

STRUCTURAL NOTES

GENERAL NOTES

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. DO NOT SCALE DRAWINGS.

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE STABILITY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS.

ELECTRONIC VERSIONS OF THE STRUCTURAL DRAWINGS ARE THE SOLE COPYRIGHTED PROPERTY OF SNELL ENGINEERING AND ARE NOT TO BE USED OR TRANSFERRED WITHOUT THE EXPRESS, WRITTEN PERMISSION OF SNELL ENGINEERING.

DESIGN LOADS

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE - BUILDING 7TH EDITION (2020). THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

WIND

Table with 2 columns: Parameter and Value. Includes ASCE 7-16 Ultimate Wind Speed (152 MPH), Allowable Wind Speed (118 MPH), Risk Category (II), Internal Pressure Coefficient (+/- 0.18).

ROOF

Table with 2 columns: Parameter and Value. Includes Live Load (20 PSF), Live Load (Concentrated) (300 LBS), Dead Load (25 PSF), Dead Load (Available to Resist Uplift) (5 PSF).

FLOOD

Table with 2 columns: Parameter and Value. Includes FEMA V1 Zone, Flood Design Class (II), SFE Elevation (11.00 NAVD), Proposed Lowest Floor Elevation (12.00 NAVD), etc.

SEISMIC

Table with 2 columns: Parameter and Value. Includes Risk Category (II), Seismic Importance Factor (1.0), Seismic Design Category (A), etc.

IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL FINAL WEIGHTS OF EQUIPMENT (MECHANICAL, CHILLED WATER, KITCHEN, SPA/POOL, ETC.), CLADDING, FINISHES, ETC. PRIOR TO ERECTING STRUCTURE SUPPORTING THESE ITEMS. ALL WEIGHTS ACCOUNTED FOR IN THE STRUCTURAL DESIGN ARE LISTED ABOVE OR ON THE PLANS.

SHOP DRAWING REVIEW

SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.

ANY COMPONENT NOTED AS 'DELEGATED' SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA AND NOT BY THE SEER. SIGNED AND SEALED DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AND SEOR FOR REVIEW AS A SHOP DRAWING. CALCULATIONS WILL BE PROVIDED IF REQUESTED.

ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. DRAWINGS SUBMITTED WITHOUT REVIEW NOTATION WILL BE RETURNED UNCHECKED. EVERY EFFORT WILL BE MADE TO RETURN THE SHOP DRAWINGS WITHIN TEN BUSINESS DAYS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT THE SHOP DRAWINGS ALLOWING FOR AN ADEQUATE REVIEW PERIOD.

ONE SET OF PRINTS WILL BE RETAINED BY THE ENGINEER AND ONE BY THE ARCHITECT. THE CONTRACTOR SHALL RECEIVE THE REMAINING PRINTS FOR SUBMITTAL TO THE BUILDING DEPARTMENT AND AS REQUIRED FOR DISTRIBUTION.

IN ALL INSTANCES THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN A REQUEST FOR INFORMATION SUBMITTED BY THE ENGINEER. EVERY EFFORT WILL BE MADE TO RETURN THE RFI'S WITHIN TWO BUSINESS DAYS. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT, APPLICABLE CODES AND DESIGN CRITERIA, AND DETAILING OF ALL COMPONENTS NECESSARY TO ENSURE PROPER INSTALLATION OF THE COMPONENTS AND SYSTEM.

SHOP DRAWINGS SHOULD BE SUBMITTED FOR ALL COMPONENTS OF THE STRUCTURAL FRAMING SYSTEM, AS REQUIRED BY THE ARCHITECT, AND AS NOTED OTHERWISE IN THESE NOTES, INCLUDING, BUT NOT LIMITED TO: CONCRETE MIX DESIGNS, CONCRETE REINFORCEMENT, PRE-ENGINEERED WOOD ROOF TRUSSES, ANY PROPOSED MANUFACTURER CHANGE FROM THE BASIS OF DESIGN.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL TRADES AND CONSULTANTS. CROSS REFERENCE THEIR DRAWINGS WITH THE OVERALL DESIGN, AND PROVIDE TO EACH A COMPLETE SET OF DRAWINGS AND SUBMITTALS TO ENSURE COMPATIBILITY OF CONSTRUCTION PER DESIGN INTENT.

FOUNDATIONS

ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL OR COMPACTED NATIVE SOIL BEFORE CONSTRUCTION COMMENCES AND IF REQUIRED BY THE JURISDICTION. SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, AS WELL AS FIELD AND LABORATORY TESTS PERFORMED BY A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

PENETRATIONS

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS WITHOUT PREVIOUS APPROVAL OF THE EOR, EXCEPT THOSE PENETRATIONS SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHOULD SUBMIT DRAWINGS SHOWING ANY LOCATION WHERE OPENINGS, PENETRATIONS, OR ANY PLACE MORE THAN 3 PIPES OR CONDUITS ARE LOCATED IN A SLAB SYSTEM; ANY LOCATION IN A BEAM OR COLUMN WHERE MORE THAN 4% OF THE MEMBER SECTION IS REMOVED IN ANY ORIENTATION.

PLUMBING SLEEVES

MINIMUM SLEEVE SPACING SHALL BE THREE DIAMETERS CENTER TO CENTER OF THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE ENGINEER. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318.6.3.

REINFORCING STEEL

SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

REINFORCING BARS SHOWN IN SECTIONS DEPICT TYPICAL CONFIGURATION AND ARE NOT SPECIFIC TO THE CONCRETE MEMBER CUT ON PLAN; SEE PLAN AND SCHEDULES FOR ALL BAR SIZE AND QUANTITIES. TAG-OFFS AND QUANTITIES SHALL BE OBTAINED FROM THE SCHEDULES AND PLANS, NOT FROM SECTIONS. WHERE HOOKS, LAP LENGTHS, ETC. ARE SHOWN IN SECTIONS, ALL LENGTHS AND DETAILS SHALL MEET ACI REQUIREMENTS FOR REINFORCING DETAILS. HOOKS SHALL BE ORIENTED AS REQUIRED TO FIT WITHIN THE CONCRETE MEMBER.

WELDED WIRE FABRIC

TO CONFORM TO ASTM A-185, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. MINIMUM LAP SHALL BE ONE SPACE PLUS TWO INCHES.

WOOD FRAMING CONNECTORS

ALL CONNECTORS SHALL BE GALVANIZED. CONNECTOR MODEL NUMBERS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON STRONG-TIE CO., 9955 W. LAS POSITAS BLVD., P.O. BOX 10789, PLEASANTON, CA 94588, 909-999-5099, WWW.STRONGTIE.COM. SUBSTITUTIONS ARE ACCEPTABLE WITH THE APPROVAL OF THE SEOR, UNLESS SHOWN OTHERWISE. INSTALL THE LARGEST FASTENER SIZE AND MAXIMUM NUMBER OF FASTENERS SHOWN IN LATEST SIMPSON CATALOG. WHERE SDS SCREWS ARE SPECIFIED IN THE SIMPSON CATALOG, SDS SCREWS MUST BE USED UNLESS EXPRESSLY SHOWN IN THE DRAWINGS OTHERWISE. ALL ROOF AND UPPER-LEVEL UPLIFT CONNECTORS SHALL BE LOCATED ON THE SAME SIDE OF THE WALL AS THE EXTERIOR SHEATHING.

CONCRETE

ALL CONCRETE SHALL MEET ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND ACI 301 'SPECIFICATIONS FOR STRUCTURAL CONCRETE, INCLUDING, BUT NOT LIMITED TO, MIX DESIGN, STRENGTH, COVER, PLACEMENT, CURING, TESTING, FORMS, FLATNESS, ETC.' USE THE ARCHITECTURAL SPECIFICATIONS AND PLANS FOR ANY ADDITIONAL REQUIREMENTS.

ALL CONCRETE SHALL BE AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

3000 PSI FOR FOUNDATIONS AND SLABS ON GRADE.

SUBMIT PROPOSED MIX DESIGN FOR EACH PORTION OF WORK PRIOR TO USE. ALL MIX DESIGNS SHALL BE ACCOMPANIED BY A MINIMUM OF 15 FIELD STRENGTH TEST RECORDS, AS NOTED IN ACI 301 4.2.3.2(A); NO OTHER DOCUMENTATION OF AVERAGE COMPRESSIVE STRENGTH WILL BE ACCEPTED WITHOUT IT PRIOR WRITTEN APPROVAL BY THE SEER. MIX SHALL BE UNQUELIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE. FOR ALL FLATWORK, AT LEAST 75% OF LARGE AGGREGATE SHALL CONSIST OF #57 STONE. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C64 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

ALL CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ALL STANDARDS AND SPECIFICATIONS, INCLUDING ALL ACI REQUIREMENTS.

THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNERS REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING A DISPENSING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-0 AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 48 HOURS PRIOR PLACEMENT OF ANY STRUCTURAL CONCRETE.

UNLESS NOTED OTHERWISE ON PLANS, THE FOLLOWING CONCRETE CLEAR COVER SHALL BE PROVIDED FOR ALL NON-PRESSED CONCRETE REINFORCEMENT PER ACI 318:

Table with 2 columns: Location and Cover. Includes Concrete Cast Against Earth (3"), Concrete Exposed to Earth (Formed Face) (3"), Concrete Exposed to Weather (2"), etc.

WHERE NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS, AND JOISTS: #14 & #18 BARS - 1 1/2"; #11 BARS AND SMALLER - 3/4"; BEAMS AND COLUMNS: ALL BARS - 1 1/2"

A) ASTM C143 - 'STANDARD TEST METHOD FOR SLUMP' OF PORTLAND CEMENT CONCRETE.' MAXIMUM SLUMP SHALL BE 4-6 INCHES, PRIOR TO ADDING A SUPERPLASTICIZER.

B) ASTM C39 - 'STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS.' A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:

1 AT 7 DAYS
2 AT 28 DAYS

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

FOUR STRUCTURAL CONCRETE WITHIN THE FOLLOWING TOLERANCES: VARIATION FROM PLUMB: 1/4" IN 10'-0"; VARIATION FROM LEVEL IN TOPS OF PILASTERS: 1/8" IN 10'-0"; VARIATION FROM SIZES: PLAN DIMENSIONS: +/- .12"; THICKNESS: -0"

CHEMICAL ANCHORS: SHALL BE AN EQUAL TWO-PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS SIMPSON SET-XP 'STRUCTURAL ANCHORING ADHESIVE', HILTI HIT-HY 200 OR ENGINEER APPROVED SUBSTITUTION, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. BRUSH AND BLOW OUT ALL HOLES.

WOOD: STRUCTURAL WOOD COMPONENTS (BEAMS, JOISTS, RAFTERS, ETC.) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES FOR NO. 2 SOUTHERN PINE CONFORMING TO NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2015 NDS SUPPLEMENT, AS FOLLOWS:

Table with 2 columns: Stress Type and Value. Includes Shear (FV = 175 PSI), Bending (FB = 1,000 PSI), etc.

WOOD IN CONTACT WITH CONCRETE OR MASONRY, AND AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED OR PRESERVED TREATED IN ACCORDANCE WITH AITC-109. MEMBER SIZES SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

ALL NAILS SHOWN ON PLANS ASSUME COMMON WIRE NAILS UNLESS SPECIFICALLY NOTED ON DRAWINGS. BOLTS FOR WOOD CONSTRUCTION AT EXTERIOR LOCATIONS SHALL CONFORM TO ASTM A307. THREADED RODS AT INTERIOR LOCATIONS SHALL CONFORM TO ASTM A36. THREADED RODS PROTECTED FROM MOISTURE AND WEATHER SHALL BE NOT DIP GALVANIZED. EXPOSED EXTERIOR BOLTS AND THREADED RODS SHALL BE AISI 316 STAINLESS STEEL. ALL NAILS LARGER THAN 10D AND SCREWS LARGER THAN 7 GAUGE SHALL BE PREDRILLED AS NEEDED TO PREVENT SPLITTING OF THE WOOD. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/2" LARGER THAN THE BOLT DIAMETER, BUT NO GREATER THAN 1 1/2" LARGER. A METAL PLATE OR WASHER NO SMALLER THAN A STANDARD CUT WASHER SHALL BE LOCATED BETWEEN THE BOLT HEAD AND THE WOOD AND BETWEEN THE NUT AND THE WOOD OF ALL BOLTS.

ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER'S SPECIALTY ENGINEER TO CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON DRAWINGS AND SPECIFICATIONS. ALL INDIVIDUAL TRUSS MEMBERS, TRUSS PLATE CONNECTIONS, TRUSS-TO-TRUSS CONNECTIONS, COMMON TRUSSES, AND OTHER TRUSSES SHALL BE DESIGNED FOR COMPONENT AND CLADDING WIND LOADING, EXCEPT THOSE TRUSSES EXCEEDING 700 SQUARE FEET IN TRIBUTARY AREA. ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE BY THE SEOR. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN ALL OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING ALL TRUSS SYSTEM COMPONENTS, AS WELL AS ALL PERMANENT BRACING REQUIRED FOR TRUSS DESIGN.

TRUSSES AT ALL BEARING LOCATIONS SHALL BE STABILIZED. THE GENERAL CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS BY THE DELEGATED TRUSS ENGINEERING PACKAGE. AT A MINIMUM, FOR TRUSS HEEL DEPTHS LESS THAN 8", ONLY BLOCKING BY THE TRUSS ENGINEERING IS REQUIRED; FOR TRUSS HEEL DEPTHS BETWEEN 8" AND 12", USE FULL HEIGHT SAWN LUMBER BLOCKING; FOR TRUSS HEEL DEPTHS GREATER THAN 12", USE TRUSS BLOCKING OR A SHEATHED KNEEWALL. SEE THE STRUCTURAL DRAWINGS FOR ANY ADDITIONAL BLOCK REQUIREMENTS FOR THE LATERAL-FORCE RESISTING SYSTEM.

ENGINEERED SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND IMPRESSED SEAL OF A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN THE STATE WHERE THE STRUCTURE WILL BE ERECTED, AS THE DELEGATED (SPECIALTY) ENGINEER. PLUMBING, ELECTRICAL, AND MECHANICAL DRAWINGS SHALL BE COORDINATED WITH THE TRUSS LAYOUT TO ENSURE THAT THERE ARE NO CONFLICTS WITH DUCTS, RECESSED FIXTURES, PLUMBING PIPES, TRAPS, HOODS, CEILING STEPS/SLOPES, ETC. TRUSS LAYOUT SHALL BE MODIFIED AND/OR TRUSS CHASSES SHALL BE ADDED TO AVOID CONFLICTS. TRUSS SPACING SHALL NOT EXCEED MAXIMUM NOTED IN PLAN NOTES, U.N.O.

THE FOLLOWING LOAD DURATION FACTORS SHALL BE USED:

Table with 2 columns: Load Type and Factor. Includes Dead Load (0.90), Dead Load + Floor Live Load (1.00), etc.

ALL TRUSSES SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION OF L/360 FOR LIVE LOAD AND L/240, NOT TO EXCEED 1", FOR TOTAL LOAD, THE MAXIMUM DEFLECTION DUE TO TOTAL LOAD OF 1" IS INCLUSIVE OF ALL DEAD LOAD, SELF-WEIGHT, SUPERIMPOSED DEAD LOAD, AND LIVE LOAD, INCLUDING CREEP.

PLYWOOD ROOF, FLOOR, AND WALL SHEATHING ARE DESIGNED AS DIAPHRAGMS/SHEAR WALLS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE BUILDING CODE AND SHALL BE FASTENED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF BUILDING CODE TABLES, UNLESS SHOWN OTHERWISE. PLYWOOD SHALL BE INSTALLED WITH THE STRENGTH AXIS OF EACH PANEL PERPENDICULAR TO THE SUPPORTS IN ALL CASES. PLYWOOD ROOF PANELS SHALL BE INSTALLED AS SHOWN IN CASES 1 THROUGH 4 IN TABLE 2306.2.1 (CONT.). BLOCKING SHALL BE PROVIDED BETWEEN ALL PLYWOOD ROOF FRAMING MEMBERS AT ALL RIDGES AND VALLEYS FOR FULL PLYWOOD EDGE SUPPORT. AT ROOF VENT LOCATIONS, PROVIDE 2x4 BLOCKING ON THE FLAT, ON ALTERNATING SIDES OF THE VENT BETWEEN ROOF FRAMING MEMBERS.

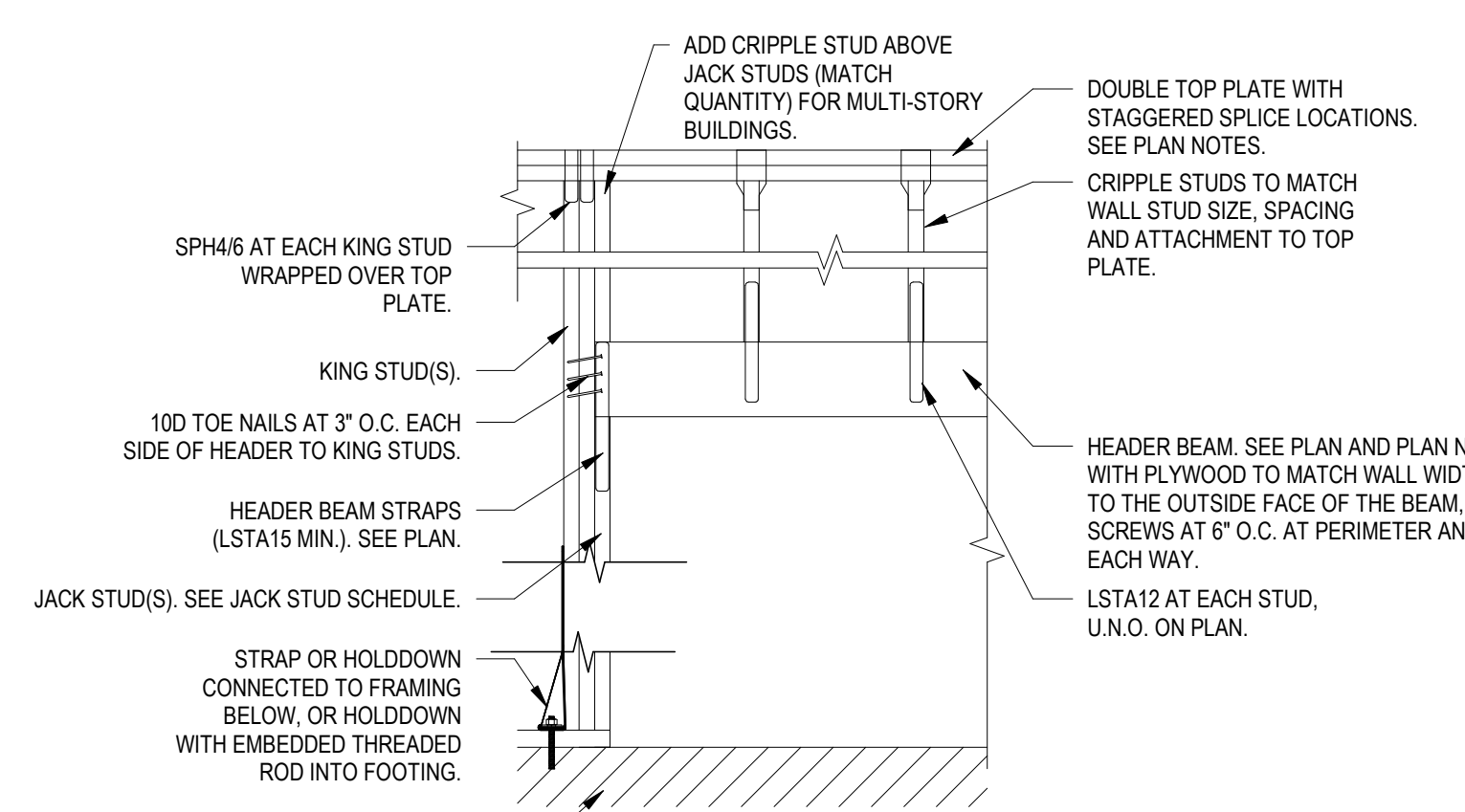
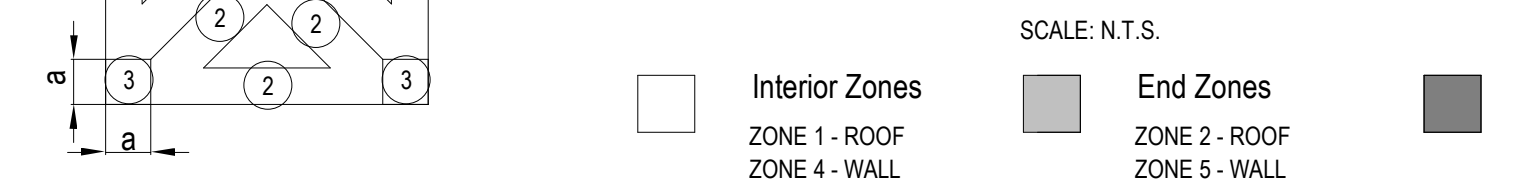
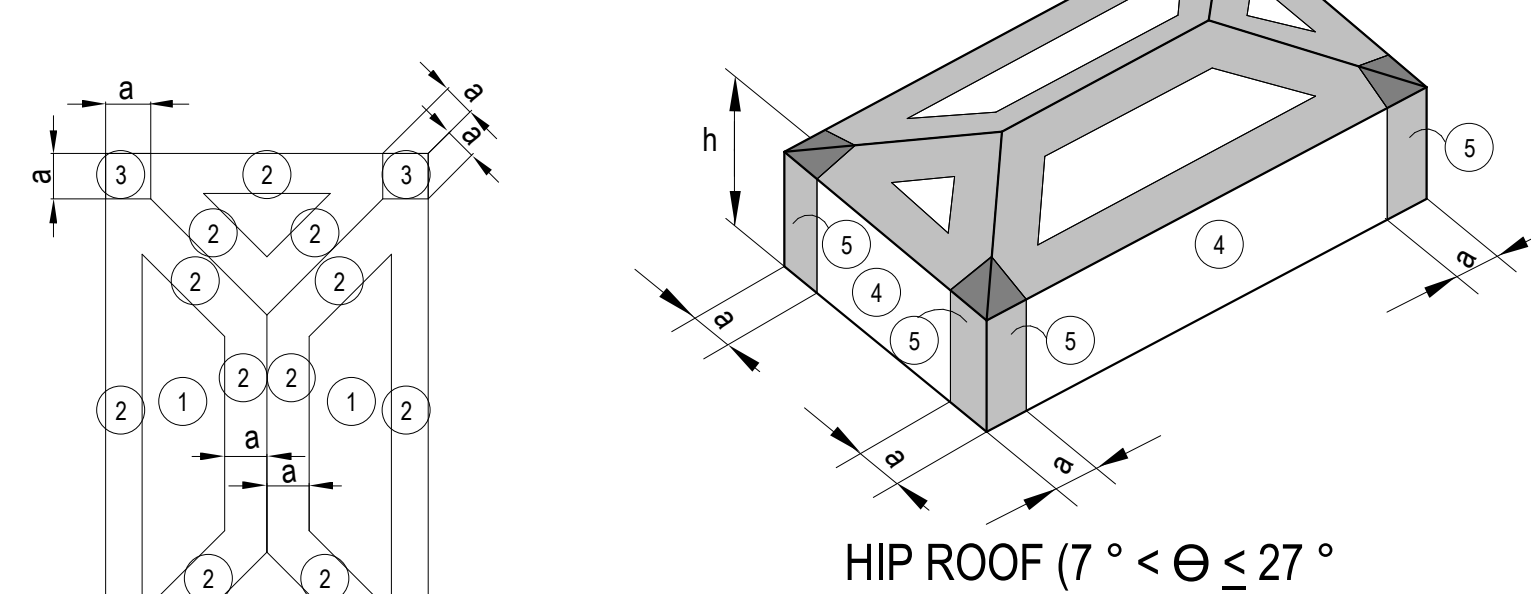
ALL WOOD SHEAR WALLS SHALL HAVE ALL PLYWOOD EDGES FULLY BLOCKED WITH THE SAME STUD SIZE AS THE WALLS, WITH THE BLOCKING INSTALLED SO THAT THE PLYWOOD IS NAILED INTO THE NARROW STUD FACE. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO EACH PLY OF DOUBLE TOP AND BOTTOM WALL PLATES, AS APPLICABLE. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO MULTIPLE PLY COLUMNS AT ENDS OF WALLS, WHERE SOLID COLUMNS ARE USED AT ENDS OF WALLS, FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING IN VERTICAL ROWS WITH 1-1/2" ROW SPACING FOR FULL HEIGHT OF COLUMN. WHERE SHEAR WALL PANEL EDGE NAILING IS 3" OR LESS, THE BLOCKING AT PANEL EDGES SHALL BE 3" NOMINAL OR GREATER AND THE NAILING SHALL BE STAGGERED. MULTIPLE PLY STUDS MAY BE USED AS THE PANEL EDGE BLOCKING IN LIEU OF 3" NOMINAL BLOCKING, FASTEN THE PILES WITH NAILS HAVING THE SAME LENGTH AS THE TOTAL BLOCKING THICKNESS WITH SPACING TO MATCH THE PLYWOOD PANEL EDGE NAILING, STAGGERED. PANELS SHALL NOT BE LESS THAN 4FTx8FT, EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING.

WIND LOAD SCHEDULE

Table with 4 columns: Zone, Zone Description, Tributary Area (SF), In Pressure (+ PSF), Out Pressure (- PSF). Includes Roof Interior Zone, Roof Edge Zone, Roof Corner Zone, Wall Interior Zone, Wall Edge Zone.

NOTE: WIND PRESSURES SHOWN ARE BASED ON Vasd

Table with 2 columns: Parameter and Value. Includes Code (ASCE 7-16), Ultimate Wind Speed (152), Allowable Wind Speed (118), Risk Category (II), Exposure (C), Enclosure Classification (Enclosed), Internal Pressure Coefficient (0.18), etc.



- NOTES: 1. PLYWOOD SHEATHING, IF APPLICABLE, IS NOT SHOWN FOR CLARITY. 2. A MINIMUM OF 1/4"x4"x8" (JK) AND 1/4"x8" STUD ARE REQUIRED AT ALL OPENINGS, UNLESS NOTED OTHERWISE ON PLAN. 3. WHERE MULTIPLE JAMB STUDS ARE SPECIFIED EACH JAMB STUD IS TO BE STRAPPED ACCORDING TO PLAN NOTES. 4. WHERE BUILT-UP STUD COLUMNS ARE NOTED ON PLAN, BUILT-UP COLUMN INCLUDES JACK STUDS.

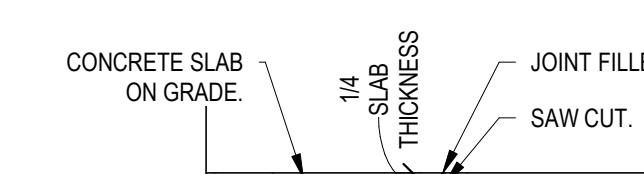
TYPICAL WOOD WALL OPENING DETAIL SCALE: NTS

ABBREVIATIONS

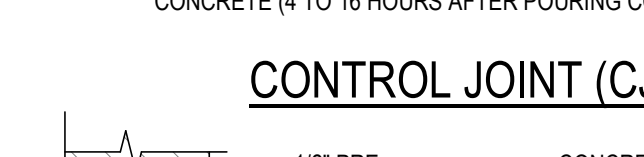
Table with 2 columns: Mark and Description. Includes ARCH (Architect), BOT (Bottom), BP (Base Plate), CANT (Cantilever), etc.

SHEET LIST

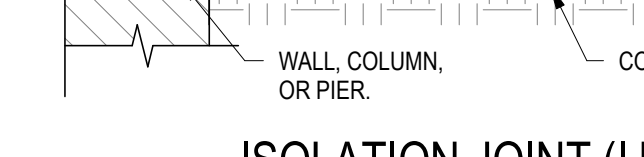
Table with 2 columns: Sheet Name and Sheet No. Includes Maintenance - Structural AS-1, Notes, Typical Details AS-2.



CONTROL JOINT (CJ)



ISOLATION JOINT (IJ)

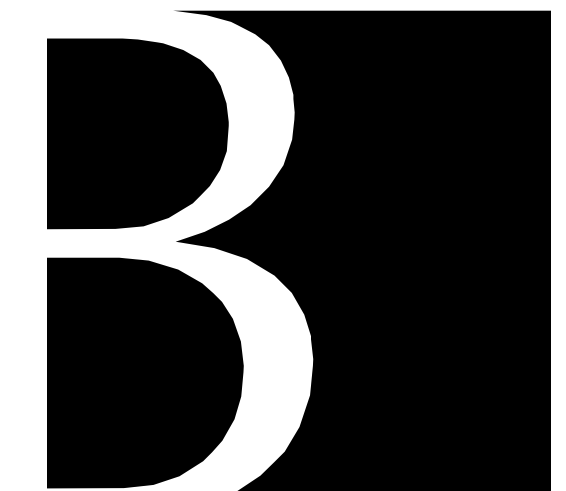


CONSTRUCTION JOINT (KJ)

This item has been digitally signed and sealed by Cordell S. Van Nostrand on 01/05/22, using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Snell Engineering Consultants



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ENGINEER OF RECORD Cordell S. Van Nostrand P.E. # 67580

PERMIT SET

Table with 2 columns: Date and Submission. Includes dates from 1/5/22 to 1/12/22.

Table with 2 columns: Date and Submission. Includes dates from 1/19/22 to 1/26/22.

ALL IDEAS, DESIGN, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY AND THE PROPERTY OF BAKERBARRIOS ARCHITECTS, INC. AND WERE CREATED, DEVELOPED, AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE SPECIFIC PROJECT. NONE OF THE IDEAS, DESIGN, ARRANGEMENTS AND PLANS SHOWN HEREIN SHALL BE DISCLOSED TO ANY PERSON, FIRM, OR CORPORATION FOR ANY PURPOSE, WITHOUT THE WRITTEN PERMISSION OF BAKERBARRIOS ARCHITECTS, INC. PENALTIES FOR VIOLATION OF F.S. 218.30 - 218.31 ET SEQ. AND OTHER LAWS, THE IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING MAY BE SUBJECT OF PENDING PATENT APPLICATION.

TO THE BEST OF THE ARCHITECT'S OR ENGINEER'S KNOWLEDGE AND ABILITY, THE IDEAS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES.



MILHAUS

MILHAUS

SR-82

7780 LIGHTARD KNOTT LN FORT MYERS, FL 33905

PROJECT NO: 220035.00

MAINTENANCE - STRUCTURAL NOTES, TYPICAL DETAILS

SHEET NUMBER: AS-1

STRUCTURAL NOTES

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Table with 2 columns: WIND and values for ASCE 7-16, ULTIMATE WIND SPEED, ALLOWABLE WIND SPEED, EXPOSURE, ENCLOSED STRUCTURE, INTERNAL PRESSURE COEFFICIENT, RISK FACTOR II, SEE WIND SCHEDULE FOR PRESSURES.

Table with 2 columns: ROOF and values for LIVE LOAD, LIVE LOAD (CONCENTRATED), DEAD LOAD, DEAD LOAD (AVAILABLE TO RESIST UPLIFT).

Table with 2 columns: FLOOD and values for FEMA AUY ZONE, FLOOD DESIGN CLASS, BFE ELEVATION, FRESHWATER, PROPOSED LOWEST FLOOR ELEVATION, BOT. OF LOWEST HORIZ. STRUCT. MEMBER, REQ'D MIN. DRY FLOOD-PROOF ELEVATION, STRUCTURAL SYSTEMS OF BUILDINGS AND STRUCTURES ARE DESIGNED, CONNECTED AND ANCHORED TO RESIST FLOTATION, COLLAPSE OR PERMANENT LATERAL MOVEMENT DUE TO STRUCTURAL LOADS AND STRESSES FROM FLOODING EQUAL TO THE DESIGN FLOOD ELEVATION IN CONFORMANCE WITH ASCE 24-14 AND FBC-9 322.2(2)FC 1612.1.

Table with 2 columns: SEISMIC and values for RISK CATEGORY, SEISMIC IMPORTANCE FACTOR I, SITE CLASS, SEISMIC DESIGN CATEGORY A, Ss, Sd1.

IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL FINAL WEIGHTS OF EQUIPMENT (MECHANICAL, CHILLED WATER, KITCHEN, SPA/POOL, ETC.), CLADDING, FINISHES, ETC. PRIOR TO ERECTING STRUCTURE SUPPORTING THESE ITEMS. ALL WEIGHTS ACCOUNTED FOR IN THE STRUCTURAL DESIGN ARE LISTED ABOVE OR ON THE PLANS.

SHOP DRAWING REVIEW

SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.

ANY COMPONENT NOTED AS "DELEGATED" SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA AND NOT BY THE SER. SIGNED AND SEALED DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AND SECOR FOR REVIEW AS A SHOP DRAWING. CALCULATIONS WILL BE PROVIDED IF REQUESTED.

ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. DRAWINGS SUBMITTED WITHOUT REVIEW NOTATION WILL BE RETURNED UNCHECKED. EVERY EFFORT WILL BE MADE TO RETURN THE SHOP DRAWINGS WITHIN TEN BUSINESS DAYS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT THE SHOP DRAWINGS ALLOWING FOR AN ADEQUATE REVIEW PERIOD.

ONE SET OF PRINTS WILL BE RETAINED BY THE ENGINEER AND ONE BY THE ARCHITECT. THE CONTRACTOR SHALL RECEIVE THE REMAINING PRINTS FOR SUBMITTAL TO THE BUILDING DEPARTMENT AND AS REQUIRED FOR DISTRIBUTION.

IN ALL INSTANCES THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN A REQUEST FOR INFORMATION (RFI) OR SUBSTITUTION DOCUMENTATION BY THE ENGINEER. EVERY EFFORT WILL BE MADE TO RETURN THE RFI'S WITHIN TWO BUSINESS DAYS. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT, APPLICABLE CODES AND DESIGN CRITERIA, AND DETAILING OF ALL COMPONENTS NECESSARY TO ENSURE PROPER INSTALLATION OF THE COMPONENTS AND SYSTEM.

SHOP DRAWINGS SHOULD BE SUBMITTED FOR ALL COMPONENTS OF THE STRUCTURAL FRAMING SYSTEM, AS REQUIRED BY THE ARCHITECT, AND AS NOTED ELSEWHERE IN THESE NOTES, INCLUDING, BUT NOT LIMITED TO: CONCRETE MIX DESIGNS, CONCRETE REINFORCEMENT, PRE-ENGINEERED WOOD ROOF TRUSSES, ANY PROPOSED MANUFACTURER CHANGE FROM THE BASIS OF DESIGN.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL TRADES AND CONSULTANTS. CROSS REFERENCE THEIR DRAWINGS WITH THE OVERALL DESIGN, AND PROVIDE TO EACH A COMPLETE SET OF DRAWINGS AND SUBMITTALS TO ENSURE COMPATIBILITY OF CONSTRUCTION PER DESIGN INTENT.

FOUNDATIONS

ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL OR COMPACTED NATIVE SOIL. BEFORE CONSTRUCTION COMMENCES AND IF REQUIRED BY THE JURISDICTION, SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, AS WELL AS FIELD AND LABORATORY TESTS PERFORMED BY A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

PENETRATIONS

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS WITHOUT PREVIOUS APPROVAL OF THE EOR. EXCEPT THOSE PENETRATIONS SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHOULD SUBMIT DRAWINGS SHOWING ANY LOCATION WHERE OPENINGS, PENETRATIONS, OR ANY PLACE MORE THAN 3 PIPES OR CONDUITS ARE LOCATED IN A SLAB SYSTEM, ANY LOCATION IN A BEAM OR COLUMN WHERE MORE THAN 4% OF THE MEMBER SECTION IS REMOVED IN ANY ORIENTATION.

PLUMBING SLEEVES

MINIMUM SLEEVE SPACING SHALL BE THREE DIAMETERS CENTER TO CENTER OF THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE ENGINEER. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318.6.3.

REINFORCING STEEL

SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

REINFORCING BARS SHOWN IN SECTIONS DEPICT TYPICAL CONFIGURATION AND ARE NOT SPECIFIC TO THE CONCRETE MEMBER CUT OR PLAN. SEE PLAN AND SCHEDULES FOR ALL BAR SIZE AND QUANTITIES. TAKE-OFFS AND QUANTITIES SHALL BE OBTAINED FROM THE SCHEDULES AND PLANS, NOT FROM SECTIONS, WHERE HOOKS, LAP LENGTHS, ETC. ARE SHOWN IN SECTIONS. ALL LENGTHS AND DETAILS SHALL MEET ACI REQUIREMENTS FOR REINFORCING DETAILS. HOOKS SHALL BE ORIENTED AS REQUIRED TO FIT WITHIN THE CONCRETE MEMBER.

WELDED WIRE FABRIC

TO CONFORM TO ASTM A 185, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. MINIMUM LAP SHALL BE ONE SPACE PLUS TWO INCHES.

CONCRETE

ALL CONCRETE SHALL MEET ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE INCLUDING, BUT NOT LIMITED TO, MIX DESIGN, STRENGTH, COVER, PLACEMENT, CURING, TESTING, FORMS, FLATNESS, ETC. SEE THE ARCHITECTURAL SPECIFICATIONS AND PLANS FOR ANY ADDITIONAL REQUIREMENTS.

ALL CONCRETE SHALL BE AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX.

3000 PSI FOR FOUNDATIONS AND SLABS ON GRADE.

SUBMIT PROPOSED MIX DESIGN FOR EACH PORTION OF WORK PRIOR TO USE. ALL MIX DESIGNS SHALL BE ACCOMPANIED BY A MINIMUM OF 15 FIELD STRENGTH TEST RECORDS, AS NOTED IN ACI 301 4.2.2.2(A). NO OTHER DOCUMENTATION OF AVERAGE COMPRESSIVE STRENGTH WILL BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE SER. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE. FOR ALL FLATWORK, AT LEAST 75% OF LARGE AGGREGATE SHALL CONSIST OF #57 STONE. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

ALL CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ALL STANDARDS AND SPECIFICATIONS, INCLUDING ALL ACI REQUIREMENTS.

THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNERS REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING A DISPENSING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 AND SHALL HAVE A FLUORIDE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDE SHALL NOT BE UTILIZED. OTHER ADJUTIVES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 48 HOURS PRIOR PLACEMENT OF ANY STRUCTURAL CONCRETE.

UNLESS NOTED OTHERWISE ON PLANS, THE FOLLOWING CONCRETE CLEAR COVER SHALL BE PROVIDED FOR ALL NON-PRESTRESSED CONCRETE REINFORCEMENT PER ACI 318:

Table with 3 columns: CONCRETE CAST AGAINST EARTH, CONCRETE EXPOSED TO EARTH (FORMED FACE), CONCRETE EXPOSED TO WEATHER, WHERE NOT EXPOSED TO EARTH OR WEATHER, BEAMS AND COLUMNS.

A) ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE." MAXIMUM SLUMP SHALL BE 4-6 INCHES, PRIOR TO ADDING A SUPER PLASTICIZER. B) ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER QUANTITIES AND TEST AGE AS FOLLOWS: 1 AT 7 DAYS, 2 AT 28 DAYS.

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

POUR STRUCTURAL CONCRETE WITHIN THE FOLLOWING TOLERANCES: VARIATION FROM PLUMB: 1/4" IN 10'-0", VARIATION FROM LEVEL IN TOPS OF PILASTERS: 1/8" IN 10'-0", VARIATION FOOTINGS: 1/8" IN 10'-0", PLAN DIMENSIONS: +/- .12", THICKNESS: .02".

CHEMICAL ANCHORS

SHALL BE AN EQUAL TWO-PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS SIMPSON SET-XP (STRUCTURAL ANCHORING ADHESIVE), HILTI HIT-HY 200 OR ENGINEER APPROVED SUBSTITUTION, INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. BRUSH AND BLOW OUT ALL HOLES.

WOOD

STRUCTURAL WOOD COMPONENTS (BEAMS, JOISTS, RAFTERS, ETC.) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES FOR NO. 2 SOUTHERN PINE CONFORMING TO NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2015 NDS SUPPLEMENT, AS FOLLOWS:

Table with 2 columns: SHEAR, BENDING 2X6, BENDING 2X8, BENDING 2X10, BENDING 2X12 and values for FV, FB.

WOOD IN CONTACT WITH CONCRETE OR MASONRY, AND AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED OR PRESURE TREATED IN ACCORDANCE WITH AITC-109. MEMBER SIZES SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

ALL NAILS SHOWN ON PLANS ASSUME COMMON WIRE NAILS UNLESS SPECIFICALLY NOTED ON DRAWINGS. BOLTS FOR WOOD CONSTRUCTION AT INTERIOR LOCATIONS SHALL CONFORM TO ASTM A307. THREADED RODS AT INTERIOR LOCATIONS SHALL CONFORM TO ASTM A36. EXTERIOR BOLTS AND THREADED RODS PROTECTED FROM MOISTURE AND WEATHER SHALL BE HOT-DIP GALVANIZED. EXPOSED EXTERIOR BOLTS AND THREADED RODS SHALL BE A316 3/4" STAINLESS STEEL. ALL NAILS LARGER THAN 10D AND SCREWS LARGER THAN 7 GAUGE SHALL BE PREDRILLED AS NEEDED TO PREVENT SPLITTING OF THE WOOD. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/2" LARGER THAN THE BOLT DIAMETER, BUT NO GREATER THAN 1 1/2". A METAL PLATE OR WASHER NO SMALLER THAN A STANDARD CUT WASHER SHALL BE LOCATED BETWEEN THE BOLT HEAD AND THE WOOD AND BETWEEN THE NUT AND THE WOOD OF ALL BOLTS.

ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER'S SPECIALTY ENGINEER TO CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON DRAWINGS AND SPECIFICATIONS. ALL INDIVIDUAL TRUSS MEMBERS, TRUSS PLATE CONNECTIONS, TRUSS TO TRUSS CONNECTIONS, COMMON TRUSSES, AND ORIGIN TRUSSES SHALL BE DESIGNED FOR COMPONENT AND CLADDING WIND LOADING, EXCEPT THOSE TRUSSES EXCEEDING 700 SQUARE FEET IN TRIBUTARY AREA. ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN ALL OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING ALL TRUSS SYSTEM COMPONENTS, AS WELL AS ALL PERMANENT BRACING REQUIRED FOR TRUSS DESIGN.

TRUSSES AT ALL BEARING LOCATIONS SHALL BE STABILIZED. THE GENERAL CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS BY THE DELEGATED TRUSS ENGINEERING PACKAGE. AT A MINIMUM, FOR TRUSS HEEL DEPTHS LESS THAN 8', ONLY BLOCKING BY THE TRUSS ENGINEERING IS REQUIRED. FOR TRUSS HEEL DEPTHS BETWEEN 8' AND 12', USE FULL HEIGHT SAW/LUMBER BLOCKING FOR TRUSS HEEL DEPTHS GREATER THAN 12' USE TRUSS BLOCKING OR A SHEATHED KNEEWALL. SEE THE STRUCTURAL DRAWINGS FOR ANY ADDITIONAL BLOCK REQUIREMENTS FOR THE LATERAL-FORCE RESISTING SYSTEM.

ENGINEERED SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND IMPRESSED SEAL OF A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN THE STATE WHERE THE STRUCTURE WILL BE ERECTED, AS THE DELEGATED (SPECIALTY) ENGINEER. PLUMBING, ELECTRICAL, AND MECHANICAL DRAWINGS SHALL BE COORDINATED WITH THE TRUSS LAYOUT TO ENSURE THAT THERE ARE NO CONFLICTS WITH DUCTS, RECESSED FIXTURES, PLUMBING PIPES, TRAPS, HOODS, CEILING STEPS/SLOPES, ETC. TRUSS LAYOUT SHALL BE MODIFIED AND/OR TRUSS CHANGES SHALL BE ADDED TO AVOID CONFLICTS. TRUSS SPACING SHALL NOT EXCEED MAXIMUM NOTED IN PLAN NOTES, U.N.O.

THE FOLLOWING LOAD DURATION FACTORS SHALL BE USED:

Table with 2 columns: DEAD LOAD, DEAD LOAD + FLOOR LIVE LOAD, DEAD LOAD + ROOF LIVE LOAD, DEAD LOAD + WIND LOAD and values for 0.90, 1.00, 1.25, 1.60.

ALL TRUSSES SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION OF L/360 FOR LIVE LOAD AND L/240, NOT TO EXCEED 1", FOR TOTAL LOAD. THE MAXIMUM DEFLECTION DUE TO TOTAL LOAD OF 1" IS INCLUSIVE OF ALL DEAD LOAD, SELF-WEIGHT, SUPERIMPOSED DEAD LOAD, AND LIVE LOAD, INCLUDING CREEP.

PLYWOOD ROOF, FLOOR, AND WALL SHEATHING ARE DESIGNED AS DIAPHRAGMS/SHEAR WALLS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE BUILDING CODE AND SHALL BE FASTENED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF BUILDING CODE TABLES, UNLESS SHOWN OTHERWISE. PLYWOOD SHALL BE INSTALLED WITH THE STRENGTH AXIS OF EACH PANEL PERPENDICULAR TO THE SUPPORTS IN ALL CASES. PLYWOOD ROOF PANELS SHALL BE INSTALLED AS SHOWN IN CASES 1 THROUGH 4 IN TABLE 2302.2.1 (CONT.). BLOCKING SHALL BE PROVIDED BETWEEN ALL WOOD ROOF FRAMING MEMBERS AT ALL RIDGES AND VALLEYS FOR FULL PLYWOOD EDGE SUPPORT. AT ROOF VENT LOCATIONS, PROVIDE 2X4 BLOCKING ON THE FLAT, ON ALTERNATING SIDES OF THE VENT BETWEEN ROOF FRAMING MEMBERS.

ALL WOOD SHEAR WALLS SHALL HAVE ALL PLYWOOD EDGES FULLY BLOCKED WITH THE SAME STUD SIZE AS THE WALLS, WITH THE BLOCKING INSTALLED SO THAT THE PLYWOOD IS NAILED INTO THE NARROW STUD FACE. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO EACH PLY OF DOUBLE TOP AND BOTTOM WALL PLATES, AS APPLICABLE. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO MULTI-PLY COLLUMS AT ENDS OF WALLS, WHERE SOLID COLLUMS ARE USED AT ENDS OF WALLS. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING IN VERTICAL ROWS WITH 1-1/2" ROW SPACING FOR FULL HEIGHT OF COLUMN, WHERE SHEAR WALL PANEL EDGE NAILING IS 3' OR LESS. THE BLOCKING AT PANEL EDGES SHALL BE 3" NOMINAL OR GREATER AND THE NAILING SHALL BE STAGGERED. MULTIPLE PLY STUDS MAY BE USED AS THE PANEL EDGE BLOCKING IN LIEU OF 3" NOMINAL BLOCKING. FASTEN THE PILES WITH NAILS HAVING THE SAME LENGTH AS THE TOTAL BLOCKING THICKNESS WITH 1/2" OVERLAP TO MATCH THE PLYWOOD PANEL EDGE NAILING, STAGGERED. PANELS SHALL NOT BE LESS THAN 4FTX8FT, EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING.

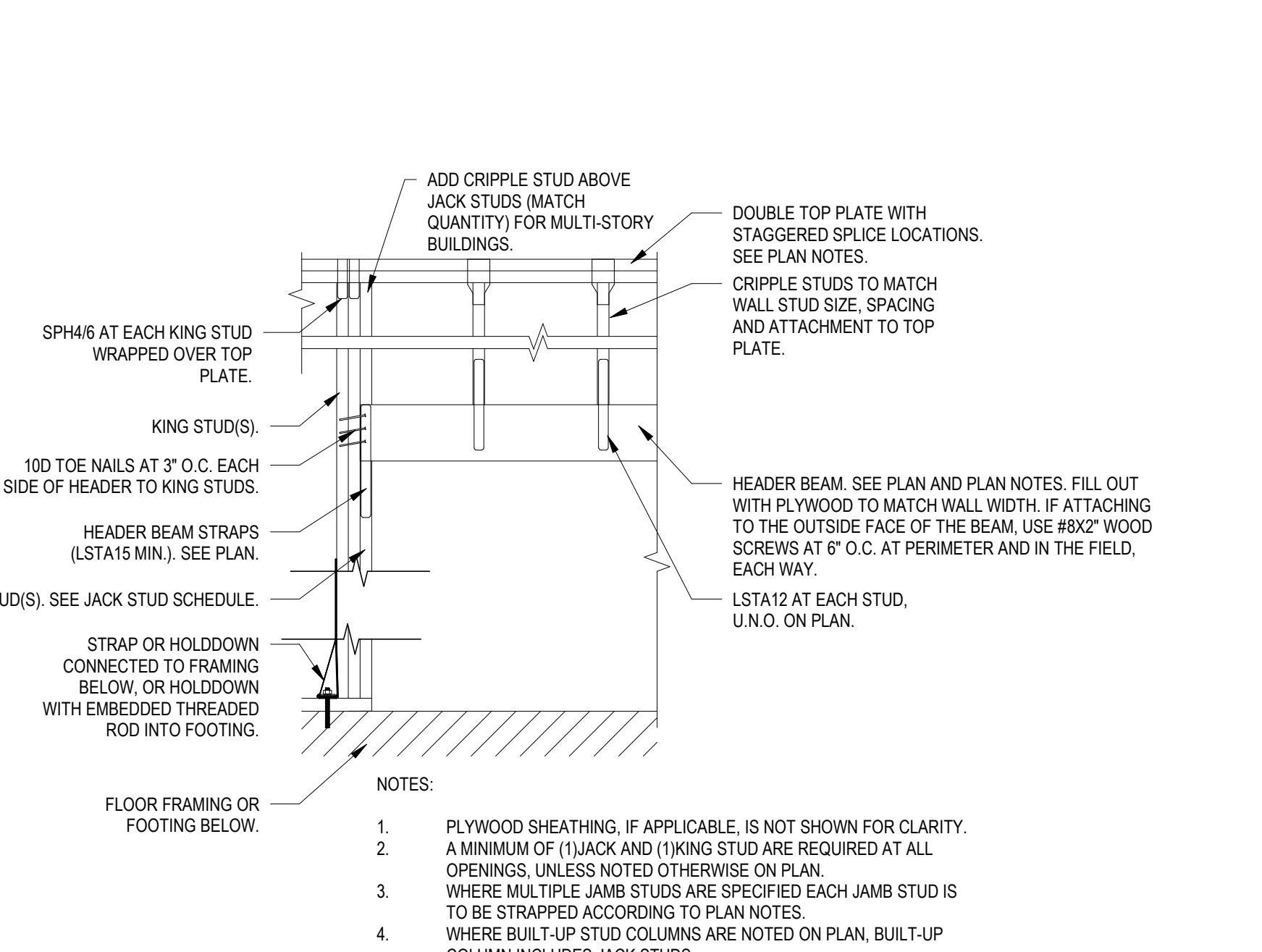
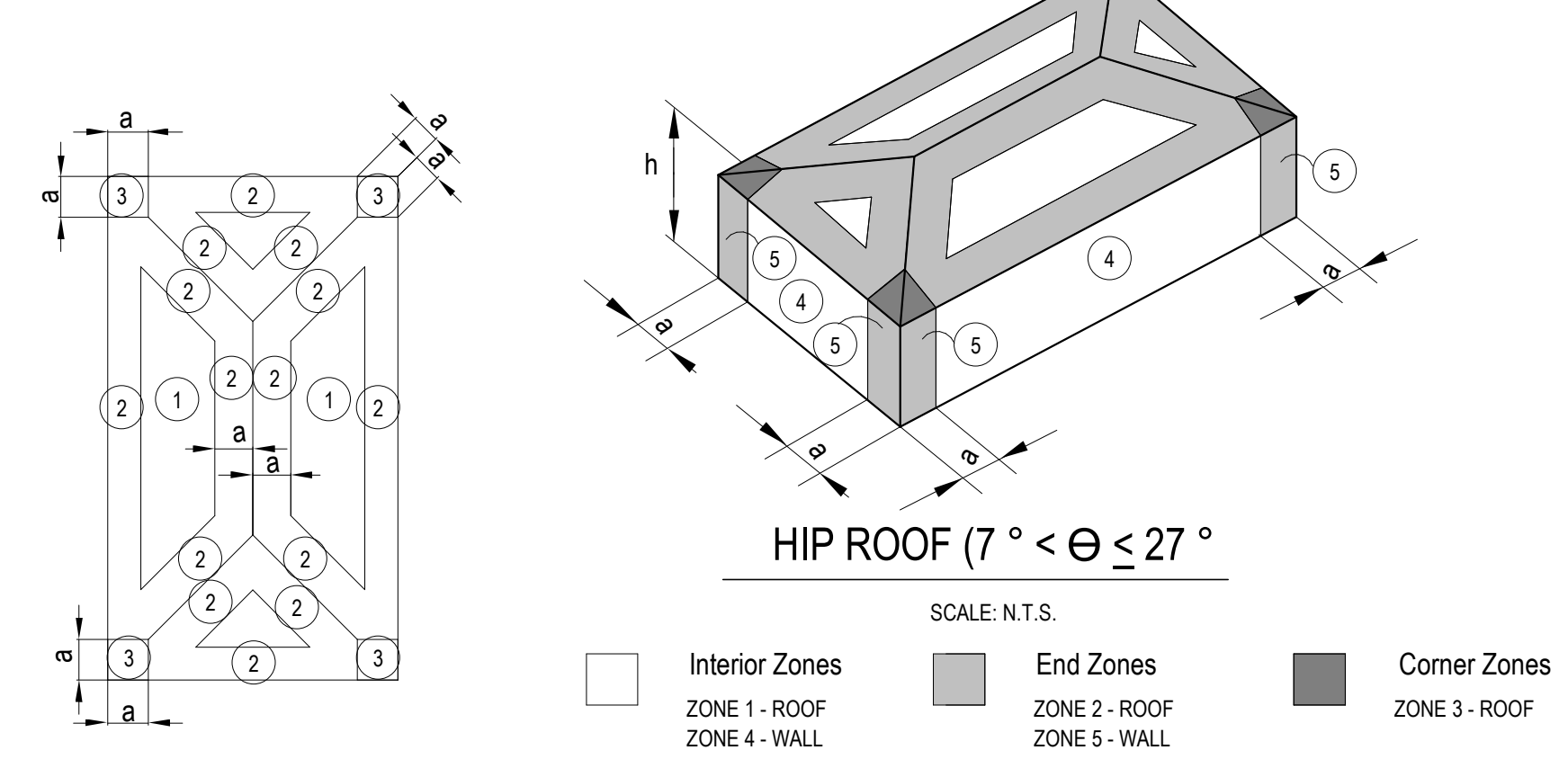
WOOD FRAMING CONNECTORS

ALL CONNECTORS SHALL BE GALVANIZED. CONNECTOR MODEL NUMBERS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON STRONG-TIE CO., 999 W. LAS POSITAS BLVD., P.O. BOX 10789, PLEASANTON, CA 94588, 800-999-9099, WWW.STRONGTIE.COM. SUBSTITUTIONS ARE ACCEPTABLE WITH THE APPROVAL OF THE SER, UNLESS SHOWN OTHERWISE. INSTALL THE "LARGEST" FASTENER SIZE AND "MAXIMUM" NUMBER OF FASTENERS SHOWN IN LATEST SIMPSON CATALOG, WHERE SDS SCREWS ARE SPECIFIED IN THE SIMPSON CATALOG. SDS SCREWS MUST BE USED UNLESS EXPRESSLY SHOWN IN THE DRAWINGS OTHERWISE. ALL ROOF AND UPPER LEVEL UPLIFT CONNECTORS SHALL BE LOCATED ON THE SAME SIDE OF THE WALL AS THE EXTERIOR SHEATHING.

WIND LOAD SCHEDULE table with columns: ZONE, ZONE DESCRIPTION, TRIBUTARY AREA (SF), WIND SPEED (MPH), WIND PRESSURE (PSF), OUT (PSF).

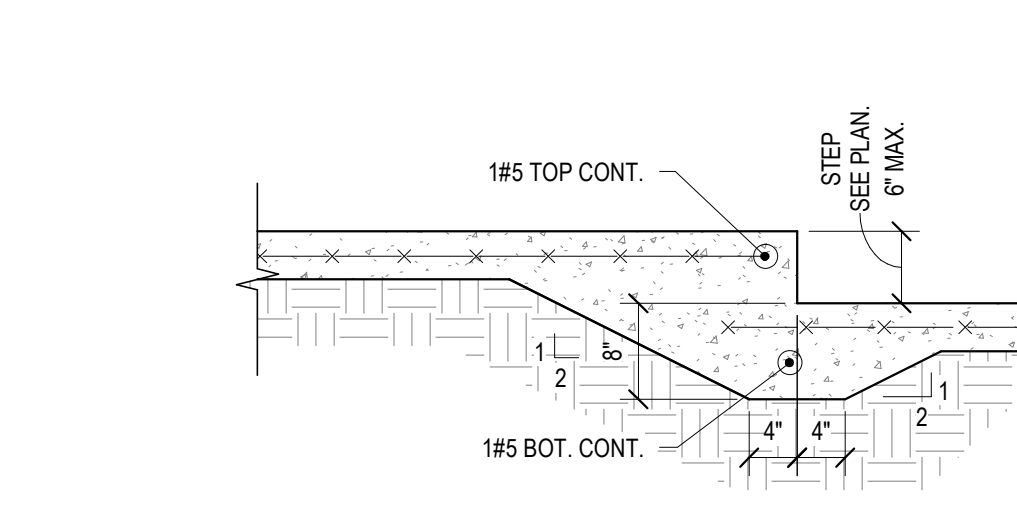
NOTE: WIND PRESSURES SHOWN ARE BASED ON Vaid

Table with 2 columns: CODE, ULTIMATE WIND SPEED Vaid (MPH), ALLOWABLE WIND SPEED Vaid (MPH), RISK CATEGORY, EXPOSURE, ENCLOSURE CLASSIFICATION, INTERNAL PRESSURE COEFFICIENT (Gcpi), a (FT), 2a (FT) and values for ASCE 7-16, 152, 118, II, C, ENCLOSED, +/- 0.18, 10.0, 20.0.



TYPICAL WOOD WALL OPENING DETAIL

SCALE: NTS



SLAB ON GRADE STEP - 6" OR LESS

ABBREVIATIONS

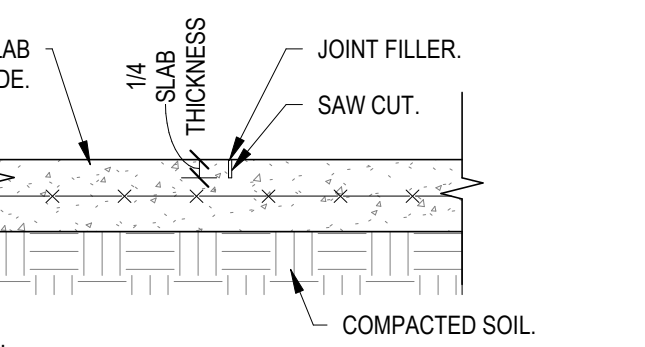
Table with 2 columns: MARK, DESCRIPTION. Lists various abbreviations for construction elements like ARCH, BOT, BOTTOM, etc.

SHEET LIST

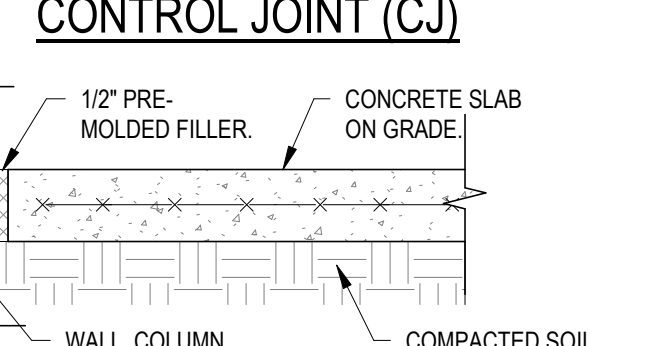
Table with 2 columns: SHEET NAME, SHEET NO. Lists sheets for GARAGES - STRUCTURAL, GARAGES - FLOOR AND ROOF FRAMING PLANS, SECTIONS.

ALL IDEAL, DESIGN, ARRANGEMENTS AND PLANS ARE HEREBY REPRESENTED BY THIS ENGINEER AS OWNED BY AND THE PROPERTY OF BAKER BARRIOS ARCHITECTS, INC. AND WERE CREATED, EVOLVED, AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE SPECIFIC PROJECT. NONE OF THE DESIGN, DRAWING, OR INFORMATION CONTAINED HEREIN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BAKER BARRIOS ARCHITECTS, INC. ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS INFORMATION IN VIOLATION OF F.C.R. 228.1 - 228.11 (F.S.) AND OTHER LAWS, THE IDEAL, ARRANGEMENTS AND DESIGN DEVELOPED HEREIN MAY BE PATENTED OR BE THE SUBJECT OF PENDING PATENT APPLICATION.

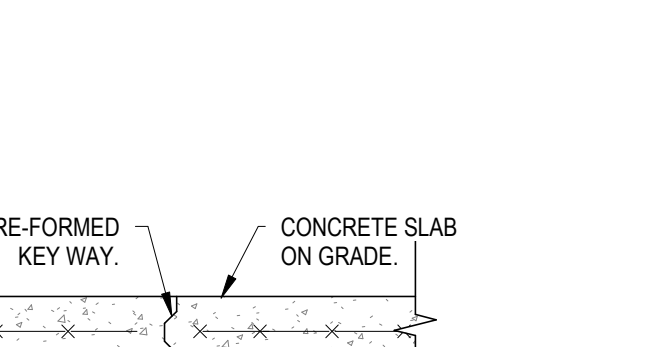
TO THE BEST OF THE ARCHITECT'S OR ENGINEER'S KNOWLEDGE AND ABILITY, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE PERMANENT BUILDING CODES.



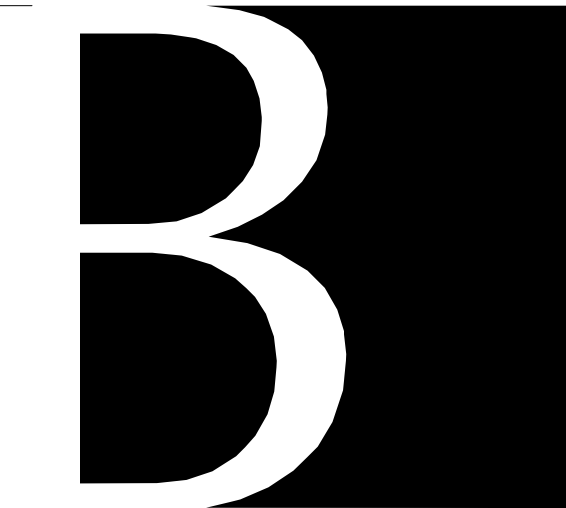
CONTROL JOINT (CJ)



ISOLATION JOINT (IJ)

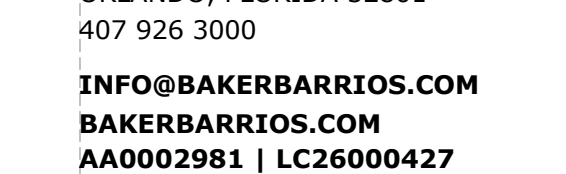


CONSTRUCTION JOINT (KJ)



ORLANDO 189 S. ORANGE AVE., SUITE 1700 ORLANDO, FLORIDA 32801 407 926 3000

INFO@BAKERBARRIOS.COM BAKERBARRIOS.COM A0002981 | LC2600427



ENGINEER OF RECORD Cordell S. Van Nostrand P.L.C.E. # 67580

Table with 2 columns: DATE, SUBMISSION. Shows a schedule of permit submissions.

PERMIT SET

Table with 2 columns: DATE, SUBMISSION. Shows a schedule of permit submissions.

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MILHAUS SR-82

7780 LIGHTARD KNOTT LN FORT MYERS, FL 33905 PROJECT NO: 220035.00

GARAGES - STRUCTURAL NOTES, TYPICAL DETAILS

SHEET NUMBER: AS-5

STRUCTURAL NOTES

GENERAL NOTES

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. DO NOT SCALE DRAWINGS.

THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS.

ELECTRONIC VERSIONS OF THE STRUCTURAL DRAWINGS ARE THE SOLE, COPYRIGHTED PROPERTY OF SNELL ENGINEERING AND ARE NOT TO BE USED OR TRANSFERRED WITHOUT THE EXPRESS, WRITTEN PERMISSION OF SNELL ENGINEERING.

DESIGN LOADS

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE - BUILDING TYPEDITION (2020). THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

WIND:

ASCE 7-16	152 MPH
ULTIMATE WIND SPEED	152 MPH
ALLOWABLE WIND SPEED	118 MPH
EXPOSURE	II
OPEN STRUCTURE	±0.18
INTERNAL PRESSURE COEFFICIENT	±0.18
RISK FACTOR	1.0
SEE WIND SCHEDULE FOR PRESSURES	

FLOOD:

FEMA AV ZONE	II
FLOOD DESIGN CLASS	11.00 NAVD
SFE ELEVATION	1.0 FT
FREEDBOARD	12.00 NAVD
PROPOSED LOWEST FLOOR ELEVATION	12.00 NAVD
DOT OF LOWEST HORIZ. STRUCT. MEMBER	12.00 NAVD
REQ'D MIN. DRY FLOOD-PROOF ELEVATION	12.00 NAVD

STRUCTURAL SYSTEMS OF BUILDINGS AND STRUCTURES ARE DESIGNED, CONNECTED AND ANCHORED TO RESIST FLOODATION, COLLAPSE OR PERMANENT LATERAL MOVEMENT DUE TO STRUCTURAL LOADS AND STRESSES FROM FLOODING EQUAL TO THE DESIGN FLOOD ELEVATION IN CONFORMANCE WITH ASCE 24-14 AND FBC-R 322.1.2FBC 1612.1.

SEISMIC:

RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR I_e	1.0
SITE CLASS D	
SEISMIC DESIGN CATEGORY D	
S_s	-1.094 g
S_{d1}	-0.775 g
S_{d2}	0.361 g

IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL FINAL WEIGHTS OF EQUIPMENT (MECHANICAL, CHILLED WATER, KITCHEN, SPA/POOL, ETC.), CLADDING, FINISHES, ETC. PRIOR TO ERECTING STRUCTURE SUPPORTING THESE ITEMS. ALL WEIGHTS ACCOUNTED FOR IN THE STRUCTURAL DESIGN ARE LISTED ABOVE OR ON THE PLANS.

SHOP DRAWING REVIEW

SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.

ANY COMPONENT NOTED AS "DELEGATED" SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA AND NOT BY THE SER. SIGNED AND SEALED DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AND SEOR FOR REVIEW AS A SHOP DRAWING. CALCULATIONS WILL BE PROVIDED IF REQUESTED.

ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. DRAWINGS SUBMITTED WITHOUT REVIEW NOTATION WILL BE RETURNED UNCHECKED. EVERY EFFORT WILL BE MADE TO RETURN THE SHOP DRAWINGS WITHIN TEN BUSINESS DAYS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT THE SHOP DRAWINGS ALLOWING FOR AN ADEQUATE REVIEW PERIOD.

ONE SET OF PRINTS WILL BE RETAINED BY THE ENGINEER AND ONE BY THE ARCHITECT. THE CONTRACTOR SHALL RECEIVE THE REMAINING PRINTS FOR SUBMITTAL TO THE BUILDING DEPARTMENT AND AS REQUIRED FOR DISTRIBUTION.

IN ALL INSTANCES THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN A REQUEST FOR INFORMATION (RFI) OR SIMILAR DOCUMENTATION BY THE ENGINEER. EVERY EFFORT WILL BE MADE TO RETURN THE RFI'S WITHIN TWO BUSINESS DAYS. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT, APPLICABLE CODES AND DESIGN CRITERIA, AND DETAILING OF ALL COMPONENTS NECESSARY TO ENSURE PROPER INSTALLATION OF THE COMPONENTS AND SYSTEM.

SHOP DRAWINGS SHOULD BE SUBMITTED FOR ALL COMPONENTS OF THE STRUCTURAL FRAMING SYSTEM, AS REQUIRED BY THE ARCHITECT, AND AS NOTED ELSEWHERE IN THESE NOTES, INCLUDING, BUT NOT LIMITED TO:

- CONCRETE MIX DESIGNS
- CONCRETE REINFORCEMENT
- MASONRY BLOCK
- MASONRY BLOCK ACCESSORIES
- MASONRY REINFORCING
- ANY PROPOSED MANUFACTURER CHANGE FROM THE BASIS OF DESIGN

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL TRADES AND CONSULTANTS. CROSS REFERENCE THEIR DRAWINGS WITH THE OVERALL DESIGN, AND PROVIDE TO EACH A COMPLETE SET OF DRAWINGS AND SUBMITTALS TO ENSURE COMPATIBILITY OF CONSTRUCTION PER DESIGN INTENT.

FOUNDATIONS:

ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL OR COMPACTED NATIVE SOIL BEFORE CONSTRUCTION COMMENCES AND IF REQUIRED BY THE JURISDICTION. SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, AS WELL AS FIELD AND LABORATORY TESTS PERFORMED BY A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

PENETRATIONS:

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS WITHOUT PREVIOUS APPROVAL OF THE EOR, EXCEPT THOSE PENETRATIONS SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHOULD SUBMIT DRAWINGS SHOWING ANY LOCATION WHERE OPENINGS, PENETRATIONS, OR ANY PLACE MORE THAN 3 PIPES OR CONDUITS ARE LOCATED IN A SLAB SYSTEM. ANY LOCATION IN A BEAM OR COLUMN WHERE MORE THAN 4% OF THE MEMBER SECTION IS REMOVED IN ANY ORIENTATION.

PLUMBING SLEEVES:

MINIMUM SLEEVE SPACING SHALL BE THREE DIAMETERS CENTER TO CENTER OF THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE ENGINEER. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318 6.3.

REINFORCING STEEL:

SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

REINFORCING BARS SHOWN IN SECTIONS DEPICT TYPICAL CONFIGURATION AND ARE NOT SPECIFIC TO THE CONCRETE MEMBER CUT ON PLAN; SEE PLAN AND SCHEDULES FOR ALL BAR SIZE AND QUANTITIES. TAKE-OFFS AND QUANTITIES SHALL BE OBTAINED FROM THE SCHEDULES AND PLANS, NOT FROM SECTIONS. WHERE HOOKS, LAP LENGTHS, ETC. ARE SHOWN IN SECTIONS, ALL LENGTHS AND DETAILS SHALL MEET ACI REQUIREMENTS FOR REINFORCING DETAILS. HOOKS SHALL BE ORIENTED AS REQUIRED TO FIT WITHIN THE CONCRETE MEMBER.

WELDED WIRE FABRIC:

TO CONFORM TO ASTM A-185. FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. MINIMUM LAP SHALL BE ONE SPACE PLUS TWO INCHES.

MASONRY WALLS:

MASONRY UNITS SHALL MEET ASTM C-90 FOR HOLLOW LOAD BEARING TYPE MASONRY WITH UNIT STRENGTH OF 2000 PSI ON THE NET AREA ($F_m = 2000$ PSI). MORTAR SHALL BE TYPE "M" OR "S" AND MEET ASTM C-270. GROUT SHALL BE 3000 PSI MINIMUM COMPRESSIVE STRENGTH AND MEET ASTM C-476. PROVIDE HOOKED DOWELS IN FOOTINGS FOR ALL VERTICAL REINFORCING ABOVE. LAP SPLICES 48 BAR DIAMETERS.

MASONRY CONSTRUCTION SHALL BE LAID IN RUNNING BOND CONFIGURATION UNLESS OTHERWISE NOTED.

BLOCK CELLS AS SHOWN ON PLANS SHALL BE GROUT FILLED WITH VERTICAL REINFORCING BARS. SEE PLAN NOTES FOR BAR SIZE AND SPACING. DOWELS SHALL BE USED TO PROVIDE CONTINUITY INTO THE STRUCTURE ABOVE AND/OR BELOW, UNLESS NOTED OTHERWISE. USE METAL LATH, MORTAR, OR SPECIAL UNITS TO CONCRETE AND GROUT TO AREA REQUIRED. CELLS TO BE GROUT FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED, CONTINUOUS VERTICAL GROUT SPACE.

PROVIDE 5 GAUGE GALVANIZED HORIZONTAL JOINT REINFORCING (DUR-O-WALL OR SEOR APPROVED SUBSTITUTION) AT ALTERNATE BLOCK COURSES, BEGINNING 8" ABOVE FOOTINGS AND FLOOR LEVELS. MASONRY WALLS ABOVE OPENINGS SHALL BE REINFORCED AT THE SAME SPACING AS THE WALL WITH DOWELS/HOOKED INTO THE BEAM OR LINTEL ABOVE THE OPENING.

GROUT LIFT: AN INCREMENT OF GROUT HEIGHT WITHIN A TOTAL GROUT POUR. THE TOTAL HEIGHT OF MASONRY TO BE GROUTED PRIOR TO DIRECTION OF ADDITIONAL MASONRY. A GROUT POUR CONSISTS OF ONE OR MORE GROUT LIFTS. GROUT POURS SHALL SET FOR A MINIMUM OF 4 HOURS BEFORE ANY ADDITIONAL GROUT PLACEMENT.

GROUT SHALL HAVE A SLUMP BETWEEN 8 AND 11 INCHES, EXCEPT SELF-CONSOLIDATING GROUT. JOB-SITE PROPORTIONING OF SELF-CONSOLIDATING GROUT IS NOT PERMITTED.

MASONRY GROUTING REQUIREMENTS:

- FIELD-MIXED GROUT SHALL BE PLACED WITHIN 1-1/2 HOURS FROM INTRODUCING WATER INTO THE MIXTURE AND BEFORE INITIAL SET.
- GROUT SLUMP REQUIREMENTS:
 - FOR GROUT SLUMP BETWEEN 8 AND 10 INCHES, THE MAXIMUM GROUT LIFT HEIGHT IS 5 FEET.
 - FOR GROUT SLUMP BETWEEN 10 AND 11 INCHES, THE MAXIMUM GROUT LIFT HEIGHT IS 2.5 FEET.
 - FOR SELF-CONSOLIDATING GROUT, THE GROUT LIFT HEIGHT SHALL NOT EXCEED THE GROUT POUR HEIGHT (24 FEET MAX.).
- GROUT LIFT HEIGHTS EXCEEDING 5 FEET SHALL MEET THE FOLLOWING REQUIREMENTS:
 - MASONRY MORTAR HAS CURED FOR AT LEAST 4 HOURS.
 - GROUT SLUMP IS BETWEEN 10 AND 11 INCHES.
 - NO INTERMEDIATE BOND BEAMS ARE PLACED BETWEEN THE TOP AND BOTTOM OF THE GROUT LIFT HEIGHT.
- EACH GROUT LIFT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION AT THE TIME OF PLACEMENT. CONSOLIDATION IS NOT REQUIRED FOR SELF-CONSOLIDATING GROUT.
- EACH GROUT LIFT SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED, AND BEFORE ADDING THE SUBSEQUENT GROUT LIFT. RECONSOLIDATION IS NOT REQUIRED FOR SELF-CONSOLIDATING GROUT.
- THE TIME BETWEEN PLACING GROUT LIFTS SHALL NOT EXCEED 1 HOUR.
- THE MAXIMUM POUR HEIGHT IS 24 FEET.
- A GROUT KEY SHALL BE PROVIDED AT THE TOP OF EACH GROUT LIFT AND GROUT POUR. GROUT KEYS SHOULD BE FORMED BY TERMINATING THE GROUT 1-1/2 INCHES BELOW A MORTAR JOINT.

AT SILLS OF MASONRY OPENINGS IN LOAD-BEARING MASONRY WALLS, PROVIDE AN 8" KNOCKOUT COURSE, GROUTED SOLID AND REINFORCED WITH #5 CONTINUOUS HORIZONTAL BAR, TYPICAL UNLESS NOTED OTHERWISE ON PLAN OR DETAILS.

TIE BEAMS:

BEAMS WITH THE PREFIX "TB" SHALL BE OF CONCRETE POURED AFTER THE BLOCK WALLS BELOW ARE IN PLACE. REINFORCING SHALL BE CONTINUOUS THROUGH THE BEAMS WITH MINIMUM LAP SPLICES OF 48 BAR DIAMETERS AND BENT BARS AT CORNERS. USE METAL LATH, MORTAR, OR SPECIAL UNITS TO CONFINE CONCRETE TO AREA REQUIRED, IN ACCORDANCE WITH ACI 503.1, SECTION 4.3.3.3 (SOLID METAL OR FELT CAVITY CAPS ARE PROHIBITED). WHERE TIE BEAMS ARE NOTED AS KNOCK-OUT (K.O.) BLOCKS, KNOCK-OUT BLOCKS SHALL BE GROUT-FILLED AS SPECIFIED IN THE MASONRY SECTION ABOVE.

UNLESS NOTED ON PLAN OR SCHEDULED, AN 8"x16" CONCRETE TIE BEAM SHALL BE PROVIDED AT THE TOP OF ALL MASONRY WALLS. TOP OF TIE BEAM SHALL BE TOP OF WALL ELEVATION AND REINFORCED WITH (2) #5 BARS TOP AND BOTTOM, WITH #3 STIRRUPS AT 24" O.C. MAX.

CONCRETE:

ALL CONCRETE SHALL MEET ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE, INCLUDING, BUT NOT LIMITED TO, MIX DESIGN, STRENGTH, COVER, PLACEMENT, CURING, TESTING, FORMS, FLATNESS, ETC. SEE THE ARCHITECTURAL SPECIFICATIONS AND PLANS FOR ANY ADDITIONAL REQUIREMENTS.

ALL CONCRETE SHALL BE AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX.

3000 PSI FOR FOUNDATIONS AND SLABS ON GRADE
4000 PSI FOR ALL OTHER STRUCTURAL CONCRETE.

SUBMIT PROPOSED MIX DESIGN FOR EACH PORTION OF WORK PRIOR TO USE. ALL MIX DESIGNS SHALL BE ACCOMPANIED BY A MINIMUM OF 15 FIELD STRENGTH TEST RECORDS, AS NOTED IN ACI 301 4.2.3.2(A). NO OTHER DOCUMENTATION OF AVERAGE COMPRESSIVE STRENGTH WILL BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE SER. MIX SHALL BE UNQUELIFIED IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR CONCRETE AGGREGATE. FOR ALL PLAYWORK, AT LEAST 75% OF LARGE AGGREGATE SHALL CONSIST OF #57 STONE. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

ALL CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ALL STANDARDS AND SPECIFICATIONS, INCLUDING ALL ACI REQUIREMENTS.

THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNERS REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING A DISPENSING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-3 AND SHALL HAVE A FLUORESCENT DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDE SHALL NOT BE UTILIZED, OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF ANY STRUCTURAL CONCRETE.

UNLESS NOTED OTHERWISE ON PLANS, THE FOLLOWING CONCRETE CLEAR COVER SHALL BE PROVIDED FOR ALL NON-PRESTRESSED CONCRETE REINFORCEMENT PER ACI 318:

CONCRETE CAST AGAINST EARTH:	ALL BARS	3"
CONCRETE EXPOSED TO EARTH (FORMED FACE):	ALL BARS	2"
CONCRETE EXPOSED TO WEATHER:	#6 BARS AND GREATER	2"
	#5 BARS AND SMALLER	1 1/2"

WHERE NOT EXPOSED TO EARTH OR WEATHER:

SLABS, WALLS, AND JOISTS:	#14 & #18 BARS	1 1/2"
	#11 BARS AND SMALLER	3/4"
BEAMS AND COLUMNS:	ALL BARS	1 1/2"

- ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE"; MAXIMUM SLUMP SHALL BE 4.6 INCHES, PRIOR TO ADDING A SUPER PLASTICIZER.
- ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS"; A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:
1 AT 7 DAYS
2 AT 28 DAYS

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

POUR STRUCTURAL CONCRETE WITH THE FOLLOWING TOLERANCES:
VARIATION FROM PLUMB: 1/4" IN 10'-0"
VARIATION FROM LEVEL: 1/8" IN 10'-0"
VARIATION FOOTINGS:
PLAN DIMENSIONS: ±2", -1/2"
THICKNESS: -0"

CHEMICAL ANCHORS:

SHALL BE AN EQUAL TWO-PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS SIMPSON SET-XP STRUCTURAL ANCHORING ADHESIVE; HLT HIT-HY 200 OR ENGINEER APPROVED SUBSTITUTION, INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURERS REPRESENTATIVE. BRUSH AND BLOW OUT ALL HOLES.

ABBREVIATIONS

MARK	DESCRIPTION
#	POUND(S)
&	AND
ARCH	ARCHITECT
B OR BOT	BOTTOM
B OR B.O.	BOTTOM OF
BP	BASE PLATE
CANT.	CANTILEVER
CJ	CONTROL JOINT
CLR	CLEAR
CONT.	CONTINUOUS
DIA Ø	DIAMETER
EIA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EMBED	EMBEDMENT
EGS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
FC	28 DAY COMPRESSIVE STRENGTH
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FRT	FIRE RETARDANT TREAT
FTG.	FOOTING
GA	GAUGE
GALV.	GALVANIZED
GC	GENERAL CONTRACTOR
H OR HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL STEEL
KJ	CONSTRUCTION JOINT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LLW	LONG WAY

ABBREVIATIONS

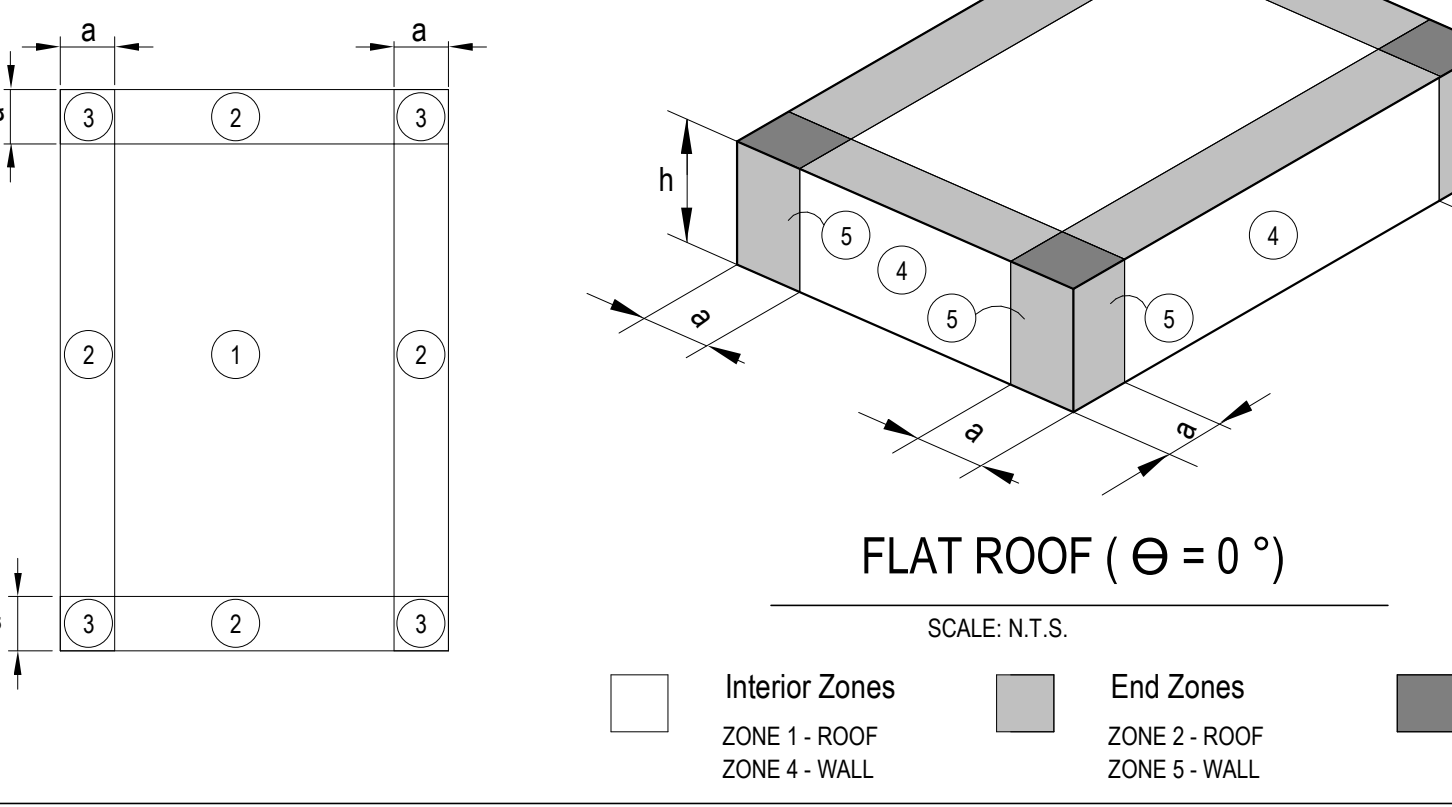
MARK	DESCRIPTION
MAX	MAXIMUM
MIN	MINIMUM
N.A.V.D.	NORTH AMERICAN VERTICAL DATUM
N.G.V.D.	NATIONAL GEODETIC VERTICAL DATUM
NC	NOT IN CONTRACT
O.C.	ON CENTER
OH OR OPF HAND	OPPOSITE HAND
PLF	POUNDS PER LINEAR FOOT
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED POST TENSIONED
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
RIP	RIPPED TO FIT
SEOR	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SS	STAINLESS STEEL
STD	STANDARD
SW	SHORT WAY SHEAR WALL
T	TOP
T.O. OR Tj	TOP OF
TEMP	TEMPERATURE
THR	THREADED
THRU	THROUGH
TRANS	TRANSVERSE
TYP	TYPICAL
V OR VERT	VERTICAL
W	WITH
WD	WOOD
WP	WORKING POINT
WWF	WELDED WIRE FABRIC

WIND LOAD SCHEDULE

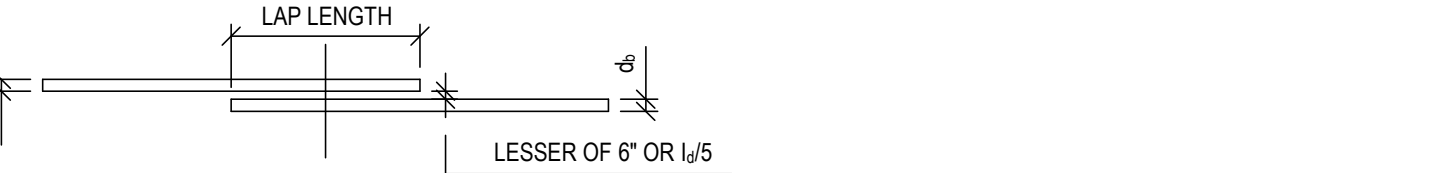
SCHEDULE OF COMPONENTS AND CLADDING LOADS				
ZONE	ZONE DESCRIPTION	TRIBUTARY AREA (SF)	IN (PRESSURE) (- PSF)	OUT (PRESSURE) (- PSF)
1	ROOF INTERIOR ZONE	LESS THAN 20	12.3	48.2
		20 - 100	11.5	45.6
		MORE THAN 100	10.0	37.9
2	ROOF EDGE ZONE	LESS THAN 20	12.3	63.6
		20 - 100	11.5	59.7
		MORE THAN 100	10.0	50.5
3	ROOF CORNER ZONE	LESS THAN 20	12.3	86.7
		20 - 100	11.5	79.0
		MORE THAN 100	10.0	59.7
4	WALL INTERIOR ZONE	LESS THAN 20	27.7	30.0
		20 - 50	26.5	28.8
		20 - 100	24.9	27.2
5	WALL EDGE ZONE	LESS THAN 20	27.7	36.9
		20 - 100	24.9	31.2
		MORE THAN 100	23.5	28.8

NOTE: WIND PRESSURES SHOWN ARE BASED ON Vasd

CODE =	ASCE 7-16
ULTIMATE WIND SPEED V_{ult} =	152 MPH
ALLOWABLE WIND SPEED V_{asd} =	118 MPH
RISK CATEGORY =	II
EXPOSURE =	C
ENCLOSURE CLASSIFICATION =	OPEN
INTERNAL PRESSURE COEFFICIENT (GCF_{in}) =	±0.18
$\mu =$	3 FT
$z =$	6 FT



BAR SIZE	TENSION (CLASS 'B') LAP SPlice LENGTH				COMPRESSION LAP / SPlice LENGTH	
	3000 PSI	4000 PSI	3000 PSI	4000 PSI	ALL CONCRETE WITH f'_c 3000 psi	
#3	28	24	22	19	12	
#4	37	32	29	25	15	
#5	47	40	36	31	19	
#6	56	48	43	37	23	
#7	81	70	63	54	27	
#8	93	80	72	62	30	
#9	105	91	81	70	34	
#10	118	102	91	79	38	
#11	131	113	101	87	43	
#14	121	105	93	81	-	
#18	161	139	124	107	-	



- NOTES:
- REFER TO "HOOKED REINFORCEMENT TENSION DEVELOPMENT LENGTH SCHEDULE" WHEN THE STRAIGHT DEVELOPMENT LENGTH IN TENSION CANNOT BE ACCOMMODATED IN THE CONCRETE SECTION.
 - ALWAYS USE TENSION LAP SPlice LENGTH VALUES, UNLESS THE PLANS OR DETAILS NOTE OTHERWISE.
 - TABULATED DEVELOPMENT AND LAP SPlice LENGTHS ARE BASED ON REINFORCING STEEL YIELD STRENGTH F_y 60 KSI, NORMAL WEIGHT CONCRETE, AND CLASS B LAPS.
 - TOP BARS ARE REINFORCED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPlice. TOP BAR FACTOR DOES NOT APPLY TO BARS IN WALLS.
 - WHEN DIFFERENT BAR DIAMETERS ARE SPliced, USE SMALLER BAR LAP SPlice LENGTH.
 - ALL TABULATED VALUES ARE MINIMUM LENGTHS. IN CASE OF CONFLICT WITH PLANS, SECTIONS, OR DETAILS USE LONGER LENGTH.
 - ϕ_b = BAR DIAMETER
 - l_d = DEVELOPMENT LAP OR SPlice LENGTH
 - ADJUST TABULATED LENGTH BY THE FOLLOWING FACTORS WHERE APPLICABLE. NOTE THAT FACTORS ARE CUMULATIVE (E.G. $1.3 \times 1.50 = 1.95$):
 - LIGHT WEIGHT CONCRETE: 1.30
 - 3 OR LESS BUNDLED BARS: 1.20
 - 4 OR MORE BUNDLED BARS: 1.33
 - CLEAR SPACING LESS THAN $2\phi_b$ AND CLEAR COVER LESS THAN ϕ_b : 1.77
 - CLASS A LAP SPlice: 1.50
 - EPOXY COATED BARS: 1.50
 - WELDED AND/OR MECHANICAL SPlices MAY BE USED AT THE GENERAL CONTRACTOR'S OPTION PROVIDED THAT THE SPlice IS CAPABLE OF DEVELOPING AT LEAST 125% OF THE YIELD STRENGTH OF THE LARGER BAR IN TENSION. WHERE WELDED AND/OR MECHANICAL SPlices ARE TO BE USED, THE GENERAL CONTRACTOR SHALL SUBMIT FULL DATA OF THE PROPOSED MATERIAL, PROCEDURES, AND INSTALLATION INSTRUCTIONS TO THE ENGINEER FOR REVIEW AS A SHOP DRAWING SUBMISSION.
 - USE MECHANICAL COUPLERS FOR #14 AND LARGER BARS.

STRUCTURAL NOTES

GENERAL NOTES

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. DO NOT SCALE DRAWINGS.

THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE DESIGN PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS.

ELECTRONIC VERSIONS OF THE STRUCTURAL DRAWINGS ARE THE SOLE, COPYRIGHTED PROPERTY OF SNELL ENGINEERING AND ARE NOT TO BE USED OR TRANSFERRED WITHOUT THE EXPRESS, WRITTEN PERMISSION OF SNELL ENGINEERING.

DESIGN LOADS

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE - BUILDING 7TH EDITION (2020). THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

Table with 2 columns: LOAD TYPE and VALUE. Includes ROOF: LIVE LOAD (20 PSF), DEAD LOAD (25 PSF), and FLOORS AND OTHER SIMILAR SURFACES (UNIFORM AND CONCENTRATED LIVE LOADS).

FLOORS AND OTHER SIMILAR SURFACES SHALL BE DESIGNED TO SUPPORT THE UNIFORMLY DISTRIBUTED LIVE LOADS OR CONCENTRATED LIVE LOADS SHOWN ABOVE, WHICHEVER PROVIDES THE GREATER LOAD EFFECT. DISTRIBUTED LOADS AND CONCENTRATED LOADS ARE NON-CONCURRENT UNLESS NOTED OTHERWISE.

Table with 2 columns: WIND and VALUE. Includes ASCE 7-16 ULTIMATE WIND SPEED (152 MPH) and EXPOSURE C (ENCLOSED STRUCTURE).

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

Table with 2 columns: FLOOR and VALUE. Includes FEMA X ZONE, FLOOD DESIGN CLASS (II), and FLOOD ELEVATION (11.00 NAVD).

Table with 2 columns: SEISMIC and VALUE. Includes RISK CATEGORY (II) and SEISMIC IMPORTANCE FACTOR (1.0).

Table with 2 columns: Ss and Sd1. Includes Ss = 0.048 g and Sd1 = 0.024 g.

IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL FINAL WEIGHTS OF EQUIPMENT (MECHANICAL, CHILLED WATER, KITCHEN, SPARKOL, ETC.) PRIOR TO ERECTING STRUCTURE SUPPORTING THESE ITEMS. ALL WEIGHTS ACCOUNTED FOR IN THE STRUCTURAL DESIGN ARE LISTED ABOVE OR ON THE PLANS.

SHOP DRAWING REVIEW

SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.

ANY COMPONENT NOTED AS 'DELEGATED' SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA AND NOT BY THE S.E. SIGNED AND SEALED DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AND SEER FOR REVIEW AS A SHOP DRAWING. CALCULATIONS WILL BE PROVIDED IF REQUESTED.

ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. DRAWINGS SUBMITTED WITHOUT REVIEW NOTATION WILL BE RETURNED UNCHECKED. EVERY EFFORT WILL BE MADE TO RETURN THE SHOP DRAWINGS WITHIN TEN BUSINESS DAYS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT THE SHOP DRAWINGS ALLOWING FOR AN ADEQUATE REVIEW PERIOD.

ONE SET OF PRINTS WILL BE RETAINED BY THE ENGINEER AND ONE BY THE ARCHITECT. THE CONTRACTOR SHALL RECEIVE THE REMAINING PRINTS FOR SUBMITTAL TO THE BUILDING DEPARTMENT AND AS REQUIRED FOR DISTRIBUTION.

IN ALL INSTANCES THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN A REQUEST FOR INFORMATION (RFI) OR SIMILAR DOCUMENTATION BY THE ENGINEER. EVERY EFFORT WILL BE MADE TO RETURN THE RFI'S WITHIN TWO BUSINESS DAYS. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT, APPLICABLE CODES AND DESIGN CRITERIA AND DETAILING OF ALL COMPONENTS NECESSARY TO ENSURE PROPER INSTALLATION OF THE COMPONENTS AND SYSTEM.

SHOP DRAWINGS SHOULD BE SUBMITTED FOR ALL COMPONENTS OF THE STRUCTURAL FRAMING SYSTEM, AS REQUIRED BY THE ARCHITECT, AND AS NOTED ELSEWHERE IN THESE NOTES, INCLUDING, BUT NOT LIMITED TO: CONCRETE MIX DESIGNS, CONCRETE REINFORCEMENT, PRE-ENGINEERED WOOD TRUSSES, ANY PROPOSED MANUFACTURER CHANGE FROM THE BASIS OF DESIGN.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL TRADES AND CONSULTANTS. CROSS REFERENCE THEIR DRAWINGS WITH THE OVERALL DESIGN, AND PROVIDE TO EACH A COMPLETE SET OF DRAWINGS AND SUBMITTALS TO ENSURE COMPATIBILITY OF CONSTRUCTION PER DESIGN INTENT.

FOUNDATIONS

ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL OR COMPACTED NATIVE SOIL. BEFORE CONSTRUCTION COMMENCES AND IF REQUIRED BY THE JURISDICTION, SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, AS WELL AS FIELD AND LABORATORY TESTS PERFORMED BY A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

SOIL COMPACTION

FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE AS SPECIFIED ABOVE. SOIL COMPACTION SHALL MEET THE MORE STRINGENT OF THE CRITERIA LISTED BELOW OR AS SPECIFIED IN THE GEOTECHNICAL REPORT. REMOVE TOP-SOIL TO A MINIMUM DEPTH OF ONE FOOT OVER THE ENTIRE BUILDING AREA AND FIVE FEET BEYOND BUILDING LINES. COMPACT SUB-GRADE USING A VIBRATORY COMPACTOR SUCH AS 'VIBRATOR' IF OR EQUIVALENT WITH A MINIMUM OF FOUR PASSES. PLACE AND COMPACT FILL MATERIAL TO FINISHED GRADE LEVEL IN LIFTS NOT EXCEEDING 12" THICK SUB-GRADE AND EACH LIFT SHALL BE COMPACTED TO MINIMUM 95% MODIFIED PROCTOR DENSITY DETERMINED IN ACCORDANCE WITH ASTM. D-157. VERIFICATION THAT THE COMPACTION REQUIREMENTS HAVE BEEN MET SHALL BE MADE BY AN INDEPENDENT GEOTECHNICAL CONSULTANT EMPLOYED BY THE OWNER AND APPROVED BY THE ENGINEER. LOCATION, DEPTH AND THE REQUIREMENTS SHALL BE RECOMPACTED AND RETESTED AT THE CONTRACTORS EXPENSE AND AS DIRECTED BY THE INDEPENDENT GEOTECHNICAL CONSULTANT.

PENETRATIONS

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS WITHOUT PREVIOUS APPROVAL OF THE EOR. EXCEPT THOSE PENETRATIONS SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHOULD SUBMIT DRAWINGS SHOWING ANY LOCATION WHERE OPENINGS, PENETRATIONS, OR ANY PLACE MORE THAN 3 PIPES OR CONDUITS ARE LOCATED IN A SLAB SYSTEM, ANY LOCATION IN A BEAM OR COLUMN WHERE MORE THAN 4% OF THE MEMBER SECTION IS REMOVED IN ANY ORIENTATION.

PLUMBING SLEEVES

MINIMUM SLEEVE SPACING SHALL BE THREE DIAMETERS CENTER TO CENTER OF THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE ENGINEER. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318.6.3.

REINFORCING STEEL

SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL REINFORCING DIAGRAM AND DRAWING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

REINFORCING BARS SHOWN IN SECTIONS DEPICT TYPICAL CONFIGURATION AND ARE NOT SPECIFIC TO THE CONCRETE MEMBER CUT ON PLAN. SEE PLAN AND SCHEDULES FOR ALL BAR SIZE AND QUANTITIES. TAKE-OFFS AND QUANTITIES SHALL BE OBTAINED FROM THE SCHEDULES AND PLANS, NOT FROM SECTIONS. WHERE HOOKS, LAP LENGTHS, ETC. ARE SHOWN IN SECTIONS, ALL LENGTHS AND DETAILS SHALL MEET ACI REQUIREMENTS FOR REINFORCING DETAILS. HOOKS SHALL BE ORIENTED AS REQUIRED TO FIT WITHIN THE CONCRETE MEMBER.

WELDED WIRE FABRIC

TO CONFORM TO ASTM A-185, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. MINIMUM LAP SHALL BE ONE SPACE PLUS TWO INCHES.

CONCRETE

ALL CONCRETE SHALL MEET ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE, INCLUDING, BUT NOT LIMITED TO, MIX DESIGN, STRENGTH, COVER, PLACEMENT, CURING, TESTING, FORMS, FLATNESS, ETC. SEE THE ARCHITECTURAL SPECIFICATIONS AND PLANS FOR ANY ADDITIONAL REQUIREMENTS.

ALL CONCRETE SHALL BE AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX.

3000 PSI FOR FOUNDATIONS AND SLABS ON GRADE. 4000 PSI FOR ALL OTHER STRUCTURAL CONCRETE.

SUBMIT PROPOSED MIX DESIGN FOR EACH PORTION OF WORK PRIOR TO USE. ALL MIX DESIGNS SHALL BE ACCOMPANIED BY A MINIMUM OF 15 FIELD STRENGTH TEST RECORDS, AS NOTED IN ACI 301 4.2.2 (2)(a). NO OTHER DOCUMENTATION OF AVERAGE COMPRESSIVE STRENGTH WILL BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE S.E. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE. FOR ALL FLOW-CUR, AT LEAST 75% OF LARGE AGGREGATE SHALL CONSIST OF #57 STONE. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

ALL CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ALL STANDARDS AND SPECIFICATIONS, INCLUDING ALL ACI REQUIREMENTS.

THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1 1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING A DISPENSING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 (A) AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUMMED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDE SHALL NOT BE UTILIZED. OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF ANY STRUCTURAL CONCRETE.

UNLESS NOTED OTHERWISE ON PLANS, THE FOLLOWING CONCRETE CLEAR COVER SHALL BE PROVIDED FOR ALL NON-PRESTRESSED CONCRETE REINFORCEMENT PER ACI 318:

Table with 3 columns: CONCRETE CAST AGAINST EARTH, ALL BARS, and VALUE (3").

WHERE NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS, AND JOISTS: #14 & #18 BARS - 1 1/2"; #11 BARS AND SMALLER - 3/4"; BEAMS AND COLUMNS: ALL BARS - 1 1/2"

A) ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE" - MAXIMUM SLUMP SHALL BE 4-8 INCHES, PRIOR TO ADDING A SUPER PLASTICIZER.

B) ASTM C29 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS" - A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 500 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDERS (QUANTITIES AND TEST AGE AS FOLLOWS: 1 AT 7 DAYS, 2 AT 28 DAYS)

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

FOUR STRUCTURAL CONCRETE WITHIN THE FOLLOWING TOLERANCES: VARIATION FROM PLUMB: 1/4" IN 10'-0"; VARIATION FROM LEVEL IN TOPS OF PILASTERS: 1/8" IN 10'-0"; VARIATION FOOTINGS: 1/8" IN 10'-0"; PLAN DIMENSIONS: +/- 1/2"; THICKNESS: -0"

CHEMICAL ANCHORS

SHALL BE AN EQUAL TWO-PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS SIMPSON SET-XP 'STRUCTURAL ANCHORING ADHESIVE'. HILTI HIT-HY 200 OR ENGINEER APPROVED SUBSTITUTION, INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. BRUSH AND BLOW OUT ALL HOLES.

WOOD

STRUCTURAL WOOD COMPONENTS (BEAMS, JOISTS, RAFTERS, ETC.) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES FOR NO. 2 SOUTHERN PINE CONFORMING TO NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2015 NDS SUPPLEMENT, AS FOLLOWS:

Table with 2 columns: SHEAR and FV. Includes BENDING 2x6 (FV = 175 PSI) and BENDING 2x8 (FV = 1,000 PSI).

WOOD IN CONTACT WITH CONCRETE OR MASONRY, AND AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED OR PRESURE TREATED IN ACCORDANCE WITH AITC-108. MEMBER SIZES SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

ALL NAILS SHOWN ON PLANS ASSUME COMMON WOOD NAILS UNLESS SPECIFICALLY NOTED ON DRAWINGS. BOLTS FOR WOOD CONSTRUCTION AT INTERIOR LOCATIONS SHALL CONFORM TO ASTM A307. EXTERIOR BOLTS AND THREADED RODS PROTECTED FROM MOISTURE AND WEATHER SHALL BE HOT-DIP GALVANIZED. EXPOSED EXTERIOR BOLTS AND THREADED RODS SHALL BE AISI 316 STAINLESS STEEL. ALL NAILS LARGER THAN 10D AND SCREWS LARGER THAN 1/2" GAGE SHALL BE PREDRILLED AS NEEDED TO PREVENT SPLITTING OF THE WOOD. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/32" LARGER THAN THE BOLT DIAMETER, BUT NO GREATER THAN 1/8" LARGER. A METAL PLATE OR WASHER NO SMALLER THAN A STANDARD CUT WASHER SHALL BE LOCATED BETWEEN THE BOLT HEAD AND THE WOOD AND BETWEEN THE NUT AND THE WOOD OF BOTH.

FOR WOOD WALLS, PROVIDE A SINGLE CONTINUOUS BOTTOM PLATE AND DOUBLE CONTINUOUS TOP PLATE. THE TOP PLATE PLIES SHALL HAVE STAGGERED LAPS OF 24" WITH (8) 10D NAILS IN EACH SPLICE. AT WALL CORNERS AND INTERSECTIONS, TOP PLATES SHALL BE STAGGERED AND OVERLAPPED WITH (4) 10D NAILS IN THE JOINT.

ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIERS SPECIALTY ENGINEER TO CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON DRAWINGS AND SPECIFICATIONS. ALL INDIVIDUAL TRUSS MEMBERS, TRUSS PLATE CONNECTIONS, TRUSS-TO-TRUSS CONNECTIONS, COMMON TRUSSES, AND GREYER TRUSSES SHALL BE DESIGNED FOR COMPONENT AND CLADDING WIND LOADING, EXCEPT THOSE TRUSSES EXCEEDING 700 SQUARE FEET IN TRIBUTARY AREA. ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE BY THE ENGINEER OF RECORD. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN ALL OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING ALL TRUSS SYSTEM COMPONENTS, AS WELL AS ALL PERMANENT BRACING REQUIRED FOR TRUSS DESIGN.

TRUSSES AT ALL BEARING LOCATIONS SHALL BE STABILIZED. THE GENERAL CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS BY THE DELEGATED TRUSS ENGINEERING PACKAGE. AT A MINIMUM: FOR TRUSS HEEL DEPTHS LESS THAN 8", ONLY BLOCKING BY THE TRUSS ENGINEERING IS REQUIRED; FOR TRUSS HEEL DEPTHS BETWEEN 8" AND 12", USE FULL HEIGHT GAMBEL LUMBER BLOCKING FOR TRUSS HEEL DEPTHS GREATER THAN 12", USE TRUSS BLOCKING OR A SHEATHED KNEEWALL. SEE THE STRUCTURAL DRAWINGS FOR ANY ADDITIONAL BLOCKING REQUIREMENTS FOR THE LATERAL-FORCE RESISTING SYSTEM.

FLOOR TRUSSES AND *4X2 TRUSSES* REFER TO TRUSSES WITH THE TOP AND BOTTOM CHORDS ORIENTED WITH THE STRONG AXIS HORIZONTAL (I.E. ON THE FLAT). *ROOF TRUSSES* AND *2X4 TRUSSES* REFER TO TRUSSES WITH THE TOP AND BOTTOM CHORDS ORIENTED WITH THE STRONG AXIS VERTICAL.

ENGINEERED SHOP DRAWINGS SHALL BARE THE SIGNATURE AND IMPRESSED SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE STRUCTURE WILL BE ERECTED. AS THE DELEGATED (SPECIALTY) ENGINEER, PLUMBING, ELECTRICAL, AND MECHANICAL DRAWINGS SHALL BE COORDINATED WITH THE TRUSS LAYOUT TO ENSURE THAT THERE ARE NO CONFLICTS WITH DUCTS, RECESSED FIXTURES, PLUMBING PIPES, TRAPS, HOODS, CEILING STEPS/SLOPES, ETC. TRUSS LAYOUT SHALL BE MODIFIED AND/OR TRUSS CHASSES SHALL BE ADDED TO AVOID CONFLICTS. TRUSS SPACING SHALL NOT EXCEED MAXIMUM NOTED IN PLAN NOTES, UNLESS OTHERWISE NOTED.

THE FOLLOWING LOAD DURATION FACTORS SHALL BE USED:

Table with 2 columns: LOAD TYPE and FACTOR. Includes DEAD LOAD (0.90), DEAD LOAD + FLOOR LIVE LOAD (1.00), and DEAD LOAD + ROOF LIVE LOAD (1.25).

THE SUPERIMPOSED DEAD LOAD, AS SPECIFIED IN THE DESIGN LOADS SECTION ABOVE, INCLUDES THE OVERALL WEIGHT OF THE FIRE SPRINKLER SYSTEM PIPES. THE GENERAL CONTRACTOR SHALL PROVIDE THE TRUSS MANUFACTURER WITH THE LOCATIONS OF THE PIPE SUPPORTS AND THE LOADS FROM ALL SPRINKLER LINES GREATER THAN 2" DIAMETER. THE GENERAL CONTRACTOR SHALL PROVIDE THE TRUSS MANUFACTURER AND THE SEER WITH THE FINAL WEIGHTS FOR ALL MECHANICAL EQUIPMENT, INCLUDING SECONDARY FRAMING AND CURBS, PRIOR TO FABRICATION OF TRUSSES AND STRUCTURAL MEMBERS SUPPORTING SAID TRUSSES.

*ALL TRUSSES SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION OF L/80 FOR LIVE LOAD AND L/240, NOT TO EXCEED 1", FOR TOTAL LOAD. THE MAXIMUM DEFLECTION DUE TO TOTAL LOAD OF 0" +1 IS INCLUSIVE OF ALL DEAD LOAD, SELF-WEIGHT, SUPERIMPOSED DEAD LOAD, AND LIVE LOAD, INCLUDING CREEP.

PLYWOOD ROOF, FLOOR, AND WALL SHEATHING ARE DESIGNED AS DIAPHRAGMS/SHEAR WALLS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE BUILDING CODE AND SHALL BE FASTENED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF BUILDING CODE TABLES, UNLESS SHOWN OTHERWISE. PLYWOOD SHALL BE INSTALLED WITH THE STRENGTH AXIS OF EACH PANEL PERPENDICULAR TO THE SUPPORTS/WALL CAGES. PLYWOOD ROOF PANELS SHALL BE INSTALLED AS SHOWN IN CASES 1 THROUGH 4 IN TABLE 2306.2.1 (CONT.). BLOCKING SHALL BE PROVIDED BETWEEN ALL WOOD ROOF FRAMING MEMBERS AT ALL RIDGES AND VALLEYS FOR FULL PLYWOOD EDGE SUPPORT. AT ROOF VENT LOCATIONS, PROVIDE 2X4 BLOCKING, ON THE FLAT, ON ALTERNATING SIDES OF THE VENT BETWEEN ROOF FRAMING MEMBERS.

ALL WOOD SHEAR WALLS SHALL HAVE ALL PLYWOOD EDGES FULLY BLOCKED WITH THE SAME STUD SIZE AS THE WALLS, WITH THE BLOCKING INSTALLED SO THAT THE PLYWOOD IS NAILED INTO THE NARROW STUD FACE. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO EACH PLY OF DOUBLE TOP AND BOTTOM WALL PLATES, AS APPLICABLE. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO MULTI-PLY COLUMNS AT ENDS OF WALLS, WHERE SOLID COLUMNS ARE USED AT ENDS OF WALLS. FASTEN THE SHEATHING WITH THE SAME NAIL SIZE AND SPACING TO VERTICAL RODS WITH 1/2" ROD SPACING FOR FULL HEIGHT OF COLUMN, WHERE SHEAR WALL PANEL EDGE NAILING IS 3" OR LESS. THE BLOCKING AT PANEL EDGES SHALL BE 3" NOMINAL OR GREATER AND THE NAILING SHALL BE STAGGERED. MULTIPLE PLY STUDS MAY BE USED AS THE PANEL EDGE BLOCKING IN LIEU OF 3" NOMINAL BLOCKING. FASTEN THE PLYS WITH NAILS HAVING THE SAME LENGTH AS THE TOTAL BLOCKING THICKNESS WITH SPACING TO MATCH THE PLYWOOD PANEL EDGE NAILING. STAGGERED PANELS SHALL NOT BE LESS THAN 4" OFFSET AT BOUNDARIES AND CHANGES IN FRAMING.

MANUFACTURED WOOD STRUCTURAL COMPONENTS: MEMBERS DESIGNATED 'LVL' (E.G., 1-3/4 X 14 LVL) SHALL BE LAMINATED VENEER LUMBER AS MANUFACTURED BY TRUS JOIST CORPORATION (MICRO-LAM), ALPINE ENGINEERED PRODUCTS (ASI) (TIMBERMAX-LVL), OR ENGINEER APPROVED SUBSTITUTION. FB = 2600 PSI, E = 2,000,000 PSI, FV = 285 PSI.

MEMBERS DESIGNATED 'PSL' (E.G., 3/4 X 11 1/2" PSL) SHALL BE PARALLAM PARALLEL STRAND LUMBER AS MANUFACTURED BY TRUS JOIST CORPORATION (MICRO-LAM), OR ENGINEER APPROVED SUBSTITUTION. FB = 2900 PSI, E = 2,000,000 PSI, FV = 290 PSI.

WOOD FRAMING CONNECTORS: ALL CONNECTORS SHALL BE GALVANIZED. CONNECTOR MODEL NUMBERS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON STRONG-TIE CO., 5966 W. LAS POSITAS BLVD., P.O. BOX 10789, PLEASANTON, CA 94588, 800-999-5059, WWW.STRONGTIE.COM. SUBSTITUTIONS ARE ACCEPTABLE WITH THE APPROVAL OF THE STRUCTURAL ENGINEER, UNLESS SHOWN OTHERWISE. INSTALL THE LARGEST FASTENER SIZE AND MAXIMUM NUMBER OF FASTENERS SHOWN IN THE LATEST SIMPSON CATALOG, WHERE SIZE SCREWS ARE SPECIFIED IN THE SIMPSON CATALOG. SDS SCREWS MUST BE USED UNLESS EXPRESSLY SHOWN IN THE DRAWINGS OTHERWISE. ALL ROOF AND UPPER-LEVEL UPLIFT CONNECTORS SHALL BE LOCATED ON THE SAME SIDE OF THE WALL AS THE EXTERIOR SHEATHING.

ALL COLUMN BASE AND HOLD-DOWN CONNECTORS (HOU, HIT, LIT, ETC.) FOR STRUCTURAL COMPOSITE LUMBER (PSL, LVL, LSL, ETC.) SHALL BE INSTALLED IN THE WIDE FACE OF THE COLUMN AND NOT THE NARROW FACE. THE NARROW FACE IS THE SURFACE THAT SHOWS THE VERTICAL THIN EDGES OF THE STRUCTURAL COMPOSITE LUMBER LAYERS.

FOR ALL CONNECTORS REQUIRING A THREADED ROD ATTACHMENT TO CONCRETE OR GROUT-FILLED MASONRY, PROVIDE A THREADED WOOD ANCHOR BOLT AS SPECIFIED IN THE SIMPSON CATALOG WITH A DOUBLE-NUT AND OVERSIZED WASHER EMBEDDED A MINIMUM OF 9" (UNLESS NOTED OTHERWISE ON THE PLANS) INTO THE MEMBER PRIOR TO THE POUR.

SHEET LIST

Table with 2 columns: SHEET NAME and SHEET NO. Includes STRUCTURAL NOTES (CS-001) and FOUNDATION & GROUND FLOOR PLAN (CS-100).

Table with 2 columns: SHEET NAME and SHEET NO. Includes ROOF FRAMING PLAN (CS-101) and SCHEDULES (CS-200).

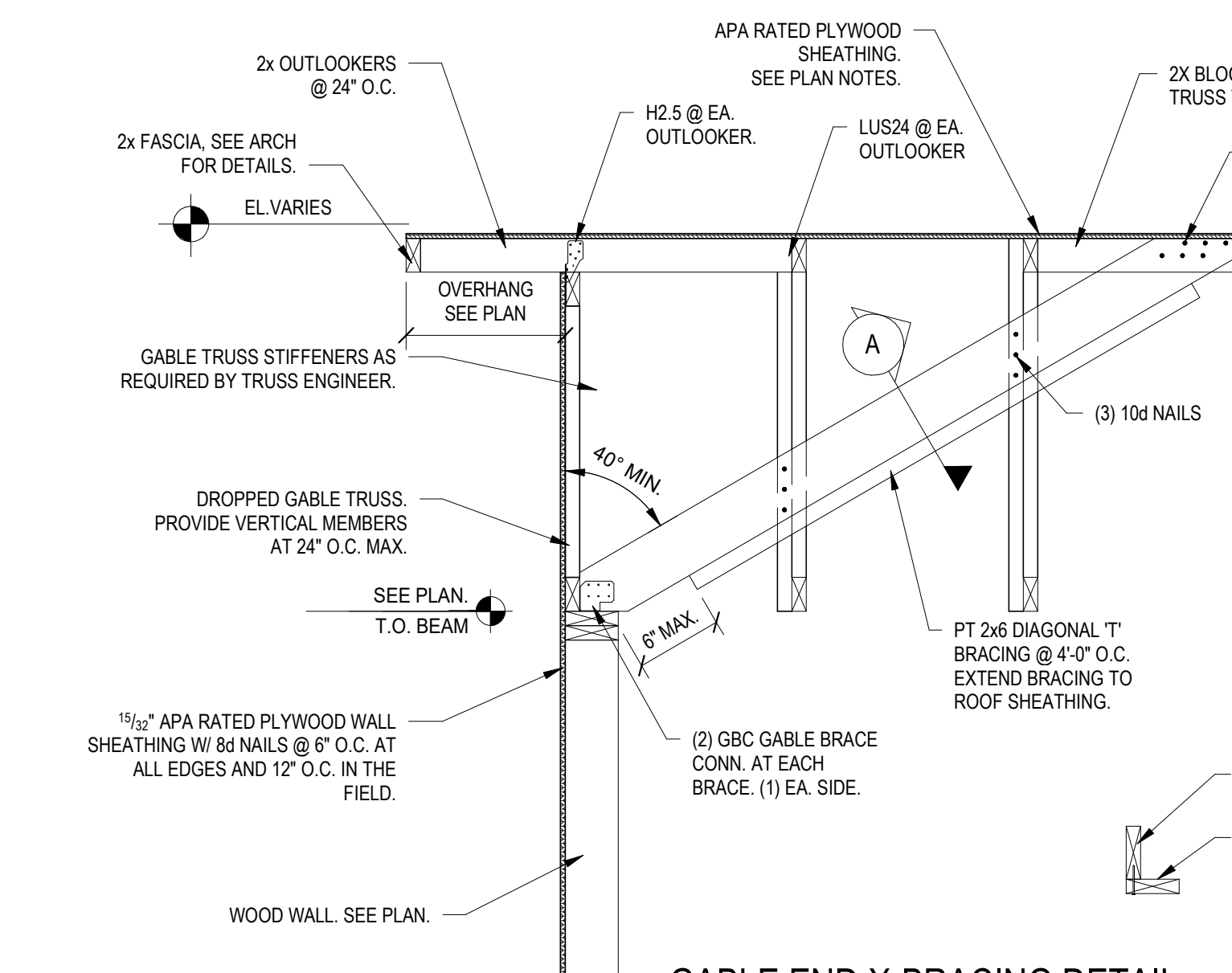
Table with 2 columns: SHEET NAME and SHEET NO. Includes BUILDING SECTIONS (CS-300).

ABBREVIATIONS

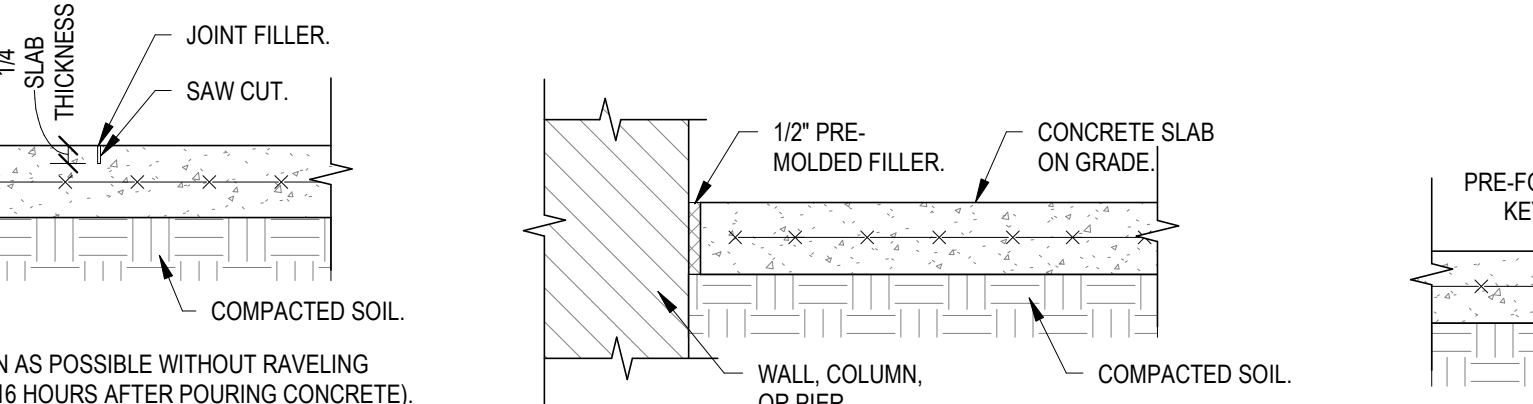
Table with 3 columns: MARK, DESCRIPTION, and VALUE. Includes # AND, ARCHITECT, BOTTOM, BOTTOM OF, BASE PLATE, CANTILEVER, CONTROL JOINT, CLEAR, CONTINUOUS, DIAMETER, EACH, EACH END, EACH FACE, EXPANSION JOINT, ELEVATION, EMBEDED, EDGE OF SLAB, EQUAL, EACH WAY, EXISTING, 28 DAY COMPRESSIVE STRENGTH, FLOOR DRAIN, FINISHED FLOOR ELEVATION, FIRE RETARDANT TREATED, FOOTING, GAUGE, GALVANIZED, GENERAL CONTRACTOR, HORIZONTAL, HOLLOW STRUCTURAL STEEL, CONSTRUCTION JOINT, LONG LEG HORIZONTAL, LONG LEG VERTICAL, LONG WAY.

ABBREVIATIONS

Table with 3 columns: MARK, DESCRIPTION, and VALUE. Includes MAXIMUM, MINIMUM, NORTH AMERICAN GEOTECHNICAL DATUM, NATIONAL ANGLE OF INTERNAL FRICTION, NOT IN CONTRACT, ON CENTER, OPPOSITE HAND, POUNDS PER LINEAR FOOT, PROJECTION, POUNDS PER SQUARE FOOT, POUNDS PER SQUARE INCH, PRESSURE TREATED POST TENSIONED, RIPED TO FIT, REFERENCE, REINFORCING, REQUIRED, RIPED TO FIT, STRUCTURAL ENGINEER OF RECORD, SIMILAR, STAINLESS STEEL, STANDARD, SHORT WAY SHEAR WALL, TOP, TOP OF, TEMPERATURE, THREADED THROUGH, TRANSVERSE, TYPICAL, VERTICAL, WITH, WOOD, WORKING POINT, WELDED WIRE FABRIC.

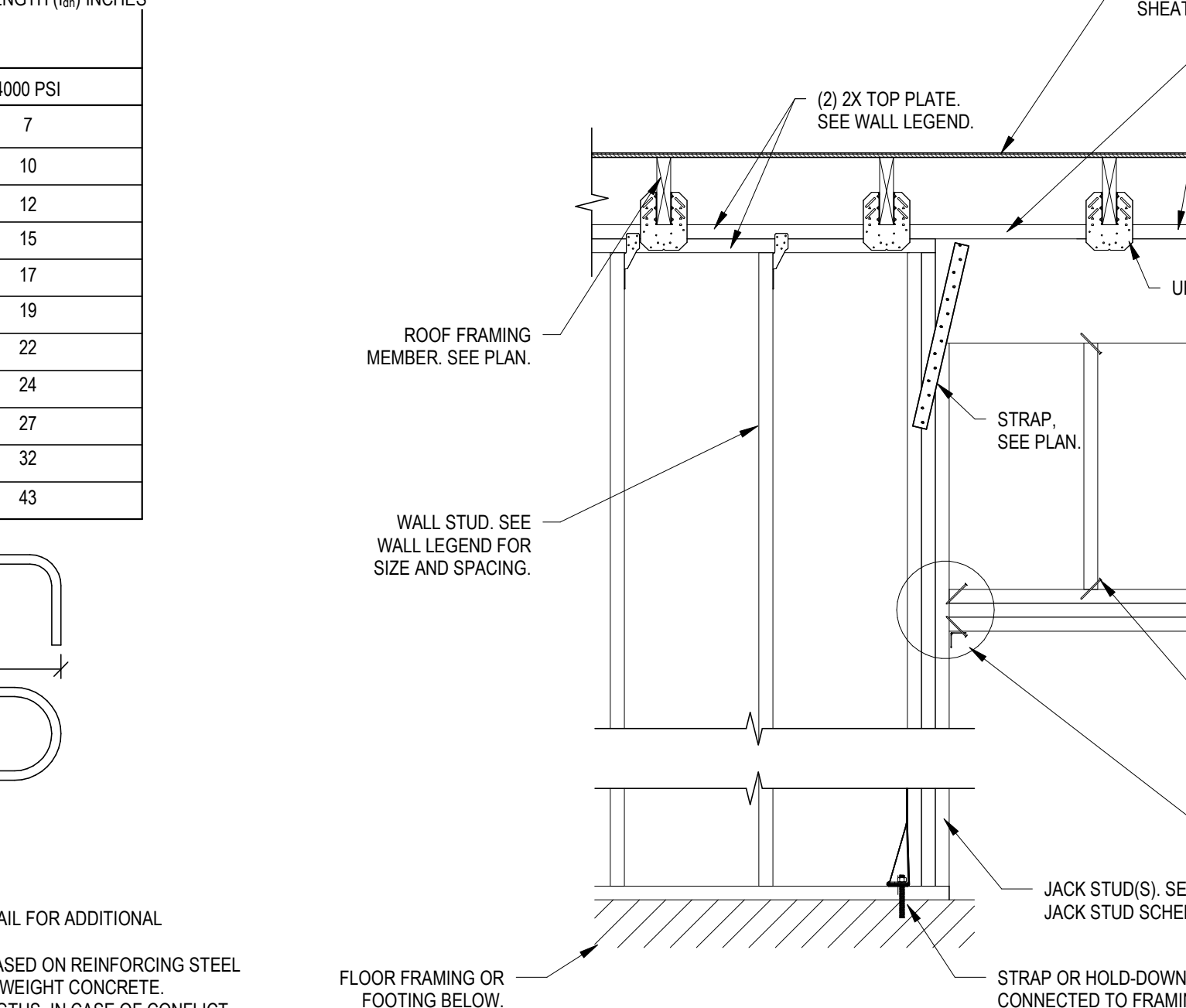


GABLE END X-BRACING DETAIL SCALE: NTS



CONTROL JOINT (CJ) ISOLATION JOINT (IJ) CONSTRUCTION JOINT (KJ)

KEY PLAN:



TYP. HOOKED REINFORCEMENT TENSION DEVELOPMENT LENGTH SCHEDULE



TYPICAL WOOD WALL OPENING DETAIL SCALE: NTS

TYP. STRAIGHT REINFORCEMENT DEVELOPMENT AND SPLICE LENGTH SCHEDULE

Table with 3 columns: BAR SIZE, TENSION (CLASS 'B') LAP SPLICE LENGTH, and COMPRESSION LAP / SPLICE LENGTH. Includes values for 3000 PSI and 4000 PSI.

Table with 3 columns: BAR SIZE, HOOKED TENSION DEVELOPMENT LENGTH (ld) INCHES, and VALUE. Includes values for 3000 PSI and 4000 PSI.

- NOTES: 1. REFER TO 'HOOKED REINFORCEMENT TENSION DEVELOPMENT LENGTH SCHEDULE' WHEN THE STRAIGHT DEVELOPMENT LENGTH IN TENSION CANNOT BE ACCOMMODATED IN THE CONCRETE SECTION. 2. ALWAYS USE TENSION LAP SPLICE LENGTH VALUES, UNLESS THE PLANS OR DETAILS NOTE OTHERWISE. 3. TABULATED DEVELOPMENT AND LAP SPLICE LENGTHS ARE BASED ON REINFORCING STEEL YIELD STRENGTH Fy=60 KSI, NORMAL WEIGHT CONCRETE, AND CLASS B LAPS. 4. TOP BARS ARE DESIGNED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. TOP BAR FACTOR DOES NOT APPLY TO BARS IN WALLS. 5. WHEN DIFFERENT BAR DIAMETERS ARE SPLICED, USE SMALLER BAR LAP SPLICE LENGTH. 6. ALL TABULATED VALUES ARE MINIMUM LENGTH. IN CASE OF CONFLICT WITH PLANS, SECTIONS, OR DETAILS USE LONGER LENGTH. 7. db = BAR DIAMETER. 8. ld = DEVELOPMENT LAP OR SPLICE LENGTH. 9. ADJUST TABULATED LENGTH BY THE FOLLOWING FACTORS WHERE APPLICABLE. NOTE THAT FACTORS ARE CUMULATIVE (E.G. 1.30 x 1.50 = 1.95). 10. A. LIGHT WEIGHT CONCRETE 1.30 B. 3 OR LESS BUNDLED BARS 1.20 C. 4 OR MORE BUNDLED BARS 1.33 11. A. CLEAR SPACING LESS THAN 2db AND CLEAR COVER LESS THAN db 0.77 B. CLASS A LAP SPLICE 1.00 C. EPOXY COATED BARS 1.50 12. WELDED AND/OR MECHANICAL SPLICES MAY BE USED AT THE GENERAL CONTRACTOR'S OPTION PROVIDED THAT THE WELDED AND/OR MECHANICAL SPLICES ARE OF DEVELOPING AT LEAST 125% OF THE YIELD STRENGTH OF THE LARGER BAR IN TENSION. WHERE WELDED AND/OR MECHANICAL SPLICES ARE TO BE USED, THE GENERAL CONTRACTOR SHALL SUBMIT FULL DATA OF THE PROPOSED MATERIAL, PROCEDURES, AND INSTALLATION INSTRUCTIONS TO THE ENGINEER FOR REVIEW AS A SHOP DRAWING SUBMISSION. 13. USE MECHANICAL COUPLERS FOR #14 AND LARGER BARS. 14. LAP SPLICES IN CONCRETE MEMBERS SHALL BE AS SPECIFIED IN STRUCTURAL NOTES.



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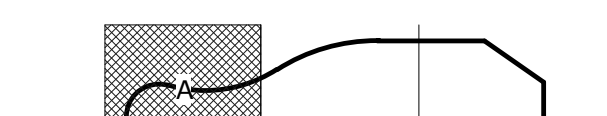
ENGINEER OF RECORD Cordell S. Van Nostrand P.L.E. # 67580

PERMIT SET

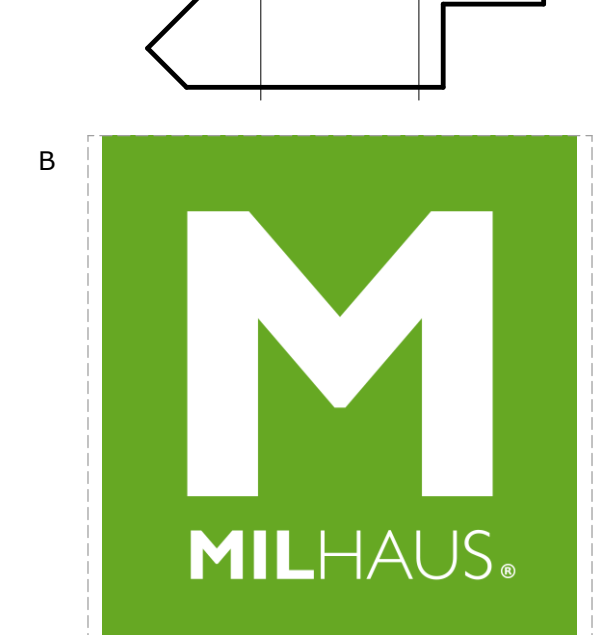
Table with 3 columns: DATE and SUBMISSION. Includes a grid for recording permit set dates and submissions.

ALL IDEAL, DESIGN, ARRANGEMENTS AND PLANS... TO THE BEST OF THE ARCHITECT'S OR ENGINEER'S KNOWLEDGE AND ABILITY, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES.

KEY PLAN:



MILHAUS SR-82



MILHAUS

7780 LIGHTARD KNOTT LN FORT MYERS, FL 33905

PROJECT NO: 22063

STRUCTURAL NOTES

SHEET NUMBER: CS-001

