

CITY OF LAKE HELEN  
Building Department  
**Swimming Pool**

Swimming Pool	2 sets of construction plans with the architect's / engineer's seal or 2 sets master plan engineering for pool; 2 sets of construction plans with the architect's / engineers seal or 2 sets of current master plan engineering pages for screen enclosure or fence information on application & site plans; 2 page Section 424.2 form (Safety Requirements affidavit & Application Information sheet); 1 survey with the surveyor's seal and 2 copies; 2 site plans; septic location
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## Residential Swimming Pool Application Information Section 424.2, 2001 Florida Building Code

### PLAN REVIEW SUBMISSION REQUIREMENTS

- A) Provide two sets of structural plans originally signed, sealed, and dated by a Florida registered engineer containing, at a minimum, the following:
- Design statement showing conformance with Section 424.2 of the 2001 Florida Building Code and ANSI/NSP-5, 1995.
  - Typical section thru pool shell showing type and thickness of wall, type & size of reinforcement, wall connection w/deck, type & thickness of deck, deck reinforcement etc.
  - Typical longitudinal section showing pool bowl depths, radius, slope break depths etc.
- B) Provide two sets of anti entrapment piping schematics originally signed, sealed, and dated by a Florida registered engineer containing, at a minimum, the following:
- Design statement showing conformance with Section 424.2.6.6 of the 2001 Florida Building Code.
  - Dual main drain and atmospheric vent piping arrangement or a listed/tested valve system for the pool and separate system for spa (if applicable).
- C) Provide site specific pool and spa (if applicable) layout, Minimum scale 1/8"=1', showing drain locations, pool depths, means of egress (ladders, stairs, swim-outs, etc.), skimmer location(s), return location(s), suction cleaner line location, equipment location, heater location etc.
- D) Complete the below listed information:
1. POOL SIZE: \_\_\_\_\_
  2. SURFACE AREA: \_\_\_\_\_
  3. MOTOR HORSEPOWER: \_\_\_\_\_
  4. VOLUME: \_\_\_\_\_
  5. TURN OVER RATE: \_\_\_\_\_
  6. PIPE SIZE: \_\_\_\_\_ SUCTION/MAX GPM: \_\_\_\_\_ PRESSURE/MAX GPM: \_\_\_\_\_
  7. PROVIDE TESTING APPROVAL NUMBER FOR ALL SUCTION INLET GRATES/ANTIVORTEX COVERS: \_\_\_\_\_
  8. SUCTION CLEANER LINE PROVIDED?     YES     NO  
IF YES, SELF CLOSING FLAPPER PROVIDED?     YES     NO  
APPROVAL NUMBER: \_\_\_\_\_
- E) Complete the attached "Residential Swimming Pool Safety Requirements" affidavit.



## Residential Swimming Pool Safety Requirements Section 424.2, 2001 Florida Building Code

I, \_\_\_\_\_  
Owner's name (please print)

Residing at: \_\_\_\_\_

Project location: \_\_\_\_\_

Do hereby request a permit to build a swimming pool to be issued to:

Contractor (name & company): \_\_\_\_\_

My contractor has informed me that prior to the use of my pool, I will need a safety barrier installed in accordance with the Florida Building Code and that all inspection approvals, including final inspection, will have been obtained. The 2001 Florida Building Code requires pools to be enclosed by a barrier meeting the requirements of Section 424.2.17. Residential swimming pools with permit applications filed after January 1, 2002 must meet at least one of the pool safety barrier requirements (please see options listed below).

### **Indicated your method of compliance by checking the appropriate box(s).**

- The pool will be equipped with an approved safety pool cover complying with ASTM F 1346-91.
- The pool will be isolated from access from the home and yard by an enclosure meeting the barrier requirements of Section 424.17, 2001 FBC.
- All doors and windows providing direct access from the home to the pool will be equipped with an exit alarm complying with UL 2017 that has a minimum sound pressure rating of 85 dB A at 10 feet and is either hardwired or of the plug-in type. The exit alarm shall produce a continuous audible warning, be capable of being heard throughout the house during normal household duties, and be equipped with a properly located manual means to temporarily deactivate the alarm for not more than 15 seconds for a single opening.
- All doors providing direct access from the home to the pool (not equipped with exit alarms) will be equipped with a self-closing, self-latching device with positive mechanical latching/locking installed a minimum of 54 inches above the threshold.

According to Section 515.27 F.S., a person who fails to equip a new residential swimming pool with at least one pool safety feature as required above commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

I also understand that steel & ground, open ditch piping and deck inspections are required in addition to the final inspection. Inspection access to the interior of the home is required if alarms on windows & doors or if selfclosing/self latching doors are used to meet the above requirements.

\_\_\_\_\_  
Signature of Owner

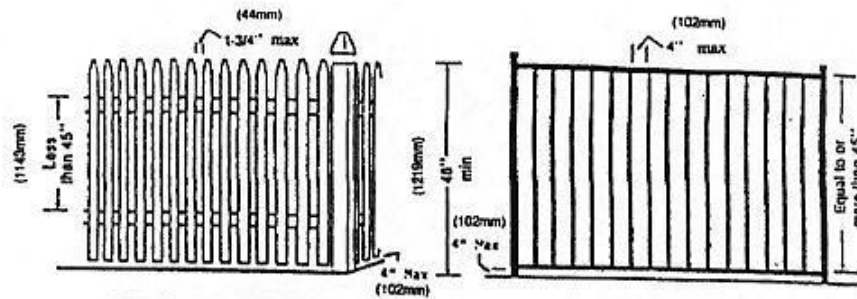
\_\_\_\_\_  
Signature of Contractor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

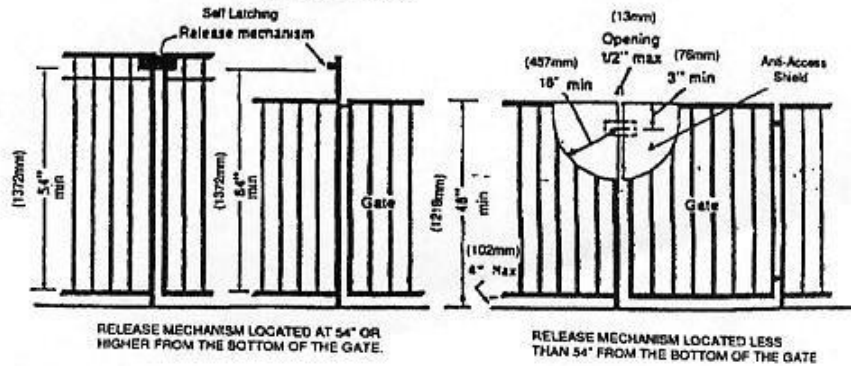
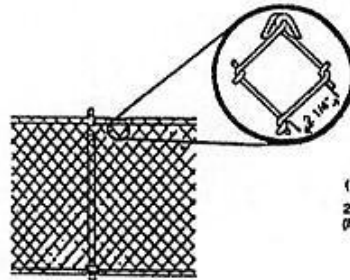
**CITY OF LAKE HELEN  
Building Department**

**FENCING REQUIREMENT FOR POOLS**



IF HORIZONTAL MEMBERS ARE LESS THAN 45" APART, THE SPACE BETWEEN VERTICAL MEMBERS SHALL NOT EXCEED 1-3/4".

IF HORIZONTAL MEMBERS ARE EQUAL TO OR MORE THAN 45" APART, THE SPACE BETWEEN VERTICAL MEMBERS SHALL NOT EXCEED 4".



LATCH RELEASE MECHANISM

ANSI/ASP-7 2006 Specifies three methods for determining the maximum system flow rate. The following simplified TDH calculation is one of the methods specified.

**Simplified Total Dynamic Head (TDH) Calculation Worksheet**

Determine Maximum System Flow Rate: Minimum Flow Rate Required: 35 gpm per skimmer

1. Calculate Pool Volume: \_\_\_\_\_ x \_\_\_\_\_ x 7.48 (gal./cubic foot) = \_\_\_\_\_  
(Surface Area) (Average Depth) (Volume in gallons)
  2. Determine preferred Turnover Time in hours: \_\_\_\_\_ x 60 (minutes / hour) = \_\_\_\_\_  
(Hours) (Turnover in Minutes)
  3. Determine Max Flow Rate: \_\_\_\_\_ / \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_  
(Volume in gallons) (Turnover Minutes) (Pool Flow Rate) (Feature Flow Rate) (System Flow Rate)
  4. Spa Jets: \_\_\_\_\_ x \_\_\_\_\_ gpm per jet = \_\_\_\_\_ flow rate.  
(Number of jets) (Jet Flow) (Total Jet flow Rate)
- (For single pump pool/spa combo, use the higher of No. 3 or No. 4 in the following calculations for the pool & spa)

Determine Pipe Sizes:

Branch Piping to be \_\_\_\_\_ inch to keep velocity @ 6 fps max. at \_\_\_\_\_ gpm Maximum System Flow Rate.  
 Trunk Piping to be \_\_\_\_\_ inch to keep velocity @ 8 fps max. at \_\_\_\_\_ gpm Maximum System Flow Rate.  
 Return Piping to be \_\_\_\_\_ inch to keep velocity @ 10 fps max. at \_\_\_\_\_ gpm Maximum System Flow Rate.

Determine Simplified TDH:

1. Distance from pool to pump in feet: \_\_\_\_\_
2. Friction loss (in suction pipe) in \_\_\_\_\_ inch pipe per 1 ft. @ \_\_\_\_\_ gpm = \_\_\_\_\_ (from pipe flow/friction loss chart)
3. Friction loss (in return pipe) in \_\_\_\_\_ inch pipe per 1 ft. @ \_\_\_\_\_ gpm = \_\_\_\_\_ (from pipe flow/friction loss chart)
4. Length of suction pipe \_\_\_\_\_ x ft. of head/1 ft of pipe \_\_\_\_\_ = TDH suction pipe \_\_\_\_\_
5. Length of return pipe \_\_\_\_\_ x ft. of head/1 ft of pipe \_\_\_\_\_ = TDH return pipe \_\_\_\_\_

TDH in Piping: \_\_\_\_\_  
 Filter loss in TDH (from filter data sheet): \_\_\_\_\_  
 Heater loss in TDH (from heater data sheet): \_\_\_\_\_  
 Total all other loss: \_\_\_\_\_  
**Total Simplified TDH:** \_\_\_\_\_

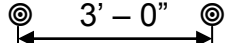

Selected Pump and Main Drain Cover:

Pump selection \_\_\_\_\_ using pump curve for Simplified TDH & System Flow Rate  
(Pump model and size in Horsepower)  
 Main Drain Cover \_\_\_\_\_ (System Flow Rate must not exceed approved cover flow rate)  
(Make and Model)

Notes: Minimum system flow based on minimum flow per skimmer of 35 gpm.

Determine the Number and Type of Required In-Floor Suction Outlets:

↓ Check all that apply.

- |                          |   |   |
|--------------------------|---|---|
| <input type="checkbox"/> |  | 2 _____ suction outlets @ _____ gpm max. flow (see note 2)                |
| <input type="checkbox"/> |  | 3 _____ suction outlets @ _____ gpm max. flow (see note 3)                |
| <input type="checkbox"/> | <input type="text"/>  | Aquastar Channel Drain @ 316 gpm max. flow rate                           |
| <input type="checkbox"/> | <input type="text"/>  | A & A Channel Drain @ 217 gpm w/ 2 port & 278 gpm w/ 3 ports (see note 4) |

**TDH Calculation Options**

For each pump

↓ Check one

**Simplified Total Dynamic Head (STDH)**  
Complete STDH Worksheet – Fill in all blanks

**Total Dynamic Head (TDH)**  
Complete Program or other calcs. Fill in required blanks on worksheet & attached calculations.

**Notes:**

1. If a variable speed pump is used, use the maximum pump flow in calculations.
2. For side wall drains, use appropriate side wall drain flow as published by the manufacturer.
3. Insert the manufacturer's name and approved maximum flow.
4. See installation instructions for number of ports to be used.
5. In-floor suction outlet cover/grate must conform to most recent edition of ASME/ANSI A112.12.8 and be embossed with that edition approval.
6. Pump & Filter make, model and location can not change without submitting revised plans and TDH worksheet.

**Total Head In Feet Conversion Chart**

Inches Mercury (Vacuum Gauge)										
	0	2	4	6	8	10	12	14	16	18
0	0.0	2.3	4.5	6.8	9.0	11.3	13.6	15.8	18.1	20.3
1	2.3	4.6	5.8	9.1	11.4	13.6	15.9	18.1	20.4	22.7
2	4.6	6.9	6.1	11.4	13.7	15.9	18.2	20.4	22.7	25.0
3	6.9	9.2	11.5	13.7	16.0	18.2	20.5	22.8	25.0	27.3
4	9.2	11.5	13.8	16.0	18.3	20.5	22.8	25.1	27.3	29.6
5	11.5	13.8	16.1	18.3	20.6	22.8	25.1	27.4	29.6	31.9
6	13.9	16.1	18.4	20.6	22.9	25.2	27.4	29.7	31.9	34.2
7	16.2	18.4	20.7	23.0	25.2	27.5	29.7	32.0	34.3	36.5
8	18.5	20.7	23.0	25.3	27.5	29.8	32.0	34.4	36.6	38.8
9	20.8	23.1	25.3	27.6	29.8	32.1	34.3	36.6	38.9	41.1
10	23.1	25.4	27.6	29.9	32.1	34.4	36.7	38.9	41.2	43.4
11	25.4	27.7	29.9	32.2	34.5	36.7	39.0	41.2	43.5	45.8
12	27.7	30.0	32.2	34.5	36.8	39.0	41.3	43.5	45.8	48.1
13	30.0	32.3	34.5	36.8	39.1	41.3	43.6	45.9	48.1	50.4
14	32.3	34.6	36.9	39.1	41.4	43.6	45.9	48.2	50.4	52.7
15	34.6	36.9	39.2	41.4	43.7	45.9	48.2	50.5	52.7	55.0
16	37.0	39.2	41.5	43.7	46.0	48.3	50.5	52.8	55.0	57.3
17	39.3	41.5	43.8	46.1	48.3	50.6	52.8	55.1	57.4	59.6
18	41.6	43.8	46.1	48.4	50.6	52.9	55.1	57.4	59.7	61.9
19	43.9	46.2	48.4	50.7	52.9	55.2	57.4	59.7	62.0	64.2
20	46.2	48.5	50.7	53.0	55.2	57.5	59.8	62.0	64.3	66.5
21	48.5	50.8	53.0	55.3	57.6	59.8	62.1	64.3	66.6	68.9
22	50.8	53.1	55.3	57.6	59.9	62.1	64.4	66.6	68.9	71.2
23	53.1	55.4	57.7	59.9	62.2	64.4	66.7	69.0	71.2	73.5
24	55.4	57.7	60.0	62.5	64.5	66.7	69.0	71.3	73.5	75.8
25	57.8	60.0	62.3	64.5	66.8	69.1	71.3	73.6	75.8	78.0
26	60.1	62.3	64.6	66.8	69.1	71.4	73.6	75.9	78.1	80.4
27	62.4	64.6	66.9	69.2	71.4	73.7	75.9	78.2	80.5	82.7
28	64.7	66.9	69.2	71.5	73.7	76.0	78.2	80.5	82.8	85.0
29	67.0	69.3	71.5	73.8	76.0	78.3	80.5	82.8	85.1	87.3
30	69.3	71.6	73.8	76.1	78.3	80.6	82.9	85.1	87.4	89.6
31	71.6	73.9	76.1	78.4	80.7	82.9	85.2	87.4	89.7	92.0
32	73.9	76.2	78.4	80.7	83.1	85.2	87.5	89.7	92.0	94.3

**Flow and Friction Loss Per Foot**

Schedule 40 PVC Pipe

Velocity – Feet Per Second

Pipe Size	6 fbs		8 fbs		10 fbs	
1"	16 gpm	0.25'	21 gpm	0.66'	26 gpm	0.94'
1.5"	37 gpm	0.16'	50 gpm	0.28'	62 gpm	0.48'
2"	62 gpm	0.15'	82 gpm	0.25'	103 gpm	0.40'
2.5"	88 gpm	0.09'	117 gpm	0.15'	146 gpm	0.23'
3"	138 gpm	0.09'	181 gpm	0.14'	227 gpm	0.23'
4"	234 gpm	0.06'	313 gpm	0.10'	392 gpm	0.15'
6"	534 gpm	0.04'	712 gpm	0.04'	890 gpm	0.10'

Swimming Pool Specification for:

\_\_\_\_\_

\_\_\_\_\_

Job Address: \_\_\_\_\_

Permit # \_\_\_\_\_