

Township of Riverside
Construction Code Dept.

Leonard Mason
Construction Official
Zoning Officer

SWIMMING POOL PERMIT APPLICATION

Outside Above Ground Permanent Private Pools (with no diving board)

Applicants Name: _____

Applicants Address: _____

Pool address if different than above: _____

Telephone Number: _____

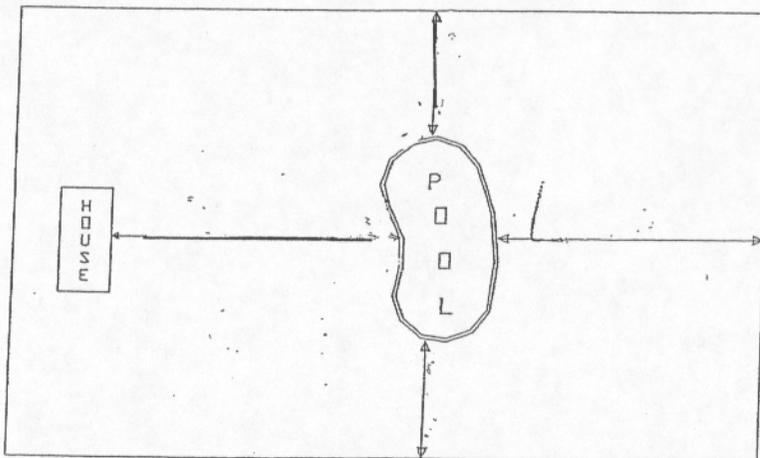
Contractor Name: _____

Contractors Address: _____

Telephone Number: _____

INFORMATION TO BE SUBMITTED WHEN APPLYING

1. A plat of survey for the property.
2. Pool dimensions length _____ width _____ height _____
3. Pool location on the lot
4. Provide drawings or plans indicating construction of the pool.
5. Provide details on the safety barrier, gate (see pages 3 and 4).
6. Provide details on the electrical installation (see page 5).
7. Special information.



MINIMUM DISTANCE TO
LOT LINE (6) _____ FEET

MINIMUM DISTANCE TO
STREET PROPERTY LINE
(10) _____ FEET.

CHECK ZONING
REQUIREMENTS

Applicant(s) signature: _____

Date: _____ The information on this form becomes part of the permit application and compliance is required. Call 1-800-272-1000 to locate all underground

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Swimming Pool Permit Application

Location: _____ Date: _____

Indicate the following information on the sketch on the previous page:

1. Distance to the lot lines, street and house
2. Location of overhead or below grade utilities
3. Location of safety barrier
4. Location of gate in safety barrier
5. Location of ladder - Minimum of one means of egress ladder per pool
6. Location of the pool cleaning equipment: pump, over gutters or skimming devices - 1 skimmer per 1,000 square feet
area calculation [round $3.14 \times \text{radius} \times \text{radius}$] [rectangle length times width]
7. Location of pump and convenience outlets (see examples) indicate distances
8. Location of light fixtures and switches
9. Locations of pool deck if applicable (Note: A pool deck will require additional Construction details including dimensions, type of lumber, guards and steps)
10. Type of pool drainage system and area of drainage.

ADDITIONAL INFORMATION

1. Method of filling or topping off pool A vacuum breaker shall be provided on Threaded hose outlet _____
2. Size - Flow rate of pump _____ - Turn over water every 18 hours
Gallons in pool / flow of pump less than 18
Maximum filter rate 5 gallons per minute per square foot of surface area
 $5 \times \text{_____ square feet} = \text{maximum gallon per minute rate}$
 $5 \times \text{_____ square feet} \times 60 = \text{maximum gallons per hour rate}$
3. Type, quantity and method of storage for pool chemical
4. Type of ladder - Ladder shall be able to be removed, secured, locked or provide with an approved safety barrier and gate. A removable ladder is not an acceptable safety barrier
5. Steps shall be slip resistant – handrail on both sides
6. Special lot or site conditions
7. Zoning restrictions or variances

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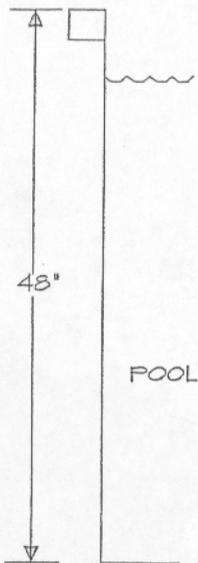
Swimming Pool Permit Application

Location: _____ Date: _____

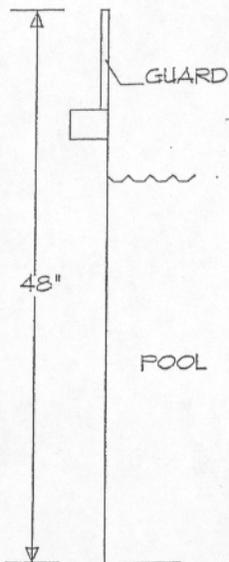
APPROVED SAFETY BARRIERS

Side of the pool can be used as the safety barrier or other approved methods

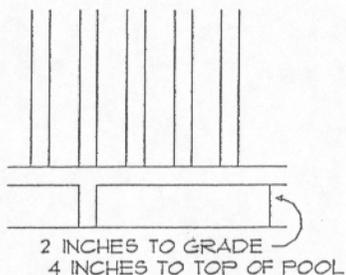
SIDE OF POOL



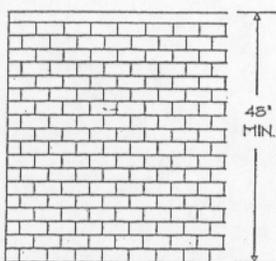
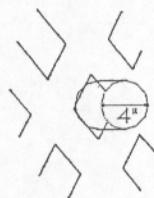
SIDE OF POOL WITH BARRIER



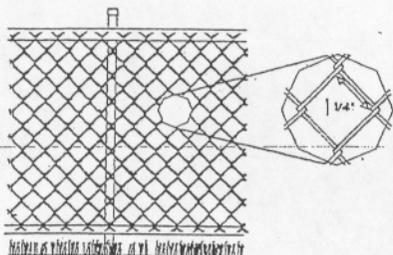
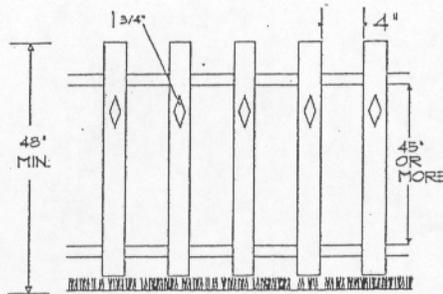
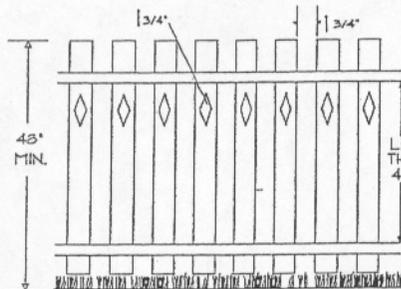
BOTTOM CLEARANCE



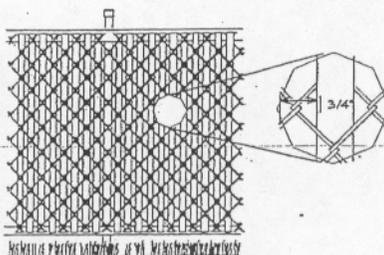
BARRIER OPENINGS



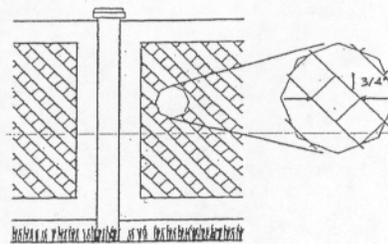
BRICK
NO INDENTATIONS OR PROJECTIONS



CHAIN LINK FENCE



CHAIN LINK FENCE WITH SLATES



LATTICE WORK

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Construction Code Dept.

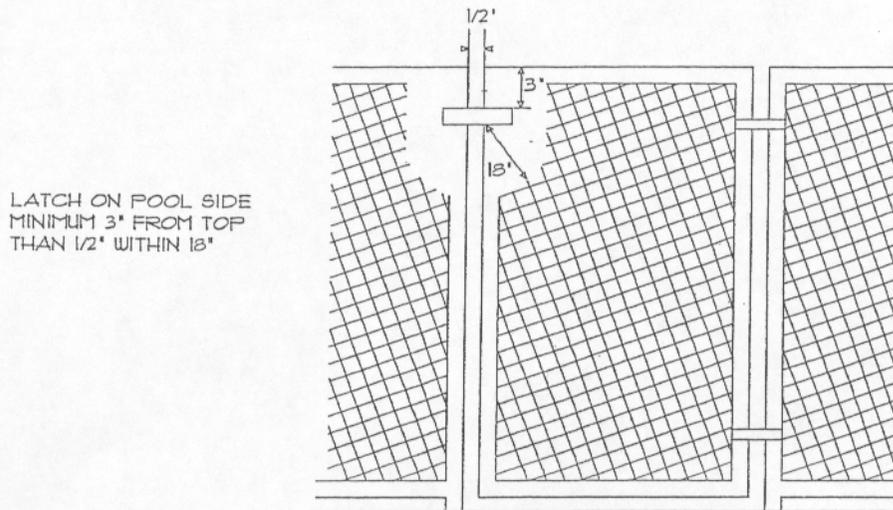
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Swimming Pool Permit Application

Location: _____ Date: _____

Pedestrian Gates - Swing open from pool, self closing, self locking, same construction requirements as the safety barriers and equipped to accommodate a locking device.

Self latching device shall be 54 inches above bottom of gate or



Gates other than pedestrian gates shall have a self-latching device and comply with other requirements.

House wall used as part of the Safety Barrier

1. A side of the house used for the safety barrier with a door with direct access to the pool shall have an audible alarm on the door or a power safety cover

Alarm – commence within 7 seconds of opening door – sound for 30 seconds
85 dBA at 10 feet, distinctive sound, automatically reset, deactivation touch pads
54 inches above thresholds for a single opening allowed
2. Doors opening onto the pool area – self closing, self latching, release 54 inches above the floor, swing away from pool area
3. A deck that opens onto the pool will require a safety barrier from the deck or the deck shall comply with the safety barrier requirement including stairs and gate.
4. A deck that opens onto the pool and on the house which provides direct access from the door to the pool shall have alarms on the doors or a power safety cover.

powered broadband communications systems conductors from pools or fountains shall comply with the provisions in Table 680.8 for conductors operating at 0 to 750 volts to ground.

Service drop conductors, conductors of network-powered broadband communications systems, and aerial feeders and branch circuits are permitted to be located above a swimming pool and associated pool structures where provided with the clearances specified in Table 680.8. Overhead conductors of communications systems are required to comply with 680.8(B). These clearances consider such factors as the use of skimmers with aluminum handles and provide sufficient separation between the conductors and the pool. In some instances, locating a swimming pool below electric conductors is unavoidable, for example, on a building lot with limited area or an existing lot where the electric supply lines are already in place. The clearances for conductors from pools and pool structures were increased in the 1999 *Code* to harmonize the *NEC* with ANSI C2, *National Electrical Safety Code (NESC)*. The maximum water level of the body of water (pool, spa, hot tub, or other) is used to determine compliance with 680.8. For the definition of maximum water level, see 680.2.

680.9 Electric Pool Water Heaters

All electric pool water heaters shall have the heating elements subdivided into loads not exceeding 48 amperes and protected at not over 60 amperes. The ampacity of the branch-circuit conductors and the rating or setting of overcurrent protective devices shall not be less than 125 percent of the total nameplate-rated load.

680.10 Underground Wiring Location

Underground wiring shall not be permitted under the pool or within the area extending 1.5 m (5 ft) horizontally from the inside wall of the pool unless this wiring is necessary to supply pool equipment permitted by this article. Where space limitations prevent wiring from being routed a distance 1.5 m (5 ft) or more from the pool, such wiring shall be permitted where installed in rigid metal conduit, intermediate metal conduit, or a nonmetallic raceway system. All metal conduit shall be corrosion resistant and suitable for the location. The minimum burial depth shall be as given in Table 680.10.

This section allows wiring within 5 ft of the inside walls of the swimming pool under two conditions. The first condition permits wiring to pool-associated equipment such as an underwater luminaire. The second condition permits wiring not associated with the pool within this area where spatial

Table 680.10 Minimum Burial Depths

Wiring Method	Minimum Burial	
	mm	in.
Rigid metal conduit	150	6
Intermediate metal conduit	150	6
Nonmetallic raceways listed for direct burial without concrete encasement	450	18
Other approved raceways*	450	18

*Raceways approved for burial only where concrete encased shall require a concrete envelope not less than 50 mm (2 in.) thick.

constraints such as property lines preclude the 5-ft minimum separation. Under the second condition, underground wiring located within the 5-ft zone is required to be installed in rigid metal conduit, intermediate metal conduit, or rigid nonmetallic conduit and must be buried to a depth not less than that required by Table 680.10 for these permitted wiring methods. Beyond the 5-ft zone, the minimum cover requirements of Table 300.5 apply to the underground wiring methods used for circuits rated 600 volts and less.

As indicated by the title of this section ("Underground Wiring Location"), the focus of 680.10 is to mitigate shock hazards that may occur as a result of a faulty or damaged underground installation that is in close proximity to the swimming pool. Due to water splashing out of the pool and water dripping off those who have been in the pool, the area within 5 ft of the inside walls is generally the wettest location; as a result, electrical leakage from underground installations presents a greater shock hazard in this continuously wet environment.

680.11 Equipment Rooms and Pits

Electric equipment shall not be installed in rooms or pits that do not have drainage that adequately prevents water accumulation during normal operation or filter maintenance.

680.12 Maintenance Disconnecting Means

One or more means to disconnect all ungrounded conductors shall be provided for all utilization equipment other than lighting. Each means shall be readily accessible and within sight from its equipment.

A readily accessible disconnecting means is required to be located within sight of pool, spa, and hot tub equipment in order to provide service personnel with the ability to safely disconnect power while servicing equipment such as motors, heaters, and control panels. Underwater luminaires are not subject to this requirement. See Exhibit 680.2.

Table 300.5 Minimum Cover Requirements, 0 to 600 Volts, Nominal, Burial in Millimeters (Inches)

Location of Wiring Method or Circuit	Type of Wiring Method or Circuit									
	Column 1 Direct Burial Cables or Conductors		Column 2 Rigid Metal Conduit or Intermediate Metal Conduit		Column 3 Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways		Column 4 Residential Branch Circuits Rated 120 Volts or Less with GFCI Protection and Maximum Overcurrent Protection of 20 Amperes		Column 5 Circuits for Control of Irrigation and Landscape Lighting Limited to Not More Than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
All locations not specified below	600	24	150	6	450	18	300	12	150	6
In trench below 50-mm (2-in.) thick concrete or equivalent	450	18	150	6	300	12	150	6	150	6
Under a building	0 (in raceway only)	0	0	0	0	0	0 (in raceway only)	0	0 (in raceway only)	0
Under minimum of 102-mm (4-in.) thick concrete exterior slab with no vehicular traffic and the slab extending not less than 152 mm (6 in.) beyond the underground installation	450	18	100	4	100	4	150 100 (in raceway)	6 4	150	6
Under streets, highways, roads, alleys, driveways, and parking lots	600	24	600	24	600	24	600	24	600	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	450	18	450	18	450	18	300	12	450	18
In or under airport runways, including adjacent areas where trespassing prohibited	450	18	450	18	450	18	450	18	450	18

and provided with ground-fault circuit-interrupter protection for personnel, the burial depth shall be not less than 12 in. Exhibits 300.6 and 300.7 show examples of ground installations of 18 in. and 12 in., respectively, in accordance with 300.50 where circuits exceed 600 volts.

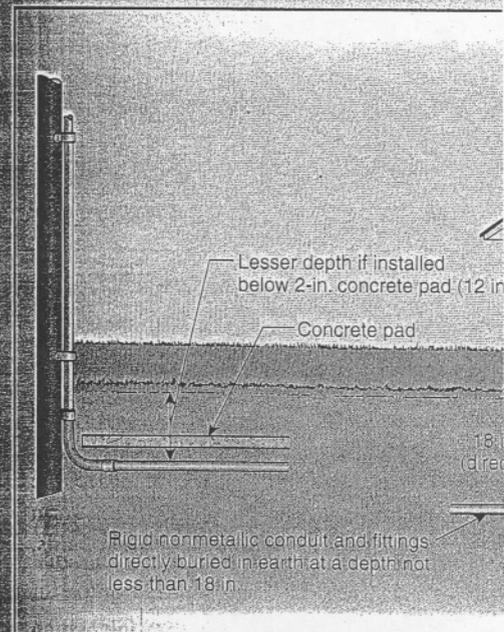
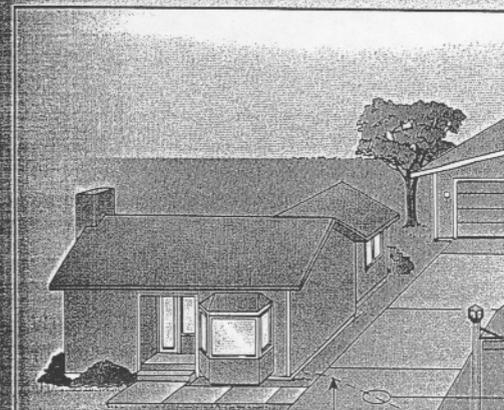


Exhibit 300.6 PVC rigid nonmetallic conduit burial depth in accordance with Table 300.5 and installed in accordance with 300.50



ported by openings through framing members at intervals not exceeding those in Table 352.30(B) and securely fastened within 900 mm (3 ft) of termination points shall be permitted.

Table 352.30(B) Support of Rigid Nonmetallic Conduit (RNC)

Conduit Size		Maximum Spacing Between Supports	
Metric Designator	Trade Size	mm or m	ft
16-27	½-1	900 mm	3
35-53	1¼-2	1.5 m	5
63-78	2½-3	1.8 m	6
91-129	3½-5	2.1 m	7
155	6	2.5 m	8

352.44 Expansion Fittings

Expansion fittings for RNC shall be provided to compensate for thermal expansion and contraction where the length change, in accordance with Table 352.44(A) or Table 352.44(B), is expected to be 6 mm (¼ in.) or greater in a straight run between securely mounted items such as boxes, cabinets, elbows, or other conduit terminations.

Expansion fittings are generally provided in exposed runs of rigid nonmetallic conduit where (1) the run is long, (2)

the run is subject to large temperature variations during or after installation, or (3) expansion and contraction measures are provided for the building or other structures. Rigid nonmetallic conduit exhibits a considerably greater change in length per degree change in temperature than do metal raceway systems.

In some parts of the United States and other countries, outdoor temperature variations of over 100°F are common. According to Table 352.44(A), a 100-ft run of PVC rigid nonmetallic conduit will change 4.06 in. in length if the temperature change is 100°F.

The normal expansion range of most larger sizes of rigid nonmetallic conduit expansion couplings is generally 6 in. Information concerning installation and application of this type of coupling may be obtained from manufacturers' instructions.

Expansion fittings are seldom used underground, where temperatures are relatively constant. If rigid nonmetallic conduit is buried or covered immediately, expansion and contraction are not considered a problem.

352.46 Bushings

Where a conduit enters a box, fitting, or other enclosure, a bushing or adapter shall be provided to protect the wire from abrasion unless the box, fitting, or enclosure design provides equivalent protection.

Table 352.44(A) Expansion Characteristics of PVC Rigid Nonmetallic Conduit Coefficient of Thermal Expansion = 6.084×10^{-5} mm/mm/°C (3.38×10^{-5} in./in./°F)

Temperature Change (°C)	Length Change of PVC Conduit (mm/m)	Temperature Change (°F)	Length Change of PVC Conduit (in./100 ft)	Temperature Change (°F)	Length Change of PVC Conduit (in./100 ft)
5	0.30	5	0.20	105	4.26
10	0.61	10	0.41	110	4.46
15	0.91	15	0.61	115	4.66
20	1.22	20	0.81	120	4.87
25	1.52	25	1.01	125	5.07
30	1.83	30	1.22	130	5.27
35	2.13	35	1.42	135	5.48
40	2.43	40	1.62	140	5.68
45	2.74	45	1.83	145	5.88
50	3.04	50	2.03	150	6.08
55	3.35	55	2.23	155	6.29
60	3.65	60	2.43	160	6.49
65	3.95	65	2.64	165	6.69
70	4.26	70	2.84	170	6.90
75	4.56	75	3.04	175	7.10
80	4.87	80	3.24	180	7.30
85	5.17	85	3.45	185	7.50
90	5.48	90	3.65	190	7.71
95	5.78	95	3.85	195	7.91
100	6.08	100	4.06	200	8.11