STRUCTURAL NOTES

CONTRACTOR NOTE:

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. GUTHERMAN STRUCTURAL, INC. IS NOT RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION OR FOR RELATED SAFETY PRECAUTIONS AND PROGRAMS.

CODES AND STANDARDS

1. WIND LOADS AS PER:

   A. FLORIDA BUILDING CODE 6TH EDITION (2017) WITH AN ULTIMATE DESIGN WIND SPEED OF 139 MPH, EXPOSURE B, NOMINAL DESIGN WIND SPEED OF 107 MPH, +/−0.18 INTERNAL PRESSURE COEFFICIENT, AND BUILDING RISK CATEGORY II.

   B. THIS BUILDING IS DESIGNED AS AN ENCLOSED BUILDING.

2. THE PROJECT WAS DESIGNED IN ACCORDANCE WITH THE:

   A. FLORIDA BUILDING CODE 6TH EDITION (2017).

   B. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318/ 2011 EDITION).

   C. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315/ LATEST EDITION).

   D. NATIONAL DESIGN SPECIFICATION, WOOD CONSTRUCTION NDS/2012 EDITION.

3. ARCHITECTURAL AND MECHANICAL DRAWINGS:

   A. THE STRUCTURAL DRAWINGS ARE PART OF THE CONTRACT DOCUMENTS AND DO NOT BY THEMSELVES PROVIDE ALL THE INFORMATION REQUIRED TO PROPERLY COMPLETE THE PROJECT STRUCTURE. THE GENERAL CONTRACTOR SHALL CONSULT THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND COORDINATE THE INFORMATION CONTAINED IN THESE DRAWINGS WITH THE STRUCTURAL DRAWINGS TO PROPERLY CONSTRUCT THE PROJECT.

   B. REFER TO ARCHITECTURAL, MECHANICAL OR ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS, DEPRESSIONS, FINISHES, INSERTS, BOLTS SETTINGS, DRAINS, REGLETS, ETC.

   C. BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK, THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS TO PROPERLY SIZE OR FIT THE WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED BY THE OWNER RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT.

   D. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH ANY WORK.

   E. ALL STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LOADS LISTED ONLY AS COMPLETED STRUCTURES. THE GENERAL CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT WORK IN PROGRESS UNTIL THE STRUCTURES ARE COMPLETED. THE GENERAL CONTRACTOR SHALL ALSO INSURE THAT ITS OPERATIONS AND PROCEDURES PROVIDE NO LOADING GREATER THAN THE DESIGN LOADS LISTED ON ANY MEMBER.

4. SECTIONS AND DETAILS:

   ALL DETAILS, SECTIONS AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE SHOWN.

5. THRESHOLD INSPECTIONS SHALL BE PERFORMED DURING CONSTRUCTION OF THIS BUILDING AS REQUIRED BY SECTION 110.8 OF FBC.

6. MATERIALS AND ASSEMBLY TEST AS FOLLOWS:

   A. EXTERIOR WINDOWS, SLIDING AND PATIO GLASS DOORS SHALL BE TESTED BY AN APPROVED INDEPENDENT TESTING LABORATORY, AND SHALL BE LABELED WITH AN APPROVED LABEL IDENTIFYING THE MANUFACTURER, PERFORMANCE CHARACTERISTICS AND APPROVED PRODUCT CERTIFICATION AGENCY, TESTING LABORATORY, EVALUATION ENTITY OR FLORIDA STATE WIDE PRODUCT APPROVAL NUMBER TO INDICATE COMPLIANCE WITH THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

   ANSI/AAMA/NWWDA 101/I.S. 2−97 OR TAS 202 (HVHZ SHALL COMPLY WITH TAS 202)

   B. EXTERIOR DOOR ASSEMBLIES SHALL BE TESTED FOR STRUCTURAL INTEGRITY IN ACCORDANCE WITH ASTM E330 AT A LOAD OF 1.5 TIMES THE REQUIRED DESIGN PRESSURE LOAD. THE LOAD SHALL BE SUSTAINED FOR 10 SECONDS WITH NO PERMANENT DEFORMATION OF ANY MAIN FRAME OR PANEL MEMBER IN EXCESS OF 0.4 PERCENT OF ITS SPAN AFTER THE LOAD IS REMOVED. HVHZ SHALL COMPLY WITH TAS 202. AFTER EACH SPECIFIED LOADING, THERE SHALL BE NO GLASS BREAKAGE, PERMANENT DAMAGE TO FASTENERS, HARDWARE PARTS, OR ANY OTHER DAMAGE, WHICH CAUSES THE DOOR TO BE INOPERABLE.

   C. SECTIONAL GARAGE DOORS SHALL BE TESTED FOR DETERMINATION OF STRUCTURAL PERFORMANCE UNDER UNIFORM STATIC AIR PRESSURE DIFFERENCE IN ACCORDANCE WITH ANSI/DASMA 115 OR TAS 201,202 AND 203.

   D. CUSTOM (ONE OF A KIND) EXTERIOR DOOR ASSEMBLIES SHALL BE TESTED BY AN APPROVED TESTING LABORATORY OR BE ENGINEERED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES.

   E. WINDOW AND DOOR ASSEMBLIES SHALL BE ANCHORED IN ACCORDANCE WITH THE PUBLISHED MANUFACTURER'S RECOMMENDATIONS TO ACHIEVE THE DESIGN PRESSURE SPECIFIED. SUBSTITUTE ANCHORING SYSTEM USED FOR SUBSTRATES NOT SPECIFIED BY THE FENSTRATION MANUFACTURER SHALL PROVIDE EQUAL OR GREATER ANCHORING PERFORMANCE AS DEMONSTRATED BY ACCEPTED ENGINEERING PRACTICE.

SPECIALTY ENGINEERED PRODUCTS

1. THE GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE THE PROPER SUBMISSION OF SPECIALTY ENGINEERED SHOP DRAWINGS WHICH SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THE SPECIALTY ENGINEERED SHOP DRAWINGS ARE SUBMITTED IN A TIMELY MANNER SO AS TO ALLOW REVIEWS AND RESUBMISSIONS AS REQUIRED. ALL SPECIALTY ENGINEERED PRODUCTS SHALL BE DESIGNED FOR THE APPROPRIATE GRAVITY LOADS AND WIND LOADS INCLUDING UPLIFT AND LATERAL LOADS. INTERIOR SPECIALTY PRODUCTS SHALL BE DESIGNED FOR LATERAL LOADS TO ASSURE STABILITY. SPECIALTY ENGINEERED PRODUCTS SHALL BE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

   A. LIGHT GAUGE METAL, INCLUDING BUT NOT LIMITED TO, SOFFITS, CLADDING, CEILINGS, ETC.

   B. MISCELLANEOUS METALS INCLUDING STEEL STAIRS, MECHANICAL EQUIPMENT SUPPORTS, FRAMES THAT SUPPORT MACHINES, PIPES OR OTHER STRUCTURAL METAL USED FOR SUPPORT OF MECHANICAL SYSTEMS.

   C. MISCELLANEOUS HANGERS, CHANDELIERS, CABINETS, METAL FRAMES, LADDERS, RIGGING, HANGING WALLS, RAILINGS, GLAZING FRAMES, CLADDING SUCH AS STONE, PRECAST, ALUMINUM, METAL PANELS, CABLE BARRIER SYSTEMS, ETC. OR ANY OTHER MISCELLANEOUS PRODUCT REQUIRED BY ANY OF THE CONSTRUCTION DOCUMENTS.

D. IN ADDITION TO THE LOADS SHOWN IN THE DESIGN LOAD SCHEDULE, THE SPECIALTY ENGINEER SHALL DESIGN FOR THE WEIGHT OF ALL MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND FIXTURES, AS WELL AS CHANDELIER FIXTURES, BAR CABINETS, AND ART WORK / MOBILES.

GENERAL CONTRACTOR TO INCLUDE IN THEIR BID THE COST OF THE ABOVE NOTED SPECIALTY ENGINEERING.

FOUNDATION

1. ALL SITE PREPARATION AND EXCAVATION WORK IS TO BE PERFORMED IN STRICT ACCORDANCE WITH THE:

   A. REPORT ON SOILS AND FOUNDATION INVESTIGATION PREPARED BY ECS FLORIDA, LLC REPORT NUMBER 24:6036, DATED APRIL 26, 2017

2. THE BUILDING SITE SHOULD BE EXCAVATED TO THE DEPTH AND EXTENT INDICATED IN THE SOILS REPORT. ALL SUBGRADES SHALL BE APPROVED IN WRITING BY THE SOILS ENGINEER PRIOR TO BACKFILLING.

3. BOTTOM OF FOOTINGS TO BEAR ON CONTROLLED COMPACTED FILL CAPABLE OF SAFELY SUPPORTING 2000 PSF.

4. SOILS SUPPORTING ALL FOOTINGS MUST BE INSPECTED AND APPROVED BY A REGISTERED SOILS ENGINEER BEFORE COMMENCING WORK. APPROVAL IN WRITING MUST INDICATE THE SOIL IS ADEQUATE TO SAFELY SUSTAIN SPECIFIED SOIL BEARING PRESSURE.

5. BOTTOM OF ALL FOOTINGS SHALL BEAR 1'−0" BELOW ADJACENT GRADE TYP. MAKE ADJUSTMENTS AS NEEDED SO BOTTOM OF EXTERIOR FOOTINGS SHALL BE MINIMUM 12−INCHES BELOW EXTERIOR FINISH GRADE.

6. EXCAVATION & BACKFILL:

   A. ALL EXCAVATION SHALL BE KEPT DRY. EXCAVATE TO DEPTHS AND DIMENSIONS INDICATED. TAKE EVERY PRECAUTION TO GUARD AGAINST ANY MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES, UTILITIES, PIPING, ETC.

   B. PROVIDE ANY BRACING OR SHORING NECESSARY TO AVOID SETTLEMENT OR DISPLACEMENT OF EXISTING FOUNDATION OR STRUCTURES.

CONCRETE

1. ALL CONCRETE SHALL BE READY MIX AND MEET THE FOLLOWING REQUIREMENTS:

   A. A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
   B. SLUMPS SHALL BE 4−INCHES MINIMUM AND 6−INCHES MAXIMUM.
   C. CONCRETE SHALL HAVE 3 PERCENT AIR ENTRAINMENT.
   D. ALL CONCRETE TO HAVE MAXIMUM WATER/CEMENT RATIO OF 0.55.
   E. JOBSITE WATER SHALL NOT BE ADDED.

2. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ACI BUILDING CODE (ACI 318/ 2011 EDITION), THE ACI DETAILING MANUAL (ACI 315/ 1994 EDITION), AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301/ LATEST EDITION).

3. SUBMIT ALL REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY FABRICATION.

4. CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS REQUIRED BY ACI SPECIFICATIONS.

5. WELDED WIRE FABRIC SHALL COMPLY WITH ASTM A 1064, UNLESS OTHERWISE SPECIFIED. PLACE FABRIC 2" CLEAR FROM TOP OF THE SLAB IN SLAB ON GRADE AND SUPPORT ON SLAB BOLSTERS SPACED AT 3'−0" O.C.

6. LAP ALL BARS WITH CLASS B TENSION LAP SPLICE UNLESS OTHERWISE NOTED ON DRAWINGS. LAP ALL WWF A MINIMUM OF 12 INCHES (UNLESS OTHERWISE NOTED).

7. REINFORCING BARS:

   A. ALL REINFORCING STEEL SHALL BE MANUFACTURED FROM HIGH STRENGTH BILLET STEEL CONFORMING TO ASTM DESIGNATION A 615 GRADE 60.

   B. AT CORNERS OF CONCRETE WALLS, BEAMS AND CONTINUOUS WALL FOOTINGS, PROVIDE (1−#5 OR MATCHING) HORIZONTAL BARS X 5'−0" BENT BAR FOR EACH HORIZONTAL BAR SCHEDULED AT EACH FACE.

   C. WHERE COLUMNS ARE AN INTEGRAL PART OF CONCRETE WALLS, WALL REINFORCEMENT SHALL BE CONTINUOUS THRU THE COLUMNS.

   D. ALL HOOKS SHOWN IN REINFORCEMENT SHALL BE ACI RECOMMENDED HOOKS UNLESS OTHERWISE NOTED.

8. FOR GRADE BEAMS LAP ALL TOP STEEL AT MID−SPAN AND LAP BOTTOM STEEL OVER SUPPORT.

9. CONSTRUCTION JOINTS IN STRUCTURAL SLABS AND BEAMS SHALL BE AT MID−SPAN AND KEY JOINTED WITH REINFORCING CONTINUOUS ACROSS JOINT AND ADDITIONAL SHEAR FRICTION REINFORCING. CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. CONSTRUCTION JOINTS IN POST−TENSION SLABS SHALL BE LOCATED AND DESIGNED BY SPECIALTY ENGINEER.

POST−TENSION CONCRETE

1. ENGAGE THE SERVICES OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA TO PREPARE AND SUBMIT COMPLETE SHOP DRAWINGS AND COMPLETE STRUCTURAL DESIGN COMPUTATIONS, INCLUDING STRESS LOSS CALCULATIONS AND DESIGN FOR ALL VERTICAL LOAD SUPPORT INCLUDING GRAVITY, AND UPLIFT FROM SHEAR WALLS. DRAWINGS SHALL BE SIGNED AND BEAR THE DELEGATED ENGINEER'S PROFESSIONAL SEAL. POST−TENSION SHOP DRAWINGS SHALL INCLUDE REBAR LAYOUT PLAN AND ANY ADDITIONAL REINFORCING NECESSARY FROM POST−TENSION SPECIALTY ENGINEER RESULTING FROM SPECIALTY ENGINEERS CALCULATIONS.

2. PRE−STRESSING SHALL CONFORM TO THE STANDARDS OF THE ACI BUILDING CODE 318/2011 EDITION.

3. POST TENSIONING CABLES SHALL HAVE A CORROSION PROTECTION SYSTEM, WHICH IS IN ACCORDANCE WITH THE RECOMMENDATION OF PRESTRESSED CONCRETE INSTITUTE FOR CABLES USED IN A CORROSIVE ENVIRONMENT.

4. TENDONS FOR PRE−STRESSING SHALL CONFORM TO THE ASTM SPECIFICATION A416 OR A421 AND SHALL BE 270K GRADE WITH A MINIMUM ULTIMATE STRENGTH OF 270,000 PSI AND A YIELD STRENGTH OF 240,000 PSI.

5. ALL TENDONS SHALL BE UNBONDED.

6. CONSTRUCTION JOINTS IN POST−TENSIONED MEMBERS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER, PRIOR TO CONSTRUCTION.

STEEL STAIRS

1. ENGINEERED CONCRETE FILLED STEEL STAIR SYSTEM AND ALL CONNECTIONS OF THE SAME TO THIS STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. SUBMIT SHOP DRAWINGS BEARING THE EMBOSSED SEAL AND THE SIGNATURE OF THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. THE CONFIGURATION OF THE STEEL STAIR SYSTEM SHALL BE SHOWN ON THE ARCHITECTURAL DRAWINGS. STEEL STAIR SYSTEM AND ALL CONNECTIONS SHALL BE DESIGNED FOR ALL APPLICABLE LOADS AS INDICATED ON THE PLANS AND IN ALL APPLICABLE BUILDING CODES. THE LOADS SHALL BE CLEARLY INDICATED ON ALL SHOP DRAWINGS. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTIONS UTILIZED WITHIN THE STEEL STAIR SYSTEM AS WELL AS CONNECTIONS TO AND LOADS IMPOSED UPON THE STRUCTURAL SYSTEM SHOWN OF THESE PLANS.

WOOD

1. ALL STRUCTURAL WOOD MEMBERS ARE DESIGNED AS "DRY−USE". MOISTURE CONTENT MUST BE 19% OR LESS. STORE WOOD FRAMING ABOVE GROUND AND UNDER TARPS WITH PROPER AIR CIRCULATION.

2. ALL LUMBER SHALL BE SOUTHERN PINE SPECIES #2 GRADE OR APPROVED EQUAL. ALLOWABLE DESIGN STRESSES SHALL FOLLOW NATIONAL DESIGN SPECIFICATION (NDS) (LATEST EDITION).

3. HEADERS AT NON BEARING CONDITIONS SHALL BE AS FOLLOWS:

OPENING SIZE	HEADER
UP TO 4' −0"	(2) 2" X 6"
4'− 0" TO 6'− 0"	(2) 2" X 8"
6'− 0" TO 9'− 0"	(2) 2" X 10"

4. PROVIDE SP ACQ PRESSURE TREATED LUMBER IN ACCORDANCE WITH AWPA STANDARDS TO A MINIMUM 0.40 PCF RETENTION WHERE LUMBER IS IN CONTACT WITH CONCRETE/MASONRY OR OUTSIDE OF BUILDING. ALL METAL CONNECTORS IN CONTACT WITH PRESSURE TREADED LUMBER SHALL BE GALVANIZED WITH A RATING OF G−185 AND CONFORM TO ASTM A653. ALL NAILS AND SCREWS USED WITH PRESSURE TREATED LUMBER ARE TO BE HOT−DIPPED GALVANIZED AND TO CONFORM TO ASTM A153 CLASS D. ELECTROGALVANIZED FASTENERS SHALL HAVE A CLASS RATING PER ASTM B695 NO LESS THAN 55. ALUMINUM NOT TO BE USED IN DIRECT CONTACT WITH ACQ TREATED LUMBER.

WOOD (CONT.)

5. PLYWOOD SHEATHING:

   A. FLOOR: USE 3/4" T&G APA 24oc STURD−I−FLOOR, EXP. 1, PLYWOOD SUB−FLOOR SHEATHING.

   B. WALL: Use (7/16") APA 32/16 RATED, EXP. 1, PLYWOOD SHEATHING OR OSB.

   C. ROOF: Use (15/32") 32/16 RATED, EXP. 1, PLYWOOD SHEATHING.

   D. SEE FRAMING PLANS FOR NAILING AND/OR BLOCKING REQUIREMENTS. USE 8'− 0" LONG X 4'−0" WIDE SHEETS WITH LENGTH ACROSS FRAMING. STAGGER PANEL END JOINTS 4'−0" TYP., ALLOW 1/8" SPACE ALONG PANEL EDGES AND END JOINTS.

   E. FLOOR SHEATHING TO BE SCREWED WITH #10 WOOD SCREWS AT 6" O.C. AND GLUED FOR PARTIAL COMPOSITE ACTION. SELECT ADHESIVE WITH APA AFG−01 SPECIFICATION AND FOLLOW APA RECOMMENDATIONS.

   F. SEE FRAMING PLANS FOR DIAPHRAGM NAILING TYPE, SIZE, SPACING AND LOCATIONS.

6. WOOD CONNECTIONS − ALL NAILS USED FOR STRUCTURAL FRAMING MEMBERS SHALL BE COMMON WIRE, U.N.O. ALL NAILS, TRUSS HANGERS, TRUSS ANCHORS AND STRAPS SHALL BE GALVANIZED FOR CORROSIVE RESISTANCE. ALL METAL STRAPS MUST BE INSTALLED WITH EQUAL LENGTHS ABOUT THE JOINT LINE. USE SIMPSON STRONG−TIE CONNECTOR PRODUCTS OR APPROVED EQUAL. TOE NAILING WILL NOT BE PERMITTED.

TIMBER

1. ALL MICROLLAM LVL BEAMS TO

   A. BE ENGINEERED AND MANUFACTURED BY TRUS JOIST WEYERHAEUSER (TJW) OR APPROVED EQUAL. TEMPORARY BRACING TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE CONTINUOUS SUPPORT OF THE COMPRESSION EDGE AND PROVIDE LATERAL SUPPORT AT ALL BEARINGS. THE MINIMUM ALLOWABLE STRESSES FOR MICROLLAM BEAMS ARE AS FOLLOWS:

   Fb = 2,600 PSI Fv = 285 PSI E = 1,900,000 PSI

   B. CONNECT: (2) PLY LVL W/3 ROWS OF 16d COMMON NAILS AT 12" O/C;

   C. CONNECT: (3) PLY LVL W/3 ROWS OF 16d COMMON NAILS AT 12" O/C, EACH FACE;

2. ALL PARALLAM PSL BEAMS TO

   A. BE ENGINEERED AND MANUFACTURED BY TRUS JOIST WEYERHAEUSER (TJW) OR APPROVED EQUAL. TEMPORARY BRACING TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE CONTINUOUS SUPPORT OF THE COMPRESSION EDGE AND PROVIDE LATERAL SUPPORT AT ALL BEARINGS. THE MINIMUM ALLOWABLE STRESSES FOR PARALLAM BEAMS ARE AS FOLLOWS:

   Fb = 2,900 PSI Fv = 290 PSI E = 2,000,000 PSI

   B. ALL EXPOSED EXTERIOR PARALLAM BEAMS ARE TO BE WOLMANIZED PRESSURE TREATED FOR A SERVICE LEVEL 2 EXPOSURE. ALL OTHER PARALLAM BEAMS ARE TO BE WOLMANIZED PRESSURE TREATED FOR A SERVICE LEVEL 1 EXPOSURE.

3. ALL PARALLAM PSL COLUMNS TO

   A. BE ENGINEERED AND MANUFACTURED BY TRUS JOIST WEYERHAEUSER (TJW) OR APPROVED EQUAL. TEMPORARY BRACING TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. THE MINIMUM ALLOWABLE PROPERTIES FOR PARALLAM COLUMNS THE MINIMUM ALLOWABLE STRESSES ARE AS FOLLOWS:

   Fb = 2,400 PSI Fcll = 2500 PSI E = 1,800,000 PSI

   B. ALL EXPOSED EXTERIOR PARALLAM COLUMNS ARE TO BE WOLMANIZED PRESSURE TREATED FOR A SERVICE LEVEL 2 EXPOSURE. ALL OTHER PARALLAM COLUMNS ARE TO BE WOLMANIZED PRESSURE TREATED FOR A SERVICE LEVEL 1 EXPOSURE.

4. ALL STRUCTURAL TIMBER TO

   A. SOUTHERN PINE SPECIES, #2 GRADE (MINIMUM) OR APPROVED EQUAL.

   B. BE DESIGNED PER THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION'S (AITC)"TIMBER CONSTRUCTION MANUAL" AND AMERICAN FOREST & PAPER ASSOCIATION'S (AFPA) NATIONAL DESIGN SPECIFICATION".

   C. PROVIDE SP ACQ PRESSURE TREATED LUMBER IN ACCORDANCE WITH AWPA STANDARDS TO A MINIMUM 0.40 PCF RETENTION WHERE LUMBER IS IN CONTACT WITH CONCRETE/MASONRY OR OUTSIDE OF BUILDING. ALL METAL CONNECTORS IN CONTACT WITH PRESSURE TREADED LUMBER SHALL BE GALVANIZED WITH A RATING OF G−185 AND CONFORM TO ASTM A653. ALL NAILS AND SCREWS USED WITH PRESSURE TREATED LUMBER ARE TO BE HOT−DIPPED GALVANIZED AND TO CONFORM TO ASTM A153 CLASS D. ELECTROGALVANIZED FASTENERS SHALL HAVE A CLASS RATING PER ASTM B695 NO LESS THAN 55. ALUMINUM NOT TO BE USED IN DIRECT CONTACT WITH ACQ TREATED LUMBER.

5. ALL GLUED LAMINATED BEAMS SHALL BE VISUALLY GRADED SOUTHERN PINE OR APPROVED EQUAL AND:

   A. BE DESIGNED AND MANUFACTURED WITH ANSI/AITC A.190.1−2007, THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION'S (AITC)"TIMBER CONSTRUCTION MANUAL", AMERICAN FOREST & PAPER ASSOCIATION'S (AFPA) NATIONAL DESIGN SPECIFICATION", AND AMERICAN PLYWOOD ASSOCAITION−ENGINEERED WOOD SYSTEMS STANDARDS.

   B. GLUE LAMINATED BEAM ADHESIVES TO CONFORM WITH ASTM D2559−92.

   C. THE MINIMUM ALLOWABLE PROPERTIES FOR GLUED LAMINATED BEAMS ARE AS FOLLOWS:

   Fb = 2,400 PSI Fv = 240 PSI E = 1.7 X 106 PSI

   D. BE PRESSURE TREATED WITH A WATER BORNE PRESERVATIVE FOR EXTERIOR USE OR WHEN IN CONTACT WITH CONCRETE OR MASONRY PER AITC 109−90 AND AMERICAN WOOD PRESERVERS C−28 STANDARDS.

6. ALL TIMBER AND GLUE LAMINATED BEAM CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND CODES AS SPECIFIED BELOW:

   A. NATIONAL LUMBER MANUFACTURERS ASSOCIATION: NATIONAL DESIGN SPECIFICATION FOR STRESS GRADE LUMBER AND ITS FASTENINGS.

7. ALL TIMBER AND GLUE LAMINATED CONNECTIONS ARE TO BE MADE USING PREFABRICATED STEEL CONNECTORS. TOE NAILING WILL NOT BE PERMITTED. SUBMIT MANUFACTURER'S DATA FOR APPROVAL. FASTENERS TO BE AS MANUFACTURED BY HECKMANN, SIMPSON STRONG−TIE OR APPROVED EQUAL.

8. GLUE LAMINATED CONSTRUCTION: DESIGN, FABRICATION AND CONSTRUCTION OF STRUCTURAL GLUE LAMINATED. TIMBER SHALL CONFORM WITH THE FOLLOWING STANDARDS:

   A. PROVIDE FACTORY GLUED TIMBER UNITS, PRODUCED BY AN AITC OR APA−EWS LICENSED FIRM QUALIFIED TO APPLY THE AITC OR APA−EWS QUALITY INSPECTED TRADEMARK.

   B. SUBMIT SHOP DRAWINGS SHOWING FULL DIMENSIONS OF EACH MEMBER AND LAYOUT OF ENTIRE STRUCTURAL SYSTEM. SHOW DETAILS OF CONNECTION, CONNECTORS AND ACCESSORIES. INDICATE SPECIES AND STRESS GRADE OF LUMBER AND TYPE OF ADHESIVES.

   C. KEEP GLUE LAMINATED BEAMS DRY DURING DELIVERY, STORAGE, HANDLING, ERECTION, AND UNTIL THE BUILDING ENCLOSURE IS COMPLETED.

   D. APPEARANCE SHALL BE INDUSTRIAL GRADE. EXCEPT EXPOSED MEMBERS AS NOTED ON DRAWINGS, WHICH SHALL HAVE ARCHITECTURAL GRADE.

   E. CONTRACTOR SHALL PROVIDE CONNECTION HARDWARE REQUIRED (INDICATED ON PLANS OR NOT) TO PROPERLY JOIN MEMBERS TO EACH OTHER AND TO THEIR SUPPORTS. CONNECTIONS SHALL BE CAPABLE OF TRANSFERRING THE APPLIED LOAD TO THE SUPPORTING MEMBERS. STEEL PLATES, ANGLES, OR OTHER SHAPES SHALL CONFORM TO ASTM A 36, AND BOLTS SHALL CONFORM TO ASTM A−325. LAG SCREWS, SHEAR PLATES, SPLIT RINGS, ETC. CONNECTORS SHALL CONFORM TO THE "AMERICAN FOREST AND PAPER ASSOCIATION".

   F. CONNECTING HARDWARE SHALL BE HOT−DIP GALVANIZED AFTER FABRICATION CONFORMING WITH ASTM A 123.

WOOD TRUSSES

1. WOOD ROOF TRUSSES AND WOOD FLOOR TRUSSES ARE TO BE DESIGNED FOR THE WOOD FABRICATOR BY A PROFESSIONAL SPECIALTY ENGINEER REGISTERED IN THE STATE OF FLORIDA. SEALED CALCULATIONS AND LAYOUT DRAWINGS ARE TO BE SUBMITTED FOR APPROVAL. TRUSS FABRICATOR TO PROVIDE ALL TRUSS−TO−TRUSS HANGERS AS REQUIRED TO RESIST GRAVITY AND UPLIFT REACTION. (UPLIFT LOADING SHALL USE COMPONENTS & CLADDING WIND FORCES.)

2. WOOD TRUSSES SHALL BE BRACED AND ERECTED IN ACCORDANCE WITH THE 2008 EDITION OF THE BUILDING COMPONENT SAFETY INFORMATION GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES, JOINTLY PRODUCED BY WTCA AND TRUSS PLATE INSTITUTE. BRACING IN THE PLANE OF THE WEB MEMBERS:

   A. THE TRUSS FABRICATOR SHALL PROVIDE AND LOCATE CONTINUOUS LATERAL BRACING FOR EACH TRUSS WEB MEMBER AS REQUIRED.

   B. LATERAL BRACING SHALL BE RESTRAINED BY DIAGONAL BRACING (MIN. 2" THICK NOMINAL LUMBER). THIS BRACING IS TO BE CONTINUOUS.

   C. A MINIMUM OF TWO ROWS OF DIAGONAL BRACING IS REQUIRED, ONE AT EACH VERTICAL WEB MEMBER CLOSEST TO BEARING LOCATIONS.

3. THE BOTTOM CHORDS SHALL BE BRACED BY CONTINUOUS LATERAL BRACING SPACED AT 8'−0" ON CENTER WITH A CEILING ATTACHED TO BOTTOM OF TRUSSES. IF NO CEILING IS ATTACHED TO BOTTOM OF TRUSSES, BRACING SHALL BE MINIMUM 2X4 @ 36" ON CENTER NAILED TO THE TOP OF THE BOTTOM CHORD. DIAGONALS PLACED AT 45 DEGREES TO THE LATERAL BRACES SHALL BE LOCATED AT EACH END. IF BUILDING EXCEEDS 60 FEET IN LENGTH, DIAGONAL BRACING SHOULD BE REPEATED AT 20 FOOT INTERVALS.

4. TOP CHORD BRACING:

   A. IF PLYWOOD DECKING IS APPLIED DIRECTLY TO TOP CHORD, PROPERLY LAPPED AND NAILED TO DEVELOP DIAPHRAGM ACTION, BRACING IS NOT REQUIRED.

   B. IF PURLINS ARE USED, DIAGONAL TOP CHORD BRACING IS REQUIRED AT EACH END. IF BUILDING EXCEEDS 60 FEET IN LENGTH, DIAGONAL BRACING SHOULD BE REPEATED AT 20−FOOT INTERVALS.

5. DO NOT CUT, DRILL OR NOTCH ROOF OR FLOOR TRUSSES WITHOUT WRITTEN APPROVAL FROM TRUSS ENGINEER. COORDINATE MECHANICAL, ELECTRICAL, PLUMBING, ETC. SIZES AND LOCATIONS WITH TRUSS LAYOUT PRIOR TO ERECTION.

6. TRUSSES SHALL BE MANUFACTURED & DESIGNED IN ACCORDANCE WITH NATIONAL DESIGN SPECIFICATION(S) FOR WOOD CONSTRUCTION, AF & PA, AND NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION, ANSI/TPI 1−2007, AND THE LOCAL CODE JURISDICTIONS.

7. DO NOT OVERLOAD FLOOR OR ROOF TRUSSES WITH BUILDING MATERIALS.

8. CONNECTOR PLATES SHALL BE MANUFACTURED BY A WTCA MEMBER PLATE SUPPLIER AND SHALL MEET OR EXCEED ASTM A653/A653M REQUIREMENTS FOR STRUCTURAL STEEL.

SHOP DRAWINGS

1. THE SHOP DRAWINGS SHALL BE SUBMITTED IN COMPLETE PACKAGES FOR THE FOLLOWING:

   A. CONCRETE MIX DESIGNS
   B. POST−TENSIONED CONCRETE
   C. PRE−ENGINEERED STEEL STAIRS
   D. PRE−ENGINEERED WOOD TRUSSES
   E. PRE−ENGINEERED WOOD SYSTEMS (I.E. TJI, PARALLAM, MIRCROLAM, ETC.)
   F. HEAVY TIMBER WOOD FRAMING

2. PRE−ENGINEERED ITEMS SHALL BE SUBMITTED SIGNED AND SEALED BY A SPECIALTY ENGINEER REGISTERED IN THE STATE OF FLORIDA.

PERMIT REVIEW STAMP

ISSUE HISTORY

No.	Date	Description
1	1/18/2018	ISSUE FOR PERMIT

REVISION HISTORY

No.	Date	Description

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SUMMER BAY APTS. II

LAKE COUNTY, FL

Drawn:	JRIVERA
Checked:	JGUTHERMAN
Approval:	JGUTHERMAN
Date:	Issue Date
Project #:	5389

STRUCTURAL NOTES & SCHEDULES

S2.01

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