

Livonia



Home Addition

The City of Livonia
Inspection Department
a Guide to Building
a New Addition.



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INTRODUCTION

Additions Guidebook

The City of Livonia Inspection Department has prepared this Guidebook to assist you in the process of building an addition within our City. 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 addition. 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. We want to know how we can help!

Included in this Guidebook is important information to help you understand the Building Permit and construction process, from application to completion. We have included details for areas that have generated confusion or construction delays in the past.

When your Building Permit application is submitted, it will go through a three-step review process:

1. **Grading Review:** This review covers work related to the property, including drainage, sidewalks, driveways, utility locations and connections. We also check for wetlands, watercourses, flood plains and other outside agency permits that may be required.
2. **Zoning Ordinance Review:** This review is performed to verify that your addition will meet the lot coverage, setback, height and size requirements for your Zoning District. This review will also determine if a Tree Removal Permit or Right-of-Way Tree Permit is required.
3. **Building Plan Review:** This review covers all the State of Michigan Construction Code requirements that apply to your proposed project.

Submitting a complete set of plot plans and construction drawings containing all the necessary information will expedite the plan review process. Details of typical submittal requirements are included in this Guidebook. The permit applicant will be notified if the information submitted does not meet the City of Livonia Zoning Ordinance, grade or Building Code requirements.

This Guidebook is set up to allow you to quickly reference specific areas of interest.

Please Note: This Guidebook is only intended to be a guide and is not all inclusive of the Building Code and City Ordinances. For complete details of all requirements, consult the version of the Michigan Residential Code that is currently in effect. The guidelines in this guidebook are subject to change without notice.

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.

Thank you!

The City of Livonia Inspection Department

BEFORE YOU BUILD

Additions

The following items 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 Addition.

Existing Foundation - When an addition is constructed, the existing foundation system needs to be capable of supporting the additional loads. If your house does not have an adequate foundation system, additional work may be required to ensure the existing house and new addition are properly supported. An addition cannot be constructed on an existing wood deck unless the deck is designed to support the additional loads (typically additional engineering is required).

Setbacks - The City of Livonia Zoning Ordinance contains minimum dimensions required between your addition and the property lines. Your addition cannot be located closer than 10 feet to any accessory structure without having to meet additional requirements. An addition attached to any portion of the house having a nonconforming front, side or rear yard setback will be required to meet the current standards of the Ordinance. See “Setback Requirements”.

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

Drainage - Will the existing yard drainage be affected by the location of the proposed addition? 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”. If you have any questions, please call the Inspection Department at (734) 466-2580.

Flood Plains - Floodplains are usually associated with lakes, streams, rivers and drainage courses. They are areas designated as “prone to flooding” during times of rain. Building in these areas is strictly regulated. Floodplain Maps are available from the FEMA website. If you are proposing to fill or build within a regulated floodplain, Engineering drawings completed by a licensed surveyor or Civil Engineer registered in the State of Michigan will be required to be obtained from permits from EGLE. Please call the Engineering Department at (734) 466-2571 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 factors including wildlife habitat, water quality, flood controls, pollution reduction, erosion controls, open spaces, recreation areas and aesthetics. If your home will be close to or in regulated wetlands, additional paperwork, including permits, may be required from the City or State of Michigan prior to your Building Permit approval. Please contact the Inspection Department at (734) 466-2580 for more information. Preliminary wetland location maps are available at the Environment, Great Lakes and Energy website (formerly MDEQ) and can be used as a guide as to whether further studies shall be performed. If wetlands are located on the property, permits for any disturbance or filling of those areas will need to be obtained from EGLE prior to any Engineering and Inspection Department permits being issued. Please contact the Engineering Department for additional information.

Trees - A Tree Removal Permit is required for parcels regulated by the Tree Conservation Ordinance and for trees located in the Public Street Right-of-Way. Please refer to “Tree Requirements”. Tree removal permits for trees located within the public right-of-way can be obtained from the Department of Public Works. Homeowners (or their representatives) are required to fill out an application at the DPW, after which an arborist from the City will inspect the tree(s) and determine if a permit will be required for the homeowner to remove the tree at their own costs, or if the City will place it on its removal list.

Permit Process – Please allow time for the permit process. Plan review time varies depending on the Inspection Department's workload.

Miss Dig – Call Miss Dig 811 before you dig. Michigan's free & easy utility notification system.

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 Inspection Department at (734) 466-2580 if you have any questions on how to apply this Guidebook to your specific project.

FROM APPLICATION TO COMPLETION

Additions A General Guide Through the Complete Process



1. Information required with a Building Permit application:

The following shall be submitted with the application. Please note that all forms need to be filled out completely.

- A. **Building Permit Application** *- The Applicant's signature is required.
- B. **Application Fee** – Based on cost of construction.
- C. **Plot Plans - Three Sets** - Please see “Plot Plan Requirements” and “Sample Plot Plan”.
- D. **Construction Drawings - Two Sets** - Please see “Plan Review Checklist” and “Sample Drawings”.
- E. **Roof Truss Layout - Two Sets (if applicable)** - This may be required depending on the type of the roof construction.
- F. **Energy Compliance** – Please clearly indicate thickness and R-values of all insulation, and U values of all doors and windows being used and note any additional energy upgrades being done to the existing home on your plans.
- G. **Owners** may submit a Building Permit application for work on property that is, or will be, on completion, their place of residence. Owners of rental property may submit a Building Permit application to do maintenance and alterations to their rental property.
- H. **Please Note:** Any contractor, hired by the Owner for a contract price of \$600.00 or more, must be licensed in accordance with the State of Michigan Residential Builders Laws.

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

* Use “[BS&A Online](#)” to apply for a permit, check permit status, schedule an inspection and view inspection results.

QR Code for BS&A Online– Scanning the QR Code above will give you direct access to BS&A Online as mentioned above.

2. Registration of Builder's License

- Builders shall be registered with the City of Livonia to submit a Building Permit application.
- All registrations expire on May 31st.
- Builders not currently registered can register at the time of application by providing the following:
 - The original or a copy of your Builder's License.
 - A copy of the License Holder's Driver's License, if not present in person.
 - A Registration Fee of \$15.00.

3. Plans Reviewed and Approved

- Building and plot plans are reviewed for compliance to State Codes and City Ordinances.
- Plans are reviewed in the order they are received based on the application date. Plan review times vary depending on the Inspection Department's workload.
- Plans that contain all the necessary information and details will help expedite the review process.
- The Permit Applicant will be notified if the information provided does not meet the City of Livonia Zoning Ordinance, grade or Building Code requirements or if any additional information is necessary.

4. Permit Ready

- The Permit Applicant will be called when the Building Permit is ready to be picked up.
- Building Permit and plan review fees are due at the time of the Permit issuance.
- Permit fees can be paid by cash, credit card, debit card or check.
- The Building Permit shall be secured within 6 months of the application date or the application may be canceled.
- Issued Permits that have no activity for more than 6 months will be canceled.

5. **Plumbing, Mechanical and Electrical Permits** may be required depending on the nature of the project. These Permits can be obtained after the Building Permit has been issued.
- All items to be installed shall be listed on the appropriate Permit Forms.
 - Items not listed shall be added to the appropriate Permits or additional Permits secured before the Final Inspection.

*Forms are available online www.livonia.gov or at the Inspection Department counter.

When all the required Permits are obtained, construction may begin. Revisions to the building or grade after issuance of the Building Permit may require re-submittal or revised plans and approvals.

The following items shall be addressed and maintained throughout the entire construction process:

- The street address shall be posted and clearly visible from the street.
- Temporary soil erosion control shall be in place and maintained.
- The street shall be kept clean at all times.
- All construction materials and debris contained on your property.
- Tree protection (if required) shall be in place and maintained.

Note: See “Inspection Request” and “Building Inspections” for details on requesting inspections and what the Inspector looks for.

This itemized list is provided as a guide to help you understand the process for building an addition in the City of Livonia. It covers the most common types of projects. If your addition is beyond the scope of this Guidebook, additional information, Inspections or Permits may be required. Please call the Inspection Department at (734) 466-2580 if you have any questions on how to apply this Guidebook to your specific project.

PLAN REVIEW CHECKLIST

Additions

This list is being provided to help you understand the information that is required on your construction drawings. Please give this information to the person preparing your plans for their use.

Addition construction documents submitted for plan review shall contain the following information:

1. **Two sets of construction drawings** meeting the following requirements:
 - Drawn to scale in a draftsman-like manner. Scale not less than 1/8" = 1'0".
 - Drawings shall be clear and readable.
 - Drawing sets shall consist of a single sheet size no larger than 24" x 36".

If the proposed addition is over 3,500 square feet, the construction plans shall have the original signature, seal and date of a State of Michigan licensed Architect or Engineer. Please Note: All other construction plans do not have to be signed and sealed by a licensed Architect or Engineer but shall be clear and contain all required information.

Pre-manufactured structures such as glass sunroofs or patio enclosures shall be designed by a State of Michigan licensed Architect or Engineer. Plans submitted for these types of structures shall contain details for all design loads, connections and foundations as they pertain to the specific project.

2. **Two sets of pre-engineered truss schematics** (if applicable to the roof design).
3. **Three sets of Plot plans** that match your construction drawings.
4. **Plans** that clearly indicate the location of both the existing and proposed construction.
5. A **Foundation Plan** that contains the following information: (See "Sample Foundation Plan") **Basement:**
 - A. Footing and column pad sizes indicated with all layout dimensions. Details of existing foundations indicated.
 - B. Sizes and spacing of beams and columns. Details of the existing beams and columns when a proposed addition is supported by existing construction.
 - C. First floor joist direction, size, spacing and span. Details of existing floor joists when a proposed addition is supported by existing construction.
 - D. Size of support for all bearing walls and point loads above.
 - E. Framing details at stair and fireplace openings.
 - F. Basement floor thickness, vapor barrier and type of 4-inch base being used.
 - G. Basement wall type and thickness, and reinforcing steel sizes & spacing (if applicable)
 - H. Location and sizes of all Egress windows and window wells or doors to the exterior from the basement.

Crawl Space:

- See item 5, A-D.
- Foundation types and thicknesses, and reinforcing steel sizes & spacing (if applicable).
- Location of all foundation vents and crawl space access. Ventilation is required within 3 feet of each corner. An 18" x 24" minimum crawl space access is required if in the floor, 16" x 24" if in a foundation wall.
- Clearance between ground and nontreated floor joist shall be 18" minimum.
- Clearance between ground and nontreated wood beams shall be 12" minimum.

Test holes may be required to verify the depth of the existing foundation before a Building Permit will be issued. This will be determined at the Building Plan Review stage.

6. **1st and 2nd Floor Plans** (if applicable) with the following information (Please see "Sample Floor Plan"):
 - Full dimensions and use of all rooms, proposed and existing.
 - Ceiling heights of all rooms.
 - Floor joist direction, size, spacing and span. Details of existing floor joists when a proposed addition is supported by existing construction.
 - Roof framing direction, sizes, spacing and spans (if applicable).
 - Sizes and locations of all support for bearing walls and concentrated loads down to beams or foundations designed to support all loads.

- Details of existing beams, foundations and support when a proposed addition is supported by existing construction.
 - Sizes of all doors and windows.
 - Details of existing beams, columns and foundations supporting bearing walls and point loads for the proposed and existing construction. Design information for all beams, columns and foundations designed to support all existing and new loads.
 - The locations, sizes and supports for any openings between the existing building and proposed addition.
 - Operable emergency egress windows or doors in all sleeping rooms.
 - Details of separation required between an attached garage and the house.
 - Location of all smoke alarms. (When an addition is constructed the Building Code requires smoke alarms to be installed in the existing house and possibly the new addition. Smoke alarms are required on each floor level, in each bedroom and outside each sleeping area in the immediate vicinity of the bedrooms. The smoke alarms are not required to be interconnected unless interconnected wiring can be installed without disrupting existing construction. This will be determined by the Electrical Inspector.)
 - Indicate the locations of all Carbon Monoxide alarms.
7. **Roof framing plan** indicating the location, direction, size, spacing and span of all roof and ceiling framing members (for conventional framing), including the thickness of the roof sheathing. Indicate trusses if roof trusses are being used. Indicate support for all bearing walls and concentrated loads from ends of hip and valley rafters, ceiling joist, rafters, trusses and girder trusses. Also indicate roof pitch for all portions of the roof, felt paper (underlayment), and ice and water shield.
8. **Building or Wall Section** with the following information (Depending on the complexity of your project, more sections or details may be required. Please see “Sample Wall Section”):
- Footing and basement wall sizes, types and heights, including any reinforcing steel required.
 - Basement wall waterproofing/damp-proofing and drain tile.
 - 1st and 2nd Floor ceiling heights.
 - Location of finish grade.

Wall Construction Details:

- Interior finishes, types & thicknesses.
 - Insulation types and thicknesses.
 - Sizes and spacing of wall studs.
 - Walls over 10 feet in height and walkout walls – special framing details are required. Provide complete details to show that these walls are designed to resist wind load and support all other imposed loads.
 - Base course flashing.
 - Type and thickness of exterior sheathing.
 - Anchor bolt sizes and spacing.
 - Type and thickness of subfloor.
 - Roof construction details with thickness and type of sheathing, felt (underlayment) and snow and ice shield. Type and amount of attic ventilation. Truss/rafter construction with connection details.
 - Brick veneer.
 - Weather-resistant membrane behind brick.
 - Lintels and flashings.
 - Brick wall ties and flashing.
 - Weep holes 33 inches on center.
- Wall bracing information including (as applicable):
 - All braced wall lines clearly identified.
 - Methods of bracing clearly identified.
 - Location and length of braced wall panels indicated.
 - Foundation requirements (if required) and anchorage of all braced wall panels indicated.
 - Construction details for each braced wall panel being used provided.
9. **Stair Details** with all tread, riser, guardrail and handrails, dimensioned.

10. **Michigan Uniform Energy Code Compliance** – (if applicable) Provide completed Energy Code Worksheets and supply associated method of compliance information.

Please note: This is not an all-inclusive list. Depending on the type and complexity of your project, more details or engineering by a State of Michigan licensed Architect or Engineer may be required.

INSPECTION REQUESTS

Additions



The Inspection Department offers two convenient methods to allow you to request an inspection:

- Use “[BS&A Online](#)” to schedule an inspection and view inspection results. You will need to schedule an inspection at least one business day prior to the inspection date (before 3:30 pm).
- **QR Code for BS&A Online**– Scanning the QR Code above will give you direct access to BS&A Online as mentioned above.

Inspections scheduled before 3:30 p.m. may be added to the workload for the following working day. Electrical inspections fill up faster than other inspections, they will not be guaranteed the next day. Inspections will be done Monday through Friday from 9:30 a.m. - 3:30 p.m. Inspections may be done earlier or later depending on the Inspector’s workload. Inspectors will be available by phone from 8:30 – 9:30 a.m. and 4:00 – 5:00 p.m. See our [Staff Directory](#) to call the morning of your inspection for an a.m. or p.m. window. 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 Inspection Department at (734) 466-2580 before 9:00 a.m. on the day of the requested Inspection.

Please make sure your project is ready for an Inspection. Inspections will not be done and a re-inspection fee may be charged if the following items are not completed or in place:

- Safe access to the job site and throughout the area to be inspected.
- Approved plans on site.
- The job is ready for inspection (refer to “Building Inspections”).
- The Street address and lot number posted and visible from street.
- Temporary soil erosion control properly installed if applicable.
- The Street kept clean.
- All building construction debris and materials contained on the property.
- Tree protection properly installed and maintained if applicable.

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

City of Livonia Sticker This will have a list of all the inspection groups. If signed and dated at inspection requested the Inspection was Approved.

Inspector’s Correction Notice Inspection not approved. The Inspector’s Correction Notice will contain a list of items that need to be addressed before calling for a re-inspection. A re-inspection fee will be due for items not corrected at the time of the second Inspection. Inspections shall be approved before proceeding with the next phase of construction.

It is your responsibility as the permit holder to check the job site for the Inspection results. Please read the information in the Inspector’s Correction Notice. If you have any questions regarding this information, please call your Inspector between 8:30 – 9:30 a.m. and 4:00 – 5:00 p.m. see our [Staff Directory](#) online. For the quickest results use “[BS&A Online](#)” to view inspection results. Most Inspectors work in real-time, however there still could be a slight delay.

BUILDING AND TRADE INSPECTIONS

Additions

This list is intended to help you understand standard Inspections and some of the common items the Inspector looks for during an Inspection. This is not intended to be an all-inclusive list. The type and complexity of your project will determine what Inspections are required.

A safe access shall be provided to the inspection site and through all areas to be inspected.

Rail Footings – After the rails are formed for spread footings, the following will be checked:

- Footing sizes.
- Footings match the approved plot plan.
- Footings are down to solid undisturbed virgin soil.
- That any required reinforcing steel (rebar) is in place.
- Special footings that may require additional inspections prior to pouring:
 - Walk-out basement footings.
 - Bad ground conditions.
 - Engineered foundation systems.
 - Engineered pile foundations.
- Tree protection – maintained as required.
- Electrical bonding (if required) is in place.

Backfill – Before the backfill has been installed, after the drain tile has been installed, and stone and waterproofing or damp-proofing have been completed. The following will be checked:

- Properly installed lead walls with footings to the edge of the excavation, a minimum of 3 feet from the basement wall.
- 6 inches of required stone cover on the drain tile.
- Any As-Built plot plans have been submitted and approved prior to backfill for setback and brick ledge verification.
- Properly installed foundation anchors and wall bracing anchors.
- Damp-proofing applied from footing to above proposed grade.

Footings – The following will be checked:

- Footings shall rest on solid undisturbed soil.
- Footings shall be 42 inches below grade – minimum.
- Any forming required to provide protection of footing due to ground conditions.
- Footings installed in accordance with the approved plans.
- Footing locations and dimensions match the approved construction drawings and plot plan.

Underground Plumbing – After all underground plumbing is installed. The following will be checked:

- Types and sizes of all piping.
- Slopes of pipe – 1/8-inch per foot minimum.
- Stone installed around perforated pipe.
- Traps installed at all floor drains.

Rough Plumbing – After bathtubs, showers and all concealed piping in walls, floors and attics has been installed and fire stopped with proper material. The following will be checked:

- Types and sizes of piping.
- All water, sanitary and vent piping.
- Fire stopping of all tubs, showers and piping per code requirements.
- Pressure testing for concealed piping depending on job conditions.

Rough Mechanical – After all concealed gas piping, duct work, return air, chimneys and electrical wiring have been installed and fire stopped with proper material. The following will be checked:

- All concealed gas piping has been pressure tested.

- All ductwork has been sealed.
- Any exterior ductwork has been properly insulated.
- Proper clearances between chimneys and combustible materials exists.
- Bath fan ducts are installed and terminated to the outside.
- Complete framing and fire-stopping on all chimneys, chimney chases, return air and piping has been done.
- Covers installed on second floor registers.
- Floor registers in bathrooms, laundries and kitchens are a minimum one (1) inch above the finish floor.
- Floor registers in bathrooms are located at least 3' from water closet.

Rough Electrical – After all wires, boxes and recessed fixtures have been installed with grounds and neutrals tied together and wire holes are fire-stopped as required by Code. The following will be checked:

- Wires shall extend a minimum of 6 inches from boxes.
- All wires shall be secured as required by Code.
- Smoke detectors – wired and interconnected with 3-wire cable.
- Wire holes fire-stopped where required by Code with proper material.
- Vertical wires are not installed in return air areas.
- Recessed fixtures installed in insulated ceilings are the proper type fixtures and have been installed per the Michigan Uniform Energy Code requirements.
- Switches, plugs and covers are not installed prior to Rough Inspection.
- Arch Fault Circuit Interrupters are installed in all bedrooms.

Rough Fireplace

- **Masonry Fireplace** – A damper inspection is required after the damper has been installed and the smoke chamber is in place with the first flue set. The following will be checked:
 - Concealed gas piping prior to covering.
 - Type of mortar used in fire box, hearth and smoke chamber construction.
 - Size and location of exterior air intake.
 - A min. 2-inch clearance from combustibles from floor through roof.
 - Size and construction of hearth extension.
 - Flue sizes.
 - Location and construction of fire damper and smoke shelf.
- **Prefab Fireplace** – After the fireplace, chimney, and hearth extension protection have been installed as required by manufacturer. The following will be checked:
 - A Mechanical Permit has been secured.
 - The fireplace has been installed per manufacturer's requirements.
 - Installation instructions are on site.
 - Clearances between chimney and combustible material per manufacturer.
 - Framing and fire-stopping at the fireplace and the chimney chase has been completed.
 - Concealed gas piping has been pressure tested.
 - Proper hearth extensions and protection per manufacturer.
 - Manufacturer's installation instructions have been followed.

Pre-Masonry

- The proper type of water-resistant sheathing has been installed with the required proper lapping.
- Joints have been protected with proper type building wrap material.
- Flashing has been properly installed at all locations as required by Code.

Rough Building – After Rough Plumbing, Mechanical, Electrical and Fireplace Inspections have been conducted and approved. Approved plans and truss drawings shall be on site for all inspections. The following will be checked:

Floors

- Floor joist spans.
- If any floor trusses have been damaged or modified.
- Joist hangers are installed where required and have been properly nailed.
- If floor joists have been improperly notched or bored.
- Floor joists or trusses have proper bearing.

- Support under header studs has been installed.
- Support under heat, cold air and plumbing cut outs has been installed.
- Support under bearing walls has been installed.
- Stairway width of 36-inch minimum when all walls are finished.
- Stair risers are equal in height with a maximum rise of 8 ¼”.
- Stair treads are equal in depth with a minimum depth of 9”.
- Winder stair tread widths meets code requirements.
- Proper headroom at stair – 6’8” minimum.
- Proper sill plate on foundation with the proper size, type and spacing of foundation anchors.
- A minimum 16” x 24” access to the crawl space if through a perimeter wall, a minimum of 18” x 24” if through a floor.
- Crawl space ventilation, including ventilation within three feet of each corner.
- The Engineered floor system (if applicable) has been properly laid out per the engineered drawings (Please Note: The joist layout and all details shall be readable).
- Steel beam sizing and column spacing and size of column footings.
- Proper bearing and connections for steel beams and columns.
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Walls

- All beams/girders have been properly supported.
- All girder trusses have been properly supported.
- Double studs at cut plates under joists have been installed.
- Proper portal framing has been installed for garage door opening with foundation anchors secured in footings to meet code requirements for wall bracing.
- Plates in contact with concrete are treated and nailed with proper corrosion resistant nails.
- All joints in top plates are supported.
- All bottom plates have been properly nailed.
- All headers have been shimmed at the bearing points if necessary.
- Notching in any studs has been done properly.
- Boring in any studs has been done properly.
- Proper wall bracing has been installed, including all requirements and hold-downs.
- Sheathing has been installed in a proper manner and any holes have been repaired.
- All holes through plates (for wiring, plumbing, HVAC) have been properly fire blocked.
- The chimney chase (if applicable) has been properly fire blocked.
- Any drop ceiling has been completely fire blocked.
- All bathtubs/shower pans have been completely fire blocked.
- All dead spaces have been properly fire blocked.
- All furred walls have been properly fire blocked.
- Window installation, including:
 - Required safety glass, with readable labeling.
 - Bedroom egress window sizes.
 - Basement egress windows.
- Studs at wall intersections have been properly nailed.
- Wall sheathing has been properly nailed.
- All braced wall methods (as applicable) have been properly installed.
- Exterior house wrap has been properly installed per manufacturer’s installation instructions. including overlaps.

Roof Framing

- Roof trusses have been properly installed and trusses are bearing at design bearing points.
- Trusses have not been altered or damaged.
- Properly sized truss hangers have been installed at girder truss connections.
- Rafter sizes are proper for their span.
- Ceiling joist sizes are proper for their span.
- The porch roof (if applicable) has been properly supported.
- The bay roof (if applicable) has been completed and weatherproofed.
- The ridge board is properly sized for the size of rafters being used.
- Collar ties have been installed.

- Trusses have been braced per manufacturer's requirements as noted on the engineered truss drawings.
- Roof/ceiling framing members have been properly notched or boring, if necessary.
- Roof sheathing is of the proper thickness & type for the rafter/truss span and has been nailed correctly.
- Any valley boards are properly sized and lay on roof framing.
- Shingles have been installed and nailed properly.
- A minimum 22" x 30" attic access has been provided with sturdy sides built up to the required depth of blown in insulation in the attic.
- Bath fan vents have been connected to vent directly to the exterior.
- Roof ventilation has been provided.
- Any framing hangers used are properly sized and properly nailed.
- Cut ends of rafters have been properly supported.
- Truss and rafter connectors to top plates have been installed.
- Engineered truss drawings have been provided on site for review with a readable truss layout.

Energy

- Insulation has been correctly installed per approved plans and energy calculations.
- Blown in attic insulation will be checked at Final Building Inspection.
- Insulation baffles have been installed for proper ventilation.
- Insulation has been installed behind prefab fireplaces with an air barrier (if applicable). This is checked at the Rough Frame Inspection.
- Insulation has been installed behind bathtubs with an air barrier. This is checked at the Rough Frame Inspection.
- Paper backing has been removed within 6 inches of recessed light fixtures. This is checked at the Rough Frame Inspection.
- Paper backing on insulation is in substantial contact with wall, ceiling or floor covering.
- Doors and windows have been installed with U values as listed on your approved plans. U Values shall be labeled on all doors and windows.

Basement Sand – After Underground Plumbing approval has been obtained and the floor is ready to pour. The following will be checked:

- A 4-inch stone base and a 6-mil vapor barrier have been installed.
- The existing foundation and basement wall will be checked for cracks.
- Finish floor height has been indicated.
- Locations of columns and column footings are per the approved plans.
- Columns have been installed properly.
- Insulation requirements (if applicable) for energy compliance.

Garage Sand – After all forms are set, the base has been compacted and all required reinforcement has been installed. The following will be checked:

- A 4-inch stone or sand base has been installed. A 6-mil vapor barrier has been installed on attached garages.
- All forms have been installed and the finish floor height has been indicated.
- The form at the overhead door opening is down to the top of the footing.
- Reinforcement has been installed over any excavated area.
- The brick ledge and footing have been cleaned off.
- Any untreated wood has been protected.
- The floor is sloping towards the overhead door.

Sump Line – After the sump line has been installed and connected to the storm system. An inspection can be requested by calling the Engineering Department at (734) 466-2571 (for work within the right-of-way, or connections to public facilities, inspections are to be scheduled a minimum of 2 working days prior to any digging) The inspection will verify:

- That the inspection takes place prior to any piping being covered.
- The type and slope of piping.
- The connection to the existing storm lead will be checked.
- Connections of sump lines to drywells (if approved) are inspected by the Inspection Department, not the Engineering Department.

Drive Approach – Prior to concrete installation. The following will be checked:

- A 4-inch sand base has been installed and forms have been properly placed.
- The width and location is according to the approved plot plan.
- Structures in or adjacent to the concrete have been properly adjusted to match the finish elevation (a Permit and inspection from the Engineering Department is required for the adjustment and isolation of the structure).
- There is a proper slope – minimum 2% - maximum 8%.
- The concrete will be a minimum 6-inch thick (including sidewalk at drive).
- The concrete for the sidewalk has a cross slope of 2%. (1.5% is recommended)
- There is a 5-foot minimum clearance between the drive and any fire hydrant.

Final Plumbing – After all fixtures have been installed and are properly operational. The following will be checked:

- Hot water is being provided to all fixtures.
- All items installed are listed on the Plumbing Permit. If additional items were installed, they shall be added to the permit before Final Plumbing approval.

Final Mechanical – After gas piping, the furnace, all duct work and return airs have been installed and are fully operational. The following will be checked:

- The furnace manufacturer's installation instructions are on site for reference.
- All ductwork has been sealed.
- All dampers have been installed for all intake and exhaust openings.
- All items installed are listed on the Mechanical Permit. If additional items were installed, they shall be added to the Permit before Final Mechanical approval.

Final Electrical – After all electrical equipment, switches, plugs, covers and fixtures have been installed and are fully operational. The following will be checked:

- The electrical panel has been labeled, indicating all circuits.
- Smoke alarms and carbon monoxide detectors have been installed and are operational.
- Light bulbs have been installed in all fixtures.
- All items installed are listed on the Electrical Permit. If additional items were installed they shall be added to the Permit before Final Electrical approval.

Final Fireplace

Masonry Fireplaces

- Are inspected at the Final Building Inspection.
- The fireplace and hearth shall be completed.
- Clearances between fireplace openings and combustible materials have been maintained.

Prefab Fireplaces

- Inspected after fireplace surrounds and hearth extensions are installed as required per manufacturer.
- Manufacturer's installation instructions shall be on site for reference.
- Clearances between fireplace surrounds and the fireplace are per manufacturer's requirements.

Final Masonry – The following will be checked:

- Lintel installation, weep holes, and flashings.
- All windows, flashing, and weep holes below the brick sill.

Final Building and Grade – After Final Plumbing, Mechanical, Electrical and prefab fireplace inspections have been performed. The following will be checked:

- Smoke alarms are interconnected, working, and properly located.
- Carbon Monoxide alarms have been properly installed.
- Proper and equal height, risers and tread width on stairs, taking into consideration the finish floor height.
- Exterior painting and caulking have been completed.
- Proper drainage away from the building has been provided.
- The fire separation between the house and the garage has been completed (if applicable).
- All handrails are graspable and returned to a wall or post.
- There is a properly installed address.
- A minimum 6 inches is maintained between grade and any untreated wood.

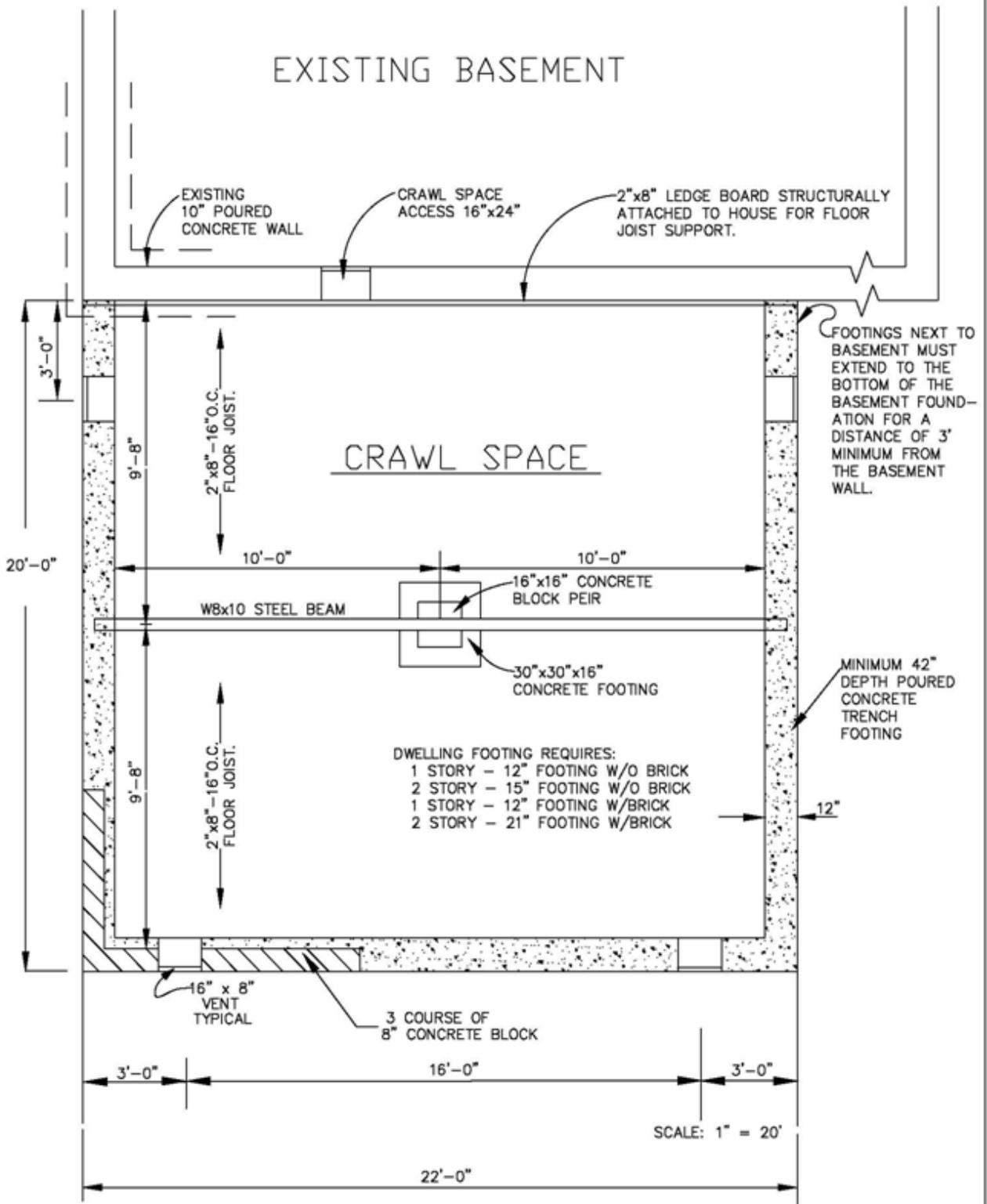
- Guardrails have been installed at raised floor surfaces and open sided stairs located more than 30 inches above floor or grade below at any point within 36" horizontally to the edge of the open side.
- Intermediate rails or ornamental closures in guardrails do not allow the passage of an object 4 inches or more in diameter. Openings in guardrails for stairways do not allow passage of an object 4-3/8" or more in diameter.
- Doors are secure leading to future deck or stair areas that are not yet built.
- Weep holes are properly located and not covered by landscaping.

Permanent Erosion Control (inspected as part of the Final Grade Inspection) shall be installed as required by Engineering. The following will be checked:

- Sod or grass seed at least 50% germinated are installed in the areas noted below:
 - In the Right-of-Way – From the edge of the road to private property (typically 16.5 ft.).
 - In and along all ditches.
 - On the house side of bike paths or sidewalks.
 - On all slopes greater than 1 foot on 5 feet.
 - A minimum 10 feet around catch basins and storm manholes.
 - All other areas prone to erosion as determined by the Inspector.

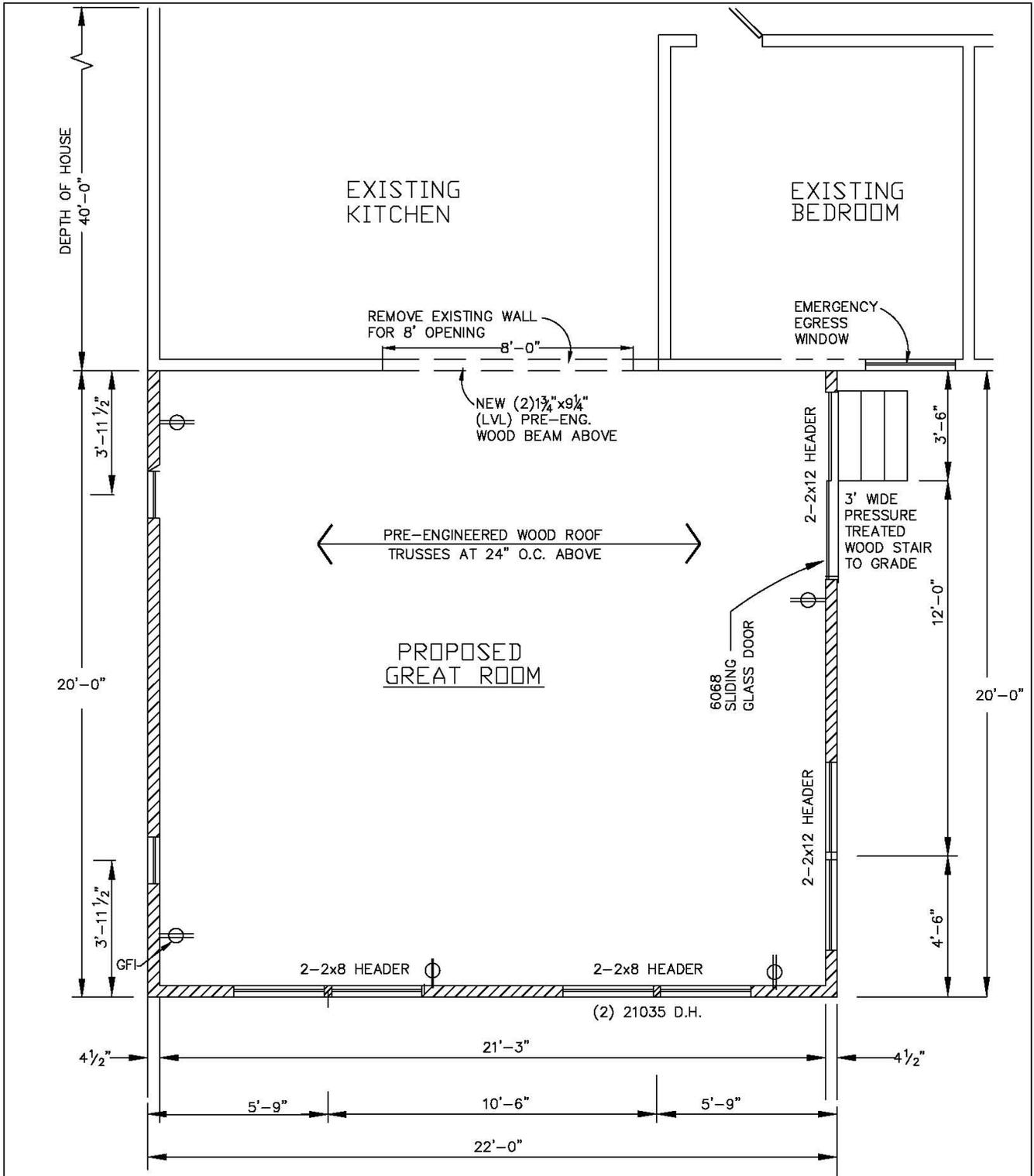
Items To Be Installed Per Approved Plot Plan (Inspected as part of the Final Grade Inspection)

- Ditches.
- Culverts.
- Drive Apron and associated material.
- All required lot grading.
- Tree protection (Please contact the Engineering Department (734) 466-2571) for final approval).
- Lot and the adjacent lots are free of debris



SAMPLE FOUNDATION PLAN

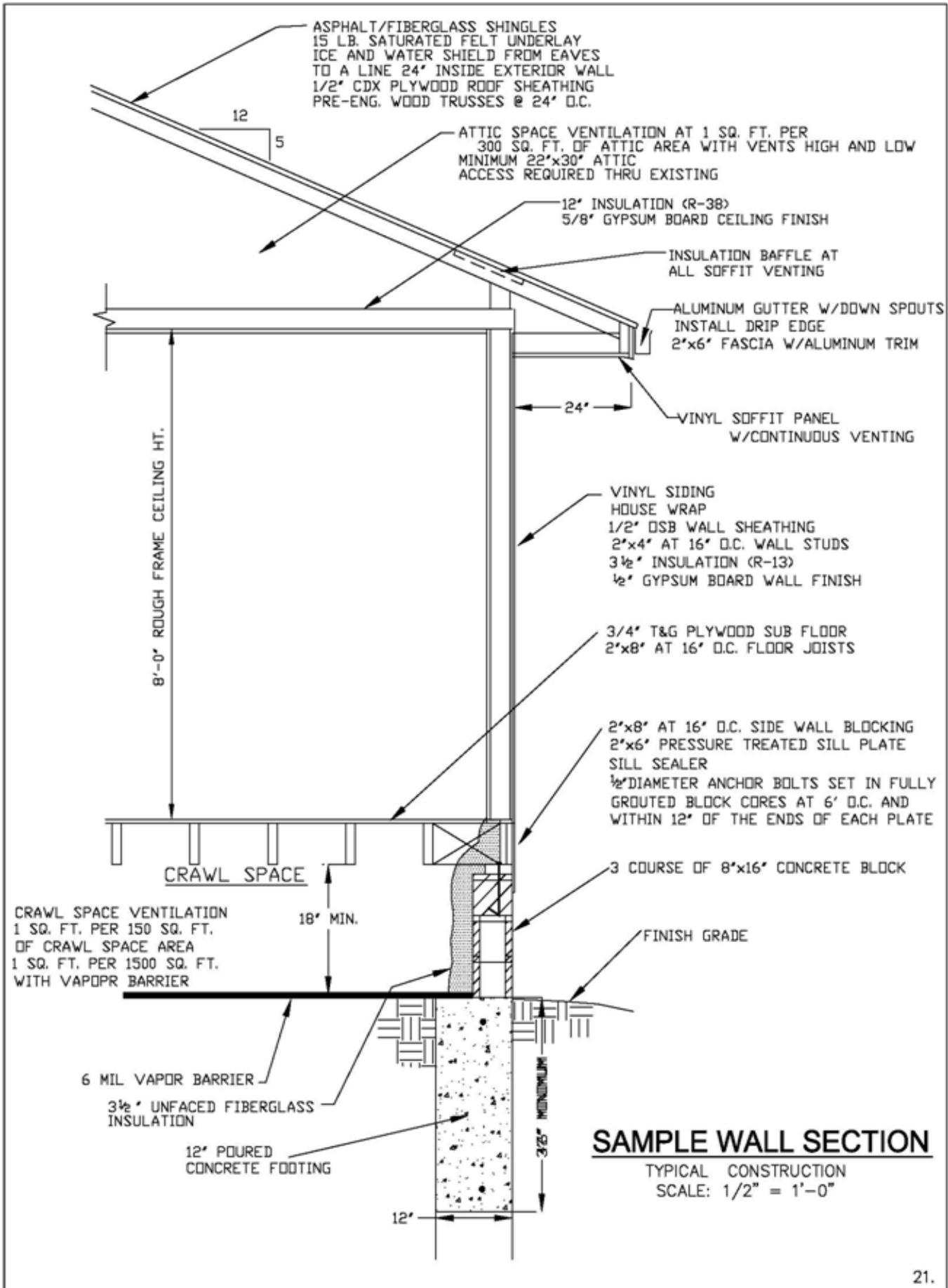
SCALE: 1/4" = 1'-0"

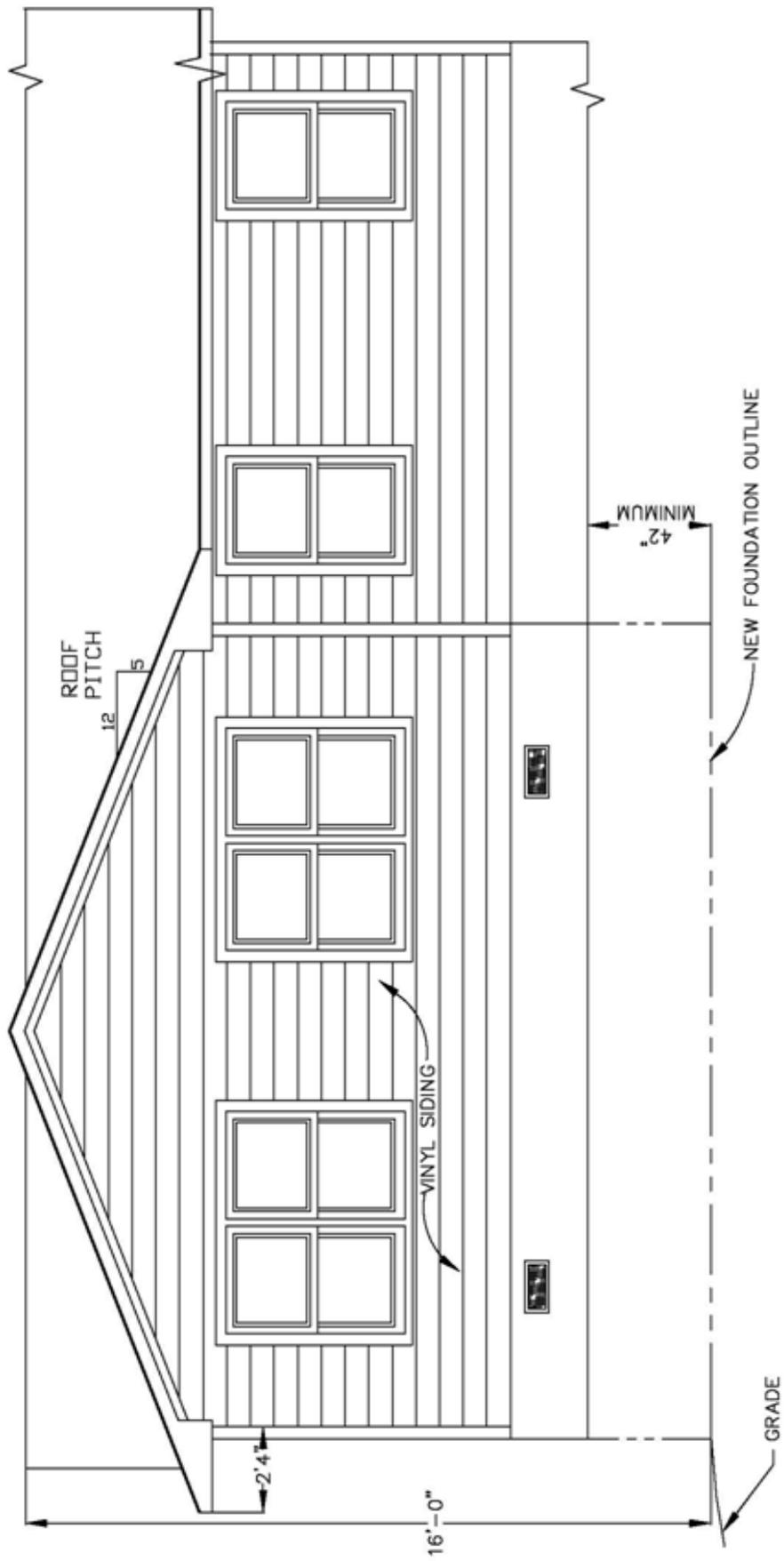


NOTE: SMOKE DETECTORS MUST BE INSTALLED IN THE EXISTING HOUSE. THEY ARE REQUIRED ON EACH FLOOR LEVEL, IN EACH BEDROOM AND OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. SMOKE DETECTORS MUST BE HARDWIRED WITH A BATTERY BACKUP. THE REQUIREMENT FOR INTERCONNECTION WILL BE DETERMINED BY THE ELECTRICAL INSPECTOR.

SAMPLE FLOOR PLAN

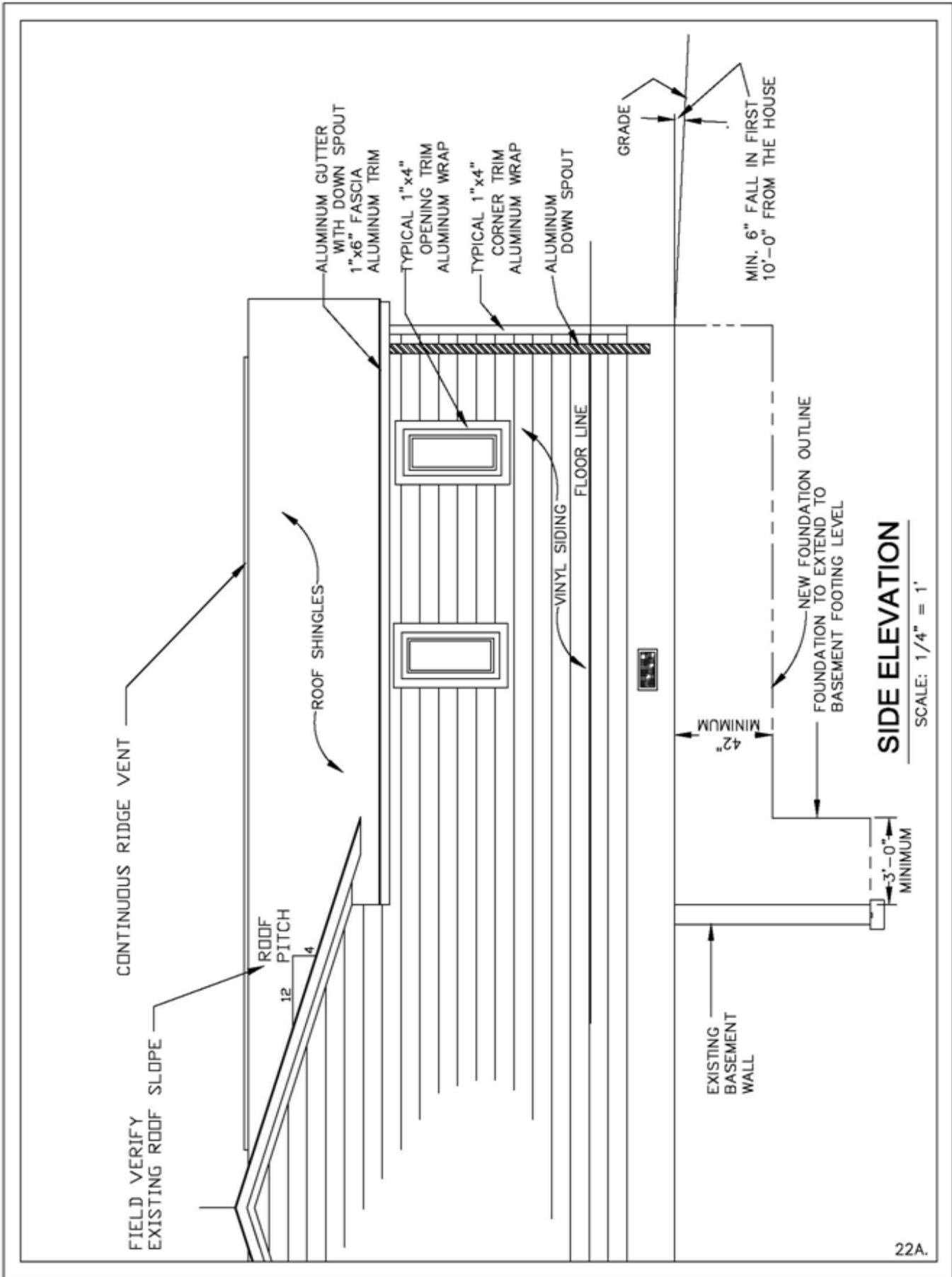
1/4" = 1'-0"





REAR ELEVATION

SCALE: 1/4" = 1'



SIDE ELEVATION

SCALE: 1/4" = 1'

SETBACK REQUIREMENTS

How Close Can I Build To My Property Line?

The distance between your house and your property line is called “**setback.**” The Zoning Ordinance outlines specific requirements for minimum setbacks depending on the Zoning District you live in. To find your Zoning Code go to the Online Property Inquiry to determine your specific zoning classification. Then, refer to the chart below to determine the setback requirements for your area. To verify your correct Zoning District, please contact the Inspection Department at (734) 466-2580.

<u>Zoning District</u>	<u>Front Setback</u>	<u>Side Setback</u>	<u>Rear Setback</u>
R-1	25	5	30
R-2	30	6	30
R-3	35	8	30
R-4	40	10	35
R-5	50	12	45
RUF	50	10	50
AG	50	50	60
R-6	30	6(+)	50
R-C	50(c)	25(b)	50(c)
R-7	50(c)	30(b)	50(c)

Exceptions may apply to the above setback requirements. Please contact the Building Department if any of the following situations apply:

- (b) The intent of Footnote (b) is to maintain some consistency in those residential areas where the houses have varying setbacks. For example, you find from the chart above that your side yard setback is required to be a minimum of 25 feet, however, the average side yard setback of two at least is 60 feet, however, the average side yard setback is 30 feet.
- (c) Footnote (c) applies to that when any front, rear or side yard abuts a single family residential district or a major thoroughfare of one-hundred-twenty (120) feet or more as indicated on the Master Thoroughfare Plan of the City of Livonia, the minimum setback shall be seventy-five (75) feet.
- (+) The intent of Footnote (+) is to allow lots in R-6 Districts on which a one family dwelling is established shall have two (2) side yards, one with a minimum width of not less than six (6) feet and the aggregate width of both side yards shall not be less than sixteen (16) feet. All lots in R-6 Districts on which a two (2) family dwelling is established shall have two (2) side yards of not less than ten (10) feet each. In R-6 Districts, the width of side yards abutting upon a street shall not be less than seventeen (17) feet at the first floor level when rear yards abut rear yards; however, in case of a rear yard abutting a side yard of an adjacent lot, the side yard abutting upon a street shall be not less than thirty (30) feet. Every lot on which a building or structure used for a non-dwelling purpose, other than an accessory building is erected, shall have a side yard on each side of such lot, and each such yard shall be not less than fifteen (15) feet in width with an increase of one (1) foot in width for each five (5) feet or part thereof by which the said building or structure exceeds thirty-five (35) feet in over-all dimension along the side yard and also of an additional one (1) foot for every two (2) feet in height in excess of thirty-five (35) feet.

PLOT PLAN REQUIREMENTS

Additions

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". The plot plan can 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 review process.

The plot plan shall contain the following information:

General:

Builder's name, address and telephone number.

The north arrow, legal description, street right-of-way and street name.

If the building is built on or adjacent to slopes greater than 1 unit vertical to three units horizontal, show the dimensions as required by the Michigan Residential Code.

Plan scale is to be between 1" = 20' and 1" = 50'.

The preferred plan size is 8 1/2" 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 the field inspection. Permanent soil erosion control measures may be required for final grade approval.

Zoning:

Show the location and dimensions of all structures on the lot, including the proposed structure and distances from lot lines and/or existing structures (see "Setback Requirements").

Plot plans shall show lot dimensions.

The plot plan footprint and the construction drawings shall be consistent.

Grading and Drainage:

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

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 is required for drainage.

Indicate existing and proposed drainage patterns.

Provide the location of all overhead and underground utilities such as electric, gas, phone, water and sewer.

Show the location of all slopes on the property that exceed one foot vertical to five feet horizontal (20%).

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 review process.

Any slopes exceeding 1 foot vertical to 5 foot horizontal (20%) will require permanent erosion control for final grade approval.

For Additions 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.

Indicate the width and type of proposed driveway construction.

The drive grade requirements are as follows:

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

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

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

Show all existing curb drops and all proposed curb cuts.

The angle of the driveway should be 90% 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 to center.

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

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

Driveways should avoid all utility manholes. If unavoidable, a permit and inspection from the Engineering Department is required for the adjustment and isolation of the structure (detail available). For information, call (734) 466-2571.

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 a County road. A drive approach permit from the Wayne County Department of Public Service (WCDPS) is required prior to plot plan approval,
- The road your house is on is a State road. A drive approach permit from the Michigan Department of Transportation (MDOT) is required prior to plot plan approval.

Trees in the Public Street Right-of-Way

- All trees located between the property line and the street are regulated by the Street Tree Ordinance and require a Right-of-Way Tree Permit.
- Show all existing trees in the road right-of-way (public property).
- For Right-of-Way Tree Permit requirements, contact the Engineering Department (734) 466-2571

Wetlands and Floodplain:

If there are flood plains or wetland 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, 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 as required by the Natural Resources Ordinance, Chapter 126.

Provide a State of Michigan Department of Environmental Quality permit if the property has a State regulated wetlands.

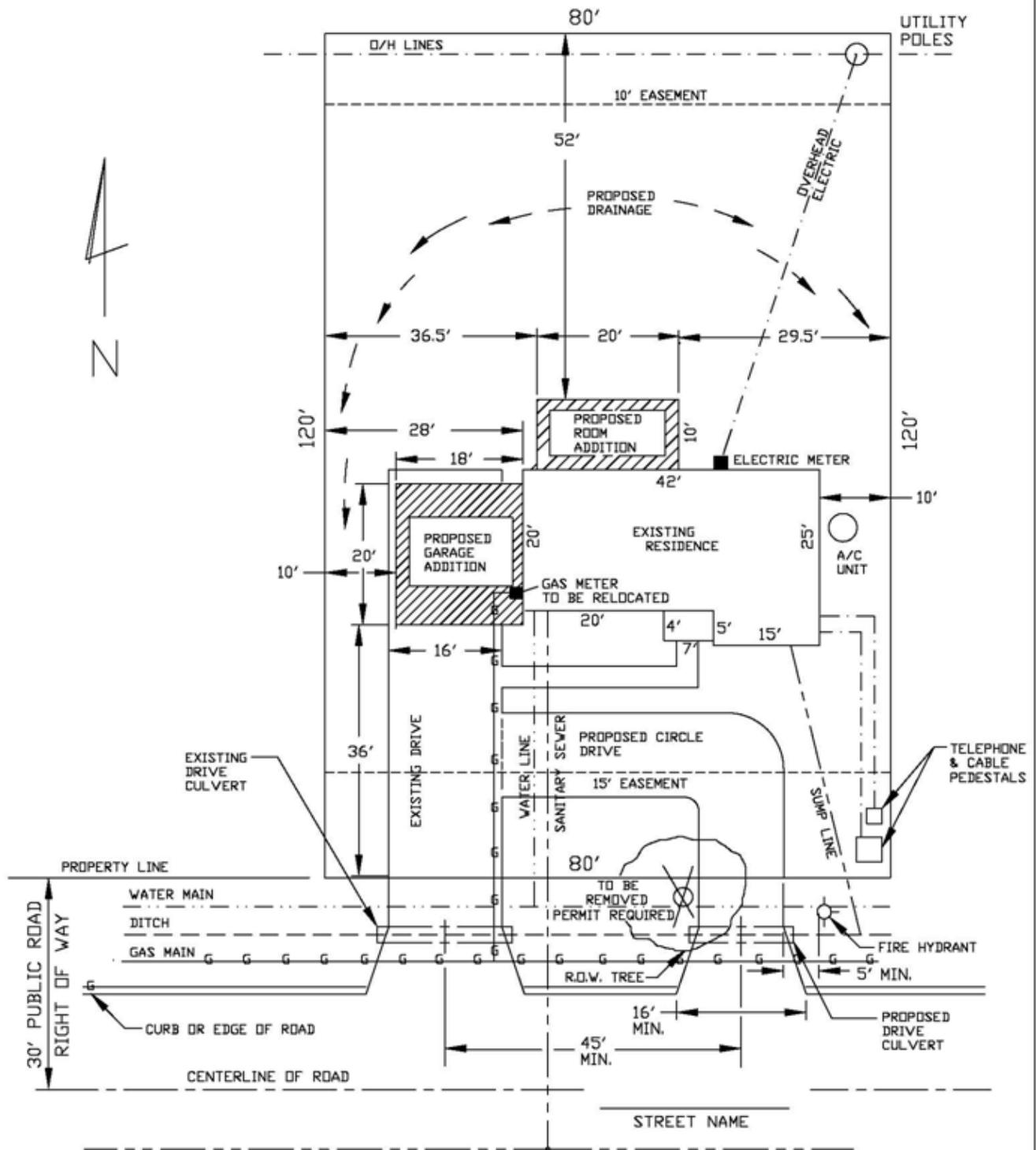
Show the location and elevation of all watercourses and provide the floodplain elevation on the plan. Adhere to the City of Livonia Flood Plains Ordinance, 28.01, 28.02, 28.03.

A soil erosion control permit from the Engineering is required for all properties with wetlands, flood plain, or within 500 feet of a lake, stream, storm drain, etc. Contact the Engineering Department (734) 466-2571 for further information.

The setback and plot plan requirements are taken from the following ordinances and publications:

- City of Livonia Zoning Ordinance No. 543
- City of Livonia Codified Ordinance, Article III, IV, V, VI, VII, VIIA, VIII.
- City of Livonia Grading and Soil Erosion 15.36

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
FOR: ADDITIONS

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.
(SEE ATTACHED ZONING AND GRADING REQUIREMENTS.)

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