



COMMUNITY DEVELOPMENT DEPARTMENT

GENERAL INFORMATION TO CONSTRUCT A SWIMMING POOL, SPA OR HOT TUB

(847) 506-6030 www.cityrm.org/rmcd

General Instructions

- ◆ Complete the Pool/Spa/Hot Tub Application and the Electrical Permit Application. Most pool installations will require some electrical work. If you, as homeowner, do not perform the electrical work yourself, then a registered electrician must perform the work and sign the permit application.
- ◆ Spot the pool location on a full size scaleable and up-to-date plat of survey.
- ◆ Indicate the location of your electrical service on the plat and show whether it is an underground or overhead service. Indicate the horizontal distance the pool will be from the electrical service. The pool must be five (5) feet horizontally from underground electric service and 10 feet horizontally from an overhead electric service.
- ◆ The pool is not to be placed closer than six (6) feet to any structure or property line.
- ◆ If located less than 65 ft. back from the front property line, the pool must maintain a ten (10) feet separation from the side property line.
- ◆ The pool is not permitted in the front yard setback (generally 30 feet).
- ◆ The pool is not to be placed on utility or drainage easements.
- ◆ The pool is not to be located where it will interfere with surface storm water drainage.
- ◆ Indicate the method of making the pool inaccessible to small children. Indicate the fence location and height.
- ◆ Pedestrian Gate Requirements: Swimming pool barriers should be equipped with a gate or gates which restrict access to the pool. A locking device should be included in the gate design. Gates should open out from the pool and should be self-closing and self-latching. If a gate is properly designed, even if the gate is not completely latched, a young child pushing on the gate in order to enter the pool area will at least close the gate and may actually engage the latch. When the release mechanism of the self-latching device is less than 54 inches from the bottom of the gate, the release mechanism for the gate should be at least three (3) inches below the top of the gate on the side facing the pool. Placing the release mechanism at this height prevents a young child from reaching over the top of a gate and releasing the latch. Also, the gate and barrier should have no opening greater than ½ inch within 18 inches of the latch release mechanism. This prevents a young child from reaching through the gate and releasing the latch.

Submit the following to the Community Development Department:

Please refer to our webpage www.cityrm.org/rmcd to print applications

1. Completed Swimming Pool Application form
2. Completed Electrical Permit Application form (if applicable)
3. Current Plat of Survey with pool shown and indicating distances from existing structures (2 copies)
4. Pool Manufacturer's installation instructions (2 copies)
5. Pump/filter specifications (2 copies)

Note: *Decks, patios and other structures related to the pool must have their own permit. A separate application is required for this work.*

SWIMMING POOL MAINTENANCE

Revised February 2011

INTRODUCTION

This brochure is intended to serve as a guide to proper water treatment and pool maintenance for the home pool owner. It will deal generally with the above ground pool, however, it can also be used for the below ground private pool. Today's private pool, properly chlorinated and maintained is sanitary, inviting and a good investment in fun and health.

WHY DOES POOL WATER HAVE TO BE SANITIZED?

Pools in Rolling Meadows are filled from the city water supply. Many people find it difficult to understand why pure water should require any further treatment to keep it fit and ideal for swimming purposes. However, when a pool is filled with water, it immediately begins to pick up contaminants. Most of those contaminants are harmless; however, they are generally esthetically objectionable. An untreated pool is also an ideal breeding ground for mosquitoes.

Contaminants are introduced into pool water from a number of sources: air, rain, animals, insects and bathers. Bathers contribute the largest quantity of harmful bacteria and contaminants. These bacteria and contaminants must be rapidly destroyed or removed from the pool. Bacteria and algae are destroyed by disinfectants and properly recirculating the water through filters. Methods by which swimming pool water can be conditioned and the routine steps, which will keep it a safe and healthful condition despite the unavoidable introduction of various types of contaminants, will be brought out in this booklet.

CHLORINATION

The purification of water in practically all pools in this area is accomplished by using some form of chlorine. Sodium Hypochlorite (liquid chlorine or bleach) and Calcium Hypochlorite (powder or pellets) are the most commonly used materials for the home pool. In order to properly protect the pool users, a chlorine residual of 1 to 4 parts per million of chlorine residual must be maintained while the pool is in use. Therefore, it is necessary for a pool owner to obtain a DPD type kit from the local pool supply dealer. This includes at least four (4) color standards with a range of 0.5 - 5.0. Tests should be made as often as necessary to insure that the correct residual is being maintained. pH- Chlorine's effectiveness against bacteria is closely related to the pH of the water. pH is the measure of acidity or alkalinity of the pool water. The pH scale runs from zero to 14. Any pH reading between zero and seven (7) is alkaline. The recommended pH is 7.2 to 7.6. The pH of the pool should be tested regularly, at least once in the morning and once in the afternoon. In order to make this test, place a measured sample of pool water in a test tube and add phenol red. Shake the mixture and compare the colors with the standards provided in the test kit. pH is readily adjusted; to raise the pH use soda ash. It can be obtained in blocks or flakes and it may be added directly to the pool or as a solution. To lower pH, add muriatic acid or sodium bisulfate. Recirculate the pool water for at least 15 minutes to 45 minutes after adding the acid and then check the pH again. The addition of chemicals will change the pH of the pool. The addition of urine to the water will tend to change the pH also. Remember, skin and eye irritation is not usually caused by a high chlorine content but by improper pH range; also cloudy water can ensue with improper pH.

ALGAE

Algae are plant growths that cause slimy green patches and green stains on the sides and bottom of the pool. Generally, the regular use of chlorine will prevent these growths. Heavy rains and winds often infect pools with algae spores. Bright sunlight increases algae growth by causing higher water temperatures and rapid chlorine loss. To eliminate this problem, chlorine residuals must be carried throughout the day and then after the day's swimming has ceased, an extra dose of chlorine should be added after sundown since the available chlorine is consumed more slowly and will combat algae more effectively. However, if algae does obtain a foothold in the pool, it will be necessary to super chlorinate the pool to about 10 parts per million or more. This should be added in the evening and left overnight. Then, in the morning, the pool walls are brushed to loosen the dead algae and the dead algae are vacuumed. Once this is completed, bring the chlorine and pH to normal acceptable levels as discussed.

BACTERIA

As pointed out in the opening remarks on sanitization, bacteria can be introduced in many ways, however, the human body is the most troublesome and most dangerous. These bacteria have been known to survive for weeks at temperatures near 70 degrees and for months at lower temperatures. It is necessary to carry a chlorine residual of at least .5 ppm at all times to prevent the transmission of bacteria from one bather to another. A large amount of bacteria can emanate from nose and throat, urine and other parts of the body and create a dangerous condition unless adequate free chlorine residual is available.

POOL TYPES

The recirculating pool provides clean sparkling water since this water is continuously recycled and filtered. Fresh water is required to replace evaporation loss and overflow. The filters and pump should be operated continually throughout the swimming season.

The other most common type is the "fill and draw pool". The pool is filled, used and periodically drained and refilled. Thorough and regular vacuuming and skimming are required because there is no filter. Chlorination must be practiced very carefully in order to maintain the necessary residuals. The small plastic "kiddy" pools are generally in this category. It must be stressed that these pools need as much or more care as a large filtered pool, primarily because they are used by small children who are more susceptible to disease than most adults and because in many cases the children wear their suits longer and are not aware of the necessity for keeping urine and other waste materials out of the pool.

FILTERS

Sand filters and diatomite filters are the most common types used to remove suspended particles from the water to keep it clear and sparkling. With sand filters, the water is cleaned as it flows down through layers of sand and gravel. Through normal pool use, there will be a pressure drop with a drop in recirculating rate. Generally, this is caused by an accumulation of dirt and/or other particulates on the filter. The use of chlorine and periodic backwashing will remedy this condition. Directions for this are usually on the filter plate.

A diatomite filter consists primarily of a porous filter element, which is coated with diatomaceous earth. This layer called the precoat, does the actual filtering and is expendable. During the backwash, both the dirt and the precoat are removed. A fresh precoat is applied each time the filter is returned to service.

VACUUMING EQUIPMENT

The swimming pool vacuum cleaner operates on the same principle as the ordinary home vacuum cleaner, except that it draws water through the vacuum head instead of air. Sediment and dirt are drawn from the pool floor and sides and are carried through the vacuum piping for removal through the pool filter. The pool should be vacuumed regularly. Experience will determine when it is best to do this.

SUGGESTED STEPS FOR OPENING YOUR POOL

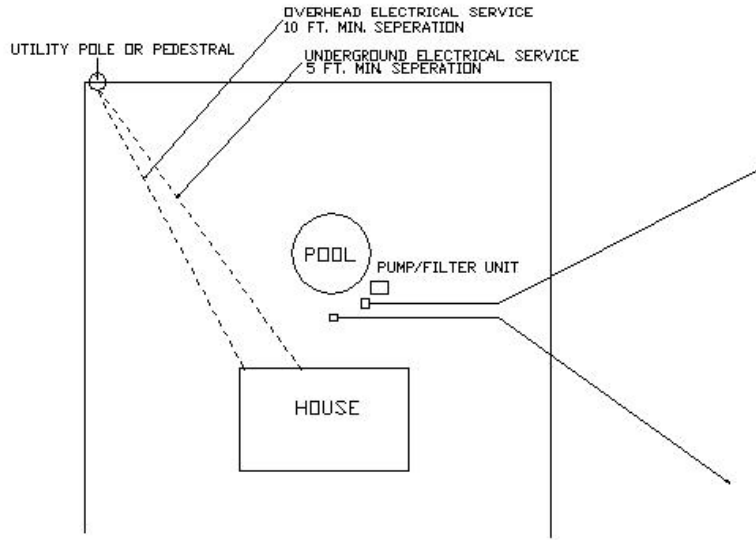
For below ground permanent pool or above ground semi-permanent pools

1. Sweep down walls and bottom and remove the debris.
2. Flush out all piping and rain to sewer.
3. Remove all stains and grease.
4. Make necessary repairs.
5. Check all connections and reconnect all chemical treatment equipment.
6. Refill pool.
7. Clean and backwash filter, place filter and pump in operation.
8. Adjust pH and chlorine residuals.
9. Check pH and chlorine regularly.

For plastic "kiddy" pools without filter or pump, the following is suggested for opening the pool.

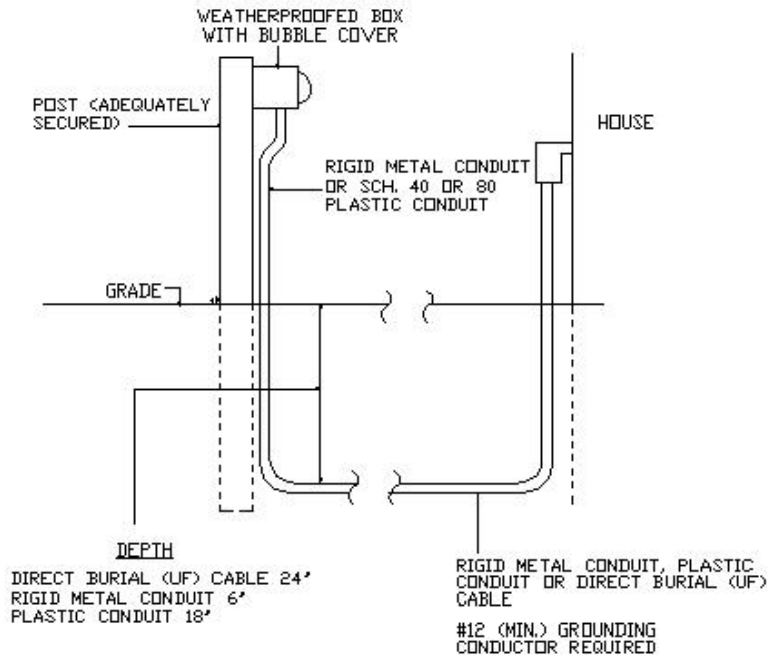
1. Repair all leaks
2. Wash the walls and bottom with a strong chlorine solution.
3. Flush out and drain to waste.
4. Refill pool.
5. Adjust pH and chlorine residual.
6. Check pH and chlorine regularly.

ELECTRICAL REQUIREMENTS FOR SWIMMING POOLS



TYPICAL INSTALLATION

TYPICAL INSTALLATION



1. Required Pump Receptacle.

Receptacles that provide power for water-pump motors or other loads directly related to the circulation and sanitation system shall be permitted to be located between 6 feet and 10 feet from the inside walls of pools and outdoor spas and hot tubs and, where so located, shall be single and of the locking and grounding type and shall be protected by ground-fault circuit interrupters.

E4203.1.1 2009 International Residential Code.

2. Required Appliance Receptacle.

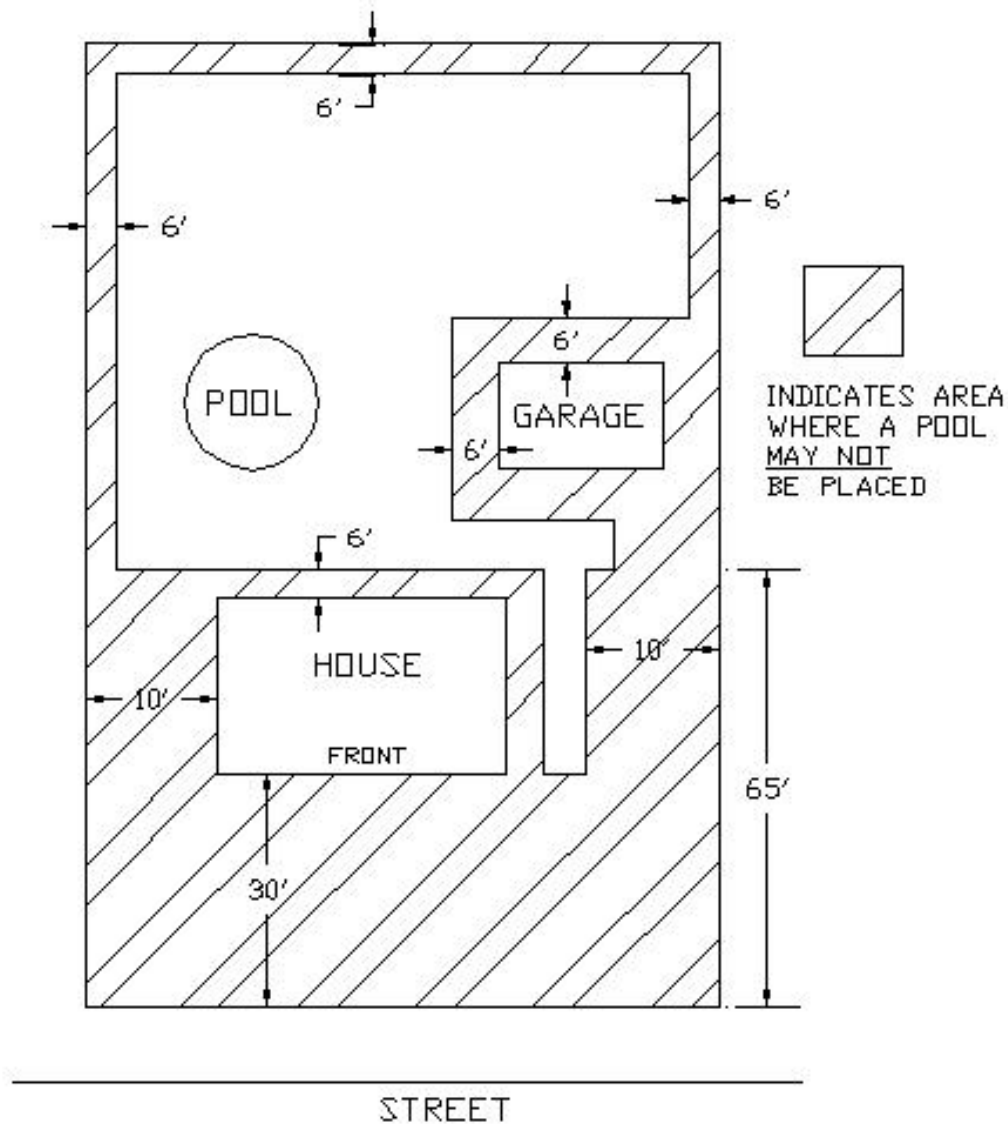
At least on 125- volt, 15-20 ampere receptacle supplied by a general-purpose branch circuit shall be located a minimum of 6 feet and not more than 20 feet from the inside wall of the pools and outdoor spas and hot tubs. This receptacle shall be locate not more than 6 feet, 6 inches above the floor, platform or grade level serving the pool, spa or hot tub.

E4203.1.2 2009 International Residential Code.

General Requirements

1. All electrical work to be performed in accordance with the IRC 2009 Code .
2. Cord on pump/filter unit is not to exceed three feet (3') in length.
3. All electrical equipment and material is to be Underwriter's Laboratory listed (U.L. labeled).
4. Bonding. All metal parts of the pool, pump and all accessories shall be bonded together with #8 solid wire conductor.
5. Pump/filter unit is to be on a separate circuit.

SITE REQUIREMENTS FOR SPOTTING A SWIMMING POOL



GENERAL RULES

1. The pool is not to be placed closer than six feet (6') to any structure or property line.
2. If located less than 65 feet (65') back from the front property line, the pool must maintain a ten-foot (10') separation from the side property line.
3. The pool is not permitted in the front yard setback (generally 30 feet.).
4. The pool is not to be placed on utility or drainage easement.
5. The pool is not to be located where it will interfere with surface storm water drainage.
6. The pool must be 10 feet (10') from the overhead electrical service lines and five feet (5') from the underground electrical service (measured horizontally).