDE NON-CORROSIVE ALUMINUM DRIP EDGE FLASHING AT ROOF EDGE. COMPOSITION SHINGLES SHALL BE APPLIED TO ROOF DECK SURFACE PREPARED WITH 15# ASPHALT FELT ADHESIVE/ADHESION. INSTALL ACCORDING TO MANUFACTURER'S PRINTED INSTRUCTIONS BUT NOT LESS THAN FOUR NAILS PER EACH STRIP SHINGLE MORE THAN 36" WIDE, AND TWO NAILS PER EACH INDIVIDUAL SHINGLE LESS THAN 36" WIDE. COMPOSITION SHINGLES SHALL NOT BE USED FOR ANY ROOF PITCH LESS THAN 4/12.
7.05 WALLS ADJACENT TO UNFINISHED SPACE (LOWER LEVEL) SHALL HAVE R-11 BATT INSULATION WITH NO VAPOR BARRIER.
7.06 ROUGH CARPENTRY CONTRACTORS SHALL INSTALL FIBERGLASS SILL SEALER BETWEEN ALL SILL PLATES AND TOP OF FOUNDATION WALLS.
7.07 ALL SHEATHING PENETRATIONS DURING CONSTRUCTION SHALL BE PATCHED AND REPAIRED ACCORDING TO MANUFACTURERS SPECIFICATIONS.
7.08 PROVIDE SOFFIT VENTS AND RIDGE VENTS OR GABLE END VENTS SHOWN ON DRAWINGS. BATT INSULATION SHALL BE PROVIDED ALLOWING NET FREE VENTILATING AREA OF THE SPACE NOT LESS THAN 1 TO 300 GREN THAT SIZE OF ALL VENTILATORS SHALL BE PLACED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED WITH THE REMAINDER OR INLET VENTILATION. CATHEDRAL CEILING APPLICATIONS SHALL MAINTAIN A MINIMUM CLEARANCE BETWEEN THE UNDERSIDE OF THE ROOF DECK AND THE INSULATION FOR PROPER VENTILATION. PROVIDE AND INSTALL INSULATION TO A DEPTH SUFFICIENT TO ACHIEVE AN INSULATION R-VALUE THROUGHOUT THE ENTIRE SPACE. PROVIDE AND INSTALL 3 1/2" THICK GLASS FIBER BATT INSULATION COVERED WITH A VAPOR BARRIER OF NOT LESS THAN 15# ASPHALT FELT ADHESIVE/ADHESION WITH INSULATION ONLY VALUE OF R-13 OR SO AS TO ACHIEVE A TOTAL R VALUE FOR THE THROUGH CAVITY SECTION OF NOT LESS THAN R-16 IN ALL EXTERIOR WALLS AND IN ENCLOSED HEATED OR COOLED SPACES AS SHOWN ON THE DRAWINGS.
7.09 VAPOR BARRIERS TO FACE CONDITIONED SPACE OF SPACE. A HEAT/LOSS GAIN CALCULATION ALONG WITH A RATIO CALCULATION SHALL BE SUPPLIED WHEN ANY ASSEMBLY DOES NOT MEET THE REQUIRED THERMAL VALUE. THE COMPONENTS OF THE HEAT/LOSS COMPLAINT ASSEMBLIES MAY BE INCREASED SO AS TO BRING THE ENTIRE COMBINATION OF ASSEMBLIES INTO COMPLIANCE. PROVIDE AND INSTALL BATT INSULATION AT WINDOW/DOOR SILL LOCATIONS AND SEAL ALL WINDOWS AND DOORS WITH A NON-HARDENING SEALANT SO AS TO PROVIDE A POSITIVE BARRIER AGAINST MOISTURE AND AIR PASSAGE. INSULATION SHALL BE FIT TIGHT WITHIN SPACES AND JOINT TO AND BEHIND MECHANICAL AND ELECTRICAL SERVICES WITHIN THE PLANE OF INSULATION. LEAVE NO GAPS OR VOIDS. EXTERIOR JOINT IN THE BUILDING ENVELOPE INCLUDING BUT NOT LIMITED TO WINDOWS, BETWEEN WALLS, AND ROOF/CEILING, OPENINGS OF UTILITY PENETRATIONS, AND ALL OTHER SUCH OPENINGS SHALL BE CAULKED, GASKETED, OR WEATHERSTRIPPED.
7.10 INSULATE EXTERIOR WALLS BETWEEN ALL FLOOR JOIST/TRUSSES WITH R-16 BATT INSULATION FOR 2x4 WALL CONSTRUCTION AND R-19 BATT INSULATION FOR 2x6 WALL CONSTRUCTION.

9.0 FINISHES

- 9.01 GYPSUM WALLBOARD SHALL BE INSTALLED IN ACCORDANCE WITH U.S. GYPSUM RECOMMENDATIONS AND SHALL MEET THE REQUIREMENTS OF IRC 2003 AND OTHER APPLICABLE CODES. TYPICAL INTERIOR PARTITIONS TO HAVE 1/2" TAPERED EDGE TAPED AND FINISHED. PROVIDE 5/8" TYPE X FIBERGLASS GYPSUM BOARD AT WALLS & CEILING WHERE CALLED FOR ON THE DRAWINGS.
9.02 GYPSUM WALLBOARD SHALL NOT BE INSTALLED UNTIL WEATHER PROTECTION FOR THE INSTALLATION IS PROVIDED.
9.03 ALL EDGES AND ENDS OF GYPSUM BOARD SHALL OCCUR ON FRAMING MEMBERS EXCEPT THOSE EDGES PERPENDICULAR TO FRAMING MEMBERS.
9.04 INSTALL MOISTURE RESISTANT GYPSUM BOARD AT ALL BATHROOMS AND WHERE MOISTURE CONDITIONS EXIST.
9.05 CERAMIC TILE SHALL BE 4 1/4" x 4 1/4" GLAZED TILE, THINSET APPLICATION ON WATER RESISTANT DRYWALL. PROVIDE BASE AND MISCELLANEOUS TRIM. PROVIDE MARBLE THRESHOLD FOR TRANSITION BETWEEN CERAMIC FLOOR TILE AND OTHER FLOOR FINISHES. FLOOR TILE SHALL BE NON-SLIP.
9.06 RESILIENT FLOORING - SHALL BE SHEET VINYL OR VINYL COMPOSITION TILES INSTALLED AS PER MANUFACTURERS SPECIFICATIONS.
9.07 PROVIDE SUITABLE FLOOR UNDERLAYMENT FOR ALL CERAMIC AND RESILIENT FLOORING.
9.08 APPLICATION OF PAINT AND OTHER COATINGS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS DIRECTIONS. READY - MIXED PAINT SHALL NOT BE THINNED. ALL INTERIOR AND EXTERIOR SURFACES SHALL RECEIVE THE PAINTER'S FINISH EXCEPT COLOR COORDINATED FACTORY FINISH SURFACES. TOP AND BOTTOM OF ALL DOORS SHALL BE SEALED AND PAINTED. ALL SURFACES TO BE STAINED OR PAINTED SHALL BE FREE OF FOREIGN MATERIAL SUCH AS DIRT, GREASE, ASPHALT, RESIDUE, ETC. STAIN SHALL BE IN A WORKMAN LIKE MANNER PROVIDING A SMOOTH SURFACE. APPLICATION RATE SHALL BE AS RECOMMENDED BY THE MANUFACTURER. APPLICATION MAY BE BY BRUSH, ROLLER OR SPRAY. PAINT SHALL BE PER THE ENGINEERS COLOR SCHEDULE AND SPECIFICATIONS.
9.09 PAINT INTERIOR CEILING - LATEX FLAT, 2 COATS OVER 1 PRIME COAT WALLS - LATEX FLAT, 2 COATS OVER 1 PRIME COAT TRIM - LATEX SEMI-GLOSS, 2 COATS OVER 1 PRIME COAT KITCHENS AND BATH ROOMS - LATEX SEMI-GLOSS, 2 COATS OVER 1 PRIME COAT WALLS - LATEX SEMI-GLOSS, 2 COATS OVER 1 PRIME COAT FAMILIES.
9.10 PAINT EXTERIOR TRIM COAT FINISH (2) COAT FINISH. COLOR SELECTED BY THE ENGINEER.

10.0 MECHANICAL

- 10.01 ALL PIPES, DUCTS, VENTS, WIRING, AND CHASES WHICH PENETRATE CEILING DIRECTLY BELOW TRUSSES OR ROOF ASSEMBLIES SHALL BE DRAFTSTOPPED.
10.02 ALL EXHAUST FANS SHALL FLOW TO THE EXTERIOR. KITCHEN RANGE EXHAUST: 100 CFM BATHROOM & POWDER ROOM: 50 CFM
10.03 AIR HANDLER SHALL BE STANDARD, SIZE AND MODEL AS PER HEAT LOSS/HEAT GAIN CALCULATIONS.
10.04 PER LOCAL CODE REQUIREMENTS, DWELLING SHALL BE EQUIPPED THROUGHOUT WITH AUTOMATIC SPRINKLER SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13D (ONE AND TWO FAMILY).
10.05 SANITARY, COLD AND HOT WATER, AND ALL OTHER PIPING SHALL CONFORM TO THE REQUIREMENTS, LOCAL AND STATE. PROVIDE OVERFLOW PANS AND DRAINS WITH WASHER AND/OR WATER HEATER WHEN LOCATED ABOVE A FINISHED SPACE. PROVIDE 1 1/2" CONDENSATE LINE FROM WATER HEATER AND AIR HANDLER UNDER 3/8" TO SUMP PIT.
10.06 ALL DRIVERS TO BE VENTED TO EXTERIOR SIDE ON ROOM OF HOUSE.
11.0 ELECTRICAL
11.01 THE INTENT OF THE ELECTRICAL PLAN IS TO INDICATE IN GENERAL, A DESCRIPTION OF THE ELECTRICAL SYSTEM FOR THE STRUCTURE. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, STATE CODES, AND LOCAL ORDINANCES. SUB-CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES. TERMINAL HOODUP IS REQUIRED OF ALL FIXTURES, APPLIANCES, MOTORS, FANS, AND CONTROLS. ELECTRICAL SYSTEM LAYOUTS ARE GENERALLY DIAGRAMMATIC, LOCATION OF OUTLETS AND EQUIPMENT IS APPROXIMATE UNLESS OTHERWISE SPECIFIED. EXACT ROUTING OF WIRING AND LOCATIONS OF OUTLETS SHALL BE GOVERNED BY STRUCTURAL CONDITIONS AND OBSTRUCTIONS. WIRING FOR EQUIPMENT REQUIRING MAINTENANCE SHALL BE READILY ACCESSIBLE. ALL EXTERIOR BREAKERS WITHIN THE ELECTRICAL PLAN SHALL BE LABELED. ALL EXTERIOR METER BOXES SHALL BE PROVIDED PER U.L. ONE ELECTRIC PANEL BOX SHALL BE PROVIDED PER U.L. ONE ENCLOSED HEATED OR COOLED SPACES AS SHOWN ON THE DRAWINGS.
11.02 SMOKE DETECTORS ARE REQUIRED AND SHALL BE INSTALLED INSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADDITIONAL STORY OF THE DWELLING INCLUDING BASEMENT. ALL DETECTORS SHALL BE APPROVED AND LISTED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

5.0 METALS

- 5.01 FOUNDATION ANCHOR BOLTS SHALL BE PROVIDED AT MAXIMUM 4'-0" O.C. INTERVALS AND PLACED 1/2" FROM THE END OF EACH SECTION WITH MINIMUM TWO ANCHOR BOLTS PER SECTION OF WALL. ANCHOR BOLT SHALL BE MINIMUM 1/2" DIAMETER AND SHALL BE EMBEDDED IN FOUNDATION IN DEPTH MINIMUM 8" OF POURED IN PLACE CONCRETE AND NOT LESS THAN 15" IN CROUTED UNIT MASONRY. ANCHOR BOLT CAN BE SUBSTITUTED WITH METAL STRAP PER MANUFACTURERS SPECIFICATION. ALL BEARING PLATES SHALL BEAR ON MINIMUM 8" DEEP SOLID MASONRY.
5.02 ALL METAL ANCHORS, FASTENERS, JOIST HANGERS, ETC. TO BE GALVANIZED. ALL STRUCTURAL STEEL TO CONFORM TO ASTM 36. PIPE TO BE A53. TUBE TO BE A500 OR A501. DETAILING TO BE IN ACCORDANCE WITH AISC STRUCTURAL STEEL DETAILING MANUAL.
5.03 VENEER TIES SHALL BE 22 GAUGE GALVANIZED, CORRUGATED 7/8 W/0 METAL.
5.04 STEEL LATELS - FOR ALL OPENINGS AND RECESSES IN BRICK OR CONCRETE WALLS PROVIDE ONE STEEL ANGLE FOR EACH 4 INCHES OF WALL THICKNESS. STEEL ANGLES TO HAVE MINIMUM BEARING AT EACH END. HORIZONTAL LEG SHALL BE 3 1/2" UNLESS OTHERWISE SHOWN.
LITEL SCHEDULE (UNLESS OTHERWISE NOTED ON PLANS)
STEEL ANGLE:
L-1 3 1/2"x3 1/2"x1/4" UP TO 3'-0"
L-2 3 1/2"x3 1/2"x3/8" 3'-0" TO 7'-0"
L-3 5"x3 1/2"x3/8" 6'-0" TO 9'-0"
5.05 NAILING SCHEDULE PER MANUFACTURERS RECOMMENDED STANDARDS, BUT NOT LESS THAN REQUIRED BY CODE.
5.06 HOLES SHALL NOT BE CUT THROUGH BEAMS UNLESS INDICATED OR APPROVED BY ENGINEER

6.0 CARPENTRY AND WALL CONSTRUCTION

- 6.01 ALL WOOD AND WOOD CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND CODES WITH MODIFICATIONS AS SPECIFIED WITHIN: A. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (STANDARD MANUAL) B. NATIONAL FOREST PRODUCTS ASSOCIATION - NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION C. SOUTHERN PINE INSPECTION BUREAU - STANDARD GRADING RULES FOR SOUTHERN PINE LUMBER D. TRUSSING INSTITUTE DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES (TP-1985) E. AMERICAN PLYWOOD ASSOCIATION - GUIDE TO PLYWOOD FOR FLOORS, PLYWOOD SHEATHING FOR WALLS AND ROOFS. F. AMERICAN WOOD PRESERVERS ASSOCIATION STANDARDS.
6.02 ALL PARTITIONS SHALL BE 2 x 4 STUD CONSTRUCTION UNLESS OTHERWISE NOTED. BEARING WALLS SHALL HAVE STUD PLACEMENT 16" O.C. MAXIMUM ALIGNED UNDER FLOOR STRUCTURE MEMBERS V-1" NON-LOAD BEARING INTERIOR PARTITION SHALL BE 16" O.C. MAXIMUM.

- 6.21 SILL PLATE TREATED TO MEET AMERICAN WOOD PRESERVERS INSTITUTE STANDARD LP-2 OR LP-4 WHERE INDICATED ON PLANS.
6.22 ALL EXPOSED EXTERIOR LUMBER IN CONTACT WITH MASONRY, OR CONCRETE SHALL BE PRESURE PRESERVATIVE TREATED IN ACCORDANCE WITH INDUSTRY STANDARDS. PROVIDE FIRE RETARDANT SHEATHING AND LUMBER WHERE INDICATED ON DRAWINGS.
6.23 MAXIMUM MOISTURE CONTENT OF ALL LUMBER SHALL BE 19%.
6.24 STRENGTH OF FRAMING MATERIAL - ALL FRAMING LUMBER SHALL BE HEM FIR, GRADE 2 OR BETTER HAVING THE FOLLOWING MINIMUM PROPERTIES:
BENDING STRESS "FB" = 1000 PSI FOR SINGLE MEMBER USE
BENDING STRESS "FB" = 1500 PSI FOR REPETITIVE MEMBER USE
HORIZONTAL SHEAR "TV" = 75 PSI
COMPRESSION PERPENDICULAR TO GRAIN "TC" = 405 PSI
COMPRESSION PARALLEL TO GRAIN "TC" = 870 PSI
MODULUS OF ELASTICITY "E" = 1,400,000 PSI
B. ALL STRUCTURAL POSTS SHALL BE SOUTHERN YELLOW PINE GRADE 2 OR BETTER HAVING THE FOLLOWING MINIMUM PROPERTIES:
BENDING STRESS "FB" = 1200 PSI FOR SINGLE MEMBER USE
BENDING STRESS "FB" = 1400 PSI FOR REPETITIVE MEMBER USE
HORIZONTAL SHEAR "TV" = 80 PSI
COMPRESSION PERPENDICULAR TO GRAIN "TC" = 565 PSI
COMPRESSION PARALLEL TO GRAIN "TC" = 1000 PSI
MODULUS OF ELASTICITY "E" = 2,000,000 PSI
C. PLYWOOD LAMINATED (MICROLAM) BEAMS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
HORIZONTAL SHEAR "TV" = 2600 PSI
HORIZONTAL SHEAR "TV" = 250 PSI
MODULUS OF ELASTICITY "E" = 2,000,000 PSI
D. PREFABRICATED STRUCTURAL TIMBER BEAMS SHALL CONFORM TO ONE OF THE FOLLOWING SPECIFICATIONS:
- PARALLAM (PL) - NER-296
- ASI - BRCA 82-47,
- SBCI-8520
- KBD-4035
- SBCI-8520
- ONI - BOCA 88-5
- SBCI-8520
- HUD SSB-1091

- E. CUTTING AND NOTCHING OF FLOOR JOISTS SHALL CONFORM TO THE FOLLOWING: OR PER MANUFACTURERS SPECIFICATIONS. WITHIN: A. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (STANDARD MANUAL) B. NATIONAL FOREST PRODUCTS ASSOCIATION - NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION C. SOUTHERN PINE INSPECTION BUREAU - STANDARD GRADING RULES FOR SOUTHERN PINE LUMBER D. TRUSSING INSTITUTE DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES (TP-1985) E. AMERICAN PLYWOOD ASSOCIATION - GUIDE TO PLYWOOD FOR FLOORS, PLYWOOD SHEATHING FOR WALLS AND ROOFS. F. AMERICAN WOOD PRESERVERS ASSOCIATION STANDARDS.
6.02 ALL PARTITIONS SHALL BE 2 x 4 STUD CONSTRUCTION UNLESS OTHERWISE NOTED. BEARING WALLS SHALL HAVE STUD PLACEMENT 16" O.C. MAXIMUM ALIGNED UNDER FLOOR STRUCTURE MEMBERS V-1" NON-LOAD BEARING INTERIOR PARTITION SHALL BE 16" O.C. MAXIMUM.

- 8.0 DOORS AND WINDOWS
8.01 WINDOWS AND DOORS SHALL BE INSTALLED AS DRAWN ACCORDING TO THE SPECIFICATIONS OF THE ENGINEER. ALL UNITS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS AND SHALL BE SIZED AS INDICATED BY THE MANUFACTURER.
8.02 EXTERIOR ENTRANCE DOORS 1-3/4" SOLID WOOD CORE OR HOLLOW METAL 20 GAUGE FILLED WITH MINIMUM 16 GAUGE GALVANIZED ZINC. PROVIDE DOOR UP TO 7'-2" IN HEIGHT AND 2" PAIR FOR DOORS TO 8'-0" IN HEIGHT. FRAMES TO BE MINIMUM 16 GAUGE GALVANIZED ZINC. SEE DRAWINGS FOR RAISED PANEL DESIGN. PROVIDE COMPLETE WEATHER STRIPPING AND METAL THRESHOLD.
8.03 GARAGE TO UNIT DOORS TO BE METAL OR SOLID WOOD CORE 1-3/4".
8.04 FOR DOOR AND WINDOW SIZES REFER TO SCHEDULE OR PLANS.
8.05 GLAZING IN LOCATIONS SUBJECT TO HUMAN IMPACT SUCH AS ENTRY DOORS AND SLOGLIGHT SLIDING GLASS DOORS, SHOWER DOORS, TUB ENCLOSURES AND STORM DOORS SHALL BE FULLY TEMPERED IN ACCORDANCE WITH THE BOCA CODE. FIXED PANELS WITH AREA IN EXCESS OF 8 SQ.FT. WITH THE LOWEST EDGE LESS THAN 18" ABOVE THE FINISHED FLOOR OR WALKING SURFACE WITHIN 36" OF SUCH GLAZING UNLESS A HORIZONTAL LINE OF NOT LESS THAN 1/2" WIDTH LOCATED BETWEEN 24" AND 36" ABOVE THE WALKING SURFACE SHALL BE FULLY TEMPERED.
8.06 ALL SLIDING/SWINGING DOORS AND WINDOWS OPENING TO THE EXTERIOR SHALL BE FULLY WEATHERSTRIPPED, CAULKED, GASKETED OR OTHERWISE TREATED TO LIMIT AIR INFILTRATION.
8.07 EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE WINDOW OR DOOR FOR EMERGENCY EGRESS. BEARING WALLS SHALL HAVE STUD PLACEMENT 16" O.C. MAXIMUM ALIGNED UNDER FLOOR STRUCTURE MEMBERS V-1" NON-LOAD BEARING INTERIOR PARTITION SHALL BE 16" O.C. MAXIMUM.
8.08 ALL OPERABLE WINDOWS SHALL HAVE NONCORROSIVE SCREENS AND SASH LOCKS.

ENGINEER: DESIGNS, UNLIMITED, INC.
6360 TENNIS COURT
BOSTON, VA 22713
(540)212-8330

ISSUED 2-24-21
REVISID

CONTRACTOR: SACRA CUSTOM HOMES
4505 PARTLOW ROAD
PARTLOW, VA 22534
(540)582-2397

PROJECT: SINGH RESIDENCE
TITLE: DRAWING SPECIFICATION SHEET

PROJ. NO. 21.056

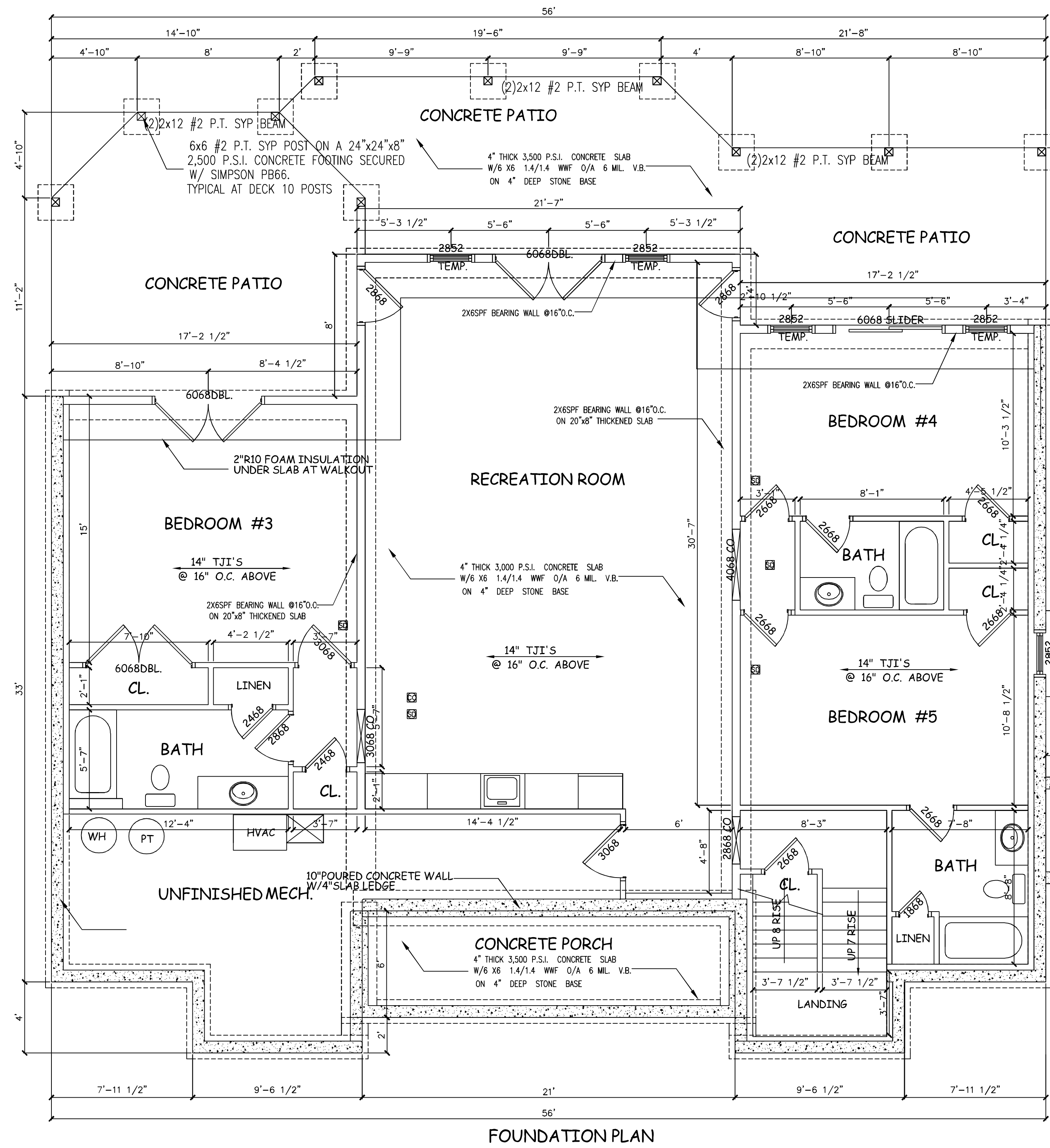
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2 OF 9



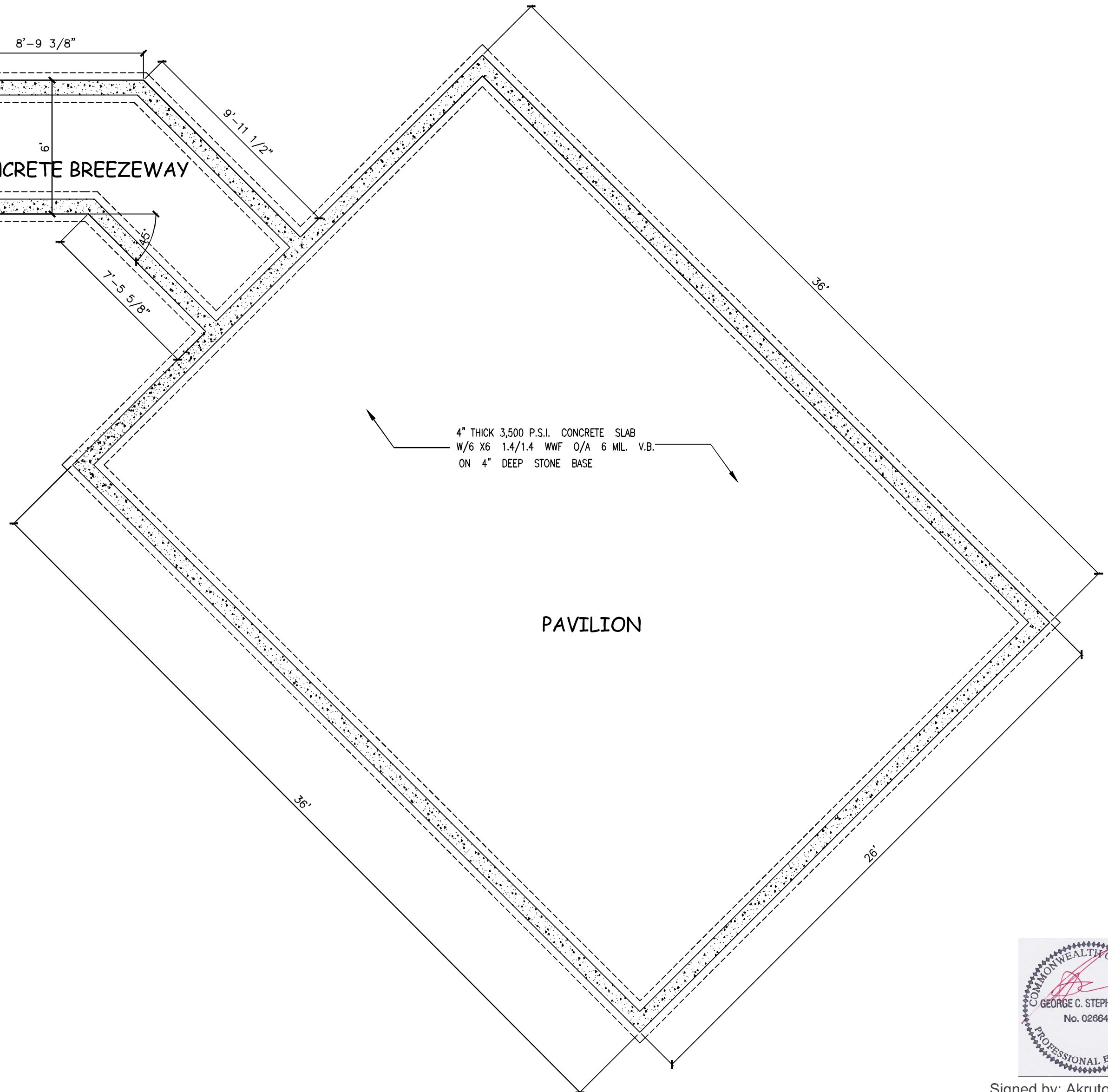
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2x10 #2 P.T. SYP JOISTS @ 16" O.C.
 JOISTS HUNG FROM 2x10 #2 P.T. SYP LEDGER
 BOARD ATTACHED TO HOUSE BAND WITH 2 EA.
 1/2" CARRIAGE BOLTS @ 12" O.C. INSTALL 1
 EACH SIMPSON DT2Z JOIST TO JOIST CONNECTION
 NEAR EACH END OF EACH DECK SECTION TYPICAL
 OF SIX DECK TIES.

StakWEL EGRESS
 WINDOW WELL

4" THICK 3,500 P.S.I. CONCRETE SLAB
 W/6 X6 1.4/1.4 WWF O/A 6 MIL. V.B.
 ON 4" DEEP STONE BASE

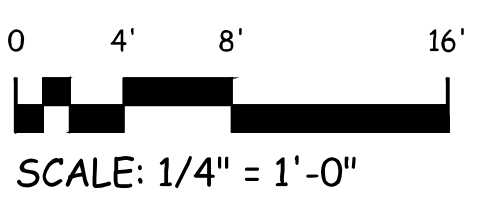


8" FOUNDATION WALL
 FOUNDATION WALL REINFORCEMENT
 PER IRC 2015 TABLE 404.1.2(3)
 WALL HEIGHT = 9"
 MAX UNBALANCED FILL = 9"
 WALL WIDTH U.N.O. = 8"

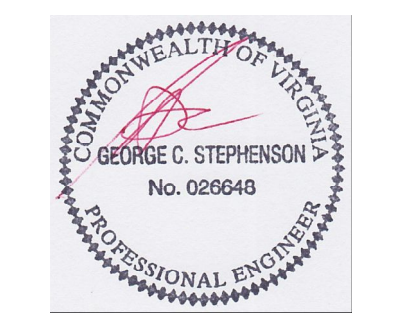
8" BACKFILL REINFORCEMENT TABLE
 HORIZONTAL = 24" O.C. W/ 1 @ 12" OFF BOTTOM & 2 @ 6" OFF TOP
 VERTICAL = #6 BARS @ 18" O.C. OR EQUIVALENT

10" FOUNDATION WALL
 FOUNDATION WALL REINFORCEMENT
 PER IRC 2015 TABLE 404.1.2(4)
 WALL HEIGHT = 9"
 MAX UNBALANCED FILL = 9"
 WALL WIDTH U.N.O. = 10"

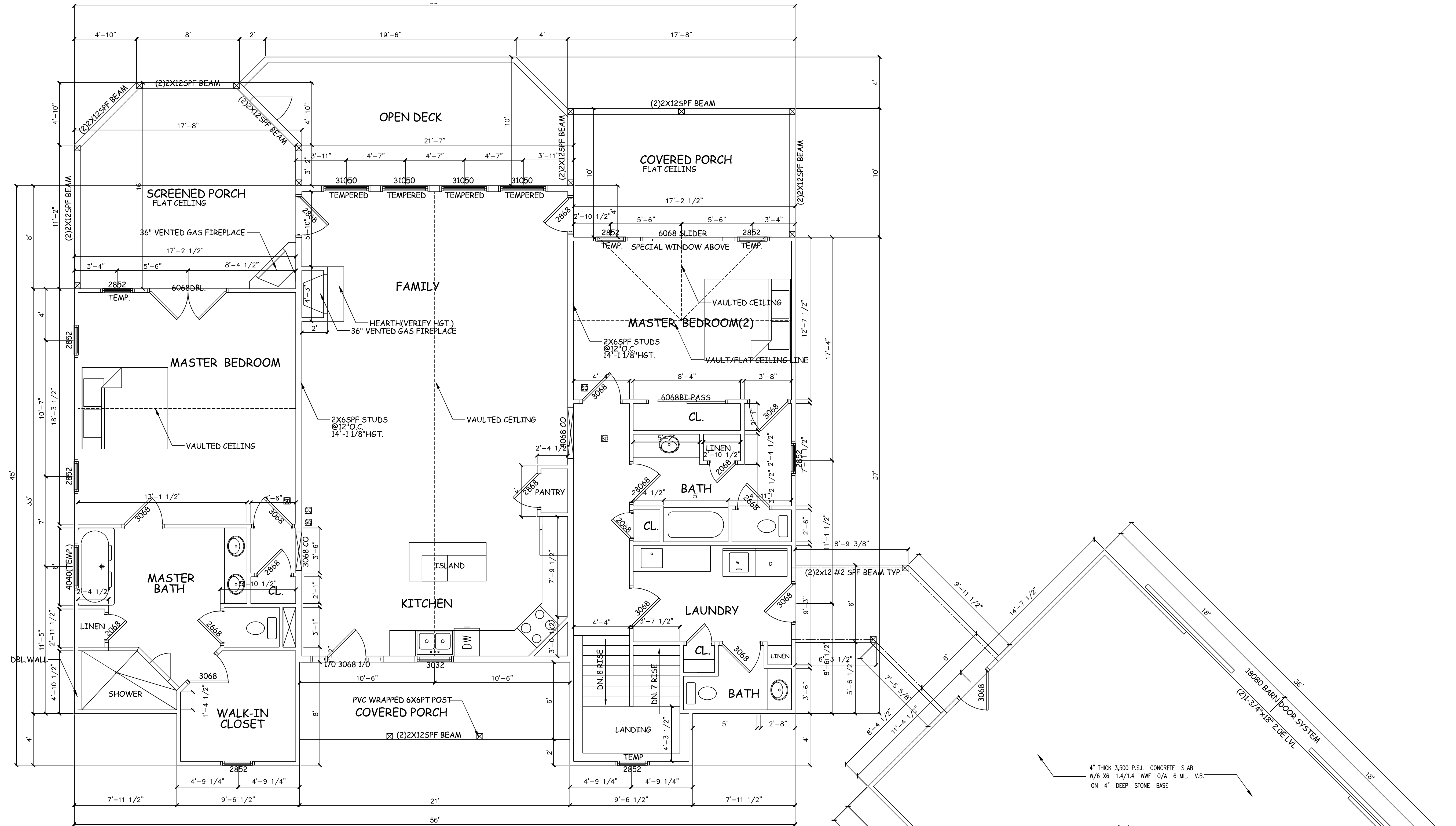
8" BACKFILL REINFORCEMENT TABLE
 HORIZONTAL = 24" O.C. W/ 1 @ 12" OFF BOTTOM & 2 @ 6" OFF TOP
 VERTICAL = #6 BARS @ 24" O.C. OR EQUIVALENT



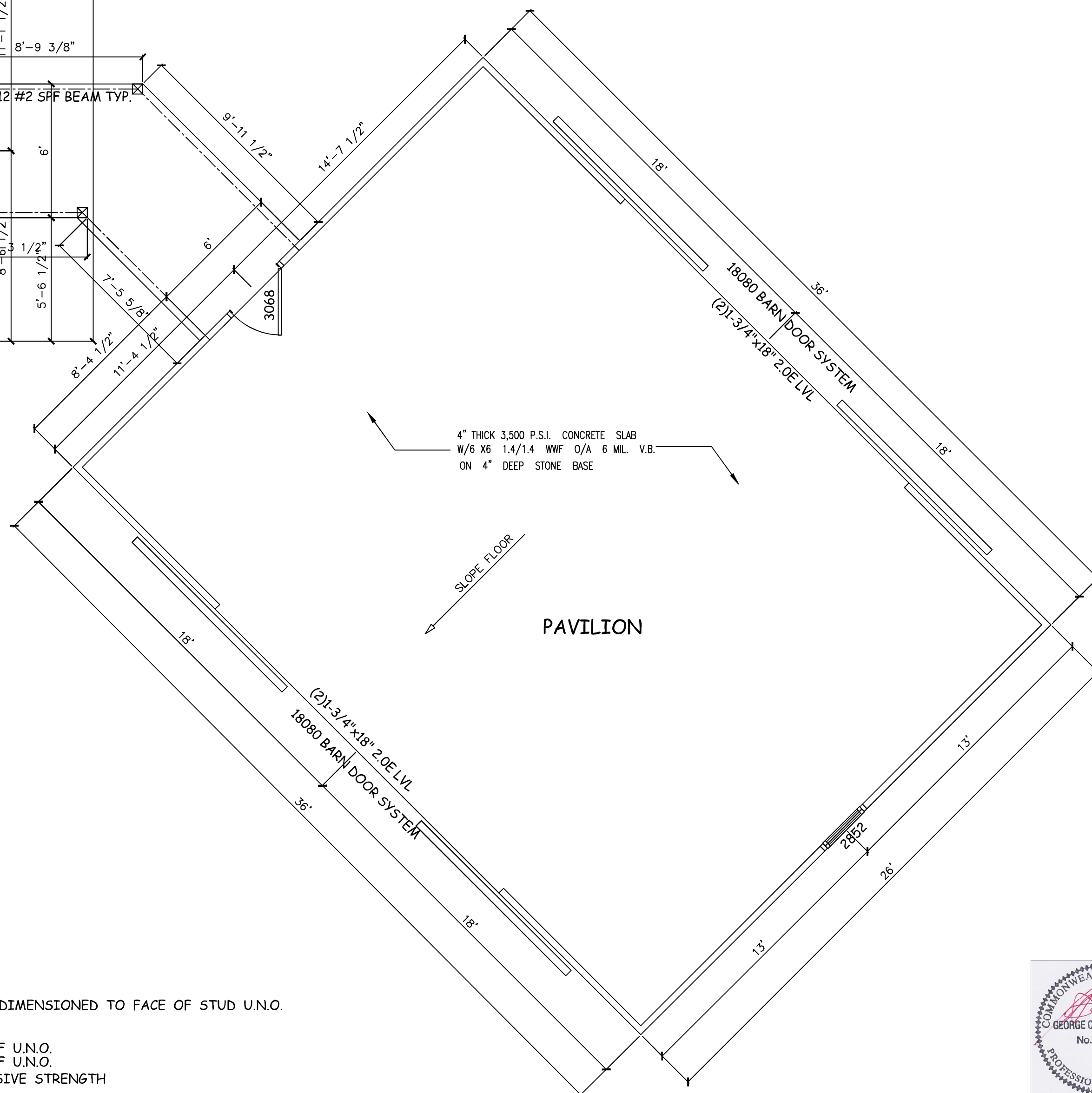
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|---|----------------|
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| ISSUED 2-24-21 | REVISED |
| CONTRACTOR: SACRA CUSTOM HOMES 4505 PARTLOW ROAD PARTLOW, VA 22534 (540)582-2397 | CHECKED BY: TS |
| DESIGN BY: CS | DRAWN BY: CS |
| PROJECT: SINGH RESIDENCE | |
| TITLE: FOUNDATION PLAN | |
| PROJ. NO. 21.056 | |
| DATE: 2-24-21 | |
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| 3 OF 9 | |



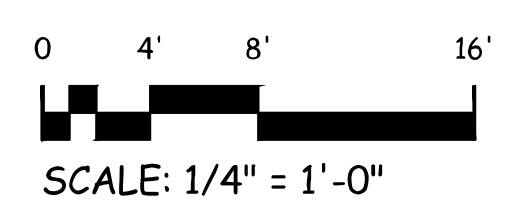
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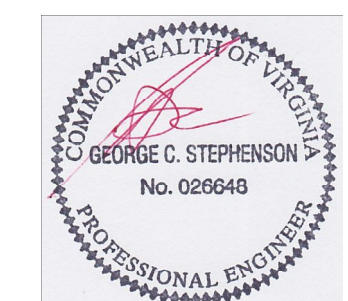
FLOOR PLAN



PAVILION



- GENERAL NOTES
- * ALL INTERIOR WALLS ARE TO BE 2x4 #2 SPF @ 16" O.C. & DIMENSIONED TO FACE OF STUD U.N.O.
 - * ALL FIRST FLOOR HEIGHT 9' 1-1/8" U.N.O.
 - * ALL BASEMENT HEIGHTS ARE 8' 9-1/2" U.N.O.
 - * ALL 3' OPENING BEARING WALL HEADERS ARE 2-2x10 #2 SPF U.N.O.
 - * ALL 6' OPENING BEARING WALL HEADERS ARE 2-2x12 #2 SPF U.N.O.
 - * ALL FOUNDATION CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS U.N.O.
 - * FOUNDATION DESIGN BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 1,500 P.S.F.
 - * FOUNDATION DESIGN BASED ON NON-EXPANSIVE SOILS.
 - * ALL FOOTINGS TO BE SET A MINIMUM OF 18" BELOW FINISHED GRADE.



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CONTRACTOR: SACRA CUSTOM HOMES
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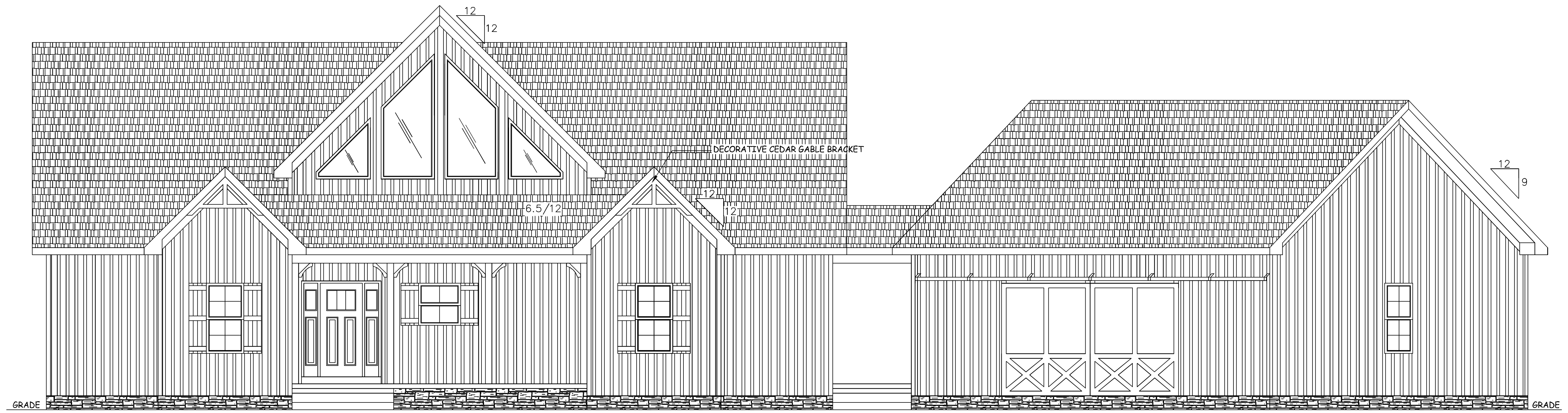
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TITLE: DRAWING FLOOR PLAN

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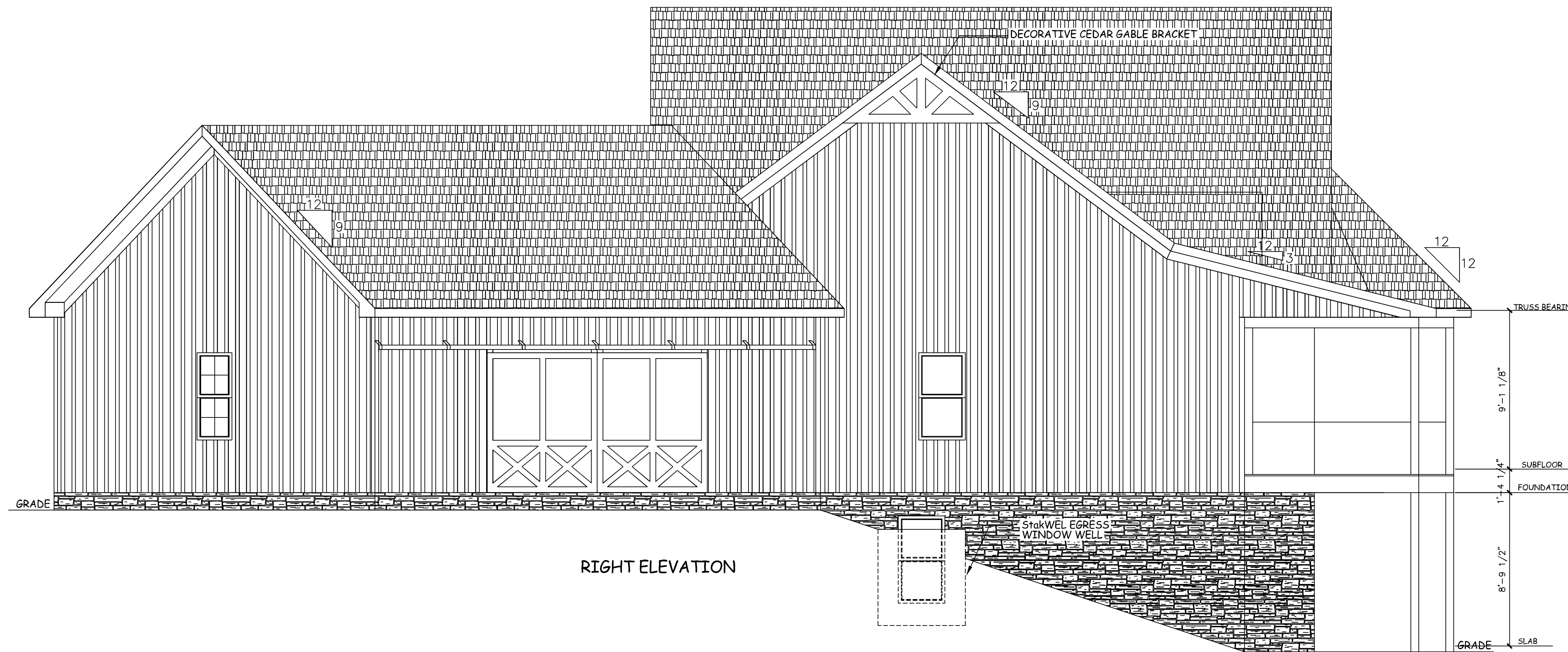
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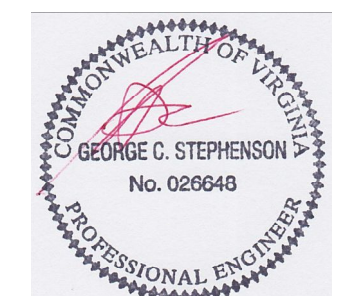
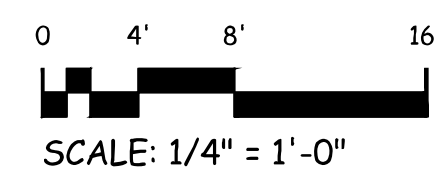
A4



FRONT ELEVATION



RIGHT ELEVATION



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6386 TENNIS COURT
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CONTRACTOR: SACRA CUSTOM HOMES
4505 PARTLOW ROAD
PARTLOW, VA 22534
(540)582-2397

DESIGN BY: CS
DRAWN BY: CS
CHECKED BY: TS

PROJECT: SINGH RESIDENCE
TITLE: 4505 PARTLOW ROAD

DRAWING TITLE: FRONT & RIGHT ELEVATIONS

PROJ. NO. 21.056

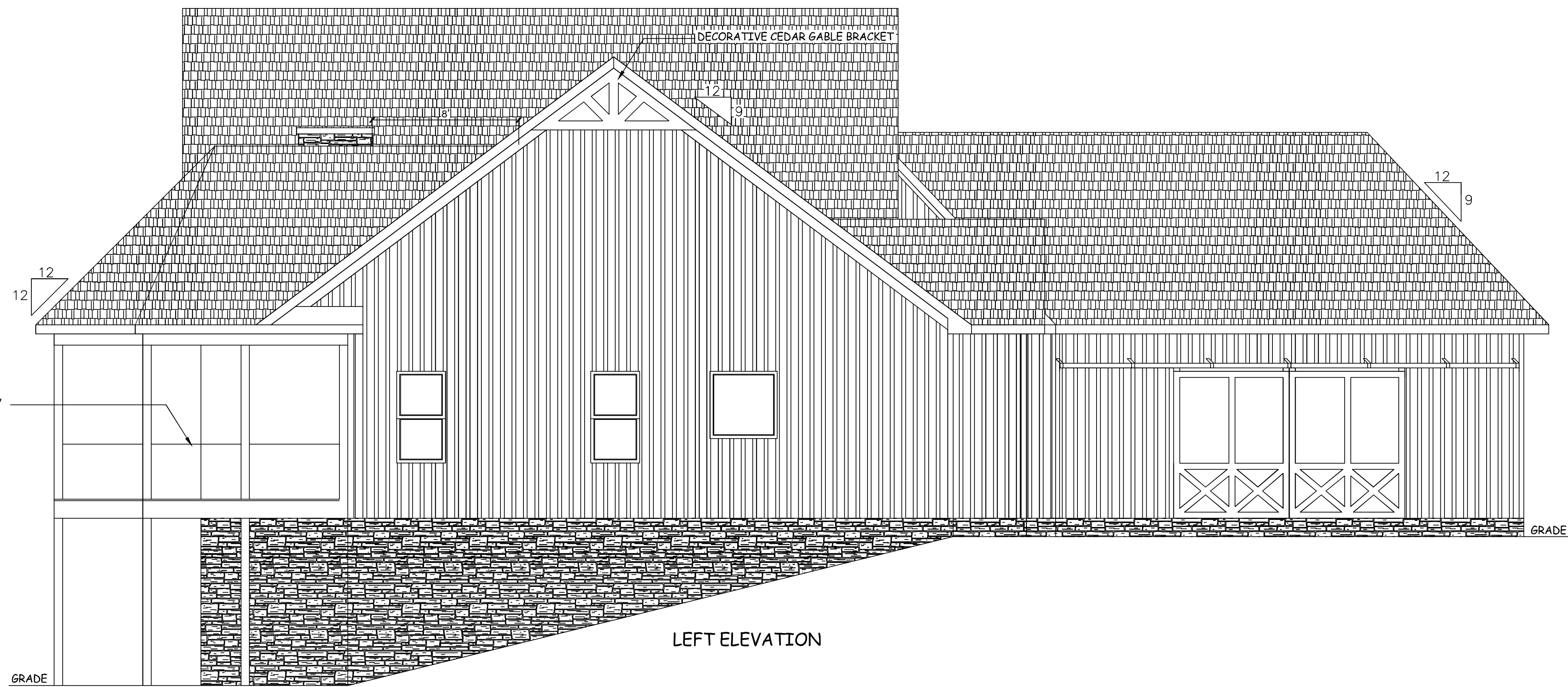
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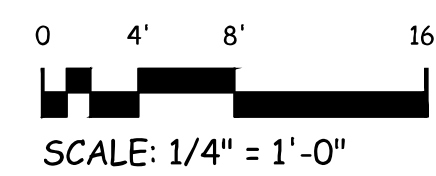
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REAR ELEVATION



LEFT ELEVATION



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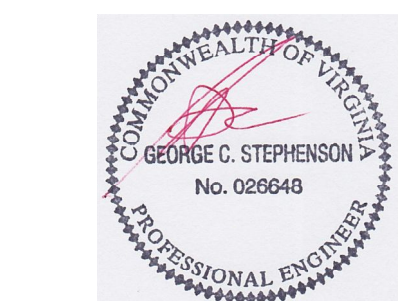
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TITLE: REAR & RIGHT ELEVATIONS

PROJ. NO. 21.056

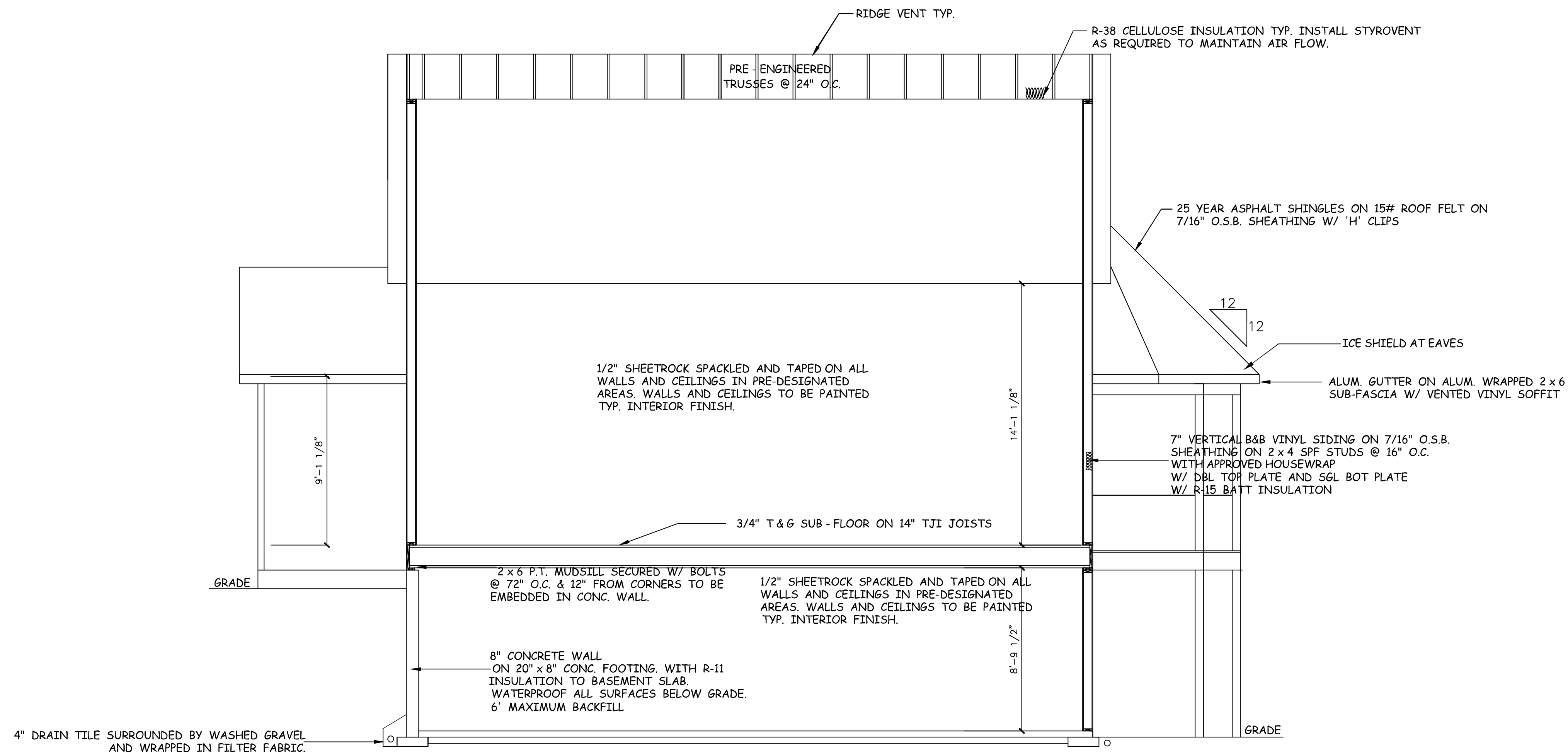
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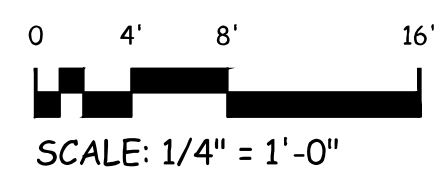
BUILDING SECTION A - A

8" FOUNDATION WALL
FOUNDATION WALL REINFORCEMENT
PER IRC 2015 TABLE 404.1.2(3)
WALL HEIGHT = 9'
MAX UNBALANCED FILL = 9'
WALL WIDTH U.N.O. = 8'

8" BACKFILL REINFORCEMENT TABLE
HORIZONTAL = 24" O.C. W/ 1 @ 12" OFF BOTTOM & 2 @ 6" OFF TOP
VERTICAL = #6 BARS @ 18" O.C. OR EQUIVALENT

10" FOUNDATION WALL
FOUNDATION WALL REINFORCEMENT
PER IRC 2015 TABLE 404.1.2(4)
WALL HEIGHT = 9'
MAX UNBALANCED FILL = 9'
WALL WIDTH U.N.O. = 10'

8" BACKFILL REINFORCEMENT TABLE
HORIZONTAL = 24" O.C. W/ 1 @ 12" OFF BOTTOM & 2 @ 6" OFF TOP
VERTICAL = #6 BARS @ 24" O.C. OR EQUIVALENT



ENGINEER: DESIGNS UNLIMITED, INC.
6360 TENNIS COURT
BOSTON, VA 22713
(540)212-8330

ISSUED 2-24-21
REVISED

CONTRACTOR: SACRA CUSTOM HOMES
4505 PARTLOW ROAD
PARTLOW, VA 22534
(540)582-2397

DESIGN BY: CS
DRAWN BY: CS
CHECKED BY: TS

PROJECT: SINGH RESIDENCE
TITLE: BUILDING SECTION

PROJ. NO. 21.056

DATE: 2-24-21

SHEET NO.

A7



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Date: 2021.04.29 13:45:08 --4

ENGINEER: DESIGNS UNLIMITED, INC.
 6360 TENNIS COURT
 BOSTON, VA 22713
 (540)212-8330

ISSUED 2-24-21
 REVISED

CONTRACTOR: SACRA CUSTOM HOMES
 4505 PARTLOW ROAD
 PARTLOW, VA 22534
 (540)582-2397

PROJECT: SINGH RESIDENCE
 TITLE: DRAWING WALL BRACE PLAN

PROJ. NO. 21.056

DATE: 2-24-21

SHEET NO.

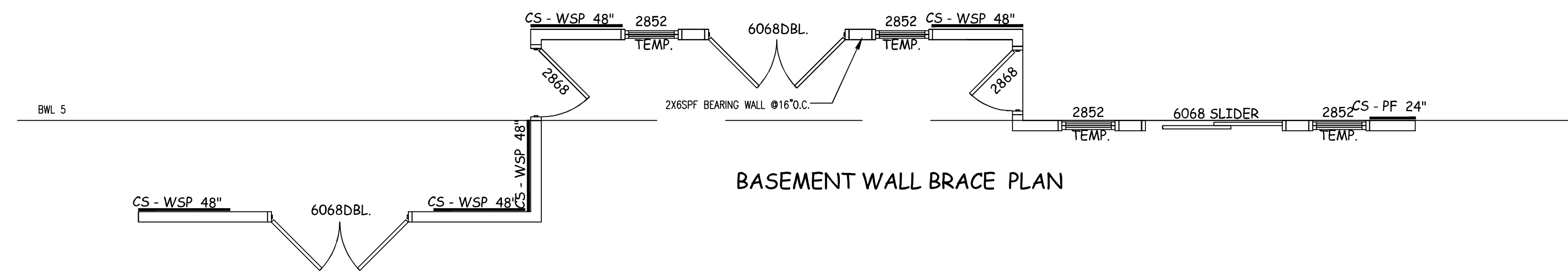
A8

8 OF 9

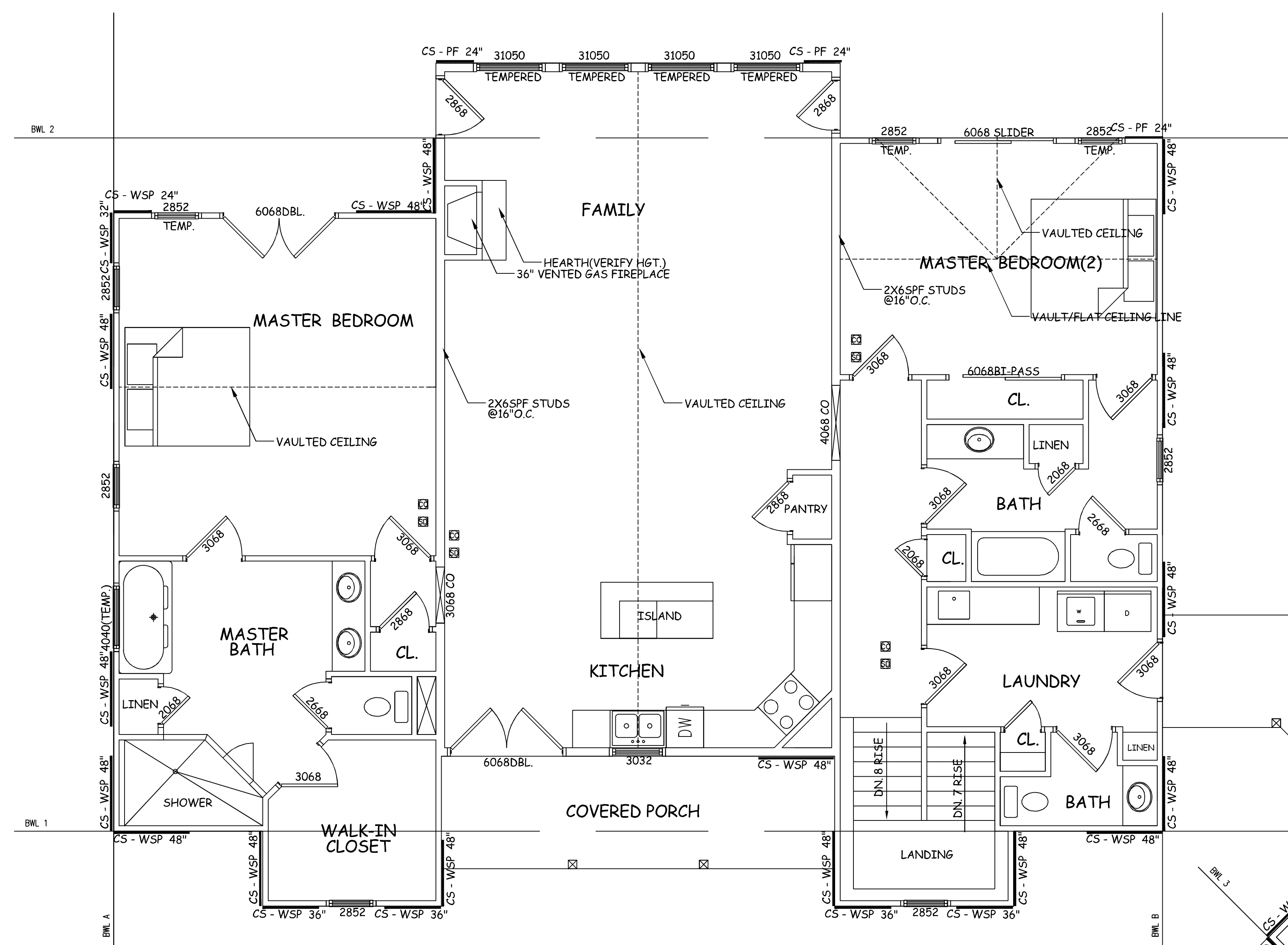
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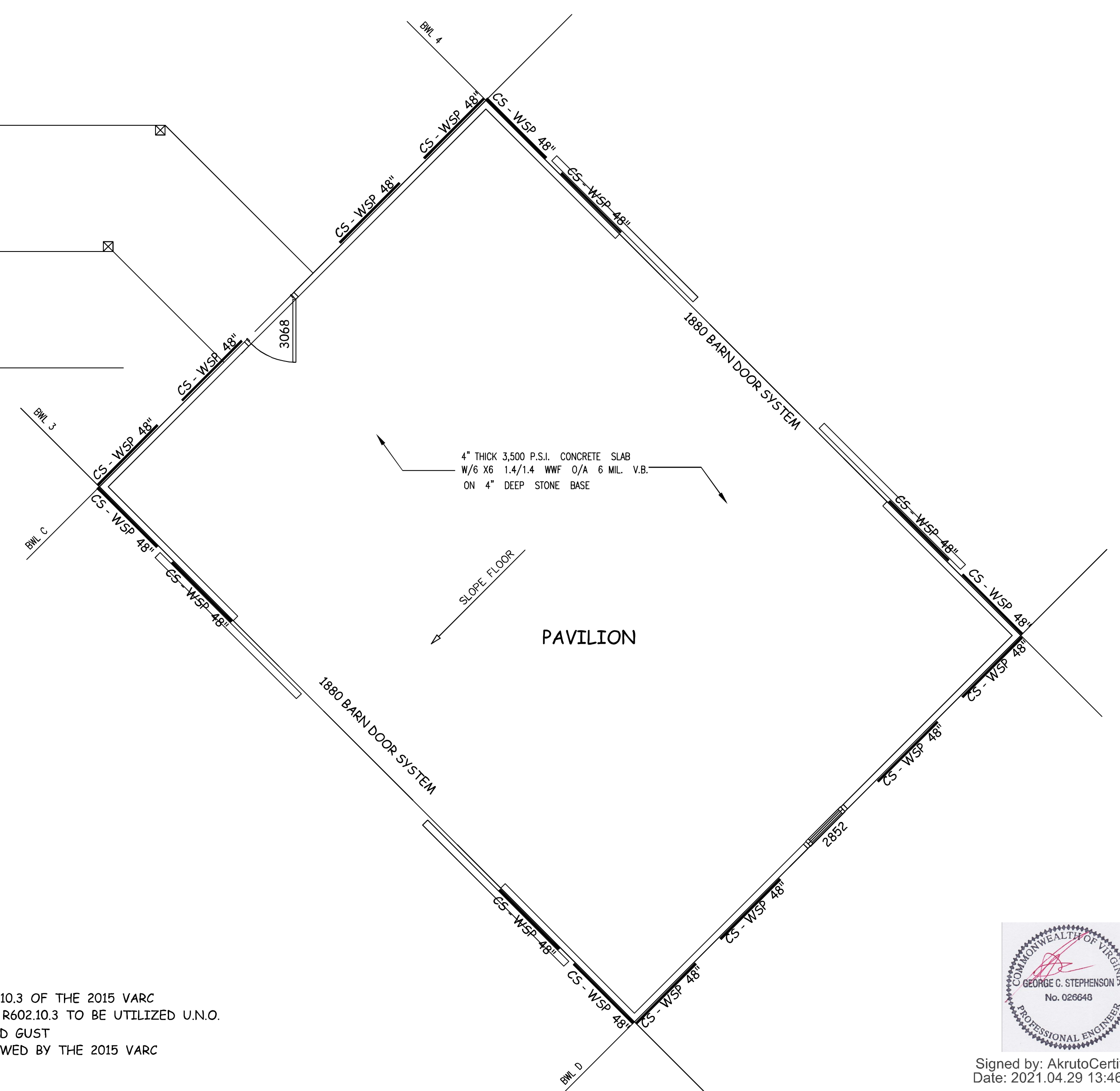
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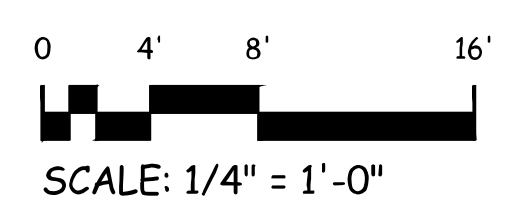
BASEMENT WALL BRACE PLAN



WALL BRACE PLAN



PAVILION

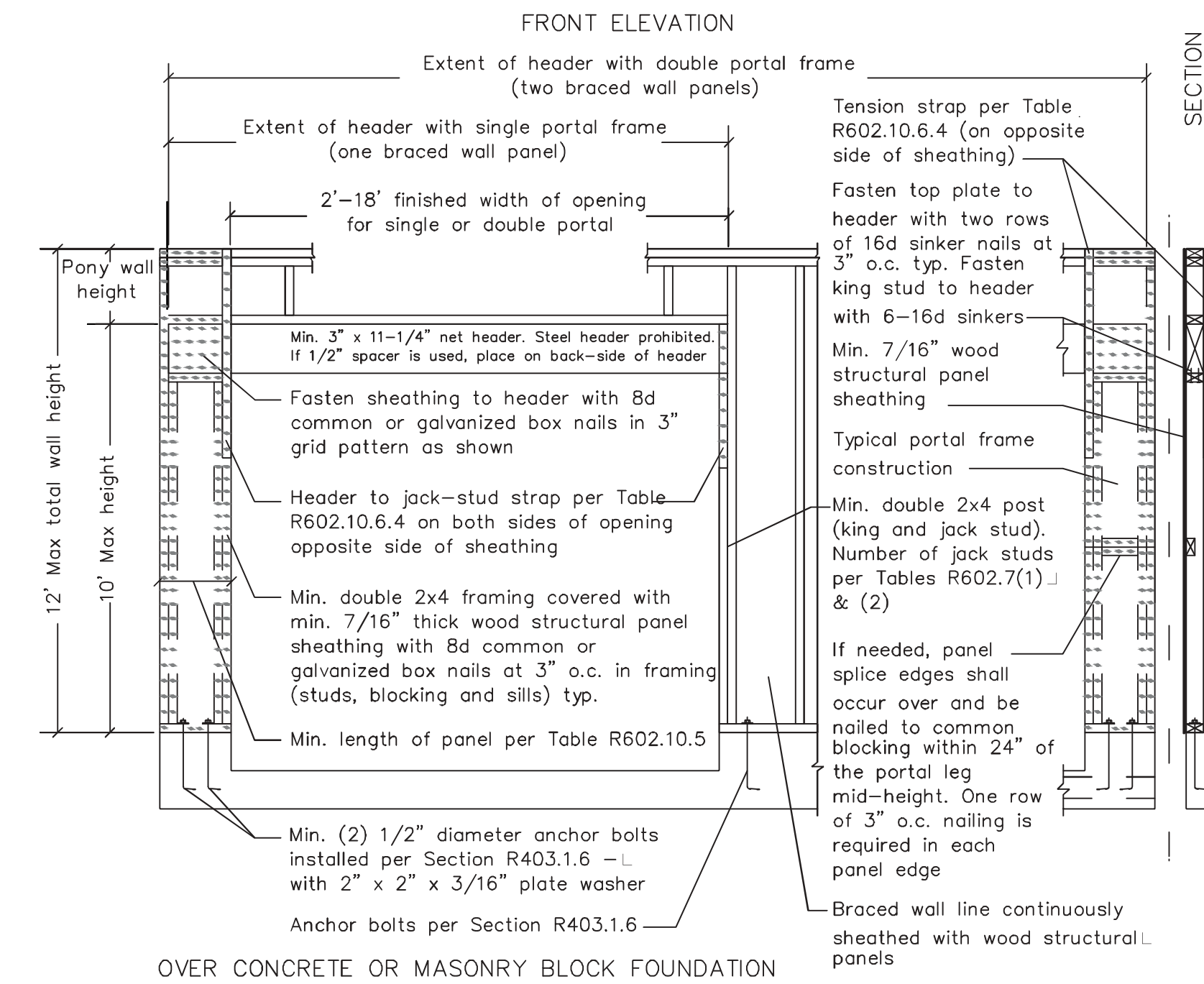


SCALE: 1/4" = 1'-0"

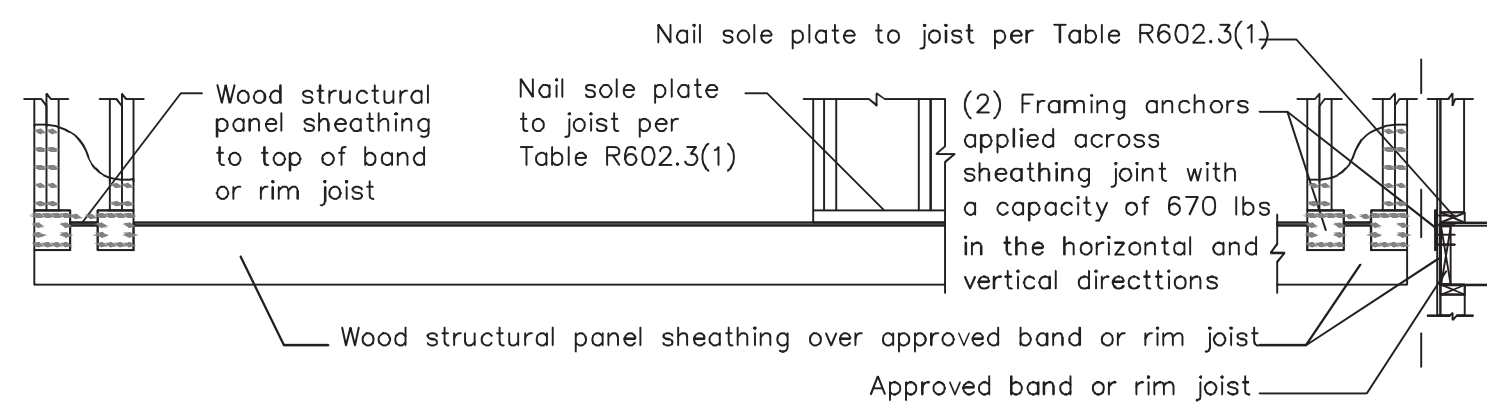
- GENERAL NOTES
- * HOUSE TO BE CONTINUALLY SHEATHED PER SECTION R602.10.3 OF THE 2015 VARC
 - * CLASSIC METHOD CS-WSP BRACING AS IDENTIFIED UNDER R602.10.3 TO BE UTILIZED U.N.O.
 - * DESIGN WIND LOAD IS 90 MPH WITH A 115 MPH 3 SECOND GUST
 - * THIS IS AN ENGINEERED WIND BRACING DESIGN AS ALLOWED BY THE 2015 VARC



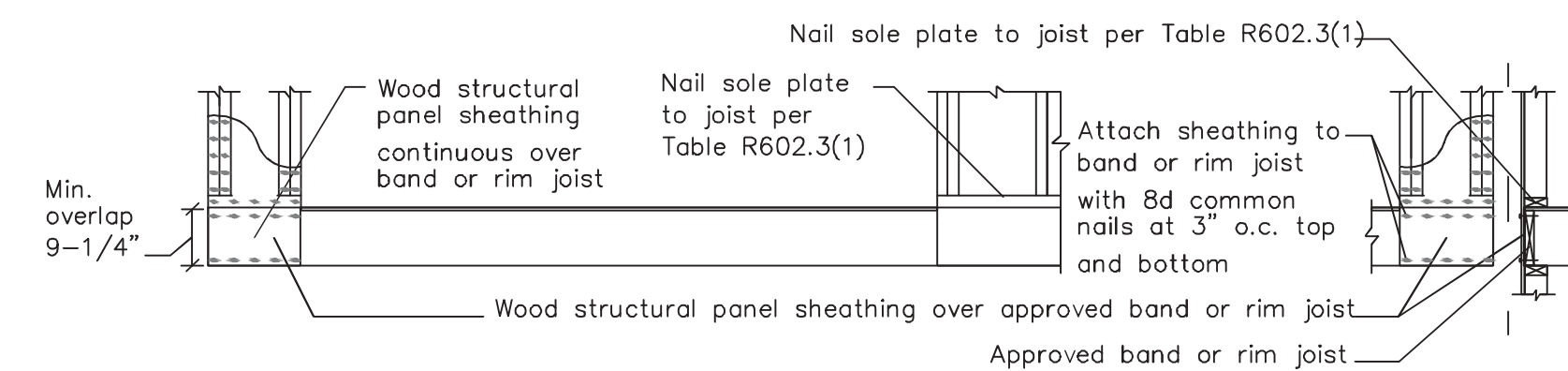
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OVER CONCRETE OR MASONRY BLOCK FOUNDATION

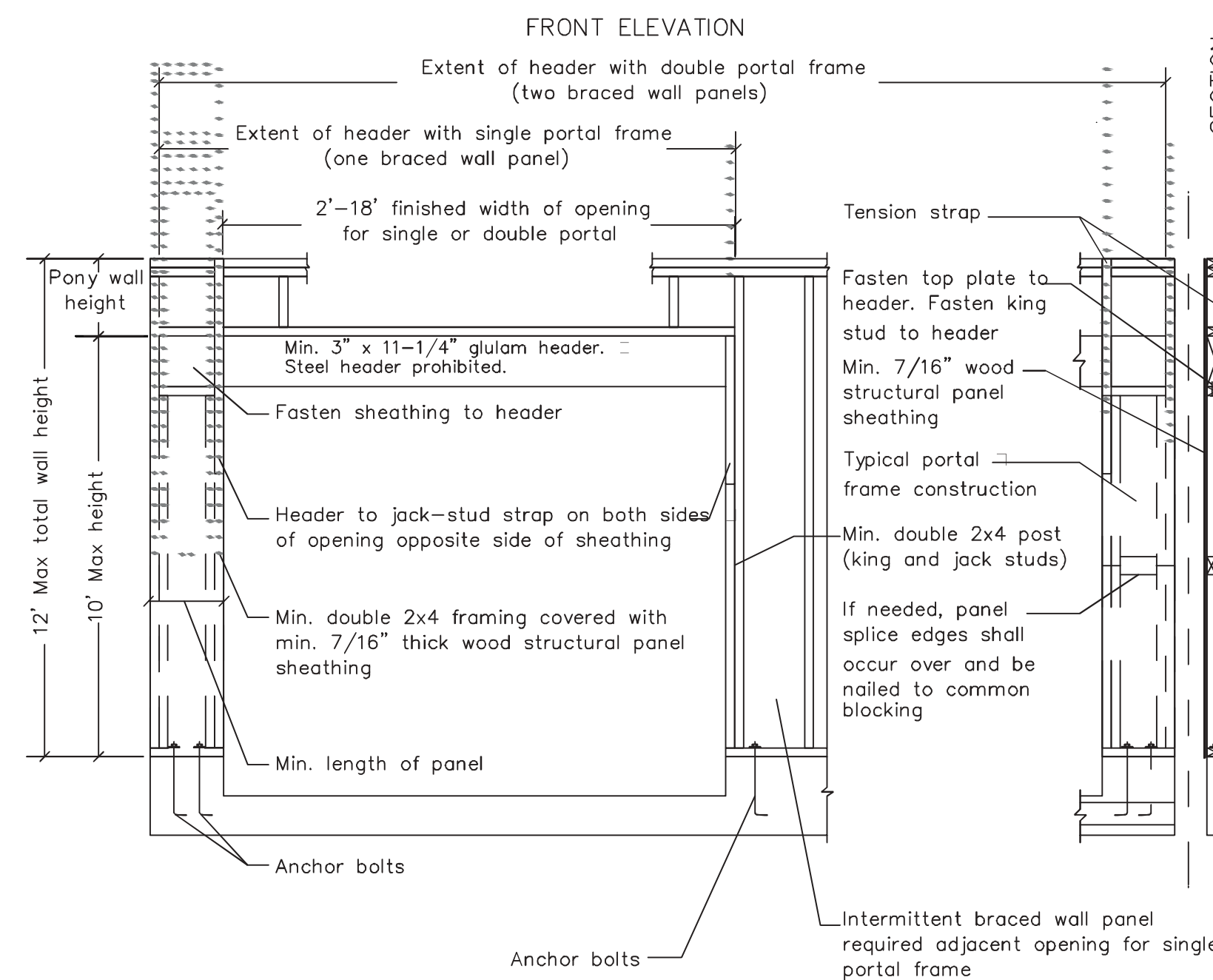


OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION
(When portal sheathing does not lap over band or rim joist)

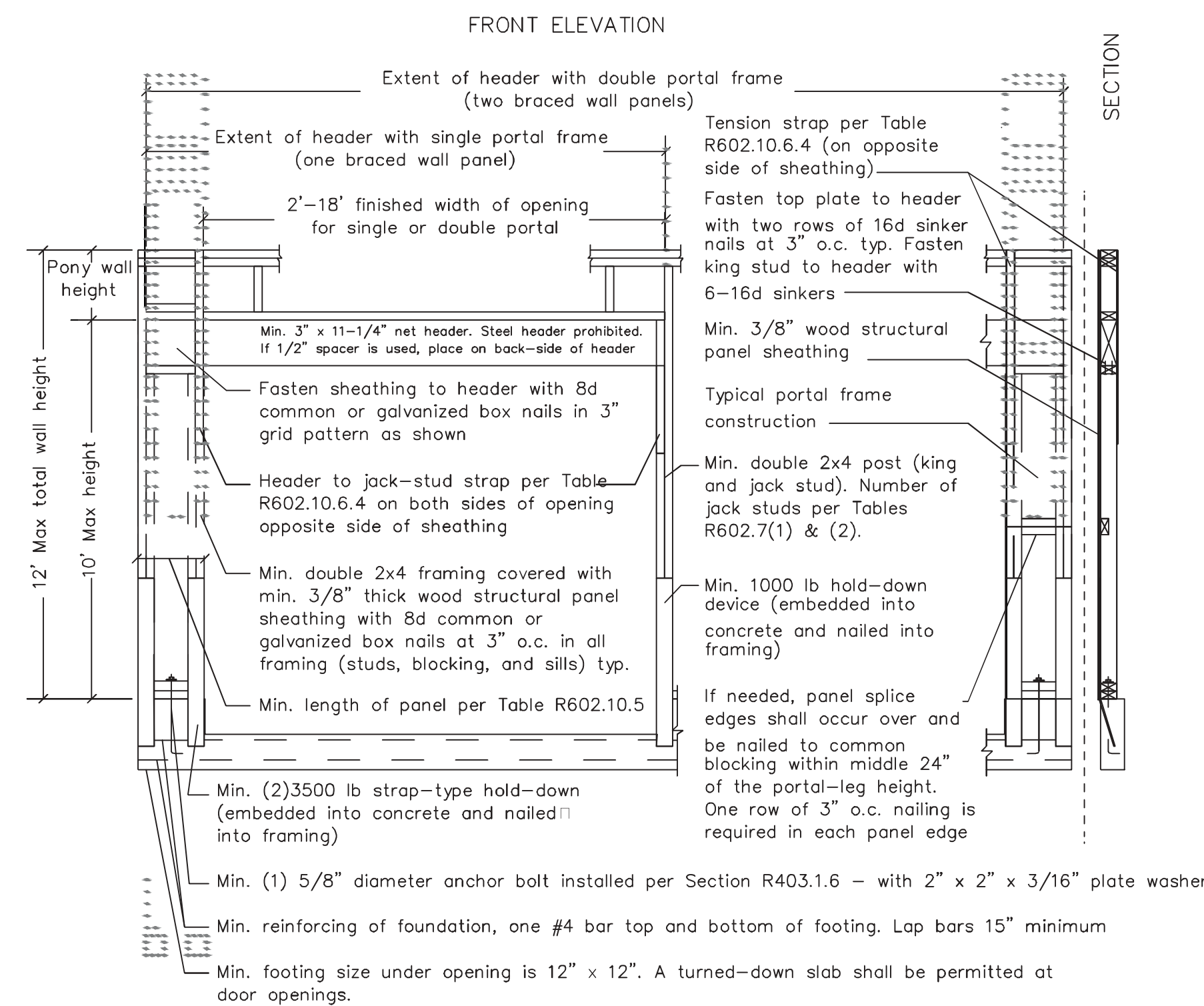


OVER RAISED WOOD FLOOR - OVERLAP OPTION
(When portal sheathing laps over band or rim joist)

CS-PF DETAIL
2015 VIRGINIA RESIDENTIAL CODE



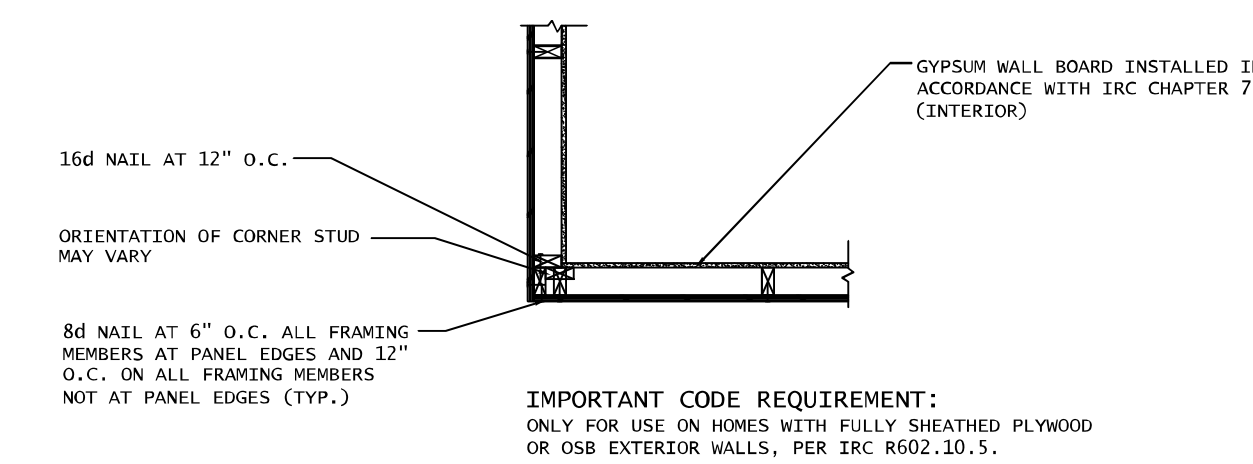
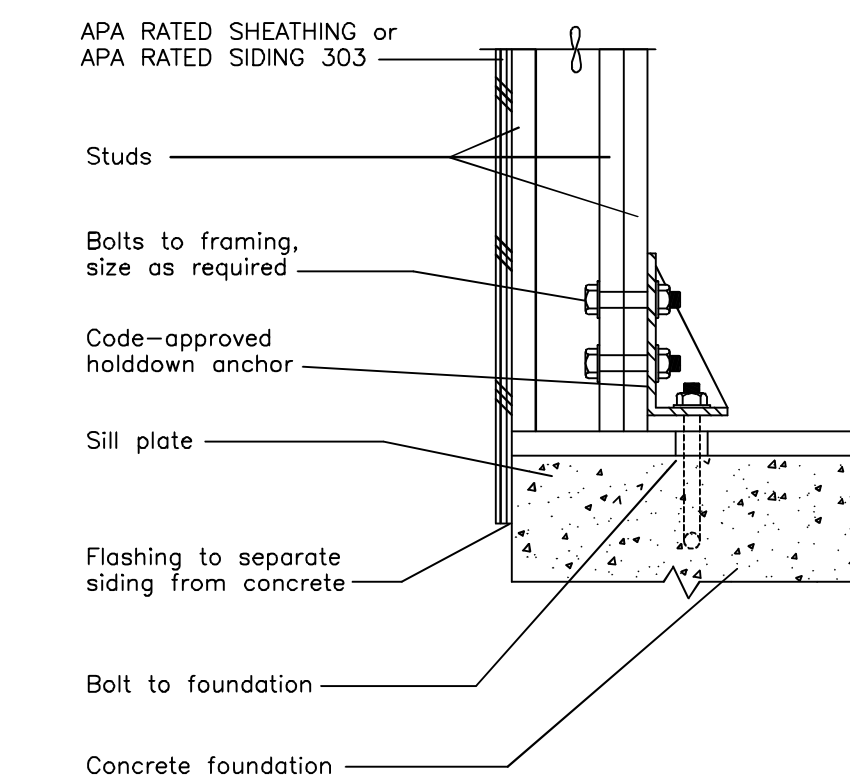
PFH DETAIL
2015 VIRGINIA RESIDENTIAL CODE



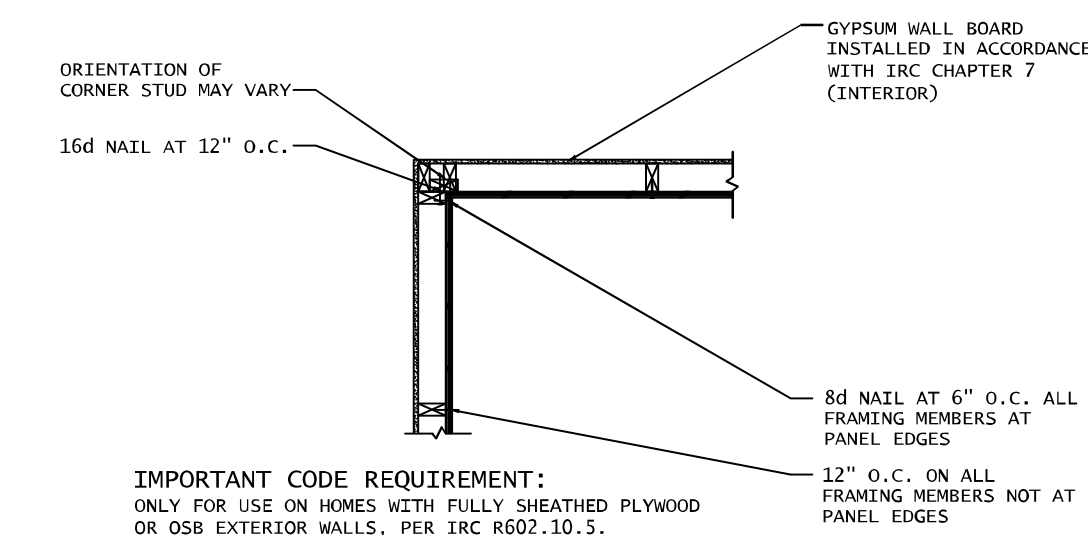
PFH DETAIL
2015 VIRGINIA RESIDENTIAL CODE

SHEAR WALL FOUNDATION ANCHOR

High shear wall overturning moments may be transferred by a fabricated steel bracket such as this. Regular foundation bolts may be all that is required in some cases.



EXAMPLE OF OUTSIDE CORNER DETAIL
PER IRC R602.10.5



EXAMPLE OF INSIDE CORNER DETAIL
PER IRC R602.10.5

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4505 PARTLOW ROAD
PARTLOW, VA 22534
(540)582-2397

DESIGN BY: CS
DRAWN BY: CS
CHECKED BY: TS

PROJECT: SINGH RESIDENCE
TITLE:

DRAWING NARROW WALL
TITLE: DETAILS

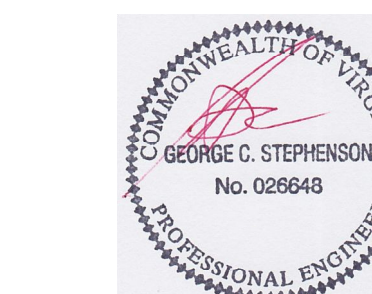
PROJ. NO. 21.056

DATE: 2-24-21

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9 OF 9



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