

STRUCTURAL NOTES

DESIGN CRITERIA

- Building Code: Florida Building Code, 5th Edition (2014), ASCE 7.
- Design Live Load:
 - Roof = 20 PSF (trib area = 0 - 200 SF)
 - per Code (trib area = 201 - 600 SF)
 - 12 PSF (trib area = > 600 SF)
- Design Dead Loads:
 - Roof = 18 PSF
- Ultimate Design Wind Speed = 170 MPH
Nominal Design Wind Speed = 132 MPH
- Risk Category II
- Wind Exposure Category = B.
- Internal Pressure (ICP) = (+/-) 0.18 - Enclosed.
- Other Loads: Contractor shall submit loading information for all equipment not shown on the drawings, or differing from those shown on the drawings.

MISCELLANEOUS

- The Contractor is responsible for the means and methods of the construction of the contents of these documents. This shall include, but is not limited to, temporary bracing, shoring, tie downs and other provisions which will ensure the safety at the jobsite until the entire structural system has been installed.
- Do not scale these drawings. Coordinate all dimensions, elevations and openings with the architectural drawings and all other trades. Report to this office any discrepancies or omissions found in the contract document.
- The general contractor shall coordinate all aspects of all drawings prior to fabrication of any structural components and final bidding.

SUBMITTALS

- All shop drawings shall be submitted and approved prior to construction. Allow (10) working days for approval from this office. Drawings / submittals shall be signed and sealed by an Florida licensed engineer.
- Poured in Place Concrete:
 - Proposed concrete mix design in accordance with ACI 301 Chapter 3.
 - Detailed shop drawings of reinforcing bars showing number, size, and location.
 - Formwork and shoring drawings as required by the Florida Threshold Law.
 - Detailed shop drawings of reinforcing bars showing number, size, and location.
 - Type of units and compression test results.
- Structural Steel: Detailed shop drawings showing all member sizes, welds, bolts, connection details, layout, etc., as required to fabricate and erect the steel framing.
- Joists and Girders: Detailed shop drawings showing joists, joist girders, bridging, accessories and connections. Calculations signed and sealed by a licensed Florida engineer.
- Metal Deck: Detailed shop drawings showing layout, type, fastening and all accessory materials.
- Cold Formed Steel: Detailed drawings showing layout, size, gauge, bracing, fastening and all accessory materials.

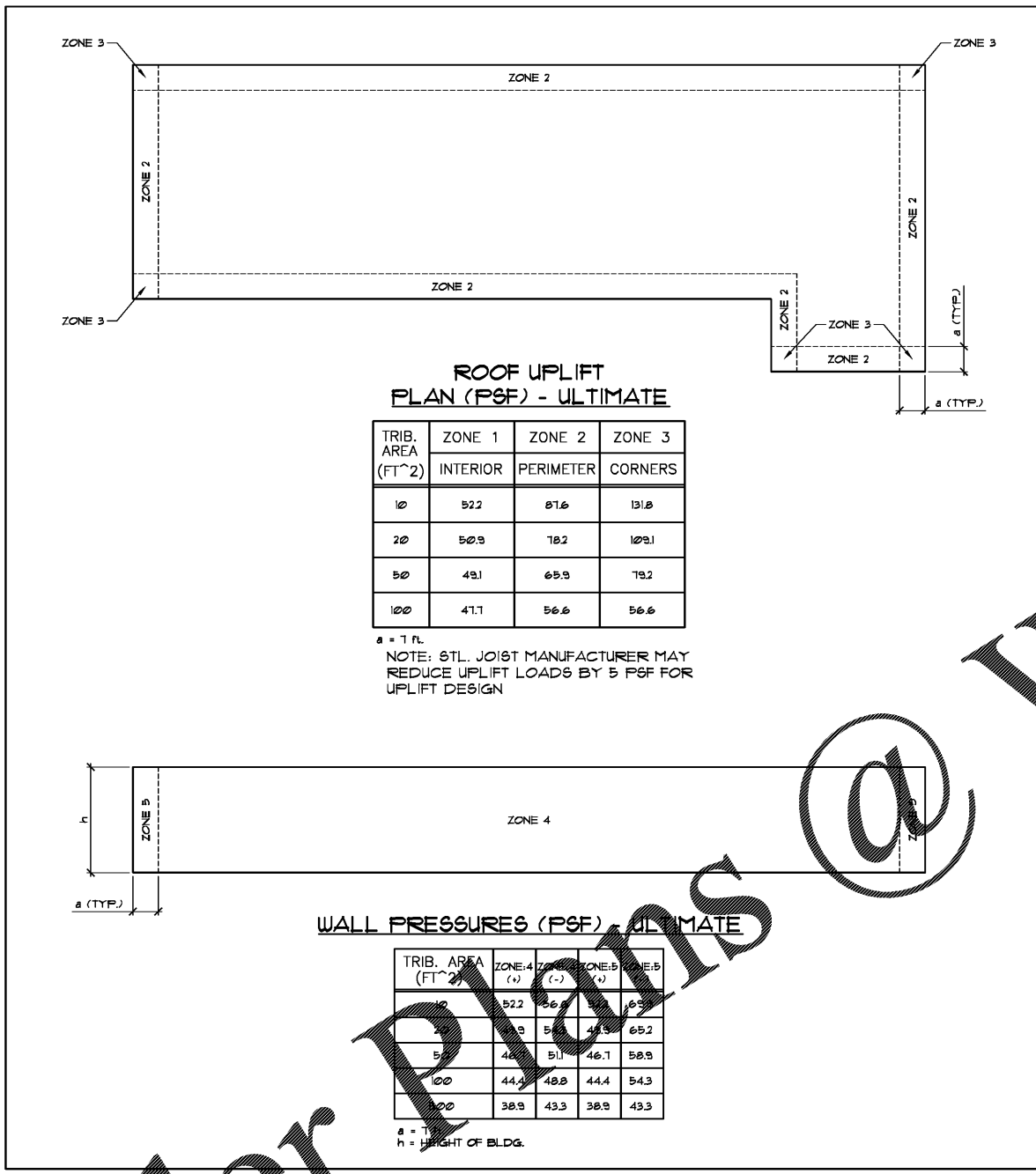
SITE WORK

- The design soil bearing pressure = 2500 PSF
- A soil investigation has been completed by Universal Engineering Sciences, project # 0630.1600079, dated August 4, 2016. All site preparation shall be done in accordance with this document.
- Notify the soils engineer if the footing excavation reveals materials or conditions not anticipated in the soil's report.
- A testing laboratory shall be retained to perform all the tests outlined in the soil's report.
- Foundation walls that retain soil shall be braced until floors slabs are in place.

POURED-IN-PLACED CONCRETE

- Codes and Standards:
 - "Building Code Requirements for Reinforced Concrete" - ACI 308
 - "Code of Practice for Concrete Reinforcement" - ACI 309
 - "Specifications for Structural Concrete for Buildings" - ACI 301
- Concrete is to be normal weight conforming to ASTM C94:
 - Portland Cement - ASTM C150, Type I
 - Aggregates (3% maximum) - ASTM C33
 - Air entraining - ASTM C260
 - Water Reducing - ASTM C494
 - Flyash (20% maximum) - Class F ASTM C618
 - Water - Potable
 - Slump Range - 3" - 5"
 - Placement Time (Maximum) - 90 minutes from batch time
 - Minimum compressive strength after 28 days:
 - Footings, slab on form deck, masonry fill - 3000 PSI
 - Columns, beams, walls - 4000 PSI
- Reinforcing steel is to be Grade 60 conforming to ASTM A615
 - Minimum lap splice as follows:

BAR SIZE	f'c	Splice Length
#6 & SMALLER	3000 psi	58 BAR Diameters
#6 & SMALLER	4000 psi	50 BAR Diameters
#7 & LARGER	3000 psi	72 BAR Diameters
#7 & LARGER	4000 psi	63 BAR Diameters
 - Minimum bar cover:
 - Footings, retaining wall - 3"
 - Columns, beams, slabs - 1 1/2"
 - Provide corner bars which match the horizontal bars at all wall footings and tie beams.
 - Welding reinforcing if required shall conform to AWS D1.4.
- Slab-on-Grade: installation shall conform to ACI 302.1R.
 - Welded wire fabric - ASTM A185, ASTM A497; lap mesh 6" minimum at joints.
 - Moisture barrier - 6 mil polyethylene
 - Compressive strength - 3000 PSI
 - Sawcut joints and construction joints shall be cleaned and filled with epoxy filler as required by owner.
 - Contractor shall have a thorough understanding of the owner's expectation of the slab-on-grade (cracks, levelness, etc.) and shall provide adequate equipment, labor and materials (including water-reducing agents, installation and curing procedures, etc.) to assure a slab that will be acceptable to the owner.
 - Contractor shall replace or repair (at his cost) any portion of the slab that is not acceptable to the owner.
- Install ties, spacers, chairs, etc (per CRSI recommendations) necessary to securely hold reinforcing during concrete placement. Use plastic tips at all exposed surfaces.
- Use internal vibrators to consolidate all concrete.
 - Liquid membrane forming chemical compound conforming to ASTM C309.
 - Continuous moisture in accordance with ACI 301.
- Concrete shall be finished per architectural drawings.
- A testing laboratory shall perform the following concrete tests for each 50 cubic yards. Send test results to the owner, architect, structural engineer and General Contractor.
 - Slump test - ASTM C143
 - Four Cylinder strength test - ASTM C39: test one cylinder after 7 days, test two after 28 days and hold one in reserve.
- All beams shall be poured monolithically.
- Exposed edges of columns and beams shall be chamfered 3/4" unless noted otherwise on architectural drawings.
- Coat all forms with a commercial compound that will not bond or adversely affect the concrete.
- The contractor is responsible for the proper design of all formwork and shoring. Design shall be performed by a licensed engineer.
- Coordinate locations of all openings, embeds and accessories that are required by all trades. No opening or sleeve may be placed in beams or columns unless approved by the engineer.
- Proper placement of all embeds, anchor bolts, and etc shall be verified prior to placing the concrete. Notify the engineer of any conflicts.



Order Plans