



- GENERAL NOTES:**
- This Structure has been designed in accordance with the Post Tensioning Institute - "Design and Construction of Post Tension Slabs-On-Ground", American Concrete Institute - and "Building Code Requirements for Reinforced Concrete".
  - This design is for a particular location only. Reuse in a different location is strictly prohibited and the design is void.
  - This foundation has been designed for post-tensioning system conforming to the requirements of these drawings. The design is based on soil supported stiffened grid type beam and slab foundation, and as such, will move with the soils upon which it bears.
  - Contractor shall verify dimensions and drops with the floor plans and elevations.
  - Contractor shall call Westbrock Engineering 24 hours before prepour inspection is made. Failure to request prepour inspection shall void design.
  - It is the responsibility of the builder/general contractor to inform the owner of the importance of proper concrete curing and to ensure proper curing content of the soils around perimeter of the structure and not planting trees near the structure.
  - Detailed specifications for fencing, court nets and electric to be provided by others.

- CONSTRUCTION**
- The Owner has engaged the services of a Geotechnical firm for the purpose of soils sampling and analysis, and a report of Geotechnical Investigation has been provided to the Owner or Contractor, site development has included regarding and removal of existing site native soils, and placement and composition of select structural fill performed in accordance with the geotechnical report. However, in the event of a geotechnical report, the design is based on soil supported stiffened grid type beam and slab foundation, the minimum depth of soils removal is recommended of 12 inches. Proof rolling, soils consolidation, and compaction are recommended. It is the Engineer's recommendation that in accordance with any geotechnical report, or in the absence thereof, select structural fills be provided at the location of proposed foundation construction. A minimum depth of fill material shall be specified in the fill material report. The structural fill shall consist of Type A crushed limestone, or Type B slaggy crushed gravel, placed in lifts of 8 inches, and compacted in accordance with 1X04or specification Item 132 Embankments.
  - All slabs to have a minimum of 6" layer of granular fill underneath followed by a double layer of 6 mil thick polyethylene vapor barrier. The vapor barrier shall be taped at all tears and splices.
  - Provide positive drainage away from the perimeter of the structure. Top of structure should be a minimum of 8" above adjacent earthen finished grade. Slope away from foundation should be 6" in the first 10' feet.
  - The tennis court finish surface shall be graded to provide drainage in accordance with USIA specifications and to match the position of the court in the larger site plan.
  - All Beam and slab sizes are minimum and shall not be decreased without prior approval from Westbrock Engineering.
  - Tendons and reinforcing bars shall be supported on chairs or similar approved support of a maximum of 4"-6" centers. All tendons shall be 270,000 psi, grade 7 wires, steel strand, grouted and sheathed with a plastic sleeve. All tendons in the sheathing shall be taped to prevent contact with cement.
  - Formwork construction shall be done as outlined in ACI 347, and shall be reused in accordance with ACI 347 only.
  - Concrete procedures outlined in ACI 318-83 shall be strictly followed. Particular attention shall be given to the consolidation of concrete around post-tensioning anchorages.
  - Utility lines under the slab shall pass beneath the stiffening grade beams where possible. Sawing is recommended for utility lines which must cross through beams.
  - All 1/2" tendons shall be post-tensioned to an initial force of 33,000 lbs. each. Post tensioning shall not take place until concrete has attained minimum compressive strength of 2,500 psi. All tendons shall be stressed to 100% of their design strength. The initial stress shall provide 0.08" of elongation of the tendon length for every foot of tendon length, unless specified otherwise.
  - Reinforcing bars shall comply with ASTM A-615, grade 60. Reinforcing bars shall be continuous with splices lapped a minimum of 40 bar diameters.
  - Provide corner bars top and bottom of all perimeter beam corners.
  - Prepour inspection by Westbrock Engineering is required for review of reinforcing steel, tendons, beam size and depth. Elongation inspection by Westbrock Engineering other tendons are stressed is required prior to stressing. Formwork and post-tensioning procedures shall be filled with non-shrink grout. Tendons are to be marked for stressing for verification of elongation.
  - Concrete is not to be poured if site has been disturbed by rainfall or seepage, and all beam trenches are to be free of loose soils, ponding water and trash prior to placing the concrete.
  - Beam depths may be reduced to a minimum of 14" if the grade beam is bearing on solid rock.

- CONCRETE**
- Concrete shall develop a 28-day compressive stress ( $f'_c$ ) of at least 3,000 psi and shall be in accordance with ACI 301. Cement shall be Type 1 (gray) Portland. Maximum water cement ratio shall be 0.50 and slump range of 2 to 5 inches. Contractor shall satisfy himself that mix design is acceptable for its intended purpose.
  - Concrete shall be placed and cured in accordance with ACI 302.1R. Finish tolerance shall be in accordance with ACI 117.
  - The contractor shall encase rebar, 150 with a concentration rate of 2lb/ cubic yard to the mix for slab construction (rod beams) according to manufacturers specifications.
  - Testing shall be the sole responsibility of the builder, and any substandard strengths shall be reported to Westbrock Engineering.
  - While some shrinkage cracking is to be expected in the concrete, it has been shown to be significantly reduced through proper curing procedures and proper control of admixtures. Only those admixtures having specific written authorization of the design engineer shall be introduced with the concrete mix.
  - Concrete pour shall not be started unless the site temperature is 40 degrees F and rising.
  - A hard surface court should slope 0.33% (1:120) to 1.00% (1:100).
  - Specifications for concrete surface painting and treatments to be provided by others.

**TENNIS COURT DESIGNS  
JUMBO EVANS SPORTS COMPLEX  
STRUCTURAL DETAILS**

REVISIONS

DATE	REVISION	BY
DATE	REVISION	BY
DATE	REVISION	BY
DATE	REVISION	BY

ADDRESS: \_\_\_\_\_

LOT: \_\_\_\_\_ BLOCK: \_\_\_\_\_ N.C.B.

SUBDIVISION: \_\_\_\_\_

CITY, COUNTY: \_\_\_\_\_

SPRING BRANCH, COVANA

SHEET NO. **S-7 of 7**

SEE SHEET S-3 FOR PLAN VIEW

SOIL TYPE	BY	DATE	P.L.	EXT. WIDTH	EXT. DEPTH	EXT. IN. DEPTH	INT. DEPTH	SLAB THICKNESS
FAT CLAYS (Cl)	FLUGRO	09-30-10	55	10"	30" MIN.	12" MIN.	28" MIN.	5"
LEAN CLAYS (Cl)								

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THIS DRAWING HAS BEEN APPROVED BY SCALED

DATE: 11-16-11  
DRAWING DATE: 11-16-11  
AG: \_\_\_\_\_  
BY: \_\_\_\_\_

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