A Guide to Residential Swimming Pool, Hot Tub and Spa Construction

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Rochester Hills Building Department
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248-656-4615

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Reference Material

The following forms and handouts for a New Home are available at our service counter or on the Building Departments web page at www.rochesterhills.org.

- Permit applications (required only for hard copy or in person applications)
  - Building
  - Mechanical
  - Electrical
  - Plumbing
- Permit Fees Schedules
  - Building
  - Mechanical
  - Electrical
  - Plumbing
- BS&A Online Permit Application and Inspection Scheduling Tutorials
- Standard for Electronic Plan Review Submission.
- Codes Currently in Effect
- Contractor Registration
- Pool Information Form
- Gas Piping Load Worksheet
- Guide to Pool, Hot Tub and Spa Inspections
- Guide to Residential Zoning Requirements
- Tree Removal & Maintenance Requirements

Surveys

We are always striving to improve our service, please use the following forms to give us your feedback, comments and suggestions.

- Electronic Submittal Survey
- Customer Satisfaction Survey

INTRODUCTION

Residential Swimming Pools, Hot Tubs, and Spas

Building a new swimming pool, hot tub or spa can be a stressful process for both the homeowner and builder. As the permitting and inspection process tends to vary slightly from City to City, the Building Department has prepared this Guidebook to help all parties understand these processes when building within the City of Rochester Hills. We have included information on areas that have generated confusion or construction delays in the past.

We recognize that in order for your project to be a success, all parties involved need to work together towards the final goal; a safe, well-built pool. We take great pride in being part of your success story and encourage you to keep all lines of communication open from the start to the finish. If this guide does not answer your specific questions, please feel free to contact the Building Department at 248-656-4615. We want to know how we can help!

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 is only intended to be a guide and is not all inclusive of the Michigan Residential Code, the International Swimming Pool and Spa Code or requirements of City Ordinances. The information in this Guidebook is subject to change.

BEFORE YOU BUILD

Residential Swimming Pools, Hot Tubs and Spas

Before you start your project, you should be aware some additional permitting from other departments within the City or outside agencies may be required. These requirements may have an effect on the style, location and cost of your home along with length of time it takes to build your home.

If permits are required from any of the departments or agencies listed below, copies of the permit or approvals will need to be submitted to the Building Department before the building permit can be issued.

Deed Restrictions - Your subdivision may have Deed Restrictions that apply. The City of Rochester Hills cannot enforce Deed Restrictions; however, we encourage you to check for any restrictions that may apply to your project.

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.

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) within 10 feet of the water's edge must be at least 22-1/2 feet above the ground, deck, patio, or other walking surface below the wires. There is no restriction for overhead wires beyond 10 feet of water's edge. 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.

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.

FROM APPLICATION TO COMPLETION

Residential Swimming Pools, Hot Tubs, and Spas

A General Guide through the Entire Process

Step 1 – The Building Permit

State law requires that a building permit be obtained for the construction of all residential swimming pools, hot tubs or spas. The permit allows the code official to review the plans for the home and perform inspections during construction to confirm that the requirements of the Michigan Residential Code are being followed. By meeting the requirements of the Building Code, the completed project will meet minimum standards of life safety, health and welfare as established by the State of Michigan.

Applications for the building permit are usually submitted by the builder; however, homeowners may submit a permit application for work on their property that is, or will be upon completion, their primary residence. Any contractors hired by the homeowner for a contract price of $600 or more shall be licensed in accordance with State of Michigan Residential Builder Laws.

When the building permit application is submitted, it will undergo three reviews:

- A zoning ordinance review to verify that the swimming pool, hot tub, or spa will meet the requirements of the City's Zoning Ordinance including such items as easement, and setbacks for the zoning district.
- The grade review will review work related to the property including drainage, and connections. The review will also check for wetlands, steep slopes, watercourses, flood plains or another agency permits that may be required.
- The building plan review covers the requirements of the Michigan Residential Code and International Swimming Pool and Spa Code that apply to the project.

Submitting a complete set of documents containing all the necessary information will expedite the plan review process. Prior to applying for a building permit the applicants should prepare the following documents. These documents shall be prepared using the guidelines set forth in the Building Department's Standard for Electronic Plan Review Submission.

1. A **Plot Plan** prepared by a licensed surveyor or engineer showing the location of the home, setbacks from property lines, utilities, grading, etc. Refer to the Plot Plan Requirements section of this guide for additional information
2. **Construction Drawings** with for the swimming pools, hot tub or spa along with details. Refer to Construction Drawing Requirements section of this guide for additional information.
    a. Above-Ground Pools
        i. Provide manufacturer's drawings and specifications.
    b. In Ground Pools
        i. Provide complete construction details showing the size, spacing and location of all structural members and reinforcement.
        ii. Provide pool sections with details.
        iii. Indicate the location and provide details of the steps and/or ladder.
    c. Hot Tubs and Spas
        i. Provide manufacturer's drawings and specifications.
        ii. Provide information regarding the safety cover.
    d. Fence/Barrier Details
        i. Provide complete details of the fence/barrier and gates.

3. **Soil Erosion Control Permit or an Exemption Letter from the Oakland County Water Resource Commissioner** may be required for swimming pool permits.
4. **Residential Swimming Pool Information Forms**
    a. Complete and submit the Pool Information Form.

b. If the pool, hot tub or spa will have gas fired heat, complete and submit the Gas Meter and Piping Load Worksheet.

* Forms are available online at www.rochesterhills.org or at the Building Department counter.

Registration of Builders License

Prior to applying for a building permit residential builders shall register with the City of Rochester Hills Building Department.

1. Builders can submit their registration form in person or email. A completed Contractor Registration form may be emailed to the Customer Service staff at Building@rochesterhills.org and include Contractor Registration on the subject line.
    a. The registration fee can be paid in person or with the permit application fee.
2. When registering the Builder shall supply:
    a. A completed Contractor Registration Form with an original signature by the license holder.
    b. The original or a copy of the Builder's License.
    c. A copy of the license holder's driver's license, if not presented in person.
3. Builders who are still actively working in the City are required to renew their registration with the City when their builder's license is renewed.

A Contractor Registration form is available online at www.rochesterhills.org or at the Building Department service counter.

Applying for the Building Permit

The Building Department is now accepting applications for all permits online at www.rochesterhills.org.

The BS&A Online Permit Application Tutorial is available to help through the process.

1. Plans and Approved Process
    a. The permit application documents are reviewed in the order they are received. When the Building Department's work load allows, swimming pool, hot tub, and spa permit documents will be reviewed and processed within 5 working days.
        i. If the plan examiner determines that due to the complexity of the project, a more in-depth review is required, the applicant will be notified that their project cannot be reviewed within the 5 working day period.
    a. Documents that contain all the necessary information and details will help speed up the review process.
    b. The plot plan is reviewed for compliance with City Ordinances and Engineering Standards while the construction documents are reviewed for compliance to the Michigan Residential Code and International Swimming Pool and Spa Code.
    c. The applicant will be notified by email if the information provided does not meet the City of Rochester Hills Zoning Ordinance, Engineering, or Michigan Building Code requirements, or if any other information is required.
    d. The applicant will then need to submit corrected documents for review.

2. Fees

    Fees are due at various stages of the permitting process.
    a. The application and base plan review fees shall be paid before the permit application will be fully processed and the review process begins.
    b. Final plan review and permit fees will be determined during the plan review process and shall be paid prior to issuance of the building permit.
    c. Applicants may pay in person at the City Hall or online by following the link in the email they receive to the online payment portal. Fees can be paid online by credit card or eCheck.

    Forms and fee schedules are available at the Building Department service counter or online at www.rochesterhills.org

3. Permit Ready
    a. The permit applicant will receive an email when the building permit is ready, with a link to the online payment portal.
    b. Building permit fees are due prior of the issuance of the building permit. Permit fees can be paid in person or online.
    c. Once all fees are paid the applicant will receive an email with the building permit.
    d. The building permit shall be secured within 6 months of the application date or the application may be canceled.
    e. Issued permits that have no activity for more than 6 months may be canceled. A new permit may be required to finish the project.

4. Revisions
    a. Revisions to the plans for the home or grade after issuance of the building permit will require re-submittal of revised plans, approval from the Building Department, and the payment of any additional review and permit fees.

5. Trade Permits – Plumbing, Mechanical & Electrical
    a. These types of permits are required and can be applied for and obtained after the building permit has been issued.
    b. All items to be installed shall be listed on the appropriate permits.
    c. Items not listed can be added to the appropriate permits prior to the final inspection.
    d. A Certificate of Occupancy cannot be issued until all fees have been paid.

    Forms and fee schedules are available at the Building Department service counter or online at www.rochesterhills.org

Step 2 – Construction

When the building permit has been obtained, construction may begin. All swimming pool, hot tub or spa construction shall be inspected for conformance to the approved plans and the Michigan Residential Code. For a complete explanation of inspections please review the Guide to Swimming Pool, Hot Tub and Spa Inspections available online at www.rochesterhills.org.

1. Inspection Request and Results

    All request for inspections are to be scheduled online through BS&A Online using the account information that was established when applying for the permit.

    Inspections that have been requested and verified before 3:00 p.m. will be scheduled for the next business day between 9:00 a.m. and 4:00 p.m. The Inspection may be done earlier or later in the day depending on the inspector's work load. Inspections may be available outside normal business hours by special arrangement. Additional fees for any after-hours inspection will need to be paid in advance.

    Please make sure your project is ready for inspection when scheduled. Requests to cancel an inspection should be made by calling the Building Department at 248-656-4615 prior to 9:00 a.m. on the day of the requested inspection. If an inspector arrives at the project and it is not ready for inspection, an inspection will not be performed and a re-inspection fee may be charged.

The following item shall be completed, in place, or available at the time of each inspection:

- The Street address shall be posted and visible from the street.
- Soil erosion control and tree protection properly installed and maintained.
- The street is kept clean and all construction material and debris in contained on the property.
- Safe access to the job site and throughout the area to be inspected.
- Approved plans are on site and available.

Once an inspection has been performed the permit holder will receive an email stating either the inspection was approved or not approved with a list of items that require correction. A re-inspection fee may be charged for any items not corrected at the time of the second inspection. Inspections shall be approved before proceeding with the next phase of construction. If there are any questions regarding the inspection you can call the Building Department between 8:00 a.m. and 9:00 a.m. or 3:30 p.m. and 4:30 p.m. and ask to speak with the inspector who performed the inspection.

During construction the pool, hot tub or spa should be inspected for any for any of the following that apply.

- Underground Mechanical
- Underground Electrical
- Steel and/or Structural Inspection

Step 3 - Closeout

Prior to the swimming pool, hot tub or spa being completed and final approval can be given, the final inspections shall be completed and any corrections need to be completed for any of the following that apply.

- Final Mechanical
- Final Electrical
- Final Plumbing
- Final Grade
- Final Building

- All special bills shall be paid, including:
  - Street cleaning
  - Debris removal
  - Any other fees or bills due

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

A plot plan containing all the information and details noted below shall be submitted with the building permit application. The plot plan may be drawn by the homeowner, contractor, land surveyor, engineer or architect. Special circumstances may require the plot plan to be drawn by a licensed engineer, architect or land surveyor. This will be determined during the plan review process (if not an expedited Permit.) To aid in the review process the documents shall be prepared utilizing the Standards for Electronic Plan Review Submission guide available online at www.rochesterhills.org. Please see "Sample Plot Plan" in the Appendix.

The plot plan shall contain the following information:

1. **General**
    a. Drawn to a scale between 1" = 20' and 1" = 50'
    b. Builder's name, address and telephone number.
    c. A North arrow, legal description, street right-of-way and street name.
    d. The site benchmark that will be used to establish the accessory structure and site elevations.
    e. Soil erosion control location and details for the construction period and the permanent controls that are to be in placed prior to a final Certificate of Occupancy.
    f. The footprint of the swimming pool, hot tub or spa shall be consistent on the plot plan and the construction drawings

2. **Zoning**
    Refer to the Building Department's Guide to Residential Zoning Requirements available online at www.rochesterhills.org .
    a. Indicate the location and dimensions of all structures on the lot, including proposed pools, hot tubs or spa and the distances from lot lines and/or existing structures to the water's edge.
    b. Swimming pools, hot tubs or spa shall be at least 5 feet from the side and rear property lines and at least 10 feet from the house.
        i. Water's edge of a swimming pools, hot tubs or spas may not be located closer than 10 feet to the house.
        ii. Swimming pools, hot tubs or spas may not be located in any easement without the written permission of the easement owner.
    c. Indicate location of pool equipment.

3. **Protective Fences and/or Barriers**
    a. Indicate the location of the protective fence and or barriers including gates.

4. **Trees**
    a. Tree removal permits are not required for the following
        i. On occupied one-family parcels less than one acre.
        ii. On occupied one-family parcels of one acre or more for construction of appurtenances or structures accessory to existing structures.
    b. Tree removal is not permitted within any right-of-way, conservation easement or natural features setback.

5. **Grading and Drainage**
    The overall subdivision grading shall remain unchanged. Elevations may deviate slightly to accommodate the construction of the structure.
    a. Indicate existing and proposed elevations and drainage patterns, including all swales, drainage courses, berms, retaining walls, ditches and culverts.
    b. The maximum grade slope allowed is 1 foot vertical to 3 feet horizontal (33%). All slopes exceeding a 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 review process.

6. Utilities
    a. Indicate location of all above and underground utilities including wells and septic tanks and fields.
        i. Show location of overhead wires and include distance between wires and water's edge along with height of the wires above ground, deck, patio, or walking surface.
        ii. Overhead wires (electrical, phone or cable) shall not be located over a pool or within 10 feet of the water's edge. If unavoidable, all wires within 10 feet of water's edge shall be at least 22-1/2 feet above the ground, deck, patio, or other walking surface.

7. Wetlands, Floodplains, and Steep Slopes

If there are wetlands, flood plains, or steep slopes 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.

    a. Indicate any wetland limits with the 25-foot natural features setback and required protective fencing. Activity within 10 feet of the regulated wetlands will require a wetlands use permit. Provide information for the wetlands per the Natural Resources Ordinance, Chapter 126, Article IV.
    b. Indicate the location and elevation of all watercourses and provide the floodplain elevation on the plan. Adhere to the City's Flood Plain Use and Regulation Ordinance, Chapter 114, Article III.
    c. Provide a State of Michigan Department of Environmental Quality permit if the property has state regulated wetlands.
    c. When the poo, hot tub or spa is to be built on or adjacent to slopes that are greater than 33 percent, provide dimensions from the pool, hot tub or spa to the toe or the top of the slope as required by the Michigan Residential Code and the City's Steep Slope Ordinance, Section 138-9.200.
    d. During the plan review, Building Department will determine if a steep slope permit is required from the Department of Public Services.

8. Other Agency Permits That May Be Required
    a. 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) for further information.

CONSTRUCTION DRAWING REQUIRMENTS

Residential Swimming Pools, Hot Tubs and Spas

A set of construction drawings is required for swimming pool, hot tub or spa shall be submitted with the permit application. To aid in the review process the documents should be prepared utilizing the Standards for Electronic Plan Review Submission guide available online at www.rochesterhills.org. Please see refer to the Sample Plans in the Appendix.

The construction drawings shall meet the following requirements:

1. **General**
    a. Drawing shall be in a scale of not less than 1/8" = 1'-0".
    b. The footprint of the swimming pool, hot tub or spa shall be consistent on the plot plan and the construction drawings.

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

Your swimming pool, hot tub or spa will be reviewed and inspected in accordance with the requirements of the State of Michigan Residential Code, International Swimming Pool and Spa Code and the City of Rochester Hills Zoning Ordinance No. 138-41.

1. **Residential Swimming Pool, Hot Tub, and Spa Construction:**
    a. 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.

2. **Safety Precautions** shall be maintained throughout construction.
    a. 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. Refer to the Sample Pool Fence and Gate Detail in the appendix.

3. **Wall Slopes:**
    a. The wall slopes of in-ground pools shall not exceed 11% to a depth of 2 feet 9 inches from the top. Please provide wall slope details on your pool sections. Refer to the pool section details in the appendix.

4. **Floor Slopes:**
    a. The slope of the floor of in-ground pools 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. Refer to the pool section details in the appendix.

5. **Surface Cleaning:**
    a. 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

6. **Steps and Ladders:**
    a. 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.

7. Water Treatment:
    a. 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.

8. Diving Boards:
    a. 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.

9. Pool Fence/Barrier Used as an Enclosure
    a. 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 automatic safety cover.
    b. Residential swimming pool, hot tub and spa enclosures shall meet the following requirements:
        i. 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.
        ii. 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.
        iii. 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.
        iv. 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").
        v. 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.
        vi. 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".
        vii. 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 allow the passage of a 4-inch diameter or larger sphere. This typically applies to wrought iron fencing.
        viii. 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.

ix. 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.

c. Gates shall meet the following requirements:
   i. Access gates shall comply with the fence/barrier requirements.
   ii. Gates shall be equipped to accommodate a locking device.
   iii. 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.
   iv. Utility or service gates not intended for pedestrian use shall remain locked when not in use.
   v. 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.
   vi. If the release mechanism of the self-latching device is located less than 54 inches from the grade, the following requirements apply:
      1. 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.
      2. The gate and fence/barrier shall not have an opening greater than ½ inches within 18 inches of the release mechanism.

d. 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:
   i. 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.
   ii. The audible warning shall start immediately after the door or window and its screen, if present, are opened.
   iii. The audible warning shall sound continuously for at least 30 seconds.
   iv. The alarm shall be capable of being heard throughout the house.
   v. The alarm shall automatically reset under all conditions.
   vi. The alarm shall be equipped with a deactivation device such as a touch pad or switch.
   vii. 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.
   viii. The deactivation device shall be located at least 54 inches above the floor.
   ix. A listed and labeled safety cover that meets the requirements of ASTM 1346 may be used in lieu of door and window alarms.

10. Above-Ground Residential Swimming Pools:

a. 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.
b. 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.

11. Hot Tubs and Spas:

a. 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 bear a tag indicating that the cover has passed the ASTM F-1346-91(2010) test.
b. Safety covers are not required when hot tubs or spas are enclosed by a fence/barrier that meets all the guidelines mentioned above.

12. Entrapment Protection:

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

13. Electrical Bonding and Grounding

a. Bonding and grounding of the pool, ladders, slides, diving boards, pool equipment, etc. must meet the requirements of Chapter E42 of the Michigan Residential Code. Refer to the electrical grounding details in the appendix.

14. Wood Decks Constructed Near a Residential Swimming Pool, Hot Tub or Spa:

a. 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).

Appendix

PHONE DIRECTORY
CITY OF ROCHESTER HILLS

Common City of Rochester Hills telephone numbers to refer to as needed during the review, permitting, and building processes.

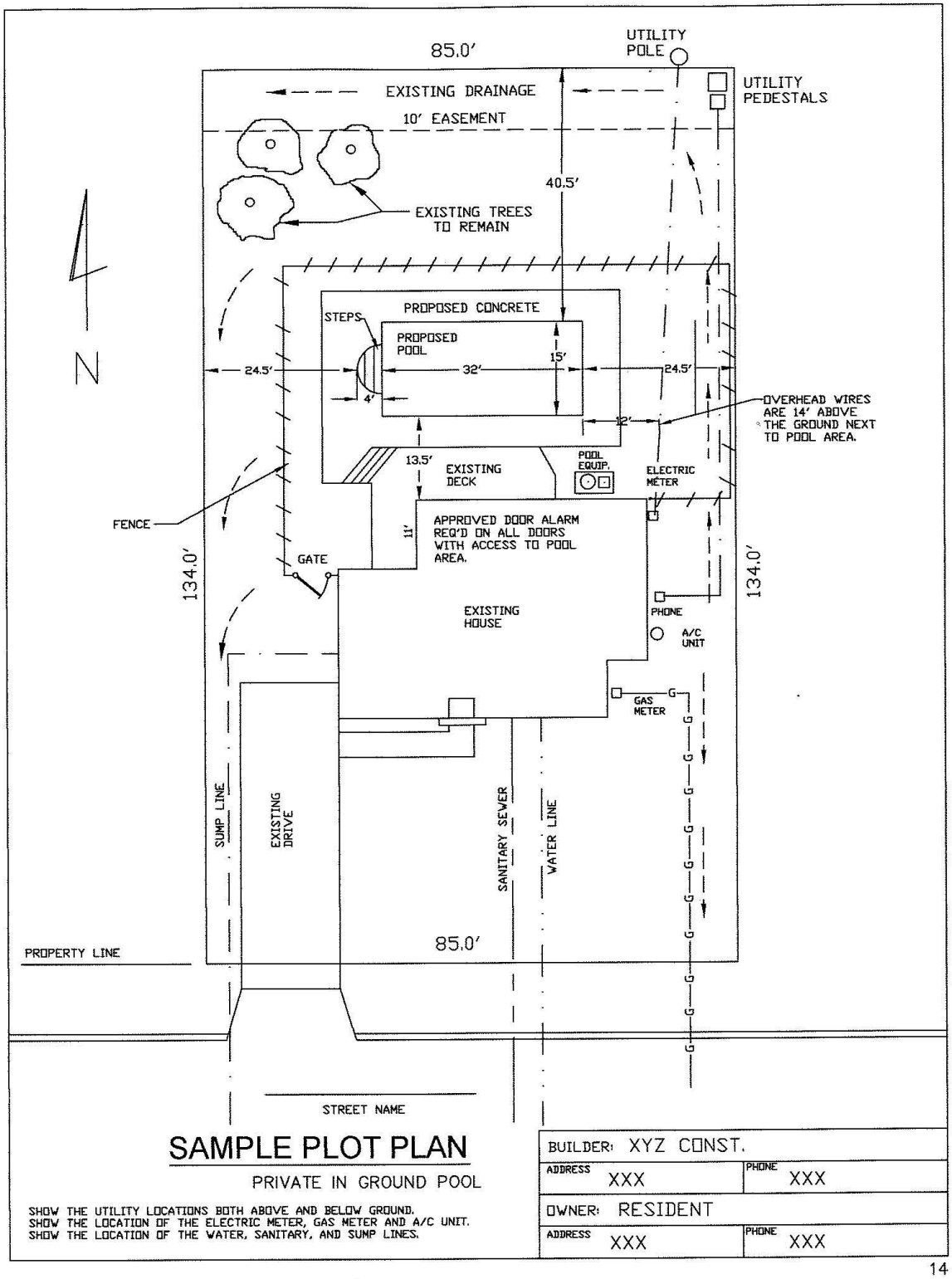
Office Hours: Monday – Friday (except holidays) 8:00 a.m.– 5:00 p.m.
Building Department Inspector Hours 8:00 a.m.– 9:00 a.m. and 3:30 p.m.– 4:30 p.m.

CITY DEPARTMENT:	PHONE	FAX
Accounting	(248) 656-4632	(248) 608-8178
Assessing	(248) 656-4605	(248) 841-2585
Building	(248) 656-4615	(248) 656-4623
Inspection Request Line	(248) 656-4619	
City Clerk	(248) 656-4630	(248) 656-4744
Engineering	(248) 656-4640	(248) 656-4758
Facilities	(248) 656-4658	(248) 656-4670
Fire Prevention	(248) 656-4717	(248) 656-4726
Mayor	(248) 656-4664	(248) 656-4603
Parks, Forestry Division	(248) 656-4673	(248) 841-2576
Planning	(248) 656-4660	(248) 841-2576
Public Service	(248) 656-4685	(248) 656-4758
Water/Sewer Billing	(248) 656-4688	(248) 608-8178

City Website: www.rochesterhills.org

OUTSIDE AGENCIES, PERMITTING AGENCIES:

AT&T (telephone)	1-800-244-4444
Cable:	
Comcast Cablevision	1-800-266-2278
Wide Open West	1-800-848-2278
Consumers Energy	1-800-477-5050
DTE Energy	1-800-477-4747
Michigan Department of Environmental Quality	1-800-662-9278
Michigan Department of Transportation	(248) 483-5100
Michigan Department of Natural Resources	(734) 953-0241
MISS DIG	1-800-482-7171
Oakland County Customer Service	(248) 858-0720
Oakland County Water Resource Commissioner	(248) 858-1105
Oakland County Health Department	(248) 858-1280
Road Commission for Oakland County	(248) 858-4804


85.0'
UTILITY POLE
UTILITY PEDESTALS
EXISTING DRAINAGE
10' EASEMENT
40.5'
EXISTING TREES TO REMAIN
N
PROPOSED CONCRETE
STEPS
PROPOSED POOL
15'
24.5'
32'
24.5'
4'
12'
OVERHEAD WIRES ARE 14' ABOVE THE GROUND NEXT TO POOL AREA.
13.5'
EXISTING DECK
POOL EQUIP.
ELECTRIC METER
FENCE
11'
APPROVED DOOR ALARM REQ'D ON ALL DOORS WITH ACCESS TO POOL AREA.
GATE
134.0'
134.0'
EXISTING HOUSE
PHONE
A/C UNIT
GAS METER
G
SUMP LINE
EXISTING DRIVE
SANITARY SEWER
WATER LINE
85.0'
PROPERTY LINE
STREET NAME
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

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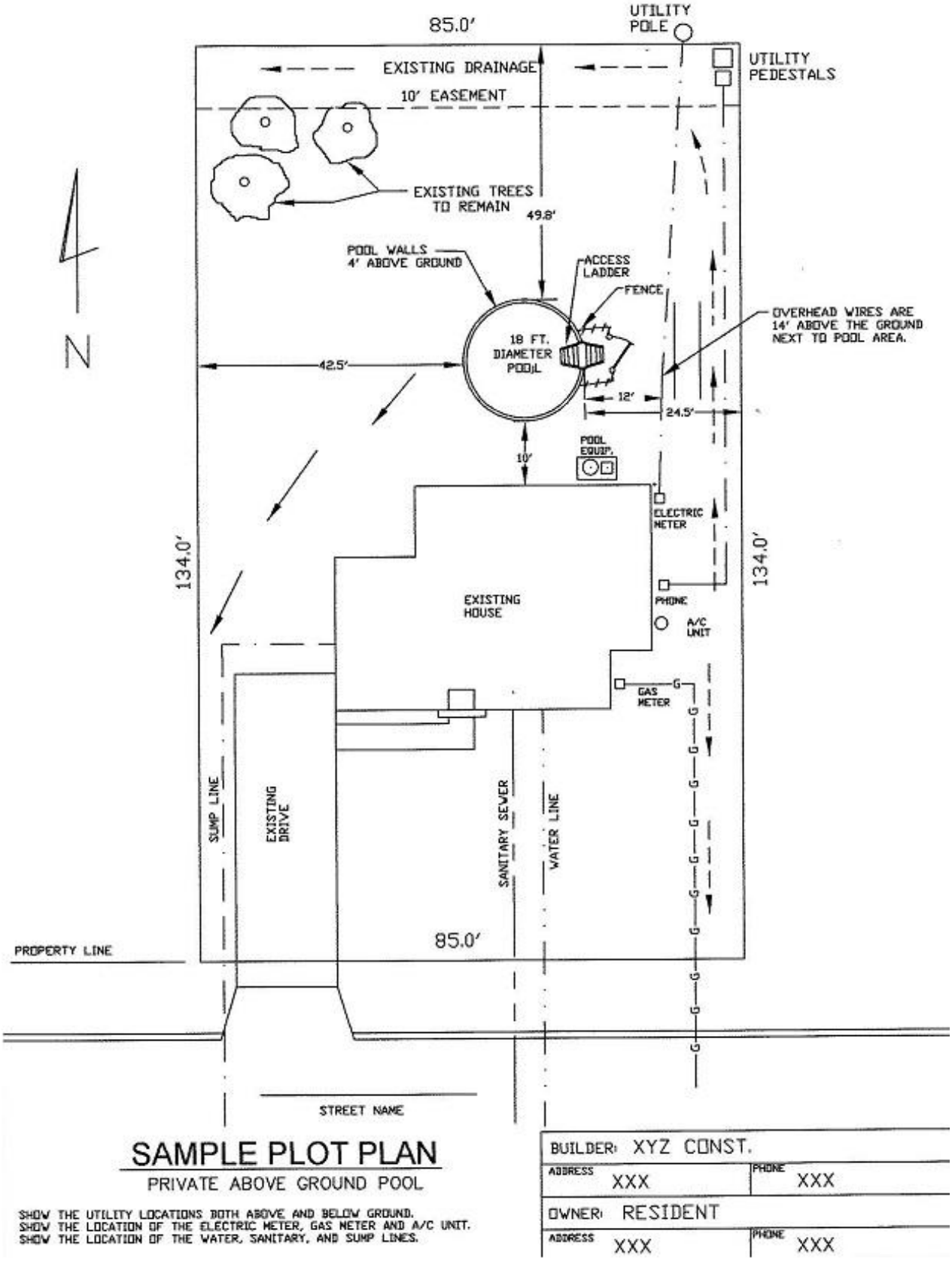
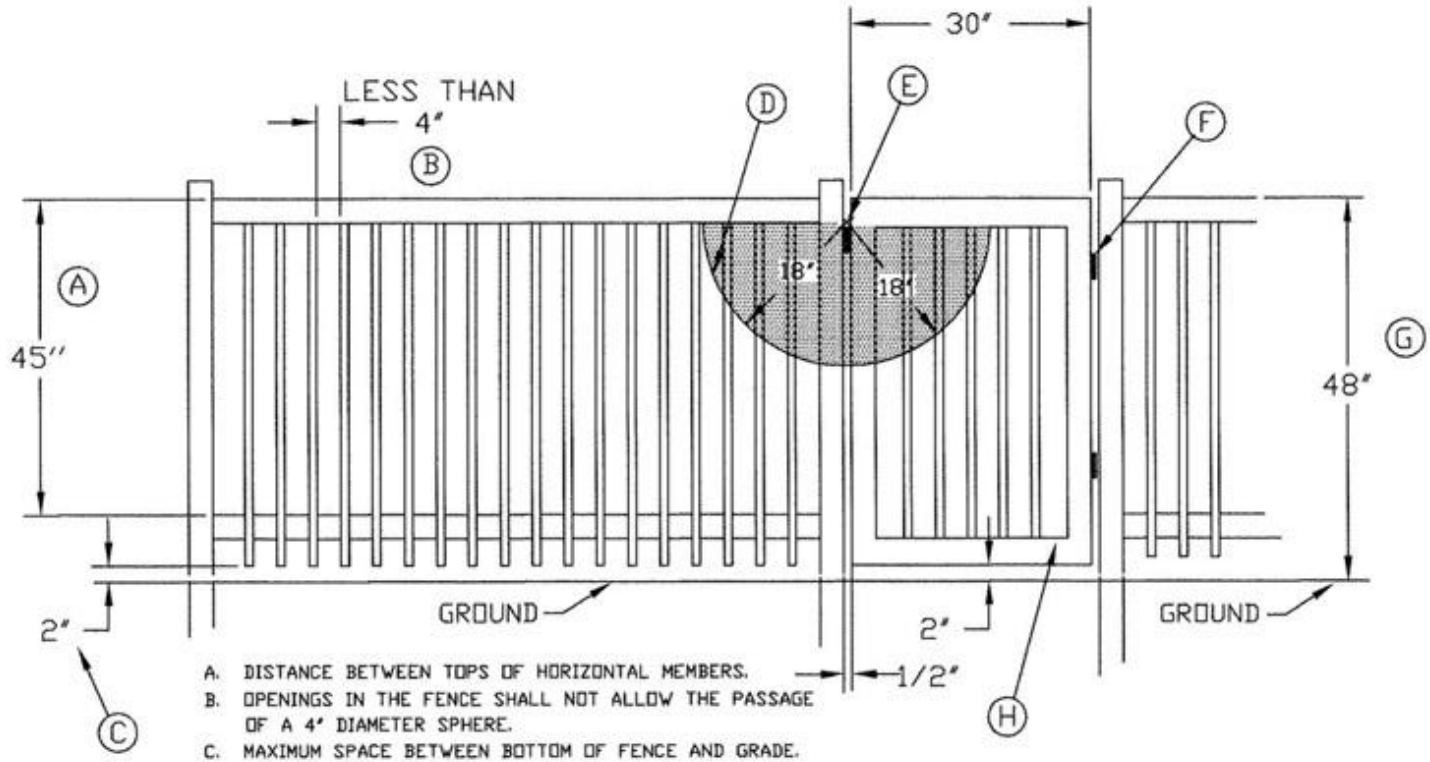


SAMPLE PLOT PLAN

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.

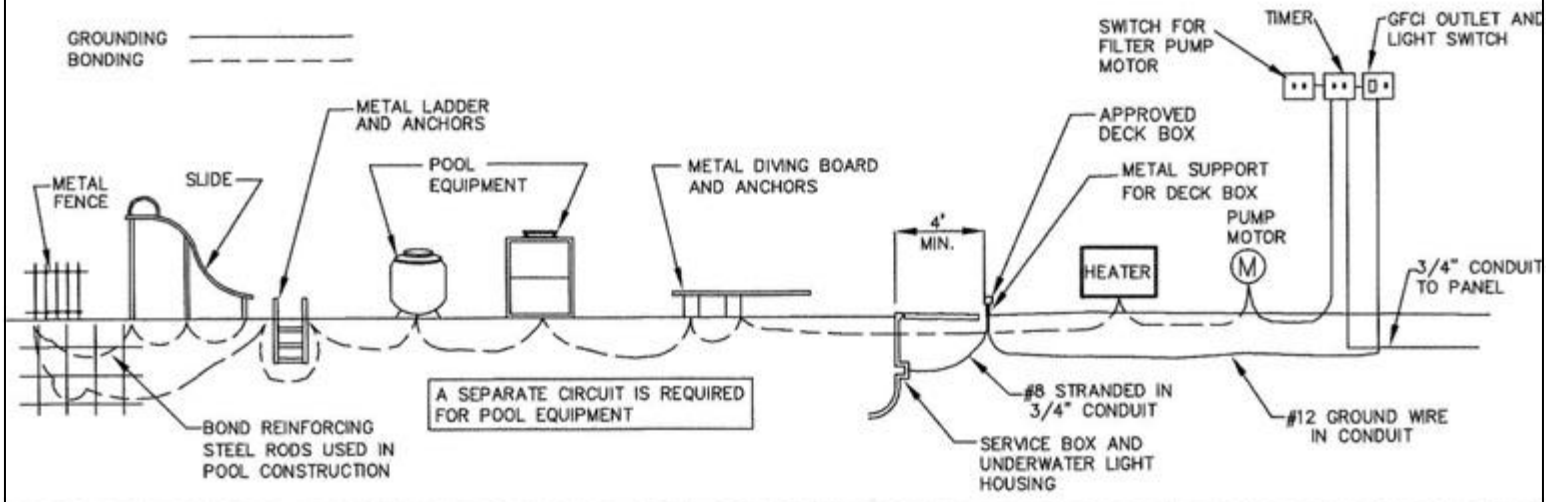
H. GATE MUST OPEN OUTWARDS AWAY FROM POOL.

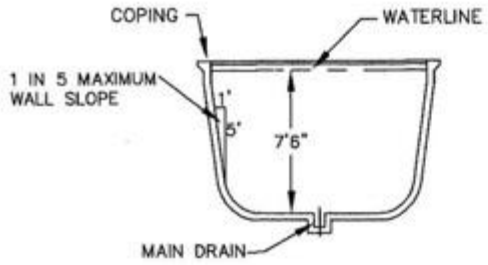
SAMPLE FENCE & GATE DETAILS

SCALE 1/2" = 1'

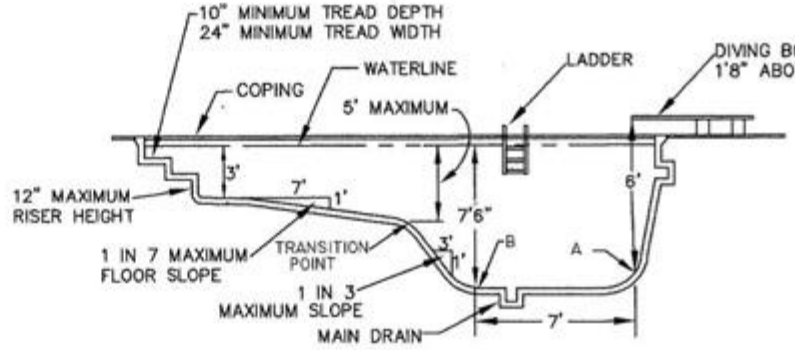
ELECTRICAL BONDING AND GROUNDING:

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.





POOL SECTION



POOL SECTION

ELECTRICAL GROUNDING AND POOL SECTION DETAILS

NOT TO SCALE