STRUCTURAL NOTES

GENERAL

1. THIS PROJECT SHALL MEET ALL REQUIREMENTS OF THE CITY OF CLARKSVILLE,TN AND THE 2021 INTERNATIONAL BUILDING CODE.
2. THE GENERAL CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL OPENINGS (COORDINATE WITH APPLICABLE TRADES). THE CONTRACTOR SHALL PROVIDE FOR ALL OPENINGS, WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT. ANY DEVIATION FROM OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR APPROVAL PRIOR TO CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK.
4. COMPLETE SHOP DRAWINGS AS REQUIRED FOR THE STRUCTURAL WORK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH REVIEW BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR CORRECT FABRICATION AND CONSTRUCTION OF THE WORK. ALLOW TEN (10) BUSINESS DAYS FOR REVIEW FROM THE TIME SUBMITTALS ARE RECEIVED IN OUR OFFICE.
5. ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FOR, OR MODIFICATION TO THE STRUCTURE OR ANY PART OF THE STRUCTURE DETAILED ON THESE DRAWINGS SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW DO NOT CONSTITUTE "IN-WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING SUGGESTED.
6. THE STRUCTURAL DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
7. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION.

SPECIAL INSPECTION

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION:
(REFERENCE ADJACENT TABLES FOR ADDITIONAL INFORMATION.)

1. SOILS AND FOUNDATIONS
2. CAST-IN-PLACE CONCRETE
3. WOOD CONSTRUCTION
4. SPECIAL CASES (EPOXY ANCHORS)

DESIGN LOADS

1. ROOF LIVE LOAD 20 PSF
2. ROOF DEAD LOAD 20 PSF
3. WIND LOAD BASED ON ASCE 7-16
   V_{ULT} = 105 MPH
   V_{ASD} = 81 MPH
   RISK CATEGORY = II
   EXPOSURE CATEGORY B
   INTERNAL PRESSURE COEFFICIENT GC_{pi}: ±0.18
   COMPONENTS AND CLADDING:
   (ROOF ANGLE 0 TO 7°)
   ULTIMATE
   +16.0 PSF (ZONE 1, EFF. AREA = 100 FT.^{2})
   -30.4 PSF
   +16.0 PSF (ZONE 2, EFF. AREA = 100 FT.^{2})
   -40.3 PSF
   +16.0 PSF (ZONE 3, EFF. AREA = 100 FT.^{2})
   -48.0 PSF
   +23.2 PSF (ZONE 4, EFF. AREA = 20 FT.^{2})
   -25.3 PSF
   +23.2 PSF (ZONE 5, EFF. AREA = 20 FT.^{2})
   -30.5 PSF
   44.9 PSF (PARAPETS, LOAD CASE A)
   -49.0 PSF (PARAPETS, LOAD CASE B)
4. SEISMIC LOADS
   S_S = 0.404
   S_1 = 0.178
   SITE CLASS D (ASSUMED)
   S_{DS} = 0.398
   S_{D1} = 0.266
   DESIGN CATEGORY D
5. SNOW LOADS
   GROUND SNOW Pg = 15 PSF
   FLAT ROOF SNOW Pf = 15 PSF
   C_e = 1.0
   I = 1.0
   Ct = 1.0
6. SEE ROOF PLAN FOR ADDITIONAL MECHANICAL LOADS.

FOUNDATION DESIGN AND SITEWORK FOR BUILDING

1. PER LETTER OF INTENT DATED MAY 12, 2022, EXHIBIT "C", THE SELLER SHALL DELIVER A CERTIFIED COMPACTED PAD. REFER TO EXHIBIT C FOR SPECIFICATIONS
2. THE ACTUAL BEARING GRADE SHALL BE CHECKED IN THE FIELD DURING CONSTRUCTION BY A SOILS CONSULTANT TO ENSURE THAT THE FOUNDATION SYSTEM IS SUPPORTED BY SUITABLE BEARING SOILS AND WILL PERFORM IN ACCORDANCE WITH THE ASSUMED CONDITIONS.
3. FOUNDATION DESIGN AND SITEWORK SHALL BE VERIFIED PRIOR TO PLACEMENT OF CONCRETE. A WRITTEN VERIFICATION SIGNED AND SEALED BY A GEOTECHNICAL ENGINEER SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD STATING THAT THE BEARING ELEVATIONS EXPOSED AFTER SITE STRIPPING HAVE BEEN INSPECTED AND ARE ADEQUATE TO SUPPORT A MINIMUM OF 1,500 PSF (ALLOWABLE SOIL BEARING CAPACITY) AND THE SOILS SUPPORTING THE SLAB-ON-GRADE ARE ADEQUATE TO MINIMIZE DIFFERENTIAL MOVEMENT TO LESS THAN ½" AND TOTAL MOVEMENT TO LESS THAN 1".
4. PROOFROLL THE EXPOSED SUBGRADE TO DETECT SOFT OR YIELDING SOILS. REMOVE ANY SOFT OR YIELDING SOILS, SCARIFY, MOISTURE CONDITION AND RECOMPACT IN ACCORDANCE WITH ASTM D-698.
5. FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING PRESSURE OF 1,500 PSF AT MINIMUM 24" INTO SUITABLE EXISTING SOILS. MINIMUM CONTINUOUS FOOTING WIDTH IS 18 INCHES. MINIMUM FOOTING DEPTH IS 24" BELOW GRADE.
6. PROVIDE POSITIVE DRAINAGE AWAY FROM EXCAVATIONS SO AS NOT TO ALLOW STANDING WATER FOR LONG PERIODS OF TIME.
7. PROVIDE A 10 MIL THICK VAPOR BARRIER BETWEEN THE COMPACTED BASE AND CONCRETE SLAB.
8. DO NOT PUNCTURE THE VAPOR BARRIER. LAP AND TAPE ENDS.
9. BACKFILL AND COMPACT UTILITY TRENCHES AS DESCRIBED ABOVE.
10. PERFORM ALL SITEWORK UNDER THE DIRECT SUPERVISION OF A GEOTECHNICAL ENGINEER.

CONCRETE

1. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, (U.N.O.).
2. MINIMUM CEMENT CONTENT SHALL BE 5 SACKS PER CUBIC YARD.
3. TYPE C OR F FLY ASH MAY BE USED UP TO 20% OF TOTAL CEMENT CONTENT BY VOLUME. THIS IS ONLY FOR CONCRETE SPECIFIED IN THESE STRUCTURAL DRAWINGS. REFER TO SPECIFICATIONS BY OTHER DISCIPLINES.
4. MAXIMUM SLUMP SHALL BE 5 IN., U.N.O.
5. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 301.
6. CONCRETE MIX SHALL NOT USE ANY ADMIXTURES WHICH CONTAIN CALCIUM CHLORIDE.
7. CONCRETE TEST REPORTS SHALL BE MADE AVAILABLE AT THE JOB SITE. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN PER SPECIFICATIONS PRIOR TO PLACEMENT CONCRETE.

REINFORCING STEEL

1. BARS SHALL BE ASTM A615, GRADE 60.
2. DETAIL, FABRICATE, AND PLACE IN CONFORMANCE WITH ACI 315 AND 318.
3. LAP ALL REINFORCING STEEL 40 BAR DIAMETERS (U.N.O.).
4. LAP CONTINUOUS BARS IN GRADE BEAMS 40 BAR DIAMETERS (U.N.O. ON DRAWINGS). TOP BARS TO BE SPLICED BETWEEN SUPPORTS AND BOTTOM BARS TO BE SPLICED AT SUPPORTS, AS APPLICABLE.
5. PROVIDE ACCESSORIES FOR SUPPORT OF ALL REINFORCING.
6. SUBMIT SHOP DRAWINGS SHOWING ALL REINFORCING FOR APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.
7. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MINIMUM COVER, IN.
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THROUGH #18 BAR	2
#5 BAR, W31 OR D31 WIRE, AND SMALLER	1½
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
#14 AND #18 BARS	1½
#11 BAR AND SMALLER	¾
BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1½

CONCRETE MASONRY UNITS

1. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE 1, WITH COMPRESSIVE STRENGTH (f'm) OF 1,500 PSI
2. GROUT FOR CONCRETE MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI
3. MORTAR SHALL BE TYPE N, U.N.O.
4. REINFORCING IN MASONRY WALLS SHALL BE GRADE 60, ASTM A615.
5. TYPICAL REINFORCING:
   VERTICAL - REF. PLAN FOR SIZE AND SPACING
   HORIZONTAL - #9 WIRE IN DUR-O-WALL (LADUR TRUSS TYPE) OR APPROVED EQUAL AT 16" O.C. IN MASONRY WALLS, EXCEPT AT 8" O.C. FOR WALL BELOW GRADE OR STACK BOND WALLS (U.N.O. ON DRAWINGS).
6. MATERIALS AND WORKMANSHIP SHALL CONFORM TO DESIGN REQUIREMENTS BASED UPON THE AMERICAN CONCRETE INSTITUTES "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", ACI 530.

POST-INSTALLED ANCHORS

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, THE FOLLOWING HILTI OR SIMPSON PRODUCTS MAY BE USED. CONTACT HILTI AT (800) 879-8000 OR SIMPSON AT WWW.STRONGTIE.COM FOR PRODUCT RELATED QUESTIONS.
   A. ANCHORAGE TO CONCRETE
      a. ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
         (1) HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD OR HAS -E THREADED ROD PER ICC-ES ESR-3187.
         (2) SIMPSON SET-3G SYSTEM WITH F1554 THREADED ROD PER ICC-ES ESR-4057
      b. MEDIUM DUTY MECHANICAL ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
         (1) HILTI KWIK HUS EZ AND KWIK HUS EZ-I SCREW ANCHORS PER ICC-ES ESR-3027
         (2) SIMPSON TITEN HD SCREW ANCHORS PER ICC-ES ESR-2713
         (3) SIMPSON TITEN HD STAINLESS STEEL SCREW ANCHOR PER IAMPO UES ER-493
2. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. CONTRACTOR SHALL USE THE NECESSARY MEANS, AS REQUIRED BY OSHA, TO PROTECT FROM DUST DURING DRILLING OPERATIONS.
5. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS. THREADED ROD AND REBAR DIAMETERS AND EMBEDMENT LENGTHS SHALL BE AS NOTED ON DRAWINGS.
6. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING PRODUCTS WHICH HAVE SPECIFIC APPLICATIONS THAT ARE INTENDED FOR OVERHEAD USE.
7. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
8. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
9. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY FERROSCAN, GPR, X-RAY, CHIPPING OR OTHER MEANS.

LIGHT GAGE METAL FRAMING

1. STEEL STUD SIZES SHALL BE AS NOTED ON THE DRAWINGS, CONFORMING TO SSMA STANDARDS.
2. FABRICATE AND ERECT AS SPECIFIED. MANUFACTURER SHALL SUPPLY ALL CLIPS, FASTENERS, TEMPORARY BRACING, ACCESSORIES, STANDARD BRIDGING, ETC.
3. ALL STEEL STUDS SHALL HAVE A MINIMUM 1⅜" FLANGE WITH A ½" RETURN (U.N.O.).
4. ALL STUDS 18 GAGE AND THINNER SHALL HAVE A MINIMUM YIELD STRENGTH, Fy, OF 33 KSI AND TENSILE STRENGTH, Fu, OF 45 KSI. ALL STUDS 16 GAGE AND THICKER SHALL HAVE A MINIMUM STRENGTH OF 50 KSI AND TENSILE STRENGTH OF 65 KSI (U.N.O.).
5. TRACK SECTIONS SHALL BE EQUAL GRADE AND GAGE THICKNESS OF STUDS BEING USED. TYPICAL, U.N.O.
6. ALL FASTENERS SHALL BE SELF-TAPPING NO. 12-14 GAGE SCREWS, OR WELD IN ACCORDANCE WITH SECTION 6.0 OF THE AMERICAN WELDING SOCIETY'S "STRUCTURAL WELDING CODE - SHEET METAL" (AWS D1.3) AS SHOWN ON DRAWINGS.

STRUCTURAL WOOD

1. WOOD FRAMING SHALL COMPLY WITH THE SOUTHERN PINE INSPECTION BUREAU, OR SHALL CONFORM TO SPECIFICATIONS AS PUBLISHED BY THE WESTERN WOODS PRODUCTS ASSOCIATION.
2. WOOD FRAMING 2 INCHES X 4 INCHES AND LARGER SHALL BE NO. 2 SOUTHERN PINE, NO. 2 DOUGLAS FIR LARCH, OR EQUIVALENT (U.N.O.).
3. WOOD COLUMNS 6 INCHES X 6 INCHES AND LARGER SHALL BE NO. 1 SOUTHERN PINE, NO. 1 DOUGLAS FIR LARCH, OR EQUIVALENT.
4. ALL EXPOSED WOOD FRAMING, UNLESS NOTED OTHERWISE, SHALL BE "SELECT" GRADE LUMBER.
5. ALL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED (USE CATEGORY 2 AS SPECIFIED BY AWPA) FOR MOISTURE PROTECTION. ALL WOOD EXPOSED TO WEATHER SHALL BE PRESSURE TREATED (USE CATEGORY 3B AS SPECIFIED BY AWPA) OR WESTERN RED CEDAR.
6. ENGINEERED WOOD PRODUCTS
   A. SIZES AND DESIGNATIONS ARE BASED ON PUBLISHED REDBUILT MEMBERS AS MANUFACTURED BY REDBUILT (FORMERLY THE COMMERCIAL DIVISION OF TRUS JOIST).
   B. OTHER WOOD MEMBERS WILL BE PERMITTED WHERE LOAD CAPACITIES ARE EQUIVALENT AND SUBSTANTIATED BY PUBLISHED LOAD TABLES.
   C. FABRICATOR SHALL SUBMIT SHOP DRAWINGS SHOWING LAYOUT OF MEMBERS, BRIDGING, BRACING, ERECTION DETAILS, TRUSS PENETRATIONS, AND DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER (TEXAS).
   D. FOR QUOTATIONS, SHOP DRAWINGS, AND MATERIAL ORDERS, CALL REDBUILT'S NATIONAL ACCOUNT SERVICE CENTER (WWW.REDBUILT.COM) AT 1-866-859-6757 AND ASK FOR THE ACCOUNT COORDINATOR FOR THIS PROJECT.
7. METAL-PLATE-CONNECTED WOOD TRUSSES
   A. TRUSS FABRICATION AND INSTALLATION SHALL COMPLY WITH THE FOLLOWING STANDARDS:
      a. ANSI / TPI 1- 2014- NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION
      b. BCSI-B1: GUIDE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF TRUSSES
      c. BCSI-B2: TRUSS INSTALLATION & TEMPORARY RESTRAINT/ BRACING
      d. BCSI-B3: PERMANT RESTRAINT/BRACING OF CHORDS & WEB MEMBERS
   B. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS
      a. TOP CHORD: DEAD LOAD = 10 PSF; LIVE LOAD = 20 PSF
      b. BOTTOM CHORD: DEAD LOAD = 10 PSF; LIVE LOAD = 0 PSF; NON-CONCURRENT LIVE LOAD = 10 PSF
      c. ADDITIONAL MECHANICAL LOADS SHALL BE APPLIED TO THEIR RESPECTIVE CHORD MEMBER AS NOTED ON THE FLOOR/ROOF PLAN
      d. SNOW DRIFT LOADS AND UNBALANCED ROOF SNOW LOADS AS INDICATED (WHERE APPLICABLE)
      e. REQUIRED UPLIFT FOR COMPONENTS AND CLADDING LOADS AS INDICATED IN THE DESIGN LOADS SECTION OF THESE STRUCTURAL NOTES
      f. ALLOWABLE VERTICAL DEFLECTION LIMITS: DEAD + LIVE: L/180; LIVE: L/240
      g. TRUSS CAMBER: TO BE PROVIDED BY THE TRUSS DESIGNER AS REQUIRED TO MEET SERVICEABILITY LIMITS UNLESS SPECIFICALLY NOTED BY THE BUILDING DESIGNER
   C. ALL TRUSS-TO-TRUSS CONNECTORS SHALL BE SPECIFIED BY THE TRUSS DESIGNER. TRUSS-TO-STRUCTURAL ELEMENT CONNECTIONS SHALL BE SPECIFIED BY THE BUILDING DESIGNER, UNLESS SPECIFICALLY NOTED.
   D. PERMANENT MEMBER RESTRAINT/ BRACING OF TRUSS SYSTEM SHALL BE SPECIFIED BY THE TRUSS DESIGNER. TRUSS DESIGNER IS PERMITTED TO SUBSTITUTE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT WITH REINFORCEMENT DESIGNED TO PREVENT BUCKLING. IF SPECIFIC TRUSS MEMBER PERMANENT RESTRAINT DESIGN IS NOT PROVIDED, THE METHOD OF PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT AND DIAGONAL BRACING FOR THE TRUSS TOP CHORD, BOTTOM CHORD, AND WEB MEMBERS SHALL BE IN ACCORDANCE WITH BCSI-B3 OR BCSI-B7
   E. A "TRUSS SUBMITTAL PACKAGE" AS DEFINED BY ANSI/ TPI-1, SHALL BE SUBMITTED TO THE BUILDING DESIGNER FOR REVIEW FOR COMPATIBILITY WITH THE BUILDING DESIGN. THE TRUSS SUBMITTAL PACKAGE SHALL INCLUDE; INDIVIDUAL TRUSS DESIGN DRAWINGS, THE TRUSS PLACEMENT DIAGRAM (INCLUDING TRUSS BRIDGING LAYOUT), THE COVER/TRUSS INDEX SHEET, LATERAL RESTRAINT AND DIAGONAL BRACING DETAILS DESIGNED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICE, APPLICABLE BCSI-DEFINED LATERAL RESTRAINT AND DIAGONAL BRACING DETAILS AND ANY OTHER STRUCTURAL DETAILS GERMANE TO THE TRUSSES. EACH INDIVIDUAL TRUSS DESIGN DRAWING, OR COVER/TRUSS IN SHEET IF USED, SHALL BEAR THE SEAL AND SIGNATURE OF THE TRUSS DESIGNER REGISTERED IN THE PROJECT STATE.
   F. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE "REQUIREMENTS OF THE CONTRACTOR" AS DEFINED BY ANSI/TPI 1.
8. ROOF DECK
   A. ALL ROOF DECK SHALL BE APA RATED GRADE PLYWOOD OR OSB (ORIENTED STRAND BOARD). GRADES MAY HAVE EITHER AN EXTERIOR OR EXPOSURE I DESIGNATION (U.N.O.).
   B. ROOF SHEATHING SHALL BE $^{23}/_{32}$ INCH THICK MINIMUM (48/24) U.N.O.
   C. STAGGER ENDS OF SHEETS.
   D. PROVIDE BLOCKING AT EDGES OF ALL ROOF SHEETS. PLYWOOD CLIPS MAY BE USED AT ROOF INSTEAD OF BLOCKING, UNLESS BLOCKING REQUIRED FOR NAILING.
   E. NAIL EDGES OF ROOF SHEETS AT 6 IN. O.C. MAXIMUM (U.N.O.).
   F. NAIL FACES OF ROOF SHEETS AT 12 IN. O.C. MAXIMUM.
   G. USE MINIMUM 10d COMMON NAILS (U.N.O.).
9. WALL SHEATHING
   A. ALL WALL SHEATHING SHALL BE APA RATED GRADE PLYWOOD OR OSB (ORIENTED STRAND BOARD). GRADES MAY HAVE EITHER AN EXTERIOR OR EXPOSURE I DESIGNATION (U.N.O.).
   B. WALL SHEATHING SHALL BE $^{15}/_{32}$ INCH THICK MINIMUM (32/16) U.N.O.
   C. STAGGER ENDS OF SHEETS.
   D. PROVIDE BLOCKING AT EDGES OF ALL SHEARWALL SHEETS.
   E. NAIL EDGES OF SHEARWALL SHEETS PER SCHEDULE ON PLAN (OTHER WALLS AT 6 IN. O.C. MAXIMUM).
   F. NAIL FACES OF WALL SHEETS AT 12 IN. O.C. MAXIMUM.
   G. USE MINIMUM 10d COMMON NAILS (U.N.O.).
10. CONNECTORS SHALL BE AS MANUFACTURED BY THE SIMPSON CO. OR APPROVED EQUAL. CONNECTORS USED WITH PRESSURE TREATED LUMBER OR IN UNCONDITIONED SPACE, SHALL HAVE THE ZMAX (6185) COATING. ALL NAILS USED FOR CONNECTORS SHALL MATCH THOSE SPECIFIED BY THE SUPPLIER'S PRODUCT CATALOG.
11. NAILING, UNLESS NOTED OTHERWISE, SHALL BE PER THE 2021 INTERNATIONAL BUILDING CODE.
12. ALL REFERENCES TO NAILS ON THE STRUCTURAL DRAWINGS ARE BASED ON COMMON WIRE NAILS (U.N.O.) WITH THE FOLLOWING DIMENSIONS, TYPICAL, U.N.O.
    8d COMMON: 0.131" DIA. X 2½" LONG
    10d COMMON: 0.148" DIA. X 3" LONG
    16d COMMON: 0.162" DIA. X 3½" LONG
    POWER AUTOMATED NAIL GUNS SHALL USE NAILS TO MATCH THE ABOVE NAILS AS SPECIFIED.
13. ALL GLULAM BEAMS SHALL BE SP/SP 24F-V4 OR BETTER.

Statement of Special Inspections

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☒ Soils and Foundations
- ☒ Cast-in-Place Concrete
- ☐ Masonry
- ☐ Structural Steel
- ☒ Wood Construction
- ☒ Special Cases

General Notes

The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

The qualifications of all personnel performing Special Inspections and testing activities are subject to the approval of the Building Official and E.O.R. The credentials of all inspectors and testing technicians shall be provided if requested.

The special inspectors shall keep records of inspections and shall furnish inspection reports to the owner, Engineer of Record (E.O.R.) and Architect of Record (A.O.R.). Field and testing result reports shall be submitted to all designated parties as they are completed. The reports shall indicate that the work performed was done in accordance to the construction drawings. Discrepancies shall be brought to the attention of the general contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the E.O.R. prior to completion of that phase of work. A final report that documents required special inspections and corrections of discrepancies shall be submitted by the General Contractor to the Owner, E.O.R. and A.O.R.

Soils and Foundations

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Shallow Foundations	*Inspect soils below footings for adequate bearing capacity and consistency with geotechnical report.* *Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill.*	*P* *C*
2. Controlled Structural Fill	*Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material.* *Inspect placement, lift thickness and compaction of controlled fill.* *Test density of each lift of fill by nuclear methods (ASTM D2922)* *Verify extent and slope of fill placement.*	*C*

Note:
1. Special Inspection is not required during placement of controlled fill having a total depth of 12 inches or less.

Cast-in-Place Concrete

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Mix Design	*Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design. Submit proposed mix design of each class of concrete to Structural Engineer of Record and to inspection and testing firm for review prior to commencement of work.*	*P*
2. Material Certification	*Review for conformance to contract documents. Submit to Structural Engineer of Record for review.*	*P*
3. Anchor Rods	*Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors.*	*C*
4. Concrete Placement	*Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.*	*C*
5. Sampling and Testing of Concrete	*Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064). Three concrete test cylinders will be taken for every 75 or less cubic yards of each class of concrete placed, or concrete placed on any given day. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete represents.*	*C*
6. Curing and Protection	*Inspect curing, cold weather protection and hot weather protection procedures.*	*P*

Note: Special Inspection is not required for flatwork patios, driveways and sidewalks, on grade not shown on structural drawings.

Wood Construction

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt	*Inspect shop fabrication and quality control procedures for wood truss plant.* *Confirm certification of supplier.*	*P*
2. Material Grading	*Inspect grade stamps on structural lumber for compliance with the contract documents.*	*P*
3. Connections	*Verify connection hardware and its installation. Inspect bearing, nails, bolts, hangers or clips, or other devices are tight and otherwise properly installed per the contract documents.*	*C*
4. Framing and Details	*Inspect members for size and placement for conformance to the SER approval submittals and contract document. Review engineered joist shop drawings. Submit to SER for review.*	*P*
5. Diaphragms & Shearwalls	*Inspect thickness and grade of plywood (or OSB), blocking, placement, embedment, size of hold down anchors and the edge and field nailing of the plywood (or OSB) to the framing for conformance to the contract documents.*	*C*
6. Prefabricated Wood Trusses	*Inspect the fabrication of wood trusses. Bottom chord splices are prohibited in the middle third point of the truss.*	*P*
7. Permanent Truss Bracing	*Bridging and bracing installed per the approved truss shop drawings.*	*P*

Special Cases

Item	Scope	Monitoring: Periodic (P) Continuous (C)
Epoxy Anchors in Concrete or CMU	*Review anchors and product being used for conformance to contract documents. Observe installation for compliance to manufacturers specifications. Perform pull test to 125% of allowable design load per manufacturer specifications. (Minimum of 10% of total anchors, to include a minimum of one of each type, size or embedment.)*	*C*

RONALD A. ROBERTS
REGISTERED ENGINEER
AGRICULTURE
NO. 018901
STATE OF TENNESSEE
1-26-2023

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STRUCTURAL NOTES AND SPECIAL INSPECTIONS

PANDA HOME 2600 R4

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