

**SCORE PROPERTIES**  
 107 Fellowship Road, Suite 116  
 Mount Laurel, NJ 08054  
 Telephone (856) 780-4460  
 Fax

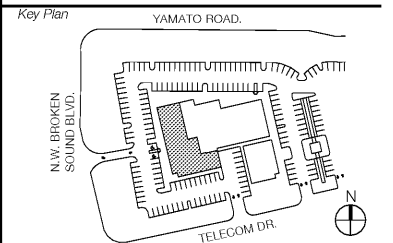
**Architect**  
**SBLM Architects**  
 11430 N. Kendall Drive, Suite 310  
 Miami, FL 33176  
 Telephone 305 412 9187  
 Fax 305 412 6731  
 www.sblm.com

**Consultants**  
**Civil**  
**Langan Engineering**

**Structural**  
**Bliss & Nytray, Inc.**  
*Electrical/Mechanical/Plumbing*

Revisions/Issues

06/21/18 PERMIT SET



Seal

**Lazaro Alfonso, P.E. FL Reg. No.: 69782**

*Project Title*  
**SOUTHERN PALM CROSSING**  
 BUILDING SHELL  
 11001-11161 Southern Blvd.  
 Royal Palm Beach, FL 33411

*Job Number* **017512.00 - 17M32**

*Drawing*  
**STRUCTURAL NOTES**

*Scale* **NA**  
*Drawing Date* **06/21/18**

*Drawing No.*

## STRUCTURAL NOTES

### GENERAL NOTES

- The governing Code for this Project is the Florida Building Code, 6th Edition (2017). This Code prescribes which edition of each referenced standard applies to this Project.
- To the best of our knowledge, the Structural Drawings and these Specification Notes comply with the applicable requirements of the governing Building Code.
- Construction is to comply with the requirements of the governing Building Code and all other applicable Federal, State, and Local Codes, Standards, Regulations and Laws.
- The Structural Documents are to be used in conjunction with the Architectural Documents. If a conflict exists, the more stringent governs.
- Details labeled "typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. Questions regarding the applicability of typical details shall be resolved by the Architect.
- Openings shown on Structural Drawings are only pictorial. See the Architectural and M.E.P. drawings for the size and location of openings in the structure.
- Contractors who discover discrepancies, omissions or variations in the Contract Documents during bidding shall immediately notify the Architect. The Architect will resolve the condition and issue a written clarification.
- The General Contractor shall coordinate all Contract Documents with field conditions and dimensions and Project Shop Drawings prior to construction. Do not scale drawings; use only printed dimensions. Report any discrepancies in writing to the Architect prior to proceeding with work. Do not change size or location of structural members without written instructions from the Structural Engineer of Record.
- The Contractor shall protect adjacent property, his own work and the public from harm. The Contractor is solely responsible for construction means and methods, and jobsite safety including all OSHA requirements.
- The Structure is designed to be structurally sound when completed. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Wherever the Contractor is unsure of these requirements, the Contractor shall retain a Florida Licensed Engineer to design and inspect the temporary bracing and stability of the structure.

### Design Superimposed Loads:

OCCUPANCY	LIVE LOAD	DEAD LOAD
Flat Roof	20 psf	20 psf *
Sloped Roof	20 psf	25 psf
Restaurant	100 psf	10 psf
Commercial Kitchen	250 psf	10 psf
Public Areas	100 psf	10 psf

\* Includes Steel Roof Deck but not Joists or Beams.

Design superimposed dead loads listed above do not include masonry walls or other concentrated loads. See architectural drawings for these loads.

### Design Wind Loads

Governing Code	FBC 6 <sup>th</sup> Edition / ASCE 7-10
Building Risk Category	II
Ultimate Wind Speed	V <sub>e</sub> = 170 mph
Allowable Stress Design Wind Speed	V <sub>w</sub> = 132 mph
Mean Roof Height	19'-3" feet
Directionality Factor	K <sub>d</sub> = .85
Gust-Effect Factor	G = .85
Exposure	C
Internal Pressure Coefficient	GCPi = .85

### SHALLOW FOUNDATIONS

- Foundation design, soil preparation and compaction are based on Geotechnical Investigation, Data and Recommendations in Report #330025602 by Langan dated May 31, 2018.
- Footings sizes and reinforcing are based on an assumed allowable soil bearing capacity of 3000 psf. All footings shall bear on soil or rock prepared per the pending Geotechnical Report that will be available.
- Subgrade and foundation bearing preparation shall be field controlled and tested by an experienced Licensed Engineer in accordance with the Geotechnical Report. At completion, that Engineer shall prepare and submit to the Owner, Architect, Contractor and Structural Engineer a signed and sealed letter indicating that the recommendations of the Geotechnical Report have been followed.
- Center all footings under their respective columns or walls, u.o.n.
- Top of all footings is -1'-4" below the ground floor level, u.o.n.

### EXCAVATION, BACKFILL AND DEWATERING

- The Contractor is solely responsible for all excavation procedures including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local building department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.
- Do not backfill against walls until 7 days after the walls are braced by the structure or are temporarily braced. Do not backfill cantilevered retaining walls until concrete is 7 days old. Do not backfill until after completion and inspection of any waterproofing.
- The Contractor is responsible for the disposal of all accumulated water in a manner that does not inconvenience or damage the work.

### SLABS ON GRADE

- Refer to Geotechnical Report for subgrade preparation more than 12" below bottom of slab.
- Above subgrade, use fill containing not more than 10% passing #200 sieve and maximum 1 inch diameter. Compact to 95% of maximum dry density as determined by modified proctor ASTM D-1557. Each layer of fill shall not exceed 6" loose thickness. Compact prior to placement of the next layer.
- Fill placement and compaction shall be monitored and accepted by the testing agency. Take a min. of one field density test (ASTM D-1556 or D-2922) for each 2,500 square feet of each layer. The testing agency shall randomly select test locations.
- For interior slabs place 10 mil polyethylene sheeting between soil and bottom of slab. Do not use any sheeting below exterior concrete slabs. Sheets shall be lapped 6" minimum and taped. Seal all penetrations, including pipes, with tape.
- Use 4" thick slabs on grade reinforced with 6 x 6 - W2.9 x W2.9 welded wire reinforcement supplied in flat sheets consisting of two mesh spacings. Use chairs to support wire fabric in the center of slab.
- Place concrete in long-strip construction method. Provide crack control joints at 12 feet maximum to be placed between joints at 144 sq. ft. in all floating slabs on grade. Locate to conform to bay spacing whenever possible, add crack control joints at re-entrant corners and extend to interior cracks.
- In sidewalks and walkways, locate isolation joints at 20 ft. o.c. maximum score and tool between span joints in equal bays of 5' maximum.
- See the Architectural Drawings for slab on grade depressions and other requirements.

### REINFORCED CONCRETE

- Provide Structural Concrete and concreting practices complying with ACI 308 and 318.
- Provide structural concrete proportions in accordance with ACI 308, 5.3, with a minimum ultimate compressive design strength in 28 days as follows:

Element	Strength
Footings	3000 psi
Columns	4000 psi
Elevated Beams	4000 psi
Slabs on Grade	3000 psi

Use statistical analysis for more than one year old, fourth class of concrete.

- Use non-alkali cement for all structural members, u.o.n.
- Aggregates shall be free of chlorides, and complying with ASTM C33 gradations. Maximum coarse aggregate size 1" (C33 size 57). Minimum F.M. for fine aggregate is 2.4. Use admixtures conforming to ASTM C494. Provide type A, D, F or G admix in all structural concrete and Type D or G when ambient temperatures 85 degrees or higher. Design concrete, with strengths less than 4500 psi, with 4% +/- 1% entrained air, except for trowel finished floors. Do not use calcium chloride in any concrete.

Obtain concrete samples of fresh concrete according to ASTM C172. Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of concrete. For slabs, increase frequency to each 50 cu. yd. or fraction placed each day. Take a slump test, ASTM C143, for each composite sample. Maximum permissible slump is 5 inches. Cast and laboratory cure one set of four compression test standard cylinders, per ASTM C31, for each composite sample. For pumped concrete, take sample at point of placement. Test, per ASTM C39, one cylinder at 7 days and three at 28 days. If one of the first two 28 day tests falls below the specified strength, test the remaining cylinder at 56 days. No concrete test will be

accepted if concrete is tampered with in any way after sample is obtained. Repeat sampling if water is added after initial sample is obtained.

- Provide ASTM A-615 Grade 60 reinforcing steel. Reinforcing shall be accurately placed, rigidly supported and firmly tied in place, with appropriate bar supports and spacers. Conform to ACI 301, 315, 318 and CRSI Manual of Standard Practice. Lap continuous reinforcing 48 bar dia. Lap bottom steel over supports and top steel at midspan (u.o.n.). Hook discontinuous ends of all top bars and all bars in walls, u.o.n. Provide cover over reinforcing as follows:

Element	Bottom	Top	Sides
Footings	3"	2"	3"
Beams Above Grade	1 1/2"	1 1/2"	1 1/2"
Columns	-	-	1 1/2"
Slabs on Grade	2"	1"	2"
Slabs Exposed to Weather	1 1/2"	1 1/2"	1 1/2"
Walls Retaining Fill	-	-	2"

- Where specified, provide plain, cold-drawn electrically-welded wire reinforcement conforming to ASTM A-185. Supply in flat sheets only. Lap splice one cross wire spacing plus two inches.
- Provide the following temperature reinforcing for one-way slabs, u.o.n.:  

Slab Thickness	Reinforcing
3 1/2" - 4 1/4"	#3 @ 12" o/c
4 1/2" - 5"	#4 @ 18" o/c
6 1/2" - 7"	#4 @ 15" o/c
7 1/2" - 9"	#4 @ 12" o/c

Utilities shall not penetrate beams or columns but may pass through slabs and walls individually, u.o.n. For openings 24" long or less, cut reinforcing and replace alongside opening with splice bars of equivalent area with 48 bar dia. lap. Prepare and submit shop drawings for openings longer than 24". For rectangular openings 12" long or longer, add #5 x 6' mid depth diagonal at all 4 corners.

Where reinforcing steel congestion permits, conduit and pipes up to 1" diameter may be embedded in concrete per ACI 318, Section 6.3. Space at 3 diameters o.c. Place between outer layers of reinforcing if conduits are significantly congested, additional reinforcing perpendicular to piping may be required. Requests to embed larger pipes should be accompanied by a detailed description and be submitted to the architect for evaluation.

- Provide construction joints in accordance with ACI 318, Section 6.4. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for review.
- Provide 3/4" chamfer for all exposed corners.
- Provide reinforcing steel placer with a set of Structural Drawings for field reference. Inspect reinforcing steel placing from structural drawings.

### CONCRETE MASONRY

- Construct masonry in accordance with ACI 530/ASCE 5, "Building Code Requirements for Concrete Masonry Structures"; and ACI 530.1/ASCE 6, "Specifications for the Design and Construction of Load-Bearing Concrete Masonry".
- The structure is supported by bearing walls, u.o.n. Erect masonry prior to casting concrete columns within bearing walls or casting beams and slabs supported by bearing walls.
- Use 50% solid, nominal 12x8x16, concrete masonry units conforming to ASTM C90. Block net area compressive strength shall be 2,000 psi. Determine the min. Fm of 2000 psi by the unit test method or prism method. Lay up units in running bond. Sawcut units which are not in multiples of 8". Units shall be at least 8" long. Bond corners by lapping ends 8" in successive vertical courses. Design of walls is based on a Fm of 2,000.
- Use Type S mortar in accordance with ASTM C270 except use Type M mortar below grade. Head and bed joints shall be 3/8" for the thickness of the face shell. Webs are to be fully mortared in all courses of piers, columns and pilasters; in the starting course; and where an adjacent cell is to be grouted. Remove mortar protrusions extending 1/2" or more into cells to be grouted.
- Use standard (9 gauge) horizontal joint reinforcing in every other course. Joint reinforcing and anchors in exterior walls shall conform to ASTM A 153 Class B2, with a coating thickness of 1.50 oz/sf; conform to ASTM A 614 at interior walls. Overlap discontinuous ends 6". Use prefabricated corners and tees. Use truss type, except use ladder type in walls with vertical reinforcing. Extend joint reinforcing a minimum of 4" into tie columns.
- Use fine grout conforming to ASTM C-476, with a minimum compressive strength of 2500 psi in 28 days. Aggregate to conform to ASTM C-779 for fine grout, with slump of 8" to 10". Grout all masonry containing reinforcing, all cells of 4 hour rated walls, and where indicated on the drawings, use mortar to cure 24 hours prior to grouting. Provide cleanout openings at the base of cells containing reinforcing steel to clear the cell and to allow vertical bar to the dowel. In high-lift grouting, use 5'-0" (max.) lifts, with 1/2 hour to 1 hour between lifts. Vibrate each lift to consolidate previous lift.
- Use ASTM A-615 Grade 60 reinforcing steel. Reinforce walls where indicated on the drawings and at all intersections, each side of opening and the ends of walls. Use bar spacers at 10 ft. o.c. where grout pour height exceeds 10 ft.
- At bond/tee beam corners and intersections, place 1 #5 x 5'-0" T & B corner bar, with 30" legs extending to the exterior face.
- Beams not scheduled are min. 12" x 12" tie beams with 2 #5 bars top and bottom and 3 ties spaced evenly in top and bottom and 4 ties at 12" o.c. at ends and intersections, u.o.n. columns not scheduled are min. 12" x 12" tie columns with vertical bars and 4 ties at 12" o.c. use 30" lap splices. Hook all bars at discontinuous ends.
- Reinforced masonry wall construction shall be inspected by an Engineer or Architect in accordance with ACI 530.1/ASCE 6.
- Where anchor bolts, wedge anchors or anchors are shown in a masonry wall, fill cells with grout over bolted course, one course above and two courses below.
- Provide lintels or headers with min. 8" bearing over window openings.
- Use pressure-treated wood for wood in contact with masonry.

### POST-INSTALLED ANCHORS - GENERAL

- Substitution requests will be considered if product has an ICC-ES report recognizing the product for the appropriate application. Substitute concrete anchors must be approved for use in cracked concrete. Substitution requests shall include signed and sealed calculations prepared by a Florida Licensed Engineer who demonstrates that substituted product is capable of achieving the equivalent performance values of the design basis product.
- Form the hole for post-installed reinforcing steel by drilling a 1/4" diameter pilot hole for each anchor. Do not cut reinforcing steel without approval of the Structural Engineer.
- Install in accordance with manufacturer's instructions. Refer to manufacturer's installation instructions for appropriate drill size. Clean hole and remove.

### MECHANICAL ANCHORS

- For anchoring into concrete: Wedge-Type Mechanical anchors shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. Pre-approved anchors include the Hilli Kwik Bolt T2, Powers Power-Stud+SD1, and Simpson Strong-Bolt 2.
- For anchoring into grouted masonry: Wedge-Type Mechanical anchors shall have been tested and qualified for use in accordance with ICC-ES AC01. Pre-approved anchors include the Hilli Kwik Bolt III, Powers Power-Stud+SD1, and Simpson Wedge-All.

### SCREW ANCHORS

- For anchoring into concrete: Screw anchors shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. Pre-approved anchors include the 1/2" Hilli HUS-EZ (KH-EZ) and the 1/2" Powers Wedge-Bolt+.
- For anchoring into grouted or ungrouted masonry: Screw Anchors shall have been tested and qualified for use in accordance with ICC-ES AC105. Pre-approved anchors include the ITW Redhead Tapcon and Powers Tapper+.

### ADHESIVE ANCHORS

- For anchoring into concrete: Adhesive anchors shall have been tested and qualified for use in accordance with ACI 355.4 and ICC-ES AC308. Pre-approved anchors include Hilli HIT-HY 200, Powers PURE10+, and Simpson Set-XP.
- For anchoring into grouted masonry: Adhesive anchors shall have been tested and qualified for use in accordance with ICC-ES AC58. Pre-approved anchors include Hilli HIT-HY 200, Powers PURE10+, and Simpson Set-XP.

### STRUCTURAL STEEL

- Fabricate and erect structural steel in conformance with AISC "Specification for Structural Steel Buildings", with Commentary, AISC "Code of Standard Practice for Steel Buildings and Bridges", AISC "Specification for Structural Joints Using ASTM A325 and A490 Bolts, including Commentary" and all OSHA requirements.
- Submit, to the Architect, complete fabrication and erection drawings prepared by or under the direct supervision of a Florida licensed engineer (Delegated Engineer). Details or connections changed or proposed by the fabricator shall be signed, sealed and dated by the Delegated Engineer.
- Fabricate structural steel shapes from the following materials:  
 A. Rolled W and WT Shapes: ASTM A992, Grade 50.  
 B. Rolled M, S, C and MC Shapes and Angles: ASTM A36.  
 C. Plates and Bars: ASTM A36.  
 D. Cold-formed Hollow Structural Sections (HSS):  
 1. Round Sections: ASTM A500, Grade C.  
 2. Square and Rectangular Sections: ASTM A500, Grade B.  
 E. Steel Pipe: ASTM A53, type E or S, Grade B.

- All shop and field welding procedures and personnel shall conform to AWS D1.1 Structural Welding Code- Steel. Use E70 series welding electrodes, u.o.n. Where necessary, remove galvanizing or primer prior to welding.
- All structural bolts to be A325 and/or A490 bolts.  
 A. Typical bolts used in structural connections for this Project are 3/4" diameter A325N.  
 B. Tighten bearing-type bolts (A-325N) to the snug tight condition as follows:  
 1. Bolts shall be placed in all holes, with washers positioned as required and nuts threaded to complete the assembly.  
 2. Compacting the joint to the snug-tight condition shall progress systematically from the most rigid part of the joint.  
 3. The snug-tightened condition is the tightness that is attained with a few impacts of an impact wrench or the effort of an ironworker using an ordinary spud wrench.  
 4. More than one cycle through the bolt pattern may be required to achieve the snug-tightened condition.  
 C. Provide hardened washers conforming to ASTM F436 and place under the part being tightened.  
 D. Do not reuse or retighten bolts which have been fully tightened. Use only non-galvanized nuts and washers that are clean, rust-free, and well lubricated. Bolts and nuts shall be wax dipped by the bolt supplier, or finished with Johnson's Slime, or Johnson's Slime 140. Cleaning and lubrication of ASTM F1552 twist off-type tension-control bolts is not permitted.  
 E. Where slotted holes are used to accommodate thermal movement, notify the Architect if bolt is expected to hit the end of slot, based on temperature at time of installation.  
 F. Store fastener components in sealed containers, ready for use. Reseal open containers to prevent contamination by moisture or other deleterious substances. Store closed containers in a dry and moisture in a protective container. Take from protective storage only as many fastener components as are anticipated to be installed during the work shift. Fastener components that are not incorporated into the work shall be returned to protective storage at the end of the work shift. Fasteners from open containers and fasteners that accumulate rust or dirt shall not be used and shall be immediately and permanently removed from the project.  
 G. Use A-325 bolts for all erection bolts and bolts less than 3/4" diameter, u.o.n. Anchor rods shall be ASTM F1554 Grade 55 with supplementary requirement S, and nut. Or anchor rods shall be A449, Type 1, threaded with nuts and washers each end.  
 H. Clean base and bearing surface: Clean concrete and masonry bearing surface of bond-reducing materials and clean bottom of base and bearing plate.  
 A. Set anchor bearing plate on wedges or other adjusting devices.  
 B. Tighten anchors after structural steel frame has been plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.  
 C. Pack or pour non-shrink grout solidly between bearing surface and base or bearing plate. Ensure that no voids remain. Finish exposed surfaces, protect grout and allow to cure.  
 D. For proprietary grout materials, comply with manufacturer's instructions.  
 E. Base plates must be grouted a minimum of 72 hours prior to placing concrete slabs on supporting steel structure.
- Cut, drill, or punch holes perpendicular to metal surfaces. Ream holes that must be enlarged to admit bolts as permitted by Architect. Do not enlarge unflared holes by burning or using drift pins.
- Space filler beams equally between supports, u.o.n.
- Do not splice structural steel members except where indicated on the drawings.
- Steel erector to furnish and install temporary bracing as necessary to provide a stable structure during construction.
- See Architectural and Mechanical Drawings for miscellaneous steel not shown on the Structural Drawings.
- Refer to Architectural Drawings for painting and fireproofing of structural steel. In the absence of other instructions, paint all non-galvanized steel with a lead and chromate free steel primer. Do not paint steel surfaces in contact with concrete or to be fireproofed.

SEE SHEET S-102 FOR CONTINUATION