

**GENERAL DESIGN REQUIREMENTS**

DESIGN DIMENSIONS SHALL COMPLY WITH SPECIFICATION IN ANSI/NSPI 5, ANSI/NSPI 6, AND ANSI/APSP 7, ANSI/APSP/ICC 14, ANSI/APSP/ICC15. RESIDENTIAL INGROUND SWIMMING POOLS BASED ON THE POOL TYPE AND NSPI 3 PERMANENTLY INSTALLED RESIDENTIAL SPA. SEE ANSI/NSPI 5, ANSI/NSPI 6, AND ANSI/APSP 7 FOR DIVING WATER ENVELOPES REQUIREMENTS. SLIDES SHALL MEET THE MANUFACTURER'S INSTALLATION REQUIREMENTS. ENTRY/EXIT: SHALL COMPLY WITH ANSI/NSPI 5 AND NSPI 3. LADDERS, UNDERWATER SEATS, AND SWIMMOUTS (MAX. 20" BELOW WATER) CIRCULATION SYSTEM, COMPONENTS AND EQUIPMENT SHALL COMPLY WITH NSF 50. THE MAXIMUM TURNOVER RATE IS 12 HOURS. FILTERS SHALL HAVE AN AIR RELIEF AND PRESSURE GAGE. PUMPS 3 HP AND LESS SHALL MEET ANSI/UL1081, CORROSION RESISTANT WITH STRAINER AND MEET THE REQUIRED FLOW. SURFACE SKIMMERS SHALL MEET NSF 50 AND THERE SHALL BE ONE FOR EVERY 800 SF OF SURFACE AREA. RETURN INLETS SHALL BE A MINIMUM OF ONE FOR EVERY 600 SF. HEATERS SHALL MEET ANSI-Z21.56 OR UL1261 OR UL559 DISINFECTANT EQUIPMENT SHALL COMPLY WITH NSF 50. PRESSURE TEST PIPING AT 35 PSI FOR 15 MINUTES OR MEET LOCAL CODE IF GREATER.

**ADDITIONAL NOTES**

- POOL INSTALLATION SHALL BE BY A QUALIFIED AND LICENSED (APPROVED BY LOCAL BUILDING DEPARTMENT) POOL CONTRACTOR, THE INSTALLATION SHALL CONFORM TO ALL LOCAL BUILDING CODES, IE, PERMITS SPECIFICATIONS, CODES, RULES, RULES, INSPECTION, WORKMANSHIP, ETC.
- TYPICAL PROPERTIES OF A REINFORCES FIBERGLASS POOL:
 

GEL COAT/ISO-NPG MIL APPLICATION	25
GLASS CONTENT BY WEIGHT	35%
TENSILE STRENGTH, PSI	16733
TENSILE ELONGATION	1-2%
FLEXURAL STRENGTH, PSI	43123
FLEXURAL MODULUS, PSI (X10^6)	1.37
COMPRESSIVE STRENGTH, PSI	25300
TYPICAL THICKNESS, INCHES	1/4
- POOL SHELL SHALL BEAR ON UNDISTURBED SOIL, FREE OF PEAT, MUCK, OR OTHER DELETERIOUS MATERIAL OF ANY SIGNIFICANT AMOUNT.
- BACKFILL MATERIAL MUST NOT CONTAIN ROCKS OR OTHER MATERIALS THAT COULD DAMAGE POOL WALLS.
- POOL TURNOVER SHALL BE 12 HOURS MAXIMUM WITH HI-RATE RAPID SAND FILTER (MIN. 18" DIAMETER OR 1.75 S.F.) AND PROPERLY GROUNDED. APPROVED PUMP (MIN. 3/4 HP W/29 GPM @ 60 TDH) HAYWARD OR EQUAL.
- STEPS OR A LADDER SHALL BE PROVIDED AT THE SHALLOW END OF THE POOL.
- HANDRAILS REQUIRED ON SOME POOLS.
- INSTALL LOW VOLTAGE LIGHT AS PER NEC 680.
- DIVING PLATFORMS OR DIVING BOARDS ARE NOT TO BE INSTALLED ON THESE POOLS EXCEPT FOR "THE BIG BLUE KEY" POOL PLAN. THIS POOL MEETS THE ANSI/NSPI-5, 2003. DIVING POOL REQUIREMENTS FOR TYPE 1 & TYPE 2 POOLS.
- DURING A HURRICANE WARNING OR ALERT, THIS POOL SHALL BE FILLED WITH WATER.
- THESE POOL PLANS MEET OR EXCEED THE ANSI/NSPI 5 2003 RESIDENTIAL INGROUND SWIMMING POOL AND ANSI/NSPI 3 1999 PERMANENTLY INSTALLED RESIDENTIAL SPA STANDARDS.

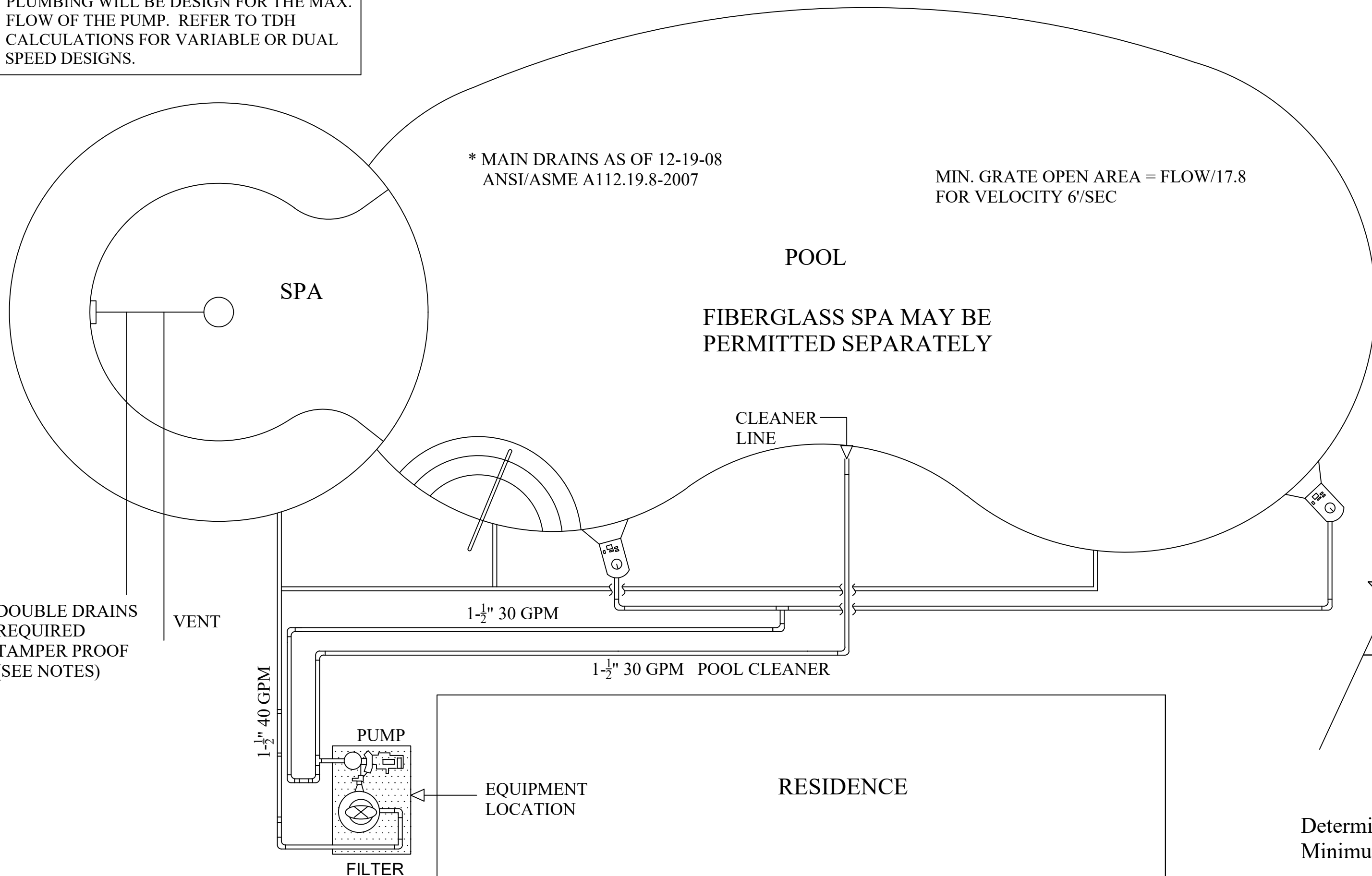
THE FOLLOWING CODES ARE TO BE MET WHERE REQUIRED:  
 FLORIDA BUILDING CODE, SEVENTH EDITION - BUILDING 2020  
 FLORIDA BUILDING CODE, SEVENTH EDITION - MECHANICAL 2020  
 FLORIDA BUILDING CODE, SEVENTH EDITION - PLUMBING 2020  
 FLORIDA BUILDING CODE, SEVENTH EDITION - FUEL 2020  
 2017 NATIONAL ELECTRICAL CODE  
 98-76 BUILDING CONSTRUCTION ADMINISTRATIVE CODE W/2006 REVISIONS  
 ALL APPLICABLE CITY/COUNTY CODES AND ORDINANCES.

**PIPE SIZING CHART (MAXIMUM)**

PIPE	SUCTION	PRESSURE
1 1/2"	35 GPM	65 GPM
2"	60	105
2 1/2"	90	147
3"	135	230
4"	235	396

MAIN SUCTION PIPE SIZE \_\_\_\_\_  
 SKIMMER SUCTION PIPE SIZE \_\_\_\_\_  
 CLEANER/VAC PIPE SIZE \_\_\_\_\_  
 RETURN PIPE SIZE \_\_\_\_\_

VARIABLE OR DUAL SPEED PUMPS ARE REQUIRED IF THE PUMP EXCEEDS 1 HP. PLUMBING WILL BE DESIGN FOR THE MAX. FLOW OF THE PUMP. REFER TO TDH CALCULATIONS FOR VARIABLE OR DUAL SPEED DESIGNS.



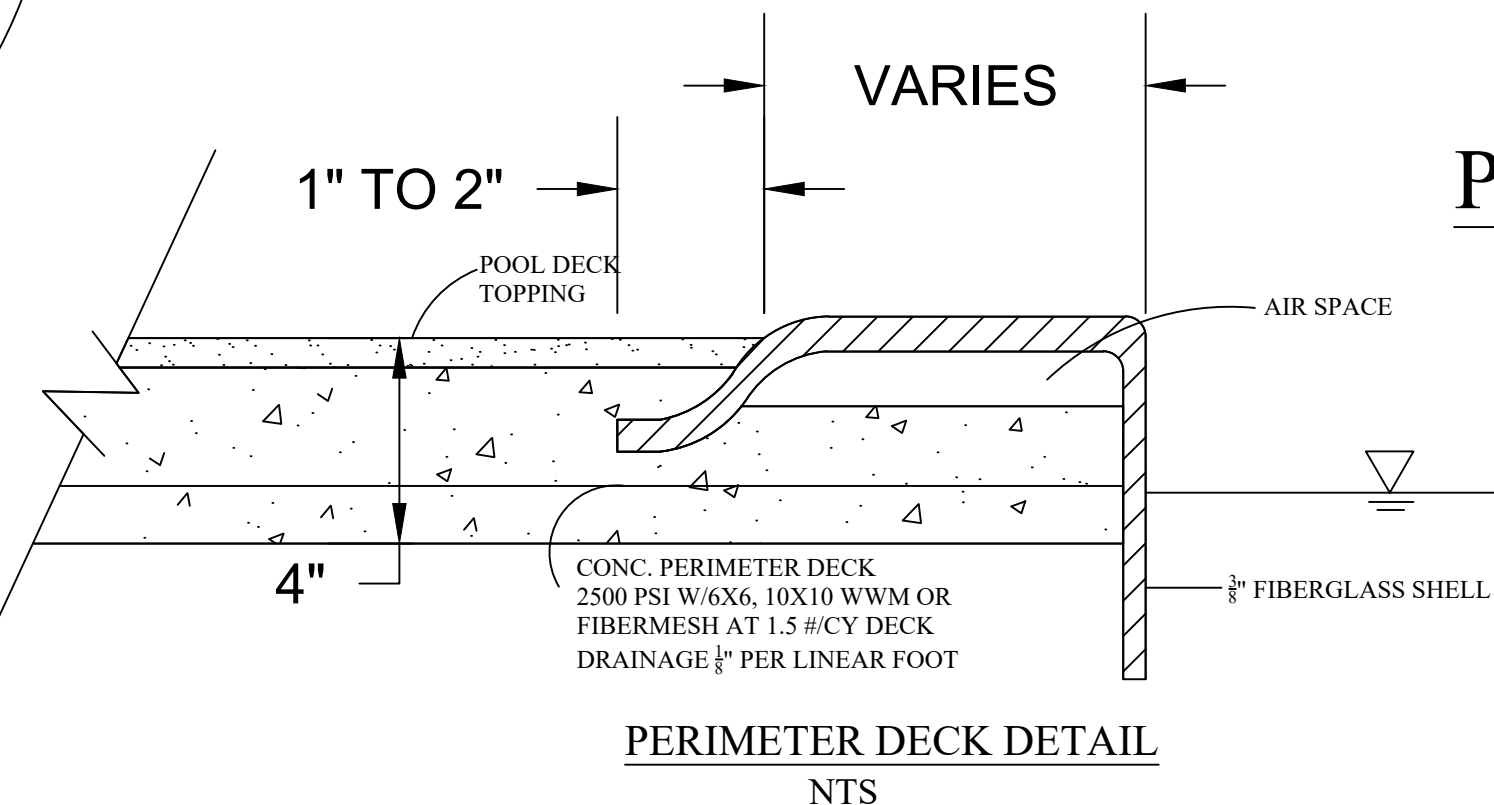
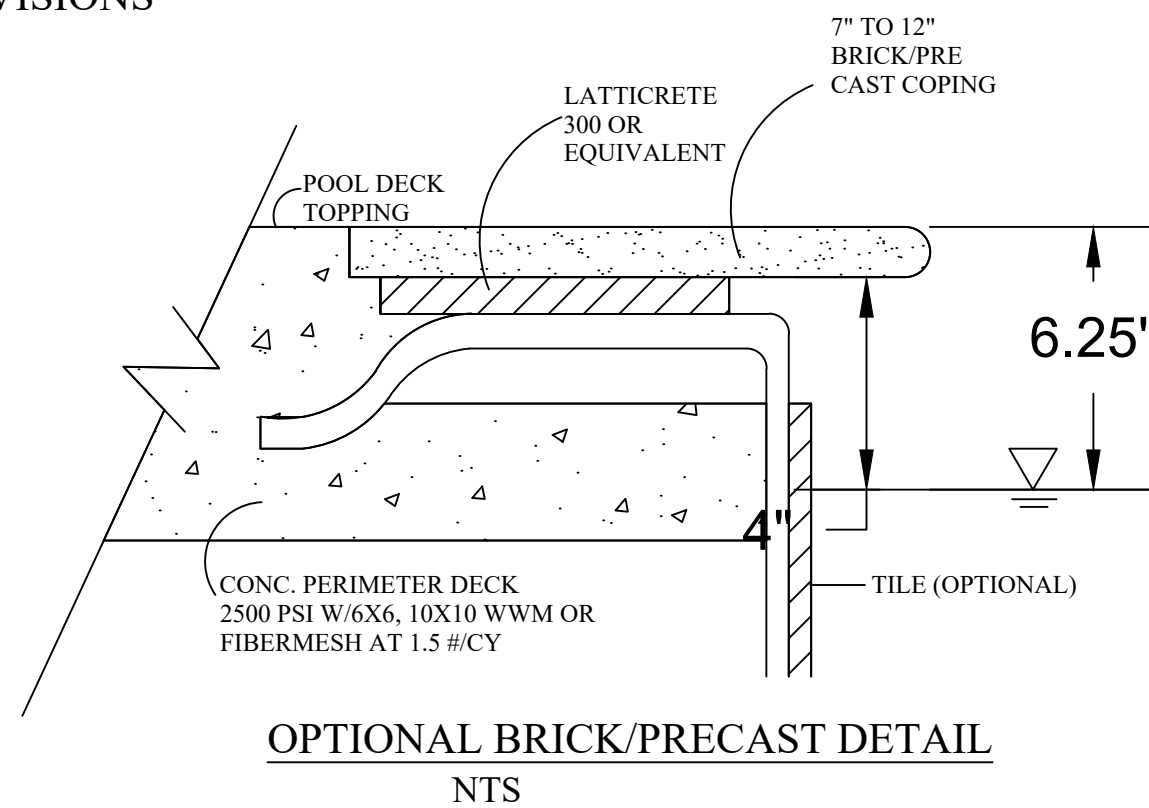
**GENERAL POOL PLAN**

NTS

**FLORIDA BUILDING CODE R4101**

THE POOL CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL DETAIL DESIGN REQUIREMENTS FOR EACH INDIVIDUAL POOL IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, AND ALL CONSTRUCTION SHALL MEET ALL APPLICABLE CODES INCLUDING PLUMBING, ELECTRICAL AND GAS. PIPING SHALL BE SCH. 40 PVC, NSFpw, MAX. PRESSURE VELOCITY 10 FPS, SUCTION 6 FPS. THE POOL PLAN SHALL SHOW THE DESIGN PLUMBING AS PER THE SAMPLE WITH THE INFORMATION REQUIRED SHOWN. SKIMMERS DO NOT REQUIRE PROTECTION AND MUST BE DESIGNED FOR A MINIMUM 25 gpm. THE FOLLOWING SHALL BE LABELED WITH LABEL MARKER TAPE AT THE FILTER LOCATION: PIPES, VALVES, PUMP(S) OFF SWITCH. NO MAIN DRAIN POOLS MUST HAVE 2 SKIMMERS AND INLETS LOW ON THE WALL.

SB2836, 6-20-07 FOR BONDING AND GROUNDING SYSTEMS FOR SWIMMING POOLS, THE USE OF AN UNDERGROUND BONDING CONDUCTOR MADE OF #8 AWG. BARE SOLID COPPER WIRE BURIED TO A MINIMUM DEPTH OF 4 INCHES TO 6 INCHES BELOW SUBGRADE, AND 18 TO 24 INCHES FROM INSIDE WALL OF A SWIMMING POOL OR SPA, IS DEEMED A PERMISSIBLE ALTERNATIVE OR EQUIVALENT TO COMPLIANCE WITH s. 680.26(c) OF THE NATIONAL ELECTRICAL CODE.



Determine System Flow Rate:  
 Minimum Flow Rate Required: 35gpm per skimmer (Required: 1 Skimmer per 800 sf)

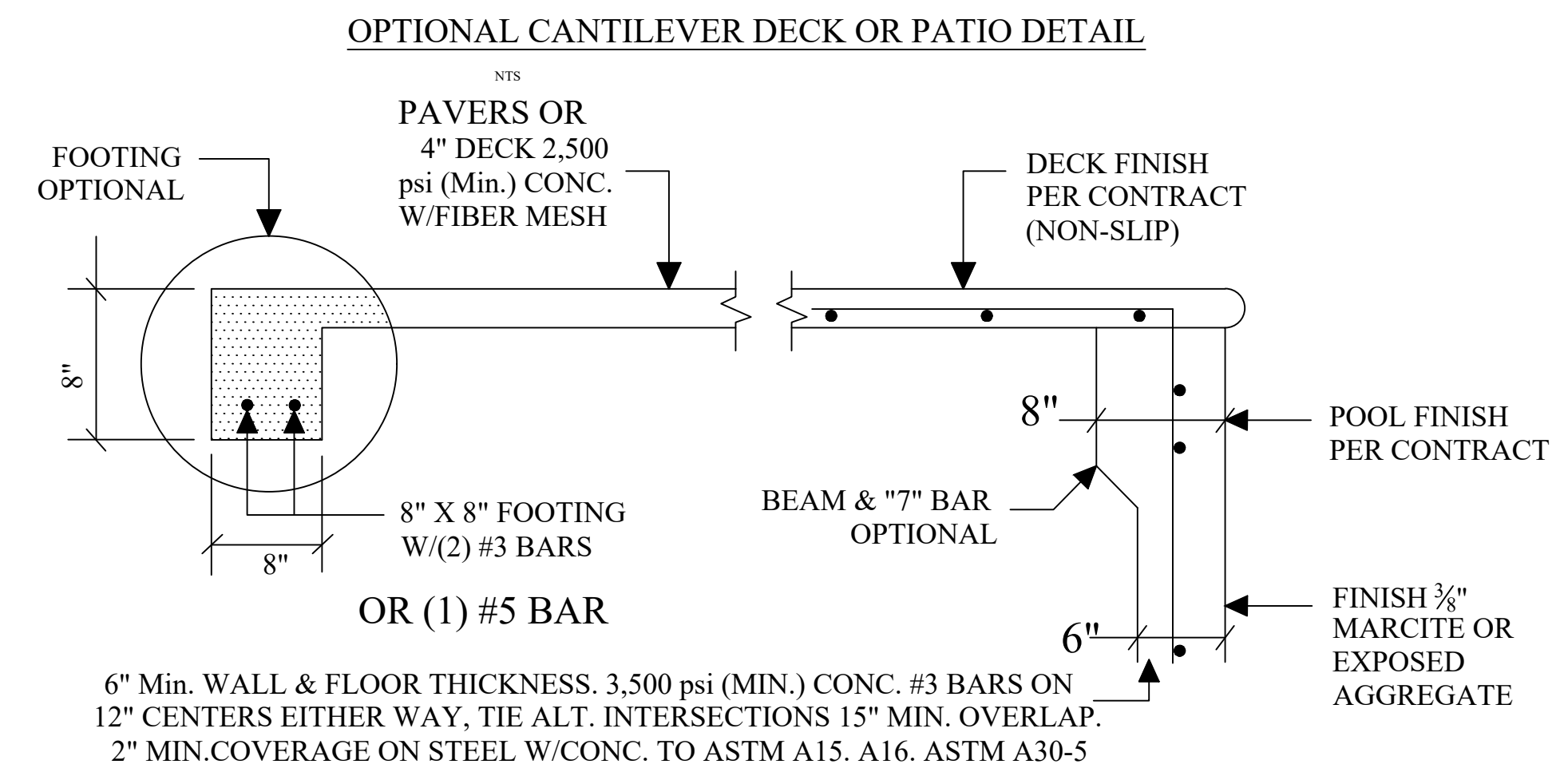
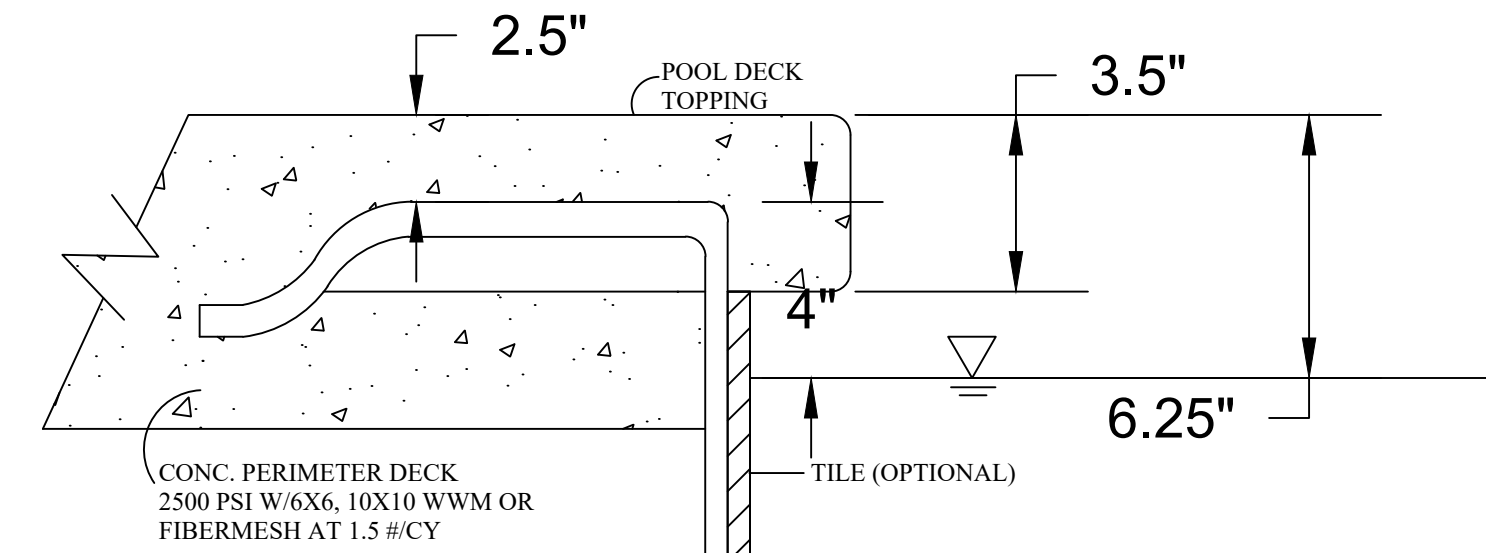
Pool Volume: 500 sq. ft x 4 ave depth x 7.481 gal/cf = 15,000 gallons  
 Turnover Time in Hours: 6 hours x 60 min/hr = 360 minutes  
 Flow Rate: 15,000 gallons / 360 minutes = 42 gpm

**SPECIAL SPA REQUIREMENTS:**

- MAXIMUM WATER DEPTH 4', MAXIMUM SEAT DEPTH 28", MAX.
- FLOOR SLOPE 1:12
- STEPS: MIN. TREAD 10" X 12", 7" MIN. RISER, 12" MAX. RISER EXCEPT THE BOTTOM STEP MAY BE 14" IF IT IS THE SEAT. INTERMEDIATE TREADS AND RISERS TO BE UNIFORM. IF THE SPA IS OPERATED INTERMITTENTLY IT SHALL HAVE A ONE HOUR TURNOVER, IF CONTINUOUS A SIX HOUR TURNOVER.
- MAXIMUM TEMPERATURE 104 DEGREES.
- MEET ANSI/NSPI ARTICLE XVII, SAFETY INSTRUCTION/SAFETY SIGNS.
- PRESSURE TEST PIPING AT 35 PSI FOR 15 MINUTES OR MEET LOCAL CODE IF GREATER.

**ELECTRICAL REQUIREMENTS:**

- WIRING AND BONDING AND ALL ELECTRICAL TO COMPLY WITH CHAPTER 42, FLORIDA BUILDING CODE, SEVENTH EDITION, FBC 2020 AND NEC 2017
- NO OUTLET OR OVERHEAD POWER WITHIN 10' IF WITHIN 15' PROTECT BY GFI, TRANSFORMER MIN. 10' FROM POOL, 8" ABOVE WATER, J BOX 4' FROM POOL, BRASS TO J BOX OR TRANSFORMER WHICH EVER IS FIRST EXCEPT WHERE PVC IS APPROVED.



Structural subject to suitable soil conditions.

**POOL/SPA, DECK, BEAM, WALL, FLOOR**

N.T.S.

COMPLIES WITH FLORIDA BUILDING CODE, 7TH EDITION (2020)

G.B. COLLINS ENGINEERING P.A.  
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**Standard Residential  
 Fiberglass Pool Design**



This item has been electronically signed and sealed by Sam Liberatore PE using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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SAMUEL A. LIBERATORE  
 SEPTEMBER 5,