



# ACCESSORY STRUCTURES

May 2016

*A City of Rochester Hills  
Building Department  
Guide to building a  
Detached accessory structure*



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



## INTRODUCTION Accessory Structures

The City of Rochester Hills has prepared this Guidebook to assist you in the process of building an Accessory Structure within our City. This Guidebook contains 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.

**Before You Build**.....Page 3-4  
-Issues that should be checked at the beginning of your project.

**Phone Directory**.....Page 5

**Codes Currently in Effect**.....Page 6  
-A list of current codes that will apply to your project.

**From Application to Completion**.....Page 7-10  
-This is intended to be your general guide through the complete process. It provides information on the application requirements, permits and inspections.

**Building Permit Fees**.....Page 11  
-A list of the fees related to building an Accessory Structure.

**Inspection Requests**.....Page 12  
-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**.....Page 13-15  
-A general guide to help you understand and apply the Building Code requirements to your project. This information should be used as you prepare your construction drawings and construct your Accessory Structure.

**Plot Plan Requirements**.....Page 16-18  
-A list of the items that are required to be shown on the Plot Plan. This list should be given to the person preparing your Plot Plan. Please take time to make sure your drawings are complete. Plot Plans that contain all necessary information and details will help expedite the review process.

**Sample Plot Plan**.....Page 19  
-A sample Plot Plan to help you understand the information that needs to be contained on the Plot Plan.

**Sample Drawings**.....Page 20-24  
-Sample Floor Plan, Wall Section, Elevations and wall bracing details to help you understand the information that needs to be contained on the construction drawings and to assist you with the construction of your Accessory Structure project. This information should be given to the person preparing your plans.

**Customer Satisfaction Survey**.....Page 25  
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	}	<i>All forms are available at our counter or online at: <a href="http://www.rochesterhills.org">www.rochesterhills.org</a></i>
-Contractor Registration		
-Customer Survey Form		

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 as we continue to work toward improving our permitting process. Please review and complete the Customer Survey Form that is attached at the end of this Guidebook and 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 Building Code. For complete details of all requirements, please refer to the Michigan Residential Code (MRC). The information in this Guidebook is subject to change without notice.**

## **BEFORE YOU BUILD**

### **Accessory Structures**

The following should be checked at the beginning of your project. Any of these items can affect the type, location, cost and length of time it takes to build your Accessory Structure.

**Accessory Structure** – A building that is incidental to the main structure or principle use of the land. Example: A detached garage, shed, gazebo or any other structure not attached to the house by a common wall. This Guidebook does not cover attached garages, additions (see Additions Guidebook), or decks (see Wood Deck Construction Guidebook).

**Size** – By ordinance, the total combined floor area of all Accessory Structures on a lot (not including gazebos) may not exceed 720 square feet. There are exceptions for parcels that exceed 2 acres. Accessory Structures that are 200 square feet or less **do not require a Building Permit**, but shall comply with Ordinance requirements for height, setbacks, total floor area (as mentioned above), and distance to the house. Gazebos may not exceed 180 square feet and require a Building Permit, however their area does not count towards the maximum allowable floor area for Accessory Structures. Please contact the Building Department if you have any questions.

**Location** – Accessory Structures cannot be built in any front yard or in any easement, or on a vacant lot. **Please note: Corner lots may have two (2) front yards.**

**Setbacks** Accessory Structures shall be at least 5 feet from side and rear property lines, and at least 10 feet from the house. Accessory Structures may be located closer than 10 feet to the house if they meet the minimum setback requirements for the house. Additional setbacks are required for properties with regulated steep slopes.

**Height** – Accessory Structures shall not exceed one story or 14 feet in height, measured from grade to the highest point of the roof when the roof pitch is less than 4/12. If the roof pitch is 4/12 or greater, the maximum allowable building height is 16 feet. Gazebos are allowed to have a maximum height of 16 feet. Gazebos that are part of a deck attached to the house shall have the height measured from the highest point of the gazebo roof to the deck surface.

**Deed Restrictions** – Your subdivision may have Deed Restrictions that apply. The City of Rochester Hills cannot enforce Deed Restrictions, however, we encourage you to verify any restrictions that may apply to your project.

**Drainage** – Will the existing yard drainage be affected by the location of the new structure? All changes to the existing drainage need to be shown on the plot plans. If large grade changes and/or slopes are proposed, retaining walls or special grading may be required. See “Plot Plan Requirements” – pages 16-18. 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 your Accessory Structure is built in a floodplain, it may require a Structural Engineer’s design and Floodplain Use Permit prior to Building Permit approval. Please call Engineering Services at (248) 656-4640 if you require more information.

**Wetlands** – These areas have been determined to be indispensable and are to be protected as a natural resource. If your Accessory Structure 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.

**Steep Slopes** – Conservation practices have been established to prevent disturbance of existing steep slopes to protect public health, safety, and general welfare. Effective protection of steep slopes is regulated by City Ordinance. Please contact the Building Department at (248) 656-4660 for more information.

**Historic District** – If the Accessory Structure will be built in a 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 call the Planning Department (248) 656-4660 for more information.

**Trees** – A Tree Removal Permit may be required for parcels one acre or larger.

**Permit Process** – Please allow time for the permit process. Plan Review time varies depending on the Building Department's workload.

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 questions.

**Note: This Guidebook is only intended to be a guide and is not all inclusive of the Michigan Residential Code (MRC). For complete details of all requirements, please refer to the Michigan Residential Code. The information in this Guidebook is subject to change without notice.**

**PHONE DIRECTORY**  
**Accessory Structures**

**CITY OF ROCHESTER HILLS**

Office Hours: Monday-Friday (except holidays)

8:00 a.m. – 5:00 p.m.

<u>DEPARTMENT</u>	<u>PHONE</u>	<u>FAX</u>
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](http://www.rochesterhills.org)

**OUTSIDE AGENCIES, PERMITTING AGENCIES**

Ameritech (telephone)	1-800-244-4444
Cable:	
Comcast Cablevision (formerly AT&T Cable)	(248) 334-1144
Wide Open West (formerly Americast Cable)	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 Commission	(248) 858-0958
Oakland County Health Department	(248) 424-7000
Pontiac, City of (Drain Layer License Information)	(248) 857-5670
Road Commission for Oakland County	(248) 858-4804

**CODES CURRENTLY IN EFFECT**

**Accessory Structures**

**City of Rochester Hills**

February 8, 2016

<b>Building:</b>	MRC 2015 (Michigan Residential Code 2015) Effective February 8, 2016
<b>Plumbing:</b>	MRC 2015 (Michigan Residential Code 2015) Effective February 8, 2016
<b>Electrical:</b>	MRC 2015 (Michigan Residential Code 2015) Effective February 8, 2016
<b>Mechanical:</b>	MRC 2015 (Michigan Residential Code 2015) Effective February 8, 2016
<b>Energy Code:</b>	MRC 2015 (Michigan Residential Code 2015) Effective February 8, 2016

Code Books can be purchased by going to the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes & Fire Safety, Lansing, MI 48909, or their website at: [www.michigan.gov/bcc](http://www.michigan.gov/bcc) -Codes & Standards.

The codes noted above are adopted by the City of Rochester Hills Codified Ordinance Section 18-41 and 18-136

**FROM APPLICATION TO COMPLETION**  
**Accessory Structures**

**1. Information Required On the Building Permit Application**

**A. Building Permit Application**

- Forms 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 11.

**C. Plot Plan – Three Copies**

- See “Sample Plot Plan” – page 19.
- Please show your existing house and location of the proposed Accessory Structure.
- Please indicate the size of the Accessory Structure, setbacks and the distances to all property lines and easements.

**D. Construction Drawings – Two Sets (Regular Permit Applications ONLY)**

- See “Construction Requirements”, pages 13-15 and “Sample Drawings”, pages 20-24.
- Plans that contain all the necessary information and details will help expedite the plan review process. Plans shall match Plot Plans.

- E. Owners** may submit a Building Permit application for work on property that is or will be, upon completion, their place of residence. Owners of rental property may submit a Building Permit application to do maintenance and alterations to the rental property.

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

**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<sup>st</sup>.
- Builders not currently registered can register at the time of application by providing the following:
  - o The original or a copy of the Builder’s license
  - o Registration fee is \$45.00 for 1 year, \$65.00 for 2 years or \$85.00 for 3 years
  - o Contractor Registration Form
    - The form shall have an original signature by the License Holder
    - The form shall be notarized (if not presented by License Holder)

A Contractor Registration Form is available at our counter or online at [www.rochesterhills.org](http://www.rochesterhills.org)

Note: All information noted above shall be submitted with the applicable Building Permit Application.

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

All Building Permit Applications for Accessory Structures will be processed within 48 hours from the time of application as an Expedited Building Permit.

#### **Please Note:**

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

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

- Complete construction documents are not required, however the Accessory Structure shall comply with City Ordinances and the Michigan Residential Code (MRC).
- The Permit Applicant will be notified if the plans do not meet Zoning or Building Code requirements, or if additional information is required.

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

- Construction drawings and Plot Plans will be reviewed for compliance with City Ordinances and the Michigan Residential Code (MRC).
- Plans are reviewed in the order they are received, based on the application date. Plan review time varies depending on the Building Department's work load.
- Plans that contain all the necessary information and details will help expedite the Plan Review process.
- The Permit Applicant will be notified if the plans do not meet Zoning Ordinance, grade, or Building Code requirements, or if any additional information is required.
- 

### **4. Permit Ready**

- Whether a regular Building 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.

#### **Note:**

- All Permit fees are due at the time of Permit issuance.
- Permit fees may be paid by cash, credit card, debit card or check.
- The Permit shall be issued within 6 months of the application date or the application will be canceled.
- Permits that have no activity for more than 6 months may be canceled.
- Once the Building Permit is issued, Electrical, Mechanical and Plumbing permits can then be obtained (if applicable).
- 

### **5. Electrical Permit (if applicable) may be obtained after the Building Permit has been issued.**

- All items to be installed shall be listed on the Electric Permit.
- Items not listed shall be added to the Electrical Permit prior to the Final Electrical Inspection.

**When all required permits are obtained, construction may begin. Revisions to the structure or grade after issuance of the Building Permit may require re-submittal and Building Department approval.**

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.

## **7. Inspections** (See “Inspection Requests” – page 12)

Once your Building Permit has been issued, you can begin construction. **If you have received an Expedited Permit, the Accessory Structures Construction Guidebook provided to you shall be on site at the time of inspections.** Your Accessory Structure 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:

- A. Footing and Sand Inspection** – After footings are dug, the base compacted and forms are set. All organic materials shall be removed from footing and slab areas. **Please note:** A minimum 12” wide x 24” below grade rat wall type footing may be installed if the Accessory Structure is a maximum of 600 sq. ft., constructed of lightweight construction, the eave height does not exceed 10 feet, and concrete block or brick are not being used. All other footings must be a minimum of 12” wide x 42” below grade concrete footing.
- Approved plans shall be on site for all inspections when a regular Building Permit has been issued. For Expedited Reviews, your copy of the Accessory Structure Guidebook shall be on site for inspections.
  - These inspections may be done separately depending on your construction sequence.
  - Common items the Inspector looks for are:
    - o Location of structure.
    - o Property line shall be clearly marked to verify the distance between the property lines and the structure.
    - o Footings are being installed in accordance with the approved plans.
    - o All vegetation has been removed from the floor area.
    - o A 4-inch minimum base of compacted sand, gravel or crushed stone has been installed.
    - o Forms have been installed a minimum of 6 inches above grade.
    - o The size of the floor shall match the approved Plot Plan.
    - o The floor in garages shall slope toward the main vehicle entry door.
- B. Underground Electrical Inspection** (if applicable) – After wire or conduit is installed and all underground Electrical work is completed.
- Shall be inspected before covering. Please note: Proper materials shall be used. Contact the Electrical Inspector if you have questions. (248) 656-4615.
  - Wiring from the house to the structure shall be at least 18 inches below grade
  - All work shall comply with the Michigan Residential Code (MRC).

**C. Final Electrical Inspection** (if applicable) – After all Electrical equipment, switches, plugs, covers, and fixtures have been installed and are operational.

- A min. clearance of 3 feet is required between the roof and all Electrical service wires.
- A Rough Electrical inspection is required if interior walls will be covered.
- Proper operation of ground fault circuit interrupters and breaker sizes are checked. Ground fault interrupters (GFI) are required for Electrical protection in all garages.
- The Inspector may need access to the inside of the house to complete the inspection. An adult of at least 18 years of age shall be present for the Inspector to enter the house.

**D. Final Building and Grade Inspection** – After Electrical Inspections are done and the structure is completed.

- A Rough Building Inspection is required prior to a Final Building inspection if any of the interior walls will be covered.
- Approved plans shall be on site for all inspections, or the Accessory Structure Guidebook, if the permit was issued as expedited.
- Common items the Inspector looks for:
  - o The height of the structure is 16 feet or less.
  - o All exterior siding, trim and painting have been completed.
  - o Grading is in accordance with the approved Plot Plan.
  - o The grade slopes away from the structure – a min. 6 inches within first 10 feet.
  - o There must be a 6” clear between the ground and wood siding, sheathing and wall construction.
  - o Treated bottom plates have been installed.
  - o Proper framing and header sizes are installed.
  - o Anchor bolts have been installed.
  - o Braced wall panels, hold downs and header straps are in place (if applicable)
  - o Truss drawings are on site (if applicable).
  - o Hurricane clips have been used.
  - o The step from the service door to grade is less than 7 ¾ inches.
  - o Steep slope requirements and reconstruction (if applicable) are completed and inspected prior to the Final Building Permit approval.

**E. Final Tree Inspection** (if applicable)

- Please contact the Planning Department at (248) 656-4660.

This itemized list is provided as a guide to help you understand the process for building an Accessory Structure 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

### Accessory Structures

1. **Application Fee**..... \$75.00  
-Non-refundable and due when the Permit Application is submitted.
2. **Zoning Review Fee**..... \$35.00
3. **Grading Plot Plan Review and Inspection Fee**..... \$69.00  
-Additional fee for each review after the second review..... \$75.00
4. **Building Permit Fee**  
-Based on the Construction Value of the project excluding site work. Refer to Fee Charts below.
5. **Construction Value**  
(A)\$1000.00 and under..... \$75.00  
    \$1001.00 to \$10,000-  
        **\$75.00 plus \$20.00 for each additional \$1000.00 or part thereof over \$1000.00**  
(B)\$10,000.00 and over-  
        **\$255.00 plus \$6.00 for each additional \$1000.00 or part thereof over \$10,000.00**
6. **Building Plan Review Fee**  
\$1.47 per \$1000.00 of the Construction Valuation, minimum fee..... \$75.00
7. **Schedule of Fees for Accessory Structures:**

CONSTRUCTION VALUATION	APPLIC'N FEE	ZONING REVIEW FEE	GRADE REVIEW FEE	BUILDING PLAN REVIEW FEE	BUILDING PERMIT FEE	TOTAL PERMIT FEE
\$0-\$1,000	\$75	\$35	\$69	\$75	\$75	\$330
\$1,001-\$2,000	\$75	\$35	\$69	\$75	\$95	\$349
\$2,001-\$3,000	\$75	\$35	\$69	\$75	\$115	\$369
\$3,001-\$4,000	\$75	\$35	\$69	\$75	\$135	\$389
\$4,001-\$5,000	\$75	\$35	\$69	\$75	\$155	\$409
\$5,001-\$6,000	\$75	\$35	\$69	\$75	\$175	\$429
\$6,001-\$7,000	\$75	\$35	\$69	\$75	\$195	\$449
\$7,001-\$8,000	\$75	\$35	\$69	\$75	\$215	\$469
\$8,001-\$9,000	\$75	\$35	\$69	\$75	\$235	\$489
\$9,001-\$10,000	\$75	\$35	\$69	\$75	\$255	\$509
\$10,001-\$11,000	\$75	\$35	\$69	\$75	\$261	\$515
\$11,001-\$12,000	\$75	\$35	\$69	\$75	\$267	\$521
\$12,001-\$13,000	\$75	\$35	\$69	\$75	\$273	\$527
\$13,001-\$14,000	\$75	\$35	\$69	\$75	\$279	\$533
\$14,001-\$15,000	\$75	\$35	\$69	\$75	\$285	\$539
\$15,001	See items 1 though 6 above					

8. **Reinspection Fee**.....\$75.00

# INSPECTION REQUESTS

Accessory Structure



**The Building Department offers three convenient methods to allow you to 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). By clicking on the City Government tab, highlighting Departments, selecting Building, then Inspection Scheduling and filling in the appropriate information on the Online Inspection Request Form, you can schedule an inspection.
- **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 6:30 a.m. that have been verified by the Building Department Staff will be scheduled for the same 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 a \$75.00 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. A \$75.00 re-inspection fee will 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 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**  
**Accessory Structures**

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

Your Accessory Structure will be reviewed and inspected in accordance with the requirements of the State of Michigan Residential Code (MRC) and the City of Rochester Hills Zoning Ordinance No. 138-41.

**1. Foundation** (See “Sample Drawings”, pages 20-25)

- Footings for Accessory Structures shall be at least 12 inches wide and 24 inches below grade when the structure is built of light-frame construction, less than 600 SF and has an eave height less than 10 feet. Footings for other than light-framed construction or structures greater than 600 SF shall be a minimum 42 inches deep.
- Alternate foundation systems may be used when approved by the Building Department.
- Footings shall rest on undisturbed soil.

**2. Concrete Floor** (See “Sample Drawings”, pages 20-24)

- All vegetation, topsoil and foreign material shall be removed from the proposed floor area.
- Fill material shall be free of vegetation and foreign materials.
- Fill shall be compacted and shall not exceed 24 inches in depth for sand or gravel and 8 inches for earth.
- Concrete slabs shall be at least 3 ½ inches thick with a compressive strength at 28 days of not less than 3,500 pounds per square inch.
- 1/2-inch anchor bolts or equivalent shall be installed in concrete before it has hardened. See “Framing” below for requirements.
- See “Wall Section” (page 22)
- Garage floors shall slope toward main vehicle entry door.

**3. Framing** (See “Sample Drawings”, pages 20-24)

**Wall**

- Sill plates resting on concrete or masonry shall be pressure-treated.
- Wood siding, sheathing and wall framing that is less than 6 inches above grade or less than 2” above concrete steps, porch slabs, or patio slabs, are required to be pressure-treated material.
- The sill plate shall be anchored to the foundation with ½-inch diameter anchor bolts or equivalent which are 6 feet on center and not more than 12 inches from each end of the plate. Bolts shall extend at least 7 inches into concrete or masonry.
- Walls are typically framed using 2 x 4 studs at 16 inches on center with a double top plate.
- Cutting or notching of 2 x 4 studs shall not exceed 7/8-inch.
- Holes drilled and boring in 2 x 4 studs shall not exceed 1-7/16 inch and shall be at least 5/8-inch from the edge of the stud.
- Proper sized headers shall be installed over all window and door openings. A pre-engineered header (Example: Glue-lam, Microlam, or LVL) is typically required for 16-foot wide door openings that are supporting roof construction. Additional engineering may be required.
- Headers above man-doors and windows up to 3-foot in width, within bearing walls shall be 2-2 x 4’s. Headers above man-doors and windows from 3 ft to 6 ft wide in bearing walls shall be 2-2 x 8’s.
- Walls shall be braced at the ends with 1-inch by 4-inch let-in bracing, approved metal strap devices or structural sheathing.

- Expedited Building Permit Applicants** shall use Continuous Sheathing (CS-G) Braced Wall Panel method for 16'-0" wide overhead door opening. See "Sample Drawings", pages 20-24.
- Portal frame opening framing shall be installed for each overhead door opening. See the Michigan Residential Code for details.
- Exterior wall covering/siding shall be installed to provide a barrier against weather and insects (building wrap).

**Garage Doors**

- Garage doors shall be solid or honeycomb core steel or solid core wood not less than 1 3/8" thick or 20-minute fire rated door or equivalent between the house and garage. Required exit doors shall be side hinged, a minimum of 32" clear width opening between the face of door and the door stop (when the door is in a 90 degree open position) and 78" in height.

**Safety Glazing**

- Safety Glazing is required in all fixed or operable panels within a 24" arc of a door, in fixed panels over 9 sq ft and nearer than 18" to the floor or walking surface and with a top edge greater than 36" above the floor and within 36" horizontal of walking surface.
- All Safety Glazing shall be clearly labeled.

**Roof**

- Roofs shall be designed to support a minimum. 25 pounds per square foot live load.
- Roof trusses (if used) shall be installed and spaced as required by the truss manufacturer. Manufacturer's truss drawings shall be on site at the frame inspection.
- Rafters (if used) shall have the proper size and spacing – (see examples in table below.)

<b>Maximum Allowable Span for Rafters (Spruce-Pine-Fir #2 or Better) Ground Snow Load = 30psf, Ceiling Not Attached to Rafters</b>	
<b>Rafter Size &amp; Spacing</b>	<b>Maximum Span</b>
2 x 6 - 12 inches on center	13'9"
2 x 6 - 16 inches on center	11'11"
2 x 8 - 12 inches on center	17'5"
2 x 8 - 16 inches on center	15'1"
2 x 10 - 12 inches on center	21'4"
2 x 10 - 16 inches on center	18'5"

Ceiling joists (if used) shall have the proper size and spacing to provide a 20 pound per square foot live load when the roof slope is steeper than 3 in 12. (see examples in table below)

<b>Maximum Allowable Span for Ceiling Joists (Spruce-Pine-Fir #2 or Better) Uninhabitable Attics with Limited Storage, Live Load = 20psf</b>	
<b>Ceiling Joist Size &amp; Spacing</b>	<b>Maximum Span</b>
2 x 6 - 12 inches on center	14'9"
2 x 6 - 16 inches on center	12'10"
2 x 8 - 12 inches on center	18'9"
2 x 8 - 16 inches on center	16'3"
2 x 10 - 12 inches on center	22'11"
2 x 10 - 16 inches on center	19'10"

- Rafter/collar ties are required 4 feet on center when ceiling joists are not installed or ceiling joists are not parallel with rafters.
- Cut ends of rafters shall be fully supported at the ridge board and at all walls.
- The ends of rafters and ceiling joists (if used) shall have at least 1-1/2 inches bearing on the top plate of the wall.
- Notches at the end of rafters and ceiling joists shall not exceed ¼ the depth. Notches in the top and bottom shall not exceed 1/6 the depth and shall not be located in the middle 1/3 of the span. The tension side of the rafter shall not be notched except for at the ends.
- Cutting, notching or alterations to manufactured roof trusses are not allowed.
- 7/16 inch OSB or ½ inch plywood roof sheathing, rated to span the distances between the rafter or roof trusses are typically used for roof sheathing.
- Asphalt shingles are typically installed when the roof slope is 4 units vertical in 12 units horizontal or greater. One layer of Type 15 felt (tar paper) is required over the entire roof with one layer of No. 40 coated roofing (ice and water shield) from the eaves to a line 24 inches inside the exterior wall.
- Trusses and rafters shall be connected to the wall plates with approved connectors (typically referred to as “hurricane” clips.)

## **PLOT PLAN REQUIREMENTS**

### **Accessory Structures**

Three sets of plot plans containing all the information and details noted below shall be submitted with the Building Permit Application. See "Sample Plot Plan" (page 19). 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.)

The Plot Plan shall contain the following information:

#### **General**

- Builder's name, address, and telephone number.
- The North arrow, street right-of-way and street name.
- Plot Plan scale shall be between 1" = 20' and 1" = 50'.
- The preferred Plot Plan size is 8 ½" x 14". 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 a field inspection.
- Permanent soil erosion control measures may be required for Final Grade approval.

#### **Zoning**

- The location and dimensions of all structures on the lot, including proposed structures and distances from lot lines and/or existing structures shall be indicated.
- Plot Plans shall have all lot dimensions indicated.
- The Plot Plan footprint and the construction drawings shall be consistent with each other.
- Accessory Structures shall be at least 5 feet from the side and rear property lines and at least 10 feet from the house. Accessory Structures may be located closer than 10 feet to the house if they meet the minimum setback requirements for the house.

#### **PLEASE NOTE:**

The total combined floor area of all Accessory Structures on a lot may not exceed 720 sq ft. On a lot exceeding 2 acres, 200 additional square feet of floor area is permitted for each additional acre or fraction thereof, provided that the combined floor area of all Accessory Structures does not exceed the floor area of the main building or 1,520 sq ft, whichever is less.

Accessory Structures cannot be built in the front yard or in any easement, or on a vacant lot.

Maximum height of all Accessory Structures is 14 feet for less than a 4/12 roof pitch and 16 feet for a 4/12 or greater roof pitch measured from grade to mid-gable.

For parcels one acre or larger, the drip-line of all trees 6 inches or larger in diameter and located within 50 feet of any proposed construction shall be indicated on the Plot Plan.

The total combined square footage of all Accessory Structures may not exceed the square footage of the first floor of the house.

The total square footage of all Accessory Structures (Attached and Detached) may not exceed the total square footage of the house.

## **Grading and Drainage**

The overall subdivision grading shall remain unchanged. Elevations may deviate slightly to accommodate the construction of the structure.

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

Existing and proposed drainage patterns shall be indicated on the Plot Plan.

The location of all underground utilities such as electric, gas, phone, water, sewer, etc., shall be indicated on the Plot Plan.

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.

### **For accessory structures with new or revised driveways**

If the road is gravel, the drive approach shall be gravel.

If the road is paved, the drive approach shall be paved.

The width and type of proposed driveway construction shall be indicated on the Plot Plan.

#### **The drive grade requirements are as follows**

Side entrance side – minimum 2% - maximum 4% slope.

Slope down to road – minimum 2% - maximum 10% slope.

Reverse drive slope – minimum 2% - maximum 7% slope.

All existing curb drops and all proposed curb cuts shall be indicated.

All existing trees in the road-right-of-way (public property) shall be indicated.

The angle of the driveway should be 90 degrees to the roadway edge.

A circle drive may be permitted if the lot frontage is 75 feet or more and the distance between the drives is a minimum of 45 feet center to center.

A minimum of 5 feet is required between a driveway and a fire hydrant.

A minimum of 6 feet is required between a driveway and a high back catch basin.

Driveways should avoid all utility manholes. If unavoidable, a Permit and Inspection from the Department of Public Service is required for the adjustment and isolation of the structure (Details are available.) For information, please call (248) 656-4640.

Other agency permits will be required when a new approach or alterations to an existing approach are proposed and:

-The road your house is on is an Oakland County road. A Drive Approach Permit from the Road Commission for Oakland County (RCOC) is required prior to Plot Plan approval,

-The road your house is on is a State of Michigan road. A drive approach permit from the Michigan Department of Transportation (MDOT) is required prior to Plot Plan approval.

### **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.

Wetland limits, natural features setback, and protective fencing, shall be indicated. (Activity within 10 feet of the regulated wetlands will require a Wetlands Use Permit.) Please provide information as required by the Wetlands Protection Ordinance, Chapter 126, Article IV.

Locations of all steep slopes and protective fencing shall be indicated. Steep slopes have a setback from the top and toe of the slope (activity is not permitted in the setbacks except by Permit). Please provide information as required by the Steep Slope Ordinance, Chapter 138-1082.

Locations and elevations of all watercourses and flood plain elevations shall be indicated on the Plot Plan. Please adhere to the City of Rochester Hills Flood Plain Use and Regulations Ordinance Chapter 114, Article III.

A State of Michigan Department of Environmental Quality Permit will be required 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) for further information.

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

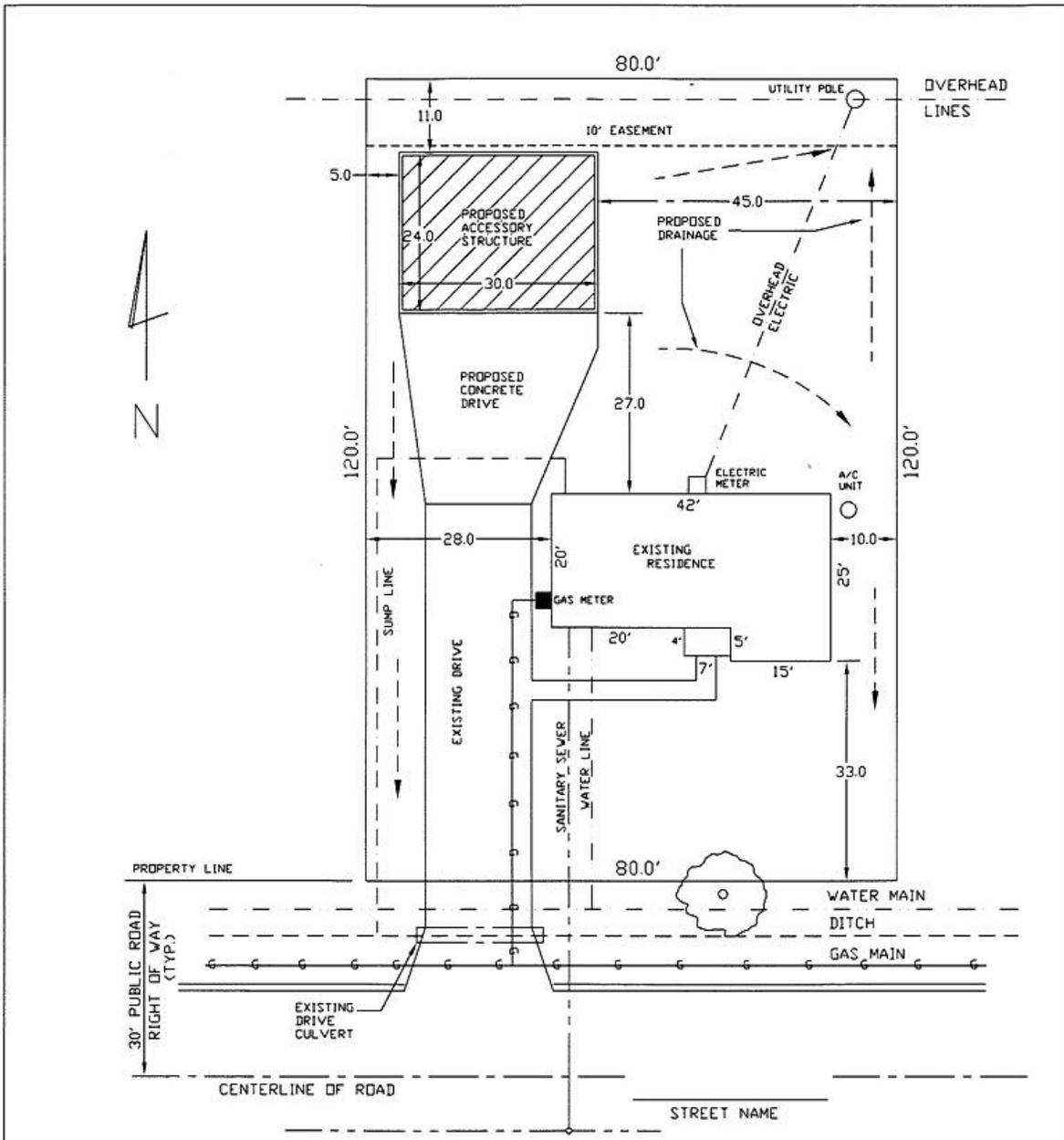
City of Rochester Hills Zoning Ordinance, Chapter 138

City of Rochester Hills Codified Ordinance, Chapter 126, 114

Oakland County Soil Erosion Control Manual

Oakland County Standards-Procedures for Plat Development, Standards and Specifications

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

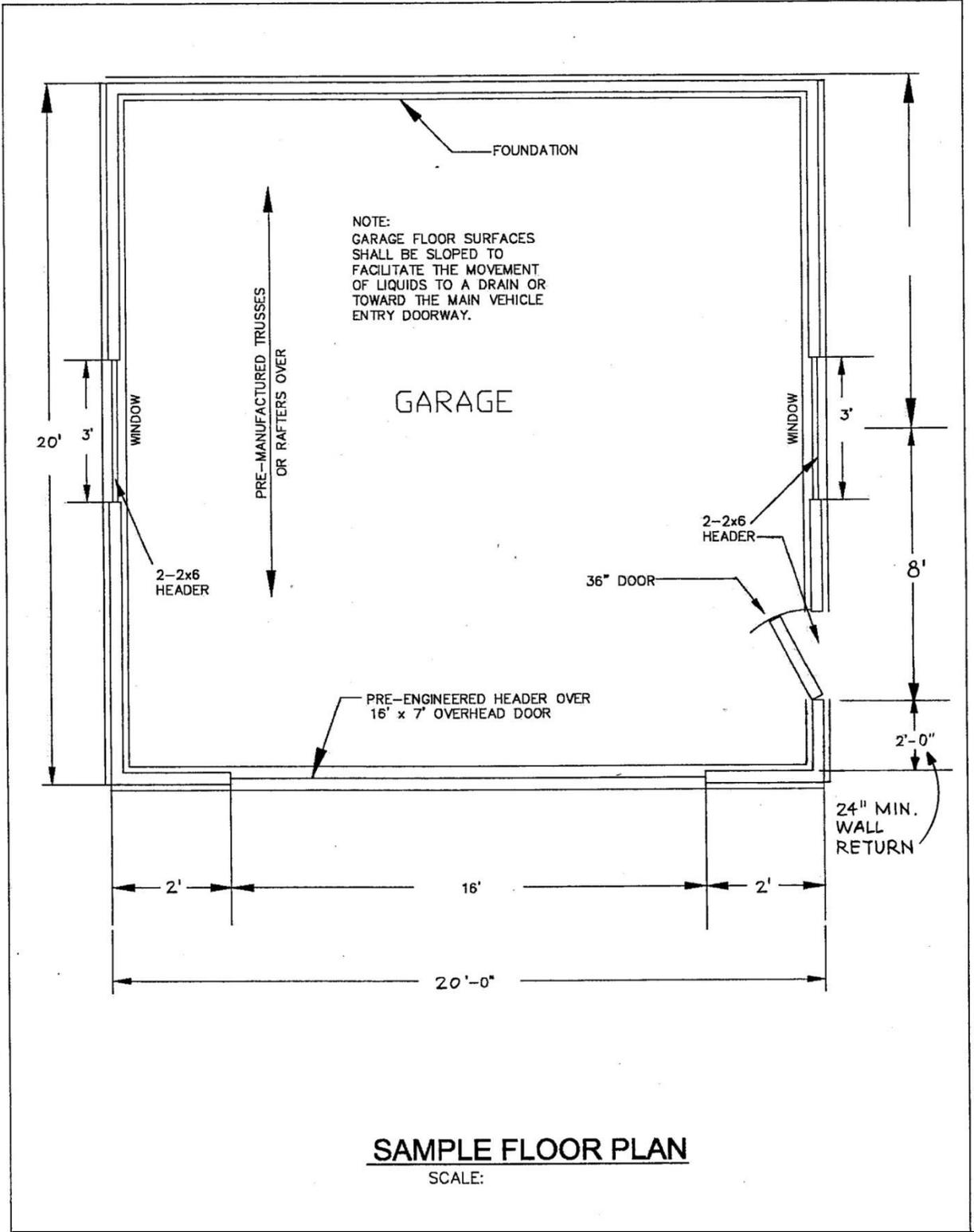


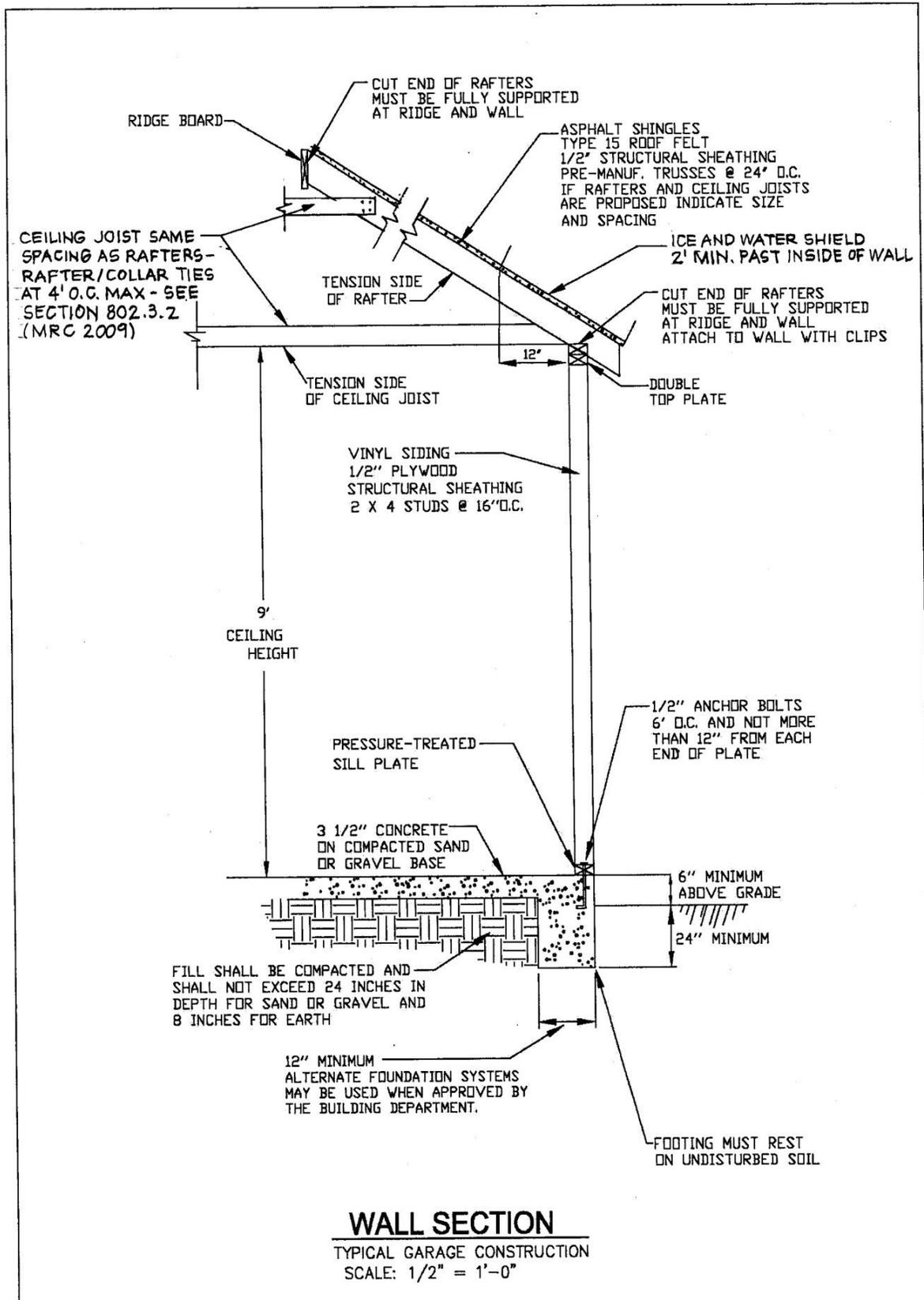
**SAMPLE PLOT PLAN**

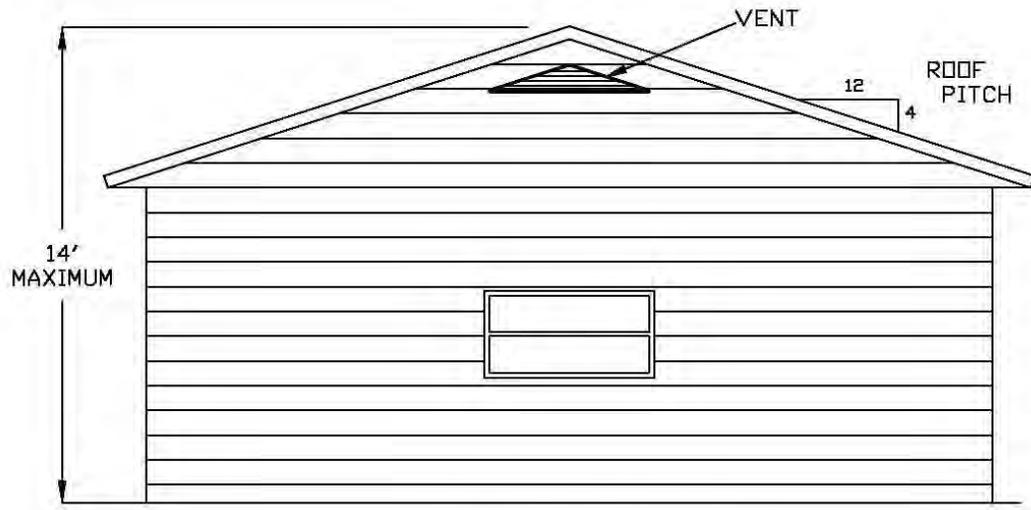
SCALE: 1"=20'

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.  
 IF A NEW DRIVE OR ALTERATIONS TO AN EXISTING DRIVE ARE PROPOSED,  
 ALL CONSTRUCTION MUST CONFORM TO CURRENT STANDARDS.

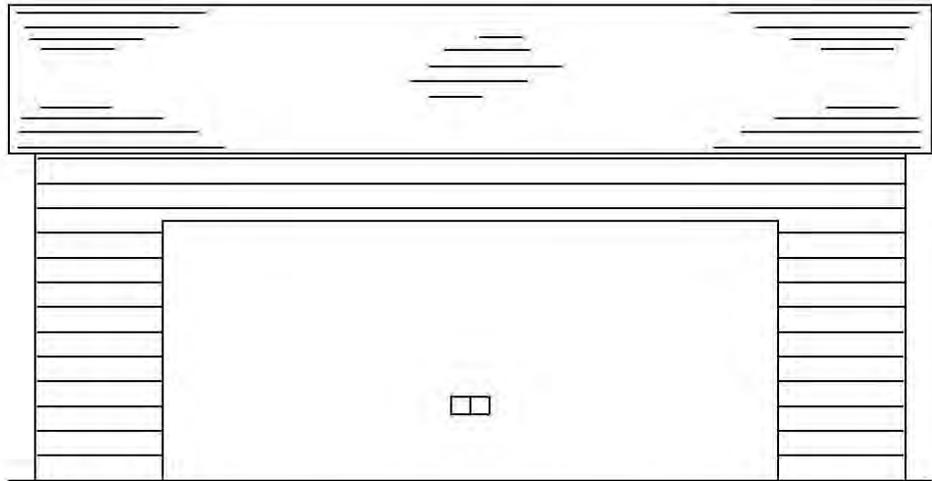
BUILDER: XYZ CONST.	
ADDRESS XXX	PHONE XXX
OWNER: RESIDENT	
ADDRESS XXX	PHONE XXX







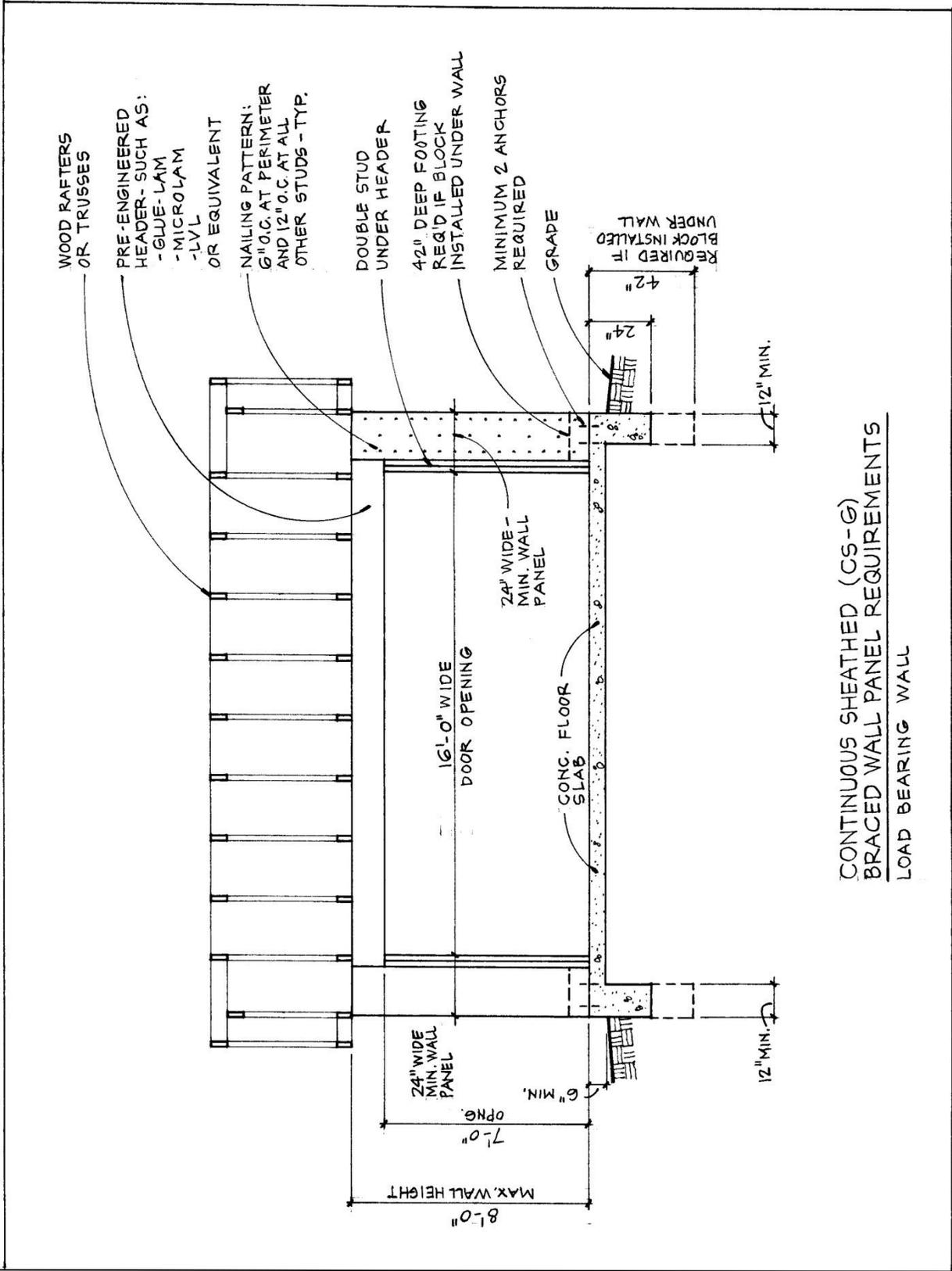
SIDE ELEVATION



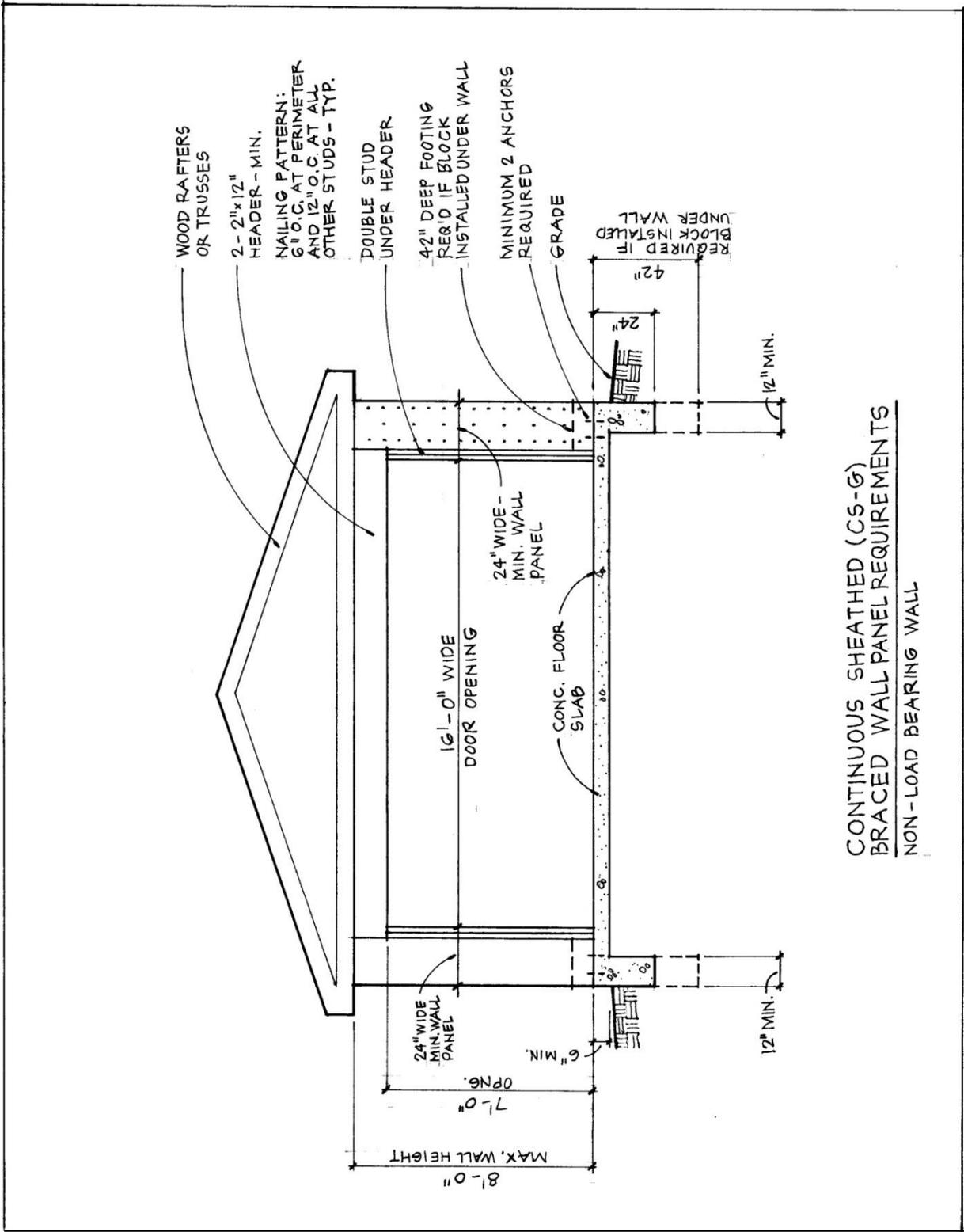
FRONT ELEVATION

**SAMPLE ELEVATIONS**

SCALE: 1/4" = 1'



CONTINUOUS SHEATHED (CS-G)  
BRACED WALL PANEL REQUIREMENTS  
LOAD BEARING WALL



CONTINUOUS SHEATHED (CS-G)  
BRACED WALL PANEL REQUIREMENTS  
NON-LOAD BEARING WALL

