



# **Residential Above-Ground and In-Ground Swimming Pool, Hot Tub and Spa Construction**

**April 2019**

**A City of Rochester Hills  
Building Department  
Guide to Installing  
A Residential Swimming Pool,  
Hot Tub, or Spa**



**Rochester Hills Building Department  
1000 Rochester Hills Dr.  
248-656-4615**



**INTRODUCTION**  
**Residential Swimming Pools, Hot Tubs, and Spas**

The City of Rochester Hills has prepared this Guidebook to assist you in the process of building an above-ground or in-ground residential swimming pool, hot tub or spa within our City. This Guidebook contains important information that will help you understand the Building Permit and construction process from application to completion. We have included details for areas that have generated confusion or delays in the past. The information is presented in a start-to-finish sequence to guide you as you progress through your project.

A Building Permit is required for all residential swimming pools, hot tubs or spas that have any one of the following:

- a pool depth intended for swimming or bathing, more than 24" deep
- a permanent water-recirculation system
- construction that involves structural materials

This Guidebook contains the following information for your use:

**Before You Build**.....Page 1

- Items that should be checked at the beginning of your project.

**From Application to Completion**.....Pages 2-5

- This is intended to be your general guide through the complete process. Information is provided on the application requirements, Permit and Inspections.

**Building Permit Fees**.....Page 6

- A list of fees related to installing a residential swimming pool, hot tub or spa.

**Inspection Requests**.....Pages 7-8

- Contains details required for requesting an inspection, making sure your job is ready for inspection, the time inspections are done and what the inspection reports mean.

**Construction Requirements**.....Pages 9-12

- A general guide to help you understand and apply the common Zoning Ordinance and Building Code requirements for your project. This information should be used as you prepare your plot plan, construction drawings and install your pool, hot tub or spa.

**Plot Plan Requirements**.....Pages 13-15

- A list of the items required to be shown on the Plot Plan. This list should be given to your Plot Plan preparer. Please take time to make sure your drawings are complete.

- Plot Plans that contain all the necessary information and details will help expedite the plan review process.

**Sample Plot Plans**.....Pages 16-17

- Sample Plot Plans are included to help you understand the information that is required on your Plot Plan.

**Sample Fence/Barrier and Gate Details**.....Page 18

- A detailed drawing showing the fence/barrier and gate requirements. This should be used as a guide as you prepare your fence detail and construct your enclosure around the residential swimming pool, hot tub or spa (as applicable).

**Electrical Grounding and Pool Section Details**.....Page 19

- Details showing the Electrical grounding requirements and sample drawings showing the information and details that is required on the pool section drawings, and to assist you with the construction of your residential swimming pool, hot tub or spa.

**Pool Information Form**.....Page 20

**Customer Satisfaction Survey**.....Page 21

- Please take the time to complete this survey. It is an opportunity for you to provide comments and suggestions that will help us as we continue working to improve our service.

**Forms**

- Building Permit Applications
- Pool Information Form
- Contractor Registration
- Customer Survey Form

} *All forms are available at our counter  
or online at [www.rochesterhills.org](http://www.rochesterhills.org)*

This Guidebook contains many procedures and requirements. We urge you to read through it completely. It may save you valuable time in completing your project. We hope this Guidebook is helpful and we encourage you to provide us with any suggestions you may have. Please review and complete the Customer Survey Form that is attached at the end of this Guidebook or available online at [www.rochesterhills.org](http://www.rochesterhills.org).

**Note: This Guidebook is only intended to be a guide and is not all inclusive of the Michigan Residential Building Code (MRC) or the International Swimming Pool and Spa Code (ISPSA). For complete details of all requirements, please consult those two Codes. The information in this Guidebook is subject to change without notice.**

## **BEFORE YOU BUILD**

### **Residential Swimming Pools, Hot Tubs and Spas**

**Location** – Residential swimming pools, hot tubs, or spas shall not be located within any easement, above a septic field or tank, or water well. Overhead wires (electric, phone, cable) shall not be located over a pool, diving structure, any pool platform or within 10 feet of the water’s edge. All wires beyond 10 feet must be at least 22-1/2 feet above the ground, deck, patio, or other walking surface below the wires. You may verify the location of all underground utilities by calling Miss Dig at 1-800-482-7171.

**Setbacks** – All residential swimming pools, hot tubs and spas shall be at least 5 feet from the side and rear property lines, 10 feet from the home and shall not be located within any front yard. The setback distance is measured from the water’s edge.

**Drainage** – Will the existing yard drainage be affected by the location of the proposed pool? All changes to the existing drainage shall be shown on the Plot Plan. If large grade changes and/or slopes are proposed, retaining walls or special grading may be required. See “Plot Plan Requirements” – pages 13-15. If you have any questions, please call the Building Department at (248) 656-4615.

**Flood Plains** – Flood plains are usually associated with lakes, streams, rivers and drainage courses. They are areas designated to flood during times of rain. Building in these areas is strictly regulated. If you are proposing to build a residential swimming pool, hot tub or spa or place fill in a floodplain, it may require a Structural Engineer’s design and a Floodplain Use Permit prior to Building Permit approval. Call the City's Engineering Services at (248) 656-4640 for more information.

**Wetlands** – These areas have been determined to be indispensable and are to be protected as a natural resource. They provide numerous beneficial functions such as wildlife habitat, water, quality, flood control, pollution reduction, erosion control, open space, recreation areas and aesthetics. If your residential swimming pool, hot tub or spa will be close to or in regulated wetlands, additional paperwork, including permits, may be required from the City or State of Michigan prior to Building Permit approval. Please contact the Building Department at (248) 656-4615 for more information.

**Historic District** – If your residential swimming pool, hot tub or spa will be built in a designated Historic District, it must be approved by the Historic District Commission. The Planning Department can help you understand the process and explain what you need to provide. Please contact the Planning Department at (248) 656-4660 for more information.

**Pool Fences/Barriers to Create an Enclosure** – All residential swimming pools (and hot tubs and spas not provided with a protective cover) shall be protected by fences/barriers to create an enclosure to make the area inaccessible to small children. Enclosures may include approved fencing, the walls of a house, the walls of above-ground pools, gates, and door and window alarms. See “Construction Requirements” – pages 9-12.

These are some of the common items that may cause delays in the permit process. If your project is beyond the scope of this Guidebook, additional requirements may be necessary. Please call the Building Department at (248) 656-4615 if you have any questions.

**FROM APPLICATION TO COMPLETION**  
**Residential Swimming Pools, Hot Tubs and Spas**

A General Guide through the Complete Process

**1. Information Required For Permit Application**

**A. Building Permit Application**

- Applications are available online at [www.rochesterhills.org](http://www.rochesterhills.org) or at the Building Department counter. Applications shall be filled out completely.

**B. Application Fee**

- See “Building Permit Fees” – page 6.

**C. Plot Plan – Three Sets**

- See “Plot Plan Requirements” – pages 13-15 and “Sample Plot Plans” – pages 16-17.

- Plot plans containing all necessary information will help expedite the plan review process.

**D. Construction Drawings – Two Complete Sets of Everything**

**- Above-ground pools**

- Provide two sets of manufacturer’s drawings and specifications.
- The plans submitted shall contain complete details of the pool fence/barrier.
- See “Construction Requirements” – pages 9-12.

**- In-ground Pools**

- Provide complete construction details showing the size, spacing and location of all structural members and reinforcement.
- Provide pool sections with details. See “Pool Section Details” – page 19.
- Indicate the location and provide details of the steps and/or ladder.
- The plans submitted shall contain complete details of the pool enclosure.
- See “Construction Requirements” – pages 9-12.

**E. Hot Tubs or Spas**

- Provide two sets of manufacturer’s drawings and specifications.
- The plans submitted shall contain complete details of the pool fence/barrier.
- See “Construction Requirements” – pages 9-12.
- Information about the safety cover shall be included if a fence/barrier is not being installed.

**F. Fence/Barrier Details – Two Sets**

- See “Construction Requirements”, pages 9-12 & "Fence/Barrier and Gate Details – page 18.

**G. Residential Swimming Pool Information Form**

- Forms are available online at [www.rochesterhills.org](http://www.rochesterhills.org) or at the Building Department counter.  
This Form shall be filled out completely.

**H. Owners** may submit a Building Permit application for work on property that is, or will be, on completion, their place of residence.

**Please be advised:** Any Contractor hired by the Owner for a contract price of \$600.00 or more, shall be licensed in accordance with the State of Michigan Residential Builders Laws.

**Please note:** All information noted above shall be submitted with the Building Permit Application.

**2. Registration of Builder’s License**

\*A Builder shall be currently registered with the City of Rochester Hills to be able to submit a

Building Permit Application.

\*All registrations expire May 31.

\*Builders not currently registered can register at the time of application by providing or presenting the following:

- The original or a copy of your Builder's License
- The original or a copy of your Driver's License
- Registration fee is \$30.00 until the end of the License.
- Contractor Registration Form (available at our Counter or online at [www.rochesterhills.org](http://www.rochesterhills.org)) with an original signature by License Holder, or notarized (if not presented by the License Holder)

### **3. Plans Reviewed and Approved**

All Building Permit applications for above-ground residential swimming pools, hot tubs, or spas will be processed within 48 hours from the time of application as an Expedited Building Permit. Due to the complex nature of in-ground pools, these types of projects will not be eligible for Expedited Building permits.

**Please Note:** If the Plan Reviewer determines that the project will need a full review due to its complexity, the Permit Applicant will be notified that their project does not qualify for the Expedited Permit process. The Building Permit Application will be processed as a regular permit. Please see the explanation for Expedited and Regular Permits below.

#### **A. Expedited Permits**

The proposed residential swimming pool, hot tub or spa shall comply with City Ordinances, this Guidebook, the Michigan Residential Code (MRC), and the International Swimming Pool and Spa Code (ISPSC).

The Permit Applicant will be notified if the plans do not meet Zoning Ordinance, grade, or Code requirements, or if any additional information is necessary.

#### **B. Regular Permits**

Construction drawings will be reviewed for compliance with City Ordinances, this Guidebook, the Michigan Residential Code (MRC), and the International Swimming Pool and Spa Code (ISPSC). Plans are reviewed in the order they are received, based on the application date. Plan Review times vary depending on the Building Department's workload.

Plans that contain all the necessary information and details will help speed up the plan review process.

The Permit Applicant will be notified if the plans do not meet Michigan Residential Code requirements, or if any additional information is required.

### **4. Permit Ready**

Whether a Regular Permit or an Expedited Building Permit has been processed, the Permit Applicant will be called when the Building Permit is ready to be picked up.

### **5. Mechanical and Electrical Permits** are typically required and can be obtained after the Building Permit has been issued.

\*All items to be installed shall be listed on the appropriate permits.

\*Items not listed shall be added to the appropriate permits prior to the Final Inspection.

**When the required permits are obtained, construction may begin. Revisions to the residential swimming pool, hot tub or spa or grade after issuance of the Building Permit may require re-submittals and reapproval from the Building Department.**

The following items shall be maintained throughout the construction process:

- \*The street address shall be posted on the house and visible from the street.
- \*The street shall be kept clean.
- \*All construction materials and debris shall be contained on the property.
- \*Temporary soil erosion control shall be erected and maintained (as applicable).

**6. Inspections** (See “Inspection Requests” – pages 7-8) Once your Building Permit has been issued, you can begin construction. Approved plans shall be on site for all inspections. **If you have received an Expedited Permit, the Construction Guidebook provided to you shall be on site at the time of inspections.** Your residential swimming pool, hot tub, or spa will be reviewed and inspected in accordance with the requirements of the Michigan Residential Code (MRC). As your project progresses, the Building Department will need to perform the following inspections (as applicable to your type of project):

**A. Underground Mechanical Inspection (as applicable)**

- \*Underground gas lines shall be inspected before covering.
- \*All work shall comply with the Michigan Residential Code (MRC).

**B. Underground Electrical Inspection** – After grounding, bonding and all underground Electrical work is completed, the Electrical work shall be inspected before covering. The following will be verified:

- \*Proper materials approved for pool installations have been used. Contact the Electrical Inspector at (248) 656-4615 if you have questions.
- \*Wiring from house to pool is at least 18 inches below grade.
- \*All work complies with the Michigan Residential Code (MRC).

**C. Steel or Structural Inspection** (for In-Ground Pools only) – Required before concrete, gunite or backfill. The following will be verified:

- \*Structural steel and reinforcement shall be installed in accordance with the approved plans and the manufacturer’s requirements.

**D. Final Mechanical Inspection (as applicable)** - After all Mechanical equipment and gas piping are installed and operational. The following will be verified:

- \*Above-ground gas piping and pool heater have been properly installed with the correct materials.

- \*Pool heaters have been provided with a readily accessible on/off switch to allow shutting off the heater without adjusting the thermostat setting.
- \*Pool heaters do not have continuously running pilot lights.

**E. Final Electrical Inspection** - After all Electrical equipment, switches, plugs, covers and fixtures are installed and operational. The following will be verified:

- \*All grounding and bonding has been completed. See “Electrical Grounding Details” - see page 19.
- \*Ground fault circuit interrupters operate properly. The proper breaker size has been installed.
- \*Timer switches have been installed that can automatically turn off and on heaters and pumps according to preset schedules.

**Please Note:** The Inspector may need access to the inside of the house to complete the Electrical inspection. An adult needs to be present for the Inspector to enter the house.

**F. Final Building Inspection** – After Mechanical and Electrical inspections (as applicable) are done and the pool enclosure/barrier is completed.

- \*A Final Inspection is required for all residential swimming pools, hot tubs, and spas.
- \*Common items the Inspector looks for are:
  - o Window and door alarms have been installed on all required windows and doors (**Please Note:** An adult needs to be home to allow access to check the alarm operation.)
  - o The proper type and installation of fencing and gates. See “Sample Fence/Barrier and Gate Details” – see page 18.
  - o Swimming pool walls and floor slope.
  - o Diving board requirements (if applicable).
  - o A vapor retardant pool cover is available the water surface of the pool or nearby.
  - o A safety cover has been installed on the hot tub or spa if a barrier is not being installed.
  - o Ladder installation (as applicable).
  - o Grading has been done in accordance with approved plot plan.

This itemized list is provided as a guide to help you understand the process for installing a residential swimming pool, hot tub or spa in the City of Rochester Hills. It covers the most common types of projects. If your project is beyond the scope of this Guidebook it may require additional information, inspections or permits. Please call the Building Department at (248) 656-4615 if you have any questions on how to apply this Guidebook to your specific project.



**BUILDING PERMIT FEES**

Residential Swimming Pools, Hot Tubs and Spas

1. **Application Fee**..... \$100.00  
Non-refundable and due when the permit application is submitted.
2. **Zoning Review Fee** ..... \$85.00
3. **Grading Plot Plan Review and Inspection Fee**  
(for in-ground pools only)..... \$85.00  
Additional fee for each review after the second review \$85.00
4. **Building Permit Fee**  
Based on the Construction Value of the project excluding site work. Refer to Fee Chart below.  
  
**Construction Value**  
(A) \$1000.00 and under.....\$85.00  
    \$1001.00 to \$10,000-  
        **\$85.00 plus \$22.00 for each additional \$1000.00 or part thereof over \$1000.00**  
(B) \$10,000.00 and over-  
        **\$283.00 plus \$7.00 for each additional \$1000.00 or part thereof over \$10,001.00**
5. **Building Plan Review Fee**  
\$1.62 per \$1000.00 of the Construction Value, with a **minimum fee** of..... \$85.00
6. **Schedule of Building Permit Fees for residential swimming pools, hot tubs, and spas:**

CONSTRUCTION VALUATION	APPLICATION FEE	ZONING REVIEW FEE	PLAN REVIEW FEE	GRADE REVIEW (IN-GROUND POOL ONLY)	BUILDING PERMIT FEE	TOTAL FEE ABOVE-GROUND POOL, HOT TUB OR SPA	TOTAL FEE IN-GROUND POOL
\$0 -----\$1,000	\$100	\$85	\$85	\$85	\$85	\$355	\$440
\$1,001---\$2,000	\$100	\$85	\$85	\$85	\$107	\$377	\$462
\$2,001---\$3,000	\$100	\$85	\$85	\$85	\$129	\$399	\$484
\$3,001---\$4,000	\$100	\$85	\$85	\$85	\$151	\$421	\$506
\$4,001---\$5,000	\$100	\$85	\$85	\$85	\$173	\$443	\$528
\$5,001---\$6,000	\$100	\$85	\$85	\$85	\$195	\$465	\$550
\$6,001---\$7,000	\$100	\$85	\$85	\$85	\$217	\$487	\$572
\$7,001---\$8,000	\$100	\$85	\$85	\$85	\$239	\$509	\$594
\$8,001---\$9,000	\$100	\$85	\$85	\$85	\$261	\$531	\$616
\$9,001--\$10,000	\$100	\$85	\$85	\$85	\$283	\$553	\$638
\$10,001-\$11,000	\$100	\$85	\$85	\$85	\$290	\$560	\$645
\$11,001-\$12,000	\$100	\$85	\$85	\$85	\$297	\$567	\$652
\$12,001-\$13,000	\$100	\$85	\$85	\$85	\$314	\$574	\$659
\$13,001-\$14,000	\$100	\$85	\$85	\$85	\$311	\$581	\$666
\$14,001-\$15,000	\$100	\$85	\$85	\$85	\$318	\$588	\$673
\$15,001 & over	See items 1 through 5 above						

7. **Registration Fee for Residential Builder Licenses**..... \$30.00 until end of license
8. **Re-inspection Fee**.....\$85.00

## **INSPECTION REQUESTS**

Residential Swimming Pools, Hot Tubs and Spas



**The Building Department offers three convenient methods to allow you request inspections:**

- **24-hour Inspection Request Line** – An Inspection may be requested by calling our Inspection Request Line at (248) 656-4619 and providing the following information:
  - **The Street Address of the job site.**
  - **The Permit Number.**
  - **The type of Inspection you are requesting.**
- **Please Note:** This 24-hour Inspection Request Line is for Building Department Inspection Requests only.
- **Online Inspection Requests** – Inspections may also be requested by visiting the Building Department’s website at [www.rochesterhills.org](http://www.rochesterhills.org). At the bottom of the page, click on “Permits & Property Data Look up”. Register with BSAonline and call us at 248-656-4615 to link your username. Once linked, you will be able to schedule your inspections online.
- **QR Code Inspection Scheduling**– Scanning the QR Code at the top of this page will gain you direct access to the same Online Inspection Request Form as mentioned above. You will find the QR Code for scheduling inspections on many of our Building Department documents for your convenience.

Inspections scheduled before 3:00 p.m. that have been verified by the Building Department Staff will be scheduled for the next business day between 9:00 a.m. and 4:00 p.m. Inspections may be done earlier or later depending on the Inspector’s workload. Inspections will be done Monday through Friday. Inspections may be available outside the normal business hours by special arrangement. Additional fees for “After Hours” inspections shall be paid in advance of the inspection.

**A request to cancel an Inspection needs to be called in to the Building Department at (248) 656-4615 before 9:00 a.m. on the day of the requested Inspection.**

**Please make sure your project is ready for your inspection. If your project is not ready for an inspection, the inspection will not be done and an \$85.00 re-inspection fee may be charged. The following items shall be completed or in place at the time of the inspection:**

- Safe access to the job site and throughout the area to be inspected.
- Approved plans and truss drawings on site.
- The job ready for inspection.
- The Street address and lot number posted and visible from the street.
- Temporary soil erosion control properly installed.
- The street kept clean.
- All construction materials and debris contained on the project property.
- Any required tree protection properly installed and maintained.

**Inspection results will be left on site after each inspection has been completed.**

**Green Tag**                      Your Inspection has been approved.

**Inspector’s Report**        Your Inspection has not been approved. The Report will contain a list of items that need to be addressed before calling for a re-inspection. An \$85.00 re-inspection fee will be charged for any items not corrected at the time of the second inspection. Inspections need to be approved before proceeding with the next phase of your construction project.

It is your responsibility as the permit holder to check the job site for the inspection results. Please read the information on all Inspection Reports. If you have any questions regarding this information, call (248) 656-4615 between 8:00 a.m. and 9:00 a.m. and ask to speak with the Inspector that wrote the Inspector’s Report.

## **CONSTRUCTION REQUIREMENTS**

### **Residential Swimming Pools, Hot Tubs and Spas**

This information is provided in a “User-friendly” format as a general guide to help you apply the common Michigan Residential Code requirements to your project. It covers the most common types of projects. The actual Michigan Residential Code language may contain additional requirements or exceptions that may apply if your project is beyond the scope of this Guidebook.

Your residential swimming pool, hot tub or spa will be reviewed and inspected in accordance with the following:

Building Code:	2015 Michigan Residential Code (2015 MRC) and, by reference, the 2015 ICC International Swimming Pool and Spa Code (2015 ISPSC)
Mechanical Code:	2015 Michigan Residential Code (2015 MRC)
Electrical Code:	2015 Michigan Residential Code (2015 MRC)
Plumbing Code:	2015 Michigan Residential Code (2015 MRC)

#### **1. Setbacks:**

All residential swimming pools, hot tubs and spas shall be at least 5 feet from the side and rear property lines and shall not be located in the front yard. The setback distance is measured from the water’s edge.

#### **2. Residential Swimming Pool, Hot Tub, and Spa Construction:**

The residential swimming pool, hot tub, or spa shall be installed and/or constructed in accordance with the manufacturer’s installation instructions, the approved construction drawings and the approved Plot Plan.

**Safety Precautions** shall be maintained throughout construction. Residential swimming pools, hot tubs or spas shall not be filled with water until the pool fence/barrier requirements of the Michigan Residential Code are completed. See Pool Fence/Barrier Used as an Enclosure information - pages 10-11.

**Wall Slopes:** (this typically applies to In-Ground pools only) The wall slopes around the pool shall not exceed 11% to a depth of 2 feet 9 inches from the top. Please provide wall slope details on your pool sections. See “Pool Section Details” – page 19.

**Floor Slopes:** (this typically applies to In-Ground pools only) The slope of the floor on the shallow side of the transition point shall not exceed one unit vertical to seven units horizontal. Please provide floor slope details on your pool sections. See “Pool Section Details” – page 19.

**Surface Cleaning:** All residential swimming pools shall be provided with a re-circulating skimmer or overflow gutters to remove scum and foreign matter from the surface of the water. Please indicate the type of surface cleaning to be used on the “Pool Information Form”, available at our counter or online at [www.rochesterhills.org](http://www.rochesterhills.org)

**Steps and Ladders:** At least one way to get out of the swimming pool shall be provided. Treads of steps and ladders shall have a slip resistant surface. All steps and ladders shall comply with the requirements

outlined in the Michigan Residential Code and the International Swimming Pool and Spa Code. Construction plans shall show the location and details of the steps and/or ladders.

**Water Treatment:** Swimming pool filters shall have the capacity to filter the total volume of water in the pool at least once every 12 hours. The pool Owner shall be instructed in the care and maintenance of the pool by the Supplier or Builder, including treatment. This information shall be included on the "Pool Information Form" which is available at our counter or online at [www.rochesterhills.org](http://www.rochesterhills.org).

**Diving Boards:** (this typically applies to In-Ground pools only) The International Swimming Pool and Spa Code referenced in the Michigan Residential Code has specific requirements for the installation of diving boards, dependent on your residential swimming pool configuration. Please refer to the International Swimming Pool and Spa Code for specific requirements. If your residential swimming pool will have a diving board, you will need to provide information that shows how your diving board will comply with the International Swimming Pool and Spa Code requirements.

### **3. Pool Fence/Barrier Used as an Enclosure**

All residential swimming pools, hot tubs, or spas shall be protected by a fence/barrier enclosure to make the area inaccessible to small children. Approved fencing, walls of the pool, walls of the house, gates, and door and window alarms may be part of fence/barriers used as enclosures. Enclosures are not required for hot tubs or spas when an approved lockable safety cover that has been tested in accordance with ASTM F-1346-91 (2010) and bears a tag stating compliance has been installed. Enclosures are also not required for residential swimming pools protected with an approved safety cover.

Residential swimming pool, hot tub and spa enclosures shall meet the following requirements:

#### **Fence/Barrier:**

The fence/barrier shall be 48 inches above the grade measured on the side of the fence/barrier that faces away from the swimming pool, hot tub or spa.

**Please Note:** If property within 3 feet of a fence/barrier slopes upward, or contains a retaining wall or some similar climbing feature, the fence/barrier will have to either be increased in height or moved further back onto the property containing the residential swimming pool, hot tub or spa to accommodate the height difference at the adjacent property. This requirement ensures that the 48" barrier/fence height is properly maintained around and within 3 feet of the entire residential swimming pool, hot tub or spa and that higher surfaces cannot be used to help climb over the fence/barrier.

The maximum vertical clearance between the fence/barrier and surfaces that are not solid, such as grass or gravel shall be 2 inches measured on the side of the fence/barrier that faces away from the residential swimming pool, hot tub or spa.

The maximum vertical clearance between the barrier and a solid surface such as concrete shall not exceed 4" measured on the fence/barrier that faces away from the residential swimming pool, hot tub or spa. Openings in the fence/barrier shall not allow the passage of a 4-inch diameter or larger sphere (openings shall be less than 4").

**Solid fences/barriers** such as brick or masonry walls shall not contain indentations or protrusions that would create a toe-hold or make the fence/ barrier climbable.

**Closely Spaced Horizontal Members** - Where the fence/barrier is composed of horizontal and vertical members (wood, aluminum, picket, etc.) and the distance between the tops of the horizontal members is less than 45 inches, the horizontal members shall be located on the residential swimming pool, hot tub or spa side of the fence/barrier. Spacing between vertical members shall not exceed 1-3/4".

**Widely Spaced Horizontal Members** - Where the fence/barrier is composed of horizontal members and the distance between the tops or the horizontal members is 45" or more, spacing between vertical members shall not exceed 4". (This typically applies to wrought iron fencing.)

**Chain link fences/barriers** shall have maximum opening size of 1-3/4 inch. Chain link fences/barriers with larger squares that are provided with slats fastened at the top or bottom shall have reduced openings not more than 1-3/4 inches.

**Lattice fencing** may be used as a fence/barrier when properly supported and the opening formed by the diagonal members is not more than 1-3/4 inches. The angle of the diagonal members from horizontal shall not be less than 45 degrees.

#### **Gates:**

\*Access gates shall comply with the fence/barrier requirements.

\*Gates shall be equipped to accommodate a locking device.

\*Pedestrian access gates shall open outward away from the residential swimming pool, hot tub or spa and shall be self-closing and have a self-latching device.

\*Utility or service gates not intended for pedestrian use shall remain locked when not in use.

\*Double or multiple gates shall have at least one leaf secured in place and the adjacent leaf shall be secured with a self latching device. The release mechanism is required to be 54" above the grade.

\*If the release mechanism of the self-latching device is located less than 54 inches from the grade, the following requirements apply:

- The release mechanism shall be located on the swimming pool, hot tub or spa side of the gate at least 3 inches below the top of the gate.
- The gate and fence/barrier shall not have an opening greater than 1/2 inches within 18 inches of the release mechanism.

#### **Doors and Windows:**

Doors and windows that form part of a residential swimming pool, hot tub or spa fence/barrier enclosure and provide direct access to the residential swimming pool, hot tub or spa from a house or garage area shall comply with the following requirements:

\*Each door and window shall contain a listed and labeled hazard entrance alarm (per UL 2017) that produces an audible warning when the door or window and its screen, if present, are opened.

\*The audible warning shall start immediately after the door or window and its screen, if present, are opened.

\*The audible warning shall sound continuously for at least 30 seconds.

- The alarm shall be capable of being heard throughout the house.
- The alarm shall automatically reset under all conditions.
- The alarm shall be equipped with a deactivation device such as a touch pad or switch.
- The deactivation device shall temporarily deactivate the alarm for not more than 15 seconds to allow a single opening for the door from either direction.
- The deactivation device shall be located at least 54 inches above the floor.

\*A listed and labeled safety cover that meets the requirements of ASTM 1346 may be used in lieu of door and window alarms.

#### **Above-Ground Residential Swimming Pools:**

The walls of the above-ground residential swimming pool can be used as part of the fence/barrier if the top of the pool walls are at least 48 inches above the grade for the entire perimeter within 3 feet of the pool and the pool manufacturer allows the walls to serve as the fence/barrier.

Ladders or steps used to access the residential swimming pool, hot tub or spa shall be capable of being secured, locked, or removed to prevent access. Ladders or steps may be enclosed with fencing/barriers and gates that meet fence/barrier requirements.

#### **Hot Tubs and Spas:**

Hot tubs and spas shall be provided with an approved lockable safety cover that has been tested in accordance with ASTM F-1346-91(2010). All approved safety covers shall have a tag indicating that the cover has passed the ASTM F-1346-91(2010) test.

Safety covers are not required when hot tubs or spas are enclosed by a fence/barrier that meets all the guidelines mentioned above.

#### **Entrapment Protection:**

Residential swimming pools, hot tubs and spas shall have suction outlets provided in accordance with ANSI/ASPS/ICC-7 2103.

#### **Wood Decks Constructed Near a Residential Swimming Pool, Hot Tub or Spa:**

Wood decks constructed near a residential swimming pool, hot tub or spa shall comply with the requirements of the Residential Wood Deck Construction Guide (based on the Michigan Residential Code) and the International Swimming Pool and Spa Code (General requirements and requirements for above-ground pools).

**PLOT PLAN REQUIREMENTS**  
**Residential Swimming Pools, Hot Tubs and Spas**

Three sets of Plot Plans containing all the information and details noted below shall be submitted with the Building Permit application. See “Sample Plot Plans” – pages 15-16. The Plot Plans can be drawn by the Homeowner, Contractor, Land Surveyor, Engineer or Architect. Special circumstances may require Plot Plans to be drawn by a licensed Engineer, Architect or Land Surveyor. This will be determined during the Plan Review process.

The Plot Plans shall contain the following information:

**General:**

Builder’s name, address, and telephone number.

The North arrow, street right-of-way and street name.

The plan scale shall be between 1” = 20’ and 1” = 50’.

The preferred plan size is 8 ½” x 11”. If it is necessary to go to a larger size, please do not exceed 18” x 24”.

Temporary soil erosion control measures may be required based on the field conditions.

Permanent soil erosion control measures may be required for Final Grade approval.

**Zoning and Building:**

Show lot dimensions.

Show the location and dimensions of the proposed residential swimming pool, hot tub, or spa and ALL structures on the lot.

Indicate the distance from the water’s edge to all property lines, easements and buildings.

Show the location of all fencing and gates.

Indicate the location of all above-ground and underground utilities. Include septic and well, if applicable.

Show the location of all overhead wires. Include the distance between the wires and the water’s edge, and the height of the wires above the ground, deck, patio, or other walking surface below the wires.

Overhead wires (electrical, phone or cable) shall not be located over a pool or within 10 feet of the water’s edge. All wires beyond 10 feet, shall be at least 22-1/2 feet above the ground, deck, patio, or other walking surface below the wires.

The Plot Plan footprint and the construction drawings shall be consistent.

**Grading and Drainage:**

A minimum of 6 inches of fall away from the house in the first 10 feet and a minimum of 1% grade for the remainder of the property are required for drainage.

Indicate existing and proposed drainage patterns.

Show the location and elevations of all easements and utilities including manholes, gatewells, hydrants, phone, electric, gas, cable, etc.

The maximum slope allowed is 1 foot vertical to 3 feet horizontal (33%). All slopes exceeding 1 foot vertical to 3 feet horizontal will require retaining walls with details of construction. Additional information and details may be required for retaining walls. This will be determined during the Plan Review process.

**Wetlands and Floodplain:**

If there are flood plains or wetlands on your lot, a survey from a Licensed Land Surveyor or Engineer, (signed and sealed) may be required. This will be determined during Plan Review.

Show the wetland limits, natural features setback and protective fencing. (Activity within 10 feet of the regulated wetlands will require a Wetlands Use Permit). Provide information as required by the Wetlands Protection Ordinance, Chapter 126.

Show the location and elevation of all watercourses and provide the flood plain elevation on the plan. Please adhere to the City of Rochester Hills Flood Plain Use and Regulations, Chapter 114.

Provide a State of Michigan Department of Environmental Quality Permit if the property has state-regulated wetlands.

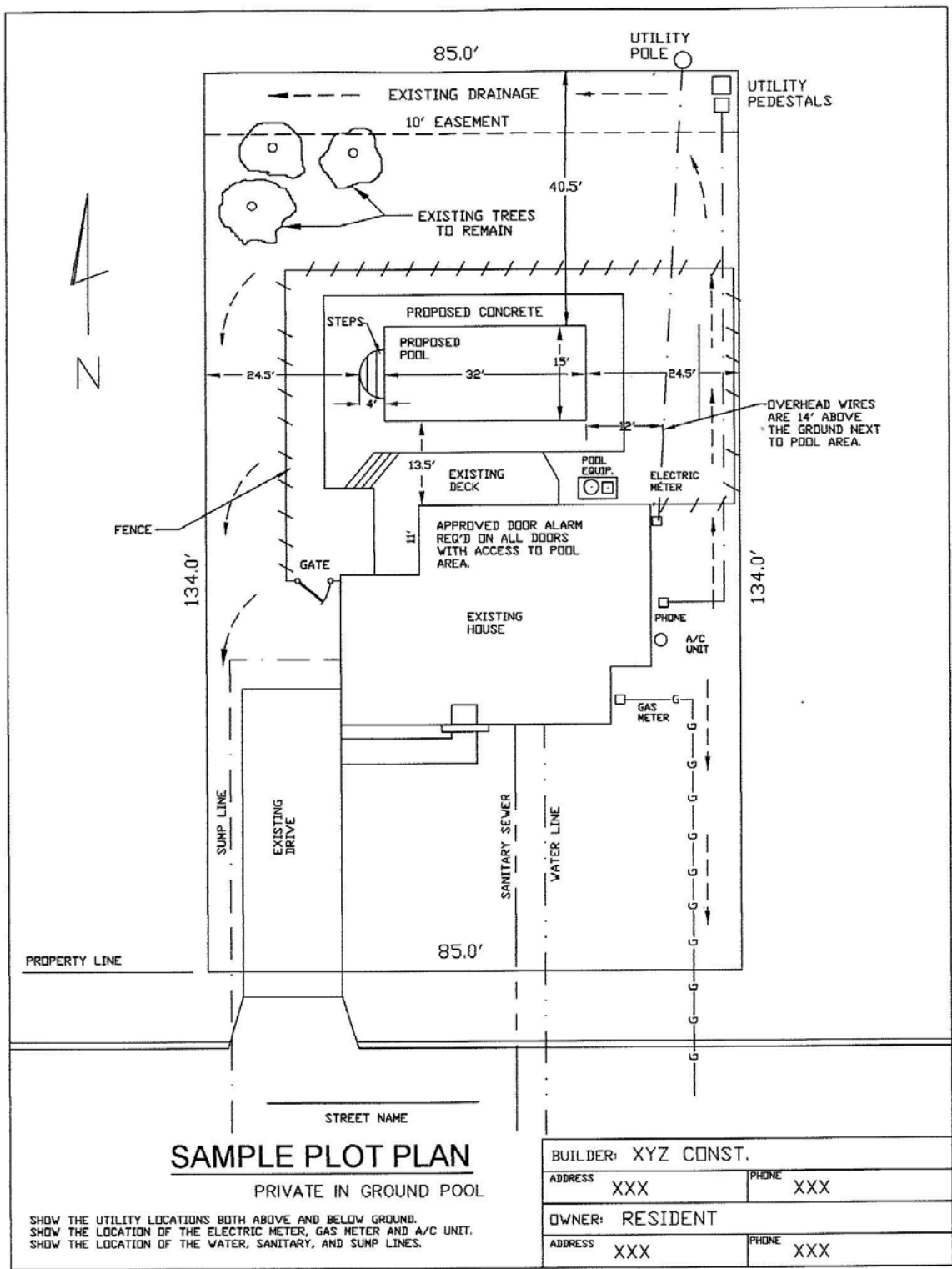
A Soil Erosion Control Permit from the Oakland County Water Resource Commission (OCWRC) is required for all properties with wetlands or flood plain, or located within 500 feet of a lake, stream, storm drain, etc. Please contact the OCWRC at (248) 858-0958 for additional information.

The requirements noted above are taken from the following Codes, Ordinances, and publications:

- Michigan Residential Code (MRC)
- International Swimming Pool and Spa Code (ISPSC)
- City of Rochester Hills Zoning Ordinance, Chapter 138
- City of Rochester Hills Codified Ordinance, Chapter 114
- Oakland County Soil Erosion Control Manual
- Oakland County Standards-Procedures for Plat Development, Standards & Specification



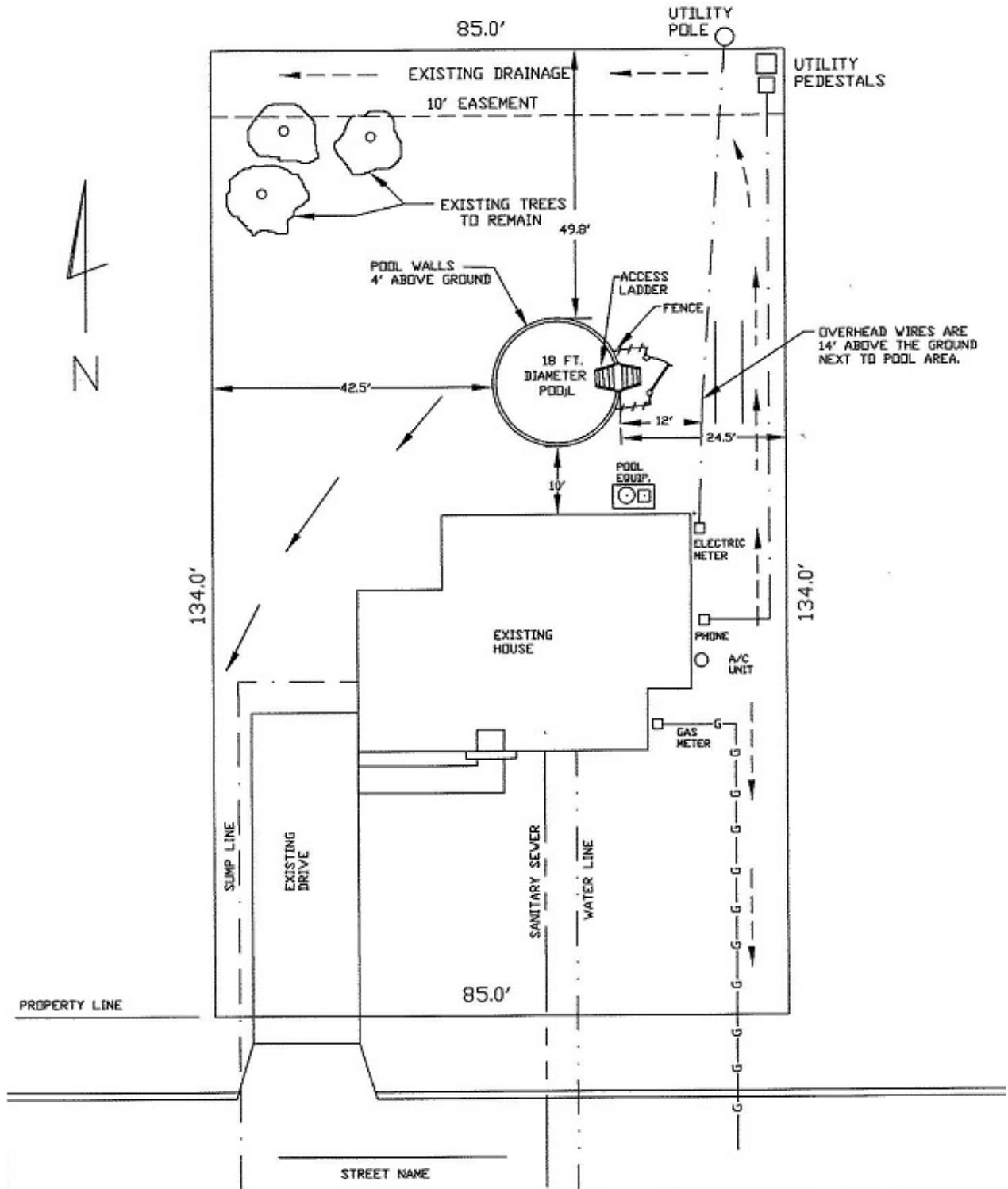
This information is provided in a “User-friendly” format as a general guide to help you apply the common Code and Ordinance requirements to your project. It covers the most common types of projects. The actual Code and Ordinance language may contain additional requirements or exceptions that may apply if your project is beyond the scope of this Guidebook.



**SAMPLE PLOT PLAN**  
PRIVATE IN GROUND POOL

SHOW THE UTILITY LOCATIONS BOTH ABOVE AND BELOW GROUND.  
SHOW THE LOCATION OF THE ELECTRIC METER, GAS METER AND A/C UNIT.  
SHOW THE LOCATION OF THE WATER, SANITARY, AND SUMP LINES.

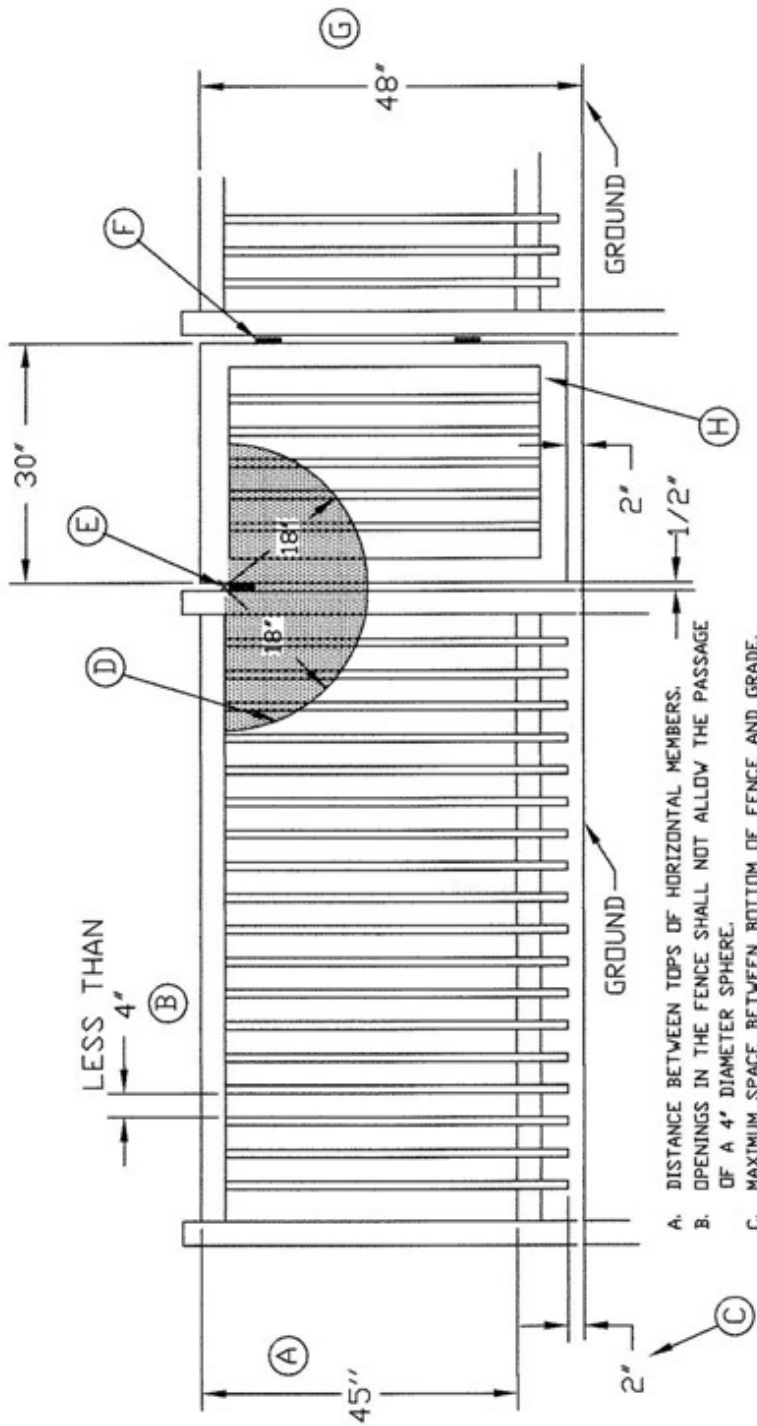
BUILDER: XYZ CONST.	
ADDRESS XXX	PHONE XXX
OWNER: RESIDENT	
ADDRESS XXX	PHONE XXX



**SAMPLE PLOT PLAN**  
PRIVATE ABOVE GROUND POOL

SHOW THE UTILITY LOCATIONS BOTH ABOVE AND BELOW GROUND.  
SHOW THE LOCATION OF THE ELECTRIC METER, GAS METER AND A/C UNIT.  
SHOW THE LOCATION OF THE WATER, SANITARY, AND SUMP LINES.

BUILDER: XYZ CONST.	
ADDRESS XXX	PHONE XXX
OWNER: RESIDENT	
ADDRESS XXX	PHONE XXX



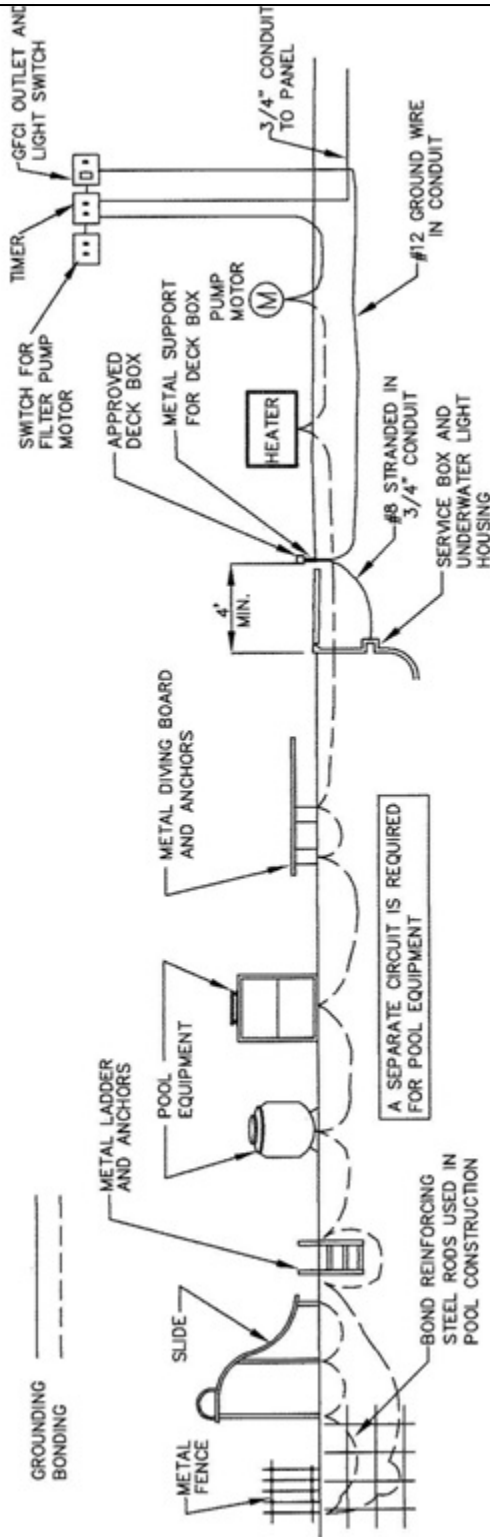
- A. DISTANCE BETWEEN TOPS OF HORIZONTAL MEMBERS.
- B. OPENINGS IN THE FENCE SHALL NOT ALLOW THE PASSAGE OF A 4" DIAMETER SPHERE.
- C. MAXIMUM SPACE BETWEEN BOTTOM OF FENCE AND GRADE.
- D. THE GATE AND FENCE SHALL NOT HAVE AN OPENING GREATER THAN 1/2" WITHIN 18" OF THE GATE RELEASE MECHANISM. (PLEXI-GLASS, TREATED PLYWOOD, ETC. CAN BE INSTALLED IN SHADED AREA TO MEET 1/2" MAXIMUM REQUIREMENT.)
- E. SELF-LATCHING DEVICE WITH RELEASE MECHANISM LOCATED ON THE POOLSIDE 3' BELOW TOP OF GATE.
- F. SELF-CLOSING GATE.
- G. HEIGHT OF FENCE ABOVE GRADE.
- H. GATE MUST OPEN OUTWARDS AWAY FROM POOL.

## SAMPLE FENCE & GATE DETAILS

SCALE 1/2" = 1'

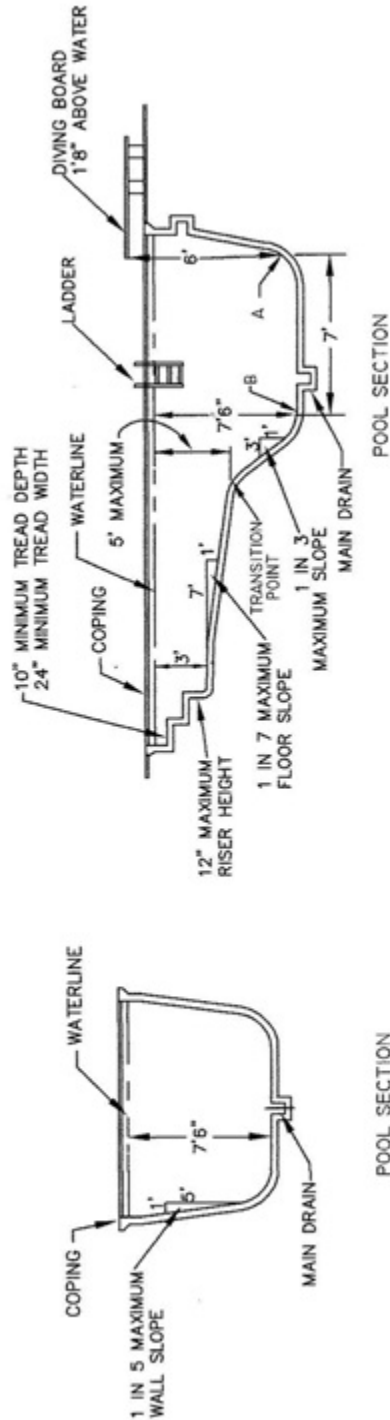
**ELECTRICAL BONDING AND GROUNDING:**

BONDING - #8 SOLID WIRE SHALL BE USED TO BOND ALL EQUIPMENT TOGETHER WITH APPROVED PRESSURE CONNECTORS.  
 GROUNDING - ALL ELECTRICAL EQUIPMENT LOCATED WITHIN 5' OF THE WATER'S EDGE MUST BE GROUNDED, I.E. JUNCTION BOXES, TRANSFORMERS, PANELBOARDS, WET AND DRY NICHE LIGHTS, MOTORS, ETC. ALL ELECTRICAL WORK MUST COMPLY TO SECTION E4101 OF M.R.C.



A SEPARATE CIRCUIT IS REQUIRED FOR POOL EQUIPMENT

BOND REINFORCING STEEL RODS USED IN POOL CONSTRUCTION



**ELECTRICAL GROUNDING AND POOL SECTION DETAILS**

NOT TO SCALE



City of Rochester Hills  
 Building Department  
 1000 Rochester Hills Dr.  
 Rochester Hills, MI  
 48309  
 (248) 656-4615 Phone

**POOL INFORMATION FORM**

**Private Swimming Pool**



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

Homeowner: \_\_\_\_\_

Contractor: \_\_\_\_\_

**POOL CONSTRUCTION**

ABOVE GROUND  Gunitite   
 IN-GROUND  Vinyl Liner   
 Manufacturer \_\_\_\_\_ Fiberglass   
 Model Number \_\_\_\_\_ Other \_\_\_\_\_

**Size:** Diameter \_\_\_\_\_ and/or Length \_\_\_\_\_ Width \_\_\_\_\_

**Water Depth:** Shallow End \_\_\_\_\_ Deep End \_\_\_\_\_

**Diving Board:** Yes  No  Height \_\_\_\_\_

**Surface Cleaning:** Skimmers  Gutters

**Please note: One skimmer is required for each 1,000 square feet of surface area**

**WATER TREATMENT**

**Pool filter meets the requirement of the National Sanitation Foundation Standard 50 entitled "Circulation System Components for Swimming Pools, Spas, or Hot Tubs."** Yes  No

**Filter Capacity-Gallons Per Hour** \_\_\_\_\_ **Pool Capacity-Total Gallons** \_\_\_\_\_

**Time it takes for one water turnover:** \_\_\_\_\_Hours

**The pool owner has been or will be, on completion, instructed in the care and maintenance of the pool, including water treatment:** Yes  No

**POOL ENCLOSURE AND ENTRAPMENT PROTECTION**

**Pool enclosure will be provided by:** Pool Contractor:  Homeowner:

**Entrapment protection will be provided by:** Pool Contractor:  Homeowner:

I understand that necessary safety precautions must be met during construction and that the pool enclosure and entrapment protection requirements of the 2015 Michigan Residential Code must be completed prior to filling the pool with water.

\_\_\_\_\_  
 Print Name of Enclosure Provider Date

\_\_\_\_\_  
 Signature of Enclosure Provider



City of Rochester Hills  
**Building Department**  
 1000 Rochester Hills Dr.  
 Rochester Hills, MI 48309  
 (248) 656-4615 Phone  
 (248) 656-4600 Fax

**CUSTOMER SATISFACTION SURVEY**



Date: \_\_\_\_\_

- |  | Y                        | N                        | N/A                      |
|--|--------------------------|--------------------------|--------------------------|
| Were you treated with courtesy and respect?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you receive clear and accurate information?                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were city employees helpful and knowledgeable in answering your questions? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you feel welcome when you came to the Building Department counter?     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**How would you rate your visit at the Building Department today?**

1	2	3	4	5
poor				exceptional

What can we do to improve this rating?

\_\_\_\_\_

\_\_\_\_\_

**How would you rate the time it took for us to serve you?**

1	2	3	4	5
poor				exceptional

What can we do to improve this rating?

\_\_\_\_\_

\_\_\_\_\_

Name of person who helped you today: \_\_\_\_\_

Comments/Suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name (optional): \_\_\_\_\_

Thank you for taking your time to complete this survey.  
 Your comments and suggestions will help us as we continue working to improve our service.

\_\_\_\_\_